City Hall
80 Broad Street
January 28, 2020
4:30 p.m.

COMMITTEE ON WAYS AND MEANS

1. Invocation – Councilmember Shahid

2. Approval of Minutes:

   December 17, 2019

   December 19, 2019

   January 14, 2020

3. Bids and Purchases

4. Mayor's Office for Children Youth and Families: Approval to accept a grant award in the amount of $200 from Youth Volunteer Corps to engage Charleston area youth in an environmental service-learning project. This grant was submitted on December 1, 2019. No City match is required. This is an after-the-fact approval.

5. Mayor's Office for Children Youth and Families: Approval to accept the Youth Service America Lead Agency grant award of $2,000 to engage youth in service on nationally recognized service dates including the 2020 MLK Day of Service and the 2020 Global Youth Service Day. No City match is required.

6. Stormwater Management: Approval of Market Street Drainage Improvements and Streetscape Fee Amendment #14 with Davis & Floyd in the amount of $58,500.00 for additional engineering services related to pedestrian refuge area and brick crosswalks, extended project management and coordination through TRC, and extended coordination for landscaping plans. Approval of Fee Amendment #14 will increase the Division III portion of the overall Professional Services Contract by $58,500.00 (from $1,218,232.55 to $1,276,732.55). Funding sources for this project are: 2012 Stormwater Bond ($6,400,000), Municipal Accommodation Funds ($2,228,775.80), Waterfront TIF ($1,106,000), Hospitality Funds ($3,177,225). *(Pending recommendation by the Public Works and Utilities Committee)*

7. Stormwater Management: Approval of Ehrhardt Street Tunnel Design Project Fee Amendment #1 with Davis & Floyd in the amount of $574,510 for professional engineering services to develop preliminary 30% design to final design. Approval of Fee Amendment #1 will increase the professional services contract by $574,510 (from $286,922 to $861,432). Funding for this project is the Drainage Fund. *(Pending recommendation by the Public Works and Utilities Committee)*

8. Stormwater Management: Approval of Spring-Fishburne Phase 3-Mitigation Professional Services Contract with Johnson, Mirmiran, and Thompson, Inc., in the amount of $88,237 for the post-construction monitoring for the Guerin Creek Mitigation construction required by the U.S. Army Corps of Engineers. Approval of the Professional Services Contract will obligate $88,237 of the $49,059,532 budget. Funding sources for this project are: State Infrastructure Bank (49,000,000) and Capital Contribution ($59,532). *(Pending recommendation by the Public Works and Utilities Committee)*

9. Parks – Capital Projects: Approval of the 2020 Parks and Recreation Development (PARD) Grant Application to furnish new playground structure, swing set, and safety surfacing for the Vivian Anderson Moultrie Playground. Requesting funding of $32,430.60 with a 20% City Match of $8,107.65. City match $8,107.65 from 523000-52435 Maintenance, Playground Equipment.

10. Parks – Capital Projects: Approval of West Ashley Greenway Improvements-Stinson Drive to Parkdale Drive LPA Supplemental Agreement No.1 in the amount of $12,371.36 for the termination of the SCDOT Local Public Agency Contract LPA-07-15 entered into agreement on March 13, 2015. Cancellation of the agreement includes reimbursement of SCDOT for costs associated with staff reviews and will cause the obligated Federal funds to be returned to the CHATs Committee of BCDCOG. Approval of this Supplemental Agreement will obligate $12,371.36 of the project budget. By accepting this Supplemental Agreement, the City will forfeit the Grant and match amount of $235,000 will be eligible for another project. This funding will be replaced by 2018 General Fund Reserves. The funding sources for this project are: 2013 General Fund Reserves ($214,016.57) and 2016 General Fund Reserves ($100,000), 2018 General Fund Reserves ($235,000).

11. Parks – Capital Projects: Approval of Cannon Street Fire Station #6 Retrofit Construction Contract with IPW Construction Group, LLC, in the amount of $4,825,229 to structurally retrofit the unreinforced masonry of the historical Fire Station #6 which will bring the facility into compliance with modern codes. With the approval of the project budget, Staff is authorized to award and/or amend contracts less than $40,000, to the extent contingency funds exist in the Council Approved Budget. Approval of this will institute a project budget of $5,554,229 of which the $4,825,229 construction contract will be funded. Funding sources for this project are: 2015 FEMA Hazard Mitigation Grant ($281,512), 2015 IPRB Bond ($1,126,057.25), 2019 FEMA Hazard Mitigation Grant ($3,096,659.75), 2015 General Fund Reserves ($269,000), and 2018 General Fund Reserve ($781,000).

12. Parks – Capital Projects: Approval of City Market Shed Gas Overhead Heaters Construction Contract with IPW Construction Group, LLC, in the amount of $96,460 to install 32 overhead heaters at Market Shed C as part of the first phase of heater installation. With the approval of the project budget, Staff is authorized to award and/or amend contracts less than $40,000, to the extent contingency funds exist in the Council Approved Budget. Approval of this will institute a $711,514.46 project budget of which the $96,460 construction will be funded. Funding sources for this project are: City Market Capital Fund Balance ($295,514.46) and Hospitality Funds ($416,000).

13. Housing and Community Development: Mayor and City Council approval is requested to execute a

contract in the amount of $50,000 with Charleston Habitat for Humanity. The contract would allow for the provision of services related to minor repair and renovation for low and moderate income residents living in the City of Charleston. Funds to support this contract will be derived from prior year Community Development Block Grant (CDBG) Funds.

14. Police Department: Approve an independent contractor agreement in the amount of $50,000 with Kylon Middleton Ministries, LLC to perform consulting services in connection with the 2020 Illumination Project and continuation of listening sessions.

15. Police Department: Approve the Kennedy Center Alcohol Enforcement Grant Award of $2,200 for field intelligence training to combat underage drinking and drug use. The grant has already been accepted due to time constraints. No City match is required. This is an after-the-fact approval.

In accordance with the Americans with Disabilities Act, people who need alternative formats, ASL (American Sign Language) Interpretation or other accommodation please contact Janet Schumacher at (843) 577-1389 or email to schumacherj@charleston-sc.gov three business days prior to the meeting.

3a.)

COMMITTEE / COUNCIL AGENDA

TO: John J. Tecklenburg, Mayor

FROM: Wes Ratterree **DEPT.** Information Technology

SUBJECT: ANNUAL MAINTENANCE AND SUPPORT RENEWAL FOR EDMS

REQUEST: APPROVAL OF RENEWAL OF ANNUAL MAINTENANCE AND SUPPORT FOR THE ELECTRONIC DOCUMENT MANAGEMENT SYSTEM (EDMS).
STATE CONTRACT: 4400016689

COMMITTEE OF COUNCIL: Ways & Means **DATE:** January 28, 2020

COORDINATION: This request has been coordinated with: *(attach all recommendations/reviews)*

	Yes	N/A	Signature of Individual Contacted	Attachment
Information Technology	X			X
Procurement	X			X

FUNDING: Was funding previously approved? Yes [x] No [ ] N/A [ ]

If yes, provide the following: Dept./Div.: IT Account #: 161000-52206

Balance in Account $2,729,431.24 Amount needed for this item $48,230.32

Does this document need to be recorded at the RMC's Office? Yes [ ] No [X]

NOTES: EDMS is used for processing, accessing and storing all digitized documentation to include City records, archives, drawings and plans.

CFO's Signature: Deputy CFO

FISCAL IMPACT:

Mayor's Signature: John J. Tecklenburg, Mayor

ORIGINATING OFFICE PLEASE NOTE: A FULLY STAFFED/APPROVED (except Mayor's Signature) PACKAGE IS DUE IN THE CLERK OF COUNCIL'S OFFICE NO LATER THAN 10:00AM THE DAY OF THE CLERK'S AGENDA MEETING.

TEAM ia

Invoice

Invoice Numbe
6098
Invoice Date
Jan 3, 2020
Page
1

Sold To:
CITY OF CHARLESTON
PO BOX 304
CHARLESTON, SC 29402

Remit to:
TEAM IA, INC.
P.O. BOX 1643
LEXINGTON, SC 29071-1643

Customer ID	Customer PO	Payment Terms	
CHARLESTONSC		Net Due	
Sales Rep ID	Shipping Method	Ship Date	Due Date
	UPS Ground		1/3/20

Quantity	Description	Unit Price	Extension
1.00	EDMS SYSTEM MAINTENANCE RENEWAL THROUGH 1/31/21 PER ATTACHED DETAIL	44,248.00	44,248.00

WR
1-7-2020

	Subtota	44,248.00
	Taxable Sale	0.00
	Sales Ta	0.00
	Total Invoice Amou	44,248.00
Check No	Payment Receive	
	TOTAL	44,248.00

3b.)

COMMITTEE / COUNCIL AGENDA

TO: John J. Tecklenburg, Mayor

FROM: Wes Ratterree **DEPT.** Information Technology

SUBJECT: RENEWAL OF ADOBE SOFTWARE ENTERPRISE CLOUD LICENSING AGREEMENT.

REQUEST: APPROVAL TO RENEW ADOBE SOFTWARE ENTERPRISE CLOUD LICENSING AGREEMENT FOR CITY COMPUTERS. NATIONAL IPA TECHNOLOGY SOLUTIONS CONTRACT #: 2018011-01

COMMITTEE OF COUNCIL: Ways & Means **DATE:** January 28, 2020

COORDINATION: This request has been coordinated with: *(attach all recommendations/reviews)*

	Yes	N/A	Signature of Individual Contacted	Attachment
Information Technology	x			x
Procurement	x			x

FUNDING: Was funding previously approved? Yes [x] No [ ] N/A [ ]

If yes, provide the following: Dept./Div.: IT Account #: 161000-52206

Balance in Account: $2,729,431.24 Amount needed for this item: $53,270.38 CC

Does this document need to be recorded at the RMC's Office? Yes [ ] No [x]

NOTES: This agreement is required to renew licensing and support for all Adobe software products used by City staff for document and report development, web content development and presentation material. Includes Acrobat Pro, Creative Cloud, InDesign, PhotoShop, and Illustrator. Total of 155 licenses.

CFO's Signature: , Deputy CFO

FISCAL IMPACT:

Mayor's Signature: John J. Tecklenburg, Mayor

ORIGINATING OFFICE PLEASE NOTE: A FULLY STAFFED/APPROVED (except Mayor's Signature) PACKAGE IS DUE IN THE CLERK OF COUNCIL'S OFFICE NO LATER THAN 10:00AM THE DAY OF THE CLERK'S AGENDA MEETING.

QUOTE CONFIRMATION

PEOPLE WHO GET IT

DEAR WES RATTERREE,

Thank you for considering CDW•G for your computing needs. The details of your quote are below. [illegible] to convert your quote to an order.

QUOTE #	QUOTE DATE	QUOTE REFERENCE	CUSTOMER #	GRAND TOTAL
LDDV061	1/2/2020	ADOBE RENEWAL	1956925	$53,270.38

ITEM	QTY	CDW#	UNIT PRICE	EXT. PRICE
[illegible] Mfg. Part#: 65234076BC14A12 UNSPSC: 43232112 Electronic distribution - NO MEDIA Contract: National IPA Technology Solutions (2018011-01)	115	4025896	$147.82	$16,999.30
[illegible] Mfg. Part#: 65291024BC14A12 UNSPSC: 43232112 Electronic distribution - NO MEDIA Contract: National IPA Technology Solutions (2018011-01)	8	5050398	$366.57	$2,932.56
[illegible] Mfg. Part#: 65291031BC14A12 UNSPSC: 43232102 Electronic distribution - NO MEDIA Contract: National IPA Technology Solutions (2018011-01)	5	5051145	$366.57	$1,832.85
[illegible] Mfg. Part#: 65291043BC14A12 UNSPSC: 43232102 Electronic distribution - NO MEDIA Contract: National IPA Technology Solutions (2018011-01)	17	5051526	$366.57	$6,231.69
[illegible] Mfg. Part#: 65291078BC14A12 UNSPSC: 43232102 Electronic distribution - NO MEDIA Contract: National IPA Technology Solutions (2018011-01)	25	5053048	$835.02	$20,875.50

PURCHASER BILLING INFO		
Billing Address: CITY OF CHARLESTON ACCOUNTS PAYABLES PO BOX 853 CHARLESTON, SC 29402-0853 **Phone:** (843) 724-3716 **Payment Terms:** Net 30 Days-Govt State/Local	**SUBTOTAL**	$48,871.90
	SHIPPING	$0.00
	SALES TAX	$4,398.48
	GRAND TOTAL	**$53,270.38**
DELIVER TO	**Please remit payments to:**	

Shipping Address: CITY OF CHARLESTON WES RATTERREE 2 GEORGE STREET SUITE 2800 CHARLESTON, SC 29403 **Shipping Method:** ELECTRONIC DISTRIBUTION	CDW Government 75 Remittance Drive Suite 1515 Chicago, IL 60675-1515

Need Assistance? CDW•G SALES CONTACT INFORMATION				
	Joe Barese	|	(866) 819-6497	|	josebar@cdw.com

This quote is subject to CDW's Terms and Conditions of Sales and Service Projects at
http://www.cdwg.com/content/terms-conditions/product-sales.aspx
For more information, contact a CDW account manager

© 2020 CDW•G LLC, 200 N. Milwaukee Avenue, Vernon Hills, IL 60061 | 800.808.4239

3C.)

COMMITTEE / COUNCIL AGENDA

TO: John J. Tecklenburg, Mayor

FROM: Wes Ratterree **DEPT.** Information Technology

SUBJECT: RECORDS MGMT SYSTEM ANNUAL MAINTENANCE AND SUPPORT RENEWAL

REQUEST: APPROVAL OF RENEWAL OF POLICE DEPARTMENT'S OSSI RECORDS MANAGEMENT SYSTEM (RMS) ANNUAL MAINTENANCE AND SUPPORT WITH CENTRAL SQUARE TECHNOLOGIES, SOLE SOURCE VENDOR.

COMMITTEE OF COUNCIL: Ways & Means **DATE:** January 28, 2020

COORDINATION: This request has been coordinated with: *(attach all recommendations/reviews)*

	Yes	N/A	Signature of Individual Contacted	Attachment
Information Technology	x			X
Procurement	x			X

FUNDING: Was funding previously approved? Yes [x] No [ ] N/A [ ]

If yes, provide the following: Dept./Div.: IT Account #: 235000-52206

Balance in Account $1,218,611.27 Amount needed for this item $187,309.89 CC

Does this document need to be recorded at the RMC's Office? Yes [ ] No [x]

NOTES: Provides continued annual maintenance and support for the critical operations of the Police Department's Records Management System.

CFO's Signature: Matt Gf, Deputy CFO

FISCAL IMPACT:

Mayor's Signature: John J. Tecklenburg, Mayor

ORIGINATING OFFICE PLEASE NOTE: A FULLY STAFFED/APPROVED (except Mayor's Signature) PACKAGE IS DUE IN THE CLERK OF COUNCIL'S OFFICE NO LATER THAN 10:00AM THE DAY OF THE CLERK'S AGENDA MEETING.

SOLE SOURCE JUSTIFICATION FORM

DEPARTMENT: Information Technology

PRODUCT: RMS Annual Software Maintenance and Support

REQUISITION NUMBER: PR200354

VENDOR: Central Square Technologies

DATE: January 14, 2020

1. Please state the use for this/these product(s).

   Required annual software maintenance and support for the Police Department's Records Management System (RMS) in support of 911/Dispatch operations.

2. Can the above product(s) be purchased from more than one distributor? If so, please list their company name and telephone number.

   No. Central Square is the developer of the software and the only source for the maintenance and support.

3. Please explain in detail why this product is considered a sole source. (i.e. accessories, replacement parts, disposable supplies, compatibility with existing equipment, or a change in this product would invalidate results of research). Please estimate completion date of research.

   Central Square is the developer of the software and the only source for the maintenance and support.

4. Have you evaluated comparable products within the last two years?

   _____YES or NO __X__

   If yes, please state the complete results of the evaluation.

   If no, do you wish to evaluate this product? Explain why this item is the only acceptable product, on the market, for your utilization at this time.

   This is a renewal for an existing system.

SIGNATURE _____ TITLE CIO

CENTRALSQUARE
TECHNOLOGIES

Invoice

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260056	12/1/2019	1 of 6

Superion, LLC, a CentralSquare Company
1000 Business Center Drive
Lake Mary, FL 32746
www.centralsquare.com
Toll free 800-727-8088

Billing Inquiries: Accounts.Receivable@centralsquare.com

Re-bill and send to Michele

Bill To
Lindle Otto Beets, Jr.
Dept of Information Technology - C
2 George Street, Suite 2800
CHARLESTON SC 29401
United States

Ship To
City of Charleston (OSSI)
Dept of Information Technology
Attn. Lin Beets
2 George Street, Suite 2800
CHARLESTON SC 29401
United States

Customer No	Customer Name	Customer PO #	Currency	Terms	Due Date
5818LG	City of Charleston		USD	Net 30	12/31/2019

	Description	Units	Rate	Extended
Contract No. 101438				
1	ONESolution Mobile Server Software - Annual Maintenance Fee OSSI Base Mobile Server Software Upgrade tp to 150 workstations Maintenance: Start:1/1/2020, End: 12/31/2020	1	$1,554.90	$1,554.90
2	ONESolution Mobile Field Reporting Server - Annual Maintenance Fee OSSI Review Module for Field Reporting up to 150 workstations Maintenance: Start:1/1/2020, End: 12/31/2020	1	$2,657.96	$2,657.96
3	ONESolution MCT Client-Digital Dispatch - Annual Maintenance Fee OSSI MCT Client for Digital Dispatch Maintenance: Start:1/1/2020, End: 12/31/2020	1	$3,596.12	$3,596.12
4	ONESolution MFR Client - Annual Maintenance Fee ONESolution MFR Client Maintenance: Start:1/1/2020, End: 12/31/2020	1	$5,289.25	$5,289.25
5	ONESolution MFR Client-Arrest - Annual Maintenance Fee OSSI Mobile Arrest Module Maintenance: Start:1/1/2020, End: 12/31/2020	1	$1,595.04	$1,595.04
Contract No. 130282				
6	ONESolution RMS Workstation - Annual Maintenance Fee OSSI Additional RMS Workstation License Maintenance: Start:1/1/2020, End: 12/31/2020	1	$3,035.96	$3,035.96
Contract No. 130555				
7	ONESolution Barcoding Hand-Held Client License - Annual Maintenance Fee OSSI Bar Coding Hand-Held Client License (Each) Maintenance: Start:1/1/2020, End: 12/31/2020	1	$255.45	$255.45
Contract No. 2012-5615				

CENTRALSQUARE TECHNOLOGIES

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United States

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Dept of Information Technology
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2 George Street, Suite 2800
CHARLESTON SC 29401
United States

Customer No	Customer Name	Customer PO #	Currency	Terms	Due Date
5818LG	City of Charleston		USD	Net 30	12/31/2019

	Description	Units	Rate	Extended
8	ONESolution PS&J Development & Maintenance - Annual Maintenance Fee MCT Mod - XML Import from TriTech CAD Maintenance: Start:1/1/2020, End: 12/31/2020	1	$1,612.41	$1,612.41
Contract No. 71358				
9	ONESolution RMS Map Display & Pin Mapping License - Annual Maintenance Fee OSSI RMS Map Display and Pin Mapping License Maintenance: Start:1/1/2020, End: 12/31/2020	1	$4,784.30	$4,784.30
10	ONESolution Gang - Annual Maintenance Fee Gang Profile Module Maintenance: Start:1/1/2020, End: 12/31/2020	1	$1,794.12	$1,794.12
11	ONESolution Generic Permit - Annual Maintenance Fee OSSI Generic Permit Module Maintenance: Start:1/1/2020, End: 12/31/2020	1	$598.04	$598.04
12	ONESolution Link Analysis - Annual Maintenance Fee OSSI - Link Analysis Module Maintenance: Start:1/1/2020, End: 12/31/2020	1	$5,382.35	$5,382.35
13	ONESolution Notification - Annual Maintenance Fee OSSI Notification Module Maintenance: Start:1/1/2020, End: 12/31/2020	1	$5,382.35	$5,382.35
14	ONESolution Ordinance - Annual Maintenance Fee OSSI Ordinance Module Maintenance: Start:1/1/2020, End: 12/31/2020	1	$358.83	$358.83
15	ONESolution Property & Evidence - Annual Maintenance Fee OSSI Property and Evidence Module Maintenance: Start:1/1/2020, End: 12/31/2020	1	$1,315.68	$1,315.68
16	ONESolution Barcoding Server License - Annual Maintenance Fee OSSI Bar Coding Server License Maintenance: Start:1/1/2020, End: 12/31/2020	1	$2,272.56	$2,272.56

CENTRALSQUARE
TECHNOLOGIES

Invoice

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United States

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CHARLESTON SC 29401
United States

Customer No	Customer Name	Customer PO #	Currency	Terms	Due Date
5818LG	City of Charleston		USD	Net 30	12/31/2019

	Description	Units	Rate	Extended
17	ONESolution Records Management System - Annual Maintenance Fee OSSI Client Base Records Management System Maintenance: Start:1/1/2020, End: 12/31/2020	1	$30,559.80	$30,559.80
18	ONESolution Barcoding Hand-Held Client License - Annual Maintenance Fee OSSI Bar Coding Hand-Held Client License (Each) Maintenance: Start:1/1/2020, End: 12/31/2020	1	$381.42	$381.42
19	ONESolution Accident - Annual Maintenance Fee OSSI Basic Accident Module Maintenance: Start:1/1/2020, End: 12/31/2020	1	$2,033.33	$2,033.33
20	ONESolution Problem-Oriented Policing - Annual Maintenance Fee OSSI - Problem Oriented Policing Module Maintenance: Start:1/1/2020, End: 12/31/2020	1	$598.04	$598.04
21	ONESolution Accident Wizard Base Server License - Annual Maintenance Fee OSSI Accident Wizard Base Server License Maintenance: Start:1/1/2020, End: 12/31/2020	1	$1,196.08	$1,196.08
22	ONESolution Asset Management - Annual Maintenance Fee OSSI Agency Asset Management Module Maintenance: Start:1/1/2020, End: 12/31/2020	1	$358.83	$358.83
23	ONESolution Pawn Shop/Pawn Watch - Annual Maintenance Fee OSSI Pawn Shop/Pawn Watch Maintenance: Start:1/1/2020, End: 12/31/2020	1	$2,990.19	$2,990.19
24	ONESolution Bike Registration - Annual Maintenance Fee OSSI Bike Registration Module Maintenance: Start:1/1/2020, End: 12/31/2020	1	$358.83	$358.83
25	ONESolution Quartermaster - Annual Maintenance Fee OSSI - QuarterMaster Module Maintenance: Start:1/1/2020, End: 12/31/2020	1	$1,315.68	$1,315.68

CENTRALSQUARE TECHNOLOGIES

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Customer No	Customer Name	Customer PO #	Currency	Terms	Due Date
5818LG	City of Charleston		USD	Net 30	12/31/2019

	Description	Units	Rate	Extended
26	ONESolution Remote Lineup - Annual Maintenance Fee OSSI- Remote Lineup Application Maintenance: Start:1/1/2020, End: 12/31/2020	1	$1,076.48	$1,076.48
27	ONESolution On-Line (Network) Booking - Annual Maintenance Fee OSSI - On-Line (Network) Booking Module Maintenance: Start:1/1/2020, End: 12/31/2020	1	$2,033.33	$2,033.33
28	ONESolution Residential Security Watch - Annual Maintenance Fee OSSI Residential Security Watch Module Maintenance: Start:1/1/2020, End: 12/31/2020	1	$598.04	$598.04
29	ONESolution RMS Training Module - Annual Maintenance Fee OSSI Training Module Maintenance: Start:1/1/2020, End: 12/31/2020	1	$837.26	$837.26
30	ONESolution Mugshot Capture Station Software - Annual Maintenance Fee OSSI Mugshot Capture Station Software Only Maintenance: Start:1/1/2020, End: 12/31/2020	1	$1,315.68	$1,315.68
31	JMS-MS DISPLAY - Annual Maintenance Fee OSSI Client Mugshot Display Software License Maintenance: Start:1/1/2020, End: 12/31/2020	1	$7,176.47	$7,176.47
32	ONESolution Crime Lab - Annual Maintenance Fee OSSI - Crime Lab Module Maintenance: Start:1/1/2020, End: 12/31/2020	1	$3,588.23	$3,588.23
33	ONESolution Animal Control - Annual Maintenance Fee OSSI Animal Control Module Maintenance: Start:1/1/2020, End: 12/31/2020	1	$1,794.12	$1,794.12
34	ONESolution PS&J Development & Maintenance - Annual Maintenance Fee OSSI RMS Custom Modification (Interface to SCIEx Data Warehouse) Maintenance: Start:1/1/2020, End: 12/31/2020	1	$2,392.15	$2,392.15

CENTRALSQUARE TECHNOLOGIES

Invoice

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Customer No	Customer Name	Customer PO #	Currency	Terms	Due Date
5818LG	City of Charleston		USD	Net 30	12/31/2019

	Description	Units	Rate	Extended
35	ONESolution State/NCIC Messaging Software - Annual Maintenance Fee OSSI Integrated CAD Messaging Software Switch Maintenance: Start:1/1/2020, End: 12/31/2020	1	$4,784.30	$4,784.30
36	ONESolution Mobile Server Software - Annual Maintenance Fee OSSI Base Mobile Server Software Client Maintenance: Start:1/1/2020, End: 12/31/2020	1	$6,578.42	$6,578.42
37	ONESolution MCT Client-Digital Dispatch - Annual Maintenance Fee OSSI MCT Client for Digital Dispatch Maintenance: Start:1/1/2020, End: 12/31/2020	1	$17,850.58	$17,850.58
38	ONESolution MFR Client - Annual Maintenance Fee OSSI License of Incident/Offense Field Reporting Module Client Maintenance: Start:1/1/2020, End: 12/31/2020	1	$17,850.58	$17,850.58
39	ONESolution MFR Client-Arrest - Annual Maintenance Fee OSSI Mobile Arrest Module Maintenance: Start:1/1/2020, End: 12/31/2020	1	$5,382.13	$5,382.13
40	ONESolution MFR Client-MOBLAN Version - Annual Maintenance Fee OSSI - MFR Client - MOBLAN Version Maintenance: Start:1/1/2020, End: 12/31/2020	1	$4,066.74	$4,066.74
41	ONESolution Mobile Field Reporting Server - Annual Maintenance Fee OSSI Review Module for Field Reporting Maintenance: Start:1/1/2020, End: 12/31/2020	1	$5,382.35	$5,382.35
~~42~~	~~ONESolution Police-to-Citizen - Annual Maintenance Fee~~ ~~OSSI Police-to-Citizen~~ ~~Maintenance: Start:1/1/2020, End: 12/31/2020~~	~~1~~	~~$2,990.19~~	~~$2,990.19~~
43	ONESolution PS&J Development & Maintenance - Annual Maintenance Fee OSSI RMS Custom Modification (Crimes Scene Data Mgmt) Maintenance: Start:1/1/2020, End: 12/31/2020	1	$0.00	$0.00

Contract No. 81587

CENTRALSQUARE TECHNOLOGIES

Invoice

Invoice No	Date	Page
260056	12/1/2019	6 of 6

Superion, LLC, a CentralSquare Company
1000 Business Center Drive
Lake Mary, FL 32746
www.centralsquare.com
Toll free 800-727-8088

Billing Inquiries: Accounts.Receivable@centralsquare.com

Bill To
Lindie Otto Beets, Jr.
Dept of Information Technology - C
2 George Street, Suite 2800
CHARLESTON SC 29401
United States

Ship To
City of Charleston (OSSI)
Dept of Information Technology
Attn. Lin Beets
2 George Street, Suite 2800
CHARLESTON SC 29401
United States

Customer No	Customer Name	Customer PO #	Currency	Terms	Due Date
5818LG	City of Charleston		USD	Net 30	12/31/2019

	Description	Units	Rate	Extended
44	ONESolution Mobile Server Software - Annual Maintenance Fee OSSI Base Mobile Server Software Client Maintenance: Start:1/1/2020, End: 12/31/2020	1	$1,913.73	$1,913.73
45	ONESolution MCT Client-Digital Dispatch - Annual Maintenance Fee OSSI MCT Client for Digital Dispatch Maintenance: Start:1/1/2020, End: 12/31/2020	1	$1,692.56	$1,692.56
Contract No. 90117				
46	ONESolution Racial Profiling - Annual Maintenance Fee OSSI Warning Module Maintenance: Start:1/1/2020, End: 12/31/2020	1	$1,063.18	$1,063.18
47	ONESolution MFR Client-Racial Profiling - Annual Maintenance Fee OSSI - MFR Client - Warning Module Maintenance: Start:1/1/2020, End: 12/31/2020	1	$3,190.09	$3,190.09

Please include invoice number(s) on your remittance advice, made payable to Superion, LLC
ACH / EFT:
Routing Number 0710-000-39
Account Number 81880-15335
Bank of America (Phone 800-432-1000)
E-mail payment details to: Accounts.Receivable@centralsquare.com

Check:
12709 Collection Center Drive
Chicago, IL 60693

Subtotal	$171,843.94	~~$174,834.13~~
Tax	$15,465.95	~~$15,735.07~~
Invoice Total	$187,309.89	~~$190,569.20~~
Payments Applied		$0.00
Balance Due	$187,309.89	~~$190,569.20~~

3d)

COMMITTEE / COUNCIL AGENDA

TO: John J. Tecklenburg, Mayor

FROM: Jason Kronsberg/Clark DeCiantis **DEPT.** Parks Department

SUBJECT: FERTILIZER

REQUEST: Approval to purchase fertilizer from Carolina Eastern-Ravenel, 4744 Highway 162, PO Box 475, Hollywood, SC 29449.
Solicitation #19-B067R

COMMITTEE OF COUNCIL: Ways & Means **DATE:** January 28, 2020

COORDINATION: This request has been coordinated with: *(attach all recommendations/reviews)*

	Yes	N/A	Signature of Individual Contacted	Attachment
Corporate Counsel	☐	☐		☐
Cap. Proj. Cmte. Chair	☐	☐		☐
Parks Department	x	☐		☐
Procurement Director	X	☐		☐

FUNDING: Was funding previously approved? Yes ☐ No ☐ N/A ☐

If yes, provide the following: Dept./Div.: Parks | Grounds Maintenance Account #: 522000-52024

Balance in Account $179,415 Amount needed for this item **$102,570.09** ay

Does this document need to be recorded at the RMC's Office? Yes ☐ No ☐

NEED: Identify any critical time constraint(s).

CFO's Signature: Matthew Fl, Deputy CFO

FISCAL IMPACT:

Mayor's Signature: John J. Tecklenburg, Mayor

ORIGINATING OFFICE PLEASE NOTE: A FULLY STAFFED/APPROVED (except Mayor's Signature) PACKAGE IS DUE IN THE CLERK OF COUNCIL'S OFFICE NO LATER THAN 10:00AM THE DAY OF THE CLERK'S AGENDA MEETING.

BID TABULATION SHEET
CITY OF CHARLESTON
Charleston, South Carolina

Parks

DATE: DECEMBER 31, 2019

SOL.# 19-B067R

BUYER: ROBIN B. ROBINSON

FERTILIZER

	BIDDER	BIDDER	BIDDER	BIDDER
COMPANY NAME	Green Resource	Yellowstone Landscape	Helena Agri Enterprise	Corbin Turf Supply
COMPANY REP./ EMAIL	Russell Zamostny	Nathan Ball	Mike Holt	Scott Martin
PHONE NUMBER	854-999-4239	864-551-0979	864-612-3609	800-476-4504
FAX # / EMAIL				
MINORITY	No	No	No	No

	QTY	DESCRIPTION	UNIT	TOTAL	UNIT	TOTAL	UNIT	TOTAL	UNIT	TOTAL
1	588 Bags 50 lb. ea.	38-0-0 w/ 1% Oxidiazon + 2% Prodiamine 100% Nitroform	$46.58	$27,389.04			$52.00	$30,576.00	$48.50	$28,518.00
2	588 Bags 50 lb. ea.	18-0-8, 100% Nitroform	$17.65	$10,378.20			$18.05	$10,613.40	$20.15	$11,848.20
3	1,176 Bags 50 lb. ea.	18-00-8 Barricade, 100% Nitroform, .5 lb. Barricade	$20.57	$24,190.32			$20.25	$23,814.00	$22.90	$26,930.40
4	588 Bags 50 lb.ea.	15-0-15 +Alectus 100% Nitroform	$24.61	$14,470.68				No Bid	$24.06	$14,147.28
5	466 Bags 50 lb.ea	Top Choice (Fipronil .0143%)	$65.00	$30,290.00			$65.00	$30,290.00	$65.00	$30,290.00
6	5 Jobs	Spreading of Fertilizer(s)	$130.00	$1,300.00				No Bid		No Bid
		Sub-Total		$108,018.24				$95,293.40		$111,733.88
		Delivery Fee(s)		No Charge				No Charge		No Charge
		9% Tax		$9,604.64				$8,576.41		$10,056.05
		TOTAL		$117,622.88		No Bid		$103,869.81		$121,789.93
			Sub #4 for Mallet/Lambda						*Sub #4 for Mallet/Lambda*	

BUYER: _____

WITNESS: _____

BID TABULATION SHEET
CITY OF CHARLESTON
Charleston, South Carolina

Parks

DATE: DECEMBER 31, 2019

SOL.# 19-B067R

BUYER: ROBIN B. ROBINSON

FERTILIZER

	BIDDER	BIDDER	BIDDER	BIDDER
COMPANY NAME	Southern State Cooperative	Carolina Eastern Ravenel	Site One Landscape	
COMPANY REP./ EMAIL	Ken Abbott	Tom Player	Keith McGinty	
PHONE NUMBER	803-682-5593	843-737-0703	800-321-5325	
FAX # / EMAIL				
MINORITY	No	No	No	

	QTY	DESCRIPTION	UNIT	TOTAL	UNIT	TOTAL	UNIT	TOTAL	UNIT	TOTAL
1	588 Bags 50 lb. ea.	38-0-0 w/ 1% Oxidiazon + 2% Prodiamine 100% Nitroform	$48.00	$28,224.00	$48.25	$28,371.00	$51.18	$30,093.84		
2	588 Bags 50 lb. ea.	18-0-8, 100% Nitroform	$18.00	$10,584.00	$16.00	$9,408.00	$18.58	$10,925.04		
3	1,176 Bags 50 lb. ea.	18-00-8 Barricade, 100% Nitroform, .5 lb. Barricade	$23.40	$27,518.40	$19.25	$22,638.00	$21.80	$25,636.80		
4	588 Bags 50 lb.ea.	15-0-15 +Alectus 100% Nitroform	$24.25	$14,259.00	$24.25	$14,259.00	$25.89	$15,223.32		
5	466 Bags 50 lb.ea	Top Choice (Fipronil .0143%)	$65.00	$30,290.00	$25.00	$19,425.00	$65.00	$30,290.00		
6	5 Jobs	Spreading of Fertilizer(s)		$6,240.00		No Charge		No Bid		
		Sub-Total		$117,115.40		$94,101.00		$112,169.00		
		Delivery Fee(s)		No Charge		No Charge		No Charge		
		9% Tax		$9,978.79		$8,469.09		$10,095.21		
		TOTAL		$127,094.19		$102,570.09		$122,264.21		
					#5 – 30lb. bags (777 bags) Top Choice					

BUYER: _____

WITNESS: _____

Bid #: 19-B067R Fertilizer Vendor: Carolina Eastern- Raveno

Item #	Quantity	Description	Unit Price	Total Price
1	588 Bag (50 lb. ea.)	38-0-0 w/ 1% Oxidiazon + .2% Prodiamine 100% Nitroform Required Delivery (588 Bags) Feb. 3rd – Feb. 7th	$48.25	$28,371.00
2	588 bags (50 lb. ea.)	18-0-8 100% Nitroform Required Delivery (588 Bags) April 6th – April 10th	$16.00	$9408.00
3	1,176 bags (50 lb. ea.)	18-00-8 Barricade 100% Nitroform .5 lb. Barricade Required Delivery (588 Bags) both deliveries August 17st – August 21th October 26th – October 30th	$19.25	$22,638.00
4	588 bags (50 lb. ea.)	15-0-15 +Alectus 100% Nitroform Required Delivery: (588 Bags) June 29th – July 3rd	$24.25	$14,259.00
5	~~466~~ Bags (50 lb. ea) 777/30#	Top Choice (fipronil .0143 %) Required Delivery: (466 Bags) Jan. 6th – Jan. 10th	$25.00	$19,425.00
6	5 Jobs	Spreading of Fertilizer(s)		0
		Sub Total		$94,101
		Delivery Fee(s)		0
		9% Tax (Lines 1-5)		8469.09
		Total		102,510.09

Please include delivery and taxes on the appropriate lines on this form

*The City is looking to purchase the following fertilizers. All bags delivered must meet and follow all EPA rules and regulations! The bid will be awarded to the lowest responsive and responsible vendor.

**The City reserves the right to purchase all, part or none of the items or services as in the best interest of the City.

Total: $102,510.09

Spreading of Fertilizer is complimentary.
NO Delivery Fees

3e)

COMMITTEE / COUNCIL AGENDA

TO: John J. Tecklenburg, Mayor

FROM: Tom O'Brien/Ben Dellucci **DEPT.** Public Service

SUBJECT: 2020 FREIGHTLINER CAB AND CHASSIS PAC MAC KNUCKEBOOM LOADER

REQUEST: Approval to purchase a 2020 Freightliner Cab and Chassis Pac Mac Knuckleboom Loader from Carolina Environmental Systems, Inc., 2750 Hwy. 66S, Kernersville, NC 27284. Sourcewell Contract #041217-HMC.

COMMITTEE OF COUNCIL: Ways & Means **DATE:** January 28, 2020

COORDINATION: This request has been coordinated with: *(attach all recommendations/reviews)*

	Yes	N/A	Signature of Individual Contacted	Attachment
Corporate Counsel	☐	☐		☐
Cap. Proj. Cmte. Chair	☐	☐		☐
Public Service/Fleet	X	☐		☐
Procurement Director	X	☐		☐

FUNDING: Was funding previously approved? Yes ☐ No ☐ N/A ☐

If yes, provide the following: Dept./Div.: 062020 Account #: 58010 aee

Balance in Account * Amount needed for this item $153,720.00

Does this document need to be recorded at the RMC's Office? Yes ☐ No ☐

NEED: Identify any critical time constraint(s).

CFO's Signature: , Deputy CFO

FISCAL IMPACT: 2020 Lease Purchase Funds

Mayor's Signature:

John J. Tecklenburg, Mayor

ORIGINATING OFFICE PLEASE NOTE: A FULLY STAFFED/APPROVED (except Mayor's Signature) PACKAGE IS DUE IN THE CLERK OF COUNCIL'S OFFICE NO LATER THAN 10:00AM THE DAY OF THE CLERK'S AGENDA MEETING.

City of Charleston
Vendor: Carolina Enviro Sys.
V#: 007832
Address: 2750 Hwy 66S
Kernersville NC 27284

Requisition
Req. Date:1/2/20
Req.# _____
PO#: _____
Ship To: _____

Account Codes:			062020-5810	Contract #:	Sourcewell
					041217-HMC
Item #	**Quantity**	**Unit**	**Description**	**Unit Price**	**Ext. Price**
	1		Pac Mac Knuckleboom loader on 2020 Freightliner cab		$153,220.00
			and chassis		
			As per quote		
			Sourcewell #041217-HMC		
			For		
			Public Services- Trash		
	1		STATE TAX		$500.00
				TOTAL	$153,720.00

Requestor/B. Dellucci
Title/Fleet manager

Authorized Approval

Carolina Environmental Systems, Inc.

2750 Highway 66 S, Kernersville, NC 27284

(336) 869-9900

December 27 , 2019

Mr. Ben Dellucci
Mr. Matt Alltop
City of Charleston
2150 Milford Street
Charleston , South Carolina 29405

Gentlemen ,

Per your request, we are pleased to quote to you the following **Pac Mac Knuckleboom Loader, Model KBF20H** and **2020 Freightliner Cab and Chassis (specs attached).** The specifications are as follows :

Loader:

Pac-Mac by Hol-Mac, Model KBF20H / 18'-24 Yd
270 degrees boom rotation
16' - 20' reach
48" x 60" grapple, 360 degrees continuous rotation
Hydraulic joy sticks
Electric shift PTO w/EOS
Tandem hydraulic pump, direct coupled
Lifting capacity: 3,000 to 7,000 lbs
H Style outriggers
Fast idle circuit
Heat Shield Under Cat Walk
Boom Overheight Alarm and Light

Pac-Mac by Hol-Mac

Model TKB 18 / 24
18' long, 24 cubic yards
42" front sides, tapered up to 60" sides at rear
Dual outboard lift cylinders
12" on center - 4" channel crossmembers
8" longitudinals
3/16" floor
Dual rear barn doors
Dual rear LED, oval, amber flashing lights
ICC rear bumper
Armless Tarper System
CES Rear Vision Camera and 7" Monitor
Cab - white
Loader - safety red
Body – black

Total Price Per above Pac-Mac and 2020 Freightliner .....$ 153,220.00/Ea.
(See attached truck specs)

Delivery : April 2020

Terms : Full Net on Delivery / Invoice.

Please know that all of the stock trucks are quoted subject to prior sale. The South Carolina state sales tax of $500.00 is not included in the price and should be paid by the city when licensing the vehicle.

We thank you for this opportunity and if you have questions or need additional information, please do not hesitate to contact me.

Sincerely,

Chip Taylor

Chip Taylor
Carolina Environmental Systems, Inc.

Mobile: (803) 238-3590

E-Mail: chiptaylor@csc.rr.com

NOTE : This quote is Sourcewell (NJPA) Compliant per contract number 041217 - HMC

PAC-MAC®

KB-20 SERIES

A FIVE-STAR RATING PUTS THE KB-20 SERIES IN A CLASS OF ITS OWN.

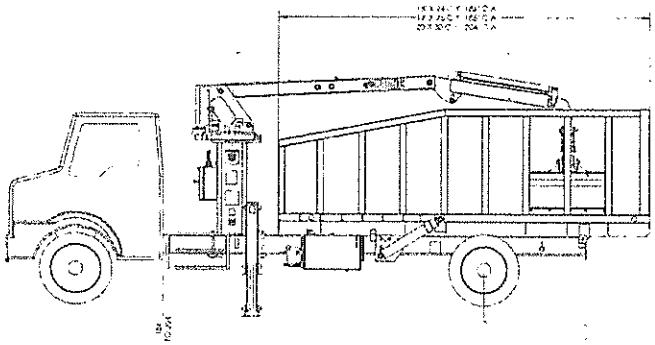
Recognized for quality, safety, economic efficiency, user-friendliness, and durability, this series really raises the bar. The KB-20 Series was designed for easy operator access, service, and maintenance, all with a low initial cost, making this the total package. DO IT RIGHT with Pac-Mac®!

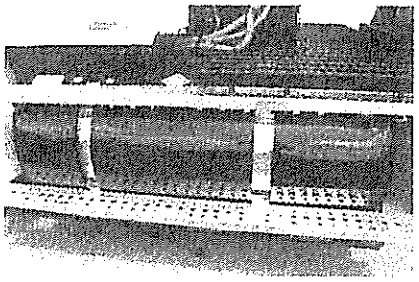
E-PAC-MAC.COM

MANUFACTURED BY HOL-MAC CORPORATION
P.O. BOX 349, BAY SPRINGS, MS 39422 • 601.764.4121

NJPA
National Joint Powers Alliance
#031014-HMC

KB-20 SERIES





Pod can accommodate a variety of CNG tank options including below the rail saddle tanks or back of cab above rail tanks

TECHNICAL DATA AND SPECIFICATIONS

GENERAL SPECIFICATIONS

Height of boom to ground in lowest travel position (based on 37 in chassis height)	11 ft
Boom length (16 ft with 4 ft extension)	20 ft
Optional boom lengths (fixed)	16 17 18 ft
Boom rotation	270° non continuous
Lifting capacity at 20 ft with bucket	3,300 lbs (standard) 3,600 lbs (optional)
H Style outriggers	
Outrigger (extended)	11 ft 8 in
Outrigger (retracted)	8 ft
Hydraulics	Tandem pump for simultaneous operation of multiple functions
Operator controls	
Standup	Individual levers or pilot operated hydraulic joysticks
Rotating platform	Mechanical joysticks or pilot operated hydraulic controls

RECOMMENDED CHASSIS

Cab to axle (CA)	See Chassis Requirements
Front axle	9000 lbs (minimum) single rear axle 14,000 lbs (minimum) tandem rear axle
Rear axle	9000 lbs (minimum) single rear axle 40,000 lbs (minimum) tandem rear axle
GVW	33,000 lbs (minimum) single rear axle 54,000 lbs (minimum) tandem rear axle
Engine	225 HP (minimum)
Transmission	Automatic or manual
Frame	500,000 RBM

BODY

Length	18 19 20 ft
Capacity	20 24 25 30 cubic yds
Tilt to 45° for dumping	
Door style	single, double, or scow
Floor	3/16 in (1/4 in optional) 8 in wide slip 4 in joists on 12 in spacing
Sides	Side lbs 24 in spacing
Tarp	Spring assist with arm Spring assist armless Electric with arm
Lighting	Incandescent and LED Mid-body turn signals (where applicable) Smart light (optional) Customer specific light location

BUCKET

Width	4 ft
Fully open	5 ft

FEATURES:

- All hoses are enclosed within pedestal
- Pilot operated check valves on pivot, lift, boom and outriggers
- Pilot operated hydraulic joysticks
- Greaseless mechanical levers
- H-style outrigger design
- Built-in holding valves for safety
- Smooth pads for minimal street damage
- "Outrigger Up" safety feature (optional)
- Two cylinders provide superior lifting force (bucket)
- High strength tempered steel (optional cast cutting edge lip bucket)
- Non-scalping design bucket
- 360 degree continuous rotation (bucket)
- Optional bucket designs available to meet your needs
- Control of use when dealing with heavy bulky materials
- Complete discharge due to fully opening swinging doors
- Optional pneumatic air latch
- Bumper meets DOT rear impact standards
- Two telescopic dump cylinders
- Scissor hoist dump (optional)
- 45 degree cab for complete cleanout
- Integral holding valves in main and lift boom cylinders for increased safety
- Durable iron clad pistons, chrome rods, replaceable bronze bushings
- 1 year hydraulic warranty

ALL DESIGN SPECIFICATIONS AND COMPONENTS ARE SUBJECT TO CHANGE AT THE MANUFACTURER'S SOLE DISCRETION AT ANY TIME WITHOUT NOTICE OR OBLIGATION. THIS IS FOR INFORMATION PURPOSES ONLY AND SHALL NOT BE CONSTRUED TO WARRANT SUITABILITY OF THE UNIT FOR ANY PARTICULAR PURPOSE. AS PERFORMANCE MAY VARY WITH THE CONDITIONS ENCOUNTERED. THE ONLY WARRANTY IS OUR STANDARD WRITTEN WARRANTY FOR THIS PRODUCT AT THE TIME OF SHIPMENT.

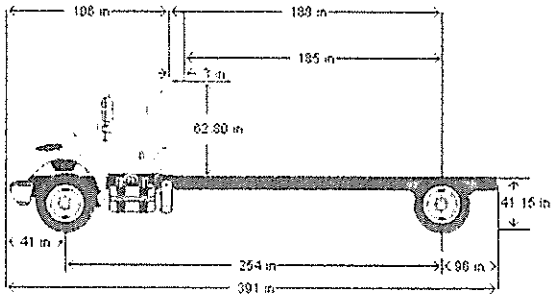
HOL-MAC CORPORATION
P.O. BOX 349, BAY SPRINGS, MS 39422
601.764.4121

Prepared for:
MAX CHIP MATT EDDIE
TAYLOR
CAROLINA ENVIRONMENTAL
HEIL
2750 NC HIGHWAY 66 S

KERNERSVILLE, NC 27284
Phone: 800-239-7796

Prepared by:
Maury Rice
CAROLINA FREIGHTLINER OF
RALEIGH, LLC
3500 YONKERS ROAD
RALEIGH, NC 27604
Phone:

DIMENSIONS



VEHICLE SPECIFICATIONS SUMMARY - DIMENSIONS

Model M2106
Wheelbase (545) ..... 6450MM (254 INCH) WHEELBASE
Rear Frame Overhang (552) ..... 2450MM (96 INCH) REAR FRAME OVERHANG
Fifth Wheel (578) ..... NO FIFTH WHEEL
Mounting Location (577) ..... NO FIFTH WHEEL LOCATION
Maximum Forward Position (in) 0
Maximum Rearward Position (in) 0
Amount of Slide Travel (in) 0
Slide Increment (in) 0
Desired Slide Position (in) 0.0
Cab Size (829) ..... 106 INCH BBC FLAT ROOF ALUMINUM CONVENTIONAL CAB
Sleeper (682) ..... NO SLEEPER BOX/SLEEPERCAB
Exhaust System (016) ..... RH OUTBOARD UNDER STEP MOUNTED HORIZONTAL AFTERTREATMENT SYSTEM ASSEMBLY WITH RH HORIZONTAL TAILPIPE

TABLE SUMMARY - DIMENSIONS

Prepared for:
MAX CHIP MATT EDDIE
TAYLOR
CAROLINA ENVIRONMENTAL
HEIL
2750 NC HIGHWAY 66 S

KERNERSVILLE, NC 27284
Phone: 800-239-7796

Prepared by:
Maury Rice
CAROLINA FREIGHTLINER OF
RALEIGH, LLC
3500 YONKERS ROAD
RALEIGH, NC 27604
Phone:

Bumper to Back of Cab (BBC)	[illegible]
Bumper to Centerline of Front Axle (BA)	[illegible]
Min. Cab to Body Clearance (CB)	3.0
Back of Cab to Centerline of Rear Axle(s) (CA)	[illegible]
Effective Back of Cab to Centerline of Rear Axle(s) (Effective CA)	[illegible]
Back of Cab Protrusions (Exhaust/Intake) (CP)	0.0
Back of Cab Protrusions (Side Extenders/Trim Tab) (CP)	0.0
Back of Cab Protrusions (CNG Tank)	0.0
Back of Cab Clearance (CL)	[illegible]
Back of Cab to End of Frame	[illegible]
Cab Height (CH)	[illegible]
Wheelbase (WB)	253.0
Frame Overhang (OH)	[illegible]
Overall Length (OAL)	[illegible]
Rear Axle Spacing	0.0
Unladen Frame Height at Centerline of Rear Axle	[illegible]

Performance calculations are estimates only. If performance calculations are critical, please contact Customer Application Engineering.

Prepared for:
MAX CHIP MATT EDDIE
TAYLOR
CAROLINA ENVIRONMENTAL
HEIL
2750 NC HIGHWAY 66 S

KERNERSVILLE, NC 27284
Phone: 800-239-7796

Prepared by:
Maury Rice
CAROLINA FREIGHTLINER OF
RALEIGH, LLC
3500 YONKERS ROAD
RALEIGH, NC 27604
Phone:

G V W R

VEHICLE SPECIFICATIONS SUMMARY - GVWR

Model	M2106
Cab Size (829)	106 INCH BBC FLAT ROOF ALUMINUM CONVENTIONAL CAB
Expected Front Axle(s) Load (lbs)	12000.0
Expected Pusher Axle(s) Load (lbs)	0.0
Expected Rear Axle(s) Load (lbs)	21000.0
Expected Tag Axle(s) Load (lbs)	0.0
Expected GVW (lbs)	33000
Expected GCW (lbs)	0.0
Front Axle (400)	DETROIT DA-F-12.0-3 12,000# FF1 71.5 KPI/3.74 DROP SINGLE FRONT AXLE
Front Suspension (620)	12,000# DUAL TAPERLEAF FRONT SUSPENSION
Front Hubs (418)	CONMET PRESET PLUS PREMIUM IRON FRONT HUBS
Front Disc Wheels (502)	MAXION WHEELS 90262 22.5X8.25 10-HUB PILOT 6.19 INSET 5-HAND STEEL DISC FRONT WHEELS
Front Tires (093)	HANKOOK AL11 11R22.5 14 PLY RADIAL FRONT TIRES
Front Brakes (402)	MERITOR 15X4 Q+ CAM FRONT BRAKES
Steering Gear (536)	TRW THP-60 POWER STEERING
Rear Axle (420)	DETROIT DA-RS-21.0-4 21,000# R-SERIES SINGLE REAR AXLE
Rear Suspension (622)	23,000# FLAT LEAF SPRING REAR SUSPENSION WITH HELPER AND RADIUS ROD
Rear Hubs (450)	CONMET PRESET PLUS PREMIUM IRON REAR HUBS
Rear Disc Wheels (505)	MAXION WHEELS 90262 22.5X8.25 10-HUB PILOT 5-HAND STEEL DISC REAR WHEELS
Rear Tires (094)	HANKOOK DL11 11R22.5 14 PLY RADIAL REAR TIRES
Rear Brakes (423)	MERITOR 16.5X7 Q+ CAST SPIDER CAM REAR BRAKES, DOUBLE ANCHOR, FABRICATED SHOES
Pusher / Tag Axle (443)	NO PUSHER OR TAG AXLE
Pusher / Tag Suspension (626)	NO PUSHER OR TAG SUSPENSION
Pusher / Tag Hubs (449)	NO PUSHER OR TAG HUBS
Pusher/Tag Disc Wheels (509)	NO PUSHER/TAG DISC WHEELS
Pusher / Tag Tires (095)	NO PUSHER/TAG TIRES
Pusher / Tag Brakes (456)	NO PUSHER/TAG BRAKES

TABLE SUMMARY - GVWR

Prepared for:
MAX CHIP MATT EDDIE
TAYLOR
CAROLINA ENVIRONMENTAL
HEIL
2750 NC HIGHWAY 66 S

KERNERSVILLE, NC 27284
Phone: 800-239-7796

Prepared by:
Maury Rice
CAROLINA FREIGHTLINER OF
RALEIGH, LLC
3500 YONKERS ROAD
RALEIGH, NC 27604
Phone:

Axle Component Weight Ratings		
Axles	12000	21000
Suspension	12000	21000
Hubs	14000	26000
Brakes	12000	21000
Wheels	14000	23000
Tires	12000	23000
Power Steering	12000	n/a
GAWR (per axle)	12000	21000
GAWR (per axle system)	12000	21000
Expected Load (per axle system)	12000	21000
Vehicle GVWR Summary		
Calculated GVWR	3[illegible]	
Expected GVWR	3[illegible]	

All weights displayed in pounds

Performance calculations are estimates only. If performance calculations are critical, please contact Customer Application Engineering.

Prepared for:
MAX CHIP MATT EDDIE
TAYLOR
CAROLINA ENVIRONMENTAL
HEIL
2750 NC HIGHWAY 66 S

KERNERSVILLE, NC 27284
Phone: 800-239-7796

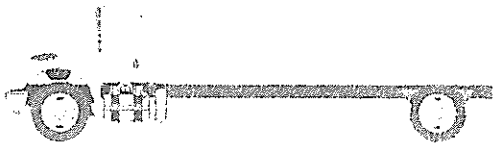
Prepared by:
Maury Rice
CAROLINA FREIGHTLINER OF
RALEIGH, LLC
3500 YONKERS ROAD
RALEIGH, NC 27604
Phone:

A proposal for
CAROLINA ENVIRONMENTAL HEIL

Prepared by
CAROLINA FREIGHTLINER OF RALEIGH, LLC
Maury Rice

Dec 10, 2019

Freightliner M2 106



Components shown may not reflect all spec'd options and are not to scale

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SPECIFICATION PROPOSAL

	Description	Weight Front	Weight Rear	Retail Price
Price Level				
	M2 PRL-20M (EFF:04/30/19)			STD
Data Version				
	SPECPRO21 DATA RELEASE VER 028			N/C
Vehicle Configuration				
	M2 106 CONVENTIONAL CHASSIS	5,709	3,503	$103,510.00
	2020 MODEL YEAR SPECIFIED			STD
	SET BACK AXLE - TRUCK			STD
	STRAIGHT TRUCK PROVISION			STD
	LH PRIMARY STEERING LOCATION			STD
General Service				
	TRUCK CONFIGURATION			STD
	DOMICILED, USA 50 STATES (INCLUDING CALIFORNIA AND CARB OPT-IN STATES)			N/C
	UTILITY/REPAIR/MAINTENANCE SERVICE			N/C
	GOVERNMENT BUSINESS SEGMENT			N/C
	FIXED LOAD COMMODITY			N/C
	TERRAIN/DUTY: 100% (ALL) OF THE TIME, IN TRANSIT, IS SPENT ON PAVED ROADS			STD
	MAXIMUM 8% EXPECTED GRADE			STD
	SMOOTH CONCRETE OR ASPHALT PAVEMENT - MOST SEVERE IN-TRANSIT (BETWEEN SITES) ROAD SURFACE			STD
	MEDIUM TRUCK WARRANTY			STD
	EXPECTED FRONT AXLE(S) LOAD 12000.0 lbs			
	EXPECTED REAR DRIVE AXLE(S) LOAD 21000.0 lbs			
	EXPECTED GROSS VEHICLE WEIGHT CAPACITY 33000.0 lbs			
Truck Service				

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	Description	Weight Front	Weight Rear	Retail Price
	FLATBED/PLATFORM BODY WITH LIFT/PULL DEVICE/CRANE			N/C
	CAROLINA ENVIRONMENTAL SYSTEMS, INC			N/C
	EXPECTED BODY/PAYLOAD CG HEIGHT ABOVE FRAME "XX" INCHES : 32.0 in			
Engine				
	CUM B6.7 250 HP @ 2400 RPM, 2600 GOV, 660 LB/FT @ 1600 RPM			$3,211.00
Electronic Parameters				
	75 MPH ROAD SPEED LIMIT			N/C
	CRUISE CONTROL SPEED LIMIT SAME AS ROAD SPEED LIMIT			N/C
	PTO MODE BRAKE OVERRIDE - SERVICE BRAKE APPLIED			N/C
	PTO RPM WITH CRUISE SET SWITCH - 700 RPM			N/C
	PTO RPM WITH CRUISE RESUME SWITCH - 800 RPM			N/C
	PTO MODE CANCEL VEHICLE SPEED - 5 MPH			N/C
	PTO GOVERNOR RAMP RATE - 250 RPM PER SECOND			N/C
	PTO MINIMUM RPM - 700			N/C
	REGEN INHIBIT SPEED THRESHOLD - 5 MPH			N/C
Engine Equipment				
	2016-2019 ONBOARD DIAGNOSTICS/2010 EPA/CARB/FINAL GHG17 CONFIGURATION			STD
	2008 CARB EMISSION CERTIFICATION - CLEAN IDLE (INCLUDES 6X4 INCH LABEL ON LOWER FORWARD CORNER OF DRIVER DOOR)			$109.00
	STANDARD OIL PAN			STD
	ENGINE MOUNTED OIL CHECK AND FILL			STD
	ONE PIECE VALVE COVER			STD
	SIDE OF HOOD AIR INTAKE WITH FIREWALL MOUNTED DONALDSON AIR CLEANER			STD
	DR 12V 160 AMP 28-SI QUADRAMOUNT PAD ALTERNATOR WITH REMOTE BATTERY VOLT SENSE			STD
	(2) DTNA GENUINE, FLOODED STARTING, MIN 1900CCA, 350RC, THREADED STUD BATTERIES			STD
	BATTERY BOX FRAME MOUNTED			STD
	STANDARD BATTERY JUMPERS			STD

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Description	Weight Front	Weight Rear	Retail Price
SINGLE BATTERY BOX FRAME MOUNTED LH SIDE UNDER CAB			STD
WIRE GROUND RETURN FOR BATTERY CABLES WITH ADDITIONAL FRAME GROUND RETURN			STD
NON-POLISHED BATTERY BOX COVER			STD
NO CAB AUXILIARY POWER WIRING			STD
POSITIVE LOAD DISCONNECT WITH CAB MOUNTED CONTROL SWITCH MOUNTED OUTBOARD DRIVER SEAT	8		$206.00
POSITIVE AND NEGATIVE POSTS FOR JUMPSTART LOCATED ON FRAME NEXT TO STARTER	2		$92.00
CUMMINS TURBOCHARGED 18.7 CFM AIR COMPRESSOR WITH INTERNAL Safety VALVE			STD
STANDARD MECHANICAL AIR COMPRESSOR GOVERNOR			STD
AIR COMPRESSOR DISCHARGE LINE			STD
ELECTRONIC ENGINE INTEGRAL SHUTDOWN PROTECTION SYSTEM			STD
CUMMINS EXHAUST BRAKE INTEGRAL WITH VARIABLE GEOMETRY TURBO WITH ON/OFF DASH SWITCH, ACTIVATES STOP LAMPS	20		$35.00
RH OUTBOARD UNDER STEP MOUNTED HORIZONTAL AFTERTREATMENT SYSTEM ASSEMBLY WITH RH HORIZONTAL TAILPIPE			STD
ENGINE AFTERTREATMENT DEVICE, AUTOMATIC OVER THE ROAD REGENERATION AND DASH MOUNTED REGENERATION REQUEST SWITCH			STD
STANDARD EXHAUST SYSTEM LENGTH			STD
RH STANDARD HORIZONTAL TAILPIPE			STD
6 GALLON DIESEL EXHAUST FLUID TANK			STD
100 PERCENT DIESEL EXHAUST FLUID FILL			STD
LH MEDIUM DUTY STANDARD DIESEL EXHAUST FLUID TANK LOCATION			STD
STANDARD DIESEL EXHAUST FLUID PUMP MOUNTING			STD
STANDARD DIESEL EXHAUST FLUID TANK CAP			STD
AIR POWERED ON/OFF ENGINE FAN CLUTCH			STD
AUTOMATIC FAN CONTROL WITHOUT DASH SWITCH, NON ENGINE MOUNTED			STD
CUMMINS SPIN ON FUEL FILTER			STD
FULL FLOW OIL FILTER			STD

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	Description	Weight Front	Weight Rear	Retail Price
	700 SQUARE INCH ALUMINUM RADIATOR			STD
	ANTIFREEZE TO -34F, OAT (NITRITE AND SILICATE FREE) EXTENDED LIFE COOLANT			STD
	GATES BLUE STRIPE COOLANT HOSES OR EQUIVALENT			STD
	CONSTANT TENSION HOSE CLAMPS FOR COOLANT HOSES			STD
	RADIATOR DRAIN VALVE			STD
	LOWER RADIATOR GUARD			STD
	PHILLIPS-TEMRO 750 WATT/115 VOLT BLOCK HEATER	4		$108.00
	BLACK PLASTIC ENGINE HEATER RECEPTACLE MOUNTED UNDER LH DOOR			N/C
	ALUMINUM FLYWHEEL HOUSING			STD
	ELECTRIC GRID AIR INTAKE WARMER			STD
	DELCO 12V 29MT STARTER WITH INTEGRATED MAGNETIC SWITCH			STD
Transmission				
	ALLISON 3500 RDS AUTOMATIC TRANSMISSION WITH PTO PROVISION	200	60	$6,711.00
Transmission Equipment				
	ALLISON VOCATIONAL PACKAGE 223 - AVAILABLE ON 3000/4000 PRODUCT FAMILIES WITH VOCATIONAL MODELS RDS, HS, MH AND TRV			N/C
	ALLISON VOCATIONAL RATING FOR ON/OFF HIGHWAY APPLICATIONS AVAILABLE WITH ALL PRODUCT FAMILIES			N/C
	PRIMARY MODE GEARS, LOWEST GEAR 1, START GEAR 1, HIGHEST GEAR 6, AVAILABLE FOR 3000/4000 PRODUCT FAMILIES ONLY			N/C
	SECONDARY MODE GEARS, LOWEST GEAR 1, START GEAR 1, HIGHEST GEAR 6, AVAILABLE FOR 3000/4000 PRODUCT FAMILIES ONLY			N/C
	PRIMARY SHIFT SCHEDULE RECOMMENDED BY DTNA AND ALLISON, THIS DEFINED BY ENGINE AND VOCATIONAL USAGE			STD
	SECONDARY SHIFT SCHEDULE RECOMMENDED BY DTNA AND ALLISON, THIS DEFINED BY ENGINE AND VOCATIONAL USAGE			STD
	PRIMARY SHIFT SPEED RECOMMENDED BY DTNA AND ALLISON, THIS DEFINED BY ENGINE AND VOCATIONAL USAGE			STD

Description	Weight Front	Weight Rear	Retail Price
SECONDARY SHIFT SPEED RECOMMENDED BY DTNA AND ALLISON, THIS DEFINED BY ENGINE AND VOCATIONAL USAGE			STD
ENGINE BRAKE RANGE PRESELECT RECOMMENDED BY DTNA AND ALLISON, THIS DEFINED BY ENGINE AND VOCATIONAL USAGE			STD
ENGINE BRAKE RANGE ALTERNATE PRESELECT RECOMMENDED BY DTNA AND ALLISON, THIS DEFINED BY ENGINE AND VOCATIONAL USAGE			STD
FUEL SENSE 2.0 DISABLED - PERFORMANCE - TABLE BASED			STD
DRIVER SWITCH INPUT - DEFAULT - NO SWITCHES			STD
VEHICLE INTERFACE WIRING CONNECTOR WITHOUT BLUNT CUTS, AT END OF FRAME			$53.00
ELECTRONIC TRANSMISSION CUSTOMER ACCESS CONNECTOR MOUNTED BACK OF CAB			$76.00
CUSTOMER INSTALLED CHELSEA 280 SERIES PTO			N/C
PTO MOUNTING, LH SIDE OF MAIN TRANSMISSION			N/C
MAGNETIC PLUGS, ENGINE DRAIN, TRANSMISSION DRAIN, AXLE(S) FILL AND DRAIN			STD
PUSH BUTTON ELECTRONIC SHIFT CONTROL, DASH MOUNTED			N/C
TRANSMISSION PROGNOSTICS - ENABLED 2013			N/C
WATER TO OIL TRANSMISSION COOLER, IN RADIATOR END TANK			STD
TRANSMISSION OIL CHECK AND FILL WITH ELECTRONIC OIL LEVEL CHECK			N/C
SYNTHETIC TRANSMISSION FLUID (TES-295 COMPLIANT)			STD
Front Axle and Equipment			
DETROIT DA-F-12.0-3 12,000# FF1 71.5 KPI/3.74 DROP SINGLE FRONT AXLE			STD
MERITOR 15X4 Q+ CAM FRONT BRAKES			STD
NON-ASBESTOS FRONT BRAKE LINING			STD
CONMET CAST IRON FRONT BRAKE DRUMS			($12.00)
FRONT OIL SEALS			STD
VENTED FRONT HUB CAPS WITH WINDOW, CENTER AND SIDE PLUGS - OIL			STD

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	Description	Weight Front	Weight Rear	Retail Price
	STANDARD SPINDLE NUTS FOR ALL AXLES			STD
	MERITOR AUTOMATIC FRONT SLACK ADJUSTERS			STD
	TRW THP-60 POWER STEERING			STD
	POWER STEERING PUMP			STD
	2 QUART SEE THROUGH POWER STEERING RESERVOIR			STD
	ORGANIC SAE 80/90 FRONT AXLE LUBE			STD
Front Suspension				
	12,000# DUAL TAPERLEAF FRONT SUSPENSION	42		$57.00
	MAINTENANCE FREE RUBBER BUSHINGS - FRONT SUSPENSION			STD
	FRONT SHOCK ABSORBERS			STD
Rear Axle and Equipment				
	DETROIT DA-RS-21 0-4 21,000# R-SERIES SINGLE REAR AXLE			STD
	5.56 REAR AXLE RATIO			N/C
	IRON REAR AXLE CARRIER WITH STANDARD AXLE HOUSING			STD
	MXL 17T MERITOR EXTENDED LUBE MAIN DRIVELINE WITH HALF ROUND YOKES	40	40	$488 00
	MERITOR 16.5X7 Q+ CAST SPIDER CAM REAR BRAKES, DOUBLE ANCHOR, FABRICATED SHOES			STD
	NON-ASBESTOS REAR BRAKE LINING			STD
	BRAKE CAMS AND CHAMBERS ON REAR SIDE OF DRIVE AXLE(S)			N/C
	CONMET CAST IRON REAR BRAKE DRUMS			$28.00
	REAR OIL SEALS			STD
	WABCO TRISTOP D LONGSTROKE 1-DRIVE AXLE SPRING PARKING CHAMBERS			STD
	MERITOR AUTOMATIC REAR SLACK ADJUSTERS			STD
	ORGANIC SAE 80/90 REAR AXLE LUBE			($162.00)
Rear Suspension				
	23,000# FLAT LEAF SPRING REAR SUSPENSION WITH HELPER AND RADIUS ROD		120	($1,145.00)
	SPRING SUSPENSION - NO AXLE SPACERS			N/C
	STANDARD AXLE SEATS IN AXLE CLAMP GROUP			STD

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	Description	Weight Front	Weight Rear	Retail Price
	FORE/AFT CONTROL RODS			N/C
Brake System				
	AIR BRAKE PACKAGE			STD
	WABCO 4S/4M ABS			STD
	REINFORCED NYLON, FABRIC BRAID AND WIRE BRAID CHASSIS AIR LINES			STD
	FIBER BRAID PARKING BRAKE HOSE			STD
	STANDARD BRAKE SYSTEM VALVES			STD
	STANDARD AIR SYSTEM PRESSURE PROTECTION SYSTEM			STD
	STD U.S. FRONT BRAKE VALVE			STD
	RELAY VALVE WITH 5-8 PSI CRACK PRESSURE, NO REAR PROPORTIONING VALVE			STD
	BW AD-9SI BRAKE LINE AIR DRYER WITH HEATER			$2.00
	AIR DRYER MOUNTED UNDER HOOD			N/C
	STEEL AIR BRAKE RESERVOIRS			STD
	CLEAR FRAME RAILS FROM BACK OF CAB TO FRONT REAR SUSPENSION BRACKET, BOTH RAILS OUTBOARD			$63.00
	PULL CABLE ON WET TANK, PETCOCK DRAIN VALVES ON ALL OTHER AIR TANKS			STD
Trailer Connections				
	UPGRADED CHASSIS MULTIPLEXING UNIT			STD
	UPGRADED BULKHEAD MULTIPLEXING UNIT			STD
Wheelbase & Frame				
	6450MM (254 INCH) WHEELBASE			N/C
	11/32X3-1/2X10-15/16 INCH STEEL FRAME (8.73MMX277.8MM/0.344X10.94 INCH) 120KSI	390	150	$1,044.00
	2450MM (96 INCH) REAR FRAME OVERHANG			N/C
	FRAME OVERHANG RANGE: 91 INCH TO 100 INCH	-40	180	N/C
	CALC'D BACK OF CAB TO REAR SUSP C/L (CA) 188 39 in			
	CALCULATED EFFECTIVE BACK OF CAB TO REAR SUSPENSION C/L (CA) 185.39 in			
	CALC'D FRAME LENGTH - OVERALL 389.41			
	CALCULATED FRAME SPACE LH SIDE 153.67 in			N/C

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	CALCULATED FRAME SPACE RH SIDE 258.72 in			N/C
	CALC'D SPACE AVAILABLE FOR DECKPLATE 188.45 in			
	SQUARE END OF FRAME			STD
	FRONT CLOSING CROSSMEMBER			STD
	STANDARD WEIGHT ENGINE CROSSMEMBER			STD
	STANDARD CROSSMEMBER BACK OF TRANSMISSION			STD
	STANDARD MIDSHIP #1 CROSSMEMBER(S)			STD
	STANDARD REARMOST CROSSMEMBER			STD
	STANDARD SUSPENSION CROSSMEMBER			STD
Chassis Equipment				
	THREE-PIECE 14 INCH PAINTED STEEL BUMPER WITH COLLAPSIBLE ENDS	30		$65.00
	FRONT TOW HOOKS - FRAME MOUNTED	15		$74.00
	BUMPER MOUNTING FOR SINGLE LICENSE PLATE			STD
	FENDER AND FRONT OF HOOD MOUNTED FRONT MUDFLAPS			STD
	GRADE 8 THREADED HEX HEADED FRAME FASTENERS			STD
Fuel Tanks				
	50 GALLON/189 LITER SHORT RECTANGULAR ALUMINUM FUEL TANK - LH	20		$152.00
	RECTANGULAR FUEL TANK(S)			STD
	PLAIN ALUMINUM/PAINTED STEEL FUEL/HYDRAULIC TANK(S) WITH PAINTED BANDS			STD
	FUEL TANK(S) FORWARD			STD
	PLAIN STEP FINISH			STD
	FUEL TANK CAP(S)			STD
	DETROIT FUEL/WATER SEPARATOR WITH WATER IN FUEL SENSOR AND HAND PRIMER	-5		STD
	EQUIFLO INBOARD FUEL SYSTEM			STD
	NO NATURAL GAS VEHICLE FUEL TANK VENT LINE/STACK			STD
	HIGH TEMPERATURE REINFORCED NYLON FUEL LINE			STD
Tires				

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	HANKOOK AL11 11R22.5 14 PLY RADIAL FRONT TIRES	8		($426.00)
	HANKOOK DL11 11R22.5 14 PLY RADIAL REAR TIRES		60	($852.00)
Hubs				
	CONMET PRESET PLUS PREMIUM IRON FRONT HUBS			STD
	CONMET PRESET PLUS PREMIUM IRON REAR HUBS			STD
Wheels				
	MAXION WHEELS 90262 22.5X8.25 10-HUB PILOT 6.19 INSET 5-HAND STEEL DISC FRONT WHEELS	18		($4.00)
	MAXION WHEELS 90262 22.5X8.25 10-HUB PILOT 5-HAND STEEL DISC REAR WHEELS		36	($8.00)
	NO FRONT AXLE WHEEL/HUB COVER			STD
	FRONT WHEEL MOUNTING NUTS			STD
	REAR WHEEL MOUNTING NUTS			STD
Cab Exterior				
	106 INCH BBC FLAT ROOF ALUMINUM CONVENTIONAL CAB			STD
	AIR CAB MOUNTING			$121.00
	LH AND RH GRAB HANDLES			STD
	PAINTED PLASTIC GRILLE			$50.00
	ARGENT SILVER HOOD MOUNTED AIR INTAKE GRILLE			N/C
	FIBERGLASS HOOD			STD
	SINGLE 14 INCH ROUND HADLEY AIR HORN UNDER LH DECK	4		$82.00
	SINGLE ELECTRIC HORN			STD
	SINGLE HORN SHIELD			N/C
	DOOR LOCKS AND IGNITION SWITCH KEYED THE SAME			STD
	REAR LICENSE PLATE MOUNT END OF FRAME			STD
	INTEGRAL HEADLIGHT/MARKER ASSEMBLY			STD
	(5) AMBER MARKER LIGHTS			STD
	DAYTIME RUNNING LIGHTS			$18.00
	INTEGRAL STOP/TAIL/BACKUP LIGHTS			STD
	STANDARD FRONT TURN SIGNAL LAMPS			STD

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	NO WORK LIGHT			STD
	DUAL WEST COAST MOLDED-IN COLOR HEATED MIRRORS			$93.00
	DOOR MOUNTED MIRRORS			STD
	102 INCH EQUIPMENT WIDTH			STD
	LH AND RH 8 INCH MOLDED-IN COLOR CONVEX MIRRORS M0UNTED UNDER PRIMARY MIRRORS			N/C
	RH 8 INCH STAINLESS STEEL FENDER MOUNTED CONVEX MIRROR WITH TRIPOD BRACKETS	4		$64.00
	STANDARD SIDE/REAR REFLECTORS			STD
	63X14 INCH TINTED REAR WINDOW			STD
	TINTED DOOR GLASS LH AND RH WITH TINTED NON-OPERATING WING WINDOWS			STD
	MANUAL DOOR WINDOW REGULATORS			STD
	TINTED WINDSHIELD			STD
	2 GALLON WINDSHIELD WASHER RESERVOIR WITHOUT FLUID LEVEL INDICATOR, FRAME MOUNTED			STD
Cab Interior				
	OPAL GRAY VINYL INTERIOR			N/C
	MOLDED PLASTIC DOOR PANEL WITHOUT VINYL INSERT WITH ALUMINUM KICKPLATE LOWER DOOR			$13.00
	MOLDED PLASTIC DOOR PANEL WITHOUT VINYL INSERT WITH ALUMINUM KICKPLATE LOWER DOOR			$26.00
	BLACK MATS WITH SINGLE INSULATION			STD
	FORWARD ROOF MOUNTED CONSOLE WITH UPPER STORAGE COMPARTMENTS WITHOUT NETTING			STD
	IN DASH STORAGE BIN			STD
	(2) CUP HOLDERS LH AND RH DASH			STD
	GRAY/CHARCOAL FLAT DASH			STD
	2-1/2 LB. FIRE EXTINGUISHER	5		$37.00
	HEATER, DEFROSTER AND AIR CONDITIONER			STD
	STANDARD HVAC DUCTING			STD
	MAIN HVAC CONTROLS WITH RECIRCULATION SWITCH			STD
	STANDARD HEATER PLUMBING			STD

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Description	Weight Front	Weight Rear	Retail Price
VALEO HEAVY DUTY A/C REFRIGERANT COMPRESSOR			STD
BINARY CONTROL, R-134A			STD
STANDARD INSULATION			STD
SOLID-STATE CIRCUIT PROTECTION AND FUSES			STD
12V NEGATIVE GROUND ELECTRICAL SYSTEM			STD
DOME LIGHT WITH 3-WAY SWITCH ACTIVATED BY LH AND RH DOORS			STD
CAB DOOR LATCHES WITH MANUAL DOOR LOCKS			STD
(1) 12 VOLT POWER SUPPLY IN DASH			$21.00
TRIANGULAR REFLECTORS WITHOUT FLARES	10		$24.00
BASIC HIGH BACK AIR SUSPENSION DRIVER SEAT WITH MECHANICAL LUMBAR AND INTEGRATED CUSHION EXTENSION	30		$212.00
2 MAN TOOL BOX MID BACK NON SUSPENSION PASSENGER SEAT	20		$192.00
LH AND RH INTEGRAL DOOR PANEL ARMRESTS			STD
VINYL WITH VINYL INSERT DRIVER SEAT			STD
VINYL WITH VINYL INSERT PASSENGER SEAT			STD
BLACK SEAT BELTS			STD
ADJUSTABLE TILT AND TELESCOPING STEERING COLUMN	10		$478 00
4-SPOKE 18 INCH (450MM) STEERING WHEEL			STD
DRIVER AND PASSENGER INTERIOR SUN VISORS			STD
NO ENTRY/ACCESS/STEP WIRING			STD
Instruments & Controls			
GRAY DRIVER INSTRUMENT PANEL			STD
GRAY CENTER INSTRUMENT PANEL			STD
ENGINE REMOTE INTERFACE WITH PARK BRAKE AND NEUTRAL INTERLOCKS			N/C
BLACK GAUGE BEZELS			STD
LOW AIR PRESSURE INDICATOR LIGHT AND AUDIBLE ALARM			STD
2 INCH PRIMARY AND SECONDARY AIR PRESSURE GAUGES			STD
INTAKE MOUNTED AIR RESTRICTION INDICATOR WITHOUT GRADUATIONS			STD

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ELECTRONIC CRUISE CONTROL WITH SWITCHES IN LH SWITCH PANEL			STD
KEY OPERATED IGNITION SWITCH AND INTEGRAL START POSITION; 4 POSITION OFF/RUN/START/ACCESSORY			STD
ICU3S, 132X48 DISPLAY WITH DIAGNOSTICS, 28 LED WARNING LAMPS AND DATA LINKED			STD
HEAVY DUTY ONBOARD DIAGNOSTICS INTERFACE CONNECTOR LOCATED BELOW LH DASH			STD
2 INCH ELECTRIC FUEL GAUGE			STD
ENGINE REMOTE INTERFACE WITH PRESET FAST IDLE			$88.00
ENGINE REMOTE INTERFACE CONNECTOR IN ENGINE COMPARTMENT			($16.00)
ELECTRICAL ENGINE COOLANT TEMPERATURE GAUGE			STD
TRANSMISSION OIL TEMPERATURE INDICATOR LIGHT			($4.00)
ENGINE AND TRIP HOUR METERS INTEGRAL WITHIN DRIVER DISPLAY			STD
(1) DASH MOUNTED PTO SWITCH WITH INDICATOR LAMP - PARK BRAKE AND NEUTRAL INTERLOCK	5		$57.00
ELECTRIC ENGINE OIL PRESSURE GAUGE			STD
AM/FM/WB WORLD TUNER RADIO WITH BLUETOOTH AND USB AND AUXILIARY INPUTS, J1939	10		$490.00
DASH MOUNTED RADIO			N/C
(2) RADIO SPEAKERS IN CAB			N/C
AM/FM ANTENNA MOUNTED ON FORWARD LH ROOF			N/C
ELECTRONIC MPH SPEEDOMETER WITH SECONDARY KPH SCALE, WITHOUT ODOMETER			STD
STANDARD VEHICLE SPEED SENSOR			STD
ELECTRONIC 3000 RPM TACHOMETER			STD
IDLE LIMITER, ELECTRONIC ENGINE			STD
DIGITAL VOLTAGE DISPLAY INTEGRAL WITH DRIVER DISPLAY			STD
SINGLE ELECTRIC WINDSHIELD WIPER MOTOR WITH DELAY			STD

	Description	Weight Front	Weight Rear	Retail Price
	MARKER LIGHT SWITCH INTEGRAL WITH HEADLIGHT SWITCH			STD
	ONE VALVE PARKING BRAKE SYSTEM WITH DASH VALVE CONTROL AUTONEUTRAL AND WARNING INDICATOR			$111 00
	SELF CANCELING TURN SIGNAL SWITCH WITH DIMMER, WASHER/WIPER AND HAZARD IN HANDLE			STD
	INTEGRAL ELECTRONIC TURN SIGNAL FLASHER WITH HAZARD LAMPS OVERRIDING STOP LAMPS			STD
Design				
	PAINT· ONE SOLID COLOR			STD
Color				
	CAB COLOR A: L0006EY WHITE ELITE EY			STD
	BLACK, HIGH SOLIDS POLYURETHANE CHASSIS PAINT			STD
	POWDER WHITE (N0006EA) FRONT WHEELS/RIMS (PKWHT21, TKWHT21. W, TW)			STD
	POWDER WHITE (N0006EA) REAR WHEELS/RIMS (PKWHT21, TKWHT21. W, TW)			STD
	BUMPER PAINT· FP24812 ARGENT SILVER DUPONT FLEX			STD
	STANDARD E COAT/UNDERCOATING			STD
Certification / Compliance				
	U.S. FMVSS CERTIFICATION, EXCEPT SALES CABS AND GLIDER KITS			STD
Secondary Factory Options				
	CORPORATE PDI CENTER IN-SERVICE ONLY			N/C
	NO CUSTOMER FURNISHED MATERIAL SPECIFIED			STD
Raw Performance Data				
	CALC'D FRAME LENGTH - OVERALL · 389.41			
	CALCULATED EFFECTIVE BACK OF CAB TO REAR SUSPENSION C/L (CA) 185.39 in			
	CALC'D SPACE AVAILABLE FOR DECKPLATE 188.45 in			

TOTAL VEHICLE SUMMARY

Prepared for:
MAX CHIP MATT EDDIE
TAYLOR
CAROLINA ENVIRONMENTAL
HEIL
2750 NC HIGHWAY 66 S

KERNERSVILLE, NC 27284
Phone: 800-239-7796

Prepared by:
Maury Rice
CAROLINA FREIGHTLINER OF
RALEIGH, LLC
3500 YONKERS ROAD
RALEIGH, NC 27604
Phone:

Adjusted List Price

Adjusted List Price **	$115,632.00

Weight Summary

	Weight Front	Weight Rear	Total Weight
Factory Weight+	6559 lbs	4149 lbs	10708 lbs
Total Weight+	6559 lbs	4149 lbs	10708 lbs

ITEMS NOT INCLUDED IN ADJUSTED LIST PRICE

Other Factory Charges

CUMMINS TARIFF CHARGE - $205	$205 00
STANDARD DESTINATION CHARGE	$2,200.00

(+) Weights shown are estimates only.
If weight is critical, contact Customer Application Engineering
(**) Prices shown do not include taxes, fees, etc. "Net Equipment Selling Price" is located on the Quotation Details Proposal Report.

(***) All cost increases for major components (Engines, Transmissions, Axles, Front and Rear Tires) and government mandated requirements, tariffs, and raw material surcharges will be passed through and added to factory invoices

3f)

COMMITTEE / COUNCIL AGENDA

TO: John J. Tecklenburg, Mayor

FROM: Tom O'Brien/Ben Dellucci **DEPT.** Public Service

SUBJECT: 2020 FORD F450 CREW CAB W/STAKE BED BODY

REQUEST: Approval to purchase a 2020 Ford F450 Crew Cab with Stake Bed Body From Dick Smith Ford, 7201 Garners Ferry Road, Columbia, SC 29209. SC Contract #4400019806

COMMITTEE OF COUNCIL: Ways & Means **DATE:** January 28, 2020

COORDINATION: This request has been coordinated with: *(attach all recommendations/reviews)*

	Yes	N/A	Signature of Individual Contacted	Attachment
Corporate Counsel	☐	☐		☐
Cap. Proj. Cmte. Chair	☐	☐		☐
Public Service/Fleet	X	☐		☐
Procurement Director	X	☐		☐

FUNDING: Was funding previously approved? Yes ☐ No ☐ N/A ☐

If yes, provide the following: Dept./Div.: 062020 Account #: 58010

Balance in Account * Amount needed for this item $75,237.00

Does this document need to be recorded at the RMC's Office? Yes ☐ No ☐

NEED: Identify any critical time constraint(s).

CFO's Signature: Matt Ff, Deputy CFO

FISCAL IMPACT:

2020 Lease Purchase Funds

Mayor's Signature: John J. Tecklenburg, Mayor

ORIGINATING OFFICE PLEASE NOTE: A FULLY STAFFED/APPROVED (except Mayor's Signature) PACKAGE IS DUE IN THE CLERK OF COUNCIL'S OFFICE NO LATER THAN 10:00AM THE DAY OF THE CLERK'S AGENDA MEETING.

City of Charleston
Vendor: Dick Smith Ford
V#: 006214
Address: 7201Garners Ferry Rd
Columbia,SC 29209

Requisition
Req. Date:1/2/2020
Req.# _____
PO#: _____
Ship To: _____

Account Codes:			062020-5810	**Contract #:**	4400019806
Item #	**Quantity**	**Unit**	**Description**	**Unit Price**	**Ext. Price**
	1		**2020 FORD F450 C/C W/Stake Bed Body**		$41,283.00
			Body Installed per Quote GS 02142019-Y		$29,512.000
			4 DOOR CREW CAB		$2,947.00
			Body Installation Fee		$895.00
			Operators Manual		$100.00
			State contract # 4400019806		
			For		
			P.S.-Streets		
			STATE TAX		$500.00
				TOTAL	$75,237.00

Requestor/B. Dellucci
Title/Fleet manager

Authorized Approval

DeAna Reed-Sharpe, Procurement Manager
Phone: (803)896-6389
Email: drsharpe@mmo.sc.gov

Materials Management Office
1201 Main Street, Suite 600
Columbia, South Carolina 29201

CC-4: Cab/Chassis, 15,500 GVWR, Diesel Engine

Contract Number:	4400019806	Contractor:	**Dick Smith Ford, Inc.**
Initial Contract Term:	11/1/2018 - 10/31/2019	Address:	7201 Garners Ferry Rd., Columbia, SC 29209
Contract Rollover Dates:	11/1/2019 - 10/31/2019	Vendor #:	7000088455
Order Cuttoff Date:	T	Contact:	**Mark Coward**
Model:	**Ford F-450 / F4G**	Email:	markcoward@dicksmith.com
Commodity Code:	07210	Telephone:	**803-343-5821**
Delivery Days ARO:	100	Fax:	**803-376-6237**

BASE PRICE **$41,283.00**

*Click on the link above for an itemized listing of items included in the base price.

Optional Additions

Body Installation Fee	$895.00
4- Door Crew Cab	$2,947.00
Operator's Manual	$100.00
Operator's Training	No Charge
Repair Technician Training	No Charge
Shop Manual (For All Components - CD or DVD Preferred)	No Charge

Optional Deductions

Gasoline Engine	$5,691.00
60" CA	$150.00
Step Bar Entry / Egress - (Standard State Specification)	No Charge

Return to Index

LEE TRANSPORT EQUIPMENT INC.

Custom Quotation For:

City of Charleston

P.O. BOX 26, 1300 BLUFF R.D.
COLUMBIA, SOUTH CAROLINA 29202
PHONE# 803-799-7860 FAX 803-765-0535
TRUCK BODIES AND TRUCK EQUIPMENT

Quote # GS-02142019-Y
Date: 2/14/2019
Phone # 843-724-7390
Fax#

Personal Contact: Ben Dellucci

PRICING:

(South Carolina State Contract for Flat Bed Bodies Number #4400019820)

Furnish and install Knapheide model PVMXS-93C, 9' body to State Contract specifications.	$	3,212.00
Add Options:		
40" High stake sides and rear gates with 1-row of E-Track on front and each side (2-straps inc).	$	1,990.00
Tommy Gate 1,600# installed with back up camera provision.	$	3,885.00
12,000# Receiver hitch installed with 7-way plug and back up alarm.	$	495.00
SCDOT approved 4-corner LED strobe light system (B12-AW) installed.	$	685.00
FMVSS Safety kit.	$	85.00
Star amber mini bar light installed on cargo light cab bracket with switch in cab.	$	360.00
2-30"X 18" X18" Underbody tool boxes installed 1-on each side front of axle.	$	850.00
2-Step side access step installed on curb side.	$	225.00
Palfinger PSC 3216, 3,000# crane installed on pedestal on curb side rear corner.	$	13,685.00
Crane brace flat bed for 3,000# crane, install manual outriggers and fabricate crane pedestal.	$	3,290.00
Add spring work to level truck chassis.	$	750.00

Note: Palfinger PSC 3216 has 3,000 capacity at 3' and 15' manual reach.

All items completely installed, Painted and ready to go. FOB Lee Transport, Columbia.

Price good for 30 days. Tax not Inc.

Insurance: Customers chassis covered with primary coverage insurance while in the care and the custody of L.T.E. Product Liability insurance carried.

Chassis: F-450 DRW C/A 60" Paint: White

Other Data:

Price:	$	29,512.00
Special Discount:	$	-
Net Price:	$	29,512.00
Local Option Tax:	$	-
State Sales Tax:		
Total Price:	$	29,512.00

Tax Exempt No Terms: Delivery Date:

Accepted By Date:

Lee Transport Equipment, Inc.

By: Greg L Stowers

Mark Coward
DICK SMITH FORD

2019 FORD F450

CC-4: Cab/Chassis, 15,500 GVWR, Diesel Engine

Contract #: 4400019806

SC STATE CONTRACT PRICE:	$41,283.00
Body Installed per Lee Quote GS 02142019-Y	$29,512.000
4 DOOR CREW CAB	$2,947.00
Body Installation Fee	$895.00
Operators Manual	$100.00
STATE TAX	$500.00
TOTAL SC STATE CONTRACT PRICE:	**$75,237.00**

BLUE STONE

39.)

COMMITTEE / COUNCIL AGENDA

TO: John J. Tecklenburg, Mayor

FROM: Tom O'Brien/Ben Dellucci **DEPT.** Public Service

SUBJECT: 2020 MACK LR CAB/CHASSIS HEIL PYTHON EJECT AUTOMATED SIDE LOADERS

REQUEST: Approval to purchase two (2) 2020 Mack LR Cab/Chassis Heil Python 28yd. Eject Automated Side Loaders from Carolina Environmental Systems, Inc., 306 Pineview Dr., Kernersville, NC. Sourcewell #112014-THE

COMMITTEE OF COUNCIL: Ways & Means **DATE:** January 28, 2020

COORDINATION: This request has been coordinated with: *(attach all recommendations/reviews)*

	Yes	N/A	Signature of Individual Contacted	Attachment
Corporate Counsel	☐	☐		☐
Cap. Proj. Cmte. Chair	☐	☐		☐
Public Service/Fleet	x	☐		☐
Procurement Director	X	☐		☐

FUNDING: Was funding previously approved? Yes ☐ No ☐ N/A ☐

If yes, provide the following: Dept./Div.: 062020 Account #: 58010 EHC

Balance in Account * Amount needed for this item $585,920.00

Does this document need to be recorded at the RMC's Office? Yes ☐ No ☐

NEED: Identify any critical time constraint(s).

CFO's Signature: , Deputy CFO

FISCAL IMPACT:

2020 Lease Purchase Funds

Mayor's Signature: John J. Tecklenburg, Mayor

ORIGINATING OFFICE PLEASE NOTE: A FULLY STAFFED/APPROVED (except Mayor's Signature) PACKAGE IS DUE IN THE CLERK OF COUNCIL'S OFFICE NO LATER THAN 10:00AM THE DAY OF THE CLERK'S AGENDA MEETING.

City of Charleston
Vendor: Carolina Enviro Sys.
V#: 007832
Address: 2750 Hwy 66S
Kernersville NC 27284

Requisition
Req. Date:1/2/20
Req.# _____
PO#: _____
Ship To: _____

Account Codes:			062020-5810	Contract #:	Sourcewell
					112014-THE
Item #	Quantity	Unit	Description	Unit Price	Ext. Price
	2		Heil Python 28yd Eject Automated side loaders	$292.960.00	$585,920.00
			on 2020 Mack LR cab/chassis		
			As per quote		
			Sourcewell # 112014-THE		
			For		
			Public Services-Garbage		
			STATE TAX	$ 500.00	$1,000.00
			Sub Total	$ 293,460.00	
				TOTAL	$586,920.00

Requestor/B. Dellucci
Title/Fleet manager

Authorized Approval

Carolina Environmental Systems, Inc.
306 Pineview Drive, Kernersville, NC 27284
(336) 869-9900

December 10 , 2019

Mr. Ben Dellucci
Mr. Matt Alltop
2150 Milford Street
Charleston , South Carolina 29405

Reference : **Heil Python 28 Eject Automated Side Loader / 2020 Mack LR Sourcewell (Formally NJPA)**

Gentlemen:

Per your request, we are pleased to quote to you the following **Heil Python 28 Yd Full Eject Automated Side Loader** per the standard factory specifications as follows :

1. Factory Mounting
2. **Tri-Cuff Grabbers**
3. 5.2 Cubic Yd Hopper
4. 108" Lift Reach
5. Street Side Access Door with Step and Grab
6. Under Hopper Liquid Sump
7. Body Props
8. Tailgate Props
9. Fully Automatic Shur-Lock Tailgate Locks
10. OIGAI Front Tandem Vane Pump
11. Chassis Frame Mounted Oil Tank w/ Temp Gauge and Shut Off
12. 3 Micron Return Line Filter
13. 100 Mesh Suction Line Strainer
14. In-Cab Packing Controls / Electric-Air
15. In-Cab Hoist Controls Air Electric Joystick
16. In-Cab Controls for Tailgate
17. IFM Controller "In Sight " Diagnostic Display / Lift Cycle Counter
18. Select –O-Pack
19. Auto Lift
20. Arm Rest
21. Back – Up Alarm
22. LED Center Mounted Brake Light
23. LED Duplicate High and low mount stop , Turn and Tail Lights
24. LED Mid Body Turn Signals
25. LED Federal # 108 Clearance and Reflector Lights

26. ICC Reflective Tape
27. Rear Mud Flaps
28. Rear Underride Guard
29. Rear Camera Bracket and Floodlights
30. Body Undercoating
31. Cavity Coat and Joint Sealer
32. Remote Packer Lube Kit
33. Safety Triangle Kit
34. **Dupont White Paint -One Color**
35. **Hopper Lift and Worklight Kit**
36. **Strobe Light @ Tailgate**
37. **Grote Smart Lights**
38. **Dual Front Oval Strobes**
39. **Hopper Hood**
40. **20 # Fire Extinguisher**
41. **Tool Box @ Bumper**
42. **Outside Controls**
43. **Mud Flaps – Rear**
44. **3rd Eye Four (4) Camera System and Monitor**
45. **Tailgate Caution Decal Kit**
46. **12 Month Body**
47. **5 Year Packing – Eject Cylinder Warranty / Labor 12 Months**
48. Freight

1. **Heil Python 28 – Full Eject / 2020 Mack LR ..... $ 292,960 .00/Ea**

Price for Two : $ 585,920 .00

Delivery on the complete truck and body will be approximately **90-120 Days** after receipt of a confirming purchase order depending on stock truck availability.

In addition , our standard terms of **Full Net Invoice / Delivery** will also apply.

The South Carolina state sales tax of $500.00 is not included in the above price and should be paid by the City of Charleston , SC to the DMV when licensing the vehicle.

Please know that all of our ready trucks are quoted subject to prior sale.

The enclosed pricing is based on the Heil Environmental contract that is currently in place with SOURCEWELL (Formally NJPA)per contract # 112014-THE per for the truck and body.

The specifications are based on the Heil Python 28 Yd Full Eject Body and the 2020 Mack specs enclosed for your review .

We thank you for this opportunity and we look forward to hearing from you soon should there be any questions

Kindest Regards ,

Chip Taylor

Chip Taylor
Carolina Environmental Systems, Inc.

Mobile : (803) 238-3590

E-Mail :chiptaylor@sc.rr.com

HEIL

THE WHEELS ARE ALWAYS TURNING

DuraPack® Python®

High Compaction Automated Side Loader

DuraPack® Python®

High Compaction Automated Side Loader Product Specifications

Performance Specifications

Lift Load Capacity	625 lbs. @ 9 ft., 1,250 lbs. @ hopper
Lift Cycle Time*	8 seconds
Lift Reach	9 ft
Compaction	Up to 900 lbs. per yd³
Working RPM	800 (operate-in-gear-at-idle)

* Complete cycle time defined as grip, dump, return and release

All designs, specifications and components are subject to change at the manufacturer's sole discretion at any time without notice. Data published herein is for information purposes only and shall not be construed to warrant suitability of the unit for any particular purpose, as performance may vary with the conditions encountered. The only warranty is our standard written Warranty Statement for this product at the time of shipment.

Chassis Requirements*

		22 yd³	24 yd³	26 yd³	28 yd³	33 yd³
Min. GVWR		52,000	52,000	50,000	58,000	62,000
Min. GAWR	front	18 000	18 000	18 000	18 000	18 000
	rear	34,000	34 000	38,000	40,000	44,000
Usable CT		177 ± 3 in	189 ± 3 in.	177 ± 3 in.	189 ± 3 in.	201 ± 3 in.
C O E Wheelbase		200 ± 3 in	212 ± 3 in.	200 ± 3 in.	212 ± 3 in.	224 ± 3 in.
Min. Platform	dump	240 in.	250 in.	240 in	250 in	285 in
	eject	250 in.	260 in.	250 in	260 in	295 in.

* Additional Requirements
- 425 ft -lbs recommended engine torque at pump shaft at idle
- Neutral signal, brake signal, and R-stator signal dedicated for body builder use in cab
- 130 amp alternator - minimum.

Cylinder Specifications

BODY CYLINDERS	Type		Bore x Stroke
Tailgate Raise	(2) Double acting	in	3 0 x 35
		mm	76 x 889
Packer Blade	(2) Double acting	in	5 5 x 6 3
		mm	140 x 1600
Packer/Ejector (eject model)	(1) Double acting	in	(26) 5 5 x 141 (28) 5 5 x 151 (33) 5.5 x 181
		mm	(26) 140 x 3581 (28) 140 x 3835 (33) 140 x 4597
Tailgate Locking	(2) Double acting	in	3 0 x 3.625
		mm	76 x 92
Body Hoist (Dump model)	(2) Single acting 2 stage telescopic	in	4.5 x 55
		mm	114 x 1397
LIFT CYLINDERS			
Reach	(1) Double acting	in	3.1 x 16 0
		mm	80 x 406
Grab	(1) Double acting	in	3.1 x 8 0
		mm	80 x 203
Lift	(1) Double acting	in	3 1 x 16 0
		mm	80 x 406

Body Specifications

			22 yd³	24 yd³	26 yd³	28 yd³	33 yd³
Body Capacity		yd³	22	24	26	28	33
		m³	16 8	18 3	19 3	21 4	25 2
Hopper Capacity		yd³	5 2	5.2	5 2	5 2	5 2
		m³	4 0	4 0	4.0	4 0	4 0
Overall Length		in	255	265	274	284	319
		mm	6,477	6,731	6,960	7,214	8,103
Overall Length (Tailgate Raised)		in	332	342	332	342	387
		mm	8,433	8,687	8,433	8,687	9,703
Overall Width		in	96	96	96	96	96
		mm	2,438	2,438	2,438	2,438	2,438
Overall Height Above Frame	body lowered	in	103	103	103	103	103
		mm	2,616	2,616	2,616	2,616	2,616
	body raised	in.	190	190	190	190	190
		mm	4,826	4,826	4,826	4,826	4,826
	tailgate raised	in.	180	180	180	180	180
		mm	4,560	4,560	4,560	4,560	4,560
Gross Weight (Route Ready)		lbs	16,000	16,200	16,300	16,700	18,000
		kg	7,260	7 350	7,400	7,580	8,170

Hydraulic Specifications

PUMP	Operate-In-Gear-At-Idle (standard)
Type	Tandem Vane
Maximum Operating Pressure	2 500 psi (17,238 kPa)
Working RPM	800 RPM approx.
Flow at Working RPM	28 GPM (106 LPM) approx.
OIL RESERVOIR	Chassis frame mounted
Gross Capacity	50 gallons (190 liters)
Filters	Return line 3 micron, 140 micron suction strainer
VALVES	
Packing Control	Electric, push button operated
Tailgate Tailgate Locking Body Raise	Air operated toggle

Automatic Lift Specifications

Lift load capacity	625 lbs. @ 9 ft ; 1,250 lbs. @ hopper
Cycle time	8 seconds @ idle
Reach	9 ft
Ground clearance	20 in. from ground to bottom of grabber arms (based on a 42 in chassis rail height)
Weight*	1,850 lbs. approx.
Controls	Joystick, air over hydraulic with feathering ability

* Weight includes standard 60/30 gallon grabbers

CONTACT YOUR LOCAL DEALER

2030 Hamilton Place Blvd Suite 300, Chattanooga TN 37421
888 FOR HEIL (888 367 4345) • Fax 423 855 3478
www.heil.com

© 2016 Heil Environmental, Printed in the U S A
FORM #SWS-000004-042110

DuraPack® Python®

The fastest strike in the asphalt jungle!

The DuraPack® Python® automated side loader combines two proven products in one high-performance package — the DuraPack body, which is famous for its toughness and productivity, and the patented Python automated arm, which is faster, smoother, and longer-lasting than any other.

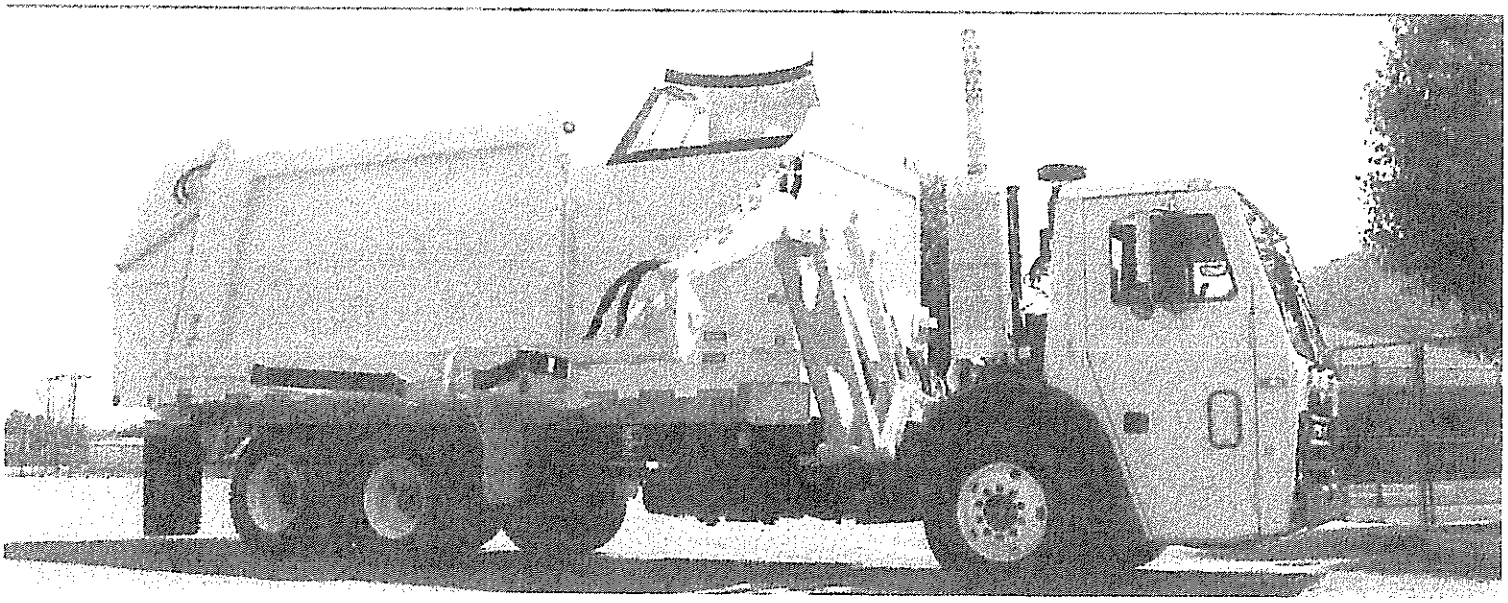
Strike Quickly. The DuraPack Python's arm has an 8-second lift cycle. That can save you up to 4 seconds per stop – and up 1 hour per day – delivering a fiscal savings of more than $15,000 per truck every year! You don't have to wait for the hopper to catch up with a load, either, because the Python's follower panel enables continuous dumping. Twin packing cylinders deliver outstanding payloads, so you can collect more homes with fewer trips to the disposal site.

Strike Smoothly. Able to lift up to 1,250 pounds, the Python's arm features cushioned cylinders for action that's as smooth as a snake, saving wear and tear on the lift arm and the chassis. The Python's unique lift geometry also prevents spillage and enables the arm to return carts with the lids closed every time.

Strike Quietly. Heil's Operate-in-Gear-at-Idle System comes standard on the DuraPack Python. It is designed to reduce wear on the lift assembly, chassis, engine, and transmission. Plus, it greatly reduces noise — a benefit to operators and customers alike.

Strike Confidently. We back all Heil units with a worldwide network of knowledgeable dealers and service centers, as well as the industry's first dedicated manufacturer-based training facility and mobile training centers, to help you keep your Python operating at its peak. Add to that Heil's century-old heritage of commitment to customer satisfaction, and you can feel certain that, when you choose a DuraPack Python, you are getting the most productive, durable, and safe automated side loader available.

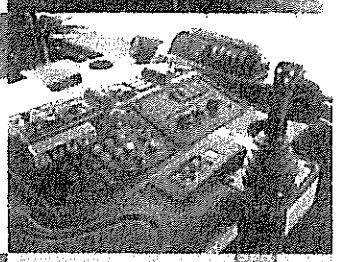
Read on to learn more about the DuraPack Python's operator-friendly features, and then contact your Authorized Heil Dealer for assistance in choosing the Heil refuse collection vehicle that is right for you. To find the Dealer nearest you, visit www.heil.com.



DuraMount™ Design

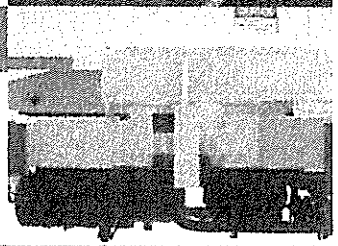
Heil's DuraMount Design, which is used to mount the lift to the chassis frame, reduces the potential for bolt fatigue and provides Service Smart™ bolt access for easy maintenance.

Joystick Cab Controls



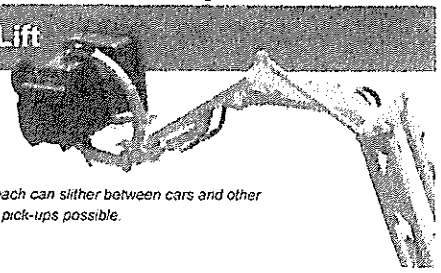
Reliable, ergonomic joystick controls deliver smoother performance and enhance usability. With the standard AutoLoad system, the operator can reach, grab, lift, dump, and return the arm to the stowed position using only the joystick and 2 buttons.

Python® Grabber Gears



Made from specially formulated high-strength alloy steel, the Python's superior hardened grabber gears virtually eliminate gear wear. The gears are splined to the grabber shafts and can be cycled up to 1,000,000 times with no evidence of wear.

Python® Automated Lift



The Python's 8-second lift cycle can save you up to 4 seconds per stop and up to 1 hour per day – which can add up to more than $15,000 in savings per truck per year! The Python's 9-foot reach can slither between cars and other obstacles, making even the most difficult pick-ups possible.

Striking Features

The DuraPack® Python® was specifically engineered with features that will withstand the punishment of daily use.

- **Solid Foundation** — Our exclusive fully welded interlaced subframe provides exceptional strength and durability, while resisting corrosion and salt damage. This means your DuraPack Python will enjoy a long lifespan.
- **Less Time in the Shop** — The Python features our Service Smart™ design, which simplifies routine maintenance and keeps you away from the shop and out servicing your customers – and making money.
- **Exceptional Reach** — The patented automated arm can reach up to 9 feet.
- **Bigger Bites** — A 5.2 cubic yard hopper means the Python can easily handle a variety of container sizes, from 30 to 96 gallons, with fewer trips to the disposal site.
- **On-board Diagnostic Tools** — Quickly and easily diagnose problems away from outside hazards and weather. On-board diagnostic tools make troubleshooting a breeze.
- **Tough Tailgate** — The DuraPack Python's tailgate is reinforced to prevent buckling and features a 60-inch seal to keep liquids inside the body where they belong.
- **Shur-Lock™ Tailgate Locks** — Heil's in-cab operated tailgate locking system not only keeps payloads secure but also enables the operator to unlock and open the tailgate to discharge the payload from the safety and comfort of the cab. Reflective indicator tags, visible from the cab's mirrors, confirm when the tailgate is sealed.

DuraPack® Python®

High-Performance Automated Side Loader

Standard Equipment Features included in Base Price

- 5.2yd³ hopper
- 108 in. lift reach
- Python Lift - 2 year limited structural warranty
- Lift capacity up to 800 lbs.
- Street side access door with step and grab handle (includes side door interlock)
- Under hopper liquid sump with 2 clean-out doors and steel rake
- Body service props for dump or service hoist models
- Tailgate service props
- Fully automatic Shur-Lock™ tailgate locks
- O.E.G.A. front mount tandem vane pump system
- Cushioned up and down chrome-plated rods
- Chassis frame-mounted oil tank with level / temperature gauge and suction shut-off valve
- 3-micron return line filter with magnetic trap and in-cab filter bypass monitor - in microns
- Abrasion-resistant hydraulic hoses
- In-cab packing controls, electric/air
- In-cab lift controls air/electric joystick
- In-cab hoist controls for dumping models, air
- In-cab tailgate controls, air
- 100-micron suction line strainer
- Cortex Controller™ with InSight™ diagnostic display and standard lift cycle counter
- Severe duty packer wear bar kit hopper only
- In-cab function and indicator lights
- Select-O-Pack
- AutoLift™
- Arm rest
- Lift reach warning
- Backup alarm
- Backup and license plate lights
- LED center mounted brake light
- LED duplicate high and low mount stop, turn, and tail lights
- LED mid-body turn signals
- LED FMVSS #108 clearance lights and reflectors
- ICC reflective tape
- Rear mud flaps- anti-sail/anti-spinsh
- Rear underride guard
- Rear camera bracket and flood lights - reverse activated
- Body undercoating
- Customer's choice of one color finish paint from ColorSmart brochure
- Standard 1-year (2,000 hours of operation) warranty
- ANSI Z 245.1-2012 Compliant
- Cavity coat and joint sealer
- Remote packer lube kit
- 5 lb. In-Cab Fire Extinguisher
- Safety Triangle

30)

COMMITTEE / COUNCIL AGENDA

TO: John J. Tecklenburg, Mayor

FROM: Chief Luther Reynolds DEPT. Police Department

SUBJECT: 2020 FORD INTERCEPTOR SUV VEHICLES

REQUEST: Approval to purchase two (2) 2020 Ford Interceptor SUV vehicles From Santee Automotive, LLC, 2601 Paxville, Hwy., Manning, SC 29102. SC Contract #4400022502.

COMMITTEE OF COUNCIL: Ways & Means DATE: January 28, 2020

COORDINATION: This request has been coordinated with: *(attach all recommendations/reviews)*

	Yes	N/A	Signature of Individual Contacted	Attachment
Corporate Counsel	☐	☐		☐
Cap. Proj. Cmte. Chair	☐	☐		☐
Police Department	x	☐	Luther Reynolds	☐
Procurement Director	X	☐		☐

FUNDING: Was funding previously approved? Yes ☐ No ☐ N/A ☐

If yes, provide the following: Dept./Div.: 062020 Account #: 58010

Balance in Account * Amount needed for this item $66,412.00 EKC

Does this document need to be recorded at the RMC's Office? Yes ☐ No ☐

NEED: Identify any critical time constraint(s).

CFO's Signature: , Deputy CFO

FISCAL IMPACT:

2020 Lease Purchase Funds

Mayor's Signature: John J. Tecklenburg, Mayor

ORIGINATING OFFICE PLEASE NOTE: A FULLY STAFFED/APPROVED (except Mayor's Signature) PACKAGE IS DUE IN THE CLERK OF COUNCIL'S OFFICE NO LATER THAN 10:00AM THE DAY OF THE CLERK'S AGENDA MEETING.

City of Charleston
South Carolina

PURCHASE REQUEST FORM

Requestor: Scott Newsome **Date:** 1/6/20 **Ship To Location:** Charleston PD

Department: Police **Division:** Fleet

SUGGESTED SUPPLIER: Santee Automotive LLC **Approval:**

Company Name	Address	Phone Number	Contact Name
Santee Automotive LLC State Contract 4400022502	2601 Paxville Highway, Manning SC, 29102	888-853-5338	Scott Watford

PURCHASE REQUESTS:

Item#	Quantity	Unit	Part Number	Description	Unit Price	Ext. Price
1	2	EA		2020 Ford Interceptor SUV, privacy glass, 3.3L V-6 engine, 4 keys/ FOBS,cruise control, cloth front bucket seats with vinyl rear bench seat, vinyl floor covering, power windows & locks, AM/FM Radio,rear camera, Bluetooth	$32,603.00	$65,206.00
2						
3	2	EA		Cargo Storage Vault 63V	$255.00	$510.00
4	2	EA		Dome light in Cargo Area 17T	$60.00	$120.00
5	2	EA		Full Wheel Covers	$159.00	$318.00
6	2			Delete Driver's Side Pillar Mounted Spot Light	($371.00)	($742.00)
7						
8				Note: Vehicles to have factory installed privacy glass B-Pillar to Rear		
9				Note: Vehicles to have pre-drilled headlight housings for police lighting		
10						
11						
12				Exterior Color-Black, Interior Color- Dark Gray		
13						
14				Note: Vehicle will be drop shipped to Global Public Safety in		
15				130 Old Airport Rd, Roebuck, SC, 29376		
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
					State Tax	$1,000.00
					Total	$66,412.00

Scott G. Newsome/ Director, Fleet 1/2/20 — Requisitioner/Title

Ruthie Raymond 1-7-20 — Authorized Approval/Title

Appropriation Approval

PR1-2016

LE-9: Police Utility Intermediate - All Wheel Drive, Pursuit-Rated, Hybrid or FFV

Contract Number:	**4400022502**	Contractor:	**Santee Automotive LLC**
Initial Contract Term:	11/1/2019 - 10/31/2020	Address:	PO Box 5391 West Columbia, SC 29171
Contract Rollover Dates:	TBD - TBD	Vendor #:	7000214142
Order Cut Off Date:	**TBD**	Contact:	**Scott Watford**
Model:	**Ford Police Interceptor Utility K8A**	Email:	info@santeefleet.com
Commodity Code:	07105	Telephone:	**1-888-853-5338**
Delivery Days ARO:	120	Fax:	**1-888-853-5338**

BASE PRICE **$32,603.00**

*Click on the link above for an itemized listing of items included in the base price.

Optional Additions

Anti-Theft Device (i.e. TREMCO or Computer Controlled Shift from Park Prevention	$150.00
Drivetrain from Flex Fuel Engine to Hybrid	$3,247.00
Full Wheel Covers	$159.00
Interior Upgrade from Police Interior Package (center console added, full-vehicle cloth seating, carpet flooring)	$472.00

Optional Deductions

Driver Side-Mounted Spotlight	$371.00
Header-Mounted Switch Controlled High Intensity Map Light (Law Enforcement Dome Light)	Standard
Delivery Fee (Per Vehicle)	$15.00

Delivery Information

Delivery Distance Included in Delivery Fee	$10.00
Price Per Mile Contractor May Charge Beyond the Delivery Distance	$1.50

Return to Index

QUOTE

Santee Automotive LLC
2601 Paxville Highway
Manning, South Carolina 29102
United States

Phone: 1-888-853-5338
Fax: 1-888-853-5338
info@santeefleet.com

State Contract

Estimate Number: 18150
Estimate Date: November 5, 2019
Expires On: June 30, 2020
Grand Total (USD): **$59,732.00**

Items	Quantity	Price	Amount
Ford Police Interceptor Utility AWD State Contract: 4400022502 2020 Ford Police Interceptor AWD 3.3L V6 TI-VCT Engine 10 Speed Auto Transmission Police Interior Cargo Dome Lamp 4 Keys and Fobs Cloth Bucket Front Seats Vinyl Rear Seats Vinyl Flooring Driver's Side Spotlight Rear Camera Bluetooth	1	$32,603.00	$32,603.00
Ford Police Interceptor Utility Eco Boost Engine Upgrade Ford Police Interceptor Engine to 3.0L V6 EcoBoost Engine System	1	$4,129.00	$4,129.00
Ford Police Interceptor Utility Hybrid Engine Upgrade Ford Police Interceptor Engine to 3.3L Hybrid Engine System	1	$3,247.00	$3,247.00
Ford Police Interceptor Utility 12.1 Integrated Screen 12.1 Integrated Computer Screen (54E)	1	$2,879.00	$2,879.00
Ford Police Interceptor Utility Aluminum Wheels 18 inch Painted Aluminum Wheels (64E)	1	$480.00	$480.00
Ford Police Interceptor Utility Auxiliary Air Conditioning Auxiliary Air Conditioning (17A)	1	$616.00	$616.00
Ford Police Interceptor Utility Badge Delete Delete Ford Police Interceptor Badge (16D)	1	$0.00	$0.00

QUOTE

Santee Automotive LLC
2601 Paxville Highway
Manning, South Carolina 29102
United States

Phone: 1-888-853-5338
Fax: 1-888-853-5338
info@santeefleet.com

Items	Quantity	Price	Amount
Ford Police Interceptor Utility Blind Spot Monitoring Blind Spot Monitoring with Cross Traffic Alert (55B)	1	$559.00	$559.00
Ford Police Interceptor Utility Cargo Storage Vault Cargo Storage Vault (63V)	1	$255.00	$255.00
Ford Police Interceptor Utility Carpet Flooring First and Second Row Carpet Flooring with Floor Mats (16C)	1	$139.00	$139.00
Ford Police Interceptor Utility Dark Car Feature Courtesy Lamp Disable when any door is opened (43D	1	$30.00	$30.00
Ford Police Interceptor Utility Daytime Running Lights Daytime Running Lights (942)	1	$49.00	$49.00
Ford Police Interceptor Utility Deflector Plate Defector Plate (76D)	1	$335.00	$335.00
Ford Police Interceptor Utility Engine Block Heater Engine Block Heater (41H)	1	$90.00	$90.00
Ford Police Interceptor Utility Front Headlamp Lighting Front Headlamp Lighting Solution (66A)	1	$895.00	$895.00
Ford Police Interceptor Utility Front Interior Windshield Lights Front Interior Windshield Warning Lights (96W)	1	$1,145.00	$1,145.00
Ford Police interceptor Utility Front Warning Auxiliary Light Front Warning Auxiliary Lights (21L)	1	$550.00	$550.00
Ford Police Interceptor Utility Heated Mirrors Heated Sideview Mirrors (549)	1	$67.00	$67.00

QUOTE

Santee Automotive LLC
2601 Paxville Highway
Manning, South Carolina 29102
United States

Phone: 1-888-853-5338
Fax: 1-888-853-5338
info@santeefleet.com

Items	Quantity	Price	Amount
Ford Police Interceptor Utility Interior Upgrade Upgrade vehicle interior from police interior to Cloth Seating, Carpet, Floor Mats,and Administrative console (65U)	1	$472.00	$472.00
Ford Police Interceptor Utility Police Engine Idle Feature Police Engine Idle Feature (47A)	1	$274.00	$274.00
Ford Police Interceptor Utility Police Perimeter Alert Police Perimeter Alert (68B)	1	$705.00	$705.00
Ford Police Interceptor Utility Police Wire Harness Police Wire Harness Connector Kit-Front/Rear (67V)	1	$185.00	$185.00
Ford Police Interceptor Utility Power Passenger Seat Power Passenger Seat (87P)	1	$320.00	$320.00
Ford Police Interceptor Utility Pre-Collision Assist Pre-Collision Assist with Pedestrian Detection (76P)	1	$152.00	$152.00
Ford Police Interceptor Utility Pre-Wiring Pre-Wiring for Grille LED Lights, Siren, and Speaker (60A)	1	$50.00	$50.00
Ford Police Interceptor Utility Ready for the Road Package Ready for the Road Package (67H)	1	$3,595.00	$3,595.00
Ford Police Interceptor Utility Rear Auxiliary Liftgate Lights Rear Auxiliary Liftgate Lights (43A)	1	$395.00	$395.00
Ford Police Interceptor Utility Rear Bumper Step Pad Rear Bumper Step Pad (16P)	1	$100.00	$100.00

QUOTE

Santee Automotive LLC
2601 Paxville Highway
Manning, South Carolina 29102
United States

Phone: 1-888-853-5338
Fax: 1-888-853-5338
info@santeefleet.com

Items	Quantity	Price	Amount
Ford Police Interceptor Utility Rear Camera On Demand Rear Camera On Demand (19V)	1	$230.00	$230.00
Ford Police Interceptor Utility Rear Cargo Area Dome Light Red/White Dome Light in Cargo Area (17T)	1	$60.00	$60.00
Ford Police Interceptor Utility Rear Console Plate Rear Console Plate (85R)	1	$45.00	$45.00
Ford Police Interceptor Utility Rear Door Lock Inoperable Hidden Door-Lock Plunger w/Rear-door controls inoperable (52P)	1	$169.00	$169.00
Ford Police Interceptor Utility Rear Door Locks Inoperable Rear Door Locks Inoperable (68G)	1	$80.00	$80.00
Ford Police Interceptor Utility Rear Lighting Solution Ford Police Interceptor Rear Lighting Solution (66C)	1	$455.00	$455.00
Ford Police Interceptor Utility Rear Quarter Glass Side Marker Lights Rear Quarter Glass Side Marker Lights (63L)	1	$575.00	$575.00
Ford Police Interceptor Utility Rear Spoiler Traffic Warning Lights Rear Spoiler Traffic Warning Lights (96T)	1	$1,495.00	$1,495.00
Ford Police Interceptor Utility Reverse Sensing System Reverse Sensing System (76R)	1	$289.00	$289.00
Ford Police Interceptor Utility Second Row Cloth Seats Second Row Cloth Seats (88F)	1	$60.00	$60.00
Ford Police Interceptor Utility Side Marker LED Sideview Mirrors Side Marker LED -Sideview Mirrors (63B)	1	$290.00	$290.00

QUOTE

Santee Automotive LLC
2601 Paxville Highway
Manning, South Carolina 29102
United States

Phone: 1-888-853-5338
Fax: 1-888-853-5338
info@santeefleet.com

Items	Quantity	Price	Amount
Ford Police Interceptor Utility Speaker 100 Watt Siren Speaker includes Bracket and Pigtail (18X)	1	$320.00	$320.00
Ford Police Interceptor Utility Spotlight Deduct Driver's Side Spotlight	1	($371.00)	($371.00)
Ford Police Interceptor Utility Tail Lamp Housing Ford Police Interceptor Utility Tail Lamp Housing Only (86T)	1	$65.00	$65.00
Ford Police Interceptor Utility Ultimate Wiring Package Ultimate Wiring Package (67U)	1	$565.00	$565.00
Ford Police Interceptor Utility Tail Lamp Lighting Tail Lamp Lighting Solution (66B)	1	$430.00	$430.00
Ford Police Interceptor Utility Wheel Covers Add full wheel cover to Ford Police Interceptor Utility (65L)	1	$159.00	$159.00
Vehicle Sales Tax South Carolina Vehicle Sales Tax/Infrastructure Maintenance Fee	1	$500.00	$500.00
		Total:	$59,732.00
		Grand Total (USD):	**$59,732.00**

3i.)

COMMITTEE / COUNCIL AGENDA

TO: John J. Tecklenburg, Mayor

FROM: Chief Luther Reynolds DEPT. Police Department

SUBJECT: 2020 FORD INTERCEPTOR SUV VEHICLES

REQUEST: Approval to purchase thirty (30) 2020 Ford Interceptor SUV vehicles From Santee Automotive, LLC, 2601 Paxville, Hwy., Manning, SC 29102. SC Contract #4400022502.

COMMITTEE OF COUNCIL: Ways & Means DATE: January 28, 2020

COORDINATION: This request has been coordinated with: *(attach all recommendations/reviews)*

	Yes	N/A	Signature of Individual Contacted	Attachment
Corporate Counsel	☐	☐		☐
Cap. Proj. Cmte. Chair	☐	☐		☐
Police Department	x	☐	Luther Reynolds	☐
Procurement Director	X	☐	[signature]	☐

FUNDING: Was funding previously approved? Yes ☐ No ☐ N/A ☐

If yes, provide the following: Dept./Div.: 062020 Account #: 58010

Balance in Account * Amount needed for this item $1,021,020.00 [initials]

Does this document need to be recorded at the RMC's Office? Yes ☐ No ☐

NEED: Identify any critical time constraint(s).

CFO's Signature: [signature], Deputy CFO

FISCAL IMPACT: 2020 Lease Purchase Funds

Mayor's Signature: [signature]

John J. Tecklenburg, Mayor

ORIGINATING OFFICE PLEASE NOTE: A FULLY STAFFED/APPROVED (except Mayor's Signature) PACKAGE IS DUE IN THE CLERK OF COUNCIL'S OFFICE NO LATER THAN 10:00AM THE DAY OF THE CLERK'S AGENDA MEETING.

City of Charleston
South Carolina

PURCHASE REQUEST FORM

Requestor: Scott Newsome **Date:** 1/7/20 **Ship To Location:** Charleston PD

Department: Police **Division:** Fleet

SUGGESTED SUPPLIER: Santee Automotive LLC **Approval:**

Company Name	Address	Phone Number	Contact Name
Santee Automotive LLC State Contract 4400022502	2601 Paxville Highway, Manning SC, 29102	888-853-5338	Scott Watford

PURCHASE REQUESTS:

Item#	Quantity	Unit	Part Number	Description	Unit Price	Ext. Price
1	30	EA		2020 Ford Interceptor SUV, driver's side pillar mounted spot light, privacy glass, 3.3L V-6 engine, 4 keys/FOBS,cruise control, cloth front bucket seats with vinyl rear bench seat, vinyl floor covering, power windows & locks, AM/FM Radio,rear camera, Bluetooth	$32,603.00	$978,090.0(
2						
3	30	EA		Rear Auxiliary Air Conditioning 17A	$616.00	$18,480.00
4	30	EA		Cargo Storage Vault 63V	$255.00	$7,650.00
5	30	EA		Dome light in Cargo Area 17T	$60.00	$1,800.00
6						
7				Note: Vehicles to have factory installed privacy glass B-Pillar to Rear		
8				Note:Vehicles to have pre-drilled headlight housing for police lighting		
9						
10						
11						
12				Exterior Color-Black, Interior Color- Dark Gray		
13						
14				Note: Vehicle will be drop shipped to Global Public Safety in		
15				130 Old Airport Rd,Roebuck, SC, 29376		
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
					State Tax	$15,000.00
					Total	$1,021,020.

Scott G. Newsome/ Director, Fleet 1/7/20 — Requisitioner/Title

Authorized Approval/Title 1-7-20

Appropriation Approval

PR1-2016

Ellicia Thompson, Procurement Manager
Phone: (803) 737-0687
Email: ethompson@mmo.sc.gov

Materials Management Office
1201 Main Street, Suite 600
Columbia, South Carolina 29201

LE-9: Police Utility Intermediate - All Wheel Drive, Pursuit-Rated, Hybrid or FFV

Contract Number:	**4400022502**	Contractor:	**Santee Automotive LLC**
Initial Contract Term:	11/1/2019 - 10/31/2020	Address:	PO Box 5391 West Columbia, SC 29171
Contract Rollover Dates:	TBD - TBD	Vendor #:	7000214142
Order Cut Off Date:	**TBD**	Contact:	**Scott Watford**
Model:	**Ford Police Interceptor Utility K8A**	Email:	info@santeefleet.com
Commodity Code:	07105	Telephone:	**1-888-853-5338**
Delivery Days ARO:	120	Fax:	**1-888-853-5338**

BASE PRICE **$32,603.00**

*Click on the link above for an itemized listing of items included in the base price.

Optional Additions

Anti-Theft Device (i.e. TREMCO or Computer Controlled Shift from Park Prevention	$150.00
Drivetrain from Flex Fuel Engine to Hybrid	$3,247.00
Full Wheel Covers	$159.00
Interior Upgrade from Police Interior Package (center console added, full-vehicle cloth seating, carpet flooring)	$472.00

Optional Deductions

Driver Side-Mounted Spotlight	$371.00
Header-Mounted Switch Controlled High Intensity Map Light (Law Enforcement Dome Light)	Standard
Delivery Fee (Per Vehicle)	$15.00

Delivery Information

Delivery Distance Included in Delivery Fee	$10.00
Price Per Mile Contractor May Charge Beyond the Delivery Distance	$1.50

Return to Index

QUOTE

Santee Automotive LLC
2601 Paxville Highway
Manning, South Carolina 29102
United States

Phone: 1-888-853-5338
Fax: 1-888-853-5338
info@santeefleet.com

State Contract

Estimate Number: 18150
Estimate Date: November 5, 2019
Expires On: June 30, 2020
Grand Total (USD): **$59,732.00**

Items	Quantity	Price	Amount
Ford Police Interceptor Utility AWD State Contract: 4400022502 2020 Ford Police Interceptor AWD 3.3L V6 TI-VCT Engine 10 Speed Auto Transmission Police Interior Cargo Dome Lamp 4 Keys and Fobs Cloth Bucket Front Seats Vinyl Rear Seats Vinyl Flooring Driver's Side Spotlight Rear Camera Bluetooth	1	$32,603.00	$32,603.00
Ford Police Interceptor Utility Eco Boost Engine Upgrade Ford Police Interceptor Engine to 3.0L V6 EcoBoost Engine System	1	$4,129.00	$4,129.00
Ford Police Interceptor Utility Hybrid Engine Upgrade Ford Police Interceptor Engine to 3.3L Hybrid Engine System	1	$3,247.00	$3,247.00
Ford Police Interceptor Utility 12.1 Integrated Screen 12.1 Integrated Computer Screen (54E)	1	$2,879.00	$2,879.00
Ford Police Interceptor Utility Aluminum Wheels 18 inch Painted Aluminum Wheels (64E)	1	$480.00	$480.00
Ford Police Interceptor Utility Auxiliary Air Conditioning Auxiliary Air Conditioning (17A)	1	$616.00	$616.00
Ford Police Interceptor Utility Badge Delete Delete Ford Police Interceptor Badge (16D)	1	$0.00	$0.00

QUOTE

Santee Automotive LLC
2601 Paxville Highway
Manning, South Carolina 29102
United States

Phone: 1-888-853-5338
Fax: 1-888-853-5338
info@santeefleet.com

Items	Quantity	Price	Amount
Ford Police Interceptor Utility Blind Spot Monitoring Blind Spot Monitoring with Cross Traffic Alert (55B)	1	$559.00	$559.00
Ford Police Interceptor Utility Cargo Storage Vault Cargo Storage Vault (63V)	1	$255.00	$255.00
Ford Police Interceptor Utility Carpet Flooring First and Second Row Carpet Flooring with Floor Mats (16C)	1	$139.00	$139.00
Ford Police Interceptor Utility Dark Car Feature Courtesy Lamp Disable when any door is opened (43D	1	$30.00	$30.00
Ford Police Interceptor Utility Daytime Running Lights Daytime Running Lights (942)	1	$49.00	$49.00
Ford Police Interceptor Utility Deflector Plate Defector Plate (76D)	1	$335.00	$335.00
Ford Police Interceptor Utility Engine Block Heater Engine Block Heater (41H)	1	$90.00	$90.00
Ford Police Interceptor Utility Front Headlamp Lighting Front Headlamp Lighting Solution (66A)	1	$895.00	$895.00
Ford Police Interceptor Utility Front Interior Windshield Lights Front Interior Windshield Warning Lights (96W)	1	$1,145.00	$1,145.00
Ford Police interceptor Utility Front Warning Auxiliary Light Front Warning Auxiliary Lights (21L)	1	$550.00	$550.00
Ford Police Interceptor Utility Heated Mirrors Heated Sideview Mirrors (549)	1	$67.00	$67.00

QUOTE

Santee Automotive LLC
2601 Paxville Highway
Manning, South Carolina 29102
United States

Phone: 1-888-853-5338
Fax: 1-888-853-5338
info@santeefleet.com

Items	Quantity	Price	Amount
Ford Police Interceptor Utility Interior Upgrade Upgrade vehicle interior from police interior to Cloth Seating, Carpet, Floor Mats,and Administrative console (65U)	1	$472.00	$472.00
Ford Police Interceptor Utility Police Engine Idle Feature Police Engine Idle Feature (47A)	1	$274.00	$274.00
Ford Police Interceptor Utility Police Perimeter Alert Police Perimeter Alert (68B)	1	$705.00	$705.00
Ford Police Interceptor Utility Police Wire Harness Police Wire Harness Connector Kit-Front/Rear (67V)	1	$185.00	$185.00
Ford Police Interceptor Utility Power Passenger Seat Power Passenger Seat (87P)	1	$320.00	$320.00
Ford Police Interceptor Utility Pre-Collision Assist Pre-Collision Assist with Pedestrian Detection (76P)	1	$152.00	$152.00
Ford Police Interceptor Utility Pre-Wiring Pre-Wiring for Grille LED Lights, Siren, and Speaker (60A)	1	$50.00	$50.00
Ford Police Interceptor Utility Ready for the Road Package Ready for the Road Package (67H)	1	$3,595.00	$3,595.00
Ford Police Interceptor Utility Rear Auxiliary Liftgate Lights Rear Auxiliary Liftgate Lights (43A)	1	$395.00	$395.00
Ford Police Interceptor Utility Rear Bumper Step Pad Rear Bumper Step Pad (16P)	1	$100.00	$100.00

QUOTE

Santee Automotive LLC
2601 Paxville Highway
Manning, South Carolina 29102
United States

Phone: 1-888-853-5338
Fax: 1-888-853-5338
info@santeefleet.com

Items	Quantity	Price	Amount
Ford Police Interceptor Utility Rear Camera On Demand Rear Camera On Demand (19V)	1	$230.00	$230.00
Ford Police Interceptor Utility Rear Cargo Area Dome Light Red/White Dome Light in Cargo Area (17T)	1	$60.00	$60.00
Ford Police Interceptor Utility Rear Console Plate Rear Console Plate (85R)	1	$45.00	$45.00
Ford Police Interceptor Utility Rear Door Lock Inoperable Hidden Door-Lock Plunger w/Rear-door controls inoperable (52P)	1	$169.00	$169.00
Ford Police Interceptor Utility Rear Door Locks Inoperable Rear Door Locks Inoperable (68G)	1	$80.00	$80.00
Ford Police Interceptor Utility Rear Lighting Solution Ford Police Interceptor Rear Lighting Solution (66C)	1	$455.00	$455.00
Ford Police Interceptor Utility Rear Quarter Glass Side Marker Lights Rear Quarter Glass Side Marker Lights (63L)	1	$575.00	$575.00
Ford Police Interceptor Utility Rear Spoiler Traffic Warning Lights Rear Spoiler Traffic Warning Lights (96T)	1	$1,495.00	$1,495.00
Ford Police Interceptor Utility Reverse Sensing System Reverse Sensing System (76R)	1	$289.00	$289.00
Ford Police Interceptor Utility Second Row Cloth Seats Second Row Cloth Seats (88F)	1	$60.00	$60.00
Ford Police Interceptor Utility Side Marker LED Sideview Mirrors Side Marker LED -Sideview Mirrors (63B)	1	$290.00	$290.00

QUOTE

Santee Automotive LLC
2601 Paxville Highway
Manning, South Carolina 29102
United States

Phone: 1-888-853-5338
Fax: 1-888-853-5338
info@santeefleet.com

Items	Quantity	Price	Amount
Ford Police Interceptor Utility Speaker 100 Watt Siren Speaker includes Bracket and Pigtail (18X)	1	$320.00	$320.00
Ford Police Interceptor Utility Spotlight Deduct Driver's Side Spotlight	1	($371.00)	($371.00)
Ford Police Interceptor Utility Tail Lamp Housing Ford Police Interceptor Utility Tail Lamp Housing Only (86T)	1	$65.00	$65.00
Ford Police Interceptor Utility Ultimate Wiring Package Ultimate Wiring Package (67U)	1	$565.00	$565.00
Ford Police Interceptor Utility Tail Lamp Lighting Tail Lamp Lighting Solution (66B)	1	$430.00	$430.00
Ford Police Interceptor Utility Wheel Covers Add full wheel cover to Ford Police Interceptor Utility (65L)	1	$159.00	$159.00
Vehicle Sales Tax South Carolina Vehicle Sales Tax/Infrastructure Maintenance Fee	1	$500.00	$500.00
		Total:	$59,732.00
		Grand Total (USD):	**$59,732.00**

3j.)

COMMITTEE / COUNCIL AGENDA

TO: John J. Tecklenburg, Mayor

FROM: Scott Watson DEPT. Office of Cultural Affairs

SUBJECT: CONSULTANT FOR EXECUTIVE SERVICES FOR THE CHARLESTON 350 COMMEMORATIONS

REQUEST: Approval to increase the existing contract for the Consultant Executive Services for the Charleston 350 Commemorations with Trio Solutions, Inc., from $67,140.00 to $160,000.00 to cover Phase II. Solicitation #18-P053R.

COMMITTEE OF COUNCIL: Ways & Means DATE: January 28, 2020

COORDINATION: This request has been coordinated with: *(attach all recommendations/reviews)*

	Yes	N/A	Signature of Individual Contacted	Attachment
Corporate Counsel	☐	☐		☐
Cap. Proj. Cmte. Chair	☐	☐		☐
Office of Cultural Affairs	x	☐		☐
Procurement Director	X	☐		☐

FUNDING: Was funding previously approved? Yes ☐ No ☐ N/A ☐

If yes, provide the following: Dept./Div.: 580110 Account #: 52920 kcm

Balance in Account $350,000 Amount needed for this item $92,860.00

Does this document need to be recorded at the RMC's Office? Yes ☐ No ☐

NEED: Identify any critical time constraint(s).

CFO's Signature: , Deputy CFO

FISCAL IMPACT:

Mayor's Signature:

John J. Tecklenburg, Mayor

ORIGINATING OFFICE PLEASE NOTE: A FULLY STAFFED/APPROVED (except Mayor's Signature) PACKAGE IS DUE IN THE CLERK OF COUNCIL'S OFFICE NO LATER THAN 10:00AM THE DAY OF THE CLERK'S AGENDA MEETING.

- PHASE II -

PROPOSAL FOR:
The City of Charleston

Consultant for Executive Services
for the Charleston 350 Commemorations
Continuation of Proposal #: 18-P053R

Phase II : Implementation

Submitted by:

TRIO™

Original Proposal Submitted: Jan. 17, 2019 (Revised: Mar. 20, 2019 and Mar. 27, 2019)
Contracted: Apr. 1, 2019
Continuation Proposal Submitted: Nov. 25, 2019 (Updated Dec. 9, 2019 and Jan. 6, 2020)

Letter of Understanding pg. 2

Scope of Work pg. 3

Project Fees pg. 5

Suggested Minimum Implementation Budget pg. 6

Proposal Approval pg. 7

Appendix:

Project Milestones/Timeline from Master Plan

Nov. 25, 2019

TRIO.

The City of Charleston
Attn: Charleston 350 City Committee Members
75 Calhoun Street, Suite 3500
Charleston, SC 29401

Dear Committee Members,

Thank you for entrusting TRIO with the honor of helping to develop and manage the master plan for the Charleston 350 Commemoration. Our team has thoroughly enjoyed being a part of this historic project.

As you know, the master plan, timeline and estimated budget was shared with City Council last month at the request of the Charleston 350 Commission and Steering Committee. Together, with your committee, the Commission, Steering Committee, sub-committees and dozens of volunteers, we are now faced with implementing the plan. TRIO believes we can help ensure the Charleston 350 Commemoration is a successful and memorable year for the community to enjoy.

We ask for your approval of the attached proposal as a continuation of the original RFP in order to quickly begin the necessary execution of the important tasks at hand. On behalf of the entire TRIO team, thank you for this opportunity.

Sincerely,

Jessica Munday

Jessica Munday
President/CEO, Trio Solutions Inc. (TRIO)

TRIO understands the services needed by the City of Charleston will include the following:

Management / Executive Services:

- Provide operational oversight for the implementation of the Charleston 350 master plan that was created through Proposal #: 18-P053R
- Provide administrative support for the Commission and Steering Committee meeting agendas and minutes. Sub-committees will be responsible for their own agendas and minutes.
- Serve as point of contact for Charleston 350.
- Responsible for oversight of the master Charleston 350 calendar.
- Responsible for budget oversight to ensure all initiatives are within budget in collaboration with the Coastal Community Foundation staff and advisory committee.
- Create reports related to Charleston 350 as needed for City Council, the City Committee, Commission and Steering Committee

Fundraising / Resource Development:

- Ensure relationship with the Coastal Community Foundation and the oversight of the Charleston 350 Fund is fostered, including establishing an advisory committee.
- Engage certified fundraising professionals to secure necessary sources (at least minimum investment - see "Suggested Minimum Implementation Budget" on page 6) for underwriting, sponsorship and funding to implement July and Nov. signature events.
- Assist with ongoing sponsorship efforts in order to obtain the necessary funding to implement the Charleston 350 master plan.
- Ensure sponsor benefits are fulfilled.
- Work closely with the Coastal Community Foundation on contracts and payments to third-party vendors within the scope of the project and budget (outside of City procurement contracts).

Logistics:

- Assist with incorporating youth leadership and legacy components throughout the Charleston 350 project.
- Create a volunteer program and work with Signature Events sub-committee to oversee volunteers at signature events.
- Participate and present at all community information sessions.
- Oversee event planning for July and Nov. events with support from third-party event planners to handle logistics and day-of coordination (based on the available budget).
- Ensure the archival plan developed by the Historical Integrity committee is implemented.
- Work with the Signature Events sub-committee to obtain all permits, third-party events, supplies and venue contracts.

Marketing / Branding / Promotions:

- Oversee branding for all Charleston 350 collateral and digital assets, created internally or with third-parties, to ensure brand identity integrity throughout this project.
- Actively identify opportunities for Charleston 350 infusion into the community throughout 2020 through outreach to stakeholders and community partners.
- Oversee marketing and PR campaigns, in collaboration with Signature Events sub-committee representatives and third-party partners, to promote Charleston 350 as outlined in the master plan.
- Serve as CHS 350 liaison for Founders Day and Transatlantic Event (both handled by third-parties) to ensure continuity and promotion of events under the Charleston 350 umbrella.
- Handle social media communications in conjunction with City officials, developing as much social media content in advance as possible.
- Monitor marketing results to ensure ROI for Charleston 350 publicity.
- Serve as Charleston 350 point of contact and liaison for all marketing partners.

- Negotiate in-kind media sponsorship contracts with input and guidance from city committee members and the sponsorship sub-committee.

[illegible]

The following fees are based on staffing the project with a support team that includes a project lead, account manager, fundraiser, event planner, designer and communications specialist.

[illegible]	$18,000
[illegible]	$60,000
[illegible]	$22,000
[illegible]	$60,000

TOTAL: $160,000

TIMELINE: 12 months / Jan. - Dec. 2020

Payment Scenario:

- 25% upon contract execution (Jan. 15, 2020)
  $40,000 ($25,000 toward items 1-3; $15,000 toward item 4)
- 25% by Mar. 31, 2020 milestone ($40K fundraising goal reached to cover July event)
  $40,000 ($25,000 toward items 1-3; $15,000 toward item 4)
- 25% by Jul. 15 milestones ($260K fundraising goal reached to cover Nov. event)
  $40,000 ($25,000 toward items 1-3; $15,000 toward item 4)
- 25% by Nov. 15 milestone (post Nov. 8 event)
  $40,000 ($25,000 toward items 1-3; $15,000 toward item 4)

The aforementioned fundraising structure of raising $300K in cash sponsors is the minimum requirement in order to execute the management and implementation of the July and Nov. events. It is our goal that we will strive to reach this threshold as soon as possible and will work toward securing additional sponsors in order to fund the Charleston 350 Commemorative Fund.

The master plan has an estimated budget of $2M in order to cover the estimated expenses for implementation and ideal funding the Charleston 350 Fund. However, we estimate at a minimum, an investment of approx. $650K would allow the City of Charleston to cover the basic expenses without jeopardizing the quality of the signature events.

Phases:	**Planning, Fundraising and Begin Promotion**	**Activation 1st City-Sponsored Event (July)**	**Activation 2nd City-Sponsored Event (Nov)**
Timeframe:	***Jan. 1-Mar. 31***	***Apr. 1-Jul. 30***	***Aug. 1-Nov. 30***
Revenue Needed:			
Consultants	$80,000	$40,000	$40,000
Website/Digital Funding*	$45,000		
Promotions**	$10,000	$20,000	$20,000
Event Expenses		$195,000	$200,000
Total	$135,000	$255,000	$260,000
Funding Source:	$135K Paid by City	$215K Paid by City ($350K Paid Out) $40K Paid from Fundraising	$260K Paid from Fundraising

**Through partnership with CVB.*

***Promotions will be incurred on an as needed basis to implement the marketing section of the master plan. All expenses will be approved by the City of Charleston prior to being incurred.*

Estimated Minimum Investment: $650,000

Proposal Approval

Scott Watson Director of Cultural Affairs City of Charleston	Date

Charleston 350

This timeline is an estimate of key milestones necessary to ensure the successful implementation of the Charleston 350 Commemoration Plan.

Pre-Planning / Ongoing

- Get on dignitaries calendars
- Begin community engagement (350 Out and About)
- Secure musical acts for July event
- Begin permitting for venues
- Establish Charleston 350 Commemoration Fund
- Identify and secure Charleston Champions
- Get on editorial calendars for publications
- Start securing vendors for events
- Build social media audience
- Explore grant-funding opportunities
- Finalize merchandising items and creative
- Watch Night event

Jan (Interfaith Month)

- Launch website with calendar, merchandise and online donation capability
- Print kick-off event invitations
- Finalize creative for marketing campaign
- Begin production of commemorative book (to be available at Founders Day event)
- Send out artwork for signs and banners
- Deliver 350 decals to all participating partners
- All sub-committees meet
- Host public interfaith day of prayer and reflection to set the tone
- Steering committee meeting (Jan. 22)
- Charleston Jazz Festival (Jan. 25)
- College of Charleston 250th Founders Day (Jan. 30)

Feb. (Black History Month)

- Invitations to 350 kick-off events go out (mid-Feb.)
- Open tickets for July event
- Finalize 350 speakers bureau / announce on website
- Secure all vendors for July 4 and Nov. 8 events
- All sub-committees meet
- Southeastern Wildlife Expo (Feb. 14-16)
- Steering committee meeting (Feb. 26)
- College of Charleston 250th Family Fun Day (Feb. 29)

Mar. (Women's History Month)

- Issue press release and media outreach about launch of 350
- Finalize radio and TV spots; submit to outlets (mid-March)
- Charleston Food & Wine Festival (Mar. 4-8) - have presence in Culinary Village
- Installation of signs and banners (end of March)
- All sub-committees meet
- Steering committee meeting (Mar. 25)
- SC Independence Day (Mar. 26)

Apr

- Launch full-scale marketing campaign (Apr. 1)
- Cooper River Bridge Run (Apr. 2-4) - have presence at Expo & Marion Square
- Volvo Cup (Apr. 4-12) - have presence during event
- Media advisory distributed for Founders Day
- Citadel 350 Parade (Apr. 17)
- Charleston Symphony 350 performance (Apr. 17)
- Founders Day Kick-off (Apr. 18)
- Host volunteer and vendor meeting for Transat finale
- All sub-committees meet
- Steering committee meeting (Apr. 22)

May (Jewish American History Month)

- College of Charleston 250th Commencement (May 8-9)

- Day of Prayer (May 11)
- CLAW Conference (May 14-16)
- Tall Ships Charleston
- Media advisory distributed for Transat finale
- Transat finale
- Print posters for July event and distribute
- All sub-committees meet
- Steering committee meeting (May 27)
- Spoleto Festival USA (May 22-Jun. 7)
- Piccolo Spoleto (May 24-Jun. 9)

Jun. (Pride Month)

- Media advisory distributed for music & arts festival
- Charleston Middle Passage Remembrance at Fort Moultrie (Jun. 13)
- Juneteenth (Jun. 19)
- Secure table sponsors for Nov. 8 event
- Host volunteer and vendor meeting for Jul. 3 event
- All sub-committees meet
- Steering committee meeting (Jun. 24)

Jul.

- Media advisory distributed for event
- The Charleston Collective: Summer Music & Arts Festival & Fireworks (Jul. 2-4)
- Independence Day (Jul. 4) - Commemorative 350 RiverDogs Game
- All sub-committees meet
- Steering committee meeting (Jul. 22)

Aug.

- Confirm security and logistics for Nov. 8 event
- All sub-committees meet
- Steering committee meeting (Aug. 26)

Sept. (Hispanic Heritage Month 9/15-10/15)

- Distribute press release about Nov. 8 event and open up tickets
- MOJA Festival (Sept./Oct.) - have a presence at events and finale
- All sub-committees meet
- Steering committee meeting (Sept. 23)

Oct.

- Finalize proclamation language for Nov. 8 event
- Host volunteer and vendor meeting for Nov. 8 event (Oct. 26)
- All sub-committees meet
- Steering committee meeting (Oct. 28)

Nov. (Native American History Month)

- Charleston Library Conference (Nov 2-6)
- Media advisory distributed (Nov. 5)
- Community Unity Celebration (Nov. 8)
- Final sub-committee meetings (Wrap-up responsibilities/thank committee members)
- Steering committee meeting (Nov. 25 - reschedule due to Thanksgiving)

Dec.

- Supporters thank you letters complete
- Final steering committee meeting (Dec. 23 - reschedule due to Christmas)
- Special 350 recap presentation to City Council

JOHN J. TECKLENBURG
MAYOR

City of Charleston

South Carolina
Clerk of Council Department

VANESSA TURNER MAYBANK
CLERK OF COUNCIL

June 17, 2019

Ms. Amy Wharton, CFO
City of Charleston
116 Meeting Street
Charleston, SC 29401

Re: BIDS AND PURCHASES

Dear Ms. Wharton:

The Committee on Ways and Means and City Council, at their respective meetings on April 9, 2019, approved the following item in Bids and Purchases:

TRAFFIC AND TRANSPORTATION DEPARTMENT: ACCOUNT: 230000-52022 APPROPRIATION:$ 292,638.38
Approval for Traffic Signal Build on Daniel Island at Island Park Dr. and Fairchild St. with job being done by Grant Electrical Contracting, PO Box 7368, W. Columbia, SC 29171. SC Contract #4400009777 Will be paid from the remaining Admissions Tax Funds from Governors Park.

POLICE DEPARTMENT: ACCOUNT: 062019-58010 APPROPRIATION:$ 100,510.74
Approval to purchase THREE (3) EACH 2019 Harley Davidson Motorclycles from SIIS, LLC DBA Lowcountry Harley Davidson, 4707 Dorchester Rd., North Charleston, SC 29418. Solicitation #19-B012R. 2019 Lease Purchase Funds will be used.

PUBLIC SERVICE DEPARTMENT: ACCOUNT: 193010-52425 APPROPRIATION:$ 94,810.00
Approval for Emergency Stormwater Pipe Repair at 39 Coming St. to be done by B&C Land Development, Inc., 3785 Old Charleston HWY, Johns Island, SC 29455.

BUDGET, FINANCE, REVENUE & COLLECTIONS: ACCOUNT:VARIOUS-52206
Approval to amend the existing contract with Quality Touch Janitorial Services by extending the current contract by four (4) additional month from April 14, 2019 to August 31, 2019.

OFFICE OF CULTURAL AFFAIRS DEPARTMENT: ACCOUNT: 193010-58010 APPROPRIATION:$ 67,140.00
Approval to establish a contract for a Consultant for Executive Services for the Charleston 350 Commemorations with Trio Solutions, Inc., 505 Belle Hall Parkway, Ste. 202, Mt. Pleasant, SC 29464. Solicitation #18-P053R. *(Gary Cooper two(2) Originals; Amy Wharton one(1) original; Scott Whatson one(1) original; Clerk's Office one(1) original).*

Sincerely,

Vanessa Turner Maybank

Vanessa Turner Maybank
Clerk of Council

VTM/sj

3K)

COMMITTEE / COUNCIL AGENDA

TO: John J. Tecklenburg, Mayor

FROM: Jason Kronsberg/Wes Chappell **DEPT:** Parks Department

SUBJECT: JOE RILEY BALL PARK ELECTRICAL RENOVATIONS

REQUEST: Approval for the Joe Riley Ball Park Renovations work to be done by Gatch Electrical Contractors, Inc., 941 Dupont Rd., Charleston, SC 29407. Solicitation #19-B047R

COMMITTEE OF COUNCIL: Ways & Means **DATE:** January 28, 2020

COORDINATION: This request has been coordinated with: *(attach all recommendations/reviews)*

	Yes	N/A	Signature of Individual Contacted	Attachment
Corporate Counsel	☐	☐		☐
Cap. Proj. Cmte. Chair	☐	☐		☐
Parks Department	X	☐		☐
Procurement Director	X	☐		☐

FUNDING: Was funding previously approved? Yes ☐ No ☐ N/A ☐

If yes, provide the following: Dept./Div.: PARKS/JRBP Account #: 023010-52410

Balance in Account $1,290,003.61 Amount needed for this item $1,680,000.00

Does this document need to be recorded at the RMC's Office? Yes ☐ No ☐

NEED: Identify any critical time constraint(s).

CFO's Signature: Amy Wharton

FISCAL IMPACT: Balance of the contract ($389,996.39) will be funded in the 2021 Budget.

Mayor's Signature: John J. Tecklenburg, Mayor

ORIGINATING OFFICE PLEASE NOTE: A FULLY STAFFED/APPROVED (except Mayor's Signature) PACKAGE IS DUE IN THE CLERK OF COUNCIL'S OFFICE NO LATER THAN 10:00AM THE DAY OF THE CLERK'S AGENDA MEETING.

John J. Tecklenburg
Mayor

City of Charleston
South Carolina

Wes Chappell
Deputy Director

Department of Parks - Facility Maintenance Division

Memorandum

To: Mayor John J. Tecklenburg & City Council

From: Wes Chappell

Date: 01/15/2020

Re: Joe Riley Ball Park Electrical Renovation Project

In 2018, T.Y. Lin International (Engineering Firm) was selected to perform a facilities assessment of Joe Riley Ballpark. This assessment identified maintenance needs throughout the 20+ year old stadium. During the 2019 budget cycle, a request for $2 million was made to begin the project, of which $795,000 was funded in 2019. In Q3 of 2019, due to delays from Hurricane Dorian, a bid was advertised for the electrical work of which Gatch Electric was the low-bid on the project at $1,680,000. We then met with Gatch Electric to discuss the project and discovered that the main switchgear for the stadium had a 4-6 month lead time, which would cause major work to occur during the 2020 baseball season.

This information was brought to the Ad Hoc Budget Committee which agreed to fund $1.2 million in the 2020 Budget. The Committee agreed to then provide funding for the balance of the contract in the 2021 Budget. The Committee also asked to implement a $1.00 per ticket maintenance fee, which might help toward the cost of this renovation.

This approach was discussed with Gatch Electric to see if they would be willing to hold their price until 2020. They agreed as long as they would be under contract in January 2020 due to their equipment supplier also agreeing to hold their pricing until January 2020. This timing allows Gatch electric to work behind the scenes during the season to get conduit and wiring in place so that by late September they will be able to shutdown the power to the facility and replace all transformers, panels, feeders, and main switchgear. Some of this work along with the fire alarm system would then continue into the beginning of 2021, when the remainder of the funding would be available.

cc: Jason Kronsberg – Director, Department of Parks, Amy Wharton – CFO, BFRC

823 MEETING STREET, CHARLESTON, SOUTH CAROLINA 29403, (843) 724-7191 PHONE (843)724-7300 FAX

BID TABULATION SHEET
CITY OF CHARLESTON
Charleston, South Carolina

Page _____

Parks Department

DATE: SEPTEMBER 13, 2019

SOL.# 19-B047R

BUYER: ROBIN B. ROBINSON

Joe Riley BP Electrical Renovations

	BIDDER	BIDDER	BIDDER
COMPANY NAME	Gatch Electrical Contractors, Inc.	Feyen Zylstra, LLC	HR Allen, Inc.
COMPANY REPRESENTATIVE	James B. Gatch	Jay Adams	Bich Miller
PHONE NUMBER	843-573-0700	843-408-3218	843-747-4100
MINORITY	No	No	No

QTY.	DESCRIPTION	UNIT	TOTAL	UNIT	TOTAL	UNIT	TOTAL
	Replace main feeders from Dominion transformer to main switchgear and replace main switchgear panel		$111,000.00		$155,301.22		No Bid
	Replace electrical panel boards & transformers		$402,000.00		$509,345.00		
	Replace wiring from main switchgear to subpanels		$663,000.00		$692,761.00		
	Replace wiring feeding the 6 field light pole panels		$175,000.00		$377.660.00		
	Fire Alarm System		$329,000.00		$230.848.00		
	TOTAL		$1,680.00.00		$1,965,915.22		

Comments:

BUYER: Gary Cary

WITNESS: Chenette Singleton

Ways and Means
3K

STATE OF SOUTH CAROLINA)
)
COUNTY OF CHARLESTON)

AGREEMENT BETWEEN THE CITY OF CHARLESTON AND GATCH ELECTRICAL CONTRACTORS, INC. FOR JOE RILEY BALL PARK ELECTRICAL RENOVATIONS

THIS AGREEMENT is entered into this _____ day of _____, 20___ between the City of Charleston, a municipal corporation organized under the laws of the State of South Carolina (hereinafter referred to as "the City"), and Gatch Electrical Contractors, Inc. (hereinafter referred to as the "Contractor").

NOW, THEREFORE, for and in consideration of the mutual promises, covenants and conditions stated herein, the parties agree as follows:

§1. SCOPE OF SERVICES

The parties agree that the Contractor shall furnish the Joe Riley Ball Park Electrical Renovations in accordance with Solicitation #19-B047R. All attachments and exhibits, including Exhibits A, B, C, D and E listed below, shall be incorporated herein:

Exhibit A: Solicitation #19-B047R (the "Invitation for Bid")
Exhibit B: Addenda to Solicitation
Exhibit C: Insurance Requirements
Exhibit D: Contractor's Bid Response & Bid Pricing Sheet

1. The Contractor shall diligently and in a professional and timely manner perform the services as described and set forth in Exhibit A, Exhibit B and Exhibit D as approved by the City in fulfilling its obligations as set forth in this Agreement. Unless modified in writing by the parties hereto, the duties of the Contractor shall not be construed to exceed the provision of the services pertaining to this Agreement.

2. The Contractor hereby warrants and represents to the City that it possesses all necessary licenses to perform the work as set forth in this Agreement, carries the requisite insurance policies as set forth in Exhibit C, and is competent and able to provide professional and high quality services to the City in accordance with this Agreement.

3. The Contractor shall bill only for work according to Exhibit A, Exhibit B and Exhibit D as approved by the City and the proposed pricing for such work as shown in Exhibit D. No additional work shall be performed unless requested by the City Official authorized for this project. If the City requests any additional work from the Contractor, the parties shall negotiate any possible additional costs related thereto prior to Contractor's performance of such requested additional work.

4. The Contractor agrees to send any and all reports of work done by the Contractor to the City on a regular basis and to the agreed upon City Representative.

§2. CONTRACT TERM

The initial term of this Agreement shall be for a period of one (1) year six (6) months from the date of execution. The City reserves the right to extend the Agreement if the City determines the extension is in its best interest.

§3. COMPENSATION AND PAYMENT TERMS

This Agreement authorizes payments not to exceed $1,680,000.00 to be made in accordance with the Request for Proposal, Addenda and the Contractor(s)' Proposal Response and Cost Proposal, Exhibits A, B, and D. Payment terms shall be Net 30 days after receipt of an approved invoice by the City. Payment to the Contractor shall be made after services have been rendered. The Contractor must submit an original invoice for each payment request to the City in care of Accounts Payable whose mailing address is PO Box 853, Charleston, SC 29402, and whose physical office is located at 116 Meeting Street, Charleston, SC 29401. Faxed and/or copied invoices from the Contractor to the City shall not be accepted. Rates shall not increase during the term of this Agreement or any agreement extensions. If the Contractor requests a price increase, it shall be in accordance with the US Department of Labor/Bureau of Labor Statistics/Consumer Price Indexes, and shall only be requested ninety (90) days prior to the anniversary date of the Agreement. The City shall have the sole discretion to honor or reject the Contractor's request for a price increase.

§4. WARRANTIES AND REPRESENTATIONS

A. The Contractor hereby represents and acknowledges that it is a licensed, bonded contractor capable of performing the work hereunder.

B. All equipment, materials, and supplies incorporated in the work covered by this Agreement and provided by the Contractor are to be of the highest quality for their intended purpose. When requested, the Contractor shall furnish to the City for approval the name of the manufacturer, the model number, and other identifying data and information regarding the performance, capacity, nature and rating of the machinery, mechanical, and other equipment which the Contractor is required to incorporate into the project. Machinery, equipment, material and supplies used without the required prior approval of the City shall be at the risk of subsequent rejection by the City at no cost to the City.

C. The Contractor warrants and represents that its staff is knowledgeable about, and experienced in providing the materials specified in the work required in accordance with this Agreement and warrants that it will use its best skill and attention to provide the above described work and materials in a professional and timely manner.

§5. SUBCONTRACTORS

A. If any Subcontractor shall be used for this project, the Contractor shall provide to the City's Director of Procurement a list of names of any of the intended

Subcontractors, the Subcontractor's applicable license number(s), and a description of the work to be done by each subcontractor, if requested by the City.

B. The Contractor shall not substitute any Subcontractor without the prior written consent of the City's Director of Procurement.

C. The Contractor shall be responsible for all services performed by a Subcontractor. Responsibilities include, but are not limited to, compliance with any applicable licensing and insurance regulations.

D. If at any time the City's Director of Procurement determines that any Subcontractor is incompetent or undesirable, he shall notify the Contractor accordingly, and the Contractor shall take immediate steps for the termination/cancellation of the Subcontractor from any further work on the project. In addition, the Contractor shall take the necessary steps to replace such terminated Subcontractor from work on the project with a Subcontractor who is acceptable to the City.

E. Nothing contained in any contract resulting from this Agreement shall create any contractual relationship between any Subcontractor and the City of Charleston.

§6. INDEMNIFICATION

Except for expenses or liabilities incurred by the Contractor arising from the negligence of the City, the Contractor hereby expressly agrees to indemnify and hold the City harmless against any and all expenses and liabilities arising out of the performance or default of this Agreement as follows:

The Contractor expressly agrees to the extent that there is a causal relationship between its negligent, reckless or intentionally wrongful action or inaction, or the negligent, reckless or intentionally wrongful action or inaction of any of its employees or Subcontractors or any person, firm, or corporation directly or indirectly employed by the Contractor, and any damage, liability, injury, loss or expense (whether in connection with bodily injury or death or property damage or loss) that is suffered by the City and its employees or by any member of the public, to indemnify and save the City and its employees harmless against any and all liabilities, penalties, demands, claims, lawsuits, losses, damages, costs and expenses arising out of the performance or default of this Agreement. Such costs shall include defense, settlement, court costs and reasonable attorneys' fees incurred by the City and its employees. This promise by the Contractor to indemnify the City shall include bodily injuries or death occurring to the City's officers, officials, employees and any person directly or indirectly employed by the City, the City's employees, the employees of any other independent contractors including Subcontractors, or to any member of the public. When the City submits notice, Contractor shall promptly defend any aforementioned action. This obligation shall survive the suspension or termination of this Agreement. The limits of insurance coverage required herein shall not serve to limit this indemnity obligation. The recovery of costs and fees shall extend to those incurred in the enforcement of this indemnity.

§7. INSURANCE REQUIREMENTS

The Contractor shall comply with all insurance requirements which are set forth in Exhibit C.

§8. GRATUITIES AND KICKBACKS

Gratuities. It shall be unethical and a violation of this Agreement by the Contractor for any person to offer, give or agree to give any employee or former employee, or for any employee or former employee to solicit, demand, accept, or agree to accept from another person a gratuity or an offer of employment in connection with any decision, approval, disapproval, recommendation, preparation or any part of a program requirement or a purchase request, influencing the content of any specification or procurement standard, rendering of advice, investigation, auditing, or in any other advisory capacity in any proceeding or application, request for ruling, determination, claim or controversy, or other particular matter pertaining to any program requirement of a contract or subcontract, or to any solicitation or bid therefore.

Kickbacks. It shall be unethical and a violation of this Agreement by the Contractor for any payment, gratuity, or offer of employment to be made by or on behalf of a Subcontractor under a contract to the Contractor, or to hire any Subcontractor or any person associated therewith, as an inducement for the award of a subcontract or order.

§9. TERMINATION

For Convenience: The City reserves the right to terminate the contract with the Contractor when it is in the best interest of the City, including, but not limited to non-appropriation of funds. If the contract is so terminated, the City shall provide the Contractor with a minimum of thirty (30) days written notice and shall compensate Contractor for all necessary and reasonable direct costs of performing the services actually accomplished as of the date of termination. No other costs shall be allowed for a termination for convenience. No damages shall be allowed for a termination for convenience.

For Default: If the Contractor fails to comply with the terms of the contract the City shall notify the Contractor in writing of the specifics regarding such noncompliance. If the Contractor fails to begin to cure the noncompliance within five (5) days after the notice, the City may terminate the contract by written notice to the Contractor with a minimum of thirty (30) days thereafter and Contractor shall only be compensated for services actually completed prior to termination, contractor shall not be entitled to any costs or damages resulting from a termination under this section.

§10. ASSIGNMENT

The Contractor shall not assign in whole or in part any part of this Agreement without the prior written consent of the City. The Contractor shall not assign any money due or to become due to it under this Agreement without the prior written consent of the City.

§11. NOTICES

All notices required under this Agreement to the parties shall be deemed properly given when deposited in the United States mail, either by registered or certified mail (postage prepaid) to:

To:	To:
City of Charleston	Gatch Electrical Contractors, Inc.
John J. Tecklenburg	James B. Gatch
Mayor	President
PO Box 304	941 Dupont Road
Charleston, SC 29402	Charleston, SC 29407

With copies to:

City of Charleston
Legal Department
50 Broad Street
Charleston, SC 29401

City of Charleston
Procurement Division
75 Calhoun Street, Suite 3500
Charleston, SC 29401

§12. CHANGE ORDERS

No oral statement of any person shall modify or otherwise change, or affect the terms, conditions or specifications stated in this Agreement. The City's Procurement Director shall make all change orders to this Agreement in writing. The City shall ***not*** be bound by any change in this Agreement unless approved in writing by the Procurement Director.

§13. ENTIRE AGREEMENT

This document and its Exhibits constitute the entire Agreement between the parties and all previous negotiations leading thereto. This Agreement shall be modified only by a written agreement signed by the City and the Contractor.

§14. GOVERNING LAWS

The laws of the State of South Carolina shall govern this Agreement. All litigation arising under this Agreement shall be litigated in the Circuit Court in the Ninth Judicial Circuit of Charleston County, South Carolina, in the Court of Common Pleas.

§15. LICENSE AND PERMITS

The Contractor shall, without additional expense to the City, be responsible for obtaining all necessary licenses and permits required by the State of South Carolina, or the City of

Charleston or any other authority having jurisdiction as necessary to fully perform its obligations pursuant to this Agreement. The Contractor shall provide a copy of its valid City of Charleston Business License to the City upon the execution of this Agreement.

§16. PUBLICITY RELEASES

The Contractor agrees not to refer to the award of this Agreement in any commercial advertising in such a manner as to state or imply that the products or services provided are endorsed or preferred by the City. The Contractor shall not have the right to include the City's name in its published list of customers without prior approval of the City. With regard to news releases, the Contractor shall only be permitted to use the name of the City and the type and duration of this Agreement in any news releases provided the Contractor shall first have obtained the prior written approval of the City. The Contractor also agrees not to publish, or cite in any form, any comments or quotes from the City's employees unless it is a direct quote from the Public Information Officer of the City.

§17. INDEPENDENT CONTRACTOR

The Contractor is an independent contractor and shall not be deemed an employee of the City of Charleston for any purpose whatsoever. The Contractor acknowledges that it is the Contractor's duty to verify identity and eligibility of its employees and all sub-contractors in accordance with IRCA as amended. The Contractor further agrees to indemnify the City if the Contractor fails to comply with IRCA as amended.

§18. SEVERABILITY

If any provision of this Agreement shall be held to be invalid or unenforceable for any reason, the remaining provisions shall continue to be valid and enforceable. If a court finds that any provision of this Agreement is invalid and unenforceable, but that by limiting such provision it would become valid and enforceable, then such provision shall be deemed to be written, construed and enforced as so limited.

§19. WAIVER OF CONTRACTUAL RIGHTS

The failure of either party to enforce any provision of this Agreement shall not be construed as a waiver or limitation of that party's right to subsequently enforce and compel strict compliance with every provision of this Agreement.

§20. COMPLIANCE WITH LEGAL REQUIREMENTS

All applicable Federal, State and local laws, ordinances, and rules and regulations of any authorities (including but not limited to any laws, ordinances or regulations relating to the SC Department of Revenue or the SC Board of Contractors) shall be binding upon the Contractor during the term of this Agreement. The Contractor shall be responsible for compliance with any such law, ordinance, rule or regulation, and shall hold the City harmless and indemnify same in the event of non-compliance as set forth in this Agreement.

§21. BACKGROUND CHECK

The City reserves the right to conduct criminal background checks on individuals assigned to this project, including the Contractor, its employees, agents or Subcontractors.

§22. SC STATE AND LOCAL TAX

Except as otherwise provided, contract prices shall include all applicable state and local taxes.

If applicable, two percent (2%) income tax withholding shall be withheld from each and every payment pursuant to Section 12-9-310 of the South Carolina Code of Laws (1976, as amended) for certain out-of-state contractors, and such sums will be paid over to the South Carolina Department of revenue and Taxation (the "SCDRT"). When and if the City receives an executed SCDRT form I-312, Nonresident Taxpayer Registration Affidavit – Income Tax Withholding, such withholding shall cease.

Contractor shall calculate that portion of this Agreement that is subject to the nine percent (9%) South Carolina sales and/or use tax, which amount shall be itemized and shown on all invoices, and shall be paid to the SCDRT by the Contractor. If the Contractor is a non-South Carolina company, the City shall withhold said amount from all invoices and remit payment to the SCDRT, unless the Contractor furnishes the City with a valid South Carolina Use Tax Registration Certificate Number. The total of all sales tax to become due and payable in connection with this Agreement is listed herein.

The Contractor shall indemnify and hold harmless the City for any loss, cost, or expense incurred by, levied upon or billed to the City as a result of the Contractor's failure to pay any tax of any type due in connection with this Agreement.

IN WITNESS WHEREOF, the parties hereto, by their authorized representatives, have signed, sealed and delivered this Agreement at Charleston, South Carolina.

WITNESSES FOR THE CITY:

_____

Date: _____

_____
John J. Tecklenburg
Mayor
Date: _____

_____
Name

Date: _____

WITNESSES FOR VENDOR:

_____
Name

Date: _____

_____
James B. Gatch
President
Date: _____

_____
Name

Date: _____

EXHIBIT A

The City of Charleston
Procurement Division
75 Calhoun Street, Suite 3500
Charleston, South Carolina 29401
P) 843-724-7312 F) 843-720-3872
www.charleston-sc.gov

Bid Number: 19-B047R	**Bids will be received until:** August 29, 2019 @ 1:00pm
Bid Title: Joe Riley Ball Park Electrical Renovations **Mandatory Pre-Bid:** August 15, 2019 9:00am at Joe Riley Ball Park, 360 Fishburne St.	
Mailing Date: August 2, 2019	**Direct Inquiries to:** Robin B. Robinson
Vendor Name:	**FEIN/SS#:**
Vendor Address:	
City – State – Zip:	
Telephone Number:	**Fax Number:**
Minority or Women Owned Business: Are you a certified Minority or Women-Owned business in the State of South Carolina? ☐ Yes ☐ No If so, please provide a copy of your certificate with your response.	
Authorized Signature: _____ **Title:** _____ **Date:** _____	
I certify that this bid is made without prior understanding, agreement, or connection with any corporation, firm, or person submitting a bid for the same materials, supplies, equipment or services and is in all respects fair and without collusion or fraud. I agree to abide by all conditions of this bid and certify that I am authorized to sign this bid for the bidder. **This signed page must be included with bid submission.**	

IMPORTANT

1. This solicitation seeks proposals responding to the Scope of Work for a **Joe Riley Ball Park Electrical Renovations**. Replacement of the main feeders coming into the stadium from the Dominion Power transformer, main switchgear, electrical panels, transformers, all wiring feeding the field light poles from the main electrical room and a new fire alarm system.

2. This solicitation does not commit the City of Charleston to award a contract, to pay any costs incurred in the preparation of applications submitted, or to procure or contract for the services. The City reserves the right to accept or reject any, all or any part of any Bid received as a result of this Solicitation, or to cancel in part or in its entirety this Solicitation if it is in the best interest of the City to do so. The City shall be the sole judge as to whether Bids submitted meet all requirements contained in this solicitation.

3. **Bidder may mail, or hand-deliver response to the Procurement Division.** Bids delivered to any other location will not be accepted. **Do Not Fax** in the Bid response. Please show the solicitation number on the outside of any mailing package. The City of Charleston assumes no responsibility for unmarked or improperly marked envelopes. If directing any other correspondence to the Procurement Division not related to the solicitation, please do not include the solicitation number on the envelope. If the Bidder chooses not to respond to this solicitation, it is recommended to return the "No Bid Response Form" to our office.

4. **DEADLINE FOR SUBMISSION OF OFFER:** Any Bid or offer received after the Procurement Director of the governmental body or his designee has declared that the time set for opening has arrived, shall be rejected unless the offer has been delivered to the

designated purchasing office or the governmental bodies' mail room which services that purchasing office prior to the Bid opening. [R.19-445.2070(H)]

5. Questions regarding this solicitation must be submitted to **Robin B. Robinson** in writing no later than **2:00pm on August 19, 2019**. Questions may either be faxed to 843-720-3872 or emailed to **Robin B. Robinson** at robinsonr@charleston-sc.gov.

INSTRUCTIONS TO BIDDERS

1. Number of Submittals required is stated in the General Information section of this Solicitation. Proposals must be mailed or hand-delivered. **Responses received by fax or other electronic means (email, CD, etc.) will be rejected. Proposals must be submitted in a sealed envelope and must be addressed to the City of Charleston Procurement Division, 75 Calhoun Street, Suite 3500 Charleston, SC 29401.** Failure to do so may result in a premature opening of, or failure to open such Proposal. Each sealed envelope containing a Proposal shall be marked on the outside with the Bidder's complete Name, Address, Solicitation Number, Description of Services Requested by Solicitation (i.e., Elevator Maintenance, Road Construction), along with the Due Date and Time. If you do not choose to submit a proposal, please complete and return the enclosed "No Proposal" response form.

   A "No Proposal" qualifies as a response; however, it is the responsibility of the Vendor to notify the Procurement Office if you receive solicitations that do not apply. Failure to respond to three (3) solicitations during the calendar year may result in removal from Vendor's List.

   All pages that require a Signature shall be included with the bid. Failure to include these required pages may result in the bid being deemed Non-Responsive.

2. Bidders must clearly mark as **"Confidential"** each part of their proposal which they consider to be proprietary information that could be exempt from disclosure under the South Carolina Freedom of Information Act, S.C. Code Ann. §§ 30-4-10 to – 165 (2007 & Supp. 2015). See paragraph 45 for more details. The City reserves the right to determine whether this information should be exempt from disclosure and no legal action may be brought against the state or its agents for its determination in this regard.

3. Proposals must be made in the official name of the individual, firm, company, partnership, corporation, joint venture or other legal entity under which the business is conducted (showing official business address) and must be signed in ink by a person duly authorized to legally bind the legal entity submitting the proposal.

4. Bids should be typewritten or computer-generated; however, if this is not possible, the hand writing **must be legible**. A Bid shall include, but is not limited to, addresses of all legal entities which will participate in the proposed services. The type of organization of the Bidder, whether individual, firm, partnership, corporation, joint venture or other legal entity, shall be stated. Any affiliations, parent-subsidiary relationships, and corporate identities including the names of the principals of such legal entity must be fully disclosed and clearly explained.

5. If an error is made before submitting the proposal, the error should be crossed out, corrections entered and initialed by the person signing the proposal. Erasures or use of typewriter correction fluid may be cause for rejection. No proposal shall be altered or amended after specified time for opening.

6. Proposals may be withdrawn by written request received from the Bidder prior to the time set for opening of Proposals, but not thereafter.

7. Proposals should be prepared simply and economically. All data, materials, and documentation shall be available in a clear, concise form and reproducible upon request "at cost" for the City's internal use. The City reserves the right to reproduce proposals for internal use in the evaluation process.

8. All Proposals shall provide a straight forward, concise description of Bidder's ability to satisfy the requirements of the Solicitation.

9. All Addendum and Award Notices will be posted on our website: www.charleston-sc.gov, then click on the Bidline link.

10. The terms and conditions in this Solicitation shall prevail unless otherwise modified by the City of Charleston in an Addendum to this Solicitation. The City of Charleston reserves the right to reject, in whole or in part, any proposal which does not comply with such terms and conditions. The City of Charleston reserves the right to retain all proposals submitted and to use any ideas in a proposal regardless of whether that proposal is selected. Submission of a proposal indicates acceptance by the Bidder of the conditions contained in this Solicitation, unless clearly and specifically noted in the proposal submitted and confirmed in any resulting contract between the City of Charleston and the Bidder selected.

11. No substitutions shall be considered after the contract award except by Amendment.

12. The City seeks qualified vendors to be responsible for completion of the work described herein and the City reserves the option to award portions of the project to multiple Bidder if such is to the advantage of the City. Therefore, any one proposal submitted by more than one company shall be deemed to be a proposal for a joint venture between or among the companies so submitting proposals unless the proposal clearly and unequivocally describes that only one firm proposes to act as principal and the other firm(s) contractual position is clearly defined. The companies submitting as a joint venture shall be held jointly and severally responsible for the entire project and shall not be permitted to limit their liability to the City.

13. All proposals should be complete and carefully worded and shall convey all of the information requested by the City. If errors or exceptions are found in a proposal, or if the proposal fails to conform to the requirements of the Solicitation, the City shall be the sole judge as to whether that variance is significant enough to reject the proposal.

14. The City reserves the right to request satisfactory evidence of their ability to furnish services in accordance with the terms and conditions listed herein. The City further

reserves the right to make the final determination as to the Bidder's ability to provide said services.

15. The Bidder is solely responsible for all costs and expenses associated with the preparation of the proposal and of any supplementary presentation (including any oral presentation) requested by the City.

16. GRATUITIES AND KICKBACKS

    A) Gratuities. It shall be unethical for any person to offer, give or agree to give any employee or former employee, or for any employee or former employee to solicit, demand, accept, or agree to accept from another person a gratuity or an offer of employment in connection with any decision, approval, disapproval, recommendation, preparation or any part of a program requirement or a purchase request, influencing the content of any specification or procurement standard, rendering of advice, investigation, auditing, or in any other advisory capacity in any proceeding or application, request for ruling, determination, claim or controversy, or other particular matter pertaining to any program requirement or a contract or subcontract, or to any solicitation or proposal therefore.

    B) Kickbacks. It shall be unethical for any payment, gratuity, or offer of employment to be made by or on behalf of a subcontractor under a contract to the prime contractor, or to hire any subcontractor or any person associated therewith, as an inducement for the award of a subcontract or order.

17. BIDDER REPRESENTATIONS

    Each Bidder by submitting a Proposal represents that:

    A) The Bidder has read and understands this Solicitation (including all Specifications and Attachments) and that its Proposal is made in accordance therewith.

    B) The Bidder has reviewed the Solicitation and has become familiar with the local conditions under which the Scope of Work is to be performed. The failure or omission of a Bidder to acquaint himself with existing conditions shall in no way relieve him of any obligation with respect to this proposal or any resulting contract.

    C) The Proposal is based on the terms, materials, services and obligations required by this Solicitation, without exception.

    D) The Bidder is qualified to provide the services and equipment required under this Solicitation and, if awarded the contract, shall do so in a professional, timely manner using successful Bidder's best skills and attention.

    E) The Bidder is guaranteeing that all goods and services will meet the requirements of the Solicitation during the contract period.

18. COMPETITIVE PROCUREMENT

    It is the intent and purpose of the City of Charleston that this Solicitation permits competition. It shall be each Bidder's responsibility to advise the City if any language, provision, or other requirement, or any combination thereof, inadvertently restricts or

limits the satisfaction of the specifications stated in this Solicitation to a single source. Such notification must be submitted in writing, and must be received by the City of Charleston Procurement Division no later than the last date for written questions. Any such notification shall be reviewed by the City's Procurement Director.

19. ADDENDA/CHANGES

Any additions, deletions, modifications, or changes made to this Solicitation shall be processed through the City's Procurement Director. Any deviation from this procedure may result in the disqualification of the proposal or the cancellation of any contract resulting from this Solicitation. Requests for interpretation of this Solicitation and any other questions concerning the Solicitation shall be made in writing, and addressed to the City's Procurement Director, 75 Calhoun Street, Suite 3500, Charleston, South Carolina 29401. Questions may be transmitted by fax, but it shall be the responsibility of the sender to confirm receipt by the City. These requests must be submitted by the deadline for written questions. Responses to said requests shall be made at the discretion of the City's Procurement Director. When issued, such interpretations and answers to such questions shall be in the form of an addendum to the Solicitation which shall be posted on the City's website, www.charleston-sc.gov. All such addenda shall become part of the Solicitation and each Bidder shall be bound by such addenda whether or not received by the Bidder. The City of Charleston shall not be legally bound by any amendment or interpretation that is not in writing.

20. EVALUATION PROCESS

During the evaluation process the City of Charleston reserves the right, where it may serve the City of Charleston's best interest, to request additional information or clarification from Bidders, or to allow corrections of errors or omissions.

21. AWARD OF CONTRACT

A) Award of contract shall be made to the most responsive and responsible Bidder(s) whose Proposal, conforming to the Solicitation, is most advantageous to the City of Charleston, price and other factors considered.

B) The City of Charleston may, when in the best interest of the City, reject any or all Proposals or waive technicalities or informalities in any Proposals received.

C) The City of Charleston shall be the sole judge of the suitability of the items or services to be provided pursuant to this Solicitation.

D) The City may choose to award to more than one vendor if it is in the best interest of the City.

E) Final approval may rest with members of the City Council for the City of Charleston.

F) All things considered equal, a tie proposal will be resolved by the flip of a coin.

22. CONTRACT ADMINISTRATION

Questions or problems arising after award of this contract shall be directed to the Contracts Coordinator by calling (843) 965-4184. Copies of all correspondence

concerning this contract shall be sent to the Contracts' Coordinator, 75 Calhoun Street, Suite 3500 Charleston, SC 29401.

23. NOTICE OF AWARD OF CONTRACT
The successful Bidder shall be notified of acceptance of its Proposal by a written Notice of Award of Contract. Successful Bidder(s) shall not undertake any work, and City shall not be responsible for payment for any work whatsoever undertaken by the successful Bidder(s) prior to issuance of the Notice to Proceed.

24. NOTICE TO PROCEED
A Notice to Proceed shall be issued after the Contractor(s) has executed the contract and has submitted acceptable Insurance Certificate(s) and Endorsement(s) and Performance and Payment Bonds to the City as well as other submittals specified herein as required to be delivered before the Notice to Proceed is issued. The Contractor(s) shall not commence work until it has received a written Notice to Proceed from the City's Director of Procurement.

25. OTHER CONTRACTS
The City of Charleston may undertake or award other contracts for portions of the work or additional work, and the Contractor(s) shall fully cooperate with such other contractors and City of Charleston employees and carefully fit its own work to such work as may be directed by the City. The Contractor(s) shall not commit or permit any act which shall interfere with the performance of work by any other contractor or by City of Charleston employees.

26. MODIFICATION
The City's Director of Procurement shall have the unilateral right to modify any contract resulting from this Solicitation, within the general scope of work, when said modification is in the best interest of the City. The right to issue change orders is not dependent upon the consent of the successful Bidder(s). At the direction of the Director of Procurement the successful Bidder is obligated to perform the revised contract. Contract fees or prices shall be equitably adjusted where an issued change order so demands. No claim by the successful Bidder(s) for an adjustment hereunder shall be allowed if asserted after final payment under aforesaid contract.

27. INDEPENDENT CONTRACTOR
Successful Bidder is an independent contractor and shall not be deemed the agent or employee of the City of Charleston for any purpose whatsoever.

28. INSURANCE REQUIREMENTS
Upon the consummation of the contract for the services being solicited in this Solicitation and receipt of the Notice of Award by the successful Bidder (the "Contractor"). the Contractor shall, at all times during the term of the contract, carry insurance as required by the insurance requirements outlined in the insurance attachment which is attached hereto and incorporated by reference. The City shall not issue a Notice to Proceed until the Contractor has submitted acceptable insurance certificates(s) or endorsement(s), which must be submitted within five (5) calendar days after receipt of the Notice of Award, and which reflect that the required coverages are in place and that all premiums have been paid. Refusal or failure to submit such certificate(s) or endorsement(s) shall constitute grounds for the City to revoke its notice of award, forfeit proposal security, and

award the contract to another contractor. The City may contact the Contractor's insurer(s) or insurer(s)' agent(s) directly at any time regarding its coverages, coverage amounts, or other such relevant and reasonable issues related to this contract. The Contractor(s) shall also require any sub-contractors to carry the same coverages in the same amounts. Faxed Insurance Certificate(s) and Endorsement(s) shall be accepted if received no later than the time of contract execution and the original documents are received within one (1) business day after receipt of the fax transmittals.

29. INDEMNIFICATION

Except for expenses or liabilities arising from the negligence of the City, the Contractor who enters into a contract with the City of Charleston as a result of this Solicitation (the "Contractor") hereby expressly agrees to indemnify and hold the City harmless against any and all expenses and liabilities arising out of the performance or default of this contract as follows:

The Contractor expressly agrees to the extent that there is a causal relationship between its negligent, reckless or intentionally wrongful action or inaction, or the negligent, reckless or intentionally wrongful action or inaction of any of its employees or any person, firm, or corporation directly or indirectly employed by the Contractor, and any damage, liability, injury, loss or expense (whether in connection with bodily injury or death or property damage or loss) that is suffered by the City and its employees or by any member of the public, to indemnify and save the City and its employees harmless against any and all liabilities, penalties, demands, claims, lawsuits, losses, damages, costs, and expenses arising out of the performance or default of this Contract. Such costs are to include defense, settlement and reasonable attorneys' fees incurred by the City and its employees. This promise to indemnify shall include bodily injuries or death occurring to Contractor's employees and any person directly or indirectly employed by Contractor (including without limitation any employee of any subcontractor), the City's employees, the employees of any other independent contractors, or occurring to any member of the public. When the City submits notice, Contractor shall promptly defend any aforementioned action. This obligation shall survive the suspension or termination of the contract. The limits of insurance coverage required herein shall not serve to limit this indemnity obligation. The recovery of costs and fees shall extend to those incurred in the enforcement of this indemnity.

30. BIDDER'S QUALIFICATIONS

The City reserves the right to request satisfactory evidence of any Bidder's ability to furnish services in accordance with the terms and conditions listed herein. The City further reserves the right to make the final determination as to the Bidder's ability to provide said services. We reserve the right to investigate the qualifications of any respondent under consideration, require confirmations of information furnished, and require additional evidence of qualifications to perform the work described in this Solicitation, contact references, and request an audited financial statement in order to determine a potential contractor's capabilities.

31. ASSIGNMENT

The Contractor(s) shall not assign in whole or in part its duties under the contract without the prior written consent of the City of Charleston. The Contractor shall not assign any money due or to become due to it under this contract without the prior written consent of the City of Charleston.

32. SUBCONTACTORS

A) If any subcontractors shall be used for this project, the Contractor shall provide to the City's Director of Procurement a list of names of any of the intended subcontractors, the subcontractor's applicable license number(s), and a description of the work to be done by each subcontractor, if requested.

B) The Contractor(s) shall not substitute other subcontractors without the written consent of the City's Director of Procurement.

C) Contractor(s) shall be responsible for all services performed by a subcontractor. Responsibilities include, but are not limited to, compliance with any applicable licensing regulations.

D) If at any time the City's Director of Procurement determines that any subcontractor is incompetent or undesirable, he shall notify the Contractor(s) accordingly, and the Contractor(s) shall take immediate steps for cancellation of the subcontract and replacement thereof with a subcontract that is approved by the City of Charleston.

E) Nothing contained in any contract resulting from this Solicitation shall create any contractual relationship between any subcontractor and the City of Charleston.

33. SUSPENSION OF WORK

The City may order the Contractor in writing to suspend, delay, or interrupt all or any part of the Work for such period of time as the City may determine to be appropriate for the convenience of the City of Charleston, or for noncompliance with the contract requirements.

34. TERMINATION

A) For Convenience: The City reserves the right to terminate the contract with the Contractor when it is in the best interest of the City, including, but not limited to non-appropriation of funds. If the contract is so terminated, the City shall provide the Contractor with a minimum of sixty (60) days written notice and shall compensate Contractor for all necessary and reasonable direct costs of performing the services actually accomplished as of the date of termination. No other costs shall be allowed for a termination for convenience. No damages shall be allowed for a termination for convenience.

B) For Default: If the Contractor fails to comply with the terms of the contract the City shall notify the Contractor in writing of the specifics regarding such noncompliance. If the Contractor fails to begin to cure the noncompliance within five (5) days after the notice, the City may terminate the contract by written notice to the Contractor with a minimum of thirty (30) days thereafter and Contractor shall only be compensated for services actually completed prior to termination, contractor shall not be entitled to any costs or damages resulting from a termination under this section.

35. MATERIAL AND WORKMANSHIP; WARRANTIES AND REPRESENTATIONS

A) If equipment, materials and supplies are to be a part of the service provided, all equipment, materials, and supplies incorporated in the work covered by the Proposal and provided by the Contractor(s) are to be new and of the most suitable grade for the purpose intended. Unless otherwise specifically provided in this Solicitation, reference to any equipment, material, supply or patented process, by trade name, make or catalog number, shall not be construed as limiting competition. When requested, the Contractor(s) shall furnish to the City for approval the name of the manufacturer, the model number, and other identifying data and information respecting the performance, capacity, nature and rating of the machinery and mechanical and other equipment which the Contractor(s) contemplates incorporating in the work. When required by this Contract or when called for by the City the Contractor(s) shall provide full information concerning the material or supplies which he contemplates incorporating in the work. Machinery, equipment, material and supplies installed or used without the required prior approval shall be at the risk of subsequent rejection.

B) By signing its proposal, the successful Bidder(s) shall be deemed to have represented that its staff is knowledgeable about and experienced in performing the work required in this Solicitation and warrants that it shall use best skill and attention to provide the above described work in a professional, timely manner.

C) The City may, in writing, require the Contractor(s) to remove from the work any employee the City deems incompetent, careless or otherwise objectionable.

36. COMPLIANCE WITH LEGAL REQUIREMENTS

All applicable Federal, State and local laws, ordinances, and rules and regulations of any authorities shall be binding upon the Contractor(s) throughout the pendency of this Project. The Contractor(s) shall be responsible for compliance with any such law, ordinance, rule or regulation, and shall hold the City harmless and indemnify same in the event of non-compliance as set forth in the Contract.

37. PERMITS AND LICENSES

A) The Contractor(s) shall, without additional expense to the City of Charleston, be responsible for obtaining all necessary licenses and permits required by the State of South Carolina, or the City of Charleston or any other authority having jurisdiction.

B) Contractors and subcontractors are responsible at all times for obtaining applicable work permits and licenses of any kind.

38. DISPUTES

Any bona fide dispute concerning the bid, proposal, request for qualifications or Agreement shall be resolved by the courts of the State of South Carolina. In the event any litigation is commenced with respect to any matter set forth in the aforementioned documents, the prevailing party shall be entitled to recover reasonable attorneys' fees and all other reasonable direct costs associated with such litigation from the non-prevailing party.

39. STATE AND LOCAL TAXES

A) Except as otherwise provided, contract prices shall *include* all applicable state and local taxes.

B) If applicable, two percent (2%) income tax withholding shall be withheld from each and every payment pursuant to Sections 12-8-540 and 12-8-550 of the *South Carolina Code of Laws* (1976, as amended) for certain out-of-state contractors, and such sums shall be paid over to the South Carolina Department of Revenue (the "SCDOR"). When and if the City receives an executed SCDOR Form I-312, Nonresident Taxpayer Registration Affidavit - Income Tax Withholding, such withholding shall cease.

C) Contractor shall calculate that portion of the contract which is subject to the nine percent (9%) South Carolina sales and/or use tax, which amount shall be itemized and shown on all invoices, and shall be paid to the SCDOR by Contractor. If Contractor is a non-South Carolina company, the City shall withhold said amount from all invoices and remit payment to the SCDOR, unless Contractor furnishes City with a valid South Carolina Use Tax Registration Certificate Number.

D) Contractor shall indemnify and hold harmless the City for any loss, cost, or expense incurred by, levied upon or billed to the City as a result of Contractor's failure to pay any tax of any type due in connection with the contract.

40. INCORPORATION BY REFERENCE

The contents of this Solicitation, including all drawings, attachments, specifications, exhibits, certificates, any addenda, Contractor's Proposal Response Form and Pricing List, and affidavits shall become part of the contract for this Project.

41. PRIME CONTRACTOR RESPONSIBILITIES

The contractor shall be required to assume sole responsibility for the complete effort as required by this Solicitation. The City shall consider the contractor to be the sole point of contact with regard to contractual matters.

42. OWNERSHIP OF MATERIAL

Ownership of all data, material and documentation originated and prepared for the City pursuant to this contract shall belong exclusively to the City.

43. DRUG-FREE WORKPLACE

(Note: This clause applies to any resultant contract of $50,000 or more). The City of Charleston requires compliance with the South Carolina Drug Free Workplace Act. By submission of a signed proposal, you are certifying that you shall comply with this Act. See S.C. Code Section 44-107-30.

44. FUNDING

Bidders shall agree that funds expended for the purposes of the contract must be appropriated by the City of Charleston for each fiscal year included within the contract period. Therefore, the contract shall automatically terminate without penalty or termination costs if such funds are not appropriated. In the event that funds are not appropriated for the contract, the Bidder shall not prohibit or otherwise limit the City's

right to pursue and contract for alternate solutions and remedies as deemed necessary by the City for the conduct of its affairs. The requirements stated in this paragraph shall apply to any amendment or the execution of any option to extend the contract.

45. SUBMITTING CONFIDENTIAL INFORMATION

For every document Bidder submits in response to or with regard to this Solicitation that is confidential or protected from disclosure, Bidder must separately mark with the word "CONFIDENTIAL" or "PROTECTED" on every page, or portion thereof. By so designating Bidder contends the information is exempt from public disclosure pursuant to the South Carolina Freedom of Information Act, S.C. Code Ann. §§ 30-4-10 through 4-165 (2007 & Supp. 2015) or other relevant law. For every document Bidder submits in response to or with regard to this Solicitation, Bidder must separately mark with the words "TRADE SECRET" on every page, or portion thereof, that Bidder contends contains a trade secret as that term is defined by the South Carolina Trade Secrets Act, S.C. Code Ann. §39-8-10, et seq. All markings must be conspicuous; use color, bold, underlining, or some other method in order to conspicuously distinguish the mark from the other text. Bidder shall not mark its entire Proposal (bid, proposal, quote, etc.) as confidential, trade secret, or otherwise protected! If a Proposal or any part thereof, is improperly marked as confidential or trade secret or protected, the City may, in its sole discretion, determine it non-responsive. If only portions of a page are subject to some protection, Bidder shall not be allowed to mark the entire page. By submitting a Proposal to this Solicitation, Bidder (1) agrees to the public disclosure of every page of every document regarding this Solicitation that was submitted at any time prior to entering into a contract (including, but not limited to, documents contained in a response, documents submitted to clarify a response, and documents submitted during negotiations), unless the page is conspicuously marked "TRADE SECRET" or "CONFIDENTIAL" or "PROTECTED," (2) agrees that any information not marked, as required by these bidding instructions, as a "TRADE SECRET" is not a trade secret as defined by the Trade Secrets Act, and (3) agrees that, notwithstanding any claims or markings otherwise, any prices, commissions, discounts, or other financial figures used to determine the award, as well as the final contract amount, may be subject to public disclosure. In determining whether to release documents, the City shall detrimentally rely on Bidder's marking of documents, as required by these bidding instructions, as being either "CONFIDENTIAL" or "TRADE SECRET" or "PROTECTED." By submitting a Proposal, Bidder agrees to defend, indemnify and hold harmless the City of Charleston, its officers and employees, from every claim, demand, loss, expense, cost, damage or injury, including attorney's fees, arising out of or resulting from the City withholding information that Bidder marked as "CONFIDENTIAL" or "TRADE SECRET" or "PROTECTED."

46. RECORDS RETENTION & RIGHT TO AUDIT

The City shall have the right to audit the books and records of the Contractor as they pertain to this contract. Such books and records shall be maintained for a period of three (3) years from the date of final payment under the contract. The City may conduct, or have conducted, performance audits of the Contractor. The City may conduct, or have conducted, audits of specific requirements of this proposal as determined necessary by the City. Pertaining to all audits, the Contractor shall make available to the City access to its computer files containing the history of contract performance and all other documents related to the audit. Additionally, any software used by the Contractor shall be made available for auditing purposes at no cost to the City.

47. COST
Costs submitted with a Proposal shall be firm for a period of at least ninety (90) days from the closing date. All prices shall be firm-fixed type, unless stated otherwise.

48. UNSUCCESSFUL BIDDERS
Bidders not awarded a contract under this solicitation, may request return of their proposals within thirty (30) days after notification of award is mailed. All cost of returns shall be paid by the Bidder. If Federal Express, UPS, or other shipping number is not received with request, all materials shall be destroyed.

49. PAYMENT FOR GOODS & SERVICES
Payment for goods & services arising out of the contract resulting from this Solicitation and received by the City shall be processed within 30 days of receipt of a valid invoice.

50. DISCUSSION/NEGOTIATION:
By submission of a proposal, a Bidder agrees that during the period following issuance of a proposal and prior to final award of contract, the Bidder shall not discuss this Procurement with any party except members of the City's Procurement Division or other parties specifically designated in this solicitation.

51. NON-DISCRIMINATION
The Contractor(s) shall not discriminate against any individuals based upon age, sex, race, disability, religion, sexual orientation or gender identity and shall abide by the requirements contained in Federal Executive Order Number 11246, as amended, including specifically the provisions of the equal opportunity clause. The City's Equal Employment Opportunity Plan Utilization Report is available on the city website on the Human Resources and Organization Development page at http://charleston-sc.gov/index.aspx?nid=246. To receive a paper copy of the report by mail, please contact Human Resources at (843) 724-7388.

52. DEFAULT
In case of default by the Contractor, the City reserves the right to purchase any or all items in default in the open market, charging the Contractor with any excessive costs. Should such charge be assessed, no subsequent response will be accepted from the defaulting Contractor until the assessed charge has been satisfied.

53. FORCE MAJURE
The Contractor shall not be liable for any excess costs if the failure to perform the contract arises out of causes beyond the control and without the fault or negligence of the contractor. Such causes may include, but are not restricted to acts of God or of the public enemy, acts of the Governments in either its sovereign or contractual capacity, fires, floods, epidemics, quarantine restrictions, strikes, freight embargoes, and unusually severe weather; but in every case the failure to perform must be beyond the control and without the fault or negligence of the contractor. If the failure to perform is caused by the default of a subcontractor, and if such default arises out of causes beyond the control of both the contractor and subcontractor, and without the fault or negligence of either of them, the contractor shall not be liable for any excess costs for failure to perform, unless the supplies or services to be furnished by the subcontractor were

obtainable from other sources in sufficient time to permit the contractor to meet the required delivery schedule.

54. EXCEPTIONS AND DEVIATIONS
Any deviation from specifications indicated herein must be clearly pointed out; otherwise, it will be considered that items offered are in strict compliance with these specifications, and successful Bidder will be held accountable. Deviations must be explained by accompanied documentation identifying and justifying all exceptions and deviations. Unidentified deviations found during the evaluation of the response may be cause for rejection.

55. PROMPT PAYMENT DISCOUNT TERMS
Prompt payment discount terms will be calculated from the point of complete order acceptance for services and/or commodities ordered.

56. REJECTION
The City reserves the right to reject any proposal that contains prices for individual items or services that are unreasonable when compared with the same or other proposals if such action is in the best interest of the City.

57. ARBITRATION
Under no circumstances and with no exception will the City of Charleston act as Arbitrator between the Contractor and any Sub-Contractor.

58. GUARANTEE AND WARRANTIES
The Bidder shall state his normal warranty and any extended warranties where available. Excluding any manufacturer's warranties and in addition to other warranties as provided by law or herein, all labor and materials are warranted to be free from defects for a minimum period of twenty-four (24) months after the date of final payment by the City.

59. PUBLICITY RELEASES
Contractor agrees not to refer to any award of a contract in commercial advertising in such a manner as to state or imply that the products or services provided are endorsed or preferred by the user.

60. AMENDMENTS
All questions and written responses, interpretations, corrections or changes to the RFP will be made by Addendum. Addenda will be mailed or otherwise delivered to all Bidders who have notified the City Procurement Division of receipt of the proposal.

61. WITHDRAWALS
Proposals may be withdrawn by written request received from the Bidder prior to the time set for opening of Proposals, but not thereafter.

62. AFFIRMATIVE ACTION
The successful Bidder will take affirmative action in complying with all Federal and State requirements concerning fair employment and treatment of all employees, without regard or discrimination by reason of race, color, religion, sex, national origin or physical handicap.

63. WAIVER
The City reserves the right to waive any Instruction to Bidders, General or Special Provisions, General of Special Conditions, or specifications deviation if deemed to be in the best interest of the City.

64. RESPONSE PERIOD
All responses shall be good for a minimum period of ninety (90) calendar days.

65. TERM
The initial term of the Agreement shall be for four (4) months. The City reserves the right to extend the Agreement if the City determines the extension is in its best interest.

INSURANCE REQUIREMENTS

Contractors working for the City of Charleston are required to procure and maintain for the duration of their contract with the City insurance against claims for injuries to persons or damages to property which may arise from or in connection with work performed by the Contractor, his agents, representatives, employees or Subcontractors. The cost of such insurance shall be the responsibility of the Contractor.

A. The Contractor shall carry liability insurance with a reliable company licensed to do business in South Carolina. Coverage shall be at least broad as:

   1. Insurance Services Office Commercial General Liability Coverage Form ("occurrence") CG 00 01 10 93.

   2. Insurance Services Office Business Auto Coverage Form CA 00 01 6 92 covering automobile liability, code 1 "any auto".

B. Contractor shall carry workers' compensation as required by the State of South Carolina and Employers Liability insurance (including applicable occupation disease provisions and all state endorsements.)

C. Contractor shall maintain limits no less than the following:

   1. **GENERAL LIABILITY**: $1,000,000 combined single limit per occurrence for bodily injury, property damage, and personal injury with a $2,000,000 general aggregate limit.

   2. **AUTOMOBILE LIABILITY**: $1,000,000 combined single limit per accident for bodily injury and property damage.

   3. **WORKERS' COMPENSATION**: Statutory limits are required by South Carolina state law, and employer's liability limits of $100,000 per accident.

   4. **PROFESSIONAL LIABILITY**: $1,000,000 per claim/$1,000,000 aggregate limit, with a deductible of $20,000.

      Contractor shall obtain and maintain a professional liability insurance policy covering the performance of the professional services specified in this agreement. Evidence of such insurance shall be satisfactory in form and content to the owner, the City. This coverage shall be maintained through the duration of this project and for a minimum of 1 year after substantial completion of the project as determined by the City.

      The Contractor and any of its subcontractors will cause the professional liability insurance required in this paragraph C.4:

      (a) to be excess insurance over any project professional liability policy, and

(b) to be primary insurance in the event the project insurance described in Paragraph E is canceled or not maintained, in the event the policy's limits of liability are exhausted, or if the policy expires.

D. Required policies are to contain, or be endorsed to contain, the following provisions:

1. General Liability and Automobile Liability Coverages

The City of Charleston, its officials, employees and volunteers are to be covered as additional insureds as respects: Liability arising out of activities performed by or on behalf of the Contractors; premises owned, occupied or used by the Contractor; or automobiles owned, leased, hired or borrowed by the Contractor. The coverage shall contain no special limitations on the scope of protection afforded to the City of Charleston, its officials, employees or volunteers. To accomplish this objective, the City of Charleston shall be named as an additional insured under the Contractor's general liability policy by attaching Insurance Services Office Commercial General Liability Endorsement CG2010 10 93 (Additional Insured - Owners, Lessees or Contractors - Form B) or its equivalent. Contractors' insurance coverage shall be primary insurance as respects the City of Charleston, its officials, employees and volunteers. Any insurance or self-insurance maintained by the City of Charleston, its officials, employees, or volunteers shall be in excess of the Contractor's insurance and shall not be required to contribute. To accomplish this objective, the following wording should be incorporated in the previously referenced additional insured endorsement.

Other Insurance: This insurance is primary, and our obligations are not affected by any other insurance carried by the additional insured whether primary, excess, contingent or on any other basis.

Any failure to comply with reporting provisions of the Contractor's policies shall not affect coverage provided to the City of Charleston, its officials, employees or volunteers.

2. Workers' Compensation

The Contractor shall agree to waive all rights of subrogation against the City of Charleston, its officials, employees and volunteers for losses arising from work performed by the Contractor for the City of Charleston.

E. Any deductibles or self-insured retentions shall be the responsibility of the Contractor.

F. Each insured policy required by the City of Charleston shall be endorsed to state that coverage shall not be suspended, voided, canceled by either party, reduced in coverage or in limits except after thirty (30) days prior written notice has been given to the City of Charleston.

G. All coverages for Subcontractors shall be subject to all the requirements stated herein.

H. Insurance must be placed with an approved insurance company with current Best's rating of A+, A, or A-. Exceptions to this requirement must be approved in writing by the Department of Risk Management.

I. Contractor shall furnish the City of Charleston with Certificates of Insurance noting the endorsements. The Certificates and endorsements for each insurance policy are to be signed by a person authorized by that insurer to bind coverage on its behalf. All certificates and endorsements are to be received and approved by the City of Charleston, Procurement Division, before work commences. The City of Charleston reserves the right to require complete, certified copies of all required insurance policies, at any time.

Required certificates should be mailed to:

City of Charleston
Procurement Division
75 Calhoun Street, Suite 3500
Charleston, SC 29401

NO BID RESPONSE FORM

Bid Number: 19-B047R	**Bids will be received until:** August 29, 2019 @ 1:00pm
Bid Title: Joe Riley Ball Park Electrical Renovations **Mandatory Pre-Bid:** August 15, 2019 9:00am at Joe Riley Ball Park, 360 Fishburne St.	
Mailing Date: August 2, 2019	**Direct Inquiries to:** Robin B. Robinson
Vendor Name:	**FEIN/SS#:**
Vendor Address:	
City – State – Zip:	
Telephone Number:	**Fax Number:**
Minority or Women Owned Business: Are you a certified Minority or Women-Owned business in the State of South Carolina? ☐ Yes ☐ No If so, please provide a copy of your certificate with your response.	
Authorized Signature: _____ **Title:** _____ **Date:** _____ I certify that this bid is made without prior understanding, agreement, or connection with any corporation, firm, or person submitting a bid for the same materials, supplies, equipment or services and is in all respects fair and without collusion or fraud. I agree to abide by all conditions of this bid and certify that I am authorized to sign this bid for the bidder. **This signed page must be included with bid submission.**	

To submit a "**No Bid**" response for this project, this form must be completed for your company to remain on our Bidder's list for commodities/services referenced. If you do not respond, your name may be removed from the Bidder's list.

Please check statement(s) applicable to your "**No Bid**" response

- ☐ Specifications are restrictive; i.e. geared toward one brand or manufacturer only (explain below).
- ☐ Specifications are ambiguous (explain below).
- ☐ We are unable to meet specifications.
- ☐ Insufficient time to respond to the solicitation.
- ☐ Our schedule would not permit us to perform.
- ☐ We are unable to meet bond requirements.
- ☐ We are unable to meet insurance requirements.
- ☐ We do not offer this product or service.
- ☐ Remove us from your vendor list for this commodity/service.
- ☐ Other (specify below).

Comments: _____

_____

_____

Bid Number: 19-B047R	**Bids will be received until:** August 29, 2019 @ 1:00pm
Bid Title: Joe Riley Ball Park Electrical Renovations **Mandatory Pre-Bid:** August 15, 2019 9:00am at Joe Riley Ball Park, 360 Fishburne St.	
Mailing Date: August 2, 2019	**Direct Inquiries to:** Robin B. Robinson

CERTIFICATE OF FAMILIARITY

The undersigned, having fully familiarized himself with the information contained within this entire solicitation and applicable amendments, submits the attached Bid, and other applicable information to the City, which I verify to be true and correct to the best of my knowledge. I further certify that this Bid response is made without prior understanding, agreement, or connection with any corporation, firm or person submitting a Bid for the same materials, supplies, equipment or services in all respects, fair and without collusion or fraud. I agree to Bid by all conditions of this solicitation and certify that I am authorized to sign this Bid. I further certify all prices submitted shall remain effective for a minimum period of ninety (90) days, unless otherwise stated.

Company Name As registered with the IRS	Authorized Signature
Correspondence Address	Printed Name
City, State, Zip	Title
Email Address	Telephone Number
Toll-Free Number (if available)	Fax Number
Remittance Address	Date
City, State, Zip	Federal Tax ID (FEIN)/SS Number
	SC Sales Tax Number

Minority or Women-Owned Business:

Are you a certified Minority or Women-Owned business in the State of SC?

☐ Yes ☐ No

If so, please provide a copy of your certificate with your response.

CITY OF CHARLESTON LOCAL VENDOR RECOGNITION AFFIDAVIT

Personally appeared before me _____ (the "Bidder seeking Local Vendor Recognition") who, after being duly sworn, does hereby depose and certify that the Bidder seeking Local Vendor Recognition identified in this bid response and who signs below meets the following qualifications for local vendor recognition as provided in Sections C and E of the City of Charleston's Procurement Policy:

1. The bid is for construction services or goods and supplies only and is greater than $20,000;
2. Has a physical business address located within the City of Charleston and has been doing business in the City of Charleston for a period of 12 months or more prior to the bid opening date - (A post office box or temporary construction or office trailer will not be considered a place of business);
3. Has a valid City of Charleston business license which was issued at least 12 months prior to the bid opening date;
4. Provides a copy of its current City of Charleston business license with its bid;
5. Provides proof of payment of all applicable City of Charleston licenses, taxes and fees with its bid;
6. Is in compliance with any applicable federal, state and local requirements regarding the type of business in which the Local Vendor is engaged.

By submitting this Affidavit, the Bidder seeking Local Vendor Recognition understands that in addition to meeting the requirements set forth above, in order for the Bidder seeking Local Vendor Recognition to qualify for local vendor recognition, his bid must be within 4% or $10,000, whichever is lower, of the bid amount of the lowest responsive and responsible non-local bidder for said construction services or goods and supplies, and he requests that the local vendor recognition as set forth in Sections C and E of the City's Procurement Policy be exercised in consideration of the contract award of this bid. Failure to complete and return this Affidavit with the specified attachments set forth above with his bid will result in not being eligible to receive the benefits of the local vendor recognition.

BUSINESS NAME: _____

CHARLESTON STREET ADDRESS: _____

SIGNATURE: _____ TITLE: _____

By: _____
(Print Name)

Sworn to and subscribed before me at _____,
State of _____, this _____ day of _____, 20___.

_____(SEAL)
Notary Public for_____
My Commission Expires_____

MWBE Compliance Provisions and Instructions
Minority/Women Business Enterprise Program Forms

This Project is covered under the City of Charleston's Minority/Women Business Enterprise (MWBE) Program, administered by Ruth Jordan, MBE Manager, 2 George Street, Suite 3600, Charleston SC, 29401, (843) 724-7434.

The City has established goals for both Minority Business Enterprises (MBE) and Women Business Enterprises (WBE). An MBE is a small business owned and controlled by a minority. A WBE is a small business owned and controlled by a woman. The minority or woman must own fifty-one percent (51%) of the business and they must control the management and daily operations of the business in order to qualify.

Charleston City Council has adopted a policy setting 20% as the guidelines for combined minority-owned and women-owned business enterprise participation for this project. This MWBE requirement for participation in this Contract for services shall be made a part of any contract resulting from this solicitation. These requirements shall also apply to all subcontracts issued by the successful bidder(s).

All bidders must document the extent of their MWBE participation by completing the MWBE Compliance Provision Forms.

All MBE/WBE subcontractors must have a Certificate of Eligibility on file with the City's Minority Business Enterprise Office. A list of certified minority and women-owned firms can be found on the City of Charleston's web site www.charleston-sc.gov under "BIDLINE" link or by contacting Ruth Jordan, MBE Manager, 2 George Street, Suite 3600, Charleston SC, 29401, (843) 724-7434, jordanr@charleston-sc.gov.

COMPLIANCE REQUIREMENTS:

1. The Bidder shall provide, **with their bid form submittal,** the following Affidavits properly executed which signify that the Bidder understands and agrees to abide by the City's MWBE Compliance Provisions.

   ☐ **Affidavit A - Listing of the Good Faith Effort to Identify & Secure Minority and Women-owned Business Participation.**

   AND

   ☐ **Affidavit B – Work to be Performed by Minority and/or Women-owned Firms**

   OR

   ☐ **Affidavit C – *Intent to Perform Contract with Own Workforce,*** in making this certification the Bidder states that the Bidder does not customarily subcontract elements of this type of Project and will perform all elements of the work with his/her own current work forces.

Failure to comply with any of the statements, certifications, or intentions stated in the affidavits, or the MBE/WBE compliance provisions shall constitute a breach of the Contract. Any such breach may result in termination of the Contract in accordance with the termination provisions contained in the Contract. It shall be solely at the option of the City of Charleston whether to terminate the contract for breach. In addition to terminating the Contract, the bidder may be prohibited from participation in future solicitations as determined by the City of Charleston.

Name of Company: _____

Signature	Date
Print Name	Title
Witness	

AFFIDAVIT A

City of Charleston, South Carolina Listing of the Good Faith Effort

Affidavit of _____
(Name of Bidder)

I have made a good faith effort to comply with the City of Charleston's MWBE compliance provisions under the following checked areas:
(A minimum of 6 areas must be checked in order to have achieved a "good faith effort")

- ○ 1. Contacted MWBE businesses that reasonably could have been expected to submit a quote and that were known to the Bidder, or available on Federal, State or local government maintained lists, at least 10 business days before the submittal date and notified them of the nature and scope of the work to be performed. ***Complete Affidavit A, Page 2.***
- ○ 2. Followed up with contacted MWBE subsequent to the initial contact and at least 72 hours prior to submittal deadline/bid opening either by phone, facsimile or in person.
- ○ 3. Made the construction plans, specifications, and requirements available for review by prospective MWBE businesses, or providing these documents to them at least 10 business days before the submittal deadline/bid opening.
- ○ 4. Itemized elements of the work or combined elements of the work into economically feasible units to facilitate MWBE participation.
- ○ 5. Attended any pre-solicitation meetings scheduled by the City.
- ○ 6. Provided MWBE assistance with getting required bonding or insurance requirements or provided alternatives to bonding or insurance.
- ○ 7. Negotiated in good faith with interested MWBEs and did not reject them as unqualified without sound reasons based on their capabilities. ***(Any rejection of a minority or woman-owned business based on lack of qualifications shall include reasons for rejection documented in writing.)***
- ○ 8. Provided MWBEs assistance with securing needed equipment, loan capital, lines of credit, or joint pay agreements to secure loans, supplies, or letters of credit, including waiving credit that is ordinarily required. Assisted MWBEs in obtaining the same unit pricing with the Bidder's suppliers in order to help such businesses in establishing credit.
- ○ 9. Provided training or mentoring to at least two (2) MWBEs within 120 days prior to submittal deadline/bid opening. The training or mentoring program should be in conjunction with local trade groups, technical schools or community organizations that provide recruitment, education or skill levels.
- ○ 10. Negotiated joint venture, partnership or other similar arrangements with MWBEs in order to increase opportunities for MWBE participation.
- ○ 11. Provided quick pay agreements and policies to enable MWBE contractors and suppliers to meet cash-flow demands.

I hereby agree to enter into a formal agreement with the firms listed in Affidavit B Work to be performed by Minority Firms conditional upon execution of a contract with the Owner. Failure to abide by this provision will constitute a breach of the contract.

I hereby certify that I have read and agree to the terms of the Minority / Women-Owned Business Enterprise Program, and I am the Bidder or I am authorized to bind the Bidder to the commitment herein set forth.

Date:_____ Name of Authorized Officer (Print/Type): _____

Signature:_____

Title: _____

AFFIDAVIT A

City of Charleston, South Carolina Minority/Women-Owned Business Participation Efforts

(Use as many sheets as necessary)

I, _____, hereby certify that on this project we contacted the following minority/women-owned business enterprises as subcontractors, vendors, suppliers, or providers of professional services.

1. Minority Firm Name and Contact	**Minority Firm Address**
Minority Firm Telephone Number _____ **Minority Firm Fax Number** _____ **DBE Certification Number** _____	**Minority Group Type** ☐ (African American) ☐ (Women) ☐ (Asian American) ☐ (Hispanic) ☐ (American Indian) ☐ (Other) ☐ Follow up Verification
2. Minority Firm Name and Contact	**Minority Firm Address**
Minority Firm Telephone Number _____ **Minority Firm Fax Number** _____ **DBE Certification Number** _____	**Minority Group Type** ☐ (African American) ☐ (Women) ☐ (Asian American) ☐ (Hispanic) ☐ (American Indian) ☐ (Other) ☐ Follow up Verification
3. Minority Firm Name and Contact	**Minority Firm Address**
Minority Firm Telephone Number _____ **Minority Firm Fax Number** _____ **DBE Certification Number** _____	**Minority Group Type** ☐ (African American) ☐ (Women) ☐ (Asian American) ☐ (Hispanic) ☐ (American Indian) ☐ (Other) ☐ Follow up Verification
4. Minority Firm Name and Contact	**Minority Firm Address**
Minority Firm Telephone Number _____ **Minority Firm Fax Number** _____ **DBE Certification Number** _____	**Minority Group Type** ☐ (African American) ☐ (Women) ☐ (Asian American) ☐ (Hispanic) ☐ (American Indian) ☐ (Other) ☐ Follow up Verification

I certify, under penalties of perjury, that I have examined the information in this affidavit, and to the best of my knowledge and belief, this information is true, correct and complete.

Date:_____ Name of Authorized Officer (Print/Type):_____

Sworn to before me this ____ day of _____, 20__.

Signature:_____

Notary Public for the State of _____

My Commission Expires: _____

Title:_____

Print Name: _____

Notary Seal:

Phone Number: _____

Address: _____

AFFIDAVIT B

City of Charleston, South Carolina
Work to be Performed by Minority/Women-Owned Businesses

Affidavit of _____. I hereby certify that on the
(Name of Bidder)
_____, Total Project Amount $_____
(Project Name)
I will make a good faith effort to expend a minimum of _____% of the total dollar amount of the Contract with minority/women-owned business enterprises. Minority/women-owned businesses will be employed as subcontractors, vendors, suppliers, or providers of professional services. Such work will be subcontracted to the following businesses listed below:

(Attach additional sheets if needed)

Name and Phone Number	*Minority Code	Work Description	Dollar Value
			$
			$
			$
			$
			$
			$
			$

Total MBE Participation: _____% $ _____

* Minority categories: African American (B); Hispanic (H); Asian American (A), American Indian (I); Woman Owned (W); Other (D)

I will enter into a formal Contract with the above minority/women-owned business enterprises for the work listed in the above schedule conditional upon execution of a Contract with the Owner.

I certify that I have read the terms of this commitment and I am the Bidder or authorized to bind the Bidder to the commitment set forth herein. I certify, under penalties of perjury, that I have examined the information in this affidavit, and to the best of my knowledge and belief, this information is true, correct and complete.

Date:_____ Name of Authorized Officer (Print/Type):_____

Signature_____

Title:_____

Sworn to before me this ____ day of _____, 20__.

Notary Public for the State of _____

My Commission Expires: _____

Notary Seal:

Print Name: _____

Phone Number: _____

Address: _____

AFFIDAVIT C

City of Charleston, South Carolina
Intent to Perform Contract with Own Workforce

Affidavit of _____
(Name of Bidder)

I hereby certify that it is our intent to perform 100% of the work required for the _____

_____ contract.
(Name of Project)

In making this certification, the Bidder states that the Bidder does not customarily subcontract elements of this type Project, and normally performs and has the capability to perform and will perform *all the elements of the work* on this Project with his/her own current work forces, and

The Bidder agrees to provide any additional information or documentation requested by the Owner in support of the above statement.

I hereby certify that I have read this certification and I am the Bidder or I am authorized to bind the Bidder to the commitments contained herein. I certify, under penalties of perjury, that I have examined the information in this affidavit, and to the best of my knowledge and belief, this information is true, correct and complete.

Date:_____ Name of Authorized Officer (Print/Type):_____

Signature:_____

Title:_____

Sworn to before me this ____ day of _____, 20__.
Notary Public for the State of _____
My Commission Expires: _____
Print Name: _____
Phone Number: _____
Address: _____
_____

Notary Seal:

References

Bidders must supply a minimum of four references for which they have provided the same or similar services being requested here on a contract basis during the last three (3) years.

Name: _____

Address: _____

_____

Phone/Fax: _____

Email: _____

Name: _____

Address: _____

_____

Phone/Fax: _____

Email: _____

Name: _____

Address: _____

_____

Phone/Fax: _____

Email: _____

Name: _____

Address: _____

_____

Phone/Fax: _____

Email: _____

Name: _____

Address: _____

_____

Phone/Fax: _____

Email: _____

General Information

The City of Charleston, South Carolina is soliciting vendors for the **Joe Riley Ball Park Electrical Renovations**. Work will include: replacement of the main feeders coming into the stadium from the Dominion Power transformer, main switchgear, electrical panels, transformers, all wiring feeding the field light poles from the main electrical room and a new fire alarm system.

The City's expectation is that the work will begin October 1, 2019 and be completed no later than January 31, 2020.

The City is requiring a 100% Performance Bond from the awarded vendor for this project.

There will be a Mandatory Pre-Bid Meeting held at 9:00am on August 15, 2019 at the Joe Riley Ball Park, 360 Fishburne St.

Procurement Process

This is an **Invitation for Bid**. The City will award to the lowest responsive, responsible bidder that meet the needs of this solicitation. The bids will be opened and an award is made to the lowest responsive and responsible bidder. Any contract the City chooses to negotiate with the awarded vendor shall contain, at a minimum, the term and conditions (or substantially the same term and conditions) as hereinafter stated. The City reserves the right, in its sole discretion, to reject all submissions, reissue a subsequent solicitation, terminate, restructure or amend this procurement process at any time. The final selection and contract negotiation rests solely with the City.

Questions

Every effort has been made to insure that all information needed by the Bidder is included herein; however, questions are allowed and encouraged to clear up any information as described herein, etc. ***The City Will Not Accept telephone calls or visits regarding this Solicitation.*** **All questions shall be in writing and addressed to: Robin B. Robinson, City of Charleston, Procurement Division, 75 Calhoun Street, Suite 3500, Charleston, South Carolina 29401, or email to: robinsonr@charleston-sc.gov.** ***Written Questions may also be faxed to: 843-720-3872. All questions must be received before 2:00pm on August 19, 2019.*** No interpretation shall be binding upon the City unless in writing from the City's Corporate Counsel.

Oral Statements

No oral statement of any person shall modify or otherwise change, or affect the terms, conditions or specifications stated in the resulting contract. The City of Charleston shall not be legally bound by any amendment or interpretation that is not in writing.

Contractor Solely Responsible for Performance

Vendor shall be responsible for the performance of the services required by the contract. Vendor is an independent contractor and does not act as the City's agent or employee.

Disqualification of Bidders

Bidders may be disqualified for any of the following reasons:

- Reason to believe collusion exists among the Bidders

- The Bidder is involved in any litigation against the City
- The Bidder is in arrears on any existing contract or has defaulted on a previous contract with the City
- Lack of financial stability
- Failure to perform under previous or present contracts with the City
- Is currently debarred by the State of South Carolina Procurement Services

Suspension and Debarment
The Bidder certifies, by submission of this proposal, that neither it nor its principals are presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any federal, state or local agency. Where the Bidder is unable to certify to any of the statements in this certification, such Offeror shall attach an explanation to this proposal.

Contract Negotiations
The City will rank, based upon the evaluation criteria, all responsible and responsive Vendors. The City will begin negotiations with the top ranked Vendors and will continue with negotiation down the ranking until a satisfactory contract with the City is finalized, if any. The terms and conditions of the contract will be no less advantageous than the provisions of this solicitation or the Vendor's proposal. The City reserves the right to make a partial award or to split the award at its sole discretion.

Vendor's Duty to Inspect and Advise and Declare All Costs
Each Vendor shall become fully acquainted with the City's requirements and the scope of commodities and/or services to be provided. Vendor shall have a duty to request any information from the City as it deems necessary to prepare their submittal. No change order will be granted or additional compensation permitted if based upon information the Vendor knew or should have known as part of the Vendor's duty to become acquainted with the City's circumstances and requirements.

Receipt of Bids
Bids must be submitted to and received by the City no later than the date and time specified within this solicitation. Bidders mailing proposals should allow a sufficient mail delivery period to insure timely receipt ***(August 29, 2019 @ 1:00pm)*** of their proposal by the City. Bids received after the scheduled due date and time will not be considered.

Number of Bids to be Submitted
Each Vendor must **submit one (1) Unbound Original (please use a paper clip, binder clip or rubber band), 1 Bound Copy and one (1) digital copy (Flash Drive).** Only original documents will be accepted; faxed or electronically mailed versions will not be accepted. The Vendor must mark on the envelope or wrapping containing the bid, the solicitation identification number specified in the solicitation and note **"Original"** on the original bid.

Required Forms And Signature Pages
Offerors shall include as an appendix, all ancillary forms required in this Request for Proposal (RFP). Required forms include, but are not limited to the following:

- RFP Cover Page
- Certificate of Familiarity

- W/MBE Good Faith Effort Form and appropriate Affidavit
- Any Addenda

Bid Format

Bids are to be prepared in a manner designed to provide the City with a straightforward presentation of the Bidder's capability to satisfy the requirements of this solicitation. All copies shall be bound in a single volume(s) and all documentation submitted with the bid should be bound in the respective volume(s), where practical.

a) All bids should be clearly marked **"19-B047R Joe Riley Ball Park Electrical Renovations"** and **submitted in a sealed envelope.**
b) Bids **must be submitted by mail or hand delivered** to Robin B. Robinson, City of Charleston, Procurement Division, 75 Calhoun Street, Suite 3500, Charleston, SC 29401.
c) Proposals **must be received** in the City's Procurement Office **no later than 1:00pm on August 29, 2019. Late proposals will not be accepted for any reason.**
d) **No more than one bid may be submitted by any Vendor.**
e) The bid must be signed by an official authorized to contractually bind the Vendor.
f) All forms from this solicitation requiring signature must be included in the bid.

References/Experiences

Vendor must provide a minimum of four (4) references. Include company name, mailing address, name of point of contact, telephone number and email address. The City reserves the right to contact and request information from any source so named.

Confidentiality

The contents of this Solicitation shall not be discussed with anyone outside of the Bidder's organization. Any issues regarding confidentiality should be directed to the Point of Contact. Any breach of this confidentiality requirement will result in immediate disqualification of your organization from further consideration pursuant to the award of any resulting contract.

Term of Contract

The initial term of the Agreement shall be for four (4) months. The City reserves the right to extend the Agreement if the City determines the extension is in its best interest.

Basis for Award

The City will base its recommendation on the bid submitted and if it is responsive and responsible. The City reserves the right to inspect the Bidder's physical premises prior to award to satisfy questions regarding the Bidder's capabilities.

ATTACHMENT A
Specifications

City of Charleston Department of Parks

JOSEPH P. RILEY STADIUM

Electrical Renovations

Charleston, South Carolina 29403

SPECIFICATIONS

RTA SET

SOUTH CAROLINA
TY LIN INTERNATIONAL
No. C00859
CERTIFICATE OF AUTHORIZATION

SOUTH CAROLINA
LICENSED PROFESSIONAL ENGINEER
No. 22407
ROBERT C. STILL JR.

July 26, 2019

TY·LIN INTERNATIONAL

SOUTH CAROLINA
LICENSED PROFESSIONAL ENGINEER
No. 20405
7/26/19
JUAN A. AVILA

4400 LEEDS AVE., SUITE 250

CHARLESTON, SC 29405

TYLI Project Number: 650270.00

SOUTH CAROLINA
No 35254
ENRIQUE SOSA JR.
7/26/19

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SPECIFICATIONS GROUP

General Requirements Subgroup

DIVISION 01 - GENERAL REQUIREMENTS

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012900	PAYMENT PROCEDURES
013300	SUBMITTAL PROCEDURES
014000	QUALITY REQUIREMENTS
014200	REFERENCES
015000	TEMPORARY FACILITIES AND CONTROLS
017300	EXECUTION
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017839	PROJECT RECORD DOCUMENTS
017900	DEMONSTRATION AND TRAINING

Facility Construction Subgroup

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NOT APPLICABLE

DIVISION 03 - CONCRETE

033053	MISCELLANEOUS CAST-IN-PLACE CONCRETE

DIVISION 04 - MASONRY
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DIVISION 05 - METALS
NOT APPLICABLE

DIVISION 06 - WOOD, PLASTICS, AND COMPOSITES
NOT APPLICABLE

DIVISION 07 - THERMAL AND MOISTURE PROTECTION
NOT APPLICABLE

DIVISION 08 - OPENINGS
NOT APPLICABLE

DIVISION 09 - FINISHES
NOT APPLICABLE

DIVISION 10 - SPECIALTIES
NOT APPLICABLE

DIVISION 11 - EQUIPMENT
NOT APPLICABLE

DIVISION 12 - FURNISHINGS
NOT APPLICABLE

DIVISION 13 - SPECIAL CONSTRUCTION
NOT APPLICABLE

DIVISION 14 - CONVEYING EQUIPMENT
NOT APPLICABLE

DIVISION 15 - RESERVED
NOT APPLICABLE

DIVISION 16 - RESERVED
NOT APPLICABLE

DIVISION 17 - RESERVED
NOT APPLICABLE

DIVISION 18 - RESERVED
NOT APPLICABLE

DIVISION 19 - RESERVED
NOT APPLICABLE

Facility Services Subgroup

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NOT APPLICABLE

DIVISION 21 - FIRE SUPPRESSION
NOT APPLICABLE

DIVISION 22 - PLUMBING
NOT APPLICABLE

DIVISION 23 - HEATING, VENTILATING, AND AIR CONDITIONING (HVAC)
NOT APPLICABLE

DIVISION 24 - RESERVED
NOT APPLICABLE

DIVISION 25 - INTEGRATED AUTOMATION
NOT APPLICABLE

DIVISION 26 - ELECTRICAL
260519 LOW-VOLTAGE ELECTRICAL POWER CONDUCTORS AND CABLES
260526 GROUNDING AND BONDING FOR ELECTRICAL SYSTEMS

260529 HANGERS AND SUPPORTS FOR ELECTRICAL SYSTEMS
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260553 IDENTIFICATION FOR ELECTRICAL SYSTEMS
26057313 SHORT-CIRCUIT STUDIES
26057316 COORDINATION STUDIES
26057319 ARC-FLASH HAZARD ANALYSIS
262213 LOW-VOLTAGE DISTRIBUTION TRANSFORMERS
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DIVISION 27 - COMMUNICATIONS
NOT APPLICABLE

DIVISION 28 - ELECTRONIC SAFETY AND SECURITY
28462111 ADDRESSABLE FIRE-ALARM SYSTEMS

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NOT APPLICABLE

Site and Infrastructure Subgroup

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NOT APPLICABLE

DIVISION 32 - EXTERIOR IMPROVEMENTS
NOT APPLICABLE

DIVISION 33 - UTILITIES
NOT APPLICABLE

DIVISION 34 - TRANSPORTATION
NOT APPLICABLE

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NOT APPLICABLE

DIVISION 36 - RESERVED
NOT APPLICABLE

DIVISION 37 - RESERVED
NOT APPLICABLE

DIVISION 38 - RESERVED
NOT APPLICABLE

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NOT APPLICABLE

Process Equipment Subgroup

DIVISION 40 - PROCESS INTERCONNECTIONS
NOT APPLICABLE

DIVISION 41 - MATERIAL PROCESSING AND HANDLING EQUIPMENT
NOT APPLICABLE

DIVISION 42 - PROCESS HEATING, COOLING, AND DRYING EQUIPMENT
NOT APPLICABLE

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NOT APPLICABLE

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NOT APPLICABLE

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NOT APPLICABLE

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NOT APPLICABLE

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NOT APPLICABLE

DIVISION 49 - RESERVED
NOT APPLICABLE

END OF TABLE OF CONTENTS

SECTION 012500 - SUBSTITUTION PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes administrative and procedural requirements for substitutions.

B. Related Requirements:
   1. Section 016000 "Product Requirements" for requirements for submitting comparable product submittals for products by listed manufacturers.

1.3 DEFINITIONS

A. Substitutions: Changes in products, materials, equipment, and methods of construction from those required by the Contract Documents and proposed by Contractor.

   1. Substitutions for Cause: Changes proposed by Contractor that are required due to changed Project conditions, such as unavailability of product, regulatory changes, or unavailability of required warranty terms.
   2. Substitutions for Convenience: Changes proposed by Contractor or Owner that are not required in order to meet other Project requirements but may offer advantage to Contractor or Owner.

1.4 ACTION SUBMITTALS

A. Substitution Requests: Submit three copies of each request for consideration. Identify product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.

   1. Substitution Request Form: Use facsimile of form provided in Project Manual.
   2. Documentation: Show compliance with requirements for substitutions and the following, as applicable:

      a. Statement indicating why specified product or fabrication or installation method cannot be provided, if applicable.
      b. Coordination of information, including a list of changes or revisions needed to other parts of the Work and to construction performed by Owner and separate contractors that will be necessary to accommodate proposed substitution.
      c. Detailed comparison of significant qualities of proposed substitutions with those of the Work specified. Include annotated copy of applicable Specification Section.

Significant qualities may include attributes, such as performance, weight, size, durability, visual effect, sustainable design characteristics, warranties, and specific features and requirements indicated. Indicate deviations, if any, from the Work specified.

d. Product Data, including drawings and descriptions of products and fabrication and installation procedures.
e. Samples, where applicable or requested.
f. Certificates and qualification data, where applicable or requested.
g. List of similar installations for completed projects, with project names and addresses as well as names and addresses of engineers and owners.
h. Material test reports from a qualified testing agency, indicating and interpreting test results for compliance with requirements indicated.
i. Research reports evidencing compliance with building code in effect for Project, from ICC-ES.
j. Detailed comparison of Contractor's construction schedule using proposed substitutions with products specified for the Work, including effect on the overall Contract Time. If specified product or method of construction cannot be provided within the Contract Time, include letter from manufacturer, on manufacturer's letterhead, stating date of receipt of purchase order, lack of availability, or delays in delivery.
k. Cost information, including a proposal of change, if any, in the Contract Sum.
l. Contractor's certification that proposed substitution complies with requirements in the Contract Documents, except as indicated in substitution request, is compatible with related materials and is appropriate for applications indicated.
m. Contractor's waiver of rights to additional payment or time that may subsequently become necessary because of failure of proposed substitution to produce indicated results.

3. Engineer's Action: If necessary, Engineer will request additional information or documentation for evaluation within seven days of receipt of a request for substitution. Engineer will notify Contractor of acceptance or rejection of proposed substitution within 15 days of receipt of request, or seven days of receipt of additional information or documentation, whichever is later.

   a. Forms of Acceptance: Change Order, Construction Change Directive, or Engineer's Supplemental Instructions for minor changes in the Work.
   b. Use product specified if Engineer does not issue a decision on use of a proposed substitution within time allocated.

1.5 QUALITY ASSURANCE

A. Compatibility of Substitutions: Investigate and document compatibility of proposed substitution with related products and materials. Engage a qualified testing agency to perform compatibility tests recommended by manufacturers.

1.6 PROCEDURES

A. Coordination: Revise or adjust affected work as necessary to integrate work of the approved substitutions.

1.7 SUBSTITUTIONS

A. Substitutions for Cause: Submit requests for substitution immediately on discovery of need for change, but not later than 15 days prior to time required for preparation and review of related submittals.

1. Conditions: Engineer will consider Contractor's request for substitution when the following conditions are satisfied. If the following conditions are not satisfied, Engineer will return requests without action, except to record noncompliance with these requirements:

a. Requested substitution is consistent with the Contract Documents and will produce indicated results.
b. Substitution request is fully documented and properly submitted.
c. Requested substitution will not adversely affect Contractor's construction schedule.
d. Requested substitution has received necessary approvals of authorities having jurisdiction.
e. Requested substitution is compatible with other portions of the Work.
f. Requested substitution has been coordinated with other portions of the Work.
g. Requested substitution provides specified warranty.
h. If requested substitution involves more than one contractor, requested substitution has been coordinated with other portions of the Work, is uniform and consistent, is compatible with other products, and is acceptable to all contractors involved.

B. Substitutions for Convenience: Engineer will consider requests for substitution if received within 60 days after the Notice to Proceed. Requests received after that time may be considered or rejected at discretion of Engineer.

1. Conditions: Engineer will consider Contractor's request for substitution when the following conditions are satisfied. If the following conditions are not satisfied, Engineer will return requests without action, except to record noncompliance with these requirements:

a. Requested substitution offers Owner a substantial advantage in cost, time, energy conservation, or other considerations, after deducting additional responsibilities Owner must assume. Owner's additional responsibilities may include compensation to Engineer for redesign and evaluation services, increased cost of other construction by Owner, and similar considerations.
b. Requested substitution does not require extensive revisions to the Contract Documents.
c. Requested substitution is consistent with the Contract Documents and will produce indicated results.
d. Substitution request is fully documented and properly submitted.
e. Requested substitution will not adversely affect Contractor's construction schedule.
f. Requested substitution has received necessary approvals of authorities having jurisdiction.
g. Requested substitution is compatible with other portions of the Work.
h. Requested substitution has been coordinated with other portions of the Work.
i. Requested substitution provides specified warranty.

j. If requested substitution involves more than one contractor, requested substitution has been coordinated with other portions of the Work, is uniform and consistent, is compatible with other products, and is acceptable to all contractors involved.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 012500

SECTION 012900 - PAYMENT PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes administrative and procedural requirements necessary to prepare and process Applications for Payment.

1.3 DEFINITIONS

A. Schedule of Values: A statement furnished by Contractor allocating portions of the Contract Sum to various portions of the Work and used as the basis for reviewing Contractor's Applications for Payment.

1.4 SCHEDULE OF VALUES

A. Coordination: Coordinate preparation of the schedule of values with preparation of Contractor's construction schedule.

1. Coordinate line items in the schedule of values with items required to be indicated as separate activities in Contractor's construction schedule.
2. Submit the schedule of values to Engineer at earliest possible date, but no later than seven days before the date scheduled for submittal of initial Applications for Payment.
3. Subschedules for Separate Elements of Work: Where the Contractor's construction schedule defines separate elements of the Work, provide subschedules showing values coordinated with each element.

B. Format and Content: Use Project Manual table of contents as a guide to establish line items for the schedule of values. Provide at least one line item for each Specification Section.

1. Identification: Include the following Project identification on the schedule of values:

   a. Project name and location.
   b. Name of Engineer.
   c. Engineer's Project number.
   d. Contractor's name and address.
   e. Date of submittal.

2. Arrange schedule of values consistent with format of AIA Document G703.

3. Arrange the schedule of values in tabular form, with separate columns to indicate the following for each item listed:

    a. Related Specification Section or Division.
    b. Description of the Work.
    c. Name of subcontractor.
    d. Name of manufacturer or fabricator.
    e. Name of supplier.
    f. Change Orders (numbers) that affect value.
    g. Dollar value of the following, as a percentage of the Contract Sum to nearest one-hundredth percent, adjusted to total 100 percent. Round dollar amounts to whole dollars, with total equal to Contract Sum.

        1) Labor.
        2) Materials.
        3) Equipment.

4. Provide a breakdown of the Contract Sum in enough detail to facilitate continued evaluation of Applications for Payment and progress reports. Provide multiple line items for principal subcontract amounts in excess of five percent of the Contract Sum.
5. Provide a separate line item in the schedule of values for each part of the Work where Applications for Payment may include materials or equipment purchased or fabricated and stored, but not yet installed.

    a. Differentiate between items stored on-site and items stored off-site.

6. Purchase Contracts: Provide a separate line item in the schedule of values for each purchase contract. Show line-item value of purchase contract. Indicate Owner payments or deposits, if any, and balance to be paid by Contractor.
7. Overhead Costs: Include total cost and proportionate share of general overhead and profit for each line item.
8. Overhead Costs: Show cost of temporary facilities and other major cost items that are not direct cost of actual work-in-place as separate line items.
9. Closeout Costs. Include separate line items under Contractor and principal subcontracts for Project closeout requirements in an amount totaling five percent of the Contract Sum and subcontract amount.
10. Schedule of Values Revisions: Revise the schedule of values when Change Orders or Construction Change Directives result in a change in the Contract Sum. Include at least one separate line item for each Change Order and Construction Change Directive.

1.5 APPLICATIONS FOR PAYMENT

A. Each Application for Payment following the initial Application for Payment shall be consistent with previous applications and payments as certified by Engineer and paid for by Owner.

B. Payment Application Times: The date for each progress payment is indicated in the Agreement between Owner and Contractor. The period of construction work covered by each Application for Payment is the period indicated in the Agreement.

C. Payment Application Times: Submit Application for Payment to Engineer by the first day of the month. The period covered by each Application for Payment is one month, ending on the last day of the month.

D. Application for Payment Forms: Use AIA Document G702 and AIA Document G703 as form for Applications for Payment.

1. Other Application for Payment forms proposed by the Contractor shall be acceptable to Engineer and Owner. Submit forms for approval with initial submittal of schedule of values.

E. Application Preparation: Complete every entry on form. Notarize and execute by a person authorized to sign legal documents on behalf of Contractor. Engineer will return incomplete applications without action.

1. Entries shall match data on the schedule of values and Contractor's construction schedule. Use updated schedules if revisions were made.
2. Include amounts for work completed following previous Application for Payment, whether or not payment has been received. Include only amounts for work completed at time of Application for Payment.
3. Include amounts of Change Orders and Construction Change Directives issued before last day of construction period covered by application.
4. Indicate separate amounts for work being carried out under Owner-requested project acceleration.

F. Stored Materials: Include in Application for Payment amounts applied for materials or equipment purchased or fabricated and stored, but not yet installed. Differentiate between items stored on-site and items stored off-site.

1. Provide certificate of insurance, evidence of transfer of title to Owner, and consent of surety to payment for stored materials.
2. Provide supporting documentation that verifies amount requested, such as paid invoices. Match amount requested with amounts indicated on documentation; do not include overhead and profit on stored materials.
3. Provide summary documentation for stored materials indicating the following:

a. Value of materials previously stored and remaining stored as of date of previous Applications for Payment.
b. Value of previously stored materials put in place after date of previous Application for Payment and on or before date of current Application for Payment.
c. Value of materials stored since date of previous Application for Payment and remaining stored as of date of current Application for Payment.

G. Transmittal: Submit three signed and notarized original copies of each Application for Payment to Engineer by a method ensuring receipt within 24 hours. One copy shall include waivers of lien and similar attachments if required.

1. Transmit each copy with a transmittal form listing attachments and recording appropriate information about application.

H. Initial Application for Payment: Administrative actions and submittals that must precede or coincide with submittal of first Application for Payment include the following:

1. List of subcontractors.
2. Schedule of values.
3. Contractor's construction schedule (preliminary if not final).
4. Combined Contractor's construction schedule (preliminary if not final) incorporating Work of multiple contracts, with indication of acceptance of schedule by each Contractor.
5. Products list (preliminary if not final).
6. Sustainable design action plans, including preliminary project materials cost data.
7. Schedule of unit prices.
8. Submittal schedule (preliminary if not final).
9. List of Contractor's staff assignments.
10. List of Contractor's principal consultants.
11. Copies of building permits.
12. Copies of authorizations and licenses from authorities having jurisdiction for performance of the Work.
13. Initial progress report.
14. Report of preconstruction conference.
15. Certificates of insurance and insurance policies.
16. Performance and payment bonds.
17. Data needed to acquire Owner's insurance.

I. Application for Payment at Substantial Completion: After Engineer issues the Certificate of Substantial Completion, submit an Application for Payment showing 100 percent completion for portion of the Work claimed as substantially complete.

1. Include documentation supporting claim that the Work is substantially complete and a statement showing an accounting of changes to the Contract Sum.
2. This application shall reflect Certificate(s) of Substantial Completion issued previously for Owner occupancy of designated portions of the Work.

J. Final Payment Application: After completing Project closeout requirements, submit final Application for Payment with releases and supporting documentation not previously submitted and accepted, including, but not limited, to the following:

1. Evidence of completion of Project closeout requirements.
2. Insurance certificates for products and completed operations where required and proof that taxes, fees, and similar obligations were paid.
3. Updated final statement, accounting for final changes to the Contract Sum.
4. AIA Document G706.
5. AIA Document G706A.
6. AIA Document G707.
7. Evidence that claims have been settled.
8. Final meter readings for utilities, a measured record of stored fuel, and similar data as of date of Substantial Completion or when Owner took possession of and assumed responsibility for corresponding elements of the Work.
9. Final liquidated damages settlement statement.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 012900

SECTION 013300 - SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Submittal schedule requirements.
2. Administrative and procedural requirements for submittals.

B. Related Requirements:

1. Section 012900 "Payment Procedures" for submitting Applications for Payment and the schedule of values.
2. Section 014000 "Quality Requirements" for submitting test and inspection reports, and schedule of tests and inspections.
3. Section 017700 "Closeout Procedures" for submitting closeout submittals and maintenance material submittals.
4. Section 017823 "Operation and Maintenance Data" for submitting operation and maintenance manuals.
5. Section 017839 "Project Record Documents" for submitting record Drawings, record Specifications, and record Product Data.
6. Section 017900 "Demonstration and Training" for submitting video recordings of demonstration of equipment and training of Owner's personnel.

1.3 DEFINITIONS

A. Action Submittals: Written and graphic information and physical samples that require Engineer's responsive action. Action submittals are those submittals indicated in individual Specification Sections as "action submittals."

B. Informational Submittals: Written and graphic information and physical samples that do not require Engineer's responsive action. Submittals may be rejected for not complying with requirements. Informational submittals are those submittals indicated in individual Specification Sections as "informational submittals."

1.4 SUBMITTAL SCHEDULE

A. Submittal Schedule: Submit, as an action submittal, a list of submittals, arranged in chronological order by dates required by construction schedule. Include time required for

review, ordering, manufacturing, fabrication, and delivery when establishing dates. Include additional time required for making corrections or revisions to submittals noted by Engineer and additional time for handling and reviewing submittals required by those corrections.

1. Coordinate submittal schedule with list of subcontracts, the schedule of values, and Contractor's construction schedule.
2. Initial Submittal: Submit concurrently with startup construction schedule. Include submittals required during the first 60 days of construction. List those submittals required to maintain orderly progress of the Work and those required early because of long lead time for manufacture or fabrication.
3. Final Submittal: Submit concurrently with the first complete submittal of Contractor's construction schedule.

    a. Submit revised submittal schedule to reflect changes in current status and timing for submittals.

4. Format: Arrange the following information in a tabular format:

    a. Scheduled date for first submittal.
    b. Specification Section number and title.
    c. Submittal Category: Action; informational.
    d. Name of subcontractor.
    e. Description of the Work covered.
    f. Scheduled date for Engineer's final release or approval.
    g. Scheduled dates for purchasing.
    h. Scheduled date of fabrication.
    i. Scheduled dates for installation.
    j. Activity or event number.

1.5 SUBMITTAL FORMATS

A. Submittal Information: Include the following information in each submittal:

1. Project name.
2. Date.
3. Name of Engineer.
4. Name of Contractor.
5. Name of firm or entity that prepared submittal.
6. Names of subcontractor, manufacturer, and supplier.
7. Unique submittal number, including revision identifier. Include Specification Section number with sequential alphanumeric identifier; and alphanumeric suffix for resubmittals.
8. Category and type of submittal.
9. Submittal purpose and description.
10. Number and title of Specification Section, with paragraph number and generic name for each of multiple items.
11. Drawing number and detail references, as appropriate.
12. Indication of full or partial submittal.
13. Location(s) where product is to be installed, as appropriate.
14. Other necessary identification.

15. Remarks.
16. Signature of transmitter.

B. Options: Identify options requiring selection by Engineer.

C. Deviations and Additional Information: On each submittal, clearly indicate deviations from requirements in the Contract Documents, including minor variations and limitations; include relevant additional information and revisions, other than those requested by Engineer on previous submittals. Indicate by highlighting on each submittal or noting on attached separate sheet.

D. PDF Submittals: Prepare submittals as PDF package, incorporating complete information into each PDF file. Name PDF file with submittal number.

1.6 SUBMITTAL PROCEDURES

A. Prepare and submit submittals required by individual Specification Sections. Types of submittals are indicated in individual Specification Sections.

1. Email: Prepare submittals as PDF package, and transmit to Engineer by sending via email. Include PDF transmittal form. Include information in email subject line as requested by Engineer.

   a. Engineer will return annotated file. Annotate and retain one copy of file as a digital Project Record Document file.

B. Coordination: Coordinate preparation and processing of submittals with performance of construction activities.

1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.
2. Submit all submittal items required for each Specification Section concurrently unless partial submittals for portions of the Work are indicated on approved submittal schedule.
3. Submit action submittals and informational submittals required by the same Specification Section as separate packages under separate transmittals.
4. Coordinate transmittal of submittals for related parts of the Work specified in different Sections so processing will not be delayed because of need to review submittals concurrently for coordination.

   a. Engineer reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.

C. Processing Time: Allow time for submittal review, including time for resubmittals, as follows. Time for review shall commence on Engineer's receipt of submittal. No extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing, including resubmittals.

1. Initial Review: Allow 15 days for initial review of each submittal. Allow additional time if coordination with subsequent submittals is required. Engineer will advise Contractor when a submittal being processed must be delayed for coordination.

2. Intermediate Review: If intermediate submittal is necessary, process it in same manner as initial submittal.
3. Resubmittal Review: Allow 15 days for review of each resubmittal.

D. Resubmittals: Make resubmittals in same form and number of copies as initial submittal.

1. Note date and content of previous submittal.
2. Note date and content of revision in label or title block and clearly indicate extent of revision.
3. Resubmit submittals until they are marked with approval notation from Engineer's action stamp.

E. Distribution: Furnish copies of final submittals to manufacturers, subcontractors, suppliers, fabricators, installers, authorities having jurisdiction, and others as necessary for performance of construction activities. Show distribution on transmittal forms.

F. Use for Construction: Retain complete copies of submittals on Project site. Use only final action submittals that are marked with approval notation from Engineer's action stamp.

1.7 SUBMITTAL REQUIREMENTS

A. Product Data: Collect information into a single submittal for each element of construction and type of product or equipment.

1. If information must be specially prepared for submittal because standard published data are unsuitable for use, submit as Shop Drawings, not as Product Data.
2. Mark each copy of each submittal to show which products and options are applicable.
3. Include the following information, as applicable:

   a. Manufacturer's catalog cuts.
   b. Manufacturer's product specifications.
   c. Standard color charts.
   d. Statement of compliance with specified referenced standards.
   e. Testing by recognized testing agency.
   f. Application of testing agency labels and seals.
   g. Notation of coordination requirements.
   h. Availability and delivery time information.

4. For equipment, include the following in addition to the above, as applicable:

   a. Wiring diagrams that show factory-installed wiring.
   b. Printed performance curves.
   c. Operational range diagrams.
   d. Clearances required to other construction, if not indicated on accompanying Shop Drawings.

5. Submit Product Data before Shop Drawings, and before or concurrent with Samples.

B. Shop Drawings: Prepare Project-specific information, drawn accurately to scale. Do not base Shop Drawings on reproductions of the Contract Documents or standard printed data unless submittal based on Engineer's digital data drawing files is otherwise permitted.

1. Preparation: Fully illustrate requirements in the Contract Documents. Include the following information, as applicable:

   a. Identification of products.
   b. Schedules.
   c. Compliance with specified standards.
   d. Notation of coordination requirements.
   e. Notation of dimensions established by field measurement.
   f. Relationship and attachment to adjoining construction clearly indicated.
   g. Seal and signature of professional engineer if specified.

C. Samples: Submit Samples for review of kind, color, pattern, and texture for a check of these characteristics with other materials.

1. Transmit Samples that contain multiple, related components such as accessories together in one submittal package.
2. Identification: Permanently attach label on unexposed side of Samples that includes the following:

   a. Project name and submittal number.
   b. Generic description of Sample.
   c. Product name and name of manufacturer.
   d. Sample source.
   e. Number and title of applicable Specification Section.
   f. Specification paragraph number and generic name of each item.

3. Email Transmittal: Provide PDF transmittal. Include digital image file illustrating Sample characteristics, and identification information for record.
4. Disposition: Maintain sets of approved Samples at Project site, available for quality-control comparisons throughout the course of construction activity. Sample sets may be used to determine final acceptance of construction associated with each set.

   a. Samples that may be incorporated into the Work are indicated in individual Specification Sections. Such Samples must be in an undamaged condition at time of use.
   b. Samples not incorporated into the Work, or otherwise designated as Owner's property, are the property of Contractor.

5. Samples for Verification: Submit full-size units or Samples of size indicated, prepared from same material to be used for the Work, cured and finished in manner specified, and physically identical with material or product proposed for use, and that show full range of color and texture variations expected. Samples include, but are not limited to, the following: partial sections of manufactured or fabricated components; small cuts or containers of materials; complete units of repetitively used materials; swatches showing color, texture, and pattern; color range sets; and components used for independent testing and inspection.

a. Number of Samples: Submit three sets of Samples. Engineer will retain two Sample sets; remainder will be returned. Mark up and retain one returned Sample set as a project record Sample.

1) Submit a single Sample where assembly details, workmanship, fabrication techniques, connections, operation, and other similar characteristics are to be demonstrated.

D. Product Schedule: As required in individual Specification Sections, prepare a written summary indicating types of products required for the Work and their intended location. Include the following information in tabular form:

1. Type of product. Include unique identifier for each product indicated in the Contract Documents or assigned by Contractor if none is indicated.
2. Manufacturer and product name, and model number if applicable.
3. Number and name of room or space.
4. Location within room or space.

E. Qualification Data: Prepare written information that demonstrates capabilities and experience of firm or person. Include lists of completed projects with project names and addresses, contact information of engineers and owners, and other information specified.

F. Design Data: Prepare and submit written and graphic information indicating compliance with indicated performance and design criteria in individual Specification Sections. Include list of assumptions and summary of loads. Include load diagrams if applicable. Provide name and version of software, if any, used for calculations. Number each page of submittal.

G. Certificates:

1. Certificates and Certifications Submittals: Submit a statement that includes signature of entity responsible for preparing certification. Certificates and certifications shall be signed by an officer or other individual authorized to sign documents on behalf of that entity. Provide a notarized signature where indicated.
2. Installer Certificates: Submit written statements on manufacturer's letterhead certifying that Installer complies with requirements in the Contract Documents and, where required, is authorized by manufacturer for this specific Project.
3. Manufacturer Certificates: Submit written statements on manufacturer's letterhead certifying that manufacturer complies with requirements in the Contract Documents. Include evidence of manufacturing experience where required.
4. Material Certificates: Submit written statements on manufacturer's letterhead certifying that material complies with requirements in the Contract Documents.
5. Product Certificates: Submit written statements on manufacturer's letterhead certifying that product complies with requirements in the Contract Documents.

H. Test and Research Reports:

1. Compatibility Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of compatibility tests performed before installation of product. Include written recommendations for primers and substrate preparation needed for adhesion.

2. Field Test Reports: Submit written reports indicating and interpreting results of field tests performed either during installation of product or after product is installed in its final location, for compliance with requirements in the Contract Documents.
3. Material Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting test results of material for compliance with requirements in the Contract Documents.
4. Preconstruction Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of tests performed before installation of product, for compliance with performance requirements in the Contract Documents.
5. Product Test Reports: Submit written reports indicating that current product produced by manufacturer complies with requirements in the Contract Documents. Base reports on evaluation of tests performed by manufacturer and witnessed by a qualified testing agency, or on comprehensive tests performed by a qualified testing agency.
6. Research Reports: Submit written evidence, from a model code organization acceptable to authorities having jurisdiction, that product complies with building code in effect for Project. Include the following information:

    a. Name of evaluation organization.
    b. Date of evaluation.
    c. Time period when report is in effect.
    d. Product and manufacturers' names.
    e. Description of product.
    f. Test procedures and results.
    g. Limitations of use.

1.8 CONTRACTOR'S REVIEW

A. Action Submittals and Informational Submittals: Review each submittal and check for coordination with other Work of the Contract and for compliance with the Contract Documents. Note corrections and field dimensions. Mark with approval stamp before submitting to Engineer.

B. Contractor's Approval: Indicate Contractor's approval for each submittal with a uniform approval stamp. Include name of reviewer, date of Contractor's approval, and statement certifying that submittal has been reviewed, checked, and approved for compliance with the Contract Documents.

    1. Engineer will not review submittals received from Contractor that do not have Contractor's review and approval.

1.9 ENGINEERS REVIEW

A. Action Submittals: Engineer will review each submittal, indicate corrections or revisions required, and return it.

    1. PDF Submittals: Engineer will indicate, via markup on each submittal, the appropriate action.

B. Informational Submittals: Engineer will review each submittal and will not return it, or will return it if it does not comply with requirements. Engineer will forward each submittal to appropriate party.

C. Partial submittals prepared for a portion of the Work will be reviewed when use of partial submittals has received prior approval from Engineer.

D. Incomplete submittals are unacceptable, will be considered nonresponsive, and will be returned for resubmittal without review.

E. Engineer will return without review submittals received from sources other than Contractor.

F. Submittals not required by the Contract Documents will be returned by Engineer without action.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 013300

SECTION 014000 - QUALITY REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes administrative and procedural requirements for quality assurance and quality control.

B. Testing and inspection services are required to verify compliance with requirements specified or indicated. These services do not relieve Contractor of responsibility for compliance with the Contract Document requirements.

1. Specific quality-assurance and quality-control requirements for individual work results are specified in their respective Specification Sections. Requirements in individual Sections may also cover production of standard products.
2. Specified tests, inspections, and related actions do not limit Contractor's other quality-assurance and quality-control procedures that facilitate compliance with the Contract Document requirements.
3. Requirements for Contractor to provide quality-assurance and quality-control services required by Engineer, Owner, or authorities having jurisdiction are not limited by provisions of this Section.
4. Specific test and inspection requirements are not specified in this Section.

1.3 DEFINITIONS

A. Experienced: When used with an entity or individual, "experienced" unless otherwise further described means having successfully completed a minimum of five previous projects similar in nature, size, and extent to this Project; being familiar with special requirements indicated; and having complied with requirements of authorities having jurisdiction.

B. Field Quality-Control Tests: Tests and inspections that are performed on-site for installation of the Work and for completed Work.

C. Installer/Applicator/Erector: Contractor or another entity engaged by Contractor as an employee, Subcontractor, or Sub-subcontractor, to perform a particular construction operation, including installation, erection, application, assembly, and similar operations.

1. Use of trade-specific terminology in referring to a trade or entity does not require that certain construction activities be performed by accredited or unionized individuals, or that requirements specified apply exclusively to specific trade(s).

D. Preconstruction Testing: Tests and inspections performed specifically for Project before products and materials are incorporated into the Work, to verify performance or compliance with specified criteria.

E. Product Tests: Tests and inspections that are performed by a nationally recognized testing laboratory (NRTL) according to 29 CFR 1910.7, by a testing agency accredited according to NIST's National Voluntary Laboratory Accreditation Program (NVLAP), or by a testing agency qualified to conduct product testing and acceptable to authorities having jurisdiction, to establish product performance and compliance with specified requirements.

F. Source Quality-Control Tests: Tests and inspections that are performed at the source; for example, plant, mill, factory, or shop.

G. Testing Agency: An entity engaged to perform specific tests, inspections, or both. Testing laboratory shall mean the same as testing agency.

H. Quality-Assurance Services: Activities, actions, and procedures performed before and during execution of the Work to guard against defects and deficiencies and substantiate that proposed construction will comply with requirements.

I. Quality-Control Services: Tests, inspections, procedures, and related actions during and after execution of the Work to evaluate that actual products incorporated into the Work and completed construction comply with requirements. Contractor's quality-control services do not include contract administration activities performed by Engineer.

1.4 CONFLICTING REQUIREMENTS

A. Conflicting Standards and Other Requirements: If compliance with two or more standards or requirements are specified and the standards or requirements establish different or conflicting requirements for minimum quantities or quality levels, comply with the most stringent requirement. Refer conflicting requirements that are different, but apparently equal, to Engineer for direction before proceeding.

B. Minimum Quantity or Quality Levels: The quantity or quality level shown or specified shall be the minimum provided or performed. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these requirements, indicated numeric values are minimum or maximum, as appropriate, for the context of requirements. Refer uncertainties to Engineer for a decision before proceeding.

1.5 INFORMATIONAL SUBMITTALS

A. Contractor's Quality-Control Plan: For quality-assurance and quality-control activities and responsibilities.

B. Qualification Data: For Contractor's quality-control personnel.

C. Contractor's Statement of Responsibility: When required by authorities having jurisdiction, submit copy of written statement of responsibility submitted to authorities having jurisdiction before starting work on the following systems:

1. Seismic-force-resisting system, designated seismic system, or component listed in the Statement of Special Inspections.

D. Testing Agency Qualifications: For testing agencies specified in "Quality Assurance" Article to demonstrate their capabilities and experience. Include proof of qualifications in the form of a recent report on the inspection of the testing agency by a recognized authority.

E. Schedule of Tests and Inspections: Prepare in tabular form and include the following:

1. Specification Section number and title.
2. Entity responsible for performing tests and inspections.
3. Description of test and inspection.
4. Identification of applicable standards.
5. Identification of test and inspection methods.
6. Number of tests and inspections required.
7. Time schedule or time span for tests and inspections.
8. Requirements for obtaining samples.
9. Unique characteristics of each quality-control service.

F. Reports: Prepare and submit certified written reports and documents as specified.

G. Permits, Licenses, and Certificates: For Owner's record, submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, correspondence, records, and similar documents established for compliance with standards and regulations bearing on performance of the Work.

1.6 CONTRACTOR'S QUALITY-CONTROL PLAN

A. Quality-Control Plan, General: Submit quality-control plan within **10** days of **Notice to Proceed**, and not less than **five** days prior to preconstruction conference. Submit in format acceptable to Engineer. Identify personnel, procedures, controls, instructions, tests, records, and forms to be used to carry out Contractor's quality-assurance and quality-control responsibilities. Coordinate with Contractor's Construction Schedule.

B. Quality-Control Personnel Qualifications: Engage qualified personnel trained and experienced in managing and executing quality-assurance and quality-control procedures similar in nature and extent to those required for Project.

1. Project quality-control manager **may also serve as Project superintendent**.

C. Submittal Procedure: Describe procedures for ensuring compliance with requirements through review and management of submittal process. Indicate qualifications of personnel responsible for submittal review.

D. Testing and Inspection: In quality-control plan, include a comprehensive schedule of Work requiring testing or inspection, including the following:

1. Contractor-performed tests and inspections including Subcontractor-performed tests and inspections. Include required tests and inspections and Contractor-elected tests and inspections. Distinguish source quality-control tests and inspections from field quality-control tests and inspections.

E. Continuous Inspection of Workmanship: Describe process for continuous inspection during construction to identify and correct deficiencies in workmanship in addition to testing and inspection specified. Indicate types of corrective actions to be required to bring work into compliance with standards of workmanship established by Contract requirements and approved mockups.

F. Monitoring and Documentation: Maintain testing and inspection reports including log of approved and rejected results. Include work Engineer has indicated as nonconforming or defective. Indicate corrective actions taken to bring nonconforming work into compliance with requirements. Comply with requirements of authorities having jurisdiction.

1.7 REPORTS AND DOCUMENTS

A. Test and Inspection Reports: Prepare and submit certified written reports specified in other Sections. Include the following:

1. Date of issue.
2. Project title and number.
3. Name, address, telephone number, and email address of testing agency.
4. Dates and locations of samples and tests or inspections.
5. Names of individuals making tests and inspections.
6. Description of the Work and test and inspection method.
7. Identification of product and Specification Section.
8. Complete test or inspection data.
9. Test and inspection results and an interpretation of test results.
10. Record of temperature and weather conditions at time of sample taking and testing and inspection.
11. Comments or professional opinion on whether tested or inspected Work complies with the Contract Document requirements.
12. Name and signature of laboratory inspector.
13. Recommendations on retesting and reinspecting.

B. Manufacturer's Technical Representative's Field Reports: Prepare written information documenting manufacturer's technical representative's tests and inspections specified in other Sections. Include the following:

1. Name, address, telephone number, and email address of technical representative making report.
2. Statement on condition of substrates and their acceptability for installation of product.
3. Statement that products at Project site comply with requirements.
4. Summary of installation procedures being followed, whether they comply with requirements and, if not, what corrective action was taken.
5. Results of operational and other tests and a statement of whether observed performance complies with requirements.
6. Statement whether conditions, products, and installation will affect warranty.

7. Other required items indicated in individual Specification Sections.

C. Factory-Authorized Service Representative's Reports: Prepare written information documenting manufacturer's factory-authorized service representative's tests and inspections specified in other Sections. Include the following:

1. Name, address, telephone number, and email address of factory-authorized service representative making report.
2. Statement that equipment complies with requirements.
3. Results of operational and other tests and a statement of whether observed performance complies with requirements.
4. Statement whether conditions, products, and installation will affect warranty.
5. Other required items indicated in individual Specification Sections.

1.8 QUALITY ASSURANCE

A. General: Qualifications paragraphs in this article establish the minimum qualification levels required; individual Specification Sections specify additional requirements.

B. Manufacturer Qualifications: A firm experienced in manufacturing products or systems similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units. As applicable, procure products from manufacturers able to meet qualification requirements, warranty requirements, and technical or factory-authorized service representative requirements.

C. Fabricator Qualifications: A firm experienced in producing products similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.

D. Installer Qualifications: A firm or individual experienced in installing, erecting, applying, or assembling work similar in material, design, and extent to that indicated for this Project, whose work has resulted in construction with a record of successful in-service performance.

E. Professional Engineer Qualifications: A professional engineer who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing engineering services of the kind indicated. Engineering services are defined as those performed for installations of the system, assembly, or product that are similar in material, design, and extent to those indicated for this Project.

F. Specialists: Certain Specification Sections require that specific construction activities shall be performed by entities who are recognized experts in those operations. Specialists shall satisfy qualification requirements indicated and shall be engaged for the activities indicated.

1. Requirements of authorities having jurisdiction shall supersede requirements for specialists.

G. Testing Agency Qualifications: An NRTL, an NVLAP, or an independent agency with the experience and capability to conduct testing and inspection indicated, as documented according to **ASTM E 329**; and with additional qualifications specified in individual Sections; and, where required by authorities having jurisdiction, that is acceptable to authorities.

H. Manufacturer's Technical Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to observe and inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.

I. Factory-Authorized Service Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.

1.9 QUALITY CONTROL

A. Owner Responsibilities: Where quality-control services are indicated as Owner's responsibility, Owner will engage a qualified testing agency to perform these services.

1. Owner will furnish Contractor with names, addresses, and telephone numbers of testing agencies engaged and a description of types of testing and inspection they are engaged to perform.

B. Contractor Responsibilities: Tests and inspections not explicitly assigned to Owner are Contractor's responsibility. Perform additional quality-control activities, whether specified or not, to verify and document that the Work complies with requirements.

1. Unless otherwise indicated, provide quality-control services specified and those required by authorities having jurisdiction. Perform quality-control services required of Contractor by authorities having jurisdiction, whether specified or not.
2. Engage a qualified testing agency to perform quality-control services.

   a. Contractor shall not employ same entity engaged by Owner, unless agreed to in writing by Owner.

3. Notify testing agencies at least 24 hours in advance of time when Work that requires testing or inspection will be performed.
4. Where quality-control services are indicated as Contractor's responsibility, submit a certified written report, in duplicate, of each quality-control service.
5. Testing and inspection requested by Contractor and not required by the Contract Documents are Contractor's responsibility.
6. Submit additional copies of each written report directly to authorities having jurisdiction, when they so direct.

C. Retesting/Reinspecting: Regardless of whether original tests or inspections were Contractor's responsibility, provide quality-control services, including retesting and reinspecting, for construction that replaced Work that failed to comply with the Contract Documents.

D. Testing Agency Responsibilities: Cooperate with Engineer and Contractor in performance of duties. Provide qualified personnel to perform required tests and inspections.

1. Notify Engineer and Contractor promptly of irregularities or deficiencies observed in the Work during performance of its services.

2. Determine the locations from which test samples will be taken and in which in-situ tests are conducted.
3. Conduct and interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from requirements.
4. Submit a certified written report, in duplicate, of each test, inspection, and similar quality-control service through Contractor.
5. Do not release, revoke, alter, or increase the Contract Document requirements or approve or accept any portion of the Work.
6. Do not perform duties of Contractor.

E. Manufacturer's Field Services: Where indicated, engage a factory-authorized service representative to inspect field-assembled components and equipment installation, including service connections. Report results in writing as specified in Section 013300 "Submittal Procedures."

F. Manufacturer's Technical Services: Where indicated, engage a manufacturer's technical representative to observe and inspect the Work. Manufacturer's technical representative's services include participation in preinstallation conferences, examination of substrates and conditions, verification of materials, observation of Installer activities, inspection of completed portions of the Work, and submittal of written reports.

G. Associated Contractor Services: Cooperate with agencies and representatives performing required tests, inspections, and similar quality-control services, and provide reasonable auxiliary services as requested. Notify agency sufficiently in advance of operations to permit assignment of personnel. Provide the following:

1. Access to the Work.
2. Incidental labor and facilities necessary to facilitate tests and inspections.
3. Adequate quantities of representative samples of materials that require testing and inspection. Assist agency in obtaining samples.
4. Facilities for storage and field curing of test samples.
5. Delivery of samples to testing agencies.
6. Preliminary design mix proposed for use for material mixes that require control by testing agency.
7. Security and protection for samples and for testing and inspection equipment at Project site.

H. Coordination: Coordinate sequence of activities to accommodate required quality-assurance and quality-control services with a minimum of delay and to avoid necessity of removing and replacing construction to accommodate testing and inspection.

1. Schedule times for tests, inspections, obtaining samples, and similar activities.

I. Schedule of Tests and Inspections: Prepare a schedule of tests, inspections, and similar quality-control services required by the Contract Documents **as a component of Contractor's quality-control plan**. Coordinate and submit concurrently with Contractor's Construction Schedule. Update as the Work progresses.

1. Distribution: Distribute schedule to Owner, Engineer testing agencies, and each party involved in performance of portions of the Work where tests and inspections are required.

1.10 SPECIAL TESTS AND INSPECTIONS

A. Special Tests and Inspections: Conducted by a qualified testing agency as required by authorities having jurisdiction, as indicated in individual Specification Sections, and as follows:

1. Verifying that manufacturer maintains detailed fabrication and quality-control procedures and reviewing the completeness and adequacy of those procedures to perform the Work.
2. Notifying Engineer and Contractor promptly of irregularities and deficiencies observed in the Work during performance of its services.
3. Submitting a certified written report of each test, inspection, and similar quality-control service to Engineer with copy to Contractor and to authorities having jurisdiction.
4. Submitting a final report of special tests and inspections at Substantial Completion, which includes a list of unresolved deficiencies.
5. Interpreting tests and inspections and stating in each report whether tested and inspected work complies with or deviates from the Contract Documents.
6. Retesting and reinspecting corrected work.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 TEST AND INSPECTION LOG

A. Test and Inspection Log: Prepare a record of tests and inspections. Include the following:

1. Date test or inspection was conducted.
2. Description of the Work tested or inspected.
3. Date test or inspection results were transmitted to Engineer.
4. Identification of testing agency or special inspector conducting test or inspection.

B. Maintain log at Project site. Post changes and revisions as they occur. Provide access to test and inspection log for Engineer's reference during normal working hours.

1. Submit log at Project closeout as part of Project Record Documents.

3.2 REPAIR AND PROTECTION

A. General: On completion of testing, inspection, sample taking, and similar services, repair damaged construction and restore substrates and finishes.

1. Provide materials and comply with installation requirements specified in other Specification Sections or matching existing substrates and finishes. Restore patched areas and extend restoration into adjoining areas with durable seams that are as invisible as possible. Comply with the Contract Document requirements for cutting and patching in Section 017300 "Execution."

B. Protect construction exposed by or for quality-control service activities.

C. Repair and protection are Contractor's responsibility, regardless of the assignment of responsibility for quality-control services.

END OF SECTION 014000

SECTION 014200 - REFERENCES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 DEFINITIONS

A. General: Basic Contract definitions are included in the Conditions of the Contract.

B. "Approved": When used to convey Engineer's action on Contractor's submittals, applications, and requests, "approved" is limited to Engineer's duties and responsibilities as stated in the Conditions of the Contract.

C. "Directed": A command or instruction by Engineer. Other terms including "requested," "authorized," "selected," "required," and "permitted" have the same meaning as "directed."

D. "Indicated": Requirements expressed by graphic representations or in written form on Drawings, in Specifications, and in other Contract Documents. Other terms including "shown," "noted," "scheduled," and "specified" have the same meaning as "indicated."

E. "Regulations": Laws, ordinances, statutes, and lawful orders issued by authorities having jurisdiction, and rules, conventions, and agreements within the construction industry that control performance of the Work.

F. "Furnish": Supply and deliver to Project site, ready for unloading, unpacking, assembly, installation, and similar operations.

G. "Install": Unload, temporarily store, unpack, assemble, erect, place, anchor, apply, work to dimension, finish, cure, protect, clean, and similar operations at Project site.

H. "Provide": Furnish and install, complete and ready for the intended use.

I. "Project Site": Space available for performing construction activities. The extent of Project site is shown on Drawings and may or may not be identical with the description of the land on which Project is to be built.

1.3 INDUSTRY STANDARDS

A. Applicability of Standards: Unless the Contract Documents include more stringent requirements, applicable construction industry standards have the same force and effect as if bound or copied directly into the Contract Documents to the extent referenced. Such standards are made a part of the Contract Documents by reference.

B. Publication Dates: Comply with standards in effect as of date of the Contract Documents unless otherwise indicated.

C. Copies of Standards: Each entity engaged in construction on Project should be familiar with industry standards applicable to its construction activity. Copies of applicable standards are not bound with the Contract Documents.

1. Where copies of standards are needed to perform a required construction activity, obtain copies directly from publication source.

1.4 ABBREVIATIONS AND ACRONYMS

A. Industry Organizations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities indicated in Gale's "Encyclopedia of Associations: National Organizations of the U.S." or in Columbia Books' "National Trade & Professional Associations of the United States."

B. Industry Organizations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list. This information is subject to change and is believed to be accurate as of the date of the Contract Documents.

1. AABC - Associated Air Balance Council; www.aabc.com.
2. AAMA - American Architectural Manufacturers Association; www.aamanet.org.
3. AAPFCO - Association of American Plant Food Control Officials; www.aapfco.org.
4. AASHTO - American Association of State Highway and Transportation Officials; www.transportation.org.
5. AATCC - American Association of Textile Chemists and Colorists; www.aatcc.org.
6. ABMA - American Bearing Manufacturers Association; www.americanbearings.org.
7. ABMA - American Boiler Manufacturers Association; www.abma.com.
8. ACI - American Concrete Institute; (Formerly: ACI International); www.concrete.org
9. ACPA - American Concrete Pipe Association; www.concrete-pipe.org.
10. AEIC - Association of Edison Illuminating Companies, Inc. (The); www.aeic.org.
11. AF&PA - American Forest & Paper Association; www.afandpa.org.
12. AGA - American Gas Association; www.aga.org.
13. AHAM - Association of Home Appliance Manufacturers; www.aham.org.
14. AHRI - Air-Conditioning, Heating, and Refrigeration Institute (The); www.ahrinet.org.
15. AI - Asphalt Institute; www.asphaltinstitute.org.
16. AIA - American Institute of Architects (The); www.aia.org.
17. AISC - American Institute of Steel Construction; www.aisc.org.
18. AISI - American Iron and Steel Institute; www.steel.org.
19. AITC - American Institute of Timber Construction; www.aitc-glulam.org.
20. AMCA - Air Movement and Control Association International, Inc.; www.amca.org.
21. ANSI - American National Standards Institute; www.ansi.org.
22. AOSA - Association of Official Seed Analysts, Inc.; www.aosaseed.com.
23. APA - APA - The Engineered Wood Association; www.apawood.org.
24. APA - Architectural Precast Association; www.archprecast.org.
25. API - American Petroleum Institute; www.api.org.
26. ARI - Air-Conditioning & Refrigeration Institute; (See AHRI).
27. ARI - American Refrigeration Institute; (See AHRI).

28. ARMA - Asphalt Roofing Manufacturers Association; www.asphaltroofing.org.
29. ASCE - American Society of Civil Engineers; www.asce.org.
30. ASCE/SEI - American Society of Civil Engineers/Structural Engineering Institute; (See ASCE).
31. ASHRAE - American Society of Heating, Refrigerating and Air-Conditioning Engineers; www.ashrae.org.
32. ASME - ASME International; (American Society of Mechanical Engineers); www.asme.org.
33. ASSE - American Society of Safety Engineers (The); www.asse.org.
34. ASSE - American Society of Sanitary Engineering; www.asse-plumbing.org.
35. ASTM - ASTM International; www.astm.org.
36. ATIS - Alliance for Telecommunications Industry Solutions; www.atis.org.
37. AWEA - American Wind Energy Association; www.awea.org.
38. AWI - Architectural Woodwork Institute; www.awinet.org.
39. AWMAC - Architectural Woodwork Manufacturers Association of Canada; www.awmac.com.
40. AWPA - American Wood Protection Association; www.awpa.com.
41. AWS - American Welding Society; www.aws.org.
42. AWWA - American Water Works Association; www.awwa.org.
43. BHMA - Builders Hardware Manufacturers Association; www.buildershardware.com.
44. BIA - Brick Industry Association (The); www.gobrick.com.
45. BICSI - BICSI, Inc.; www.bicsi.org.
46. BIFMA - BIFMA International; (Business and Institutional Furniture Manufacturer's Association); www.bifma.org.
47. BISSC - Baking Industry Sanitation Standards Committee; www.bissc.org.
48. BWF - Badminton World Federation; (Formerly: International Badminton Federation); www.bissc.org.
49. CDA - Copper Development Association; www.copper.org.
50. CE - Conformite Europeenne; http://ec.europa.eu/growth/single-market/ce-marking/
51. CEA - Canadian Electricity Association; www.electricity.ca.
52. CEA - Consumer Electronics Association; www.ce.org.
53. CFFA - Chemical Fabrics and Film Association, Inc.; www.chemicalfabricsandfilm.com.
54. CFSEI - Cold-Formed Steel Engineers Institute; www.cfsei.org.
55. CGA - Compressed Gas Association; www.cganet.com.
56. CIMA - Cellulose Insulation Manufacturers Association; www.cellulose.org.
57. CISCA - Ceilings & Interior Systems Construction Association; www.cisca.org.
58. CISPI - Cast Iron Soil Pipe Institute; www.cispi.org.
59. CLFMI - Chain Link Fence Manufacturers Institute; www.chainlinkinfo.org.
60. CPA - Composite Panel Association; www.pbmdf.com.
61. CRI - Carpet and Rug Institute (The); www.carpet-rug.org.
62. CRRC - Cool Roof Rating Council; www.coolroofs.org.
63. CRSI - Concrete Reinforcing Steel Institute; www.crsi.org.
64. CSA - Canadian Standards Association; www.csa.ca.
65. CSA - CSA International; (Formerly: IAS - International Approval Services); www.csa-international.org.
66. CSI - Construction Specifications Institute (The); www.csinet.org.
67. CSSB - Cedar Shake & Shingle Bureau; www.cedarbureau.org.
68. CTI - Cooling Technology Institute; (Formerly: Cooling Tower Institute); www.cti.org.
69. CWC - Composite Wood Council; (See CPA).
70. DASMA - Door and Access Systems Manufacturers Association; www.dasma.com.
71. DHI - Door and Hardware Institute; www.dhi.org.

72. ECA - Electronic Components Association; (See ECIA).
73. ECAMA - Electronic Components Assemblies & Materials Association; (See ECIA).
74. ECIA - Electronic Components Industry Association; www.eciaonline.org.
75. EIA - Electronic Industries Alliance; (See TIA).
76. EIMA - EIFS Industry Members Association; www.eima.com.
77. EJMA - Expansion Joint Manufacturers Association, Inc.; www.ejma.org.
78. ESD - ESD Association; (Electrostatic Discharge Association); www.esda.org .
79. ESTA - Entertainment Services and Technology Association; (See PLASA).
80. ETL - Intertek (See Intertek); www.intertek.com.
81. EVO - Efficiency Valuation Organization; www.evo-world.org.
82. FCI - Fluid Controls Institute; www.fluidcontrolsinstitute.org.
83. FIBA - Federation Internationale de Basketball; (The International Basketball Federation); www.fiba.com.
84. FIVB - Federation Internationale de Volleyball; (The International Volleyball Federation); www.fivb.org.
85. FM Approvals - FM Approvals LLC; www.fmglobal.com.
86. FM Global - FM Global; (Formerly: FMG - FM Global); www.fmglobal.com.
87. FRSA - Florida Roofing, Sheet Metal & Air Conditioning Contractors Association, Inc.; www.floridaroof.com.
88. FSA - Fluid Sealing Association; www.fluidsealing.com.
89. FSC - Forest Stewardship Council U.S.; www.fscus.org.
90. GA - Gypsum Association; www.gypsum.org.
91. GANA - Glass Association of North America; www.glasswebsite.com.
92. GS - Green Seal; www.greenseal.org.
93. HI - Hydraulic Institute; www.pumps.org.
94. HI/GAMA - Hydronics Institute/Gas Appliance Manufacturers Association; (See AHRI).
95. HMMA - Hollow Metal Manufacturers Association; (See NAAMM).
96. HPVA - Hardwood Plywood & Veneer Association; www.hpva.org.
97. HPW - H. P. White Laboratory, Inc.; www.hpwhite.com.
98. IAPSC - International Association of Professional Security Consultants; www.iapsc.org.
99. IAS - International Accreditation Service; www.iasonline.org.
100. IAS - International Approval Services; (See CSA).
101. ICBO - International Conference of Building Officials; (See ICC).
102. ICC - International Code Council; www.iccsafe.org.
103. ICEA - Insulated Cable Engineers Association, Inc.; www.icea.net.
104. ICPA - International Cast Polymer Alliance; www.icpa-hq.org.
105. ICRI - International Concrete Repair Institute, Inc.; www.icri.org.
106. IEC - International Electrotechnical Commission; www.iec.ch.
107. IEEE - Institute of Electrical and Electronics Engineers, Inc. (The); www.ieee.org.
108. IES - Illuminating Engineering Society; (Formerly: Illuminating Engineering Society of North America); www.ies.org.
109. IESNA - Illuminating Engineering Society of North America; (See IES).
110. IEST - Institute of Environmental Sciences and Technology; www.iest.org.
111. IGMA - Insulating Glass Manufacturers Alliance; www.igmaonline.org.
112. IGSHPA - International Ground Source Heat Pump Association; www.igshpa.okstate.edu.
113. ILI - Indiana Limestone Institute of America, Inc.; www.iliai.com.
114. Intertek - Intertek Group; (Formerly: ETL SEMCO; Intertek Testing Service NA); www.intertek.com.
115. ISA - International Society of Automation (The); (Formerly: Instrumentation, Systems, and Automation Society); www.isa.org.

116. ISAS - Instrumentation, Systems, and Automation Society (The); (See ISA).
117. ISFA - International Surface Fabricators Association; (Formerly: International Solid Surface Fabricators Association); www.isfanow.org.
118. ISO - International Organization for Standardization; www.iso.org.
119. ISSFA - International Solid Surface Fabricators Association; (See ISFA).
120. ITU - International Telecommunication Union; www.itu.int/home.
121. KCMA - Kitchen Cabinet Manufacturers Association; www.kcma.org.
122. LMA - Laminating Materials Association; (See CPA).
123. LPI - Lightning Protection Institute; www.lightning.org.
124. MBMA - Metal Building Manufacturers Association; www.mbma.com.
125. MCA - Metal Construction Association; www.metalconstruction.org.
126. MFMA - Maple Flooring Manufacturers Association, Inc.; www.maplefloor.org.
127. MFMA - Metal Framing Manufacturers Association, Inc.; www.metalframingmfg.org.
128. MHIA - Material Handling Industry of America; www.mhia.org.
129. MIA - Marble Institute of America; www.marble-institute.com.
130. MMPA - Moulding & Millwork Producers Association; www.wmmpa.com.
131. MPI - Master Painters Institute; www.paintinfo.com.
132. MSS - Manufacturers Standardization Society of The Valve and Fittings Industry Inc.; www.mss-hq.org.
133. NAAMM - National Association of Architectural Metal Manufacturers; www.naamm.org.
134. NACE - NACE International; (National Association of Corrosion Engineers International); www.nace.org.
135. NADCA - National Air Duct Cleaners Association; www.nadca.com.
136. NAIMA - North American Insulation Manufacturers Association; www.naima.org.
137. NBGQA - National Building Granite Quarries Association, Inc.; www.nbgqa.com.
138. NBI - New Buildings Institute; www.newbuildings.org.
139. NCAA - National Collegiate Athletic Association (The); www.ncaa.org.
140. NCMA - National Concrete Masonry Association; www.ncma.org.
141. NEBB - National Environmental Balancing Bureau; www.nebb.org.
142. NECA - National Electrical Contractors Association; www.necanet.org.
143. NeLMA - Northeastern Lumber Manufacturers Association; www.nelma.org.
144. NEMA - National Electrical Manufacturers Association; www.nema.org.
145. NETA - InterNational Electrical Testing Association; www.netaworld.org.
146. NFHS - National Federation of State High School Associations; www.nfhs.org.
147. NFPA - National Fire Protection Association; www.nfpa.org.
148. NFPA - NFPA International; (See NFPA).
149. NFRC - National Fenestration Rating Council; www.nfrc.org.
150. NHLA - National Hardwood Lumber Association; www.nhla.com.
151. NLGA - National Lumber Grades Authority; www.nlga.org.
152. NOFMA - National Oak Flooring Manufacturers Association; (See NWFA).
153. NOMMA - National Ornamental & Miscellaneous Metals Association; www.nomma.org.
154. NRCA - National Roofing Contractors Association; www.nrca.net.
155. NRMCA - National Ready Mixed Concrete Association; www.nrmca.org.
156. NSF - NSF International; www.nsf.org.
157. NSPE - National Society of Professional Engineers; www.nspe.org.
158. NSSGA - National Stone, Sand & Gravel Association; www.nssga.org.
159. NTMA - National Terrazzo & Mosaic Association, Inc. (The); www.ntma.com.
160. NWFA - National Wood Flooring Association; www.nwfa.org.
161. PCI - Precast/Prestressed Concrete Institute; www.pci.org.
162. PDI - Plumbing & Drainage Institute; www.pdionline.org.

163. PLASA - PLASA; (Formerly: ESTA - Entertainment Services and Technology Association); http://www.plasa.org.
164. RCSC - Research Council on Structural Connections; www.boltcouncil.org.
165. RFCI - Resilient Floor Covering Institute; www.rfci.com.
166. RIS - Redwood Inspection Service; www.redwoodinspection.com.
167. SAE - SAE International; www.sae.org.
168. SCTE - Society of Cable Telecommunications Engineers; www.scte.org.
169. SDI - Steel Deck Institute; www.sdi.org.
170. SDI - Steel Door Institute; www.steeldoor.org.
171. SEFA - Scientific Equipment and Furniture Association (The); www.sefalabs.com.
172. SEI/ASCE - Structural Engineering Institute/American Society of Civil Engineers; (See ASCE).
173. SIA - Security Industry Association; www.siaonline.org.
174. SJI - Steel Joist Institute; www.steeljoist.org.
175. SMA - Screen Manufacturers Association; www.smainfo.org.
176. SMACNA - Sheet Metal and Air Conditioning Contractors' National Association; www.smacna.org.
177. SMPTE - Society of Motion Picture and Television Engineers; www.smpte.org.
178. SPFA - Spray Polyurethane Foam Alliance; www.sprayfoam.org.
179. SPIB - Southern Pine Inspection Bureau; www.spib.org.
180. SPRI - Single Ply Roofing Industry; www.spri.org.
181. SRCC - Solar Rating & Certification Corporation; www.solar-rating.org.
182. SSINA - Specialty Steel Industry of North America; www.ssina.com.
183. SSPC - SSPC: The Society for Protective Coatings; www.sspc.org.
184. STI - Steel Tank Institute; www.steeltank.com.
185. SWI - Steel Window Institute; www.steelwindows.com.
186. SWPA - Submersible Wastewater Pump Association; www.swpa.org.
187. TCA - Tilt-Up Concrete Association; www.tilt-up.org.
188. TCNA - Tile Council of North America, Inc.; www.tileusa.com.
189. TEMA - Tubular Exchanger Manufacturers Association, Inc.; www.tema.org.
190. TIA - Telecommunications Industry Association (The); (Formerly: TIA/EIA - Telecommunications Industry Association/Electronic Industries Alliance); www.tiaonline.org.
191. TIA/EIA - Telecommunications Industry Association/Electronic Industries Alliance; (See TIA).
192. TMS - The Masonry Society; www.masonrysociety.org.
193. TPI - Truss Plate Institute; www.tpinst.org.
194. TPI - Turfgrass Producers International; www.turfgrasssod.org.
195. TRI - Tile Roofing Institute; www.tileroofing.org.
196. UL - Underwriters Laboratories Inc.; http://www.ul.com.
197. UNI - Uni-Bell PVC Pipe Association; www.uni-bell.org.
198. USAV - USA Volleyball; www.usavolleyball.org.
199. USGBC - U.S. Green Building Council; www.usgbc.org.
200. USITT - United States Institute for Theatre Technology, Inc.; www.usitt.org.
201. WASTEC - Waste Equipment Technology Association; www.wastec.org.
202. WCLIB - West Coast Lumber Inspection Bureau; www.wclib.org.
203. WCMA - Window Covering Manufacturers Association; www.wcmanet.org.
204. WDMA - Window & Door Manufacturers Association; www.wdma.com.
205. WI - Woodwork Institute; www.wicnet.org.
206. WSRCA - Western States Roofing Contractors Association; www.wsrca.com.
207. WWPA - Western Wood Products Association; www.wwpa.org.

C. Code Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list. This information is believed to be accurate as of the date of the Contract Documents.

1. DIN - Deutsches Institut fur Normung e.V.; www.din.de.
2. IAPMO - International Association of Plumbing and Mechanical Officials; www.iapmo.org.
3. ICC - International Code Council; www.iccsafe.org.
4. ICC-ES - ICC Evaluation Service, LLC; www.icc-es.org.

D. Federal Government Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list. Information is subject to change and is up to date as of the date of the Contract Documents.

1. COE - Army Corps of Engineers; www.usace.army.mil.
2. CPSC - Consumer Product Safety Commission; www.cpsc.gov.
3. DOC - Department of Commerce; National Institute of Standards and Technology; www.nist.gov.
4. DOD - Department of Defense; www.quicksearch.dla.mil.
5. DOE - Department of Energy; www.energy.gov.
6. EPA - Environmental Protection Agency; www.epa.gov.
7. FAA - Federal Aviation Administration; www.faa.gov.
8. FG - Federal Government Publications; www.gpo.gov/fdsys.
9. GSA - General Services Administration; www.gsa.gov.
10. HUD - Department of Housing and Urban Development; www.hud.gov.
11. LBL - Lawrence Berkeley National Laboratory; Environmental Energy Technologies Division; www.eetd.lbl.gov.
12. OSHA - Occupational Safety & Health Administration; www.osha.gov.
13. SD - Department of State; www.state.gov.
14. TRB - Transportation Research Board; National Cooperative Highway Research Program; The National Academies; www.trb.org.
15. USDA - Department of Agriculture; Agriculture Research Service; U.S. Salinity Laboratory; www.ars.usda.gov.
16. USDA - Department of Agriculture; Rural Utilities Service; www.usda.gov.
17. USDOJ - Department of Justice; Office of Justice Programs; National Institute of Justice; www.ojp.usdoj.gov.
18. USP - U.S. Pharmacopeial Convention; www.usp.org.
19. USPS - United States Postal Service; www.usps.com.

E. Standards and Regulations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the standards and regulations in the following list. This information is subject to change and is believed to be accurate as of the date of the Contract Documents.

1. CFR - Code of Federal Regulations; Available from Government Printing Office; www.gpo.gov/fdsys.
2. DOD - Department of Defense; Military Specifications and Standards; Available from DLA Document Services; www.quicksearch.dla.mil.
3. DSCC - Defense Supply Center Columbus; (See FS).
4. FED-STD - Federal Standard; (See FS).

5. FS - Federal Specification; Available from DLA Document Services; www.quicksearch.dla.mil.

    a. Available from Defense Standardization Program; www.dsp.dla.mil.
    b. Available from General Services Administration; www.gsa.gov.
    c. Available from National Institute of Building Sciences/Whole Building Design Guide; www.wbdg.org/ccb.

6. MILSPEC - Military Specification and Standards; (See DOD).
7. USAB - United States Access Board; www.access-board.gov.
8. USATBCB - U.S. Architectural & Transportation Barriers Compliance Board; (See USAB).

F. State Government Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list. This information is subject to change and is believed to be accurate as of the date of the Contract Documents.

1. CBHF; State of California; Department of Consumer Affairs; Bureau of Electronic and Appliance Repair, Home Furnishings and Thermal Insulation; www.bearhfti.ca.gov.
2. CCR; California Code of Regulations; Office of Administrative Law; California Title 24 Energy Code; www.calregs.com.
3. CDHS; California Department of Health Services; (See CDPH).
4. CDPH; California Department of Public Health; Indoor Air Quality Program; www.cal-iaq.org.
5. CPUC; California Public Utilities Commission; www.cpuc.ca.gov.
6. SCAQMD; South Coast Air Quality Management District; www.aqmd.gov.
7. TFS; Texas A&M Forest Service; Sustainable Forestry and Economic Development; www.txforestservice.tamu.edu.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 014200

SECTION 015000 - TEMPORARY FACILITIES AND CONTROLS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes requirements for temporary utilities, support facilities, and security and protection facilities.

1.3 USE CHARGES

A. General: Installation and removal of and use charges for temporary facilities shall be included in the Contract Sum unless otherwise indicated. Allow other entities engaged in the Project to use temporary services and facilities without cost, including, but not limited to, Engineer, testing agencies, and authorities having jurisdiction.

B. Water and Sewer Service from Existing System: Water from Owner's existing water system is available for use without metering and without payment of use charges. Provide connections and extensions of services as required for construction operations.

C. Electric Power Service from Existing System: Electric power from Owner's existing system is available for use without metering and without payment of use charges. Provide connections and extensions of services as required for construction operations.

1.4 INFORMATIONAL SUBMITTALS

A. Site Utilization Plan: Show temporary facilities, temporary utility lines and connections, staging areas, construction site entrances, vehicle circulation, and parking areas for construction personnel.

B. Project Identification and Temporary Signs: Show fabrication and installation details, including plans, elevations, details, layouts, typestyles, graphic elements, and message content.

C. Fire-Safety Program: Show compliance with requirements of NFPA 241 and authorities having jurisdiction. Indicate Contractor personnel responsible for management of fire-prevention program.

1.5 QUALITY ASSURANCE

A. Electric Service: Comply with NECA, NEMA, and UL standards and regulations for temporary electric service. Install service to comply with NFPA 70.

B. Tests and Inspections: Arrange for authorities having jurisdiction to test and inspect each temporary utility before use. Obtain required certifications and permits.

1.6 PROJECT CONDITIONS

A. Temporary Use of Permanent Facilities: Engage Installer of each permanent service to assume responsibility for operation, maintenance, and protection of each permanent service during its use as a construction facility before Owner's acceptance, regardless of previously assigned responsibilities.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Polyethylene Sheet: Reinforced, fire-resistive sheet, 10-mil (0.25-mm) minimum thickness, with flame-spread rating of 15 or less per ASTM E 84 and passing NFPA 701 Test Method 2.

B. Dust-Control Adhesive-Surface Walk-Off Mats: Provide mats minimum 36 by 60 inches (914 by 1524 mm).

2.2 TEMPORARY FACILITIES

A. Storage and Fabrication Sheds: Provide sheds sized, furnished, and equipped to accommodate materials and equipment for construction operations.

1. Store combustible materials apart from building.

PART 3 - EXECUTION

3.1 TEMPORARY FACILITIES, GENERAL

A. Conservation: Coordinate construction and use of temporary facilities with consideration given to conservation of energy, water, and materials. Coordinate use of temporary utilities to minimize waste.

1. Salvage materials and equipment involved in performance of, but not actually incorporated into, the Work. See other Sections for disposition of salvaged materials that are designated as Owner's property.

3.2 INSTALLATION, GENERAL

A. Locate facilities where they will serve Project adequately and result in minimum interference with performance of the Work. Relocate and modify facilities as required by progress of the Work.

B. Provide each facility ready for use when needed to avoid delay. Do not remove until facilities are no longer needed or are replaced by authorized use of completed permanent facilities.

3.3 TEMPORARY UTILITY INSTALLATION

A. General: Install temporary service or connect to existing service.

1. Arrange with utility company, Owner, and existing users for time when service can be interrupted, if necessary, to make connections for temporary services.

B. Water Service: Connect to Owner's existing water service facilities. Clean and maintain water service facilities in a condition acceptable to Owner. At Substantial Completion, restore these facilities to condition existing before initial use.

C. Sanitary Facilities:

1. Toilets: Use of Owner's existing toilet facilities will be permitted, as long as facilities are cleaned and maintained in a condition acceptable to Owner. At Substantial Completion, restore these facilities to condition existing before initial use.

D. Electric Power Service: Connect to Owner's existing electric power service. Maintain equipment in a condition acceptable to Owner.

E. Lighting: Provide temporary lighting with local switching that provides adequate illumination for construction operations, observations, inspections, and traffic conditions.

1. Install and operate temporary lighting that fulfills security and protection requirements without operating entire system.

F. Telephone Service: Provide temporary telephone service for use by all construction personnel.

1. At each telephone, post a list of important telephone numbers.

a. Police and fire departments.
b. Ambulance service.
c. Contractor's home office.
d. Contractor's emergency after-hours telephone number.
e. Engineers' offices.
f. Owner's office.
g. Principal subcontractors' field and home offices.

3.4 SUPPORT FACILITIES INSTALLATION

A. General: Comply with the following:
   1. Maintain support facilities until Engineer schedules Substantial Completion inspection. Remove before Substantial Completion. Personnel remaining after Substantial Completion will be permitted to use permanent facilities, under conditions acceptable to Owner.

B. Traffic Controls: Comply with requirements of authorities having jurisdiction.
   1. Protect existing site improvements to remain including curbs, pavement, and utilities.
   2. Maintain access for fire-fighting equipment and access to fire hydrants.

C. Parking: Use designated areas of Owner's existing parking areas for construction personnel.

D. Project Signs: Provide Project signs as indicated. Unauthorized signs are not permitted.
   1. Identification Signs: Provide Project identification signs as indicated on Drawings.
   2. Temporary Signs: Provide other signs as indicated and as required to inform public and individuals seeking entrance to Project.
      a. Provide temporary, directional signs for construction personnel and visitors.
   3. Maintain and touch up signs so they are legible at all times.

E. Waste Disposal Facilities: Comply with requirements specified in Section 017419 "Construction Waste Management and Disposal."

F. Waste Disposal Facilities: Provide waste-collection containers in sizes adequate to handle waste from construction operations. Comply with requirements of authorities having jurisdiction. Comply with progress cleaning requirements in Section 017300 "Execution."

G. Lifts and Hoists: Provide facilities necessary for hoisting materials and personnel.
   1. Truck cranes and similar devices used for hoisting materials are considered "tools and equipment" and not temporary facilities.

H. Existing Stair Usage: Use of Owner's existing stairs will be permitted, provided stairs are cleaned and maintained in a condition acceptable to Owner. At Substantial Completion, restore stairs to condition existing before initial use.
   1. Provide protective coverings, barriers, devices, signs, or other procedures to protect stairs and to maintain means of egress. If stairs become damaged, restore damaged areas so no evidence remains of correction work.

3.5 SECURITY AND PROTECTION FACILITIES INSTALLATION

A. Protection of Existing Facilities: Protect existing vegetation, equipment, structures, utilities, and other improvements at Project site and on adjacent properties, except those indicated to be removed or altered. Repair damage to existing facilities.

1. Where access to adjacent properties is required in order to affect protection of existing facilities, obtain written permission from adjacent property owner to access property for that purpose.

B. Environmental Protection: Provide protection, operate temporary facilities, and conduct construction as required to comply with environmental regulations and that minimize possible air, waterway, and subsoil contamination or pollution or other undesirable effects.

C. Tree and Plant Protection: Install temporary fencing located as indicated or outside the drip line of trees to protect vegetation from damage from construction operations. Protect tree root systems from damage, flooding, and erosion.

D. Barricades, Warning Signs, and Lights: Comply with requirements of authorities having jurisdiction for erecting structurally adequate barricades, including warning signs and lighting.

E. Temporary Egress: Maintain temporary egress from existing occupied facilities as indicated and as required by authorities having jurisdiction.

F. Temporary Fire Protection: Install and maintain temporary fire-protection facilities of types needed to protect against reasonably predictable and controllable fire losses. Comply with NFPA 241; manage fire-prevention program.

1. Prohibit smoking in construction areas. Comply with additional limits on smoking specified in other Sections.
2. Supervise welding operations, combustion-type temporary heating units, and similar sources of fire ignition according to requirements of authorities having jurisdiction.
3. Develop and supervise an overall fire-prevention and -protection program for personnel at Project site. Review needs with local fire department and establish procedures to be followed. Instruct personnel in methods and procedures. Post warnings and information.
4. Provide temporary standpipes and hoses for fire protection. Hang hoses with a warning sign stating that hoses are for fire-protection purposes only and are not to be removed. Match hose size with outlet size and equip with suitable nozzles.

3.6 OPERATION, TERMINATION, AND REMOVAL

A. Supervision: Enforce strict discipline in use of temporary facilities. To minimize waste and abuse, limit availability of temporary facilities to essential and intended uses.

B. Maintenance: Maintain facilities in good operating condition until removal.

1. Maintain operation of temporary enclosures, heating, cooling, humidity control, ventilation, and similar facilities on a 24-hour basis where required to achieve indicated results and to avoid possibility of damage.

C. Temporary Facility Changeover: Do not change over from using temporary security and protection facilities to permanent facilities until Substantial Completion.

D. Termination and Removal: Remove each temporary facility when need for its service has ended, when it has been replaced by authorized use of a permanent facility, or no later than Substantial Completion. Complete or, if necessary, restore permanent construction that may have been

delayed because of interference with temporary facility. Repair damaged Work, clean exposed surfaces, and replace construction that cannot be satisfactorily repaired.

1. Materials and facilities that constitute temporary facilities are property of Contractor. Owner reserves right to take possession of Project identification signs.
2. At Substantial Completion, repair, renovate, and clean permanent facilities used during construction period. Comply with final cleaning requirements specified in Section 017700 "Closeout Procedures."

END OF SECTION 015000

SECTION 017300 - EXECUTION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes general administrative and procedural requirements governing execution of the Work including, but not limited to, the following:
   1. Field engineering and surveying.
   2. Installation of the Work.
   3. Cutting and patching.
   4. Progress cleaning.
   5. Starting and adjusting.
   6. Protection of installed construction.

B. Related Requirements:
   1. Section 013300 "Submittal Procedures" for submitting surveys.
   2. Section 017700 "Closeout Procedures" for submitting final property survey with Project Record Documents, recording of Owner-accepted deviations from indicated lines and levels, replacing defective work, and final cleaning.
   3. Section 078413 "Penetration Firestopping" for patching penetrations in fire-rated construction.

1.3 DEFINITIONS

A. Cutting: Removal of in-place construction necessary to permit installation or performance of subsequent work.

B. Patching: Fitting and repair work required to restore construction to original conditions after installation of subsequent work.

1.4 PREINSTALLATION MEETINGS

A. Cutting and Patching Conference: Conduct conference at Project site.

   1. Prior to commencing work requiring cutting and patching, review extent of cutting and patching anticipated and examine procedures for ensuring satisfactory result from cutting and patching work. Require representatives of each entity directly concerned with cutting and patching to attend, including the following:

      a. Contractor's superintendent.

b. Trade supervisor responsible for cutting operations.
c. Trade supervisor(s) responsible for patching of each type of substrate.
d. Mechanical, electrical, and utilities subcontractors' supervisors, to the extent each trade is affecting by cutting and patching operations.

2. Review areas of potential interference and conflict. Coordinate procedures and resolve potential conflicts before proceeding.

1.5 INFORMATIONAL SUBMITTALS

1.6 QUALITY ASSURANCE

A. Cutting and Patching: Comply with requirements for and limitations on cutting and patching of construction elements.

1. Structural Elements: When cutting and patching structural elements, notify Engineer of locations and details of cutting and await directions from Engineer before proceeding. Shore, brace, and support structural elements during cutting and patching. Do not cut and patch structural elements in a manner that could change their load-carrying capacity or increase deflection.
2. Operational Elements: Do not cut and patch operating elements and related components in a manner that results in reducing their capacity to perform as intended or that results in increased maintenance or decreased operational life or safety. Operational elements include the following:

a. Primary operational systems and equipment.
b. Fire separation assemblies.
c. Air or smoke barriers.
d. Fire-suppression systems.
e. Plumbing piping systems.
f. Mechanical systems piping and ducts.
g. Control systems.
h. Communication systems.
i. Fire-detection and -alarm systems.
j. Conveying systems.
k. Electrical wiring systems.
l. Operating systems of special construction.

3. Other Construction Elements: Do not cut and patch other construction elements or components in a manner that could change their load-carrying capacity, that results in reducing their capacity to perform as intended, or that results in increased maintenance or decreased operational life or safety. Other construction elements include but are not limited to the following:

a. Water, moisture, or vapor barriers.
b. Membranes and flashings.
c. Exterior curtain-wall construction.
d. Sprayed fire-resistive material.
e. Equipment supports.

f. Piping, ductwork, vessels, and equipment.
g. Noise- and vibration-control elements and systems.

4. Visual Elements: Do not cut and patch construction in a manner that results in visual evidence of cutting and patching. Do not cut and patch exposed construction in a manner that would, in Architect's opinion, reduce the building's aesthetic qualities. Remove and replace construction that has been cut and patched in a visually unsatisfactory manner.

B. Manufacturer's Installation Instructions: Obtain and maintain on-site manufacturer's written recommendations and instructions for installation of products and equipment.

PART 2 - PRODUCTS

2.1 MATERIALS

A. General: Comply with requirements specified in other Sections.

1. For projects requiring compliance with sustainable design and construction practices and procedures, use products for patching that comply with sustainable design requirements.

B. In-Place Materials: Use materials for patching identical to in-place materials. For exposed surfaces, use materials that visually match in-place adjacent surfaces to the fullest extent possible.

1. If identical materials are unavailable or cannot be used, use materials that, when installed, will provide a match acceptable to Architect for the visual and functional performance of in-place materials.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Existing Conditions: The existence and location of underground and other utilities and construction indicated as existing are not guaranteed. Before beginning sitework, investigate and verify the existence and location of underground utilities, mechanical and electrical systems, and other construction affecting the Work.

1. Before construction, verify the location and invert elevation at points of connection of sanitary sewer, storm sewer, and water-service piping; underground electrical services; and other utilities.
2. Furnish location data for work related to Project that must be performed by public utilities serving Project site.

B. Examination and Acceptance of Conditions: Before proceeding with each component of the Work, examine substrates, areas, and conditions, with Installer or Applicator present where indicated, for compliance with requirements for installation tolerances and other conditions affecting performance. Record observations.

1. Examine roughing-in for mechanical and electrical systems to verify actual locations of connections before equipment and fixture installation.
2. Examine walls, floors, and roofs for suitable conditions where products and systems are to be installed.
3. Verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.

C. Written Report: Where a written report listing conditions detrimental to performance of the Work is required by other Sections, include the following:

1. Description of the Work.
2. List of detrimental conditions, including substrates.
3. List of unacceptable installation tolerances.
4. Recommended corrections.

D. Proceed with installation only after unsatisfactory conditions have been corrected. Proceeding with the Work indicates acceptance of surfaces and conditions.

3.2 PREPARATION

A. Existing Utility Information: Furnish information to local utility and Owner that is necessary to adjust, move, or relocate existing utility structures, utility poles, lines, services, or other utility appurtenances located in or affected by construction. Coordinate with authorities having jurisdiction.

B. Field Measurements: Take field measurements as required to fit the Work properly. Recheck measurements before installing each product. Where portions of the Work are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication. Coordinate fabrication schedule with construction progress to avoid delaying the Work.

C. Space Requirements: Verify space requirements and dimensions of items shown diagrammatically on Drawings.

D. Review of Contract Documents and Field Conditions: Immediately on discovery of the need for clarification of the Contract Documents caused by differing field conditions outside the control of Contractor, submit a request for information to Engineer.

3.3 INSTALLATION

A. General: Locate the Work and components of the Work accurately, in correct alignment and elevation, as indicated.

1. Make vertical work plumb and make horizontal work level.
2. Where space is limited, install components to maximize space available for maintenance and ease of removal for replacement.
3. Conceal pipes, ducts, and wiring in finished areas unless otherwise indicated.
4. Maintain minimum headroom clearance of 96 inches (2440 mm) in occupied spaces and 90 inches (2300 mm) in unoccupied spaces.

B. Comply with manufacturer's written instructions and recommendations for installing products in applications indicated.

C. Install products at the time and under conditions that will ensure the best possible results. Maintain conditions required for product performance until Substantial Completion.

D. Conduct construction operations so no part of the Work is subjected to damaging operations or loading in excess of that expected during normal conditions of occupancy.

E. Sequence the Work and allow adequate clearances to accommodate movement of construction items on site and placement in permanent locations.

F. Tools and Equipment: Where possible, select tools or equipment that minimize production of excessive noise levels.

G. Templates: Obtain and distribute to the parties involved templates for work specified to be factory prepared and field installed. Check Shop Drawings of other portions of the Work to confirm that adequate provisions are made for locating and installing products to comply with indicated requirements.

H. Attachment: Provide blocking and attachment plates and anchors and fasteners of adequate size and number to securely anchor each component in place, accurately located and aligned with other portions of the Work. Where size and type of attachments are not indicated, verify size and type required for load conditions.

1. Mounting Heights: Where mounting heights are not indicated, mount components at heights directed by Engineer.
2. Allow for building movement, including thermal expansion and contraction.
3. Coordinate installation of anchorages. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete or masonry. Deliver such items to Project site in time for installation.

I. Repair or remove and replace damaged, defective, or nonconforming Work.

1. Comply with Section 017700 "Closeout Procedures" for repairing or removing and replacing defective Work.

3.4 CUTTING AND PATCHING

A. Cutting and Patching, General: Employ skilled workers to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time, and complete without delay.

1. Cut in-place construction to provide for installation of other components or performance of other construction, and subsequently patch as required to restore surfaces to their original condition.

B. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during installation or cutting and patching operations, by methods and with materials so as not to void existing warranties.

C. Temporary Support: Provide temporary support of work to be cut.

D. Protection: Protect in-place construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of Project that might be exposed during cutting and patching operations.

E. Existing Utility Services and Electrical Systems: Where existing services/systems are required to be removed, relocated, or abandoned, bypass such services/systems before cutting to minimize interruption to occupied areas.

F. Cutting: Cut in-place construction by sawing, drilling, breaking, chipping, grinding, and similar operations, including excavation, using methods least likely to damage elements retained or adjoining construction. If possible, review proposed procedures with original Installer; comply with original Installer's written recommendations.

1. In general, use hand or small power tools designed for sawing and grinding, not hammering and chopping. Cut holes and slots neatly to minimum size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.
2. Finished Surfaces: Cut or drill from the exposed or finished side into concealed surfaces.
3. Concrete and Masonry: Cut using a cutting machine, such as an abrasive saw or a diamond-core drill.
4. Excavating and Backfilling: Comply with requirements in applicable Sections where required by cutting and patching operations.
5. Electrical Services: Cut off pipe or conduit in walls or partitions to be removed. Cap, valve, or plug and seal remaining portion of pipe or conduit to prevent entrance of moisture or other foreign matter after cutting.
6. Proceed with patching after construction operations requiring cutting are complete.

G. Patching: Patch construction by filling, repairing, refinishing, closing up, and similar operations following performance of other work. Patch with durable seams that are as invisible as practicable. Provide materials and comply with installation requirements specified in other Sections, where applicable.

1. Inspection: Where feasible, test and inspect patched areas after completion to demonstrate physical integrity of installation.
2. Exposed Finishes: Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will minimize evidence of patching and refinishing.

   a. Clean piping, conduit, and similar features before applying paint or other finishing materials.
   b. Restore damaged pipe covering to its original condition.

3. Floors and Walls: Where walls or partitions that are removed extend one finished area into another, patch and repair floor and wall surfaces in the new space. Provide an even surface of uniform finish, color, texture, and appearance. Remove in-place floor and wall coverings and replace with new materials, if necessary, to achieve uniform color and appearance.

   a. Where patching occurs in a painted surface, prepare substrate and apply primer and intermediate paint coats appropriate for substrate over the patch, and apply final

paint coat over entire unbroken surface containing the patch. Provide additional coats until patch blends with adjacent surfaces.

4. Ceilings: Patch, repair, or rehang in-place ceilings as necessary to provide an even-plane surface of uniform appearance.
5. Exterior Building Enclosure: Patch components in a manner that restores enclosure to a weathertight condition and ensures thermal and moisture integrity of building enclosure.

H. Cleaning: Clean areas and spaces where cutting and patching are performed. Remove paint, mortar, oils, putty, and similar materials from adjacent finished surfaces.

3.5 PROGRESS CLEANING

A. General: Clean Project site and work areas daily, including common areas. Enforce requirements strictly. Dispose of materials lawfully.

1. Comply with requirements in NFPA 241 for removal of combustible waste materials and debris.
2. Do not hold waste materials more than seven days during normal weather or three days if the temperature is expected to rise above 80 deg F (27 deg C).
3. Containerize hazardous and unsanitary waste materials separately from other waste. Mark containers appropriately and dispose of legally, according to regulations.

   a. Use containers intended for holding waste materials of type to be stored.

4. Coordinate progress cleaning for joint-use areas where Contractor and other contractors are working concurrently.

B. Site: Maintain Project site free of waste materials and debris.

C. Work Areas: Clean areas where work is in progress to the level of cleanliness necessary for proper execution of the Work.

1. Remove liquid spills promptly.
2. Where dust would impair proper execution of the Work, broom-clean or vacuum the entire work area, as appropriate.

D. Installed Work: Keep installed work clean. Clean installed surfaces according to written instructions of manufacturer or fabricator of product installed, using only cleaning materials specifically recommended. If specific cleaning materials are not recommended, use cleaning materials that are not hazardous to health or property and that will not damage exposed surfaces.

E. Concealed Spaces: Remove debris from concealed spaces before enclosing the space.

F. Exposed Surfaces in Finished Areas: Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Substantial Completion.

G. Waste Disposal: Do not bury or burn waste materials on-site. Do not wash waste materials down sewers or into waterways. Comply with waste disposal requirements in Section 015000

"Temporary Facilities and Controls." and Section 017419 "Construction Waste Management and Disposal."

H. During handling and installation, clean and protect construction in progress and adjoining materials already in place. Apply protective covering where required to ensure protection from damage or deterioration at Substantial Completion.

I. Clean and provide maintenance on completed construction as frequently as necessary through the remainder of the construction period. Adjust and lubricate operable components to ensure operability without damaging effects.

J. Limiting Exposures: Supervise construction operations to ensure that no part of the construction, completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period.

3.6 STARTING AND ADJUSTING

A. Start equipment and operating components to confirm proper operation. Remove malfunctioning units, replace with new units, and retest.

B. Adjust equipment for proper operation. Adjust operating components for proper operation without binding.

C. Test each piece of equipment to verify proper operation. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.

3.7 PROTECTION OF INSTALLED CONSTRUCTION

A. Provide final protection and maintain conditions that ensure installed Work is without damage or deterioration at time of Substantial Completion.

B. Protection of Existing Items: Provide protection and ensure that existing items to remain undisturbed by construction are maintained in condition that existed at commencement of the Work.

C. Comply with manufacturer's written instructions for temperature and relative humidity.

END OF SECTION 017300

SECTION 017419 - CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes administrative and procedural requirements for the following:

1. Salvaging nonhazardous demolition and construction waste.
2. Recycling nonhazardous demolition and construction waste.
3. Disposing of nonhazardous demolition and construction waste.

1.3 DEFINITIONS

A. Construction Waste: Building, structure, and site improvement materials and other solid waste resulting from construction, remodeling, renovation, or repair operations. Construction waste includes packaging.

B. Demolition Waste: Building, structure, and site improvement materials resulting from demolition operations.

C. Disposal: Removal of demolition or construction waste and subsequent salvage, sale, recycling, or deposit in landfill, incinerator acceptable to authorities having jurisdiction, or designated spoil areas on Owner's property.

D. Recycle: Recovery of demolition or construction waste for subsequent processing in preparation for reuse.

E. Salvage: Recovery of demolition or construction waste and subsequent sale or reuse in another facility.

F. Salvage and Reuse: Recovery of demolition or construction waste and subsequent incorporation into the Work.

1.4 MATERIALS OWNERSHIP

A. Unless otherwise indicated, demolition and construction waste becomes property of Contractor.

B. Historic items, relics, antiques, and similar objects including, but not limited to, cornerstones and their contents, commemorative plaques and tablets, and other items of interest or value to Owner that may be uncovered during demolition remain the property of Owner.

1. Carefully salvage in a manner to prevent damage and promptly return to Owner.

1.5 ACTION SUBMITTALS

A. Waste Management Plan: Submit plan within 30 days of date established for the Notice to Proceed.

1.6 QUALITY ASSURANCE

A. Waste Management Coordinator Qualifications: Experienced firm, or individual employed and assigned by General Contractor, with a record of successful waste management coordination of projects with similar requirements. Superintendent may serve as Waste Management Coordinator.

B. Regulatory Requirements: Comply with transportation and disposal regulations of authorities having jurisdiction.

1.7 WASTE MANAGEMENT PLAN

A. General: Develop a waste management plan according to requirements in this Section. Plan shall consist of waste identification and waste reduction work plan.

B. Waste Identification: Indicate anticipated types and quantities of demolition and construction waste generated by the Work.

C. Waste Reduction Work Plan: List each type of waste and whether it will be salvaged, recycled, or disposed of in landfill or incinerator.

1. Salvaged Materials for Reuse: For materials that will be salvaged and reused in this Project, describe methods for preparing salvaged materials before incorporation into the Work
2. Salvaged Materials for Sale: For materials that will be sold to individuals and organizations, include list of their names, addresses, and telephone numbers.
3. Salvaged Materials for Donation: For materials that will be donated to individuals and organizations, include list of their names, addresses, and telephone numbers.
4. Recycled Materials: Include list of local receivers and processors and type of recycled materials each will accept. Include names, addresses, and telephone numbers.
5. Disposed Materials: Indicate how and where materials will be disposed of. Include name, address, and telephone number of each landfill and incinerator facility.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. General: Practice efficient waste management in the use of materials in the course of the Work. Use all reasonable means to divert construction and demolition waste from landfills and incinerators. Facilitate recycling and salvage of materials.

PART 3 - EXECUTION

3.1 PLAN IMPLEMENTATION

A. General: Implement approved waste management plan. Provide handling, containers, storage, signage, transportation, and other items as required to implement waste management plan during the entire duration of the Contract.

1. Comply with operation, termination, and removal requirements in Section 015000 "Temporary Facilities and Controls."

B. Training: Train workers, subcontractors, and suppliers on proper waste management procedures, as appropriate for the Work.

C. Site Access and Temporary Controls: Conduct waste management operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.

1. Designate and label specific areas on Project site necessary for separating materials that are to be salvaged and recycled.
2. Comply with Section 015000 "Temporary Facilities and Controls" for controlling dust and dirt, environmental protection, and noise control.

3.2 SALVAGING DEMOLITION WASTE

A. Salvaged Items for Reuse in the Work: Salvage items for reuse and handle as follows:

1. Clean salvaged items.
2. Store items in a secure area until installation.
3. Protect items from damage during storage.
4. Install salvaged items to comply with installation requirements for new materials and equipment. Provide connections, supports, and miscellaneous materials necessary to make items functional for use indicated.

B. Salvaged Items for Sale and Donation: Not permitted on Project site.

C. Lighting Fixtures: Separate lamps by type and protect from breakage.

D. Electrical Devices: Separate switches, receptacles, switchgear, transformers, meters, panelboards, circuit breakers, and other devices by type.

3.3 RECYCLING DEMOLITION AND CONSTRUCTION WASTE, GENERAL

A. General: Recycle paper and beverage containers used by on-site workers.

B. Preparation of Waste: Prepare and maintain recyclable waste materials according to recycling or reuse facility requirements. Maintain materials free of dirt, adhesives, solvents, petroleum contamination, and other substances deleterious to the recycling process.

C. Procedures: Separate recyclable waste from other waste materials, trash, and debris. Separate recyclable waste by type at Project site to the maximum extent practical according to approved construction waste management plan.

1. Provide appropriately marked containers or bins for controlling recyclable waste until removed from Project site. Include list of acceptable and unacceptable materials at each container and bin.

   a. Inspect containers and bins for contamination and remove contaminated materials if found.

2. Stockpile processed materials on-site without intermixing with other materials. Place, grade, and shape stockpiles to drain surface water. Cover to prevent windblown dust.
3. Stockpile materials away from construction area. Do not store within drip line of remaining trees.
4. Store components off the ground and protect from the weather.
5. Remove recyclable waste from Owner's property and transport to recycling receiver or processor as often as required to prevent overfilling bins.

3.4 RECYCLING DEMOLITION WASTE

A. Concrete: Remove reinforcement and other metals from concrete and sort with other metals.

1. Pulverize concrete to maximum 4-inch (100-mm) size.

B. Masonry: Remove metal reinforcement, anchors, and ties from masonry and sort with other metals.

C. , and treated wood materials.

D. Metals: Separate metals by type.
1. Remove and dispose of bolts, nuts, washers, and other rough hardware.

E. Conduit: Reduce conduit to straight lengths and store by material and size.

F. Lamps: Separate lamps by type and store according to requirements in 40 CFR 273.

3.5 RECYCLING CONSTRUCTION WASTE

A. Packaging:

1. Cardboard and Boxes: Break down packaging into flat sheets. Bundle and store in a dry location.
2. Polystyrene Packaging: Separate and bag materials.
3. Pallets: As much as possible, require deliveries using pallets to remove pallets from Project site. For pallets that remain on-site, break down pallets into component wood pieces and comply with requirements for recycling wood.
4. Crates: Break down crates into component wood pieces and comply with requirements for recycling wood.

3.6 DISPOSAL OF WASTE

A. General: Except for items or materials to be salvaged or recycled, remove waste materials from Project site and legally dispose of them in a landfill or incinerator acceptable to authorities having jurisdiction.

1. Except as otherwise specified, do not allow waste materials that are to be disposed of accumulate on-site.
2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.

B. General: Except for items or materials to be salvaged or recycled, remove waste materials and legally dispose of at designated spoil areas on Owner's property.

C. Burning: Do not burn waste materials.

END OF SECTION 017419

SECTION 017700 - CLOSEOUT PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes administrative and procedural requirements for contract closeout, including, but not limited to, the following:

1. Substantial Completion procedures.
2. Final completion procedures.
3. Warranties.
4. Final cleaning.
5. Repair of the Work.

B. Related Requirements:

1. Section 017823 "Operation and Maintenance Data" for additional operation and maintenance manual requirements.
2. Section 017839 "Project Record Documents" for submitting Record Drawings, Record Specifications, and Record Product Data.
3. Section 017900 "Demonstration and Training" for requirements to train the Owner's maintenance personnel to adjust, operate, and maintain products, equipment, and systems.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of cleaning agent.

B. Contractor's List of Incomplete Items: Initial submittal at Substantial Completion.

C. Certified List of Incomplete Items: Final submittal at final completion.

1.4 CLOSEOUT SUBMITTALS

A. Certificates of Release: From authorities having jurisdiction.

B. Certificate of Insurance: For continuing coverage.

C. Field Report: For pest control inspection.

1.5 MAINTENANCE MATERIAL SUBMITTALS

A. Schedule of Maintenance Material Items: For maintenance material submittal items specified in other Sections.

1.6 SUBSTANTIAL COMPLETION PROCEDURES

A. Contractor's List of Incomplete Items: Prepare and submit a list of items to be completed and corrected (Contractor's punch list), indicating the value of each item on the list and reasons why the Work is incomplete.

B. Submittals Prior to Substantial Completion: Complete the following a minimum of 10 days prior to requesting inspection for determining date of Substantial Completion. List items below that are incomplete at time of request.

1. Certificates of Release: Obtain and submit releases from authorities having jurisdiction permitting Owner unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.
2. Submit closeout submittals specified in other Division 01 Sections, including project record documents, operation and maintenance manuals, damage or settlement surveys, property surveys, and similar final record information.
3. Submit closeout submittals specified in individual Sections, including specific warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents.
4. Submit maintenance material submittals specified in individual Sections, including tools, spare parts, extra materials, and similar items, and deliver to location designated by Engineer. Label with manufacturer's name and model number.

   a. Schedule of Maintenance Material Items: Prepare and submit schedule of maintenance material submittal items, including name and quantity of each item and name and number of related Specification Section. Obtain Engineer's signature for receipt of submittals.
5. Submit changeover information related to Owner's occupancy, use, operation, and maintenance.

C. Procedures Prior to Substantial Completion: Complete the following a minimum of 10 days prior to requesting inspection for determining date of Substantial Completion. List items below that are incomplete at time of request.
1. Complete startup and testing of systems and equipment.
2. Perform preventive maintenance on equipment used prior to Substantial Completion.
3. Instruct Owner's personnel in operation, adjustment, and maintenance of products, equipment, and systems. Submit demonstration and training video recordings specified in Section 017900 "Demonstration and Training."
4. Participate with Owner in conducting inspection and walkthrough.
5. Terminate and remove temporary facilities from Project site, along with mockups, construction tools, and similar elements.
6. Complete final cleaning requirements.

D. Inspection: Submit a written request for inspection to determine Substantial Completion a minimum of 10 days prior to date the Work will be completed and ready for final inspection and

tests. On receipt of request, Engineer will either proceed with inspection or notify Contractor of unfulfilled requirements. Engineer will prepare the Certificate of Substantial Completion after inspection or will notify Contractor of items, either on Contractor's list or additional items identified by Engineer, that must be completed or corrected before certificate will be issued.

1. Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.
2. Results of completed inspection will form the basis of requirements for final completion.

1.7 FINAL COMPLETION PROCEDURES

A. Submittals Prior to Final Completion: Before requesting final inspection for determining final completion, complete the following:

1. Submit a final Application for Payment according to Section 012900 "Payment Procedures."
2. Certified List of Incomplete Items: Submit certified copy of Engineer's Substantial Completion inspection list of items to be completed or corrected (punch list), endorsed and dated by Engineer. Certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance.
3. Certificate of Insurance: Submit evidence of final, continuing insurance coverage complying with insurance requirements.

B. Inspection: Submit a written request for final inspection to determine acceptance a minimum of 10 days prior to date the work will be completed and ready for final inspection and tests. On receipt of request, Engineer will either proceed with inspection or notify Contractor of unfulfilled requirements. Engineer will prepare a final Certificate for Payment after inspection or will notify Contractor of construction that must be completed or corrected before certificate will be issued.

1. Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.

1.8 LIST OF INCOMPLETE ITEMS (PUNCH LIST)

A. Organization of List: Include name and identification of each space and area affected by construction operations for incomplete items and items needing correction including, if necessary, areas disturbed by Contractor that are outside the limits of construction.

1. Organize list of spaces in sequential order, starting with exterior areas first and proceeding from lowest floor to highest floor.
2. Organize items applying to each space by major element, equipment, and building systems.
3. Include the following information at the top of each page:

    a. Project name.
    b. Date.
    c. Name of Engineer.
    d. Name of Contractor.

e. Page number.

4. Submit list of incomplete items in the following format:

a. MS Excel electronic file. Engineer will return annotated file.

1.9 SUBMITTAL OF PROJECT WARRANTIES

A. Time of Submittal: Submit written warranties on request of Engineer for designated portions of the Work where warranties are indicated to commence on dates other than date of Substantial Completion, or when delay in submittal of warranties might limit Owner's rights under warranty.

B. Organize warranty documents into an orderly sequence based on the table of contents of Project Manual.

C. Warranty Electronic File: Provide warranties and bonds in PDF format. Assemble complete warranty and bond submittal package into a single electronic PDF file with bookmarks enabling navigation to each item. Provide bookmarked table of contents at beginning of document.

1. Submit on digital media acceptable to Engineer.

D. Provide additional copies of each warranty to include in operation and maintenance manuals.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Cleaning Agents: Use cleaning materials and agents recommended by manufacturer or fabricator of the surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finished surfaces.

PART 3 - EXECUTION

3.1 FINAL CLEANING

A. General: Perform final cleaning. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations.

B. Cleaning: Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to condition expected in an average commercial building cleaning and maintenance program. Comply with manufacturer's written instructions.

1. Complete the following cleaning operations before requesting inspection for certification of Substantial Completion for entire Project or for a designated portion of Project:

a. Clean Project site, yard, and grounds, in areas disturbed by construction activities, including landscape development areas, of rubbish, waste material, litter, and other foreign substances.
b. Sweep paved areas broom clean.
c. Remove tools, construction equipment, machinery, and surplus material from Project site.
d. Sweep concrete floors broom clean in unoccupied spaces.
e. Remove labels that are not permanent.
f. Wipe surfaces of electrical equipment and similar equipment.
g. Clean light fixtures, lamps, globes, and reflectors to function with full efficiency.
h. Leave Project clean and ready for occupancy.

C. Construction Waste Disposal: Comply with waste disposal requirements in Section 015000 "Temporary Facilities and Controls." and Section 017419 "Construction Waste Management and Disposal."

3.2 REPAIR OF THE WORK

A. Complete repair and restoration operations before requesting inspection for determination of Substantial Completion.

B. Repair, or remove and replace, defective construction. Repairing includes replacing defective parts, refinishing damaged surfaces, touching up with matching materials, and properly adjusting operating equipment. Where damaged or worn items cannot be repaired or restored, provide replacements. Remove and replace operating components that cannot be repaired. Restore damaged construction and permanent facilities used during construction to specified condition.
1. Touch up and otherwise repair and restore marred or exposed finishes and surfaces.

a. Do not paint over "UL" and other required labels and identification, including mechanical and electrical nameplates. Remove paint applied to required labels and identification.

2. Replace parts subject to operating conditions during construction that may impede operation or reduce longevity.

END OF SECTION 017700

SECTION 017823 - OPERATION AND MAINTENANCE DATA

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes administrative and procedural requirements for preparing operation and maintenance manuals, including the following:

1. Operation and maintenance documentation directory manuals.
2. Emergency manuals.
3. Systems and equipment operation manuals.
4. Systems and equipment maintenance manuals.
5. Product maintenance manuals.

B. Related Requirements:
1. Section 013300 "Submittal Procedures" for submitting copies of submittals for operation and maintenance manuals.

1.3 DEFINITIONS

A. System: An organized collection of parts, equipment, or subsystems united by regular interaction.

B. Subsystem: A portion of a system with characteristics similar to a system.

1.4 CLOSEOUT SUBMITTALS

A. Submit operation and maintenance manuals indicated. Provide content for each manual as specified in individual Specification Sections, and as reviewed and approved at the time of Section submittals. Submit reviewed manual content formatted and organized as required by this Section.

1. Engineer will comment on whether content of operation and maintenance submittals is acceptable.
2. Where applicable, clarify and update reviewed manual content to correspond to revisions and field conditions.

B. Format: Submit operation and maintenance manuals in the following format:

1. Submit on digital media acceptable to Engineer. Enable reviewer comments on draft submittals.

C. Initial Manual Submittal: Submit draft copy of each manual at least 30 days before commencing demonstration and training. Engineer will comment on whether general scope and content of manual are acceptable.

D. Final Manual Submittal: Submit each manual in final form prior to requesting inspection for Substantial Completion and at least 15 days before commencing demonstration and training. Engineer will return copy with comments.

1. Correct or revise each manual to comply with Engineer's comments. Submit copies of each corrected manual within 15 days of receipt of Architect's comments and prior to commencing demonstration and training.

E. Comply with Section 017700 "Closeout Procedures" for schedule for submitting operation and maintenance documentation.

1.5 FORMAT OF OPERATION AND MAINTENANCE MANUALS

A. Manuals, Electronic Files: Submit manuals in the form of a multiple file composite electronic PDF file for each manual type required.

1. Electronic Files: Use electronic files prepared by manufacturer where available. Where scanning of paper documents is required, configure scanned file for minimum readable file size.
2. File Names and Bookmarks: Bookmark individual documents based on file names. Name document files to correspond to system, subsystem, and equipment names used in manual directory and table of contents. Group documents for each system and subsystem into individual composite bookmarked files, then create composite manual, so that resulting bookmarks reflect the system, subsystem, and equipment names in a readily navigated file tree. Configure electronic manual to display bookmark panel on opening file.

1.6 REQUIREMENTS FOR EMERGENCY, OPERATION, AND MAINTENANCE MANUALS

A. Organization of Manuals: Unless otherwise indicated, organize each manual into a separate section for each system and subsystem, and a separate section for each piece of equipment not part of a system. Each manual shall contain the following materials, in the order listed:

1. Title page.
2. Table of contents.
3. Manual contents.

B. Title Page: Include the following information:

1. Subject matter included in manual.
2. Name and address of Project.
3. Name and address of Owner.
4. Date of submittal.

5. Name and contact information for Contractor.
6. Name and contact information for Engineer.
7. Cross-reference to related systems in other operation and maintenance manuals.

C. Table of Contents: List each product included in manual, identified by product name, indexed to the content of the volume, and cross-referenced to Specification Section number in Project Manual.

1. If operation or maintenance documentation requires more than one volume to accommodate data, include comprehensive table of contents for all volumes in each volume of the set.

D. Manual Contents: Organize into sets of manageable size. Arrange contents alphabetically by system, subsystem, and equipment. If possible, assemble instructions for subsystems, equipment, and components of one system into a single binder.

E. Identification: In the documentation directory and in each operation and maintenance manual, identify each system, subsystem, and piece of equipment with same designation used in the Contract Documents.

1.7 OPERATION AND MAINTENANCE DOCUMENTATION DIRECTORY MANUAL

A. Operation and Maintenance Documentation Directory: Prepare a separate manual that provides an organized reference to emergency, operation, and maintenance manuals. List items and their location to facilitate ready access to desired information. Include the following:

1. List of Systems and Subsystems: List systems alphabetically. Include references to operation and maintenance manuals that contain information about each system.
2. List of Equipment: List equipment for each system, organized alphabetically by system. For pieces of equipment not part of system, list alphabetically in separate list.
3. Tables of Contents: Include a table of contents for each emergency, operation, and maintenance manual.

1.8 EMERGENCY MANUALS

A. Emergency Manual: Assemble a complete set of emergency information indicating procedures for use by emergency personnel and by Owner's operating personnel for types of emergencies indicated.

B. Content: Organize manual into a separate section for each of the following:

1. Type of emergency.
2. Emergency instructions.
3. Emergency procedures.

C. Type of Emergency: Where applicable for each type of emergency indicated below, include instructions and procedures for each system, subsystem, piece of equipment, and component:

1. Fire.

2. Flood.
3. Gas leak.
4. Power failure.
5. System, subsystem, or equipment failure.

D. Emergency Instructions: Describe and explain warnings, trouble indications, error messages, and similar codes and signals. Include responsibilities of Owner's operating personnel for notification of Installer, supplier, and manufacturer to maintain warranties.

E. Emergency Procedures: Include the following, as applicable:

1. Instructions on stopping.
2. Shutdown instructions for each type of emergency.
3. Operating instructions for conditions outside normal operating limits.
4. Required sequences for electric or electronic systems.
5. Special operating instructions and procedures.

1.9 SYSTEMS AND EQUIPMENT OPERATION MANUALS

A. Systems and Equipment Operation Manual: Assemble a complete set of data indicating operation of each system, subsystem, and piece of equipment not part of a system. Include information required for daily operation and management, operating standards, and routine and special operating procedures.

1. Engage a factory-authorized service representative to assemble and prepare information for each system, subsystem, and piece of equipment not part of a system.
2. Prepare a separate manual for each system and subsystem, in the form of an instructional manual for use by Owner's operating personnel.

B. Content: In addition to requirements in this Section, include operation data required in individual Specification Sections and the following information:

1. System, subsystem, and equipment descriptions. Use designations for systems and equipment indicated on Contract Documents.
2. Performance and design criteria if Contractor has delegated design responsibility.
3. Operating standards.
4. Operating procedures.
5. Wiring diagrams.
6. Control diagrams.
7. Precautions against improper use.
8. License requirements including inspection and renewal dates.

C. Descriptions: Include the following:

1. Product name and model number. Use designations for products indicated on Contract Documents.
2. Manufacturer's name.
3. Equipment identification with serial number of each component.
4. Equipment function.
5. Operating characteristics.

6. Limiting conditions.
7. Complete nomenclature and number of replacement parts.

D. Operating Procedures: Include the following, as applicable:

1. Startup procedures.
2. Routine and normal operating instructions.
3. Normal shutdown instructions.
4. Seasonal and weekend operating instructions.
5. Required sequences for electric or electronic systems.
6. Special operating instructions and procedures.

E. Systems and Equipment Controls: Describe the sequence of operation, and diagram controls as installed.

F. Piped Systems: Diagram piping as installed, and identify color coding where required for identification.

1.10 SYSTEMS AND EQUIPMENT MAINTENANCE MANUALS

A. Systems and Equipment Maintenance Manuals: Assemble a complete set of data indicating maintenance of each system, subsystem, and piece of equipment not part of a system. Include manufacturers' maintenance documentation, preventive maintenance procedures and frequency, repair procedures, wiring and systems diagrams, lists of spare parts, and warranty information.

1. Engage a factory-authorized service representative to assemble and prepare information for each system, subsystem, and piece of equipment not part of a system.
2. Prepare a separate manual for each system and subsystem, in the form of an instructional manual for use by Owner's operating personnel.

B. Content: For each system, subsystem, and piece of equipment not part of a system, include source information, manufacturers' maintenance documentation, maintenance procedures, maintenance and service schedules, spare parts list and source information, maintenance service contracts, and warranties and bonds as described below.

C. Source Information: List each system, subsystem, and piece of equipment included in manual, identified by product name and arranged to match manual's table of contents. For each product, list name, address, and telephone number of Installer or supplier and maintenance service agent, and cross-reference Specification Section number and title in Project Manual and drawing or schedule designation or identifier where applicable.

D. Manufacturers' Maintenance Documentation: Include the following information for each component part or piece of equipment:

1. Standard maintenance instructions and bulletins; include only sheets pertinent to product or component installed. Mark each sheet to identify each product or component incorporated into the Work. If data include more than one item in a tabular format, identify each item using appropriate references from the Contract Documents. Identify data applicable to the Work and delete references to information not applicable.

a. Prepare supplementary text if manufacturers' standard printed data are not available and where the information is necessary for proper operation and maintenance of equipment or systems.

2. Drawings, diagrams, and instructions required for maintenance, including disassembly and component removal, replacement, and assembly.
3. Identification and nomenclature of parts and components.
4. List of items recommended to be stocked as spare parts.

E. Maintenance Procedures: Include the following information and items that detail essential maintenance procedures:

1. Test and inspection instructions.
2. Troubleshooting guide.
3. Precautions against improper maintenance.
4. Disassembly; component removal, repair, and replacement; and reassembly instructions.
5. Aligning, adjusting, and checking instructions.
6. Demonstration and training video recording, if available.

F. Maintenance and Service Schedules: Include service and lubrication requirements, list of required lubricants for equipment, and separate schedules for preventive and routine maintenance and service with standard time allotment.

1. Scheduled Maintenance and Service: Tabulate actions for daily, weekly, monthly, quarterly, semiannual, and annual frequencies.
2. Maintenance and Service Record: Include manufacturers' forms for recording maintenance.

G. Spare Parts List and Source Information: Include lists of replacement and repair parts, with parts identified and cross-referenced to manufacturers' maintenance documentation and local sources of maintenance materials and related services.

H. Maintenance Service Contracts: Include copies of maintenance agreements with name and telephone number of service agent.

I. Warranties and Bonds: Include copies of warranties and bonds and lists of circumstances and conditions that would affect validity of warranties or bonds.

1. Include procedures to follow and required notifications for warranty claims.

J. Drawings: Prepare drawings supplementing manufacturers' printed data to illustrate the relationship of component parts of equipment and systems and to illustrate control sequence and flow diagrams. Coordinate these drawings with information contained in record Drawings to ensure correct illustration of completed installation.

1. Do not use original project record documents as part of maintenance manuals.

1.11 PRODUCT MAINTENANCE MANUALS

A. Product Maintenance Manual: Assemble a complete set of maintenance data indicating care and maintenance of each product, material, and finish incorporated into the Work.

B. Content: Organize manual into a separate section for each product, material, and finish. Include source information, product information, maintenance procedures, repair materials and sources, and warranties and bonds, as described below.

C. Source Information: List each product included in manual, identified by product name and arranged to match manual's table of contents. For each product, list name, address, and telephone number of Installer or supplier and maintenance service agent, and cross-reference Specification Section number and title in Project Manual and drawing or schedule designation or identifier where applicable.

D. Product Information: Include the following, as applicable:

1. Product name and model number.
2. Manufacturer's name.
3. Material and chemical composition.
4. Reordering information for specially manufactured products.

E. Maintenance Procedures: Include manufacturer's written recommendations and the following:

1. Inspection procedures.
2. Types of cleaning agents to be used and methods of cleaning.
3. List of cleaning agents and methods of cleaning detrimental to product.
4. Schedule for routine cleaning and maintenance.
5. Repair instructions.

F. Repair Materials and Sources: Include lists of materials and local sources of materials and related services.

G. Warranties and Bonds: Include copies of warranties and bonds and lists of circumstances and conditions that would affect validity of warranties or bonds.

1. Include procedures to follow and required notifications for warranty claims.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 017823

SECTION 017839 - PROJECT RECORD DOCUMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes administrative and procedural requirements for project record documents, including the following:

1. Record Drawings.
2. Record Specifications.
3. Record Product Data.
4. Miscellaneous record submittals.

B. Related Requirements:
1. Section 017700 "Closeout Procedures" for general closeout procedures.
2. Section 017823 "Operation and Maintenance Data" for operation and maintenance manual requirements.

1.3 CLOSEOUT SUBMITTALS

A. Record Drawings: Comply with the following:
1. Number of Copies: Submit copies of record Drawings as follows:

a. Initial Submittal:
1) Submit PDF electronic files of scanned record prints.
2) Engineer will indicate whether general scope of changes, additional information recorded, and quality of drafting are acceptable.

b. Final Submittal:
1) Submit PDF electronic files of scanned record prints.

B. Record Specifications: Submit annotated PDF electronic files of Project's Specifications, including addenda and contract modifications.

C. Miscellaneous Record Submittals: See other Specification Sections for miscellaneous record-keeping requirements and submittals in connection with various construction activities. Submit annotated PDF electronic files and directories of each submittal.

D. Reports: Submit written report monthly indicating items incorporated into project record documents concurrent with progress of the Work, including revisions, concealed conditions, field changes, product selections, and other notations incorporated.

1.4 RECORD DRAWINGS

A. Record Prints: Maintain one set of marked-up paper copies of the Contract Drawings and Shop Drawings, incorporating new and revised drawings as modifications are issued.

1. Preparation: Mark record prints to show the actual installation where installation varies from that shown originally. Require individual or entity who obtained record data, whether individual or entity is Installer, subcontractor, or similar entity, to provide information for preparation of corresponding marked-up record prints.

a. Give particular attention to information on concealed elements that would be difficult to identify or measure and record later.
b. Accurately record information in an acceptable drawing technique.
c. Record data as soon as possible after obtaining it.
d. Record and check the markup before enclosing concealed installations.
e. Cross-reference record prints to corresponding photographic documentation.

2. Content: Types of items requiring marking include, but are not limited to, the following:

a. Dimensional changes to Drawings.
b. Revisions to details shown on Drawings.
c. Locations and depths of underground utilities.
d. Revisions to routing of conduits.
e. Revisions to electrical circuitry.
f. Actual equipment locations.
g. Locations of concealed internal utilities.
h. Changes made by Change Order.
i. Changes made following Engineer's written orders.
j. Details not on the original Contract Drawings.
k. Field records for variable and concealed conditions.
l. Record information on the Work that is shown only schematically.

3. Mark the Contract Drawings and Shop Drawings completely and accurately. Use personnel proficient at recording graphic information in production of marked-up record prints.
4. Mark record sets with erasable, red-colored pencil. Use other colors to distinguish between changes for different categories of the Work at same location.
5. Mark important additional information that was either shown schematically or omitted from original Drawings.
6. Note Construction Change Directive numbers, alternate numbers, Change Order numbers, and similar identification, where applicable.

B. Format: Identify and date each record Drawing; include the designation "PROJECT RECORD DRAWING" in a prominent location.

1. Record Prints: Organize record prints into manageable sets. Bind each set with durable paper cover sheets. Include identification on cover sheets.
2. Format: Annotated PDF electronic file with comment function enabled.
3. Record Digital Data Files: Organize digital data information into separate electronic files that correspond to each sheet of the Contract Drawings. Name each file with the sheet identification. Include identification in each digital data file.

4. Identification: As follows:

    a. Project name.
    b. Date.
    c. Designation "PROJECT RECORD DRAWINGS."
    d. Name of Engineer.
    e. Name of Contractor.

1.5 RECORD SPECIFICATIONS

A. Preparation: Mark Specifications to indicate the actual product installation where installation varies from that indicated in Specifications, addenda, and contract modifications.

1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
2. Mark copy with the proprietary name and model number of products, materials, and equipment furnished, including substitutions and product options selected.
3. Record the name of manufacturer, supplier, Installer, and other information necessary to provide a record of selections made.
4. For each principal product, indicate whether record Product Data has been submitted in operation and maintenance manuals instead of submitted as record Product Data.
5. Note related Change Orders, record Product Data, and record Drawings where applicable.

B. Format: Submit record Specifications as scanned PDF electronic file(s) of marked-up paper copy of Specifications.

1.6 RECORD PRODUCT DATA

A. Recording: Maintain one copy of each submittal during the construction period for project record document purposes. Post changes and revisions to project record documents as they occur; do not wait until end of Project.

B. Preparation: Mark Product Data to indicate the actual product installation where installation varies substantially from that indicated in Product Data submittal.

1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
2. Include significant changes in the product delivered to Project site and changes in manufacturer's written instructions for installation.
3. Note related Change Orders, record Specifications, and record Drawings where applicable.

C. Format: Submit record Product Data as scanned PDF electronic file(s) of marked-up paper copy of Product Data.

1. Include record Product Data directory organized by Specification Section number and title, electronically linked to each item of record Product Data.

1.7 MISCELLANEOUS RECORD SUBMITTALS

A. Assemble miscellaneous records required by other Specification Sections for miscellaneous record keeping and submittal in connection with actual performance of the Work. Bind or file miscellaneous records and identify each, ready for continued use and reference.

B. Format: Submit miscellaneous record submittals as scanned PDF electronic file(s) of marked-up miscellaneous record submittals.

1. Include miscellaneous record submittals directory organized by Specification Section number and title, electronically linked to each item of miscellaneous record submittals.

1.8 MAINTENANCE OF RECORD DOCUMENTS

A. Maintenance of Record Documents: Store record documents apart from the Contract Documents used for construction. Do not use project record documents for construction purposes. Maintain record documents in good order and in a clean, dry, legible condition, protected from deterioration and loss. Provide access to project record documents for Engineer's reference during normal working hours.

PART 2 - PRODUCTS

PART 3 - EXECUTION

END OF SECTION 017839

SECTION 017900 - DEMONSTRATION AND TRAINING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes administrative and procedural requirements for instructing Owner's personnel, including the following:

1. Instruction in operation and maintenance of systems, subsystems, and equipment.

1.3 INFORMATIONAL SUBMITTALS

A. Instruction Program: Submit outline of instructional program for demonstration and training, including a list of training modules and a schedule of proposed dates, times, length of instruction time, and instructors' names for each training module. Include learning objective and outline for each training module.

1. Indicate proposed training modules using manufacturer-produced demonstration and training video recordings for systems, equipment, and products in lieu of video recording of live instructional module.

B. Qualification Data: For instructor.

C. Attendance Record: For each training module, submit list of participants and length of instruction time.

D. Evaluations: For each participant and for each training module, submit results and documentation of performance-based test.

1.4 QUALITY ASSURANCE

A. Facilitator Qualifications: A firm or individual experienced in training or educating maintenance personnel in a training program similar in content and extent to that indicated for this Project, and whose work has resulted in training or education with a record of successful learning performance.

B. Instructor Qualifications: A factory-authorized service representative, complying with requirements in Section 014000 "Quality Requirements," experienced in operation and maintenance procedures and training.

C. Preinstruction Conference: Conduct conference at Project site to comply with requirements in Section 013100 "Project Management and Coordination." Review methods and procedures related to demonstration and training including, but not limited to, the following:

1. Inspect and discuss locations and other facilities required for instruction.
2. Review and finalize instruction schedule and verify availability of educational materials, instructors' personnel, audiovisual equipment, and facilities needed to avoid delays.
3. Review required content of instruction.
4. For instruction that must occur outside, review weather and forecasted weather conditions and procedures to follow if conditions are unfavorable.

1.5 COORDINATION

A. Coordinate instruction schedule with Owner's operations. Adjust schedule as required to minimize disrupting Owner's operations and to ensure availability of Owner's personnel.

B. Coordinate instructors, including providing notification of dates, times, length of instruction time, and course content.

C. Coordinate content of training modules with content of approved emergency, operation, and maintenance manuals. Do not submit instruction program until operation and maintenance data have been reviewed and approved by Engineer.

1.6 INSTRUCTION PROGRAM

A. Program Structure: Develop an instruction program that includes individual training modules for each system and for equipment not part of a system, as required by individual Specification Sections.

B. Training Modules: Develop a learning objective and teaching outline for each module. Include a description of specific skills and knowledge that participant is expected to master. For each module, include instruction for the following as applicable to the system, equipment, or component:

1. Basis of System Design, Operational Requirements, and Criteria: Include the following:

   a. System, subsystem, and equipment descriptions.
   b. Performance and design criteria if Contractor is delegated design responsibility.
   c. Operating standards.
   d. Regulatory requirements.
   e. Equipment function.
   f. Operating characteristics.
   g. Limiting conditions.
   h. Performance curves.

2. Documentation: Review the following items in detail:

   a. Emergency manuals.
   b. Systems and equipment operation manuals.

c. Systems and equipment maintenance manuals.
d. Product maintenance manuals.
e. Project Record Documents.
f. Identification systems.
g. Warranties and bonds.
h. Maintenance service agreements and similar continuing commitments.

3. Emergencies: Include the following, as applicable:

a. Instructions on meaning of warnings, trouble indications, and error messages.
b. Instructions on stopping.
c. Shutdown instructions for each type of emergency.
d. Operating instructions for conditions outside of normal operating limits.
e. Sequences for electric or electronic systems.
f. Special operating instructions and procedures.

4. Operations: Include the following, as applicable:

a. Startup procedures.
b. Equipment or system break-in procedures.
c. Routine and normal operating instructions.
d. Regulation and control procedures.
e. Control sequences.
f. Safety procedures.
g. Instructions on stopping.
h. Normal shutdown instructions.
i. Operating procedures for emergencies.
j. Operating procedures for system, subsystem, or equipment failure.
k. Seasonal and weekend operating instructions.
l. Required sequences for electric or electronic systems.
m. Special operating instructions and procedures.

5. Adjustments: Include the following:

a. Alignments.
b. Checking adjustments.
c. Noise and vibration adjustments.
d. Economy and efficiency adjustments.

6. Troubleshooting: Include the following:

a. Diagnostic instructions.
b. Test and inspection procedures.

7. Maintenance: Include the following:

a. Inspection procedures.
b. Types of cleaning agents to be used and methods of cleaning.
c. List of cleaning agents and methods of cleaning detrimental to product.
d. Procedures for routine cleaning.
e. Procedures for preventive maintenance.

f. Procedures for routine maintenance.
g. Instruction on use of special tools.

8. Repairs: Include the following:

a. Diagnosis instructions.
b. Repair instructions.
c. Disassembly; component removal, repair, and replacement; and reassembly instructions.
d. Instructions for identifying parts and components.
e. Review of spare parts needed for operation and maintenance.

1.7 PREPARATION

A. Assemble educational materials necessary for instruction, including documentation and training module. Assemble training modules into a training manual organized in coordination with requirements in Section 017823 "Operation and Maintenance Data."

B. Set up instructional equipment at instruction location.

1.8 INSTRUCTION

A. Facilitator: Engage a qualified facilitator to prepare instruction program and training modules, to coordinate instructors, and to coordinate between Contractor and Owner for number of participants, instruction times, and location.

B. Engage qualified instructors to instruct Owner's personnel to adjust, operate, and maintain systems, subsystems, and equipment not part of a system.

1. Engineer will furnish an instructor to describe basis of system design, operational requirements, criteria, and regulatory requirements.
2. Owner will furnish an instructor to describe Owner's operational philosophy.
3. Owner will furnish Contractor with names and positions of participants.

C. Scheduling: Provide instruction at mutually agreed-on times. For equipment that requires seasonal operation, provide similar instruction at start of each season.

1. Schedule training with Owner, through Engineer with at least seven days' advance notice.

D. Training Location and Reference Material: Conduct training on-site in the completed and fully operational facility using the actual equipment in-place. Conduct training using final operation and maintenance data submittals.

E. Cleanup: Collect used and leftover educational materials and remove from Project site or give to Owner. Remove instructional equipment. Restore systems and equipment to condition existing before initial training use.

PART 2 - PRODUCTS

PART 3 - EXECUTION

END OF SECTION 017900

SECTION 033053 - MISCELLANEOUS CAST-IN-PLACE CONCRETE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes cast-in-place concrete, including reinforcement, concrete materials, mixture design, placement procedures, and finishes.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Design Mixtures: For each concrete mixture.

1.4 QUALITY ASSURANCE

A. Ready-Mix-Concrete Manufacturer Qualifications: A firm experienced in manufacturing ready-mixed concrete products and that complies with ASTM C 94/C 94M requirements for production facilities and equipment.

PART 2 - PRODUCTS

2.1 CONCRETE, GENERAL

A. Comply with the following sections of ACI 301 (ACI 301M) unless modified by requirements in the Contract Documents:

1. "General Requirements."
2. "Formwork and Formwork Accessories."
3. "Reinforcement and Reinforcement Supports."
4. "Concrete Mixtures."
5. "Handling, Placing, and Constructing."
6. "Lightweight Concrete."

B. Comply with ACI 117 (ACI 117M).

2.2 STEEL REINFORCEMENT

A. Reinforcing Bars: ASTM A 615/A 615M, Grade 60 (Grade 420), deformed.

B. Plain-Steel Wire: ASTM A 1064/A 1064M, as drawn.

C. Plain-Steel Welded-Wire Reinforcement: ASTM A 1064/A 1064M, plain, fabricated from as-drawn steel wire into flat sheets.

D. Deformed-Steel Welded-Wire Reinforcement: ASTM A 1064/A 1064M, flat sheet.

2.3 CONCRETE MATERIALS

A. Source Limitations: Obtain each type or class of cementitious material of the same brand from the same manufacturer's plant, obtain aggregate from single source, and obtain admixtures from single source from single manufacturer.

B. Cementitious Materials:

1. Portland Cement: ASTM C 150/C 150M, Type I, Type I/II or Type III, unless noted otherwise.
2. Fly Ash: ASTM C 618, Class C or F.
3. Slag Cement: ASTM C 989/C 989M, Grade 100 or 120.

C. Normal-Weight Aggregate: ASTM C 33/C 33M, 1-1/2-inch (38-mm) nominal maximum aggregate size.

D. Air-Entraining Admixture: ASTM C 260/C 260M.

E. Chemical Admixtures: Certified by manufacturer to be compatible with other admixtures and that do not contribute water-soluble chloride ions exceeding those permitted in hardened concrete. Do not use calcium chloride or admixtures containing calcium chloride.

1. Water-Reducing Admixture: ASTM C 494/C 494M, Type A.
2. Retarding Admixture: ASTM C 494/C 494M, Type B.
3. Water-Reducing and Retarding Admixture: ASTM C 494/C 494M, Type D.
4. High-Range, Water-Reducing Admixture: ASTM C 494/C 494M, Type F.
5. High-Range, Water-Reducing and Retarding Admixture: ASTM C 494/C 494M, Type G.
6. Plasticizing and Retarding Admixture: ASTM C 1017/C 1017M, Type II.

F. Water: ASTM C 94/C 94M.

2.4 RELATED MATERIALS

A. Vapor Retarder: Polyethylene sheet, ASTM D 4397, not less than 10 mils (0.25 mm) thick; or plastic sheet, ASTM E 1745, Class C.

B. Joint-Filler Strips: ASTM D 1751, asphalt-saturated cellulosic fiber, or ASTM D 1752, cork or self-expanding cork.

2.5 CURING MATERIALS

A. Evaporation Retarder: Waterborne, monomolecular film forming; manufactured for application to fresh concrete.

B. Absorptive Cover: AASHTO M 182, Class 3, burlap cloth or cotton mats.

C. Moisture-Retaining Cover: ASTM C 171, polyethylene film or white burlap-polyethylene sheet.

D. Water: Potable.

E. Clear, Waterborne, Membrane-Forming Curing and Sealing Compound: ASTM C 1315, Type 1, Class A.

2.6 CONCRETE MIXTURES

A. Comply with ACI 301 (ACI 301M).

B. Normal-Weight Concrete:

1. Minimum Compressive Strength: 4000 psi (27.6 MPa) at 28 days.
2. Maximum W/C Ratio: 0.40.
3. Cementitious Materials: Use fly ash, pozzolan, slag cement, and silica fume as needed to reduce the total amount of portland cement, which would otherwise be used, by not less than 40 percent.
4. Slump Limit: 4 inches (100 mm) to 6 inches (152 mm), 8 inches (200 mm) for concrete with verified slump of 2 to 4 inches (50 to 100 mm) before adding high-range water-reducing admixture or plasticizing admixture, plus or minus 1 inch (25 mm).
5. Air Content: Maintain within range permitted by ACI 301 (ACI 301M). Do not allow air content of trowel-finished floor slabs to exceed 3 percent.

2.7 CONCRETE MIXING

A. Ready-Mixed Concrete: Measure, batch, mix, and deliver concrete according to ASTM C 94/C 94M and ASTM C 1116/C 1116, and furnish batch ticket information.

1. When air temperature is above 90 deg F (32 deg C), reduce mixing and delivery time to 60 minutes.

PART 3 - EXECUTION

3.1 FORMWORK INSTALLATION

A. Design, construct, erect, brace, and maintain formwork according to ACI 301 (ACI 301M).

3.2 EMBEDDED ITEM INSTALLATION

A. Place and secure anchorage devices and other embedded items required for adjoining work that is attached to or supported by cast-in-place concrete. Use setting drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.

3.3 VAPOR-RETARDER INSTALLATION

A. Install, protect, and repair vapor retarders according to ASTM E 1643; place sheets in position with longest dimension parallel with direction of pour.

1. Lap joints 6 inches (150 mm) and seal with manufacturer's recommended adhesive or joint tape.

3.4 STEEL REINFORCEMENT INSTALLATION

A. Comply with CRSI's "Manual of Standard Practice" for fabricating, placing, and supporting reinforcement.

1. Do not cut or puncture vapor retarder. Repair damage and reseal vapor retarder before placing concrete.

3.5 JOINTS

A. General: Construct joints true to line with faces perpendicular to surface plane of concrete.

B. Construction Joints: Install so strength and appearance of concrete are not impaired, at locations indicated or as approved by Architect.

C. Contraction Joints in Slabs-on-Grade: Form weakened-plane contraction joints, sectioning concrete into areas as indicated. Construct contraction joints for a depth equal to at least one-fourth of concrete thickness, as follows:

1. Grooved Joints: Form contraction joints after initial floating by grooving and finishing each edge of joint to a radius of 1/8 inch (3.2 mm). Repeat grooving of contraction joints after applying surface finishes. Eliminate groover marks on concrete surfaces.
2. Sawed Joints: Form contraction joints with power saws equipped with shatterproof abrasive or diamond-rimmed blades. Cut 1/8-inch- (3.2-mm-) wide joints into concrete when cutting action does not tear, abrade, or otherwise damage surface and before concrete develops random contraction cracks.

D. Isolation Joints in Slabs-on-Grade: After removing formwork, install joint-filler strips at slab junctions with vertical surfaces, such as column pedestals, foundation walls, grade beams, and other locations, as indicated.

1. Extend joint-filler strips full width and depth of joint, terminating flush with finished concrete surface unless otherwise indicated.

3.6 CONCRETE PLACEMENT

A. Comply with ACI 301 (ACI 301M) for placing concrete.

B. Before test sampling and placing concrete, water may be added at Project site, subject to limitations of ACI 301 (ACI 301M).

C. Do not add water to concrete during delivery, at Project site, or during placement.

D. Consolidate concrete with mechanical vibrating equipment according to ACI 301 (ACI 301M).

E. Equipment Bases and Foundations:

1. Coordinate sizes and locations of concrete bases with actual equipment provided.
2. Construct concrete bases 4 inches (100 mm) high unless otherwise indicated; and extend base not less than 6 inches (150 mm) in each direction beyond the maximum dimensions of supported equipment unless otherwise indicated or unless required for seismic anchor support.
3. Minimum Compressive Strength: 4000 psi (27.6 MPa) at 28 days.
4. Install dowel rods to connect concrete base to concrete floor. Unless otherwise indicated, install dowel rods on 18-inch (450-mm) centers around the full perimeter of concrete base.
5. For supported equipment, install epoxy-coated anchor bolts that extend through concrete base, and anchor them into structural concrete substrate.
6. Prior to pouring concrete, place and secure anchorage devices. Use setting drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.
7. Cast anchor-bolt insert into bases. Install anchor bolts to elevations required for proper attachment to supported equipment.

3.7 FINISHING FORMED SURFACES

A. Rough-Formed Finish: As-cast concrete texture imparted by form-facing material with tie holes and defects repaired and patched. Remove fins and other projections exceeding 1/2 inch (13 mm).

1. Apply to concrete surfaces not exposed to public view.

B. Smooth-Formed Finish: As-cast concrete texture imparted by form-facing material, arranged in an orderly and symmetrical manner with a minimum of seams. Repair and patch tie holes and defective areas. Remove fins and other projections exceeding 1/8 inch (3 mm).

1. Apply to concrete surfaces exposed to public view.

3.8 FINISHING UNFORMED SURFACES

A. General: Comply with ACI 302.1R for screeding, restraightening, and finishing operations for concrete surfaces. Do not wet concrete surfaces.

B. Screed surfaces with a straightedge and strike off. Begin initial floating using bull floats or darbies to form a uniform and open-textured surface plane before excess moisture or bleedwater appears on surface.

1. Do not further disturb surfaces before starting finishing operations.

C. Scratch Finish: Apply scratch finish to surfaces indicated and surfaces to receive concrete floor topping or mortar setting beds for ceramic or quarry tile, portland cement terrazzo, and other bonded cementitious floor finishes unless otherwise indicated.

D. Float Finish: Apply float finish to surfaces indicated, to surfaces to receive trowel finish, and to floor and slab surfaces to be covered with fluid-applied or sheet waterproofing, fluid-applied or direct-to-deck-applied membrane roofing, or sand-bed terrazzo.

E. Trowel Finish: Apply a hard trowel finish to surfaces indicated and to floor and slab surfaces exposed to view or to be covered with resilient flooring, carpet, ceramic or quarry tile set over a cleavage membrane, paint, or another thin film-finish coating system.

F. Trowel and Fine-Broom Finish: Apply a partial trowel finish, stopping after second troweling, to surfaces indicated and to surfaces where ceramic or quarry tile is to be installed by either thickset or thinset methods. Immediately after second troweling, and when concrete is still plastic, slightly scarify surface with a fine broom.

G. Slip-Resistive Broom Finish: Apply a slip-resistive finish to surfaces indicated and to exterior concrete platforms, steps, and ramps. Immediately after float finishing, slightly roughen trafficked surface by brooming with fiber-bristle broom perpendicular to main traffic route.

3.9 CONCRETE PROTECTING AND CURING

A. General: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures. Comply with ACI 306.1 for cold-weather protection and with ACI 301 (ACI 301M) for hot-weather protection during curing.

B. Evaporation Retarder: Apply evaporation retarder to concrete surfaces if hot, dry, or windy conditions cause moisture loss approaching 0.2 lb/sq. ft. x h (1 kg/sq. m x h) before and during finishing operations. Apply according to manufacturer's written instructions after placing, screeding, and bull floating or darbying concrete, but before float finishing.

C. Begin curing after finishing concrete but not before free water has disappeared from concrete surface.

D. Curing Methods: Cure formed and unformed concrete for at least seven days according to ACI 308.1.

3.10 FIELD QUALITY CONTROL

A. Testing Agency: Owner will engage a qualified testing agency to perform tests and inspections.

B. Tests: Perform according to ACI 301 (ACI 301M).

1. Testing Frequency: Obtain one composite sample for each day's pour of each concrete mixture exceeding 5 cu. yd. (4 cu. m), but less than 25 cu. yd. (19 cu. m), plus one set for each additional 50 cu. yd. (38 cu. m) or fraction thereof.
2. Testing Frequency: Obtain at least one composite sample for each 100 cu. yd. (76 cu. m) or fraction thereof of each concrete mixture placed each day.

END OF SECTION 033053

SECTION 260519 - LOW-VOLTAGE ELECTRICAL POWER CONDUCTORS AND CABLES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Copper building wire rated 600 V or less.
2. Metal-clad cable, Type MC, rated 600 V or less.

1.3 Connectors, splices, and terminations rated 600 V and less.

A. Qualification Data: For manufacturer's authorized service representative.

B. Field quality-control reports.

1.4 QUALITY ASSURANCE

A. Testing Agency Qualifications: Member company of NETA.

1. Testing Agency's Field Supervisor: Certified by NETA to supervise on-site testing.

PART 2 - PRODUCTS

2.1 COPPER BUILDING WIRE

A. Description: Flexible, insulated and uninsulated, drawn copper current-carrying conductor with an overall insulation layer or jacket, or both, rated 600 V or less.

B. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. Alpha Wire Company.
2. American Bare Conductor.
3. Belden Inc.
4. Okonite Company (The).
5. Southwire Company.

C. Standards:

1. Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and use.
2. RoHS compliant.
3. Conductor and Cable Marking: Comply with wire and cable marking according to UL's "Wire and Cable Marking and Application Guide."

D. Conductors: Copper, complying with ASTM B 3 for bare annealed copper and with for stranded conductors.

E. Conductor Insulation:

1. Type THHN and Type THWN-2: Comply with UL 83.
2. Type XHHW-2: Comply with UL 44.

2.2 METAL-CLAD CABLE, TYPE MC (only for existing branch circuit being extended)

A. Description: A factory assembly of one or more current-carrying insulated conductors in an overall metallic sheath.

B. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. Alpha Wire Company.
2. American Bare Conductor.
3. Belden Inc.
4. Okonite Company (The).
5. Southwire Company.

C. Standards:

1. Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and use.
2. Comply with UL 1569.
3. RoHS compliant.
4. Conductor and Cable Marking: Comply with wire and cable marking according to UL's "Wire and Cable Marking and Application Guide."

D. Circuits:

1. Single circuit and multicircuit with color-coded conductors.
2. Power-Limited Fire-Alarm Circuits: Comply with UL 1424.

E. Conductors: Copper, complying with ASTM B 3 for bare annealed copper and with ASTM B 8 for stranded conductors.

F. Ground Conductor: Bare or Insulated.

G. Conductor Insulation:

1. Type TFN/THHN/THWN-2: Comply with UL 83.
2. Type XHHW-2: Comply with UL 44.

H. Armor: Steel, interlocked.

2.3 CONNECTORS AND SPLICES

A. Description: Factory-fabricated connectors, splices, and lugs of size, ampacity rating, material, type, and class for application and service indicated; listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and use.

B. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. 3M Electrical Products.
2. AFC Cable Systems; a part of Atkore International.
3. Hubbell Power Systems, Inc.
4. O-Z/Gedney; a brand of Emerson Industrial Automation.
5. Service Wire Co.
6. Thomas & Betts Corporation; A Member of the ABB Group.

C. Jacketed Cable Connectors: For steel and aluminum jacketed cables, zinc die-cast with set screws, designed to connect conductors specified in this Section.

D. Lugs: One piece, seamless, designed to terminate conductors specified in this Section.

1. Material: Copper.
2. Type: Two hole with standard barrels.
3. Termination: Compression.

PART 3 - EXECUTION

3.1 CONDUCTOR MATERIAL APPLICATIONS

A. Feeders & Branches: Copper; stranded, all sizes.

B. Power-Limited Fire Alarm and Control: Solid for No. 12 AWG and smaller.

3.2 CONDUCTOR INSULATION AND MULTICONDUCTOR CABLE APPLICATIONS AND WIRING METHODS

A. Service Entrance: Type XHHW-2, single conductors in raceway.

B. Exposed Feeders & branches: Type THHN/THWN-2, single conductors in raceway.

C. Feeders & branches Concealed in Ceilings, Walls, Partitions, and Crawlspaces: Type THHN/THWN-2, single conductors in raceway.

D. Feeders & branches Concealed in Concrete, below Slabs-on-Grade, and Underground: THHN/THWN-2, single conductors in raceway.

E. Cord Drops and Portable Appliance Connections for temporary work: Type SO, hard service cord with stainless-steel, wire-mesh, strain relief device at terminations to suit application.

3.3 INSTALLATION OF CONDUCTORS AND CABLES

A. Conceal cables in finished walls, ceilings, and floors unless otherwise indicated.

B. Complete raceway installation between conductor and cable termination points according to Section 260533 "Raceways and Boxes for Electrical Systems" prior to pulling conductors and cables.

C. Use manufacturer-approved pulling compound or lubricant where necessary; compound used must not deteriorate conductor or insulation. Do not exceed manufacturer's recommended maximum pulling tensions and sidewall pressure values.

D. Use pulling means, including fish tape, cable, rope, and basket-weave wire/cable grips, that will not damage cables or raceway.

E. Install exposed cables parallel and perpendicular to surfaces of exposed structural members, and follow surface contours where possible.

F. Support cables according to Section 260529 "Hangers and Supports for Electrical Systems."

3.4 CONNECTIONS

A. Tighten electrical connectors and terminals according to manufacturer's published torque-tightening values. If manufacturer's torque values are not indicated, use those specified in UL 486A-486B.

B. Make splices, terminations, and taps that are compatible with conductor material and that possess equivalent or better mechanical strength and insulation ratings than unspliced conductors.

1. Use oxide inhibitor in each splice, termination, and tap for aluminum conductors.

C. Wiring at Outlets: Install conductor at each outlet, with at least 6 inches of slack.

3.5 IDENTIFICATION

A. Identify and color-code conductors and cables according to Section 260553 "Identification for Electrical Systems."

B. Identify each spare conductor at each end with identity number and location of other end of conductor, and identify as spare conductor.

3.6 FIRESTOPPING

A. Apply firestopping to electrical penetrations of fire-rated floor and wall assemblies to restore original fire-resistance rating of assembly according to fire stopping compound manufacturer recommendations.

3.7 FIELD QUALITY CONTROL

A. Perform tests and inspections with the assistance of a factory-authorized service representative.

1. After installing conductors and cables and before electrical circuitry has been energized, test service entrance and feeder conductors for compliance with requirements.
2. After installing conductors and cables, and before electrical circuitry has been energized, test all service entrance, feeders and branch circuits conductors.

3. Perform each of the following visual and electrical tests:

   a. Inspect exposed sections of conductor and cable for physical damage and correct connection according to the single-line diagram.
   b. Test bolted connections for high resistance using one of the following:

      1) A low-resistance ohmmeter.
      2) Calibrated torque wrench.
      3) Thermographic survey.

   c. Inspect compression-applied connectors for correct cable match and indentation.
   d. Inspect for correct identification.
   e. Inspect cable jacket and condition.
   f. Insulation-resistance test on each conductor for ground and adjacent conductors. Apply a potential of 500-V dc for 300-V rated cable and 1000-V dc for 600-V rated cable for a one-minute duration.
   g. Continuity test on each conductor and cable.
   h. Uniform resistance of parallel conductors.

4. Initial Infrared Scanning: After Substantial Completion, but before Final Acceptance, perform an infrared scan of each splice in conductors No. 3 AWG and larger. Remove box and equipment covers so splices are accessible to portable scanner. Correct deficiencies determined during the scan.

   a. Instrument: Use an infrared scanning device designed to measure temperature or to detect significant deviations from normal values. Provide calibration record for device.
   b. Record of Infrared Scanning: Prepare a certified report that identifies switches checked and that describes scanning results. Include notation of deficiencies detected, remedial action taken, and observations after remedial action.

B. Cables will be considered defective if they do not pass tests and inspections.

C. Prepare test and inspection reports to record the following:

1. Procedures used.
2. Results that comply with requirements.
3. Results that do not comply with requirements, and corrective action taken to achieve compliance with requirements.

END OF SECTION 260519

SECTION 260526 - GROUNDING AND BONDING FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes grounding and bonding systems and equipment.

B. Section includes grounding and bonding systems and equipment, plus the following special applications:

1. Underground distribution grounding.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product indicated.

1.4 CLOSEOUT SUBMITTALS

A. Operation and Maintenance Data: For grounding to include in emergency, operation, and maintenance manuals.

1. In addition to items specified in Section 017823 "Operation and Maintenance Data," include the following:

a. Plans showing as-built, dimensioned locations of grounding features specified in "Field Quality Control" Article, including the following:

1) Test wells.
2) Ground rods.
3) Ground rings.
4) Grounding arrangements and connections for separately derived systems.

b. Instructions for periodic testing and inspection of grounding features.

1) Tests shall determine if ground-resistance or impedance values remain within specified maximums, and instructions shall recommend corrective action if values do not.
2) Include recommended testing intervals.

1.5 QUALITY ASSURANCE

A. Testing Agency Qualifications: Certified by NETA.

PART 2 - PRODUCTS

2.1 SYSTEM DESCRIPTION

A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

B. Comply with UL 467 for grounding and bonding materials and equipment.

2.2 MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. Advanced Lightning Technology, Ltd.
2. Burndy; Part of Hubbell Electrical Systems.
3. ERICO; a brand of nVent.
4. Harger Lightning & Grounding.
5. O-Z/Gedney; a brand of Emerson Industrial Automation.

2.3 CONDUCTORS

A. Insulated Conductors: Copper wire or cable insulated for 600 V unless otherwise required by applicable Code or authorities having jurisdiction.

B. Bare Copper Conductors:

1. Solid Conductors: ASTM B 3.
2. Stranded Conductors: ASTM B 8.
3. Tinned Conductors: ASTM B 33.
4. Bonding Cable: 28 kcmil, 14 strands of No. 17 AWG conductor, 1/4 inch (6 mm) in diameter.
5. Bonding Conductor: No. 4 or No. 6 AWG, stranded conductor.
6. Bonding Jumper: Copper tape, braided conductors terminated with copper ferrules; 1-5/8 inches (41 mm) wide and 1/16 inch (1.6 mm) thick.
7. Tinned Bonding Jumper: Tinned-copper tape, braided conductors terminated with copper ferrules; 1-5/8 inches (41 mm) wide and 1/16 inch (1.6 mm) thick.

C. Grounding Bus: Predrilled rectangular bars of annealed copper, 1/4 by 4 inches (6.3 by 100 mm) in cross section, with 9/32-inch (7.14-mm) holes spaced 1-1/8 inches (28 mm) apart. Stand-off insulators for mounting shall comply with UL 891 for use in switchboards, 600 V and shall be Lexan or PVC, impulse tested at 5000 V.

2.4 CONNECTORS

A. Listed and labeled by an NRTL acceptable to authorities having jurisdiction for applications in which used and for specific types, sizes, and combinations of conductors and other items connected.

B. Welded Connectors: Exothermic-welding kits of types recommended by kit manufacturer for materials being joined and installation conditions.

C. Bus-Bar Connectors: Mechanical type, cast silicon bronze, solderless compression-type wire terminals, and long-barrel, two-bolt connection to ground bus bar.

D. Bus-Bar Connectors: Compression type, copper or copper alloy, with two wire terminals.

E. Beam Clamps: Mechanical type, terminal, ground wire access from four directions, with dual, tin-plated or silicon bronze bolts.

F. Cable-to-Cable Connectors: Compression type, copper or copper alloy.

G. Conduit Hubs: Mechanical type, terminal with threaded hub.

H. Ground Rod Clamps: Mechanical type, copper or copper alloy, terminal with hex head bolt.

I. Lay-in Lug Connector: Mechanical type, copper rated for direct burial terminal with set screw.

J. Service Post Connectors: Mechanical type, bronze alloy terminal, in short- and long-stud lengths, capable of single and double conductor connections.

K. U-Bolt Clamps: Mechanical type, copper or copper alloy, terminal listed for direct burial.

L. Water Pipe Clamps:

1. Mechanical type, two pieces with zinc-plated bolts.
   a. Listed for direct burial.

2. U-bolt type with malleable-iron clamp and copper ground connector.

2.5 GROUNDING ELECTRODES

A. Ground Rods: Copper-clad steel 3/4 inch by 10 feet (19 mm by 3 m).

PART 3 - EXECUTION

3.1 APPLICATIONS

A. Conductors: Install stranded conductor for sizes.

B. Underground Grounding Conductors: Install bare tinned-copper conductor, No. 2/0 AWG minimum.

1. Bury at least 24 inches (600 mm) below grade.
2. Duct-Bank Grounding Conductor: Bury 12 inches (300 mm) above duct bank when indicated as part of duct-bank installation.

C. Grounding Bus: Install in electrical equipment rooms, in rooms housing service equipment, and elsewhere as indicated.

1. Install bus horizontally, on insulated spacers 2 inches (50 mm) minimum from wall, 6 inches (150 mm) above finished floor unless otherwise indicated.
2. Where indicated on both sides of doorways, route bus up to top of door frame, across top of doorway, and down; connect to horizontal bus.

D. Conductor Terminations and Connections:

1. Pipe and Equipment Grounding Conductor Terminations: Bolted connectors.
2. Underground Connections: Welded connectors except at test wells and as otherwise indicated.
3. Connections to Ground Rods at Test Wells: Bolted connectors.
4. Connections to Structural Steel: Welded connectors.

3.2 GROUNDING AT THE SERVICE

A. Equipment grounding conductors and grounding electrode conductors shall be connected to the ground bus. Install a main bonding jumper between the neutral and ground buses.

3.3 GROUNDING SEPARATELY DERIVED SYSTEMS

A. Generator: Install grounding electrode(s) at the transformer secondary side location. The electrode shall be connected to the equipment grounding conductor and to the frame of the transformer.

3.4 GROUNDING UNDERGROUND DISTRIBUTION SYSTEM COMPONENTS

A. Comply with IEEE C2 grounding requirements.

B. Grounding Manholes and Handholes: Install a driven ground rod through manhole or handhole floor, close to wall, and set rod depth so 4 inches (100 mm) will extend above finished floor. If necessary, install ground rod before manhole is placed and provide No. 1/0 AWG bare, tinned-copper conductor from ground rod into manhole through a waterproof sleeve in manhole wall. Protect ground rods passing through concrete floor with a double wrapping of pressure-sensitive insulating tape or heat-shrunk insulating sleeve from 2 inches (50 mm) above to 6 inches (150 mm) below concrete. Seal floor opening with waterproof, nonshrink grout.

C. Grounding Connections to Manhole Components: Bond exposed-metal parts such as inserts, cable racks, pulling irons, ladders, and cable shields within each manhole or handhole, to ground rod or grounding conductor. Make connections with No. 4 AWG minimum, stranded, hard-drawn copper bonding conductor. Train conductors level or plumb around corners and

fasten to manhole walls. Connect to cable armor and cable shields according to written instructions by manufacturer of splicing and termination kits.

D. Pad-Mounted Transformers and Switches: Install two ground rods and ground ring around the pad. Ground pad-mounted equipment and noncurrent-carrying metal items associated with substations by connecting them to underground cable and grounding electrodes. Install tinned-copper conductor not less than No. 2 AWG for ground ring and for taps to equipment grounding terminals. Bury ground ring not less than 6 inches (150 mm) from the foundation.

3.5 EQUIPMENT GROUNDING

A. Install insulated equipment grounding conductors with all feeders and branch circuits.

B. Poles Supporting Outdoor Lighting Fixtures: Install grounding electrode and a separate insulated equipment grounding conductor in addition to grounding conductor installed with branch-circuit conductors.

3.6 INSTALLATION

A. Grounding Conductors: Route along shortest and straightest paths possible unless otherwise indicated or required by Code. Avoid obstructing access or placing conductors where they may be subjected to strain, impact, or damage.

B. Ground Bonding Common with Lightning Protection System: Comply with NFPA 780 and UL 96 when interconnecting with lightning protection system. Bond electrical power system ground directly to lightning protection system grounding conductor at closest point to electrical service grounding electrode. Use bonding conductor sized same as system grounding electrode conductor, and install in conduit.

C. Ground Rods: Drive rods until tops are 2 inches (50 mm) below finished floor or final grade unless otherwise indicated.

1. Interconnect ground rods with grounding electrode conductor below grade and as otherwise indicated. Make connections without exposing steel or damaging coating if any.
2. Use exothermic welds for all below-grade connections.

D. Test Wells: Ground rod driven through drilled hole in bottom of handhole. Handholes are specified in Section 260543 "Underground Ducts and Raceways for Electrical Systems," and shall be at least 12 inches (300 mm) deep, with cover.

1. Install at least one test well for each service unless otherwise indicated. Install at the ground rod electrically closest to service entrance. Set top of test well flush with finished grade or floor.

E. Bonding Straps and Jumpers: Install in locations accessible for inspection and maintenance except where routed through short lengths of conduit.

1. Bonding to Structure: Bond straps directly to basic structure, taking care not to penetrate any adjacent parts.
2. Bonding to Equipment Mounted on Vibration Isolation Hangers and Supports: Install bonding so vibration is not transmitted to rigidly mounted equipment.
3. Use exothermic-welded connectors for outdoor locations; if a disconnect-type connection is required, use a bolted clamp.

F. Grounding and Bonding for Piping:

1. Metal Water Service Pipe: Install insulated copper grounding conductors, in conduit, from building's main service equipment, or grounding bus, to main metal water service entrances to building. Connect grounding conductors to main metal water service pipes; use a bolted clamp connector or bolt a lug-type connector to a pipe flange by using one of the lug bolts of the flange. Where a dielectric main water fitting is installed, connect grounding conductor on street side of fitting. Bond metal grounding conductor conduit or sleeve to conductor at each end.
2. Water Meter Piping: Use braided-type bonding jumpers to electrically bypass water meters. Connect to pipe with a bolted connector.
3. Bond each aboveground portion of gas piping system downstream from equipment shutoff valve.

G. Bonding Interior Metal Ducts: Bond metal air ducts to equipment grounding conductors of associated fans, blowers, electric heaters, and air cleaners. Install tinned bonding jumper to bond across flexible duct connections to achieve continuity.

H. Grounding for Steel Building Structure: Install a driven ground rod at base of each corner column and at intermediate exterior columns at distances not more than 60 feet (18 m) apart.

I. Connections: Make connections so possibility of galvanic action or electrolysis is minimized. Select connectors, connection hardware, conductors, and connection methods so metals in direct contact are galvanically compatible.

1. Use electroplated or hot-tin-coated materials to ensure high conductivity and to make contact points closer in order of galvanic series.
2. Make connections with clean, bare metal at points of contact.
3. Make aluminum-to-steel connections with stainless-steel separators and mechanical clamps.
4. Make aluminum-to-galvanized-steel connections with tin-plated copper jumpers and mechanical clamps.
5. Coat and seal connections having dissimilar metals with inert material to prevent future penetration of moisture to contact surfaces.

3.7 FIELD QUALITY CONTROL

A. Testing Agency: Owner will engage a qualified testing agency to perform tests and inspections.

B. Testing Agency: Engage a qualified testing agency to perform tests and inspections.

C. Manufacturer's Field Service: Engage a factory-authorized service representative to test and inspect components, assemblies, and equipment installations, including connections.

D. Perform tests and inspections with the assistance of a factory-authorized service representative.

E. Tests and Inspections:

1. After installing grounding system but before permanent electrical circuits have been energized, test for compliance with requirements.
2. Inspect physical and mechanical condition. Verify tightness of accessible, bolted, electrical connections with a calibrated torque wrench according to manufacturer's written instructions.
3. Test completed grounding system at each location where a maximum ground-resistance level is specified, at service disconnect enclosure grounding terminal, at ground test wells, and at individual ground rods. Make tests at ground rods before any conductors are connected.

    a. Measure ground resistance no fewer than two full days after last trace of precipitation and without soil being moistened by any means other than natural drainage or seepage and without chemical treatment or other artificial means of reducing natural ground resistance.
    b. Perform tests by fall-of-potential method according to IEEE 81.

4. Prepare dimensioned Drawings locating each test well, ground rod and ground-rod assembly, and other grounding electrodes. Identify each by letter in alphabetical order, and key to the record of tests and observations. Include the number of rods driven and their depth at each location, and include observations of weather and other phenomena that may affect test results. Describe measures taken to improve test results.

F. Grounding system will be considered defective if it does not pass tests and inspections.

G. Prepare test and inspection reports.

H. Report measured ground resistances that exceed the following values:

1. Power and Lighting Equipment or System with Capacity More Than 1000 kVA: 5 ohms.
2. Power Distribution Units or Panelboards Serving Electronic Equipment: 5 ohm(s).
3. Substations and Pad-Mounted Equipment: 5 ohms.
4. Manhole Grounds: 5 ohms.

I. Excessive Ground Resistance: If resistance to ground exceeds specified values, notify Architect promptly and include recommendations to reduce ground resistance.

END OF SECTION 260526

SECTION 260529 - HANGERS AND SUPPORTS FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Steel slotted support systems.
2. Conduit and cable support devices.
3. Support for conductors in vertical conduit.
4. Structural steel for fabricated supports and restraints.
5. Mounting, anchoring, and attachment components, including powder-actuated fasteners, mechanical expansion anchors, concrete inserts, clamps, through bolts, toggle bolts, and hanger rods.
6. Fabricated metal equipment support assemblies.

B. Related Requirements:

1. Section 260548.16 "Seismic Controls for Electrical Systems" for products and installation requirements necessary for compliance with seismic criteria.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for the following:

   a. Slotted support systems, hardware, and accessories.
   b. Clamps.
   c. Hangers.
   d. Sockets.
   e. Eye nuts.
   f. Fasteners.
   g. Anchors.
   h. Saddles.
   i. Brackets.

2. Include rated capacities and furnished specialties and accessories.

B. Shop Drawings: Signed and sealed by a qualified professional engineer. For fabrication and installation details for electrical hangers and support systems.

1. Hangers. Include product data for components.
2. Slotted support systems.
3. Equipment supports.
4. Vibration Isolation Base Details: Detail fabrication including anchorages and attachments to structure and to supported equipment. Include adjustable motor bases, rails, and frames for equipment mounting.

C. Delegated-Design Submittal: For hangers and supports for electrical systems.

1. Include design calculations and details of hangers.
2. Include design calculations for seismic restraints.

1.4 INFORMATIONAL SUBMITTALS

A. Seismic Qualification Data: Certificates, for hangers and supports for electrical equipment and systems, accessories, and components, from manufacturer.

1. Basis for Certification: Indicate whether withstand certification is based on actual test of assembled components or on calculation.
2. Dimensioned Outline Drawings of Equipment Unit: Identify center of gravity and locate and describe mounting and anchorage provisions.
3. Detailed description of equipment anchorage devices on which the certification is based and their installation requirements.

B. Welding certificates.

1.5 QUALITY ASSURANCE

A. Welding Qualifications: Qualify procedures and personnel according to AWS D1.1/D1.1M.

B. Welding Qualifications: Qualify procedures and personnel according to the following:

1. AWS D1.1/D1.1M.
2. AWS D1.2/D1.2M.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Delegated Design: Engage a qualified professional engineer, as defined in Section 014000 "Quality Requirements," to design hanger and support system.

B. Seismic Performance: Hangers and supports shall withstand the effects of earthquake motions determined according to ASCE/SEI 7.

1. The term "withstand" means "the supported equipment and systems will remain in place without separation of any parts when subjected to the seismic forces specified and the supported equipment and systems will be fully operational after the seismic event."

2.2 SUPPORT, ANCHORAGE, AND ATTACHMENT COMPONENTS

A. Steel Slotted Support Systems: Preformed steel channels and angles with minimum 13/32-inch-(10-mm-) diameter holes at a maximum of 8 inches (200 mm) o.c. in at least one surface.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

   a. Allied Tube & Conduit; a part of Atkore International.
   b. B-line, an Eaton business.
   c. G-Strut.
   d. Thomas & Betts Corporation; A Member of the ABB Group.
   e. Unistrut; Part of Atkore International.

2. Standard: Comply with MFMA-4 factory-fabricated components for field assembly.

3. Material for Channel, Fittings, and Accessories: Galvanized steel.
4. Channel Width: 1-5/8 inches (41.25 mm).
5. Metallic Coatings: Hot-dip galvanized after fabrication and applied according to MFMA-4.
6. Painted Coatings: Manufacturer's standard painted coating applied according to MFMA-4.
7. Protect finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.

B. Conduit and Cable Support Devices: Steel and malleable-iron hangers, clamps, and associated fittings, designed for types and sizes of raceway or cable to be supported.

C. Support for Conductors in Vertical Conduit: Factory-fabricated assembly consisting of threaded body and insulating wedging plug or plugs for nonarmored electrical conductors or cables in riser conduits. Plugs shall have number, size, and shape of conductor gripping pieces as required to suit individual conductors or cables supported. Body shall be made of malleable iron.

D. Structural Steel for Fabricated Supports and Restraints: ASTM A 36/A 36M steel plates, shapes, and bars; black and galvanized.

E. Mounting, Anchoring, and Attachment Components: Items for fastening electrical items or their supports to building surfaces include the following:

1. Powder-Actuated Fasteners: Threaded-steel stud, for use in hardened portland cement concrete, steel, or wood, with tension, shear, and pullout capacities appropriate for supported loads and building materials where used.

   a. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1) Hilti, Inc.
2) ITW Ramset/Red Head; Illinois Tool Works, Inc.
3) MKT Fastening, LLC.
4) Simpson Strong-Tie Co., Inc.

2. Mechanical-Expansion Anchors: Insert-wedge-type, zinc-coated steel, for use in hardened portland cement concrete, with tension, shear, and pullout capacities appropriate for supported loads and building materials where used.

   a. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

      1) B-line, an Eaton business.
      2) Empire Tool and Manufacturing Co., Inc.
      3) Hilti, Inc.

3. Concrete Inserts: Steel or malleable-iron, slotted support system units are similar to MSS Type 18 units and comply with MFMA-4 or MSS SP-58.
4. Clamps for Attachment to Steel Structural Elements: MSS SP-58 units are suitable for attached structural element.
5. Through Bolts: Structural type, hex head, and high strength. Comply with ASTM A 325.
6. Toggle Bolts: Stainless-steel springhead type.
7. Hanger Rods: Threaded steel.

2.3 FABRICATED METAL EQUIPMENT SUPPORT ASSEMBLIES

A. Description: Welded or bolted structural-steel shapes, shop or field fabricated to fit dimensions of supported equipment.

PART 3 - EXECUTION

3.1 APPLICATION

A. Comply with the following standards for application and installation requirements of hangers and supports, except where requirements on Drawings or in this Section are stricter:

   1. NECA 1.
   2. NECA 101
   3. NECA 102.
   4. NECA 105.
   5. NECA 111.

B. Comply with requirements for raceways and boxes specified in Section 260533 "Raceways and Boxes for Electrical Systems."

C. Maximum Support Spacing and Minimum Hanger Rod Size for Raceways: Space supports for EMT, IMC, and RGS NFPA 70. Minimum rod size shall be 1/4 inch (6 mm) in diameter.

D. Multiple Raceways or Cables: Install trapeze-type supports fabricated with steel slotted support system, sized so capacity can be increased by at least 25 percent in future without exceeding specified design load limits.

1. Secure raceways and cables to these supports with two-bolt conduit clamps.

E. Spring-steel clamps designed for supporting single conduits without bolts shall not be used.

3.2 SUPPORT INSTALLATION

A. Comply with NECA 1 and NECA 101 for installation requirements except as specified in this article.

B. Raceway Support Methods: In addition to methods described in NECA 1, EMT, IMC and RGS may be supported by openings through structure members, according to NFPA 70.

C. Strength of Support Assemblies: Where not indicated, select sizes of components so strength will be adequate to carry present and future static loads within specified loading limits. Minimum static design load used for strength determination shall be weight of supported components plus 200 lb (90 kg).

D. Mounting and Anchorage of Surface-Mounted Equipment and Components: Anchor and fasten electrical items and their supports to building structural elements by the following methods unless otherwise indicated by code:

1. To Wood: Fasten with lag screws or through bolts.
2. To New Concrete: Bolt to concrete inserts.
3. To Masonry: Approved toggle-type bolts on hollow masonry units and expansion anchor fasteners on solid masonry units.
4. To Existing Concrete: Expansion anchor fasteners.
5. Instead of expansion anchors, powder-actuated driven threaded studs provided with lock washers and nuts may be used in existing standard-weight concrete 4 inches (100 mm) thick or greater. Do not use for anchorage to lightweight-aggregate concrete or for slabs less than 4 inches (100 mm) thick.
6. To Steel: Welded threaded studs complying with AWS D1.1/D1.1M, with lock washers and nuts or Beam clamps (MSS SP-58, Type 19, 21, 23, 25, or 27), complying with MSS SP-69.
7. To Light Steel: Sheet metal screws.
8. Items Mounted on Hollow Walls and Nonstructural Building Surfaces: Mount cabinets, panelboards, disconnect switches, control enclosures, pull and junction boxes, transformers, and other devices on slotted-channel racks attached to substrate.

E. Drill holes for expansion anchors in concrete at locations and to depths that avoid the need for reinforcing bars.

3.3 INSTALLATION OF FABRICATED METAL SUPPORTS

A. Cut, fit, and place miscellaneous metal supports accurately in location, alignment, and elevation to support and anchor electrical materials and equipment.

B. Field Welding: Comply with AWS D1.1/D1.1M.

3.4 PAINTING

A. Touchup: Clean field welds and abraded areas of shop paint. Paint exposed areas immediately after erecting hangers and supports. Use same materials as used for shop painting. Comply with SSPC-PA 1 requirements for touching up field-painted surfaces.

1. Apply paint by brush or spray to provide minimum dry film thickness of 2.0 mils (0.05 mm).

B. Galvanized Surfaces: Clean welds, bolted connections, and abraded areas and apply galvanizing-repair paint to comply with ASTM A 780.

END OF SECTION 260529

SECTION 260533 - RACEWAYS AND BOXES FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Metal conduits and fittings.
2. Nonmetallic conduits and fittings.
3. Metal wireways and auxiliary gutters.
4. Boxes, enclosures, and cabinets.
5. Handholes and boxes for exterior underground cabling.

B. Related Requirements:

1. Section 260543 "Underground Ducts and Raceways for Electrical Systems" for exterior ductbanks, manholes, and underground utility construction.

1.3 DEFINITIONS

A. RGS: Galvanized rigid steel conduit.

B. IMC: Intermediate metal conduit.

1.4 ACTION SUBMITTALS

A. Product Data: For raceways, wireways and fittings, floor boxes, hinged-cover enclosures, and cabinets.

B. Shop Drawings: For custom enclosures and cabinets. Include plans, elevations, sections, and attachment details.

C. Samples: For wireways and for each color and texture specified, 12 inches (300 mm) long.

1.5 INFORMATIONAL SUBMITTALS

A. Coordination Drawings: Conduit routing plans, drawn to scale, on which the following items are shown and coordinated with each other, using input from installers of items involved:

1. Structural members in paths of conduit groups with common supports.
2. HVAC and plumbing items and architectural features in paths of conduit groups with common supports.

B. Qualification Data: For professional engineer.

C. Seismic Qualification Data: Certificates, for enclosures, cabinets, and conduit racks and their mounting provisions, including those for internal components, from manufacturer.

1. Basis for Certification: Indicate whether withstand certification is based on actual test of assembled components or on calculation.
2. Dimensioned Outline Drawings of Equipment Unit: Identify center of gravity and locate and describe mounting and anchorage provisions.
3. Detailed description of equipment anchorage devices on which the certification is based and their installation requirements.
4. Detailed description of conduit support devices and interconnections on which the certification is based and their installation requirements.

D. Source quality-control reports.

PART 2 - PRODUCTS

2.1 METAL CONDUITS AND FITTINGS

A. Metal Conduit:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

   a. AFC Cable Systems; a part of Atkore International.
   b. Allied Tube & Conduit; a part of Atkore International.
   c. Electri-Flex Company.
   d. NEC, Inc.
   e. O-Z/Gedney; a brand of Emerson Industrial Automation.
   f. Picoma Industries, Inc.
   g. Plasti-Bond.

2. Listing and Labeling: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

3. RGS: Comply with ANSI C80.1 and UL 6.
4. ARC: Comply with ANSI C80.5 and UL 6A.
5. IMC: Comply with ANSI C80.6 and UL 1242.

6. EMT: Comply with ANSI C80.3 and UL 797.
7. FMC: Comply with UL 1; zinc-coated steel.
8. LFMC: Flexible steel conduit with PVC jacket and complying with UL 360.

B. Metal Fittings:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

    a. AFC Cable Systems; a part of Atkore International.
    b. Allied Tube & Conduit; a part of Atkore International.
    c. Electri-Flex Company.
    d. NEC, Inc.
    e. O-Z/Gedney; a brand of Emerson Industrial Automation.
    f. Picoma Industries, Inc.

2. Comply with NEMA FB 1 and UL 514B.

3. Listing and Labeling: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
4. Fittings, General: Listed and labeled for type of conduit, location, and use.
5. Conduit Fittings for Hazardous (Classified) Locations: Comply with UL 1203 and NFPA 70.
6. Fittings for EMT:

    a. Material: Steel.
    b. Type: compression.

7. Expansion Fittings: PVC or steel to match conduit type, complying with UL 651, rated for environmental conditions where installed, and including flexible external bonding jumper.
8. Coating for Fittings for PVC-Coated Conduit: Minimum thickness of 0.040 inch (1 mm), with overlapping sleeves protecting threaded joints.

C. Joint Compound for IMC, RGS, or ARC: Approved, as defined in NFPA 70, by authorities having jurisdiction for use in conduit assemblies, and compounded for use to lubricate and protect threaded conduit joints from corrosion and to enhance their conductivity.

2.2 NONMETALLIC CONDUITS AND FITTINGS

A. Nonmetallic Conduit:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

    a. AFC Cable Systems; a part of Atkore International.
    b. Arnco Corporation.
    c. CANTEX INC.
    d. Champion Fiberglass, Inc.
    e. Condux International, Inc.
    f. Electri-Flex Company.
    g. RACO; Hubbell.
    h. Thomas & Betts Corporation; A Member of the ABB Group.

2. Listing and Labeling: Nonmetallic conduit shall be listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
3. Fiberglass:

    a. Comply with NEMA TC 14.
    b. Comply with UL 2515 for aboveground raceways.
    c. Comply with UL 2420 for belowground raceways.
4. RNC: Type EPC-40-PVC, complying with NEMA TC 2 and UL 651 unless otherwise indicated.
5. LFNC: Comply with UL 1660.
6. Rigid HDPE: Comply with UL 651A.
7. Continuous HDPE: Comply with UL 651A.
8. RTRC: Comply with UL 2515A and NEMA TC 14.

B. Nonmetallic Fittings:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

    a. AFC Cable Systems; a part of Atkore International.
    b. Arnco Corporation.
    c. CANTEX INC.
    d. Champion Fiberglass, Inc.
    e. Condux International, Inc.
    f. Electri-Flex Company.
    g. RACO; Hubbell.
    h. Thomas & Betts Corporation; A Member of the ABB Group.

2. Fittings, General: Listed and labeled for type of conduit, location, and use.

3. Fittings for RNC: Comply with NEMA TC 3; match to conduit or tubing type and material.

    a. Fittings for LFNC: Comply with UL 514B.

4. Solvents and Adhesives: As recommended by conduit manufacturer.

2.3 METAL WIREWAYS AND AUXILIARY GUTTERS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. B-line, an Eaton business.
2. Hoffman; a brand of nVent.
3. MonoSystems, Inc.
4. Square D.

B. Description: Sheet metal, complying with UL 870 and NEMA 250, Type 1 (inside), Type 4x (outside and/or near the water) unless otherwise indicated, and sized according to NFPA 70.

1. Metal wireways installed outdoors shall be listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

C. Fittings and Accessories: Include covers, couplings, offsets, elbows, expansion joints, adapters, hold-down straps, end caps, and other fittings to match and mate with wireways as required for complete system.

D. Wireway Covers: Screw-cover type unless otherwise indicated.

E. Finish: Manufacturer's standard enamel finish.

2.4 BOXES, ENCLOSURES, AND CABINETS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. Crouse-Hinds, an Eaton business.
2. EGS/Appleton Electric.
3. Erickson Electrical Equipment Company.
4. FSR Inc.
5. Hoffman; a brand of nVent.
6. Hubbell Incorporated; Wiring Device-Kellems.
7. O-Z/Gedney; a brand of Emerson Industrial Automation.
8. Plasti-Bond.

B. General Requirements for Boxes, Enclosures, and Cabinets: Boxes, enclosures, and cabinets installed in wet locations shall be listed for use in wet locations.

C. Sheet Metal Outlet and Device Boxes: Comply with NEMA OS 1 and UL 514A.

D. Cast-Metal Outlet and Device Boxes: Comply with NEMA FB 1, ferrous alloy, Type FD, with gasketed cover.

E. Nonmetallic Outlet and Device Boxes: Comply with NEMA OS 2 and UL 514C.

F. Metal Floor Boxes:

1. Material: stamped steel up to 6"x6" square or sheet metal for larger boxes.
2. Type: Fully adjustable.
3. Shape: Rectangular.
4. Listing and Labeling: Metal floor boxes shall be listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

G. Cast-Metal Access, Pull, and Junction Boxes: Comply with NEMA FB 1 and UL 1773, galvanized, cast iron with gasketed cover.

H. Box extensions used to accommodate new building finishes shall be of same material as recessed box.

I. Device Box Dimensions: 4 inches square by 2-1/8 inches deep

J. Gangable boxes are allowed.

K. Hinged-Cover Enclosures: Comply with UL 50 and NEMA 250, Type 4x with continuous-hinge cover with flush latch unless otherwise indicated.

1. Metal Enclosures: Steel, finished inside and out with manufacturer's standard enamel.
2. Interior Panels: Steel; all sides finished with manufacturer's standard enamel.

2.5 HANDHOLES AND BOXES FOR EXTERIOR UNDERGROUND WIRING

A. General Requirements for Handholes and Boxes:

1. Boxes and handholes for use in underground systems shall be designed and identified as defined in NFPA 70, for intended location and application.
2. Boxes installed in wet areas shall be listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

B. Polymer-Concrete Handholes and Boxes with Polymer-Concrete Cover: Molded of sand and aggregate, bound together with polymer resin, and reinforced with steel, fiberglass, or a combination of the two.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

a. Armorcast Products Company.
b. NewBasis.
c. Oldcastle Enclosure Solutions.
d. Oldcastle Precast, Inc.

2. Standard: Comply with SCTE 77.
3. Configuration: Designed for flush burial with closed bottom.
4. Cover: Weatherproof, secured by tamper-resistant locking devices and having structural load rating consistent with enclosure and handhole location.
5. Cover Finish: Nonskid finish shall have a minimum coefficient of friction of 0.50.
6. Cover Legend: Molded lettering, "ELECTRIC.".
7. Conduit Entrance Provisions: Conduit-terminating fittings shall mate with entering ducts for secure, fixed installation in enclosure wall.
8. Handholes 12 Inches Wide by 24 Inches Long (300 mm Wide by 600 mm Long) and Larger: Have inserts for cable racks and pulling-in irons installed before concrete is poured.

2.6 SOURCE QUALITY CONTROL FOR UNDERGROUND ENCLOSURES

A. Handhole and Pull-Box Prototype Test: Test prototypes of handholes and boxes for compliance with SCTE 77. Strength tests shall be for specified tier ratings of products supplied.

1. Tests of materials shall be performed by an independent testing agency.

2. Strength tests of complete boxes and covers shall be by either an independent testing agency or manufacturer. A qualified registered professional engineer shall certify tests by manufacturer.
3. Testing machine pressure gages shall have current calibration certification complying with ISO 9000 and ISO 10012 and traceable to NIST standards.

PART 3 - EXECUTION

3.1 RACEWAY APPLICATION

A. Outdoors: Apply raceway products as specified below unless otherwise indicated:

1. Exposed Conduit: RGS, IMC, RNC, Type EPC-40-PVC.
2. Concealed Conduit, Aboveground: RGS, IMC, EMT.
3. Underground Conduit: RNC, Type EPC-40-PVC, direct buried.
4. Connection to Vibrating Equipment (Including Transformers and Hydraulic, Pneumatic, Electric Solenoid, or Motor-Driven Equipment): LFMC.
5. Boxes and Enclosures, Aboveground: NEMA 250, Type 4x.

B. Indoors: Apply raceway products as specified below unless otherwise indicated:

1. Exposed, Not Subject to Physical Damage: EMT.
2. Exposed, Not Subject to Severe Physical Damage: RGS.
3. Exposed and Subject to Severe Physical Damage: RGS. Raceway locations include the following:

   a. Under the concourse (ground floor).
   b. Electrical/Mechanical rooms.

4. Concealed in Ceilings and Interior Walls and Partitions: EMT.
5. Connection to Vibrating Equipment (Including Transformers and Hydraulic, Pneumatic, Electric Solenoid, or Motor-Driven Equipment): LFMC.
6. Damp or Wet Locations: RGS.
7. Boxes and Enclosures: NEMA 250, Type 1, except use NEMA 250, Type 4 stainless steel in commercial kitchens and damp or wet locations.

C. Minimum Raceway Size: 3/4-inch (21-mm) trade size.

D. Raceway Fittings: Compatible with raceways and suitable for use and location.

1. Rigid and Intermediate Steel Conduit: Use threaded rigid steel conduit fittings unless otherwise indicated. Comply with NEMA FB 2.10.
2. EMT: Use compression, steel fittings. Comply with NEMA FB 2.10.
3. Flexible Conduit: Use only fittings listed for use with flexible conduit. Comply with NEMA FB 2.20.

E. Do not install nonmetallic conduit where ambient temperature exceeds 120 deg F (49 deg C).

3.2 INSTALLATION

A. Comply with requirements in Section 260529 "Hangers and Supports for Electrical Systems" for hangers and supports.

B. Comply with NECA 1 and NECA 101 for installation requirements except where requirements on Drawings or in this article are stricter. Comply with NECA 102 for aluminum conduits. Comply with NFPA 70 limitations for types of raceways allowed in specific occupancies and number of floors.

C. Do not install raceways or electrical items on any "explosion-relief" walls or rotating equipment.

D. Do not fasten conduits onto the bottom side of a metal deck roof.

E. Keep raceways at least 6 inches (150 mm) away from parallel runs of flues and steam or hot-water pipes. Install horizontal raceway runs above water and steam piping.

F. Complete raceway installation before starting conductor installation.

G. Arrange stub-ups so curved portions of bends are not visible above finished slab.

H. Install no more than the equivalent of three 90-degree bends in any conduit run except for control wiring conduits, for which fewer bends are allowed. Support within 12 inches (300 mm) of changes in direction.

I. Make bends in raceway using large-radius preformed ells. Field bending shall be according to NFPA 70 minimum radii requirements. Use only equipment specifically designed for material and size involved.

J. Conceal conduit within finished walls, ceilings, and floors unless otherwise indicated. Install conduits parallel or perpendicular to building lines.

K. Support conduit within 12 inches (300 mm) of enclosures to which attached.

L. Stub-Ups to Above Recessed Ceilings:

1. Use EMT, IMC, or RMC for raceways.
2. Use a conduit bushing or insulated fitting to terminate stub-ups not terminated in hubs or in an enclosure.

M. Threaded Conduit Joints, Exposed to Wet, Damp, Corrosive, or Outdoor Conditions: Apply listed compound to threads of raceway and fittings before making up joints. Follow compound manufacturer's written instructions.

N. Raceway Terminations at Locations Subject to Moisture or Vibration: Use insulating bushings to protect conductors including conductors smaller than No. 4 AWG.

O. Terminate threaded conduits into threaded hubs or with locknuts on inside and outside of boxes or cabinets. Install bushings on conduits up to 1-1/4-inch (35mm) trade size and insulated throat metal bushings on 1-1/2-inch (41-mm) trade size and larger conduits terminated with locknuts. Install insulated throat metal grounding bushings on service conduits.

P. Install raceways square to the enclosure and terminate at enclosures with locknuts. Install locknuts hand tight plus 1/4 turn more.

Q. Do not rely on locknuts to penetrate nonconductive coatings on enclosures. Remove coatings in the locknut area prior to assembling conduit to enclosure to assure a continuous ground path.

R. Cut conduit perpendicular to the length. For conduits 2-inch (53-mm) trade size and larger, use roll cutter or a guide to make cut straight and perpendicular to the length.

S. Install pull wires in empty raceways. Use polypropylene or monofilament plastic line with not less than 200-lb (90-kg) tensile strength. Leave at least 12 inches (300 mm) of slack at each end of pull wire. Cap underground raceways designated as spare above grade alongside raceways in use.

T. Install raceway sealing fittings at accessible locations according to NFPA 70 and fill them with listed sealing compound. For concealed raceways, install each fitting in a flush steel box with a blank cover plate having a finish similar to that of adjacent plates or surfaces. Install raceway sealing fittings according to NFPA 70.

U. Install devices to seal raceway interiors at accessible locations. Locate seals so no fittings or boxes are between the seal and the following changes of environments. Seal the interior of all raceways at the following points:

1. Where conduits pass from warm to cold locations, such as boundaries of refrigerated spaces.
2. Where an underground service raceway enters a building or structure.
3. Conduit extending from interior to exterior of building.
4. Conduit extending into pressurized duct and equipment.
5. Conduit extending into pressurized zones that are automatically controlled to maintain different pressure set points.
6. Where otherwise required by NFPA 70.

V. Comply with manufacturer's written instructions for solvent welding RNC and fittings.

W. Expansion-Joint Fittings:

1. Install in each run of aboveground RNC that is located where environmental temperature change may exceed 30 deg F (17 deg C) and that has straight-run length that exceeds 25 feet (7.6 m). Install in each run of aboveground RGS and EMT conduit that is located where environmental temperature change may exceed 100 deg F (55 deg C) and that has straight-run length that exceeds 100 feet (30 m).
2. Install type and quantity of fittings that accommodate temperature change listed for each of the following locations:

   a. Outdoor Locations Not Exposed to Direct Sunlight: 125 deg F (70 deg C) temperature change.
   b. Outdoor Locations Exposed to Direct Sunlight: 155 deg F (86 deg C) temperature change.
   c. Indoor Spaces Connected with Outdoors without Physical Separation: 125 deg F (70 deg C) temperature change.
   d. Attics: 135 deg F (75 deg C) temperature change.

3. Install fitting(s) that provide expansion and contraction for at least 0.00041 inch per foot of length of straight run per deg F (0.06 mm per meter of length of straight run per deg C) of temperature change for PVC conduits. Install fitting(s) that provide expansion and contraction for at least 0.000078 inch per foot of length of straight run per deg F (0.0115 mm per meter of length of straight run per deg C) of temperature change for metal conduits.
4. Install expansion fittings at all locations where conduits cross building or structure expansion joints.
5. Install each expansion-joint fitting with position, mounting, and piston setting selected according to manufacturer's written instructions for conditions at specific location at time of installation. Install conduit supports to allow for expansion movement.

X. Flexible Conduit Connections: Comply with NEMA RV 3. Use a maximum of 36 inches (915 mm) of flexible conduit for equipment subject to vibration, noise transmission, or movement; and for transformers and motors.

1. Use LFMC in damp or wet locations subject to severe physical damage.
2. Use LFMC in damp or wet locations not subject to severe physical damage.

Y. Mount boxes at heights indicated on Drawings. If mounting heights of boxes are not individually indicated, give priority to ADA requirements. Install boxes with height measured to center of box unless otherwise indicated.

Z. Recessed Boxes in Masonry Walls: Saw-cut opening for box in center of cell of masonry block, and install box flush with surface of wall. Prepare block surfaces to provide a flat surface for a raintight connection between box and cover plate or supported equipment and box.

AA. Horizontally separate boxes mounted on opposite sides of walls so they are not in the same vertical channel.

BB. Locate boxes so that cover or plate will not span different building finishes.

CC. Support boxes of three gangs or more from more than one side by spanning two framing members or mounting on brackets specifically designed for the purpose.

DD. Fasten junction and pull boxes to or support from building structure. Do not support boxes by conduits.

EE. Set metal floor boxes level and flush with finished floor surface.

3.3 INSTALLATION OF UNDERGROUND CONDUIT

A. Direct-Buried Conduit:

1. Excavate trench bottom to provide firm and uniform support for conduit. Prepare trench bottom as specified in Section 312000 "Earth Moving" for pipe less than 6 inches (150 mm) in nominal diameter.
2. Install backfill as specified in Section 312000 "Earth Moving."
3. After installing conduit, backfill and compact. Start at tie-in point, and work toward end of conduit run, leaving conduit at end of run free to move with expansion and contraction

as temperature changes during this process. Firmly hand tamp backfill around conduit to provide maximum supporting strength. After placing controlled backfill to within 12 inches (300 mm) of finished grade, make final conduit connection at end of run and complete backfilling with normal compaction as specified in Section 312000 "Earth Moving."

4. Install manufactured duct elbows for stub-ups at poles and equipment and at building entrances through floor unless otherwise indicated. Encase elbows for stub-up ducts throughout length of elbow.
5. Install manufactured rigid steel conduit elbows for stub-ups at poles and equipment and at building entrances through floor.

    a. Couple steel conduits to ducts with adapters designed for this purpose, and encase coupling with 3 inches (75 mm) of concrete for a minimum of 12 inches (300 mm) on each side of the coupling.
    b. For stub-ups at equipment mounted on outdoor concrete bases and where conduits penetrate building foundations, extend steel conduit horizontally a minimum of 60 inches (1500 mm) from edge of foundation or equipment base. Install insulated grounding bushings on terminations at equipment.

6. Warning Planks: Bury warning planks approximately 12 inches (300 mm) above direct-buried conduits but a minimum of 6 inches (150 mm) below grade. Align planks along centerline of conduit.
7. Underground Warning Tape: Comply with requirements in Section 260553 "Identification for Electrical Systems."

3.4 INSTALLATION OF UNDERGROUND HANDHOLES AND BOXES

A. Install handholes and boxes level and plumb and with orientation and depth coordinated with connecting conduits to minimize bends and deflections required for proper entrances.

B. Unless otherwise indicated, support units on a level bed of crushed stone or gravel, graded from 1/2-inch (12.5-mm) sieve to No. 4 (4.75-mm) sieve and compacted to same density as adjacent undisturbed earth.

C. Elevation: In paved areas, set so cover surface will be flush with finished grade. Set covers of other enclosures 1 inch (25 mm) above finished grade.

D. Install handholes with bottom below frost line, 3ft below grade.

E. Install removable hardware, including pulling eyes, cable stanchions, cable arms, and insulators, as required for installation and support of cables and conductors and as indicated. Select arm lengths to be long enough to provide spare space for future cables but short enough to preserve adequate working clearances in enclosure.

F. Field-cut openings for conduits according to enclosure manufacturer's written instructions. Cut wall of enclosure with a tool designed for material to be cut. Size holes for terminating fittings to be used, and seal around penetrations after fittings are installed.

3.5 PROTECTION

A. Protect coatings, finishes, and cabinets from damage and deterioration.

1. Repair damage to galvanized finishes with zinc-rich paint recommended by manufacturer.

END OF SECTION 260533

SECTION 260543 - UNDERGROUND DUCTS AND RACEWAYS FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:
   1. Rigid nonmetallic duct.
   2. Duct accessories.
   3. Precast concrete handholes.
   4. Utility structure accessories.

1.3 DEFINITIONS

A. Direct Buried: Duct or a duct bank that is buried in the ground, without any additional casing materials such as concrete.

B. Duct: A single duct or multiple ducts. Duct may be either installed singly or as component of a duct bank.

C. Duct Bank:

   1. Two or more ducts installed in parallel, with or without additional casing materials.
   2. Multiple duct banks.

D. Trafficways: Locations where vehicular or pedestrian traffic is a normal course of events.

1.4 ACTION SUBMITTALS

A. Product Data: For each type of product.

   1. Include duct-bank materials, including spacers and miscellaneous components.
   2. Include duct, conduits, and their accessories, including elbows, end bells, bends, fittings, and solvent cement.
   3. Include accessories for manholes, handholes, boxes, and other utility structures.
   4. Include underground-line warning tape.
   5. Include warning planks.

B. Shop Drawings:

   1. Precast or Factory-Fabricated Underground Utility Structures:

a. Include plans, elevations, sections, details, attachments to other work, and accessories.
b. Include duct entry provisions, including locations and duct sizes.
c. Include reinforcement details.
d. Include frame and cover design and manhole chimneys.
e. Include ladder details.
f. Include grounding details.
g. Include dimensioned locations of cable rack inserts, pulling-in and lifting irons, and sumps.
h. Include joint details.

2. Factory-Fabricated Handholes and Boxes Other Than Precast Concrete:

a. Include dimensioned plans, sections, and elevations, and fabrication and installation details.
b. Include duct entry provisions, including locations and duct sizes.
c. Include cover design.
d. Include grounding details.
e. Include dimensioned locations of cable rack inserts, and pulling-in and lifting irons.

1.5 INFORMATIONAL SUBMITTALS

A. Coordination Drawings: For duct and duct bank. Show duct profiles and coordination with other utilities and underground structures.

1. Include plans and sections, drawn to scale, and show bends and locations of expansion fittings.
2. Drawings shall be signed and sealed by a qualified professional engineer.

B. Qualification Data: For professional engineer and testing agency responsible for testing nonconcrete handholes and boxes.

C. Product Certificates: For concrete and steel used in precast concrete handholes, as required by ASTM C 858.

D. Source quality-control reports.

E. Field quality-control reports.

1.6 MAINTENANCE MATERIALS SUBMITTALS

A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

B. Furnish cable-support stanchions, arms, insulators, and associated fasteners in quantities equal to 5 percent of quantity of each item installed.

1.7 QUALITY ASSURANCE

A. Testing Agency Qualifications: Qualified according to ASTM E 329 for testing indicated.

1.8 FIELD CONDITIONS

A. Interruption of Existing Electrical Service: Do not interrupt electrical service to facilities occupied by Owner or others unless permitted under the following conditions, and then only after arranging to provide temporary electrical service according to requirements indicated:

1. Notify Owner/(Government) no fewer than two days in advance of proposed interruption of electrical service.
2. Do not proceed with interruption of electrical service without Owner's/(Government's) written permission.

B. Ground Water: Assume ground-water level is at grade level unless a lower water table is noted on Drawings. Provide de-watering as needed to complete the work.

PART 2 - PRODUCTS

2.1 RIGID NONMETALLIC DUCT

A. Underground Plastic Utilities Duct: Type EPC-40-PVC RNC (all elbows shall be EPC-80-PVC), complying with NEMA TC 2 and UL 651, with matching fittings complying with NEMA TC 3 by same manufacturer as duct.

B. <Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. ARNCO Corp.
2. CANTEX INC.
3. Condux International, Inc.
4. Electri-Flex Company.
5. National Pipe & Plastics.
6. Spiraduct/AFC Cable Systems, Inc.

C. Listed and labeled as defined in NFPA 70, by a nationally recognized testing laboratory, and marked for intended location and application.

D. Solvents and Adhesives: As recommended by conduit manufacturer.

2.2 DUCT ACCESSORIES

A. Duct Spacers: Factory-fabricated, rigid, PVC interlocking spacers; sized for type and size of duct with which used, and selected to provide minimum duct spacing indicated while supporting duct during concreting or backfilling.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

    a. Allied Tube & Conduit; a part of Atkore International.
    b. CANTEX INC.
    c. Carlon; a brand of Thomas & Betts Corporation.
    d. IPEX USA LLC.
    e. Underground Devices, Inc.

B. Underground-Line Warning Tape: Comply with requirements for underground-line warning tape specified in Section 260553 "Identification for Electrical Systems."

C. Concrete Warning Planks: Nominal 12 by 24 by 3 inches (300 by 600 by 75 mm) in size, manufactured from 6000-psi (41-MPa) concrete.

1. Color: Red dye added to concrete during batching.
2. Mark each plank with "ELECTRIC" in 2-inch- (50-mm-) high, 3/8-inch- (10-mm-) deep letters.

2.3 PRECAST CONCRETE HANDHOLES AND BOXES

A. Description: Factory-fabricated, reinforced-concrete, monolithically poured walls and bottom unless open-bottom enclosures are indicated. Frame and cover shall form top of enclosure and shall have load rating consistent with that of handhole or box.

B. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. Christy Concrete Products.
2. Oldcastle Precast, Inc.
3. Rinker Group, Ltd.
4. Utility Concrete Products, LLC.
5. Utility Vault Co.

C. Comply with ASTM C 858 for design and manufacturing processes.

D. Frame and Cover: Weatherproof cast-iron frame, with cast-iron cover with recessed cover hook eyes and tamper-resistant, captive, cover-securing bolts. Roadway rated.

E. Cover Finish: Nonskid finish shall have a minimum coefficient of friction of 0.50.

F. Cover Legend: Molded lettering, "ELECTRIC."

G. Configuration: Units shall be designed for flush burial and have integral closed bottom unless otherwise indicated.

H. Extensions and Slabs: Designed to mate with bottom of enclosure. Same material as enclosure.

1. Extension shall provide increased depth of 12 inches (300 mm).
2. Slab: Same dimensions as bottom of enclosure, and arranged to provide closure.

I. Joint Sealant: Asphaltic-butyl material with adhesion, cohesion, flexibility, and durability properties necessary to withstand maximum hydrostatic pressures at the installation location with the ground-water level at grade.

J. Knockout Panels: Precast openings in walls, arranged to match dimensions and elevations of approaching duct, plus an additional 12 inches (300 mm) vertically and horizontally to accommodate alignment variations.

1. Splayed location.
2. Knockout panels shall be located no less than 6 inches (150 mm) from interior surfaces of walls, floors, or frames and covers of handholes, but close enough to corners to facilitate racking of cables on walls.
3. Knockout panel opening shall have cast-in-place, welded-wire fabric reinforcement for field cutting and bending to tie in to concrete envelopes of duct.
4. Knockout panels shall be framed with at least two additional No. 3 steel reinforcing bars in concrete around each opening.
5. Knockout panels shall be 1-1/2 to 2 inches (38 to 50 mm) thick.

K. Duct Entrances in Handhole Walls: Cast end-bell or duct-terminating fitting in wall for each entering duct.

1. Type and size shall match fittings to duct to be terminated.
2. Fittings shall align with elevations of approaching duct and be located near interior corners of handholes to facilitate racking of cable.

L. Handholes 12 inches wide by 24 inches long (300 mm wide by 600 mm long) and larger shall have inserts for cable racks and pulling-in irons installed before concrete is poured.

2.4 SOURCE QUALITY CONTROL

A. Test and inspect precast concrete utility structures according to ASTM C 1037.

B. Nonconcrete Handhole and Pull-Box Prototype Test: Test prototypes of manholes and boxes for compliance with SCTE 77. Strength tests shall be for specified tier ratings of products supplied.

1. Tests of materials shall be performed by an independent testing agency.
2. Strength tests of complete boxes and covers shall be by an independent testing agency or manufacturer. A qualified registered professional engineer shall certify tests by manufacturer.
3. Testing machine pressure gages shall have current calibration certification, complying with ISO 9000 and ISO 10012, and traceable to NIST standards.

PART 3 - EXECUTION

3.1 PREPARATION

A. Coordinate layout and installation of duct, duct bank, manholes, handholes, and boxes with final arrangement of other utilities, site grading, and surface features as determined in the field.

Notify Architect if there is a conflict between areas of excavation and existing structures or archaeological sites to remain.

B. Coordinate elevations of duct and duct-bank entrances into manholes, handholes, and boxes with final locations and profiles of duct and duct banks, as determined by coordination with other utilities, underground obstructions, and surface features. Revise locations and elevations as required to suit field conditions and to ensure that duct and duct bank will drain to manholes and handholes, and as approved by Architect.

C. Clear and grub vegetation to be removed, and protect vegetation as needed. Remove and stockpile topsoil for reapplication as needed.

3.2 UNDERGROUND DUCT APPLICATION

A. Duct for Electrical Feeders 600 V and Less: elbows shall be Type EPC-80-PVC, straight sections shall beType EPC-40-PVC RNC, concrete-encased unless otherwise indicated.

B. Stub-ups: Concrete-encased Type EPC-40-PVC.

3.3 UNDERGROUND ENCLOSURE APPLICATION

A. Handholes and Boxes for 600 V and Less:

1. Units in Roadways and Other Deliberate Traffic Paths: Precast concrete. AASHTO HB 17, H-20 structural load rating.
2. Units in Driveway, Parking Lot, and Off-Roadway Locations, Subject to Occasional, Nondeliberate Loading by Heavy Vehicles: Precast concrete, AASHTO HB 17, H-20 structural load rating.
3. Cover design load shall not exceed the design load of the handhole or box.

3.4 EARTHWORK

A. Excavation and Backfill: Do not use heavy-duty, hydraulic-operated, compaction equipment.

B. Restoration: Replace area immediately after backfilling is completed.

C. Restore surface features at areas disturbed by excavation, and re-establish original grades unless otherwise indicated. Replace removed sod immediately after backfilling is completed.

D. Restore areas disturbed by trenching, storing of dirt, cable laying, and other work. Restore vegetation and include necessary topsoiling, fertilizing, liming, seeding, sodding, sprigging, and mulching.

3.5 DUCT AND DUCT-BANK INSTALLATION

A. Where indicated on Drawings, install duct, spacers, and accessories into the duct-bank configuration shown. Duct installation requirements in this Section also apply to duct bank.

B. Install duct according to NEMA TCB 2.

C. Slope: Pitch duct a minimum slope of 1:300 down toward handholes and away from buildings and equipment. Slope duct from a high point between two manholes, to drain in both directions.

D. Curves and Bends: Use 5-degree angle couplings for small changes in direction. Use manufactured long sweep bends with a minimum radius of 48 inches (1200 mm)], both horizontally and vertically, at other locations unless otherwise indicated.

1. Duct shall have maximum of two 90 degree bends or the total of all bends shall be no more 180 degrees between pull points.

E. Joints: Use solvent-cemented joints in duct and fittings and make watertight according to manufacturer's written instructions. Stagger couplings so those of adjacent duct do not lie in same plane.

F. Installation Adjacent to High-Temperature Steam Lines: Where duct is installed parallel to underground steam lines, perform calculations showing the duct will not be subject to environmental temperatures above 40 deg C. Where environmental temperatures are calculated to rise above 40 deg C, and anywhere the duct crosses above an underground steam line, install insulation blankets listed for direct burial to isolate the duct bank from the steam line.

G. End Bell Entrances to Concrete Handholes: Use end bells, spaced approximately 10 inches (250 mm) o.c. for 5-inch (125-mm) duct, and vary proportionately for other duct sizes.

1. Begin change from regular spacing to end-bell spacing 10 feet (3 m) from the end bell, without reducing duct slope and without forming a trap in the line.
2. Expansion and Deflection Fittings: Install an expansion and deflection fitting in each duct in the area of disturbed earth adjacent to manhole or handhole. Install an expansion fitting near the center of all straight line direct-buried duct with calculated expansion of more than 3/4 inch (19 mm).
3. Grout end bells into structure walls from both sides to provide watertight entrances.

H. Terminator Entrances to Concrete Handholes: Use manufactured, cast-in-place duct terminators, with entrances into structure spaced approximately 6 inches (150 mm) o.c. for 4-inch (100-mm) duct, and vary proportionately for other duct sizes.

1. Begin change from regular spacing to terminator spacing 10 feet (3 m) from the terminator, without reducing duct line slope and without forming a trap in the line.
2. Expansion and Deflection Fittings: Install an expansion and deflection fitting in each duct in the area of disturbed earth adjacent to manhole or handhole. Install an expansion fitting near the center of all straight line duct with calculated expansion of more than 3/4 inch (19 mm).

I. Building Wall Penetrations: Make a transition from underground duct to RGS(rigid galvanized steel) conduit at least 10 feet (3 m) outside the building wall, without reducing duct line slope away from the building and without forming a trap in the line. Use fittings manufactured for RNC-to-RGS transition.

J. Sealing: Provide temporary closure at terminations of duct with pulled cables. Seal spare duct at terminations. Use sealing compound and plugs to withstand at least 15-psig (1.03-MPa) hydrostatic pressure.

K. Pulling Cord: Install 200-lbf- (1000-N-) test nylon cord in empty ducts.

L. Concrete-Encased Ducts and Duct Bank:

1. Excavate trench bottom to provide firm and uniform support for duct. Prepare trench bottoms with ½" gravel.
2. Width: Excavate trench 12 inches (300 mm) wider than duct on each side.
3. Depth: Install so top of duct envelope is at least 24 inches (600 mm) below finished grade in areas not subject to deliberate traffic, and at least 30 inches (750 mm) below finished grade in deliberate traffic paths for vehicles unless otherwise indicated.
4. Support duct on duct spacers coordinated with duct size, duct spacing, and outdoor temperature.
5. Spacer Installation: Place spacers close enough to prevent sagging and deforming of duct, with not less than five spacers per 20 feet (6 m) of duct. Place spacers within 24 inches (600 mm) of duct ends. Stagger spacers approximately 6 inches (150 mm) between tiers. Secure spacers to earth and to duct to prevent floating during concreting. Tie entire assembly together using fabric straps; do not use tie wires or reinforcing steel that may form conductive or magnetic loops around ducts or duct groups.
6. Minimum Space between Duct: 3 inches (75 mm) between edge of duct and exterior envelope wall, 2 inches (50 mm) between ducts for like services, and 4 inches (100 mm) between power and communications ducts.
7. Elbows: Use manufactured EPC-80-PVC duct elbows for stub-ups, at changes of direction. Extend encasement throughout length of elbow.
8. Reinforcement: Reinforce concrete-encased duct where crossing disturbed earth and where indicated. Arrange reinforcing rods and ties without forming conductive or magnetic loops around ducts or duct groups.
9. Forms: Use walls of trench to form side walls of duct bank where soil is self-supporting and concrete envelope can be poured without soil inclusions; otherwise, use forms.
10. Concrete Cover: Install a minimum of 3 inches (75 mm) of concrete cover between edge of duct to exterior envelope wall, 2 inches (50 mm) between duct of like services, and 4 inches (100 mm) between power and communications ducts.
11. Concreting Sequence: Pour each run of envelope between manholes or other terminations in one continuous operation.

    a. Start at one end and finish at the other, allowing for expansion and contraction of duct as its temperature changes during and after the pour. Use expansion fittings installed according to manufacturer's written instructions, or use other specific measures to prevent expansion-contraction damage.
    b. If more than one pour is necessary, terminate each pour in a vertical plane and install 3/4-inch (15-mm) reinforcing-rod dowels extending a minimum of 18 inches (450 mm) into concrete on both sides of joint near corners of envelope.

12. Pouring Concrete: Comply with requirements in "Concrete Placement" Article in Section 033053 "Miscellaneous Cast-in-Place Concrete." Place concrete carefully during pours to prevent voids under and between duct and at exterior surface of envelope. Do not allow a heavy mass of concrete to fall directly onto ducts. Allow concrete to flow

around duct and rise up in middle, uniformly filling all open spaces. Do not use power-driven agitating equipment unless specifically designed for duct-installation application.

M. Warning Planks: Bury warning planks approximately 12 inches (300 mm) above direct-buried duct, placing them 24 inches (600 mm) o.c. Align planks along the width and along the centerline of duct or duct bank. Provide an additional plank for each 12-inch (300-mm) increment of duct-bank width over a nominal 18 inches (450 mm). Space additional planks 12 inches (300 mm) apart, horizontally.

N. Underground-Line Warning Tape: Bury unconducting underground line specified in Section 260553 "Identification for Electrical Systems" no less than 12 inches (300 mm) above all concrete-encased duct and duct banks and approximately 12 inches (300 mm) below grade. Align tape parallel to and within 3 inches (75 mm) of centerline of duct bank. Provide an additional warning tape for each 12-inch (300-mm) increment of duct-bank width over a nominal 18 inches (450 mm). Space additional tapes 12 inches (300 mm) apart, horizontally.

3.6 INSTALLATION OF CONCRETE HANDHOLES, AND BOXES

A. Precast Concrete Handhole Installation:

1. Comply with ASTM C 891 unless otherwise indicated.
2. Install units level and plumb and with orientation and depth coordinated with connecting duct, to minimize bends and deflections required for proper entrances.
3. Unless otherwise indicated, support units on a level bed of crushed stone or gravel, graded from 1-inch (25-mm) sieve to No. 4 (4.75-mm) sieve and compacted to same density as adjacent undisturbed earth.

B. Elevations:

1. Manhole Roof: Install with rooftop at least 15 inches (375 mm) below finished grade.
2. Manhole Frame: In paved areas and trafficways, set frames flush with finished grade. Set other manhole frames 1 inch (25 mm) above finished grade.
3. Install handholes with bottom below frost line.
4. Handhole Covers: In paved areas and trafficways, set surface flush with finished grade. Set covers of other handholes 1 inch (25 mm) above finished grade.
5. Where indicated, cast handhole cover frame integrally with handhole structure.

C. Waterproofing: Apply waterproofing to exterior surfaces of and handholes. After duct has been connected and grouted, and before backfilling, waterproof joints and connections, and touch up abrasions and scars. Waterproof exterior of manhole chimneys after mortar has cured at least three days.

D. Hardware: Install removable hardware, including pulling eyes, cable stanchions, and cable arms, and insulators, as required for installation and support of cables and conductors and as indicated.

E. Field-Installed Bolting Anchors in Concrete Handholes: Do not drill deeper than 3-7/8 inches (97 mm) for manholes and 2 inches (50 mm) for handholes, for anchor bolts installed in the field. Use a minimum of two anchors for each cable stanchion.

3.7 GROUNDING

A. Ground underground ducts and utility structures according to Section 260526 "Grounding and Bonding for Electrical Systems."

3.8 FIELD QUALITY CONTROL

A. Perform the following tests and inspections:

1. Demonstrate capability and compliance with requirements on completion of installation of underground duct, duct bank, and utility structures.
2. Pull solid aluminum or wood test mandrel through duct to prove joint integrity and adequate bend radii, and test for out-of-round duct. Provide a minimum 12-inch- (300-mm-) long mandrel equal to duct size minus 1/4 inch (6 mm). If obstructions are indicated, remove obstructions and retest.
3. Test and handhole grounding to ensure electrical continuity of grounding and bonding connections. Measure and report ground resistance as specified in Section 260526 "Grounding and Bonding for Electrical Systems."

B. Correct deficiencies and retest as specified above to demonstrate compliance.

C. Prepare test and inspection reports.

3.9 CLEANING

A. Pull leather-washer-type duct cleaner, with graduated washer sizes, through full length of duct until duct cleaner indicates that duct is clear of dirt and debris. Follow with rubber duct swab for final cleaning and to assist in spreading lubricant throughout ducts.

B. Clean internal surfaces of manholes, including sump.

1. Sweep floor, removing dirt and debris.
2. Remove foreign material.

END OF SECTION 260543

SECTION 260548.16 - SEISMIC CONTROLS FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Restraint channel bracings.
2. Restraint cables.
3. Seismic-restraint accessories.
4. Mechanical anchor bolts.
5. Adhesive anchor bolts.

B. Related Requirements:

1. Section 260529 "Hangers and Supports for Electrical Systems" for commonly used electrical supports and installation requirements.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

1. Illustrate and indicate style, material, strength, fastening provision, and finish for each type and size of seismic-restraint component used.

   a. Tabulate types and sizes of seismic restraints, complete with report numbers and rated strength in tension and shear as evaluated by an evaluation service member of ICC-ES.
   b. Annotate to indicate application of each product submitted and compliance with requirements.

B. Delegated-Design Submittal: For each seismic-restraint device.

1. Contractor shall engage the services of a design engineer certified by the state of South Carolina, to design all required seismic restraints systems for this project. All submittals shall be stamped and sealed.

2. Include design calculations and details for selecting seismic restraints complying with performance requirements, design criteria, and analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

3. Design Calculations: Calculate static and dynamic loading caused by equipment weight, operation, and seismic and wind forces required to select seismic and wind restraints and for designing vibration isolation bases.

    a. Coordinate design calculations with wind load calculations required for equipment mounted outdoors. Comply with requirements in other Sections for equipment mounted outdoors.

4. Seismic- and Wind-Restraint Details:

    a. Design Analysis: To support selection and arrangement of seismic and wind restraints. Include calculations of combined tensile and shear loads.
    b. Details: Indicate fabrication and arrangement. Detail attachments of restraints to the restrained items and to the structure. Show attachment locations, methods, and spacings. Identify components, list their strengths, and indicate directions and values of forces transmitted to the structure during seismic events. Indicate association with vibration isolation devices.
    c. Coordinate seismic-restraint and vibration isolation details with wind-restraint details required for equipment mounted outdoors. Comply with requirements in other Sections for equipment mounted outdoors.
    d. Preapproval and Evaluation Documentation: By an evaluation service member of ICC-ES, showing maximum ratings of restraint items and the basis for approval (tests or calculations).

1.4 INFORMATIONAL SUBMITTALS

A. Coordination Drawings: Show coordination of seismic bracing for electrical components with other systems and equipment in the vicinity, including other supports and seismic restraints. Electrical components include:

    1. Control and monitoring panels.
    2. Panelboards.
    3. Switchboards.
    4. Switchgear.
    5. Transformers.

B. Qualification Data: For professional engineer..

C. Welding certificates.

D. Field quality-control reports.

1.5 QUALITY ASSURANCE

A. Testing Agency Qualifications: An independent agency, with the experience and capability to conduct the testing indicated and that is acceptable to authorities having jurisdiction.

B. Comply with seismic-restraint requirements in the IBC unless requirements in this Section are more stringent.

C. Welding Qualifications: Qualify procedures and personnel according to AWS D1.1/D1.1M, "Structural Welding Code - Steel."

D. Seismic-restraint devices shall have horizontal and vertical load testing and analysis. They shall bear anchorage preapproval from OSHPD in addition to preapproval, showing maximum seismic-restraint ratings, by ICC-ES or another agency acceptable to authorities having jurisdiction. Ratings based on independent testing are preferred to ratings based on calculations. If preapproved ratings are not available, submittals based on independent testing are preferred. Calculations (including combining shear and tensile loads) that support seismic-restraint designs must be signed and sealed by a qualified professional engineer.

E. Comply with NFPA 70.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Wind-Restraint Loading:

1. Basic Wind Speed: as required in Charleston, SC.
2. Building Classification Category: see drawings.
3. Minimum 10 lb/sq. ft. (48.8 kg/sq. m) multiplied by maximum area of component projected on vertical plane normal to wind direction and 45 degrees either side of normal.

B. Seismic-Restraint Loading:

1. Site Class as Defined in the IBC: see drawings.
2. Assigned Seismic Use Group or Building Category as Defined in the IBC: see drawings.

    a. Component Importance Factor: see drawings.
    b. Component Response Modification Factor: see drawings.
    c. Component Amplification Factor: see drawings.

3. Design Spectral Response Acceleration at Short Periods (0.2 Second): see drawings.
4. Design Spectral Response Acceleration at 1.0-Second Period: see drawings.

2.2 RESTRAINT CHANNEL BRACINGS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. B-line, an Eaton business.
2. Hilti, Inc.
3. Mason Industries, Inc.
4. Unistrut; Part of Atkore International.

B. Description: MFMA-4, shop- or field-fabricated bracing assembly made of slotted steel channels with accessories for attachment to braced component at one end and to building

structure at the other end, with other matching components, and with corrosion-resistant coating; rated in tension, compression, and torsion forces.

2.3 RESTRAINT CABLES

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. CADDY; a brand of nVent.
2. Gripple Inc.
3. Kinetics Noise Control, Inc.
4. Vibration Mountings & Controls, Inc.

B. Restraint Cables: ASTM A 603 galvanized cables. End connections made of steel assemblies with thimbles, brackets, swivel, and bolts designed for restraining cable service; with a minimum of two clamping bolts for cable engagement.

2.4 SEISMIC-RESTRAINT ACCESSORIES

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. B-line, an Eaton business.
2. Kinetics Noise Control, Inc.
3. Mason Industries, Inc.

B. Hanger-Rod Stiffener: Steel tube or steel slotted-support-system sleeve with internally bolted connections to hanger rod.

C. Hinged and Swivel Brace Attachments: Multifunctional steel connectors for attaching hangers to rigid channel bracings and restraint cables.

D. Bushings for Floor-Mounted Equipment Anchor Bolts: Neoprene bushings designed for rigid equipment mountings and matched to type and size of anchor bolts and studs.

E. Bushing Assemblies for Wall-Mounted Equipment Anchorage: Assemblies of neoprene elements and steel sleeves designed for rigid equipment mountings and matched to type and size of attachment devices used.

F. Resilient Isolation Washers and Bushings: One-piece, molded, oil- and water-resistant neoprene, with a flat washer face.

2.5 MECHANICAL ANCHOR BOLTS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. B-line, an Eaton business.
2. Hilti, Inc.

3. Kinetics Noise Control, Inc.
4. Mason Industries, Inc.

B. Mechanical Anchor Bolts: Drilled-in and stud-wedge or female-wedge type in zinc-coated steel for interior applications and stainless steel for exterior applications. Select anchor bolts with strength required for anchor and as tested according to ASTM E 488.

2.6 ADHESIVE ANCHOR BOLTS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. Hilti, Inc.
2. Kinetics Noise Control, Inc.
3. Mason Industries, Inc.

B. Adhesive Anchor Bolts: Drilled-in and capsule anchor system containing PVC or urethane methacrylate-based resin and accelerator, or injected polymer or hybrid mortar adhesive. Provide anchor bolts and hardware with zinc-coated steel for interior applications and stainless steel for exterior applications. Select anchor bolts with strength required for anchor and as tested according to ASTM E 488.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine areas and equipment to receive vibration isolation and seismic-control devices for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.

B. Examine roughing-in for reinforcement and cast-in-place anchors to verify actual locations before installation.

C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 APPLICATIONS

A. Multiple Raceways or Cables: Secure raceways and cables to trapeze member with clamps approved for application by an evaluation service member of ICC-ES.

B. Hanger-Rod Stiffeners: Install hanger-rod stiffeners where indicated or scheduled on Drawings to receive them and where required to prevent buckling of hanger rods caused by seismic forces.

C. Strength of Support and Seismic-Restraint Assemblies: Where not indicated, select sizes of components so strength will be adequate to carry present and future static and seismic loads within specified loading limits.

3.3 SEISMIC-RESTRAINT DEVICE INSTALLATION

A. Coordinate the location of embedded connection hardware with supported equipment attachment and mounting points and with requirements for concrete reinforcement and formwork specified in Section 033000 "Cast-in-Place Concrete."

B. Equipment and Hanger Restraints:

1. Install resilient, bolt-isolation washers on equipment anchor bolts where clearance between anchor and adjacent surface exceeds 0.125 inch (3.2 mm).
2. Install seismic-restraint devices using methods approved by an evaluation service member of ICC-ES providing required submittals for component.

C. Install cables so they do not bend across edges of adjacent equipment or building structure.

D. Install bushing assemblies for mounting bolts for wall-mounted equipment, arranged to provide resilient media where equipment or equipment-mounting channels are attached to wall.

E. Attachment to Structure: If specific attachment is not indicated, anchor bracing to structure at flanges of beams, at upper truss chords of bar joists, or at concrete members.

F. Drilled-in Anchors:

1. Identify position of reinforcing steel and other embedded items prior to drilling holes for anchors. Do not damage existing reinforcing or embedded items during coring or drilling. Notify the structural engineer if reinforcing steel or other embedded items are encountered during drilling. Locate and avoid prestressed tendons, electrical and telecommunications conduit, and gas lines.
2. Do not drill holes in concrete or masonry until concrete, mortar, or grout has achieved full design strength.
3. Wedge Anchors: Protect threads from damage during anchor installation. Heavy-duty sleeve anchors shall be installed with sleeve fully engaged in the structural element to which anchor is to be fastened.
4. Adhesive Anchors: Clean holes to remove loose material and drilling dust prior to installation of adhesive. Place adhesive in holes proceeding from the bottom of the hole and progressing toward the surface in such a manner as to avoid introduction of air pockets in the adhesive.
5. Set anchors to manufacturer's recommended torque using a torque wrench.
6. Install zinc-coated steel anchors for interior and stainless-steel anchors for exterior applications.

3.4 ACCOMMODATION OF DIFFERENTIAL SEISMIC MOTION

A. Install flexible connections in runs of raceways, cables, wireways, cable trays, and busways where they cross seismic joints, where adjacent sections or branches are supported by different structural elements, and where connection is terminated to equipment that is anchored to a different structural element from the one supporting them as they approach equipment.

3.5 FIELD QUALITY CONTROL

A. Testing Agency: Engage a qualified testing agency to perform tests and inspections.

B. Perform the following tests and inspections with the assistance of a factory-authorized service representative:

1. Provide evidence of recent calibration of test equipment by a testing agency acceptable to authorities having jurisdiction.
2. Schedule test with Owner, through Architect, before connecting anchorage device to restrained component (unless postconnection testing has been approved), and with at least seven days' advance notice.
3. Obtain Architect's approval before transmitting test loads to structure. Provide temporary load-spreading members.
4. Test at least four of each type and size of installed anchors and fasteners selected by Architect.
5. Test to 90 percent of rated proof load of device.

C. Seismic controls will be considered defective if they do not pass tests and inspections.

D. Prepare test and inspection reports.

3.6 ADJUSTING

A. Adjust restraints to permit free movement of equipment within normal mode of operation.

END OF SECTION 260548.16

SECTION 260553 - IDENTIFICATION FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Color and legend requirements for raceways, conductors, and warning labels and signs.
2. Labels.
3. Bands and tubes.
4. Tapes and stencils.
5. Tags.
6. Signs.
7. Cable ties.
8. Paint for identification.
9. Fasteners for labels and signs.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for electrical identification products.

B. Samples: For each type of label and sign to illustrate composition, size, colors, lettering style, mounting provisions, and graphic features of identification products.

C. Identification Schedule: For each piece of electrical equipment and electrical system components to be an index of nomenclature for electrical equipment and system components used in identification signs and labels. Use same designations indicated on Drawings.

D. Delegated-Design Submittal: For arc-flash hazard study.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Comply with ASME A13.1 and IEEE C2.

B. Comply with NFPA 70.

C. Comply with 29 CFR 1910.144 and 29 CFR 1910.145.

D. Comply with ANSI Z535.4 for safety signs and labels.

E. Comply with NFPA 70E and Section 260573.19 "Arc-Flash Hazard Analysis" requirements for arc-flash warning labels.

F. Adhesive-attached labeling materials, including label stocks, laminating adhesives, and inks used by label printers, shall comply with UL 969.

G. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes.

1. Temperature Change: 120 deg F (67 deg C), ambient; 180 deg F (100 deg C), material surfaces.

2.2 COLOR AND LEGEND REQUIREMENTS

A. Raceways and Cables Carrying Circuits at 600 V or Less:

1. Black letters on an orange field.
2. Legend: Indicate voltage and system or service type.

B. Color-Coding for Phase- and Voltage-Level Identification, 600 V or Less: Use colors listed below for ungrounded service, feeder and branch-circuit conductors.

1. Color shall be factory applied .
2. Colors for 208/120-V Circuits:

   a. Phase A: Black.
   b. Phase B: Red.
   c. Phase C: Blue.

3. Colors for 240-V Circuits:

   a. Phase A: Black.
   b. Phase B: Red.

4. Colors for 480/277-V Circuits:

   a. Phase A: Brown.
   b. Phase B: Orange.
   c. Phase C: Yellow.

5. Color for Neutral: White.
6. Color for Equipment Grounds: Green.

C. Warning Label Colors:

1. Identify system voltage with black letters on an orange background.

D. Warning labels and signs shall include, but are not limited to, the following legends:

1. Multiple Power Source Warning: "DANGER - ELECTRICAL SHOCK HAZARD - EQUIPMENT HAS MULTIPLE POWER SOURCES."
2. Workspace Clearance Warning: "WARNING - OSHA REGULATION - AREA IN FRONT OF ELECTRICAL EQUIPMENT MUST BE KEPT CLEAR FOR 36 INCHES (915 MM)."

E. Equipment Identification Labels:

1. Black letters on a white field.

2.3 LABELS

A. Vinyl Wraparound Labels: Preprinted, flexible labels laminated with a clear, weather- and chemical-resistant coating and matching wraparound clear adhesive tape for securing label ends.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

a. Brady Corporation.
b. Grafoplast Wire Markers.
c. LEM Products Inc.
d. Panduit Corp.
e. Seton Identification Products; a Brady Corporation company.

B. Snap-around Labels: Slit, pretensioned, flexible, preprinted, color-coded acrylic sleeves, with diameters sized to suit diameters and that stay in place by gripping action.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

a. Brady Corporation.
b. HellermannTyton.
c. Marking Services, Inc.
d. Panduit Corp.
e. Seton Identification Products; a Brady Corporation company.

C. Self-Adhesive Wraparound Labels: Preprinted, 3-mil- (0.08-mm-) thick, polyester or vinyl flexible label with acrylic pressure-sensitive adhesive.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

a. Brady Corporation.
b. emedco.
c. Ideal Industries, Inc.
d. Marking Services, Inc.

e. Panduit Corp.
f. Seton Identification Products; a Brady Corporation company.

2. Self-Lamination: Clear; UV-, weather- and chemical-resistant; self-laminating, protective shield over the legend. Labels sized such that the clear shield overlaps the entire printed legend.
3. Marker for Labels: Permanent, waterproof, black ink marker recommended by tag manufacturer.
4. Marker for Labels: Machine-printed, permanent, waterproof, black ink recommended by printer manufacturer.

D. Self-Adhesive Labels: Polyester or Vinyl, thermal, transfer-printed, 3-mil- (0.08-mm-) thick, multicolor, weather- and UV-resistant, pressure-sensitive adhesive labels, configured for intended use and location.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

a. Brady Corporation.
b. emedco.
c. LEM Products Inc.
d. Panduit Corp.
e. Seton Identification Products; a Brady Corporation company.

2. Minimum Nominal Size:

a. 1-1/2 by 6 inches (37 by 150 mm) for raceway and conductors.
b. 3-1/2 by 5 inches (76 by 127 mm) for equipment.
c. As required by authorities having jurisdiction.

2.4 BANDS AND TUBES

A. Snap-around, Color-Coding Bands: Slit, pretensioned, flexible, solid-colored acrylic sleeves, 2 inches (50 mm) long, with diameters sized to suit diameters and that stay in place by gripping action.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

a. Brady Corporation.
b. HellermannTyton.
c. Marking Services, Inc.
d. Panduit Corp.

B. Heat-Shrink Preprinted Tubes: Flame-retardant polyolefin tubes with machine-printed identification labels, sized to suit diameter and shrunk to fit firmly. Full shrink recovery occurs at a maximum of 200 deg F (93 deg C). Comply with UL 224.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

a. Brady Corporation.
b. Panduit Corp.

2.5 TAPES AND STENCILS

A. Marker Tapes: Vinyl or vinyl-cloth, self-adhesive wraparound type, with circuit identification legend machine printed by thermal transfer or equivalent process.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

a. Carlton Industries, LP.
b. HellermannTyton.
c. Ideal Industries, Inc.
d. Marking Services, Inc.
e. Panduit Corp.

B. Tape and Stencil: 4-inch- (100-mm-) wide black stripes on 10-inch (250-mm) centers placed diagonally over orange background and are 12 inches (300 mm) wide. Stop stripes at legends.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

a. HellermannTyton.
b. LEM Products Inc.
c. Marking Services, Inc.
d. Seton Identification Products; a Brady Corporation company.

C. Underground-Line Warning Tape:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

a. Brady Corporation.
b. Ideal Industries, Inc.
c. LEM Products Inc.
d. Reef Industries, Inc.
e. Seton Identification Products; a Brady Corporation company.

2. Tape:

a. Recommended by manufacturer for the method of installation and suitable to identify and locate underground electrical utility lines.
b. Printing on tape shall be permanent and shall not be damaged by burial operations.
c. Tape material and ink shall be chemically inert and not subject to degradation when exposed to acids, alkalis, and other destructive substances commonly found in soils.

3. Color and Printing:

a. Comply with ANSI Z535.1, ANSI Z535.2, ANSI Z535.3, ANSI Z535.4, and ANSI Z535.5.
b. Inscriptions for Red-Colored Tapes: "ELECTRIC LINE, HIGH VOLTAGE" .

4. Tag: :

a. Pigmented polyolefin, bright colored, continuous-printed on one side with the inscription of the utility, compounded for direct-burial service.
b. Width: 3 inches (75 mm).
c. Thickness: 4 mils (0.1 mm).
d. Weight: 18.5 lb/1000 sq. ft. (9.0 kg/100 sq. m).
e. Tensile according to ASTM D 882: 30 lbf (133.4 N) and 2500 psi (17.2 MPa).

D. Stenciled Legend: In nonfading, waterproof, black ink or paint. Minimum letter height shall be 1 inch (25 mm).

2.6 SIGNS

A. Baked-Enamel Signs:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

a. Carlton Industries, LP.
b. Champion America.
c. emedco.
d. Marking Services, Inc.

2. 1/4-inch (6.4-mm) grommets in corners for mounting.
3. Nominal Size: 7 by 10 inches (180 by 250 mm).

2.7 MISCELLANEOUS IDENTIFICATION PRODUCTS

A. Paint: Comply with requirements in painting Sections for paint materials and application requirements. Retain paint system applicable for surface material and location (exterior or interior).

B. Fasteners for Labels and Signs: Self-tapping, stainless-steel screws or stainless-steel machine screws with nuts and flat and lock washers.

PART 3 - EXECUTION

3.1 PREPARATION

A. Self-Adhesive Identification Products: Before applying electrical identification products, clean substrates of substances that could impair bond, using materials and methods recommended by manufacturer of identification product.

3.2 INSTALLATION

A. Verify and coordinate identification names, abbreviations, colors, and other features with requirements in other Sections requiring identification applications, Drawings, Shop Drawings, manufacturer's wiring diagrams, and operation and maintenance manual. Use consistent designations throughout Project.

B. Install identifying devices before installing acoustical ceilings and similar concealment.

C. Verify identity of each item before installing identification products.

D. Coordinate identification with Project Drawings, manufacturer's wiring diagrams, and operation and maintenance manual.

E. Apply identification devices to surfaces that require finish after completing finish work.

F. Install signs with approved legend to facilitate proper identification, operation, and maintenance of electrical systems and connected items.

G. System Identification for Raceways and Cables under 600 V: Identification shall completely encircle cable or conduit. Place identification of two-color markings in contact, side by side.

1. Secure tight to surface of conductor, cable, or raceway.

H. System Identification for Raceways and Cables over 600 V: Identification shall completely encircle cable or conduit. Place adjacent identification of two-color markings in contact, side by side.

1. Secure tight to surface of conductor, cable, or raceway.

I. Auxiliary Electrical Systems Conductor Identification: Identify field-installed alarm, control, and signal connections.

J. Elevated Components: Increase sizes of labels, signs, and letters to those appropriate for viewing from the floor.

K. Accessible Fittings for Raceways: Identify the covers of each junction and pull box of the following systems with the wiring system legend and system voltage. System legends shall be as follows:

1. "EMERGENCY POWER."
2. "POWER."
3. "UPS."

L. Vinyl Wraparound Labels:

1. Secure tight to surface of raceway or cable at a location with high visibility and accessibility.
2. Attach labels that are not self-adhesive type with clear vinyl tape, with adhesive appropriate to the location and substrate.

M. Snap-around Labels: Secure tight to surface at a location with high visibility and accessibility.

N. Self-Adhesive Wraparound Labels: Secure tight to surface at a location with high visibility and accessibility.

O. Self-Adhesive Labels:

1. On each item, install unique designation label that is consistent with wiring diagrams, schedules, and operation and maintenance manual.
2. Unless otherwise indicated, provide a single line of text with 1/2-inch- (13-mm-) high letters on 1-1/2-inch- (38-mm-) high label; where two lines of text are required, use labels 2 inches (50 mm) high.

P. Snap-around Color-Coding Bands: Secure tight to surface at a location with high visibility and accessibility.

Q. Heat-Shrink, Preprinted Tubes: Secure tight to surface at a location with high visibility and accessibility.

R. Marker Tapes: Secure tight to surface at a location with high visibility and accessibility.

S. Self-Adhesive Vinyl Tape: Secure tight to surface at a location with high visibility and accessibility.

1. Field-Applied, Color-Coding Conductor Tape: Apply in half-lapped turns for a minimum distance of 6 inches (150 mm) where splices or taps are made. Apply last two turns of tape with no tension to prevent possible unwinding.

T. Tape and Stencil: Comply with requirements in painting Sections for surface preparation and paint application.

U. Underground Line Warning Tape:

1. During backfilling of trenches, install continuous underground-line warning tape directly above cable or raceway at 6 to 8 inches (150 to 200 mm) below finished grade. Use multiple tapes where width of multiple lines installed in a common trench or concrete envelope exceeds 16 inches (400 mm) overall.
2. Limit use of underground-line warning tape to direct-buried cables.
3. Install underground-line warning tape for direct-buried cables and cables in raceways.

V. Baked-Enamel Signs:

1. Attach signs that are not self-adhesive type with mechanical fasteners appropriate to the location and substrate.
2. Unless otherwise indicated, provide a single line of text with 1/2-inch- (13-mm-) high letters on minimum 1-1/2-inch- (38-mm-) high sign; where two lines of text are required, use signs minimum 2 inches (50 mm) high.

W. Metal-Backed Butyrate Signs:

1. Attach signs that are not self-adhesive type with mechanical fasteners appropriate to the location and substrate.

2. Unless otherwise indicated, provide a single line of text with 1/2-inch- (13-mm-) high letters on 1-1/2-inch- (38-mm-) high sign; where two lines of text are required, use labels 2 inches (50 mm) high.

X. Laminated Acrylic or Melamine Plastic Signs:

1. Attach signs that are not self-adhesive type with mechanical fasteners appropriate to the location and substrate.
2. Unless otherwise indicated, provide a single line of text with 1/2-inch- (13-mm-) high letters on 1-1/2-inch- (38-mm-) high sign; where two lines of text are required, use labels 2 inches (50 mm) high.

Y. Cable Ties: General purpose, for attaching tags, except as listed below:

1. Outdoors: UV-stabilized nylon.
2. In Spaces Handling Environmental Air: Plenum rated.

3.3 IDENTIFICATION SCHEDULE

A. Install identification materials and devices at locations for most convenient viewing without interference with operation and maintenance of equipment. Install access doors or panels to provide view of identifying devices.

B. Identify conductors, cables, and terminals in enclosures and at junctions, terminals, pull points, and locations of high visibility. Identify by system and circuit designation.

C. Concealed Raceways, Duct Banks, More Than 600 V, within Buildings: Tape and stencil. Stencil legend "DANGER - CONCEALED HIGH-VOLTAGE WIRING" with 3-inch- (75-mm-) high, black letters on 20-inch (500-mm) centers.

1. Locate identification at changes in direction, at penetrations of walls and floors, and at 10-foot (3-m) maximum intervals.

D. Accessible Raceways and Metal-Clad Cables, 600 V or Less, for Service, Feeder, and Branch Circuits, More Than 30A and 120V to Ground: Identify with self-adhesive vinyl tape applied in bands.

1. Locate identification at changes in direction, at penetrations of walls and floors, at 50-foot (15-m) maximum intervals in straight runs, and at 25-foot (7.6-m) maximum intervals in congested areas.

E. Power-Circuit Conductor Identification, 600 V or Less: For conductors in vaults, pull and junction boxes, manholes, and handholes, use vinyl wraparound labels to identify the phase.

1. Locate identification at changes in direction, at penetrations of walls and floors, at 50-foot (15-m) maximum intervals in straight runs, and at 25-foot (7.6-m) maximum intervals in congested areas.

F. Locations of Underground Lines: Underground-line warning tape for power, lighting, communication, and control wiring and optical-fiber cable.

G. Concealed Raceways and Duct Banks, More Than 600 V, within Buildings: Apply floor marking tape to the following finished surfaces:

1. Floor surface directly above conduits running beneath and within 12 inches (300 mm) of a floor that is in contact with earth or is framed above unexcavated space.
2. Wall surfaces directly external to raceways concealed within wall.
3. Accessible surfaces of concrete envelope around raceways in vertical shafts, exposed in the building, or concealed above suspended ceilings.

H. Instructional Signs: Self-adhesive labels, including the color code for grounded and ungrounded conductors.

I. Warning Labels for Indoor Cabinets, Boxes, and Enclosures for Power and Lighting: Self-adhesive labels.

1. Apply to exterior of door, cover, or other access.
2. For equipment with multiple power or control sources, apply to door or cover of equipment, including, but not limited to, the following:

a. Power-transfer switches.
b. Controls with external control power connections.

J. Arc Flash Warning Labeling: Self-adhesive labels.

K. Equipment Identification Labels:

1. Indoor Equipment: Self-adhesive label.
2. Outdoor Equipment: Laminated acrylic or melamine sign.
3. Equipment to Be Labeled:

a. Panelboards: Typewritten directory of circuits in the location provided by panelboard manufacturer. Panelboard identification shall be in the form of a self-adhesive, engraved, laminated acrylic or melamine label.
b. Enclosures and electrical cabinets.
c. Access doors and panels for concealed electrical items.
d. Switchgear.
e. Switchboards.
f. Transformers: Label that includes tag designation indicated on Drawings for the transformer, feeder, and panelboards or equipment supplied by the secondary.
g. Substations.
h. Emergency system boxes and enclosures.
i. Motor-control centers.
j. Enclosed switches.
k. Enclosed circuit breakers.
l. Enclosed controllers.
m. Variable-speed controllers.
n. Push-button stations.
o. Power-transfer equipment.
p. Contactors.
q. Remote-controlled switches, dimmer modules, and control devices.
r. Battery-inverter units.

s. Battery racks.
t. Power-generating units.
u. Monitoring and control equipment.
v. UPS equipment.

END OF SECTION 260553

SECTION 260573.13 - SHORT-CIRCUIT STUDIES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes a delegated design to provide a complete, computer-based, fault-current study to determine the minimum interrupting capacity of circuit protective devices.

1.3 DEFINITIONS

A. Existing to Remain: Existing items of construction that are not to be removed and that are not otherwise indicated to be removed, removed and salvaged, or removed and reinstalled.

B. One-Line Diagram: A diagram which shows, by means of single lines and graphic symbols, the course of an electric circuit or system of circuits and the component devices or parts used therein.

C. Protective Device: A device that senses when an abnormal current flow exists and then removes the affected portion from the system.

D. SCCR: Short-circuit current rating.

E. Service: The conductors and equipment for delivering electric energy from the serving utility to the wiring system of the premises served.

1.4 ACTION SUBMITTALS

A. Product Data: For computer software program to be used for studies.

B. Other Action Submittals: Submit the following after the approval of system protective devices submittals. Submittals shall be in digital form.

1. Short-circuit study input data, including completed computer program input data sheets.
2. Short-circuit study and equipment evaluation report; signed, dated, and sealed by a qualified professional engineer certified in the state of South Carolina.

    a. Submit study report for action prior to receiving final approval of the distribution equipment submittals. If formal completion of studies will cause delay in equipment manufacturing, obtain approval from Architect for preliminary

submittal of sufficient study data to ensure that the selection of devices and associated characteristics is satisfactory.

b. Revised single-line diagram, reflecting field investigation results and results of short-circuit study.

1.5 INFORMATIONAL SUBMITTALS

A. Product Certificates: For short-circuit study software, certifying compliance with IEEE 399.

1.6 QUALITY ASSURANCE

A. Studies shall use computer programs that are distributed nationally and are in wide use. Software algorithms shall comply with requirements of standards and guides specified in this Section. Manual calculations are unacceptable.

B. Short-Circuit Study Software Developer Qualifications: An entity that owns and markets computer software used for studies, having performed successful studies of similar magnitude on electrical distribution systems using similar devices.

1. The computer program shall be developed under the charge of a licensed professional engineer who holds IEEE Computer Society's Certified Software Development Professional certification.

C. Short-Circuit Study Specialist Qualifications: Professional engineer in charge of performing the study and documenting recommendations, licensed in the state where Project is located. All elements of the study shall be performed under the direct supervision and control of this professional engineer.

D. Field Adjusting Agency Qualifications: An independent agency, with the experience and capability to adjust overcurrent devices and to conduct the testing indicated, that is a member company of the InterNational Electrical Testing Association or is a nationally recognized testing laboratory (NRTL) as defined by OSHA in 29 CFR 1910.7, and that is acceptable to authorities having jurisdiction.

PART 2 - PRODUCTS

2.1 COMPUTER SOFTWARE

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. SKM Systems Analysis, Inc.
2. Etap Power Tools

B. Comply with IEEE 399 and IEEE 551.

C. Analytical features of fault-current-study computer software program shall have the capability to calculate "mandatory," "very desirable," and "desirable" features as listed in IEEE 399.

D. Computer software program shall be capable of plotting and diagramming time-current-characteristic curves as part of its output.

2.2 SHORT-CIRCUIT STUDY REPORT CONTENTS

A. Executive summary.

B. Study descriptions, purpose, basis, and scope. Include case descriptions, definition of terms, and guide for interpretation of the computer printout.

C. One-line diagram, showing the following:

1. Protective device designations and ampere ratings.
2. Cable size and lengths.
3. Transformer kilovolt ampere (kVA) and voltage ratings.
4. Motor and generator designations and kVA ratings.
5. Switchgear, switchboard, and panelboard designations.

D. Comments and recommendations for system improvements, where needed.

E. Protective Device Evaluation:

1. Evaluate equipment and protective devices and compare to short-circuit ratings.
2. Tabulations of circuit breaker, fuse, and other protective device ratings versus calculated short-circuit duties.
3. For 600-V overcurrent protective devices, ensure that interrupting ratings are equal to or higher than calculated 1/2-cycle symmetrical fault current.
4. Verify adequacy of phase conductors at maximum three-phase bolted fault currents; verify adequacy of equipment grounding conductors and grounding electrode conductors at maximum ground-fault currents. Ensure that short-circuit withstand ratings are equal to or higher than calculated 1/2-cycle symmetrical fault current.

F. Short-Circuit Study Input Data: As described in "Power System Data" Article in the Evaluations.

G. Short-Circuit Study Output:

1. Low-Voltage Fault Report: Three-phase and unbalanced fault calculations, showing the following for each overcurrent device location:

   a. Voltage.
   b. Calculated fault-current magnitude and angle.
   c. Fault-point X/R ratio.
   d. Equivalent impedance.

2. Momentary Duty Report: Three-phase and unbalanced fault calculations, showing the following for each overcurrent device location:

a. Voltage.
b. Calculated symmetrical fault-current magnitude and angle.
c. Fault-point X/R ratio.

3. Interrupting Duty Report: Three-phase and unbalanced fault calculations, showing the following for each overcurrent device location:

a. Voltage.
b. Calculated symmetrical fault-current magnitude and angle.
c. Fault-point X/R ratio.
d. No AC Decrement (NACD) ratio.
e. Equivalent impedance.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Obtain all data necessary for the conduct of the study.

1. Verify completeness of data supplied on the one-line diagram. Call any discrepancies to the attention of Architect.
2. For equipment provided that is Work of this Project, use characteristics submitted under the provisions of action submittals and information submittals for this Project.
3. For relocated equipment and that which is existing to remain, obtain required electrical distribution system data by field investigation and surveys, conducted by qualified technicians and engineers. The qualifications of technicians and engineers shall be qualified as defined by NFPA 70E.

B. Gather and tabulate the following input data to support the short-circuit study. Comply with recommendations in IEEE 551 as to the amount of detail that is required to be acquired in the field. Field data gathering shall be under the direct supervision and control of the engineer in charge of performing the study, and shall be by the engineer or its representative who holds NETA ETT Level III certification or NICET Electrical Power Testing Level III certification.

1. Product Data for Project's overcurrent protective devices involved in overcurrent protective device coordination studies. Use equipment designation tags that are consistent with electrical distribution system diagrams, overcurrent protective device submittals, input and output data, and recommended device settings.
2. Obtain electrical power utility impedance at the service.
3. Power sources and ties.
4. For transformers, include kVA, primary and secondary voltages, connection type, impedance, X/R ratio, taps measured in percent, and phase shift.
5. For reactors, provide manufacturer and model designation, voltage rating, and impedance.
6. For circuit breakers and fuses, provide manufacturer and model designation. List type of breaker, type of trip, SCCR, current rating, and breaker settings.
7. Generator short-circuit current contribution data, including short-circuit reactance, rated kVA, rated voltage, and X/R ratio.
8. Motor horsepower and NEMA MG 1 code letter designation.

9. Cable sizes, lengths, number, conductor material and conduit material (magnetic or nonmagnetic).

3.2 SHORT-CIRCUIT STUDY

A. Perform study following the general study procedures contained in IEEE 399.

B. Calculate short-circuit currents according to IEEE 551.

C. Base study on the device characteristics supplied by device manufacturer.

D. The extent of the electrical power system to be studied is indicated on Drawings.

E. Begin short-circuit current analysis at the service, extending down to the system overcurrent protective devices as follows:

1. To normal system low-voltage load buses where fault current is 10 kA or less.
2. Exclude equipment rated 240-V ac or less when supplied by a single transformer rated less than 125 kVA.

F. Study electrical distribution system from normal and alternate power sources throughout electrical distribution system for Project. Study all cases of system-switching configurations and alternate operations that could result in maximum fault conditions.

G. The calculations shall include the ac fault-current decay from induction motors, synchronous motors, and asynchronous generators and shall apply to low- and medium-voltage, three-phase ac systems.

1. For grounded systems, provide a bolted line-to-ground fault-current study for areas as defined for the three-phase bolted fault short-circuit study.

H. Calculate short-circuit momentary and interrupting duties for a three-phase bolted fault at each of the following:

1. Electric utility's supply termination point.
2. Incoming switchgear.
3. Standby generators and automatic transfer switches.
4. Branch circuit panelboards.
5. Disconnect switches.

3.3 ADJUSTING

A. Make minor modifications to equipment as required to accomplish compliance with short-circuit study.

3.4 DEMONSTRATION

A. Train Owner's operating and maintenance personnel in the use of study results.

END OF SECTION 260573.13

SECTION 260573.16 - COORDINATION STUDIES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes delegated design for a complete, computer-based, overcurrent protective device coordination studies to determine overcurrent protective devices and to determine overcurrent protective device settings for selective tripping.

1.3 DEFINITIONS

A. Existing to Remain: Existing items of construction that are not to be removed and that are not otherwise indicated to be removed, removed and salvaged, or removed and reinstalled.

B. One-Line Diagram: A diagram which shows, by means of single lines and graphic symbols, the course of an electric circuit or system of circuits and the component devices or parts used therein.

C. Protective Device: A device that senses when an abnormal current flow exists and then removes the affected portion from the system.

D. SCCR: Short-circuit current rating.

E. Service: The conductors and equipment for delivering electric energy from the serving utility to the wiring system of the premises served.

1.4 ACTION SUBMITTALS

A. Product Data: For computer software program to be used for studies.

B. Other Action Submittals: Submit the following after the approval of system protective devices submittals. Submittals shall be in digital form.

1. Coordination-study input data, including completed computer program input data sheets.
2. Study and equipment evaluation reports.
3. Overcurrent protective device coordination study report; signed, dated, and sealed by a qualified professional engineer certified in the state of South Carolina.

    a. Submit study report for action prior to receiving final approval of the distribution equipment submittals. If formal completion of studies will cause delay in

equipment manufacturing, obtain approval from Architect for preliminary submittal of sufficient study data to ensure that the selection of devices and associated characteristics is satisfactory.

1.5 INFORMATIONAL SUBMITTALS

A. Product Certificates: For overcurrent protective device coordination study software, certifying compliance with IEEE 399.

1.6 CLOSEOUT SUBMITTALS

A. Operation and Maintenance Data: For the overcurrent protective devices to include in emergency, operation, and maintenance manuals.

1. In addition to items specified in Section 017823 "Operation and Maintenance Data," include the following:

a. The following parts from the Protective Device Coordination Study Report:

1) One-line diagram.
2) Protective device coordination study.
3) Time-current coordination curves.

b. Power system data.

1.7 QUALITY ASSURANCE

A. Studies shall use computer programs that are distributed nationally and are in wide use. Software algorithms shall comply with requirements of standards and guides specified in this Section. Manual calculations are unacceptable.

B. Coordination Study Software Developer Qualifications: An entity that owns and markets computer software used for studies, having performed successful studies of similar magnitude on electrical distribution systems using similar devices.

1. The computer program shall be developed under the charge of a licensed professional engineer who holds IEEE Computer Society's Certified Software Development Professional certification.

C. Coordination Study Specialist Qualifications: Professional engineer in charge of performing the study and documenting recommendations, licensed in the state where Project is located. All elements of the study shall be performed under the direct supervision and control of this professional engineer.

D. Field Adjusting Agency Qualifications: An independent agency, with the experience and capability to adjust overcurrent devices and to conduct the testing indicated, that is a member company of the InterNational Electrical Testing Association or is a nationally recognized testing laboratory (NRTL) as defined by OSHA in 29 CFR 1910.7, and that is acceptable to authorities having jurisdiction.

PART 2 - PRODUCTS

2.1 COMPUTER SOFTWARE DEVELOPERS

A. Manufacturers: Subject to compliance with requirements, provide products by the following:

1. Etap Power Tools.
2. SKM Systems Analysis, Inc.

B. Comply with IEEE 242 and IEEE 399.

C. Analytical features of device coordination study computer software program shall have the capability to calculate "mandatory," "very desirable," and "desirable" features as listed in IEEE 399.

D. Computer software program shall be capable of plotting and diagramming time-current-characteristic curves as part of its output. Computer software program shall report device settings and ratings of all overcurrent protective devices and shall demonstrate selective coordination by computer-generated, time-current coordination plots.

1. Optional Features:

a. Arcing faults.
b. Simultaneous faults.

2.2 PROTECTIVE DEVICE COORDINATION STUDY REPORT CONTENTS

A. Executive summary.

B. Study descriptions, purpose, basis and scope. Include case descriptions, definition of terms and guide for interpretation of the computer printout.

C. One-line diagram, showing the following:

1. Protective device designations and ampere ratings.
2. Cable size and lengths.
3. Transformer kilovolt ampere (kVA) and voltage ratings.
4. Motor and generator designations and kVA ratings.
5. Switchgear, switchboard, and panelboard designations.

D. Study Input Data: As described in "Power System Data" Article.

E. Short-Circuit Study Output: As specified in "Short-Circuit Study Output" Paragraph in "Short-Circuit Study Report Contents" Article in Section 260573.13 "Short-Circuit Studies."

F. Protective Device Coordination Study:

1. Report recommended settings of protective devices, ready to be applied in the field. Use manufacturer's data sheets for recording the recommended setting of overcurrent protective devices when available.

a. Circuit Breakers:

1) Adjustable pickups and time delays (long time, short time, ground).
2) Adjustable time-current characteristic.
3) Adjustable instantaneous pickup.
4) Recommendations on improved trip systems, if applicable.

b. Fuses: Show current rating, voltage, and class.

G. Time-Current Coordination Curves: Determine settings of overcurrent protective devices to achieve selective coordination. Graphically illustrate that adequate time separation exists between devices installed in series, including power utility company's upstream devices. Prepare separate sets of curves for the switching schemes and for emergency periods where the power source is local generation. Show the following information:

1. Device tag and title, one-line diagram with legend identifying the portion of the system covered.
2. Terminate device characteristic curves at a point reflecting maximum symmetrical fault current to which the device is exposed.
3. Identify the device associated with each curve by manufacturer type, function, and, if applicable, tap, time delay, and instantaneous settings recommended.
4. Plot the following listed characteristic curves, as applicable:

a. Power utility's overcurrent protective device.
b. Low-voltage equipment circuit-breaker trip devices, including manufacturer's tolerance bands.
c. Transformer full-load current, magnetizing inrush current, and ANSI through-fault protection curves.
d. Cables and conductors damage curves.
e. Ground-fault protective devices.
f. Motor-starting characteristics and motor damage points.
g. The largest feeder circuit breaker in each motor connected panelboard.

5. Provide adequate time margins between device characteristics such that selective operation is achieved.
6. Comments and recommendations for system improvements.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine Project overcurrent protective device submittals for compliance with electrical distribution system coordination requirements and other conditions affecting performance. Devices to be coordinated are indicated on Drawings.

1. Proceed with coordination study only after relevant equipment submittals have been assembled. Overcurrent protective devices that have not been submitted and approved prior to coordination study may not be used in study.

3.2 PROTECTIVE DEVICE COORDINATION STUDY

A. Comply with IEEE 242 for calculating short-circuit currents and determining coordination time intervals.

B. Comply with IEEE 399 for general study procedures.

C. The study shall be based on the device characteristics supplied by device manufacturer.

D. The extent of the electrical power system to be studied is indicated on Drawings.

E. Begin analysis at the service, extending down to the system overcurrent protective devices as follows:

1. To normal system low-voltage load buses where fault current is 10 kA or less.
2. Exclude equipment rated 240-V ac or less when supplied by a single transformer rated less than 125 kVA.

F. Study electrical distribution system from normal and alternate power sources throughout electrical distribution system for Project. Study all cases of system-switching configurations and alternate operations that could result in maximum fault conditions.

G. Transformer Primary Overcurrent Protective Devices:

1. Device shall not operate in response to the following:

a. Inrush current when first energized.
b. Self-cooled, full-load current or forced-air-cooled, full-load current, whichever is specified for that transformer.
c. Permissible transformer overloads according to IEEE C57.96 if required by unusual loading or emergency conditions.

2. Device settings shall protect transformers according to IEEE C57.12.00, for fault currents.

H. Motor Protection:

1. Select protection for low-voltage motors according to IEEE 242 and NFPA 70.
2. Select protection for motors served at voltages more than 600 V according to IEEE 620.

I. Conductor Protection: Protect cables against damage from fault currents according to ICEA P-32-382, ICEA P-45-482, and protection recommendations in IEEE 242. Demonstrate that equipment withstands the maximum short-circuit current for a time equivalent to the tripping time of the primary relay protection or total clearing time of the fuse. To determine temperatures that damage insulation, use curves from cable manufacturers or from listed standards indicating conductor size and short-circuit current.

J. The calculations shall include the ac fault-current decay from induction motors, synchronous motors, and asynchronous generators and shall apply to low- and medium-voltage, three-phase ac systems. The calculations shall also account for the fault-current dc decrement, to address the asymmetrical requirements of the interrupting equipment.

1. For grounded systems, provide a bolted line-to-ground fault-current study for areas as defined for the three-phase bolted fault short-circuit study.

K. Calculate short-circuit momentary and interrupting duties for a three-phase bolted fault and single line-to-ground fault at each of the following:

1. Electric utility's supply termination point.
2. Switchgear.
3. Low-voltage switchgear.
4. Transfer switches.

L. Branch circuit panelboards.Protective Device Evaluation:

1. Evaluate equipment and protective devices and compare to short-circuit ratings.
2. Adequacy of switchgear, motor-control centers, and panelboard bus bars to withstand short-circuit stresses.
3. Any application of series-rated devices shall be recertified, complying with requirements in NFPA 70.

3.3 POWER SYSTEM DATA

A. Obtain all data necessary for the conduct of the overcurrent protective device study.

1. Verify completeness of data supplied in the one-line diagram on Drawings. Call discrepancies to the attention of Architect.
2. For new equipment, use characteristics submitted under the provisions of action submittals and information submittals for this Project.
3. For existing equipment, whether or not relocated obtain required electrical distribution system data by field investigation and surveys, conducted by qualified technicians and engineers. The qualifications of technicians and engineers shall be qualified as defined by NFPA 70E.

B. Gather and tabulate the following input data to support coordination study. The list below is a guide. Comply with recommendations in IEEE 551 for the amount of detail required to be acquired in the field. Field data gathering shall be under the direct supervision and control of the engineer in charge of performing the study, and shall be by the engineer or its representative who holds NETA ETT Level III certification or NICET Electrical Power Testing Level III certification.

1. Product Data for overcurrent protective devices specified in other Sections and involved in overcurrent protective device coordination studies. Use equipment designation tags that are consistent with electrical distribution system diagrams, overcurrent protective device submittals, input and output data, and recommended device settings.
2. Electrical power utility impedance at the service.
3. Power sources and ties.
4. Short-circuit current at each system bus, three phase and line-to-ground.
5. Full-load current of all loads.
6. Voltage level at each bus.
7. For transformers, include kVA, primary and secondary voltages, connection type, impedance, X/R ratio, taps measured in percent, and phase shift.

8. For circuit breakers and fuses, provide manufacturer and model designation. List type of breaker, type of trip and available range of settings, SCCR, current rating, and breaker settings.
9. Generator short-circuit current contribution data, including short-circuit reactance, rated kVA, rated voltage, and X/R ratio.
10. Motor horsepower and NEMA MG 1 code letter designation.
11. Low-voltage cable sizes, lengths, number, conductor material, and conduit material (magnetic or nonmagnetic).
12. Data sheets to supplement electrical distribution system diagram, cross-referenced with tag numbers on diagram, showing the following:

    a. Special load considerations, including starting inrush currents and frequent starting and stopping.
    b. Transformer characteristics, including primary protective device, magnetic inrush current, and overload capability.
    c. Motor full-load current, locked rotor current, service factor, starting time, type of start, and thermal-damage curve.
    d. Generator thermal-damage curve.
    e. Ratings, types, and settings of utility company's overcurrent protective devices.
    f. Special overcurrent protective device settings or types stipulated by utility company.
    g. Time-current-characteristic curves of devices indicated to be coordinated.
    h. Manufacturer, frame size, interrupting rating in amperes rms symmetrical, ampere or current sensor rating, long-time adjustment range, short-time adjustment range, and instantaneous adjustment range for circuit breakers.
    i. Manufacturer and type, ampere-tap adjustment range, time-delay adjustment range, instantaneous attachment adjustment range, and current transformer ratio for overcurrent relays.
    j. Panelboards, switchboards, motor-control center ampacity, and SCCR in amperes rms symmetrical.

3.4 FIELD ADJUSTING

A. Adjust protective device settings according to the recommended settings provided by the coordination study. Field adjustments shall be completed by the engineering service division of the equipment manufacturer under the Startup and Acceptance Testing contract portion.

B. Make minor modifications to equipment as required to accomplish compliance with short-circuit and protective device coordination studies.

C. Testing and adjusting shall be by a full-time employee of the Field Adjusting Agency, who holds NETA ETT Level III certification or NICET Electrical Power Testing Level III certification.

    1. Perform each visual and mechanical inspection and electrical test stated in NETA ATS. Certify compliance with test parameters. Perform NETA tests and inspections for all adjustable overcurrent protective devices.

3.5 DEMONSTRATION

A. Engage the Coordination Study Specialist to train Owner's maintenance personnel in the following:

1. Acquaint personnel in the fundamentals of operating the power system in normal and emergency modes.
2. Hand-out and explain the objectives of the coordination study, study descriptions, purpose, basis, and scope. Include case descriptions, definition of terms, and guide for interpreting the time-current coordination curves.
3. Adjust, operate, and maintain overcurrent protective device settings.

END OF SECTION 260573.16

SECTION 260573.19 - ARC-FLASH HAZARD ANALYSIS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes a delegated design for a complete, computer-based, arc-flash study to determine the arc-flash hazard distance and the incident energy to which personnel could be exposed during work on or near electrical equipment.

1.3 DEFINITIONS

A. Existing to Remain: Existing items of construction that are not to be removed and that are not otherwise indicated to be removed, removed and salvaged, or removed and reinstalled.

B. One-Line Diagram: A diagram which shows, by means of single lines and graphic symbols, the course of an electric circuit or system of circuits and the component devices or parts used therein.

C. Protective Device: A device that senses when an abnormal current flow exists and then removes the affected portion from the system.

D. SCCR: Short-circuit current rating.

E. Service: The conductors and equipment for delivering electric energy from the serving utility to the wiring system of the premises served.

1.4 ACTION SUBMITTALS

A. Product Data: For computer software program to be used for studies.

B. Study Submittals: Submit the following submittals after the approval of system protective devices submittals. Submittals shall be in digital form.

1. Arc-flash study input data, including completed computer program input data sheets.
2. Arc-flash study report; signed, dated, and sealed by a qualified professional engineer.

    a. Submit study report for action prior to receiving final approval of the distribution equipment submittals. If formal completion of studies will cause delay in equipment manufacturing, obtain approval from Architect for preliminary

submittal of sufficient study data to ensure that the selection of devices and associated characteristics is satisfactory.

1.5 INFORMATIONAL SUBMITTALS

A. Product Certificates: For arc-flash hazard analysis software, certifying compliance with IEEE 1584 and NFPA 70E.

1.6 CLOSEOUT SUBMITTALS

A. Operation and Maintenance Data:

1. Maintenance procedures according to requirements in NFPA 70E shall be provided in the equipment manuals.
2. Operation and Maintenance Procedures: In addition to items specified in Section 017823 "Operation and Maintenance Data," provide maintenance procedures for use by Owner's personnel that comply with requirements in NFPA 70E.

1.7 QUALITY ASSURANCE

A. Studies shall use computer programs that are distributed nationally and are in wide use. Software algorithms shall comply with requirements of standards and guides specified in this Section. Manual calculations are unacceptable.

B. Arc-Flash Study Software Developer Qualifications: An entity that owns and markets computer software used for studies, having performed successful studies of similar magnitude on electrical distribution systems using similar devices.

1. The computer program shall be developed under the charge of a licensed professional engineer who holds IEEE Computer Society's Certified Software Development Professional certification.

C. Arc-Flash Study Specialist Qualifications: Professional engineer in charge of performing the study, analyzing the arc flash, and documenting recommendations, licensed in the state where Project is located. All elements of the study shall be performed under the direct supervision and control of this professional engineer.

D. Field Adjusting Agency Qualifications: An independent agency, with the experience and capability to adjust overcurrent devices and to conduct the testing indicated, that is a member company of the InterNational Electrical Testing Association or is a nationally recognized testing laboratory (NRTL) as defined by OSHA in 29 CFR 1910.7, and that is acceptable to authorities having jurisdiction.

PART 2 - PRODUCTS

2.1 COMPUTER SOFTWARE DEVELOPERS

A. Manufacturers: Subject to compliance with requirements, provide products by the following:

1. Etap Power Tools.
2. SKM Systems Analysis, Inc.

B. Comply with IEEE 1584 and NFPA 70E.

C. Analytical features of device coordination study computer software program shall have the capability to calculate "mandatory," "very desirable," and "desirable" features as listed in IEEE 399.

2.2 ARC-FLASH STUDY REPORT CONTENT

A. Executive summary.

B. Study descriptions, purpose, basis and scope.

C. One-line diagram, showing the following:

1. Protective device designations and ampere ratings.
2. Cable size and lengths.
3. Transformer kilovolt ampere (kVA) and voltage ratings.
4. Motor designations and kVA ratings.
5. Switchgear, switchboard, motor connected to panelboard.

D. Study Input Data: As described in "Power System Data" Article.

E. Short-Circuit Study Output: As specified in "Short Circuit Study Output" Paragraph in "Short-Circuit Study Report Contents" Article in Section 260573.13 "Short-Circuit Studies."

F. Protective Device Coordination Study Report Contents: As specified in "Protective Device Coordination Study Report Contents" Article in Section 260573.16 "Coordination Studies."

G. Arc-Flash Study Output:

1. Interrupting Duty Report: Three-phase and unbalanced fault calculations, showing the following for each overcurrent device location:

a. Voltage.
b. Calculated symmetrical fault-current magnitude and angle.
c. Fault-point X/R ratio.
d. No AC Decrement (NACD) ratio.
e. Equivalent impedance.

H. Incident Energy and Flash Protection Boundary Calculations:

1. Arcing fault magnitude.
2. Protective device clearing time.
3. Duration of arc.
4. Arc-flash boundary.
5. Working distance.
6. Incident energy.
7. Hazard risk category.
8. Recommendations for arc-flash energy reduction.

I. Fault study input data, case descriptions, and fault-current calculations including a definition of terms and guide for interpretation of the computer printout.

2.3 ARC-FLASH WARNING LABELS

A. Comply with requirements in Section 260553 "Identification for Electrical Systems" for self-adhesive equipment labels. Produce a 3.5-by-5-inch (76-by-127-mm) self-adhesive equipment label for each work location included in the analysis.

B. The label shall have an orange header with the wording, "WARNING, ARC-FLASH HAZARD," and shall include the following information taken directly from the arc-flash hazard analysis:

1. Location designation.
2. Nominal voltage.
3. Flash protection boundary.
4. Hazard risk category.
5. Incident energy.
6. Working distance.
7. Engineering report number, revision number, and issue date.

C. Labels shall be machine printed, with no field-applied markings.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine Project overcurrent protective device submittals. Proceed with arc-flash study only after relevant equipment submittals have been assembled. Overcurrent protective devices that have not been submitted and approved prior to arc-flash study may not be used in study.

3.2 ARC-FLASH HAZARD ANALYSIS

A. Comply with NFPA 70E and its Annex D for hazard analysis study.

B. Preparatory Studies:

1. Short-Circuit Study Output: As specified in "Short-Circuit Study Output" Paragraph in "Short-Circuit Study Report Contents" Article in Section 260573.13 "Short-Circuit Studies."
2. Protective Device Coordination Study Report Contents: As specified in "Protective Device Coordination Study Report Contents" Article in Section 260573.16 "Coordination Studies."

C. Calculate maximum and minimum contributions of fault-current size.

1. The minimum calculation shall assume that the utility contribution is at a minimum and shall assume no motor load.
2. The maximum calculation shall assume a maximum contribution from the utility and shall assume motors to be operating under full-load conditions.

D. Calculate the arc-flash protection boundary and incident energy at locations in the electrical distribution system where personnel could perform work on energized parts.

E. Include medium- and low-voltage equipment locations, except equipment rated 240-V ac or less fed from transformers less than 125 kVA.

F. Safe working distances shall be specified for calculated fault locations based on the calculated arc-flash boundary, considering incident energy of 1.2 cal/sq.cm.

G. Incident energy calculations shall consider the accumulation of energy over time when performing arc-flash calculations on buses with multiple sources. Iterative calculations shall take into account the changing current contributions, as the sources are interrupted or decremented with time. Fault contribution from motors and generators shall be decremented as follows:

1. Fault contribution from induction motors should not be considered beyond three to five cycles.
2. Fault contribution from synchronous motors and generators should be decayed to match the actual decrement of each as closely as possible (e.g., contributions from permanent magnet generators will typically decay from 10 per unit to three per unit after 10 cycles).

H. Arc-flash computation shall include both line and load side of a circuit breaker as follows:

1. When the circuit breaker is in a separate enclosure.
2. When the line terminals of the circuit breaker are separate from the work location.

I. Base arc-flash calculations on actual overcurrent protective device clearing time. Cap maximum clearing time at two seconds based on IEEE 1584, Section B.1.2.

3.3 POWER SYSTEM DATA

A. Obtain all data necessary for the conduct of the arc-flash hazard analysis.

1. Verify completeness of data supplied on the one-line diagram on Drawings and under "Preparatory Studies" Paragraph in "Arc-Flash Hazard Analysis" Article. Call discrepancies to the attention of Architect.

2. For new equipment, use characteristics submitted under the provisions of action submittals and information submittals for this Project.
3. For existing equipment, whether or not relocated, obtain required electrical distribution system data by field investigation and surveys, conducted by qualified technicians and engineers.

B. Electrical Survey Data: Gather and tabulate the following input data to support study. Comply with recommendations in IEEE 1584 and NFPA 70E as to the amount of detail that is required to be acquired in the field. Field data gathering shall be under the direct supervision and control of the engineer in charge of performing the study, and shall be by the engineer or its representative who holds NETA ETT Level III certification or NICET Electrical Power Testing Level III certification.

1. Product Data for overcurrent protective devices specified in other Sections and involved in overcurrent protective device coordination studies. Use equipment designation tags that are consistent with electrical distribution system diagrams, overcurrent protective device submittals, input and output data, and recommended device settings.
2. Obtain electrical power utility impedance at the service.
3. Power sources and ties.
4. Short-circuit current at each system bus, three phase and line-to-ground.
5. Full-load current of all loads.
6. Voltage level at each bus.
7. For transformers, include kVA, primary and secondary voltages, connection type, impedance, X/R ratio, taps measured in per cent, and phase shift.
8. For circuit breakers and fuses, provide manufacturer and model designation. List type of breaker, type of trip and available range of settings, SCCR, current rating, and breaker settings.
9. For relays, provide manufacturer and model designation, current transformer ratios, potential transformer ratios, and relay settings.
10. Motor horsepower and NEMA MG 1 code letter designation.
11. Low-voltage cable sizes, lengths, number, conductor material and conduit material (magnetic or nonmagnetic).

3.4 LABELING

A. Apply one arc-flash label for 600-V ac, 480-V ac, and applicable 208-V ac panelboards and disconnects and for each of the following locations:
1. Low-voltage switchboard.

3.5 Switchgear.APPLICATION OF WARNING LABELS

A. Install the arc-fault warning labels under the direct supervision and control of the Arc-Flash Study Specialist.

3.6 DEMONSTRATION

A. Engage the Arc-Flash Study Specialist to train Owner's maintenance personnel in the potential arc-flash hazards associated with working on energized equipment and the significance of the arc-flash warning labels.

END OF SECTION 260573.19

SECTION 262213 - LOW-VOLTAGE DISTRIBUTION TRANSFORMERS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes distribution, dry-type transformers with a nominal primary and secondary rating of 600 V and less, with capacities up to 1500 kVA.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for each type and size of transformer.
2. Include rated nameplate data, capacities, weights, dimensions, minimum clearances, installed devices and features, and performance for each type and size of transformer.

B. Shop Drawings:

1. Detail equipment assemblies and indicate dimensions, weights, loads, required clearances, method of field assembly, components, and location and size of each field connection.
2. Vibration Isolation Base Details: Detail fabrication including anchorages and attachments to structure and to supported equipment.
3. Include diagrams for power, signal, and control wiring.

1.4 INFORMATIONAL SUBMITTALS

A. Qualification Data: For testing agency.

B. Seismic Qualification Data: Certificates, for transformers, accessories, and components, from manufacturer.

1. Basis for Certification: Indicate whether withstand certification is based on actual test of assembled components or on calculation.
2. Dimensioned Outline Drawings of Equipment Unit: Identify center of gravity and locate and describe mounting and anchorage provisions.
3. Detailed description of equipment anchorage devices on which the certification is based and their installation requirements.
4. Certification: Indicate that equipment meets Project seismic requirements.

C. Source quality-control reports.

D. Field quality-control reports.

1.5 CLOSEOUT SUBMITTALS

A. Operation and Maintenance Data: For transformers to include in emergency, operation, and maintenance manuals.

1.6 QUALITY ASSURANCE

A. Testing Agency Qualifications: Accredited by NETA.

1. Testing Agency's Field Supervisor: Certified by NETA to supervise on-site testing.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Inspection: On receipt, inspect for and note any shipping damage to packaging and transformer.

1. If manufacturer packaging is removed for inspection, and transformer will be stored after inspection, re-package transformer using original or new packaging materials that provide protection equivalent to manufacturer's packaging.

B. Storage: Store in a warm, dry, and temperature-stable location in original shipping packaging.

C. Temporary Heating: Apply temporary heat according to manufacturer's written instructions within the enclosure of each ventilated-type unit, throughout periods during which equipment is not energized and when transformer is not in a space that is continuously under normal control of temperature and humidity.

D. Handling: Follow manufacturer's instructions for lifting and transporting transformers.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements, provide products by the following:

1. Acme Electric Corporation.
2. Eaton.
3. Federal Pacific.
4. General Electric Company.
5. Jefferson Electric, Inc.
6. MGM Transformer Company.

B. Source Limitations: Obtain each transformer type from single source from single manufacturer.

2.2 PERFORMANCE REQUIREMENTS

A. Seismic Performance: Transformers shall withstand the effects of earthquake motions determined according to ASCE/SEI 7.

1. The term "withstand" means "the transformer will remain in place without separation of any parts when subjected to the seismic forces specified and the transformer will be fully operational after the seismic event.

2.3 GENERAL TRANSFORMER REQUIREMENTS

A. Description: Factory-assembled and -tested, air-cooled units for 60-Hz service.

B. Comply with NFPA 70.

1. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and use.

C. Transformers Rated 15 kVA and Larger:

1. Comply with 10 CFR 431 (DOE 2016) efficiency levels.
2. Marked as compliant with DOE 2016 efficiency levels by an NRTL.

D. Shipping Restraints: Paint or otherwise color-code bolts, wedges, blocks, and other restraints that are to be removed after installation and before energizing. Use fluorescent colors that are easily identifiable inside the transformer enclosure.

2.4 DISTRIBUTION TRANSFORMERS

A. Comply with NFPA 70, and list and label as complying with UL 1561.

B. Provide transformers that are constructed to withstand seismic forces specified on drawings.

C. Cores: Electrical grade, non-aging silicon steel with high permeability and low hysteresis losses.

1. One leg per phase.
2. Core volume shall allow efficient transformer operation at 10 percent above the nominal tap voltage.
3. Grounded to enclosure.

D. Coils: Continuous windings except for taps.

1. Coil Material: Copper.
2. Internal Coil Connections: Brazed or pressure type.

E. Encapsulation: Transformers smaller than 30 kVA shall have core and coils completely resin encapsulated.

F. Enclosure: Ventilated.

1. NEMA 250, Type 2 indoors and Type 4x outdoor: Core and coil shall be encapsulated within resin compound to seal out moisture and air.
2. KVA Ratings: Based on convection cooling only and not relying on auxiliary fans.
3. Wiring Compartment: Sized for conduit entry and wiring installation.
4. Finish: Comply with NEMA 250.

    a. Finish Color: ANSI 49 gray weather-resistant enamel.

5.

G. Taps for Transformers 25 kVA and Larger: Two 2.5 percent taps above and two 2.5 percent taps below normal full capacity.

H. Insulation Class, Smaller Than 30 kVA: 180 deg C, UL-component-recognized insulation system with a maximum of 115 deg C rise above 40 deg C ambient temperature.

I. Insulation Class, 30 kVA and Larger: 220 deg C, UL-component-recognized insulation system with a maximum of 115 deg C rise above 40 deg C ambient temperature.

J. Grounding: Provide ground-bar kit or a ground bar installed on the inside of the transformer enclosure.

K. Wall Brackets: Manufacturer's standard brackets.

L. Low-Sound-Level Requirements: Maximum sound levels when factory tested according to IEEE C57.12.91, as follows:
1. 30.01 to 50.00 kVA: 45 dBA for K-factors of 1, 4, and 9.
2. 50.01 to 150.00 kVA: 50 dBA for K-factors of 1, 4, and 9.

2.5 IDENTIFICATION

A. Nameplates: Engraved, laminated-acrylic or melamine plastic signs for each distribution transformer, mounted with corrosion-resistant screws. Nameplates and label products are specified in Section 260553 "Identification for Electrical Systems."

B. Nameplates: Self-adhesive label for each distribution transformer. Self-adhesive labels are specified in Section 260553 "Identification for Electrical Systems."

2.6 SOURCE QUALITY CONTROL

A. Test and inspect transformers according to IEEE C57.12.01 and IEEE C57.12.91.

1. Resistance measurements of all windings at rated voltage connections and at all tap connections.
2. Ratio tests at rated voltage connections and at all tap connections.
3. Phase relation and polarity tests at rated voltage connections.
4. No load losses, and excitation current and rated voltage at rated voltage connections.
5. Impedance and load losses at rated current and rated frequency at rated voltage connections.
6. Applied and induced tensile tests.

7. Regulation and efficiency at rated load and voltage.
8. Insulation-Resistance Tests:

    a. High-voltage to ground.
    b. Low-voltage to ground.
    c. High-voltage to low-voltage.

9. Temperature tests.

B. Factory Sound-Level Tests: Conduct prototype sound-level tests on production-line products.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine conditions for compliance with enclosure- and ambient-temperature requirements for each transformer.

B. Verify that field measurements are as needed to maintain working clearances required by NFPA 70 and manufacturer's written instructions.

C. Examine walls, floors, roofs, and concrete bases for suitable mounting conditions where transformers will be installed.

D. Verify that ground connections are in place and requirements in Section 260526 "Grounding and Bonding for Electrical Systems" have been met. Maximum ground resistance shall be 5 ohms at location of transformer.

E. Environment: Enclosures shall be rated for the environment in which they are located. Covers for NEMA 250, Type 4X enclosures shall not cause accessibility problems.

F. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

A. Install wall-mounted transformers level and plumb with wall brackets fabricated by transformer manufacturer.

    1. Coordinate installation of wall-mounted and structure-hanging supports with actual transformer provided.
    2. Brace wall-mounted transformers as specified in Section 260548.16 "Seismic Controls for Electrical Systems."

B. Install transformers level and plumb on a concrete base with vibration-dampening supports. Locate transformers away from corners and not parallel to adjacent wall surface.

C. Secure transformer to concrete base according to manufacturer's written instructions.

D. Secure covers to enclosure and tighten all bolts to manufacturer-recommended torques to reduce noise generation.

E. Remove shipping bolts, blocking, and wedges.

3.3 CONNECTIONS

A. Ground equipment according to Section 260526 "Grounding and Bonding for Electrical Systems."

B. Connect wiring according to Section 260519 "Low-Voltage Electrical Power Conductors and Cables."

C. Tighten electrical connectors and terminals according to manufacturer's published torque-tightening values. If manufacturer's torque values are not indicated, use those specified in UL 486A-486B.

D. Provide flexible connections at all conduit and conductor terminations and supports to eliminate sound and vibration transmission to the building structure.

3.4 FIELD QUALITY CONTROL

A. Testing Agency: Owner will engage a qualified testing agency to perform tests and inspections.

B. Testing Agency: Engage a qualified testing agency to perform tests and inspections.

C. Manufacturer's Field Service: Engage a factory-authorized service representative to test and inspect components, assemblies, and equipment installations, including connections.

D. Perform tests and inspections with the assistance of a factory-authorized service representative.

E. Small (Up to 167-kVA Single-Phase or 500-kVA Three-Phase) Dry-Type Transformer Field Tests:

1. Visual and Mechanical Inspection.

   a. Inspect physical and mechanical condition.
   b. Inspect anchorage, alignment, and grounding.
   c. Verify that resilient mounts are free and that any shipping brackets have been removed.
   d. Verify the unit is clean.
   e. Perform specific inspections and mechanical tests recommended by manufacturer.
   f. Verify that as-left tap connections are as specified.
   g. Verify the presence of surge arresters and that their ratings are as specified.

2. Electrical Tests:

   a. Measure resistance at each winding, tap, and bolted connection.
   b. Perform insulation-resistance tests winding-to-winding and each winding-to-ground. Apply voltage according to manufacturer's published data. In the absence

of manufacturer's published data, comply with NETA ATS, Table 100.5. Calculate polarization index: the value of the index shall not be less than 1.0.

c. Perform turns-ratio tests at all tap positions. Test results shall not deviate by more than one-half percent from either the adjacent coils or the calculated ratio. If test fails, replace the transformer.

d. Verify correct secondary voltage, phase-to-phase and phase-to-neutral, after energization and prior to loading.

F. Test Labeling: On completion of satisfactory testing of each unit, attach a dated and signed "Satisfactory Test" label to tested component.

3.5 ADJUSTING

A. Record transformer secondary voltage at each unit for at least 48 hours of typical occupancy period. Adjust transformer taps to provide optimum voltage conditions at secondary terminals. Optimum is defined as not exceeding nameplate voltage plus 5 percent and not being lower than nameplate voltage minus 3 percent at maximum load conditions. Submit recording and tap settings as test results.

B. Output Settings Report: Prepare a written report recording output voltages and tap settings.

3.6 CLEANING

A. Vacuum dirt and debris; do not use compressed air to assist in cleaning.

END OF SECTION 262213

SECTION 262413 - SWITCHBOARDS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Service and distribution switchboards rated 600 V and less.
2. Surge protection devices.
3. Disconnecting and overcurrent protective devices.
4. Instrumentation.
5. Control power.
6. Accessory components and features.
7. Identification.
8. Mimic bus.

B. Related Requirements

1. Section 260573.19 "Arc-Flash Hazard Analysis" for arc-flash analysis and arc-flash label requirements.

1.3 ACTION SUBMITTALS

A. Product Data: For each switchboard, overcurrent protective device, surge protection device, ground-fault protector, accessory, and component.

1. Include dimensions and manufacturers' technical data on features, performance, electrical characteristics, ratings, accessories, and finishes.

B. Shop Drawings: For each switchboard and related equipment.

1. Include dimensioned plans, elevations, sections, and details, including required clearances and service space around equipment. Show tabulations of installed devices, equipment features, and ratings.
2. Detail enclosure types for types other than NEMA 250, Type 1.
3. Detail bus configuration, current, and voltage ratings.
4. Detail short-circuit current rating of switchboards and overcurrent protective devices.
5. Include descriptive documentation of optional barriers specified for electrical insulation and isolation.
6. Detail utility company's metering provisions with indication of approval by utility company.

7. Include evidence of NRTL listing for series rating of installed devices.
8. Detail features, characteristics, ratings, and factory settings of individual overcurrent protective devices and auxiliary components.
9. Include time-current coordination curves for each type and rating of overcurrent protective device included in switchboards. Submit on translucent log-log graft paper; include selectable ranges for each type of overcurrent protective device.
10. Include diagram and details of proposed mimic bus.
11. Include schematic and wiring diagrams for power, signal, and control wiring.

C. Samples: Representative portion of mimic bus with specified material and finish, for color selection.

D. Delegated Design Submittal:

1. For arc-flash hazard analysis.
2. For arc-flash labels.

1.4 INFORMATIONAL SUBMITTALS

A. Qualification Data: For Installer.

B. Seismic Qualification Data: Certificates, for switchboards, overcurrent protective devices, accessories, and components, from manufacturer.

1. Basis for Certification: Indicate whether withstand certification is based on actual test of assembled components or on calculation.
2. Dimensioned Outline Drawings of Equipment Unit: Identify center of gravity and locate and describe mounting and anchorage provisions.
3. Detailed description of equipment anchorage devices on which the certification is based and their installation requirements.

C. Field Quality-Control Reports:

1. Test procedures used.
2. Test results that comply with requirements.
3. Results of failed tests and corrective action taken to achieve test results that comply with requirements.

1.5 CLOSEOUT SUBMITTALS

A. Operation and Maintenance Data: For switchboards and components to include in emergency, operation, and maintenance manuals.

1. In addition to items specified in Section 017823 "Operation and Maintenance Data," include the following:

a. Routine maintenance requirements for switchboards and all installed components.
b. Manufacturer's written instructions for testing and adjusting overcurrent protective devices.

c. Time-current coordination curves for each type and rating of overcurrent protective device included in switchboards. Submit on translucent log-log graft paper; include selectable ranges for each type of overcurrent protective device.

1.6 MAINTENANCE MATERIAL SUBMITTALS

A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

1. Potential Transformer Fuses: Equal to 10 percent of quantity installed for each size and type but no fewer than two of each size and type.
2. Control-Power Fuses: Equal to 10 percent of quantity installed for each size and type, but no fewer than two of each size and type.

1.7 QUALITY ASSURANCE

A. Installer Qualifications: An employer of workers qualified as defined in NEMA PB 2.1 and trained in electrical safety as required by NFPA 70E.

B. Testing Agency Qualifications: Accredited by NETA.

1. Testing Agency's Field Supervisor: Certified by NETA to supervise on-site testing.

1.8 DELIVERY, STORAGE, AND HANDLING

A. Deliver switchboards in sections or lengths that can be moved past obstructions in delivery path.

B. Remove loose packing and flammable materials from inside switchboards and install temporary electric heating (250 W per section) to prevent condensation.

C. Handle and prepare switchboards for installation according to NEMA PB 2.1.

1.9 FIELD CONDITIONS

A. Installation Pathway: Remove and replace access fencing, doors, lift-out panels, and structures to provide pathway for moving switchboards into place.

B. Environmental Limitations:
1. Rate equipment for continuous operation under the following conditions unless otherwise indicated:

a. Ambient Temperature: Not exceeding 104 deg F (40 deg C).
b. Altitude: Not exceeding 6600 feet (2000 m).

C. Unusual Service Conditions: NEMA PB 2, as follows:

1. Ambient temperatures within limits specified.
2. Altitude not exceeding 6600 feet (2000 m).

D. Interruption of Existing Electric Service: Do not interrupt electric service to facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary electric service according to requirements indicated:

1. Notify Owner (government) no fewer than seven days in advance of proposed interruption of electric service.
2. Indicate method of providing temporary electric service.
3. Do not proceed with interruption of electric service without Owner's written permission.
4. Comply with NFPA 70E.

1.10 COORDINATION

A. Coordinate layout and installation of switchboards and components with other construction that penetrates walls or is supported by them, including electrical and other types of equipment, raceways, piping, encumbrances to workspace clearance requirements, and adjacent surfaces. Maintain required workspace clearances and required clearances for equipment access doors and panels.

B. Coordinate sizes and locations of concrete bases with actual equipment provided. Cast anchor-bolt inserts into bases. Concrete, reinforcement, and formwork requirements are specified with concrete.

1.11 WARRANTY

A. Manufacturer's Warranty: Manufacturer agrees to repair or replace switchboard enclosures, buswork, overcurrent protective devices, accessories, and factory installed interconnection wiring that fail in materials or workmanship within specified warranty period.

1. Warranty Period: Three years from date of Substantial Completion.

B. Manufacturer's Warranty: Manufacturer's agrees to repair or replace surge protection devices that fail in materials or workmanship within specified warranty period.

1. Warranty Period: Five years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Seismic Performance: Switchboards shall withstand the effects of earthquake motions determined according to ASCE/SEI 7.

1. Basis for Certification: Indicate whether withstand certification is based on actual test of assembled components or on calculation. Shake-table testing shall comply with ICC-ES AC156.
2. The term "withstand" means "the unit will remain in place without separation of any parts from the device when subjected to the seismic forces specified and the unit will be fully operational after the seismic event."

2.2 SWITCHBOARDS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. Eaton.
2. General Electric Company.
3. Siemens Industry, Inc., Energy Management Division.
4. Square D; by Schneider Electric.

B. Source Limitations: Obtain switchboards, overcurrent protective devices, components, and accessories from single source from single manufacturer.

C. Product Selection for Restricted Space: Drawings indicate maximum dimensions for switchboards including clearances between switchboards and adjacent surfaces and other items. Comply with indicated maximum dimensions.

D. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

E. Comply with NEMA PB 2.

F. Comply with NFPA 70.

G. Comply with UL 891.

H. Front-Connected, Front-Accessible only Switchboards:

1. Main Devices: Fixed, individually mounted.
2. Branch Devices: Panel mounted.
3. Sections front and rear aligned.

I. Nominal System Voltage: 480Y/277 V.

J. Main-Bus Continuous: 4000A.

K. Seismic Requirements: Fabricate and test switchboards according to IEEE 344 to withstand seismic forces defined in Section 260548.16 "Seismic Controls for Electrical Systems."

1. Basis for Certification: Indicate whether withstand certification is based on actual test of assembled components or on calculation. Shake-table testing shall comply with ICC-ES AC156.

a. The term "withstand" means "the unit will remain in place without separation of any parts from the device when subjected to the seismic forces specified."
b. The term "withstand" means "the unit will remain in place without separation of any parts from the device when subjected to the seismic forces specified and the unit will be fully operational after the seismic event."

L. Indoor Enclosures: Steel, NEMA 250, Type 1.

M. Enclosure Finish for Indoor Units: Factory-applied finish in manufacturer's standard gray finish over a rust-inhibiting primer on treated metal surface.

N. Barriers: Between adjacent switchboard sections.

O. Insulation and isolation for main bus of main section and main and vertical buses of feeder sections.

P. Space Heaters: Factory-installed electric space heaters of sufficient wattage in each vertical section to maintain enclosure temperature above expected dew point.

Q. Service Entrance Rating: Switchboards intended for use as service entrance equipment shall contain from one to six service disconnecting means with overcurrent protection, a neutral bus with disconnecting link, a grounding electrode conductor terminal, and a main bonding jumper.

R. Customer Metering Compartment: A separate customer metering compartment and section with front hinged door, and section with front hinged door, for indicated metering, and current transformers for each meter. Current transformer secondary wiring shall be terminated on shorting-type terminal blocks. Include potential transformers having primary and secondary fuses with disconnecting means and secondary wiring terminated on terminal blocks.

S. Bus Transition and Incoming Pull Sections: Matched and aligned with basic switchboard.

T. No rear access allowed.

U. Hinged Front Panels: Allow access to circuit breaker, metering, accessory, and blank compartments.

V. Buses and Connections: Three phase, four wire unless otherwise indicated.

1. Provide phase bus arrangement A, B, C from front to back, top to bottom, and left to right when viewed from the front of the switchboard.
2. Phase- and Neutral-Bus Material: Hard-drawn copper of 98 percent conductivity, silver-plated.
3. Copper feeder circuit-breaker line connections.
4. Load Terminals: Insulated, rigidly braced, runback bus extensions, of same material as through buses, equipped with mechanical connectors for outgoing circuit conductors. Provide load terminals for future circuit-breaker positions at full-ampere rating of circuit-breaker position.
5. Ground Bus: 1/4-by-2-inch- (6-by-50-mm-) hard-drawn copper of 98 percent conductivity, equipped with mechanical connectors for feeder and branch-circuit ground conductors.
6. Main-Phase Buses and Equipment-Ground Buses: Uniform capacity for entire length of switchboard's main and distribution sections. Provide for future extensions from both ends.
7. Disconnect Links:

    a. Isolate neutral bus from incoming neutral conductors.
    b. Bond neutral bus to equipment-ground bus for switchboards utilized as service equipment or separately derived systems.

8. Neutral Buses: 100 percent of the ampacity of phase buses unless otherwise indicated, equipped with mechanical connectors for outgoing circuit neutral cables. Brace bus extensions for busway feeder neutral bus.
9. Isolation Barrier Access Provisions: Permit checking of bus-bolt tightness.

W. Future Devices: Equip compartments with mounting brackets, supports, bus connections, and appurtenances at full rating of circuit-breaker compartment.

X. Bus-Bar Insulation: Factory-applied, flame-retardant, tape wrapping of individual bus bars or flame-retardant, spray-applied insulation. Minimum insulation temperature rating of 105 deg C.

Y. Fungus Proofing: Permanent fungicidal treatment for overcurrent protective devices and other components including instruments and instrument transformers.

2.3 SURGE PROTECTION DEVICES

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. Advanced Protection Technologies Inc. (APT).
2. Eaton.
3. General Electric Company.
4. Siemens Industry, Inc., Energy Management Division.
5. Square D; by Schneider Electric.

B. SPDs: Comply with UL 1449, Type 1/Type 2.

C. Features and Accessories:

1. Integral disconnect switch.
2. Internal thermal protection that disconnects the SPD before damaging internal suppressor components.
3. Indicator light display for protection status.
4. Form-C contacts rated at 5 A and 250-V ac, one normally open and one normally closed, for remote monitoring of protection status. Contacts shall reverse on failure of any surge diversion module or on opening of any current-limiting device. Coordinate with building power monitoring and control system.
5. Surge counter.

D. Peak Surge Current Rating: The minimum single-pulse surge current withstand rating per phase shall not be less than 200 kA. The peak surge current rating shall be the arithmetic sum of the ratings of the individual MOVs in a given mode.

E. Protection modes and UL 1449 VPR for grounded wye circuits with 480Y/277 V, three-phase, four-wire circuits shall not exceed the following:

1. Line to Neutral: 1600 V for 480Y/277 V.
2. Line to Ground: 1600 V for 480Y/277 V.
3. Line to Line: 2000 V for 480Y/277 V.

F. SCCR: Equal or exceed 200 kA.

G. Nominal Rating: 20 kA.

2.4 DISCONNECTING AND OVERCURRENT PROTECTIVE DEVICES

A. Molded-Case Circuit Breaker (MCCB): Comply with UL 489, with interrupting capacity to meet available fault currents.

1. Thermal-Magnetic Circuit Breakers: Inverse time-current element for low-level overloads and instantaneous magnetic trip element for short circuits. Adjustable magnetic trip setting for circuit-breaker frame sizes 225 A and larger.
2. Adjustable Instantaneous-Trip Circuit Breakers: Magnetic trip element with front-mounted, field-adjustable trip setting.
3. Electronic trip circuit breakers with rms sensing; field-replaceable rating plug or field-replicable electronic trip; and the following field-adjustable settings:

    a. Instantaneous trip.
    b. Long- and short-time pickup levels.
    c. Long and short time adjustments.
    d. Ground-fault pickup level, time delay, and I squared t response.
4. MCCB Features and Accessories:

    a. Standard frame sizes, trip ratings, and number of poles.
    b. Lugs: Mechanical style, suitable for number, size, trip ratings, and conductor material.
    c. Zone-Selective Interlocking: Integral with electronic trip unit; for interlocking ground-fault protection function.
    d. Shunt Trip: 120-V trip coil energized from separate circuit, set to trip at 55 percent of rated voltage.

B. Insulated-Case Circuit Breaker (ICCB): 80 percent rated, sealed, insulated-case power circuit breaker with interrupting capacity rating to meet available fault current.

1. Fixed circuit-breaker mounting.
2. Two-step, stored-energy closing.
3. Full-function, microprocessor-based trip units with interchangeable rating plug, trip indicators, and the following field-adjustable settings:

    a. Instantaneous trip.
    b. Time adjustments for long- and short-time pickup.
    c. Ground-fault pickup level, time delay, and I squared t response.

4. Zone-Selective Interlocking: Integral with electronic trip unit; for interlocking ground-fault protection function.
5. Remote trip indication and control.

2.5 INSTRUMENTATION

A. Instrument Transformers: NEMA EI 21.1, and the following:

1. Potential Transformers: NEMA EI 21.1; 120 V, 60 Hz, single secondary; disconnecting type with integral fuse mountings. Burden and accuracy shall be consistent with connected metering and relay devices.
2. Current Transformers: NEMA EI 21.1; 5 A, 60 Hz, secondary; bar or window type; single secondary winding and secondary shorting device. Burden and accuracy shall be consistent with connected metering and relay devices.
3. Current Transformers for Neutral and Ground-Fault Current Sensing: Connect secondary wiring to ground overcurrent relays, via shorting terminals, to provide selective tripping of main and tie circuit breaker. Coordinate with feeder circuit-breaker, ground-fault protection.

B. Multifunction Digital-Metering Monitor: Microprocessor-based unit suitable for three- or four-wire systems and with the following features:

1. Switch-selectable digital display of the following values with maximum accuracy tolerances as indicated:

   a. Phase Currents, Each Phase: Plus or minus 0.5 percent.
   b. Phase-to-Phase Voltages, Three Phase: Plus or minus 0.5 percent.
   c. Phase-to-Neutral Voltages, Three Phase: Plus or minus 0.5 percent.
   d. Megawatts: Plus or minus 1 percent.
   e. Megavars: Plus or minus 1 percent.
   f. Power Factor: Plus or minus 1 percent.
   g. Frequency: Plus or minus 0.1 percent.
   h. Accumulated Energy, Megawatt Hours: Plus or minus 1 percent; accumulated values unaffected by power outages up to 72 hours.
   i. Megawatt Demand: Plus or minus 1 percent; demand interval programmable from five to 60 minutes.
   j. Contact devices to operate remote impulse-totalizing demand meter.

2. Mounting: Display and control unit flush or semiflush mounted in instrument compartment door.

C. Voltmeters: Cover an expanded-scale range of nominal voltage plus 10 percent.

D. Ammeters: 2-1/2-inch (64-mm) minimum size with 90- or 120-degree scale. Meter and transfer device with off position, located on overcurrent device door for indicated feeder circuits only.

2.6 CONTROL POWER

A. Control Circuits: 120-V ac, supplied from remote branch circuit.

2.7 ACCESSORY COMPONENTS AND FEATURES

A. Accessory Set: Include tools and miscellaneous items required for overcurrent protective device test, inspection, maintenance, and operation.

B. Portable Test Set: For testing functions of solid-state trip devices without removing from switchboard. Include relay and meter test plugs suitable for testing switchboard meters and switchboard class relays.

2.8 IDENTIFICATION

A. Mimic Bus: Entire single-line switchboard bus work, as depicted on factory record drawing, on a photoengraved nameplate.

1. Nameplate: At least 0.032-inch- (0.813-mm-) thick anodized aluminum, located at eye level on front cover of the switchboard incoming service section.

B. Mimic Bus: Entire single-line switchboard bus work, as depicted on factory record drawing, on an engraved laminated-plastic (Gravoply) nameplate.

1. Nameplate: At least 0.0625-inch- (1.588 mm-) thick laminated plastic (Gravoply), located at eye level on front cover of the switchboard incoming service section.

C. Mimic Bus: Continuously integrated mimic bus factory applied to front of switchboard. Arrange in single-line diagram format, using symbols and letter designations consistent with final mimic-bus diagram.

D. Coordinate mimic-bus segments with devices in switchboard sections to which they are applied. Produce a concise visual presentation of principal switchboard components and connections.

E. Presentation Media: Painted graphics in color contrasting with background color to represent bus and components, complete with lettered designations.

F. Service Equipment Label: NRTL labeled for use as service equipment for switchboards with one or more service disconnecting and overcurrent protective devices.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Receive, inspect, handle, and store switchboards according to NEMA PB 2.1.

1. Lift or move panelboards with spreader bars and manufacturer-supplied lifting straps following manufacturer's instructions.
2. Use rollers, slings, or other manufacturer-approved methods if lifting straps are not furnished.
3. Protect from moisture, dust, dirt, and debris during storage and installation.
4. Install temporary heating during storage per manufacturer's instructions.

B. Examine switchboards before installation. Reject switchboards that are moisture damaged or physically damaged.

C. Examine elements and surfaces to receive switchboards for compliance with installation tolerances and other conditions affecting performance of the Work or that affect the performance of the equipment.

D. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

A. Install switchboards and accessories according to NEMA PB 2.1.

B. Equipment Mounting: Install switchboards on concrete base, 4-inch (100-mm) nominal thickness. Comply with requirements for concrete base specified in Section 033053 "Miscellaneous Cast-in-Place Concrete."]

1. Install conduits entering underneath the switchboard, entering under the vertical section where the conductors will terminate. Install with couplings flush with the concrete base. Extend 2 inches (50-mm) above concrete base after switchboard is anchored in place.
2. Install dowel rods to connect concrete base to concrete floor. Unless otherwise indicated, install dowel rods on 18-inch (450-mm) centers around the full perimeter of concrete base.
3. For supported equipment, install epoxy-coated anchor bolts that extend through concrete base and anchor into structural concrete floor.
4. Place and secure anchorage devices. Use setting drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.
5. Install anchor bolts to elevations required for proper attachment to switchboards.
6. Anchor switchboard to building structure at the top of the switchboard if required or recommended by the manufacturer.

C. Temporary Lifting Provisions: Remove temporary lifting eyes, channels, straps and brackets, and temporary blocking of moving parts from switchboard units and components.

D. Comply with mounting and anchoring requirements specified in Section 260548.16 "Seismic Controls for Electrical Systems."

E. Operating Instructions: Frame and mount the printed basic operating instructions for switchboards, including control and key interlocking sequences and emergency procedures. Fabricate frame of finished wood or metal and cover instructions with clear acrylic plastic. Mount on front of switchboards.

F. Install filler plates in unused spaces of panel-mounted sections.

G. Install overcurrent protective devices, surge protection devices, and instrumentation.

1. Set field-adjustable switches and circuit-breaker trip ranges.

H. Install spare-fuse cabinet.

I. Comply with NECA 1.

3.3 CONNECTIONS

A. Bond conduits entering underneath the switchboard to the equipment ground bus with a bonding conductor sized per NFPA 70.

B. Support and secure conductors within the switchboard according to NFPA 70.

C. Extend insulated equipment grounding cable to busway ground connection and support cable at intervals in vertical run.

3.4 IDENTIFICATION

A. Identify field-installed conductors, interconnecting wiring, and components; provide warning signs complying with requirements for identification specified in Section 260553 "Identification for Electrical Systems."

B. Switchboard Nameplates: Label each switchboard compartment with a nameplate complying with requirements for identification specified in Section 260553 "Identification for Electrical Systems."

C. Device Nameplates: Label each disconnecting and overcurrent protective device and each meter and control device mounted in compartment doors with a nameplate complying with requirements for identification specified in Section 260553 "Identification for Electrical Systems."

3.5 FIELD QUALITY CONTROL

A. Testing Agency: Owner will engage a qualified testing agency to perform tests and inspections.

B. Testing Agency: Engage a qualified testing agency to perform tests and inspections.

C. Manufacturer's Field Service: Engage a factory-authorized service representative to test and inspect components, assemblies, and equipment installations, including connections.

D. Perform tests and inspections with the assistance of a factory-authorized service representative.

E. Tests and Inspections:

1. Acceptance Testing:

   a. Test insulation resistance for each switchboard bus, component, connecting supply, feeder, and control circuit. Open control and metering circuits within the switchboard, and remove neutral connection to surge protection and other electronic devices prior to insulation test. Reconnect after test.
   b. Test continuity of each circuit.

2. Test ground-fault protection of equipment for service equipment per NFPA 70.

3. Perform each visual and mechanical inspection and electrical test stated in NETA Acceptance Testing Specification. Certify compliance with test parameters.
4. Correct malfunctioning units on-site where possible, and retest to demonstrate compliance; otherwise, replace with new units and retest.
5. Perform the following infrared scan tests and inspections, and prepare reports:

   a. Initial Infrared Scanning: After Substantial Completion, but not more than 60 days after Final Acceptance, perform an infrared scan of each switchboard. Remove front panels so joints and connections are accessible to portable scanner.
   b. Follow-up Infrared Scanning: Perform an additional follow-up infrared scan of each switchboard 11 months after date of Substantial Completion.
   c. Instruments and Equipment:

      1) Use an infrared scanning device designed to measure temperature or to detect significant deviations from normal values. Provide calibration record for device.

6. Test and adjust controls, remote monitoring, and safeties. Replace damaged and malfunctioning controls and equipment.

F. Switchboard will be considered defective if it does not pass tests and inspections.

G. Prepare test and inspection reports, including a certified report that identifies switchboards included and that describes scanning results. Include notation of deficiencies detected, remedial action taken, and observations after remedial action.

3.6 ADJUSTING

A. Adjust moving parts and operable components to function smoothly, and lubricate as recommended by manufacturer.

B. Set field-adjustable circuit-breaker trip ranges as specified in Section 260573.16 "Coordination Studies."

3.7 PROTECTION

A. Temporary Heating: Apply temporary heat, to maintain temperature according to manufacturer's written instructions, until switchboard is ready to be energized and placed into service.

3.8 DEMONSTRATION

A. Train]Owner's maintenance personnel to adjust, operate, and maintain switchboards, overcurrent protective devices, instrumentation, and accessories, and to use and reprogram microprocessor-based trip, monitoring, and communication units.

END OF SECTION 262413

SECTION 262416 - PANELBOARDS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Distribution panelboards.
2. Lighting and appliance branch-circuit panelboards.

1.3 DEFINITIONS

A. ATS: Acceptance testing specification.

B. GFCI: Ground-fault circuit interrupter.

C. GFEP: Ground-fault equipment protection.

D. HID: High-intensity discharge.

E. MCCB: Molded-case circuit breaker.

F. SPD: Surge protective device.

G. VPR: Voltage protection rating.

1.4 ACTION SUBMITTALS

A. Product Data: For each type of panelboard.

1. Include materials, switching and overcurrent protective devices, SPDs, accessories, and components indicated.
2. Include dimensions and manufacturers' technical data on features, performance, electrical characteristics, ratings, and finishes.

B. Shop Drawings: For each panelboard and related equipment.

1. Include dimensioned plans, elevations, sections, and details.
2. Show tabulations of installed devices with nameplates, conductor termination sizes, equipment features, and ratings.

3. Detail enclosure types including mounting and anchorage, environmental protection, knockouts, corner treatments, covers and doors, gaskets, hinges, and locks.
4. Detail bus configuration, current, and voltage ratings.
5. Short-circuit current rating of panelboards and overcurrent protective devices.
6. Include evidence of NRTL listing for series rating of installed devices.
7. Include evidence of NRTL listing for SPD as installed in panelboard.
8. Detail features, characteristics, ratings, and factory settings of individual overcurrent protective devices and auxiliary components.
9. Include wiring diagrams for power, signal, and control wiring.
10. Key interlock scheme drawing and sequence of operations.
11. Include time-current coordination curves for each type and rating of overcurrent protective device included in panelboards. Submit on translucent log-log graft paper; include selectable ranges for each type of overcurrent protective device. Include an Internet link for electronic access to downloadable PDF of the coordination curves.

1.5 INFORMATIONAL SUBMITTALS

A. Qualification Data: For testing agency.

B. Panelboard Schedules: For installation in panelboards. Submit final versions after load balancing.

1.6 CLOSEOUT SUBMITTALS

A. Operation and Maintenance Data: For panelboards and components to include in emergency, operation, and maintenance manuals. In addition to items specified in Section 017823 "Operation and Maintenance Data," include the following:

1. Manufacturer's written instructions for testing and adjusting overcurrent protective devices.
2. Time-current curves, including selectable ranges for each type of overcurrent protective device that allows adjustments.

1.7 MAINTENANCE MATERIAL SUBMITTALS

A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

1. Keys: Two spares for each type of panelboard cabinet lock.
2. Circuit Breakers Including GFCI and GFEP Types: Two spares for each panelboard.
3. Fuses for Fused Switches: Equal to 10 percent of quantity installed for each size and type, but no fewer than three of each size and type.
4. Fuses for Fused Power-Circuit Devices: Equal to 10 percent of quantity installed for each size and type, but no fewer than three of each size and type.

1.8 QUALITY ASSURANCE

A. Manufacturer Qualifications: ISO 9001 or 9002 certified.

1.9 DELIVERY, STORAGE, AND HANDLING

A. Remove loose packing and flammable materials from inside panelboards; install temporary electric heating (250 W per panelboard) to prevent condensation.

B. Handle and prepare panelboards for installation according to NECA 407.

1.10 FIELD CONDITIONS

A. Environmental Limitations:

1. Do not deliver or install panelboards until spaces are enclosed and weathertight, wet work in spaces is complete and dry, work above panelboards is complete, and temporary HVAC system is operating and maintaining ambient temperature and humidity conditions at occupancy levels during the remainder of the construction period.
2. Rate equipment for continuous operation under the following conditions unless otherwise indicated:

   a. Ambient Temperature: Not exceeding minus 22 deg F (minus 30 deg C).
   b. Altitude: Not exceeding 6600 feet (2000 m).

B. Service Conditions: NEMA PB 1, usual service conditions, as follows:

1. Ambient temperatures within limits specified.
2. Altitude not exceeding 6600 feet (2000 m).

C. Interruption of Existing Electric Service: Do not interrupt electric service to facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary electric service according to requirements indicated:

1. Notify Owner/(Government)] no fewer than two days in advance of proposed interruption of electric service.
2. Do not proceed with interruption of electric service without Owner's/Government's) written permission.
3. Comply with NFPA 70E.

1.11 WARRANTY

A. Manufacturer's Warranty: Manufacturer agrees to repair or replace panelboards that fail in materials or workmanship within specified warranty period.

1. Panelboard Warranty Period: 18 months from date of Substantial Completion.

B. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace SPD that fails in materials or workmanship within specified warranty period.

PART 2 - PRODUCTS

2.1 PANELBOARDS COMMON REQUIREMENTS

A. Fabricate and test panelboards according to IEEE 344 to withstand seismic forces defined in Section 260548.16 "Seismic Controls for Electrical Systems."

B. Product Selection for Restricted Space: Drawings indicate maximum dimensions for panelboards including clearances between panelboards and adjacent surfaces and other items. Comply with indicated maximum dimensions.

C. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

D. Comply with NEMA PB 1.

E. Comply with NFPA 70.

F. Enclosures: Surface-mounted, dead-front cabinets.

1. Rated for environmental conditions at installed location.

   a. Indoor Dry and Clean Locations: NEMA 250, Type 1.
   b. Outdoor Locations: NEMA 250, Type 4x (Stainless Steel).
   c. Kitchen Areas: NEMA 250, Type 4X (stainless steel).
   d. Other Wet or Damp Indoor Locations (including areas with openings to the exterior): NEMA 250, Type 4X (Stainless Steel).

2. Height: 84 inches (2.13 m) maximum.
3. Front: Secured to box with concealed trim clamps. For surface-mounted fronts, match box dimensions; for flush-mounted fronts, overlap box. Trims shall cover all live parts and shall have no exposed hardware.
4. Hinged Front Cover: Entire front trim hinged to box and with standard door within hinged trim cover. Trims shall cover all live parts and shall have no exposed hardware.
5. Skirt for Surface-Mounted Panelboards: Same gage and finish as panelboard front with flanges for attachment to panelboard, wall, and ceiling or floor.
6. Gutter Extension and Barrier: Same gage and finish as panelboard enclosure; integral with enclosure body. Arrange to isolate individual panel sections.
7. Finishes:

   a. Panels and Trim: galvanized steel, factory finished immediately after cleaning and pretreating with manufacturer's standard two-coat, baked-on finish consisting of prime coat and thermosetting topcoat.
   b. Back Boxes: Galvanized steel.
   c. Fungus Proofing: Permanent fungicidal treatment for overcurrent protective devices and other components.

8. Same dimensions as the existing panelboards being replaced shall be provided.

G. Incoming Mains:

1. Conduit Entrance Location (top vs bottom): Shall be per field conditions. Coordinate based on existing conduit conditions and new conduit replacement before submitting shop drawings for approval.
2. Main Breaker/ MLO: See drawings.

H. Phase, Neutral, and Ground Buses:

1. Material: Hard-drawn copper, 98 percent conductivity.

   a. Plating shall run entire length of bus.
   b. Bus shall be fully rated the entire length.

2. Interiors shall be factory assembled into a unit. Replacing switching and protective devices shall not disturb adjacent units or require removing the main bus connectors.
3. Equipment Ground Bus: Adequate for feeder and branch-circuit equipment grounding conductors; bonded to box.
4. Full-Sized Neutral: Equipped with full-capacity bonding strap for service entrance applications. Mount electrically isolated from enclosure. Do not mount neutral bus in gutter.
5. Split Bus: Vertical buses divided into individual vertical sections.

I. Conductor Connectors: Suitable for use with conductor material and sizes.

1. Material: Hard-drawn copper, 98 percent conductivity.
2. Terminations shall allow use of 75 deg C rated conductors without derating.
3. Size: Lugs suitable for indicated conductor sizes, with additional gutter space, if required, for larger conductors.
4. Main and Neutral Lugs: Mechanical type, with a lug on the neutral bar for each pole in the panelboard.
5. Ground Lugs and Bus-Configured Terminators: Compression type, with a lug on the bar for each pole in the panelboard.
6. Feed-Through Lugs: Mechanical type, suitable for use with conductor material. Locate at opposite end of bus from incoming lugs or main device.
7. Subfeed (Double) Lugs: Mechanical type suitable for use with conductor material. Locate at same end of bus as incoming lugs or main device.

J. NRTL Label: Panelboards or load centers shall be labeled by an NRTL acceptable to authority having jurisdiction for use as service equipment with one or more main service disconnecting and overcurrent protective devices. Panelboards or load centers shall have meter enclosures, wiring, connections, and other provisions for utility metering. Coordinate with utility company for exact requirements.

K. Future Devices: Panelboards shall have mounting brackets, bus connections, filler plates, and necessary appurtenances required for future installation of devices.Panelboard Short-Circuit Current Rating: Rated for series-connected system with integral or remote upstream overcurrent protective devices and labeled by an NRTL. Include label or manual with size and type of allowable upstream and branch devices listed and labeled by an NRTL for 100%-rating.

1. Panelboards rated 240 V or less shall have short-circuit ratings as shown on Drawings, but not less than 10,000 A rms symmetrical.

2. Panelboards rated above 240 V and less than 600 V shall have short-circuit ratings as shown on Drawings, but not less than 14,000 A rms symmetrical.

L. Panelboard Short-Circuit Current Rating: Fully rated to interrupt symmetrical short-circuit current available at terminals. Assembly listed by an NRTL for 100 percent interrupting capacity.

1. Panelboards and overcurrent protective devices rated 240 V or less shall have short-circuit ratings as shown on Drawings, but not less than 10,000 A rms symmetrical.
2. Panelboards and overcurrent protective devices rated above 240 V and less than 600 V shall have short-circuit ratings as shown on Drawings, but not less than 14,000 A rms symmetrical.

2.2 PERFORMANCE REQUIREMENTS

A. Seismic Performance: Panelboards shall withstand the effects of earthquake motions determined according to ASCE/SEI 7.

1. The term "withstand" means "the unit will remain in place without separation of any parts from the device when subjected to the seismic forces specified."

2.3 POWER PANELBOARDS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. Eaton.
2. General Electric Company; GE Energy Management - Electrical Distribution.
3. Siemens Industry, Inc., Energy Management Division.
4. Square D; by Schneider Electric.

B. Panelboards: NEMA PB 1, distribution type.

C. Doors: Secured with vault-type latch with tumbler lock; keyed alike.

1. For doors more than 36 inches (914 mm) high, provide two latches, keyed alike.

D. Mains: see drawings.

E. Branch Overcurrent Protective Devices for Circuit-Breaker: Bolt-on circuit breakers.

2.4 LIGHTING AND APPLIANCE BRANCH-CIRCUIT PANELBOARDS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. Eaton.
2. General Electric Company; GE Energy Management - Electrical Distribution.
3. Siemens Industry, Inc., Energy Management Division.

4. Square D; by Schneider Electric.

B. Panelboards: NEMA PB 1, lighting and appliance branch-circuit type.

C. Mains: See drawings.

D. Branch Overcurrent Protective Devices: Bolt-on circuit breakers, replaceable without disturbing adjacent units.

E. Doors: Concealed hinges; secured with flush latch with tumbler lock; keyed alike.

2.5 DISCONNECTING AND OVERCURRENT PROTECTIVE DEVICES

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. Eaton.
2. General Electric Company; GE Energy Management - Electrical Distribution.
3. Siemens Industry, Inc., Energy Management Division.
4. Square D; by Schneider Electric.

B. MCCB: Comply with UL 489, with interrupting capacity to meet available fault currents.

1. Thermal-Magnetic Circuit Breakers:

   a. Inverse time-current element for low-level overloads.
   b. Instantaneous magnetic trip element for short circuits.
   c. Adjustable magnetic trip setting for circuit-breaker frame sizes 250 A and larger.

2. Adjustable Instantaneous-Trip Circuit Breakers: Magnetic trip element with front-mounted, field-adjustable trip setting.
3. Electronic Trip Circuit Breakers:

   a. RMS sensing.
   b. Field-replaceable rating plug or electronic trip.
   c. Digital display of settings, trip targets, and indicated metering displays.
   d. Multi-button keypad to access programmable functions and monitored data.
   e. Ten-event, trip-history log. Each trip event shall be recorded with type, phase, and magnitude of fault that caused the trip.
   f. Integral test jack for connection to portable test set or laptop computer.
   g. Field-Adjustable Settings:

      1) Instantaneous trip.
      2) Long- and short-time pickup levels.
      3) Long and short time adjustments.
      4) Ground-fault pickup level, time delay, and I squared T response.

4. Current-Limiting Circuit Breakers: Frame sizes 400 A and smaller; let-through ratings less than NEMA FU 1, RK-5.

5. GFCI Circuit Breakers: Single- and double-pole configurations with Class A ground-fault protection (6-mA trip).
6. GFEP Circuit Breakers: Class B ground-fault protection (30-mA trip).
7. Subfeed Circuit Breakers: Vertically mounted.
8. MCCB Features and Accessories:

    a. Standard frame sizes, trip ratings, and number of poles.
    b. Breaker handle indicates tripped status.
    c. UL listed for reverse connection without restrictive line or load ratings.
    d. Lugs: Mechanical style, suitable for number, size, trip ratings, and conductor materials.
    e. Application Listing: Appropriate for application; Type SWD for switching fluorescent lighting loads; Type HID for feeding fluorescent and HID lighting circuits.
    f. Ground-Fault Protection: Integrally mounted relay and trip unit with adjustable pickup and time-delay settings, push-to-test feature, and ground-fault indicator.
    g. Multipole units enclosed in a single housing with a single handle.

2.6 IDENTIFICATION

A. Panelboard Label: Manufacturer's name and trademark, voltage, amperage, number of phases, and number of poles shall be located on the interior of the panelboard door.

B. Breaker Labels: Faceplate shall list current rating, UL and IEC certification standards, and AIC rating.

C. Circuit Directory: Directory card inside panelboard door, mounted in transparent card holder.

    1. Circuit directory shall identify specific purpose with detail sufficient to distinguish it from all other circuits.

D. Circuit Directory: Computer-generated circuit directory mounted inside panelboard door with transparent plastic protective cover.

    1. Circuit directory shall identify specific purpose with detail sufficient to distinguish it from all other circuits.

2.7 ACCESSORY COMPONENTS AND FEATURES

A. Accessory Set: Include tools and miscellaneous items required for overcurrent protective device test, inspection, maintenance, and operation.

B. Portable Test Set: For testing functions of solid-state trip devices without removing from panelboard. Include relay and meter test plugs suitable for testing panelboard meters and switchboard class relays.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verify actual conditions with field measurements prior to ordering panelboards to verify that equipment fits in allocated space in, and comply with, minimum required clearances specified in NFPA 70.

B. Receive, inspect, handle, and store panelboards according to NEMA PB 1.1.

C. Examine panelboards before installation. Reject panelboards that are damaged, rusted, or have been subjected to water saturation.

D. Examine elements and surfaces to receive panelboards for compliance with installation tolerances and other conditions affecting performance of the Work.

E. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

A. Coordinate layout and installation of panelboards and components with other construction that penetrates walls or is supported by them, including electrical and other types of equipment, raceways, piping, encumbrances to workspace clearance requirements, and adjacent surfaces. Maintain required workspace clearances and required clearances for equipment access doors and panels.

B. Comply with NECA 1.

C. Install panelboards and accessories according to NEMA PB 1.1.

D. Equipment Mounting:

1. Install panelboards on cast-in-place concrete equipment base(s). Comply with requirements for equipment bases and foundations.
2. Attach panelboard to the vertical finished or structural surface behind the panelboard.
3. Comply with requirements for seismic control devices specified in Section 260548.16 "Seismic Controls for Electrical Systems."

E. Temporary Lifting Provisions: Remove temporary lifting eyes, channels, and brackets and temporary blocking of moving parts from panelboards.

F. Comply with mounting and anchoring requirements specified in Section 260548.16 "Seismic Controls for Electrical Systems."

G. Mount top of trim 90 inches (2286 mm) above finished floor unless otherwise indicated.

H. Mount panelboard cabinet plumb and rigid without distortion of box.

I. Mount recessed panelboards with fronts uniformly flush with wall finish and mating with back box.

J. Mount surface-mounted panelboards to steel slotted supports 5/8 inch (16 mm) in depth. Orient steel slotted supports vertically.

K. Install overcurrent protective devices and controllers not already factory installed.

1. Set field-adjustable, circuit-breaker trip ranges.
2. Tighten bolted connections and circuit breaker connections using calibrated torque wrench or torque screwdriver per manufacturer's written instructions.

L. Make grounding connections and bond neutral for services and separately derived systems to ground. Make connections to grounding electrodes, separate grounds for isolated ground bars, and connections to separate ground bars.

M. Install filler plates in unused spaces.

N. Stub four 1-inch (25 mm) empty conduits from panelboard into accessible ceiling space or space designated to be ceiling space in the future. Stub four 1-inch (25 mm) empty conduits into raised floor space or below slab not on grade.

O. Arrange conductors in gutters into groups and bundle and wrap with wire ties after completing load balancing.

P. Mount spare fuse cabinet in accessible location.

3.3 IDENTIFICATION

A. Identify field-installed conductors, interconnecting wiring, and components; install warning signs complying with requirements in Section 260553 "Identification for Electrical Systems."

B. Create a directory to indicate installed circuit loads after balancing panelboard loads; incorporate Owner's final room designations. Obtain approval before installing. Handwritten directories are not acceptable. Install directory inside panelboard door.

C. Panelboard Nameplates: Label each panelboard with a nameplate complying with requirements for identification specified in Section 260553 "Identification for Electrical Systems."

D. Device Nameplates: Label each branch circuit device in power panelboards with a nameplate complying with requirements for identification specified in Section 260553 "Identification for Electrical Systems."

E. Install warning signs complying with requirements in Section 260553 "Identification for Electrical Systems" identifying source of remote circuit.

3.4 FIELD QUALITY CONTROL

A. Manufacturer's Field Service: Engage a factory-authorized service representative to inspect, test, and adjust components, assemblies, and equipment installations, including connections.

B. Perform tests and inspections.

1. Manufacturer's Field Service: Engage a factory-authorized service representative to inspect components, assemblies, and equipment installations, including connections, and to assist in testing.

C. Acceptance Testing Preparation:

1. Test insulation resistance for each panelboard bus, component, connecting supply, feeder, and control circuit.
2. Test continuity of each circuit.

D. Tests and Inspections:

1. Perform each visual and mechanical inspection and electrical test for low-voltage air circuit breakers and low-voltage surge arrestors stated in NETA ATS, Paragraph 7.6 Circuit Breaker and Paragraph 7.19.1 Surge Arrestors, Low-Voltage. Certify compliance with test parameters.
2. Correct malfunctioning units on-site, where possible, and retest to demonstrate compliance; otherwise, replace with new units and retest.
3. Perform the following infrared scan tests and inspections and prepare reports:

a. Initial Infrared Scanning: After Substantial Completion, but not more than 60 days after Final Acceptance, perform an infrared scan of each panelboard. Remove front panels so joints and connections are accessible to portable scanner.
b. Follow-up Infrared Scanning: Perform an additional follow-up infrared scan of each panelboard 11 months after date of Substantial Completion.
c. Instruments and Equipment:

1) Use an infrared scanning device designed to measure temperature or to detect significant deviations from normal values. Provide calibration record for device.

E. Panelboards will be considered defective if they do not pass tests and inspections.

F. Prepare test and inspection reports, including a certified report that identifies panelboards included and that describes scanning results, with comparisons of the two scans. Include notation of deficiencies detected, remedial action taken, and observations after remedial action.

3.5 ADJUSTING

A. Adjust moving parts and operable components to function smoothly, and lubricate as recommended by manufacturer.

B. Set field-adjustable circuit-breaker trip ranges as specified in Section 260573.16 "Coordination Studies."

C. Load Balancing: After Substantial Completion, but not more than 60 days after Final Acceptance, measure load balancing and make circuit changes. Prior to making circuit changes to achieve load balancing, inform Architect of effect on phase color coding.

1. Measure loads during period of normal facility operations.

2. Perform circuit changes to achieve load balancing outside normal facility operation schedule or at times directed by the Architect. Avoid disrupting services such as fax machines and on-line data processing, computing, transmitting, and receiving equipment.
3. After changing circuits to achieve load balancing, recheck loads during normal facility operations. Record load readings before and after changing circuits to achieve load balancing.
4. Tolerance: Maximum difference between phase loads, within a panelboard, shall not exceed 20 percent.

3.6 PROTECTION

A. Temporary Heating: Prior to energizing panelboards, apply temporary heat to maintain temperature according to manufacturer's written instructions.

END OF SECTION 262416

SECTION 262816 - ENCLOSED SWITCHES AND CIRCUIT BREAKERS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Fusible switches.
2. Nonfusible switches.
3. Molded-case circuit breakers (MCCBs).
4. Enclosures.

1.3 DEFINITIONS

A. NC: Normally closed.

B. NO: Normally open.

C. SPDT: Single pole, double throw.

1.4 ACTION SUBMITTALS

A. Product Data: For each type of enclosed switch, circuit breaker, accessory, and component indicated. Include nameplate ratings, dimensioned elevations, sections, weights, and manufacturers' technical data on features, performance, electrical characteristics, ratings, accessories, and finishes.

1. Enclosure types and details for types other than NEMA 250, Type 1.
2. Current and voltage ratings.
3. Short-circuit current ratings (interrupting and withstand, as appropriate).
4. Include evidence of a nationally recognized testing laboratory (NRTL) listing for series rating of installed devices.
5. Detail features, characteristics, ratings, and factory settings of individual overcurrent protective devices, accessories, and auxiliary components.
6. Include time-current coordination curves (average melt) for each type and rating of overcurrent protective device; include selectable ranges for each type of overcurrent protective device. Provide in PDF electronic format.

B. Shop Drawings: For enclosed switches and circuit breakers.

1. Include plans, elevations, sections, details, and attachments to other work.
2. Include wiring diagrams for power, signal, and control wiring.

1.5 INFORMATIONAL SUBMITTALS

A. Qualification Data: For qualified testing agency.

B. Seismic Qualification Data: Certificates, for enclosed switches and circuit breakers, accessories, and components, from manufacturer.

1. Basis for Certification: Indicate whether withstand certification is based on actual test of assembled components or on calculation.
2. Dimensioned Outline Drawings of Equipment Unit: Identify center of gravity and locate and describe mounting and anchorage provisions.
3. Detailed description of equipment anchorage devices on which the certification is based and their installation requirements.

C. Field quality-control reports.

1.6 CLOSEOUT SUBMITTALS

A. Operation and Maintenance Data: For enclosed switches and circuit breakers to include in emergency, operation, and maintenance manuals.

1. In addition to items specified in Section 017823 "Operation and Maintenance Data," include the following:

a. Manufacturer's written instructions for testing and adjusting enclosed switches and circuit breakers.
b. Time-current coordination curves (average melt) for each type and rating of overcurrent protective device; include selectable ranges for each type of overcurrent protective device. Provide in PDF electronic format.

1.7 MAINTENANCE MATERIAL SUBMITTALS

A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

1. Fuses: Equal to 10 percent of quantity installed for each size and type, but no fewer than three of each size and type.
2. Fuse Pullers: Two for each size and type.

1.8 QUALITY ASSURANCE

A. Testing Agency Qualifications: Accredited by NETA.

1. Testing Agency's Field Supervisor: Currently certified by NETA to supervise on-site testing.

1.9 FIELD CONDITIONS

A. Environmental Limitations: Rate equipment for continuous operation under the following conditions unless otherwise indicated:

1. Ambient Temperature: Not less than minus 22 deg F (minus 30 deg C) and not exceeding 104 deg F (40 deg C).
2. Altitude: Not exceeding 6600 feet (2010 m).

1.10 WARRANTY

A. Manufacturer's Warranty: Manufacturer and Installer agree to repair or replace components that fail in materials or workmanship within specified warranty period.

1. Warranty Period: **One** year(s) from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Seismic Performance: Enclosed switches and circuit breakers shall withstand the effects of earthquake motions determined according to **ASCE/SEI 7**.

1. The term "withstand" means "the unit will remain in place without separation of any parts from the device when subjected to the seismic forces specified **and the unit will be fully operational after the seismic event**."

2.2 GENERAL REQUIREMENTS

A. Source Limitations: Obtain enclosed switches and circuit breakers, overcurrent protective devices, components, and accessories, within same product category, from single manufacturer.

B. Product Selection for Restricted Space: Drawings indicate maximum dimensions for enclosed switches and circuit breakers, including clearances between enclosures, and adjacent surfaces and other items. Comply with indicated maximum dimensions.

C. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by an NRTL, and marked for intended location and application.

D. Comply with NFPA 70.

2.3 FUSIBLE SWITCHES

A. Manufacturers: Subject to compliance with requirements, **provide products by one of the following**:

1. ABB Inc.

2. Eaton.
3. General Electric Company.
4. Square D; by Schneider Electric.

B. Type HD, Heavy Duty:

1. **Single** throw.
2. Voltage: as per drawings.
3. Amperage : as per drawings.
4. UL 98 and NEMA KS 1, horsepower rated, with clips or bolt pads to accommodate **specified** fuses.
5. Lockable handle with capability to accept three padlocks, and interlocked with cover in closed position.

C. Accessories:

1. Equipment Ground Kit: Internally mounted and labeled for copper and aluminum ground conductors.
2. Neutral Kit: Internally mounted; insulated, capable of being grounded and bonded; labeled for copper and aluminum neutral conductors.
3. Class R Fuse Kit: Provides rejection of other fuse types when Class R fuses are specified.
4. Lugs: **Mechanical** type, suitable for number, size, and conductor material.
5. Service-Rated Switches: Labeled for use as service equipment when used as transformer main secondary disconnect.

2.4 NONFUSIBLE SWITCHES

A. Manufacturers: Subject to compliance with requirements, **provide products by one of the following:**

1. Eaton.
2. General Electric Company.
3. Siemens Industry, Inc., Energy Management Division.
4. Square D; by Schneider Electric.

B. Type HD, Heavy Duty, Three Pole, Single Throw: UL 98 and NEMA KS 1, horsepower rated, lockable handle with capability to accept three padlocks, and interlocked with cover in closed position.

C. Accessories:

1. Equipment Ground Kit: Internally mounted and labeled for copper and aluminum ground conductors.
2. Neutral Kit: Internally mounted; insulated, capable of being grounded and bonded; labeled for copper and aluminum neutral conductors.
3. Isolated Ground Kit: Internally mounted; insulated, labeled for copper and aluminum neutral conductors.
4. Class R Fuse Kit: Provides rejection of other fuse types when Class R fuses are specified.
5. Lugs: **Mechanical** type, suitable for number, size, and conductor material.
6. Service-Rated Switches: Labeled for use as service equipment.

2.5 MOLDED-CASE CIRCUIT BREAKERS

A. Manufacturers: Subject to compliance with requirements, **provide products by one of the following**:

1. Eaton.
2. General Electric Company.
3. Siemens Industry, Inc., Energy Management Division.
4. Square D; by Schneider Electric.

B. Circuit breakers shall be constructed using glass-reinforced insulating material. Current carrying components shall be completely isolated from the handle and the accessory mounting area.

C. Circuit breakers shall have a toggle operating mechanism with common tripping of all poles, which provides quick-make, quick-break contact action. The circuit-breaker handle shall be over center, be trip free, and reside in a tripped position between on and off to provide local trip indication. Circuit-breaker escutcheon shall be clearly marked on and off in addition to providing international I/O markings. Equip circuit breaker with a push-to-trip button, located on the face of the circuit breaker to mechanically operate the circuit-breaker tripping mechanism for maintenance and testing purposes.

D. The maximum ampere rating and UL, IEC, or other certification standards with applicable voltage systems and corresponding interrupting ratings shall be clearly marked on face of circuit breaker. Circuit breakers shall be **80 percent rated. Circuit breaker/circuit breaker** combinations for series connected interrupting ratings shall be listed by UL as recognized component combinations.

E. MCCBs shall be equipped with a device for locking in the isolated position.

F. Standard: Comply with UL 489 with interrupting capacity to comply with available fault currents.

G. Thermal-Magnetic Circuit Breakers: Inverse time-current thermal element for low-level overloads and instantaneous magnetic trip element for short circuits. Adjustable magnetic trip setting for circuit-breaker frame sizes 250 A and larger.

H. Ground-Fault Circuit-Interrupter (GFCI) Circuit Breakers: Single- and two-pole configurations with Class A ground-fault protection (6-mA trip).

I. Ground-Fault Equipment-Protection (GFEP) Circuit Breakers: With Class B ground-fault protection (30-mA trip).

J. Features and Accessories:

1. Standard frame sizes, trip ratings, and number of poles.
2. Lugs: **Mechanical** type, suitable for number, size, trip ratings, and conductor material.
3. Application Listing: Appropriate for application; Type SWD for switching fluorescent lighting loads; Type HID for feeding fluorescent and high-intensity discharge lighting circuits.
4. Ground-Fault Protection: Comply with UL 1053; **integrally mounted, self-powered** type with mechanical ground-fault indicator; relay with adjustable pickup and time-delay

settings, push-to-test feature, internal memory, and shunt trip unit; and three-phase, zero-sequence current transformer/sensor.

5. Shunt Trip: Trip coil energized from separate circuit, with coil-clearing contact.

2.6 ENCLOSURES

A. Enclosed Switches and Circuit Breakers: UL 489, NEMA KS 1, NEMA 250, and UL 50, to comply with environmental conditions at installed location.

B. Enclosure Finish: The enclosure shall be **finished with gray baked enamel paint, electrodeposited on cleaned, phosphatized steel (NEMA 250 Type 1).**

C. Conduit Entry: NEMA 250 Types 4, 4X, and 12 enclosures shall contain no knockouts. NEMA 250 Types 7 and 9 enclosures shall be provided with threaded conduit openings in both endwalls.

D. Operating Mechanism: The circuit-breaker operating handle shall be **externally operable with the operating mechanism being an integral part of the box, not the cover**. The cover interlock mechanism shall have an externally operated override. The override shall not permanently disable the interlock mechanism, which shall return to the locked position once the override is released. The tool used to override the cover interlock mechanism shall not be required to enter the enclosure in order to override the interlock.

E. Enclosures designated as NEMA 250 Type 4, 4X stainless steel, 12, or 12K shall have a dual cover interlock mechanism to prevent unintentional opening of the enclosure cover when the circuit breaker is ON and to prevent turning the circuit breaker ON when the enclosure cover is open.

F. NEMA 250 Type 7/9 enclosures shall be furnished with a breather and drain kit to allow their use in outdoor and wet location applications.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine elements and surfaces to receive enclosed switches and circuit breakers for compliance with installation tolerances and other conditions affecting performance of the Work.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

1. Commencement of work shall indicate Installer's acceptance of the areas and conditions as satisfactory.

3.2 PREPARATION

A. Interruption of Existing Electric Service: Do not interrupt electric service to facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary electric service according to requirements indicated:

1. Notify **Owner/(Government)** no fewer than **seven** days in advance of proposed interruption of electric service.
2. Indicate method of providing temporary electric service.
3. Do not proceed with interruption of electric service without **Owner's/(Government's)** written permission.
4. Comply with NFPA 70E.

3.3 ENCLOSURE ENVIRONMENTAL RATING APPLICATIONS

A. Enclosed Switches and Circuit Breakers: Provide enclosures at installed locations with the following environmental ratings.

1. Indoor, Dry and Clean Locations: NEMA 250, **Type 1**.
2. Outdoor Locations: NEMA 250, **Type 4X**.
3. **Kitchen** Areas: NEMA 250, **Type 4X (stainless steel)**.
4. Other Wet or Damp, Indoor Locations: NEMA 250, **Type 4x (stainless Steel)**.
5. Indoor Locations but opened to outdoor environmental conditions (ex. salts) through room openings, : NEMA 250, Type 4x (stainless Steel).

3.4 INSTALLATION

A. Coordinate layout and installation of switches, circuit breakers, and components with equipment served and adjacent surfaces. Maintain required workspace clearances and required clearances for equipment access doors and panels.

B. Install individual wall-mounted switches and circuit breakers with tops at uniform height unless otherwise indicated.

C. Comply with mounting and anchoring requirements specified in Section 260548.16 "Seismic Controls for Electrical Systems."

D. Temporary Lifting Provisions: Remove temporary lifting of eyes, channels, and brackets and temporary blocking of moving parts from enclosures and components.

E. Install fuses in fusible devices.

F. Comply with NFPA 70 and NECA 1.

3.5 IDENTIFICATION

A. Comply with requirements in Section 260553 "Identification for Electrical Systems."

1. Identify field-installed conductors, interconnecting wiring, and components; provide warning signs.
2. Label each enclosure with engraved metal or laminated-plastic nameplate.

3.6 FIELD QUALITY CONTROL

A. Testing Agency: Owner will engage a qualified testing agency to perform tests and inspections.

B. Testing Agency: Engage a qualified testing agency to perform tests and inspections.

C. Manufacturer's Field Service: Engage a factory-authorized service representative to test and inspect components, assemblies, and equipment installations, including connections.

D. Perform tests and inspections **with the assistance of a factory-authorized service representative.**

E. Tests and Inspections for Switches:

1. Visual and Mechanical Inspection:

a. Inspect physical and mechanical condition.
b. Inspect anchorage, alignment, grounding, and clearances.
c. Verify that the unit is clean.
d. Verify blade alignment, blade penetration, travel stops, and mechanical operation.
e. Verify that fuse sizes and types match the Specifications and Drawings.
f. Verify that each fuse has adequate mechanical support and contact integrity.
g. Inspect bolted electrical connections for high resistance using one of the two following methods:

1) Use a low-resistance ohmmeter.

a) Compare bolted connection resistance values to values of similar connections. Investigate values that deviate from those of similar bolted connections by more than 50 percent of the lowest value.

2) Verify tightness of accessible bolted electrical connections by calibrated torque-wrench method in accordance with manufacturer's published data or NETA ATS Table 100.12.

a) Bolt-torque levels shall be in accordance with manufacturer's published data. In the absence of manufacturer's published data, use NETA ATS Table 100.12.

h. Verify that operation and sequencing of interlocking systems is as described in the Specifications and shown on the Drawings.
i. Verify correct phase barrier installation.
j. Verify lubrication of moving current-carrying parts and moving and sliding surfaces.

F. Tests and Inspections for Molded Case Circuit Breakers:

1. Visual and Mechanical Inspection:

    a. Verify that equipment nameplate data are as described in the Specifications and shown on the Drawings.
    b. Inspect physical and mechanical condition.
    c. Inspect anchorage, alignment, grounding, and clearances.
    d. Verify that the unit is clean.
    e. Operate the circuit breaker to ensure smooth operation.
    f. Inspect bolted electrical connections for high resistance using one of the two following methods:

        1) Use a low-resistance ohmmeter.

            a) Compare bolted connection resistance values to values of similar connections. Investigate values that deviate from those of similar bolted connections by more than 50 percent of the lowest value.

        2) Verify tightness of accessible bolted electrical connections by calibrated torque-wrench method in accordance with manufacturer's published data or NETA ATS Table 100.12.

            a) Bolt-torque levels shall be in accordance with manufacturer's published data. In the absence of manufacturer's published data, use NETA ATS Table 100.12.

    g. Inspect operating mechanism, contacts, and chutes in unsealed units.
    h. Perform adjustments for final protective device settings in accordance with the coordination study.

2. Correct malfunctioning units on-site, where possible, and retest to demonstrate compliance; otherwise, replace with new units and retest.
3. Perform the following infrared scan tests and inspections and prepare reports:

    a. Initial Infrared Scanning: After Substantial Completion, but not more than 60 days after Final Acceptance, perform an infrared scan of each enclosed switch and circuit breaker. Remove front panels so joints and connections are accessible to portable scanner.
    b. Follow-up Infrared Scanning: Perform an additional follow-up infrared scan of each enclosed switch and circuit breaker 11 months after date of Substantial Completion.
    c. Instruments and Equipment: Use an infrared scanning device designed to measure temperature or to detect significant deviations from normal values. Provide calibration record for device.

4. Test and adjust controls, remote monitoring, and safeties. Replace damaged and malfunctioning controls and equipment.

G. Enclosed switches and circuit breakers will be considered defective if they do not pass tests and inspections.

H. Prepare test and inspection reports.

1. Test procedures used.
2. Include identification of each enclosed switch and circuit breaker tested and describe test results.
3. List deficiencies detected, remedial action taken, and observations after remedial action.

3.7 ADJUSTING

A. Adjust moving parts and operable components to function smoothly, and lubricate as recommended by manufacturer.

END OF SECTION 262816

SECTION 284621.11 - ADDRESSABLE FIRE-ALARM SYSTEMS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Fire-alarm control unit.
2. Pull (Manual) fire-alarm Stations..
3. Smoke detectors.
4. Heat detectors.
5. Notification appliances.
6. Device guards.
7. Remote annunciator.
8. Graphic annunciator.
9. Addressable interface device.
10. Digital alarm communicator transmitter.
11. Network communications.
12. System printer.

1.3 DEFINITIONS

A. EMT: Electrical Metallic Tubing.

B. FACP: Fire Alarm Control Panel.

C. HLI: High Level Interface.

D. NICET: National Institute for Certification in Engineering Technologies.

E. PC: Personal computer.

F. VESDA: Very Early Smoke-Detection Apparatus.

1.4 ACTION SUBMITTALS

A. Product Data: For each type of product, including furnished options and accessories.

1. Include construction details, material descriptions, dimensions, profiles, and finishes.
2. Include rated capacities, operating characteristics, and electrical characteristics.

B. Shop Drawings: For fire-alarm system.

1. Comply with recommendations and requirements in the "Documentation" section of the "Fundamentals" chapter in NFPA 72.
2. Include plans, elevations, sections, details, and attachments to other work.
3. Include details of equipment assemblies. Indicate dimensions, weights, loads, required clearances, method of field assembly, components, and locations. Indicate conductor sizes, indicate termination locations and requirements, and distinguish between factory and field wiring.
4. Detail assembly and support requirements.
5. Include voltage drop calculations for notification-appliance circuits.
6. Include battery-size calculations.
7. Include input/output matrix.
8. Include statement from manufacturer that all equipment and components have been tested as a system and meet all requirements in this Specification and in NFPA 72.
9. Include performance parameters and installation details for each detector.
10. Verify that each duct detector is listed for complete range of air velocity, temperature, and humidity possible when air-handling system is operating.
11. Provide program report showing that air-sampling detector pipe layout balances pneumatically within the airflow range of the air-sampling detector.
12. Include plans, sections, and elevations of heating, ventilating, and air-conditioning ducts, drawn to scale; coordinate location of duct smoke detectors and access to them.

    a. Show critical dimensions that relate to placement and support of sampling tubes. detector housing, and remote status and alarm indicators.
    b. Show field wiring required for HVAC unit shutdown on alarm.
    c. Show field wiring and equipment required for HVAC unit shutdown on alarm and override by firefighters' control system.
    d. Show field wiring and equipment required for HVAC unit shutdown on alarm and override by firefighters' smoke-evacuation system.
    e. Locate detectors according to manufacturer's written recommendations.
    f. Show air-sampling detector pipe routing.

13. Include voice/alarm signaling-service equipment rack or console layout, grounding schematic, amplifier power calculation, and single-line connection diagram.
14. Include floor plans to indicate final outlet locations showing address of each addressable device. Show size and route of cable and conduits and point-to-point wiring diagrams.

C. General Submittal Requirements:
1. Shop Drawings shall be prepared by persons with the following qualifications:

    a. Trained and certified by manufacturer in fire-alarm system design.
    b. NICET-certified, fire-alarm technician; Level III minimum.
    c. Licensed or certified by authorities having jurisdiction.

D. Delegated-Design Submittal: For notification appliances and smoke and heat detectors, in addition to submittals listed above, indicate compliance with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

1. Drawings showing the location of each notification appliance and smoke and heat detector, ratings of each, and installation details as needed to comply with listing conditions of the device.
2. Design Calculations: Calculate requirements for selecting the spacing and sensitivity of detection, complying with NFPA 72. Calculate spacing and intensities for strobe signals and sound-pressure levels for audible appliances.
3. Indicate audible appliances required to produce square wave signal per NFPA 72.

1.5 INFORMATIONAL SUBMITTALS

A. Qualification Data: For Installer.

B. Seismic Qualification Data: Certificates, for fire-alarm control unit, accessories, and components, from manufacturer.

1. Basis for Certification: Indicate whether withstand certification is based on actual test of assembled components or on calculation.
2. Dimensioned Outline Drawings of Equipment Unit: Identify center of gravity and locate and describe mounting and anchorage provisions.
3. Detailed description of equipment anchorage devices on which the certification is based and their installation requirements.

C. Field quality-control reports.

1.6 Sample Warranty: For special warranty.

1.7 CLOSEOUT SUBMITTALS

A. Operation and Maintenance Data: For fire-alarm systems and components to include in emergency, operation, and maintenance manuals.

1. In addition to items specified in Section 017823 "Operation and Maintenance Data," include the following:

a. Comply with the "Records" section of the "Inspection, Testing and Maintenance" chapter in NFPA 72.
b. Provide "Fire Alarm and Emergency Communications System Record of Completion Documents" according to the "Completion Documents" Article in the "Documentation" section of the "Fundamentals" chapter in NFPA 72.
c. Complete wiring diagrams showing connections between all devices and equipment. Each conductor shall be numbered at every junction point with indication of origination and termination points.
d. Riser diagram.
e. Device addresses.
f. Record copy of site-specific software.
g. Provide "Inspection and Testing Form" according to the "Inspection, Testing and Maintenance" chapter in NFPA 72, and include the following:

1) Equipment tested.
2) Frequency of testing of installed components.
3) Frequency of inspection of installed components.
4) Requirements and recommendations related to results of maintenance.
5) Manufacturer's user training manuals.

h. Manufacturer's required maintenance related to system warranty requirements.
i. Abbreviated operating instructions for mounting at fire-alarm control unit and each annunciator unit.

B. Software and Firmware Operational Documentation:

1. Software operating and upgrade manuals.
2. Program Software Backup: On magnetic media or compact disk, complete with data files.
3. Device address list.
4. Printout of software application and graphic screens.

1.8 MAINTENANCE MATERIAL SUBMITTALS

A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

1. Lamps for Remote Indicating Lamp Units: Quantity equal to 10 percent of amount installed, but no fewer than one unit.
2. Lamps for Strobe Units: Quantity equal to 10 percent of amount installed, but no fewer than one unit.
3. Smoke Detectors, Fire Detectors, and Flame Detectors: Quantity equal to 10 percent of amount of each type installed, but no fewer than one unit of each type.
4. Detector Bases: Quantity equal to two percent of amount of each type installed, but no fewer than one unit of each type.
5. Keys and Tools: One extra set for access to locked or tamper-proofed components.
6. Audible and Visual Notification Appliances: One of each type installed.
7. Fuses: Two of each type installed in the system. Provide in a box or cabinet with compartments marked with fuse types and sizes.

1.9 QUALITY ASSURANCE

A. Installer Qualifications: Personnel shall be trained and certified by manufacturer for installation of units required for this Project.

B. Installer Qualifications: Installation shall be by personnel certified by NICET as fire-alarm Level III technician.

C. NFPA Certification: Obtain certification according to NFPA 72 by an NRTL (nationally recognized testing laboratory).

1.10 PROJECT CONDITIONS

A. Interruption of Existing Fire-Alarm Service: Do not interrupt fire-alarm service to facilities occupied by Owner.

B. Use of Devices during Construction: Protect devices during construction unless devices are placed in service to protect the facility during construction.

1.11 SEQUENCING AND SCHEDULING

A. Existing Fire-Alarm Equipment: Maintain existing equipment fully operational until new equipment has been tested and accepted. As new equipment is installed, label it "NOT IN SERVICE" until it is accepted. Remove labels from new equipment when put into service, and label existing fire-alarm equipment "NOT IN SERVICE" until removed from the building.

B. Equipment Removal: After acceptance of new fire-alarm system, remove existing disconnected fire-alarm equipment and wiring.

1.12 WARRANTY

A. Special Warranty: Manufacturer agrees to repair or replace fire-alarm system equipment and components that fail in materials or workmanship within specified warranty period.

1. Warranty Extent: All equipment and components not covered in the Maintenance Service Agreement.
2. Warranty Period: Five (5) years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 SYSTEM DESCRIPTION

A. Source Limitations for Fire-Alarm System and Components: Components shall be compatible with, and operate as an extension of, existing system. Provide system manufacturer's certification that all components provided have been tested as, and will operate as, a system.

B. Noncoded, UL-certified addressable system, with multiplexed signal transmission and voice/strobe evacuation.

C. Automatic sensitivity control of certain smoke detectors.

D. All components provided shall be listed for use with the selected system.

E. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

2.2 SYSTEMS OPERATIONAL DESCRIPTION

A. Fire-alarm signal initiation shall be by one or more of the following devices and systems:

1. Manual Pull Stations.
2. Heat detectors.
3. Smoke detectors.
4. Duct smoke detectors.
5. Carbon monoxide detectors.
6. Automatic sprinkler system water flow.
7. Preaction system.
8. Fire standpipe system.
9. Dry system pressure flow switch.
10. Fire pump running.

B. Fire-alarm signal shall initiate the following actions:

1. Continuously operate alarm notification appliances, including voice evacuation notices.
2. Identify alarm and specific initiating device at fire-alarm control unit, connected network control panels, off-premises network control panels, and remote annunciators.
3. Transmit an alarm signal to the remote alarm receiving station.
4. Activate voice/alarm communication system.
5. Switch heating, ventilating, and air-conditioning equipment controls to fire-alarm mode.
6. Activate stairwell and elevator-shaft pressurization systems.
7. Close smoke dampers in air ducts of designated air-conditioning duct systems.
8. Activate pre-action system.
9. Recall elevators to primary or alternate recall floors.
10. Activate elevator power shunt trip.
11. Activate emergency shutoffs for gas and fuel supplies.
12. Record events in the system memory.
13. Record events by the system printer.
14. Indicate device in alarm on the graphic annunciator.

C. Supervisory signal initiation shall be by one or more of the following devices and actions:

1. Valve supervisory switch.
2. High- or low-air-pressure switch of a dry-pipe or pre-action sprinkler system.
3. Alert and Action signals of air-sampling detector system.
4. Elevator shunt-trip supervision.
5. Fire pump running.
6. Fire-pump loss of power.
7. Fire-pump power phase reversal.
8. Independent fire-detection and -suppression systems.
9. User disabling of zones or individual devices.
10. Loss of communication with any panel on the network.

D. System trouble signal initiation shall be by one or more of the following devices and actions:

1. Open circuits, shorts, and grounds in designated circuits.
2. Opening, tampering with, or removing alarm-initiating and supervisory signal-initiating devices.

3. Loss of communication with any addressable sensor, input module, relay, control module, remote annunciator, printer interface, or Ethernet module.
4. Loss of primary power at fire-alarm control unit.
5. Ground or a single break in internal circuits of fire-alarm control unit.
6. Abnormal ac voltage at fire-alarm control unit.
7. Break in standby battery circuitry.
8. Failure of battery charging.
9. Abnormal position of any switch at fire-alarm control unit or annunciator.
10. Voice signal amplifier failure.
11. Hose cabinet door open.

E. System Supervisory Signal Actions:

1. Initiate notification appliances.
2. Identify specific device initiating the event at fire-alarm control unit, connected network control panels, off-premises network control panels, and remote annunciators.
3. Record the event on system printer.
4. After a time delay of 200 seconds, transmit a trouble or supervisory signal to the remote alarm receiving station.
5. Transmit system status to building management system.
6. Display system status on graphic annunciator.

2.3 PERFORMANCE REQUIREMENTS

A. Seismic Performance: Fire-alarm control unit and raceways shall withstand the effects of earthquake motions determined according to ASCE/SEI 7.

1. The term "withstand" means "the unit will remain in place without separation of any parts from the device when subjected to the seismic forces specified and the unit will be fully operational after the seismic event."

2.4 FIRE-ALARM CONTROL UNIT

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. Gamewell - FCI by Honeywell.
2. Notifier.
3. Siemens Industry, Inc.; Fire Safety Division.
4. SimplexGrinnell LP.

B. General Requirements for Fire-Alarm Control Unit:

1. Field-programmable, microprocessor-based, modular, power-limited design with electronic modules, complying with UL 864.

a. System software and programs shall be held in nonvolatile flash, electrically erasable, programmable, read-only memory, retaining the information through failure of primary and secondary power supplies.

b. Include a real-time clock for time annotation of events on the event recorder and printer.
c. Provide communication between the FACP and remote circuit interface panels, annunciators, and displays.
d. The FACP shall be listed for connection to a central-station signaling system service.
e. Provide nonvolatile memory for system database, logic, and operating system and event history. The system shall require no manual input to initialize in the event of a complete power down condition. The FACP shall provide a minimum 500-event history log.

2. Addressable Initiation Device Circuits: The FACP shall indicate which communication zones have been silenced and shall provide selective silencing of alarm notification appliance by building communication zone.
3. Addressable Control Circuits for Operation of Notification Appliances and Mechanical Equipment: The FACP shall be listed for releasing service.

C. Alphanumeric Display and System Controls: Arranged for interface between human operator at fire-alarm control unit and addressable system components including annunciation and supervision. Display alarm, supervisory, and component status messages and the programming and control menu.

1. Annunciator and Display: Liquid-crystal type, 80 characters, minimum.
2. Keypad: Arranged to permit entry and execution of programming, display, and control commands.

D. Initiating-Device, Notification-Appliance, and Signaling-Line Circuits:

1. Pathway Class Designations: NFPA 72, Class B.
2. Pathway Survivability: Level 1.
3. Install no more than 150 addressable devices on each signaling-line circuit.
4. Serial Interfaces:

a. One dedicated RS 485 port for central-station operation using point ID DACT.
b. One RS 485 port for remote annunciators, Ethernet module, or multi-interface module (printer port).
c. One USB & RS 232 port for PC configuration.
d. One RS 232 port for VESDA HLI connection.
e. One RS 232 port for voice evacuation interface.

E. Stairwell and Elevator Shaft Pressurization: Provide an output signal using an addressable relay to start the stairwell and elevator shaft pressurization system. Signal shall remain on until alarm conditions are cleared and fire-alarm system is reset. Signal shall not stop in response to alarm acknowledge or signal silence commands.

1. Pressurization starts when any alarm is received at fire-alarm control unit.
2. Alarm signals from smoke detectors at pressurization air supplies have a higher priority than other alarm signals that start the system.

F. Smoke-Alarm Verification:

1. Initiate audible and visible indication of an "alarm-verification" signal at fire-alarm control unit.
2. Activate an approved "alarm-verification" sequence at fire-alarm control unit and detector.
3. Record events by the system printer.
4. Sound general alarm if the alarm is verified.
5. Cancel fire-alarm control unit indication and system reset if the alarm is not verified.

G. Notification-Appliance Circuit:

1. Audible appliances shall sound in a three-pulse temporal pattern, as defined in NFPA 72.
2. Where notification appliances provide signals to sleeping areas, the alarm signal shall be a 520-Hz square wave with an intensity 15 dB above the average ambient sound level or 5 dB above the maximum sound level, or at least 75 dBA, whichever is greater, measured at the pillow.
3. Visual alarm appliances shall flash in synchronization where multiple appliances are in the same field of view, as defined in NFPA 72.

H. Elevator Recall:

1. Elevator recall shall be initiated only by one of the following alarm-initiating devices:

   a. Elevator lobby detectors except the lobby detector on the designated floor.
   b. Smoke detector in elevator machine room.
   c. Smoke detectors in elevator hoistway.

2. Elevator controller shall be programmed to move the cars to the alternate recall floor if lobby detectors located on the designated recall floors are activated.
3. Water-flow alarm connected to sprinkler in an elevator shaft and elevator machine room shall shut down elevators associated with the location without time delay.

   a. Water-flow switch associated with the sprinkler in the elevator pit may have a delay to allow elevators to move to the designated floor.

I. Remote Smoke-Detector Sensitivity Adjustment: Controls shall select specific addressable smoke detectors for adjustment, display their current status and sensitivity settings, and change those settings. Allow controls to be used to program repetitive, time-scheduled, and automated changes in sensitivity of specific detector groups. Record sensitivity adjustments and sensitivity-adjustment schedule changes in system memory, and print out the final adjusted values on system printer.

J. Transmission to Remote Alarm Receiving Station: Automatically transmit alarm, supervisory, and trouble signals to a remote alarm station.

K. Voice/Alarm Signaling Service: Central emergency communication system with redundant microphones, preamplifiers, amplifiers, and tone generators provided in a separate cabinet located in the fire command center.

1. Indicate number of alarm channels for automatic, simultaneous transmission of different announcements to different zones or for manual transmission of announcements by use of the central-control microphone. Amplifiers shall comply with UL 1711.

a. Allow the application of, and evacuation signal to, indicated number of zones and, at the same time, allow voice paging to the other zones selectively or in any combination.
b. Programmable tone and message sequence selection.
c. Standard digitally recorded messages for "Evacuation" and "All Clear."
d. Generate tones to be sequenced with audio messages of type recommended by NFPA 72 and that are compatible with tone patterns of notification-appliance circuits of fire-alarm control unit.

2. Status Annunciator: Indicate the status of various voice/alarm speaker zones and the status of firefighters' two-way telephone communication zones.
3. Preamplifiers, amplifiers, and tone generators shall automatically transfer to backup units, on primary equipment failure.

L. Printout of Events: On receipt of signal, print alarm, supervisory, and trouble events. Identify zone, device, and function. Include type of signal (alarm, supervisory, or trouble) and date and time of occurrence. Differentiate alarm signals from all other printed indications. Also print system reset event, including same information for device, location, date, and time. Commands initiate the printing of a list of existing alarm, supervisory, and trouble conditions in the system and a historical log of events.

M. Primary Power: 24-V dc obtained from 120-V ac service and a power-supply module. Initiating devices, notification appliances, signaling lines, trouble signals, supervisory signals shall be powered by 24-V dc source.

1. Alarm current draw of entire fire-alarm system shall not exceed 80 percent of the power-supply module rating.

N. Secondary Power: 24-V dc supply system with batteries, automatic battery charger, and automatic transfer switch.

1. Batteries: Sealed lead calcium.

O. Instructions: Computer printout or typewritten instruction card mounted behind a plastic or glass cover in a stainless-steel or aluminum frame. Include interpretation and describe appropriate response for displays and signals. Briefly describe the functional operation of the system under normal, alarm, and trouble conditions.

2.5 MANUAL FIRE-ALARM BOXES

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. Gamewell - FCI by Honeywell.
2. Notifier.
3. Siemens Industry, Inc.; Fire Safety Division.
4. SimplexGrinnell LP.

B. General Requirements for Manual Fire-Alarm Boxes: Comply with UL 38. Boxes shall be finished in red with molded, raised-letter operating instructions in contrasting color; shall show

visible indication of operation; and shall be mounted on recessed outlet box. If indicated as surface mounted, provide manufacturer's surface back box.

1. Single-action mechanism, breaking-glass or plastic-rod type; with integral addressable module arranged to communicate manual-station status (normal, alarm, or trouble) to fire-alarm control unit.
2. Indoor Protective Shield: Factory-fabricated, clear plastic enclosure hinged at the top to permit lifting for access to initiate an alarm. Lifting the cover actuates an integral battery-powered audible horn intended to discourage false-alarm operation.
3. Weatherproof Protective Shield: Factory-fabricated, clear plastic enclosure hinged at the top to permit lifting for access to initiate an alarm.

2.6 SYSTEM SMOKE DETECTORS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. Gamewell - FCI by Honeywell.
2. Notifier.
3. Siemens Industry, Inc.; Fire Safety Division.
4. SimplexGrinnell LP.

B. General Requirements for System Smoke Detectors:

1. Comply with UL 268; operating at 24-V dc, nominal.
2. Detectors shall be four-wire type.
3. Integral Addressable Module: Arranged to communicate detector status (normal, alarm, or trouble) to fire-alarm control unit.
4. Base Mounting: Detector and associated electronic components shall be mounted in a twist-lock module that connects to a fixed base. Provide terminals in the fixed base for connection to building wiring.
5. Self-Restoring: Detectors do not require resetting or readjustment after actuation to restore them to normal operation.
6. Integral Visual-Indicating Light: LED type, indicating detector has operated and power-on status.
7. Remote Control: Unless otherwise indicated, detectors shall be digital-addressable type, individually monitored at fire-alarm control unit for calibration, sensitivity, and alarm condition and individually adjustable for sensitivity by fire-alarm control unit.

    a. Rate-of-rise temperature characteristic of combination smoke- and heat-detection units shall be selectable at fire-alarm control unit for 15 or 20 deg F (8 or 11 deg C) per minute.
    b. Multiple levels of detection sensitivity for each sensor.
    c. Sensitivity levels based on time of day.

C. Photoelectric/Ionization dual type Smoke Detectors:

1. Detector address shall be accessible from fire-alarm control unit and shall be able to identify the detector's location within the system and its sensitivity setting.

2. An operator at fire-alarm control unit, having the designated access level, shall be able to manually access the following for each detector:

    a. Primary status.
    b. Device type.
    c. Present average value.
    d. Present sensitivity selected.
    e. Sensor range (normal, dirty, etc.).

D. Duct Smoke Detectors: Photoelectric/Ionization type complying with UL 268A.

1. Detector address shall be accessible from fire-alarm control unit and shall be able to identify the detector's location within the system and its sensitivity setting.
2. An operator at fire-alarm control unit, having the designated access level, shall be able to manually access the following for each detector:

    a. Primary status.
    b. Device type.
    c. Present average value.
    d. Present sensitivity selected.
    e. Sensor range (normal, dirty, etc.).

3. Weatherproof Duct Housing Enclosure: NEMA 250, Type 4X; NRTL listed for use with the supplied detector for smoke detection in HVAC system ducts.
4. Each sensor shall have multiple levels of detection sensitivity.
5. Sampling Tubes: Design and dimensions as recommended by manufacturer for specific duct size, air velocity, and installation conditions where applied.
6. Relay Fan Shutdown: Fully programmable relay rated to interrupt fan motor-control circuit.

2.7 CARBON MONOXIDE DETECTORS

A. General: Carbon monoxide detector listed for connection to fire-alarm system.

1. Mounting: Adapter plate for outlet box mounting.
2. Testable by introducing test carbon monoxide into the sensing cell.
3. Detector shall provide alarm contacts and trouble contacts.
4. Detector shall send trouble alarm when nearing end-of-life, power supply problems, or internal faults.
5. Comply with UL 2075.
6. Locate, mount, and wire according to manufacturer's written instructions.
7. Provide means for addressable connection to fire-alarm system.
8. Test button simulates an alarm condition.

2.8 HEAT DETECTORS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. Gamewell - FCI by Honeywell.
2. Notifier.
3. Siemens Industry, Inc.; Fire Safety Division.
4. SimplexGrinnell LP.

B. General Requirements for Heat Detectors: Comply with UL 521.

1. Temperature sensors shall test for and communicate the sensitivity range of the device.

C. Heat Detector, Combination Type: Actuated by either a fixed temperature of 135 deg F (57 deg C) or a rate of rise that exceeds 15 deg F (8 deg C) per minute unless otherwise indicated.

1. Mounting: Twist-lock base interchangeable with smoke-detector bases.
2. Integral Addressable Module: Arranged to communicate detector status (normal, alarm, or trouble) to fire-alarm control unit.

D. Displays:

1. Include display module within each detector.
2. Each display shall provide the following features at a minimum:

a. A bar-graph display.
b. Four independent, high-intensity alarm indicators (Alert, Action, Fire 1, and Fire 2), corresponding to the four alarm thresholds of the indicated sector.
c. Alarm threshold indicators for Alert, Action, and Fire 1.
d. LED indication that the first alarm sector is established.
e. Detector fault and airflow fault indicators.
f. LED indicators shall be provided for faults originating in the particular zone (Zone Fault), faults produced by the overall smoke-detection system, and faults resulting from network wiring errors (Network Fault).
g. Minor and urgent LED fault indicators.

2.9 NOTIFICATION APPLIANCES

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. Gamewell.
2. Notifier.
3. Siemens Industry, Inc.; Fire Safety Division.
4. SimplexGrinnell LP.

B. General Requirements for Notification Appliances: Individually addressed, connected to a signaling-line circuit, equipped for mounting as indicated, and with screw terminals for system connections.

C. General Requirements for Notification Appliances: Connected to notification-appliance signal circuits, zoned as indicated, equipped for mounting as indicated, and with screw terminals for system connections.

1. Combination Devices: Factory-integrated audible and visible devices in a single-mounting assembly, equipped for mounting as indicated, and with screw terminals for system connections.

D. Chimes, Low-Level Output: Vibrating type, 75-dBA minimum rated output.

E. Chimes, High-Level Output: Vibrating type, 81-dBA minimum rated output.

F. Horns: Electric-vibrating-polarized type, 24-V dc; with provision for housing the operating mechanism behind a grille. Comply with UL 464. Horns shall produce a sound-pressure level of 90 dBA, measured 10 feet (3 m) from the horn, using the coded signal prescribed in UL 464 test protocol.

G. Visible Notification Appliances: Xenon strobe lights complying with UL 1971, with clear or nominal white polycarbonate lens mounted on an aluminum faceplate. The word "FIRE" is engraved in minimum 1-inch- (25-mm-) high letters on the lens.

1. Rated Light Output:

a. As indicated on drawings

2. Mounting: Wall mounted unless otherwise indicated.
3. For units with guards to prevent physical damage, light output ratings shall be determined with guards in place.
4. Flashing shall be in a temporal pattern, synchronized with other units.
5. Strobe Leads: Factory connected to screw terminals.
6. Mounting Faceplate: Factory finished, red.

H. Voice/Tone Notification Appliances:

1. Comply with UL 1480.
2. Speakers for Voice Notification: Locate speakers for voice notification to provide the intelligibility requirements of the "Notification Appliances" and "Emergency Communications Systems" chapters in NFPA 72.
3. High-Range Units: Rated 2 to 15 W.
4. Low-Range Units: Rated 1 to 2 W.
5. Mounting: semirecessed.
6. Matching Transformers: Tap range matched to acoustical environment of speaker location.

I. Exit Marking Audible Notification Appliance:

1. Exit marking audible notification appliances shall meet the audibility requirements in NFPA 72.
2. Provide exit marking audible notification appliances at the entrance to all building exits.
3. Provide exit marking audible notification appliances at the entrance to areas of refuge with audible signals distinct from those used for building exit marking.

2.10 FIREFIGHTERS' TWO-WAY TELEPHONE COMMUNICATION SERVICE

2.11 GRAPHIC ANNUNCIATOR

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. Gamewell.
2. notifier.
3. Siemens Industry, Inc.; Fire Safety Division.
4. SimplexGrinnell LP.

B. Graphic Annunciator Panel: Mounted in an aluminum frame with nonglare, minimum 3/16-inch- (4.76-mm-) thick, clear acrylic cover over graphic representation of the facility. Detector locations shall be represented by red LED lamps. Normal system operation shall be indicated by a lighted, green LED. Trouble and supervisory alarms shall be represented by an amber LED.

1. Comply with UL 864.
2. Operating voltage shall be 24-V dc provided by a local 24-V power supply provided with the annunciator.
3. Include built-in voltage regulation, reverse polarity protection, RS 232/422 serial communications, and a lamp test switch.
4. Surface mounted in a NEMA 250, Type 1 cabinet, with key lock and no exposed screws or hinges.
5. Graphic representation of the facility shall be a CAD drawing and each detector shall be represented by an LED in its actual location. CAD drawing shall be at 1/8-inch per foot (10-mm per meter) scale or larger.
6. The LED representing a detector shall flash two times per second while detector is an alarm.

2.12 REMOTE ANNUNCIATOR

A. Description: Annunciator functions shall match those of fire-alarm control unit for alarm, supervisory, and trouble indications. Manual switching functions shall match those of fire-alarm control unit, including acknowledging, silencing, resetting, and testing.

1. Mounting: Surface cabinet, NEMA 250, Type 1.

B. Display Type and Functional Performance: Alphanumeric display and LED indicating lights shall match those of fire-alarm control unit. Provide controls to acknowledge, silence, reset, and test functions for alarm, supervisory, and trouble signals.

2.13 ADDRESSABLE INTERFACE DEVICE

A. General:

1. Include address-setting means on the module.
2. Store an internal identifying code for control panel use to identify the module type.

3. Listed for controlling HVAC fan motor controllers.

B. Monitor Module: Microelectronic module providing a system address for alarm-initiating devices for wired applications with normally open contacts.

C. Integral Relay: Capable of providing a direct signal to elevator controller to initiate elevator recall and to circuit-breaker shunt trip for power shutdown.

1. Allow the control panel to switch the relay contacts on command.
2. Have a minimum of two normally open and two normally closed contacts available for field wiring.

D. Control Module:

1. Operate notification devices.
2. Operate solenoids for use in sprinkler service.

2.14 NETWORK COMMUNICATIONS

A. Provide network communications for fire-alarm system according to fire-alarm manufacturer's written requirements.

B. Provide network communications pathway per manufacturer's written requirements and requirements in NFPA 72 and NFPA 70.

C. Provide integration gateway using BACnet for connection to building automation system.

2.15 SYSTEM PRINTER

A. Printer shall be listed and labeled as an integral part of fire-alarm system.

2.16 DEVICE GUARDS

A. Description: Welded wire mesh of size and shape for the manual station, smoke detector, gong, or other device requiring protection.

1. Factory fabricated and furnished by device manufacturer.
2. Finish: Paint of color to match the protected device.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine areas and conditions for compliance with requirements for ventilation, temperature, humidity, and other conditions affecting performance of the Work.

1. Verify that manufacturer's written instructions for environmental conditions have been permanently established in spaces where equipment and wiring are installed, before installation begins.

B. Examine roughing-in for electrical connections to verify actual locations of connections before installation.

C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 EQUIPMENT INSTALLATION

A. Comply with NFPA 72, NFPA 101, and requirements of authorities having jurisdiction for installation and testing of fire-alarm equipment. Install all electrical wiring to comply with requirements in NFPA 70 including, but not limited to, Article 760, "Fire Alarm Systems."

1. Devices placed in service before all other trades have completed cleanup shall be replaced.
2. Devices installed but not yet placed in service shall be protected from construction dust, debris, dirt, moisture, and damage according to manufacturer's written storage instructions.

B. Equipment Mounting: Install fire-alarm control unit on concrete base. Comply with requirements for concrete base specified in Section 033053 "Miscellaneous Cast-in-Place Concrete."

1. Install seismic bracing. Comply with requirements in Section 270548.16 "Seismic Controls for Communications Systems."
2. Install dowel rods to connect concrete base to concrete floor. Unless otherwise indicated, install dowel rods on 18-inch (460-mm) centers around the full perimeter of concrete base.
3. For supported equipment, install epoxy-coated anchor bolts that extend through concrete base and anchor into structural concrete floor.
4. Place and secure anchorage devices. Use setting drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.
5. Install anchor bolts to elevations required for proper attachment to supported equipment.

C. Install wall-mounted equipment, with tops of cabinets not more than 78 inches (1980 mm) above the finished floor.

1. Comply with requirements for seismic-restraint devices specified in Section 270548.16 "Seismic Controls for Communications Systems."

D. Manual Fire-Alarm Boxes:

1. Install manual fire-alarm box in the normal path of egress within 60 inches (1520 mm) of the exit doorway.
2. Mount manual fire-alarm box on a background of a contrasting color.
3. The operable part of manual fire-alarm box shall be between 42 inches (1060 mm) and 48 inches (1220 mm) above floor level. All devices shall be mounted at the same height unless otherwise indicated.

E. Smoke- or Heat-Detector Spacing:

1. Comply with the "Smoke-Sensing Fire Detectors" section in the "Initiating Devices" chapter in NFPA 72, for smoke-detector spacing.
2. Comply with the "Heat-Sensing Fire Detectors" section in the "Initiating Devices" chapter in NFPA 72, for heat-detector spacing.
3. Smooth ceiling spacing shall not exceed 30 feet (9 m).
4. Spacing of detectors for irregular areas, for irregular ceiling construction, and for high ceiling areas shall be determined according to Annex A in NFPA 72.
5. HVAC: Locate detectors not closer than 36 inches (910 mm) from air-supply diffuser or return-air opening.
6. Lighting Fixtures: Locate detectors not closer than 12 inches (300 mm) from any part of a lighting fixture and not directly above pendant mounted or indirect lighting.

F. Install a cover on each smoke detector that is not placed in service during construction. Cover shall remain in place except during system testing. Remove cover prior to system turnover.

G. Duct Smoke Detectors: Comply with NFPA 72 and NFPA 90A. Install sampling tubes so they extend the full width of duct. Tubes more than 36 inches (9100 mm) long shall be supported at both ends.

1. Do not install smoke detector in duct smoke-detector housing during construction. Install detector only during system testing and prior to system turnover.

H. Elevator Shafts: Coordinate temperature rating and location with sprinkler rating and location. Do not install smoke detectors in sprinklered elevator shafts.

I. Single-Station Smoke Detectors: Where more than one smoke alarm is installed within a dwelling or suite, they shall be connected so that the operation of any smoke alarm causes the alarm in all smoke alarms to sound.

J. Remote Status and Alarm Indicators: Install in a visible location near each smoke detector, sprinkler water-flow switch, and valve-tamper switch that is not readily visible from normal viewing position.

K. Audible Alarm-Indicating Devices: Install not less than 6 inches (150 mm) below the ceiling. Install bells and horns on flush-mounted back boxes with the device-operating mechanism concealed behind a grille. Install all devices at the same height unless otherwise indicated.

L. Visible Alarm-Indicating Devices: Install adjacent to each alarm bell or alarm horn and at least 6 inches (150 mm) below the ceiling. Install all devices at the same height unless otherwise indicated.

M. Device Location-Indicating Lights: Locate in public space near the device they monitor.

3.3 PATHWAYS

A. Pathways above recessed ceilings and in nonaccessible locations may be routed exposed.

1. Exposed pathways located less than 96 inches (2440 mm) above the floor shall be installed in EMT.

B. Pathways shall be installed in EMT.

C. Exposed EMT shall be painted red enamel.

3.4 CONNECTIONS

A. For fire-protection systems related to doors in fire-rated walls and partitions and to doors in smoke partitions, comply with requirements in Section 087100 "Door Hardware." Connect hardware and devices to fire-alarm system.

1. Verify that hardware and devices are listed for use with installed fire-alarm system before making connections.

B. Make addressable connections with a supervised interface device to the following devices and systems. Install the interface device less than 36 inches (910 mm) from the device controlled. Make an addressable confirmation connection when such feedback is available at the device or system being controlled.

1. Alarm-initiating connection to smoke-control system (smoke management) at firefighters' smoke-control system panel.
2. Alarm-initiating connection to stairwell and elevator-shaft pressurization systems.
3. Smoke dampers in air ducts of designated HVAC duct systems.
4. Magnetically held-open doors.
5. Electronically locked doors and access gates.
6. Alarm-initiating connection to elevator recall system and components.
7. Alarm-initiating connection to activate emergency lighting control.
8. Alarm-initiating connection to activate emergency shutoffs for gas and fuel supplies.
9. Supervisory connections at valve supervisory switches.
10. Supervisory connections at low-air-pressure switch of each dry-pipe sprinkler system.
11. Supervisory connections at elevator shunt-trip breaker.
12. Data communication circuits for connection to building management system.
13. Data communication circuits for connection to mass notification system.
14. Supervisory connections at fire-extinguisher locations.
15. Supervisory connections at fire-pump power failure including a dead-phase or phase-reversal condition.
16. Supervisory connections at fire-pump engine control panel.

3.5 IDENTIFICATION

A. Identify system components, wiring, cabling, and terminals. Comply with requirements for identification specified in Section 270553 "Identification for Communications Systems."

B. Install framed instructions in a location visible from fire-alarm control unit.

3.6 GROUNDING

A. Ground fire-alarm control unit and associated circuits; comply with IEEE 1100. Install a ground wire from main service ground to fire-alarm control unit.

B. Ground shielded cables at the control panel location only. Insulate shield at device location.

3.7 FIELD QUALITY CONTROL

A. Field tests shall be witnessed by authorities having jurisdiction.

B. Manufacturer's Field Service: Engage a factory-authorized service representative to test and inspect components, assemblies, and equipment installations, including connections.

C. Perform tests and inspections.

D. Perform the following tests and inspections with the assistance of a factory-authorized service representative:

1. Visual Inspection: Conduct visual inspection prior to testing.

    a. Inspection shall be based on completed record Drawings and system documentation that is required by the "Completion Documents, Preparation" table in the "Documentation" section of the "Fundamentals" chapter in NFPA 72.
    b. Comply with the "Visual Inspection Frequencies" table in the "Inspection" section of the "Inspection, Testing and Maintenance" chapter in NFPA 72; retain the "Initial/Reacceptance" column and list only the installed components.

2. System Testing: Comply with the "Test Methods" table in the "Testing" section of the "Inspection, Testing and Maintenance" chapter in NFPA 72.
3. Test audible appliances for the public operating mode according to manufacturer's written instructions. Perform the test using a portable sound-level meter complying with Type 2 requirements in ANSI S1.4.
4. Test audible appliances for the private operating mode according to manufacturer's written instructions.
5. Test visible appliances for the public operating mode according to manufacturer's written instructions.
6. Factory-authorized service representative shall prepare the "Fire Alarm System Record of Completion" in the "Documentation" section of the "Fundamentals" chapter in NFPA 72 and the "Inspection and Testing Form" in the "Records" section of the "Inspection, Testing and Maintenance" chapter in NFPA 72.

E. Reacceptance Testing: Perform reacceptance testing to verify the proper operation of added or replaced devices and appliances.

F. Fire-alarm system will be considered defective if it does not pass tests and inspections.

G. Prepare test and inspection reports.

H. Maintenance Test and Inspection: Perform tests and inspections listed for weekly, monthly, quarterly, and semiannual periods. Use forms developed for initial tests and inspections.

I. Annual Test and Inspection: One year after date of Substantial Completion, test fire-alarm system complying with visual and testing inspection requirements in NFPA 72. Use forms developed for initial tests and inspections.

3.8 MAINTENANCE SERVICE

A. Initial Maintenance Service: Beginning at Substantial Completion, maintenance service shall include 12 months' full maintenance by skilled employees of manufacturer's designated service organization. Include preventive maintenance, repair or replacement of worn or defective components, lubrication, cleaning, and adjusting as required for proper operation. Parts and supplies shall be manufacturer's authorized replacement parts and supplies.

1. Include visual inspections according to the "Visual Inspection Frequencies" table in the "Testing" paragraph of the "Inspection, Testing and Maintenance" chapter in NFPA 72.
2. Perform tests in the "Test Methods" table in the "Testing" paragraph of the "Inspection, Testing and Maintenance" chapter in NFPA 72.
3. Perform tests per the "Testing Frequencies" table in the "Testing" paragraph of the "Inspection, Testing and Maintenance" chapter in NFPA 72.

3.9 SOFTWARE SERVICE AGREEMENT

A. Comply with UL 864.

B. Technical Support: Beginning at Substantial Completion, service agreement shall include software support for two years.

C. Upgrade Service: At Substantial Completion, update software to latest version. Install and program software upgrades that become available within two years from date of Substantial Completion. Upgrading software shall include operating system and new or revised licenses for using software.

1. Upgrade Notice: At least 30 days to allow Owner to schedule access to system and to upgrade computer equipment if necessary.

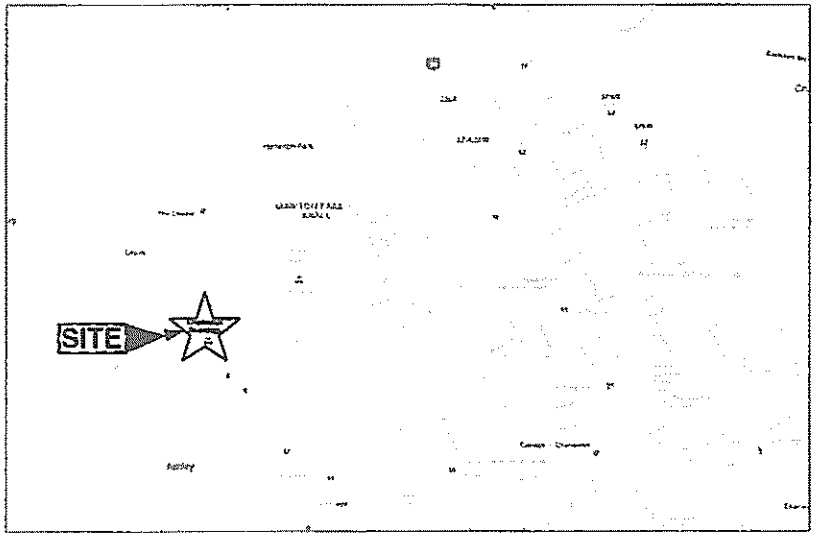
END OF SECTION 284621.11

ATTACHMENT B
Drawings

RTA SET
PROJECT No. FM20191

CITY OF CHARLESTON, DEPARTMENT OF PARKS
823 MEETING STREET, CHARLESTON, SC 29403

JOSEPH P. RILEY JR. PARK
ELECTRICAL RENOVATIONS



VICINITY MAP
NOT TO SCALE

DRAWING INDEX

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G-001 COVER SHEET AND DRAWING INDEX

STRUCTURAL
S-101 SCREENWALL PLAN AND DETAILS
S-102 SCREENWALL SECTIONS AND DETAILS

ELECTRICAL
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E-002 ELECTRICAL SITE PLAN
E-101 SUBLEVEL AREA A ELECTRICAL FLOOR PLAN
E-102 SUBLEVEL AREA B ELECTRICAL FLOOR PLAN
E-103 SUBLEVEL AREA C ELECTRICAL FLOOR PLAN
E-104 SUBLEVEL AREA D ELECTRICAL FLOOR PLAN
E-105 CONCOURSE LEVEL AREA A ELECTRICAL FLOOR PLAN
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E-702 ELECTRICAL SCHEDULES
E-703 ELECTRICAL SCHEDULES
E-704 ELECTRICAL SCHEDULES

FIRE ALARM
FA-001 ABBREVIATIONS LEGEND SYMBOLS AND NOTES
FA-101 SUBLEVEL AREA A FIRE ALARM FLOOR PLAN
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FA-110 SEATING BOWL LEVEL AREA B FIRE ALARM FLOOR PLAN
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FA-112 SEATING BOWL LEVEL AREA D FIRE ALARM FLOOR PLAN
FA-113 SUITE LEVEL AREA A FIRE ALARM FLOOR PLAN
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FA-115 SUITE LEVEL AREA C FIRE ALARM FLOOR PLAN
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FA-401 SINGLE LINE DIAGRAMS

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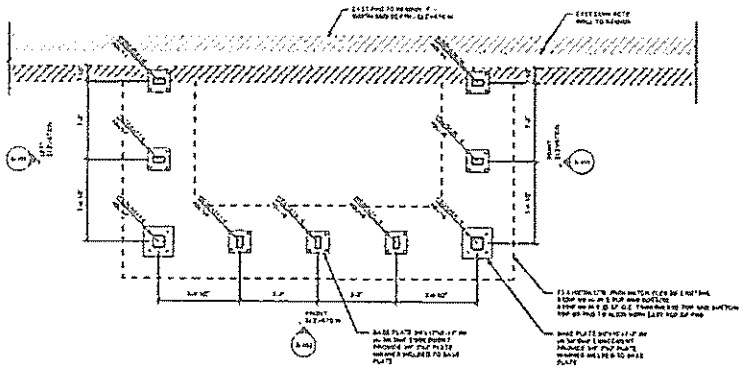
DEPARTMENT OF PARKS

COVER SHEET AND DRAWING INDEX

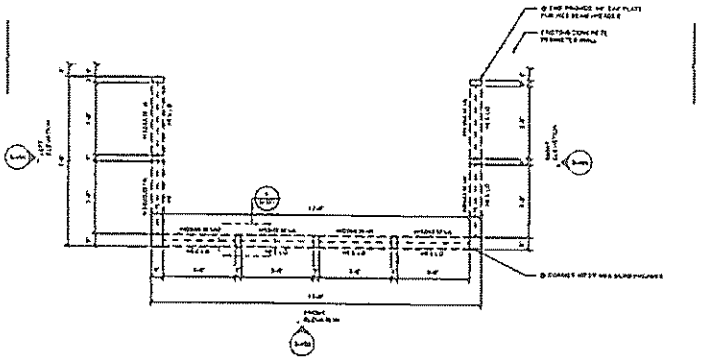
RTA SET

G-001
GENERAL



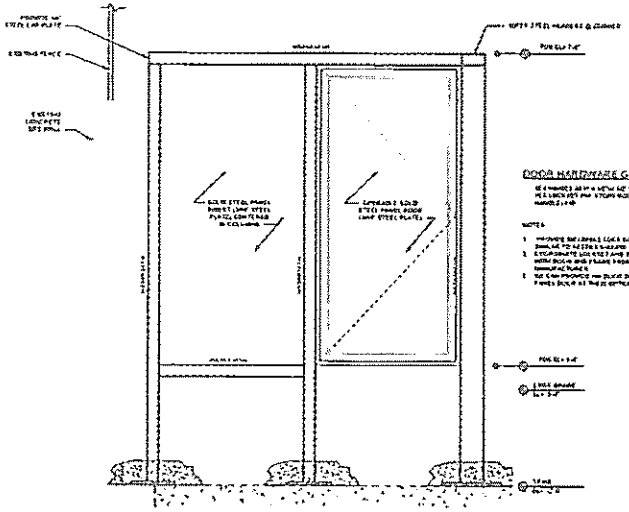
1 SCREENWALL FOUNDATION PLAN

GENERAL NOTES



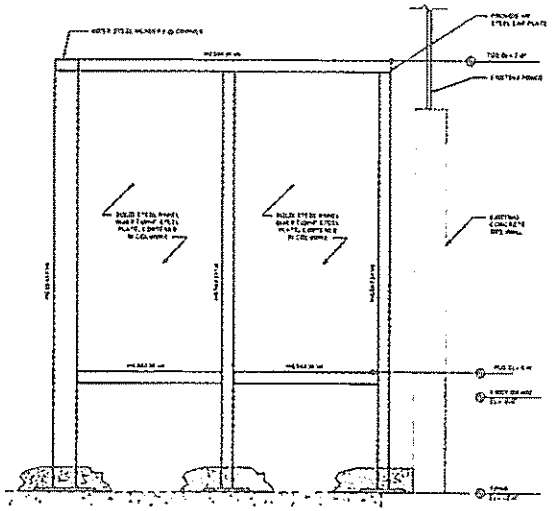
2 SCREENWALL FRAMING PLAN

GENERAL NOTES



DOOR HARDWARE GENERAL NOTES

3 LEFT ELEVATION



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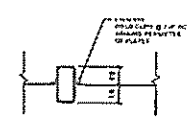

5 SCREEN WALL POST DETAIL

GENERAL NOTES

KTA 327

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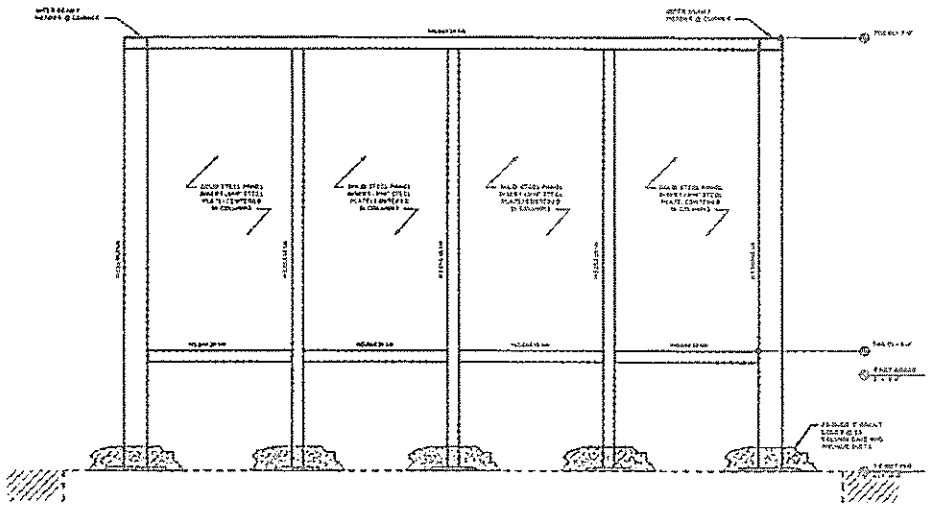
SCREENWALL PLAN & DETAILS

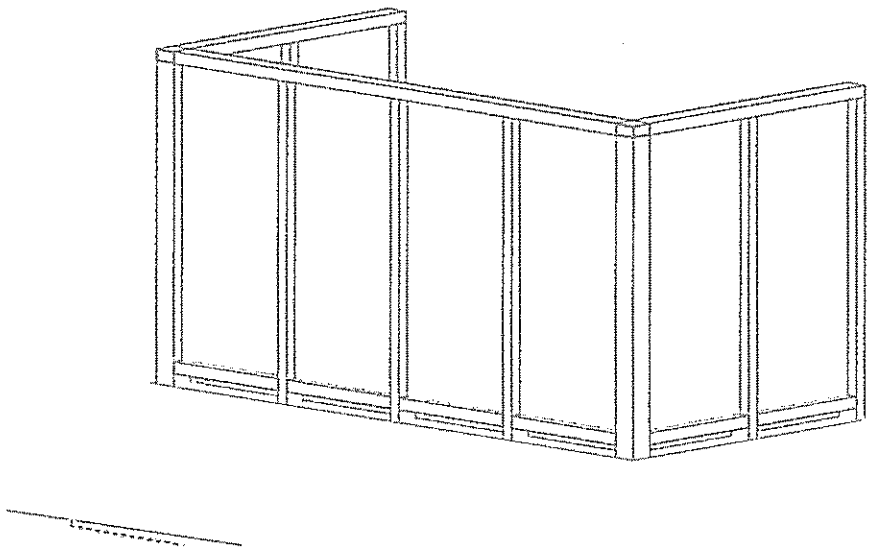
TYLIN INTERNATIONAL

S-101

STRUCTURAL



1 FRONT ELEVATION



2 ISOMETRIC VIEW

RFA SET

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SCREENWALL SECTIONS AND DETAILS

TYLIN INTERNATIONAL

S-102

STRUCTURAL

RTA SET

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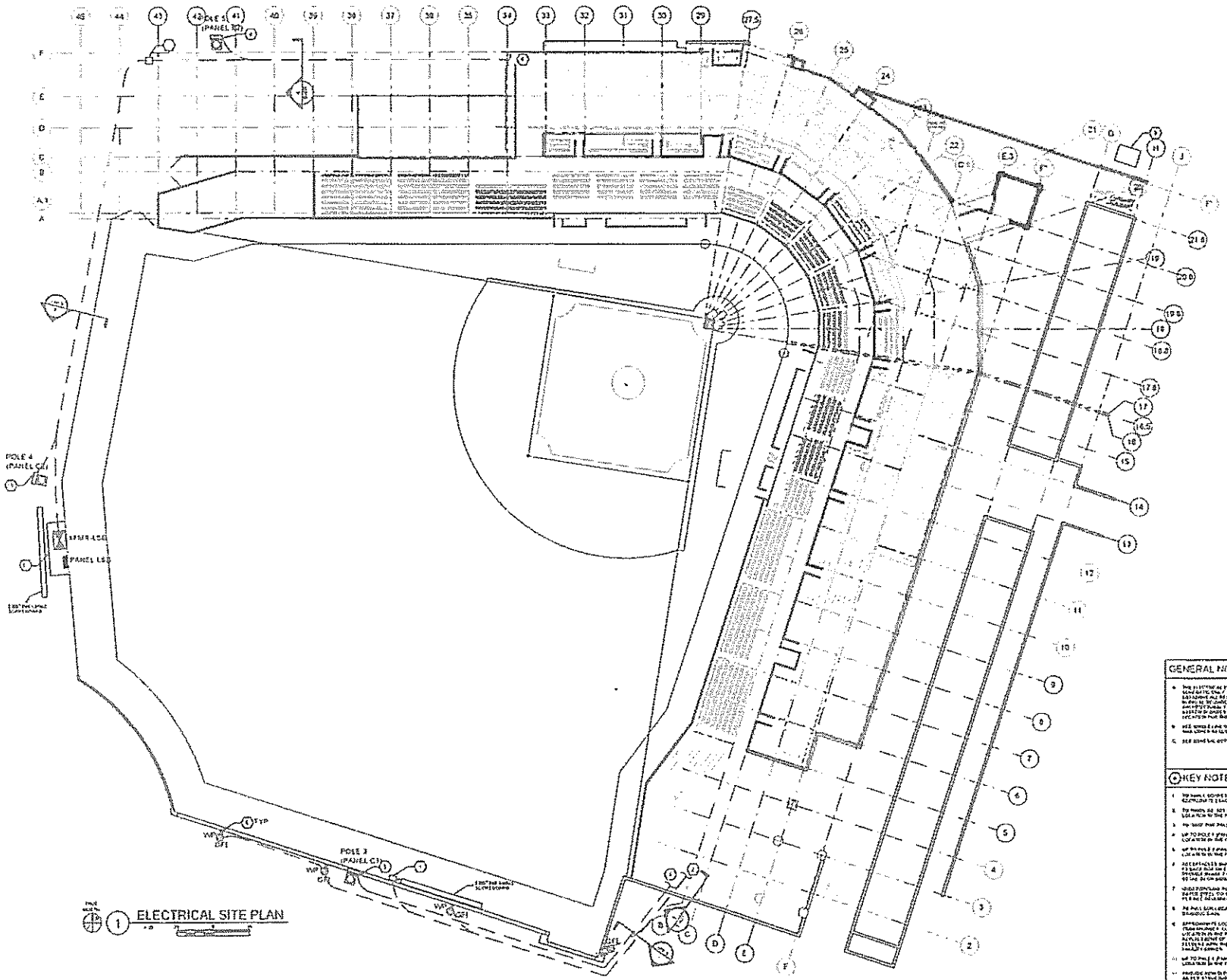
CITY OF CHARLESTON,
DEPARTMENT OF PARKS

ABBRIVIATIONS, LEGEND, SYMBOLS AND NOTES

TYLIN INTERNATIONAL

E-001

ELECTRICAL



1 ELECTRICAL SITE PLAN

GENERAL NOTES

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- [illegible]
- [illegible]

KEY NOTES

1. [illegible]
2. [illegible]
3. [illegible]
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6. [illegible]
7. [illegible]
8. [illegible]
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10. [illegible]
11. [illegible]
12. [illegible]

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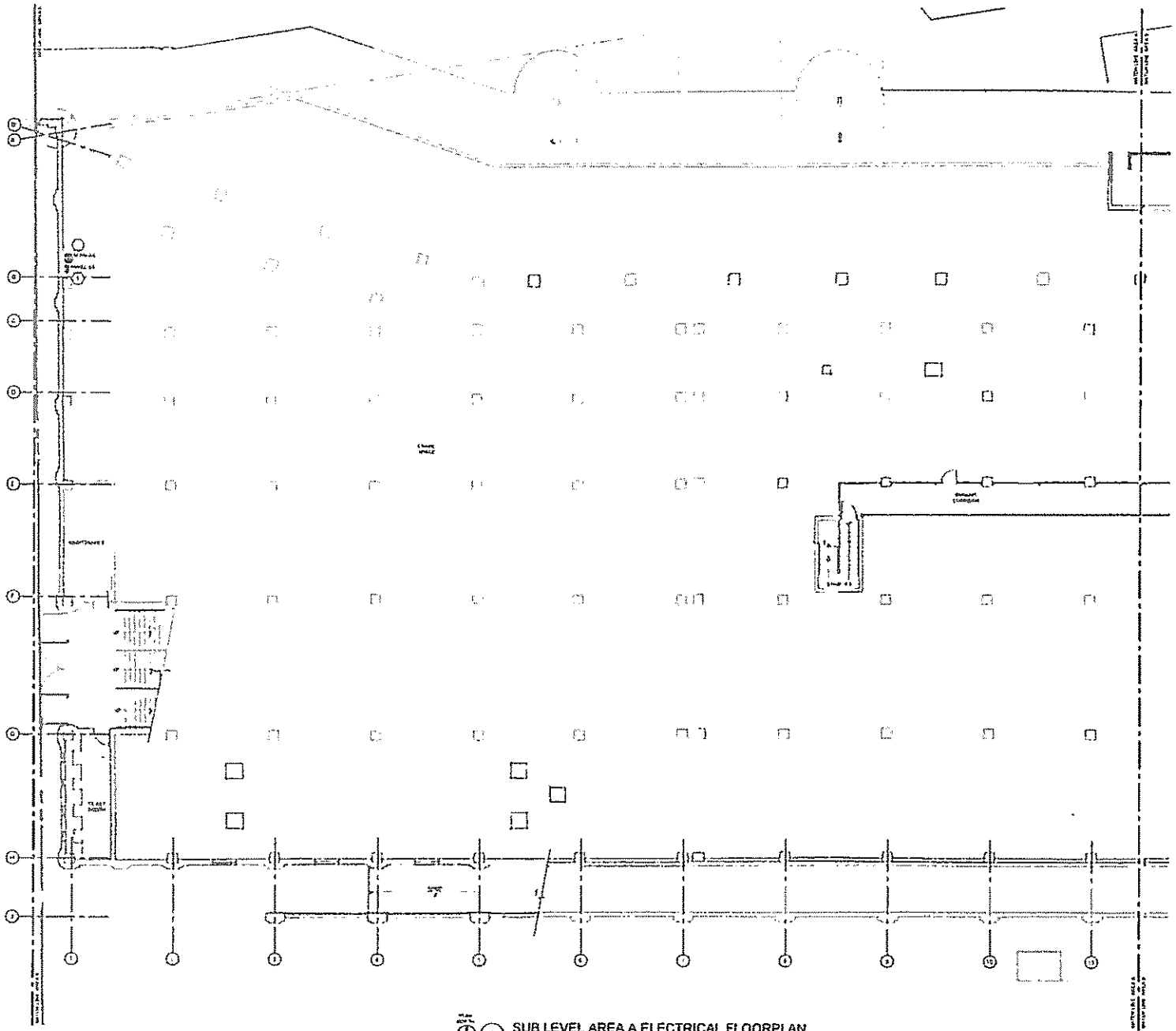
CITY OF CHARLESTON
DEPARTMENT OF PARKS

ELECTRICAL SITE PLAN

E-100

RFA SET

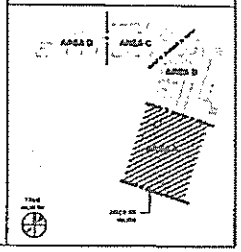


1 SUB LEVEL AREA A ELECTRICAL FLOORPLAN

GENERAL NOTES

KEY NOTES

LOCATION KEY



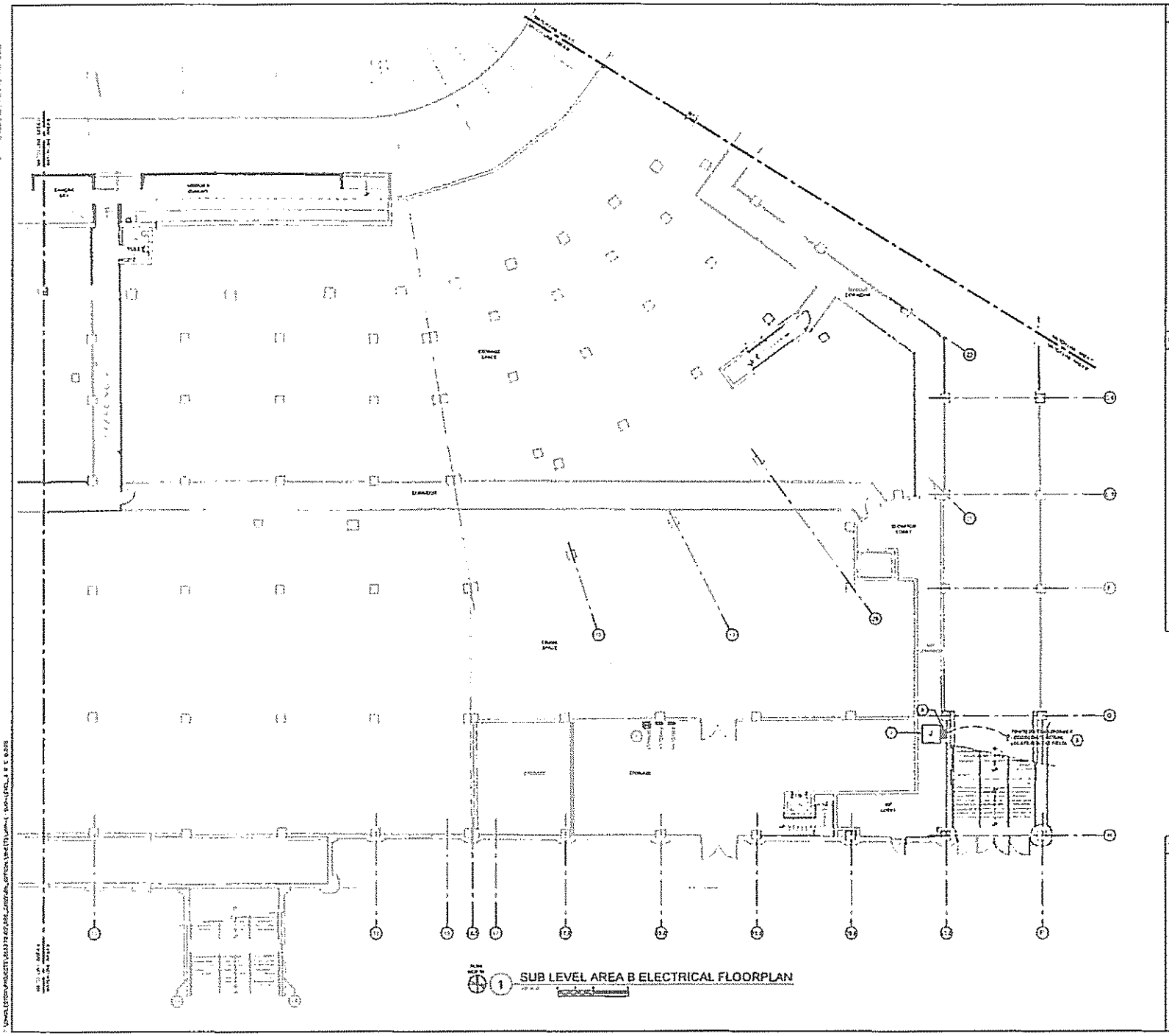
TYLIN INTERNATIONAL

JOSEPH P. RILEY JR. PARK
ELECTRICAL RENOVATIONS
CITY OF CHARLESTON,
DEPARTMENT OF PARKS
SUB LEVEL AREA A
ELECTRICAL FLOORPLAN

E-101

ELECTRICAL

RTA SET

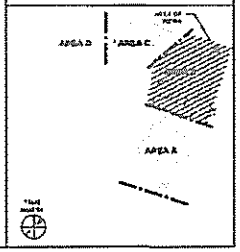


1 SUB LEVEL AREA B ELECTRICAL FLOORPLAN

GENERAL NOTES

KEY NOTES

LOCATION KEY



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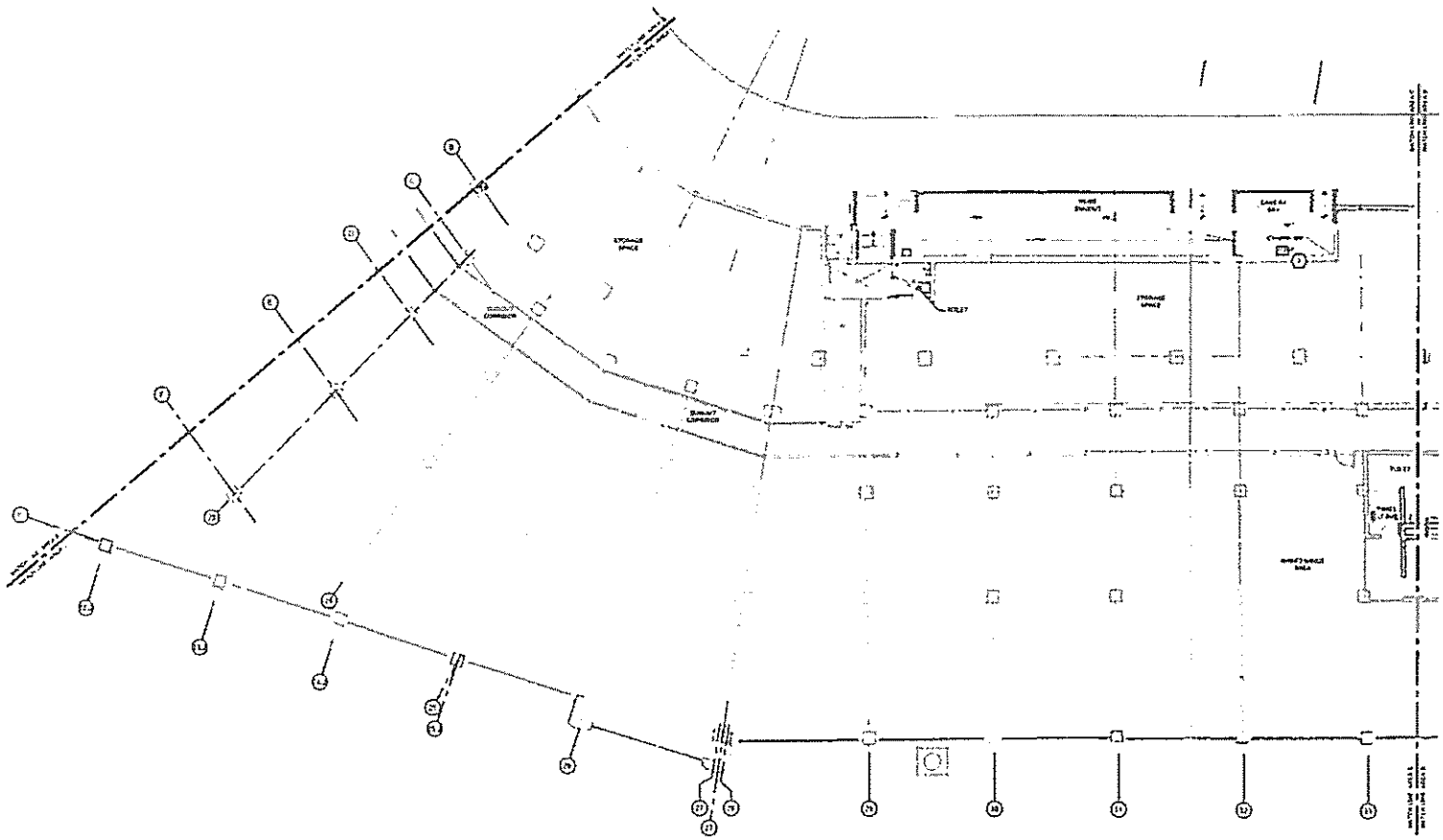
ELECTRICAL RENOVATIONS
CITY OF CHARLESTON
DEPARTMENT OF PARKS

SUB LEVEL AREA B
ELECTRICAL FLOORPLAN

RTA BET

E-102

01 ELECTRICAL

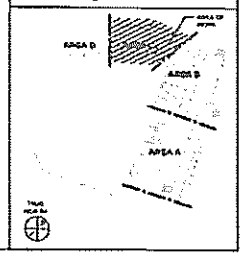


1 SUB LEVEL AREA C ELECTRICAL FLOORPLAN

GENERAL NOTES

KEY NOTES

LOCATION KEY



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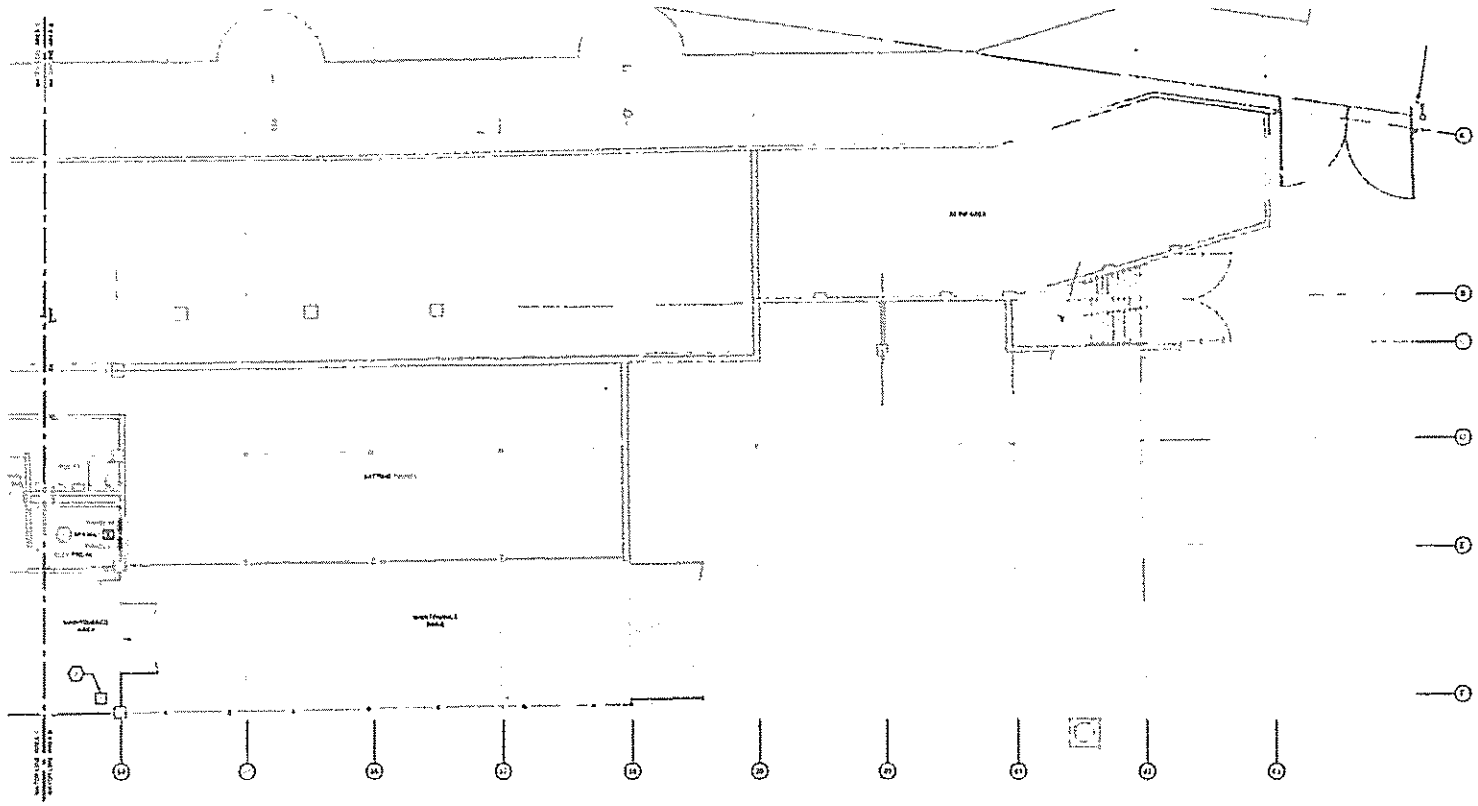
JOSEPH P. RILEY JR. PARK
ELECTRICAL RENOVATIONS
CITY OF CHARLESTON,
DEPARTMENT OF PARKS
SUB LEVEL AREA C
ELECTRICAL FLOORPLAN

E-103

ELECTRICAL

RYA SET

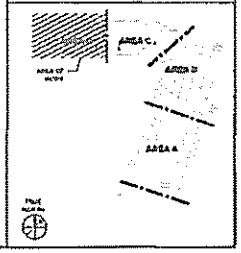


1 SUB LEVEL AREA D ELECTRICAL FLOORPLAN

GENERAL NOTES

KEY NOTES

LOCATION KEY



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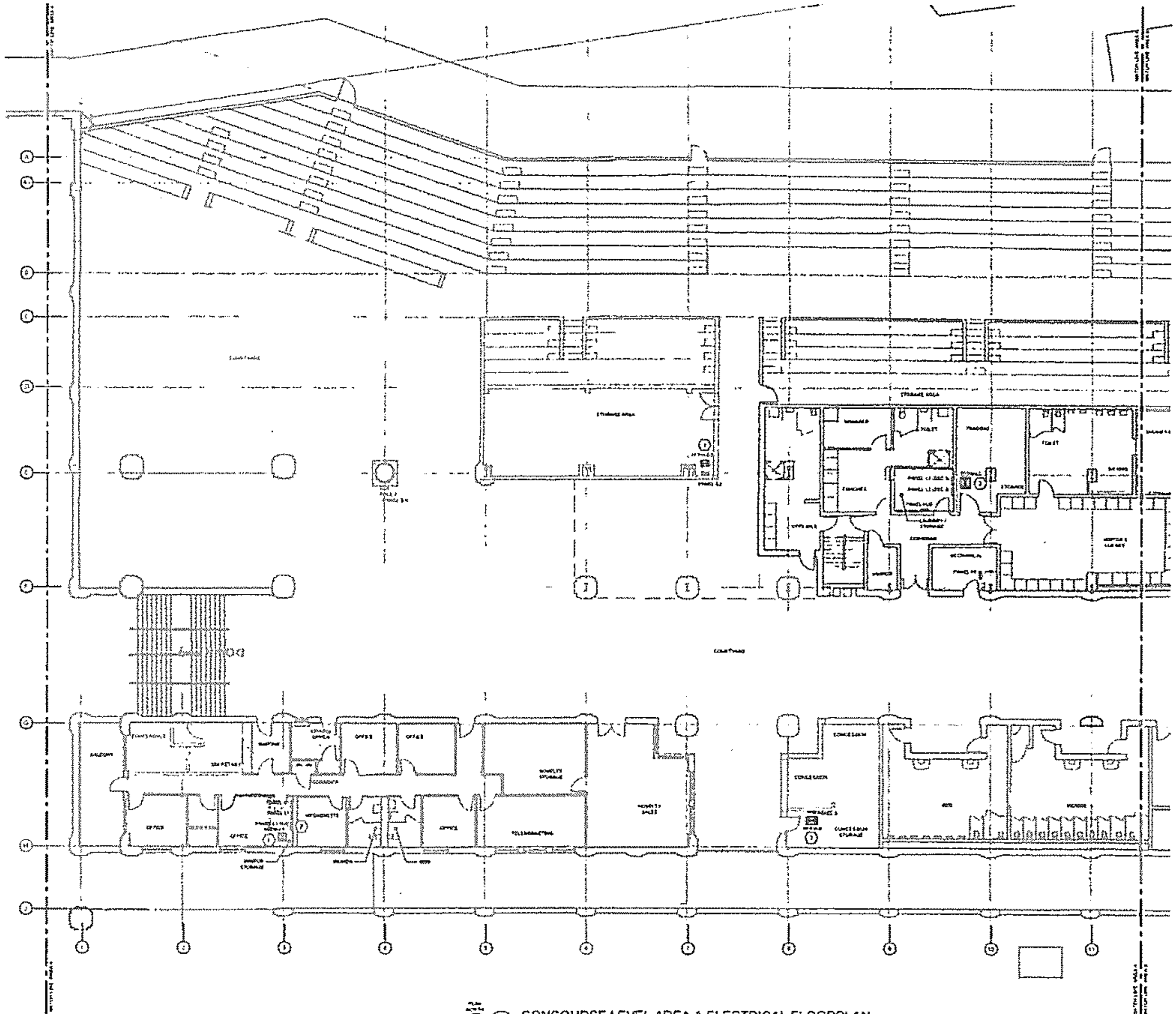
JOSEPH P. RILEY JR. PARK
ELECTRICAL RENOVATIONS
CITY OF CHARLESTON,
DEPARTMENT OF PARKS

SUB LEVEL AREA D
ELECTRICAL FLOORPLAN

RTA SET

E 104

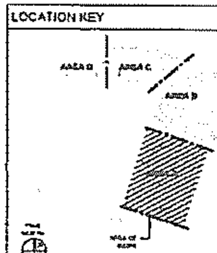


1 CONCOURSE LEVEL AREA A ELECTRICAL FLOORPLAN

GENERAL NOTES

KEY NOTES

LOCATION KEY



RTA SET

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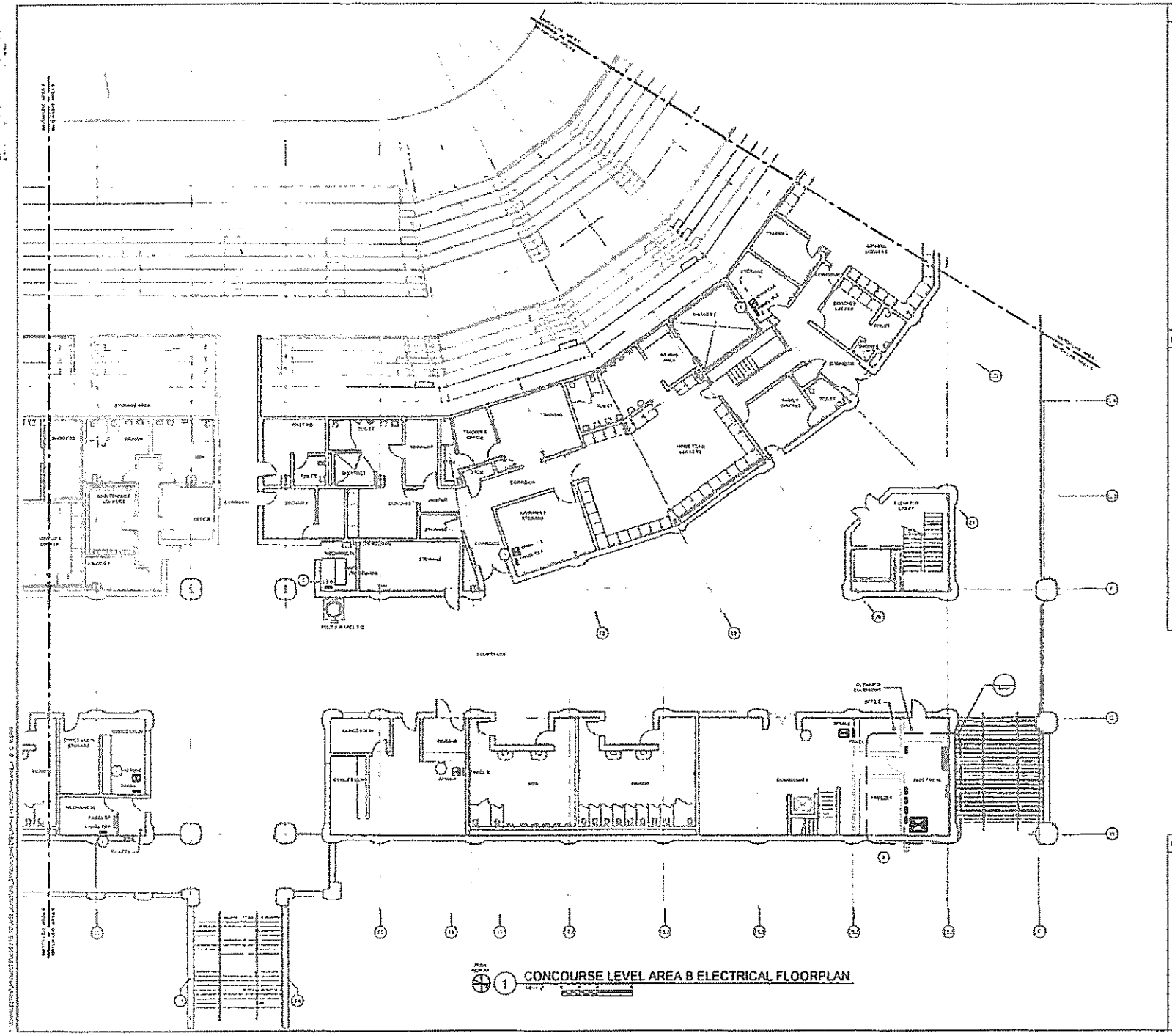
JOSEPH P. RILEY JR. PARK
ELECTRICAL RENOVATIONS
CITY OF CHARLESTON,
DEPARTMENT OF PARKS

CONCOURSE LEVEL AREA A
ELECTRICAL FLOORPLAN

E-105

ELECTRICAL

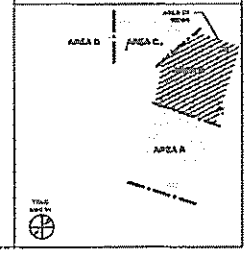


1 CONCOURSE LEVEL AREA B ELECTRICAL FLOORPLAN

GENERAL NOTES

KEY NOTES

LOCATION KEY



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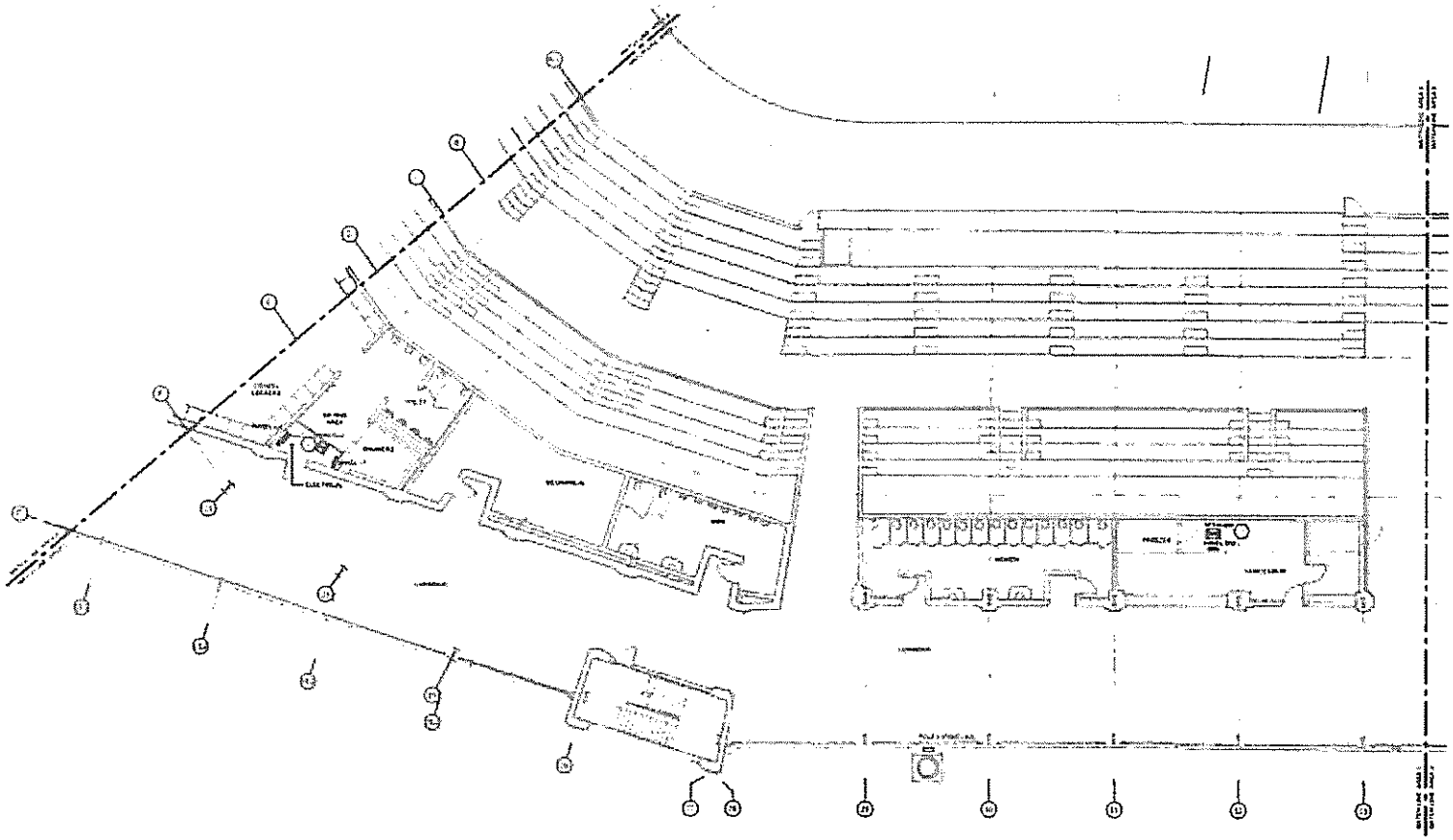
JOSEPH P. RILEY JR. PARK
ELECTRICAL RENOVATIONS
CITY OF CHARLESTON,
DEPARTMENT OF PARKS
CONCOURSE LEVEL AREA B
ELECTRICAL FLOORPLAN

E-109

ELECTRICAL

RFA SET



1 CONCOURSE LEVEL AREA C ELECTRICAL FLOORPLAN

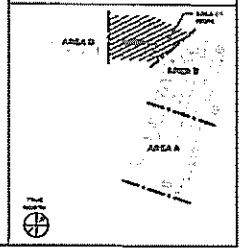
GENERAL NOTES

1. [illegible]
2. [illegible]

KEY NOTES

1. [illegible]

LOCATION KEY



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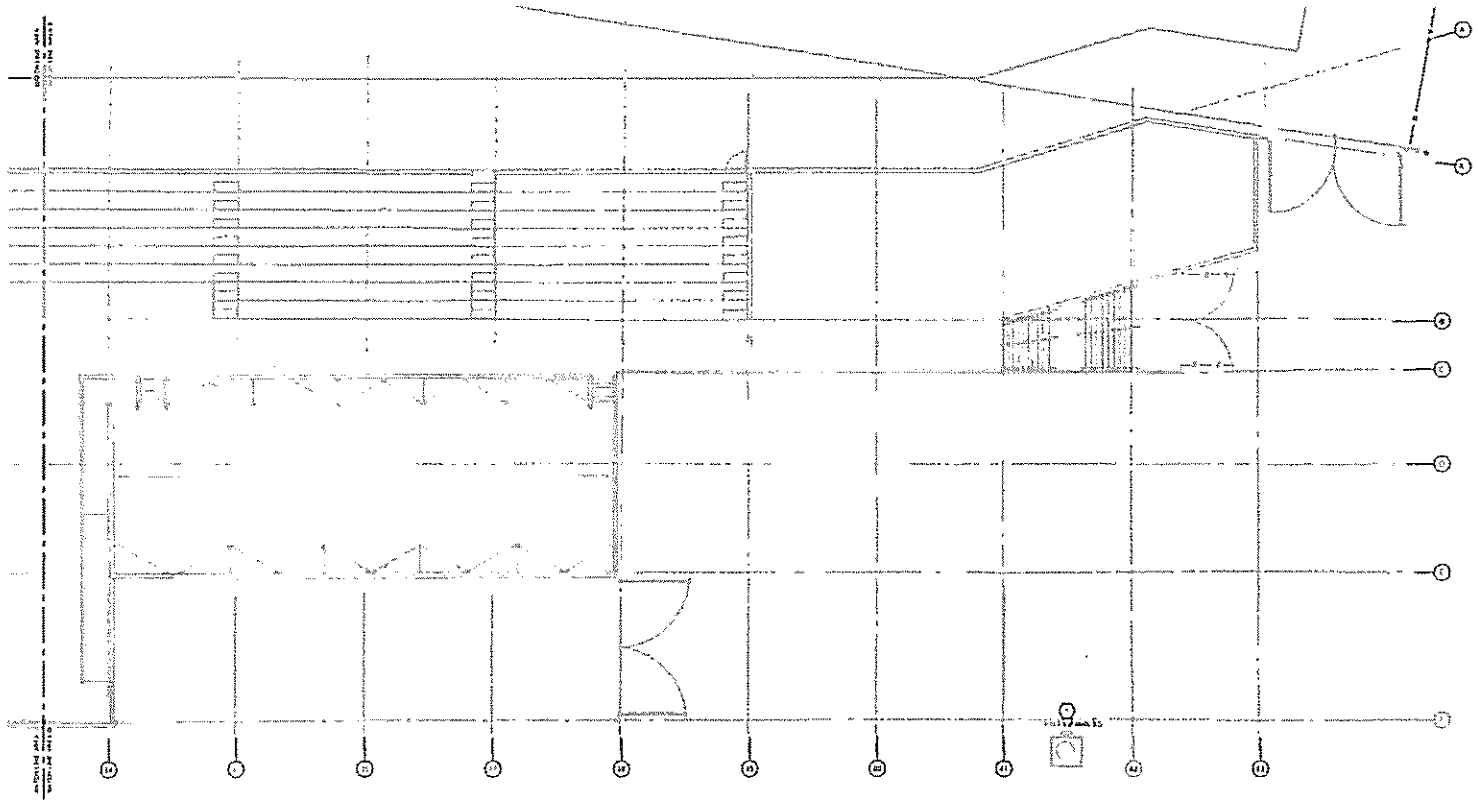
ELECTRICAL RENOVATIONS
CITY OF CHARLESTON,
DEPARTMENT OF PARKS

CONCOURSE LEVEL AREA C
ELECTRICAL FLOORPLAN

RTA SET

E-107

ELECTRICAL



1 CONCOURSE LEVEL AREA D ELECTRICAL FLOORPLAN

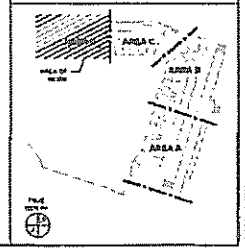
GENERAL NOTES

1. [illegible]

KEY NOTES

1. [illegible]

LOCATION KEY



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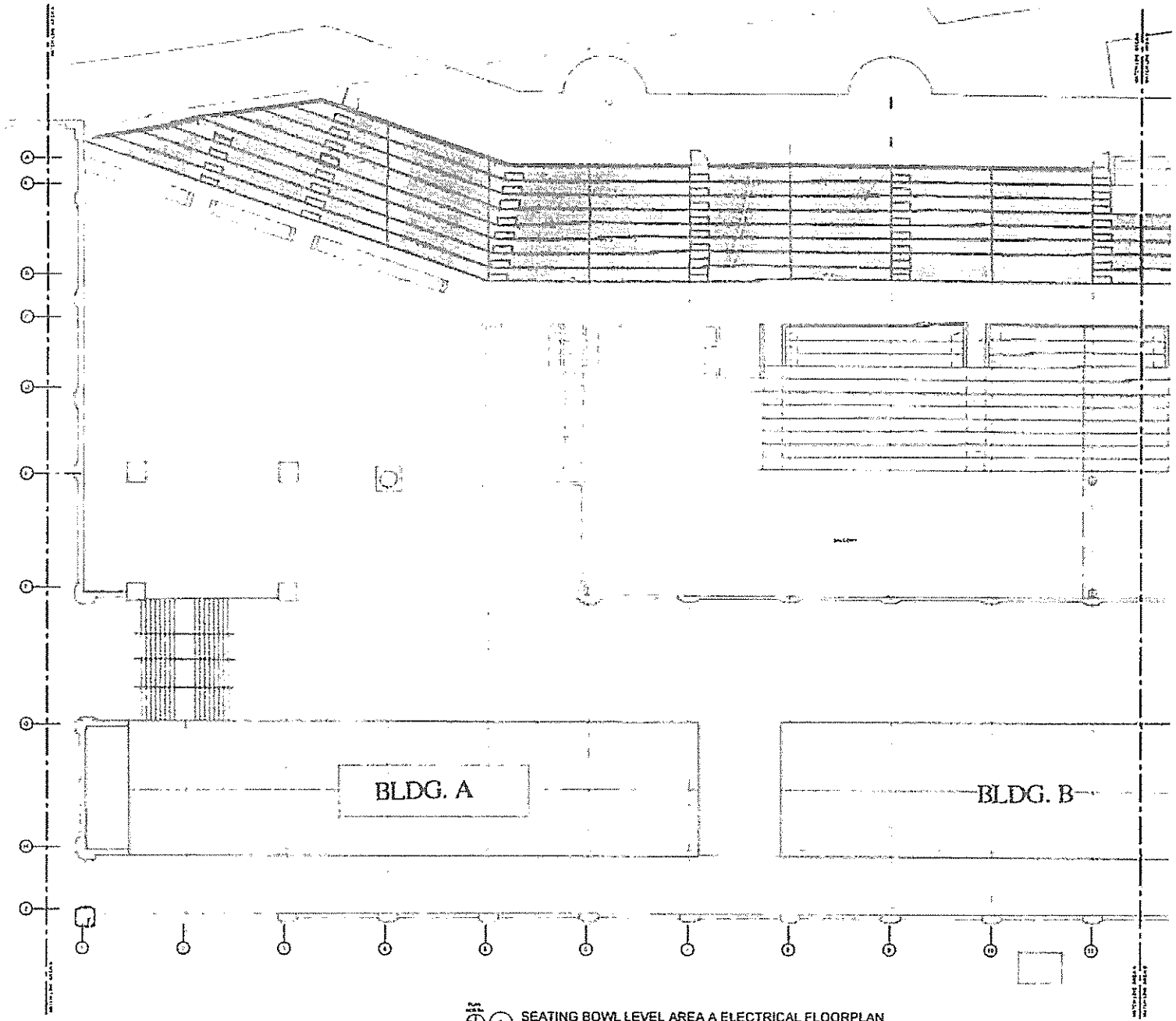
ELECTRICAL RENOVATIONS
CITY OF CHARLESTON,
DEPARTMENT OF PARKS
CONCOURSE LEVEL AREA D
ELECTRICAL FLOORPLAN

RTA SET

E-103

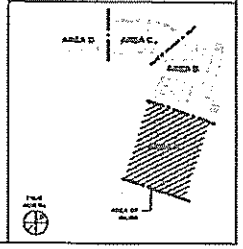
ELECTRICAL



1 SEATING BOWL LEVEL AREA A ELECTRICAL FLOORPLAN

GENERAL NOTES

LOCATION KEY



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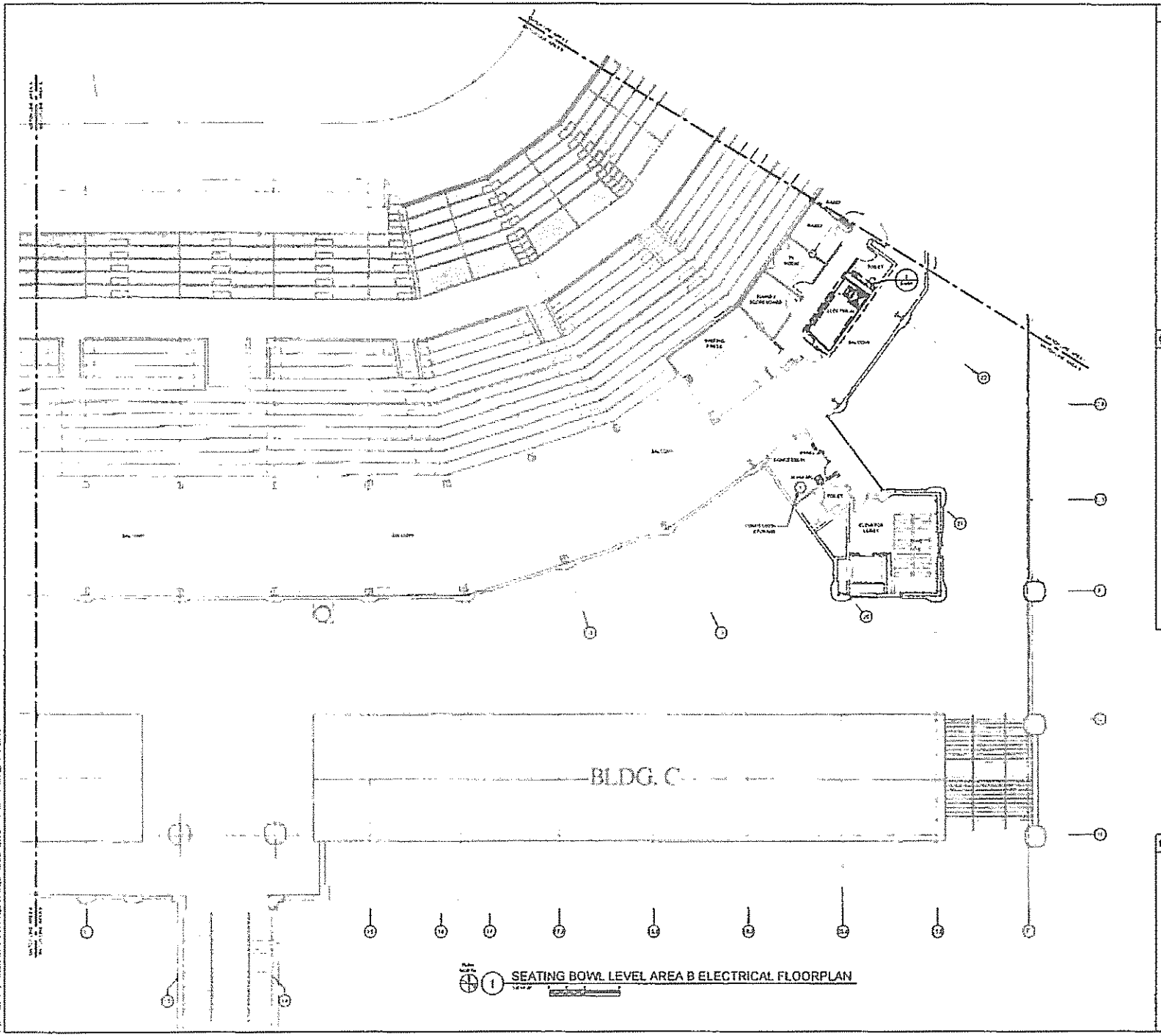
ELECTRICAL RENOVATIONS
CITY OF CHARLESTON,
DEPARTMENT OF PARKS
SEATING BOWL LEVEL AREA A
ELECTRICAL FLOORPLAN

E-109

ELECTRICAL

RTA SET



1 SEATING BOWL LEVEL AREA B ELECTRICAL FLOORPLAN

GENERAL NOTES

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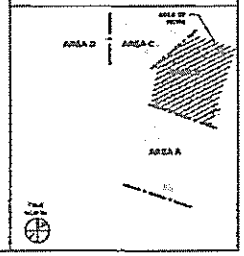
2. [illegible]

KEY NOTES

1. [illegible]

LOCATION KEY



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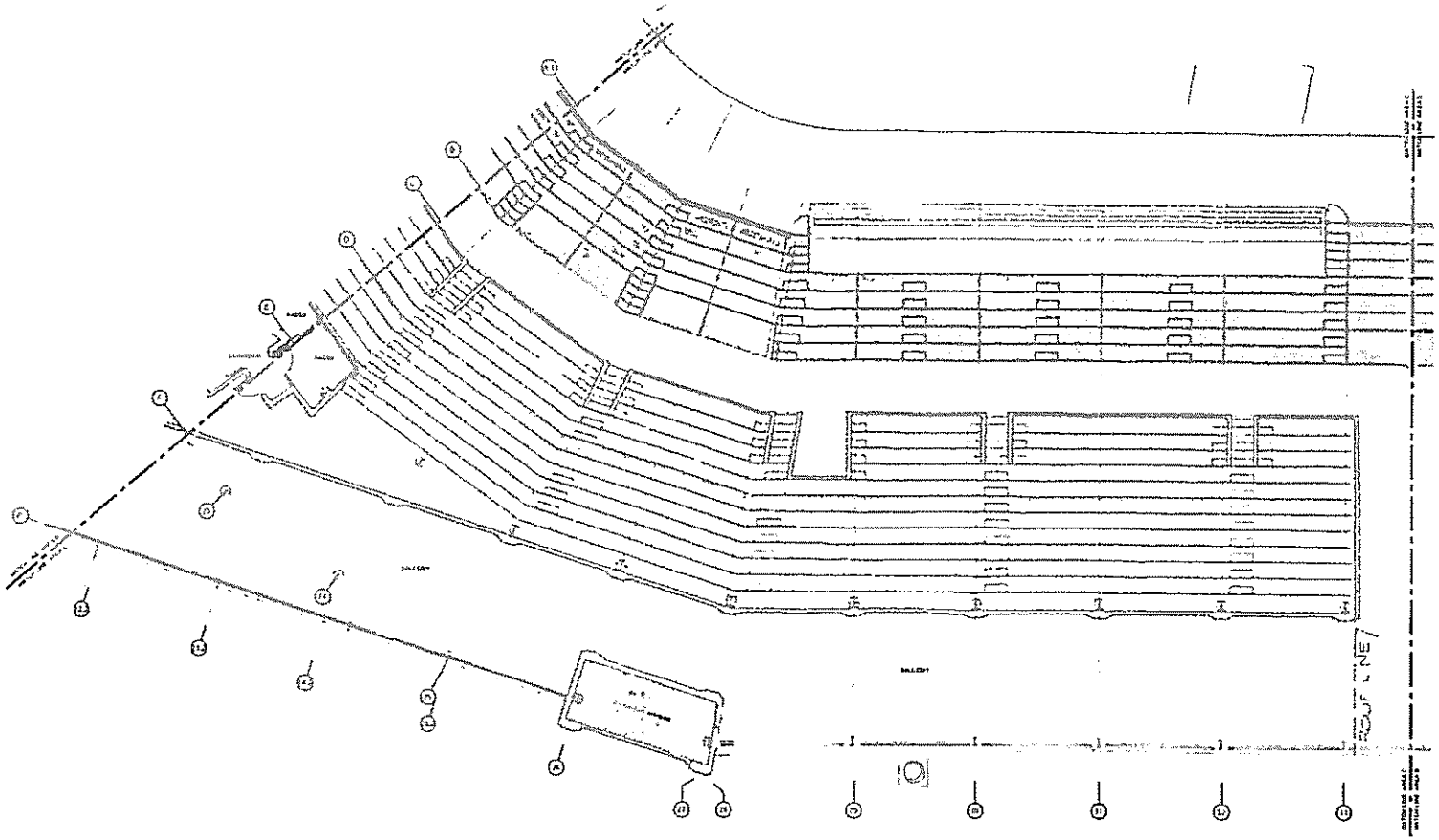
ELECTRICAL RENOVATIONS
CITY OF CHARLESTON
DEPARTMENT OF PARKS
SEATING BOWL LEVEL AREA B
ELECTRICAL FLOORPLAN

RFA SET

E-110

ELECTRICAL



1 SEATING BOWL LEVEL AREA C ELECTRICAL FLOORPLAN

GENERAL NOTES

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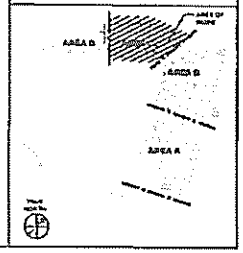
LOCATION KEY



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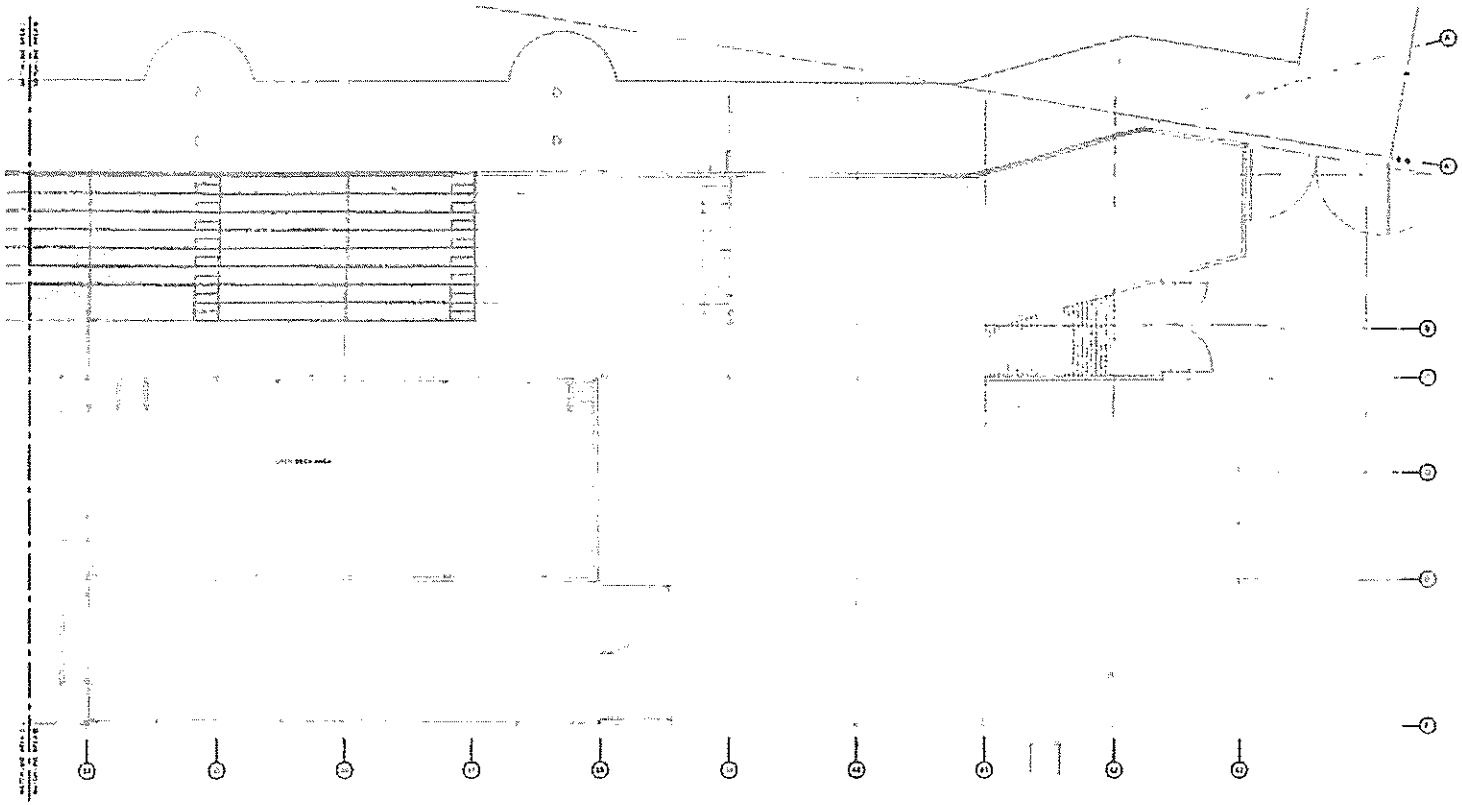
ELECTRICAL RENOVATIONS
CITY OF CHARLESTON,
DEPARTMENT OF PARKS
SEATING BOWL LEVEL AREA C
ELECTRICAL FLOORPLAN

E-111

ELECTRICAL

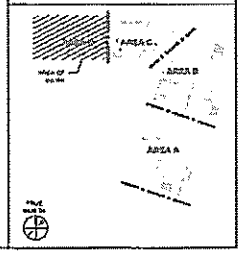
RFA SET



1 SEATING BOWL LEVEL AREA D ELECTRICAL FLOORPLAN

GENERAL NOTES

LOCATION KEY

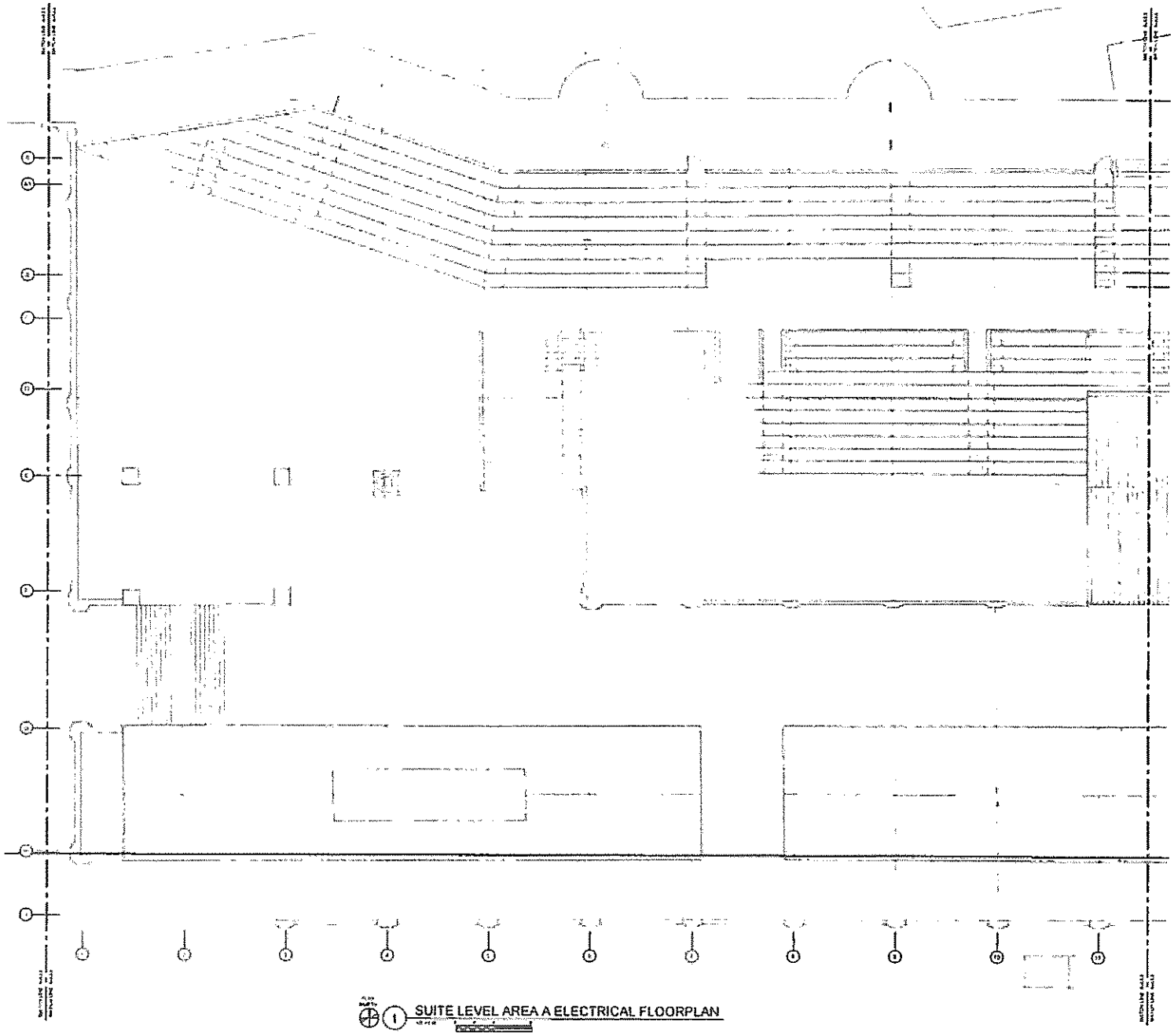


JOSEPH P. RILEY JR. PARK
ELECTRICAL RENOVATIONS
CITY OF CHARLESTON,
DEPARTMENT OF PARKS
SEATING LEVEL AREA D
ELECTRICAL FLOORPLAN

E-112

ELECTRICAL

RFA SET

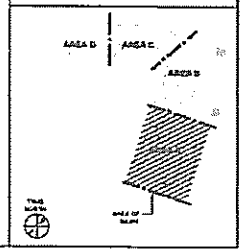


1 SUITE LEVEL AREA A ELECTRICAL FLOORPLAN

GENERAL NOTES

A. [illegible]

LOCATION KEY



RFA SET

NO.	DATE	DESCRIPTION

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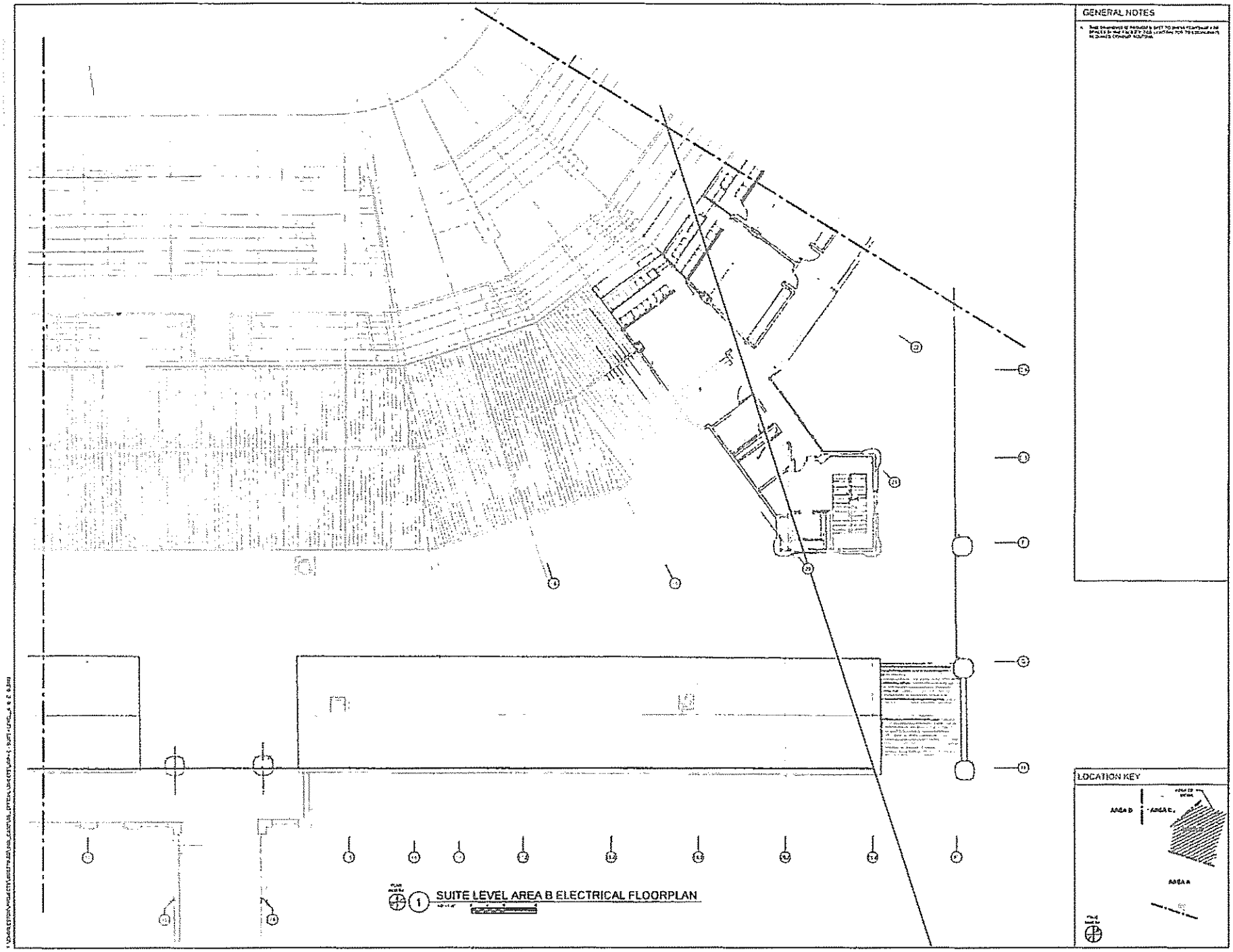
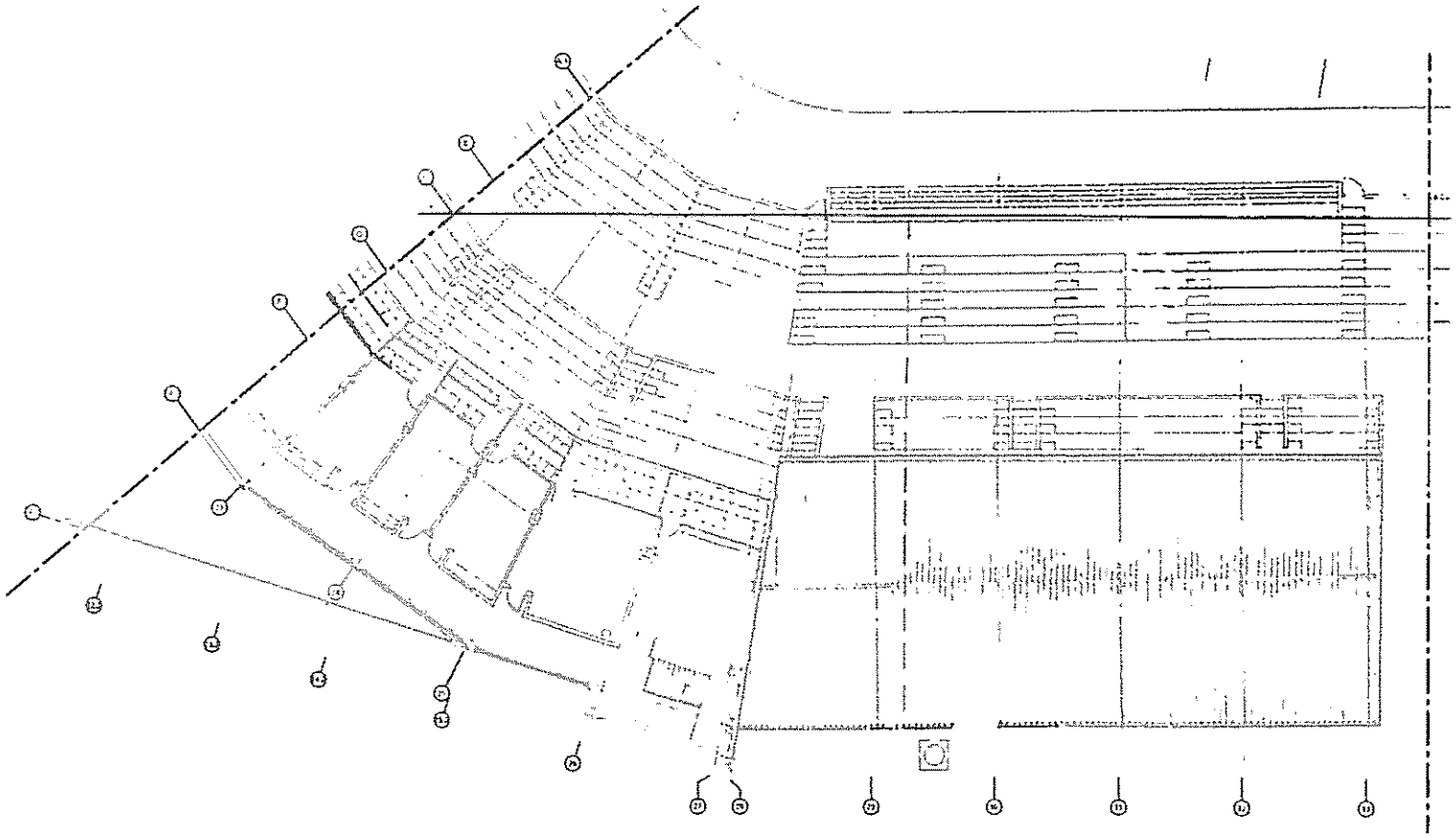
ELECTRICAL RENOVATIONS
CITY OF CHARLESTON
DEPARTMENT OF PARKS

SUITE LEVEL AREA A
ELECTRICAL FLOORPLAN

E-113

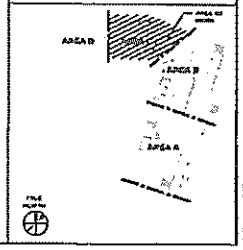

GENERAL NOTES
LOCATION KEY
AREA B
AREA C
AREA A
1 SUITE LEVEL AREA B ELECTRICAL FLOORPLAN
TY LIN INTERNATIONAL
JOSEPH P. RILEY JR. PARK
ELECTRICAL RENOVATIONS
CITY OF CHARLESTON,
DEPARTMENT OF PARKS
SUITE LEVEL AREA B
ELECTRICAL FLOORPLAN
E-114
ELECTRICAL
RFA SET



1 SUITE LEVEL AREA C ELECTRICAL FLOORPLAN

GENERAL NOTES

LOCATION KEY



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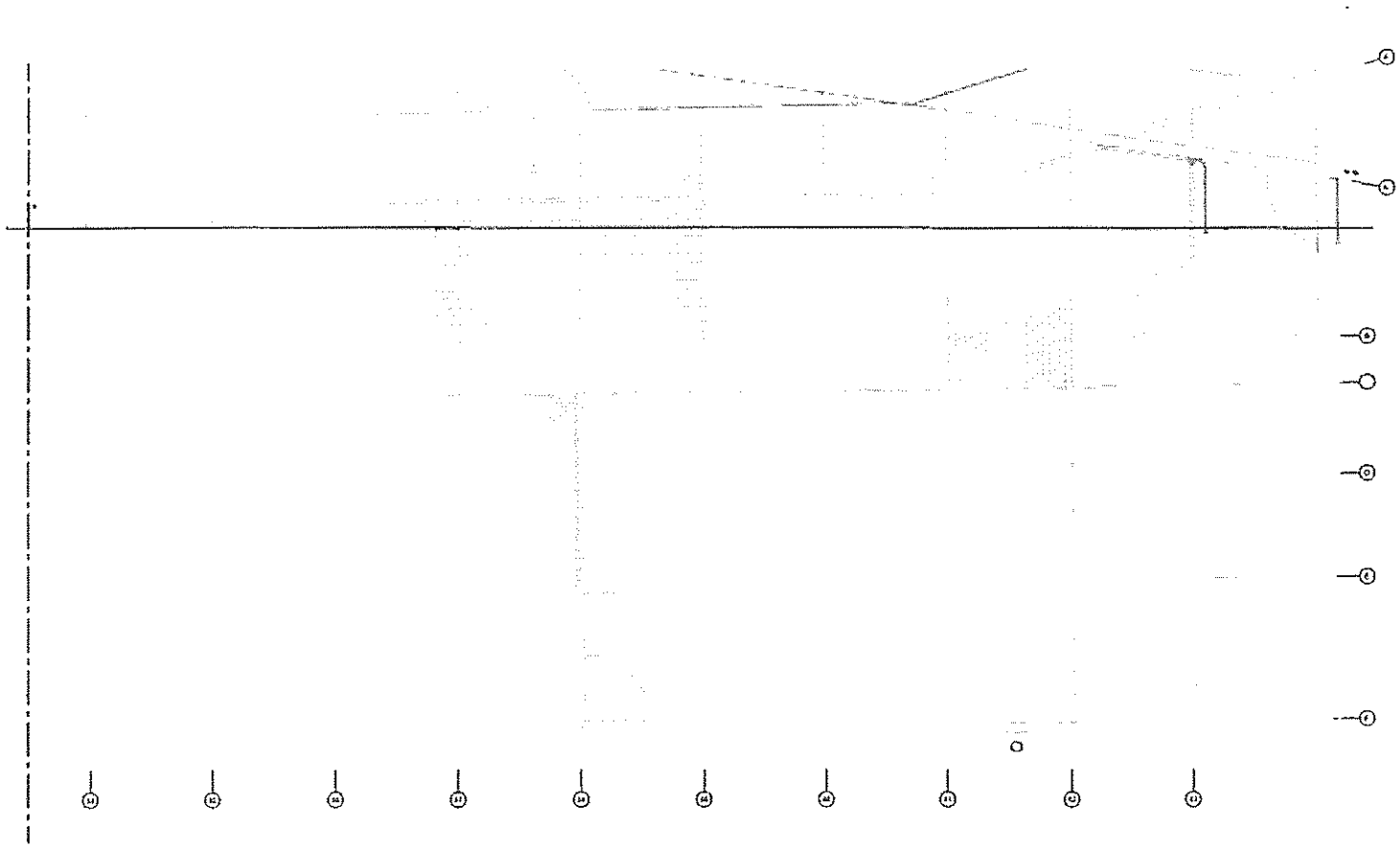
ELECTRICAL RENOVATIONS
CITY OF CHARLESTON,
DEPARTMENT OF PARKS
SUITE LEVEL AREA C
ELECTRICAL FLOORPLAN

RTA SET

E-115

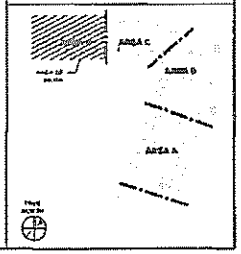
ELECTRICAL



1 SUITE LEVEL AREA D ELECTRICAL FLOORPLAN

GENERAL NOTES

LOCATION KEY



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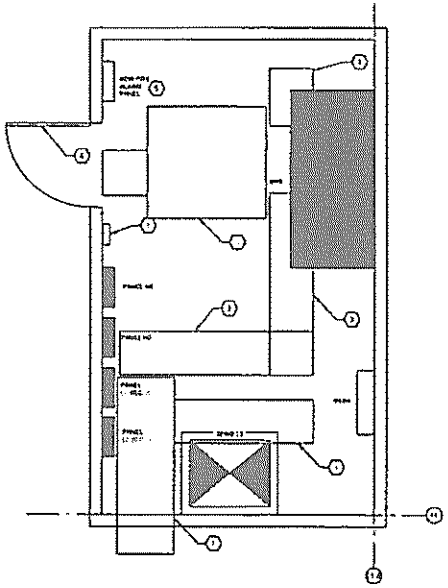
ELECTRICAL RENOVATIONS
CITY OF CHARLESTON,
DEPARTMENT OF PARKS

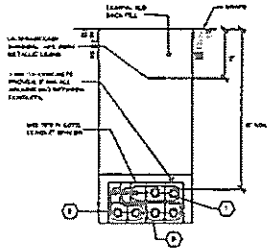
SUITE LEVEL AREA D
ELECTRICAL FLOORPLAN

E-116

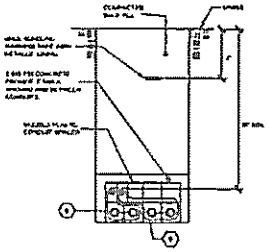
RTA KEY



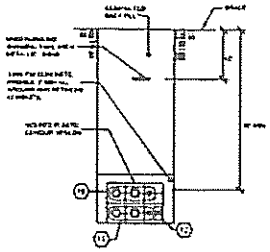
1 MAIN ELECTRICAL ROOM PLAN



A UNDERGROUND CONDUITS (SECTION)



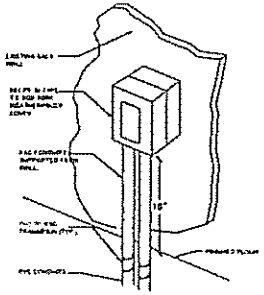
B UNDERGROUND CONDUITS (SECTION)



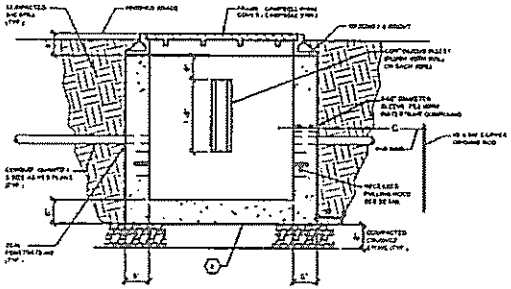
C UNDERGROUND CONDUITS (SECTION)

GENERAL NOTES

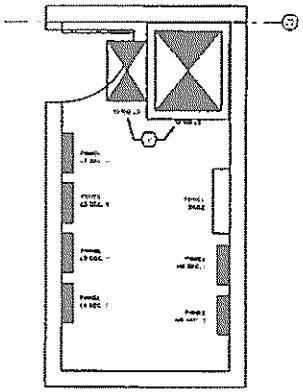
KEY NOTES



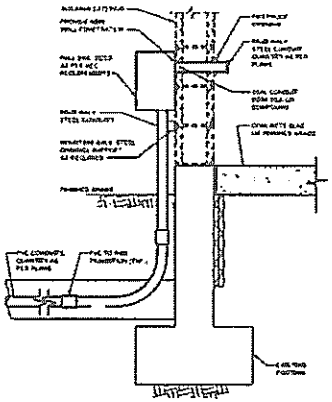
3 TYPICAL EXTERIOR RECEPTACLES MOUNTING DETAIL (ELEVATION)



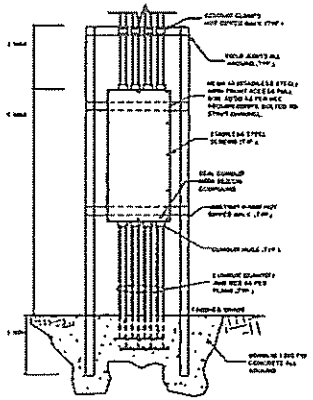
6 TYPICAL UNDERGROUND BOX DETAIL (ELEVATION)



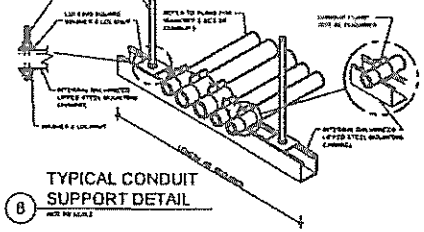
2 UPPER LEVEL ELECTRICAL ROOM PLAN



5 TYPICAL CONDUIT THROUGH WALL DETAIL (ELEVATION)



7 PULL BOX TYPICAL MOUNTING DETAIL (ELEVATION)



8 TYPICAL CONDUIT SUPPORT DETAIL

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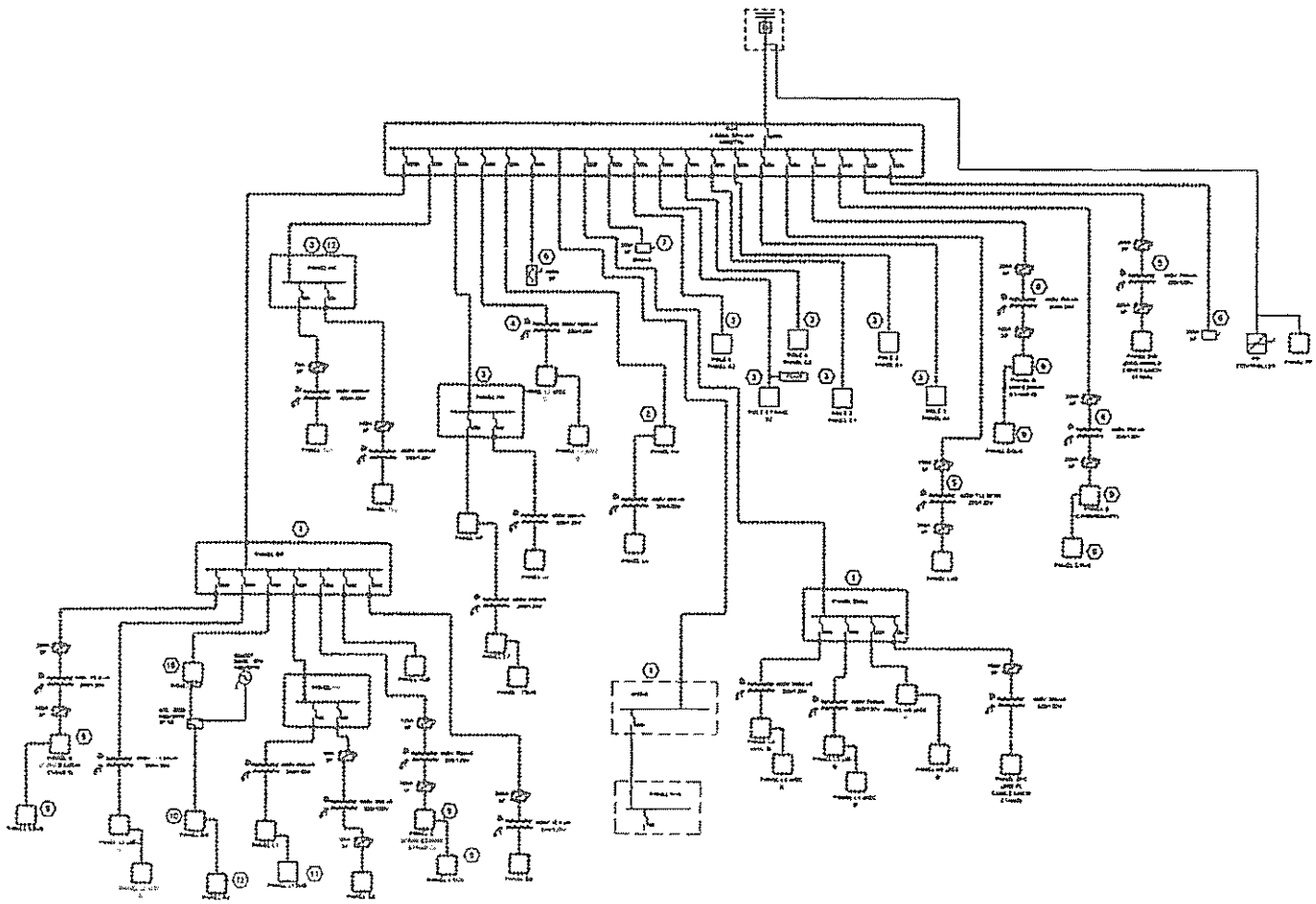
CITY OF CHARLESTON
DEPARTMENT OF PARKS

ENLARGED FLOOR PLANS AND DETAILS

E-401

ELECTRICAL

RFA SET



1 DEMOLITION - SINGLE LINE DIAGRAMS

NOT TO SCALE

GENERAL NOTES

A. REMOVE ALL PANELBOARDS, TRANSFORMERS, SWITCHGEAR, TRANSFORMER SWITCHGEAR, SWITCHES, AND ALL ELECTRICAL EQUIPMENT SHOWN TO BE REMOVED IN THIS PLAN. EQUIPMENT SHOWN TO BE REMOVED MAY ALSO NOTE OTHER REMOVE. SEE PANELBOARD SCHEDULES FOR SHOP DRAWING DETAILS.

B. DISCONNECTION SHALL BE PERFORMED BY PROPERLY TRAINED PERSONNEL FOR SAFETY OF CARE AND LEAVE AS BE TERMINATED AT THE FACILITY. ENSURE BUILDING AND SYSTEM OPERATION OF THE PROJECT BE REMOVED OF A SINGLE LINE FOR MULTIPLE FACILITY. ENSURE ALL REMOVAL WILL BE NEW DOWN LINE BREAKER FOR NEW INSTALL.

C. ELECTRICAL NEW PANELBOARDS, TRANSFORMERS, AND ELECTRICAL EQUIPMENT IN THE SAME LOCATION AS THE EXISTING EQUIPMENT UNLESS OTHERWISE NOTED.

D. SEE NEW SINGLE LINE DIAGRAM ON SHEET E-601 FOR PANELBOARD DETAILS.

KEY NOTES

1. RECONNECT NEW PANELBOARD TO NEW 'SWP'
2. PANELBOARD SHALL BE REPLACED WITH A SIMILAR PANELBOARD AND RECONNECTED TO NEW 'SWP'
3. RECONNECT NEW PANELBOARD TO EXISTING TERM PANELBOARD
4. RECONNECT NEW TRANSFORMER TO END TAPS 'SWP' PANELBOARD
5. RECONNECT NEW TRANSFORMER TO NEW PANELBOARD 'P'
6. RECONNECT ELECTRICAL EQUIPMENT TO NEW PANELBOARD 'P'
7. RECONNECT ELECTRICAL EQUIPMENT TO NEW PANELBOARD 'SP'
8. RECONNECT ELECTRICAL EQUIPMENT TO NEW PANELBOARD 'SP'
9. NEW LOCATED IN THE SAME PANELBOARD SHALL BE CONNECTED TO THE SINGLE FEED LOCATION
10. INSTALL NEW PANELBOARD AND ELECTRICAL EQUIPMENT AT NEW LOCATION
11. RELOCATE EXISTING PANELBOARD TO NEW LOCATION
12. PANELBOARD 'NP' IS NEW AND IS AS A PLUG SIZE FOR THE FEEDER REQUIRE NOT FEEDER FROM PANELBOARD 'NP'

REVISIONS					
NO	DATE	DESCRIPTION			

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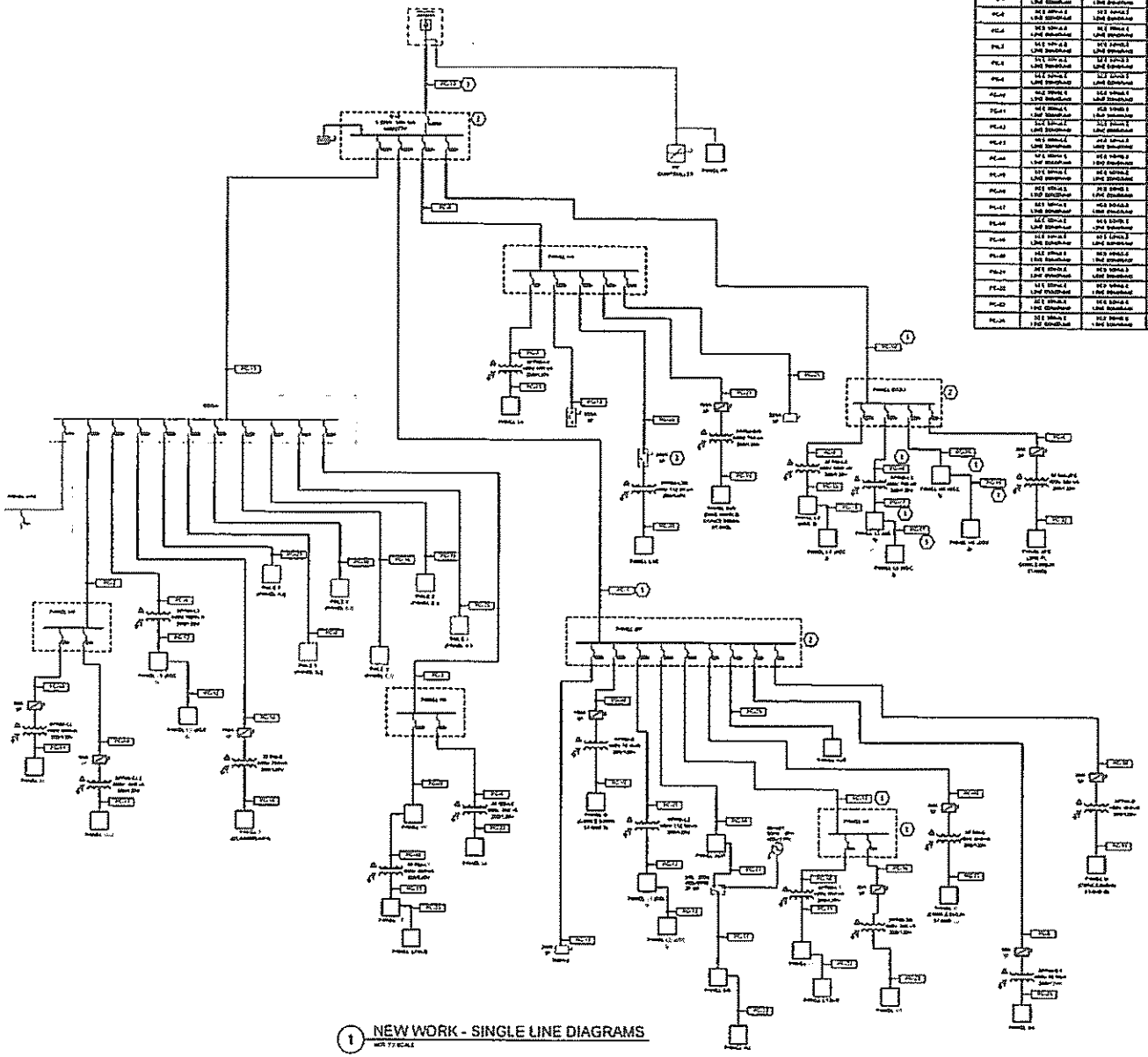
CITY OF CHARLESTON,
DEPARTMENT OF PARKS

DEMOLITION - SINGLE LINE DIAGRAMS

DRAWN BY: JAA
CHECKED BY: EJA
APPROVED BY: JAA

ED-601

BTA SET



1 NEW WORK - SINGLE LINE DIAGRAMS
NOT TO SCALE

PANEL & CIRCUIT - CONDUCTOR AND CONDUIT SCHEDULE					
DESIGNATION	FROM	TO	CONDUIT SIZE/TYPE	CONDUCTOR DETAILS	REMARKS
PC-1A	MCC 1PH-A-2 LINE SIDE/FUSE	MCC 1PH-A-2 LINE SIDE/FUSE	1" PVC	2-#12 THWN/THHN CU	
PC-2	MCC 1PH-A-1 LINE SIDE/FUSE	MCC 1PH-A-1 LINE SIDE/FUSE	1-1/4" PVC	2-#4 THWN/THHN CU & 1-#4 THWN GND	
PC-3	MCC 1PH-A-1 LINE SIDE/FUSE	MCC 1PH-A-1 LINE SIDE/FUSE	2" PVC	3-#4/0 THWN & 1-#4 THWN GND	
PC-5	MCC 1PH-A-2 LINE SIDE/FUSE	MCC 1PH-A-2 LINE SIDE/FUSE	2" PVC	4-#4/0 THWN & 1-#4 THWN GND	
PC-4	MCC 1PH-A-1 LINE SIDE/FUSE	MCC 1PH-A-1 LINE SIDE/FUSE	1" PVC	2-#12 THWN & 1-#12 THWN GND	
PC-6	MCC 1PH-A-1 LINE SIDE/FUSE	MCC 1PH-A-1 LINE SIDE/FUSE	1" PVC	2-#12 THWN & 1-#12 THWN GND	
PC-7	MCC 1PH-A-1 LINE SIDE/FUSE	MCC 1PH-A-1 LINE SIDE/FUSE	1-1/4" PVC	3-#8 THWN & 1-#8 THWN GND	
PC-8	MCC 1PH-A-1 LINE SIDE/FUSE	MCC 1PH-A-1 LINE SIDE/FUSE	1" PVC	2-#12 THWN & 1-#12 THWN GND	
PC-9	MCC 1PH-A-1 LINE SIDE/FUSE	MCC 1PH-A-1 LINE SIDE/FUSE	1" PVC	2-#12 THWN & 1-#12 THWN GND	
PC-10	MCC 1PH-A-1 LINE SIDE/FUSE	MCC 1PH-A-1 LINE SIDE/FUSE	1-1/4" PVC	3-#8 THWN & 1-#8 THWN GND	
PC-11	MCC 1PH-A-1 LINE SIDE/FUSE	MCC 1PH-A-1 LINE SIDE/FUSE	2" PVC	4-#4/0 THWN & 1-#4 THWN GND	
PC-12	MCC 1PH-A-1 LINE SIDE/FUSE	MCC 1PH-A-1 LINE SIDE/FUSE	2" PVC	4-#4/0 THWN & 1-#4 THWN GND	
PC-13	MCC 1PH-A-1 LINE SIDE/FUSE	MCC 1PH-A-1 LINE SIDE/FUSE	1-1/2" PVC	3-#6 THWN & 1-#6 THWN GND	
PC-14	MCC 1PH-A-1 LINE SIDE/FUSE	MCC 1PH-A-1 LINE SIDE/FUSE	2" PVC	4-#4/0 THWN & 1-#4 THWN GND	
PC-15	MCC 1PH-A-1 LINE SIDE/FUSE	MCC 1PH-A-1 LINE SIDE/FUSE	2" PVC	4-#4/0 THWN & 1-#4 THWN GND	
PC-16	MCC 1PH-A-1 LINE SIDE/FUSE	MCC 1PH-A-1 LINE SIDE/FUSE	2" PVC	4-#4/0 THWN & 1-#4 THWN GND	
PC-17	MCC 1PH-A-1 LINE SIDE/FUSE	MCC 1PH-A-1 LINE SIDE/FUSE	1-1/4" PVC	3-#8 THWN & 1-#8 THWN GND	
PC-18	MCC 1PH-A-1 LINE SIDE/FUSE	MCC 1PH-A-1 LINE SIDE/FUSE	1-1/2" PVC	3-#6 THWN & 1-#6 THWN GND	
PC-19	MCC 1PH-A-1 LINE SIDE/FUSE	MCC 1PH-A-1 LINE SIDE/FUSE	2" PVC	4-#4/0 THWN & 1-#4 THWN GND	
PC-20	MCC 1PH-A-1 LINE SIDE/FUSE	MCC 1PH-A-1 LINE SIDE/FUSE	2" PVC	4-#4/0 THWN & 1-#4 THWN GND	
PC-21	MCC 1PH-A-1 LINE SIDE/FUSE	MCC 1PH-A-1 LINE SIDE/FUSE	2" PVC	4-#4/0 THWN & 1-#4 THWN GND	
PC-22	MCC 1PH-A-1 LINE SIDE/FUSE	MCC 1PH-A-1 LINE SIDE/FUSE	1-1/4" PVC	3-#8 THWN & 1-#8 THWN GND	
PC-23	MCC 1PH-A-1 LINE SIDE/FUSE	MCC 1PH-A-1 LINE SIDE/FUSE	2" PVC	4-#4/0 THWN & 1-#4 THWN GND	
PC-24	MCC 1PH-A-1 LINE SIDE/FUSE	MCC 1PH-A-1 LINE SIDE/FUSE	2" PVC	4-#4/0 THWN & 1-#4 THWN GND	

GENERAL NOTES

A. CONTRACTOR SHALL PROVIDE TS SPECIALLY FORTABLE 3 TANDEM 1-4000 W/ 5-20 TRANSFER EQUIPMENT TO TEMPORARY POWER AND ALL OF OUR ELECTRICAL EQUIPMENT TO PROVIDE TS SPECIALLY POWER TO AND ELECTRICAL CIRCUITS 2 CONDUIT 20 CONDUIT FOR THE LIGHTING FOR THE 1 CIRCUIT ON THE 20 OF PORTABLE SIGNAL FOR TOTAL ESTIMATE AND ONE SIGNAL FOR SECURITY PURPOSES ONLY.

B. ALL NEW ELECTRICAL EQUIPMENT (PANELBOARDS, TRANSFORMERS 3 DISCONNECT SWITCHES 3 SURGE ETC. 1 PART AND FOR ALL REFER TO ELECTRICAL EQUIPMENT. EACH PANELBOX SHALL BE SPECIFICALLY FOR COMPLIANCE THE REQUIRE 3 DISCONNECT TO THAT NEW EQUIPMENT WILL BE IN THE SPECIFIED SPACE.

KEY NOTES

1. REMOVE EXISTING LUMINAIRE
2. PROVIDE TS TEMPORARY POWER TO THE ZONE AS NOTE A
3. SHALL BE PROVIDED WITH A NEMA 4X STAINLESS STEEL ENCLOSURE

TYLIN INTERNATIONAL

JOSEPH P. RILEY JR. PARK
ELECTRICAL RENOVATIONS
CITY OF CHARLESTON,
DEPARTMENT OF PARKS

NEW WORK - SINGLE LINE DIAGRAMS

RTA SET

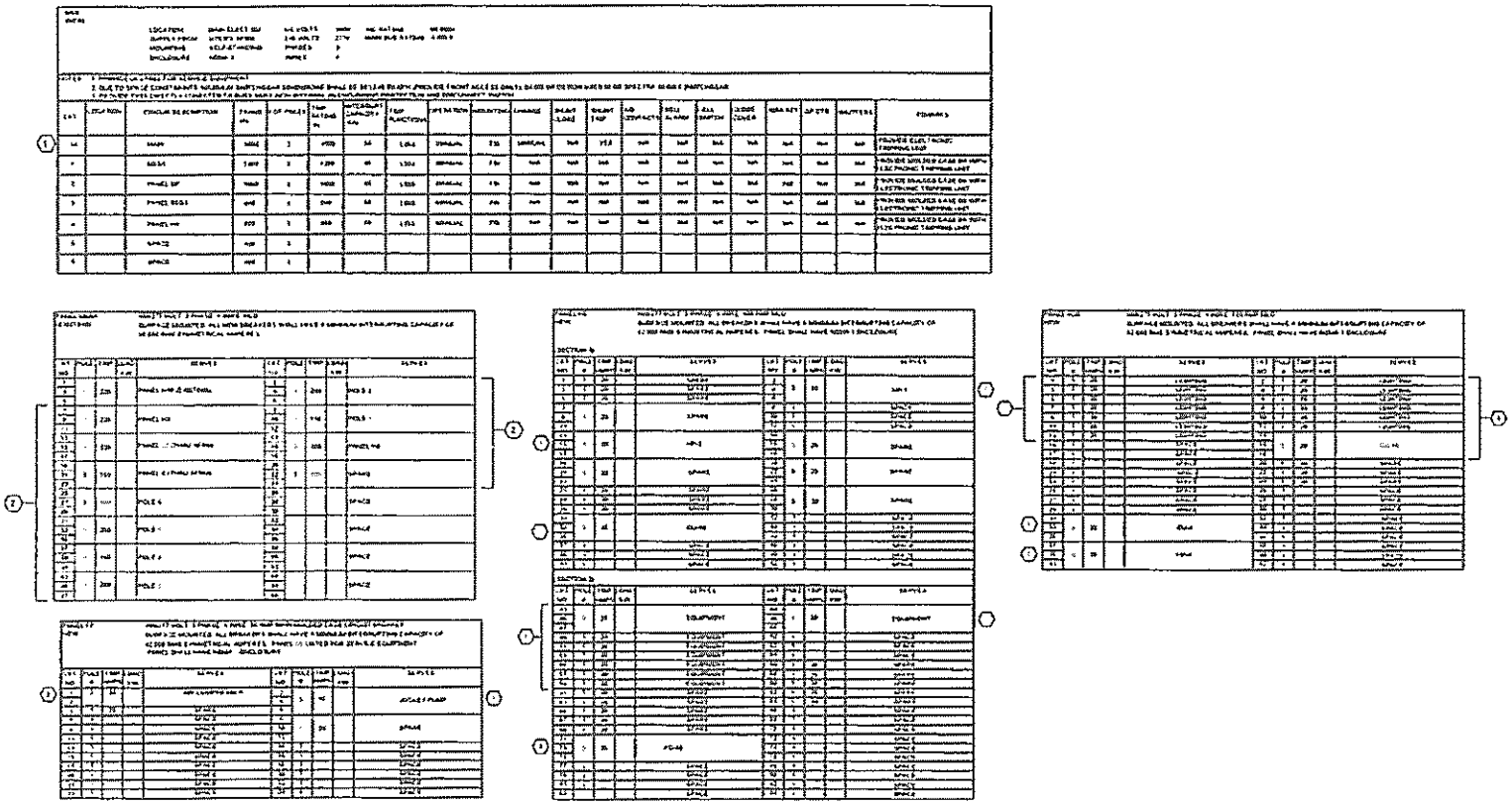
E-601

GENERAL NOTES

[illegible]

KEY NOTES

[illegible]



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DEPARTMENT OF PARKS

ELECTRICAL SCHEDULES

E-701

ELECTRICAL

RTA SET

GENERAL NOTES

1. CONTRACTOR SHALL PERFORM A THOROUGH INSPECTION OF ALL EXISTING SITE CONDITIONS PRIOR TO BIDDING. CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS PRIOR TO PROCEEDING WITH WORK. ANY DISCREPANCIES SHALL BE REPORTED TO ENGINEER PRIOR TO PROCEEDING WITH WORK. CONTRACTOR SHALL PROVIDE ALL NECESSARY SUPPLEMENTARY MATERIALS AND LABOR FOR ALL INSTALLATIONS.

KEY NOTES

1. EXISTING LIGHTING FIXTURE TO REMAIN. REMOVE EXISTING LAMPS AND BALLASTS. PROVIDE NEW LAMPS AND BALLASTS TO EQUIPMENT LIGHTING LEVELS.
2. PROVIDE SHUNT TRIP BREAKER FOR EXHAUST FAN TO FIRE PANEL.

PANEL	VOLTS	PHASE	WIRE	MAIN	MOUNTING
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

CKT NO	POLES	TRIP AMPS	CONDUCTOR SIZE	SERVICE	CKT NO	POLES	TRIP AMPS	CONDUCTOR SIZE	SERVICE
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

PANEL	VOLTS	PHASE	WIRE	MAIN	MOUNTING
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CKT NO	POLES	TRIP AMPS	CONDUCTOR SIZE	SERVICE	CKT NO	POLES	TRIP AMPS	CONDUCTOR SIZE	SERVICE
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PANEL	VOLTS	PHASE	WIRE	MAIN	MOUNTING
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PANEL	VOLTS	PHASE	WIRE	MAIN	MOUNTING
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CKT NO	POLES	TRIP AMPS	CONDUCTOR SIZE	SERVICE	CKT NO	POLES	TRIP AMPS	CONDUCTOR SIZE	SERVICE
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PANEL	VOLTS	PHASE	WIRE	MAIN	MOUNTING
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

CKT NO	POLES	TRIP AMPS	CONDUCTOR SIZE	SERVICE	CKT NO	POLES	TRIP AMPS	CONDUCTOR SIZE	SERVICE
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PANEL	VOLTS	PHASE	WIRE	MAIN	MOUNTING
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PANEL	VOLTS	PHASE	WIRE	MAIN	MOUNTING
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PANEL	VOLTS	PHASE	WIRE	MAIN	MOUNTING
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PANEL	VOLTS	PHASE	WIRE	MAIN	MOUNTING
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PANEL	VOLTS	PHASE	WIRE	MAIN	MOUNTING
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

CKT NO	POLES	TRIP AMPS	CONDUCTOR SIZE	SERVICE	CKT NO	POLES	TRIP AMPS	CONDUCTOR SIZE	SERVICE
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PANEL	VOLTS	PHASE	WIRE	MAIN	MOUNTING
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

CKT NO	POLES	TRIP AMPS	CONDUCTOR SIZE	SERVICE	CKT NO	POLES	TRIP AMPS	CONDUCTOR SIZE	SERVICE
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REVISIONS	
[illegible]	[illegible]

TYLIN INTERNATIONAL

[illegible]

JOSEPH P. RILEY JR. PARK
ELECTRICAL RENOVATIONS
CITY OF CHARLESTON,
DEPARTMENT OF PARKS

ELECTRICAL SCHEDULES

RTA SET

E-702

ELECTRICAL

GENERAL NOTES

4. CONTRACTOR SHALL PERFORM A INSPECTION AND A [illegible] OF ALL BRANCH CIRCUIT WIRE ON ALL [illegible] PRIOR TO BID. CONTACT TYLIN INTERNATIONAL OFFICE TO [illegible] PANEL SCHEDULE OF OTHER TO PROVIDE NEW BRANCH WIRE TO PANEL BOARD [illegible] FOR ALL PANELBOARDS.

① KEY NOTES

1. EXTEND CONDUIT FROM EXISTING CONDUIT TERMINATION AT [illegible] TO NEW PANELBOARD AS NEEDED TO RECONNECT EXISTING LOADS.

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SECTION ZZ

REVISIONS	
DATE	DESCRIPTION

TYLIN INTERNATIONAL

JOSEPH P. RILEY JR. PARK
ELECTRICAL RENOVATIONS
CITY OF CHARLESTON
DEPARTMENT OF PARKS

ELECTRICAL SCHEDULES

E-703

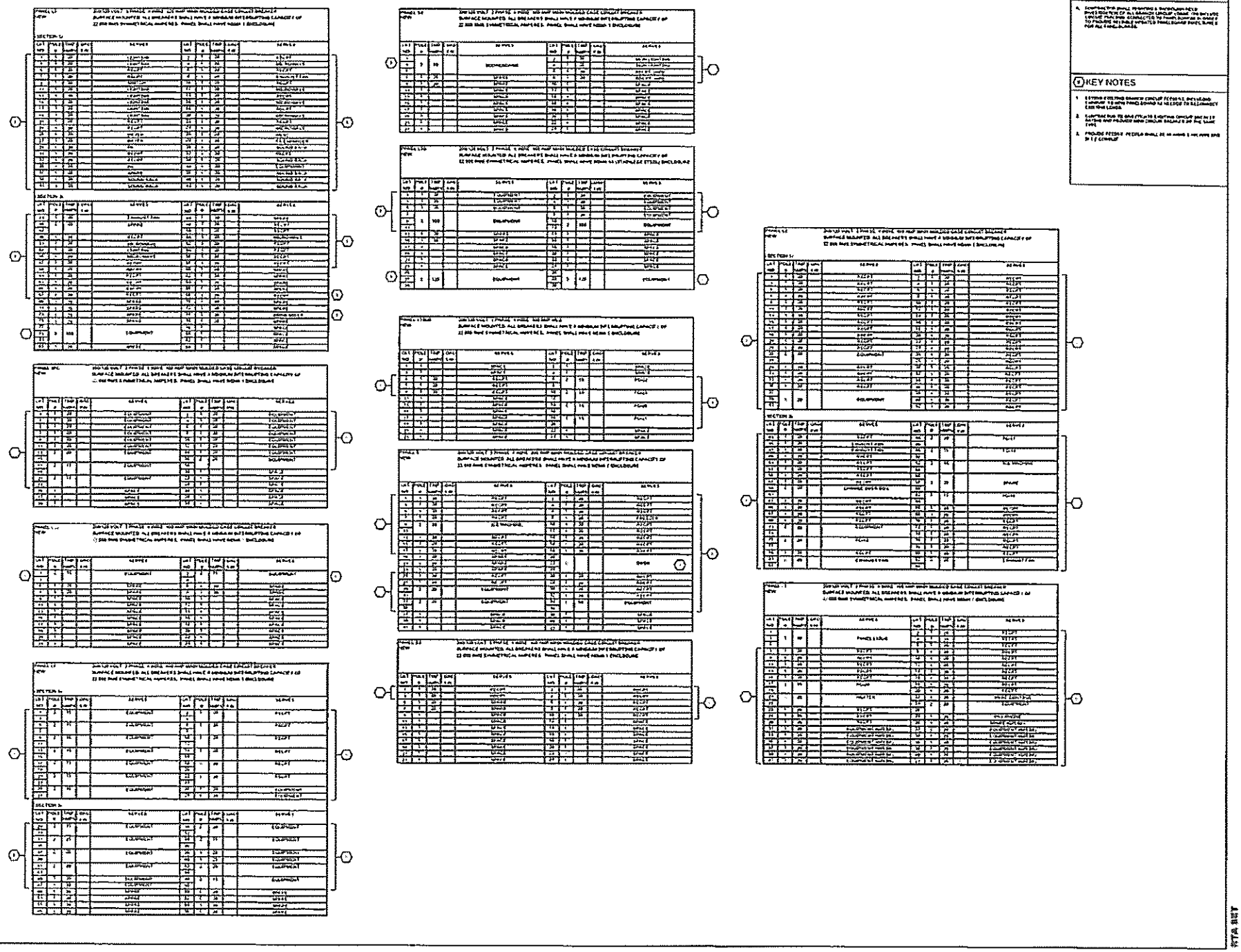
ELECTRICAL

GENERAL NOTES

1. [illegible]

KEY NOTES

1. [illegible]
2. [illegible]
3. [illegible]



TYLIN INTERNATIONAL

JOSEPH P. RILEY JR. PARK
ELECTRICAL RENOVATIONS
CITY OF CHARLESTON,
DEPARTMENT OF PARKS

ELECTRICAL SCHEDULES

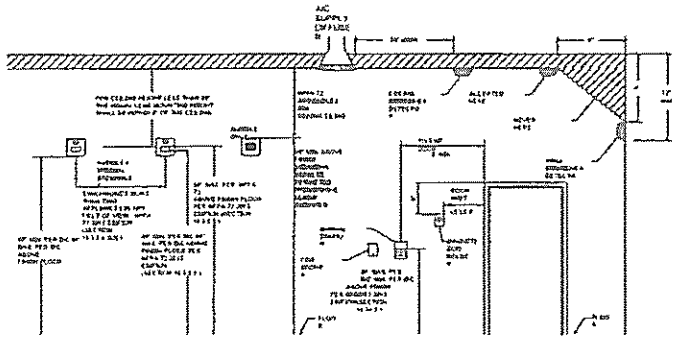
AS NOTED

E-704

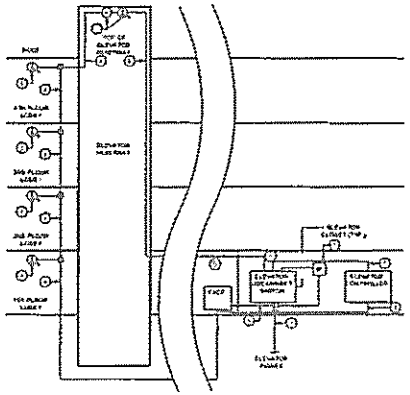
ELECTRICAL

FIRE ALARM GENERAL NOTES

FIRE ALARM LEGEND



1 FIRE ALARM DEVICE MOUNTING DETAIL



2 ELEVATOR FIRE ALARM CONNECTION DIAGRAM

JOSEPH P. RILEY JR. PARK
ELECTRICAL RENOVATIONS
CITY OF CHARLESTON,
DEPARTMENT OF PARKS

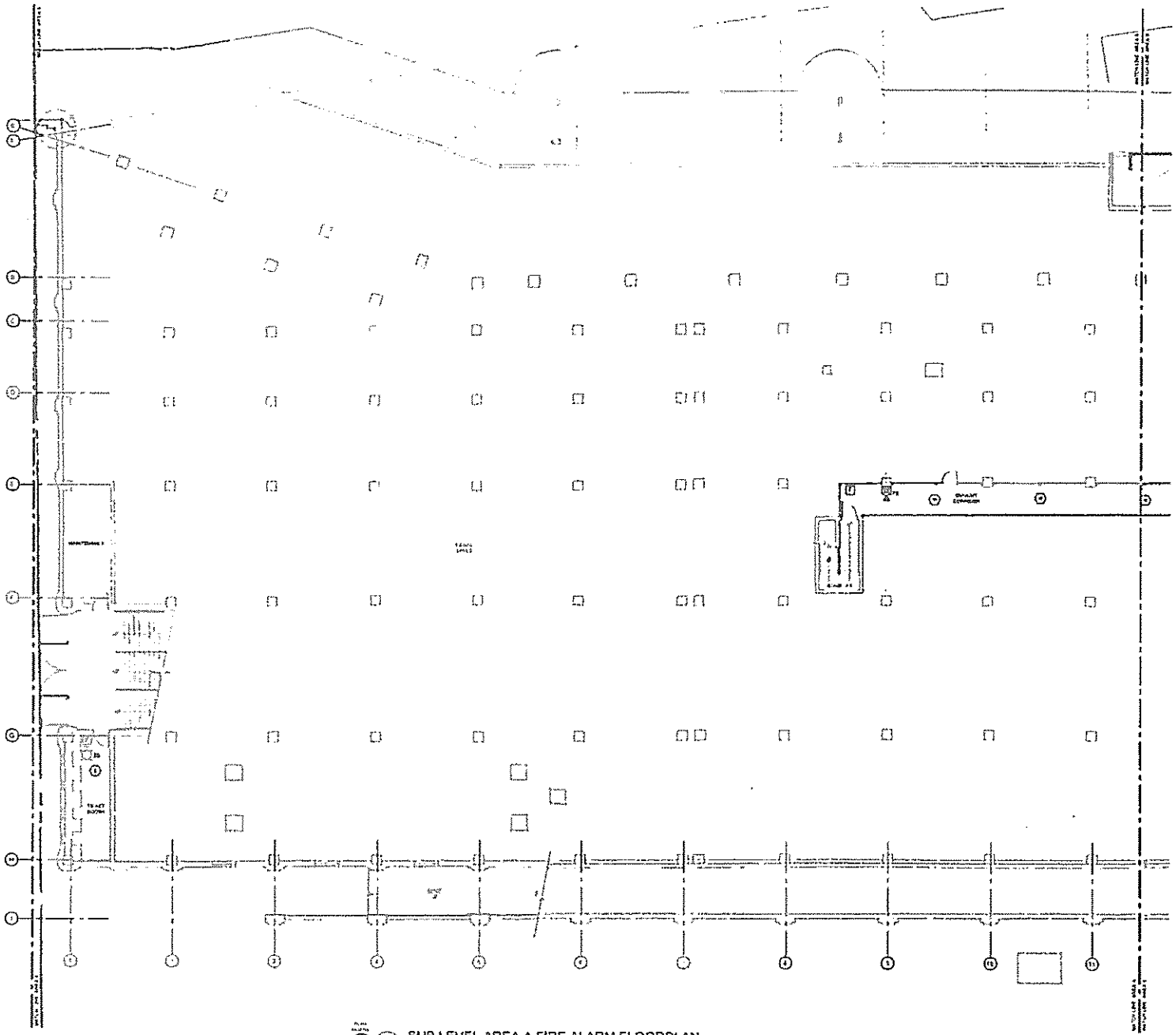
ABBRIVATIONS, LEGEND, SYMBOLS AND NOTES

TYLIN INTERNATIONAL

RTA SET

FA-001

FIRE ALARM

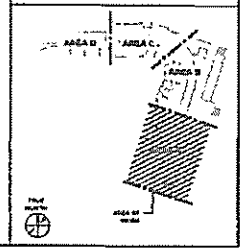


1 SUB LEVEL AREA A FIRE ALARM FLOORPLAN

GENERAL NOTES

KEY NOTES

LOCATION KEY



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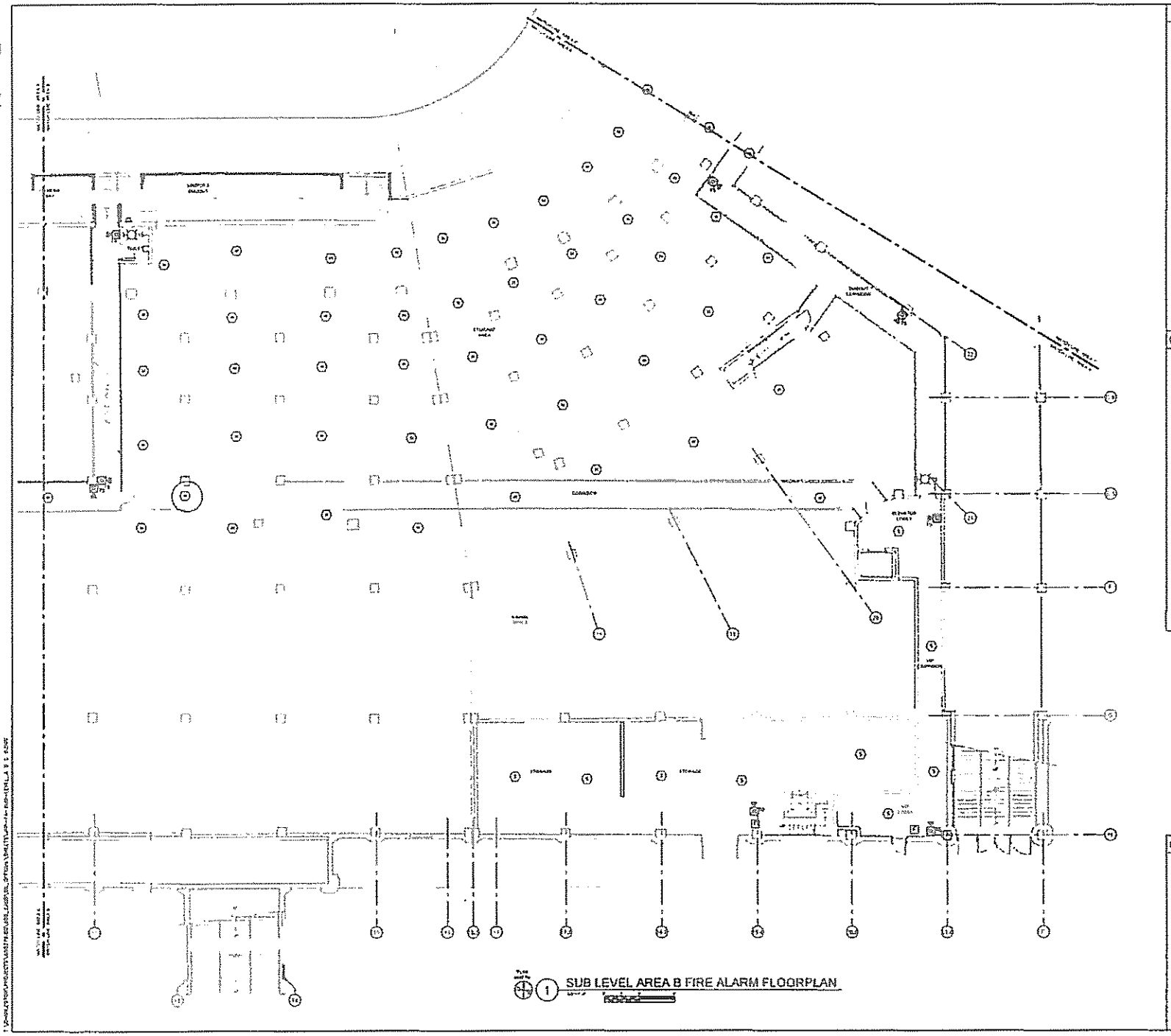
JOSEPH P. RILEY JR. PARK
ELECTRICAL RENOVATIONS
CITY OF CHARLESTON,
DEPARTMENT OF PARKS

SUB LEVEL AREA A
FIRE ALARM FLOORPLAN

FA-101

FIRE ALARM

RFA SET

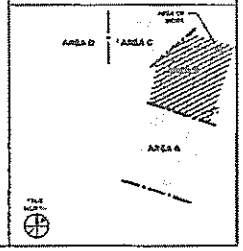


1 SUB LEVEL AREA B FIRE ALARM FLOORPLAN

GENERAL NOTES

KEY NOTES

LOCATION KEY



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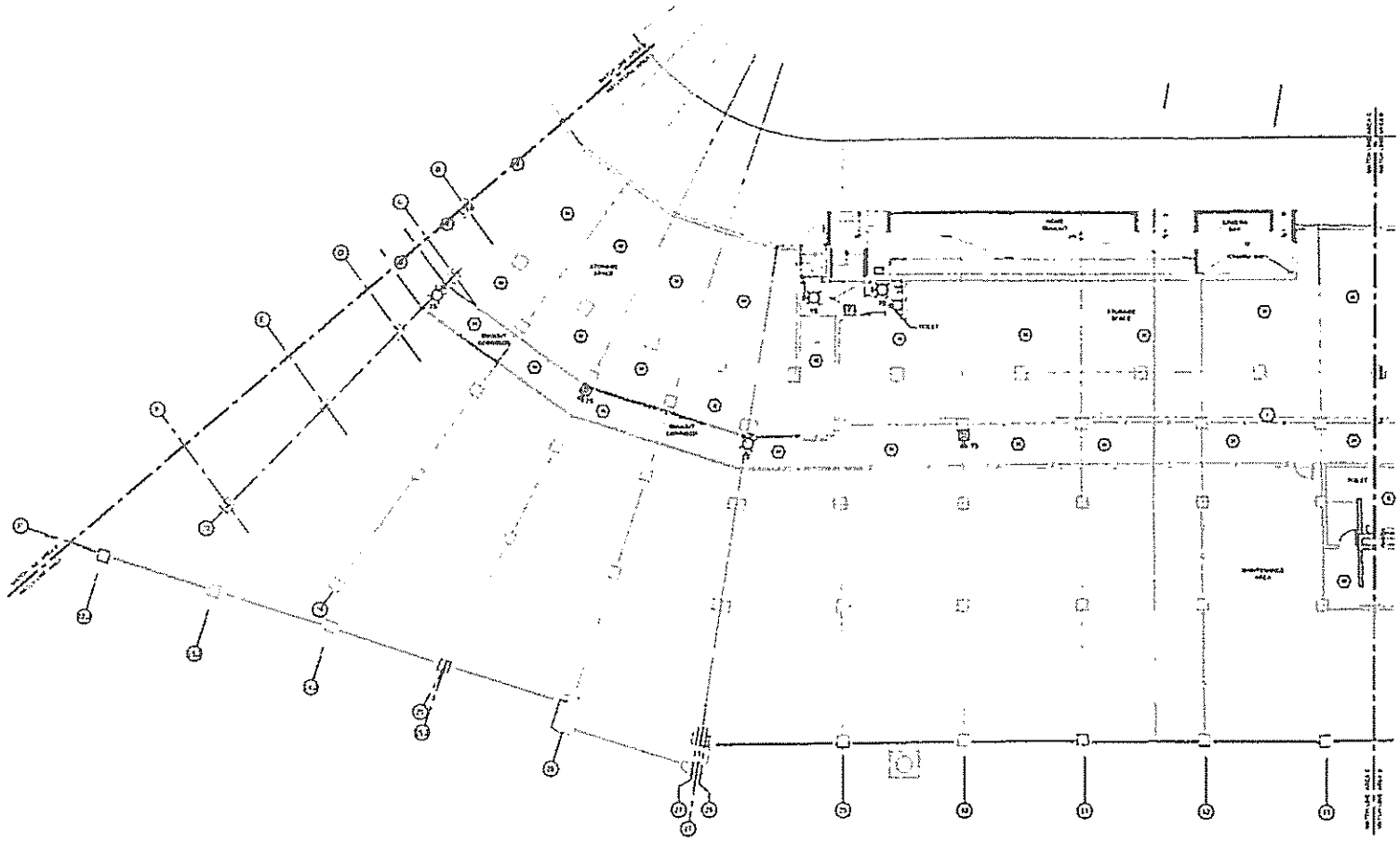
JOSEPH P. RILEY JR. PARK
ELECTRICAL RENOVATIONS
CITY OF CHARLESTON,
DEPARTMENT OF PARKS
SUB LEVEL AREA B
FIRE ALARM FLOORPLAN

FA-102

FIRE ALARM

RTA SET

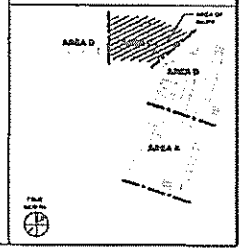


1 SUB LEVEL AREA C FIRE ALARM FLOORPLAN

GENERAL NOTES

KEY NOTES

LOCATION KEY



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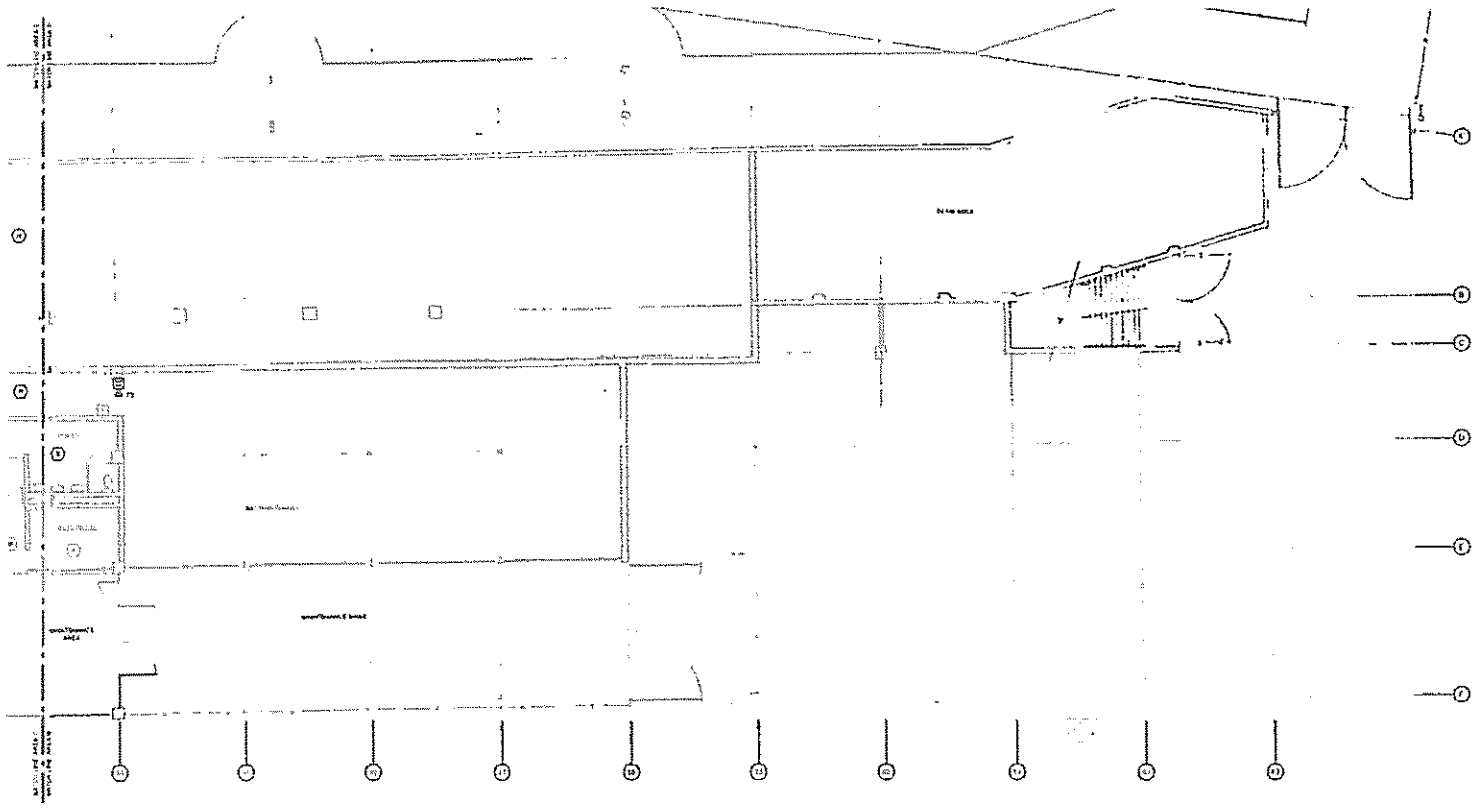
JOSEPH P. RILEY JR. PARK
ELECTRICAL RENOVATIONS
CITY OF CHARLESTON,
DEPARTMENT OF PARKS
SUB LEVEL AREA C
FIRE ALARM FLOORPLAN

FA-103

FIRE ALARM

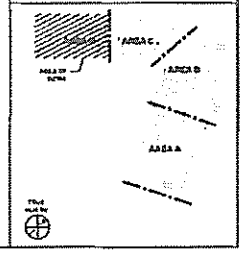
RTA SET



1 SUB LEVEL AREA D FIRE ALARM FLOORPLAN

GENERAL NOTES

LOCATION KEY



TYLIN INTERNATIONAL

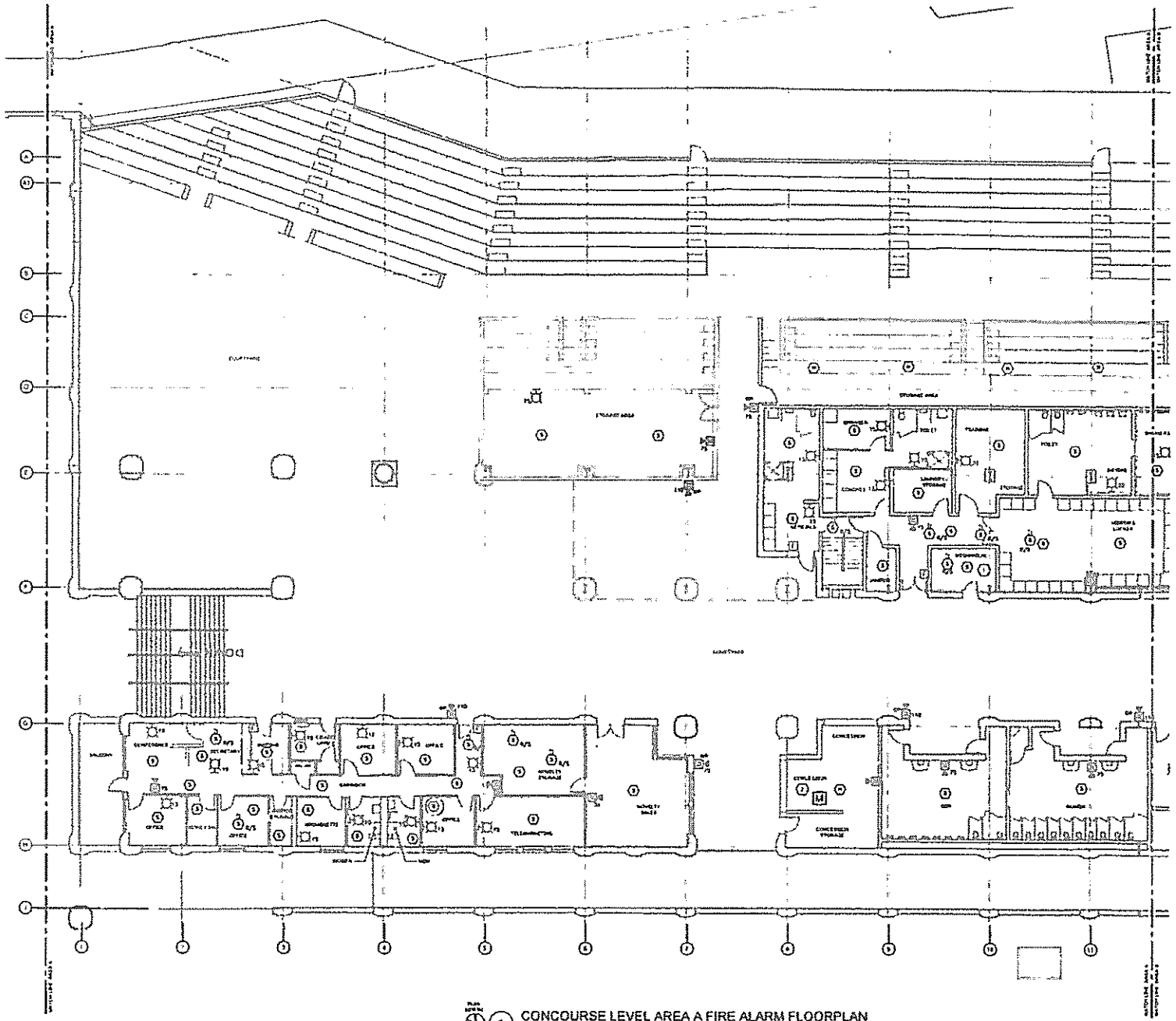
JOSEPH P. RILEY JR. PARK
ELECTRICAL RENOVATIONS
CITY OF CHARLESTON,
DEPARTMENT OF PARKS

SUB LEVEL AREA D
FIRE ALARM FLOORPLAN

FA-104

FIRE ALARM

RTA SET

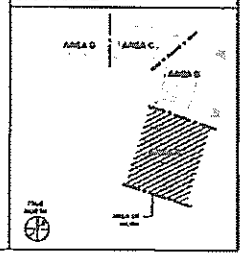


1 CONCOURSE LEVEL AREA A FIRE ALARM FLOORPLAN

GENERAL NOTES

KEY NOTES

LOCATION KEY



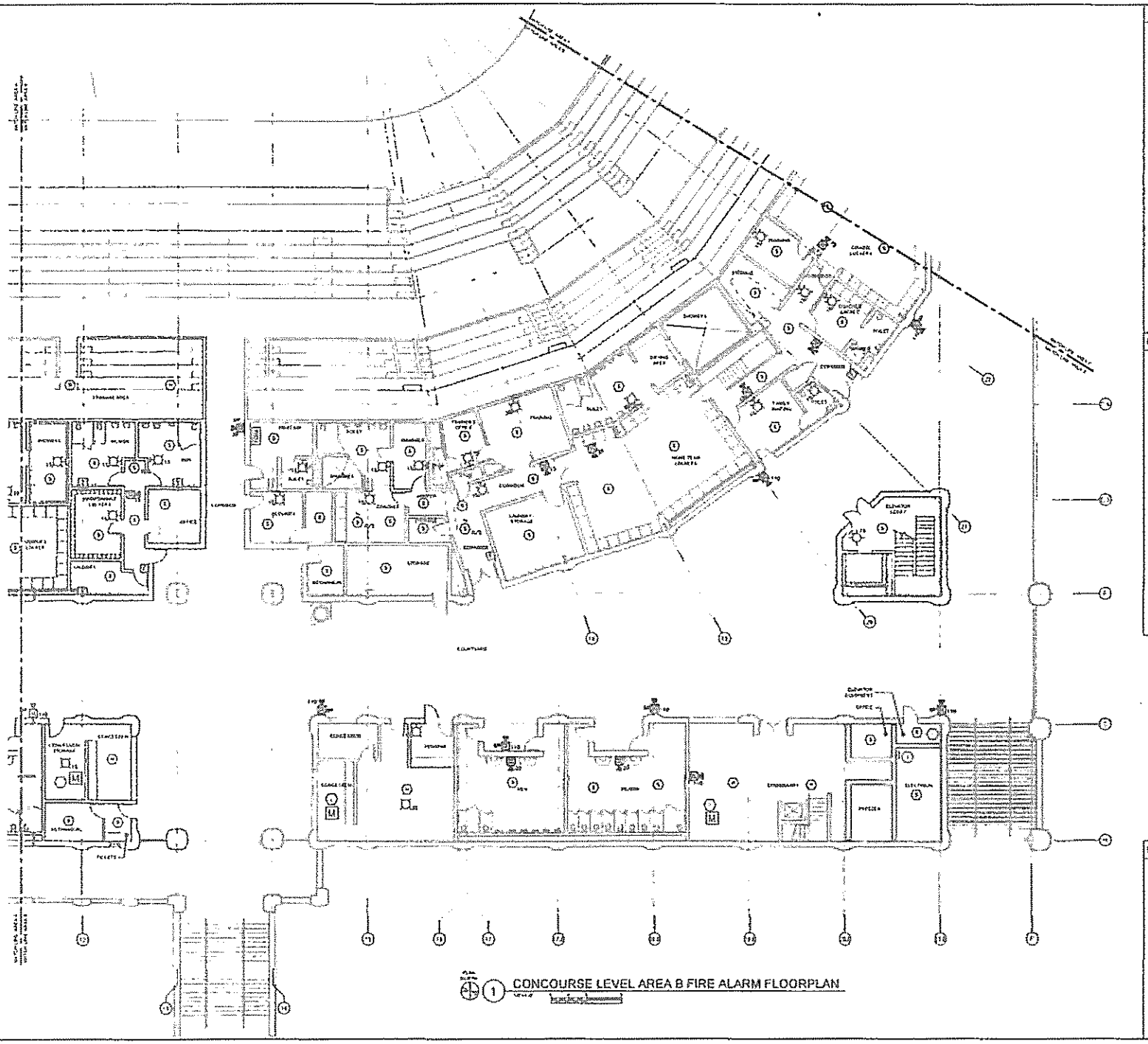
TYLIN INTERNATIONAL

JOSEPH P. RILEY JR. PARK
ELECTRICAL RENOVATIONS
CITY OF CHARLESTON,
DEPARTMENT OF PARKS
CONCOURSE LEVEL AREA A
FIRE ALARM FLOORPLAN

FA-105

FIRE ALARM

RTA SET

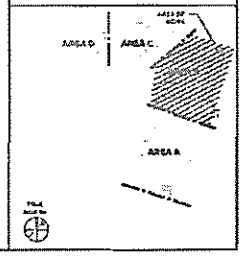


1 CONCOURSE LEVEL AREA B FIRE ALARM FLOORPLAN

GENERAL NOTES

KEY NOTES

LOCATION KEY



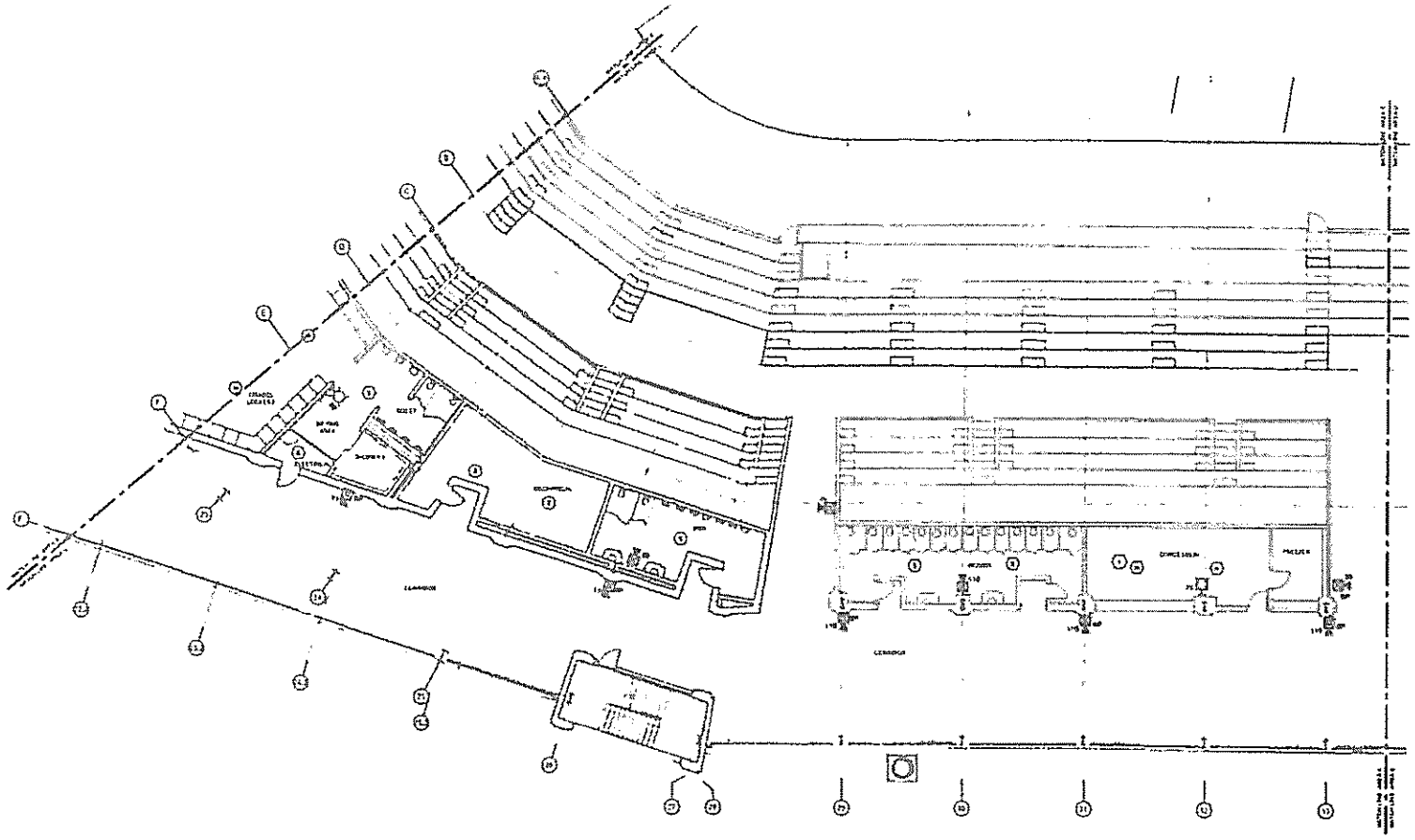
TYLIN INTERNATIONAL

JOSEPH P. RILEY JR. PARK
ELECTRICAL RENOVATIONS
CITY OF CHARLESTON,
DEPARTMENT OF PARKS
CONCOURSE LEVEL AREA B
FIRE ALARM FLOORPLAN

RFA SET

FA-103

FIRE ALARM

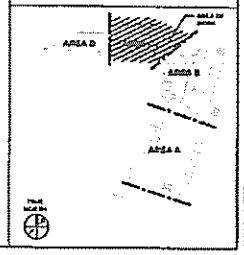


1 CONCOURSE LEVEL AREA C FIRE ALARM FLOORPLAN

GENERAL NOTES

KEY NOTES

LOCATION KEY

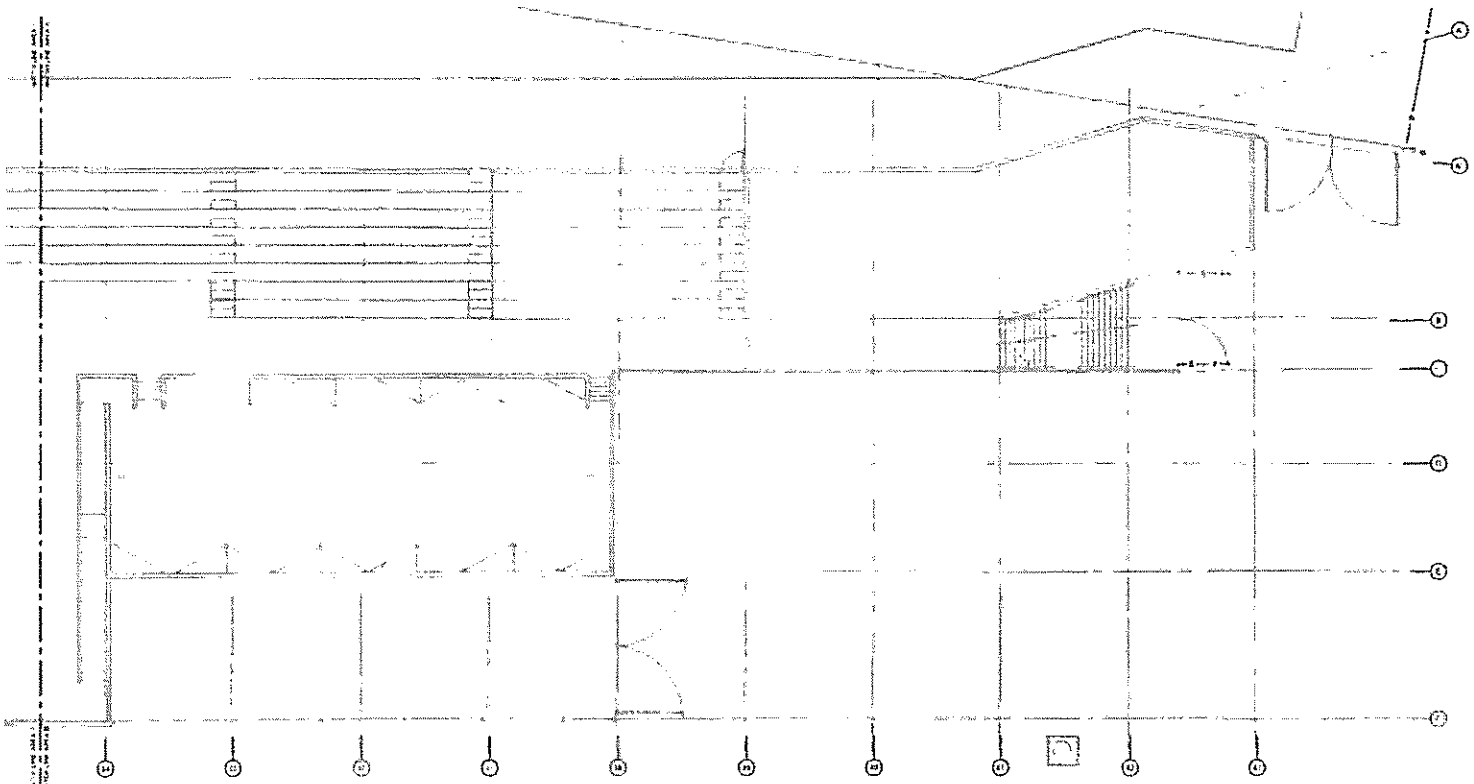


TYLIN INTERNATIONAL

JOSEPH P. RILEY JR. PARK
ELECTRICAL RENOVATIONS
CITY OF CHARLESTON,
DEPARTMENT OF PARKS
CONCOURSE LEVEL AREA C
FIRE ALARM FLOORPLAN

FA-107

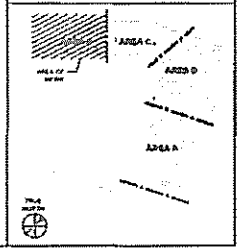
FIRE ALARM



1 CONCOURSE LEVEL AREA D FIRE ALARM FLOORPLAN

GENERAL NOTES

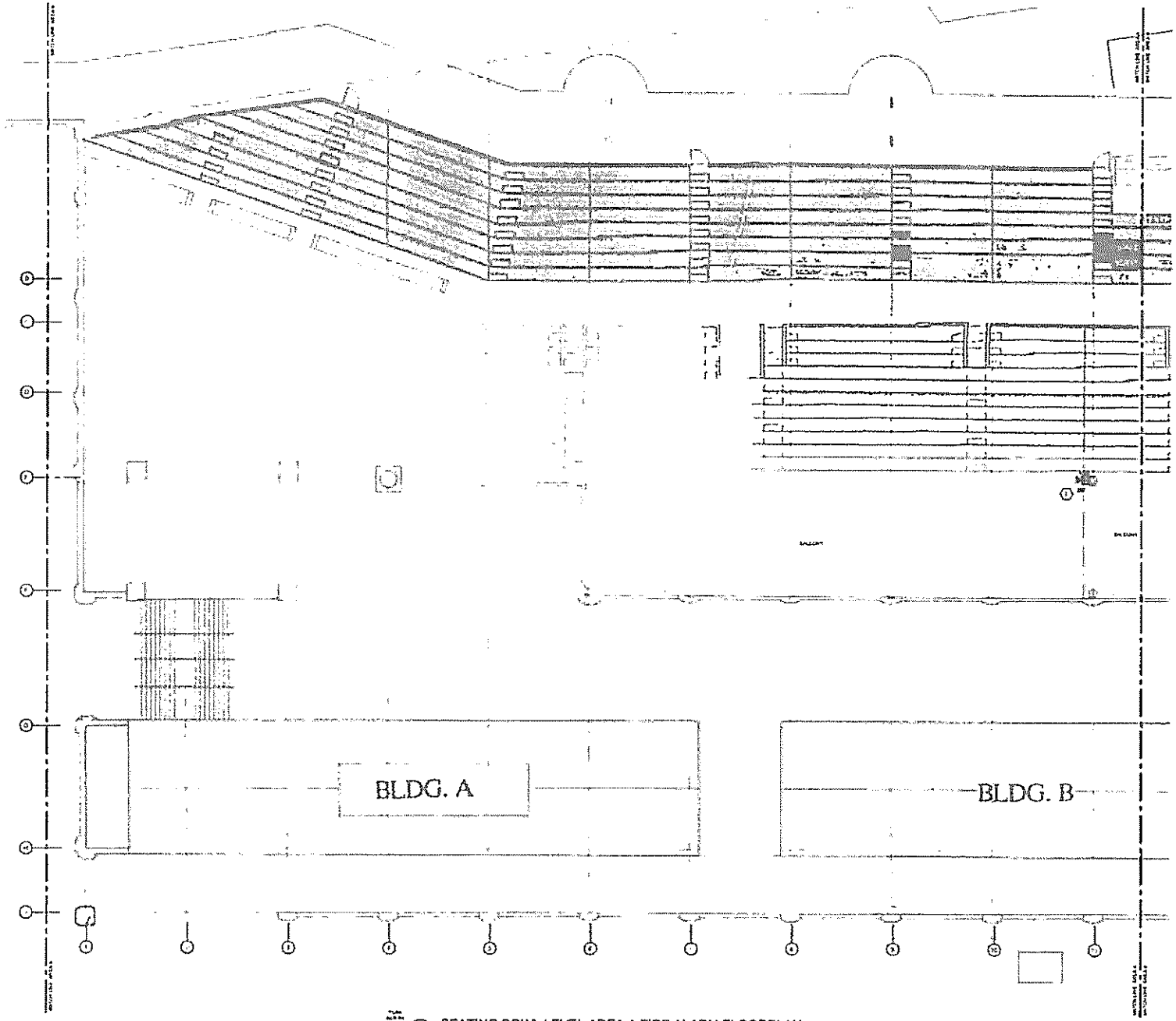
LOCATION KEY



TYLIN INTERNATIONAL

JOSEPH P. RILEY JR. PARK
ELECTRICAL RENOVATIONS
CITY OF CHARLESTON,
DEPARTMENT OF PARKS
CONCOURSE LEVEL AREA D
FIRE ALARM FLOORPLAN

FA-105

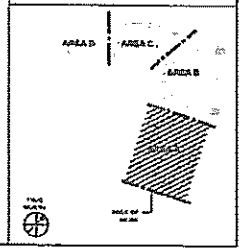


1 SEATING BOWL LEVEL AREA A FIRE ALARM FLOORPLAN

GENERAL NOTES

KEY NOTES

LOCATION KEY



REVISIONS

TYLIN INTERNATIONAL

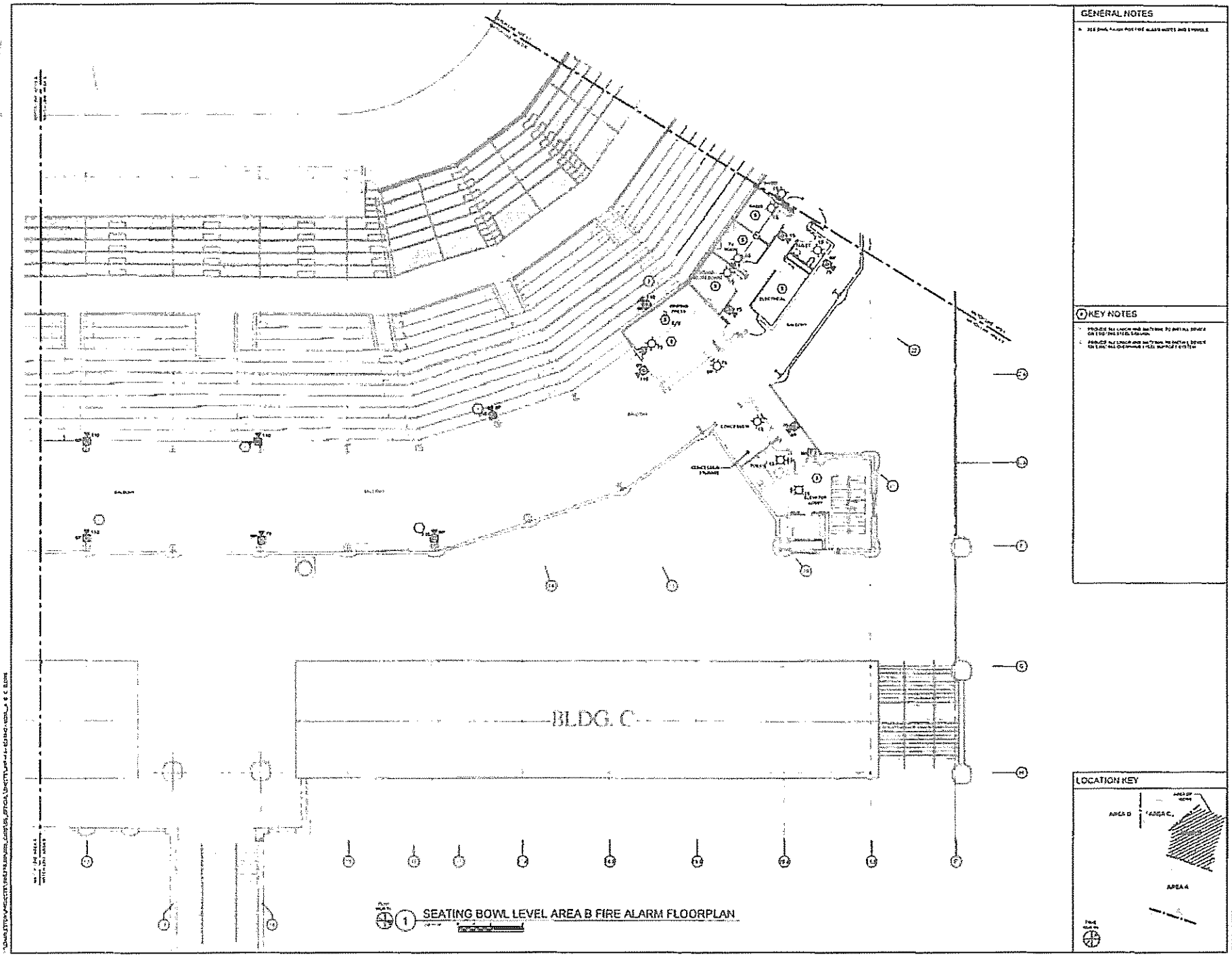
JOSEPH P. RILEY JR. PARK
ELECTRICAL RENOVATIONS
CITY OF CHARLESTON,
DEPARTMENT OF PARKS

SEATING BOWL LEVEL AREA A
FIRE ALARM FLOORPLAN

FA-109

FIRE ALARM

RTA SET



1 SEATING BOWL LEVEL AREA B FIRE ALARM FLOORPLAN

GENERAL NOTES

KEY NOTES

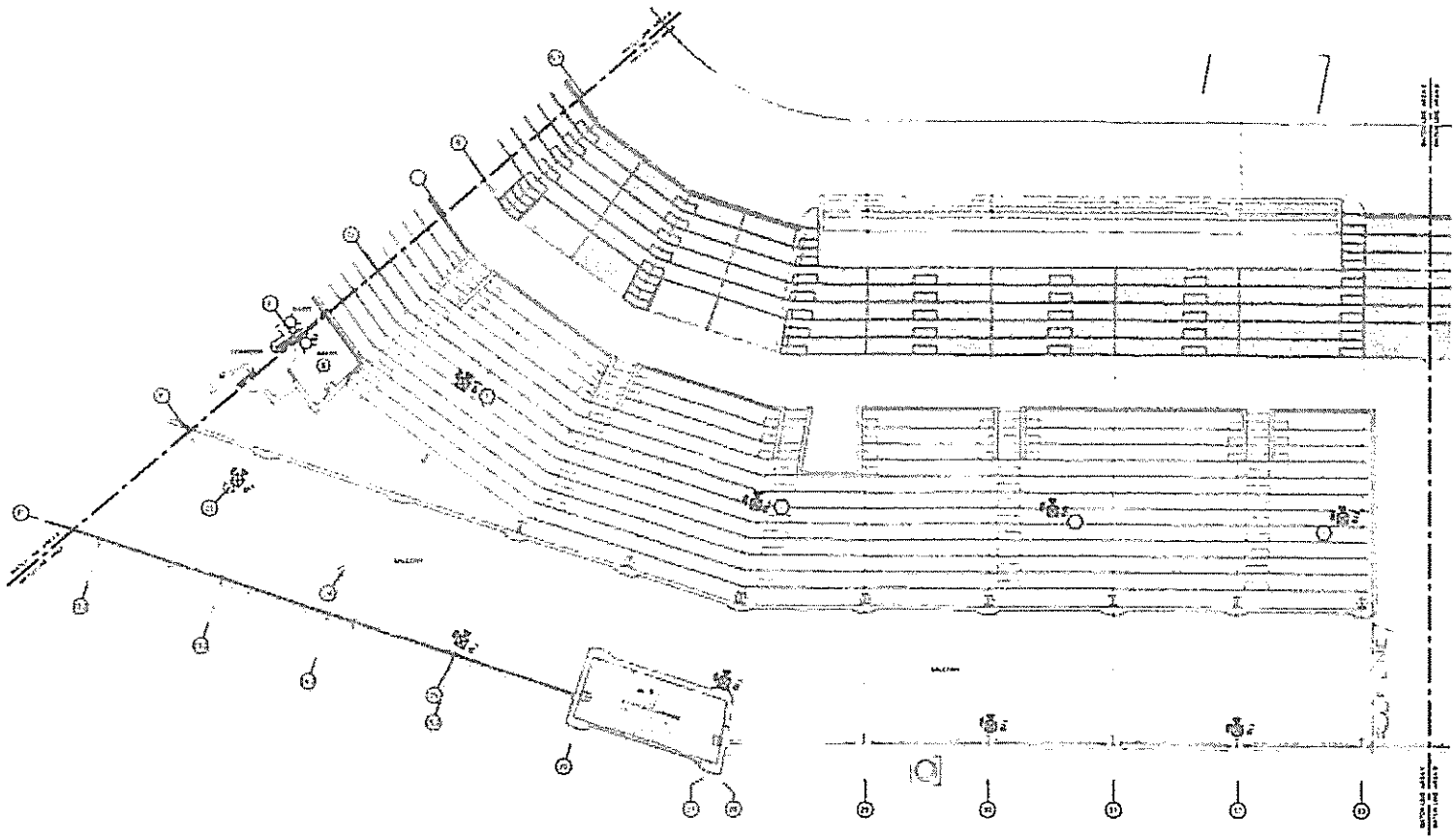
TY LIN INTERNATIONAL

JOSEPH P. RILEY JR. PARK
ELECTRICAL RENOVATIONS
CITY OF CHARLESTON,
DEPARTMENT OF PARKS
SEATING BOWL LEVEL AREA B
FIRE ALARM FLOORPLAN

FA-110

FIRE ALARM

RTA SET

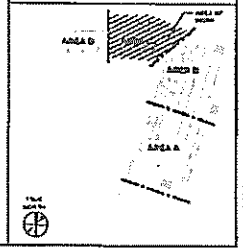


1 SEATING BOWL LEVEL AREA C FIRE ALARM FLOORPLAN

GENERAL NOTES

KEY NOTES

LOCATION KEY



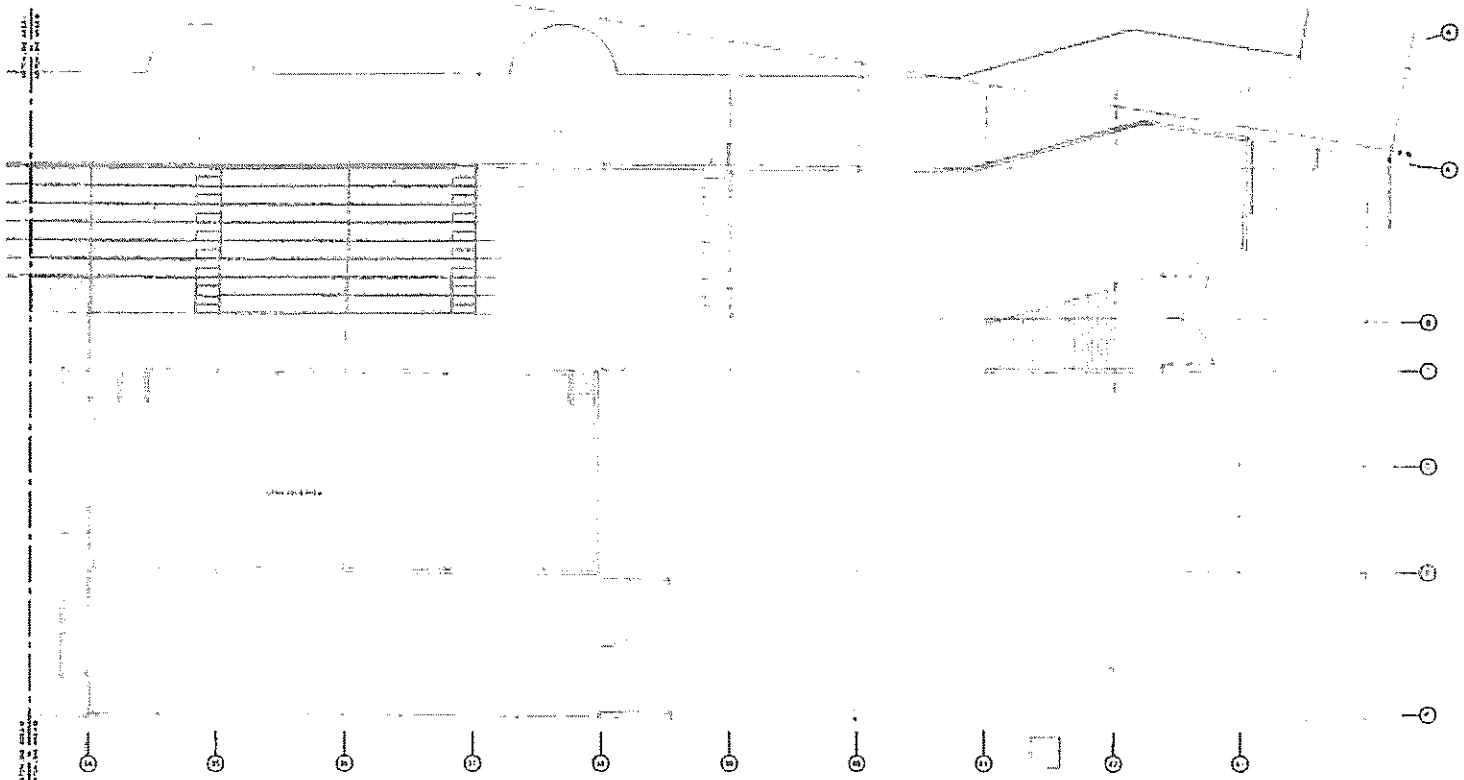
TYLIN INTERNATIONAL

JOSEPH P. RILEY JR. PARK
ELECTRICAL RENOVATIONS
CITY OF CHARLESTON,
DEPARTMENT OF PARKS
SEATING BOWL LEVEL AREA C
FIRE ALARM FLOORPLAN

FA-111

FIRE ALARM

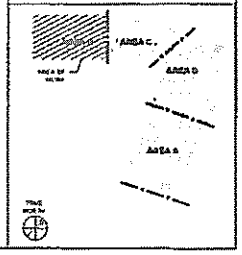
RTA SET



1 SEATING BOWL LEVEL AREA D FIRE ALARM FLOORPLAN

GENERAL NOTES

LOCATION KEY

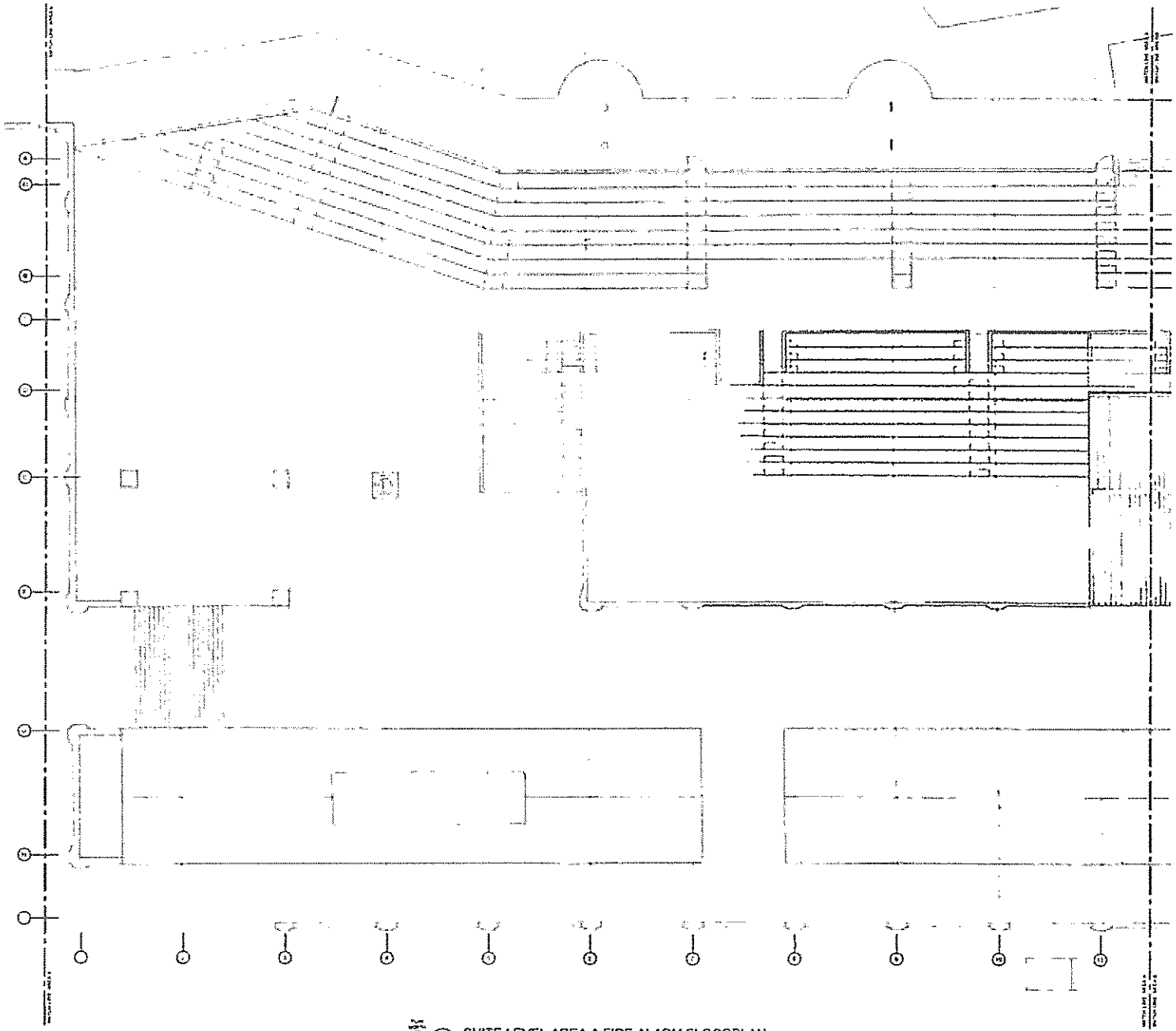


TYLIN INTERNATIONAL

JOSEPH P. RILEY JR. PARK
ELECTRICAL RENOVATIONS
CITY OF CHARLESTON,
DEPARTMENT OF PARKS
SEATING BOWL LEVEL AREA D
FIRE ALARM FLOORPLAN

FA-112

RTA SET

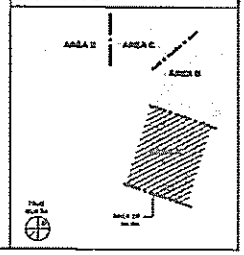


1 SUITE LEVEL AREA A FIRE ALARM FLOORPLAN

GENERAL NOTES

1. THIS DRAWING IS PROVIDED JUST TO SHOW LOCATIONS OF DEVICES IN THE FACILITY. FOR CONTRACTOR TO COORDINATE REQUIRED CONDUIT ROUTING.

LOCATION KEY



TYLIN INTERNATIONAL

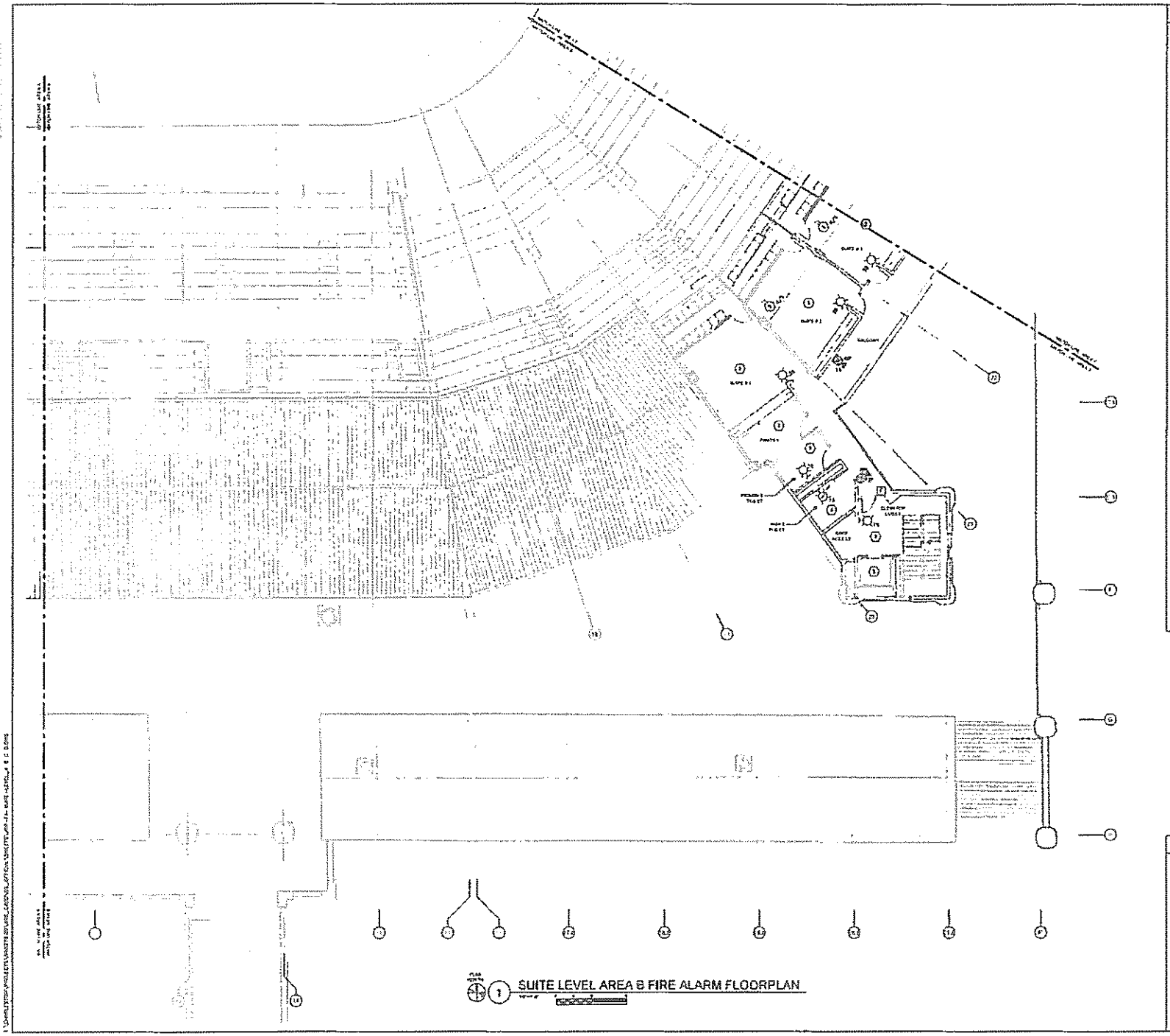
JOSEPH P. RILEY JR. PARK
ELECTRICAL RENOVATIONS
CITY OF CHARLESTON,
DEPARTMENT OF PARKS

SUITE LEVEL AREA A
FIRE ALARM FLOORPLAN

FA-113

FIRE ALARM

RYA SET

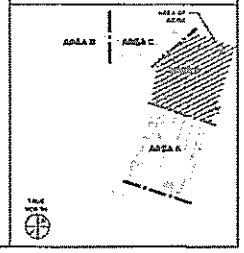


1 SUITE LEVEL AREA B FIRE ALARM FLOORPLAN

GENERAL NOTES

1. SEE FIRE ALARM PLAN FOR FIRE ALARM NOTES AND SYMBOLS.

LOCATION KEY



TYLIN INTERNATIONAL

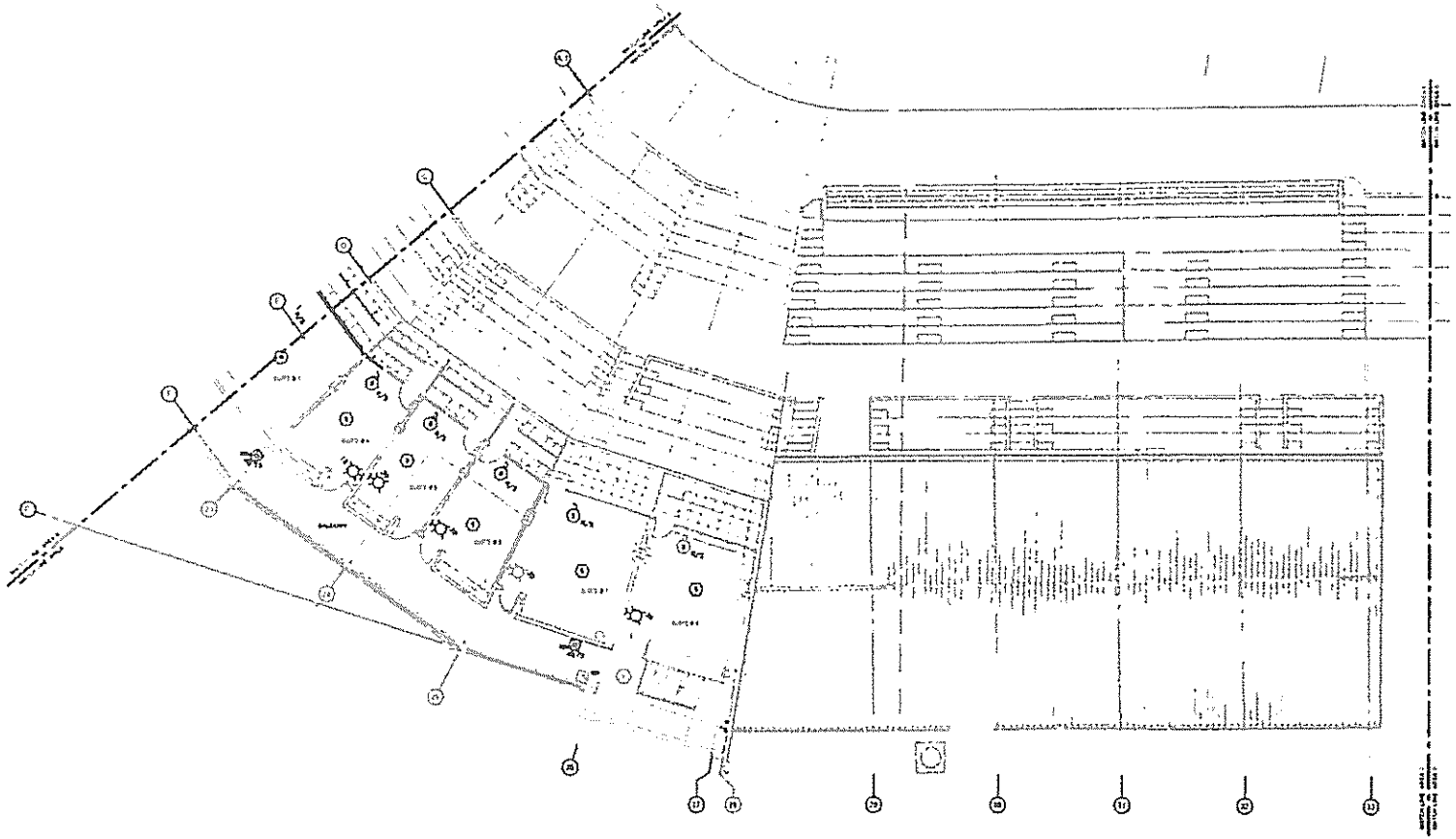
JOSEPH P. RILEY JR. PARK
ELECTRICAL RENOVATIONS
CITY OF CHARLESTON,
DEPARTMENT OF PARKS

SUITE LEVEL AREA B
FIRE ALARM FLOORPLAN

FA-114

FIRE ALARM

RTA SET

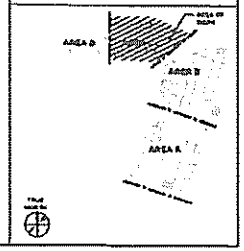


1 SUITE LEVEL AREA C FIRE ALARM FLOORPLAN

GENERAL NOTES

KEY NOTES

LOCATION KEY



TYLIN INTERNATIONAL

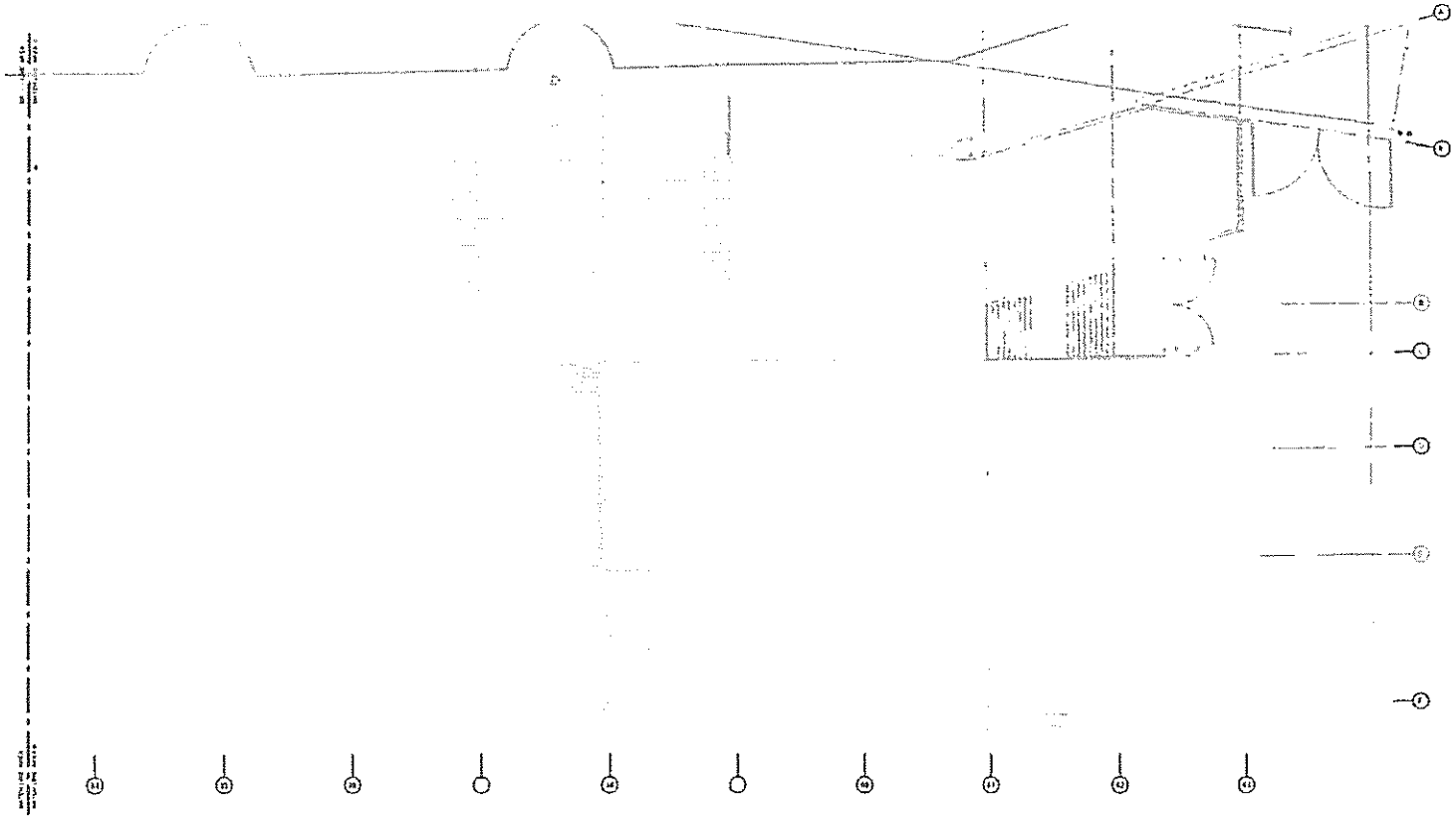
JOSEPH P. RILEY JR. PARK
ELECTRICAL RENOVATIONS
CITY OF CHARLESTON,
DEPARTMENT OF PARKS

SUITE LEVEL AREA C
FIRE ALARM FLOORPLAN

FA-115

FIRE ALARM

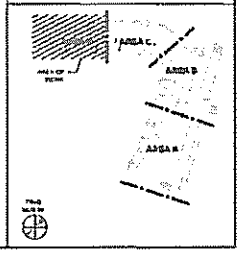
RTA SET



1 SUITE LEVEL AREA D FIRE ALARM FLOORPLAN

GENERAL NOTES

LOCATION KEY

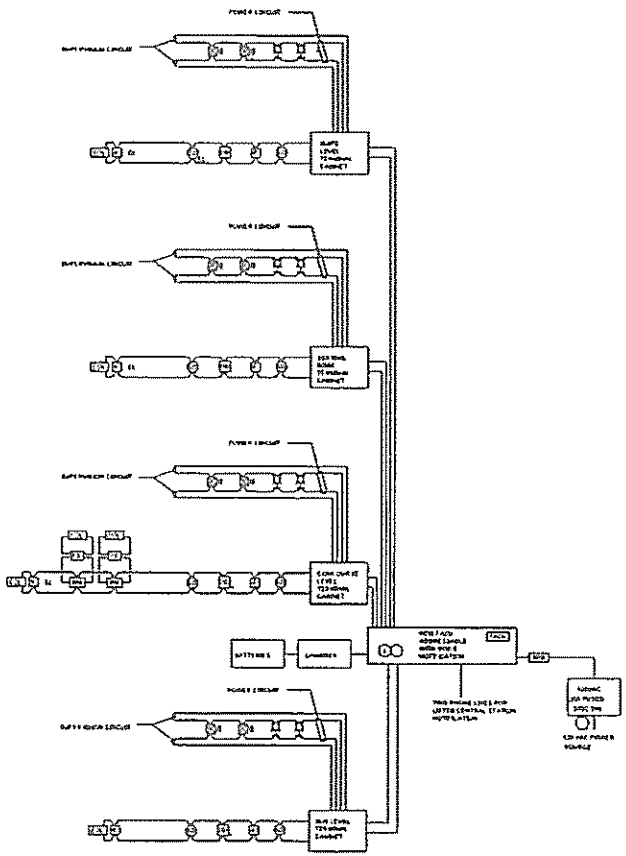


TYLIN INTERNATIONAL

JOSEPH P. RILEY JR. PARK
ELECTRICAL RENOVATIONS
CITY OF CHARLESTON,
DEPARTMENT OF PARKS
SUITE LEVEL AREA D
FIRE ALARM FLOORPLAN

FA-115

RTA SET



1 FIRE ALARM - SINGLE LINE DIAGRAMS
NOT TO SCALE

JOSEPH P. RILEY JR. PARK
ELECTRICAL RENOVATIONS
CITY OF CHARLESTON,
DEPARTMENT OF PARKS

NEW WORK - SINGLE LINE DIAGRAMS

TYM INTERNATIONAL

FA-601

FIRE ALARM

RTA SET

Bid #19-B047R **Vendor: _____**

Joe Riley Ball Park Electrical Renovations

DESCRIPTION	UNIT $	TOTAL $
Main Feeders & Switchgear		
Wiring feeding the Field Light Poles		
Electrical Panel boards & Transformers		
Fire Alarm System		
Total		

Qualifications

- Commercial Electrical license
- 10 years' experience working with high 480V equipment
- Completion of 5 similar projects over the past 5 years
- 100% Performance Bond

The City of Charleston reserves the right to review past projects of similar scope to verify experience.

The City's expectation is that the work will begin October 1, 2019 and be completed no later than January 31, 2020.

Vendor's Checklist

1. Did you provide required information and sign the front page of the solicitation?
   ____ Yes ____ No

2. Did you sign the Certificate of Familiarity form?
   ____ Yes ____ No

3. Did you sign the City of Charleston M/WBE Compliance Provisions forms?
   ____ Yes ____ No

4. Did you sign the applicable Affidavit?
   ____ Yes ____ No

5. Did you mark your "Original" Bid and provide the required # of copies?
   ____ Yes ____ No

6. Did you complete and include all pricing sheets?
   ____ Yes ____ No

7. Did you include the required references?
   ____ Yes ____ No

8. Did you provide a copy of insurance and all other documentation requested?
   ____ Yes ____ No

9. Did you include and sign any addenda?
   ____ Yes ____ No

10. Did you double check to make sure you have included everything that is requested?
    ____ Yes ____ No

If you have any concerns, please do not wait until after opening to raise them. **At that point, it is too late. If this solicitation includes a pre-bid conference or a question & answer period, raise your questions during this time.** Please read the bid carefully.

This checklist is included only as a reminder to help Bidders avoid common mistakes. Responsiveness will be evaluated against the solicitation, ***not*** against this checklist. You do not need to return this checklist with your response.

EXHIBIT B

City of Charleston
Procurement Division
75 Calhoun Street, Suite 3500
Charleston, SC 29401

ADDENDUM #1 – Q&A

T: (843) 724-7314
F: (843) 720-3872

DATE: August 22, 2019

TO: All Bidders

FROM: Robin Barrett-Robinson

RE: 19-B047R – Joe Riley Ball Park Electrical Renovations

This addendum #1 to the solicitation is being made for the following reasons:

Q-1 Do you have a construction cost/estimated budget?

A-1 The budget information is not available.

Q-2 Do you have union requirements?

A-2 We do not have any requirements beyond City and State requirements.

Q-3 Do you have a copy of the Pre-Bid Sign-In Sheet available?

A-3 That document will be included with this addendum.

Q-4 Have you issued an addenda for this project? Can I obtain a copy?

A-4 There has not been any addendum released prior to this one.

Q-5 Can we obtain a copy of the plan holder's list?

A-5 We do not have a plan holder's list.

Q-6 Can we get the substitution request form?

A-6 That form can be found on our website.

Q-7 Are you requesting a bid bond for this project?

A-7 Yes, we are requiring a bid bond for the project.

Q-8 Can the bid date be extended at-least one week?

A-8 No. We have a deadline as mentioned at the pre-bid.

Q-9 Refer to drawing E-100. The installation of the new duct bank along the south side of the field to pole 3 will require removal of trees / shrubs between the sidewalk and the field wall. Will we need to include replacing all trees / shrubs?

A-9 Yes, provide separate line item to provide all required labor and material to fix the areas and reestablish as per existing conditions.

Q-10 Can directional boring be used in lieu of duct banks for light poles and score-boards?

A-10 Yes. DB is allowed. Conduit shall be HDPE type UL-listed for electrical installations. Couplings (sections) shall be kept to a minimum and shall be fusion type, completely watertight. Minimum burying depth shall be 6 ft. The underground pull boxes indicated on drawings shall remain as part of the electrical scope. All 90 deg vertical elbows (when emerging from the soil) shall still be either PVC schedule 80 or Rigid Galv. Conduit. The contractor shall be responsible for providing the corresponding HDPE inner diameter size as that of Schedule 40 PVC in order to maintain the same conduit fill capacity.

Q-11 Another site visit is required to measure existing raceways. Please set date / time. I recommend Thursday, August 22, 2019 @ 10:00am.

A-11 We can meet back on-site Monday, August 26, 2019 @ 10am.

Q-12 Can EMT type raceway be utilized inside electrical rooms?

A-12 EMT can be used inside Elect Rooms at above 8 ft from the floor (not subject to physical damage) and for new conduit runs altogether. If the existing conduit is rigid steel and needs to be extended to reach panelboard location, then rigid steel conduit (not EMT) must be still be used.

Q-13 Refer to drawing E-401 Notes 7-11. Please indicate control signal conduit termination point.

A-13 Control signal for the Light Poles and Scoreboards will be terminated in the Pres-Box general area and the third floor. Coordinate exact final connections in the field.

Q-14 Can ceiling mount fire alarm devices be utilized in lieu of exposed conduit on wall?

A-14 Yes. FA ceiling mount is the preference as long as they are visible from all required points. If not visible then wall surface-mounted, with painted exposed conduit, will be required.

Q-15 Are we required to paint all exposed conduits for Fire Alarm devices?

A-15 Yes. Paint exposed conduits on walls.

If you have any questions, please feel free to call 843-724-7312 or 724-7314. Thank you in advance for your cooperation.

_____ _____

Signature of Acknowledgement Date

_____

Company Name

ADDENDUM #1QA
EVENTS SCHEDULE

Joe Riley Ball Park - Events Schedule

Blue events are Riley Park Club Level
Black events are in the Stadium

August 28: GAF Meeting (9am-3pm)
August 28: Parker Utsey Photoshoot (3:30pm-4:30pm)
August 29: IMPA State Chapter Breakfast (9-11:30am)
August 29: Society of Hospital Medicine Lowcountry Chapter Meeting (6-9pm)
September 9: MUSC Dept of Communications and Marketing Meeting (9am-3pm)
September 11: CREW Luncheon (11am-1pm)

September 19: Belly Itcher Event (5pm-9pm, using field, commissary, concessions, concourse, parking lot)

September 20: Kurant Rehearsal Dinner (awaiting response)
September 21: Kurant Wedding (5pm-11pm)
September 25: Columbus GA Chamber of Commerce (2-5pm)

September 28: Oyster Roast (1-7pm using concourse, parking, Doby's, concessions, commissary)

October 4: Dee Norton Lunch (11am-2:30pm)

October 5: VMI Tailgate (9am-5pm, using concourse, parking, Doby's, concessions, commissary)

October 6: RNDC Luxury Wine Tasting
October 9: Wine on the Water (5pm-9pm)
October 10: Hollings Cancer Center Advisory Board Dinner (6pm-9pm)
October 14: Baseball Meetings
October 15: Baseball Meetings
October 16: CREW Luncheon (11am-1pm)
October 17: Heritage Trust (6pm-9pm)
October 18: Johnson Rehearsal Dinner (7-10pm)

October 19: HyLo Fitness Event (6am-6pm, field, concourse, parking, concessions, Doby's, commissary)
October 24: Light The Night (9am-11pm, field, concourse, parking, concessions, Doby's, commissary)

October 24: City of Charleston Breakfast (8-10am)
October 25: CF Evans Meeting (8am-12:30pm)

October 25: Halloween Movie Night (5pm-9pm, field, concourse, parking, concessions, Doby's, commissary)

October 26: Cetnar/Cuevas Rehearsal Dinner (6-10pm)

November 9: Shrimp & Grits Festival (10am-4pm, concourse, parking, concessions, Doby's, commissary)

November 13: CREW Luncheon (11am-1pm)
November 14: Dental Conference (5:30pm-8pm)

November 16: I Got Legs/Beer Mile (9am-5pm, field, concessions, concourse, parking)

December 7: Pinnacle Financial Partners Holiday Party (6-10pm)

December 7: Crafty Bastards (7am-5pm, concourse, concessions, parking, Doby's, commissary)

December 13: Life Cycle Engineering (7-11pm)
December 14: Patsy Towne 80th Birthday Party (6-10pm)

December 15: Charlie Clause (12pm-6pm, parking, concourse, commissary, concessions)

ADDENDUM #1QA
SUBSTITUTION REQUEST FORM

SUBSTITUTION REQUEST

(After the Bidding/Negotiating Phase)

Project: _____ Substitution Request Number: _____

_____ From: _____ Date: _____

To: _____ A/E Project Number: _____

_____ Contract For: _____

Re: _____

Specification Title: _____ Description: _____

Section: _____ Page: _____ Article/Paragraph: _____

Proposed Substitution: _____

Manufacturer: _____ Address: _____ Phone: _____

Trade Name: _____ Model No.: _____

Installer: _____ Address: _____ Phone: _____

History: ☐ New product ☐ 1-4 years old ☐ 5-10 years old ☐ More than 10 years old

Differences between proposed substitution and specified product: _____

_____

_____

☐ Point-by-point comparative data attached — REQUIRED BY A/E

Reason for not providing specified item. _____

_____

Similar Installation:

Project: _____ Architect: _____

Address: _____ Owner: _____

_____ Date Installed: _____

Proposed substitution affects other parts of Work: ☐ No ☐ Yes; explain _____

_____

Savings to Owner for accepting substitution: _____ ($ _____).

Proposed substitution changes Contract Time: ☐ No ☐ Yes [Add] [Deduct] _____ days.

Supporting Data Attached: ☐ Drawings ☐ Product Data ☐ Samples ☐ Tests ☐ Reports ☐ _____

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SUBSTITUTION REQUEST

(After the Bidding/Negotiating Phase — Continued)

The Undersigned certifies:

- Proposed substitution has been fully investigated and determined to be equal or superior in all respects to specified product.
- Same warranty will be furnished for proposed substitution as for specified product.
- Same maintenance service and source of replacement parts, as applicable, is available.
- Proposed substitution will have no adverse effect on other trades and will not affect or delay progress schedule
- Cost data as stated above is complete. Claims for additional costs related to accepted substitution which may subsequently become apparent are to be waived.
- Proposed substitution does not affect dimensions and functional clearances.
- Payment will be made for changes to building design, including A/E design, detailing, and construction costs caused by the substitution.
- Coordination, installation, and changes in the Work as necessary for accepted substitution will be complete in all respects.

Submitted by: _____

Signed by: _____

Firm: _____

Address: _____

_____

Telephone: _____

Attachments: ☐

A/E's REVIEW AND RECOMMENDATION

☐ Approve Substitution – Make submittals in accordance with Specification Section 01 33 00 Submittal Procedures.
☐ Approve Substitution as noted – Make submittals in accordance with Specification Section 01 33 00 Submittal Procedures.
☐ Reject Substitution - Use specified materials.
☐ Substitution Request received too late - Use specified materials.

Signed by: _____ Date: _____

OWNER'S REVIEW AND ACTION

☐ Substitution approved - Make submittals in accordance with Specification Section 01 33 00 Submittal Procedures. Prepare Change Order.
☐ Substitution approved as noted - Make submittals in accordance with Specification Section 01 33 00 Submittal Procedures Prepare Change Order.
☐ Substitution rejected - Use specified materials.

Signed by: _____ Date: _____

Additional Comments: ☐ Contractor ☐ Subcontractor ☐ Supplier ☐ Manufacturer ☐ A/E

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110 S. Union St., Suite 100, Alexandria, VA 22314

City of Charleston
Procurement Division
75 Calhoun Street, Suite 3500
Charleston, SC 29401

ADDENDUM #2

T: (843) 724-7314
F: (843) 720-3872

DATE: August 26, 2019

TO: All Bidders

FROM: Robin Barrett-Robinson

RE: 19-B047R – Joe Riley Ball Park Electrical Renovations

This addendum #2 to the solicitation is being made for the following reasons:

The due date has been changed from August 29, 2019 2 1:00pm to September 5, 2019 @ 12:30pm.

If you have any questions, please feel free to call 843-724-7312 or 724-7314. Thank you in advance for your cooperation.

_____ _____
Signature of Acknowledgement Date

_____
Company Name

City of Charleston
Procurement Division
75 Calhoun Street, Suite 3500
Charleston, SC 29401

ADDENDUM #3

T: (843) 724-7314
F: (843) 720-3872

DATE: August 26, 2019

TO: All Bidders

FROM: Robin Barrett-Robinson

RE: 19-B047R – Joe Riley Ball Park Electrical Renovations

This addendum #3 to the solicitation is being made for the following reasons:

Included in this is the revised Bid Form.

If you have any questions, please feel free to call 843-724-7312 or 724-7314. Thank you in advance for your cooperation.

_____ _____
Signature of Acknowledgement Date

_____
Company Name

Bid #19-B047R **Vendor:** _____

Joe Riley Ball Park Electrical Renovations

DESCRIPTION	UNIT $	TOTAL $
Replace main feeders from Dominion transformer to main switchgear and replace main switchgear panel		
Replace electrical panel boards & transformers		
Replace wiring from main switchgear to subpanels		
Replace wiring feeding the 6 field light pole panels		
Fire Alarm System		
Total		

Qualifications

- Commercial Electrical license
- 10 years' experience working with high 480V equipment
- Completion of 5 similar projects over the past 5 years
- 100% Performance Bond

The City of Charleston reserves the right to review past projects of similar scope to verify experience.

The City's expectation is that the work will begin October 1, 2019 and be completed no later than January 31, 2020.

City of Charleston
Procurement Division
75 Calhoun Street, Suite 3500
Charleston, SC 29401

ADDENDUM #4

T: (843) 724-7314
F: (843) 720-3872

DATE: August 28, 2019

TO: All Bidders

FROM: Robin Barrett-Robinson

RE: 19-B047R – Joe Riley Ball Park Electrical Renovations

This addendum #4 to the solicitation is being made for the following reasons:

There will be another site visit at 9:00am August 29, 2019. This will be the last opportunity to take measurements.

If you have any questions, please feel free to call 843-724-7312 or 724-7314. Thank you in advance for your cooperation.

_____ _____
Signature of Acknowledgement Date

_____
Company Name

City of Charleston
Procurement Division
75 Calhoun Street, Suite 3500
Charleston, SC 29401

ADDENDUM #5

T: (843) 724-7314
F: (843) 720-3872

DATE: September 3, 2019

TO: All Bidders

FROM: Robin Barrett-Robinson

RE: 19-B047R – Joe Riley Ball Park Electrical Renovations

This addendum #5 to the solicitation is being made for the following reasons:

The due date has been changed from September 5, 2019 to September 10, 2019. The time due will remain the same.

If you have any questions, please feel free to call 843-724-7312 or 724-7314. Thank you in advance for your cooperation.

_____ _____
Signature of Acknowledgement Date

_____
Company Name

City of Charleston
Procurement Division
75 Calhoun Street, Suite 3500
Charleston, SC 29401

ADDENDUM #6

T: (843) 724-7314
F: (843) 720-3872

DATE: September 9, 2019

TO: All Bidders

FROM: Robin Barrett-Robinson

RE: 19-B047R – Joe Riley Ball Park Electrical Renovations

This addendum #6 to the solicitation is being made for the following reasons:

The due date and time has been changed from September 10, 2019 to September 13, 2019 at 10:00 am.

If you have any questions, please feel free to call 843-724-7312 or 724-7314. Thank you in advance for your cooperation.

_____ _____
Signature of Acknowledgement Date

_____
Company Name

EXHIBIT C

INSURANCE REQUIREMENTS

Contractors working for the City of Charleston are required to procure and maintain for the duration of their contract with the City insurance against claims for injuries to persons or damages to property which may arise from or in connection with work performed by the Contractor, his agents, representatives, employees or Subcontractors. The cost of such insurance shall be the responsibility of the Contractor.

A. The Contractor shall carry liability insurance with a reliable company licensed to do business in South Carolina. Coverage shall be at least broad as:

   1. Insurance Services Office Commercial General Liability Coverage Form ("occurrence") CG 00 01 10 93.

   2. Insurance Services Office Business Auto Coverage Form CA 00 01 6 92 covering automobile liability, code 1 "any auto".

B. Contractor shall carry workers' compensation as required by the State of South Carolina and Employers Liability insurance (including applicable occupation disease provisions and all state endorsements.)

C. Contractor shall maintain limits no less than the following:

   1. **GENERAL LIABILITY**: $1,000,000 combined single limit per occurrence for bodily injury, property damage, and personal injury with a $2,000,000 general aggregate limit.

   2. **AUTOMOBILE LIABILITY**: $1,000,000 combined single limit per accident for bodily injury and property damage.

   3. **WORKERS' COMPENSATION**: Statutory limits are required by South Carolina state law, and employer's liability limits of $100,000 per accident.

   4. **PROFESSIONAL LIABILITY**: $1,000,000 per claim/$1,000,000 aggregate limit, with a deductible of $20,000.

      Contractor shall obtain and maintain a professional liability insurance policy covering the performance of the professional services specified in this agreement. Evidence of such insurance shall be satisfactory in form and content to the owner, the City. This coverage shall be maintained through the duration of this project and for a minimum of 1 year after substantial completion of the project as determined by the City.

      The Contractor and any of its subcontractors will cause the professional liability insurance required in this paragraph C.4:

(a) to be excess insurance over any project professional liability policy, and

(b) to be primary insurance in the event the project insurance described in Paragraph E is canceled or not maintained, in the event the policy's limits of liability are exhausted, or if the policy expires.

D. Required policies are to contain, or be endorsed to contain, the following provisions:

1. General Liability and Automobile Liability Coverages

The City of Charleston, its officials, employees and volunteers are to be covered as additional insureds as respects: Liability arising out of activities performed by or on behalf of the Contractors; premises owned, occupied or used by the Contractor; or automobiles owned, leased, hired or borrowed by the Contractor. The coverage shall contain no special limitations on the scope of protection afforded to the City of Charleston, its officials, employees or volunteers. To accomplish this objective, the City of Charleston shall be named as an additional insured under the Contractor's general liability policy by attaching Insurance Services Office Commercial General Liability Endorsement CG2010 10 93 (Additional Insured - Owners, Lessees or Contractors - Form B) or its equivalent. Contractors' insurance coverage shall be primary insurance as respects the City of Charleston, its officials, employees and volunteers. Any insurance or self-insurance maintained by the City of Charleston, its officials, employees, or volunteers shall be in excess of the Contractor's insurance and shall not be required to contribute. To accomplish this objective, the following wording should be incorporated in the previously referenced additional insured endorsement.

Other Insurance: This insurance is primary, and our obligations are not affected by any other insurance carried by the additional insured whether primary, excess, contingent or on any other basis.

Any failure to comply with reporting provisions of the Contractor's policies shall not affect coverage provided to the City of Charleston, its officials, employees or volunteers.

2. Workers' Compensation

The Contractor shall agree to waive all rights of subrogation against the City of Charleston, its officials, employees and volunteers for losses arising from work performed by the Contractor for the City of Charleston.

E. Any deductibles or self-insured retentions shall be the responsibility of the Contractor.

F. Each insured policy required by the City of Charleston shall be endorsed to state that coverage shall not be suspended, voided, canceled by either party, reduced in coverage or in limits except after thirty (30) days prior written notice has been given to the City of Charleston.

G. All coverages for Subcontractors shall be subject to all the requirements stated herein.

H. Insurance must be placed with an approved insurance company with current Best's rating of A+, A, or A-. Exceptions to this requirement must be approved in writing by the Department of Risk Management.

I. Contractor shall furnish the City of Charleston with Certificates of Insurance noting the endorsements. The Certificates and endorsements for each insurance policy are to be signed by a person authorized by that insurer to bind coverage on its behalf. All certificates and endorsements are to be received and approved by the City of Charleston, Procurement Division, before work commences. The City of Charleston reserves the right to require complete, certified copies of all required insurance policies, at any time.

Required certificates should be mailed to:

City of Charleston
Procurement Division
75 Calhoun Street, Suite 3500
Charleston, SC 29401

EXHIBIT D

The City of Charleston
Procurement Division
75 Calhoun Street, Suite 3500
Charleston, South Carolina 29401
P) 843-724-7312 F) 843-720-3872
www.charleston-sc.gov

Bid Number: 19-B047R	**Bids will be received until:** August 29, 2019 @ 1:00pm
Bid Title: Joe Riley Ball Park Electrical Renovations **Mandatory Pre-Bid:** August 15, 2019 9:00am at Joe Riley Ball Park, 360 Fishburne St.	
Mailing Date: August 2, 2019	**Direct Inquiries to:** Robin B. Robinson
Vendor Name: Gatch Electrical Contractors, Inc	**FEIN/SS#:** 56-2086805
Vendor Address: 941 Dupont Road	
City – State – Zip: Charleston, SC 29407	
Telephone Number: 843-573-0700	**Fax Number:** 843-556-1452
Minority or Women Owned Business: Are you a certified Minority or Women-Owned business in the State of South Carolina? ☐ Yes ☒ No If so, please provide a copy of your certificate with your response	
Authorized Signature:	**Title:** President
Date: September 13, 2019	James B. Gatch

I certify that this bid is made without prior understanding, agreement, or connection with any corporation, firm, or person submitting a bid for the same materials, supplies, equipment or services and is in all respects fair and without collusion or fraud. I agree to abide by all conditions of this bid and certify that I am authorized to sign this bid for the bidder. This signed page must be included with bid submission.

IMPORTANT

1. This solicitation seeks proposals responding to the Scope of Work for a **Joe Riley Ball Park Electrical Renovations**. Replacement of the main feeders coming into the stadium from the Dominion Power transformer, main switchgear, electrical panels, transformers, all wiring feeding the field light poles from the main electrical room and a new fire alarm system.

2. This solicitation does not commit the City of Charleston to award a contract, to pay any costs incurred in the preparation of applications submitted, or to procure or contract for the services. The City reserves the right to accept or reject any, all or any part of any Bid received as a result of this Solicitation, or to cancel in part or in its entirety this Solicitation if it is in the best interest of the City to do so. The City shall be the sole judge as to whether Bids submitted meet all requirements contained in this solicitation.

3. **Bidder may mail, or hand-deliver response to the Procurement Division.** Bids delivered to any other location will not be accepted. **Do Not Fax** in the Bid response. Please show the solicitation number on the outside of any mailing package. The City of Charleston assumes no responsibility for unmarked or improperly marked envelopes. If directing any other correspondence to the Procurement Division not related to the solicitation, please do not include the solicitation number on the envelope. If the Bidder chooses not to respond to this solicitation, it is recommended to return the "No Bid Response Form" to our office.

4. **DEADLINE FOR SUBMISSION OF OFFER:** Any Bid or offer received after the Procurement Director of the governmental body or his designee has declared that the time set for opening has arrived, shall be rejected unless the offer has been delivered to the

designated purchasing office or the governmental bodies' mail room which services that purchasing office prior to the Bid opening. [R.19-445.2070(H)]

5. Questions regarding this solicitation must be submitted to **Robin B. Robinson** in writing no later than **2:00pm on August 19, 2019**. Questions may either be faxed to 843-720-3872 or emailed to **Robin B. Robinson** at robinsonr@charleston-sc.gov.

INSTRUCTIONS TO BIDDERS

1. Number of Submittals required is stated in the General Information section of this Solicitation. Proposals must be mailed or hand-delivered. **Responses received by fax or other electronic means (email, CD, etc.) will be rejected. Proposals must be submitted in a sealed envelope and must be addressed to the City of Charleston Procurement Division, 75 Calhoun Street, Suite 3500 Charleston, SC 29401.** Failure to do so may result in a premature opening of, or failure to open such Proposal. Each sealed envelope containing a Proposal shall be marked on the outside with the Bidder's complete Name, Address, Solicitation Number, Description of Services Requested by Solicitation (i.e., Elevator Maintenance, Road Construction), along with the Due Date and Time. If you do not choose to submit a proposal, please complete and return the enclosed "No Proposal" response form.

   A "No Proposal" qualifies as a response; however, it is the responsibility of the Vendor to notify the Procurement Office if you receive solicitations that do not apply. Failure to respond to three (3) solicitations during the calendar year may result in removal from Vendor's List.

   All pages that require a Signature shall be included with the bid. Failure to include these required pages may result in the bid being deemed Non-Responsive.

2. Bidders must clearly mark as **"Confidential"** each part of their proposal which they consider to be proprietary information that could be exempt from disclosure under the South Carolina Freedom of Information Act, S.C. Code Ann. §§ 30-4-10 to – 165 (2007 & Supp. 2015). See paragraph 45 for more details. The City reserves the right to determine whether this information should be exempt from disclosure and no legal action may be brought against the state or its agents for its determination in this regard.

3. Proposals must be made in the official name of the individual, firm, company, partnership, corporation, joint venture or other legal entity under which the business is conducted (showing official business address) and must be signed in ink by a person duly authorized to legally bind the legal entity submitting the proposal.

4. Bids should be typewritten or computer-generated; however, if this is not possible, the hand writing **must be legible.** A Bid shall include, but is not limited to, addresses of all legal entities which will participate in the proposed services. The type of organization of the Bidder, whether individual, firm, partnership, corporation, joint venture or other legal entity, shall be stated. Any affiliations, parent-subsidiary relationships, and corporate identities including the names of the principals of such legal entity must be fully disclosed and clearly explained.

5. If an error is made before submitting the proposal, the error should be crossed out, corrections entered and initialed by the person signing the proposal. Erasures or use of typewriter correction fluid may be cause for rejection. No proposal shall be altered or amended after specified time for opening.

6. Proposals may be withdrawn by written request received from the Bidder prior to the time set for opening of Proposals, but not thereafter.

7. Proposals should be prepared simply and economically. All data, materials, and documentation shall be available in a clear, concise form and reproducible upon request "at cost" for the City's internal use. The City reserves the right to reproduce proposals for internal use in the evaluation process.

8. All Proposals shall provide a straight forward, concise description of Bidder's ability to satisfy the requirements of the Solicitation.

9. All Addendum and Award Notices will be posted on our website: www.charleston-sc.gov, then click on the Bidline link.

10. The terms and conditions in this Solicitation shall prevail unless otherwise modified by the City of Charleston in an Addendum to this Solicitation. The City of Charleston reserves the right to reject, in whole or in part, any proposal which does not comply with such terms and conditions. The City of Charleston reserves the right to retain all proposals submitted and to use any ideas in a proposal regardless of whether that proposal is selected. Submission of a proposal indicates acceptance by the Bidder of the conditions contained in this Solicitation, unless clearly and specifically noted in the proposal submitted and confirmed in any resulting contract between the City of Charleston and the Bidder selected.

11. No substitutions shall be considered after the contract award except by Amendment.

12. The City seeks qualified vendors to be responsible for completion of the work described herein and the City reserves the option to award portions of the project to multiple Bidder if such is to the advantage of the City. Therefore, any one proposal submitted by more than one company shall be deemed to be a proposal for a joint venture between or among the companies so submitting proposals unless the proposal clearly and unequivocally describes that only one firm proposes to act as principal and the other firm(s) contractual position is clearly defined. The companies submitting as a joint venture shall be held jointly and severally responsible for the entire project and shall not be permitted to limit their liability to the City.

13. All proposals should be complete and carefully worded and shall convey all of the information requested by the City. If errors or exceptions are found in a proposal, or if the proposal fails to conform to the requirements of the Solicitation, the City shall be the sole judge as to whether that variance is significant enough to reject the proposal.

14. The City reserves the right to request satisfactory evidence of their ability to furnish services in accordance with the terms and conditions listed herein. The City further

reserves the right to make the final determination as to the Bidder's ability to provide said services.

15. The Bidder is solely responsible for all costs and expenses associated with the preparation of the proposal and of any supplementary presentation (including any oral presentation) requested by the City.

16. GRATUITIES AND KICKBACKS

    A) Gratuities. It shall be unethical for any person to offer, give or agree to give any employee or former employee, or for any employee or former employee to solicit, demand, accept, or agree to accept from another person a gratuity or an offer of employment in connection with any decision, approval, disapproval, recommendation, preparation or any part of a program requirement or a purchase request, influencing the content of any specification or procurement standard, rendering of advice, investigation, auditing, or in any other advisory capacity in any proceeding or application, request for ruling, determination, claim or controversy, or other particular matter pertaining to any program requirement or a contract or subcontract, or to any solicitation or proposal therefore.

    B) Kickbacks. It shall be unethical for any payment, gratuity, or offer of employment to be made by or on behalf of a subcontractor under a contract to the prime contractor, or to hire any subcontractor or any person associated therewith, as an inducement for the award of a subcontract or order.

17. BIDDER REPRESENTATIONS

    Each Bidder by submitting a Proposal represents that:

    A) The Bidder has read and understands this Solicitation (including all Specifications and Attachments) and that its Proposal is made in accordance therewith.

    B) The Bidder has reviewed the Solicitation and has become familiar with the local conditions under which the Scope of Work is to be performed. The failure or omission of a Bidder to acquaint himself with existing conditions shall in no way relieve him of any obligation with respect to this proposal or any resulting contract.

    C) The Proposal is based on the terms, materials, services and obligations required by this Solicitation, without exception.

    D) The Bidder is qualified to provide the services and equipment required under this Solicitation and, if awarded the contract, shall do so in a professional, timely manner using successful Bidder's best skills and attention.

    E) The Bidder is guaranteeing that all goods and services will meet the requirements of the Solicitation during the contract period.

18. COMPETITIVE PROCUREMENT

    It is the intent and purpose of the City of Charleston that this Solicitation permits competition. It shall be each Bidder's responsibility to advise the City if any language, provision, or other requirement, or any combination thereof, inadvertently restricts or

limits the satisfaction of the specifications stated in this Solicitation to a single source. Such notification must be submitted in writing, and must be received by the City of Charleston Procurement Division no later than the last date for written questions. Any such notification shall be reviewed by the City's Procurement Director.

19. ADDENDA/CHANGES

Any additions, deletions, modifications, or changes made to this Solicitation shall be processed through the City's Procurement Director. Any deviation from this procedure may result in the disqualification of the proposal or the cancellation of any contract resulting from this Solicitation. Requests for interpretation of this Solicitation and any other questions concerning the Solicitation shall be made in writing, and addressed to the City's Procurement Director, 75 Calhoun Street, Suite 3500, Charleston, South Carolina 29401. Questions may be transmitted by fax, but it shall be the responsibility of the sender to confirm receipt by the City. These requests must be submitted by the deadline for written questions. Responses to said requests shall be made at the discretion of the City's Procurement Director. When issued, such interpretations and answers to such questions shall be in the form of an addendum to the Solicitation which shall be posted on the City's website, www.charleston-sc.gov. All such addenda shall become part of the Solicitation and each Bidder shall be bound by such addenda whether or not received by the Bidder. The City of Charleston shall not be legally bound by any amendment or interpretation that is not in writing.

20. EVALUATION PROCESS

During the evaluation process the City of Charleston reserves the right, where it may serve the City of Charleston's best interest, to request additional information or clarification from Bidders, or to allow corrections of errors or omissions.

21. AWARD OF CONTRACT

A) Award of contract shall be made to the most responsive and responsible Bidder(s) whose Proposal, conforming to the Solicitation, is most advantageous to the City of Charleston, price and other factors considered.

B) The City of Charleston may, when in the best interest of the City, reject any or all Proposals or waive technicalities or informalities in any Proposals received.

C) The City of Charleston shall be the sole judge of the suitability of the items or services to be provided pursuant to this Solicitation.

D) The City may choose to award to more than one vendor if it is in the best interest of the City.

E) Final approval may rest with members of the City Council for the City of Charleston.

F) All things considered equal, a tie proposal will be resolved by the flip of a coin.

22. CONTRACT ADMINISTRATION

Questions or problems arising after award of this contract shall be directed to the Contracts Coordinator by calling (843) 965-4184. Copies of all correspondence

concerning this contract shall be sent to the Contracts' Coordinator, 75 Calhoun Street, Suite 3500 Charleston, SC 29401.

23. NOTICE OF AWARD OF CONTRACT
The successful Bidder shall be notified of acceptance of its Proposal by a written Notice of Award of Contract. Successful Bidder(s) shall not undertake any work, and City shall not be responsible for payment for any work whatsoever undertaken by the successful Bidder(s) prior to issuance of the Notice to Proceed.

24. NOTICE TO PROCEED
A Notice to Proceed shall be issued after the Contractor(s) has executed the contract and has submitted acceptable Insurance Certificate(s) and Endorsement(s) and Performance and Payment Bonds to the City as well as other submittals specified herein as required to be delivered before the Notice to Proceed is issued. The Contractor(s) shall not commence work until it has received a written Notice to Proceed from the City's Director of Procurement.

25. OTHER CONTRACTS
The City of Charleston may undertake or award other contracts for portions of the work or additional work, and the Contractor(s) shall fully cooperate with such other contractors and City of Charleston employees and carefully fit its own work to such work as may be directed by the City. The Contractor(s) shall not commit or permit any act which shall interfere with the performance of work by any other contractor or by City of Charleston employees.

26. MODIFICATION
The City's Director of Procurement shall have the unilateral right to modify any contract resulting from this Solicitation, within the general scope of work, when said modification is in the best interest of the City. The right to issue change orders is not dependent upon the consent of the successful Bidder(s). At the direction of the Director of Procurement the successful Bidder is obligated to perform the revised contract. Contract fees or prices shall be equitably adjusted where an issued change order so demands. No claim by the successful Bidder(s) for an adjustment hereunder shall be allowed if asserted after final payment under aforesaid contract.

27. INDEPENDENT CONTRACTOR
Successful Bidder is an independent contractor and shall not be deemed the agent or employee of the City of Charleston for any purpose whatsoever.

28. INSURANCE REQUIREMENTS
Upon the consummation of the contract for the services being solicited in this Solicitation and receipt of the Notice of Award by the successful Bidder (the "Contractor"), the Contractor shall, at all times during the term of the contract, carry insurance as required by the insurance requirements outlined in the insurance attachment which is attached hereto and incorporated by reference. The City shall not issue a Notice to Proceed until the Contractor has submitted acceptable insurance certificates(s) or endorsement(s), which must be submitted within five (5) calendar days after receipt of the Notice of Award, and which reflect that the required coverages are in place and that all premiums have been paid. Refusal or failure to submit such certificate(s) or endorsement(s) shall constitute grounds for the City to revoke its notice of award, forfeit proposal security, and

award the contract to another contractor. The City may contact the Contractor's insurer(s) or insurer(s)' agent(s) directly at any time regarding its coverages, coverage amounts, or other such relevant and reasonable issues related to this contract. The Contractor(s) shall also require any sub-contractors to carry the same coverages in the same amounts. Faxed Insurance Certificate(s) and Endorsement(s) shall be accepted if received no later than the time of contract execution and the original documents are received within one (1) business day after receipt of the fax transmittals.

29. INDEMNIFICATION

Except for expenses or liabilities arising from the negligence of the City, the Contractor who enters into a contract with the City of Charleston as a result of this Solicitation (the "Contractor") hereby expressly agrees to indemnify and hold the City harmless against any and all expenses and liabilities arising out of the performance or default of this contract as follows:

The Contractor expressly agrees to the extent that there is a causal relationship between its negligent, reckless or intentionally wrongful action or inaction, or the negligent, reckless or intentionally wrongful action or inaction of any of its employees or any person, firm, or corporation directly or indirectly employed by the Contractor, and any damage, liability, injury, loss or expense (whether in connection with bodily injury or death or property damage or loss) that is suffered by the City and its employees or by any member of the public, to indemnify and save the City and its employees harmless against any and all liabilities, penalties, demands, claims, lawsuits, losses, damages, costs, and expenses arising out of the performance or default of this Contract. Such costs are to include defense, settlement and reasonable attorneys' fees incurred by the City and its employees. This promise to indemnify shall include bodily injuries or death occurring to Contractor's employees and any person directly or indirectly employed by Contractor (including without limitation any employee of any subcontractor), the City's employees, the employees of any other independent contractors, or occurring to any member of the public. When the City submits notice, Contractor shall promptly defend any aforementioned action. This obligation shall survive the suspension or termination of the contract. The limits of insurance coverage required herein shall not serve to limit this indemnity obligation. The recovery of costs and fees shall extend to those incurred in the enforcement of this indemnity.

30. BIDDER'S QUALIFICATIONS

The City reserves the right to request satisfactory evidence of any Bidder's ability to furnish services in accordance with the terms and conditions listed herein. The City further reserves the right to make the final determination as to the Bidder's ability to provide said services. We reserve the right to investigate the qualifications of any respondent under consideration, require confirmations of information furnished, and require additional evidence of qualifications to perform the work described in this Solicitation, contact references, and request an audited financial statement in order to determine a potential contractor's capabilities.

31. ASSIGNMENT

The Contractor(s) shall not assign in whole or in part its duties under the contract without the prior written consent of the City of Charleston. The Contractor shall not assign any money due or to become due to it under this contract without the prior written consent of the City of Charleston.

32. SUBCONTACTORS

A) If any subcontractors shall be used for this project, the Contractor shall provide to the City's Director of Procurement a list of names of any of the intended subcontractors, the subcontractor's applicable license number(s), and a description of the work to be done by each subcontractor, if requested.

B) The Contractor(s) shall not substitute other subcontractors without the written consent of the City's Director of Procurement.

C) Contractor(s) shall be responsible for all services performed by a subcontractor. Responsibilities include, but are not limited to, compliance with any applicable licensing regulations.

D) If at any time the City's Director of Procurement determines that any subcontractor is incompetent or undesirable, he shall notify the Contractor(s) accordingly, and the Contractor(s) shall take immediate steps for cancellation of the subcontract and replacement thereof with a subcontract that is approved by the City of Charleston.

E) Nothing contained in any contract resulting from this Solicitation shall create any contractual relationship between any subcontractor and the City of Charleston.

33. SUSPENSION OF WORK

The City may order the Contractor in writing to suspend, delay, or interrupt all or any part of the Work for such period of time as the City may determine to be appropriate for the convenience of the City of Charleston, or for noncompliance with the contract requirements.

34. TERMINATION

A) For Convenience: The City reserves the right to terminate the contract with the Contractor when it is in the best interest of the City, including, but not limited to non-appropriation of funds. If the contract is so terminated, the City shall provide the Contractor with a minimum of sixty (60) days written notice and shall compensate Contractor for all necessary and reasonable direct costs of performing the services actually accomplished as of the date of termination. No other costs shall be allowed for a termination for convenience. No damages shall be allowed for a termination for convenience.

B) For Default: If the Contractor fails to comply with the terms of the contract the City shall notify the Contractor in writing of the specifics regarding such noncompliance. If the Contractor fails to begin to cure the noncompliance within five (5) days after the notice, the City may terminate the contract by written notice to the Contractor with a minimum of thirty (30) days thereafter and Contractor shall only be compensated for services actually completed prior to termination, contractor shall not be entitled to any costs or damages resulting from a termination under this section.

35. MATERIAL AND WORKMANSHIP; WARRANTIES AND REPRESENTATIONS

A) If equipment, materials and supplies are to be a part of the service provided, all equipment, materials, and supplies incorporated in the work covered by the Proposal and provided by the Contractor(s) are to be new and of the most suitable grade for the purpose intended. Unless otherwise specifically provided in this Solicitation, reference to any equipment, material, supply or patented process, by trade name, make or catalog number, shall not be construed as limiting competition. When requested, the Contractor(s) shall furnish to the City for approval the name of the manufacturer, the model number, and other identifying data and information respecting the performance, capacity, nature and rating of the machinery and mechanical and other equipment which the Contractor(s) contemplates incorporating in the work. When required by this Contract or when called for by the City the Contractor(s) shall provide full information concerning the material or supplies which he contemplates incorporating in the work. Machinery, equipment, material and supplies installed or used without the required prior approval shall be at the risk of subsequent rejection.

B) By signing its proposal, the successful Bidder(s) shall be deemed to have represented that its staff is knowledgeable about and experienced in performing the work required in this Solicitation and warrants that it shall use best skill and attention to provide the above described work in a professional, timely manner.

C) The City may, in writing, require the Contractor(s) to remove from the work any employee the City deems incompetent, careless or otherwise objectionable.

36. COMPLIANCE WITH LEGAL REQUIREMENTS

All applicable Federal, State and local laws, ordinances, and rules and regulations of any authorities shall be binding upon the Contractor(s) throughout the pendency of this Project. The Contractor(s) shall be responsible for compliance with any such law, ordinance, rule or regulation, and shall hold the City harmless and indemnify same in the event of non-compliance as set forth in the Contract.

37. PERMITS AND LICENSES

A) The Contractor(s) shall, without additional expense to the City of Charleston, be responsible for obtaining all necessary licenses and permits required by the State of South Carolina, or the City of Charleston or any other authority having jurisdiction.

B) Contractors and subcontractors are responsible at all times for obtaining applicable work permits and licenses of any kind.

38. DISPUTES

Any bona fide dispute concerning the bid, proposal, request for qualifications or Agreement shall be resolved by the courts of the State of South Carolina. In the event any litigation is commenced with respect to any matter set forth in the aforementioned documents, the prevailing party shall be entitled to recover reasonable attorneys' fees and all other reasonable direct costs associated with such litigation from the non-prevailing party.

39. STATE AND LOCAL TAXES

A) Except as otherwise provided, contract prices shall *include* all applicable state and local taxes.

B) If applicable, two percent (2%) income tax withholding shall be withheld from each and every payment pursuant to Sections 12-8-540 and 12-8-550 of the *South Carolina Code of Laws* (1976, as amended) for certain out-of-state contractors, and such sums shall be paid over to the South Carolina Department of Revenue (the "SCDOR"). When and if the City receives an executed SCDOR Form I-312, Nonresident Taxpayer Registration Affidavit - Income Tax Withholding, such withholding shall cease.

C) Contractor shall calculate that portion of the contract which is subject to the nine percent (9%) South Carolina sales and/or use tax, which amount shall be itemized and shown on all invoices, and shall be paid to the SCDOR by Contractor. If Contractor is a non-South Carolina company, the City shall withhold said amount from all invoices and remit payment to the SCDOR, unless Contractor furnishes City with a valid South Carolina Use Tax Registration Certificate Number.

D) Contractor shall indemnify and hold harmless the City for any loss, cost, or expense incurred by, levied upon or billed to the City as a result of Contractor's failure to pay any tax of any type due in connection with the contract.

40. INCORPORATION BY REFERENCE

The contents of this Solicitation, including all drawings, attachments, specifications, exhibits, certificates, any addenda, Contractor's Proposal Response Form and Pricing List, and affidavits shall become part of the contract for this Project.

41. PRIME CONTRACTOR RESPONSIBILITIES

The contractor shall be required to assume sole responsibility for the complete effort as required by this Solicitation. The City shall consider the contractor to be the sole point of contact with regard to contractual matters.

42. OWNERSHIP OF MATERIAL

Ownership of all data, material and documentation originated and prepared for the City pursuant to this contract shall belong exclusively to the City.

43. DRUG-FREE WORKPLACE

(Note: This clause applies to any resultant contract of $50,000 or more). The City of Charleston requires compliance with the South Carolina Drug Free Workplace Act. By submission of a signed proposal, you are certifying that you shall comply with this Act. See S.C. Code Section 44-107-30.

44. FUNDING

Bidders shall agree that funds expended for the purposes of the contract must be appropriated by the City of Charleston for each fiscal year included within the contract period. Therefore, the contract shall automatically terminate without penalty or termination costs if such funds are not appropriated. In the event that funds are not appropriated for the contract, the Bidder shall not prohibit or otherwise limit the City's

right to pursue and contract for alternate solutions and remedies as deemed necessary by the City for the conduct of its affairs. The requirements stated in this paragraph shall apply to any amendment or the execution of any option to extend the contract.

45. SUBMITTING CONFIDENTIAL INFORMATION

For every document Bidder submits in response to or with regard to this Solicitation that is confidential or protected from disclosure, Bidder must separately mark with the word "CONFIDENTIAL" or "PROTECTED" on every page, or portion thereof. By so designating Bidder contends the information is exempt from public disclosure pursuant to the South Carolina Freedom of Information Act, S.C. Code Ann. §§ 30-4-10 through 4-165 (2007 & Supp. 2015) or other relevant law. For every document Bidder submits in response to or with regard to this Solicitation, Bidder must separately mark with the words "TRADE SECRET" on every page, or portion thereof, that Bidder contends contains a trade secret as that term is defined by the South Carolina Trade Secrets Act, S.C. Code Ann. §39-8-10, et seq. All markings must be conspicuous; use color, bold, underlining, or some other method in order to conspicuously distinguish the mark from the other text. Bidder shall not mark its entire Proposal (bid, proposal, quote, etc.) as confidential, trade secret, or otherwise protected! If a Proposal or any part thereof, is improperly marked as confidential or trade secret or protected, the City may, in its sole discretion, determine it non-responsive. If only portions of a page are subject to some protection, Bidder shall not be allowed to mark the entire page. By submitting a Proposal to this Solicitation, Bidder (1) agrees to the public disclosure of every page of every document regarding this Solicitation that was submitted at any time prior to entering into a contract (including, but not limited to, documents contained in a response, documents submitted to clarify a response, and documents submitted during negotiations), unless the page is conspicuously marked "TRADE SECRET" or "CONFIDENTIAL" or "PROTECTED," (2) agrees that any information not marked, as required by these bidding instructions, as a "TRADE SECRET" is not a trade secret as defined by the Trade Secrets Act, and (3) agrees that, notwithstanding any claims or markings otherwise, any prices, commissions, discounts, or other financial figures used to determine the award, as well as the final contract amount, may be subject to public disclosure. In determining whether to release documents, the City shall detrimentally rely on Bidder's marking of documents, as required by these bidding instructions, as being either "CONFIDENTIAL" or "TRADE SECRET" or "PROTECTED." By submitting a Proposal, Bidder agrees to defend, indemnify and hold harmless the City of Charleston, its officers and employees, from every claim, demand, loss, expense, cost, damage or injury, including attorney's fees, arising out of or resulting from the City withholding information that Bidder marked as "CONFIDENTIAL" or "TRADE SECRET" or "PROTECTED."

46. RECORDS RETENTION & RIGHT TO AUDIT

The City shall have the right to audit the books and records of the Contractor as they pertain to this contract. Such books and records shall be maintained for a period of three (3) years from the date of final payment under the contract. The City may conduct, or have conducted, performance audits of the Contractor. The City may conduct, or have conducted, audits of specific requirements of this proposal as determined necessary by the City. Pertaining to all audits, the Contractor shall make available to the City access to its computer files containing the history of contract performance and all other documents related to the audit. Additionally, any software used by the Contractor shall be made available for auditing purposes at no cost to the City.

47. COST
Costs submitted with a Proposal shall be firm for a period of at least ninety (90) days from the closing date. All prices shall be firm-fixed type, unless stated otherwise.

48. UNSUCCESSFUL BIDDERS
Bidders not awarded a contract under this solicitation, may request return of their proposals within thirty (30) days after notification of award is mailed. All cost of returns shall be paid by the Bidder. If Federal Express, UPS, or other shipping number is not received with request, all materials shall be destroyed.

49. PAYMENT FOR GOODS & SERVICES
Payment for goods & services arising out of the contract resulting from this Solicitation and received by the City shall be processed within 30 days of receipt of a valid invoice.

50. DISCUSSION/NEGOTIATION:
By submission of a proposal, a Bidder agrees that during the period following issuance of a proposal and prior to final award of contract, the Bidder shall not discuss this Procurement with any party except members of the City's Procurement Division or other parties specifically designated in this solicitation.

51. NON-DISCRIMINATION
The Contractor(s) shall not discriminate against any individuals based upon age, sex, race, disability, religion, sexual orientation or gender identity and shall abide by the requirements contained in Federal Executive Order Number 11246, as amended, including specifically the provisions of the equal opportunity clause. The City's Equal Employment Opportunity Plan Utilization Report is available on the city website on the Human Resources and Organization Development page at http://charleston-sc.gov/index.aspx?nid=246. To receive a paper copy of the report by mail, please contact Human Resources at (843) 724-7388.

52. DEFAULT
In case of default by the Contractor, the City reserves the right to purchase any or all items in default in the open market, charging the Contractor with any excessive costs. Should such charge be assessed, no subsequent response will be accepted from the defaulting Contractor until the assessed charge has been satisfied.

53. FORCE MAJURE
The Contractor shall not be liable for any excess costs if the failure to perform the contract arises out of causes beyond the control and without the fault or negligence of the contractor. Such causes may include, but are not restricted to acts of God or of the public enemy, acts of the Governments in either its sovereign or contractual capacity, fires, floods, epidemics, quarantine restrictions, strikes, freight embargoes, and unusually severe weather; but in every case the failure to perform must be beyond the control and without the fault or negligence of the contractor. If the failure to perform is caused by the default of a subcontractor, and if such default arises out of causes beyond the control of both the contractor and subcontractor, and without the fault or negligence of either of them, the contractor shall not be liable for any excess costs for failure to perform, unless the supplies or services to be furnished by the subcontractor were

obtainable from other sources in sufficient time to permit the contractor to meet the required delivery schedule.

54. EXCEPTIONS AND DEVIATIONS
Any deviation from specifications indicated herein must be clearly pointed out; otherwise, it will be considered that items offered are in strict compliance with these specifications, and successful Bidder will be held accountable. Deviations must be explained by accompanied documentation identifying and justifying all exceptions and deviations. Unidentified deviations found during the evaluation of the response may be cause for rejection.

55. PROMPT PAYMENT DISCOUNT TERMS
Prompt payment discount terms will be calculated from the point of complete order acceptance for services and/or commodities ordered.

56. REJECTION
The City reserves the right to reject any proposal that contains prices for individual items or services that are unreasonable when compared with the same or other proposals if such action is in the best interest of the City.

57. ARBITRATION
Under no circumstances and with no exception will the City of Charleston act as Arbitrator between the Contractor and any Sub-Contractor.

58. GUARANTEE AND WARRANTIES
The Bidder shall state his normal warranty and any extended warranties where available. Excluding any manufacturer's warranties and in addition to other warranties as provided by law or herein, all labor and materials are warranted to be free from defects for a minimum period of twenty-four (24) months after the date of final payment by the City.

59. PUBLICITY RELEASES
Contractor agrees not to refer to any award of a contract in commercial advertising in such a manner as to state or imply that the products or services provided are endorsed or preferred by the user.

60. AMENDMENTS
All questions and written responses, interpretations, corrections or changes to the RFP will be made by Addendum. Addenda will be mailed or otherwise delivered to all Bidders who have notified the City Procurement Division of receipt of the proposal.

61. WITHDRAWALS
Proposals may be withdrawn by written request received from the Bidder prior to the time set for opening of Proposals, but not thereafter.

62. AFFIRMATIVE ACTION
The successful Bidder will take affirmative action in complying with all Federal and State requirements concerning fair employment and treatment of all employees, without regard or discrimination by reason of race, color, religion, sex, national origin or physical handicap.

63. WAIVER
The City reserves the right to waive any Instruction to Bidders, General or Special Provisions, General of Special Conditions, or specifications deviation if deemed to be in the best interest of the City.

64. RESPONSE PERIOD
All responses shall be good for a minimum period of ninety (90) calendar days.

65. TERM
The initial term of the Agreement shall be for four (4) months. The City reserves the right to extend the Agreement if the City determines the extension is in its best interest.

INSURANCE REQUIREMENTS

Contractors working for the City of Charleston are required to procure and maintain for the duration of their contract with the City insurance against claims for injuries to persons or damages to property which may arise from or in connection with work performed by the Contractor, his agents, representatives, employees or Subcontractors. The cost of such insurance shall be the responsibility of the Contractor.

A. The Contractor shall carry liability insurance with a reliable company licensed to do business in South Carolina. Coverage shall be at least broad as:

   1. Insurance Services Office Commercial General Liability Coverage Form ("occurrence") CG 00 01 10 93.

   2. Insurance Services Office Business Auto Coverage Form CA 00 01 6 92 covering automobile liability, code 1 "any auto".

B. Contractor shall carry workers' compensation as required by the State of South Carolina and Employers Liability insurance (including applicable occupation disease provisions and all state endorsements.)

C. Contractor shall maintain limits no less than the following:

   1. **GENERAL LIABILITY:** $1,000,000 combined single limit per occurrence for bodily injury, property damage, and personal injury with a $2,000,000 general aggregate limit.

   2. **AUTOMOBILE LIABILITY:** $1,000,000 combined single limit per accident for bodily injury and property damage.

   3. **WORKERS' COMPENSATION:** Statutory limits are required by South Carolina state law, and employer's liability limits of $100,000 per accident.

   4. **PROFESSIONAL LIABILITY:** $1,000,000 per claim/$1,000,000 aggregate limit, with a deductible of $20,000.

      Contractor shall obtain and maintain a professional liability insurance policy covering the performance of the professional services specified in this agreement. Evidence of such insurance shall be satisfactory in form and content to the owner, the City. This coverage shall be maintained through the duration of this project and for a minimum of 1 year after substantial completion of the project as determined by the City.

      The Contractor and any of its subcontractors will cause the professional liability insurance required in this paragraph C.4:

      (a) to be excess insurance over any project professional liability policy, and

(b) to be primary insurance in the event the project insurance described in Paragraph E is canceled or not maintained, in the event the policy's limits of liability are exhausted, or if the policy expires.

D. Required policies are to contain, or be endorsed to contain, the following provisions:

1. General Liability and Automobile Liability Coverages

The City of Charleston, its officials, employees and volunteers are to be covered as additional insureds as respects: Liability arising out of activities performed by or on behalf of the Contractors; premises owned, occupied or used by the Contractor; or automobiles owned, leased, hired or borrowed by the Contractor. The coverage shall contain no special limitations on the scope of protection afforded to the City of Charleston, its officials, employees or volunteers. To accomplish this objective, the City of Charleston shall be named as an additional insured under the Contractor's general liability policy by attaching Insurance Services Office Commercial General Liability Endorsement CG2010 10 93 (Additional Insured - Owners, Lessees or Contractors - Form B) or its equivalent. Contractors' insurance coverage shall be primary insurance as respects the City of Charleston, its officials, employees and volunteers. Any insurance or self-insurance maintained by the City of Charleston, its officials, employees, or volunteers shall be in excess of the Contractor's insurance and shall not be required to contribute. To accomplish this objective, the following wording should be incorporated in the previously referenced additional insured endorsement.

Other Insurance: This insurance is primary, and our obligations are not affected by any other insurance carried by the additional insured whether primary, excess, contingent or on any other basis.

Any failure to comply with reporting provisions of the Contractor's policies shall not affect coverage provided to the City of Charleston, its officials, employees or volunteers.

2. Workers' Compensation

The Contractor shall agree to waive all rights of subrogation against the City of Charleston, its officials, employees and volunteers for losses arising from work performed by the Contractor for the City of Charleston.

E. Any deductibles or self-insured retentions shall be the responsibility of the Contractor.

F. Each insured policy required by the City of Charleston shall be endorsed to state that coverage shall not be suspended, voided, canceled by either party, reduced in coverage or in limits except after thirty (30) days prior written notice has been given to the City of Charleston.

G. All coverages for Subcontractors shall be subject to all the requirements stated herein.

H. Insurance must be placed with an approved insurance company with current Best's rating of A+, A, or A-. Exceptions to this requirement must be approved in writing by the Department of Risk Management.

I. Contractor shall furnish the City of Charleston with Certificates of Insurance noting the endorsements. The Certificates and endorsements for each insurance policy are to be signed by a person authorized by that insurer to bind coverage on its behalf. All certificates and endorsements are to be received and approved by the City of Charleston, Procurement Division, before work commences. The City of Charleston reserves the right to require complete, certified copies of all required insurance policies, at any time.

Required certificates should be mailed to:

City of Charleston
Procurement Division
75 Calhoun Street, Suite 3500
Charleston, SC 29401

Bid Number: 19-B047R	**Bids will be received until:** August 29, 2019 @ 1:00pm
Bid Title: Joe Riley Ball Park Electrical Renovations **Mandatory Pre-Bid:** August 15, 2019 9:00am at Joe Riley Ball Park, 360 Fishburne St.	
Mailing Date: August 2, 2019	**Direct Inquiries to:** Robin B. Robinson

CERTIFICATE OF FAMILIARITY

The undersigned, having fully familiarized himself with the information contained within this entire solicitation and applicable amendments, submits the attached Bid, and other applicable information to the City, which I verify to be true and correct to the best of my knowledge. I further certify that this Bid response is made without prior understanding, agreement, or connection with any corporation, firm or person submitting a Bid for the same materials, supplies, equipment or services in all respects, fair and without collusion or fraud. I agree to Bid by all conditions of this solicitation and certify that I am authorized to sign this Bid. I further certify all prices submitted shall remain effective for a minimum period of ninety (90) days, unless otherwise stated.

Gatch Electrical Contractors, Inc.
Company Name
As registered with the IRS

941 Dupont Road
Correspondence Address

Charleston, SC 29407
City, State, Zip

jgatch@gatchelectrical.com
Email Address

n/a
Toll-Free Number (if available)

P.O. Box 32187
Remittance Address

Charleston, SC 29417
City, State, Zip

Authorized Signature

James B. Gatch
Printed Name

President
Title

843-573-0700
Telephone Number

843-556-1452
Fax Number

September 13, 2019
Date

56-2086805
Federal Tax ID (FEIN)/SS Number

253771182
SC Sales Tax Number

Minority or Women-Owned Business:
Are you a certified Minority or Women-Owned business in the State of SC?
☐ Yes ☒ No
If so, please provide a copy of your certificate with your response.

CITY OF CHARLESTON LOCAL VENDOR RECOGNITION AFFIDAVIT

Personally appeared before me James B. Gatch (the "Bidder seeking Local Vendor Recognition") who, after being duly sworn, does hereby depose and certify that the Bidder seeking Local Vendor Recognition identified in this bid response and who signs below meets the following qualifications for local vendor recognition as provided in Sections C and E of the City of Charleston's Procurement Policy:

1. The bid is for construction services or goods and supplies only and is greater than $20,000;
2. Has a physical business address located within the City of Charleston and has been doing business in the City of Charleston for a period of 12 months or more prior to the bid opening date - (A post office box or temporary construction or office trailer will not be considered a place of business);
3. Has a valid City of Charleston business license which was issued at least 12 months prior to the bid opening date;
4. Provides a copy of its current City of Charleston business license with its bid;
5. Provides proof of payment of all applicable City of Charleston licenses, taxes and fees with its bid;
6. Is in compliance with any applicable federal, state and local requirements regarding the type of business in which the Local Vendor is engaged.

By submitting this Affidavit, the Bidder seeking Local Vendor Recognition understands that in addition to meeting the requirements set forth above, in order for the Bidder seeking Local Vendor Recognition to qualify for local vendor recognition, his bid must be within 4% or $10,000, whichever is lower, of the bid amount of the lowest responsive and responsible non-local bidder for said construction services or goods and supplies, and he requests that the local vendor recognition as set forth in Sections C and E of the City's Procurement Policy be exercised in consideration of the contract award of this bid. Failure to complete and return this Affidavit with the specified attachments set forth above with his bid will result in not being eligible to receive the benefits of the local vendor recognition.

BUSINESS NAME: Gatch Electrical Contractors, Inc.

CHARLESTON STREET ADDRESS: 941 Dupont Road, Charleston, SC 29407

SIGNATURE: _____ TITLE: President

By: James B. Gatch
(Print Name)

Sworn to and subscribed before me at 941 Dupont / Char, SC
State of South Carolina this 13 day of Sept, 2019.

(SEAL)

Notary Public for SC
My Commission Expires 12/15/2024

MELISSA PARKER-BATTS
NOTARY PUBLIC, STATE OF SOUTH CAROLINA
My Commission Expires 12/15/2024

MWBE Compliance Provisions and Instructions
Minority/Women Business Enterprise Program Forms

This Project is covered under the City of Charleston's Minority/Women Business Enterprise (MWBE) Program, administered by Ruth Jordan, MBE Manager, 2 George Street, Suite 3600, Charleston SC, 29401, (843) 724-7434.

The City has established goals for both Minority Business Enterprises (MBE) and Women Business Enterprises (WBE). An MBE is a small business owned and controlled by a minority. A WBE is a small business owned and controlled by a woman. The minority or woman must own fifty-one percent (51%) of the business and they must control the management and daily operations of the business in order to qualify.

Charleston City Council has adopted a policy setting 20% as the guidelines for combined minority-owned and women-owned business enterprise participation for this project. This MWBE requirement for participation in this Contract for services shall be made a part of any contract resulting from this solicitation. These requirements shall also apply to all subcontracts issued by the successful bidder(s).

All bidders must document the extent of their MWBE participation by completing the MWBE Compliance Provision Forms.

All MBE/WBE subcontractors must have a Certificate of Eligibility on file with the City's Minority Business Enterprise Office. A list of certified minority and women-owned firms can be found on the City of Charleston's web site www.charleston-sc.gov under "BIDLINE" link or by contacting Ruth Jordan, MBE Manager, 2 George Street, Suite 3600, Charleston SC, 29401, (843) 724-7434, jordanr@charleston-sc.gov.

COMPLIANCE REQUIREMENTS:

1. The Bidder shall provide, **with their bid form submittal,** the following Affidavits properly executed which signify that the Bidder understands and agrees to abide by the City's MWBE Compliance Provisions.

   ☐ **Affidavit A - Listing of the Good Faith Effort to Identify & Secure Minority and Women-owned Business Participation.**

   AND

   ☐ **Affidavit B – Work to be Performed by Minority and/or Women-owned Firms**

   OR

   ☒ **Affidavit C – *Intent to Perform Contract with Own Workforce,*** in making this certification the Bidder states that the Bidder does not customarily subcontract elements of this type of Project and will perform all elements of the work with his/her own current work forces.

Failure to comply with any of the statements, certifications, or intentions stated in the affidavits, or the MBE/WBE compliance provisions shall constitute a breach of the Contract. Any such breach may result in termination of the Contract in accordance with the termination provisions contained in the Contract. It shall be solely at the option of the City of Charleston whether to terminate the contract for breach. In addition to terminating the Contract, the bidder may be prohibited from participation in future solicitations as determined by the City of Charleston.

Name of Company: Gatch Electrical Contractors, Inc.

Signature

James B. Gatch
Print Name

Witness

September 13, 2019
Date

President
Title

AFFIDAVIT A

City of Charleston, South Carolina Listing of the Good Faith Effort

Affidavit of Gatch Electrical Contractors, Inc. NOT APPLICABLE
(Name of Bidder)

I have made a good faith effort to comply with the City of Charleston's MWBE compliance provisions under the following checked areas:
(A minimum of 6 areas must be checked in order to have achieved a "good faith effort")

- o 1. Contacted MWBE businesses that reasonably could have been expected to submit a quote and that were known to the Bidder, or available on Federal, State or local government maintained lists, at least 10 business days before the submittal date and notified them of the nature and scope of the work to be performed. *Complete Affidavit A, Page 2.*
- o 2. Followed up with contacted MWBE subsequent to the initial contact and at least 72 hours prior to submittal deadline/bid opening either by phone, facsimile or in person.
- o 3. Made the construction plans, specifications, and requirements available for review by prospective MWBE businesses, or providing these documents to them at least 10 business days before the submittal deadline/bid opening.
- o 4. Itemized elements of the work or combined elements of the work into economically feasible units to facilitate MWBE participation.
- o 5. Attended any pre-solicitation meetings scheduled by the City.
- o 6. Provided MWBE assistance with getting required bonding or insurance requirements or provided alternatives to bonding or insurance.
- o 7. Negotiated in good faith with interested MWBEs and did not reject them as unqualified without sound reasons based on their capabilities. *(Any rejection of a minority or woman-owned business based on lack of qualifications shall include reasons for rejection documented in writing.)*
- o 8. Provided MWBEs assistance with securing needed equipment, loan capital, lines of credit, or joint pay agreements to secure loans, supplies, or letters of credit, including waiving credit that is ordinarily required. Assisted MWBEs in obtaining the same unit pricing with the Bidder's suppliers in order to help such businesses in establishing credit.
- o 9. Provided training or mentoring to at least two (2) MWBEs within 120 days prior to submittal deadline/bid opening The training or mentoring program should be in conjunction with local trade groups, technical schools or community organizations that provide recruitment, education or skill levels.
- o 10. Negotiated joint venture, partnership or other similar arrangements with MWBEs in order to increase opportunities for MWBE participation.
- o 11. Provided quick pay agreements and policies to enable MWBE contractors and suppliers to meet cash-flow demands.

I hereby agree to enter into a formal agreement with the firms listed in Affidavit B Work to be performed by Minority Firms conditional upon execution of a contract with the Owner. Failure to abide by this provision will constitute a breach of the contract.

I hereby certify that I have read and agree to the terms of the Minority / Women-Owned Business Enterprise Program, and I am the Bidder or I am authorized to bind the Bidder to the commitment herein set forth.

Date:_____ Name of Authorized Officer (Print/Type): _____

Signature: _____

Title: _____

NOT APPLICABLE

AFFIDAVIT A

City of Charleston, South Carolina Minority/Women-Owned Business Participation Efforts

(Use as many sheets as necessary)

I, Gatch Electrical Contractors, Inc. _____, hereby certify that on this project we contacted the following minority/women-owned business enterprises as subcontractors, vendors, suppliers, or providers of professional services.

1. Minority Firm Name and Contact	Minority Firm Address
Minority Firm Telephone Number _____ Minority Firm Fax Number _____ DBE Certification Number _____	Minority Group Type ☐ (African American) ☐ (Women) ☐ (Asian American) ☐ (Hispanic) ☐ (American Indian) ☐ (Other) ☐ Follow up Verification
2. Minority Firm Name and Contact	Minority Firm Address
Minority Firm Telephone Number _____ Minority Firm Fax Number _____ DBE Certification Number _____	Minority Group Type ☐ (African American) ☐ (Women) ☐ (Asian American) ☐ (Hispanic) ☐ (American Indian) ☐ (Other) ☐ Follow up Verification
3. Minority Firm Name and Contact	Minority Firm Address
Minority Firm Telephone Number _____ Minority Firm Fax Number _____ DBE Certification Number _____	Minority Group Type ☐ (African American) ☐ (Women) ☐ (Asian American) ☐ (Hispanic) ☐ (American Indian) ☐ (Other) ☐ Follow up Verification
4. Minority Firm Name and Contact	Minority Firm Address
Minority Firm Telephone Number _____ Minority Firm Fax Number _____ DBE Certification Number _____	Minority Group Type ☐ (African American) ☐ (Women) ☐ (Asian American) ☐ (Hispanic) ☐ (American Indian) ☐ (Other) ☐ Follow up Verification

I certify, under penalties of perjury, that I have examined the information in this affidavit, and to the best of my knowledge and belief, this information is true, correct and complete.

Date:_____ Name of Authorized Officer (Print/Type):_____

Sworn to before me this ____ day of _____, 20__.

Signature:_____

Notary Public for the State of _____

My Commission Expires: _____

Title:_____

Print Name: _____

Notary Seal:

Phone Number: _____

Address: _____

AFFIDAVIT B

NOT APPLICABLE

City of Charleston, South Carolina
Work to be Performed by Minority/Women-Owned Businesses

Affidavit of Gatch Electrical Contractors, Inc. (Name of Bidder). I hereby certify that on the _____ (Project Name), Total Project Amount $_____

I will make a good faith effort to expend a minimum of _____% of the total dollar amount of the Contract with minority/women-owned business enterprises. Minority/women-owned businesses will be employed as subcontractors, vendors, suppliers, or providers of professional services. Such work will be subcontracted to the following businesses listed below:

(Attach additional sheets if needed)

Name and Phone Number	*Minority Code	Work Description	Dollar Value
			$
			$
			$
			$
			$
			$
			$

Total MBE Participation: _____ % $ _____

* Minority categories: African American (B); Hispanic (H); Asian American (A), American Indian (I); Woman Owned (W); Other (D)

I will enter into a formal Contract with the above minority/women-owned business enterprises for the work listed in the above schedule conditional upon execution of a Contract with the Owner.

I certify that I have read the terms of this commitment and I am the Bidder or authorized to bind the Bidder to the commitment set forth herein. I certify, under penalties of perjury, that I have examined the information in this affidavit, and to the best of my knowledge and belief, this information is true, correct and complete.

Date:_____ Name of Authorized Officer (Print/Type):_____

Signature:_____

Title:_____

Sworn to before me this ____ day of _____, 20__.

My Commission Expires: _____

Print Name: _____

Phone Number: _____

Address: _____

Notary Public for the State of _____

Notary Seal:

AFFIDAVIT C

City of Charleston, South Carolina
Intent to Perform Contract with Own Workforce

Affidavit of Gatch Electrical Contractors, Inc.
(Name of Bidder)

I hereby certify that it is our intent to perform 100% of the work required for the _____

Joe Riley Ball Park Electrical Renovations contract.
(Name of Project)

In making this certification, the Bidder states that the Bidder does not customarily subcontract elements of this type Project, and normally performs and has the capability to perform and will perform *all the elements of the work* on this Project with his/her own current work forces, and

The Bidder agrees to provide any additional information or documentation requested by the Owner in support of the above statement.

I hereby certify that I have read this certification and I am the Bidder or I am authorized to bind the Bidder to the commitments contained herein. I certify, under penalties of perjury, that I have examined the information in this affidavit, and to the best of my knowledge and belief, this information is true, correct and complete.

Date: 9/13/19 Name of Authorized Officer (Print/Type): James B. Gatch

Signature: _____

Title: President

Sworn to before me this 13 day of September, 2019
Notary Public for the State of South Carolina
My Commission Expires: 12/15/2024
Print Name: Melissa Parker Batts
Phone Number: 843) 573.0700
Address: 941 Dupont Road
Charleston, SC 29407

Notary Seal:

MELISSA PARKER-BATTS
NOTARY PUBLIC, STATE OF SOUTH CAROLINA
My Commission Expires 12/15/2024

References

Bidders must supply a minimum of four references for which they have provided the same or similar services being requested here on a contract basis during the last three (3) years.

Name: MUSC Thurmond Gazes ATS Bypass / Jimmy Stewart - MUSC
Address: 114 Doughty Street
Charleston, SC
Phone/Fax: 843-792-1414 873-876-8080f
Email: stewartjh@musc.edu

Name: Emerg Generator Replacement-City of Chas Police Station/Josh Robbins
Trident Construction
Address: 180 Lockwood Drive
Charleston, SC
Phone/Fax: 843-572-7600 843-764-1704f
Email: joshrobbins@tridentcon.com

Name: West Ashley Sewer Tunnel & Influent Pump Station/Jose Rivera
Southland Renda JV
Address: 539 Harborview Circle
James Island, SC
Phone/Fax: 512-506-9545 512-506-9546f
Email: jrivera@southlandholdings.com

Name: Lake Moultrie WTP, Ph 2-Reliability Improvements/Mo Yousefzadeh
MB Kahn Construction
Address: 871 Water Treatment Plant Road
Moncks Corner, SC
Phone/Fax: 803-736-2950 803-699-6418f
Email: my0@mbkahn.com

Name:
Address:
Phone/Fax:
Email:

General Information

The City of Charleston, South Carolina is soliciting vendors for the **Joe Riley Ball Park Electrical Renovations**. Work will include: replacement of the main feeders coming into the stadium from the Dominion Power transformer, main switchgear, electrical panels, transformers, all wiring feeding the field light poles from the main electrical room and a new fire alarm system.

The City's expectation is that the work will begin October 1, 2019 and be completed no later than January 31, 2020.

The City is requiring a 100% Performance Bond from the awarded vendor for this project.

There will be a Mandatory Pre-Bid Meeting held at 9:00am on August 15, 2019 at the Joe Riley Ball Park, 360 Fishburne St.

Procurement Process

This is an **Invitation for Bid**. The City will award to the lowest responsive, responsible bidder that meet the needs of this solicitation. The bids will be opened and an award is made to the lowest responsive and responsible bidder. Any contract the City chooses to negotiate with the awarded vendor shall contain, at a minimum, the term and conditions (or substantially the same term and conditions) as hereinafter stated. The City reserves the right, in its sole discretion, to reject all submissions, reissue a subsequent solicitation, terminate, restructure or amend this procurement process at any time. The final selection and contract negotiation rests solely with the City.

Questions

Every effort has been made to insure that all information needed by the Bidder is included herein; however, questions are allowed and encouraged to clear up any information as described herein, etc. ***The City Will Not Accept telephone calls or visits regarding this Solicitation.*** **All questions shall be in writing and addressed to: Robin B. Robinson, City of Charleston, Procurement Division, 75 Calhoun Street, Suite 3500, Charleston, South Carolina 29401, or email to: robinsonr@charleston-sc.gov.** ***Written Questions may also be faxed to: 843-720-3872. All questions must be received before 2:00pm on August 19, 2019.*** No interpretation shall be binding upon the City unless in writing from the City's Corporate Counsel.

Oral Statements

No oral statement of any person shall modify or otherwise change, or affect the terms, conditions or specifications stated in the resulting contract. The City of Charleston shall not be legally bound by any amendment or interpretation that is not in writing.

Contractor Solely Responsible for Performance

Vendor shall be responsible for the performance of the services required by the contract. Vendor is an independent contractor and does not act as the City's agent or employee.

Disqualification of Bidders

Bidders may be disqualified for any of the following reasons:

- Reason to believe collusion exists among the Bidders
- The Bidder is involved in any litigation against the City
- The Bidder is in arrears on any existing contract or has defaulted on a previous contract with the City

- Lack of financial stability
- Failure to perform under previous or present contracts with the City
- Is currently debarred by the State of South Carolina Procurement Services

Suspension and Debarment
The Bidder certifies, by submission of this proposal, that neither it nor its principals are presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any federal, state or local agency. Where the Bidder is unable to certify to any of the statements in this certification, such Offeror shall attach an explanation to this proposal.

Contract Negotiations
The City will rank, based upon the evaluation criteria, all responsible and responsive Vendors. The City will begin negotiations with the top ranked Vendors and will continue with negotiation down the ranking until a satisfactory contract with the City is finalized, if any. The terms and conditions of the contract will be no less advantageous than the provisions of this solicitation or the Vendor's proposal. The City reserves the right to make a partial award or to split the award at its sole discretion.

Vendor's Duty to Inspect and Advise and Declare All Costs
Each Vendor shall become fully acquainted with the City's requirements and the scope of commodities and/or services to be provided. Vendor shall have a duty to request any information from the City as it deems necessary to prepare their submittal. No change order will be granted or additional compensation permitted if based upon information the Vendor knew or should have known as part of the Vendor's duty to become acquainted with the City's circumstances and requirements.

Receipt of Bids
Bids must be submitted to and received by the City no later than the date and time specified within this solicitation. Bidders mailing proposals should allow a sufficient mail delivery period to insure timely receipt *(August 29, 2019 @ 1:00pm)* of their proposal by the City. Bids received after the scheduled due date and time will not be considered.

Number of Bids to be Submitted
Each Vendor must **submit one (1) Unbound Original (please use a paper clip, binder clip or rubber band), 1 Bound Copy and one (1) digital copy (Flash Drive)**. Only original documents will be accepted; faxed or electronically mailed versions will not be accepted. The Vendor must mark on the envelope or wrapping containing the bid, the solicitation identification number specified in the solicitation and note **"Original"** on the original bid.

Required Forms And Signature Pages
Offerors shall include as an appendix, all ancillary forms required in this Request for Proposal (RFP). Required forms include, but are not limited to the following:

- RFP Cover Page
- Certificate of Familiarity
- W/MBE Good Faith Effort Form and appropriate Affidavit
- Any Addenda

Bid Format

Bids are to be prepared in a manner designed to provide the City with a straightforward presentation of the Bidder's capability to satisfy the requirements of this solicitation. All copies shall be bound in a single volume(s) and all documentation submitted with the bid should be bound in the respective volume(s), where practical.

a) All bids should be clearly marked **"19-B047R Joe Riley Ball Park Electrical Renovations"** and **submitted in a sealed envelope.**
b) Bids **must be submitted by mail or hand delivered** to Robin B. Robinson, City of Charleston, Procurement Division, 75 Calhoun Street, Suite 3500, Charleston, SC 29401.
c) Proposals **must be received** in the City's Procurement Office **no later than 1:00pm on August 29, 2019. Late proposals will not be accepted for any reason.**
d) **No more than one bid may be submitted by any Vendor.**
e) The bid must be signed by an official authorized to contractually bind the Vendor.
f) All forms from this solicitation requiring signature must be included in the bid.

References/Experiences

Vendor must provide a minimum of four (4) references. Include company name, mailing address, name of point of contact, telephone number and email address. The City reserves the right to contact and request information from any source so named.

Confidentiality

The contents of this Solicitation shall not be discussed with anyone outside of the Bidder's organization. Any issues regarding confidentiality should be directed to the Point of Contact. Any breach of this confidentiality requirement will result in immediate disqualification of your organization from further consideration pursuant to the award of any resulting contract.

Term of Contract

The initial term of the Agreement shall be for four (4) months. The City reserves the right to extend the Agreement if the City determines the extension is in its best interest.

Basis for Award

The City will base its recommendation on the bid submitted and if it is responsive and responsible. The City reserves the right to inspect the Bidder's physical premises prior to award to satisfy questions regarding the Bidder's capabilities.

Bid #19-B047R **Vendor:** Gatch Electrical Contractors, Inc.

Joe Riley Ball Park Electrical Renovations

DESCRIPTION	UNIT $	TOTAL $
Replace main feeders from Dominion transformer to main switchgear and replace main switchgear panel		$ 111,000.00
Replace electrical panel boards & transformers		$ 402,000.00
Replace wiring from main switchgear to subpanels		$ 663,000.00
Replace wiring feeding the 6 field light pole panels		$ 175,000.00
Fire Alarm System		$ 329,000.00
Total		$ 1,680,000.00

Qualifications

- Commercial Electrical license
- 10 years' experience working with high 480V equipment
- Completion of 5 similar projects over the past 5 years
- 100% Performance Bond

The City of Charleston reserves the right to review past projects of similar scope to verify experience.

The City's expectation is that the work will begin October 1, 2019 and be completed no later than January 31, 2020.

GATCH

Electrical Contractors, Inc.

941 Dupont Road P. O. Box 32187 Charleston, SC 29417 843-573-0700 Fax 843-556-1452

SUBCONTRACTOR	LICENSE NUMBER(S)	DESCRIPTION OF WORK
B&F Mechanical	G118196 / M102465	Screen Wall
Pinnacle Construction	G111356	Boring
Johnson Controls	2-19188582	Fire Alarm

City of Charleston, South Carolina

BUSINESS LICENSE

2019

A LICENSE IS HEREBY GRANTED TO:

Gatch Electrical Contractors Inc.
DBA: Gatch Electrical Contractors Inc.
941 DUPONT RD
CHARLESTON, SC 29407

DATE OF ISSUE		
MO	DAY	YEAR
1	29	2019

---- CLASS ----
8.1 - 238210

LICENSE #	16612

THIS LICENSE IS ISSUED ON THE PETITION OF THE APPLICANT, WHO ASSUMES ALL RESPONSIBILITY OF COMPLIANCE WITH FEDERAL, STATE AND LOCAL LAWS. THE CITY WILL MAKE NO REFUND IF SUCH LAWS PREVENT OR RESTRICT THE TRADE, BUSINESS, OR PROFESSION HEREIN LICENSED.

THIS LICENSE MUST BE PLACED IN THE FRONT WINDOW; OR, IF THERE BE NO SUCH WINDOW, THEN IN A CONSPICUOUS PART OF THE BUSINESS PLACE.

Amy K. Wharton

CHIEF FINANCIAL OFFICER
CHARLESTON, SOUTH CAROLINA

CCG 1025897

*** LICENSE# - CLM.99040 ***

South Carolina Department of Labor, Licensing and Regulation
SC Contractor's Licensing Board
MECHANICAL CONTRACTOR
GATCH ELECTRICAL CONTRACTORS INC
341 DUPONT ROAD
CHARLESTON SC 29417
is certified to practice in the following classification(s):
EL5

Initial License Date: 03/03/1993
License Print Date: 05/16/2019
EXPIRATION DATE: 10/31/2021

Administrator

CCG 1025897

*** LICENSE# - CLM.99040 ***

EXPIRATION DATE: 10/31/2021

MECHANICAL CONTRACTOR
GATCH ELECTRICAL CONTRACTORS INC
is certified to practice the following classification(s):
EL5

Qualifying Party(s): JOHN RICHARDS (CQM.11933 PQ), JAMES B GATCH (CQM.3689 PQ), DOUGLAS N HUFFMAN (CQM.22646 PQ)
(a Primary QP will have a "PQ" after their certificate number)

License Classification(s) : the 2 letters in front of number

License Group/ Limit : the number after 2-letter classification
(License Letter Abbreviations Key and Group Limits on back)

(Classification Definitions: www.scstatehouse.gov/code/t40c011.php, §40-11-410)

CLASSIFICATION ABBREVIATIONS
Air Conditioning (AC)
Electrical (EL)
Heating (HT)
Packaged Equipment (PK)
Refrigeration (RF)
Plumbing (PB)
Process Piping (PP)
Refrigeration (RF)

DOLLAR LIMIT PER CONTRACT

Group 1	$17,500
Group 2	$50,000
Group 3	$100,000
Group 4	$200,000
Group 5	Unlimited

*** LICENSE# - G106948 ©CB1049263

South Carolina Department of Labor, Licensing and Regulation

SC Contractor's Licensing Board

GENERAL CONTRACTOR

GATCH ELECTRICAL CONTRACTORS INC

941 DUPONT ROAD
CHARLESTON SC 29417

is certified to practice the following:

2U5

Effective License Date:.....08/29/2018
Initial License Date: 06/26/2002
EXPIRATION DATE: 10/31/2020

Administrator

*** LICENSE# - G106948 ©CB1049263

EXPIRATION DATE: 10/31/2020

GENERAL CONTRACTOR

GATCH ELECTRICAL CONTRACTORS INC

is certified to practice the following:

2U5

License Classification(s) is the 2 letters in front of number
License Group/ Limit is number after 2-letter classification
(see Letter Abbreviation Key & Group Limit on back)

Qualifying Party(s): JOHN RICHARDS, JAMES B GATCH

CLASSIFICATION ABBREVIATIONS			
Asphalt Paving (AP)	General Roofing (GR)	Pre-Eng Metal Bldgs (MP)	Wood Frames Structures (WF)
Boiler Installation (BL)	Glass & Glazing (GG)	Public Utility Elect (1U or 2U)*	
Boring & Tunneling (BT)	Grading (GD)	Railroad (RR)	DOLLAR LIMIT PER CONTRACT
Bridges (BR)	Highway (HY)	Specialty Roofing (SR)	Group 1 $50,000
Building (BD)	Highway Incidental (HI)	Structural Framing (SF)	Group 2 $200,000
Concrete (CT)	Interior Renovation (IR)	Structural Shapes (SS)	Group 3 $500,000
Concrete Paving (CP)	Marine (MR)	Swimming Pools (SP)	Group 4 $1,500,000
	Masonry (MS)	Water & Sewer Lines (WL)	Group 5 Unlimited
	Pipelines (PL)	Water & Sewer Plants (WP)	

*1U - May engage in athletic lighting and stadium lighting

2U - May not engage in athletic field lighting or stadium lighting.

Client#: 1112615 GATCHELE

ACORD™ CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY) 09/11/2019

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer any rights to the certificate holder in lieu of such endorsement(s).

PRODUCER
USI Insurance Services, LLC-CL
1301 Gervais St., Suite 500
Columbia, SC 29201
803 602-3020

CONTACT NAME: Dan Lombardozzi
PHONE (A/C, No, Ext): 803 602-3019 FAX (A/C, No):
E-MAIL ADDRESS: Daniel.Lombardozzi@usi.com

INSURER(S) AFFORDING COVERAGE	NAIC #
INSURER A : National Trust Insurance Company	20141
INSURER B : Travelers Property Cas. Co. of America	25674
INSURER C :	
INSURER D :	
INSURER E :	
INSURER F :	

INSURED
Gatch Electrical Contractors, Inc.
941 Dupont Road (29407)
P O Box 32187
Charleston, SC 29417

COVERAGES CERTIFICATE NUMBER: REVISION NUMBER:

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSR	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	X COMMERCIAL GENERAL LIABILITY			CPP100047082	06/01/2019	06/01/2020	EACH OCCURRENCE	$1,000,000
	CLAIMS-MADE X OCCUR						DAMAGE TO RENTED PREMISES (Ea occurrence)	$500,000
							MED EXP (Any one person)	$5,000
							PERSONAL & ADV INJURY	$1,000,000
	GEN'L AGGREGATE LIMIT APPLIES PER						GENERAL AGGREGATE	$2,000,000
	POLICY X PRO-JECT LOC						PRODUCTS - COMP/OP AGG	$2,000,000
	OTHER							$
A	AUTOMOBILE LIABILITY			CA100025700	06/01/2019	06/01/2020	COMBINED SINGLE LIMIT (Ea accident)	$1,000,000
	X ANY AUTO						BODILY INJURY (Per person)	$
	OWNED AUTOS ONLY / SCHEDULED AUTOS						BODILY INJURY (Per accident)	$
	X HIRED AUTOS ONLY / X NON-OWNED AUTOS ONLY						PROPERTY DAMAGE (Per accident)	$
	X Drive Oth Car							$
A	X UMBRELLA LIAB X			UMB100025701	06/01/2019	06/01/2020		9,000,000
	EXCESS LIAB							9,000,000
	DED X RETENTION $0							$
A	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY			010WC18A77421	06/01/2019	06/01/2020	X PER STATUTE / OTH-ER	
	ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) Y/N N	N/A					E.L. EACH ACCIDENT	$1,000,000
	If yes, describe under DESCRIPTION OF OPERATIONS below						E.L. DISEASE - EA EMPLOYEE	$1,000,000
							E.L. DISEASE - POLICY LIMIT	$1,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)
RE: Joe Riley Ball Park Electrical Renovations
The City of Charleston is a certificate holder.

CERTIFICATE HOLDER

The City of Charleston
75 Calhous Street, Suite 3500
Charleston, SC 29401

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

Kenneth Gaylor

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City of Charleston
Procurement Division
75 Calhoun Street, Suite 3500
Charleston, SC 29401

ADDENDUM #1 – Q&A

T: (843) 724-7314
F: (843) 720-3872

DATE: August 22, 2019

TO: All Bidders

FROM: Robin Barrett-Robinson

RE: 19-B047R – Joe Riley Ball Park Electrical Renovations

This addendum #1 to the solicitation is being made for the following reasons:

Q-1 **Do you have a construction cost/estimated budget?**

A-1 The budget information is not available.

Q-2 **Do you have union requirements?**

A-2 We do not have any requirements beyond City and State requirements.

Q-3 **Do you have a copy of the Pre-Bid Sign-In Sheet available?**

A-3 That document will be included with this addendum.

Q-4 **Have you issued an addenda for this project? Can I obtain a copy?**

A-4 There has not been any addendum released prior to this one.

Q-5 **Can we obtain a copy of the plan holder's list?**

A-5 We do not have a plan holder's list.

Q-6 **Can we get the substitution request form?**

A-6 That form can be found on our website.

Q-7 Are you requesting a bid bond for this project?

A-7 Yes, we are requiring a bid bond for the project.

Q-8 Can the bid date be extended at-least one week?

A-8 No. We have a deadline as mentioned at the pre-bid.

Q-9 Refer to drawing E-100. The installation of the new duct bank along the south side of the field to pole 3 will require removal of trees / shrubs between the sidewalk and the field wall. Will we need to include replacing all trees / shrubs?

A-9 Yes, provide separate line item to provide all required labor and material to fix the areas and reestablish as per existing conditions.

Q-10 Can directional boring be used in lieu of duct banks for light poles and score-boards?

A-10 Yes. DB is allowed. Conduit shall be HDPE type UL-listed for electrical installations. Couplings (sections) shall be kept to a minimum and shall be fusion type, completely watertight. Minimum burying depth shall be 6 ft. The underground pull boxes indicated on drawings shall remain as part of the electrical scope. All 90 deg vertical elbows (when emerging from the soil) shall still be either PVC schedule 80 or Rigid Galv. Conduit. The contractor shall be responsible for providing the corresponding HDPE inner diameter size as that of Schedule 40 PVC in order to maintain the same conduit fill capacity.

Q-11 Another site visit is required to measure existing raceways. Please set date / time. I recommend Thursday, August 22, 2019 @ 10:00am.

A-11 We can meet back on-site Monday, August 26, 2019 @ 10am.

Q-12 Can EMT type raceway be utilized inside electrical rooms?

A-12 EMT can be used inside Elect Rooms at above 8 ft from the floor (not subject to physical damage) and for new conduit runs altogether. If the existing conduit is rigid steel and needs to be extended to reach panelboard location, then rigid steel conduit (not EMT) must be still be used.

Q-13 Refer to drawing E-401 Notes 7-11. Please indicate control signal conduit termination point.

A-13 Control signal for the Light Poles and Scoreboards will be terminated in the Pres-Box general area and the third floor. Coordinate exact final connections in the field.

Q-14 Can ceiling mount fire alarm devices be utilized in lieu of exposed conduit on wall?

Pre-Bid Sign-In Sheet

Joe Riley Ball Park Electrical Renovations

Solicitation# 19-B047R – August 15, 2019

Firm's Name / Representative's Name	Telephone #	E-Mail address
Feyen Zylstra / Stacey Thomas	843-554-8351	stacey@fzcorp.com
Feyen Zylstra / Jay Adams	843-408-3218	jaya@fzcorp.com
Gatch Electrical / Jason Lamb	843 2960684	jlamb@gatchelectrical.com
L&S ELECTRONICS / GREG POWELL	843-554-5900	GPOWELL@LSELECT.COM
HR Allen / Rick Miller	843-747-4100	RICK.MILLER@HRALLEN.COM
CMI / Paul O'Dell	803-609-9021	paul@controlmanagement.com
CPS LLC	843.697.2299	daocps@gmail.com

A-14 Yes. FA ceiling mount is the preference as long as they are visible from all required points. If not visible then wall surface-mounted, with painted exposed conduit, will be required.

Q-15 Are we required to paint all exposed conduits for Fire Alarm devices?

A-15 Yes. Paint exposed conduits on walls.

If you have any questions, please feel free to call 843-724-7312 or 724-7314. Thank you in advance for your cooperation.

Signature of Acknowledgement

August 28, 2019
Date

Gatch Electrical Contractors, Inc.
Company Name

City of Charleston
Procurement Division
75 Calhoun Street, Suite 3500
Charleston, SC 29401

ADDENDUM #2

T: (843) 724-7314
F: (843) 720-3872

DATE: August 26, 2019

TO: All Bidders

FROM: Robin Barrett-Robinson

RE: 19-B047R – Joe Riley Ball Park Electrical Renovations

This addendum #2 to the solicitation is being made for the following reasons:

The due date has been changed from August 29, 2019 2 1:00pm to September 5, 2019 @ 12:30pm.

If you have any questions, please feel free to call 843-724-7312 or 724-7314. Thank you in advance for your cooperation.

Signature of Acknowledgement

August 30, 2019
Date

Gatch Electrical Contractors, Inc.
Company Name

City of Charleston
Procurement Division
75 Calhoun Street, Suite 3500
Charleston, SC 29401

ADDENDUM #3

T: (843) 724-7314
F: (843) 720-3872

DATE: August 26, 2019

TO: All Bidders

FROM: Robin Barrett-Robinson

RE: 19-B047R – Joe Riley Ball Park Electrical Renovations

This addendum #3 to the solicitation is being made for the following reasons:

Included in this is the revised Bid Form.

If you have any questions, please feel free to call 843-724-7312 or 724-7314. Thank you in advance for your cooperation.

Signature of Acknowledgement

August 30, 2019
Date

Gatch Electrical Contractors, Inc.
Company Name

City of Charleston
Procurement Division
75 Calhoun Street, Suite 3500
Charleston, SC 29401

ADDENDUM #4

T: (843) 724-7314
F: (843) 720-3872

DATE: August 28, 2019

TO: All Bidders

FROM: Robin Barrett-Robinson

RE: 19-B047R – Joe Riley Ball Park Electrical Renovations

This addendum #4 to the solicitation is being made for the following reasons:

There will be another site visit at 9:00am August 29, 2019. This will be the last opportunity to take measurements.

If you have any questions, please feel free to call 843-724-7312 or 724-7314. Thank you in advance for your cooperation.

Signature of Acknowledgement

August 30, 2019
Date

Gatch Electrical Contractors, Inc.
Company Name

City of Charleston
Procurement Division
75 Calhoun Street, Suite 3500
Charleston, SC 29401

ADDENDUM #5

T: (843) 724-7314
F: (843) 720-3872

DATE: September 3, 2019

TO: All Bidders

FROM: Robin Barrett-Robinson

RE: 19-B047R – Joe Riley Ball Park Electrical Renovations

This addendum #5 to the solicitation is being made for the following reasons:

The due date has been changed from September 5, 2019 to September 10, 2019. The time due will remain the same.

If you have any questions, please feel free to call 843-724-7312 or 724-7314. Thank you in advance for your cooperation.

Signature of Acknowledgement

September 3, 2019
Date

Gatch Electrical Contractors, Inc.
Company Name

City of Charleston
Procurement Division
75 Calhoun Street, Suite 3500
Charleston, SC 29401

ADDENDUM #6

T: (843) 724-7314
F: (843) 720-3872

DATE: September 9, 2019

TO: All Bidders

FROM: Robin Barrett-Robinson

RE: 19-B047R – Joe Riley Ball Park Electrical Renovations

This addendum #6 to the solicitation is being made for the following reasons:

The due date and time has been changed from September 10, 2019 to September 13, 2019 at 10:00 am.

If you have any questions, please feel free to call 843-724-7312 or 724-7314. Thank you in advance for your cooperation.

Signature of Acknowledgement

September 9, 2019
Date

Gatch Electrical Contractors, Inc.
Company Name

4.)

COMMITTEE / COUNCIL AGENDA

TO: John J. Tecklenburg, Mayor

FROM: Jennifer Gorham **DEPT.** MOCYF

SUBJECT: YOUTH VOLUNTEER CORPS – GREEN GLOBE GRANT ACCEPTANCE

REQUEST: To accept a grant award in the amount of $200 from Youth Volunteer Corps to engage Charleston area youth in an environmental service-learning project.

COMMITTEE OF COUNCIL: W&M **DATE:** January 28, 2020

COORDINATION: This request has been coordinated with: *(attach all recommendations/reviews)*

	Yes	N/A	Signature of Individual Contacted	Attachment
Corporate Counsel	☐	☐		☐
Cap. Proj. Cmte. Chair	☐	☐		☐
Executive Director	☐	☐	Mindy Stu[illegible]	☒
Grants Manager	☐	☐	[illegible]	☐

FUNDING: Was funding previously approved? Yes ☐ No ☐ N/A ☐

If yes, provide the following: Dept./Div.: _____ Account #: _____

Balance in Account _____ Amount needed for this item _____

Does this document need to be recorded at the RMC's Office? Yes ☐ No ☐

NEED: Identify any critical time constraint(s).

This grant was submitted on December 1, 2019.

CFO's Signature: [signature], Deputy CFO

FISCAL IMPACT:

No City match required.

Mayor's Signature: [signature]

John J. Tecklenburg, Mayor

ORIGINATING OFFICE PLEASE NOTE: A FULLY STAFFED/APPROVED (except Mayor's Signature) PACKAGE IS DUE IN THE CLERK OF COUNCIL'S OFFICE NO LATER THAN 10:00AM THE DAY OF THE CLERK'S AGENDA MEETING.

YOUTH VOLUNTEER CORPS

Congratulations!

December 9, 2019

Aaliyah Head, Adrian Clarke, Andrew Farrell, Faith Brown, Gabe Silverman, Keory Ancrum, LaNiece Heyward, Lily Bluestein, Masi Sundara, Peter Claiborne, Riley Silverman, Vansh Nagpal
cc: Jennifer Gorham
Youth Volunteer Corps in Charleston
75 Calhoun Street
Suite 3700
Charleston, SC 29401

Dear Aaliyah, Adrian, Andrew, Faith, Gabe, Keory, LaNiece, Lily, Masi, Peter, Riley, and Vansh,

Congratulations on being selected for a $200 grant through the YVC Green Globe Projects Youth Volunteer Grant!

YVC's International Youth Advisory Board reviewed every application submitted and discussed our top selections. We felt that each application had something special, but your application really stood out. We especially like that you want to address micro plastic specifically and have many community partners to help ensure the success of this project. Your detailed budget helped build our trust that the money would be well spent. We also thought that this application displayed strong youth leadership and collaboration. We are excited to see how this project will impact YVC youth volunteers and especially, make a greener globe. Well done!

This **$200 grant** should be used to support your YVC program as outlined in your application budget. Once your project is complete, you should assist your YVC Program Director in completing a grant report by sending Sagan Hundley (shundley@yvc.org) a project recap that includes a brief summary of the project and total number of youth and hours served. Don't forget to take photos of your project to include in your grant report. A check will be mailed directly to YVC in Charleston.

Thank you for taking time to apply for this grant opportunity and for your amazing service through Youth Volunteer Corps.

Sincerely,
Vidya Iyer and the YVC International Youth Advisory Board

Green Globe Grant
YVC Affiliate: Charleston, SC

Date: December 1, 2019
YVC Name: Youth Volunteer Corps (YVC) of Charleston
Name of Youth Applicants: YVC of Charleston's Youth Advisory Board (Aaliyah Head, Adrian Clarke, Andrew Farrell, Faith Brown, Gabe Silverman, Keory Ancrum, LaNiece Heyward, Lily Bluestein, Masi Sundara, Peter Claiborne, Riley Silverman, Vansh Nagpal)
Contact Phone: 843-965-4190
Contact Email: gorhamj@charleston-sc.gov
YVC Program Director Name: Jennifer Gorham
YVC Program Director Signature: *Jennifer Gorham*

Strategic Focus Area - STEM and Environment:
-How does your project fall under the STEM and Environment Strategic Focus Area?
-Can it be included in an additional Strategic Focus Area? (You can learn more about Strategic Focus Areas here: https://www.yvc.org/about-us/strategic-focus-areas/)
First, this project represents the STEM and Environment Strategic Focus Area because it promotes understanding of local environmental issues and encourages people to act to protect our natural resources. It teaches participants to recognize the importance of solving these crucial problems and give them the ability to work together to make a meaningful difference in the environment.
This event can also be included in the Healthy Lifestyles strategic focus area. According to a recent scientific study from the Medical University of South Carolina (MUSC), perfluoroalkyl substances, or PFASs, are found in the local seafood Charlestonians eat. PFASs are found in items such as nonstick cookware, rain gear, and paper wrappers. PFASs levels in local-caught fish were higher than anticipated, and two-to-three times higher in fish that are eaten or cooked with their skin still attached. (*Science Direct, 171*, 266–277)
By conducting a marsh sweep and eliminating as many pollutants as possible, YVC youth will potentially eliminate PFASs and microplastics from leaching into the local seafood; therefore, making this a healthy lifestyles service project as well.

Project Name: Give your project a fun, creative name!
Helping Hands for Wetlands

Agency Partner (If Applicable): Where will the volunteer project take place? If the project will occur at your local YVC, who will the project benefit?
The project will take place adjacent to a Charleston waterway or in a low-lying area of Charleston that is prone to flooding. We will partner with Keep Charleston Beautiful (KCB) to include service-learning as it relates to our event. Topics covered will be the impacts of microplastics and litter in the Charleston community. The entire community as a whole will benefit from this event. By eliminating even, a small amount of litter and microplastics from our community and waterways can make a difference in marine life and citizens of Charleston.

Green Globe Grant

YVC Affiliate: Charleston, SC

Icebreaker/Team Builder: Describe the icebreaker and/or team builder that will take place on your project.

Everyone will begin by going around in a circle, then saying their name, grade, school, and then answering a fun discussion question such as, what's your star sign, favorite musical artist/movie, if you were a superhero, what would your power be. Also, the group will participate in the Human Knot. The group stands in a circle, then reaches across to grab hands with different people. The group then works together to try to untangle themselves without letting go. This activity is a fun lesson in teamwork and motivates people to work together to collect litter.

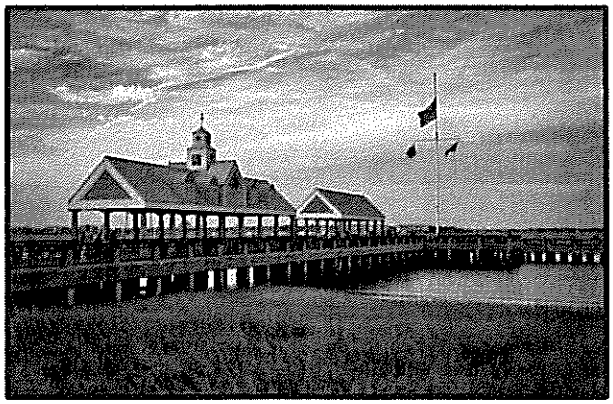
COMMUNITY NEED:

-What community need will this project address?

-Why is this issue important to you? Think creatively about why this project matters.

-Please reference at least one outside source that supports your claim (a news story, a quote from an agency partner, a research study, etc.)

This project will make a positive impact on the coastal communities of the downtown Charleston harbor area through the ecological improvement and beautification of the surroundings. Specifically, this project will aim to benefit our local aquatic wildlife, consumers of locally sourced seafood, people living in the area, and even tourists. Waterfront Park marshes attract many local and tourist visitors, making it more susceptible to littering than other locations. The proposed marsh sweep will help to address the need for pollutant removal in the Charleston harbor area. This issue has gained increased attention in the past years and the City of Charleston has planned to ban all single-use plastic bags, polystyrene products, and plastic straws by 2020. This marsh sweep is an ambitious way to get our city's youth involved in the acceleration of this initiative.



Because our community is known for its distinct flora and fauna dependent on the unique aquatic habitat, the extent of the pollution in the Charleston harbor area has always been a prevalent issue for many Charlestonians. A study done by The Citadel Military College of South Carolina in 2014 found at least 7.5 tons of plastic in local estuaries, not including how much of that plastic has degraded into microscopic fragments and fibers. The amount of pollution present in Charleston waterways presents a clear threat to wildlife and consumers of locally sourced seafood alike. Researchers at The Citadel found "microfibers from synthetic clothing in lobsters, antibiotic resistance in dolphins due to exposure to the antibiotic waste, and immune system crippling levels of stain repellent in loggerhead sea turtles". Our project proposal aims to tackle a small part of this multifaceted problem through the means of trash collection in the marshes overlooking the Charleston Waterfront Park.

Green Globe Grant

YVC Affiliate: Charleston, SC

PROJECT DESCRIPTION: Provide as much detail as you can about your proposed project. -When and where will it take place?

-What exactly will you be doing?

-Is this a new project? If not, what will you do differently this time that will require grant funding?

Our project will take place at Waterfront Park, located at Vendue Range, Concord Street in the downtown Charleston area. It will be held on YVC day (March 7th or the corresponding YVC Day determined date) from 10 a.m. -2 p.m. Our target volunteer number is 24. After the icebreaker, they will be split up into groups of four with two trash grabbers and two trash bags for each group. Each group of four will be assigned to an individual area of about 100 square feet in the marshes. They will be told via email to dress appropriately for the project (boots or close-toed shoes and clothes they don't mind getting dirty). There is a stretch of marshland along the stretch of the park overlooking the Cooper River accessible by climbing over the railing which is about three feet tall. Once in the marshes, volunteers will work together to collect litter with the provided trash grabbers and garbage bags. At about 1:30 PM, volunteers will be asked to leave the marsh with their collected trash. As a means of quantifying the results of our service, the collected litter will be sorted by material type and the number of garbage bags filled will be counted also. It will then be given to a representative of KCB.

This project is not new in that we have participated in clean sweeps, oyster restorations, and marsh sweeps before. We have always partnered with a community organization to hold these events but with the assistance of the Green Globe Grant, YVC Charleston can purchase reusable and sustainable supplies to continue these projects even if a community partnership is not feasible. In the past, supplies were provided by the partnering organization but by receiving funds to purchase the supplies for this project, it can become a recurring opportunity based on YVC Charleston's schedule without relying on supplies based on the complicated scheduling of partnering organizations. If awarded the Green Globe Grant, our YVC chapter will continue to make an impact through quarterly marsh and land sweeps to eliminate foreign materials that are seeping into the waterways and endangering local marine life and jeopardizing life on land. This will enable the event to become even more impactful to the Charleston community.

SERVICE-LEARNING ACTIVITIES: What is the learning objective of your service project? How will you ensure that participants meet this objective? Discuss the service-learning lesson or activity that will be used during the project.

The learning objective of our service project is for individuals to learn more about sea life and why it is important to maintain and protect our beaches and waterways. After this service event, participants will have a greater understanding of microplastics, pollution, recycling, and key terms that are associated with waterway pollution. The Youth Advisory Board (YAB) will begin the service-learning activity with a trivia game designed by them regarding recycling and pollution impacts to waterways. YAB members will have access to the Mitigating Microplastics Curriculum via Oregon State University. Having participants learn about the impacts of waterway pollution and how to combat it in a game setting will encourage the participants to communicate by problem-solving which in turn fosters leadership skills. This service-learning activity will provide an educational introduction to the project and help provide some context about how the participants are impacting the environment. In addition to the YAB service-learning

portion, a KCB representative will provide youth with a tailored service lesson geared towards microplastics and the impact they have directly in the Charleston waterways. To gauge how effectively youth understood the service lesson, YAB members will engage participants in discussions throughout the event to help link together the key terms to the actual project. Throughout the project, YAB members will also encourage participants to take notes of the items they are collecting and discuss them during the project's reflection portion.

REFLECTION: Please list three high-quality reflection questions that will prompt discussion after the project. (Hint: great reflection questions cannot be answered with a "yes" or "no" or "show of hands.")

1. What are some of the ways that we might unintentionally be contributing to pollution in our waterways?
2. What was something surprising/unexpected and how did it change what you thought about the local marsh and beach pollution?
3. How did this project help you to understand more about environmental pollution and what we can do to improve the situation?

OUTCOMES: What will occur as a result of this project?
-How will you know it was a success?
-Some items to include might be: number of volunteers, number of hours served, number of clients reached, etc.

Our primary goals for this project are to involve at least 24 youth for four hours and collect at least 12 bags of litter. Through the icebreaker, reflection, and service-learning portions of the project, we will have informed more people about why the conservation of our beaches and marshes is important for not only the water creatures but for the well-being of humans as well. In addition to the marsh sweep, we aim to promote the culture of volunteerism through a sponsored Facebook post of YVC volunteers participating in the project which has proven to increase involvement in our YVC chapter. The YVC merchandise will also indirectly promote the YVC image. Ultimately, we hope to create an exciting and fun recurring project that engages many youths while taking action against a problem that can sometimes be underestimated in our community.

BUDGET: Please include a budget for your service project (maximum $200). Exactly how will your grant money be spent?

Volunteers will be provided with gloves and trash grabber tools, the cost of which will be covered by the grant money. In addition to the funding from the grant, the City of Charleston's Youth Programs Division will also provide funding for garbage bags and prizes to celebrate YVC Day such as promotional items such as YVC shirts, tote bags, sunglasses, as well as gardening kits and arcade game passes. Please see the attached spreadsheet for the detailed budget analysis.

Green Globe Grant
YVC Affiliate: Charleston, SC

Citations and Resources:

Service Learning Activity Ideas
https://seagrant.oregonstate.edu/sites/seagrant.oregonstate.edu/files/e-16-001_kowalski_conway_m-a-02.pdf

City of Charleston's Plastics Ban
https://www.charleston-sc.gov/plastic

History of plastic bans in Charleston
https://www.coastalconservationleague.org/charleston-plastics/

Citadel Study
http://www.citadel.edu/root/plastic-harbor

"Charleston Plastics." *Coastal Conservation League*, www.coastalconservationleague.org/charleston-plastics/.

Heffernan, Ashley. "Folly Beach Bans Plastic Bags, Foam Containers." *SC Biz News Side Navigation*, 29 Nov. 2016, charlestonbusiness.com/news/government/70995/.

Peterson, Bo. "Post & Courier Report: Study Says Tons of Plastic in Charleston Harbor - The Citadel - Charleston, SC." *The Citadel*, 6 Oct. 2014, www.citadel.edu/root/plastic-harbor.

PFASs - Perfluoroalkyl substances (PFASs) in edible fish species from Charleston Harbor and tributaries, South Carolina, United States: Exposure and risk assessment. (2019). *Science Direct, 171*, 266–277. Retrieved from https://www.sciencedirect.com/science/article/pii/S0013935119300222?via=ihub

US Department of Commerce, National Oceanic and Atmospheric Administration. "What Are Microplastics?" *NOAA's National Ocean Service*, 13 Apr. 2016, oceanservice.noaa.gov/facts/microplastics.html.

COMMITTEE / COUNCIL AGENDA

5)

TO: John J. Tecklenburg, Mayor

FROM: Jennifer Gorham **DEPT.** MOCYF

SUBJECT: YOUTH SERVICE AMERICA – LEAD AGENCY GRANT APPLICATION

REQUEST: For acceptance of the Youth Service America Lead Agency grant award of $2,000 to engage youth in service on nationally recognized service dates including the 2020 MLK Day of Service and the 2020 Global Youth Service Day.

COMMITTEE OF COUNCIL: W&M **DATE:** January 28, 2020

COORDINATION: This request has been coordinated with: *(attach all recommendations/reviews)*

	Yes	N/A	Signature of Individual Contacted	Attachment
Corporate Counsel	☐	☐		☐
Cap. Proj. Cmte. Chair	☐	☐		☐
Executive Director	☐	☐		☐
Grants Manager	☐	☐		☐

FUNDING: Was funding previously approved? Yes ☐ No ☐ N/A ☐

If yes, provide the following: Dept./Div.: _____ Account #: _____

Balance in Account _____ Amount needed for this item _____

Does this document need to be recorded at the RMC's Office? Yes ☐ No ☐

NEED: Identify any critical time constraint(s).

CFO's Signature: Matthew, Deputy CFO

FISCAL IMPACT:

No City match required.

Mayor's Signature: John J. Tecklenburg, Mayor

ORIGINATING OFFICE PLEASE NOTE: **A FULLY STAFFED/APPROVED (except Mayor's Signature) PACKAGE IS DUE IN THE CLERK OF COUNCIL'S OFFICE NO LATER THAN 10:00AM THE DAY OF THE CLERK'S AGENDA MEETING.**

JOHN J. TECKLENBURG
Mayor

MINDY STURM
Executive Director

City of Charleston
South Carolina
Mayor's Office for Children Youth and Families

MEMORANDUM

To: City of Charleston City Councilmembers
From: Jennifer Gorham, Youth Programs Coordinator, MOCYF
Date: July 3, 2019
Subject: Youth Volunteer Corps – Youth Service America Lead Agency Grant Acceptance

The Mayor's Office for Children, Youth and Families was selected to receive a ***Youth Service America Lead Agency Grant on July 3, 2019***. This grant recognizes the MOCYF's YVC of Charleston program as a Lead Agency by awarding $2,000 to effectively engage youth in meaningful service and civic action activities on Martin Luther King Jr., Day as well as on Global Youth Service Day.

In order to receive the grant YVC of Charleston must engage a minimum of 500 youth, ages 5-25, on each service day (MLK Day and GYSD).

Please do not hesitate to contact me if you have any questions or need further information at 843-965-4190.

75 Calhoun St., Suite 3700, Charleston, SC 29401 ♦ Office (843) 965-4190 ♦ Fax (843) 965-4192
Email: gorhamj@charleston-sc.gov Website: www. charleston-sc.gov/mocyf

(6.)

CPR COMMITTEE and/or COUNCIL AGENDA

TO: John J. Tecklenburg, Mayor

FROM: Joe Swaim / Andrew Jones **DEPT.** Stormwater Management

SUBJECT: MARKET STREET DRAINAGE IMPROVEMENTS AND STREETSCAPE FEE AMENDMENT #14

REQUEST: Approval of Fee Amendment #14 with Davis & Floyd in the amount of $58,500.00 for additional engineering services related to pedestrian refuge area and brick crosswalks, extended project management and coordination through TRC, and extended coordination for landscaping plans.

COMMITTEE OF COUNCIL: Ways & Means **DATE:** January 28, 2020

COORDINATION: This request has been coordinated with: *(attach all recommendations/reviews)*

	Yes	N/A	Signature of Individual Contacted	Attachment
CPR Committee Chair	☑	☐		☐
Corporate Counsel	☑	☐		☐
Dir. of SW Management	☑	☐		☐
MBE Manager	☐	☐		☐

FUNDING: Was funding previously approved? Yes ☒ No ☐ N/A ☐

If yes, provide the following: Dept/Div SW Mgmt-Proj. Mgmt Acct # 050320-58238

Balance in Account $58,500.00 Amount needed for this item $58,500.00

NEED: Identify any critical time constraint(s).

CFO's Signature: , Dep CFO

FISCAL IMPACT: **Approval of Fee Amendment #14 will increase the Division III portion of the overall Professional Services Contract by $58,500.00 (from $1,218,232.55 to $1,276,732.55). Funding sources for this project are: 2012 Stormwater Bond ($6,400,000.00), Municipal Accommodation Funds ($2,228,775.80), Waterfront TIF ($1,106,000.00), Hospitality Funds ($3,177,225.00).**

Mayor's Signature:

John J. Tecklenburg, Mayor

ORIGINATING OFFICE PLEASE NOTE: A FULLY STAFFED/APPROVED (except Mayor's Signature) PACKAGE IS DUE IN THE CLERK OF COUNCIL'S OFFICE NO LATER THAN 10:00 A.M THE DAY OF THE CLERK'S AGENDA MEETING.

AMENDMENT NO. 14
TO THE
STANDARD FORM OF AGREEMENT
BETWEEN OWNER AND ENGINEER
FOR
PROFESSIONAL SERVICES

****

Market Street Drainage Improvements

INITIAL:

OWNER:_____

ENGINEER:_____

This is an Amendment to the Agreement between the City of Charleston (Owner) and Davis & Floyd, Inc. (Engineer) dated June 28, 1999 (hereafter referred to as the Agreement in the office of the Clerk of Council at City Hall, 80 Broad Street, Charleston SC). This said Amendment is effective as of _____.

1. Owner and Engineer, in consideration of their mutual covenants as set forth herein, agree to expand the compensation of the aforesaid Agreement for extended permitting support for tasks identified in the Exhibit proposal letter dated December 30, 2019.

2. The Engineer shall submit to the Owner itemized invoices identifying the individuals that performed services, the hourly rate for each individual, and an itemized statement of reimbursable expenses for the Owner's approval. Invoices will be calculated based upon the actual effort incurred using the hourly and reimbursable expenses rate schedules.

3. Owner and Engineer agree to amend Exhibit C, Article 4, C4.03, A.1 of the Agreement in consideration of the above basic services to increase the not-to-exceed fee to $3,343,315 (which is an increase of $58,500 for this Amendment #14 as summarized in the attached Exhibit Cost Summary Report) for a total Contract amount of $4,971,580.

4. In all other respects, the Agreement remains unmodified and in full force and effect.

City of Charleston OWNER		Davis & Floyd, Inc. ENGINEER	
By:	_____	By:	_____
Name:	John J. Tecklenburg	Name:	Michael V. Horton, PE, CFM, LEED-AP
Title:	Mayor	Title:	Chief Engineering Officer
Address:	P.O. Box 652 Charleston, SC 29402	Address:	P.O. Box 61599 Charleston, SC 29419

DAVIS & FLOYD

SINCE 1954

December 30, 2019

Matthew Fountain, PE, PG
Director of Stormwater Management
City of Charleston
2 George St, Suite 2100
Charleston, SC 29401

via email: fountainm@charleston-sc.gov

Re: Amendment 14 – Extended Permitting Coordination
Market Street Drainage Improvements and Streetscape Project
D&F Job Number: 030407.05

Dear Mr. Fountain:

Thank you for allowing Davis & Floyd (D&F) the opportunity to submit this Amendment 14 to the Agreement between the City of Charleston and Davis & Floyd dated June 28, 1999 to support ongoing coordination with TRC for the Market Street Drainage Improvements and Streetscape Project.

This amendment provides for additional professional engineering services under the permitting phase of the project as identified in Divisions A14(A)-A14(C) below:

Division A14(A): Pedestrian Refuge Area and Brick Crosswalks

Tasks to complete the addition/modification of pedestrian refuge areas include:

1. Preliminary development and layout of pedestrian refuge areas on the eastern side of the Market St. and East Bay St. intersection, and the west side of the Market St. and Concord St. intersections.
2. One meeting with T&T to review the preliminary layout of pedestrian refuge areas.
3. Revisions to pedestrian refuge areas based on T&T comments.
4. Autoturn analysis for streets adjacent to revised pedestrian refuge areas.
5. Revisions to site grading based on revised pedestrian refuge areas.
6. Updates to demolition, grading, paving and layout, signage and striping, sewer and traffic signal plans based on changes required for pedestrian refuge areas.
7. One meeting with T&T to review the final pedestrian refuge area plans.
8. Updates to cost estimate and bid form.

Tasks to complete the addition/modifications to accommodate brick crosswalks include:

1. Revised drawings to include brick crosswalks at mid-block crossings
2. Update paving and layout and signage and striping plans based on new brick crosswalks.
3. Update bid form and cost estimate to reflect new brick cross walks

Division A14(B): Extended Project Management and Coordination through TRC

Tasks associated with this division of work include:

1. Continuing support to the City and project management/coordination through additional TRC process.

Division A14(C): Extended Coordination with Parks Department on Landscaping Plans

Tasks associated with this division of work include:

1. Updates to planting plans (tree species updates, etc.) and paving and layout plans (tree well locations, number of tree wells, lighting locations, etc.) based on changes requested by the Parks Department.

It is proposed that compensation for the services described above shall be paid to D&F on a time and expense basis for a fee not to exceed $58,500. A draft Amendment 14 Form of Agreement is provided for your review, and upon your request we are prepared to provide a finalized Agreement in triplicate for your use.

Very truly yours,
DAVIS & FLOYD

Michael A. Putnam, PE, CFM
Associate | Project Manager

Michael V. Horton, PE, CFM
Chief Engineering Officer

Enclosures:
Amendment 14 – Cost Summary
Amendment 14 – Form of Agreement

c: Joe Swaim, PE (City of Charleston) via email: swaimj@charleston-sc.gov

Exhibit - Cost Summary Report

Project Name: Market Street
D&F Project #: 030407.05/000X
Date: 12/30/2019

Division	Description	Cost
A.	Pedestrian Refuge Area and Brick Crosswalks	$ 19,000.00
B.	Extended Project Management and Coordination Through TRC	$ 27,500.00
C.	Extended Coordination with Parks Dept. on Landscaping Plans	$ 12,000.00
D.	-	$ -
E.	-	$ -
F.	-	$ -
G.	-	$ -
H.	-	$ -
I.	-	$ -

Estimated Cost = $ 58,500.00

7)

CPR COMMITTEE and/or COUNCIL AGENDA

TO: John J. Tecklenburg, Mayor

FROM: Frank Newham / Andrew Jones **DEPT.** Stormwater Management

SUBJECT: EHRHARDT STREET TUNNEL DESIGN PROJECT FEE AMENDMENT #1

REQUEST: Approval of Fee Amendment #1 with Davis & Floyd in the amount of $574,510.00 for professional engineering services to develop preliminary 30% design to final design.

COMMITTEE OF COUNCIL: Ways & Means **DATE:** January 28, 2020

COORDINATION: This request has been coordinated with: *(attach all recommendations/reviews)*

	Yes	N/A	Signature of Individual Contacted	Attachment
CPR Committee Chair	☑	☐		☐
Corporate Counsel	☑	☐		☐
Dir. of SW Management	☑	☐		☐
MBE Manager	☐	☐		☐

FUNDING: Was funding previously approved? Yes [X] No [ ] N/A [ ]

If yes, provide the following: Dept/Div SW Mgmt-Proj. Mgmt Acct # 050383-58238

Balance in Account $574,510.00 Amount needed for this item $574,510.00

NEED: Identify any critical time constraint(s).

CFO's Signature: , Dep CFO

FISCAL IMPACT: **Approval of Fee Amendment #1 will increase the professional services contract by $574,510.00 (from $286,922.00 to $861,432.00). Funding for this project is the Drainage Fund.**

Mayor's Signature:

John J. Tecklenburg, Mayor

ORIGINATING OFFICE PLEASE NOTE: A FULLY STAFFED/APPROVED (except Mayor's Signature) PACKAGE IS DUE IN THE CLERK OF COUNCIL'S OFFICE NO LATER THAN 10:00 A.M THE DAY OF THE CLERK'S AGENDA MEETING.

AMENDMENT NO. 01
TO THE
STANDARD FORM OF AGREEMENT
BETWEEN OWNER AND ENGINEER
FOR
PROFESSIONAL SERVCIES
****
Project: Medical District Flood Mitigation Project
(a.k.a. Ehrhardt Street Drainage Improvements Project)

Initial:

Owner: _____

Engineer: _____

This is an Amendment to the Agreement between the City of Charleston (Owner) and Davis & Floyd, Inc. (Engineer) dated September 10, 2019 (hereafter referred to as the Agreement). This said Amendment is effective as of _____.

1. Owner and Engineer, in consideration of the mutual covenants as set forth herein, agree to expand the Exhibit A Engineer's Services of the Agreement as described in attached Amendment 01 Exhibit A dated December 10, 2019 and generally described as follows:
   Basic Services will be provided to progress from 30% design to 100% design and includes the following additional tasks: (5) Permitting, (6) Final Design, (7) Contractor Prequalification, and (8) Bidding Phase Services.

2. Services provided pursuant to Amendment 01 Exhibit A Tasks 1, 2, 3, 4, and 5 will be a Lump Sum amount. Owner and Engineer agree to amend Exhibit C, Article 4, C4.01, A.1. of the Agreement to increase the total lump sum amount to $480,754.00 (an increase of $193,832.00).

3. Services provided pursuant to Amendment 01 Exhibit A Tasks 6, 7, and 8 will be on a time and expense basis. Owner and Engineer agree to amend Exhibit C, Article 4, C4.01, A6 by adding the following new Exhibit C, Article 4, C.4.01, A6.a.:
   6. a. Engineer shall be compensated for services provided pursuant to Amendment 01 for Tasks 6 , 7 and 8 will be upon a time and expense basis in an amount not to exceed $380,678.00 in accordance with the attached Standard Rate and Reimbursable Expense Schedule.
4. Owner and Engineer agree add new Exhibit C, Article 4, C4.01, A.5.a. immediately following Exhibit C, Article 4, C4.01, A.5. as follows:
   5. a. Compensation for services provided through Amendment 01 is conditioned on Contract Times to complete the Work not exceeding 12 months from receipt of the authorized Notice to Proceed directly following the completion of Preliminary (30%) design services. Should the Contract Times to complete the Work be extended beyond this period, the total compensation to Engineer shall be appropriately adjusted.

5. In all other respects, the Agreement remains unmodified and in full force and effect.

Attachments:
1 – Amendment 01 Exhibit A dated December 10, 2019
2 – D&F Standard Rate and Reimbursable Expense Schedule

City of Charleston OWNER		Davis & Floyd, Inc. ENGINEER	
By:	_____	By:	_____
Name:	John J. Tecklenburg	Name:	Michael V. Horton, PE, CFM, LEED-AP
Title:	Mayor	Title:	Chief Engineering Officer
Address:	P.O. Box 652 Charleston, SC 29402	Address:	P.O. Box 61599 Charleston, SC 29419

This is Amendment 01 **EXHIBIT A**, consisting of 5 pages, referred to in and part of the **Agreement between OWNER and ENGINEER for Professional Services** dated December 10, 2019.

Initial:
OWNER _____
ENGINEER _____

ENGINEER's Services

PART 1 -- BASIC SERVICES

This Project involves the design, permitting, bidding, and construction phase services for drainage improvements to alleviate frequent and damaging flooding within Ehrhardt Street and other areas within the Charleston Medical District. The Basic Services defined within this document include services to progress from 30% design to final design suitable for bid and includes additions to tasks (1) (2) and (4) and the following new tasks: (5) Permitting, (6) Final Design, (7) Prequalification of Contractors, and (8) Bidding Phase Services. Ultimately, the project will also involve task (9) Construction Services to be contracted under a separate amended agreement. This Scope of Services to deliver final design is based upon a duration of twelve (12) months from receipt of the authorized Notice to Proceed directly following the completion of 30% design services (scheduled as January 31, 2020).

Task 1 – Project Planning and Support
Additional Project Controls will be provided as defined within this scope to take the 30% design to the 100% level.

A. Project Controls – The Engineer will perform additional general services associated with the Project, including progress monitoring, scheduling, and general Project-related correspondence. These activities include maintaining contact and liaison with the Owner, sub-consultants, special advisors, and Project staff; responding to Owner inquiries and associated support; providing Project communication; and monitoring work on the Project. Milestone progress and budgetary status reports for design phase services beyond 30% and to the final design level will be provided in support of this Task.
    a. Project Management Plan – No additional services beyond those identified in the 30% scope of work.
    b. Design Budget and Schedule Control – The schedule will be updated beyond the timeline originally set for the 30% scope of work and will be used as the basis for milestone status reporting, including design budget and schedule monitoring.
    c. Quality Assurance/Quality Control Plan – No additional services beyond those identified in the 30% scope of work.

B. Project Kick-off Meeting – Final Design Services Kick-Off Meeting to present updated communications plan, schedule, and coordination between City and Engineering Team.

C. Risk Management – The project risk assessment developed for the 30% scope of work will be updated and a risk register prepared to identify and quantify, in terms of cost and schedule implications, perceived risks for the final design.

D. Milestone Progress Meetings – In addition to the four monthly project status meetings (September to December of 2019) identified in the 30% scope of work, up to Six (6) milestone progress meetings will be held to support final design coordination. These meetings will be attended at the City during the Project to summarize work completed, present interim findings/recommendations, and solicit input from the Owner. Meeting agendas and minutes will be developed and provided to the City. Up to Two (2) of these

Milestone Progress meetings will serve as design progress reviews with the City Project Manager to be held after preliminary design and final design. An engineer's opinion of probable construction costs and preliminary copies of construction drawings and specifications will be provided at the final design meeting. All drawing sets and technical specifications will be provided electronically.

Task 2 – Meetings and Public Outreach

A. Public Meetings (1) – In addition to the one (1) public meeting allowed by the 30% scope of work, up to one (1) additional public meeting will be held to facilitate public input/information with the respect to the project.

B. Stakeholder Meetings (3) – In addition to the two (2) stakeholder meetings allowed by the 30% scope of work, up to three (3) additional stakeholder meetings will be coordinated with the three hospitals that comprise the medical district along with other stakeholders identified by the City with an interest in the district.

Task 3 – Preliminary Design

No additional services beyond those identified in the 30% scope of work will be performed.

Task 4 – Data Gathering

A. Surveying – Surveying services to support the final design of the project will be provided as follows:

   a. Topographic Survey – No additional services beyond those identified in the 30% scope of work will be performed.
   b. Topographic and right-of-way survey – No additional services beyond those identified in the 30% scope of work will be performed.
   c. Horizontal and vertical controls – No additional services beyond those identified in the 30% scope of work will be performed.
   d. Easement plats and associated survey work – Easement plats supporting the acquisition of near surface and permanent underground utility easements will be performed.

B. Level A SUE – A Quality Level-A (QL-A) subsurface utility investigation will be performed to locate utility conflicts identified during the 30% design effort. Mobilization and up to 10 hard surface test holes, and 3 days of traffic control (if necessary) are included.

C. Geotechnical Investigation – No additional services beyond those identified in the 30% scope of work will be performed.

Task 5 – Permitting Services

Permitting agency review coordination will be provided. The following permits are anticipated:

A. South Carolina Department of Health and Environmental Control (DHEC) Notice of Intent (NOI).
B. SCDHEC-OCRM Coastal Zone Consistency (CZC) Certification
C. City of Charleston MS4 Stormwater Permit
D. SCDOT Encroachment Permits
E. Utility Coordination – Coordination with utility owners with infrastructure in the vicinity of the project will be provided. Coordination with electric, gas, telecommunication, water, and sewer utilities is anticipated. Coordination with utilities owned and maintained by the hospitals (MUSC, Roper, the VA) is also included in the scope. These services will assist the City in obtaining permits or agreements necessary. The preparation, review, negotiation, etc. of agreements or memoranda of understanding (MOUs) between the City and project utility providers and stakeholders is <u>not</u> included in this Scope of Services.

Design plan packages and permit applications will be prepared and coordinated with the City for submittal to regulatory agencies. Plan revisions based on agency comments will be incorporated into the design plans and resubmittal back to agencies will be coordinated through the City. Up to five (5) total combined meetings with permitting agencies have been included in this Scope. Up to six (6) total combined meetings with utility owners have also been anticipated and included within this Scope. City of Charleston Technical Review Committee (TRC) and Design Review Committee (DRC) submittals and coordination is not included in this scope. Preparation and submittal of permit applications and associated documents to each respective agency will be the responsibility of the Engineer. The Engineer will also respond to and address up to two rounds of agency comments for each permit application. The City will be responsible for signing the permit applications, and payment of agency fees. A register of permits will be maintained for the Project.

Task 6 – Final Design

A. Contract Drawings Suitable for Bidding, Technical Specifications, and Geotechnical Contract Documents.

a. Front-End Contract documents – Preparation and Coordination of Front-End contract documents is excluded from this Scope of Services. Preparation of the Front-End contract documents and coordination of such documents with technical specifications and project requirements to prepare a Project Manual will be the responsibility of the City. Front-End contract documents include documents such as Advertisement for Bids; Project Description; MWBE requirements and certifications; Instructions to Bidders; Bid Form; Bid Bond; Qualifications; Notice of Award; Owner-Contractor Agreement; Bid Item Measurement and Payment Descriptions; Notice to Proceed; Performance Bond; Payment Bond; Contractor's Application for Payment; Certificates of Substantial Completion; Notice of Acceptability of Work; General Conditions; Supplementary Conditions (including Permit / Other Special Conditions); Work Change Directive; Change Order; Field Order; and other documents as determined by the City.

b. Contract Drawings & Technical Specifications – Final design drawings will be produced to include a title sheet, site plan, legends and symbols lists, standard construction details, and construction drawings as needed. Drawings will include plan and profile of tunnel segments from the Cannon St. shaft to the proposed Ehrhardt St. shaft location, site layouts at shaft locations, near-surface gravity collection and conveyance design along approximately 100 linear feet of Ehrhardt St. adjacent to the proposed shaft location, vortex structure design, and connections to existing drainage facilities. Technical specification documents will also be prepared and provided in digital .pdf form to the City for use in the City's production of a Project Manual.

c. Geotechnical Contract Documents – A Geotechnical Data Report (GDR) and Geotechnical Baseline Report (GBR) will be produced. The GDR will contain the raw geotechnical data captured during the field and laboratory investigation as part Task 4 – Data Gathering as well as a narrative description of the geotechnical work performed and local geologic conditions. The GDR may be relied upon by prospective tunneling contractors to develop bid pricing and aid with determining preferred construction means and methods.

The GBR is intended for use by the City as a Contract Document and will contain the Engineer's interpretation of the ground conditions and subsequent behaviors on which prospective contractor may rely upon for bidding. GBR's are industry standard for underground construction projects as recommended by ASCE's suggested guidelines for "Geotechnical Baseline Reports for Construction".

The GBR is intended to be identified by the City during their preparation of the Front-End Contract Documents in such a manner which allows the report to be used in conjunction with the project General and Supplementary Conditions to evaluate the merits of contractor differing site condition (DSC) claims. Analysis and interpretation in the GBR is intended to provide a basis for determining the merits of DSC's, assist in managing underground risk during construction, and to help the City with disputes resolution. Included in the preparation of the GBR will be submission of the document at 90% for review by City staff, one meeting with City staff to review the GBR and agree on the level of geotechnical risk allocation and risk sharing. Comments generated from this meeting will be responded to and, where applicable, incorporated into the final design.

Deliverables include:

i. 60% Level Design
   1. Preliminary site layout plan(s)
   2. Preliminary tunnel profile
   3. Preliminary near-surface collection system plan and profiles
   4. Preliminary vortex structure design
   5. Risk register
   6. Preliminary construction schedule
   7. Draft geotechnical data report

ii. 90% Level Design
   1. Update site plan and layouts
   2. Update tunnel profile
   3. Updated collection system plan and profiles
   4. Updated vortex structure design
   5. Additional specifications
   6. Opinion of probable lump sum cost
   7. Update risk register
   8. Update construction schedule
   9. Geotechnical data report
   10. Geotechnical baseline report

Task 7 – Prequalification of Contractors

Prequalification documents will be prepared and assistance to the City will be provided in administering this portion of work. Tasks include:

a. Assist the City with identification of evaluation criteria.
b. Prepare Request for Qualifications (RFQ) documents.
c. Assist the City with advertising.
d. Respond to contractor questions during solicitation of RFQ.
e. Analyze Statement of Qualification (SOQ) packages from potential contractors and prepare recommendation for the City of Charleston.

Task 8 – Bidding Phase Services

Front-End contract document preparation and subsequent project bidding preparation and management is the responsibility of the City. In support of the City's efforts and upon City request, professional services to support the bidding of the project such as the identification and / or review of Front-End contract document criteria; pre-bid

meeting preparation and attendance; hosting, distribution, and request management of bid documents; support for City addendum preparation and distribution; hard-copy bid document printing and distribution; bid opening attendance; bid review and tabulation; and other bid phase services may be provided in accordance with the current D&F Standard Personnel Rate and Reimbursable Expense Schedule up to the amount identified in this Amendment No. 01 to the Standard Form of Agreement.

DAVIS & FLOYD

SINCE 1954

Standard Personnel Rate Schedule	
Category	**Rate: $/hour**
Principal	$231.00
Senior Project Manager	$184.00
Project Manager Senior Engineer	$168.00
Senior Architect Senior Transportation Planner	$158.00
Program Director Senior Landscape Architect Resident Construction Manager Computer Specialist Department Manager	$147.00
Engineer Architect Landscape Architect Specifications Writer	$137.00
Senior Inspector	$131.00
Licensed Surveyor Transportation Planner	$126.00
Senior Designer GIS Specialist	$121.00
Staff Engineer Inspector Permitting Specialist Transportation Planner Assistant GIS Analyst	$105.00
Designer Accountant (1)	$100.00
Survey Crew Chief	$95.00
Computer Technician	$84.00
Clerical	$68.00
Survey Field Technician Intern Technician	$63.00

(1) Accountant labor may be charged for time to assemble invoice documentation in a manner not normally provided by Davis & Floyd.
(2) An overtime premium up to one-half the above rates may be charged in addition to the above rates for personnel compensated for overtime.
(3) Field Equipment may be charged for use of survey/environmental equipment when used in the field by Davis & Floyd employees.

Reimbursable Expense Schedule		
Category	**Unit**	**Unit Rate**
Copies/Prints		
Standard 8.5 x 11	page	$0.15 BW / $1.00 Color
Oversized	square feet	$0.25 BW / $6.00 Color
Mylar copy	sheet	$25.00
Mileage	mile	Current federal rate
Direct Expenses		Actual cost + 15%

Note: All rates are subject to change.

DAVIS & FLOYD

SINCE 1954

December 10, 2019

Matthew Fountain, PE, PG
Director of Stormwater Management
City of Charleston
2 George St, Suite 2100
Charleston, SC 29401

via email - fountainm@charleston-sc.gov

Re: Amendment 01 – Final Design dated 12/10/2019
Medical District Flood Mitigation Project
D&F Job Number: 31874.00

Dear Mr. Fountain:

Thank you for allowing Davis & Floyd (D&F) the opportunity to submit this Amendment 01 to the Agreement between the City of Charleston and Davis & Floyd dated September 10, 2019 to support the final design of the Medical District Flood Mitigation Project (also known as Ehrhardt St. Drainage Project). This Amendment provides for professional engineering services to develop the preliminary (30%) design to final design suitable for bid toward the goal of providing drainage improvements to alleviate frequent and damaging flooding within Ehrhardt Street and other areas within the Charleston Medical District.

The work anticipated to complete these tasks is outlined in the attached Amendment 01 Exhibit A and includes additional Project Planning and Support, Meetings and Public Outreach, Data Gathering, Permitting Services, Final Design Services, assistance to the City with Prequalification of Contractors, and Bidding Phase Services.

It is proposed that compensation for the services provided for Tasks 1, 2, 3, 4, and 5 be a lump sum amount of $193,832.00 and compensation for the services provided for Tasks 6, 7, and 8 be a time and expense basis not to exceed $380,678.00, increasing the total contract value to $861,432.00 as shown in the attached Amendment 01 Fee Summary.

3229 W. Montague Avenue, North Charleston, SC 29418
(843) 554-8602 (843) 747-6485

WWW.DAVISFLOYD.COM

We appreciate the opportunity to continue working with the City toward the success of this important project. Please feel free to call should you have any questions, or if we may provide additional information to assist with your review of the Amendment 01 proposed services.

Very truly yours,
DAVIS & FLOYD

Michael A. Putnam, PE, CFM
Associate | Project Manager

Michael V. Horton, PE, CFM, LEED-AP
Chief Engineering Officer

Enclosures:

Amendment 01 – Fee Summary
Amendment 01 – Form of Agreement dated 12/10/2019

c: J. Frank Newham, PE (City of Charleston) via email: newhamj@charleston-sc.gov

Project Name: Ehrhardt Street Drainage Improvements
D&F Project #: 31784.00
Revised Date: 12/10/2019

30% Design Fee (Original Contract)

		D&F	B&V[1]	SCI[2]	GEL[2]	D&F Survey	Expenses	Total
Task 1	Project Planning & Support	$ 12,870	$ 24,256	$ -	$ -	$ -	$ 350	$ 37,476
Task 2	Meetings & Public Outreach	$ 4,050	$ 6,137	$ -	$ -	$ -	$ 100	$ 10,287
Task 3	Preliminary Design	$ 36,810	$ 66,560	$ -	$ -	$ -	$ 900	$ 104,270
Task 4	Data Gathering	$ 16,965	$ 36,782	$ 57,892	$ 12,650	$ 10,000	$ 600	$ 134,889
Task 5	Permitting Services	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Task 6	Final Design	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Task 7	Contractor Prequalification	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Task 8	Bidding Services	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Task 9	Construction Phase Services	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	30% Design Total	$ 70,695	$ 133,735	$ 57,892	$ 12,650	$ 10,000	$ 1,950	$ **286,922**

100% Design Fee (Amendment 1)

		D&F	B&V[1]	SCI[2]	GEL[2]	D&F Survey	Expenses	Total
Task 1	Project Planning & Support	$ 29,627	$ 31,715	$ -	$ -	$ -	$ 350	$ 61,692
Task 2	Meetings & Public Outreach	$ 9,968	$ 6,631	$ -	$ -	$ -	$ 100	$ 16,699
Task 3	Preliminary Design	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Task 4	Data Gathering	$ -	$ -	$ -	$ 21,670	$ 47,000	$ -	$ 68,670
Task 5	Permitting Services	$ 33,368	$ 11,403	$ -	$ -	$ -	$ 2,000	$ 46,771
Task 6	Final Design	$ 83,380	$ 230,704	$ -	$ -	$ -	$ 150	$ 314,234
Task 7	Contractor Prequalification	$ 6,362	$ 19,782	$ -	$ -	$ -	$ 300	$ 26,444
Task 8	Bidding Services	$ 29,500	$ 10,500	$ -	$ -	$ -	$ -	$ 40,000
Task 9	Construction Phase Services	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	100% Design Total	$ 192,205	$ 310,735	$ -	$ 21,670	$ 47,000	$ 2,900	$ **574,510**

Total Project (Original Contract + Amendment 1)

		D&F	B&V[1]	SCI[2]	GEL[2]	D&F Survey	Expenses	Total
Task 1	Project Planning & Support	$ 42,497	$ 55,971	$ -	$ -	$ -	$ 700	$ 99,168
Task 2	Meetings & Public Outreach	$ 14,018	$ 12,768	$ -	$ -	$ -	$ 200	$ 26,986
Task 3	Preliminary Design	$ 36,810	$ 66,560	$ -	$ -	$ -	$ 900	$ 104,270
Task 4	Data Gathering	$ 16,965	$ 36,782	$ 57,892	$ 34,320	$ 57,000	$ 600	$ 203,559
Task 5	Permitting Services	$ 33,368	$ 11,403	$ -	$ -	$ -	$ 2,000	$ 46,771
Task 6	Final Design	$ 83,380	$ 230,704	$ -	$ -	$ -	$ 150	$ 314,234
Task 7	Contractor Prequalification	$ 6,362	$ 19,782	$ -	$ -	$ -	$ 300	$ 26,444
Task 8	Bidding Services	$ 29,500	$ 10,500	$ -	$ -	$ -	$ -	$ 40,000
Task 9	Construction Phase Services	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Total Project	$ 262,900	$ 444,470	$ 57,892	$ 34,320	$ 57,000	$ 4,850	$ **861,432**

[1]Includes 5% subconsultant markup
[2]Includes 10% subconsultant markup

8)

CPR COMMITTEE and/or COUNCIL AGENDA

TO: John J. Tecklenburg, Mayor

FROM: Steve Kirk / Andrew Jones **DEPT.** Stormwater Management

SUBJECT: SPRING-FISHBURNE PHASE 3-MITIGATION PROFESSIONAL SERVICES CONTRACT

REQUEST: Approval of a Professional Services Contract with Johnson, Mirmiran, and Thomson, Inc., in the amount of $88,237.00 for post-construction monitoring for the Guerin Creek Mitigation construction required by the U.S. Army Corps of Engineers.

COMMITTEE OF COUNCIL: Ways & Means **DATE:** January 28, 2020

COORDINATION: This request has been coordinated with: *(attach all recommendations/reviews)*

	Yes	N/A	Signature of Individual Contacted	Attachment
CPR Committee Chair	✓			
Corporate Counsel	✓			
Dir. of SW Management	✓			
MBE Manager				

FUNDING: Was funding previously approved? Yes [X] No [ ] N/A [ ]

If yes, provide the following: Dept/Div SW Mgmt-Proj. Mgmt Acct # 050358-58240

Balance in Account $88,237.00 Amount needed for this item $88,237.00

NEED: Identify any critical time constraint(s).

CFO's Signature: Dep CFO

FISCAL IMPACT: **Approval of the Professional Services Contract will obligate $88,237.00 of the $49,059,532.00 budget. Funding sources for this project are: State Infrastructure Bank ($49,000,000.00) and Capital Contribution ($59,532.00).**

Mayor's Signature:

John J. Tecklenburg, Mayor

ORIGINATING OFFICE PLEASE NOTE: A FULLY STAFFED/APPROVED (except Mayor's Signature) PACKAGE IS DUE IN THE CLERK OF COUNCIL'S OFFICE NO LATER THAN 10:00 A.M THE DAY OF THE CLERK'S AGENDA MEETING.

SOLE / SINGLE SOURCE JUSTIFICATION FORM

DEPARTMENT: Department of Stormwater Management

PRODUCT: Post-Construction Monitoring of Mitigation Project Sites

REQUISITION NUMBER:

VENDOR: Johnson, Mirmiran & Thompson (JMT), Inc.

DATE: 6 January 2020

1. **Please state the use for this / these product(s).**
As part of the permit from the Army Corps of Engineering for the Spring/Fishburne Drainage Improvement Project, two mitigation projects were required to offset the disturbance of salt marsh. The Environmental Permitting for the recently completed Guerin Creek Mitigation Project, requires 5 years of post-construction monitoring to ensure that the benefits of the project are fully realized. Additionally, post-construction restoration of the Spring/Fishburne project is required by permit once all construction activities are complete. Monitoring of the restored areas will be required for 3 years on that project.

2. **Can the above product(s) be purchased from more than one distributor? If so, please list their company name and telephone number.**
Yes. This is a professional service based on qualifications rather than a traditional commodity that can be purchased from multiple vendors.

3. **Please explain in detail why this product is considered a sole/single source (i.e. accessories, replacement parts, disposable supplies, compatibility with existing equipment, or a change in this product would invalidate results of research).**
JMT (previously as Tidewater Environmental) has been providing environmental services as a sub-consultant to Davis + Floyd on the Spring/Fishburne project since 2006. They have extensive knowledge of the mitigation and project sites, as well as deep historical knowledge of the mitigation projects, the overall drainage project, and the permitting history. They have performed the baseline environmental surveys and reports and have prepared the Guerin Creek and Ashley River Oyster Bed Enhancement project closeout report to the USACE, which will be used as the baseline for the subsequent reports regarding the Guerin Creek site. Another firm would need to attempt to replicate those years of work and would not have background to understand intent in the permitting language.

4. **Have you evaluated comparable products within the last two years?**
____ YES or _X_ NO
If yes, please state the complete results of the evaluation.
If no, do you wish to evaluate this product? Explain why this item is the only acceptable product, on the market, for your utilization at this time.
As per the explanation provided in 3. above, JMT has critical knowledge and experience regarding the projects and the monitoring and reporting requirements and bringing another consultant into the project increases the potential for complications to arise.

ADDITIONAL INFORMATION:

SIGNATURE: _____ TITLE: Director, Dept. of Stormwater Mgt.
Matthew Fountain, P.E., P.G.

City of Charleston Contract for
Small Professional Services under $100,000.00 without construction management

THIS CONTRACT, made this _____ day of_____, 2020 by and between

The Owner:	City of Charleston Department of Stormwater Management 2 George Street Charleston, SC 29401	and	the A/E: Johnston, Mirmiran & Thompson, Inc. 952 Houston Northcutt Blvd Suite 100 Mount Pleasant, SC 29464

WHEREAS the Owner requires the delivery of professional Environmental Monitoring and Reporting Services ("Work"), as a part of the Spring/Fishburne Drainage Improvement Project and Guerin Creek Mitigation Project ("Projects") as outlined in the Proposal Post-Construction Monitoring ("Service" or "Scope of Services"), dated 6 December 2019, prepared by James K. O'Connor, PE and Matthew D. Thomas for Johnson, Mirmiran & Thompson, Inc. which is marked as Exhibit A and attached hereto as if fully written herein.

Spring/Fishburne and Guerin Creek Post-Construction Monitoring and Reporting
(Project Name)

WHEREAS, the A/E, whose SC professional license is 3943 is prepared and qualified to provide such Services.

NOW THEREFORE, the Owner and A/E agree to all of the following:

The Services required herein are set forth in the attached EXHIBIT A, which shall be performed in accordance with the Terms and Conditions contained on pages 2 through 4 of this Contract. Services shall be performed and Payments for acceptable work shall be made in accordance with the successful completion of each of the Tasks as stated on pages 2 through 5 of EXHIBIT A and acceptance of each of the reports by the permitting agency.

The **CONTRACT SUM** payable to the A/E shall be:

☒ Lump Sum of $88,237.00
☐ Actual costs based on A/E's Hourly Rate & Reimbursable Schedule attached as Exhibit B, Not-to-Exceed $0.00

REIMBURSABLES:

☐ Expenses shall be reimbursed at actual cost plus 10%, Not-to-Exceed..... $0.00
☒ Expenses included in Lump Sum

IN WITNESS WHEREOF, THE PARTIES HERETO HAVE ENTERED INTO THIS CONTRACT ON THE DAY AND YEAR FIRST WRITTEN ABOVE.

OWNER: City of Charleston

BY: _____
John J. Tecklenburg, Mayor

A/E: Johnston, Mirmiran & Thompson, Inc.

BY: _____
Signature

James K. O'Connor
Print or Type Name of A/E

ITS: Vice President

ATTACHMENTS

1. EXHIBIT A: Proposal Post-Construction Monitoring from JMT, Inc. dated 6 December 2019
2. EXHIBIT B: Rate Schedule

Terms and Conditions of the City of Charleston
Professional Services Contract

ARTICLE 1 - GENERAL

A. The A/E agrees to provide professional services to the Owner as required by the Scope of Services requested by the Owner as set forth in Exhibit A.

B. The A/E accepts the relationship of trust and confidence established between A/E and Owner by this Contract.

C. The A/E covenants with the Owner that he/she possess the required degree of learning, skills, and experience that is ordinarily possessed by similarly situated professionals, that he/she will utilize reasonable and ordinary care and diligence in the exercise of his/her skills to accomplish the Scope of Services, and that he/she will use good professional judgment in performing the Scope of Services.

D. The A/E agrees to cooperate with the Owner and any other contractor in furthering the interests of the Owner.

ARTICLE 2 – A/E'S RESPONSIBILITIES

A. The A/E shall designate one or more representatives to be assigned for the duration of the Project. These representatives shall be authorized to act on behalf of the A/E in all matters related to the A/E's performance(s) under this Contract. The A/E shall not replace a designated representative without notice to the owner and with good cause shown.

B. The A/E shall notify the Owner, in writing, of information necessary from the Owner for the project. A/E shall allow sufficient time for Owner to acquire and respond with such information.

E. The A/E shall provide all Scope of Services using persons, including the staff of A/E's Consultants and Additional Consultants, who possess the required degree of learning, skills, and experience that is ordinarily possessed by similarly situated professionals, that they will utilize reasonable and ordinary care and diligence in the exercise of their skills to accomplish the Scope of Services, and that they will use good professional judgment in performing the Scope of Services.

C. The A/E shall manage and coordinate the A/E's services, consult with the Owner, research applicable design criteria, attend all Project meetings, communicate with members of the Project team and report progress to the Owner.

D. The A/E shall have, at the time of execution and for the duration of this Contract, all professional and business insurance, licenses and permits required to provide the required Services in the City of Charleston and as required by this Contract.

E. The A/E shall be entitled to rely on the accuracy of information provided by the Owner. Notwithstanding the foregoing, A/E shall review all information provided by the Owner and shall give prompt and timely notice to the Owner of any apparent deficiencies or inconsistencies in the information furnished by the Owner.

F. The A/E shall be entitled to additional compensation if required to provide services beyond those Services set forth in Exhibit A. The A/E shall be compensated for these additional services as agreed by both parties based on projected time and expense for the additional services as outlined in Exhibit B.

ARTICLE 3 - OWNER'S RESPONSIBILITIES

A. The Owner shall provide all available programmatic and budgetary requirements for the Project.

B. The Owner shall designate one or more representatives with authority to act on the Owner's behalf in all matters related to the Owner's duties under this Contract.

C. The Owner shall provide the A/E with available information about the site and work area that is necessary for the A/E to perform the Services. The owner shall cooperate with the A/E in the identification and acquisition of any additional information required.

D. The Owner shall make timely decisions on all issues related to the Contract and shall promptly advise the A/E of any errors or deficiencies in the A/E's performance under this Contract.

ARTICLE 4 – ADDITIONAL CONSULTANTS

A. It is agreed that the attached Exhibit A shall have identified all professional and technical disciplines and their providers required for the performance of the A/E's services, and that the fees for such personnel are incorporated into the Contract Sum set forth on page one (1) of this Contract.

B. Additional Consultants may be employed to perform portions of the Services under this Contract as required and approved by the Owner in advance. The A/E may apply a multiplier, not to exceed 1.1, to the approved fees of such Additional Consultants.

ARTICLE 5 – LIMITATIONS AND REPRESENTATIONS OF RESPONSIBILITY

A. The A/E shall not be responsible for the failure of any contractor, sub-contractor, vendor, or other Project participant, not under contract to the A/E, to fulfill its contractual responsibilities to the Owner or to comply with Federal, State, or local laws, regulations, and codes.

B. The A/E shall indemnify and save harmless the Owner and the Owner's officers, agents and employees, from and against all losses and claims, demands, payments, suits, actions, recoveries, and judgments of every nature and description brought or recovered against them by reason of any act, omission, or default of the A/E, its agents, or employees or subcontractors in the performance of this Contract. When the Owner submits notice, A/E shall promptly defend any aforementioned action at no cost to the Owner. This obligation shall survive the suspension or termination of this Contract. The limits of insurance coverage required herein shall not serve to limit this indemnity obligation. The recovery of costs and fees shall extend to those incurred in the enforcement of this indemnity.

ARTICLE 6 – DOCUMENTS

A. At the completion of the Project, the A/E shall provide to the Owner all contract documents, electronically, on a Computer Disk or thumb drive. Specifications shall be in Microsoft Word format and as-built drawings shall be in AutoCAD 2000 format or the latest version specified by the Owner.

B. All documents prepared or furnished by the A/E pursuant to this Contract are instruments of service and the A/E shall maintain an ownership and property interest therein.

C. Documents prepared or furnished by the A/E pursuant to this Contract may not be reused by the A/E on other projects or for other clients without the prior written permission of the Owner.

D. The A/E hereby grants to the Owner a non-exclusive license to reproduce or otherwise utilize A/E's documents for the purposes of constructing, operating, maintaining, repairing, using, renovating, expanding, modifying or otherwise enjoying the beneficial use of the Project at no additional cost to the Owner. The A/E shall incur no liability for the Owner's reproduction or reuse of the A/E's documents.

E. Consultants and Additional Consultants used by the A/E for the Services of this Contract shall be bound by the conditions of this Article.

ARTICLE 7 – PAYMENTS

A. The Owner shall make payments to the A/E for undisputed work, as scheduled on page 1 and in accordance with Title 29, Chapter 6 of the SC Code of Laws, as amended.

B. The A/E shall make payments to its Consultants and Additional consultants in accordance with Title 29, Chapter 6 of the SC Code of Laws, as amended.

C. If applicable, the A/E's request for payment under a NOT-TO-EXCEED contract shall be based on actual hours worked during the billing period, using the approved A/E's Hourly Rate and Reimbursable Schedule, not exceeding the scheduled amounts shown on Page 1 (one) of this Contract.

D. All requests for payment shall be submitted in the form and manner required by the Owner, and shall be accompanied by appropriate supporting documentation.

E. Payment under a Lump Sum contract shall be paid within thirty (30) days of receipt of the invoice. The invoice for the A/E's services shall be submitted to the City at the completion of the Scope of Services and after the City's acceptance of the work in its entirety.

ARTICLE 8 - DISPUTE RESOLUTION

The parties agree to attempt in good faith to resolve their disputes arising from a claim or controversy arising out of or relating to the contract. To the extent that the parties are unable to resolve a claim or controversy arising out of or relating to the Contract, the parties agree that any suit, action or proceeding arising out of or relating to the Contract shall be instituted and maintained only in a State or Federal court located in the County in which the Owner maintains its principle place of business, in the State of South Carolina. The A/E agrees that any act by the Owner regarding the Contract is not a waiver of either the State's sovereign immunity or the State's immunity under the Eleventh Amendment of the United States Constitution. As used in this paragraph, the phrase "the State" includes any governmental entity transacting business with the A/E pursuant to the Contract, including .

ARTICLE 9 - SUSPENSION AND TERMINATION

A. The Owner may direct the A/E to suspend performance under this Contract at any time.

B. The A/E may suspend its performance under this Contract if the Owner fails to make payments of undisputed amounts to the A/E as required by the terms of this Contract. Prior to the suspension of performance, the A/E shall give written notice to the Owner, and shall allow the Owner no fewer than twenty one (21) calendar days to make payment, otherwise the suspension may take effect without further notice by the A/E.

C. Additional Consultants may be employed to perform portions of the Services under this Contract as required and approved by the Owner in advance. The A/E may apply a multiplier, not to exceed 1.1, to the approved fees of such Additional Consultants.

D. If the performance of Services is suspended by either party for a period of more than thirty (30) days but less than one hundred eighty (180) days due to no fault of the A/E, the A/E's time schedules shall be equitably adjusted. If a project is interrupted for one hundred eighty (180) days or more due to no fault of the A/E, the A/E's compensation shall be equitably adjusted to provide for expenses incurred in resuming the A/E's services and the time schedules for the remaining Services shall be equitably adjusted.

E. The Owner may terminate this Contract for the convenience of the Owner with not less than seven (7) days written notice to the A/E. The A/E shall be paid for all Work acceptably performed and reimbursable expenses incurred, up to the date of termination, and project closure costs as authorized by the Owner.

F. If either party fails to substantially perform according to the terms of this Contract, the other party may terminate this Contract upon not less than seven (7) days written notice. The notice of termination shall set forth with specificity the grounds for termination and may, at the sole option of the terminating party, give the other party a stated period of time in which it may cure the alleged breach.

ARTICLE 10 – INSURANCE

A. The A/E shall maintain all forms of insurance required by law in the State of South Carolina. The A/E shall also maintain insurance coverage for comprehensive, general liability, automobile liability, and workers' compensation (by statutory authority). Minimum insurance coverage limits shall be as required by law or as shown in Chapter 6 of the *Manual for Planning and Execution of State Permanent Improvements Part II*, whichever is greater.

B. The A/E shall maintain Professional Liability Insurance for the duration of this Contract with a limit of $1,000,000 per claim and annual aggregate, or such other amount as the Owner may request. This policy shall remain in effect for a minimum of 12 months after the date of issuance of the final Certificate of Payment by the A/E.

ARTICLE 11 – MISCELLANEOUS PROVISIONS

A. The A/E and Owner each bind themselves, their partners, directors, officers, successors, executors, administrators, assigns and legal representatives in respect to all provisions of the Contract. Neither party shall assign, sublet or transfer their interest in this Contract without the written consent of the other party.

B. This Contract represents the entire and integrated agreement between the Owner and A/E. It supersedes any and all prior and contemporaneous communications, representations and agreements, whether written or oral relating to the subject matter of this Contract.

C. Nothing in this Contract shall be construed to give any rights, contractual relationship or benefit to a third party against either the Owner or the A/E.

D. Nothing in this Contract shall prevent the A/E from employing any independent consultant, associate, or sub-contractor to assist in the performance of the Services.

E. Unless otherwise included in the Contract, nothing shall require the A/E to discover, handle, remove, or dispose of any hazardous or toxic materials in any form at the project site.

F. Time and Expense Records of the A/E's personnel, consultants, and reimbursable expenses pertaining to the Services shall be kept on a generally recognized accounting basis, and shall be available to the Owner for audit at mutually agreeable times and places for a period no less than 3 years after the conclusion of this Contract.

ARTICLE 12 – ERRORS AND OMISSIONS

A. Owner shall notify the A/E whenever the Owner believes the A/E's work contains errors or omissions, and the A/E shall agree to correct all errors and omissions without cost to the Owner.

B. The A/E agrees to pay the Owner for any costs the Owner is responsible for paying as a result of any A/E error or omission. Each error and omission shall constitute a separate offense.

EXHIBIT A

December 6, 2019

Mr. Steven Kirk, P.E.
City of Charleston
Department of Stormwater Management
2 George Street
Suite 2100
Charleston, SC 29401

Re: Proposal for Post Construction Monitoring
Spring/Fishburne Drainage Improvements
Charleston County, South Carolina
JMT Project Number: 19-03858-000

Dear Mr. Kirk,

Johnson, Mirmiran, and Thompson, Inc. (hereinafter "JMT"), appreciates the opportunity to provide post construction monitoring for the above referenced property. Outlined herein is a summary of the project information, as we understand it, a proposed scope of work, and a cost estimate to perform the services requested to date.

PROJECT UNDERSTANDING

The City of Charleston, in conjunction with the United State Forest Service has completed construction of the Guerin Creek Mitigation Bank Plan (hereinafter "Plan") as permittee-responsible mitigation for Spring/Fishburne US 17 Drainage Improvements (hereinafter "Spring-Fishburne") Project. JMT assisted Davis and Floyd and City of Charleston with development of the final permittee-responsible mitigation plan (hereinafter "FMP") and was contracted to provide construction oversight. The City of Charleston has requested a proposal for post construction services, in accordance with the United States Army Corps of Engineers issued permit, for the duration of the remaining requirements. This includes monitoring associated with post construction services for the Guerin Creek Mitigation Plan and for the onsite temporarily impacted areas. Based upon this information, JMT proposes the following scope of work.

SERVICES

Below is a scope and fee for Post Construction Monitoring services broken out into individual tasks with associated fees. Direct expenses (i.e. travel) are built into the fees shown below. Based on the monitoring requirements detailed in the FMP, there are anticipated changes in scope or fee in Post Construction Monitoring Years 2 through 5. The scope and fee for additional work due to agency comments received following submittal of the annual monitoring report. (i.e. additional plantings) are not included in this cost estimate.

Task 1: Guerin Creek Year One Monitoring – $14,201

- Tidal gauges and the barometer will be downloaded on a quarterly schedule. Maintenance of gauges will be completed, if necessary.
- Photographs (visual inspection) of any significant or adverse changes, tidal flow, hummock forest and tidal wetlands disturbed by salt marsh restoration.
- Existing vegetation quadrats will be monitored on a yearly schedule and will be completed between July 1st and die back. Data to be collected will include percent cover by species, bare ground, and stem counts for tidal wetlands and total count, height, root collar diameter and lateral growth for hummock forest. The poles will be demarcated at the corners of the quadrats, if necessary.
- All data collected will be processed, analyzed for consistency with success criteria, summarized and presented within the annual monitoring report.
- JMT will develop a Draft Annual Monitoring Report which will be submitted to the City of Charleston for comments. JMT will revise the Draft Annual Monitoring Report based on City of Charleston's comments and produce a final Annual Monitoring Report. JMT will submit the final Annual Monitoring Report to the regulatory agencies; one copy will be furnished to City of Charleston as well.
- JMT will coordinate and attend an annual agency site visit, if requested.

Task 2: Guerin Creek Year Two Monitoring - $14,911

- Tidal gauges and the barometer will be downloaded on a quarterly schedule. Maintenance of gauges will be completed, if necessary.
- Photographs (visual inspection) of any significant or adverse changes, tidal flow, hummock forest and tidal wetlands disturbed by salt marsh restoration.
- Existing vegetation quadrats will be monitored on a yearly schedule and will be completed between July 1st and die back. Data to be collected will include percent cover by species, bare ground, and stem counts for tidal wetlands and total count, height, root collar diameter and lateral growth for hummock forest. The poles will be demarcated at the corners of the quadrats, if necessary.
- All data collected will be processed, analyzed for consistency with success criteria, summarized and presented within the annual monitoring report.
- JMT will develop a Draft Annual Monitoring Report which will be submitted to the City of Charleston for comments. JMT will revise the Draft Annual Monitoring Report based on City of Charleston's comments and produce a final Annual Monitoring Report. JMT will submit the final Annual Monitoring Report to the regulatory agencies; one copy will be furnished to City of Charleston as well.
- JMT will coordinate and attend an annual agency site visit, if requested.

Task 3: Guerin Creek Year Three Monitoring – $15,657

- Tidal gauges and the barometer will be downloaded on a quarterly schedule. Maintenance of gauges will be completed, if necessary.
- Photographs (visual inspection) of any significant or adverse changes, tidal flow, hummock forest and tidal wetlands disturbed by salt marsh restoration.
- Existing vegetation quadrats will be monitored on a yearly schedule and will be completed between July 1st and die back. Data to be collected will include percent cover by species, bare ground, and stem counts for tidal wetlands and total count, height, root collar diameter and lateral growth for hummock forest. The poles will be demarcated at the corners of the quadrats, if necessary.

- All data collected will be processed, analyzed for consistency with success criteria, summarized and presented within the annual monitoring report.
- JMT will develop a Draft Annual Monitoring Report which will be submitted to the City of Charleston for comments. JMT will revise the Draft Annual Monitoring Report based on City of Charleston's comments and produce a final Annual Monitoring Report. JMT will submit the final Annual Monitoring Report to the regulatory agencies; one copy will be furnished to City of Charleston as well.
- JMT will coordinate and attend an annual agency site visit, if requested.

Task 4: Guerin Creek Year Four Monitoring - $16,439

- Tidal gauges and the barometer will be downloaded on a quarterly schedule. Maintenance of gauges will be completed, if necessary.
- Photographs (visual inspection) of any significant or adverse changes, tidal flow, hummock forest and tidal wetlands disturbed by salt marsh restoration.
- Existing vegetation quadrats will be monitored on a yearly schedule and will be completed between July 1st and die back. Data to be collected will include percent cover by species, bare ground, and stem counts for tidal wetlands and total count, height, root collar diameter and lateral growth for hummock forest. The poles will be demarcated at the corners of the quadrats, if necessary.
- All data collected will be processed, analyzed for consistency with success criteria, summarized and presented within the annual monitoring report.
- JMT will develop a Draft Annual Monitoring Report which will be submitted to the City of Charleston for comments. JMT will revise the Draft Annual Monitoring Report based on City of Charleston's comments and produce a final Annual Monitoring Report. JMT will submit the final Annual Monitoring Report to the regulatory agencies; one copy will be furnished to City of Charleston as well.
- JMT will coordinate and attend an annual agency site visit, if requested.

Task 5: Guerin Creek Year 5 Monitoring/Close Out Report - $17,261

- Tidal gauges and the barometer will be downloaded on a quarterly schedule. Maintenance of gauges will be completed, if necessary.
- Photographs (visual inspection) of any significant or adverse changes, tidal flow, hummock forest and tidal wetlands disturbed by salt marsh restoration.
- Existing vegetation quadrats will be monitored on a yearly schedule and will be completed between July 1st and die back. Data to be collected will include percent cover by species, bare ground, and stem counts for tidal wetlands and total count, height, root collar diameter and lateral growth for hummock forest.
- All data collected will be processed, analyzed for consistency with success criteria, summarized and presented within the annual monitoring report.
- JMT will develop a Draft Annual Monitoring Report/Close Out Report which will be submitted to the City of Charleston for comments. JMT will revise the Draft Annual Monitoring/Close Out Report based on City of Charleston's comments and produce a final Annual Monitoring Report/Close Out Report. JMT will submit the final Annual Monitoring Report/Close Out Report to the regulatory agencies; one copy will be furnished to City of Charleston as well.
- JMT will coordinate and attend an annual agency site visit, if requested.

Task 6: Impact Site Post-Construction Monitoring Report - $2,265

- Establish reference site when the restored areas are replanted.
- Vegetation monitoring of percent cover by species, bare ground, and stem counts will be established.
- Photographs (visual inspection) of initial conditions of tidal wetlands disturbed by salt marsh restoration.
- JMT will develop a Draft Post-construction Monitoring Report which will be submitted to the City of Charleston for comments. JMT will revise the Draft Post-construction Monitoring Report based on City of Charleston's comments and produce a final Post-construction Monitoring Report and submit to the regulatory agencies; one copy will be furnished to City of Charleston as well.
- JMT will coordinate and attend an annual agency site visit, if requested.

Task 7: Impact Site Year 1 Monitoring Report - $2,378.

- Photographs (visual inspection) of any significant or adverse changes, tidal flow and tidal wetlands disturbed by salt marsh restoration.
- Existing vegetation quadrats will be monitored on a yearly schedule and will be completed between July 1st and die back. Data to be collected will include percent cover by species, bare ground, and stem counts for tidal wetlands. The poles will be demarcated at the corners of the quadrats, if necessary.
- All data collected will be processed, analyzed for consistency with success criteria, summarized and presented within the annual monitoring report.
- JMT will develop a Draft Annual Monitoring Report which will be submitted to the City of Charleston for comments. JMT will revise the Draft Annual Monitoring Report based on City of Charleston's comments and produce a final Annual Monitoring Report. JMT will submit the final Annual Monitoring Report to the regulatory agencies; one copy will be furnished to City of Charleston as well.
- JMT will coordinate and attend an annual agency site visit, if requested.

Task 8: Impact Site Year 2 Monitoring Report - $2,500

- Photographs (visual inspection) of any significant or adverse changes, tidal flow and tidal wetlands disturbed by salt marsh restoration.
- Existing vegetation quadrats will be monitored on a yearly schedule and will be completed between July 1st and die back. Data to be collected will include percent cover by species, bare ground, and stem counts for tidal wetlands. The poles will be demarcated at the corners of the quadrats, if necessary.
- All data collected will be processed, analyzed for consistency with success criteria, summarized and presented within the annual monitoring report.
- JMT will develop a Draft Annual Monitoring Report which will be submitted to the City of Charleston for comments. JMT will revise the Draft Annual Monitoring Report based on City of Charleston's comments and produce a final Annual Monitoring Report. JMT will submit the final Annual Monitoring Report to the regulatory agencies; one copy will be furnished to City of Charleston as well.
- JMT will coordinate and attend an annual agency site visit, if requested.

Task 9: Impact Site Year 3 Monitoring/Close-Out Report - $2,625

- Photographs (visual inspection) of any significant or adverse changes, tidal flow and tidal wetlands disturbed by salt marsh restoration.
- Existing vegetation quadrats will be monitored on a yearly schedule and will be completed between July 1st and die back. Data to be collected will include percent cover by species, bare ground, and stem counts for tidal wetlands. The poles will be demarcated at the corners of the quadrats, if necessary.
- All data collected will be processed, analyzed for consistency with success criteria, summarized and presented within the annual monitoring report.
- JMT will develop a Draft Annual Monitoring/Close-out Report which will be submitted to the City of Charleston for comments. JMT will revise the Draft Annual Monitoring/Close-out Report based on City of Charleston's comments and produce a final report. JMT will submit the final Annual Monitoring/Close-out Report to the regulatory agencies; one copy will be furnished to City of Charleston as well.
- JMT will coordinate and attend an annual agency site visit, if requested.

I. CLIENT RESPONSIBILITIES

A. Provide access to the property.

II. ADDITIONAL SERVICES

All services not listed under "Services" or beyond our "Project Understanding", including "Assumptions", are considered Additional Services. The compensation for these services will be in addition to that for "Services." "Additional Services" include, but are not limited to, the following:

- Adaptive Management plans (Impact Site/Guerin Creek)
- Multiple agency site visits (Impact Site/Guerin Creek)
- Response to agency comments (Impact Site/Guerin Creek)
- Additional tidal survey (cross-sections and/or longitudinal profiles) (Impact Site/Guerin Creek)
- Restoring original and proposed contours (Impact Site)
- Surveying of restored contours by RLS (Impact Site)
- Replanting native plants (Impact Site)
- Supplemental plantings of native plants (Impact Site/Guerin Creek)
- Additional installation of tidal gauges (Guerin Creek)
- Additional data collection (Impact Site/Guerin Creek)

III. COMPENSATION

A. The services described above will be provided for a fixed fee amount of $88,237.

B. "Additional Services" will be provided on an hourly basis at such time that additional services are deemed necessary. "Additional Services" may also be negotiated and authorized on a lump sum fee basis for additional scope tasks as deemed necessary.

This scope may be amended as needed according to your project requirements and JMT will happily modify any effort or fees at your request to better suit your needs. I thank you for your time and consideration in this matter and again, I look forward to a successful project completion.

If you have any questions or need further information, please do not hesitate to contact me at 843-779-3717 or mthomas@jmt.com.

Very truly yours,
JOHNSON, MIRMIRAN & THOMPSON, INC.

James K. O'Connor, P.E., CEng MIEI
Vice President

Matthew D. Thomas
Associate
South Carolina Natural & Cultural Resources

EXHIBIT B

City of Charleston

Categorey	2019-2020 Billed Rate
Principal Engineer/Vice President	$245.00
Specialty Engineer/Cost Engineer	$176.68
PM - Senior PE	$137.20
Senior PE - Civil	$137.20
Junior PE -Civil	$123.20
EIT -Civil	$89.60
Senior PE - Structural	$145.60
Junior PE -Structural	$112.00
EIT -Structural	$92.40
Senior Environmantal Scientist	$126.00
Environmental Planner	$93.10
Environmental Scientist	$78.68
GIS Analyst	$76.72
Principal Landscape Architect	$215.88
Senior Landscape Architect	$147.00
Jnior Landscape Architect	$78.40
Graphic Artist	$73.36
Senior Tech.	$84.00
Admin./Junior Tech.	$70.00

CPR COMMITTEE and/or COUNCIL AGENDA

9)

TO: John J. Tecklenburg, Mayor

FROM: Rodney Porter / Andrew Jones **DEPT.** Parks – Capital Projects

SUBJECT: 2020 PARD GRANT APPLICATION-VIVIAN ANDERSON MOULTRIE PLAYGROUND

REQUEST: Approval for the 2020 Park and Recreation Development (PARD) Grant Application to furnish new playground structure, swing set, and safety surfacing for the Vivian Anderson Moultrie Playground. Requested funding of $32,430.60 with a 20% City Match of $8,107.65.

COMMITTEE OF COUNCIL: Ways & Means **DATE:** January 28, 2020

COORDINATION: This request has been coordinated with: *(attach all recommendations/reviews)*

	Yes	N/A	Signature of Individual Contacted	Attachment
CPR Committee Chair	☑	☐		☐
Corporate Counsel	☑	☐		☐
Capital Projects Director	☐	☐		☐
MBE Manager	☐	☐		☐

FUNDING: Was funding previously approved? Yes [X] No [ ] N/A [ ]

If yes, provide the following: Dept/Div **Parks-Capital Projects** Acct # *

Balance in Account **$8,107.65** Amount needed for this item **$8,107.65**

Project Number **CP2006**

NEED: Identify any critical time constraint(s).

CFO's Signature: , Dep CFO

FISCAL IMPACT: **City Match $8,107.65 from 523000-52435 Maintenance, Playground Equipment.**

Mayor's Signature:

John J. Tecklenburg, Mayor

ORIGINATING OFFICE PLEASE NOTE: A FULLY STAFFED/APPROVED (except Mayor's Signature) PACKAGE IS DUE IN THE CLERK OF COUNCIL'S OFFICE NO LATER THAN 10:00 A.M THE DAY OF THE CLERK'S AGENDA MEETING.

John Tecklenburg
Mayor

City of Charleston
South Carolina
Department of Parks

Jason Kronsberg
Director of Parks

MEMORANDUM

TO: Charleston City Council

FROM: Rodney H. Porter, PLA
Department of Parks

RE: Vivian Anderson Moultrie Playground
PARD Grant

DATE: January 9, 2020

Please let this memo serve notice of explanation of why the PARD Grant application is being requested for Council approval after the application has been submitted. For as many years this grant deadline has fallen just after the holidays. The grant applications are received in the fall and determining which park the grant will fund and obtaining all documentation often pushes the submittal to the deadline limit.

The PARD Grant is also unique in that funds are already allocated to the City for park improvements and the application is simply a formal process of explaining how the funds will be handled. The City must provide a 20% match to the funds which will come out of the Facilities playground budget.

Please let me know if there are any other items of concern about the late submittal of this application for approval by City Council.

823 Meeting Street Charleston, South Carolina 29403 phone: 843.724.7324 fax: 843.723.7300

SOUTH CAROLINA DEPARTMENT OF PARKS, RECREATION & TOURISM PARK AND RECREATION DEVELOPMENT FUND

PROJECT APPLICATION

I. General Information

Project Sponsor City of Charleston, Department of Parks

Mailing Address 823 Meeting Street

Charleston, SC 29403

Email porterr@charleston-sc.gov Zip 29403

Contact Person Rodney H. Porter, PLA

Phone Number (843)724-7322 Fax (843)724-7300

Project Name Vivian Anderson Moultrie Park – New Playground

County Charleston

Federal Identification Number 57-6000226

Congressional District # 1 **PARD Class** A

Amount of Funds Requested $32,430.60

II. Project Description

This project will include the following work categories (Check the appropriate categories):

_____ Development of New Facilities X Renovation of Existing Facilities

_____ Planning

This project will include the following specific work elements (Check the appropriate elements):

_____ Athletic Fields _____ Athletic Courts _____ Multi-Purpose Courts

_____ Picnic Facilities _____ Swimming Facilities _____ Trails

_____ Boating/Fishing Facilities _____ Indoor Facilities

_____ Support Facilities _____ Consultant Services

X Other (describe) Playground equipment (including new play structure and swing set), safety surfacing, and site work required for installation.

III. Narrative Description

Describe in sufficient detail the work to be accomplished under this project and how the work will be accomplished.

Vivian Anderson Moultrie Playground is located in Charleston's Wagener Terrace neighborhood. The park is sandwiched between Laurel Avenue on the west and a Mt. Pleasant Street (SC 49) gas station to the north. The park sits back off King Street (SC 78) to the east and is fully covered by the Interstate 26 Viaduct. There is no formal entrance to the park space or formal accessible route to the playground.

Vivian Anderson Moultrie Park was constructed in the early 1970's to offset the scar created when the new Interstate 26 Viaduct was built on top of this neighborhood area. The park initially saw lots of activity when it was first constructed. Over the years the space has become notorious for vagrants and homeless activity, certainly not conducive to an attractive location for outdoor play. The park is surrounded by tall bridge support columns with open lawn on one side and open concrete paving on the other. The most recent renovation to the park in 2000 included a renovated swing set, a bus-themed play structure and a small climbing structure. The surfacing of the playground has since been updated from sand to engineered wood fiber mulch. Given the shift of population in this neighborhood it is anticipated that a new playground will provide some light and energy in an otherwise dark and stale space.

Plans for the new playground equipment will be developed in consultation with interested neighbors, nonprofit community development groups and programming staff familiar with the site. Anticipated improvements include the replacement of the play structure with a new 2-5 aged group and 5-12 age group structure, a new swing set, new individual play items, and proper accessible routing to the playground. All new structures will be inclusive for all abilities of play.

Construction, permitting and bidding will be developed by City staff as required. Work will be accomplished through contracts awarded to qualified contractors through the City's standard procurement process. The removal of the existing play equipment will be handled through internal Department of Parks' forces. Installation of the new play structure will be performed by an outside contractor. We anticipate the design, fabrication and installation to require approximately six months.

IV. Proposed Site Location

A. Park Name: Vivian Anderson Moultrie Park
B. Physical address of proposed site: 1201 King Street, Charleston, SC 29403
C. Latitude and Longitude (degrees/minutes/seconds/dir) of proposed site: 32°48'41.88" N, 79°57'06.24" W
D. Pictures (color) 8 ½ x 11 of the proposed site before development or renovation. See Attachment
E. Project Location Map. See Attachment

V. Time Table

Give a proposed time table for the accomplishment of this proposed work:

- 1Q 2020: Begin in-house work on design and community outreach on design
- 2Q 2020: Funding agreement approved. Finalize plans and permits.
- 3Q 2020: Begin procurement process. Award contract(s).
- 4Q 2020: Implement work on site. Remove old play equipment.

VI. Proposed Budget Breakdown for the Project:

• Develop plans and specifications	--
• Solicit Bids	--
• Site Preparations, remove old equipment	--
• Play equipment, including installation	$40,538.25
	$40,538.25

PARD Funding request:	$32,430.60
Cash Match (20%):	$8,107.65
Total Funding:	**$40,538.25**

ADDITIONAL REQUIRED APPLICATION MATERIAL

Project Location Map - Provide a map showing the location of each project site. The map(s) is to be in **sufficient detail** (or written directions) so that the site(s) can be found without additional assistance. (*Please remember we are not from your area*). **SEE ATTACHMENT "A".**

Copy of the appropriate deed or lease/joint use agreement for each proposed site. **SEE ATTACHMENT "B".**

Provide an **original** document showing the endorsements of the County's Legislative Delegation showing a weight factor of more than 50%. **SEE ATTACHMENT "C".**

Historical Significance Certification Form. **SEE ATTACHMENT "D".**

Pictures (color) 8 ½ x 11 of the proposed site before development or renovation. **SEE ATTACHMENT "E".**

SOUTH CAROLINA DEPARTMENT OF PARKS, RECREATION & TOURISM
PARK AND RECREATION DEVELOPMENT FUND

HISTORICAL SIGNIFICANCE CERTIFICATION FORM

AGENCY NAME: City of Charleston, Department of Parks

PROJECT NAME: Vivian Anderson Moultrie Park – New Playground

I hereby certify that the above named project:

(Select One)

X Will Not Have an impact on existing or potentially eligible National Register site(s).

_____Will Have an impact on existing or potentially eligible National Register site(s). Please explain:

Rodney H. Porter, PLA
PRINTED NAME

Senior Landscape Architect, Project Manager
TITLE

SIGNATURE

01/03/2020
DATE

(Form must be completed, signed and returned to us WITH the application. Applications **cannot** be processed without this signed and dated form.)

SOUTH CAROLINA DEPARTMENT OF PARKS, RECREATION & TOURISM
PARK AND RECREATION DEVELOPMENT FUND

ENDORSEMENT FORM

We, the members of the Charleston County Legislative Delegation, endorse the following Project, Sponsor, and Amount for funding under the South Carolina Park and Recreation Development Fund (PARD) Program.

Sponsor: *City of Charleston, Department of Parks*

Project Name: Vivian Anderson Moultrie Park – New Playground

PARD Amount: $32,430.60

ENDORSEMENT: (***Signatories combined weight factor must be greater than 50% for the above-mentioned county. Applications cannot be processed without weight factor listed***.)

NAME (type or print)	**SIGNATURE**	**WEIGHT FACTOR**
		%
		%
		%
		%
		%
		%
		%
		%
		%

(Form must be completed, signed and returned to us WITH the application. Applications **cannot** be processed without this signed and dated form.)

Form **W-9**
(Rev. October 2018)
Department of the Treasury
Internal Revenue Service

Request for Taxpayer Identification Number and Certification

▶ Go to *www.irs.gov/FormW9* for instructions and the latest information.

Give Form to the requester. Do not send to the IRS.

Print or type. See Specific Instructions on page 3.

1 Name (as shown on your income tax return). Name is required on this line; do not leave this line blank.
City of Charleston

2 Business name/disregarded entity name, if different from above

3 Check appropriate box for federal tax classification of the person whose name is entered on line 1. Check only one of the following seven boxes.

☐ Individual/sole proprietor or single-member LLC ☐ C Corporation ☐ S Corporation ☐ Partnership ☐ Trust/estate

☐ Limited liability company. Enter the tax classification (C=C corporation, S=S corporation, P=Partnership) ▶

Note: Check the appropriate box in the line above for the tax classification of the single-member owner. Do not check LLC if the LLC is classified as a single-member LLC that is disregarded from the owner unless the owner of the LLC is another LLC that is not disregarded from the owner for U.S. federal tax purposes. Otherwise, a single-member LLC that is disregarded from the owner should check the appropriate box for the tax classification of its owner.

☑ Other (see instructions) ▶ Municipal Government

4 Exemptions (codes apply only to certain entities, not individuals; see instructions on page 3):

Exempt payee code (if any)

Exemption from FATCA reporting code (if any)

(Applies to accounts maintained outside the U.S.)

5 Address (number, street, and apt. or suite no.) See instructions.
P.O. Box 304

Requester's name and address (optional)

6 City, state, and ZIP code
Charleston, SC 29402

7 List account number(s) here (optional)

Part I Taxpayer Identification Number (TIN)

Enter your TIN in the appropriate box. The TIN provided must match the name given on line 1 to avoid backup withholding. For individuals, this is generally your social security number (SSN). However, for a resident alien, sole proprietor, or disregarded entity, see the instructions for Part I, later. For other entities, it is your employer identification number (EIN). If you do not have a number, see *How to get a TIN*, later.

Note: If the account is in more than one name, see the instructions for line 1. Also see *What Name and Number To Give the Requester* for guidelines on whose number to enter.

Social security number
☐☐☐ – ☐☐ – ☐☐☐☐

or

Employer identification number
5 7 – 6 0 0 0 2 2 6

Part II Certification

Under penalties of perjury, I certify that:

1. The number shown on this form is my correct taxpayer identification number (or I am waiting for a number to be issued to me); and
2. I am not subject to backup withholding because: (a) I am exempt from backup withholding, or (b) I have not been notified by the Internal Revenue Service (IRS) that I am subject to backup withholding as a result of a failure to report all interest or dividends, or (c) the IRS has notified me that I am no longer subject to backup withholding; and
3. I am a U.S. citizen or other U.S. person (defined below); and
4. The FATCA code(s) entered on this form (if any) indicating that I am exempt from FATCA reporting is correct.

Certification instructions. You must cross out item 2 above if you have been notified by the IRS that you are currently subject to backup withholding because you have failed to report all interest and dividends on your tax return. For real estate transactions, item 2 does not apply. For mortgage interest paid, acquisition or abandonment of secured property, cancellation of debt, contributions to an individual retirement arrangement (IRA), and generally, payments other than interest and dividends, you are not required to sign the certification, but you must provide your correct TIN. See the instructions for Part II, later.

Sign Here Signature of U.S. person ▶ Matthew A. Frohlich Deputy Chief Financial Officer City of Charleston Date ▶ 3/15/19

General Instructions

Section references are to the Internal Revenue Code unless otherwise noted.

Future developments. For the latest information about developments related to Form W-9 and its instructions, such as legislation enacted after they were published, go to *www.irs.gov/FormW9*.

Purpose of Form

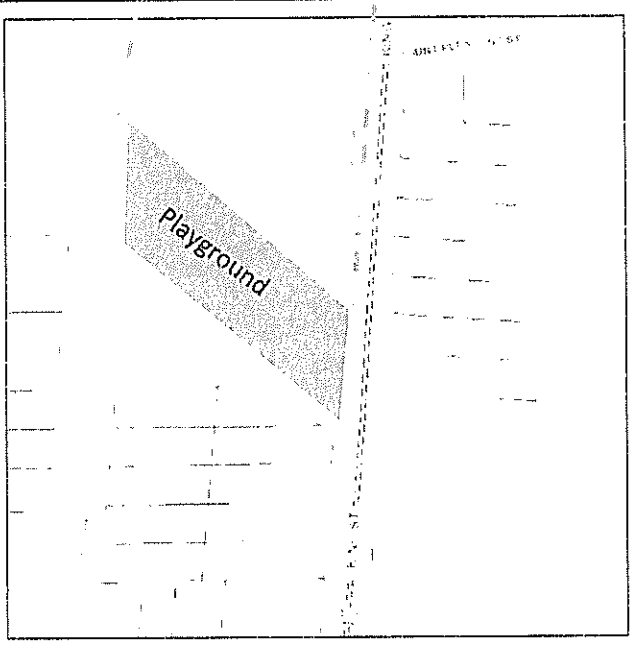
An individual or entity (Form W-9 requester) who is required to file an information return with the IRS must obtain your correct taxpayer identification number (TIN) which may be your social security number (SSN), individual taxpayer identification number (ITIN), adoption taxpayer identification number (ATIN), or employer identification number (EIN), to report on an information return the amount paid to you, or other amount reportable on an information return. Examples of information returns include, but are not limited to, the following.

- Form 1099-INT (interest earned or paid)
- Form 1099-DIV (dividends, including those from stocks or mutual funds)
- Form 1099-MISC (various types of income, prizes, awards, or gross proceeds)
- Form 1099-B (stock or mutual fund sales and certain other transactions by brokers)
- Form 1099-S (proceeds from real estate transactions)
- Form 1099-K (merchant card and third party network transactions)
- Form 1098 (home mortgage interest), 1098-E (student loan interest), 1098-T (tuition)
- Form 1099-C (canceled debt)
- Form 1099-A (acquisition or abandonment of secured property)

Use Form W-9 only if you are a U.S. person (including a resident alien), to provide your correct TIN.

If you do not return Form W-9 to the requester with a TIN, you might be subject to backup withholding. See What is backup withholding, *later.*

ATTACHMENT "A"



LOCATION MAP

Interstate 26 E to Mt. Pleasant Street. Mt. Pleasant Street to King Street.
Playground located under I-26 viaduct between Laurel Avenue and King Street.
Parking on King Street.

ATTACHMENT "B"

File ~~10.746~~ Municipal Agreements City of Chas

S F
Agree Gen

February 12, 1976

re
Multiple Use Facilities Under I-26 Viaduct
Charleston County - City of Charleston

Ms. Mary R. Wrixon
Clerk of Council
City of Charleston
Charleston, South Carolina 29402

Dear Ms. Wrixon:

Reference is made to your letter of February 2, 1976, enclosing six (6) copies of the I-26 Linear Park Agreement which had been executed by the Mayor on behalf of the City of Charleston.

As requested by you, we are returning three (3) copies of the agreement which have been executed by the Department.

If we can be of further assistance in this matter, please advise.

Yours very truly,

Paul W. Cobb
State Highway Engineer

ENCLOSURES

CC: Secretary Treasurer - Chief Accountant
Construction Engineer
District Engineer Weeks District # 6
Urban Engineer

GAW/jab

NOTE TO URBAN FILE - Copy of agreement filed in General File - no copy retained in Urban Files

CC: Clair - 6-19-85

CC

CITY OF CHARLESTON
SOUTH CAROLINA
29402

February 2, 1976

Mr. Paul Cobb
State Highway Engineer
S.C. Highway Department
P.O. Box 191
Columbia, S.C. 29202

Dear Mr. Cobb:

Enclosed are six copies of the I-26 Linear Park Agreement which have been executed by the Mayor on behalf of the City of Charleston as authorized by the Committee on Ways a and Means at its meeting January 13, 1976.

It is requested that after the State Highway Department executes the agreement that three fully executed copies of the agreement be returned to the City for its files.

Sincerely yours,

MARY R. WRIXON
Clerk of Council

MRW:dtg
cc: Honorable Joseph P. Riley, Jr., Mayor
Mr. John Green, Charleston County Parks, Recreation, and Tourist Commission
Mr. J.J. Budds, City Controller

STATE OF SOUTH CAROLINA
COUNTY OF CHARLESTON

South Carolina Highway Department

and

City of Charleston, South Carolina

Agreement for implementing and maintaining Multiple Use Facilities under I-26 Viaduct - Charleston County - City of Charleston.

This agreement made and entered into this 11th day of February 1976 by and between the South Carolina State Highway Department (hereinafter called "the Department) and the City of Charleston (hereinafter called "the City).

Witnesseth:

General Recitals

Whereas, on October 14, 1969, representatives of Charleston County Parks, Recreation and Tourist Commission met with representatives of the South Carolina Highway Department to discuss possible development of Multiple Use Facilities under a portion of Interstate Route 26 in Charleston, South Carolina in accordance with the U. S. Department of Transportation Instructional Memorandum 21-2-69 dated January 17, 1969; and

Whereas, the Highway Department expressed an interest in participating in the development of this project; and

Whereas, by letter of July 11, 1973, the City of Charleston agreed to participate in the development and financing of certain items of the Multiple Use Facilities under a portion of Interstate Route 26 viaduct between Mt. Pleasant Street and the end of the viaduct near Huger Street; and

Whereas, on November 15, 1973, a combined corridor and design public hearing was conducted jointly by the South Carolina Highway

Department and Charleston County Parks, Recreation and Tourist Commission; and

Whereas, development of plans for this project have been in accordance with periodic review and inspection by representatives of the Federal Highway Administration, Charleston County Parks, Recreation and Tourist Commission, the City of Charleston and the South Carolina Highway Department; and

Whereas, development of plans for this project is nearing completion.

Now, therefore, in consideration of the foregoing, the City and the Department agree to the more specific divisions of responsibility and provision of funding, in the implementation of Multiple Use Facilities under the I-26 viaduct and between the limits of Mt. Pleasant Street and the end of the viaduct near Huger Street, as follows:

ARTICLE I

Division of Responsibility

Section 1. Department's Responsibility

The Department shall be responsible for the following:

A. Complete construction plans to include grading, drainage, paving, lighting and irrigation system.

B. Implement contract letting and supervise construction on all items with the exception of play equipment and physical fitness apparatus.

C. Provide 10% of the cost of the following items under the provision that the remaining 90% of the cost of these items qualify for the use of Federal funds.

1. Site preparation (grading and fill material)

2. Drainage

3. Landscaping

4. Fencing

5. Lighting

6. Paved recreational courts and passive park areas.

7. Benches

8. Picnic tables

9. Base and paving for parking area.

10. Irrigation system

11. Paved bicycle trails

Section 11. City's Responsibility

A. Assist in the preparation of final construction plans.

B. Assist in the supervision of construction where requested by the department

C. Bear all cost of the following items:

1. Play equipment

2. Physical fitness apparatus

D. Supervise the erection and placing of related play equipment and physical fitness apparatus.

E. Bear all cost and supply the necessary personnel for police patrol and maintenance requirements to include replacement of any item constructed in accordance with the approved plans and specifications.

F. Bear all cost of electrical operating expenses and water requirements.

G. Have available the sum of approximately $25,000 to implement construction of the items outlined above.

Section III. Division of responsibility and financing of any items not covered above.

The division of responsibility of any item not included in Section I or Section II above shall be determined by mutual agreement between the Department, City and the Federal Highway Administration.

The Department will furnish 10% of the funding of any items not listed above providing the Federal Highway Administration will furnish the remaining 90% of the cost of this item or items.

Section IV. Liability

The City hereby agrees, and binds its successors and assigns to assume any and all liability the Department might otherwise have in connection with accidents or injuries to person, or damage to property that might be caused by the construction, maintenance, use, moving or removing of the Multiple Use Facilities contemplated herein and agree to indemnify the Department for any liability incurred or injury or damage sustained by reason of the past, present or future existance of said Multiple Use Facilities.

In witness whereof the parties hereto have executed this agreement as of the day and year first herein above written.

CITY OF CHARLESTON

Joseph P. Riley Jr.

Attest: Mary R. Munson
Clerk of Council

SOUTH CAROLINA HIGHWAY DEPARTMENT

By: Paul W. Hall
State Highway Engineer

Approved By: [illegible]
Chief Highway Commissioner

Attest By: W. T. Brady
Secretary-Treasurer

ATTACHMENT "C"

SOUTH CAROLINA DEPARTMENT OF PARKS, RECREATION & TOURISM
PARK AND RECREATION DEVELOPMENT FUND

ENDORSEMENT FORM

We, the members of the Charleston County Legislative Delegation, endorse the following Project, Sponsor, and Amount for funding under the South Carolina Park and Recreation Development Fund (PARD) Program.

Sponsor: *City of Charleston, Department of Parks*

Project Name: Vivian Anderson Moultrie Park – New Playground

PARD Amount: $32,430.60

ENDORSEMENT: (***Signatories combined weight factor must be greater than 50% for the above-mentioned county. Applications cannot be processed without weight factor listed***.)

NAME (type or print)	**SIGNATURE**	**WEIGHT FACTOR**
		%
		%
		%
		%
		%
		%
		%
		%
		%

(Form must be completed, signed and returned to us WITH the application. Applications **cannot** be processed without this signed and dated form.)

ATTACHMENT "D"

SOUTH CAROLINA DEPARTMENT OF PARKS, RECREATION & TOURISM
PARK AND RECREATION DEVELOPMENT FUND

ENDORSEMENT FORM

We, the members of the ___Charleston_____County Legislative Delegation, endorse the following Project, Sponsor, and Amount for funding under the South Carolina Park and Recreation Development Fund (PARD) Program.

Sponsor: _____*City of Charleston, Department of Parks*_____

Project Name: Vivian Anderson Moultrie Park – New Playground

PARD Amount: $32,430.60

ENDORSEMENT: (***Signatories combined weight factor must be greater than 50% for the above-mentioned county. Applications cannot be processed without weight factor listed***.)

NAME (type or print)	**SIGNATURE**	**WEIGHT FACTOR**
		____%
		____%
		____%
		____%
		____%
		____%
		____%
		____%
		____%

(Form must be completed, signed and returned to us WITH the application. Applications **cannot** be processed without this signed and dated form.)

ATTACHMENT "D"

SOUTH CAROLINA DEPARTMENT OF PARKS, RECREATION & TOURISM
PARK AND RECREATION DEVELOPMENT FUND

HISTORICAL SIGNIFICANCE CERTIFICATION FORM

AGENCY NAME: City of Charleston, Department of Parks

PROJECT NAME: Vivian Anderson Moultrie Park – New Playground

I hereby certify that the above named project:

(Select One)

X Will Not Have an impact on existing or potentially eligible National Register site(s).

_____Will Have an impact on existing or potentially eligible National Register site(s). Please explain:

_____

_____

_____

Rodney H. Porter, PLA
PRINTED NAME

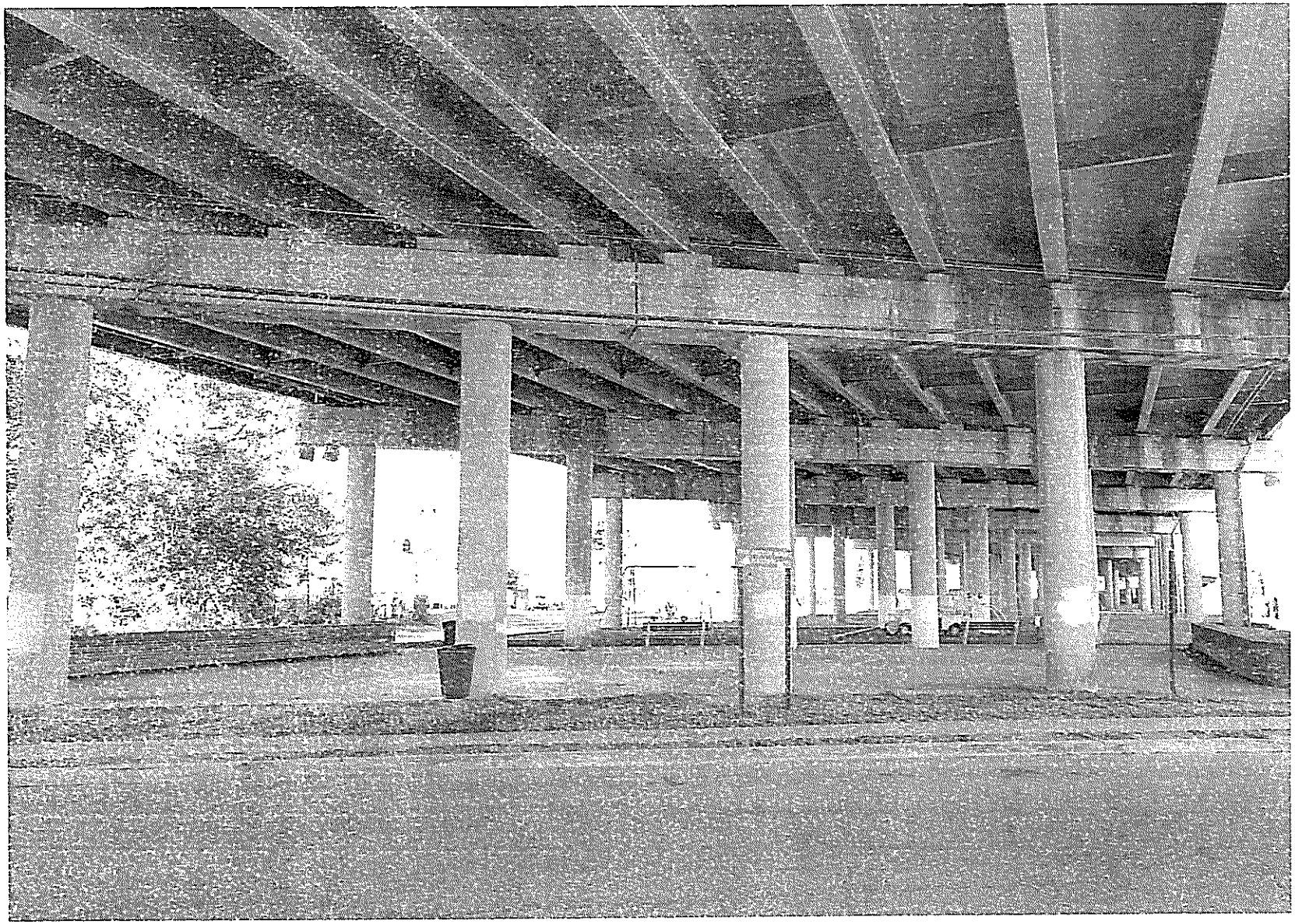
Senior Landscape Architect, Project Manager
TITLE

SIGNATURE

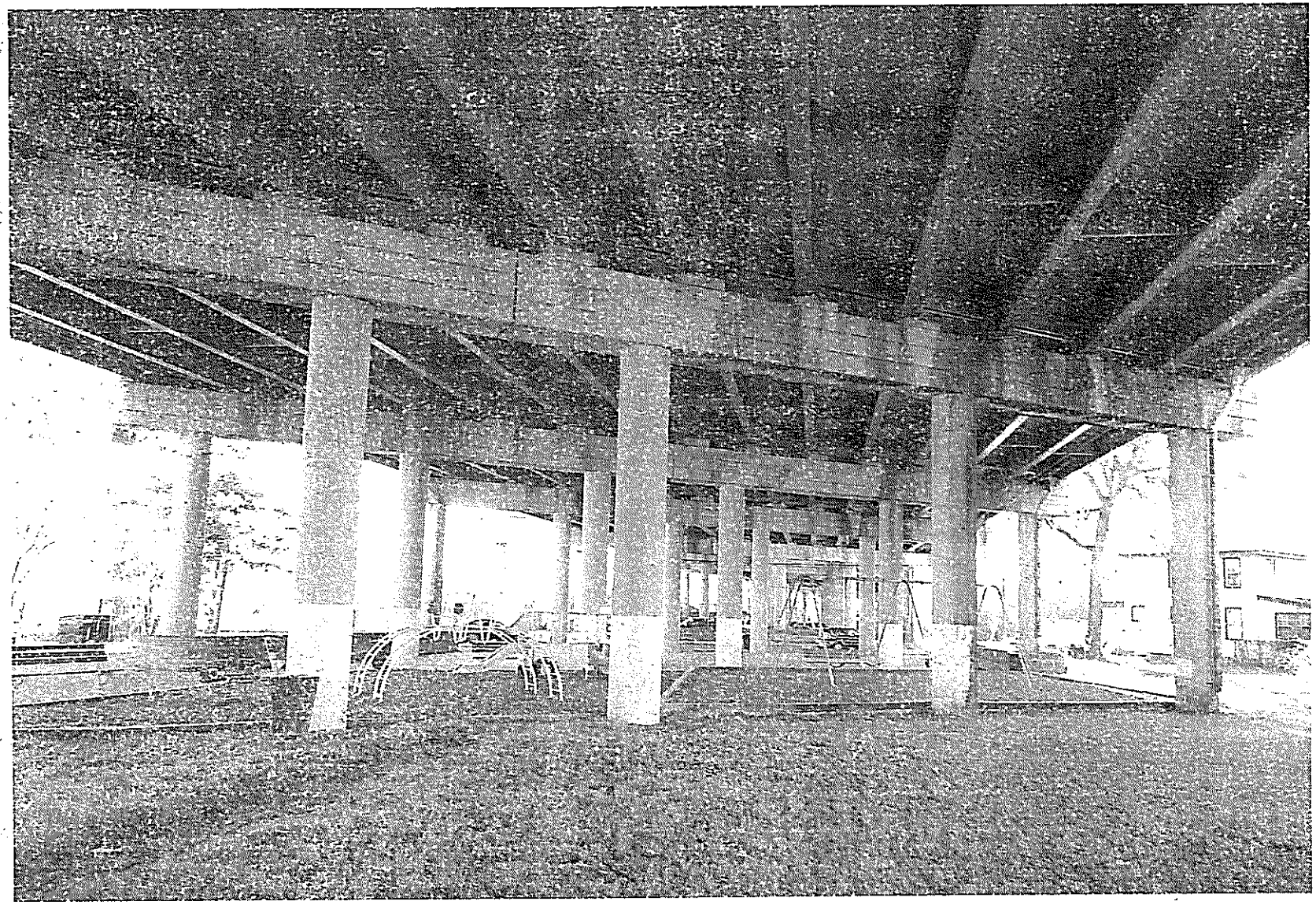
01/03/2020
DATE

(Form must be completed, signed and returned to us WITH the application. Applications **cannot** be processed without this signed and dated form.)

ATTACHMENT "E"

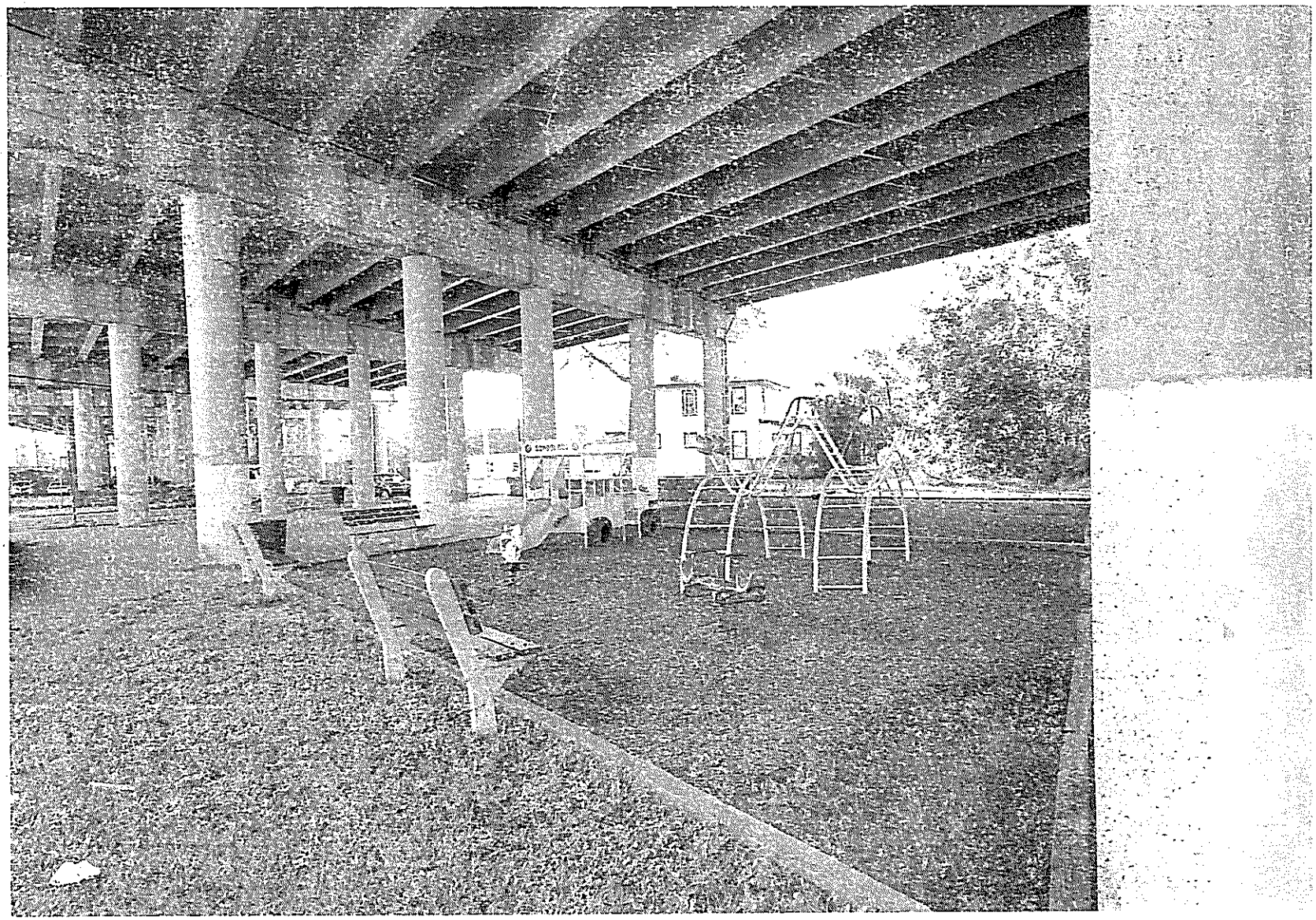


VIEW OF PLAYGROUND FROM KING STREET

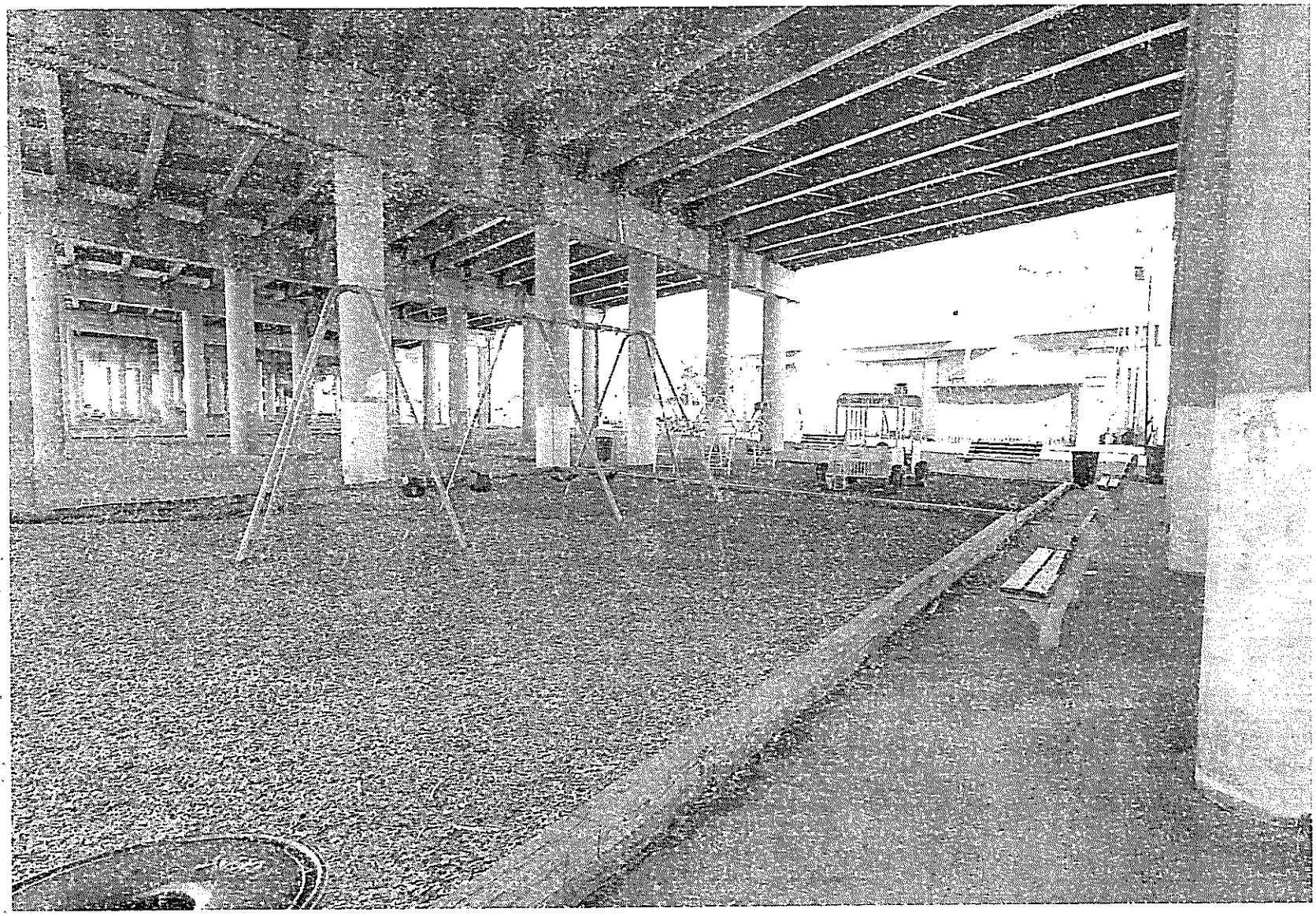


VIEW OF PLAYGROUND FROM LAUREL STREET

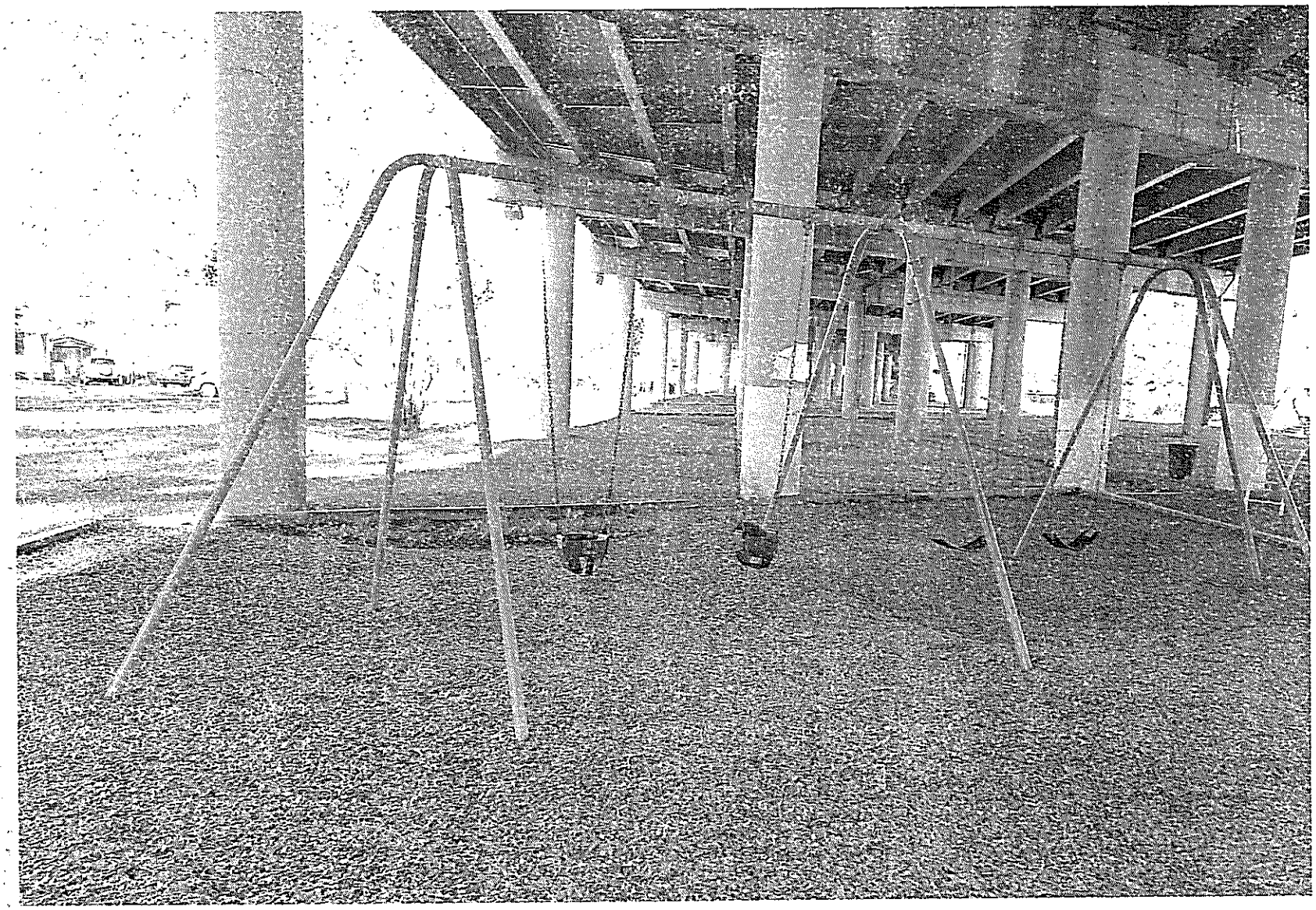
VIEW OF PLAYGROUND



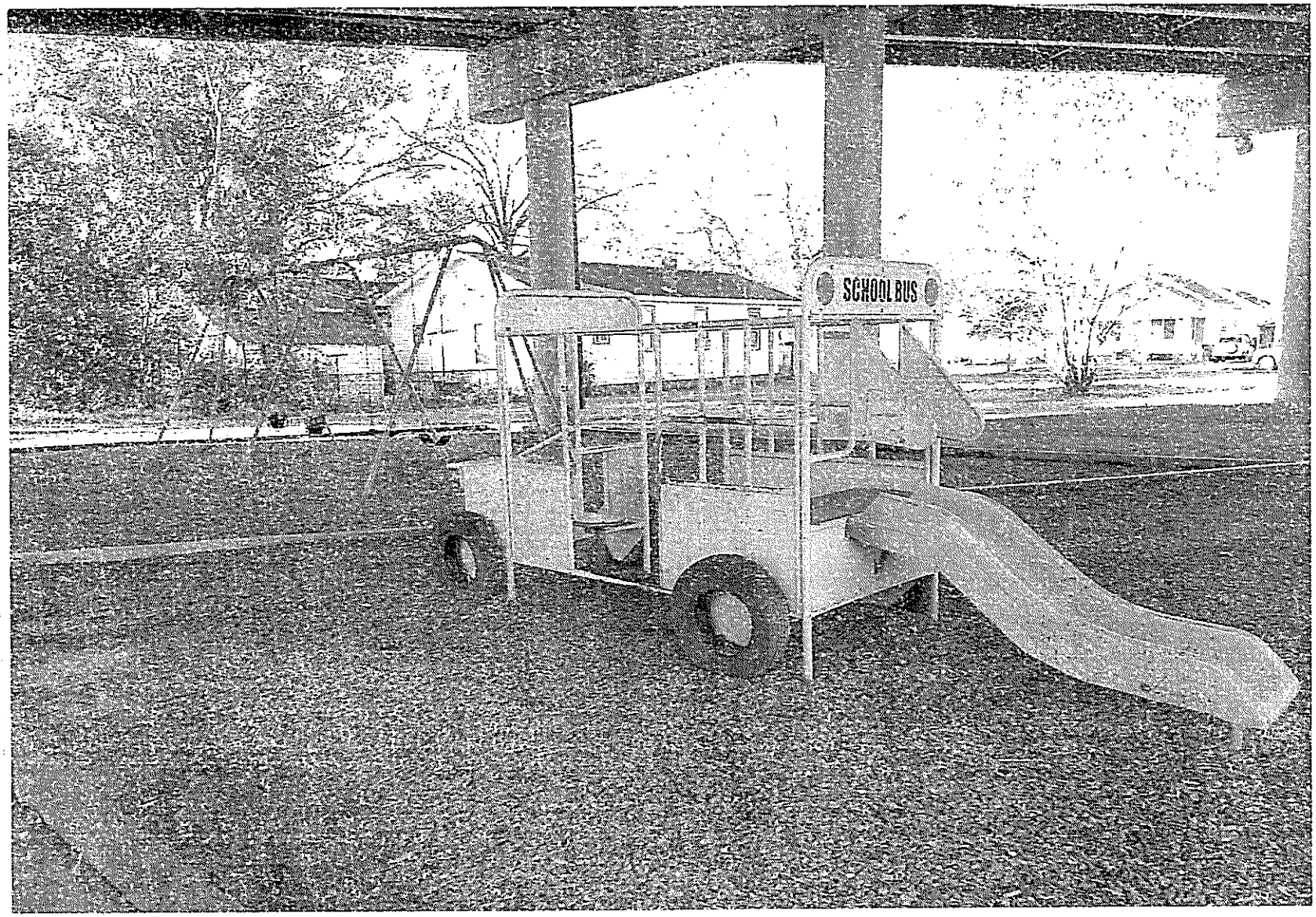
VIEW OF PLAYGROUND



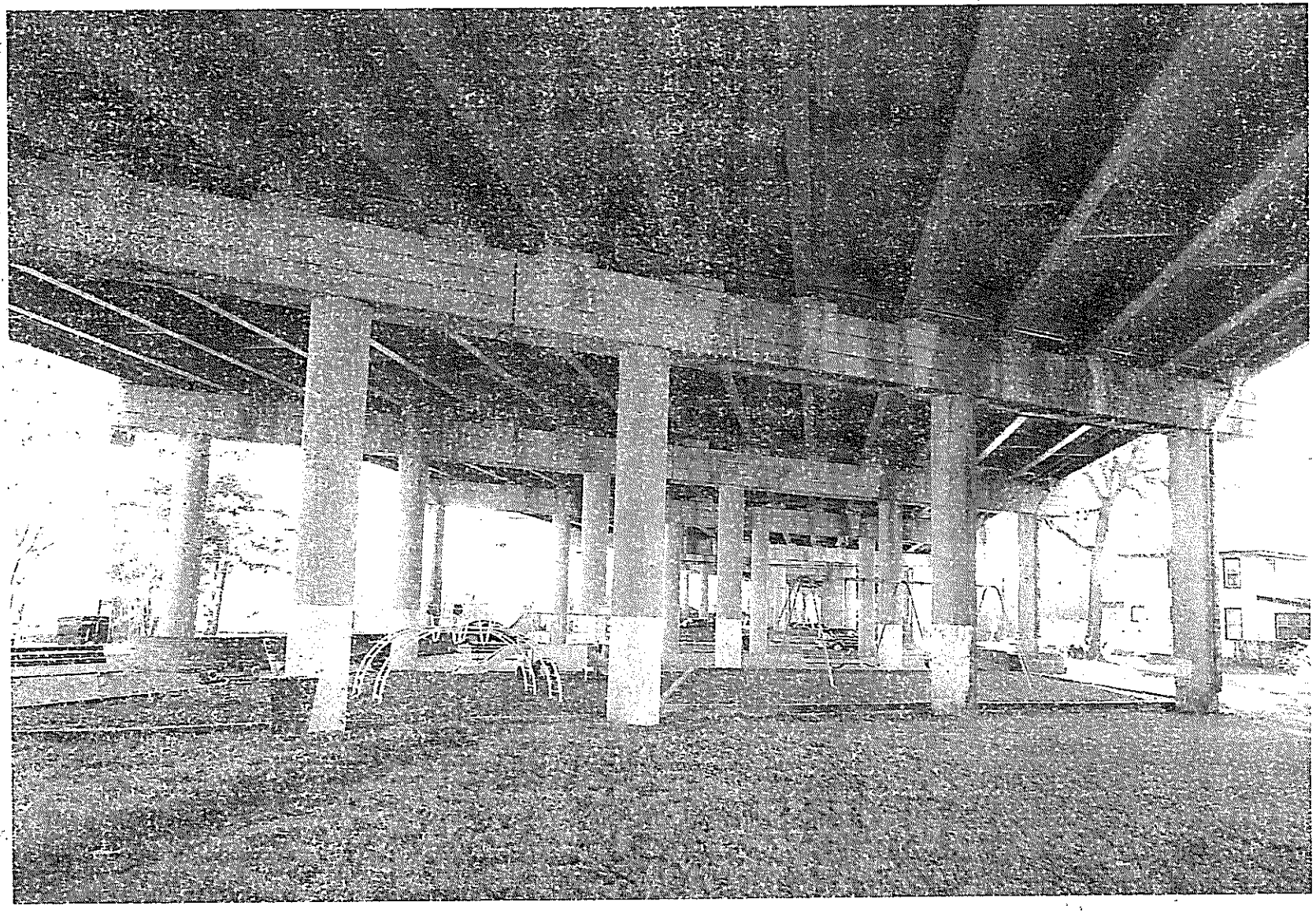
VIEW OF PLAYGROUND



VIEW OF PLAYGROUND



VIEW OF PLAYGROUND



VIEW OF PLAYGROUND FROM LAUREL STREET

10.)

CPR COMMITTEE and/or COUNCIL AGENDA

TO: John J. Tecklenburg, Mayor

FROM: Matt Compton / Andrew Jones **DEPT.** Parks – Capital Projects

SUBJECT: WEST ASHLEY GREENWAY IMPROVEMENTS-STINSON DR. TO PARKDALE DR. LPA SUPPLEMENTAL AGREEMENT NO.1

REQUEST: Approval of LPA Supplemental Agreement No.1 in the amount of $12,371.36 for the termination of the SCDOT Local Public Agency Contract LPA-07-15 entered into agreement on March 13, 2015. Cancellation of the agreement includes reimbursement of SCDOT for costs associated with staff reviews and will cause the obligated Federal funds to be returned to the CHATs Committee of BCDCOG.

COMMITTEE OF COUNCIL: Ways & Means **DATE:** January 28, 2020

COORDINATION: This request has been coordinated with: *(attach all recommendations/reviews)*

	Yes	N/A	Signature of Individual Contacted	Attachment
CPR Committee Chair	✓		Matt Compton	
Corporate Counsel	✓		Shelly Halvorsen	
Capital Projects Director				
MBE Manager				

FUNDING: Was funding previously approved? Yes [X] No [ ] N/A [ ]

If yes, provide the following: Dept/Div **Parks-Capital Projects** Acct # **051412**

Balance in Account **$12,371.36** Amount needed for this item **$12,371.36**

Project Number **CP1413**

NEED: Identify any critical time constraint(s).

CFO's Signature: Matt Compton, Dep CFO

FISCAL IMPACT: **Approval of this Supplemental Agreement will obligate $12,371.36 of the project budget. By accepting this Supplemental Agreement, the City will forfeit the Grant and match amount of $235,000.00 This funding will be replaced by 2018 General Fund Reserves. The funding sources for this project are: 2013 General Fund Reserves ($214,016.57) and 2016 General Fund Reserves ($100,000.00), 2018 General Fund Reserves ($235,000.00).**

Mayor's Signature: John J. Tecklenburg, Mayor

ORIGINATING OFFICE PLEASE NOTE: A FULLY STAFFED/APPROVED (except Mayor's Signature) PACKAGE IS DUE IN THE CLERK OF COUNCIL'S OFFICE NO LATER THAN 10:00 A.M THE DAY OF THE CLERK'S AGENDA MEETING.

South Carolina
Department of Transportation

December 9, 2019

Mr. Matthew Compton
Special Projects Administrator
City of Charleston
823 Meeting Street
Charleston, South Carolina 29403

Re: City of Charleston – West Ashley Greenway Multi-Use Path Phase IV Project
Project ID: P028331 / LPA-07-15

Dear Mr. Compton:

Enclosed are three originals of a Supplemental Agreement between the South Carolina Department of Transportation (SCDOT) and the City of Charleston that will terminate the above referenced project.

Should the City of Charleston find the terms and conditions of the supplemental agreement acceptable, please sign all three originals with a Witness to the signatures. The Department will enter the date on page 1 and sign all three originals and return one fully executed original to the City.

Please return the forms by December 31, 2019 to SCDOT, Attention: Local Public Agency Administration Office, Room 424, Post Office Box 191, Columbia SC 29202-0191.

Should you have any questions, please contact me at (803) 737-1214.

Sincerely,

B. Yates Jackson, II

B. Yates Jackson, II
Local Public Agency Administration Engineer

BYJ:seaj
Enclosures
ec: Machael Peterson, Federal Grants Administrator
Joy Riley, Lowcountry Region Program Manager
Lyle Lee, Lowcountry Region Assistant Program Manager
File: LPAA/SEAJ/2019Finals/PartAgts

Post Office Box 191
955 Park Street
Columbia, SC 29202-0191

www.scdot.org
An Equal Opportunity
Affirmative Action Employer
855-GO-SCDOT (855-467-2368)

LPA 7-15
Supplemental Agreement No. 1
Termination

SCDOT USE ONLY
Start Date: _____
Completion Date: _____

SCDOT USE ONLY
WBS No.: _____
Functional Area: _____
Commitment Item: _____
Organization Unit: _____
PIN: P028331

CFDA No. 20.205
Highway Planning & Construction

SUPPLEMENTAL AGREEMENT No. 1 TERMINATION
BETWEEN
THE SOUTH CAROLINA
DEPARTMENT OF TRANSPORTATION
AND THE
CITY OF CHARLESTON

THIS SUPPLEMENTAL AGREEMENT No. 1 Termination is made and entered into this _____day of _____, 20___, by and between the South Carolina Department of Transportation (hereinafter referred to as "SCDOT") and the City of Charleston (hereinafter referred to as "PARTICIPANT") (collectively "the Parties") to remove this Project from SCDOT's Local Public Agency (LPA) Program.

WITNESSETH THAT:

WHEREAS, on March 13, 2015, the Parties hereto entered into an Agreement, LPA 7-15 (hereinafter "Original Agreement"), for the West Ashley Greenway Extension Phase IV Project; and

WHEREAS, the Parties desire to terminate the Original Agreement to include removing this Project from SCDOT's LPA Program at the written request of the City of Charleston's Special Project Administrator shown as Exhibit A;

NOW THEREFORE, in consideration of the several promises to be faithfully performed by the Parties hereto as set forth herein, SCDOT and PARTICIPANT do hereby agree as follows:

1. This Project is hereby terminated and removed from SCDOT's LPA Program.

2. PARTICIPANT will reimburse SCDOT in the amount of $12,371.36 for PE charges towards the Project. Since the Project was not completed, PARTICIPANT is obligated to refund this amount to SCDOT. SCDOT will send PARTICIPANT an invoice after this Supplemental Agreement is executed, and PARTICIPANT agrees to remit to SCDOT within 30 days of receipt of the invoice the amount specified per this Agreement.

3. SCDOT will deem this Project to be closed upon repayment of the above mentioned amount.

[Signature Blocks on Next Page]

IN WITNESS WHEREOF, the Parties have caused this Agreement to be executed on their behalf

SIGNED, SEALED AND DELIVERED
IN THE PRESENCE OF:

CITY OF CHARLESTON

_____
Witness

By:_____
(Signature)

Title:_____

SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION

_____
Witness

By:_____
Deputy Secretary for Finance & Administration or Designee

RECOMMENDED BY:

_____
Deputy Secretary or Designee

REVIEWED BY:

_____

Title:_____

Exhibit A
City of Charleston Letter from Special Project Administrator
Received July 9, 2019

John J. Tecklenburg
Mayor

City of Charleston
South Carolina

Edmund V. Most
Deputy Director

CAPITAL PROJECTS DIVISION

Mr. B. Yates Yackson, II, P.E.
LPA Administration Engineer
S.C. Department of Transportation
P.O. Box 191
Columbia, SC 29202-0191

RE: **LPA 07-15 - West Ashley Greenway Extension - Phase IV**

Mr. ~~Jackson~~ – Yates

As we discussed last week, the City of Charleston has opted to proceed with the W A Greenway project utilizing City funds. Please consider this letter as notice of our desire to terminate the Participation Agreement as allowed in VIII r of the agreement

This decision was made to allow the project to be implemented this year. We anticipate that the work will begin in September and, weather permitting, should be nearly complete by early November Even though we were very close to completing the development phase of the project through the LPA process, the earliest we would be able to place asphalt would have been March, 2020. There are a number of local residents that are anxiously awaiting access to this facility, and that schedule is untenable.

Mayor Tecklenburg submitted a request to the BCD/COG to transfer the FY2010 TEA funding (and required match) identified for LPA 07-15 to the *WA Greenway / WA Bikeway Connector* project that we met about in May This project is contiguous to the Greenway, and based on our 'Field Review & Scope Development' meeting, is likely to be funded

We have not submitted a reimbursement request for LPA 07-15 so there would not be a need to reimburse any payments for this project. Please let me know if additional information is needed to close this project

Thank you for your guidance and continued patience with this and the other LPA projects we have underway I look forward to seeing those projects through to completion.

Sincerely,

Matthew M Compton
Special Projects Administrator

823 Meeting Street, Charleston, SC 29403 843/724-7191 phone 843/579-7692 fax

LPA 7-15
Supplemental Agreement No. 1
Termination

SCDOT USE ONLY
Start Date: _____
Completion Date: _____

SCDOT USE ONLY
WBS No.: _____
Functional Area: _____
Commitment Item: _____
Organization Unit: _____
PIN: P028331

CFDA No. 20.205
Highway Planning & Construction

SUPPLEMENTAL AGREEMENT No. 1 TERMINATION
BETWEEN
THE SOUTH CAROLINA
DEPARTMENT OF TRANSPORTATION
AND THE
CITY OF CHARLESTON

THIS SUPPLEMENTAL AGREEMENT No. 1 Termination is made and entered into this _____day of _____, 20___, by and between the South Carolina Department of Transportation (hereinafter referred to as "SCDOT") and the City of Charleston (hereinafter referred to as "PARTICIPANT") (collectively "the Parties") to remove this Project from SCDOT's Local Public Agency (LPA) Program.

WITNESSETH THAT:

WHEREAS, on March 13, 2015, the Parties hereto entered into an Agreement, LPA 7-15 (hereinafter "Original Agreement"), for the West Ashley Greenway Extension Phase IV Project; and

WHEREAS, the Parties desire to terminate the Original Agreement to include removing this Project from SCDOT's LPA Program at the written request of the City of Charleston's Special Project Administrator shown as Exhibit A;

NOW THEREFORE, in consideration of the several promises to be faithfully performed by the Parties hereto as set forth herein, SCDOT and PARTICIPANT do hereby agree as follows:

1. This Project is hereby terminated and removed from SCDOT's LPA Program.

2. PARTICIPANT will reimburse SCDOT in the amount of $12,371.36 for PE charges towards the Project. Since the Project was not completed, PARTICIPANT is obligated to refund this amount to SCDOT. SCDOT will send PARTICIPANT an invoice after this Supplemental Agreement is executed, and PARTICIPANT agrees to remit to SCDOT within 30 days of receipt of the invoice the amount specified per this Agreement.

3. SCDOT will deem this Project to be closed upon repayment of the above mentioned amount.

[Signature Blocks on Next Page]

IN WITNESS WHEREOF, the Parties have caused this Agreement to be executed on their behalf

SIGNED, SEALED AND DELIVERED
IN THE PRESENCE OF:

CITY OF CHARLESTON

_____
Witness

By:_____
(Signature)

Title:_____

SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION

_____
Witness

By:_____
Deputy Secretary for Finance & Administration or Designee

RECOMMENDED BY:

_____
Deputy Secretary or Designee

REVIEWED BY:

_____

Title: Federal Grants Administrator

Exhibit A
City of Charleston Letter from Special Project Administrator
Received July 9, 2019

John J. Tecklenburg
Mayor

City of Charleston
South Carolina

Edmund V. Most
Deputy Director

CAPITAL PROJECTS DIVISION

Mr. B. Yates Yackson, II, P.E.
LPA Administration Engineer
S.C. Department of Transportation
P.O. Box 191
Columbia, SC 29202-0191

RE: LPA 07-15 - West Ashley Greenway Extension - Phase IV

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Mayor Tecklenburg submitted a request to the BCD/COG to transfer the FY2010 TEA funding (and required match) identified for LPA 07-15 to the *WA Greenway / WA Bikeway Connector* project that we met about in May This project is contiguous to the Greenway, and based on our 'Field Review & Scope Development' meeting, is likely underfunded

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Thank you for your guidance and continued patience with this and the other LPA projects we have underway I look forward to seeing those projects through to completion.

Sincerely,

Matthew M. Compton
Special Projects Administrator

823 Meeting Street, Charleston, SC 29403 843/724-7191 phone 843/579-7692 fax

CPR COMMITTEE and/or COUNCIL AGENDA

TO: John J. Tecklenburg, Mayor

FROM: Matt Compton / Andrew Jones **DEPT.** Parks – Capital Projects

SUBJECT: CANNON STREET FIRE STATION #6 RETROFIT CONSTRUCTION CONTRACT

REQUEST: Approval of a Construction Contract with IPW Construction Group, LLC, in the amount of $4,825,229.00 to structurally retrofit the unreinforced masonry of the historical Fire Station #6 which will bring the facility into compliance with modern codes.

With the approval of the project budget, Staff is authorized to award and/or amend contracts less than $40,000.00, to the extent contingency funds exist in the Council Approved Budget.

COMMITTEE OF COUNCIL: Ways & Means **DATE:** January 28, 2020

COORDINATION: This request has been coordinated with: *(attach all recommendations/reviews)*

	Yes	N/A	Signature of Individual Contacted	Attachment
CPR Committee Chair	☑	☐		☐
Corporate Counsel	☐	☐		☒
Capital Projects Director	☐	☐		☐
MBE Manager	☑	☐		☐

FUNDING: Was funding previously approved? Yes [X] No [ ] N/A [ ]

If yes, provide the following: Dept/Div Parks-Capital Projects Acct # 051436-58240

Balance in Account $4,825,229.00 Amount needed for this item $4,825,229.00

Project Number CP1532

NEED: Identify any critical time constraint(s).

CFO's Signature: , Dep CFO

FISCAL IMPACT: **Approval of this will institute a project budget of $5,554,229.00 of which the $4,825,229.00 construction contract will be funded. Funding sources for this project are: 2015 FEMA Hazard Mitigation Grant ($281,512.00), 2015 IPRB Bond ($1,126,057.25), 2019 FEMA Hazard Mitigation Grant ($3,096,659.75), 2015 General Fund Reserves ($269,000.00), and 2018 General Fund Reserves ($781,000.00).**

Mayor's Signature: John J. Tecklenburg, Mayor

ORIGINATING OFFICE PLEASE NOTE: A FULLY STAFFED/APPROVED (except Mayor's Signature) PACKAGE IS DUE IN THE CLERK OF COUNCIL'S OFFICE NO LATER THAN 10:00 A.M THE DAY OF THE CLERK'S AGENDA MEETING.

Fire Station #6 (Cannon St) Retrofit
(051436)

CP1532		Draft Project Budget	Expenses to DATE	Encumbrances	Remaining Budget	NOTES
Division/Object						
DESIGN / ENGINEERING						
051436-58238	Design/Engineering	$242,050.00				Evans and Schmidt
	FA#1	$96,905.00	$ -	$ -	$ -	
	Design/Engineering Subtotal	***$338,955.00***	***$234,565.15***	***$104,389.85***	***$0.00***	
051436-58238	Boundary Survey	$2,650.00	$2,650.00	$0.00	$0.00	Forsberg Engineering - P143358
051436-58238	Geotechnical and asbestos assessmei	$9,715.00	$9,715.00	$0.00	$0.00	S&ME-P143482
051436-58238	Lead testing	$920.00	$920.00	$0.00	$0.00	S&ME- P146828
051436-58238	Hazardous Material Abatement Plan	$5,190.00	$0.00	$5,190.00	$0.00	S&ME- P154647
054136-58238	Survey, Utility, Civil & TRC	$30,000.00	$28,175.00	$1,825.00	$0.00	Forsberg Engineering - P151600
051436-58004	Permits	$0.00	$0.00	$0.00	$0.00	
051436-58206	Cost Esimating Services	$0.00	$0.00	$0.00	$0.00	
051436-58016	Printing Expenses	$2,500.00	$2,304.46	$195.54	$0.00	P-card
051436-58236	Advertising	$1,200.00	$860.04	$339.96	$0.00	Chronicle - P138836 & PCard
051436-52100	CWS Testing Fee	$200.00	$200.00	$0.00	$0.00	Pcard
051436-52020	Construction Signage	$2,500.00	$0.00	$2,500.00	$0.00	
051436-52002	Shipping / Postage	$500.00	$0.00	$500.00	$0.00	
051436-52510	Storage / Prep	$0.00	$0.00	$0.00	$0.00	
051436-52922	Architect selection committee	$126.57	$126.57	$0.00	$0.00	Pcard
051436-58238	Final Site Survey	$3,500.00		$3,500.00	$0.00	
051436-58206	Vibration Monitoring, Special Inspections, SWPP Inspections	$38,000.00	$0.00	$38,000.00	$0.00	Summit Engineering-P
051436-58206	Photo Documentation	$4,500.00	$0.00	$4,500.00	$0.00	Lowcountry Doc - PR195994
051436-58206	Archaeological Services	$7,500.00		$7,500.00	$0.00	
051436-58206	Special Inspections	$0.00		$0.00	$0.00	
051436-52100	Tap & Impact Fees	$22,250.00		$22,250.00	$0.00	
	TOTAL D/E COSTS	**$470,206.57**	**$279,516.22**	**$190,690.35**	**$0.00**	
CONSTRUCTION						
051436-58240	Selective demo for structural eval	$9,982.00	$9,982.00	$0.00	$0.00	J. Musselman - P145687
051436-58240	Construction	$4,825,229.00	$0.00	$4,825,229.00	$0.00	IPW Construction Group
051436-52700/58015	FF&E	$50,000.00		$50,000.00	$0.00	
	TOTAL CONSTRUCTION COSTS	**$4,885,211.00**	**$9,982.00**	**$4,875,229.00**	**$0.00**	
051436-52940	Contingency-Phase I	$13,415.43	$0.00	$13,415.43	$0.00	
051436-52940	Contingency-Phase II	$185,396.00		$185,396.00	$0.00	
TOTAL PROJECT COSTS		**$5,554,229.00**	**$289,498.22**	**$5,264,730.78**	**$0.00**	

FUNDING					
YEAR	SOURCE	BUDGET			
2015	FEMA Hazard Mitigation Grant	$281,512.00	$194,456.08	$87,055.92	Phase 1 Grant Approval
2015	Installment Purchase Revenue Bond	$93,837.00	$65,976.14	$27,860.86	25% match - 2015 public safety borrowing
2019	FEMA Hazard Mitigation Grant	$3,096,659.75			
2015	Installment Purchase Revenue Bond	$1,032,220.25			
2015	GF Reserves	$269,000.00			Reallocation from Carolina Bay FS
2018	GF Reserves	$781,000.00			
	TOTAL FUNDING	$5,554,229.00	$260,432.22		

PROJECT SUMMARY			
	TOTAL PROJECT FUNDING	$ 5,554,229.00	$260,432.22
	TOTAL PROJECT COST	$ 5,554,229.00	$289,498.22
	PROJECT BALANCE	$ -	$ (29,066.00)

City of Charleston
Department of Parks
Capital Projects

BID TABULATION FORM

(CP 1532) Struct. Retrofit of Fire Sta. No. 6 (Cannon St)
Bid Date: 12/12/2019
Time: 2:00 pm

Bidders @ Mandatory Pre-Bid	Bid Bond w/ POA	Addendum Noted (2)	Base Bid	Alternate #1	Unit Prices Y / N	MWBE Forms Attached (A, B, and/or C)	MWBE % (Stated)	Bidder Info Provided
Brunson Construction			NO BID					
Brantley Construction N. Charleston, SC 911944	✓	✓	$6,366,000	($7,680)	Y	A & B	not stated	✓
Hightower Construction N. Charleston, SC 910430	✓	✓	$6,370,000	($10,000)	Y	A & B	20%	✓
Huss, Inc.			NO BID					
IPW Construction Group N. Charleston, SC 9117	✓	✓	$4,825,829	($34,000)	Y	A & B	32%	✓
Leitner Construction			NO BID					
Monteith Construction								
J. Musselman Construction								
Samet Corporation								
SouthCon Building Group								
Sumwalt Associates								
Blanchard Construction			NO BID					

Certified Correct By: Matthew M. Crayton Title: Special Projects Admin
Signature: Date: 12-12-2019

Witness: Project Architect

AIA® Document A101™ – 2017

Standard Form of Agreement Between Owner and Contractor where the basis of payment is a Stipulated Sum

AGREEMENT made as of the day of in the year 2020
(In words, indicate day, month and year.)

BETWEEN the Owner:
(Name, legal status, address and other information)

City of Charleston
Department of Parks
Capital Projects Division
823 Meeting Street
Charleston, SC 29403
Telephone Number: 843-724-7324
Fax Number: 843-724-7300

and the Contractor:
(Name, legal status, address and other information)

IPW Construction Group, LLC SC Contractor Lic.: G117838, M112510
7623 Dorchester Road
North Charleston, SC 29418
Telephone Number: 843-308-0524
Fax Number: 843-308-6650

for the following Project:
(Name, location and detailed description)

CP-1532 Structural Retrofit of Fire Station 06 (Cannon St.)

Structural retrofit of the existing historic two-story masonry fire station (4,785 SF) at 5 Cannon Street. Project includes limited sitework, hazmat abatement, selective demolition, salvage and re-use of historic materials, micropile foundations, reinforcement of URM walls and existing wood framing, new M/E/P systems, new and historic material finishes, new metal roof and other work indicated in the Contract Documents.

The Architect:
(Name, legal status, address and other information)

Evans & Schmidt Architects, LLC
284 Meeting Street
Charleston, SC 29401
Telephone Number: 843-723-7548

The Owner and Contractor agree as follows.

ADDITIONS AND DELETIONS:
The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes added information as well as revisions to the standard form text is available from the author and should be reviewed. A vertical line in the left margin of this document indicates where the author has added necessary information and where the author has added to or deleted from the original AIA text.

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

The parties should complete A101™–2017, Exhibit A, Insurance and Bonds, contemporaneously with this Agreement. AIA Document A201™–2017, General Conditions of the Contract for Construction, is adopted in this document by reference. Do not use with other general conditions unless this document is modified.

Init.

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(1482974826)

TABLE OF ARTICLES

1 THE CONTRACT DOCUMENTS

2 THE WORK OF THIS CONTRACT

3 DATE OF COMMENCEMENT AND SUBSTANTIAL COMPLETION

4 CONTRACT SUM

5 PAYMENTS

6 DISPUTE RESOLUTION

7 TERMINATION OR SUSPENSION

8 MISCELLANEOUS PROVISIONS

9 ENUMERATION OF CONTRACT DOCUMENTS

EXHIBIT A INSURANCE AND BONDS

ARTICLE 1 THE CONTRACT DOCUMENTS

The Contract Documents consist of this Agreement, Conditions of the Contract (General, Supplementary, and other Conditions), Drawings, Specifications, Addenda issued prior to execution of this Agreement, other documents listed in this Agreement, and Modifications issued after execution of this Agreement, all of which form the Contract, and are as fully a part of the Contract as if attached to this Agreement or repeated herein. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations, or agreements, either written or oral. An enumeration of the Contract Documents, other than a Modification, appears in Article 9.

ARTICLE 2 THE WORK OF THIS CONTRACT

The Contractor shall fully execute the Work described in the Contract Documents or reasonably inferable by the Contractor as necessary to produce the results indicated by the Contract Documents, except as specifically indicated in the Contract Documents to be the responsibility of others.

ARTICLE 3 DATE OF COMMENCEMENT AND SUBSTANTIAL COMPLETION

§ 3.1 The date of commencement of the Work shall be:
(Check one of the following boxes.)

[ ] The date of this Agreement.

[X] A date set forth in a notice to proceed issued by the Owner.

[ ] Established as follows:
(Insert a date or a means to determine the date of commencement of the Work.)

If a date of commencement of the Work is not selected, then the date of commencement shall be the date of this Agreement.

§ 3.2 The Contract Time shall be measured from the date of commencement of the Work.

§ 3.3 Substantial Completion

§ 3.3.1 Subject to adjustments of the Contract Time as provided in the Contract Documents, the Contractor shall achieve Substantial Completion of the entire Work:
(Check one of the following boxes and complete the necessary information.)

[X] Not later than FOUR HUNDRED TWENTY (420) calendar days from the date of commencement

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of the Work.

[ ] By the following date:

§ 3.3.2 Subject to adjustments of the Contract Time as provided in the Contract Documents, if portions of the Work are to be completed prior to Substantial Completion of the entire Work, the Contractor shall achieve Substantial Completion of such portions by the following dates:

Portion of Work	Substantial Completion Date

§ 3.3.3 If the Contractor fails to achieve Substantial Completion as provided in this Section 3.3, liquidated damages, if any, shall be assessed as set forth in Section 4.5.

ARTICLE 4 CONTRACT SUM

§ 4.1 The Owner shall pay the Contractor the Contract Sum in current funds for the Contractor's performance of the Contract. The Contract Sum shall be FOUR MILLION, EIGHT HUNDRED TWENTY FIVE THOUSAND, TWO HUNDRED TWENTY NINE DOLLARS ($ 4,825,229.00), subject to additions and deductions as provided in the Contract Documents.

§ 4.2 Alternates

§ 4.2.1 Alternates, if any, included in the Contract Sum:

Item	Price

§ 4.2.2 Subject to the conditions noted below, the following alternates may be accepted by the Owner following execution of this Agreement. Upon acceptance, the Owner shall issue a Modification to this Agreement.
(Insert below each alternate and the conditions that must be met for the Owner to accept the alternate.)

Item	Price	Conditions for Acceptance

§ 4.3 Allowances, if any, included in the Contract Sum:
(Identify each allowance.)

Item	Price
1. Interior Signage	$ 500.00 NTE
2. Door Hardware	$ 15,000.00 NTE
3. Bathroom Hardware	$ 7,000.00 NTE
4. DAS/Radio Signal Booster	$ 50,000.00 NTE
5. PURVIS Station Alerting System	$ 20,000.00 NTE
6. PLYMOVENT Exhaust System	$ 10,000.00 NTE

§ 4.4 Unit prices, if any:
(Identify the item and state the unit price and quantity limitations, if any, to which the unit price will be applicable.)

Item	Units and Limitations	Price per Unit ($0.00)
1. Replacement of damaged / rotten floor joists	LF – Qty. as directed in field	$ 48.00
2. Replace/repair damaged/rotten truss ends	LF – Qty. as directed in field	$ 175.00
3. Remove/replace damaged/rotten roof deck	SF – Qty. as directed in field	$ 16.00
4. Remove/replace damaged/rotten mule boards	LF – Qty. as directed in field	$ 76.00

§ 4.5 Liquidated damages, if any:
(Insert terms and conditions for liquidated damages, if any.)

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It is mutually agreed by and between the parties that time is of the essence and if the Contractor fails to achieve Substantial Completion within the time allowed within the agreement, the Owner shall be entitled to retain and recover from the Contractor and its Surety as liquidated damages and not as a penalty, ONE THOUSAND, TWO HUNDRED DOLLARS ($1,200.00) per day commencing the first day following the specified or adjusted time of performance and continuing the until the actual Date of Substantial Completion. Such liquidated damages are hereby agreed to be a reasonable estimate of damages the Owner will incur as a result of delays in completion of the Work.

§ 4.5.1 The Owner may deduct liquidated damages from any unpaid amount then or thereafter due to the Contractor under this Agreement. Any liquidated damages not so deducted from any unpaid amounts due to the Contractor shall be payable to the Owner by the Contractor or its Surety at the demand of the Owner.

§ 4.6 Other:
(Insert provisions for bonus or other incentives, if any, that might result in a change to the Contract Sum.)

ARTICLE 5 PAYMENTS

§ 5.1 Progress Payments

§ 5.1.1 Based upon Applications for Payment submitted to the Architect by the Contractor and Certificates for Payment issued by the Architect, the Owner shall make progress payments on account of the Contract Sum to the Contractor as provided below and elsewhere in the Contract Documents.

(Paragraphs deleted)

§ 5.2 Final Payment

§ 5.2.1 Final payment, constituting the entire unpaid balance of the Contract Sum, shall be made by the Owner to the Contractor when

.1 the Contractor has fully performed the Contract except for the Contractor's responsibility to correct Work as provided in Article 12 of AIA Document A201–2017, and to satisfy other requirements, if any, which extend beyond final payment; and

.2 a final Certificate for Payment has been issued by the Architect.

§ 5.2.2 Final payment shall be made within 30 days from the date the A/E receives the final undisputed Application for Payment, including all supporting documentation from the Contractor. All conditions stipulated in the General Conditions shall be met before final payment is made.

(Paragraphs deleted)

ARTICLE 6 DISPUTE RESOLUTION

§ 6.1 Initial Decision Maker

The Architect will serve as the Initial Decision Maker pursuant to Article 4.3 of AIA Document A201–2017, unless the parties appoint below another individual, not a party to this Agreement, to serve as the Initial Decision Maker.
(If the parties mutually agree, insert the name, address and other contact information of the Initial Decision Maker, if other than the Architect.)

§ 6.2 Binding Dispute Resolution

(Paragraphs deleted)
Claims will be resolved by litigation in a court of competent jurisdiction pursuant to Article 4.5 of AIA Document A201–2017 .

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User Notes:

(1482974826)

ARTICLE 7 TERMINATION OR SUSPENSION

§ 7.1 The Contract may be terminated by the Owner or the Contractor as provided in Article 14 of AIA Document A201–2017, as amended.

(Paragraphs deleted)

§ 7.2 The Work may be suspended by the Owner as provided in Article 14 of AIA Document A201–2017, as amended.

ARTICLE 8 MISCELLANEOUS PROVISIONS

§ 8.1 Where reference is made in this Agreement to a provision of AIA Document A201–2017 or another Contract Document, the reference refers to that provision as amended or supplemented by other provisions of the Contract Documents.

§ 8.2 The Owner's representative:
(Name, address, email address, and other information)

Matthew M. Compton, RLA
Special Projects Administrator
City of Charleston
Department of Parks / Capital Projects Division
823 Meeting Street
Charleston, SC 29403
Telephone Number: 843-973-7210

§ 8.3 The Contractor's representative:
(Name, address, email address, and other information)

Bryan Rembert, P.E.
Senior Project Manager / Vice President of Operations
IPW Construction Group, LLC
P.O. Box 40968
North Charleston, SC 29423
Telephone Number: 843-308-0524

§ 8.4 Neither the Owner's nor the Contractor's representative shall be changed without ten days' prior notice to the other party.

§ 8.5 Insurance and Bonds

§ 8.5.1 The Owner and the Contractor shall purchase and maintain insurance as set forth in AIA Document A201™–2017, and elsewhere in the Contract Documents.

§ 8.5.2 The Contractor shall provide bonds as set forth in AIA Document A201™–2017 and elsewhere in the Contract Documents.

§ 8.6
(Paragraphs deleted)
[Deleted]

§ 8.7 Other provisions:

§ 8.7.1 Contractor shall not incur any expense chargeable to the Owner on or about the Work of this Agreement until the Notice to Proceed is issued.

ARTICLE 9 ENUMERATION OF CONTRACT DOCUMENTS

§ 9.1 The Contract Documents, except for Modifications issued after execution of this Agreement are enumerated in the sections below.

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User Notes:

§ 9.1.1 The Agreement is this executed AIA Document A101–2017, Standard Form of Agreement Between Owner and Contractor, as amended.

§ 9.1.2 [Deleted]

§ 9.1.3 The General Conditions are AIA Document A201–2017, General Conditions of the Contract for Construction, as amended.

§ 9.1.4 The Specifications are those contained in the Project Manual dated November 12, 2019 as in Section 8.1.3, and are as follows:

Refer to EXHIBIT B – Project Manual Table of Contents, Specifications Group

§ 9.1.5 The Drawings are as follows, and are dated November 12, 2019 unless a different date is shown below:
(Either list the Drawings here or refer to an exhibit attached to this Agreement.)

Refer to EXHIBIT B – Project Manual Table of Contents, List of Drawings

(Table deleted)
§ 9.1.6 The Addenda, if any:

Number	Date	Pages
1	12/02/2019	15
2	12/06/2019	1

(Paragraphs deleted)
Portions of Addenda relating to bidding or proposal requirements are not part of the Contract Documents unless the bidding or proposal requirements are also enumerated in this Article 9.

§ 9.1.8 Other Exhibits:

(Paragraphs deleted)
§ 9.1.9 Other documents, if any, listed below:
(Table deleted)

(Paragraphs deleted)(List here any additional documents that are intended to form part of the Contract Documents. AIA Document A201™–2017 provides that the advertisement or invitation to bid, Instructions to Bidders, sample forms, the Contractor's bid or proposal, portions of Addenda relating to bidding or proposal requirements, and other information furnished by the Owner in anticipation of receiving bids or proposals, are not part of the Contract Documents unless enumerated in this Agreement. Any such documents should be listed here only if intended to be part of the Contract Documents.)

This Agreement entered into as of the day and year first written above.

OWNER *(Signature)*	**CONTRACTOR** *(Signature)*
John J. Tecklenburg Mayor	Bryan Rembert, P.E. V.P. Operations
(Printed name and title)	*(Printed name and title)*

PROJECT NAME: CP-1532 Structural Retrofit of Fire Station 06 (Cannon St.)

Init.

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User Notes:

(1482974826)

EXHIBIT A

Project Name: Structural Retrofit of Fire Station 06 (Cannon Street)
Project Number: CP 1532
City of Charleston

City of Charleston
Bid Form

BID SUBMITTED BY: Name: IPW Constructions Group, LLC
Address: 7623 Dorchester Rd.
N. Chs, SC 29418

FOR PROJECT: **CP 1532** - **Structural Retrofit of Fire Station 06 (Cannon Street)**
(Number) (Name)

OFFER

1. In response to the *Invitation for Construction Bids*, and in compliance with the *Instructions to Bidders* for the above-named Project, the undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into a Contract with the City of Charleston ("Owner") in the form included in the Bidding Documents, and to perform all Work as specified or indicated in the Bidding Documents, for the prices and within the time frames indicated in this Bid and in accordance with the other terms and conditions of the Bidding Documents.

2. Bidder has submitted Bid Security as follows in the amount and form requested by the Bidding Documents:

   ☒ Bid Bond with Power of Attorney ☐ Cashier's Check
   (Bidder check one)

3. Bidder, by submitting this Bid, affirms that it has carefully examined the Bidding Documents and the other related information and data identified in the Bidding Documents, has visited the actual location of the Work, has satisfied itself as to all conditions and understands that, in signing this Bid Form it waives all rights to plead any misunderstanding regarding same and agrees to be bound by the provisions of said Bidding Documents and all statements made therein.

4. Bidder acknowledges the receipt of the following Addenda to the Bidding Documents and has incorporated the effects of said Addenda into its Bid:
   ADDENDUM No.(s) 1 12/2/19, 2 12/6/19

5. Bidder acknowledges that neither the Owner nor any of its employees or agents shall be responsible for any bid preparation costs, or any costs or charges of any type, should all bids be rejected or the Project cancelled for any reason prior to the issuance of the Notice to Proceed.

6. By submitting this Bid, Bidder hereby agrees to all of the terms and conditions of the *Invitation for Construction Bids* and to all of the terms and conditions of the *Instructions to Bidders*. Bidder agrees that this Bid, including all Bid Alternates, if any, may not be revoked or withdrawn after the opening of bids, and shall remain open for acceptance for a period of 60 days following the Bid Date, or for such longer period of time that Bidder may agree to in writing upon request of the Owner. Bidder understands that Bid Alternates that are not accepted in an initial award shall remain open for acceptance for the entire period set above and for such longer period as requested by Owner and agreed to by Bidder.

7. Bidder herewith submits its offer to provide all labor, materials, equipment, tools of trades and labor, accessories, appliances, warranties and guarantees, and to pay all royalties, fees, permits, licenses and applicable taxes necessary to complete the construction work in accordance with the Bidding Documents:

7.1 BASE BID: $ 4,825,229.00

Written: Four million, eight hundred twenty five thousand, two hundred twenty nine dollars and zero cents.

7.2 ALTERNATE BID WORK (as indicated in the Bidding Documents and generally described as follows):
(Bidder shall STRIKE THROUGH "ADD" or "DEDUCT" so as to clearly indicate the price adjustment offered for each alternate)

ALTERNATE NO. 1:	Omit structural change to south elevation arched truck bay opening.	ADD/**DEDUCT** $ 34,000.00 *(to or from BASE BID)*
ALTERNATE NO. 2:		ADD/DEDUCT $ _____ *(to or from BASE BID)*
ALTERNATE NO. 3:		ADD/DEDUCT $ _____ *(to or from BASE BID)*
ALTERNATE NO. 4:		ADD/DEDUCT $ _____ *(to or from BASE BID)*
ALTERNATE NO. 5:		ADD/DEDUCT $ _____ *(to or from BASE BID)*
ALTERNATE NO. 6:		ADD/DEDUCT $ _____ *(to or from BASE BID)*

7.3 UNIT PRICE WORK TO BE INCLUDED IN BASE BID, UNLESS OTHERWISE SPECIFIED
Bidder offers for the Owner's consideration and use the following UNIT PRICES. The UNIT PRICES offered by Bidder indicate the amount to be added to or deducted from the Base Bid for each item-unit combination. UNIT PRICES include all costs to the Owner, including those for materials, labor, equipment, tools of trades and labor, fees, taxes, insurance, bonding, overhead, profit, etc. The Owner reserves the right to include or not to include any of the following UNIT PRICES in the Contract and to negotiate the UNIT PRICES with Bidder.

NO.	ITEM	UNIT OF MEASURE	UNIT PRICE
1	Replacement of termite damaged or rotten floor joists (not already noted for replacement).	LF	48.00
2	Replacement or sistering of termite damaged or rotten truss framing ends (not already noted for replacement).	LF	175.00
3	Removal / replacement of termite damage or rotted roof decking in kind.	SF	16.00
4	Removal / replacement of termite damaged or rotted let-in brick wall ledgers (mule boards).	LF	76.00

8. BIDDER'S TAXPAYER IDENTIFICATION

FEDERAL EMPLOYER'S IDENTIFICATION NUMBER: 46-2097604
OR
SOCIAL SECURITY NUMBER: _____

9. CONTRACTOR'S CLASSIFICATIONS AND SUBCLASSIFICATIONS WITH LIMITATIONS

BD5, IR5, MS5, HY5, WL5, EL5, PB5 unlimited
(Classification) *(Subclassification)* *(Limitations)*

G117838, M112510
(SC Contractor's License Number)

SIGNATURE

IPW Construction Group, LLC
(Legal Name of Person, Firm or Corporation Submitting Bid)

BY (Signature) 12/6/19 (Date)

VP Operations (Title) 843-308-0524 (Phone)

CCB1049313

STATE OF SOUTH CAROLINA
DEPARTMENT OF LABOR, LICENSING AND REGULATION
SC CONTRACTOR'S LICENSING BOARD

LICENSE CERTIFICATE

LICENSE# - G117838 The following licensee: LICENSE# - G117838

IPW CONSTRUCTION GROUP LLC
7623 DORCHESTER ROAD
N CHARLESTON SC 29418

has met the necessary qualifications required by the laws of the state of South Carolina and is duly qualified and entitled to practice as a:

GENERAL CONTRACTOR

for the Classification(s) and Group Limitation shown below:

BD5 IR5 MS5 HY5 WL5

EXPIRATION DATE: 10/31/2020
Effective License Issue:08/31/2018
Initial License Date: 03/04/2013

*** Group Number and Dollar Limitations: ***
The number after your 2-letter classification(s) above is your Group#
Group #1 - $50,000 Group #3 - $500,000
Group #2 - $200,000 Group #4 - $1,500,000
Group #5 - $Unlimited

Administrator

Qualifying Party(s): MR CYRUS D SINOR

It is at the discretion of the licensee, not the Board, to authorize officers or employees of the company to pull permits and conduct business.

CCG 1038040

STATE OF SOUTH CAROLINA
DEPARTMENT OF LABOR, LICENSING AND REGULATION
SC CONTRACTOR'S LICENSING BOARD

LICENSE CERTIFICATE

LICENSE# - CLM.112510 The following licensee: LICENSE# - CLM.112510

IPW CONSTRUCTION GROUP LLC
7623 DORCHESTER ROAD
N CHARLESTON SC 29418

has met the necessary qualifications required by the laws of the state of South Carolina and is duly qualified and entitled to practice as a:

MECHANICAL CONTRACTOR

for the Classification(s) and Group Limitation shown below:

EL5 PB5

Initial License Date: 03/04/2013
License Print Date: 09/07/2019
Expiration Date: 10/31/2021

*** Group Numbers and Dollar Limitations: ***
The number after your 2-letter classification(s) above is your Group#
Group #1 - $17,500 Group #3 - $100,000
Group #2 - $50,000 Group #4 - $200,000
Group #5 - $Unlimited

Administrator

Qualifying Party(s): LINWOOD S ROBERSON, MR CYRUS D SINOR
(a Primary QP will have a "PQ" after their certificate number)

It is at the discretion of the licensee, not the Board, to authorize officers or employees of the company to pull permits and conduct business.

AIA® Document A310™ – 2010

Bid Bond

CONTRACTOR:
(Name, legal status and address)
IPW Construction Group, LLC
7623 Dorchester Road
North Charleston, SC 29418

SURETY:
(Name, legal status and principal place of business)
RLI Insurance Company
9025 N. Lindbergh Drive
Peoria, IL 61615

OWNER:
(Name, legal status and address)
City of Charleston Department of Parks
823 Meeting Street
Charleston, SC 29403

BOND AMOUNT: 5% of the attached bid***

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

Any singular reference to Contractor, Surety, Owner or other party shall be considered plural where applicable.

PROJECT:
(Name, location or address, and Project number, if any)
Structural Retrofit of Fire Station #6 - Cannon Street

Project Number, if any:
CP1532

The Contractor and Surety are bound to the Owner in the amount set forth above, for the payment of which the Contractor and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, as provided herein. The conditions of this Bond are such that if the Owner accepts the bid of the Contractor within the time specified in the bid documents, or within such time period as may be agreed to by the Owner and Contractor, and the Contractor either (1) enters into a contract with the Owner in accordance with the terms of such bid, and gives such bond or bonds as may be specified in the bidding or Contract Documents, with a surety admitted in the jurisdiction of the Project and otherwise acceptable to the Owner, for the faithful performance of such Contract and for the prompt payment of labor and material furnished in the prosecution thereof; or (2) pays to the Owner the difference, not to exceed the amount of this Bond, between the amount specified in said bid and such larger amount for which the Owner may in good faith contract with another party to perform the work covered by said bid, then this obligation shall be null and void, otherwise to remain in full force and effect. The Surety hereby waives any notice of an agreement between the Owner and Contractor to extend the time in which the Owner may accept the bid. Waiver of notice by the Surety shall not apply to any extension exceeding sixty (60) days in the aggregate beyond the time for acceptance of bids specified in the bid documents, and the Owner and Contractor shall obtain the Surety's consent for an extension beyond sixty (60) days.

If this Bond is issued in connection with a subcontractor's bid to a Contractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

When this Bond has been furnished to comply with a statutory or other legal requirement in the location of the Project, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

Signed and sealed this 12th day of December, 2019

(Witness)

(Witness) Edith P. Forsberg

IPW Construction Group, LLC
(Principal) *(Seal)*

(Title) Bryan Rembert, VP Operations

RLI Insurance Company
(Surety) *(Seal)*

(Title) Raymond E. Cobb, Jr. , Attorney-in-Fact

Init.

/

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POWER OF ATTORNEY

RLI Insurance Company
Contractors Bonding and Insurance Company

9025 N. Lindbergh Dr. Peoria, IL 61615
Phone: 800-645-2402

Know All Men by These Presents:

That this Power of Attorney is not valid or in effect unless attached to the bond which it authorizes executed, but may be detached by the approving officer if desired.

That **RLI Insurance Company** and/or **Contractors Bonding and Insurance Company**, each an Illinois corporation, (separately and together, the "Company") do hereby make, constitute and appoint:

C. Wayne McCartha, Raymond E. Cobb Jr., M. Kathryn McCartha-Powers, jointly or severally

in the City of Columbia, State of South Carolina its true and lawful Agent(s) and Attorney(s) in Fact, with full power and authority hereby conferred, to sign, execute, acknowledge and deliver for and on its behalf as Surety, in general, any and all bonds and undertakings in an amount not to exceed **Twenty Five Million** Dollars (**$25,000,000.00**) for any single obligation.

The acknowledgment and execution of such bond by the said Attorney in Fact shall be as binding upon the Company as if such bond had been executed and acknowledged by the regularly elected officers of the Company.

RLI Insurance Company and/or **Contractors Bonding and Insurance Company**, as applicable, have each further certified that the following is a true and exact copy of a Resolution adopted by the Board of Directors of each such corporation, and is now in force, to-wit:

> "All bonds, policies, undertakings, Powers of Attorney or other obligations of the corporation shall be executed in the corporate name of the Company by the President, Secretary, any Assistant Secretary, Treasurer, or any Vice President, or by such other officers as the Board of Directors may authorize. The President, any Vice President, Secretary, any Assistant Secretary, or the Treasurer may appoint Attorneys in Fact or Agents who shall have authority to issue bonds, policies or undertakings in the name of the Company. The corporate seal is not necessary for the validity of any bonds, policies, undertakings, Powers of Attorney or other obligations of the corporation. The signature of any such officer and the corporate seal may be printed by facsimile."

IN WITNESS WHEREOF, the **RLI Insurance Company** and/or **Contractors Bonding and Insurance Company**, as applicable, have caused these presents to be executed by its respective Vice President with its corporate seal affixed this 1st day of November, 2017.

CONTRACTORS BONDING AND INSURANCE COMPANY — CORPORATE SEAL — ILLINOIS

RLI INSURANCE COMPANY — CORPORATE SEAL — ILLINOIS

RLI Insurance Company
Contractors Bonding and Insurance Company

By: Barton W. Davis — Vice President

State of Illinois
County of Peoria } SS

On this 1st day of November, 2017, before me, a Notary Public, personally appeared Barton W. Davis, who being by me duly sworn, acknowledged that he signed the above Power of Attorney as the aforesaid officer of the **RLI Insurance Company** and/or **Contractors Bonding and Insurance Company** and acknowledged said instrument to be the voluntary act and deed of said corporation.

By: Gretchen L. Johnigk — Notary Public

NOTARY PUBLIC STATE OF ILLINOIS — GRETCHEN L JOHNIGK "OFFICIAL SEAL" My Commission Expires May 24, 2020

CERTIFICATE

I, the undersigned officer of **RLI Insurance Company** and/or **Contractors Bonding and Insurance Company**, do hereby certify that the attached Power of Attorney is in full force and effect and is irrevocable; and furthermore, that the Resolution of the Company as set forth in the Power of Attorney, is now in force. In testimony whereof, I have hereunto set my hand and the seal of the **RLI Insurance Company** and/or **Contractors Bonding and Insurance Company** this 12th day of December 2019.

RLI Insurance Company
Contractors Bonding and Insurance Company

By: Jean M. Stephenson — Corporate Secretary

3931923020213

A0058817

MWBE Compliance Provisions and Instructions Minority/Women Business Enterprise Program Forms

This Project is covered under the City of Charleston's Minority/Women Business Enterprise (MWBE) Program, administered by Ruth Jordan, MBE Manager, 2 George Street, Charleston SC, 29401, (843) 973-7434.

The City has established goals for both Minority Business Enterprises (MBE) and Women Business Enterprises (WBE). An MBE is a small business owned and controlled by a minority. A WBE is a small business owned and controlled by a woman. The minority or woman must own fifty-one percent (51%) of the business and they must control the management and daily operations of the business in order to qualify.

Charleston City Council has adopted a policy setting 20% as the guidelines for combined minority-owned and women-owned business enterprise participation for this project. This MWBE requirement for participation in this Contract for services shall be made a part of any contract resulting from this solicitation. These requirements shall also apply to all subcontracts issued by the successful bidder(s).

Bidder's MBE/WBE Participation: All bidders must document the extent of their MWBE participation by completing the MWBE Compliance Provision Forms. Bidders must complete Affidavits A and B or Affidavit C and attach the entire package to the Bid Form. Bidders who fail to submit these documents as required by the Procurement Office shall be deemed non-responsive and will be ineligible for award of the Contract.

All MBE/WBE subcontractors must have a Certificate of Eligibility on file with the City's Minority Business Enterprise Office. A list of certified minority and women-owned firms can be found on the City of Charleston's web site www.charleston-sc.gov under "BIDLINE" link or by contacting Ruth Jordan, MBE Manager, 2 George Street, Charleston, SC 29403, (843) 724-7434, jordanr@charleston-sc.gov.

COMPLIANCE REQUIREMENTS:

1. The Bidder shall provide, **with their bid form submittal,** the following Affidavits properly executed which signify that the Bidder understands and agrees to abide by the City's MWBE Compliance Provisions.

Affidavit A - Listing of the Good Faith Effort to Identify & Secure Minority and Women-owned Business Participation.

AND

Affidavit B – Work to be Performed by Minority and/or Women-owned Firms

OR

Affidavit C – ***Intent to Perform Contract with Own Workforce***, in making this certification the Bidder states that the Bidder does not customarily subcontract elements of this type of Project and will perform all elements of the work with his/her own current work forces.

2. All affidavits supplied by the Bidder shall become a part of any resulting Contract between the Bidder and the City of Charleston. Failure to comply with any of the statements, certifications, or intentions stated in the affidavits, or the MBE/WBE compliance provisions shall constitute a breach of the Contract. Any such breach may result in termination of the Contract in accordance with the termination provisions contained in the Contract. It shall be solely at the option of the City of Charleston whether to terminate the contract for breach. In addition to terminating the Contract, the bidder may be prohibited from participation in future solicitations as determined by the City of Charleston.

Name of Company: IPW Construction Group, LLC

Signature

12/6/19
Date

Bryan Rembert
Print Name

VP Operations
Title

Witness

AFFIDAVIT A
Page 1 of 2

City of Charleston, South Carolina Listing of the Good Faith Effort

Affidavit of IPW Construction Group, LLC
(Name of Bidder)

I have made a good faith effort to comply with the City of Charleston's MWBE compliance provisions under the following checked areas:
(A minimum of 6 areas must be checked in order to have achieved a "good faith effort")

- o 1. Contacted MWBE businesses that reasonably could have been expected to submit a quote and that were known to the Bidder, or available on Federal, State or local government maintained lists, at least 10 business days before the submittal date and notified them of the nature and scope of the work to be performed. ***Complete Affidavit A, Page 2.***
- o 2. Followed up with contacted MWBE subsequent to the initial contact and at least 72 hours prior to submittal deadline/bid opening either by phone, facsimile or in person.
- o 3. Made the construction plans, specifications, and requirements available for review by prospective MWBE businesses, or providing these documents to them at least 10 business days before the submittal deadline/bid opening.
- o 4. Itemized elements of the work or combined elements of the work into economically feasible units to facilitate MWBE participation.
- o 5. Attended any pre-solicitation meetings scheduled by the City.
- o 6. Provided MWBE assistance withgetting required bonding or insurance requirements or provided alternatives to bonding or insurance.
- o 7. Negotiated in good faith with interested MWBEs and did not reject them as unqualified without sound reasons based on their capabilities. ***(Any rejection of a minority or woman-owned business based on lack of qualifications shall include reasons for rejection documented in writing.)***
- o 8. Provided MWBEs assistance with securing needed equipment, loan capital, lines of credit, or joint pay agreements to secure loans, supplies, or letters of credit, including waiving credit that is ordinarily required. Assisted MWBEs in obtaining the same unit pricing with the Bidder's suppliers in order to help such businesses in establishing credit.
- o 9. Provided training or mentoring to at least two (2) MWBEs within 120 days prior to submittal deadline/bid opening. The training or mentoring program should be in conjunction with local trade groups, technical schools or community organizations that provide recruitment, education or skill levels.
- o 10. Negotiated joint venture, partnership or other similar arrangements with MWBEs in order to increase opportunities for MWBE participation.
- o 11. Provided quick pay agreements and policies to enable MWBE contractors and suppliers to meet cash-flow demands.

I hereby agree to enter into a formal agreement with the firms listed in Affidavit B Work to be performed by Minority Firms conditional upon execution of a contract with the Owner. Failure to abide by this provision will constitute a breach of the contract.

Ihereby certify that I have read and agree to the terms of the Minority / Women-Owned Business Enterprise Program, and I am the Bidder or I am authorized to bind the Bidder to the commitment herein set forth.

Date: 12/6/19 Name of Authorized Officer (Print/Type): Bryan Rembert

Signature:

Title: VP Operations

* IPW Construction Group is itself a certified City of Charleston MBE*
See attached certification

AFFIDAVIT A

City of Charleston, South Carolina Minority/Women-Owned Business Participation Efforts

(Use as many sheets as necessary)

I, Bryan Rembert, hereby certify that on this project we contacted the following minority/women-owned business enterprises as subcontractors, vendors, suppliers, or providers of professional services.

1. Minority Firm Name and Contact IPW Construction Group, Cyrus Sinor	Minority Firm Address 7623 Dorchester Rd, N.Chs SC
Minority Firm Telephone Number 843-308-0504 Minority Firm Fax Number 308-6650 DBE Certification Number 0908021684	Minority Group Type ☐ (African American) ☐ (Women) ☒ (Asian American) ☐ (Hispanic) ☐ (American Indian) ☐ (Other) ☐ Follow up Verification
2. Minority Firm Name and Contact Rahmans Painting & Repairs, Rahman Aminee	Minority Firm Address P.O. Box 60776, N. Chs, SC
Minority Firm Telephone Number 843-327-3884 Minority Firm Fax Number N/A DBE Certification Number 09-040919-142	Minority Group Type ☐ (African American) ☐ (Women) ☒ (Asian American) ☐ (Hispanic) ☐ (American Indian) ☐ (Other) ☐ Follow up Verification
3. Minority Firm Name and Contact	Minority Firm Address
Minority Firm Telephone Number Minority Firm Fax Number DBE Certification Number	Minority Group Type ☐ (African American) ☐ (Women) ☐ (Asian American) ☐ (Hispanic) ☐ (American Indian) ☐ (Other) ☐ Follow up Verification
4. Minority Firm Name and Contact	Minority Firm Address
Minority Firm Telephone Number Minority Firm Fax Number DBE Certification Number	Minority Group Type ☐ (African American) ☐ (Women) ☐ (Asian American) ☐ (Hispanic) ☐ (American Indian) ☐ (Other) ☐ Follow up Verification

I certify, under penalties of perjury, that I have examined the information in this affidavit, and to the best of my knowledge and belief, this information is true, correct and complete.

Date: 12/6/19 Name of Authorized Officer (Print/Type): Bryan Rembert

Sworn to before me this 6 day of Dec, 2019

Signature:

Notary Public for the State of SC

My Commission Expires: 1/31/24

Title: VP Operations

Print Name: Kerine Borrillo

Notary Seal:

Phone Number: 843-425-6116

Address: 7623 Dorchester Rd, N. Chs

KERINE BORRILLO NOTARY PUBLIC STATE OF SOUTH CAROLINA My Commission Expires 01.31.2024

4/28/2011

AFFIDAVIT B

City of Charleston, South Carolina
Work to be Performed by Minority/Women-Owned Businesses

Affidavit of IPW Construction Group, LLC. I hereby certify that on the
(Name of Bidder)
Structural Retrofit of FS #6, Total Project Amount $ 4,825,229.00
(Project Name)
I will make a good faith effort to expend a minimum of 32 % of the total dollar amount of the Contract with minority/women-owned business enterprises. Minority/women-owned businesses will be employed as subcontractors, vendors, suppliers, or providers of professional services. Such work will be subcontracted to the following businesses listed below:

(Attach additional sheets if needed)

Name and Phone Number	*Minority Code	Work Description	Dollar Value
Rahmans Paint	A	paint	$ 800K
			$
			$
			$
			$
			$
			$

Total MBE Participation: 32 % $ 1,544,073.28

* Minority categories: African American (**B**); Hispanic (**H**); Asian American (**A**), American Indian (**I**); Woman Owned (**W**); Other (**D**)

I will enter into a formal Contract with the above minority/women-owned business enterprises for the work listed in the above schedule conditional upon execution of a Contract with the Owner.

I certify that I have read the terms of this commitment and I am the Bidder or authorized to bind the Bidder to the commitment set forth herein. I certify, under penalties of perjury, that I have examined the information in this affidavit, and to the best of my knowledge and belief, this information is true, correct and complete.

Date: 12/6/19 Name of Authorized Officer (Print/Type): Bryan Rembert

Signature:

Title: VP Operations

Sworn to before me this 6 day of Dec, 20 19

My Commission Expires: 1/31/24

Print Name: Kerine Borrillo

Phone Number: 843-425-1116

Address: 7623 Dorchester Rd, N. Chs, SC

Notary Public for the State of: SC

Notary Seal:

KERINE BORRILLO
My Commission Expires
NOTARY PUBLIC
01-31-2024
STATE OF SOUTH CAROLINA

City of Charleston

MWBE Certification

This is to certify that

IPW Construction Group, LLC

has met the requirements and is a certified minority or woman-owned business enterprise in good standing with the City of Charleston, South Carolina's Minority and Women Business Enterprise Program.

February 28, 2018	0908021684	February 28, 2023
Date of Certification	Certification Number	Expiration Date

MBE Manager

IPW Construction Group, LLC
Engineering & Construction Services

CP1532 Structural Retrofit of Fire Station #6 (Cannon Street)

Key Personnel

Bryan Rembert, P.E.: Senior Project Manager/Onsite Superintendent

Frank Genello: Onsite Superintendent

Kerine Borrillo: Assistant Project Manager

List of Proposed Subcontractor

1. Hazardous Materials Abatement: Action Abatement & Demolition
2. Micropile Foundations: Palmetto Gunite Construction Co., Inc.
3. Concrete Foundations: IPW Construction Group, LLC (self-perform)
4. Structural Steel Fabrication & Installation: The Steel Group
5. Finish Carpentry: IPW Construction Group, LLC (self-perform)

P.O. Box 40968 • Charleston, SC 29423-0968 • Phone (843) 308-0524 • Fax (843) 308-6650

CONTRACTOR INFORMATION
***Completed form to be provided with bids**

A. Name and Address of Company: IPW Construction Group, LLC
7623 Dorchester Rd., N. Chs, SC 29418
Member Manager → ~~Principal~~ Name: Cyrus D. Sinor
Email: Cyrussinor@IPWCO.com
Phone No.: 843-308-0524

B. How many years has your company been in business as a contractor? 17 yrs

C. How many years has your company been in business under its present business name?
7 years

D. Under what other or former names has your company operated? International Public Works (2002-2013)

E. List jurisdictions and trade categories in which your company is legally qualified to do business, and indicate registration or license numbers, if applicable.
SC G117838 and M112510, General Contractor, Survey, utilities, Stormdrain, concrete, plumbing, electrical. NC 75640, same as above.

F. List the categories of work that your company normally performs with its own forces:
Engineering, Surveying, utilities, stormdrain, concrete, traffic control, plumbing, electrical

G. On the "Bidders References", list the major projects your company has completed in the past five years giving the name of the project, owner, architect, job superintendent, date of completion, project schedule, any disputes regarding the contract, the amount of the bid and percentage of cost of the work performed with your own forces. Please provide five (5) separate forms – one for each project. **INFORMATION ON PROJECTS INVOLVING HISTORIC STRUCTURES PREFERRED.**

BIDDER'S REFERENCES
***Completed form to be provided with bids**

Contractor must supply a minimum of 5 references – Use Separate Form for each Project

A. Name and Address of Owner/Client: Please see attached Project Experience Sheets
Contact Name: _____
Phone No. & Email: _____

B. Name and Address of the Project: _____

C. Name of the Architectural/Engineering Firm for the Project, if Applicable:
_____
_____ Phone No.: _____

Name of the Project Architect/Engineer, if Applicable:
_____
_____ Phone No.: _____

D. Name of Your Job Superintendent: _____

E. Contract Date: _____ Date of Completion: _____

F. Project is on Schedule or has been completed on Time: Yes ____ No ____
If no, number of days late: _____ Explain: _____

G. Contract dispute or failure to complete contract to Owner satisfaction: Yes ____ No ____
If Yes, Explain: _____

H. Amount of Bid: _____ Final Project Cost: _____
Explain Difference, if any: _____

IPW Construction Group, LLC
Engineering & Construction Services

Project Title: Sebring-Aimar House Interior Renovations

Location: 268 Calhoun St. Charleston, SC 29423

Description of Scope and Responsibility: Interior repairs & renovations of existing historic (1836-1846) house consisting of 5,510 gross square feet on 3 floors. Removal/replacement of interior plaster finishes, window repairs, electrical repairs and lighting updates, new plumbing fixtures, new and historic hardwood flooring installation and refinishing, and kitchen casework.

Start Date: October 2013 **Completion Date:** September 2014

Award Amount: $ 495,994.00 **Final Amount:** $ 695,529.07

Contract Number: H51-N315-PG

Owner: Medical University of South Carolina
Jimmy Stewart – stewarjh@musc.edu 843-792-3753
97 Johnathan Lucas Street, Charleston, SC

Architect: Studio A, Inc
Whitney Powers – whitney@studioa-architecure.com 843-577-9641
474 King Street, Suite B. Charleston, SC

Major Subcontractors:

Carpentry/Masonry: IPW/ABRC – Frank Genello 843-901-0932
Flooring: Custom Designs – Fernando Ramirez 843-518-1495
Abatement/Demo: Action Services – Gilbert Douglas 843-761-2112
Plaster: Dillon Construction Services – Lance Dillon 803-749-4489
Electrical: Reserve Electrical Services – Tim Crawford 843-557-5757
Painting: James Smalls – James Smalls 843-810-9056

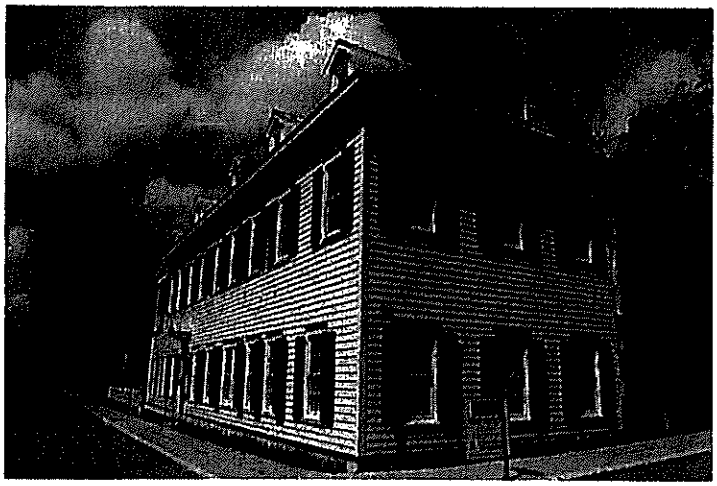
Key Personnel:

Project Managers: Bryan Rembert
Superintendent / Safety Officer: Frank Genello

PO Box 40968
Charleston, SC 29423
*p: 843-308-0524 * f: 843-308-6650*

IPW Construction Group, LLC
Engineering & Construction Services

Project Title: Former Lunden's Grocery Store- Venning Street Historic Old Village, Mount Pleasant, SC



Location: Historic Old Village Mt. Pleasant, SC

Description of Scope and Responsibility: Renovation of 1880 Grocery Store.

Systems work included upgrades to electrical, HVAC, and plumbing systems with bathroom and kitchen renovations, as well as renovation of the fire sprinkler system. Restoration work included painting, masonry, plaster, and stucco restoration and repair, along with roof repair. An addition of a 3 stop elevator system was installed along with exterior painting, new window flashing and repair of historic shutters and re-pointing and repair of 6 historic chimneys.

Award Date: June 2012 **Completion Date:** August 2012

Award Amount: $153,207 **Final Amount:** $153,207

Owner: 218 Venning POA

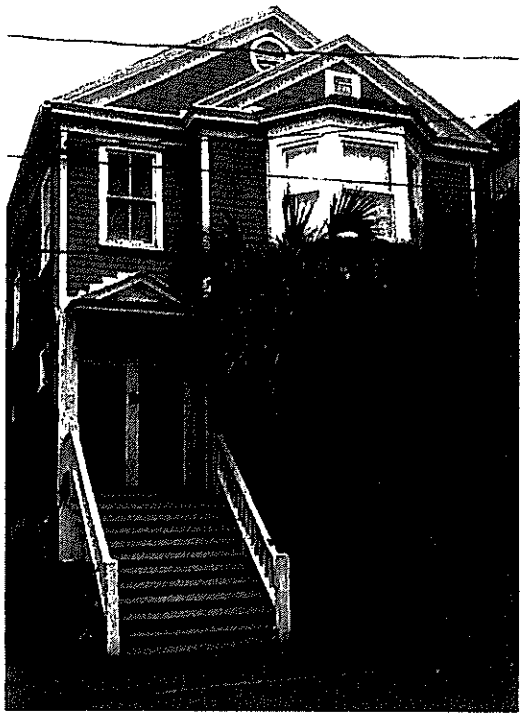
Key Personnel:
Project Manager: Cyrus Sinor
Superintendent/Safety Officer: Kerine Borrillo

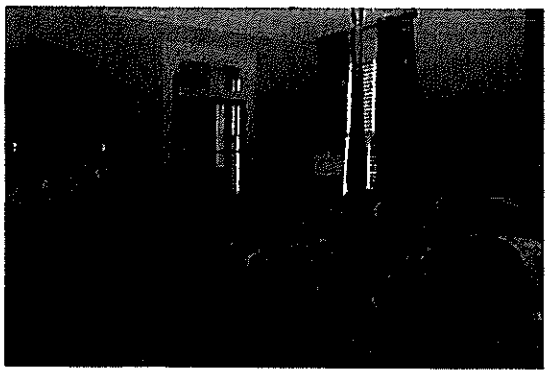
Major Subcontractors:
Carpentry: Angelo Norguera – Galapagos Construction
Flooring: Fernando Ramirez
Electrical: Reserve Electric
Plumbing: IPW
Mold Remediation: Action Abatement and Trident Environmental

*PO Box 40968 Charleston, SC 29423 p: 843-308-0524 * f: 843-308-6650*

IPW Construction Group, LLC
Engineering & Construction Services

Project Title: 33 Society Street- Historic Ansonborough, City of Charleston





Location: Charleston, SC

Description of Scope and Responsibility: Complete renovation of 1870 historic Charleston home.

Systems work included major upgrades to electrical, HVAC, and plumbing systems with extensive bathroom and kitchen renovations. Restoration work included painting, casework and trim repairs along with masonry, plaster restoration and repair, roof restoration, as well as minor structural work. Renovations also included extensive floor repair.

Award Date: June 2011

Completion Date: November 2011

Award Amount: $150,000

Final Amount: $162,000

Change Orders: owner-requested changes

Owner: The Executive Group, LLC

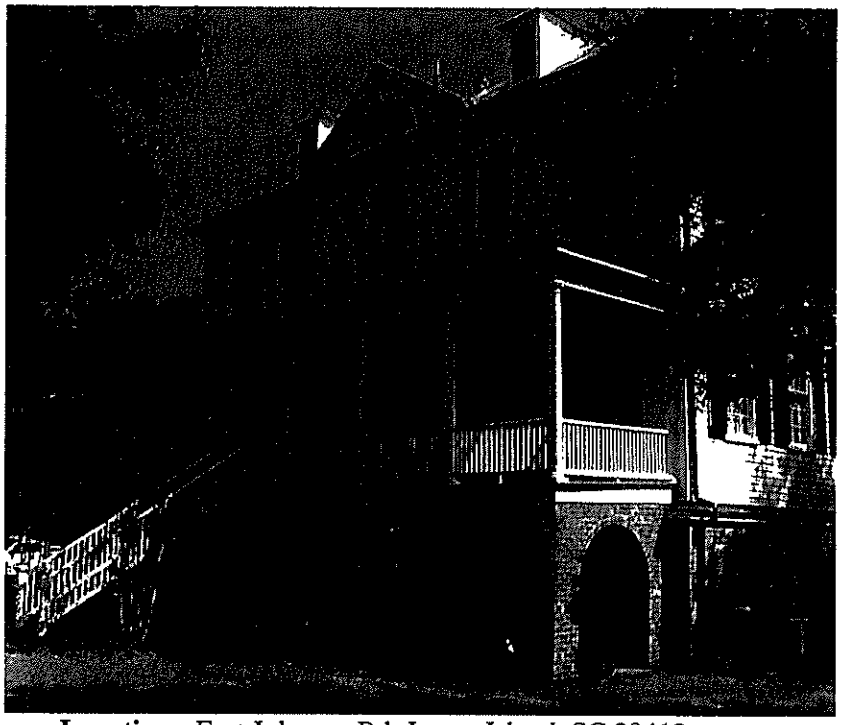
Key Personnel:
Project Manager: Cyrus Sinor
Superintendent/Safety Officer: Kerine Borrillo

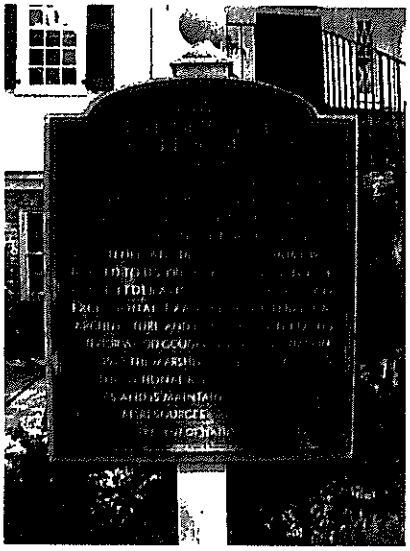
Major Subcontractors:
Carpentry: Angelo Norguera – Galapagos Construction **Flooring:** Fernando Ramirez
Electrical: Reserve Electric **Plumbing:** IPW

*PO Box 40968 Charleston, SC 29423 p: 843-308-0524 * f: 843-308-6650*

IPW Construction Group, LLC
Engineering & Construction Services

Project Title: Historic Marshlands House at Fort Johnson
Exterior and Interior Renovations





Location: Fort Johnson Rd, James Island, SC 29412
Owner: SC Department of Natural Resources

Award Amount: $ 364,496.00 **Final Amount:** $ 391,589.00

Award Date Exterior: May 2008 **Completion Date Exterior:** September 2008
Award Date Interior: March 2009 **Completion Date Interior:** June 2009

Contact Information: Tommy Schimpf, Liollio Architects

Description of Scope and Responsibility Exterior: Exterior restoration of historic house (circa 1810) on the National Register. Work included roof replacement, wood repairs, structural repairs and upgrades, windows repairs, glazing replacement and repairs, painting, historic masonry replacement and restoration, and stucco repairs. Interior restoration included sanding and refinishing of wood floors, repair all doors and wood trim, repair plaster defects and repaint plaster walls and ceilings.

Key Personnel:

Senior Project Managers: Cyrus Sinor
Project Manager: Dawn Balsam
Superintendent / Safety Officer: Michael Onofrey

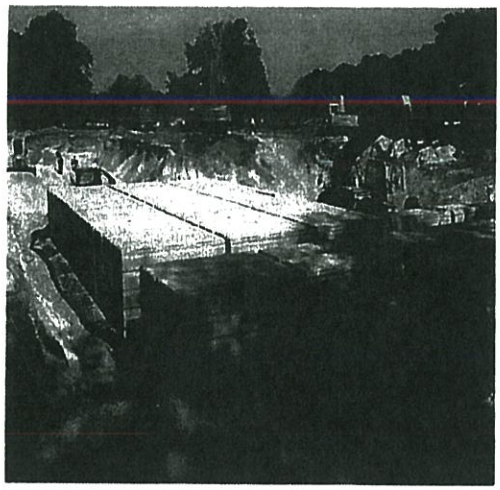
Major Subcontractors:

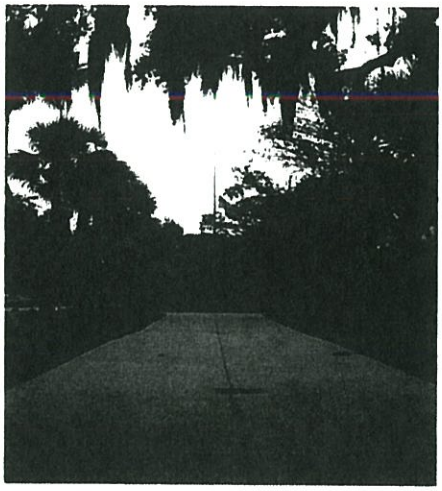
Carpentry & Masonry: Galapagos Construction
Roofing: Carolina Roofing
Painting: James Smalls Painting
Plumbing: IPW

*PO Box 40968 Charleston, SC 29423 p: 843-308-0524 * f: 843-308-6650*

IPW Construction Group, LLC
Engineering & Construction Services

Project: Burial Expansion at the Historic Beaufort National Cemetery





Location: 1601 Boundary Street, Beaufort, SC 29920

Owner: National Cemetery Administration – Department of Veterans Affairs

Owners Representative: Edward Carlos, National Cemetery Administration
202-565-4056 edward.carlos@mail.va.gov
810 Vermont Ave NW (41D3B) - Washington DC 20420

Description of Scope and Responsibility: Clearing, grubbing and grading of land for a design bid construction for expansion at the Beaufort National Cemetery in Beaufort, SC. Work included installation of 1900 pre-placed crypts and 500 4x4 cremains. Demolition of existing buildings; construction of a combined maintenance building with public restrooms; construction of a committal shelter building; irrigation fences and gates; asphalt roadwork and landscaping. Set up site utilities for water, electric, storm water and sanitation. **Square Footage:** 35 Acres Site Construction – 4,169 sq ft Maintenance Building – 880 sq ft Committal Shelter

Award Date: February 2007 **Completion Date:** January 2009

Award Amount: $ 4,197,051.00 **Final Amount:** $ 4,649,818.04

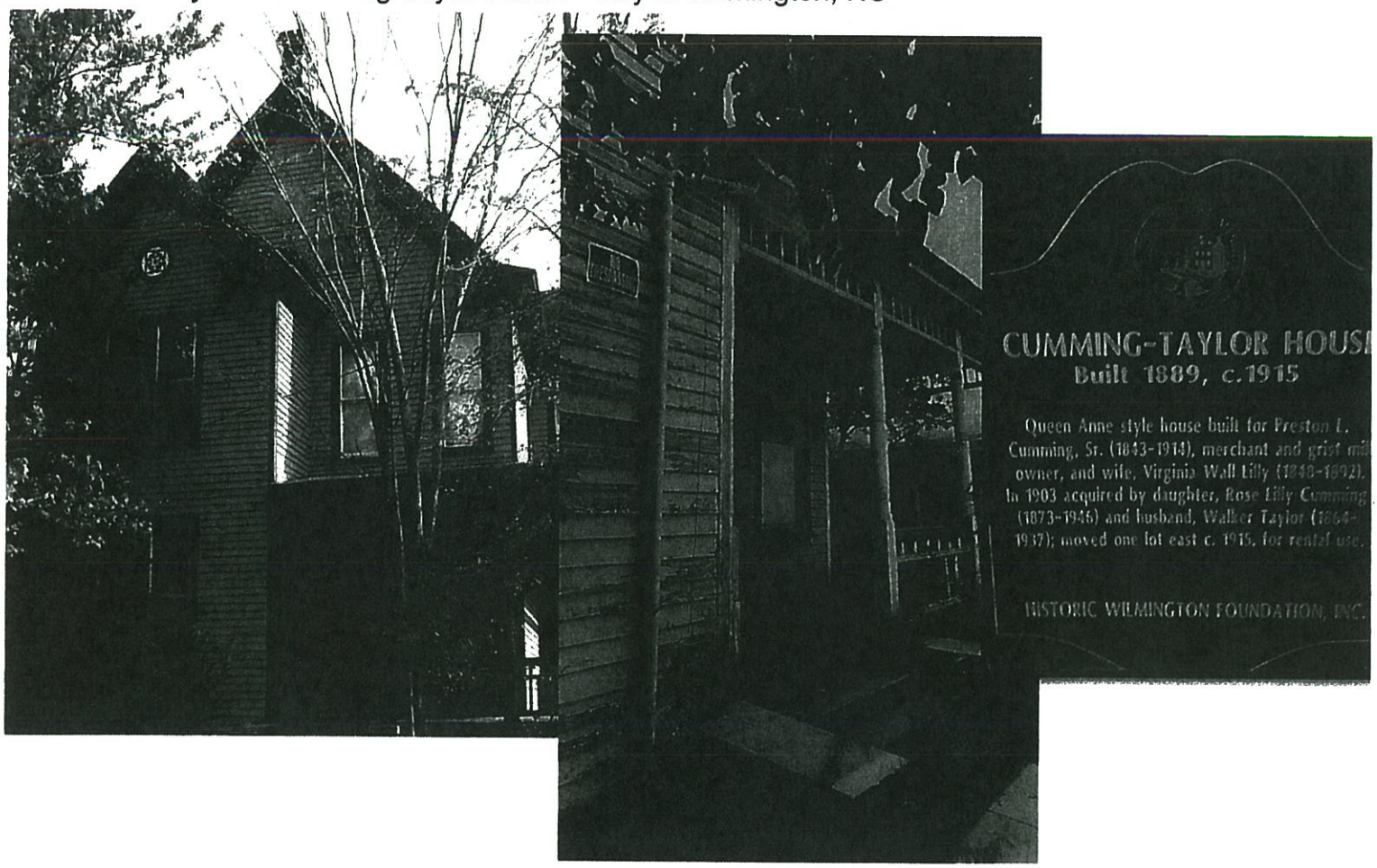
Key Personnel:

Senior Project Managers: Cyrus Sinor
Project Manager: Chris Wallace
Superintendent / Safety Officer: Kerine Borrillo

PO Box 40968
Charleston, SC 29423
*p: 843-308-0524 * f: 843-308-6650*

IPW Construction Group, LLC
Engineering & Construction Services

Project: Cumming-Taylor House - City of Wilmington, NC



Location: Cumming-Taylor House - City of Wilmington, NC

Owner: The Executive Group, LLC

Description of Scope and Responsibility: Renovation of 1889, c.1915 home.
Systems work included historic renovations to wood windows, wood siding repair, painting, roof replacement, refurnishing of historic floors, mechanical repairs, along with a full kitchen and bath renovation.

Award Date Exterior: August 2006 **Completion Date Exterior:** January 2007

Award Date Interior: November 2012 **Completion Date Interior:** May 2013

Award Amount: $207,000 **Final Amount:** $207,000

Key Personnel:
Project Manager: Cyrus Sinor

*PO Box 40968 Charleston, SC 29423 p: 843-308-0524 * f : 843-308-6650*

EXHIBIT B

PROJECT MANUAL
and
CONTRACT DOCUMENTS

FOR

Structural Retrofit of Fire Station 06 – Cannon Street
CP 1532

Pre-Bid Meeting: November 21, 2019, 2:00 p.m.
On Site – 5 Cannon Street

Bid Opening: December 12, 2019, 2:00 p.m.
Department of Parks, 2nd Floor Conference Room

City of Charleston Department of Parks
Capital Projects Division
823 Meeting Street
Charleston, SC 29403
(843) 973-7210
Matthew M. Compton, RLA – Special Projects Administrator
ComptonM@charleston-sc.gov

CP-1532 Structural Retrofit of Fire Station 06 (Cannon Street)
City of Charleston Department of Parks

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Retrofit of the Cannon Street Fire Station (No. 6)

5 Cannon Street
Charleston, South Carolina 29403
Project Number: CP1532

ARCHITECTS
EVANS AND SCHMIDT ARCHITECTS
284 Meeting Street
Charleston, South Carolina 29401
843-723-5495

STRUCTURAL
ADC ENGINEERING
1226 Yeamans Hall Road
Hanahan, South Carolina 29410
843-566-0161

CIVIL ENGINEERS
FORSBERG ENGINEERS
1587 Savannah Hwy, Suite B
Charleston, South Carolina 29407
843-571-2622

MEP ENGINEERS
CHARLESTON ENGINEERING
125-B Wappoo Creek Drive
Charleston, South Carolina 29412
843-762-4242

Date: November 12th 2019

Set Number: _____

Retrofit of the
Cannon Street Fire Station (No. 6)

5 CANNON STREET

CHARLESTON, SOUTH CAROLINA 29403

Project Number: CP1532

11-12-2019

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AIA® Document A201™ – 2017

General Conditions of the Contract for Construction

for the following PROJECT:
(Name and location or address)

CP 1532 Structural Retrofit of Fire Station No. 6 (Cannon St.)
5 Cannon Street
Charleston, SC 29401

THE OWNER:
(Name, legal status and address)

City of Charleston
Department of Parks
Capital Projects Division
823 Meeting Street
Charleston, SC 29403

THE ARCHITECT:
(Name, legal status and address)

Evans & Schmidt Architects, LLC
284 Meeting Street
Charleston, SC 29401

ADDITIONS AND DELETIONS:
The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes added information as well as revisions to the standard form text is available from the author and should be reviewed. A vertical line in the left margin of this document indicates where the author has added necessary information and where the author has added to or deleted from the original AIA text.

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

For guidance in modifying this document to include supplementary conditions, see AIA Document A503™, Guide for Supplementary Conditions.

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ARTICLE 1 GENERAL PROVISIONS

§ 1.1 Basic Definitions

§ 1.1.1 The Contract Documents

The Contract Documents are enumerated in the Agreement between the Owner and Contractor (hereinafter the Agreement) and consist of the Agreement, Conditions of the Contract (General, Supplementary and other Conditions), Drawings, Specifications, Addenda issued prior to execution of the Contract, other documents listed in the Agreement, and Modifications issued after execution of the Contract. The Contract Documents also include the advertisement or invitation to bid, Instructions to Bidders, sample forms, other information furnished by the Owner in anticipation of receiving bids or proposals, the Contractor's bid proposal or portions of Addenda relating to bidding requirements (the "Bid Documents"). In the event of any conflict among the Contract Documents, the Documents shall be construed according to the following priorities:

Highest Priority:	Change Order, and Construction Change Directive, with later date having priority.
Second Priority:	Agreement.
Third Priority:	Addenda with later date having greater priority.
Fourth Priority:	Modifications to General Conditions.
Fifth Priority:	General Conditions.
Sixth Priority:	Drawings and Specifications.
Seventh Priority:	Bid Documents

§ 1.1.2 The Contract

The Contract Documents form the Contract for Construction. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations, or agreements, either written or oral. The Contract may be amended or modified only by a Modification. The Contract Documents shall not be construed to create a contractual relationship of any kind (1) between the Contractor and the Architect or the Architect's consultants, (2) between the Owner and a Subcontractor or a Sub-subcontractor, except as set forth in Paragraph 5.4, (3) between the Owner and the Architect or the Architect's consultants, or (4) between any persons or entities other than the Owner and the Contractor. The Architect shall, however, be entitled to performance and enforcement of obligations under the Contract intended to facilitate performance of the Architect's duties.

(Paragraphs deleted)

§ 1.1.3 The Project

The Project is the total construction of which the Work performed under the Contract Documents may be the whole or a part and which may include construction by the Owner and by Separate Contractors.

§ 1.1.4 The Drawings

The Drawings are the graphic and pictorial portions of the Contract Documents showing the design, location and dimensions of the Work, generally including plans, elevations, sections, details, schedules, and diagrams.

§ 1.1.5 The Specifications

The Specifications are that portion of the Contract Documents consisting of the written requirements for materials, equipment, systems, standards and workmanship for the Work, and performance of related services. If there is a conflict between the specifications and the drawings, then the specifications shall govern.

§ 1.1.6 The Project Manual

The Project Manual is a volume assembled for the Work which may include the bidding requirements, sample forms, Conditions of the Contract and Specifications.

§ 1.1.7 Owner

For purposes of the Contract, the term Owner shall be the City of Charleston, whether or not the City of Charleston owns the site or the building.

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§ 1.1.8 Notice to Proceed
A document issued by the Owner to the Contractor (with a copy to Architect) fixing the date on which the contract time will commence for the Contractor to begin the prosecution of the Work in accordance with the requirements of the Contract Documents.

§ 1.2 Correlation and Intent of the Contract Documents
§ 1.2.1 The intent of the Contract Documents is to include all items necessary for the proper execution and completion of the Work by the Contractor. The Contract Documents are complementary, and what is required by one shall be as binding as if required by all; performance by the Contractor shall be required only to the extent consistent with the Contract Documents and reasonably inferable from them as being necessary to produce the indicated results. In the event of inconsistencies between the Contract Documents and applicable standards, codes, and ordinances, the Contractor shall:

1.2.1.1 provide the better quality or greater quantity of Work; or,

1.2.1.2 comply with the more stringent requirement; either or both in accordance with the Architect's interpretation.

(Paragraph deleted)
§ 1.2.2 Organization of the Specifications into divisions, sections and articles, and arrangement of Drawings shall not control the Contractor in dividing the Work among Subcontractors or in establishing the extent of Work to be performed by any trade.

§ 1.2.3 Unless otherwise stated in the Contract Documents, words that have well-known technical or construction industry meanings are used in the Contract Documents in accordance with such recognized meanings.

§ 1.2.4 All Work mentioned or indicated in the Contract Documents shall be performed by the Contractor as part of this Contract unless it is specifically indicated in the Contract Documents that such Work is to be done by others. Should the Drawings or the Specifications disagree in themselves or with each other, the Contractor shall provide the better quality or greater quantity of Work unless otherwise directed by written addendum to the Contract.

§ 1.2.5 The Contractor and all subcontractors shall refer to all the Drawings, including those showing primarily the Work of the mechanical, electrical and other specialized trades, and to all of the Sections of the Specifications, and shall perform all Work reasonably inferable therefrom as being necessary to produce the indicated results.

§ 1.2.6 All indications or notations which apply to one or a number of similar situations, matters or processes shall be deemed to apply to all such situations, materials or processes wherever they appear in the Work, except where a contrary result is clearly indicated by the Contract Documents.

§ 1.2.7 Where codes, standards, requirements, and publications of public and private bodies are referred to in the Specifications, references shall be understood to be to the latest revision prior to the date of receiving bids, except where otherwise indicated.

§ 1.2.8 Where no explicit quality or standards for materials or workmanship are established for Work, such Work is to be of good quality for the intended use and consistent with the quality of the surrounding Work and of the construction of the project generally.

§ 1.2.9 All manufactured articles, materials, and equipment shall be applied, installed, connected, erected, used, cleaned, and conditioned in accordance with the manufacturer's written or printed directions and instructions, unless otherwise indicated in the Contract Documents.

§ 1.2.10 Mechanical and Electrical Drawings are diagrammatic only, and are not intended to show the exact physical locations or configurations of Work. Such Work shall be installed to clear all obstructions, permit proper clearances for the Work of other trades, and present an orderly appearance where exposed.

§ 1.2.11 Where the Work is to fit with existing conditions or work to be performed by others, the Contractor shall fully and completely join the Work with such conditions or Work, unless otherwise specified.

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§ 1.3 Capitalization
Terms capitalized in these General Conditions include those that are (1) specifically defined, (2) the titles of numbered articles, or (3) the titles of other documents published by the American Institute of Architects.

§ 1.4 Interpretation
In the interest of brevity the Contract Documents frequently omit modifying words such as "all" and "any" and articles such as "the" and "an," but the fact that a modifier or an article is absent from one statement and appears in another is not intended to affect the interpretation of either statement.

§ 1.5 Execution of Contract Documents
§ 1.5.1 The Architect will assist the Owner and Contractor with the execution of the Contract. The Architect will identify and assist in the correction of any incomplete, missing or unsigned documents upon request of the Owner.

§ 1.5.2 The Contractor acknowledges that it has taken steps reasonably necessary to ascertain the nature and location of the Work, and that is has investigated and satisfied itself as to the general and local conditions which can affect the Work or its cost, including but not limited to (1) conditions bearing upon transportation, disposal, handling, and storage of materials; (2) the availability of labor, water, electric power, and roads; (3) uncertainties of weather, river stages, tides, or similar physical conditions at the site; (4) the conformation and conditions of the ground; and (5) the character of equipment and facilities needed preliminary to and during Work performance. The Contractor also acknowledges that it has satisfied itself as to the character, quality and quantity of surface and subsurface materials or obstacles to be encountered insofar as this information is reasonably ascertainable from an inspection of the site, including all exploratory work done by the Owner, as well as from the drawings and specifications made a part of this contract. Any failure of the Contractor to take the actions described and acknowledged in this paragraph will not relieve the Contractor from responsibility for estimating properly the difficulty and cost of successfully performing the Work, or for proceeding to successfully perform the Work without additional expense to the Owner.

§ 1.5.3 The Owner assumes no responsibility for any conclusions or interpretations made by the Contractor based on the information made available by the Owner. Nor does the Owner assume responsibility for any understanding reached or representation made concerning conditions which can affect the Work by any of its officers or agents before the execution of this Contract, unless that understanding or representation is expressly stated in this Contract.

§ 1.6 Ownership and Use of Drawings, Specifications, and Other Instruments of Service
§ 1.6.1 The Drawings, Specifications and other documents, including those in electronic form, prepared by the Architect and the Architect's consultants are Instruments of Service through which the Work to be executed by the Contractor is described. The Contractor may retain one record set. Neither the Contractor nor any Subcontractor, Sub-subcontractor or material or equipment supplier shall own or claim a copyright in the Drawings, Specifications and other documents prepared by the Architect or the Architect's consultants, and unless otherwise indicated, the Architect and the Architect's consultants shall be deemed the authors of them and will retain all common law, statutory and other reserved rights, in addition to the copyrights. All copies of Instruments of Service, except the Contractor's record set, shall be returned or suitably accounted for to the Architect, on request, upon completion of the Work. The Drawings, Specifications and other documents prepared by the Architect and the Architect's consultants, and copies thereof furnished to the Contractor, are for use solely with respect to this Project. They are not to be used by the Contractor or any Subcontractor, Sub-subcontractor or material or equipment supplier on other projects or for additions to this Project outside the scope of the Work without the specific written consent of the Owner, Architect and the Architect's consultants. The Contractor, Subcontractors, Sub-subcontractors and material or equipment suppliers are authorized to use and reproduce applicable portions of the Drawings, Specifications and other documents prepared by the Architect and the Architect's consultants appropriate to and for use in the execution of their Work under the Contract Documents. All copies made under this authorization shall bear the statutory copyright notice, if any, shown on the Drawings, Specifications and other documents prepared by the Architect and the Architect's consultants. Submittal or distribution to meet official regulatory requirements or for other purposes in connection with this Project is not to be construed as publication in derogation of the Architect's or Architect's consultants' copyrights or other reserved rights. The Owner shall retain all common law, statutory and other reserved rights, in addition to the limited use copyright, in accordance with the contract between the Owner and the Architect for this Project.

(Paragraphs deleted)

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§ 1.7 Transmission of data in digital form
If the parties intend to transmit Instruments of Service or any other information or documentation in digital form, they shall endeavor to establish necessary protocols governing such transmissions, unless otherwise already provided in the Agreement or the Contract Documents.

ARTICLE 2 OWNER

§ 2.1 General
§ 2.1.1 The Owner is the person or entity identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The Owner shall designate in writing a representative who shall have express authority to bind the Owner with respect to all matters requiring the Owner's approval or authorization. Except as otherwise provided in Section 4.2.1, the Architect does not have such authority. The term "Owner" means the Owner or the Owner's authorized representative.

(Paragraph deleted)
§ 2.2 Information and services required of the Owner
§ 2.2.1 Except for permits and fees that are the responsibility of the Contractor under the Contract Documents, including those required under Section 3.7.1, the Owner shall secure and pay for necessary approvals, easements, assessments and charges required for construction, use or occupancy of permanent structures or for permanent changes in existing facilities. Contractor shall notify Owner in writing of all approvals, easements, assessments, and charges required for construction or occupancy of permanent structures of which the Contractor has knowledge. Written notice to Owner is a condition precedent to Contractor's right to costs or time extensions for Owner's failure to meet this obligation.

§ 2.2.2 The Owner shall furnish information or services required of the Owner by the Contract Documents with reasonable promptness. The Owner shall also furnish any other information or services under the Owner's control and relevant to the Contractor's performance of the Work with reasonable promptness after receiving the Contractor's written request for such information or services. Neither the Owner nor the Architect shall be required to conduct investigations or to furnish the Contractor with any information concerning subsurface characteristics or other conditions of the areas where the Work is to be performed beyond that which is provided in the Contract Documents. The Contractor shall not be entitled to rely on the accuracy of any information or services provided pursuant to this Subparagraph, unless required by the Contract Documents.

§ 2.2.3 The Contractor will be furnished, free of charge, three (3) sets of the Drawings and the Project Manual.

(Paragraph deleted)
§ 2.3 Owner's right to stop the Work
If the Contractor fails to correct Work that is not in accordance with the requirements of the Contract Documents as required by Section 12.2 or fails to carry out Work in accordance with the Contract Documents, the Owner may issue a written order to the Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, the right of the Owner to stop the Work shall not give rise to a duty on the part of the Owner to exercise this right for the benefit of the Contractor or any other person or entity, except to the extent required by Section 6.1.3.

(Paragraphs deleted)
§ 2.4 Owner's right to carry out the Work
§ 2.4.1 If the Contractor defaults or neglects to carry out the Work in accordance with the Contract Documents and fails within a ten-day period after receipt of written notice from the Owner to commence and continue correction of such default or neglect with diligence and promptness, the Owner may, without prejudice to other remedies the Owner may have, correct such deficiencies. In such case an appropriate Change Order shall be issued deducting from payments then or thereafter due the Contractor the reasonable cost of correcting such deficiencies, including Owner's expenses, including attorney fees and compensation for the Architect's additional services made necessary by such default, neglect or failure. Such action by the Owner and amounts charged to the Contractor are both subject to prior approval of the Architect. If payments then or thereafter due the Contractor are not sufficient to cover such amounts, the Contractor shall pay the difference to the Owner.

§ 2.4.2 If, after achieving Substantial Completion, the Contractor then defaults, or neglects to complete or fails to provide resources adequate to complete the Project within the adjusted Contract Time for Final Completion as defined

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in Subparagraph 8.2.5, the Owner may carry out the work after giving the Contractor a single seven-day written notice of the Contractor's default or neglect. In such case, an appropriate Change order shall be issued deducting from payments then or thereafter due the Contractor the reasonable cost of correcting such deficiencies, including Owner's expenses, including attorney fees, and compensation for the Architect's additional services made necessary by such default, neglect, or failure. If payments then or thereafter due the Contractor are not sufficient to cover such amounts, the Contractor or its Surety shall pay the difference to the Owner.

ARTICLE 3 CONTRACTOR

§ 3.1 General

§ 3.1.1 The Contractor is the person or entity identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The Contractor shall be lawfully licensed in the State of South Carolina. The Contractor shall designate in writing a representative who shall have express authority to bind the Contractor with respect to all matters under this Contract. The term "Contractor" means the Contractor or the Contractor's authorized representative.

§ 3.1.2 The Contractor shall perform the Work in accordance with the Contract Documents.

§ 3.1.3 The Contractor shall not be relieved of its obligations to perform the Work in accordance with the Contract Documents either by activities or duties of the Architect in the Architect's administration of the Contract, or by tests, inspections or approvals required or performed by persons or entities other than the Contractor.

§ 3.2 Review of Contract Documents and Field Conditions by Contractor

§ 3.2.1 Execution of the Contract by the Contractor is a representation that the Contractor has visited the site, become generally familiar with local conditions under which the Work is to be performed, and correlated personal observations with requirements of the Contract Documents.

§ 3.2.2 Because the Contract Documents are complementary, the Contractor shall, before starting each portion of the Work, carefully study and compare the various Contract Documents relative to that portion of the Work, as well as the information furnished by the Owner pursuant to Section 2.2.3, shall take field measurements of any existing conditions related to that portion of the Work, and shall observe any conditions at the site affecting it. These obligations are for the purpose of facilitating coordination and construction by the Contractor and are not for the purpose of discovering errors, omissions, or inconsistencies in the Contract Documents; however, the Contractor shall promptly report to the Architect any errors, inconsistencies or omissions discovered by or made known to the Contractor as a request for information in such form as the Architect may require. It is recognized that the Contractor's review is made in the Contractor's capacity as a contractor and not as a licensed design professional, unless otherwise specifically provided in the Contract Documents.

§ 3.2.3 The Contractor is not required to ascertain that the Contract Documents are in accordance with applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, but the Contractor shall promptly report to the Architect any nonconformity discovered by or made known to the Contractor as a request for information in such form as the Architect may require.

§ 3.2.4 If the Contractor believes that additional cost or time is involved because of clarifications or instructions the Architect issues in response to the Contractor's notices or requests for information pursuant to Sections 3.2.2 or 3.2.3, the Contractor shall make Claims as provided in Section 4.3. If the Contractor fails to perform the obligations of Sections 3.2.2 or 3.2.3, the Contractor shall pay such costs and damages to the Owner as would have been avoided if the Contractor had performed such obligations. If the Contractor performs those obligations, the Contractor shall not be liable to the Owner or Architect for damages resulting from errors, inconsistencies or omissions in the Contract Documents, for differences between field measurements or conditions and the Contract Documents, or for nonconformities of the Contract Documents to applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities.

§ 3.3 Supervision and Construction Procedures

§ 3.3.1 The Contractor shall supervise and direct the Work, using the Contractor's best skill and attention. The Contractor shall be solely responsible for, and have control over, construction means, methods, techniques, sequences, and procedures, and for coordinating all portions of the Work under the Contract, unless the Contract Documents give other specific instructions concerning these matters. If the Contract Documents give specific instructions concerning

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construction means, methods, techniques, sequences, or procedures, the Contractor shall evaluate the jobsite safety thereof and shall be solely responsible for the jobsite safety of such means, methods, techniques, sequences, or procedures. If the Contractor determines that such means, methods, techniques, sequences or procedures may not be safe, the Contractor shall give timely notice to the Owner and Architect and shall not proceed with that portion of the Work without further written instructions from the Architect. If the Contractor is then instructed to proceed with the required means, methods, techniques, sequences or procedures without acceptance of changes proposed by the Contractor, the Owner shall be solely responsible for any loss or damage arising solely from those Owner-required means, methods, techniques, sequences or procedures.

§ 3.3.2 The Contractor shall be responsible to the Owner for acts and omissions of the Contractor's employees, Subcontractors and their agents and employees, and other persons or entities performing portions of the Work for, or on behalf of, the Contractor or any of its Subcontractors.

§ 3.3.3 The Contractor shall be responsible for inspection of portions of Work already performed to determine that such portions are in proper condition to receive subsequent Work.

§ 3.4 Labor and Materials

§ 3.4.1 Unless otherwise provided in the Contract Documents, the Contractor shall provide and pay for labor, materials, equipment, tools, construction equipment and machinery, water, heat, utilities, transportation, and other facilities and services necessary for proper execution and completion of the Work, whether temporary or permanent and whether or not incorporated or to be incorporated in the Work.

> **§ 3.4.1.1** The Contractor shall not allow the use of asbestos containing products, whether temporary or permanent and whether or not incorporated or to be incorporated in the Work, even if the products are nonfriable and/or contain minimal amounts of asbestos, and even though such products may still be legally installed.
>
> **§ 3.4.1.2** The Contractor shall not allow the use of lead materials in public water applications. Lead free solder, flux and pipe must be used in all public drinking water and wastewater applications. Lead free solder and flux are defined as containing less than 0.2% lead, while valves, pipes and appurtenances must contain less than 8.0% lead.

§ 3.4.2 Except in the case of minor changes in the Work approved by the Architect in accordance with Section 3.12.8 or ordered by the Architect in accordance with Section 7.4, the Contractor may make substitutions only with the consent of the Owner, after evaluation by the Architect and in accordance with a Change Order or Construction Change Directive.

§ 3.4.3 The Contractor shall enforce strict discipline and good order among the Contractor's employees and other persons carrying out the Work. The Contractor shall not permit employment of unfit persons or persons not properly skilled in tasks assigned to them.

§ 3.5 Warranty

§ 3.5.1 The Contractor warrants to the Owner and Architect that materials and equipment furnished under the Contract will be of good quality and new unless the Contract Documents require or permit otherwise. The Contractor further warrants that the Work will conform to the requirements of the Contract Documents and will be free from defects, except for those inherent in the quality of the Work the Contract Documents require or permit. Work, materials, or equipment not conforming to these requirements may be considered defective. The Contractor's warranty excludes remedy for damage or defect caused by abuse of others (excluding Contractor's subcontractors or sub-subcontractors), alterations to the Work not executed by the Contractor, improper or insufficient maintenance, improper operation, or normal wear and tear and normal usage. If required by the Architect, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment. All warranties from subcontractors, suppliers and manufacturers shall be assigned to the Owner or have the Owner named as an additional obligee on the warranty.

§ 3.5.2 The Contractor shall be responsible for determining that all materials furnished for the Work meet all requirements of the Contract Documents. The Architect may require the Contractor to produce reasonable evidence that a material meets such requirements, such as certified reports of past tests by qualified testing laboratories, reports of studies by qualified experts, or other evidence which, in the opinion of the Architect, would lead to a reasonable

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certainty that any material used, or proposed to be used in the Work meets the requirements of the Contract Documents. All such data shall be furnished at the Contractor's expense. This provision shall not require the Contract to pay for periodic testing of different batches of the same material, unless such testing is specifically required by the Contract Documents to be performed at the Contractor's expense.

§ 3.5.3 In all cases in which a manufacturer's name, trade name, or its proprietary designation is used in connection with materials or articles to be furnished under this Contract, whether or not the phrase "or equal" is used after such name, the Contractor shall furnish the product of the named manufacturer(s) without substitution, unless a written request for a substitute has been submitted by the Contractor and approved in writing by the Architect as provided in Subparagraph 3.5.4.

§ 3.5.4 If the Contractor proposes to use a material which, while suitable for the intended use, deviates in any way from the detailed requirements of the Contract Documents, the Contractor shall inform the Architect in writing of the nature of such deviations at the time the material is submitted for approval, and shall request written approval of the deviation from the requirements of the Contract Documents.

§ 3.5.5 In requesting approval of deviations or substitutions, the Contract shall provide, upon request, evidence leading to a reasonable certainty that the proposed substitution or deviation will provide a quality of result at least equal to that otherwise attainable. If, in the opinion of the Architect, the evidence presented by the Contractor does not provide a sufficient basis for such reasonable certainty, the Architect may reject such substitution or deviation without further investigation.

§ 3.5.6 The Contract Documents are intended to produce a Project of consistent character and quality of design. All components of the Project including visible items of mechanical and electrical equipment have been selected to have a coordinated design in relation to the overall appearance of the Project. The Architect will judge the design and appearance of proposed substitutes on the basis of their suitability in relation to the overall design of the Project, as well as for their intrinsic merits. The Architect will not approve as equal to materials specified, proposed substitutes which, in the Architect's opinion, would be out of character, obtrusive, or otherwise inconsistent with the character or quality of design of the Project. In order to permit coordinated design of color and finishes the Contractor shall, if required by the Architect, furnish the substituted material in any color, finish, texture, or pattern which would have been available from the manufacturer originally specified, at no additional cost to the Owner.

§ 3.5.7 Any additional cost, or any loss or damage arising from the substitution of any material or any method for those originally specified shall be borne by the Contractor, notwithstanding approval or acceptance of such substitution by the Owner or the Architect, unless such substitution was made at the written request or direction of the Owner or the Architect.

§ 3.5.8 The warranty provided in this Paragraph 3.5 shall be in addition to and not in limitation of any other warranty required by the Contract Documents or otherwise prescribed by law.

§ 3.5.9 The Contractor shall procure and deliver to the Architect, no later than the date claimed by the Contractor as the date of Substantial Completion, all special warranties required by the Contract Documents. Delivery by the Contractor shall constitute the Contractor's guarantee to the Owner that the warranty will be performed in accordance with its terms and conditions.

§ 3.6 Taxes

The Contractor shall pay sales, consumer, use and similar taxes for the Work provided by the Contractor that are legally enacted when bids are received or negotiations concluded, whether or not yet effective or merely scheduled to go into effect.

§ 3.6.2 The Contractor shall comply with all State and Federal law with respect to withholding taxes for nonresidents, employees, contractors and subcontractors.

§ 3.7 Permits, Fees, Notices and Compliance with Laws

§ 3.7.1 Unless otherwise provided in the Contract Documents, the Contractor shall secure and pay for the building permit as well as for other permits, fees, licenses, and inspections by government agencies necessary for proper

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execution and completion of the Work that are customarily secured after execution of the Contract and legally required at the time bids are received or negotiations concluded.

§ 3.7.2 The Contractor shall comply with and give notices required by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities applicable to performance of the Work.

§ 3.7.3 It is not the Contractor's responsibility to ascertain that the Contract Documents are in accordance with applicable laws, statutes, ordinances, building codes, and rules and regulations. However, if the Contractor observes that portions of the Contract Documents are at variance therewith, the Contractor shall promptly notify the Architect and Owner in writing, and necessary changes shall be accomplished by appropriate Modification.

(Paragraphs deleted)
§ 3.7.4 If the Contractor performs Work knowing it to be contrary to applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, the Contractor shall assume appropriate responsibility for such Work and shall bear the costs attributable to correction.

§ 3.8 Allowances
§ 3.8.1 The Contractor shall include in the Contract Sum all allowances stated in the Contract Documents. Items covered by allowances shall be supplied for such amounts and by such persons or entities as the Owner may direct, but the Contractor shall not be required to employ persons or entities to whom the Contractor has reasonable objection.

§ 3.8.2 Unless otherwise provided in the Contract Documents,

.1 allowances shall cover the cost to the Contractor of materials and equipment delivered at the site and all required taxes, less applicable trade discounts;

.2 Contractor's costs for unloading and handling at the site, labor, installation costs, overhead, profit, and other expenses contemplated for stated allowance amounts shall be included in the Contract Sum but not in the allowances; and

.3 whenever costs are more than or less than allowances, the Contract Sum shall be adjusted accordingly by Change Order. The amount of the Change Order shall reflect (1) the difference between actual costs and the allowances under Section 3.8.2.1 and (2) changes in Contractor's costs under Section 3.8.2.2.

§ 3.8.3 Materials and equipment under an allowance shall be selected by the Owner with reasonable promptness.

§ 3.8.4 Written notice to Owner prior to Contractor exceeding allowance amounts is a condition precedent to Contractor's right to recover allowance overages.

§ 3.9 Superintendent
§ 3.9.1 The Contractor shall employ a competent superintendent and necessary assistants who shall be in attendance at the Project site during performance of the Work. The superintendent shall represent the Contractor, and communications given to the superintendent shall be as binding as if given to the Contractor.

§ 3.9.2 The Contractor, as soon as practicable after award of the Contract, shall notify the Owner and Architect of the name and qualifications of a proposed superintendent. Within 14 days of receipt of the information, the Architect may notify the Contractor, stating whether the Owner or the Architect (1) has reasonable objection to the proposed superintendent or (2) requires additional time for review. Failure of the Architect to provide notice within the 14-day period shall constitute notice of no reasonable objection.

§ 3.9.3 The Contractor shall not employ a proposed superintendent to whom the Owner or Architect has made reasonable and timely objection. The Contractor shall not change the superintendent without the Owner's consent, which shall not unreasonably be withheld or delayed.

§ 3.10 Contractor's Construction and Submittal Schedules
§ 3.10.1 The Contractor, promptly after being awarded the Contract, shall prepare and submit for the Owner's and Architect's information a Contractor's construction schedule for the Work. The schedule shall not exceed time limits current under the Contract Documents, shall be revised at appropriate intervals as required by the conditions of the Work and Project, shall be related to the entire Project to the extent required by the Contract Documents, and shall provide for expeditious and practicable execution of the Work.

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This Schedule shall:

3.10.1.1 indicate the dates for the start and completion of the various elements of the Work, and shall be affirmed or revised monthly as required by conditions of the Work and upon execution of a Change Order that affects time.

3.10.1.2 provide a graphic representation of activities and events that will occur during performance of the Work in sufficient detail, and as acceptable to the Owner, to show the sequencing of the various trades for each floor level, wing, or work area;

3.10.1.3 identify each phase of construction and occupancy; and

3.10.1.4 set forth dates that are critical in ensuring the timely and orderly completion of the Work in accordance with the requirements of the Contract Documents (hereinafter referred to as "Milestone Dates").

§ 3.10.2 The Contractor shall prepare and keep current, for the Architect's approval, a schedule of submittals which is coordinated with the Contractor's construction schedule and allows the Architect reasonable time to review submittals.

§ 3.10.3 The Contractor shall perform the Work in accordance with the most recent schedules submitted to and approved by the Owner.

3.10.3.1 If the Contractor submits a schedule or schedule progress report indicating an intention to achieve Substantial or Final Completion of the Work or any portion thereof, prior to any completion date required by the Contract Documents or to the expiration of the Contract Time, no liability to the Owner for any failure of the Contractor to do so complete the Work shall be created or implied. The Contractor shall not be entitled to an adjustment in the Contract Sum or the Contract Time for failure to achieve such early completion dates.

§ 3.11 Documents and Samples at the Site

The Contractor shall make available, at the Project site, the Contract Documents, including Change Orders, Construction Change Directives, and other Modifications, in good order and marked currently to indicate field changes and selections made during construction, and the approved Shop Drawings, Product Data, Samples, and similar required submittals. These shall be in electronic form or paper copy, available to the Architect and Owner, and delivered to the Architect for submittal to the Owner upon completion of the Work as a record of the Work as constructed.

§ 3.12 Shop Drawings, Product Data and Samples

§ 3.12.1 Shop Drawings are drawings, diagrams, schedules, and other data specially prepared for the Work by the Contractor or a Subcontractor, Sub-subcontractor, manufacturer, supplier, or distributor to illustrate some portion of the Work.

§ 3.12.2 Product Data are illustrations, standard schedules, performance charts, instructions, brochures, diagrams, and other information furnished by the Contractor to illustrate materials or equipment for some portion of the Work.

§ 3.12.3 Samples are physical examples that illustrate materials, equipment, or workmanship, and establish standards by which the Work will be judged.

§ 3.12.4 Shop Drawings, Product Data, Samples, and similar submittals are not Contract Documents. Their purpose is to demonstrate how the Contractor proposes to conform to the information given and the design concept expressed in the Contract Documents for those portions of the Work for which the Contract Documents require submittals. Review by the Architect is subject to the limitations of Section 4.2.7. Informational submittals upon which the Architect is not expected to take responsive action may be so identified in the Contract Documents. Submittals that are not required by the Contract Documents may be returned by the Architect without action.

§ 3.12.5 The Contractor shall review for compliance with the Contract Documents, approve, and submit to the Architect, Shop Drawings, Product Data, Samples, and similar submittals required by the Contract Documents, in accordance with the submittal schedule approved by the Architect or, in the absence of an approved submittal

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schedule, with reasonable promptness and in such sequence as to cause no delay in the Work or in the activities of the Owner or of Separate Contractors.

3.12.5.1 Sprinkler shop drawings shall be prepared by a licensed sprinkler Contractor. The sprinkler shop drawings shall be reviewed and approved by the Architect's engineer of record before submittal to the City of Charleston Fire Marshal or other authorities having jurisdiction.

3.12.5.2 The Contractor shall submit a copy of the City of Charleston Fire Marshal's approval letter to the Architect.

§ 3.12.6 By submitting Shop Drawings, Product Data, Samples, and similar submittals, the Contractor represents to the Owner and Architect that the Contractor has (1) reviewed and approved them, (2) determined and verified materials, field measurements and field construction criteria related thereto, or will do so, and (3) checked and coordinated the information contained within such submittals with the requirements of the Work and of the Contract Documents.

§ 3.12.7 The Contractor shall perform no portion of the Work for which the Contract Documents require submittal and review of Shop Drawings, Product Data, Samples, or similar submittals, until the respective submittal has been approved by the Architect.

§ 3.12.8 The Work shall be in accordance with approved submittals except that the Contractor shall not be relieved of responsibility for deviations from the requirements of the Contract Documents by the Architect's approval of Shop Drawings, Product Data, Samples, or similar submittals, unless the Contractor has specifically notified the Architect of such deviation at the time of submittal and (1) the Architect has given written approval to the specific deviation as a minor change in the Work, or (2) a Change Order or Construction Change Directive has been issued authorizing the deviation. The Contractor shall not be relieved of responsibility for errors or omissions in Shop Drawings, Product Data, Samples, or similar submittals, by the Architect's approval thereof.

§ 3.12.9 The Contractor shall direct specific attention, in writing or on resubmitted Shop Drawings, Product Data, Samples, or similar submittals, to revisions other than those requested by the Architect on previous submittals. In the absence of such notice, the Architect's approval of a resubmission shall not apply to such revisions.

§ 3.12.10 When professional certification of materials, systems or equipment is required by the Contract Documents, the Architect shall be entitled to rely upon the accuracy and completeness of such calculations and certifications.

(Paragraphs deleted)

§ 3.13 Use of Site

The right of possession of the Project site and the improvements made thereon by the Contractor shall remain at all times with the Owner. The Contractor's right to entry and use thereof arises solely from the permission granted by the Owner under the Contract Documents. The Contractor shall confine operations at the Project site, including the Contractor's apparatus, the storage of materials, and the operations of the Contractor's workmen to limits indicated by law, ordinances, the Contract Documents, and permits and/or directions of the Architect and shall not unreasonably encumber the Project site with the Contractor's materials. The Owner shall not be liable to the Contractor, the subcontractors, their employees, or anyone else with respect to the conditions of the Project site, except only for a condition caused directly and solely by the negligence of the Owner.

§ 3.14 Cutting and Patching

§ 3.14.1 The Contractor shall be responsible for cutting, fitting, or patching required to complete the Work or to make its parts fit together properly. All areas requiring cutting, fitting, or patching shall be restored to the condition existing prior to the cutting, fitting, or patching, unless otherwise required by the Contract Documents.

§ 3.14.2 The Contractor shall not damage or endanger a portion of the Work or fully or partially completed construction of the Owner or Separate Contractors by cutting, patching, or otherwise altering such construction, or by excavation. The Contractor shall not cut or otherwise alter construction by the Owner or a Separate Contractor except with written consent of the Owner and of the Separate Contractor. Consent shall not be unreasonably withheld. The Contractor shall not unreasonably withhold, from the Owner or a Separate Contractor, its consent to cutting or otherwise altering the Work.

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§ 3.15 Cleaning Up

§ 3.15.1 The Contractor shall keep the premises and surrounding area free from accumulation of waste materials and rubbish caused by operations under the Contract. At completion of the Work, the Contractor shall remove waste materials, rubbish, the Contractor's tools, construction equipment, machinery, and surplus materials from and about the Project.

§ 3.15.2 If the Contractor fails to clean up as provided in the Contract Documents, the Owner may do so and the Owner shall be entitled to reimbursement from the Contractor.

§ 3.16 Access to Work

The Contractor shall provide the Owner and Architect with access to the Work in preparation and progress wherever located.

§ 3.17 Royalties, Patents and Copyrights

The Contractor shall pay all royalties and license fees. The Contractor shall defend suits or claims for infringement of copyrights and patent rights and shall hold the Owner and Architect harmless from loss on account thereof, but shall not be responsible for defense or loss when a particular design, process, or product of a particular manufacturer or manufacturers is required by the Contract Documents, or where the copyright violations are contained in Drawings, Specifications, or other documents prepared by the Owner or Architect. However, if an infringement of a copyright or patent is discovered by, or made known to, the Contractor, the Contractor shall be responsible for the loss unless the information is promptly furnished to the Architect.

§ 3.18 Indemnification

§ 3.18.1 The Contractor shall indemnify, hold harmless and defend the Owner, Architect, Architect's consultants, and agents and employees of any of them from and against claims, demands, damages, losses and expenses, including reasonable attorney's fees, arising out of the performance of the Work, to include but not be limited to claims for bodily injury, sickness, disease or death, or injury to or destruction of tangible property (other than the Work itself), regardless of whether such claim, damage, loss or expense is caused in part by a party indemnified hereunder. Such obligation shall not be construed to negate, abridge, or reduce other rights or obligations of indemnity which would otherwise exist as to a party or person described in Section 3.18.

§ 3.18.2 In claims against any person or entity indemnified under this Section 3.18 by an employee of the Contractor, a Subcontractor, anyone directly or indirectly employed by them, or anyone for whose acts they may be liable, the indemnification obligation under Section 3.18.1 shall not be limited by a limitation on amount or type of damages, compensation, or benefits payable by or for the Contractor or a Subcontractor under workers' compensation acts, disability benefit acts, or other employee benefit acts.

§ 3.18.3 The obligations of the Contractor under this Paragraph 3.18 shall not extend to the liability of the Architect, the Architect's consultants, and agents and employees of any of them arising out of (1) the preparation or approval of maps, drawings, opinions, reports, surveys, Change Orders, designs, or specifications, or (2) the giving of or the failure to give directions or instructions by the Architect, the Architect's consultants, and agents and employees of any of them provided such giving or failure to give is the primary cause of the injury or damage.

ARTICLE 4 ARCHITECT

§ 4.1 General

§ 4.1.1 The term "Architect," "Architect/Engineer," or "A/E" is the entity named as such in the "Invitation For Construction Bids".

§ 4.1.2 Duties, responsibilities, and limitations of authority of the Architect as set forth in the Contract Documents shall not be restricted, modified, or extended without written consent of the Owner, Contractor, and Architect. Consent shall not be unreasonably withheld.

§ 4.2 Administration of the Contract

§ 4.2.1 The Architect will provide administration of the Contract as described in the Contract Documents, and will be an Owner's representative (1) during construction, (2) until final payment is due and (3) with the Owner's concurrence, from time to time during the one-year period for correction of Work described in Section 12.2. Notwithstanding these responsibilities, no act or omission by the Architect shall be considered a waiver of any of the

Owner's rights or interests. The Architect will have authority to act on behalf of the Owner only to the extent provided in the Contract Documents, unless otherwise modified in writing in accordance with other provisions of the Contract.

§ 4.2.2 The Architect, as a representative of the Owner, will visit the site as necessary to fulfill its obligations to the Owner for inspection services, and, at a minimum, to assure conformance with the Architect's design as shown in the Contract Documents and to observe the progress and quality of the various components of the Contractor's Work. The Architect will (1) keep the Owner informed about the progress and quality of Work completed, (2) endeavor to guard the Owner against defects and deficiencies in the Work, and (3) determine if the Work is being performed in a manner indicating that the Work, when fully completed, will be in accordance with the Contract Documents. However, the Architect will not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the Work. The Architect will neither have control over or charge of, nor be responsible for, the construction means, methods, techniques, sequences or procedures, or for the safety precautions and programs in connection with the Work, since these are solely the Contractor's rights and responsibilities under the Contract Documents, except as provided in Section 3.3.1.

§ 4.2.3 The Architect will not be responsible for the Contractor's failure to perform the Work in accordance with the requirements of the Contract Documents. The Architect will not have control over or charge of and will not be responsible for acts or omissions of the Contractor, Subcontractors, or their agents or employees, or any other persons or entities performing portions of the Work.

§ 4.2.4 Communications Facilitating Contract Administration. Except as otherwise provided in the Contract Documents or when direct communications have been specially authorized, the Owner and Contractor shall endeavor to communicate with each other through the Architect about matters arising out of or relating to the Contract. Communications by and with the Architect's consultants shall be through the Architect. Communications by and with Subcontractors and material suppliers shall be through the Contractor. Communications by and with separate contractors shall be through the Owner.

§ 4.2.5 Based on the Architect's evaluations of the Work completed and correlated with the Contractor's Applications for Payment, the Architect will review and certify the amounts due the Contractor and will issue Certificates for Payment in such amounts.

§ 4.2.6 The Architect will have authority to reject Work that does not conform to the Contract Documents. Whenever the Architect considers it necessary or advisable, the Architect will have authority to require inspection or testing of the Work in accordance with Sections 13.5.2 and 13.5.3, whether or not such Work is fabricated, installed or completed. However, neither this authority of the Architect nor a decision made in good faith either to exercise or not to exercise such authority shall give rise to a duty or responsibility of the Architect to the Contractor, Subcontractors, material and equipment suppliers, their agents or employees, or other persons or entities performing portions of the Work.

§ 4.2.7 The Architect will review and approve or take other appropriate action upon the Contractor's submittals such as Shop Drawings, Product Data and Samples, but only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. The Architect's action will be taken with such reasonable promptness as to cause no delay in the Work or in the activities of the Owner, Contractor or separate contractors, while allowing sufficient time in the Architect's professional judgment to permit adequate review. Review of such submittals is not conducted for the purpose of determining the accuracy and completeness of other details such as dimensions and quantities, or for substantiating instructions for installation or performance of equipment or systems, all of which remain the responsibility of the Contractor as required by the Contract Documents. The Architect's review of the Contractor's submittals shall not relieve the Contractor of the obligations under Sections 3.3, 3.5 and 3.12. The Architect's review shall not constitute approval of safety precautions or, unless otherwise specifically stated by the Architect, of any construction means, methods, techniques, sequences or procedures. The Architect's approval of a specific item shall not indicate approval of an assembly of which the item is a component.

§ 4.2.8 The Architect will prepare Change Orders and Construction Change Directives, and may authorize minor changes in the Work as provided in Section 7.4.

§ 4.2.9 The Architect will conduct inspections to determine the date or dates of Substantial Completion and the date of final completion, will receive and forward to the Owner, for the Owner's review and records, written warranties and

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related documents required by the Contract and assembled by the Contractor, and will issue a final Certificate for Payment upon compliance with the requirements of the Contract Documents.

§ 4.2.10 If the Owner and Architect agree, the Architect will provide one or more project representatives to assist in carrying out the Architect's responsibilities at the site. The duties, responsibilities and limitations of authority of such project representatives shall be as set forth in an exhibit to be incorporated in the Contract Documents.

§ 4.2.11 The Architect will, in the first instance, interpret and decide matters concerning performance under, and requirements of, the Contract Documents on written request of either the Owner or Contractor. Upon receipt of such request, the Architect will promptly notify the non-requesting party in writing of the details of such request. The Architect's response to such requests will be made in writing within any time limits agreed upon or otherwise with reasonable promptness. If no agreement is made concerning the time within which interpretations required of the Architect shall be furnished in compliance with this Paragraph 4.2, then delay shall not be recognized on account of failure by the Architect to furnish such interpretations until fourteen (14) days after written request is made for them.

> **4.2.11.1** Subject to review pursuant to Paragraphs 4.3, 4.4 and 4.5, as appropriate, the Contractor shall proceed diligently with performance of the Contract in accordance with the Architect's written interpretations or decisions and the Owner shall continue to make payments in accordance with the Contract Documents.

§ 4.2.12 Interpretations and decisions of the Architect will be consistent with the design as indicated in and reasonably inferable from the Contract Documents and will be in writing or in the form of drawings. When making such interpretations and initial decisions, the Architect will endeavor to secure faithful performance by both Owner and Contractor, will not show partiality to either and will not be liable for results of interpretations or decisions so rendered in good faith. The Architect's interpretations and initial decisions may be, but need not be, accorded any deference in any review conducted under the terms of the Contract or in law. Any such review shall be *de novo.*

§ 4.2.13 The Architect's decisions on matters relating to aesthetic effect will be final if consistent with the intent expressed in the Contract Documents.

§ 4.2.14 In the Specifications or on the Drawings, where the words "as directed," "as required," "as approved," "as permitted" or words of like effect are used, it is to be understood that direction, requirement, approval or permission of the Architect is intended. Similar words, such as "approved," "acceptable," "satisfactory," or words of like import mean approved by, acceptable to, or satisfactory to the Architect.

§ 4.3 CLAIMS AND DISPUTES

§ 4.3.1 Definition. A Claim is a demand or assertion by one of the parties seeking, as a matter of right, adjustment of Contract terms, payment of money, extension of time or other relief with respect to the terms of the Contract. The term "Claim" also includes other disputes between the Owner and Contractor arising out of or relating to the Contract. Claims under this Contract must be submitted in writing to the Architect. A voucher, invoice, payment application or other routine request for payment that is not in dispute when submitted is not a Claim under this definition. Claims must be initiated by written notice. The responsibility to substantiate Claims shall rest with the party making the Claim.

§ 4.3.2 Time Limits for Filing Claims. Claims by either party arising prior to the date final payment is due must be initiated within twenty-one (21) days after occurrence of the event giving rise to such Claim or within twenty-one (21) days after the claimant first recognizes the condition giving rise to the Claim, whichever is later, except as stated for adverse weather days in Clause 4.3.7.2. Claims must be initiated by written notice to the Architect. By failing to give written notice of a Claim within the time required by this Subparagraph, a party expressly waives its claim.

§ 4.3.3 Continuing Contract Performance. Pending final resolution of a Claim except as otherwise agreed in writing or as provided in Section 9.7 and Article 14, the Contractor shall proceed diligently with performance of the Contract and the Owner shall continue to make payments in accordance with the Contract Documents.

§ 4.3.4 Claims for Concealed or Unknown Conditions. If conditions are encountered at the site which are (1) subsurface or otherwise concealed physical conditions which differ materially from those indicated in the Contract Documents or (2) unknown physical conditions of an unusual nature, which existed at the time of bidding and which

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differ materially from those ordinarily found to exist and generally recognized as inherent in construction activities of the character provided for in the Contract Documents, then notice by the observing party shall be given to the other party promptly before conditions are disturbed and in no event later than 21 days after first observance of the conditions. The Architect will promptly investigate such conditions and, if they differ materially and cause an increase or decrease in the Contractor's cost of, or time required for, performance of any part of the Work, will recommend an equitable adjustment in the Contract Sum or Contract Time, or both. If the Architect determines that the conditions at the site are not materially different from those indicated in the Contract Documents and that no change in the terms of the Contract is justified, the Architect shall so notify the Owner and Contractor in writing, stating the reasons. Claims by either party in opposition to such determination must be made within 21 days after the Architect has given notice of the decision. If the conditions encountered are materially different, the Contract Sum and Contract Time shall be equitably adjusted. If the Owner and Contractor cannot agree on an adjustment in the Contract Sum or Contract Time, the adjustment shall be referred to the Architect for initial determination, subject of further proceedings pursuant to Section 4.3.4.1.

> **§ 4.3.4.1** Any adjustment, including reasonable overhead and profit, in the Contract Sum, or to the Contract Time made pursuant to this Subparagraph shall be determined in accordance with Paragraphs 7.5 and 4.3.7 of this Contract, respectively.

§ 4.3.5 Claims for Additional Cost. If the Contractor wishes to make a Claim for an increase in the Contract Sum, written notice as provided herein shall be given before proceeding to execute the Work. Prior notice is not required for Claims relating to an emergency endangering life or property arising under Section 10.4.

§ 4.3.6 If the Contractor believes additional cost is involved for reasons including but not limited to (1) a written interpretation from the Architect, (2) an order by the Owner to stop the Work where the Contractor was not at fault, (3) a written order for a minor change in the Work issued by the Architect, (4) failure of payment by the Owner, (5) termination of the Contract by the Owner, (6) Owner's suspension or (7) other reasonable grounds, Claim shall be filed in accordance with this Section 4.3.

§ 4.3.7 Claims for Additional Time

§ 4.3.7.1 If the Contractor wishes to make Claim for an increase in the Contract Time, written notice as provided herein shall be given. The Contractor's Claim shall include an estimate of cost and of probable effect of delay on progress of the Work. In the case of a continuing delay only one Claim is necessary. Claims for an increase in the Contract Time shall be based on one additional calendar day for each full calendar day that the Contractor is prevented from working.

§ 4.3.7.2 If adverse weather conditions are the basis for a Claim for additional time, such Claim shall be documented by data substantiating that weather conditions were abnormal for the period of time, could not have been reasonably anticipated and had an adverse effect on the scheduled construction.

> **§ 4.3.7.2.1** Claims for adverse weather shall be based on actual weather conditions at the job site or other place of performance of the Work, as documented in the Contractor's job site log.

> **§ 4.3.7.2.2** For the purpose of this Contract, a total of five (5) calendar days per calendar month (non-cumulative) shall be anticipated as "adverse weather" at the job site, and such time will not be considered justification for an extension of time. If, in any month, adverse weather develops beyond the five (5) days, the Contractor shall be allowed to claim additional days to compensate for the excess weather delays only to the extent of the impact on the approved construction schedule. The remedy for this condition is for an extension of time only, not money.

> **§ 4.3.7.2.3** The Contractor shall submit monthly a claim with its pay application for adverse weather conditions that have occurred during the previous month. The Architect shall review each monthly submittal in accordance with Paragraph 4.4 and inform the Contractor and the Owner promptly of its evaluation. Approved days shall be included in the next Change Order issued by the Architect. Adverse weather conditions not claimed within the time limits of this Subparagraph shall be considered to be waived by the Contractor. Claims will not be allowed for adverse weather days that occur after the scheduled (original or adjusted) date of Substantial Completion.

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§ 4.3.8 Injury or Damage to Person or Property. If either party to the Contract suffers injury or damage to person or property because of an act or omission of the other party, or of others for whose acts such party is legally responsible, written notice of such injury or damage, whether or not insured, shall be given to the other party within a reasonable time not exceeding twenty-one (21) days after discovery. The notice shall provide sufficient detail to enable the other party to investigate the matter.

§ 4.3.9 Quantity Variations. If the quantity of a unit-priced item in this Contract is an estimated quantity and the actual quantity of the unit-priced item varies more than fifteen (15) percent above or below the estimated quantity, an adjustment, including overhead and profit, in the Contract Sum shall be made upon demand of either party. The adjustment shall be based upon any increase or decrease in costs due solely to the variation above 115 percent or below 85 percent of the estimated quantity. Any adjustment in the Contract Sum made pursuant to this Subparagraph shall be determined in accordance with Paragraph 7.5. If the quantity variation is such as to cause an increase in the time necessary for completion, the Contractor may request, in writing, an extension of time, as set forth in Subparagraph 4.3.7. Pursuant to Paragraph 13.13, the Architect shall determine the actual quantities of a unit-priced item used by the Contractor.

§ 4.3.10 Claims for Listed Damages
Notwithstanding any other provision of the Contract Documents, including Subparagraph 1.2.1, but subject to a duty of good faith and fair dealing (S.C. Code Ann § 11-35-30), the Contractor and Owner waive Claims against each other for Listed Damages arising out of or relating to this Contract. The Listed Damages are:

4.3.10.1 Damages incurred by the Owner for rental expenses, for losses of use prior to Final Completion, income, profit, financing, business and reputation, and for loss of management or employee productivity or of the services of such persons; and for attorney's fees, insurance and interest (excluding post-judgment).

4.3.10.2 Damages incurred by the Contractor for principal office expenses and overhead, including, but not limited to, the compensation of personnel stationed there, rent, utilities and office equipment; for losses of financing, business and reputation; for loss of profit except anticipated profit arising directly from the Work; and for attorney's fees, insurance and interest (excluding post-judgment).

4.3.10.3 This mutual waiver is applicable, without limitation, to all Listed Damages due to either party's termination in accordance with Article 14. Nothing contained in this Subparagraph 4.3.10 shall be deemed to preclude an award of liquidated damages when applicable, in accordance with the requirements of the Contract Documents. This Subparagraph does not apply to Paragraph 3.18.

4.3.11 Waiver of Claims Against the A/E. Notwithstanding any other provision of the Contract Documents (including paragraph 1.2.1), but subject to a duty of good faith and fair dealing, the Contractor waives all claims against both the Architect and any other design professionals who provide design and/or project management services to the Owner, either directly or as independent contractors/subcontractors to the Architect, for Listed Damages arising out of or relating to this Contract. The Listed Damages are damages incurred by the Contractor for principal office expenses and overhead (including, but not limited to, the compensation of personnel stationed there, rent, utilities, and office equipment), for losses of financing, business and reputation, for loss or profit other than anticipated profits arising directly from the Work, and for attorney's fees, insurance, and interest (excluding post-judgment).

§ 4.4 RESOLUTION OF CLAIMS AND DISPUTES
§ 4.4.1 DECISION OF THE A/E. Claims, including those alleging an error or omission by the Architect, shall be referred initially to the Architect for decision. An initial decision by the Architect shall be required as a condition precedent to resolution (pursuant to Paragraph 4.5) of all claims between the Contractor and Owner arising prior to the date Final Payment is due, unless thirty (30) days shall have passed after the Claim has been referred to the Architect, with no decision by the Architect. If the Architect's initial decision is not accepted by the parties, the parties shall continue in attempts to arrive at a satisfactory resolution, subject to rights accorded in Sec. 4.5 in the event these efforts fail. The Architect will not decide disputes between the Contractor and persons or entities other than the Owner.

§ 4.4.2 The Architect will review Claims and within ten days of the receipt of the Claim take one or more of the following actions: (1) request additional supporting data from the claimant or a response with supporting data from the other party, (2) reject the Claim in whole or in part, (3) approve the Claim, (4) suggest a compromise, or (5) advise the parties that the Architect is unable to resolve the Claim if the Architect lacks sufficient information to evaluate the

merits of the Claim or if the Architect concludes that, in the Architect's sole discretion, it would be inappropriate for the Architect to resolve the Claim.

§ 4.4.3 The Architect will approve or reject Claims by written decision, which shall state the reasons therefor and which shall notify the parties of any change in the Contract Sum or Contract Time or both. The Architect's initial decision will be delivered to the parties within two weeks of receipt of any response or supporting data requested pursuant to Subparagraph 4.4.4, or within such longer period as may be mutually agreeable to the parties. If the Architect's initial decision is accepted by the parties, the Architect shall prepare a Change Order with appropriate supporting documentation for the review and approval of the parties. The approval or rejection of a Claim by the Architect shall be final and binding on the parties but subject to resolution pursuant to Paragraph 4.5. Any review of the Architect's written decision or determination shall be *de novo.*

§ 4.4.4 If the Architect renders its initial decision after proceedings pursuant to the Paragraph 4.5 have been initiated, such decision may be entered as evidence, but shall not supersede such proceedings unless the decision is acceptable to all parties concerned.

§ 4.4.5 Upon receipt of a Claim against the Contractor or at any time thereafter, the Architect or the Owner may, but is not obligated to, notify the surety, if any, of the nature and amount of the Claim. If the Claim relates to a possibility of a Contractor's default, the Architect or the Owner may, but is not obligated to, notify the surety and request the surety's assistance in resolving the controversy.

§ 4.5 Dispute resolution

§4.5.1 Without limiting Subparagraph 4.5.2, any Claim arising out of or related to the Contract, except Claims relating to aesthetic effect and except those waived as provided for in Subparagraph 4.3.10, 9.10.4 and 9.10.5 shall, after initial decision by the Architect or thirty (30) days after submission of the Claim to the Architect, be subject to resolution pursuant to Subparagraph 4.5.2.

§4.5.2 Either party may pursue any Claim against the other in the Court of Common Pleas for Charleston County, South Carolina, provided the party has first complied with the provisions of Paragraphs 4.3 and 4.4 with respect to such Claim. Nothing herein shall be construed to prevent mediation of any Claims upon the mutual consent of the parties.

ARTICLE 5 SUBCONTRACTORS

§ 5.1 Definitions

§ 5.1.1 A Subcontractor is a person or entity who has a direct contract with the Contractor to perform a portion of the Work at the site. The term "Subcontractor" is referred to throughout the Contract Documents as if singular in number and means a Subcontractor or an authorized representative of the Subcontractor. The term "Subcontractor" does not include a Separate Contractor or the subcontractors of a Separate Contractor.

§ 5.1.2 A Sub-subcontractor is a person or entity who has a direct or indirect contract with a Subcontractor to perform a portion of the Work at the site. The term "Sub-subcontractor" is referred to throughout the Contract Documents as if singular in number and means a Sub-subcontractor or an authorized representative of the Sub-subcontractor.

§ 5.2 Award of Subcontracts and Other Contracts for Portions of the Work

§ 5.2.1 Unless otherwise stated in the Contract Documents, the Contractor, as soon as practicable after award of the Contract, shall notify the Owner through the Architect of the persons or entities proposed for each principal portion of the Work, including those who are to furnish materials or equipment fabricated to a special design. Within 14 days of receipt of the information, the Architect may notify the Contractor whether the Owner or the Architect (1) has reasonable objection to any such proposed person or entity or (2) requires additional time for review. Failure of the Owner or Architect to provide notice within the 14-day period shall constitute notice of no reasonable objection.

§ 5.2.2 The Contractor shall not contract with a proposed person or entity to whom the Owner or Architect has made reasonable and timely objection. The Contractor shall not be required to contract with anyone to whom the Contractor has made reasonable objection.

§ 5.2.3 If the Owner or Architect has reasonable objection to a person or entity proposed by the Contractor, the Contractor shall propose another to whom the Owner or Architect has no reasonable objection. If the proposed but

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rejected Subcontractor was reasonably capable of performing the Work, the Contract Sum and Contract Time shall be increased or decreased by the difference, if any, occasioned by such change, and an appropriate Change Order shall be issued before commencement of the substitute Subcontractor's Work. However, no increase in the Contract Sum or Contract Time shall be allowed for such change unless the Contractor has acted promptly and responsively in submitting names as required.

§ 5.2.4 The Contractor shall not substitute a Subcontractor, person, or entity for one previously selected if the Owner or Architect makes reasonable objection to such substitution. The Contractor's Request for Substitution must be made to the Architect in writing, accompanied by supporting information.

§ 5.2.5 To the extent it applies, the substitution of a subcontractor is governed by the laws of the State of South Carolina. Paragraph 5.2 is to be construed as complementary thereto.

§ 5.3 Subcontractual Relations

§ 5.3.1 By appropriate written agreement, the Contractor shall require each Subcontractor, to the extent of the Work to be performed by the Subcontractor, to be bound to the Contractor by terms of the Contract Documents, and to assume toward the Contractor all the obligations and responsibilities, including the responsibility for safety of the Subcontractor's Work that the Contractor, by these Contract Documents, assumes toward the Owner and Architect. Each subcontract agreement shall preserve and protect the rights of the Owner and Architect under the Contract Documents with respect to the Work to be performed by the Subcontractor so that subcontracting thereof will not prejudice such rights, and shall allow to the Subcontractor, unless specifically provided otherwise in the subcontract agreement, the benefit of all rights, remedies, and redress against the Contractor that the Contractor, by the Contract Documents, has against the Owner. Where appropriate, the Contractor shall require each Subcontractor to enter into similar agreements with Sub-subcontractors. The Contractor shall make available to each proposed Subcontractor, prior to the execution of the subcontract agreement, copies of the Contract Documents to which the Subcontractor will be bound, and, upon written request of the Subcontractor, identify to the Subcontractor terms and conditions of the proposed subcontract agreement that may be at variance with the Contract Documents. Subcontractors will similarly make copies of applicable portions of such documents available to their respective proposed Sub-subcontractors.

§ 5.3.2 Without limitation on the generality of the foregoing, each Subcontract agreement and each Sub-subcontract agreement shall include, and shall be deemed to include, the following:

> **§ 5.3.2.1** An agreement that the Owner is a third-party beneficiary of the Subcontract (or Sub-subcontract), entitled to enforce any rights thereunder for its benefit, and that the Owner shall have the same rights and remedies against the Subcontractor (or Sub-subcontractor) as the Contractor (or Subcontractor) has, including but not limited to the right to be compensated for any loss, expense, or damage of any nature whatsoever incurred by the Owner resulting from any breach of representations and warranties, expressed or implied, if any, arising out of the agreement and any error, omission, or negligence of the Subcontractor (or Sub-subcontractor) in the performance of any of its obligations under the agreement; and,
>
> **§ 5.3.2.2** A requirement that the Subcontractor (or Sub-subcontractor) promptly disclose to the Contractor (or Subcontractor) any defect, omission, error, or deficiency in the Contract Documents or in the Work of which it has, or should have had, knowledge; and,
>
> **§ 5.3.2.3** The following Paragraphs or Subparagraphs as appropriate, of the Conditions of the Contract: 3.2, 3.5.1, 3.18, 4.3.10, 5.4, 13.1, 13.13, 14.3 and 14.4.

§ 5.3.3 The Contractor shall assure the Owner, by affidavit or in such other manner as the Owner may approve, that all agreements between the Contractor and its Subcontractor(s) incorporate the provisions of Subparagraph 5.3.1 and 5.3.2 as necessary to preserve and protect the rights of the Owner and the Architect under the Contract Documents with respect to the work to be performed by Subcontractors so that the subcontracting thereof will no prejudice such rights.

§ 5.3.4 Upon request, the Contractor shall provide to the Owner copies of all executed or issued subcontracts, purchase orders and other documents related to the Work.

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§ 5.4 Contingent Assignment of Subcontracts

§ 5.4.1 Each subcontract agreement for a portion of the Work is assigned by the Contractor to the Owner, provided that

.1 assignment is effective only after termination of the Contract by the Owner for cause pursuant to Section 14.2 and only for those subcontract agreements that the Owner accepts by notifying the Subcontractor and Contractor; and

.2 assignment is subject to the prior rights of the surety, if any, obligated under bond relating to the Contract.

When the Owner accepts the assignment of a subcontract agreement, the Owner assumes the Contractor's rights and obligations under the subcontract.

§ 5.4.2 Upon such assignment, if the Work has been suspended for more than 30 days, the Subcontractor's compensation shall be equitably adjusted for increases in cost resulting from the suspension.

§ 5.4.3 Upon assignment to the Owner under this Section 5.4, the Owner may further assign the subcontract to a successor contractor or other entity. If the Owner assigns the subcontract to a successor contractor or other entity, the Owner shall nevertheless remain legally responsible for all of the successor contractor's obligations under the subcontract.

ARTICLE 6 CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS

§ 6.1 Owner's Right to Perform Construction and to Award Separate Contracts

§ 6.1.1 The Owner reserves the right to perform construction or operations related to the Project with the Owner's own forces, and to award separate contracts in connection with other portions of the Project or other construction or operations on the site under Conditions of the Contract identical or substantially similar to these including those portions related to insurance and waiver of subrogation. If the Contractor claims that delay or additional cost is involved because of such action by the Owner, the Contractor shall make such Claim as provided in Section 4.3.

§ 6.1.2 When separate contracts are awarded for different portions of the Project or other construction or operations on the site, the term "Contractor" in the Contract Documents in each case shall mean the Contractor who executes each separate Owner-Contractor Agreement.

§ 6.1.3 The Owner shall provide for coordination of the activities of the Owner's own forces and of each Separate Contractor with the Work of the Contractor, who shall cooperate with them. The Contractor shall participate with any Separate Contractors and the Owner in reviewing their construction schedules. The Contractor shall make any revisions to its construction schedule deemed necessary after a joint review and mutual agreement. The construction schedules shall then constitute the schedules to be used by the Contractor, Separate Contractors, and the Owner until subsequently revised.

(Paragraph deleted)

§ 6.2 Mutual Responsibility

§ 6.2.1 The Contractor shall afford the Owner and Separate Contractors reasonable opportunity for introduction and storage of their materials and equipment and performance of their activities, and shall connect and coordinate the Contractor's construction and operations with theirs as required by the Contract Documents.

§ 6.2.2 If part of the Contractor's Work depends for proper execution or results upon construction or operations by the Owner or a Separate Contractor, the Contractor shall, prior to proceeding with that portion of the Work, promptly notify the Architect of apparent discrepancies or defects in the construction or operations by the Owner or Separate Contractor that would render it unsuitable for proper execution and results of the Contractor's Work. Failure of the Contractor to notify the Architect of apparent discrepancies or defects prior to proceeding with the Work shall constitute an acknowledgment that the Owner's or Separate Contractor's completed or partially completed construction is fit and proper to receive the Contractor's Work. The Contractor shall not be responsible for discrepancies or defects in the construction or operations by the Owner or Separate Contractor that are not apparent.

§ 6.2.3 The Contractor shall reimburse the Owner for costs the Owner incurs that are payable to a Separate Contractor because of the Contractor's delays, improperly timed activities or defective construction. The Owner shall be responsible to the Contractor for costs the Contractor incurs because of a Separate Contractor's delays, improperly timed activities, damage to the Work or defective construction.

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§ 6.2.4 The Contractor shall promptly remedy damage that the Contractor wrongfully causes to completed or partially completed construction or to property of the Owner or Separate Contractor as provided in Section 10.2.5.

§ 6.2.5 The Owner and each Separate Contractor shall have the same responsibilities for cutting and patching as are described for the Contractor in Section 3.14.

§ 6.3 Owner's Right to Clean Up

If a dispute arises among the Contractor, Separate Contractors, and the Owner as to the responsibility under their respective contracts for maintaining the premises and surrounding area free from waste materials and rubbish, the Owner may clean up and the Architect will allocate the cost among those responsible.

ARTICLE 7 CHANGES IN THE WORK

§ 7.1 General

§ 7.1.1 Changes in the Work may be accomplished after execution of the Contract, and without invalidating the Contract, by Change Order, Construction Change Directive or order for a minor change in the Work, subject to the limitations stated in this Article 7 and elsewhere in the Contract Documents.

§ 7.1.2 A Change Order shall be based upon agreement among the Owner, Contractor, and Architect. A Construction Change Directive requires agreement by the Owner and Architect and may or may not be agreed to by the Contractor. An order for a minor change in the Work may be issued by the Architect alone.

§ 7.1.3 Changes in the Work shall be performed under applicable provisions of the Contract Documents. The Contractor shall proceed promptly with changes in the Work, unless otherwise provided in the Change Order, Construction Change Directive, or order for a minor change in the Work.

§ 7.2 Change Orders

§ 7.2.1 A Change Order is a written instrument prepared by the Architect and signed by the Owner, Contractor, and Architect stating their agreement upon all of the following:

.1 The change in the Work;

.2 The amount of the adjustment, if any, in the Contract Sum; and

.3 The extent of the adjustment, if any, in the Contract Time.

.4 The Contractor shall not proceed with the Work of the Change Order until the Change Order is approved by the Owner. Any adjustment in the Contract Sum made pursuant to this Paragraph 7.2 shall be determined in accordance with Paragraph 7.5 of this Contract.

.5 All Change Orders shall be submitted on City of Charleston form, "Construction Change Order," with appropriate documentation attached.

§ 7.2.2 Agreement on any Change Order shall constitute a release by the Contractor of the Owner for any and all liability under this Contract attributable to such facts or circumstances giving rise to the Change Order.

§ 7.3 Construction Change Directives

§ 7.3.1 A Construction Change Directive is a written order prepared by the Architect and signed by the Owner and Architect, directing a change in the Work prior to agreement on adjustment, if any, in the Contract Sum or Contract Time, or both. The Owner may by Construction Change Directive, without invalidating the Contract, order changes in the Work within the general scope of the Contract consisting of additions, deletions, or other revisions, the Contract Sum and Contract Time being adjusted accordingly.

§ 7.3.2 A Construction Change Directive shall be used in the absence of total agreement on the terms of a Change Order.

§ 7.3.3

(Paragraphs deleted)

Any adjustment in the Contract Sum, including reasonable overhead and profit made pursuant to Paragraph 7.3 shall be determined in accordance with Paragraph 7.5 of this Contract.

§ 7.3.4

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(Paragraphs deleted)
Upon receipt of a Construction Change Directive, the Contractor shall promptly proceed with the change in the Work involved and advise the Architect of the Contractor's agreement or disagreement with the method, if any, provided in the Construction Change Directive for determining the proposed adjustment in the Contract Sum or Contract Time.

§ 7.3.5 A Construction Change Directive signed by the Contractor indicates the agreement of the Contractor therewith, including adjustment in Contract Sum and Contract Time or the method for determining them. Such agreement shall be effective immediately and shall be recorded as a Change Order.

§ 7.3.6 If the Contractor does not respond promptly or disagrees with the method for adjustment in the Contract Sum, the method and the adjustment shall be determined by the Architect as provided in Clause 7.5.1.5, on the basis of reasonable expenditures and savings to those performing the Work attributable to the change, including allowances for reasonable overhead and profit.

§ 7.3.7 When the Owner and Contractor agree with the determination made by the Architect concerning the adjustments in the Contract Sum and Contract Time, or otherwise reach agreement upon the adjustments, such agreement shall be effective immediately and shall be recorded by preparation and execution of an appropriate Change Order. Change Orders may be issued for all or any part of a Construction Change Directive. **The Contractor agrees that when it executes a Change Order, it waives any and all further claims for damages or time extensions for the matters contained in the Change Order and that certifies that it has been fully compensated for all aspects of the Change Order.**

§ 7.3.8 If the Contractor defaults or neglects to execute a Change Directive, the Owner may carry out the Work in accordance with Paragraph 2.4 and Article 6.

(Paragraphs deleted)
§ 7.4 Minor Changes in the Work
The Architect has authority to order minor changes in the Work not involving adjustment in the Contract Sum or extension of the Contract Time and not inconsistent with the intent of the Contract Documents. Such changes will be effected by written order signed by the Architect and shall be binding on the Owner and Contractor.

§ 7.5 Price adjustments
§ 7.5.1 Methods of Adjustment. Any adjustment in the Contract Sum made pursuant to this Paragraph 7.5 shall be consistent with this Contract and shall be arrived at through whichever one of the following ways in the most valid approximation of the actual cost to the Contractor.

7.5.1.1 by agreement on a fixed price adjustment;
7.5.1.2 by unit prices specified in the Contract or subsequently agreed upon;
7.5.1.3 by the costs attributable to the event or situation covered by the relevant clause, including profit if otherwise allowed, all as specified in the Contract; or subsequently agreed upon;
7.5.1.4 in such other manner as the parties may mutually agree; or,
7.5.1.5 in the absence of agreement by the parties, through a unilateral initial determination by the Architect of the costs attributable to the event or situation covered by the clause, including profit if otherwise allowed, all as computed by the Architect in accordance with Clause 7.5.3.2, but subject to final resolution in accordance with the provisions of Paragraph 4.5, it being acknowledged that the unilateral initial interpretation by the Architect is respected, but advisory.

§ 7.5.2 Final Agreement
When any adjustment in the Contract Sum made pursuant to clauses in this Contract becomes final (e.g., by agreement or dispute resolution), the adjustment shall be computed and documented on City of Charleston "Construction Change Order."

§ 7.5.3 Documentation of cost reasonableness
§ 7.5.3.1 Contractor's Change Order Proposal. The Contractor shall submit a written proposal for review by the Architect and the Owner. The proposal shall be submitted to the Owner's representative within the time limits specified in the Subparagraph 4.3.2. All costs claimed by the Contractor shall be justifiable compared with prevailing industry standards, as adjusted for local cost conditions. Costs shall be properly itemized and supported by

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substantiating data sufficient to permit evaluation before commencement of the pertinent performance or as soon thereafter as practicable.

§ 7.5.3.2 Construction Change Directives. For a Construction Change Directive wherein the proposed method of compensation is actual costs, and pending the collection and evaluation of actual costs as required Clause 7.5.1.3, the Contractor shall estimate the value of the changed Work. The Contractor shall itemize the estimated cost into building components and shall use the labor, material and equipment unit direct costs as listed in the most current issue of the Construction Cost Data Book most applicable to the nature of the changed Work,, as published by R.S. Means, with a cost index adjusted for the project locale. The Contractor shall also be permitted to add overhead and profit as shown in Subparagraph 7.5.4. Where the Contractor does not properly itemize the proposed costs as requested, the Architect shall provide the Owner with the itemization and this amount shall be the initial basis for compensation under Subparagraph 7.3.8. Upon conversion of the Construction Change Directive to a Change Order, the Architect's cost for providing this itemization shall be deducted from the final adjustment in the Contract Sum as described in Clause 7.3.7.

§ 7.5.4 Agreed Overhead And Profit Rates

§ 7.5.4.1 For any adjustment to the Contract Sum for which overhead and profit may be recovered, other than those made pursuant to Subparagraph 4.3.9, the Contractor agrees to charge and accept, as full payment for overhead and profit, the following percentages of costs attributable to the change in the Work. The percentages cited below shall be considered to include all indirect costs including, but not limited to: field and office managers, supervisors and assistants, incidental job burdens, small tools, and general overhead allocations. "Commission" is defined as profit on work performed by others. The allowable percentages for overhead, profit, and commission area as follows:

1. To the Contractor or subcontractors on work performed by their own forces:

Overhead (%)	Profit (%)	Commission (%)
10	7	0

2. To the Contractor on worked performed by its subcontractors:

Overhead (%)	Profit (%)	Commission (%)
10	0	3

3. To a first tier subcontractor on work performed by its subcontractors:

Overhead (%)	Profit (%)	Commission (%)
10	0	3

§ 7.5.4.2 Not more than three levels of overhead, profit, and commission shall be allowed regardless of the number of subcontractor tiers.

§ 7.5.4.3 The Contractor or subcontractor shall not be allowed overhead or commission on the overhead, profit, and/or commission received by its subcontractors.

§ 7.5.4.4 Using the percentages stated in Clause 7.5.4.1, any adjustment to the Contract Sum for deleted work shall include any overhead, profit and/or commission attributable to the cost for the deleted Work.

§ 7.5.4.5 If the Contractor initiates a Change Order proposal and the Owner is not obligated to pay for all or any part of the proposal, then the Contractor shall be responsible for any Architect's fees to evaluate and process that Change Order proposal. Compensation shall be based on the Owner's contract with the Architect and the rates for Additional Services contained therein, and shall be withheld from the final payment.

§ 7.5.5 Cost Or Pricing Data

§ 7.5.5.1 The Contractor shall submit cost or pricing data for any element of changed Work (other than Unit Price Work), and shall certify that, to the best of its knowledge and belief, the cost or pricing data submitted is accurate, complete, and current as of a mutually determined specified date prior to the date of the pricing. This data shall be itemized and supported by substantiating data sufficient to permit evaluation before commencement of the pertinent Work, or as soon thereafter as practicable, and shall be justifiably compared with prevailing industry standards, as adjusted for local conditions. As requested by the Architect or the Owner, the Contractor's submittal shall provide an itemized breakdown of all increases and decreases in the Contract for the Contractor and each subcontractor (at any

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tier) in at least the following detail: material, equipment and supply quantities and costs; direct labor hours and rates for each trade; the associated FICA, FUTA, SUTA, and Worker's Compensation Insurance; equipment hours and rates, and costs of premiums for bonds and insurance, permit fees and sales, use or similar taxes related to the Work.

§ 7.5.5.2 Any Change Order or Change Directive for which certification is required shall contain a provision that the price to the Owner, including profit or fee, shall be adjusted to exclude any significant sums by which the Owner finds that such price was increased because the cost or pricing data furnished by the Contractor was inaccurate, incomplete or not current as of the date agreed upon between the parties. Notwithstanding Subparagraph 9.10.4, such adjustments may be made after final payment and shall not be deemed to be waived.

ARTICLE 8 TIME

§ 8.1 Definitions

§ 8.1.1 Unless otherwise provided, Contract Time is the period of time, including authorized adjustments, allotted in the Contract Documents for Substantial Completion of the Work.

§ 8.1.2 The date of commencement of the Work is the date established in the Agreement.

§ 8.1.3 The date of Substantial Completion is the date certified by the Architect in accordance with Section 9.8.

§ 8.1.4 The term "day" as used in the Contract Documents shall mean calendar day unless otherwise specifically defined.

§ 8.2 Progress and Completion

§ 8.2.1 Time limits stated in the Contract Documents are of the essence of the Contract. By executing the Agreement, the Contractor confirms that the Contract Time is a reasonable period for performing the Work.

§ 8.2.2 The Contractor shall not knowingly, except by agreement or instruction of the Owner in writing, prematurely commence operations on the site or elsewhere prior to the effective date of insurance required by Article 11 to be furnished by the Contractor and Owner. The date of commencement of the Work shall not be changed by the effective date of such insurance.

§ 8.2.3 The Contractor shall proceed expeditiously with adequate forces and shall achieve Substantial Completion within the Contract Time.

§ 8.2.4 Failure by the Contractor to commence actual physical work on the project within twenty-one (21) days from the Date of Commencement, as established in the Notice to Proceed, will entitle the Owner to consider the Contractor in substantial breach of its obligations under this Contract. In this event, the Owner may withdraw the Notice to Proceed and terminate the Contract in accordance with the Contract Documents.

§ 8.2.5 Within two (2) weeks after award of the Contract, the Contractor shall submit to the Architect a Progress Schedule showing for each class of Work included in the Schedule of Values, the percentage completion to be obtained and the total dollar value of Work to be completed as of the first of each month until Substantial Completion. All calculations shall be on the basis of Work in place, but not including the value of materials delivered but not in place.

§ 8.2.6 The Progress Schedule shall be based on an orderly progression of the Work, allowing adequate time for each operation (including adequate time for submission and review of submittals), and leading to a reasonable certainty of Substantial Completion by the date established in the Agreement. The Progress Schedule will be reviewed by the Architect for compliance with the requirements of this Article and will be accepted by the Architect or returned to the Contractor for revision and resubmittal. Unless specifically required by law, no payment under this Contract shall be due until the Progress Schedule has been approved by the Architect.

§ 8.2.7 If in any Application for Payment the total value of the completed Work in place, as certified by the Architect, is less than ninety percent (90%) of the total value of the Work in place estimated in the Progress Schedule, the Owner may, at the Owner's option, require the Contractor to accelerate the progress of the Work without cost to the Owner by increasing the work force or hours of work, or by other reasonable means approved by the Architect.

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§ 8.2.8 If each of three successive applications, as certified by the Architect, indicate that the actual work completed is less than ninety percent (90%) of the values estimated in the Progress Schedule to be completed by the respective dates, the Owner may at the Owner's option, treat the Contractor's delinquency as a default justifying the action permitted under Paragraph 14.2.

§ 8.2.9 If the Architect has determined that the Contractor should be permitted to extend the time for completion as provided in Paragraph 8.3, the calendar dates in the Progress Schedule shall be adjusted accordingly to retain their same relationship to the adjusted date of Substantial Completion, and the dollar value of Work to be completed as of the first of each month shall be adjusted pro rata.

§ 8.2.10 If the Contractor fails to submit any Application for Payment in any month, the Architect will, for the purpose of this evaluation of progress, certify separately to the actual value of the Work in place completed as of the first of the month to the best of the Architect's knowledge.

§ 8.2.11 Nothing herein shall limit the Owner's right to liquidated damages for delays by the Contractor or to any other remedy which the Owner may possess under other provisions of the Contract Documents or by law.

§ 8.2.12 The Contractor shall prepare Daily Reports of job site activities in a form provided by the Owner. Reports shall be submitted to the Owner and the Architect on a weekly basis.

§ 8.3 Delays and Extensions of Time

§ 8.3.1 If the Contractor is delayed at any time in the commencement or progress of the Work by (1) an act or neglect of the Owner or Architect, of an employee of either, or of a Separate Contractor; (2) by changes ordered in the Work; (3) by labor disputes, fire, unusual delay in deliveries, unavoidable casualties, adverse weather conditions documented in accordance with Paragraph 4.3.7.2, or other causes beyond the Contractor's control; (4) by delay authorized by the Owner pending mediation and binding dispute resolution; or (5) by other causes that the Architect determines may justify delay, then the Contract Time shall be extended by Change Order for such reasonable time as the Architect may determine.

§ 8.3.2 Claims relating to time shall be made in accordance with applicable provisions of Paragraph 4.3.7.

§ 8.3.3 The Contractor shall, within twenty-one (21) days after the beginning of such delay notify the Owner and Architect, in writing, of the causes of the delay. The Architect will then ascertain the facts and extent of delay, and notify the Contractor within twenty-one (21) days of the Owner's decision in this matter. Notice of delay and requests for extension of time shall set forth the cause, and number of additional working days Contractor desires Contract extended.

§8.3.4 No claims for extension of time will be considered when based on delays caused by conditions existing at the time bids were received, and of which the Contractor might be reasonably expected to have full knowledge at the time of bidding, or upon delays caused by failure on the part of the Contractor to anticipate properly the requirements of the work contracted for as to materials, labor and equipment. All claims for extension of time shall be made in writing to the Architect with the next application for payment

§ 8.3.5 No claim for delay shall be allowed on account of failure of the Architect to furnish Drawings, Specifications, or instructions or to return Shop Drawings or samples until fifteen (15) days after receipt by the Architect by registered or certified mail of written demand for such instructions, Drawings, or Samples, and not then unless such claim be reasonable.

§ 8.3.6 The Contractor hereby agrees that the Contractor shall have no Claim for damages of any kind against the Owner or the Architect on account of any delay or suspension of any portion of the Work, whether such delay is caused by the Owner, the Architect, or otherwise. The Contractor acknowledges that the Contractor's sole remedy for any such delay and/or suspension will be an extension of time provided in this Article.

ARTICLE 9 PAYMENTS AND COMPLETION

§ 9.1 Contract Sum

§ 9.1.1 The Contract Sum is stated in the Agreement and, including authorized adjustments, is the total amount payable by the Owner to the Contractor for performance of the Work under the Contract Documents.

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§ 9.2 Schedule of Values

As requested by the Architect, the Contractor and each Subcontractor shall prepare a trade payment breakdown for the Work for which each is responsible, such breakdown being submitted on a uniform standardized format approved by the Architect and Owner. The breakdown shall be divided into detail sufficient to exhibit areas, floors, and/or sections of the Work, and/or by convenient units and shall be updated as required by either the Owner or the Architect as necessary to reflect:

§ 9.2.1 the description of Work (listing labor and material separately);
§ 9.2.2 the total value;
§ 9.2.3 the percent and value of the Work completed to date;
§ 9.2.4 the percent and value of previous amounts billed; the current percent completed and amount billed; and,
§ 9.2.5 the current percent completed and amount billed.

Any schedule of values or trade breakdown that fails to include sufficient detail, is unbalanced, or exhibits "front-loading" of the value of the Work, shall be rejected. If either the schedule of values or trade breakdown had been initially approved and subsequently used, but later was found improper for any reason, then sufficient funds shall be withheld from future Applications for Payment to ensure an adequate reserve (exclusive of normal retainage) to complete the Work.

§ 9.3 Applications for Payment

§ 9.3.1 The Contractor shall submit to the Architect an itemized Application for Payment for operations completed in accordance with the schedule of values no more often than monthly. Such application shall be notarized, if required, and supported by such data substantiating the Contractor's right to payment as the Owner or Architect may require, such as copies of requisitions from Subcontractors and material suppliers, and reflecting retainage if provided for in the Contract Documents. The Contractor's Application for Payment shall be in a form acceptable to the Owner. The Architect will authorize, as provided in Paragraph 9.4 and until the final pay request, monthly payments equal to ninety percent (90%) of the portion of the Contract Sum properly allocable to labor, material and equipment incorporated in the Work, and allocable to material and equipment suitably stored until the total value of the completed Work in place is less than fifty percent (50%), as certified by the Architect, at which time the above-stated ninety percent (90%) shall be modified, at the option of the Owner, to ninety-five percent (95%) of the portion of the Contract Sum properly allocable to labor, material and equipment incorporated in the Work, and allocable to material and equipment suitably stored. After fee reduction has taken place, if the quality or progress of the work decreases or slows down, in the opinion of the architect, full retainage may be reinstated until the completion of work.

§ 9.3.1.1 As provided in Section 7.3.9, such applications may include requests for payment on account of changes in the Work that have been properly authorized by Construction Change Directives, or by interim determinations of the Architect, but not yet included in Change Orders.

§ 9.3.1.2 Applications for Payment shall not include requests for payment for portions of the Work for which the Contractor does not intend to pay a Subcontractor or supplier, unless such Work has been performed by others whom the Contractor intends to pay.

§ 9.3.2 Unless otherwise provided in the Contract Documents, payments shall be made on account of materials and equipment delivered and suitably stored at the site for subsequent incorporation in the Work. If approved in advance by the Owner, payment may similarly be made for materials and equipment suitably stored off the site at a location agreed upon in writing. Payment for materials and equipment stored on or off the site shall be conditioned upon compliance by the Contractor with procedures satisfactory to the Owner to establish the Owner's title to such materials and equipment or otherwise protect the Owner's interest, and shall include the costs of applicable insurance, storage, and transportation to the site, for such materials and equipment stored off the site.

§ 9.3.3 The Contractor warrants that the title to all Work covered by an Application for Payment will pass to the Owner either by incorporation in the Construction or upon the receipt of payment by the Contractor, whichever occurs first, free and clear of all liens, claims, security interests or encumbrances, hereinafter referred to in this Article 9 as "liens". The Contractor further agrees that the submission of any Application for Payment shall conclusively be deemed to

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waive all liens with respect to said Work for which the Contractor may then be entitled, provided that such waiver of the lien rights shall not waive the Contractor's right to payment for such work.

§ 9.3.4 Each Application for Payment or periodic estimate requesting payment shall be accompanied at the Owner's option by (i) a waiver of liens from each subcontractor or (ii) a certificate from each subcontractor stating that the subcontractor has been paid all amounts due the subcontractor on the basis of the previous periodic payment to the Contractor, or else stating the amount not so paid and the reason for the discrepancy. In the event of any such discrepancy, the Contractor shall furnish the Contractor's own written explanation to the Owner through the Architect. Such waiver or certificate shall be in a form acceptable to the Owner.

§ 9.4 Certificates for Payment

§ 9.4.1 The Architect will, within seven (7) days after receipt of the Contractor's Application for Payment, either (1) issue to the Owner a Certificate for Payment in the full amount of the Application for Payment, with a copy to the Contractor; or (2) issue to the Owner a Certificate for Payment for such amount as the Architect determines is properly due, and notify the Contractor and Owner of the Architect's reasons for withholding certification in part as provided in Section 9.5.1; or (3) withhold certification of the entire Application for Payment, and notify the Contractor and Owner of the Architect's reason for withholding certification in whole as provided in Section 9.5.1.

§ 9.4.2 The issuance of a Certificate for Payment will constitute a representation by the Architect to the Owner, based on the Architect's evaluation of the Work and the data in the Application for Payment, that, to the best of the Architect's knowledge, information, and belief, the Work has progressed to the point indicated, the quality of the Work is in accordance with the Contract Documents, and that the Contractor is entitled to payment in the amount certified. The foregoing representations are subject to an evaluation of the Work for conformance with the Contract Documents upon Substantial Completion, to results of subsequent tests and inspections, to correction of minor deviations from the Contract Documents prior to completion, and to specific qualifications expressed by the Architect. However, the issuance of a Certificate for Payment will not be a representation that the Architect has (1) made exhaustive or continuous on-site inspections to check the quality or quantity of the Work; (2) reviewed construction means, methods, techniques, sequences, or procedures; (3) reviewed copies of requisitions received from Subcontractors and suppliers and other data requested by the Owner to substantiate the Contractor's right to payment; or (4) made examination to ascertain how or for what purpose the Contractor has used money previously paid on account of the Contract Sum.

§ 9.5 Decisions to Withhold Certification

§ 9.5.1 The Architect may withhold a Certificate for Payment in whole or in part, to the extent reasonably necessary to protect the Owner, if in the Architect's opinion the representations to the Owner required by Section 9.4.2 cannot be made. If the Architect is unable to certify payment in the amount of the Application, the Architect will notify the Contractor and Owner as provided in Section 9.4.1. If the Contractor and Architect cannot agree on a revised amount, the Architect will promptly issue a Certificate for Payment for the amount for which the Architect is able to make such representations to the Owner. The Architect may also withhold a Certificate for Payment or, because of subsequently discovered evidence, may nullify the whole or a part of a Certificate for Payment previously issued, to such extent as may be necessary in the Architect's opinion to protect the Owner from loss for which the Contractor is responsible, including loss resulting from acts and omissions described in Section 3.3.2, because of:

- .1 defective Work not remedied;
- .2 third party claims filed or reasonable evidence indicating probable filing of such claims unless security acceptable to the Owner is provided by the Contractor;
- .3 failure of the Contractor to make payments properly to Subcontractors or for labor, materials or equipment;
- .4 reasonable evidence that the Work cannot be completed for the unpaid balance of the Contract Sum;
- .5 damage to the Owner or another contractor;
- .6 reasonable evidence that the Work will not be completed within the Contract Time, and that the unpaid balance would not be adequate to cover actual or liquidated damages for the anticipated delay;
- .7 persistent failure to carry out the Work in accordance with the Contract Documents.
- .8 a lien or attachment is filed; or
- .9 failure of mechanical trade or electrical trade subcontractors to comply with mandatory requirements for maintaining record drawings. The contractor shall check record drawings each month. Written confirmation that the record drawings are current will be required by the Architect before approval of the Contractor's monthly payment requisition.

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§ 9.5.2 When the above reasons for withholding certification are removed, certification will be made for amounts previously withheld.

(Paragraphs deleted)

§ 9.6 Progress Payments

§ 9.6.1 After the Architect has issued a Certificate for Payment, the Owner shall make payment in the manner and within the time provided in the Contract Documents, and shall so notify the Architect.

> **§ 9.6.1.1** Contractor's attention is directed to §11-35-3030 (4) of the SC Code of Laws, as amended, and the Project Manual concerning release of retained funds. If partial release of retainage is requested by the Contractor, application shall be accompanied by AIA Document G707A, Consent of Surety to Reduction in or Partial Release of Retainage.
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> **§ 9.6.1.2** Contractor shall properly disburse money received from all payments to all laborers, subcontractors or materialmen in accordance with Title 29, Chapters 6 and 7 of the SC Code of Laws, as amended.

§ 9.6.2 The Contractor shall pay each Subcontractor, no later than seven days after receipt of payment from the Owner, the amount to which the Subcontractor is entitled, reflecting percentages actually retained from payments to the Contractor on account of the Subcontractor's portion of the Work. The Contractor shall, by appropriate agreement with each Subcontractor, require each Subcontractor to make payments to Sub-subcontractors in a similar manner.

§ 9.6.3 The Architect will, on request, furnish to a Subcontractor, if practicable, information regarding percentages of completion or amounts applied for by the Contractor and action taken thereon by the Architect and Owner on account of portions of the Work done by such Subcontractor.

§ 9.6.4 The Owner has the right to request written evidence from the Contractor that the Contractor has properly paid Subcontractors and suppliers amounts paid by the Owner to the Contractor for subcontracted Work. If the Contractor fails to furnish such evidence within seven days, the Owner shall have the right to contact Subcontractors and suppliers to ascertain whether they have been properly paid. Neither the Owner nor Architect shall have an obligation to pay, or to see to the payment of money to, a Subcontractor or supplier, except as may otherwise be required by law.

§ 9.6.5 The Contractor's payments to suppliers shall be treated in a manner similar to that provided in Sections 9.6.2, 9.6.3 and 9.6.4.

§ 9.6.6 A Certificate for Payment, a progress payment, or partial or entire use or occupancy of the Project by the Owner shall not constitute acceptance of Work not in accordance with the Contract Documents.

§ 9.6.7 If the Owner does not pay the Contractor within thirty (30 days after the date the Contractor's Application for Payment is certified by the Architect, then the Contractor may, upon fourteen (14) additional days written notice to the Owner and Architect, stop the Work until payment of the amount owing has been received. The Contract Time shall be appropriately extended and the Contract Sum shall be increased by the amount of the Contractor's reasonable costs of shutdown, delay and startup, which shall be accomplished as provided in Paragraph 7.5.

(Paragraphs deleted)

§ 9.8 Substantial Completion

§ 9.8.1 Substantial Completion is the stage in the progress of the Work when the Work or designated portion thereof is sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work for its intended use.

§ 9.8.2 When the Contractor considers that the Work, or a portion thereof designated in the Contract Documents for separate completion, is substantially complete and the premises comply with Subparagraph 3.15.1, the Contractor shall submit to the Architect (i) a list of items to be completed or corrected, (ii) all special warranties required by the Contract Documents, endorsed by the Contractor and in a form reasonably acceptable to the Architect, and (iii) the permits and certificates referred to in Subparagraph 13.5.4. The failure to include any items on the list mentioned in the preceding sentence shall not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents. When the Architect, on the basis of an inspection, determines that the Work or designated

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portion thereof is substantially complete, and the other conditions have been met, the Architect will then prepare a Certificate of Substantial Completion which shall establish the Date of Substantial Completion, shall state the responsibilities of the Owner and the Contractor for security, maintenance, heat, utilities, damage to the Work, and insurance, and shall fix the time within which the Contractor shall complete the items listed therein. Warranties required by the Contract Documents shall commence on the Date of Substantial Completion of the Work or designated portion thereof unless otherwise provided in the Certificate of Substantial Completion. The Certificate of Substantial Completion shall be submitted to the Owner and Contractor for their written acceptance of the responsibilities assigned to them in such Certificates.

§ 9.8.2.1 The Contractor's list shall be in writing and attached to the "Contractors Request for Certificate of Substantial Completion", which shall be submitted at least ten (10) days in advance of the proposed date of inspection and shall be forwarded through the Architect, who will attach its written endorsement as to whether or not it concurs with the Contractor's statement that the Work will be ready for inspection and testing on the date given. The Architect's endorsement is a convenience to the Owner only and shall not relieve the Contractor of its responsibility in the matter, nor shall the Architect's endorsement be deemed to be evidence that the Work was substantially complete and ready for inspection and testing. In the event that the Architect does not concur with the Contractor's statement, the Architect shall inform the Contractor of the basis for the Architect's non-concurrence. The Contractor may then, at its sole option, (i) defer the inspection; or, (ii) request the inspection be performed in accordance with Subparagraph 9.8.3.

§ 9.8.3 Upon receipt of the Contractor's list, the Architect will make an inspection to determine whether the Work or designated portion thereof is substantially complete. If the Architect's inspection discloses any item, whether or not included on the Contractor's list, which is not sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work or designated portion thereof for its intended use, the Contractor shall, before issuance of the Certificate of Substantial Completion, complete or correct such item upon notification by the Architect. In such case, the Contractor shall then submit a request for another inspection by the Architect to determine Substantial Completion.

§ 9.8.3.1 Inspection and testing shall take place at a time (s) mutually agreeable to the Contractor, Owner and Architect.

§ 9.8.3.2 The inspection shall include a demonstration by the Contractor that all equipment, systems and operable components of the Work function properly and in accordance with the Contract Documents. The Contractor shall furnish access for the inspection and testing as provided in this Contract. The inspection and testing shall determine whether Substantial Completion has been accomplished and shall result in the Architect's issuance of a written list of Unfinished Work and Defective Work, commonly referred to as a "punch list", each item of which must be finished and correct prior to Final Completion.

§ 9.8.3.3 The Architect and its Consultants shall conduct all Substantial Completion inspections. The Owner may elect to have other persons of its choosing also participate in the inspections. Representatives of authorities having jurisdiction may be present, at their sole discretion, at the Substantial Completion Inspection or otherwise inspect the completed Work and advise the Owner whether the Work meets their respective requirements.

§ 9.8.3.4 If the inspection discloses any item which is not in accordance with the requirements of the Contract Documents and will prevent the Owner from occupying or utilizing the Work for its intended use, the Contractor shall complete or correct such item upon notification by the Architect. The Contractor shall then submit a request for a follow-up inspection by the Architect to determine Substantial Completion.

§ 9.8.3.5 The Contractor shall proceed promptly and diligently to complete and correct items on the list of Unfinished or Defective Work. Failure to include an item on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents.

§ 9.8.3.6 If more than one Substantial Completion inspection is required, the Contractor shall reimburse the Owner for all costs of reinspections or, at the Owner's option, the costs may be deducted from payments due to the Contractor.

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§ 9.8.4 When the Work or designated portion thereof is substantially complete, the Architect will prepare a Certificate of Substantial Completion by the Architect which shall establish the date of Substantial Completion, shall establish responsibilities of the Owner and Contractor for security, maintenance, heat, utilities, damage to the Work and insurance, and fix the time within which the Contractor shall finish all items on the list accompanying the Certificate. Warranties required by the Contract Documents shall commence on the date of Substantial Completion of the Work or designated portion thereof unless otherwise provided in the Certificate of Substantial Completion by the Architect.

§ 9.8.5 The Certificate of Substantial Completion by the Architect shall be submitted to the Owner and Contractor for their written acceptance of responsibilities assigned to them in the Certificate.

> **§ 9.8.5.1** Upon such acceptance of Substantial Completion of the Work, or designated portion thereof and upon application by the Contractor and certification by the Architect, the Owner shall make a payment for such Work or portion thereof as provided in the Contract Documents. The balance payable shall include the retainage of five percent (5%) of the Contract Sum, less any retainage released under conditions of Subparagraph 9.6.2, plus an amount equal to the cost to complete or to correct, as determined by the Architect, of the Uncompleted or Defective Work, plus the full amount of Liquidated Damages. The Contractor acknowledges that the Owner will suffer financial loss if the Project is not substantially completed on the date set forth in the Contract Documents. The Contractor (and its Surety) shall be liable for ant the Owner may retain from payment the sums herein stipulated as fixed, agreed and liquidated damages for each calendar day of delay that the Work remains incomplete. The Contractor further acknowledges that the Owner has the right to elect to enforce Liquidated Damages or any other damages or legal or equitable relief as this Contract provides or as permitted by law. Retainage shall continue until Final Completion and Final Payment.
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> **§ 9.8.5.2** Notwithstanding the foregoing, the payment of retainage shall be consistent with §11-35-3030 (4), Code of Laws of South Carolina, as amended.

§ 9.9 Partial Occupancy or Use

§ 9.9.1 The Owner may occupy or use any completed or partially completed portion of the Work at any stage when such portion is designated by separate agreement with the Contractor, provided such occupancy or use is consented to by the insurer as required under Section 11.3.5 and authorized by public authorities having jurisdiction over the Project. Such partial occupancy or use may commence whether or not the portion is substantially complete, provided the Owner and Contractor have accepted in writing the responsibilities assigned to each of them for payments, retainage, if any, security, maintenance, heat, utilities, damage to the Work and insurance, and have agreed in writing concerning the period for correction of the Work and commencement of warranties required by the Contract Documents. When the Contractor considers a portion substantially complete, the Contractor shall prepare and submit a list to the Architect as provided under Section 9.8.2. Consent of the Contractor to partial occupancy or use shall not be unreasonably withheld. The stage of the progress of the Work shall be determined by written agreement between the Owner and Contractor or, if no agreement is reached, by decision of the Architect.

§ 9.9.2 Immediately prior to such partial occupancy or use, the Owner, Contractor, and Architect shall jointly inspect the area to be occupied or portion of the Work to be used in order to determine and record the condition of the Work.

§ 9.9.3 Unless otherwise agreed upon, partial occupancy or use of a portion or portions of the Work shall not constitute acceptance of Work not complying with the requirements of the Contract Documents.

§ 9.10 Final Completion and Final Payment

§ 9.10.1 Upon receipt of the Contractor's notice that the Work is ready for final inspection and acceptance and upon receipt of a final Application for Payment, the Architect will promptly make such inspection. When the Architect finds the Work acceptable under the Contract Documents and the Contract fully performed, the Architect will promptly issue a final Certificate for Payment stating that to the best of the Architect's knowledge, information and belief, and on the basis of the Architect's on-site visits and inspections, the Work has been completed in accordance with the Contract Documents and that the entire balance found to be due the Contractor and noted in the final Certificate is due and payable. The Architect's final Certificate for Payment will constitute a further representation that conditions listed in Section 9.10.2 as precedent to the Contractor's being entitled to final payment have been fulfilled.

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§ 9.10.1.1 Final Completion shall be achieved no later than thirty (30) days after Substantial Completion unless modified by a Change Order. Failure of the Contractor to achieve Final Completion within the time allowed under this Subparagraph shall entitle to Owner to consider the Contractor in substantial breach of its obligations under this Contract.

§ 9.10.1.2 The Contractor shall notify the Owner, in writing on the "Certificate of Completion by the Contractor", of the date when the Work has reached or will reach Final Completion and will be ready for final inspection and testing. The notice shall be given at least ten (10) days in advance of said date and shall be forwarded through the Architect, who will attach its endorsement as to whether or not it concurs in the Contractor's statement that the Work will be ready for inspection and testing on the date stated. The Architect's endorsement is a convenience to the Owner only and shall not relieve the Contractor of its responsibility in the matter, nor shall the Architect's endorsement be deemed to be evidence that the Work was finally complete and ready for inspection and testing. In the event that the Architect does not concur with the Contractor's statement, the Architect shall inform the Contractor of the basis for the Architect's non-concurrence. The Contractor may, at its sole option, (i) defer the inspection; or, (ii) request the inspection be performed in accordance with this Subparagraph. The final inspection and testing shall be conducted in the same manner as the inspection for Substantial Completion, including, but not limited to, the requirements of Clauses 9.8.3.3, 9.8.3.4, 9.8.3.5 and 9.8.3.6 of this Contract.

§ 9.10.1.3 The Contractor shall then submit a request for a follow-up inspection to determine Final Completion. If more than one Final Completion inspection is required, the Contractor shall reimburse the Owner for all costs of reinspections or, at the Owner's option, the costs may be deducted from payments otherwise due to the Contractor.

§ 9.10.1.4 Approval of Work as a result of any inspection required herein shall not release the Contractor or its surety from responsibility for complying with the Contract.

§ 9.10.2 Neither final payment nor any remaining retained percentage shall become due until the Contractor submits to the Architect (1) an affidavit that payrolls, bills for materials and equipment, and other indebtedness connected with the Work for which the Owner or the Owner's property might be responsible or encumbered (less amounts withheld by Owner) have been paid or otherwise satisfied, (2) a certificate evidencing that insurance required by the Contract Documents to remain in force after final payment is currently in effect and will not be canceled or allowed to expire until at least 30 days' prior written notice has been given to the Owner, (3) a written statement that the Contractor knows of no substantial reason that the insurance will not be renewable to cover the period required by the Contract Documents, (4) consent of surety, if any, to final payment, and (5) if required by the Owner, other data establishing payment or satisfaction of obligations, such as receipts and releases and waivers of liens, claims, security interests, or encumbrances arising out of the Contract, to the extent and in such form as may be designated by the Owner. If a Subcontractor refuses to furnish a release or waiver required by the Owner, the Contractor may furnish a bond satisfactory to the Owner to indemnify the Owner against such lien. If such lien remains unsatisfied after payments are made, the Contractor shall refund to the Owner all money that the Owner may be compelled to pay in discharging the lien, including all costs and reasonable attorneys' fees.

§ 9.10.3 If, after Substantial Completion of the Work, final completion thereof is materially delayed through no fault of the Contractor or by issuance of Change Orders affecting final completion, and the Architect so confirms, the Owner shall, upon application by the Contractor and certification by the Architect, and without terminating the Contract, make payment of the balance due for that portion of the Work fully completed, corrected, and accepted. If the remaining balance for Work not fully completed or corrected is less than retainage stipulated in the Contract Documents, and if bonds have been furnished, the written consent of the surety to payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by the Contractor to the Architect prior to certification of such payment. Such payment shall be made under terms and conditions governing final payment, except that it shall not constitute a waiver of Claims.

§ 9.10.4 The making of final payment shall constitute a waiver of Claims by the Owner except those arising from

.1 liens, Claims, security interests, or encumbrances arising out of the Contract and unsettled;
.2 failure of the Work to comply with the requirements of the Contract Documents;
.3 terms of special warranties required by the Contract Documents; or
.4 faulty or defective Work appearing after the date of Substantial Completion.

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§ 9.10.5 Acceptance of final payment by the Contractor, a Subcontractor, or a supplier, shall constitute a waiver of claims by that payee except those previously made in writing and identified by that payee as unsettled at the time of final Application for Payment.

ARTICLE 10 PROTECTION OF PERSONS AND PROPERTY

§ 10.1 Safety Precautions and Programs

The Contractor shall be responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the performance of the Contract.

§ 10.2 Safety of Persons and Property

§ 10.2.1 The Contractor shall take reasonable precautions for safety of, and shall provide reasonable protection to prevent damage, injury, or loss to

- .1 employees on the Work and other persons who may be affected thereby;
- .2 the Work and materials and equipment to be incorporated therein, whether in storage on or off the site, under care, custody, or control of the Contractor, a Subcontractor, or a Sub-subcontractor; and
- .3 other property at the site or adjacent thereto, such as trees, shrubs, lawns, walks, pavements, roadways, structures, and utilities not designated for removal, relocation, or replacement in the course of construction.

§ 10.2.2 The Contractor shall comply with, and give notices required by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities, bearing on safety of persons or property or their protection from damage, injury, or loss.

§ 10.2.3 The Contractor shall implement, erect, and maintain, as required by existing conditions and performance of the Contract, reasonable safeguards for safety and protection, including posting danger signs and other warnings against hazards; promulgating safety regulations; and notifying the owners and users of adjacent sites and utilities of the safeguards.

§ 10.2.4 When use or storage of explosives or other hazardous materials or equipment, or unusual methods are necessary for execution of the Work, the Contractor shall exercise utmost care and carry on such activities under supervision of properly qualified personnel.

§ 10.2.5 The Contractor shall promptly remedy damage and loss (other than damage or loss insured under property insurance required by the Contract Documents) to property referred to in Sections 10.2.1.2 and 10.2.1.3 caused in whole or in part by the Contractor, a Subcontractor, a Sub-subcontractor, or anyone directly or indirectly employed by any of them, or by anyone for whose acts they may be liable and for which the Contractor is responsible under Sections 10.2.1.2 and 10.2.1.3. The Contractor may make a Claim for the cost to remedy the damage or loss to the extent such damage or loss is attributable to acts or omissions of the Owner or Architect or anyone directly or indirectly employed by either of them, or by anyone for whose acts either of them may be liable, and not attributable to the fault or negligence of the Contractor. The foregoing obligations of the Contractor are in addition to the Contractor's obligations under Section 3.18.

§ 10.2.6 The Contractor shall designate a responsible member of the Contractor's organization at the site whose duty shall be the prevention of accidents. This person shall be the Contractor's superintendent unless otherwise designated by the Contractor in writing to the Owner and Architect.

§ 10.2.7 The Contractor shall not permit any part of the construction or site to be loaded so as to cause damage or create an unsafe condition.

(Paragraphs deleted)

§ 10.3 Hazardous Materials and Substances

§ 10.3.1 If reasonable precautions will be inadequate to prevent foreseeable bodily injury or death to persons or serious losses to real or personal property resulting from a material or substance, including but not limited to asbestos or polychlorinated biphenyl (PCB), encountered on the site by the Contractor, the Contractor shall, upon recognizing the condition, immediately stop Work in the affected area and report the condition to the Owner and Architect in writing.

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§ 10.3.1.1 The Owner and Contractor hereby agree that this Paragraph shall apply only to hazardous, toxic or radioactive materials or substances subject to the regulations of agencies having jurisdiction, such as, but not limited to, the S.C. Department of Health and Environmental Control (SCDHEC), the U.S. Environmental Protection Agency (USEPA) and the U.S. Nuclear Regulatory Commission (USNRC).

§ 10.3.2 The Owner shall obtain the services of a licensed laboratory to verify the presence or absence of the material or substance reported by the Contractor and, in the event such material or substance is found to be present, to verify that it has been rendered harmless. Unless otherwise required by the Contract Documents, the Owner shall furnish in writing to the Contractor and Architect the names and qualifications of persons or entities who are to perform tests verifying the presence or absence of such material or substance or who are to perform the task of removal or safe containment of such material or substance. The Contractor and the Architect will promptly reply to the Owner in writing stating whether or not either has reasonable objection to the persons or entities proposed by the Owner. If either the Contractor or Architect has an objection to a person or entity proposed by the Owner, the Owner shall propose another to whom the Contractor and the Architect have no reasonable objection. When the material or substance has been rendered harmless, Work in the affected area shall resume upon written agreement of the Owner and Contractor. The Contract Time shall be extended appropriately and the Contract Sum shall be increased in the amount of the Contractor's reasonable additional costs of shut-down, delay and start-up, which adjustments shall be accomplished as provided in Article 7.

.1 Any adjustment in the Contract Sum, including reasonable overhead and profit, made pursuant to this Subparagraph shall be determined in accordance with Paragraph 7.5 of this Contract.

.2 The Work in the affected area shall be resumed immediately following the occurrence of any of the following events: (a) the Owner causes remedial work to be performed that results in the absence of materials or substances; or (b) the Owner and the Contractor, by written agreement, decide to resume performance of the Work; or (c) the Work may safely and lawfully proceed, as determined by an appropriate governmental authority or as evidenced by a written report to both the Owner and the Contractor, which is prepared by an environmental engineer reasonably satisfactory to both the Owner and the Contractor.

.3 For the purposes of this Contract, the term "rendered harmless" shall be interpreted to mean that measured levels of verified hazardous, toxic or radioactive materials or substances are less than the applicable standards established by authorities having jurisdiction. In no event, however, shall the Owner have any responsibility for any substance or material that is brought to the Project site by the Contractor, any Subcontractor, any material supplier, or any entity for whom any of them is responsible, unless such materials or substances were expressly required by the Contract Documents. The Contractor agrees not to use any fill or other materials to be incorporated into the Work that are hazardous, toxic, or radioactive, or made up of any items that are hazardous, toxic, or radioactive.

(Paragraphs deleted)

§ 10.4 EMERGENCIES

In an emergency affecting safety of persons or property, the Contractor shall act, at the Contractor's discretion, to prevent threatened damage, injury or loss. Additional compensation or extension of time claimed by the Contractor on account of an emergency shall be determined as provided in Section 4.3 and Article 7. Written notice of the emergency, including an estimate of cost and probable effect of delay on the progress of the Work, must be given by the Contractor to the A/E as soon as possible, but in no case more than ten (10) days after the start of the emergency.

ARTICLE 11 INSURANCE AND BONDS

§ 11.1 CONTRACTOR'S LIABILITY INSURANCE

§ 11.1.1 The Contractor shall purchase from and maintain in a company or companies lawfully authorized to do business in the State of South Carolina such insurance as will protect the Contractor from claims set forth below which may arise out of or result from the Contractor's operations under the Contract and for which the Contractor may be legally liable, whether such operations be by the Contractor or by a Subcontractor or by anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable:

.1 claims under workers' compensation, disability benefit and other similar employee benefit acts which are applicable to the Work to be performed;

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.2 claims for damages because of bodily injury, occupational sickness or disease, or death of the Contractor's employees;
.3 claims for damages because of bodily injury, sickness or disease, or death of any person other than the Contractor's employees;
.4 claims for damages insured by usual personal injury liability coverage;
.5 claims for damages, other than to the Work itself, because of injury to or destruction of tangible property, including loss of use resulting therefrom;
.6 claims for damages because of bodily injury, death of a person or property damage arising out of ownership, maintenance or use of a motor vehicle;
.7 claims for bodily injury or property damage arising out of completed operations; and
.8 claims involving contractual liability insurance applicable to the Contractor's obligations under Section 3.18.

§ 11.1.2 The insurance required by Section 11.1.1 shall be written for not less than limits of liability specified in the Contract Documents or required by law, whichever coverage is greater. Coverage shall be written on an occurrence basis and shall be maintained without interruption from date of commencement of the Work until date of final payment and termination of any coverage required to be maintained after final payment. Completed operations coverage shall be maintained for eight years after substantial completion.

.1 Liability Insurance shall include all major divisions of coverage and be on a Commercial basis including the following:
(1) Premises-Operations.
(2) Independent Contractor's Protective.
(3) Products and Completed Operations.
(4) Personal and Advertising Injury.
(5) Contractual, including specified provision for contractor's obligations under Paragraph 3.18.
(6) Broad Form Property Damage including Completed Operations.
(7) Owned, Non-owned and Hired Motor Vehicles.

.2 The insurance required Subparagraph 11.1.1 shall be written for not less than the following limits, or greater if required by law or other provisions of this Contract:

(1) COMMERCIAL GENERAL LIABILITY:

(a)	General Aggregate (per project)	$1,000,000
(b)	Products/Completed Operations	$1,000,000
(c)	Personal and Advertising Injury	$1,000,000
(d)	Each Occurrence	$1,000,000
(e)	Fire Damage (Any one fire)	$ 50,000
(f)	Medical Expense (Any one person)	$ 5,000

(2) BUSINESS AUTO LIABILITY (including all Owned, Non-owned and Hired Vehicles):

(a)	Combined Single Limit	$1,500,000
		OR
(b)	Bodily Injury & Property Damage (each)	$ 750,000

(3) WORKER'S COMPENSATION:

(a)	State	Statutory
(b)	Employers Liability	$100,000 Per Accident $500,000 Disease, Policy Limit $100,000 Disease, Each Employee

§ 11.1.3 Certificates of insurance acceptable to the Owner shall be filed with the Owner prior to commencement of the Work. These certificates and the insurance policies required by this Section 11.1 shall contain a provision that coverages afforded under the policies will not be canceled or allowed to expire until at least thirty (30) days' prior written notice has been given to the Owner. If any of the foregoing insurance coverages are required to remain in force after final payment and are reasonably available, an additional certificate evidencing continuation of such coverage shall be submitted with the final Application for Payment as required by Section 9.10.2. Information concerning reduction of coverage on account of revised limits or claims paid under the General Aggregate, or both, shall be

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furnished by the Contractor with reasonable promptness in accordance with the Contractor's information and belief. Certificates of Insurance shall be in the form of the latest edition of the ACORD 25S and shall be filed with the Owner prior to commencement of the Work. In addition to Certificates of Insurance, the Contractor shall supply a written endorsement to the Contractor's general liability insurance policy that names the Owner as an additional insured. The endorsement shall provide that the Contractor's liability insurance policy shall be primary and that any liability insurance of the Owner shall be secondary and noncontributory.

§ 11.1.4 For informational purposes, the Contractor is advised that Work's Compensation Insurance is required for all Owners and executive officers of entities incorporated in the State of South Carolina.

(Paragraphs deleted)
§ 11.1.5 The Aggregate Limits of Insurance required by Subparagraph 11.1.2 shall apply, in total, to this Contract only. This shall be indicated on the insurance certificate or an attached policy amendment.

.1 The insurance policies and Certificates of Insurance required by this Contract shall contain a provision that no material alteration, cancellation, nonrenewal, or expiration of the coverage contained in such policy or evidenced by such Certificates of Insurance shall have effect unless the Owner has been given at least thirty (30) days prior written notice. The Contractor shall provide a minimum of thirty (30) days written notice to the Owner of any proposed reduction of coverage limits, including every coverage limit identified in Subparagraph 11.1.2, or any substitution of insurance carriers.

.2 In no event shall any failure of the Owner to receive certified copies or certificates of policies required under this Article or to demand receipt of such certified copies or certificates prior to the Contractor's commencing the Work be construed as a waiver by the Owner of the Contractor's obligations to obtain insurance pursuant to this Article 11. The obligation to procure and maintain any insurance required by this Article 11 is a separate responsibility of the Contractor and independent of the duty to furnish a certified copy or certificate of such insurance policies.

§ 11.2 OWNER'S LIABILITY INSURANCE
The Owner shall be responsible for purchasing and maintaining the Owner's usual liability insurance.

§ 11.3 PROPERTY INSURANCE
§ 11.3.1 Unless otherwise provided, the Contractor shall purchase and maintain Builder's Risk insurance on behalf of the Owner insuring the Work in form acceptable to the Owner in the amount of the initial Contract Sum as well as subsequent modifications thereto for the entire Work at the site on a replacement cost basis. Such Builder's Risk insurance shall be maintained until final payment has been made as provided in Paragraph 9.10 or until no person or entity other than the Owner has an insurable interest in the property required by this Paragraph 11.3 to be covered, whichever is earlier.

(Paragraphs deleted)
§ 11.3.2 Property Insurance shall be written using a 'Builders Risk Coverage Form' with the following attached forms and endorsements.

.1 Causes of Loss – Special Form; (Risks of Direct Physical Loss unless the loss is excluded or by the Form)
.2 Causes of Loss – Earthquake Form; and
.3 Flood Insurance

§ 11.3.3 Covered Property is the Building Under Construction described in the Policy Declarations and includes:

.1 Foundations;
.2 If intended to become a permanent part of the building or structure described in the Declarations, the following property located in or on the building or structure or within 100 feet of its premises;
(1) Fixtures, machinery and equipment used to service the building; and
(2) Building materials and supplies used for construction;
.3 If not covered by other insurance, temporary structures built or assembled on site, including cribbing, scaffolding and construction forms.

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§ 11.3.4 Replacement of insured damaged Work shall be covered by an appropriate Change Order. The Contractor shall pay Subcontractors their just shares of insurance proceeds received by the Contractor, and by appropriate agreements, written where legally required for validity, shall require Subcontractors to make payments to their Sub-subcontractors in similar manner.

§ 11.3.5 The Owner and the Contractor shall take reasonable steps to obtain consent of insurance company or companies and shall, without mutual written consent, take no action with respect to partial occupancy or use that would cause cancellation, lapse or reduction of insurance.

§ 11.3.6 The Contractor shall provide adequate insurance to protect the interests of the contractor, Subcontractor, and Sub-subcontractor in the work.

§ 11.3.7 The Contractor shall be responsible for the deductible(s) in the above-stated policy. The policy shall be written with a deductible of no more than $2500 for each occurrence.

§ 11.4 PERFORMANCE BOND AND PAYMENT BOND

§ 11.4.1 The Contractor shall provide Performance and Labor and Material Payment Bonds, each in the amount of 100% of the Contract Sum.

.1 The Surety shall have, at a minimum, a "Best Rating" of "A" as stated in the most current publication of "Best's Key Rating Guide, Property-Casualty". In addition, the Surety shall have a minimum "Best Financial Strength Category" of "Class V" and in no case less than five (5) times the contract amount.

.2 The Performance Bond and the Payment Bond shall be made payable to the Owner.

.3 The Performance and Labor Material Payment Bonds shall:

(1) be issued by a surety company licensed to do business in South Carolina; and,

(2) be accompanied by a current power of attorney and certified by the attorney-in-fact who executes the bond on the behalf of the surety company; and,

(3) remain in effect for a period of time not less than one (1) year following the date of Substantial Completion or the time required to resolve any items of incomplete Work and the payment of any disputed amounts, whichever time period is longer; and,

(4) display the Surety's Bond Number. A rider including the following provisions shall be attached to each Bond stating that:

(a) The Surety hereby agrees that it consents to and waives notice of any addition, alteration, omission, change, or other modification of the Contract Documents. Any addition, alteration, change, extension of time, or other modification of the Contract Documents, or a forbearance on the part of either the Owner or the Contractor to the other, shall not release the Surety of its obligations hereunder, and notice to the Surety of such matters is hereby waived.

(b) The Surety agrees that it is obligated under the bonds to any successor, grantee, or assignee of the Owner.

(5) Notwithstanding the foregoing, any bonds required by this Contract shall meet the requirements of the SC Code of Laws, as amended.

§ 11.4.2 Upon the request of any person or entity appearing to be a potential beneficiary of bonds covering payment of obligations arising under the Contract, the Contractor shall promptly furnish a copy of the bonds or shall permit a copy to be made.

§ 11.4.3 The Contractor shall furnish the required bonds to the Owner before execution of the Contract.

§ 11.4.4 The Contractor shall keep the Surety informed of the progress of the Work, and, where necessary, obtain the Surety's consent to, or waiver of:

.1 notice of changes in the Work;

.2 request for reduction or release of retention;

.3 request for final payment; and

.4 any other item required by the Surety.

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The Owner may, in the Owner's sole discretion, inform the Surety of the progress of the Work and obtain consents as necessary to protect the Owner's rights, interest, privileges, and benefits under and pursuant to any bond issued in connection with the Work.

ARTICLE 12 UNCOVERING AND CORRECTION OF WORK

§ 12.1 Uncovering of Work

§ 12.1.1 If a portion of the Work is covered contrary to the Architect's request or to requirements specifically expressed in the Contract Documents, it must, if requested in writing by the Architect, be uncovered for the Architect's examination and be replaced at the Contractor's expense without change in the Contract Time.

§ 12.1.2 If a portion of the Work has been covered that the Architect has not specifically requested to examine prior to its being covered, the Architect may request to see such Work and it shall be uncovered by the Contractor. If such Work is in accordance with the Contract Documents, the Contractor shall be entitled to an equitable adjustment to the Contract Sum and Contract Time as may be appropriate. If such Work is not in accordance with the Contract Documents, the costs of uncovering the Work, and the cost of correction, shall be at the Contractor's expense.

§ 12.2 Correction of Work

§ 12.2.1 Before or After Substantial Completion

§ 12.2.1.1 Contractor's Warranty Period. The Contractor shall promptly correct Work rejected by the Architect or failing to conform to the requirements of the Contract Documents, whether discovered before or after Substantial Completion and whether or not fabricated, installed or completed. Costs of correcting such rejected Work, including additional testing and inspections and compensation for the Architect's services and expenses made necessary thereby, shall be at the Contractor's expense. If, prior to the date of Substantial Completion, the Contractor, or Subcontractor, or anyone for whom either is responsible, uses or damages any portion of the Work, including without limitation, mechanical, electrical, plumbing, and other building systems, machinery, equipment, or other mechanical device, the Contractor shall cause such item to be restored to "like new" condition at no expense to the Owner.

§ 12.2.2 After Substantial Completion

§ 12.2.2.1 In addition to the Contractor's obligations under Section 3.5, if, within one year after the date of Substantial Completion of the Work or designated portion thereof or after the date for commencement of warranties established under Section 9.9.1, or by terms of any applicable special warranty required by the Contract Documents, any of the Work is found to be not in accordance with the requirements of the Contract Documents, the Contractor shall correct it promptly after receipt of notice from the Owner to do so, unless the Owner has previously given the Contractor a written acceptance of such condition. The Owner shall give such notice promptly after discovery of the condition. During the one-year period for correction of Work, if the Owner fails to notify the Contractor and give the Contractor an opportunity to make the correction, the Owner waives the rights to require correction by the Contractor and to make a claim for breach of warranty. If the Contractor fails to correct nonconforming Work within a reasonable time during that period after receipt of notice from the Owner or Architect, the Owner may correct it in accordance with Section 2.5.

§ 12.2.2.2 The one-year period for correction of Work shall be extended with respect to portions of Work first performed after Substantial Completion by the period of time between Substantial Completion and the actual completion of that portion of the Work.

§ 12.2.2.3 The one-year period for correction of Work shall not be extended by corrective Work performed by the Contractor pursuant to this Section 12.2 unless otherwise provided in the Contract Documents.

§ 12.2.3 The Contractor shall remove from the site portions of the Work that are not in accordance with the requirements of the Contract Documents and are neither corrected by the Contractor nor accepted by the Owner.

§ 12.2.4 The Contractor shall bear the cost of correcting destroyed or damaged construction of the Owner or Separate Contractors, whether completed or partially completed, caused by the Contractor's correction or removal of Work that is not in accordance with the requirements of the Contract Documents.

§ 12.2.5 Nothing contained in this Section 12.2 shall be construed to establish a period of limitation with respect to other obligations the Contractor has under the Contract Documents. Establishment of the one-year period for correction of Work as described in Section 12.2.2 relates only to the specific obligation of the Contractor to correct the

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Work, and has no relationship to the time within which the obligation to comply with the Contract Documents may be sought to be enforced, nor to the time within which proceedings may be commenced to establish the Contractor's liability with respect to the Contractor's obligations other than specifically to correct the Work.

§ 12.3 Acceptance of Nonconforming Work
If the Owner prefers to accept Work that is not in accordance with the requirements of the Contract Documents, the Owner may do so instead of requiring its removal and correction, in which case the Contract Sum will be reduced as appropriate and equitable. Such adjustment shall be effected whether or not final payment has been made.

ARTICLE 13 MISCELLANEOUS PROVISIONS

§ 13.1 Governing Law
The Contract shall be governed by the laws of the State of South Carolina.

§ 13.2 Successors and Assigns
§ 13.2.1 The Owner and Contractor respectively bind themselves, their partners, successors, assigns, and legal representatives to covenants, agreements, and obligations contained in the Contract Documents. Neither party to the Contract shall assign the Contract as a whole without written consent of the other. If either party attempts to make an assignment without such consent, that party shall nevertheless remain legally responsible for all obligations under the Contract.

(Paragraph deleted)
§ 13.3 Written Notice
§ 13.3.1 Unless otherwise permitted herein, all notices contemplated by the Contract Documents shall be in writing and shall be deemed duly given:

.1 upon actual delivery to the person identified in the A101, if delivery by hand; or,
.2 upon receipt by the transmitting party of confirmation or reply, if delivery is by facsimile, telex or telegram; or,
.3 upon receipt by the person identified in the A101, if delivery is by deposit into the United States mail, certified mail, return receipt requested.

§ 13.3.2 Each such notice shall be sent to the respective party at the address provided in the A101, or to any other address as the respective party may designate by notice delivered pursuant hereto.

§ 13.4 Rights and Remedies
§ 13.4.1 Duties and obligations imposed by the Contract Documents and rights and remedies available thereunder shall be in addition to and not a limitation of duties, obligations, rights, and remedies otherwise imposed or available by law.

§ 13.3.2 No action or failure to act by the Owner, Architect, or Contractor shall constitute a waiver of a right or duty afforded them under the Contract, nor shall such action or failure to act constitute approval of or acquiescence in a breach thereunder, except as may be specifically agreed upon in writing.

(Paragraphs deleted)
§ 13.4.3 Termination of the Contract by either party for any reason shall not relieve the parties of any obligation theretofore accorded under this Contract. Notwithstanding Subparagraph 9.10.4, and without limiting the foregoing sentence, the following provisions (as amended) of the Contract Documents shall survive termination for whatever cause, expiration or completion:

1.5	Ownership and Use of Drawings, Specifications and Other Instruments of Service:
3.5	Warranty
3.17	Royalties, Patents and Copyrights
3.18	Indemnification
3.10	Waiver of Listed Damages
3.11	Waiver of Claims Against the A/E
4.5	Dispute Resolution
7.5.5	Cost of Pricing Data

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11.1 Contractor's Liability Insurance
11.5 Performance and Payment Bond
12.2 Correction of Work
13.1 Governing Law
13.4 Rights and Remedies
13.12 Retention and Audit of Contractor's Records

(Paragraphs deleted)

§ 13.5 Tests and Inspections

§ 13.5.1 Tests, inspections and approvals of portions of the Work required by the Contract Documents or by laws, ordinances, rules, regulations or orders of public authorities having jurisdiction shall be made at an appropriate time. Unless otherwise provided, the Contractor shall make arrangements for such tests, inspections and approvals with an independent testing laboratory or entity acceptable to the Owner, or with the appropriate public authority, and shall bear all related costs of tests, inspections and approvals. The Contractor shall give the Architect timely notice of when and where tests and inspections are to be made so that the Architect may be present for such procedures. The Owner shall bear costs of tests, inspections or approvals which do not become requirements until after bids are received or negotiations concluded.

(Paragraphs deleted)

§ 13.5.2 If the Architect, Owner or public authorities having jurisdiction determine that portions of the Work require additional testing, inspection or approval not included under Section 13.5.1, the Architect will, upon written authorization from the Owner, instruct the Contractor to make arrangements for such additional testing, inspection or approval by an entity acceptable to the Owner, and the Contractor shall give timely notice to the Architect of when and where tests and inspections are to be made so that the Architect may be present for such procedures. Such costs, except as provided in Section 13.5.3, shall be at the Owner's expense.

§ 13.5.3 If such procedures for testing, inspection or approval under Sections 13.5.1 and 13.5.2 reveal failure of the portions of the Work to comply with requirements established by the Contract Documents, all costs made necessary by such failure including those of repeated procedures and compensation for the Architect's services and expenses shall be at the Contractor's expense.

§ 13.5.4 Required certificates of testing, inspection or approval shall, unless otherwise required by the Contract Documents, be secured by the Contractor and promptly delivered to the Architect.

§ 13.5.5 If the Architect is to observe tests, inspections or approvals required by the Contract Documents, the Architect will do so promptly and, where practicable, at the normal place of testing. The Contractor shall give the A/E timely notice in advance of tests, inspections or approvals.

§ 13.5.6 Tests or inspections conducted pursuant to the Contract Documents shall be made promptly to avoid unreasonable delay in the Work.

§ 13.6 [deleted]

§ 13.7 Time limits on Claims

The Owner and Contractor shall commence all claims and causes of action, whether in contract, tort, breach of warranty or otherwise, against the other arising out of or relating to the Contract within the times established by the laws of the State of South Carolina.

§ 13.8 Drug-free Workplace

The Contractor certifies to the Owner that the Contractor will provide a Drug-Free Workplace, as required by Title 44, Chapter 107 of the South Carolina Code of Laws, as amended.

§ 13.9 Cancellation after Award

Pursuant to § 11-35-1520 of the SC Code of Laws, as amended, and South Carolina Regulation 19-445.2085, this Contract may be cancelled after award, but prior to issuance of the Notice to Proceed. In such event, the Contractor shall recover, as its sole remedy, its reasonable bid preparation costs.

Init.

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§ 13.10 Bankruptcy

In the event the Contractor enters into proceedings relating to bankruptcy, whether voluntary or involuntary, the Contractor agrees to furnish written notification of the bankruptcy to the Owner. This notification shall be furnished within five (5) days of the initiation of the proceedings relating to the bankruptcy filing. This notification shall include the date on which the bankruptcy petition was filed, the identity of the court in which the bankruptcy petition was filed, and a listing of State or governmental contracts against which final payment has not been made. This obligation remains in effect until final payment under this Contract.

§ 13.11 Retention and Audit of Contractor's Records

The Contractor and all subcontractors shall comply with all applicable obligations of §11-35-2220 of the SC Code of Laws, as amended. Accordingly, the Owner shall be entitled, at reasonable times and places, to audit the books and records of both the Contractor and any subcontractor who has submitted cost or pricing data pursuant to either this Contract or to §11-35-1830 to the extent that such books and records relate to such cost or pricing data. If any cost or pricing data is required for this Contract or any Modification, the Contractor and any subcontractor shall maintain such books and records that relate to such cost or pricing data for three (3) years from the date of final payment under the Contract; provided, however, that such records shall be retained for additional periods of time beyond this three-year period upon request of the Owner. If this Contract or any Modification (other than a firm fixed price contract) is negotiated, the Owner shall be entitled to audit the books and records of the Contractor and any subcontractor to the extent that such books and records relate to the performance of the Contract or any Modification. Such books and records shall be maintained by the Contractor for a period of three years from the date of final payment under the prime contract and by any subcontractor for a period of three years from the date of final payment under the subcontract.

§ 13.12 Unit Price Work

§ 13.12.1 Where the Contract Documents provide that all or part of the Work is to be Unit Price Work, the initial Contract Sum will be deemed to include an amount equal to the sum of the unit price for each separately identified item of Unit Price Work times the estimated quantity of each item as identified in the Contract. The estimated quantity for each item of Work represent the Owner's best estimate of the amount of each item to be required of the Contractor, but the amounts are not guaranteed, and are solely for the purpose of comparison of Bids and determining an initial Contract Sum. Determinations of the actual quantities, and classifications of Unit Price Work performed by the Contractor will be made by the Architect as described below.

§ 13.12.2 Subject to an adjustment pursuant to Subparagraph 4.3.9, each unit price will be deemed to include an amount considered by the Contractor to be adequate to cover the Contractor's total costs, including overhead and profit, for each separately identified item.

§ 13.12.3 The Architect will determine the actual quantities and classifications of Unit Price Work performed by the Contractor. The Architect will review with the Contractor its preliminary determinations on such matters before rendering a written decision or issuing a recommendation on the Contractor's Applications for Payment. The Architect's written decisions or recommendations will be final and binding on the Owner and the Contractor, except as modified by the Architect to reflect changed factual conditions or more accurate data, and subject to Paragraph 4.4. For purposes of Paragraph 4.4, the Architect's written decisions or recommendations shall serve as the Architect's initial decision.

§ 13.13 Procurement of materials by Owner

§ 13.13.1 The Contractor accepts assignment of, and liability for, all purchase orders and other agreements for procurement of materials and equipment that are identified as part of the Contract Documents. The Contractor shall be responsible for such pre-purchased items, if any, as if the Contractor were the original purchaser. The Contract Sum includes, without limitation, all costs and expenses in connection with delivery, storage, insurance, installation, and testing of items covered in any assigned purchase orders or agreements. All warranty and correction of the Work obligations under the Contract Documents shall also apply to any pre-purchased items, unless the Contract Documents specifically provide otherwise.

ARTICLE 14 TERMINATION OR SUSPENSION OF THE CONTRACT

§ 14.1 Termination by the Contractor

§ 14.1.1 The Contractor may terminate the Contract if the Work is stopped for a period of 30 consecutive days through no act or fault of the Contractor, a Subcontractor, a Sub-subcontractor, their agents or employees, or any other persons

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or entities performing portions of the Work under director or indirect contract with the Contractor, for any of the following reasons:

.1 Issuance of an order of a court or other public authority having jurisdiction that requires all Work to be stopped;

.2 An act of government, such as a declaration of national emergency, that requires all Work to be stopped;

(Paragraphs deleted)

§ 14.1.2 The Contractor may terminate the Contract if, through no act or fault of the Contractor, a Subcontractor, a Sub-subcontractor, their agents or employees, or any other persons or entities performing portions of the Work under direct or indirect contract with the Contractor, repeated suspensions, delays, or interruptions of the entire Work by the Owner as described in Section 14.3, constitute in the aggregate more than 100 percent of the total number of days scheduled for completion, or 120 days in any 365-day period, whichever is less.

§ 14.1.3 If one of the reasons described in Section 14.1.1 or 14.1.2 exists, the Contractor may, upon seven (7) days' notice to the Owner and Architect, terminate the Contract and recover from the Owner payment for Work executed. Any adjustment to Contract Sum made pursuant to this Subparagraph shall be made in accordance with the requirements of Paragraph 7.5.

§ 14.1.4 If the Work is stopped for a period of sixty (60) consecutive days through no act or fault of the Contractor, a Subcontractor, a Sub-subcontractor, or their agents or employees or any other persons or entities performing portions of the Work under contract with the Contractor because the Owner has repeatedly failed to fulfill the Owner's obligations under the Contract Documents with respect to matters important to the progress of the Work, the Contractor may, upon seven (7) additional days' notice to the Owner and the Architect, terminate the Contract and recover from the Owner as provided in Section 14.1.3.

§ 14.2 Termination by the Owner for Cause

§ 14.2.1 The Owner may terminate the Contract, or any separable part of it, if the Contractor:

.1 fails to complete Work within the time specified in the Contract Documents, including any authorized adjustments; or;

.2 fails to prosecute the Work, or any separable part of the Work, with diligence, resources and skill that will ensure its completion within the time specified in the Contract Documents, including any authorized adjustments; or,

.3 fails to make payments to Subcontractors for materials or labor in accordance with Title 29, Chapter 6 of the South Carolina Code of Laws, as amended, and the respective agreements between the Contractor and the Subcontractors; or

.4 persistently disregards laws, ordinances, rules, regulations or orders of a public authority having jurisdiction; or,

.5 fails to proceed as required by Subparagraph 4.3.3 pending final resolution of a Claim; or,

.6 fails to comply with any of the other material provisions of this Contract.

§ 14.2.2 When any of the above reasons exist, the Owner may without prejudice to any other rights or remedies of the Owner and after giving the Contractor and the Contractor's surety, if any, seven (7) days' notice, terminate employment of the Contractor and may, subject to any prior rights of the surety:

.1 Exclude the Contractor from the site and take possession of all materials, equipment, tools, and construction equipment and machinery thereon owned by the Contractor;

.2 Accept assignment of subcontracts pursuant to Section 5.4; and

.3 Finish the Work by whatever reasonable method the Owner may deem expedient. Upon written request of the Contractor, the Owner shall furnish to the Contractor a detailed accounting of the costs incurred by the Owner in finishing the Work.

§ 14.2.3 When the Owner terminates the Contract for one of the reasons stated in Section 14.2.1, the Contractor shall not be entitled to receive further payment until the Work is finished.

§ 14.2.4 If the unpaid balance of the Contract Sum exceeds costs of finishing the Work, including compensation for the Architect's services and expenses made necessary thereby, and other damages incurred by the Owner and not expressly waived, such excess shall be paid to the Contractor. If such costs and damages exceed the unpaid balance,

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the Contractor shall pay the difference to the Owner. The amount to be paid to the Contractor or Owner, as the case may be, shall be certified by the Architect, upon application, and this obligation for payment shall survive termination of the Contract.

§ 14.3 Suspension by the Owner for Convenience

§ 14.3.1 The Owner may, without cause, order the Contractor in writing to suspend, delay or interrupt the Work, in whole or in part for such period of time as the Owner may determine.

§ 14.3.2 The Contract Sum and Contract Time shall be adjusted for increases in the cost and time caused by suspension, delay, or interruption under Section 14.3.1. Adjustment of the Contract Sum shall include profit. No adjustment shall be made to the extent

- .1 that performance is, was, or would have been, so suspended, delayed, or interrupted, by another cause for which the Contractor is responsible; or
- .2 that an equitable adjustment is made or denied under another provision of the Contract.

§ 14.4 Termination by the Owner for Convenience

§ 14.4.1 The Owner may, at any time, terminate the Contract for the Owner's convenience and without cause.

§ 14.4.2 Upon receipt of notice from the Owner of such termination for the Owner's convenience, the Contractor shall complete the performance of the Work not terminated, if any:

- .1 cease operations as directed by the Owner in the notice;
- .2 take actions necessary, or that the Owner may direct, for the protection and preservation of the Work;
- .3 except for Work directed to be performed prior to the effective date of termination stated in the notice, terminate all existing subcontracts and purchase orders and enter into no further subcontracts and purchase orders; and,
- .4 complete the performance of the Work not terminated, if any.

§ 14.4.3 In case of such termination for the Owner's convenience, the Contractor shall be entitled to receive payment for Work executed. Any adjustment to the Contract Sum made pursuant to this Subparagraph shall be made in accordance with the requirements of Paragraph 7.5.

Project Name: CP 1532 Structural Retrofit of Fire Station No. 6 (Cannon St.)
Contractor: IPW Construction Group, LLC

(Paragraphs deleted)

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CPR COMMITTEE and/or COUNCIL AGENDA

TO: John J. Tecklenburg, Mayor

FROM: Ed Boinest / Andrew Jones **DEPT.** Parks – Capital Projects

SUBJECT: CITY MARKET SHED GAS OVERHEAD HEATERS CONSTRUCTION CONTRACT

REQUEST: Approval of a Construction Contract with IPW Construction Group, LLC, in the amount of $96,460.00 to install 32 overhead heaters at Market Shed C as part of the first phase of heater installation.

With the approval of the project budget, Staff is authorized to award and/or amend contracts less than $40,000.00, to the extent contingency funds exist in the Council Approved Budget.

COMMITTEE OF COUNCIL: Ways & Means **DATE:** January 28, 2020

COORDINATION: This request has been coordinated with: *(attach all recommendations/reviews)*

	Yes	N/A	Signature of Individual Contacted	Attachment
CPR Committee Chair	✓			
Corporate Counsel	✓			
Capital Projects Director				
MBE Manager	✓			

FUNDING: Was funding previously approved? Yes [X] No [ ] N/A [ ]

If yes, provide the following: Dept/Div Parks-Capital Projects Acct # 021010-52410

Balance in Account $96,460.00 Amount needed for this item $96,460.00

Project Number CP1811

NEED: Identify any critical time constraint(s).

CFO's Signature: , Dep CFO

FISCAL IMPACT: **Approval of this will institute a $711,514.46 project budget of which the $96,460.00 construction contract will be funded. Funding sources for this project are: City Market Capital Fund Balance ($295,514.46) and Hospitality Funds ($416,000.00).**

Mayor's Signature:

John J. Tecklenburg, Mayor

ORIGINATING OFFICE PLEASE NOTE: A FULLY STAFFED/APPROVED (except Mayor's Signature) PACKAGE IS DUE IN THE CLERK OF COUNCIL'S OFFICE NO LATER THAN 10:00 A.M THE DAY OF THE CLERK'S AGENDA MEETING.

City Market Shed Overhead Gas Line
(021010)

CP1811		CPR/CC Approved Budget	Expenses to DATE	Encumbrances	Remaining Balance	NOTES
DESIGN / ENGINEERING						
Division/Object						
021010-52236	Advertising	$ 553.42	$ 553.42	$ -	$ -	Chronicle -PR196003
021010-52410	Architecture & Conservation Consulting Services	$ 22,917.00	$ 22,017.00	$ 900.00	$ -	Glenn Keyes Architects - P152620
021010-52222	Printing	$ 28.52	$ 28.52	$ -	$ -	
	TOTAL D/E COSTS	**$ 23,498.94**	**$ 22,598.94**	**$ -**	**$ -**	
CONSTRUCTION						
021010-52410	Construction	$ 200,000.00				Twin Systems, LLC
	CO#1 (10 additional supply drops)	$ 13,873.00	$ -	$ -	$ -	
	Construction Subtotal	***$ 213,873.00***	***$ 213,873.00***	***$ -***	***$ -***	
021010-52410	Remaining Gas Heaters & Reconfiguration	$ 260,691.33		$ 260,691.33	$ -	
021010-52410	Vent Free Heater	$ 272.75	$ 272.75	$ -	$ -	P-card
021010-52410	Gas OWIP/CIAC Agreement	$ 16,351.71	$ 16,351.71	$ -	$ -	SCE&G
021010-52410	Gas Heaters (1st order; Shed C)	$ 51,743.20	$ 51,743.20	$ -	$ -	IR Energy - PR195869 - P162923
021010-52410	Installation Heaters (1st order; Shed C)	$ 96,460.00	$ -	$ 96,460.00	$ -	IPW Construction Group
	TOTAL CONSTRUCTION COSTS	**$ 639,391.99**	**$ 282,240.66**	**$ 357,151.33**	**$ -**	
021010-52410	Contingency	$ 48,623.53	$ -	$ -	$ -	10% of construction
TOTAL PROJECT COSTS		**$ 711,514.46**	**$ 304,839.60**	**$ 357,151.33**	**$ -**	

FUNDING SOURCES

YEAR	SOURCE	BUDGET	ACTUAL	
2018	City Market (Fund Blanace-30199)	$ 250,000.00	$0.00	
2019	City Market (Fund Blanace-30199)	$ 3,914.46		to cover CO#1; funding from CP1719 City Market Repointing project
2020	Hospitality	$ 416,000.00		
2020	City Market (Fund Blanace-30199)	$ 41,600.00		
	TOTAL FUNDING	**$ 711,514.46**	**$0.00**	

SUMMARY

TOTAL PROJECT FUNDING	$711,514.46	**$0.00**
TOTAL PROJECT COST	$711,514.46	**$ 304,839.60**
PROJECT BALANCE	$ -	$ (304,839.60)

City of Charleston Construction Contract

THIS CONTRACT, made this 28th day of January, 2020 by and between:

The Owner:	City of Charleston Department of Parks 823 Meeting Street Charleston, SC 29403	and the Contractor:	IPW Construction Group, LLC 7623 Dorchester Road North Charleston, SC 29418

WHEREAS, the Owner requires the construction of the following project, identified as follows:
CP 1811 - Installation of 32 Overhead Tube Type Heaters at Market Shed C
(Project Number) - (Project Name)

Whereas, the CONTRACTOR, whose South Carolina contractor's license is G117838 is prepared and qualified to provide such Construction;

NOW THEREFORE, the Owner and Contractor agree to all of the following terms and conditions set forth in this Contract.

TIME OF PERFORMANCE:

THE EFFECTIVE DATE of this contract shall be the date written above.
THE DATE OF COMMENCEMENT shall be the date indicated in the Notice to Proceed.
THE DATE OF SUBSTANTIAL COMPLETION shall be 40 calendar days after the DATE OF COMMENCEMENT, subject to adjustment in accordance with the terms of this Contract.

PAYMENTS TO THE CONTRACTOR for acceptable work performed shall be as follows:

THE CONTRACT SUM OF $ 96,460.00 to be paid in response to the Contractor's Applications for Payment as certified by the A/E and subject to the terms of this Contract.

THE CONTRACT SUM is based upon the following alternates, if any, which are described in the Contract Documents and are hereby accepted by the Owner:
Not Applicable ☒

LIQUIDATED DAMAGES in the amount of $ 500.00 per day shall be withheld from any amounts otherwise due to the Contractor for each day the Contractor fails to achieve SUBSTANTIAL COMPLETION within the time allowed.

ARCHITECT ENGINEER – The A/E of Record for this Project is: Live Oak Consulting, LLC

IN WITNESS WHEREOF, THE PARTIES HERETO HAVE ENTERED INTO THIS CONTRACT ON THE DAY AND YEAR FIRST WRITTEN ABOVE.

OWNER: City of Charleston

BY: _____
John Tecklenburg
Mayor

CONTRACTOR: IPW Construction Group, LLC

BY: _____
(Signature of Contractor Representative)

CYRUS D. SINOR, MEMBER-MGR
(Name of Contractor Representative)

ITS: IPW CONSTRUCTION GROUP, LLC. MEMBER-MGR

General Conditions

ARTICLE 1 – CONTRACT DOCUMENTS (the "Work")

A. The Contract Documents (the "Work") forming this agreement shall consist of the following:
   1. a fully executed Construction Contract (this document) and any listed attachments thereto;
   2. the Project Manual dated: 12-6-2019
   3. the Project Drawings dated 12-10-2019 and as listed in the Project Manual.
   4. Bid Addenda and dates as follows:#1 dated 12/17/19; #2 dated 12/20/2019; #3 dated 12/27/19
   5. the Contractor's completed Bid Form; Attached as Exhibit A
   6. all Change Orders and Change Directives;
   7. other documents as listed in Article 16.

ARTICLE 2 – GENERAL PROVISIONS

A. The Contractor shall not incur any expense chargeable to the Owner until this Contract has been authorized and fully executed by both the Owner and the Contractor.

B. The Contractor warrants to the Owner that:
   1. it and its subcontractors (if any) are financially able to complete the Work;
   2. it will perform all obligations, furnish all plant, material, equipment, tools, transportation, supplies and labor to complete the Work assigned;
   3. it is authorized and licensed to do business in the State of South Carolina and the City of Charleston;
   4. it will perform the Work with care and diligence and in a professional and workmanlike manner;
   5. it has visited the work site and is reasonably apprised of the conditions in and around the area of the Work.

C. Contractor's Rights and Responsibilities

   In addition to any other rights and responsibilities contained in this Agreement, the Contractor shall:
   1. pay for required construction permits or business license fees, labor, materials, equipment, tools, transportation, supervision, testing, etc, as required for the performance of the Work;
   2. visit the work site and obtain information to assist in familiarization with the location of the Work, its conditions and any limitations that would affect the performance of the Work;
   3. have the right to rely on information contained in the Contract Documents, but shall give prompt and timely notice to the Owner of any apparent deficiencies or inconsistencies in the information furnished by the Owner or its A/E;
   4. be responsible for all construction means, methods, techniques, procedures and safety measures in the performance of the Work;
   5. employ only persons skilled in the Work for which it is to do, employ an experienced superintendent to supervise the Work who shall be responsible for the acts or omissions of the Contractor's agents and employees or those of sub-contractors and their agents and employees acting on behalf of the Contractor;
   6. have, at the time of execution and for the duration of this Contract, all professional and business insurance, licenses and permits required to provide the required Services in the State of South Carolina, the City of Charleston and as required by this Contract.

D. Owner's Rights and Responsibilities

   In addition to any other rights and responsibilities contained in this Agreement, the Owner shall:
   1. provide the contractor with available information regarding the Work and the work area;
   2. secure and pay for all design permits, assessments, and easements except as required by the Contract Documents;
   3. pay the Contractor for acceptable work performed, in accordance with the provisions of this Contract;
   4. if the Contractor fails to begin work within fourteen (14) calendar days of the DATE OF COMMENCEMENT as indicated in the Notice to Proceed, the Owner shall have the right to declare the Contractor in material breach of this Contract and terminate the Contract;

5. act as the A/E in the absence of a licensed design professional.

E. A/E's Rights and Responsibilities

In addition to any other rights and responsibilities contained in the Agreement, the A/E shall:

1. represent the Owner during the construction process through final completion of the project, and as requested during the warranty period. The A/E will act on behalf of the Owner only to the extent provided in the Contract Documents or otherwise agreed by the Owner;
2. make periodic visits to the site during construction administration to become familiar with the progress and quality of the Work and to determine if the Work is being performed in a manner indicating that the Work is generally progressing in accordance with the Contract Documents;
3. make recommendations to the Owner as to the acceptance or rejection of the Work and communicate the Owner's decision to the Contractor;
4. review and approve or reject shop drawings and samples submitted by the Contractor;
5. respond promptly to all requests for information or clarification from the Owner or the Contractor;
6. make the initial interpretation and decision on matters concerning performance under, and the requirements of, the Contract Documents, upon written request of either the Owner or Contractor. The interpretation or decision of the A/E shall be final, subject to the dispute resolution provisions of this Contract;
7. not be responsible for construction means, methods, techniques, procedures and safety measures in the performance of the Work or acts of omission of the Contractor, Subcontractors or any other entity performing work on the site;
8. review periodic requests for payment, and approve or reject the request, in whole or in part;
9. prepare Change Orders or Change Directives as directed by the Owner.

ARTICLE 3 – CONSTRUCTION ADMINISTRATION

A. Shop Drawings and Samples

1. The Contractor shall review and approve Shop Drawings and Samples prior to their submission to the A/E. The Contractor's review shall be for compliance with the requirements of the Contract Documents and to ensure complete coordination of the Work.
2. The Contractor shall submit the number of sets as specified in the Contract Documents, or in the absence of a specification, submit enough copies for the Owner to retain two copies plus the number desired to be returned to the Contractor.
3. The A/E will review the shop drawings and samples with reasonable promptness but only for conformity with the design.
4. The Contractor shall submit samples as required by the Contract Documents. The final installed product shall match the approved sample.

B. Materials and Workmanship

1. The Contractor shall not allow the use of any asbestos-containing product.
2. The Contractor shall not use or allow the use of lead material in public water application. Lead-free solder, flux and pipe must be used in all public drinking water and wastewater applications. Lead-free solder and flux is defined as containing less the 0.2% lead while valves, pipes and appurtenances must contain less than 8.0% lead.
3. The Contractor warrants that unless otherwise specified or permitted by the Contract Documents, all material shall be new, in first class condition, and installed using workmanship of the highest quality in accordance with the Contract Documents.

C. Inspection and Testing of Materials

1. The Contractor shall have performed and documented all inspections and tests required by the Contract Documents, including those required by building officials.
2. The Contractor shall leave uncovered all areas of work that are called out in the Contract Documents to be left uncovered, or the A/E requests to be left uncovered prior to being inspected. The Contractor shall give adequate notice to the A/E of the time requested for an inspection of these areas.

D. Substitutions

1. Wherever the Contract Documents specify a particular product, article, appliance, equipment, or material and it is designated by manufacturer and model number, it is the intent to designate a level of quality, finish, appearance, function, or other factor that was desirable to have incorporated into the design. Equivalent products of alternate manufacturers may be used, but must meet or exceed the specification for the original product and must be approved by the A/E.
2. The Contractor shall not substitute any product, article, appliance, equipment, or material that is specified without prior written approval from the A/E, which shall be granted only with the concurrence of the Owner.

E. Changes in the Work

1. Only the Owner may authorize changes in the scope of the Contract. Such changes shall be made by issuing either a Change Order or a Construction Change Directive, and the Contractor shall execute the changed work promptly.
2. The Contractor shall provide supporting information as requested by the A/E or the Owner to document the cost of any changed work.
3. The Contractor shall prepare its cost proposal including labor and material cost breakdown with overhead and profit added as follows:
   a. For the Contractor or subcontractor on work performed by its own forces:

Overhead (%)	Profit (%)	Commission (%)
10	7	0

   b. For the Contractor or subcontractor on work performed by its subcontractors:

Overhead (%)	Profit (%)	Commission (%)
10	0	3

   c. To a first tier subcontractor on work performed by its subcontractors:

Overhead (%)	Profit (%)	Commission (%)
10	0	3

   d. No more than three levels of overhead, profit, and commission shall be allowed regardless of the number of subcontractor tiers ("commission" is defined as profit on work performed by others). The Contractor or subcontractor shall not be allowed overhead or commission on the overhead, profit, and/or commission received by its subcontractors. Changes to the Work that decrease the Contract Sum, i.e., deleted work, shall include Overhead, Profit, and Commission.
4. In the absence of a total agreement concerning the item(s) for a Change Order, a Construction Change Directive shall be issued and the Contractor shall proceed diligently with performance of the Work required.

F. Receiving and Storing Materials and Equipment

1. The Contractor shall have an authorized person or persons to receive all items and shall properly unload, check for completeness of shipments, and in-transit damage.
2. The Contractor shall properly handle and store materials, supplies, equipment etc. in accordance with the Delivery Order or manufacturer's printed instructions of each product.

G. Reports

1. The Contractor shall prepare Daily Progress Reports on a form provided by the Owner. Reports shall be submitted to the Owner on a weekly basis.

H. Time for Completion

1. Requests for time extensions shall be made promptly. Delays of the Work due to circumstances beyond the control of the Contractor shall be adequately documented and submitted to the Owner with any request for an extension of the time of Completion.
2. The time allowed for Substantial Completion includes five (5) calendar days per calendar month for delays due to inclement weather. Delays due to weather beyond the five days may be requested as a time extension to the time for completion. The Contractor shall submit job site weather data supporting the claim for an extension of time.
3. Should completion of the Project extend past the original or amended contract substantial completion date, the Owner will retain as liquidated damages and not as a penalty the amount listed on Page 1 and reduce the Contractor's final payment by that amount.

I. Guarantees and Warranties

1. The Contractor shall remedy and make good all defects in material and workmanship at no additional cost to the Owner and pay for any damage to other work or property resulting from such defects for a period of one year from the date of Substantial Completion, excepting damage that is caused by misuse or abuse by the Owner. All warranties may be assigned by the Owner at no cost to the Owner and without the approval of the Contractor.
2. Where guarantees and/or warranties are required in the technical sections of the specifications, or as noted on the drawings, exceeding the one-year guarantee period, the extended warranty period will govern.

J. Use of the Site

1. The Contractor shall confine its operations to areas permitted by laws and ordinances, and as defined in the Contract Documents. The site must be maintained in a reasonably clean condition, free of trash and debris. The Contractor shall, on a regular basis or as specifically requested by the Owner, remove from the site all trash, debris, tools and equipment no longer needed for the Work.
2. The Contractor shall provide access to the Work in progress for representatives of the Owner, the A/E and for all authorities having jurisdiction over the Work.

K. Taxes

1. The Contractor shall include in its Bid and pay for, all taxes in effect or scheduled to go into effect at the time of bidding or at the completion of negotiations.
2. The Contractor's attention is directed to Title 12, Chapter 8, of the SC Code of Laws, as amended, concerning withholding of tax for non-residents, employees, contractors and subcontractors.

ARTICLE 4- PAYMENTS

A. The Owner shall make payments no more often than monthly to the Contractor for acceptable work, as scheduled on page 1 and in accordance with Title 29, Chapter 6 of the SC Code of Laws, as amended.

B. The Contractor shall make payments to Subcontractors and suppliers for acceptable work performed and materials furnished in accordance with Title 29, Chapter 6 of the SC Code of Laws, as amended.

C. Accompanying each Application for Payment, the Contractor shall submit to the A/E a Schedule of Values allocating all the various portions of the Work, and a Construction Schedule, to be used by the architect as a basis for reviewing the Application for Payment. The Owner shall make progress payments to the Contractor for acceptable work completed based on the approved Schedule of Values and the A/Es' evaluation of the Contractor's Application for Payment. The Owner shall retain ten (10) percent of the completed work until the Final Application for Payment is paid.

D. The Contractor's Final Application for Payment may be submitted when the following have occurred:

1. The Contractor has fully performed the Work of the Contract, including the acceptable completion of all punch list items; and,
2. The Contractor furnishes a Consent of Surety to Final Payment (for bonded projects) and Releases of Lien from subcontractors and suppliers; and,
3. The Contractor has furnished to the satisfaction of the A/E and the Owner all operating and maintenance manuals, product information, supplier warranties and guarantees and all other project completion documents; and,
4. The Contractor has completed all training and other startup/turnover support activities with the Owner staff.

E. If the Work is completed to the satisfaction of the A/E, the A/E shall certify the application and the Owner shall make final payment.

ARTICLE 5 – CLAIMS

A. Each party may assert a Claim requesting an adjustment of the Contract Sum, a change in the Contract Time for completion, or other relief with respect to the terms of the Contract.

B. Claims under this Contract shall be submitted by written notice that a Claim is being asserted. The responsibility to substantiate a Claim rests with the party making the Claim.

C. Claims arising prior to the date final payment is due must be initiated within twenty-one (21) days after occurrence of the event giving rise to such Claim or within twenty-one (21) days after the claimant first recognizes the condition giving rise to the Claim, whichever is later. By failing to give written notice of a Claim within the time required by this paragraph, a party expressly waives its claim.

D. Pending a resolution of the Claim, including any dispute resolution under this Contract, the Contractor shall proceed to perform as required by the Contract and the Owner shall continue to make payments in accordance with this Contract.

ARTICLE 6 – DISPUTE RESOLUTION

The parties agree to attempt in good faith to resolve their disputes arising from a claim or controversy arising out of or relating to the Contract. To the extent that the parties are unable to reach a resolution, the parties agree that any suit, action or proceeding arising out of or relating to the Contract shall be instituted and maintained only in a state or federal court located in Charleston County. The Contractor agrees that any act by the Owner regarding the Contract is not a waiver of either the State's sovereign immunity or the State's immunity under the Eleventh Amendment of the United States Constitution. As used in this paragraph, the phrase "the State" includes any governmental entity transacting business with the Contractor pursuant to the Contract (including the Owner).

ARTICLE 7 - SUSPENSION OR TERMINATION OF THE CONTRACT

A. Owner's Right of Termination
   1. The Owner may, at any time, terminate the Contract, in whole or in part, with or without cause for the Owner's convenience, upon seven (7) days written notice to the Contractor.
   2. The Owner may, upon written consent of the Contractor, reinstate the terminated portion of this Contract in whole or in part if it is determined that it is necessary or advantageous to the Owner. Compensation shall be equitably negotiated by agreement between the Owner and Contractor.

B. Contractor's Right of Termination
   1. The Contractor may terminate the Contract if work is stopped through no fault of the Contractor, or other persons performing work either directly or indirectly for the contractor, for a period of time exceeding sixty (60) consecutive calendar days due to a court order or other public authority having jurisdiction, or a National emergency which requires the Work to be stopped.
   2. The Contractor may, upon seven (7) days written notice to the Owner and the A/E, terminate the Contract for the reasons stated above and be compensated for work completed and materials stored in accordance with the Contract Documents.

C. Owner's Right of Suspension
   1. The Owner may, at any time, suspend the Work, in whole or in part, with or without cause for such period of time as determined by the Owner;
   2. The Contract Sum and Contract Time will be adjusted for increases in cost to the Contractor due to the delay or interruption except that no increase will be granted for delays or interruptions that are, or would have been, the responsibility of the Contractor or an equitable adjustment covered under other provisions of the Contract.

ARTICLE 8 – PROTECTION OF PERSONS AND PROPERTY

A. The Contractor is responsible for job-site safety and the protection of persons and property within the work site. The Contractor shall comply with all applicable laws, rules and regulations regarding safety.

B. If during the course of executing the Work, the Contractor encounters material believed to be hazardous or of archeological significance, then the Contractor shall immediately stop work in the affected area and report the conditions to the Owner and the A/E in writing. Except by written agreement of the Owner and Contractor, the Contractor shall not resume work until the material has been rendered harmless, removed or protected.

C. As to hazardous materials: This Article shall apply only to hazardous, toxic or radioactive materials or substances subject to the regulations of agencies having jurisdiction such as, but not limited to, the

S.C. Department of Health and Environmental Control (SCDHEC), the U.S. Environmental Protection Agency (USEPA) and the U.S. Nuclear Regulatory Commission (USNRC).

D. As to hazardous materials: For the purposes of this Contract, the term "rendered harmless" shall be interpreted to mean that measured levels of verified hazardous, toxic or radioactive materials or substances are less than the applicable standards established by authorities having jurisdiction. In no event, however, shall the Owner have any responsibility for any substance or material that is brought to the Project site by the Contractor, any Subcontractor, any material supplier, or any entity for whom any of them is responsible, unless such materials or substances were expressly required by the Contract Documents. The Contractor agrees not to use any fill or other materials to be incorporated into the Work that are hazardous, toxic, or radioactive, or made up of any items that are hazardous, toxic, or radioactive.

ARTICLE 9 – INSURANCE AND BONDS

A. The Contractor shall purchase and maintain insurance to protect against claims that may arise out of the Contractor's operations under the Work of this Contract. The limits shall be for not less than the limits set forth in this Article, shall be written on an occurrence basis and shall be in force for the duration of the Contract.

B. The Contractor's Liability Insurance shall include all major divisions of coverage and is to be based on a Commercial basis including the following:
   1. Premises – Operations.
   2. Independent Contractor's Protective.
   3. Products and Completed Operations.
   4. Personal and Advertising Injury.
   5. Contractual, including specified provisions for Contractor's obligations.
   6. Broad Form Property Damage, including Completed Operations.
   7. Owned, Non-Owned and Hired Vehicles.

C. The Insurance required by this Article shall be written for not less than the following limits or greater if required by law or other provisions in the contract:

1. Commercial General Liability:	
a. General Aggregate (per project)	$ 1,000,000
b. Products/Completed Operations	$ 1,000,000
c. Personal and Advertising Injury	$ 1,000,000
d. Each Occurrence	$ 1,000,000
e. Fire Damage	$ 50,000
f. Medical Expense (any one person)	$ 5,000
2. Business Auto Liability (including all owned, non-owned, and hired vehicles):	
a. Combined Single Limit	$ 1,000,000
-OR-	
b. Bodily Injury & Property Damage (each)	$ 1,000,000
3. Workers Compensation	
a. State	Statutory
b. Employer's Liability	$ 100,000 Per Accident
	$ 500,000 Disease, Policy Limit
	$100,000 Disease, Each Employee

D. The aggregate Limits of the Contractor's Insurance shall apply, in total for this Contract. This shall be indicated on the Certificate of Insurance as "Per Project", or in an attached policy amendment.

E. The Owner shall be listed as the certificate holder of the Contractor's Liability Insurance.

F. Certificates of Insurance shall be in the form of the latest edition of the ACORD 25S and shall be filed with the Owner prior to commencement of the Work. In addition to Certificates of Insurance, the Contractor shall supply a written endorsement to the Contractor's general liability insurance policy that names the Owner as an additional insured. The endorsement shall provide that the Contractor's liability insurance policy shall be primary, and that any liability insurance of the Owner shall be secondary and noncontributory. These Certificates shall contain a provision that coverages afforded under the policies will not be cancelled unless at least fifteen (15) days prior written notice has been given to the Owner.

G. In no event shall any failure of the Owner to receive certified copies or certificates of policies required under this Article or to demand receipt of such certified copies or certificates prior to the Contractor's commencing the Work be construed as a waiver by the Owner of the contractor's obligations to obtain insurance pursuant to this Article. The obligation to procure and maintain any insurance required by this Article is a separate responsibility of the Contractor and independent of the duty to furnish a certified copy or certificate of such insurance policies. Cancellation of insurance shall be grounds for termination of the contract.

H. Bonds

If required by the Contract Documents, and prior to being issued a Notice to Proceed, the Contractor shall deliver to the Owner properly executed Performance and Payment Bonds. Failure to provide the Bonds may indicate that the Contractor is in material breach of its responsibilities under the Contract.

1. Bonds shall each be in the amount of 100% of the amount of the Contract.
2. The Surety providing the Bonds shall have, at a minimum a "Best Rating" of "A" as stated in the most current publication of "Best's Key Rating Guide, Property–Casualty". In addition, the Surety shall have a minimum "Best Financial Strength Category " of "Class V" and in no case less than five (5) times the contract amount. The Bonds shall:
   a. be issued by a surety company licensed to do business in South Carolina; and,
   b. be accompanied by a current power of attorney and certified by the attorney-in-fact who executes the bond on the behalf of the surety company; and,
   c. remain in effect for a period not less than one (1) year following the date of Substantial Completion or the time required to resolve any items of incomplete work and the payment of any disputed amounts, whichever time period is longer; and,
   d. display the Surety's' Bond Number.

I. Property Insurance

The Contractor shall purchase and maintain Builder's Risk insurance in the amount of the Contract Sum and all subsequent modifications on a replacement cost basis. The Contractor shall be responsible for any deductibles. Such insurance shall be maintained until final payment has been made.

ARTICLE 10 – CORRECTION OF WORK

A. The Contractor shall promptly and with due diligence, correct work rejected by the A/E or the Owner for failure to conform to the requirements of the Contract, whether such defective work is observed before or after Final Completion. The Contractor shall pay for correcting the deficient work including additional testing and inspections and any compensation for A/E services and expenses involved.

B. If the Contractor fails to carry out the Work in accordance with the Contract Documents, and fails within a seven (7) day period after receipt of notice from the Owner to commence and continue correction of such default or neglect with diligence and promptness, the Owner may, without prejudice to other remedies they may have, proceed to correct such deficiencies. In such case, an appropriate Construction Change Directive shall be issued deducting from payments to the Contractor the reasonable cost of correcting such deficiencies including the Owners expenses, and compensation to the A/E, if necessary.

C. The Contractor and the Surety (if the Contract is bonded) remain liable for any excess cost or damages resulting from actions set forth in this Article.

ARTICLE 11 – CONSTRUCTION BY OWNER

A. The Owner reserves the right to do work with its own forces or award separate contracts for work on the same project.

B. The Contractor agrees to allow access to the site by the Owner's work force or separate contractor(s), and agrees to assist in coordinating the progress of the Work with the Owner.

C. The Owner shall have the responsibility to coordinate the activities of the various contractors working at the project location.

ARTICLE 12 – SUBCONTRACTORS

If the Contractor engages subcontractors to provide work on the Contract, then the Contractor shall include, or cause to be included, in the agreement with those entities, all provisions contained in the Contract. Subcontractors and sub-subcontractors shall be bound by the same provisions as the Contractor and shall preserve and protect the rights of the Owner.

ARTICLE 13 – COMPLETION AND CLOSEOUT

A. The Contractor shall have completed the unfinished and defective work listed in the "punch list" and notify the A/E of its completion. The A/E will schedule a Final Inspection and require the Contractor to demonstrate that all equipment and systems operate as designed. The Owner may elect to have other persons, firms or agencies participate in the inspections.

B. Failure of the Contractor to achieve completion within the allowed time shall entitle the Owner to consider the Contractor in breach of the Contract.

C. If more than one Final Inspection is required, the Contractor shall reimburse the Owner for all costs associated with the re-inspection, if any.

D. Final Payment shall not be due, nor shall retained funds be released, until the Contractor complies with the requirements of Article 4.

ARTICLE 14 – MISCELLANEOUS PROVISIONS

A. The Contractor and Owner each bind themselves, their partners, directors, officers, successors, executors, administrators, assigns and legal representatives in respect to all provisions of this contract. Neither party shall assign, sublet or transfer their interest in this Contract without the written consent of the other party.

B. This Contract represents the entire and integrated agreement between the Owner and Contractor. It supersedes any and all prior and contemporaneous communications, representations and agreements, whether written or oral relating to the subject matter of this Contract.

C. Nothing in this Contract shall be construed to give any rights, contractual relationship or benefit to a third party against either the Owner or the Contractor.

D. Unless otherwise included in the Contract, nothing shall require the Contractor to discover, handle, remove or dispose of any hazardous or toxic materials in any form at the project site.

ARTICLE 15 – GOVERNING LAW

A. This contract shall be governed by the laws of the State of South Carolina.

ARTICLE 16 – OTHER PROVISIONS (if any)

A. The Contractor shall indemnify and save harmless the Owner and the Owner's agents and employees, from and against all losses and claims, demands, payments, suits, actions, recoveries, and judgments of every nature and description brought or recovered against them by reason of any act, omission, or default of the Contractor, its agents, or employees in the execution of this Contract. When the City submits notice, Contractor shall promptly defend any aforementioned action at no cost to the Owner. This obligation shall survive the suspension or termination of this Contract. The limits of insurance coverage required herein shall not serve to limit this indemnity obligation. The recovery of costs and fees shall extend to those incurred in the enforcement of this indemnity.

City of Charleston
Department of Parks
Capital Projects Division

Bid Tabulation Form
Install 32 NG Overhead Tube Heaters at Market Shed C

Project Number:CP 1811
Date: January 6, 2020
Time: 2:00 PM

Bidder	Addendum Noted	MWBE	Local Vendor	Bid Bond	Base Bid	Unit Price 1	
IPW CONSTRUCTION GROUP	✓	✓		✓	$96,460.00	$3,015.00	
TRIAD MECH CONTRACTORS	✓	✓		✓	$124,818.00	$3,900.00	

Certified Correct By: [signature]
BETH BROWNLEE, SE CONSTRUCTION PM

Date: JANUARY 6 2020

1.6.2020

City of Charleston
Bid Form

BID SUBMITTED BY: Name: IPW Construction Group, LLC
Address: 7623 Dorchester Rd. North Charleston, SC 29418

FOR PROJECT: CP 1811 - Installation of 32 each Tybe Type Overhead Heaters at Market Shed C
(Number) (Name)

OFFER

1. In response to the *Invitation for Construction Bids*, and in compliance with the *Instructions to Bidders* for the above-named Project, the undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into a Contract with the City of Charleston ("Owner") in the form included in the Bidding Documents, and to perform all Work as specified or indicated in the Bidding Documents, for the prices and within the time frames indicated in this Bid and in accordance with the other terms and conditions of the Bidding Documents.

2. Bidder has submitted Bid Security as follows in the amount and form requested by the Bidding Documents:

   ☑ Bid Bond with Power of Attorney ☐ Cashier's Check
   (Bidder check one)

3. Bidder, by submitting this Bid, affirms that it has carefully examined the Bidding Documents and the other related information and data identified in the Bidding Documents, has visited the actual location of the Work, has satisfied itself as to all conditions and understands that, in signing this Bid Form it waives all rights to plead any misunderstanding regarding same and agrees to be bound by the provisions of said Bidding Documents and all statements made therein.

4. Bidder acknowledges the receipt of the following Addenda to the Bidding Documents and has incorporated the effects of said Addenda into its Bid:
   ADDENDUM No.(s) 1, 2, 3

5. Bidder acknowledges that neither the Owner nor any of its employees or agents shall be responsible for any bid preparation costs, or any costs or charges of any type, should all bids be rejected or the Project cancelled for any reason prior to the issuance of the Notice to Proceed.

6. By submitting this Bid, Bidder hereby agrees to all of the terms and conditions of the *Invitation for Construction Bids* and to all of the terms and conditions of the *Instructions to Bidders*. Bidder agrees that this Bid, including all Bid Alternates, if any, may not be revoked or withdrawn after the opening of bids, and shall remain open for acceptance for a period of 60 days following the Bid Date, or for such longer period of time that Bidder may agree to in writing upon request of the Owner. Bidder understands that Bid Alternates that are not accepted in an initial award shall remain open for acceptance for the entire period set above and for such longer period as requested by Owner and agreed to by Bidder.

7. Bidder herewith submits its offer to provide all labor, materials, equipment, tools of trades and labor, accessories, appliances, warranties and guarantees, and to pay all royalties, fees, permits, licenses and applicable taxes necessary to complete the construction work in accordance with the Bidding Documents:

EXHIBIT A

Project Name: «Project_Name»
Project Number :«Project_no»
City of Charleston

7.1 BASE BID: $ 96,460.00

Written: Ninety Six thousand four hundred sixty dollars & zero cents

7.2 ALTERNATE BID WORK (as indicated in the Bidding Documents and generally described as follows):
(Bidder shall STRIKE THROUGH "ADD" or "DEDUCT" so as to clearly indicate the price adjustment offered for each alternate)

ALTERNATE NO. 1: N/A — ADD/DEDUCT $ _____ *(to or from BASE BID)*

ALTERNATE NO. 2: _____ — ADD/DEDUCT $ _____ *(to or from BASE BID)*

ALTERNATE NO. 3: _____ — ADD/DEDUCT $ _____ *(to or from BASE BID)*

7.3 UNIT PRICE WORK
Bidder offers for the Owner's consideration and use the following UNIT PRICES. The UNIT PRICES offered by Bidder indicate the amount to be added to or deducted from the Base Bid for each item-unit combination. UNIT PRICES include all costs to the Owner, including those for materials, labor, equipment, tools of trades and labor, fees, taxes, insurance, bonding, overhead, profit, etc. The Owner reserves the right to include or not to include any of the following UNIT PRICES in the Contract and to negotiate the UNIT PRICES with Bidder.

NO.	ITEM	ESTIMATED QUANTITY	UNIT PRICE
1	**Install 1 owner furnished heater as per drawings and notes**	**1 each**	$3,015.00
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			

8. BIDDER'S TAXPAYER IDENTIFICATION

FEDERAL EMPLOYER'S IDENTIFICATION NUMBER: 46-2097604
OR
SOCIAL SECURITY NUMBER: NA

9. CONTRACTOR'S CLASSIFICATIONS AND SUBCLASSIFICATIONS WITH LIMITATIONS

(Classification)	(Subclassification)	(Limitations)
BD5, IR5, MS5, HY5, WL5, EL5, PB5	NA	Unlimited

G117838 / M112510
(SC Contractor's License Number)

SIGNATURE

Bryan Rembert, VPO
(Legal Name of Person, Firm or Corporation Submitting Bid)

BY (Signature) 1/16/2020 (Date)

Vice President of Operations (Title) 843-308-0524 (Phone)

MWBE Compliance Provisions and Instructions Minority/Women Business Enterprise Program Forms

This Project is covered under the City of Charleston's Minority/Women Business Enterprise (MWBE) Program, administered by Ruth Jordan, MBE Manager, 145 King Street, Suite 104, Charleston SC, 29401, (843) 973-7247.

The City has established goals for both Minority Business Enterprises (MBE) and Women Business Enterprises (WBE). An MBE is a small business owned and controlled by a minority. A WBE is a small business owned and controlled by a woman. The minority or woman must own fifty-one percent (51%) of the business and they must control the management and daily operations of the business in order to qualify.

Charleston City Council has adopted a policy setting 20% as the guidelines for combined minority-owned and women-owned business enterprise participation for this project. This MWBE requirement for participation in this Contract for services shall be made a part of any contract resulting from this solicitation. These requirements shall also apply to all subcontracts issued by the successful bidder(s).

Bidder's MBE/WBE Participation: All bidders must document the extent of their MWBE participation by completing the MWBE Compliance Provision Forms. Bidders must complete Affidavits A and B or Affidavit C and attach the entire package to the Bid Form. Bidders who fail to submit these documents as required by the Procurement Office shall be deemed non-responsive and will be ineligible for award of the Contract.

All MBE/WBE subcontractors must have a Certificate of Eligibility on file with the City's Minority Business Enterprise Office. A list of certified minority and women-owned firms can be found on the City of Charleston's web site www.charleston-sc.gov under "BIDLINE" link or by contacting Ruth Jordan, MBE Manager, 2 George Street, Charleston, SC 29403, (843) 724-7434, jordanr@charleston-sc.gov.

COMPLIANCE REQUIREMENTS:

1. The Bidder shall provide, **with their bid form submittal,** the following Affidavits properly executed which signify that the Bidder understands and agrees to abide by the City's MWBE Compliance Provisions.

Affidavit A - Listing of the Good Faith Effort to Identify & Secure Minority and Women-owned Business Participation.

AND

Affidavit B – Work to be Performed by Minority and/or Women-owned Firms

OR

Affidavit C – ***Intent to Perform Contract with Own Workforce***, in making this certification the Bidder states that the Bidder does not customarily subcontract elements of this type of Project and will perform all elements of the work with his/her own current work forces.

2. All affidavits supplied by the Bidder shall become a part of any resulting Contract between the Bidder and the City of Charleston. Failure to comply with any of the statements, certifications, or intentions stated in the affidavits, or the MBE/WBE compliance provisions shall constitute a breach of the Contract. Any such breach may result in termination of the Contract in accordance with the termination provisions contained in the Contract. It shall be solely at the option of the City of Charleston whether to terminate the contract for breach. In addition to terminating the Contract, the bidder may be prohibited from participation in future solicitations as determined by the City of Charleston.

Name of Company: IPW Construction Group, LLC

Signature: _____ Date: 1/16/2020

Print Name: Bryan Rembert Title: VPO

Witness: Christy Bishop

AFFIDAVIT A

City of Charleston, South Carolina Listing of the Good Faith Effort

Affidavit of IPW Construction Group, LLC
(Name of Bidder)

I have made a good faith effort to comply with the City of Charleston's MWBE compliance provisions under the following checked areas:

(A minimum of 6 areas must be checked in order to have achieved a "good faith effort")

- o 1. Contacted MWBE businesses that reasonably could have been expected to submit a quote and that were known to the Bidder, or available on Federal, State or local government maintained lists, at least 10 business days before the submittal date and notified them of the nature and scope of the work to be performed. ***Complete Affidavit A, Page 2.***
- o 2. Followed up with contacted MWBE subsequent to the initial contact and at least 72 hours prior to submittal deadline/bid opening either by phone, facsimile or in person.
- o 3. Made the construction plans, specifications, and requirements available for review by prospective MWBE businesses, or providing these documents to them at least 10 business days before the submittal deadline/bid opening.
- o 4. Itemized elements of the work or combined elements of the work into economically feasible units to facilitate MWBE participation.
- o 5. Attended any pre-solicitation meetings scheduled by the City.
- o 6. Provided MWBE assistance withgetting required bonding or insurance requirements or provided alternatives to bonding or insurance.
- o 7. Negotiated in good faith with interested MWBEs and did not reject them as unqualified without sound reasons based on their capabilities. ***(Any rejection of a minority or woman-owned business based on lack of qualifications shall include reasons for rejection documented in writing.)***
- 8. Provided MWBEs assistance with securing needed equipment, loan capital, lines of credit, or joint pay agreements to secure loans, supplies, or letters of credit, including waiving credit that is ordinarily required. Assisted MWBEs in obtaining the same unit pricing with the Bidder's suppliers in order to help such businesses in establishing credit.
- 9. Provided training or mentoring to at least two (2) MWBEs within 120 days prior to submittal deadline/bid opening. The training or mentoring program should be in conjunction with local trade groups, technical schools or community organizations that provide recruitment, education or skill levels.
- 10. Negotiated joint venture, partnership or other similar arrangements with MWBEs in order to increase opportunities for MWBE participation.
- 11. Provided quick pay agreements and policies to enable MWBE contractors and suppliers to meet cash-flow demands.

I hereby agree to enter into a formal agreement with the firms listed in Affidavit B Work to be performed by Minority Firms conditional upon execution of a contract with the Owner. Failure to abide by this provision will constitute a breach of the contract.

I hereby certify that I have read and agree to the terms of the Minority / Women-Owned Business Enterprise Program, and I am the Bidder or I am authorized to bind the Bidder to the commitment herein set forth.

Date: 1/16/2020 Name of Authorized Officer (Print Type): Bryan Rembert

Signature: [signature]

Title: Vice President of Operations

AFFIDAVIT A

City of Charleston, South Carolina Minority/Women-Owned Business Participation Efforts

(Use as many sheets as necessary)

I, Bryan Rembert, hereby certify that on this project we contacted the following minority/women-owned business enterprises as subcontractors, vendors, suppliers, or providers of professional services.

1. Minority Firm Name and Contact: IPW Construction Group, LLC Bryan Rembert, VPO	Minority Firm Address: 7623 Dorchester Rd. North Charleston, SC 29418
Minority Firm Telephone Number: 843-308-0524 Minority Firm Fax Number: 843-308-6650 DBE Certification Number: 09080211084	Minority Group Type ☐ (African American) ☐ (Women) ☑ (Asian American) ☐ (Hispanic) ☐ (American Indian) ☐ (Other) ☐ Follow up Verification
2. Minority Firm Name and Contact	Minority Firm Address
Minority Firm Telephone Number Minority Firm Fax Number DBE Certification Number	Minority Group Type ☐ (African American) ☐ (Women) ☐ (Asian American) ☐ (Hispanic) ☐ (American Indian) ☐ (Other) ☐ Follow up Verification
3. Minority Firm Name and Contact	Minority Firm Address
Minority Firm Telephone Number Minority Firm Fax Number DBE Certification Number	Minority Group Type ☐ (African American) ☐ (Women) ☐ (Asian American) ☐ (Hispanic) ☐ (American Indian) ☐ (Other) ☐ Follow up Verification
4. Minority Firm Name and Contact	Minority Firm Address
Minority Firm Telephone Number Minority Firm Fax Number DBE Certification Number	Minority Group Type ☐ (African American) ☐ (Women) ☐ (Asian American) ☐ (Hispanic) ☐ (American Indian) ☐ (Other) ☐ Follow up Verification

I certify, under penalties of perjury, that I have examined the information in this affidavit, and to the best of my knowledge and belief, this information is true, correct and complete.

Date: 1/6/2020 Name of Authorized Officer (Print Type): Bryan Rembert, VPO

Sworn to before me this 6 day of January 2020

Notary Public for the State of: South Carolina

My Commission Expires: 8/17/2027

Print Name: Christy Bishop

Phone Number: 843-308-0524

Address: 7623 Dorchester Rd.

North Charleston, SC 29418

Signature:

Title: Vice President of Operations

Notary Seal:

CHRISTY BISHOP
My Commission Expires
NOTARY PUBLIC
08-17-2027
STATE OF SOUTH CAROLINA

AFFIDAVIT B

City of Charleston, South Carolina
Work to be Performed by Minority/Women-Owned Businesses

Affidavit of IPW Construction Group, LLC (Name of Bidder). I hereby certify that on the Installation of 32 each tube type overhead heaters (Project Name) at Market Shed C Total Project Amount $ 96,460.00

I will make a good faith effort to expend a minimum of 100 % of the total dollar amount of the Contract with minority/women-owned business enterprises. Minority/women-owned businesses will be employed as subcontractors, vendors, suppliers, or providers of professional services. Such work will be subcontracted to the following businesses listed below:

(Attach additional sheets if needed)

Name and Phone Number	*Minority Code	Work Description	Dollar Value
N/A	N/A	N/A	$ N/A
			$
			$
			$
			$
			$
			$

Total MBE Participation: 100 % $ 96,460.00

* Minority categories: African American (B); Hispanic (H); Asian American (A), American Indian (I); Woman Owned (W); Other (D)

I will enter into a formal Contract with the above minority/women-owned business enterprises for the work listed in the above schedule conditional upon execution of a Contract with the Owner.

I certify that I have read the terms of this commitment and I am the Bidder or authorized to bind the Bidder to the commitment set forth herein. I certify, under penalties of perjury, that I have examined the information in this affidavit, and to the best of my knowledge and belief, this information is true, correct and complete.

Date: 1/6/2020 Name of Authorized Officer (Print Type): Bryan Bembert, VPO

Signature: [signature]

Title: Vice President of Operations

Sworn to before me this 6 day of January, 2020

My Commission Expires 9/17/2027

Notary Public for the State of South Carolina

Notary Seal:

Print Name: Christy Bishop

Phone Number: 843-308-0524

Address: 7623 Dorchester Rd.
North Charleston, SC 29418

CHRISTY BISHOP
My Commission Expires
NOTARY PUBLIC
09-17-2027
STATE OF SOUTH CAROLINA

AIA® Document A310™ – 2010

Bid Bond

CONTRACTOR:
(Name, legal status and address)
IPW Construction Group, LLC
7623 Dorchester Road
North Charleston, SC 29418

SURETY:
(Name, legal status and principal place of business)
RLI Insurance Company
9025 N. Lindbergh Drive
Peoria, IL 61615

OWNER:
(Name, legal status and address)
City of Charleston
823 Meeting St.
Charleston, SC 29403

BOND AMOUNT: 5% of the attached bid***

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

Any singular reference to Contractor, Surety, Owner or other party shall be considered plural where applicable.

PROJECT:
(Name, location or address, and Project number, if any)
Installation of 32 Tube Type Overhead Heaters at Market Shed C
#CP1811

Project Number, if any:

The Contractor and Surety are bound to the Owner in the amount set forth above, for the payment of which the Contractor and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, as provided herein. The conditions of this Bond are such that if the Owner accepts the bid of the Contractor within the time specified in the bid documents, or within such time period as may be agreed to by the Owner and Contractor, and the Contractor either (1) enters into a contract with the Owner in accordance with the terms of such bid, and gives such bond or bonds as may be specified in the bidding or Contract Documents, with a surety admitted in the jurisdiction of the Project and otherwise acceptable to the Owner, for the faithful performance of such Contract and for the prompt payment of labor and material furnished in the prosecution thereof; or (2) pays to the Owner the difference, not to exceed the amount of this Bond, between the amount specified in said bid and such larger amount for which the Owner may in good faith contract with another party to perform the work covered by said bid, then this obligation shall be null and void, otherwise to remain in full force and effect. The Surety hereby waives any notice of an agreement between the Owner and Contractor to extend the time in which the Owner may accept the bid. Waiver of notice by the Surety shall not apply to any extension exceeding sixty (60) days in the aggregate beyond the time for acceptance of bids specified in the bid documents, and the Owner and Contractor shall obtain the Surety's consent for an extension beyond sixty (60) days.

If this Bond is issued in connection with a subcontractor's bid to a Contractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

When this Bond has been furnished to comply with a statutory or other legal requirement in the location of the Project, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

Signed and sealed this 8th day of January , 2020

Christy Bishop
(Witness)

IPW Construction Group, LLC
(Principal) *(Seal)*

(Title) Bryan Rembert, VPO

Edith P. Forsberg
(Witness) Edith P. Forsberg

RLI Insurance Company
(Surety) *(Seal)*

(Title) Raymond E. Cobb, Jr. , Attorney-in-Fact

Init.

/

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POWER OF ATTORNEY

RLI Insurance Company
Contractors Bonding and Insurance Company

9025 N. Lindbergh Dr. Peoria, IL 61615
Phone: 800-645-2402

Know All Men by These Presents:

That this Power of Attorney is not valid or in effect unless attached to the bond which it authorizes executed, but may be detached by the approving officer if desired.

That **RLI Insurance Company** and/or **Contractors Bonding and Insurance Company**, each an Illinois corporation, (separately and together, the "Company") do hereby make, constitute and appoint:

C. Wayne McCartha, Raymond E. Cobb Jr., M. Kathryn McCartha-Powers, jointly or severally

in the City of Columbia, State of South Carolina its true and lawful Agent(s) and Attorney(s) in Fact, with full power and authority hereby conferred, to sign, execute, acknowledge and deliver for and on its behalf as Surety, in general, any and all bonds and undertakings in an amount not to exceed Twenty Five Million Dollars ($25,000,000.00) for any single obligation.

The acknowledgment and execution of such bond by the said Attorney in Fact shall be as binding upon the Company as if such bond had been executed and acknowledged by the regularly elected officers of the Company.

RLI Insurance Company and/or **Contractors Bonding and Insurance Company**, as applicable, have each further certified that the following is a true and exact copy of a Resolution adopted by the Board of Directors of each such corporation, and is now in force, to-wit:

"All bonds, policies, undertakings, Powers of Attorney or other obligations of the corporation shall be executed in the corporate name of the Company by the President, Secretary, any Assistant Secretary, Treasurer, or any Vice President, or by such other officers as the Board of Directors may authorize. The President, any Vice President, Secretary, any Assistant Secretary, or the Treasurer may appoint Attorneys in Fact or Agents who shall have authority to issue bonds, policies or undertakings in the name of the Company. The corporate seal is not necessary for the validity of any bonds, policies, undertakings, Powers of Attorney or other obligations of the corporation. The signature of any such officer and the corporate seal may be printed by facsimile."

IN WITNESS WHEREOF, the **RLI Insurance Company** and/or **Contractors Bonding and Insurance Company**, as applicable, have caused these presents to be executed by its respective Vice President with its corporate seal affixed this 1st day of November, 2017.

CONTRACTORS BONDING AND INSURANCE COMPANY CORPORATE SEAL ILLINOIS

RLI INSURANCE COMPANY CORPORATE SEAL ILLINOIS

RLI Insurance Company
Contractors Bonding and Insurance Company

By: Barton W. Davis — Vice President

State of Illinois
County of Peoria } SS

On this 1st day of November, 2017, before me, a Notary Public, personally appeared Barton W. Davis, who being by me duly sworn, acknowledged that he signed the above Power of Attorney as the aforesaid officer of the **RLI Insurance Company** and/or **Contractors Bonding and Insurance Company** and acknowledged said instrument to be the voluntary act and deed of said corporation.

By: Gretchen L. Johnigk — Notary Public

NOTARY PUBLIC STATE OF ILLINOIS
GRETCHEN L JOHNIGK
"OFFICIAL SEAL"
My Commission Expires May 26, 2020

CERTIFICATE

I, the undersigned officer of **RLI Insurance Company** and/or **Contractors Bonding and Insurance Company**, do hereby certify that the attached Power of Attorney is in full force and effect and is irrevocable; and furthermore, that the Resolution of the Company as set forth in the Power of Attorney, is now in force. In testimony whereof, I have hereunto set my hand and the seal of the **RLI Insurance Company** and/or **Contractors Bonding and Insurance Company** this 6th day of January, 2020.

RLI Insurance Company
Contractors Bonding and Insurance Company

By: Jean M. Stephenson — Corporate Secretary

39319202212

A0058817

AFFIDAVIT C

City of Charleston, South Carolina
Intent to Perform Contract with Own Workforce.

Affidavit of IPW Construction Group, LLC
(Name of Bidder)

I hereby certify that it is our intent to perform 100% of the work required for the Installation of 32 each Tube type overhead heaters at Market Shed C contract.
(Name of Project)

In making this certification, the Bidder states that the Bidder does not customarily subcontract elements of this type Project, and normally performs and has the capability to perform and will perform *all the elements of the work* on this Project with his/her own current work forces, and

The Bidder agrees to provide any additional information or documentation requested by the Owner in support of the above statement.

Ihereby certify that I have read this certification and I am the Bidder or I am authorized to bind the Bidder to the commitments contained herein. I certify, under penalties of perjury, that I have examined the information in this affidavit, and to the best of my knowledge and belief, this information is true, correct and complete.

Date: 1/6/2020 Name of Authorized Officer (Print Type): Bryan Rembert, VPO

Signature:

Title: Vice President of Operations

Sworn to before me this 6 day of January 2020
Notary Public for the State of South Carolina
My Commission Expires: 8/17/2027
Print Name: Christy Bishop
Phone Number: 843-308-0524
Address 7623 Dorchester Rd.
North Charleston, SC, 29418

Notary Seal:

CHRISTY BISHOP
My Commission Expires
NOTARY PUBLIC
08-17-2027
STATE OF SOUTH CAROLINA

MWBE Compliance Provisions and Instructions Minority/Women Business Enterprise Program Forms

This Project is covered under the City of Charleston's Minority/Women Business Enterprise (MWBE) Program, administered by Ruth Jordan, MBE Manager, 145 King Street, Suite 104, Charleston SC, 29401, (843) 973-7247.

The City has established goals for both Minority Business Enterprises (MBE) and Women Business Enterprises (WBE). An MBE is a small business owned and controlled by a minority. A WBE is a small business owned and controlled by a woman. The minority or woman must own fifty-one percent (51%) of the business and they must control the management and daily operations of the business in order to qualify.

Charleston City Council has adopted a policy setting 20% as the guidelines for combined minority-owned and women-owned business enterprise participation for this project. This MWBE requirement for participation in this Contract for services shall be made a part of any contract resulting from this solicitation. These requirements shall also apply to all subcontracts issued by the successful bidder(s).

Bidder's MBE/WBE Participation: All bidders must document the extent of their MWBE participation by completing the MWBE Compliance Provision Forms. Bidders must complete Affidavits A and B or Affidavit C and attach the entire package to the Bid Form. Bidders who fail to submit these documents as required by the Procurement Office shall be deemed non-responsive and will be ineligible for award of the Contract.

All MBE/WBE subcontractors must have a Certificate of Eligibility on file with the City's Minority Business Enterprise Office. A list of certified minority and women-owned firms can be found on the City of Charleston's web site www.charleston-sc.gov under "BIDLINE" link or by contacting Ruth Jordan, MBE Manager, 2 George Street, Charleston, SC 29403. (843) 724-7434, jordanr@charleston-sc.gov.

COMPLIANCE REQUIREMENTS:

1. The Bidder shall provide. **with their bid form submittal,** the following Affidavits properly executed which signify that the Bidder understands and agrees to abide by the City's MWBE Compliance Provisions.

Affidavit A - Listing of the Good Faith Effort to Identify & Secure Minority and Women-owned Business Participation.

AND

Affidavit B – Work to be Performed by Minority and/or Women-owned Firms

OR

Affidavit C – ***Intent to Perform Contract with Own Workforce***, in making this certification the Bidder states that the Bidder does not customarily subcontract elements of this type of Project and will perform all elements of the work with his/her own current work forces.

2. All affidavits supplied by the Bidder shall become a part of any resulting Contract between the Bidder and the City of Charleston. Failure to comply with any of the statements, certifications, or intentions stated in the affidavits, or the MBE/WBE compliance provisions shall constitute a breach of the Contract. Any such breach may result in termination of the Contract in accordance with the termination provisions contained in the Contract. It shall be solely at the option of the City of Charleston whether to terminate the contract for breach. In addition to terminating the Contract, the bidder may be prohibited from participation in future solicitations as determined by the City of Charleston.

Name of Company: IPW Construction Group, LLC

Signature

1/6/2020
Date

Brian Rembert
Print Name

Vice President of Operations
Title

Christy Bishop
Witness

UCP UNIFIED CERTIFICATION PROGRAM

Certificate of Eligibility

granted to

IPW Construction Group, LLC

It has been determined that the firm listed above has met all federal requirements in accordance with the Code of Federal Regulations (49 CFR Part 26) and is thereby eligible to participate in the Disadvantaged Business Enterprise Program in the State of South Carolina.

Area of Work:

Highway Paving - Asphalt, Concrete, Building, Grading, Highway Incidentals, Engineering and General Contracting, Electrical and Plumbing Contractors; Bridge Site Work, Bridge Concrete, Marine Pier Carpentry, and Boat Landing Concrete & Grading; Surveying

NAICS:

236220, 238110, 238210, 238220, 238310, 238910, 541330, 541370

Issue Date: 5/5/2017

Director of Business Development & Special Programs
South Carolina Department of Transportation

Business Development and Special Programs • 955 Park Street • P.O. Box 191 • Columbia SC 29202 0191
(803)737 1372 • Fax (803)737 2021 • www.scdot.org/doing/dbe.shtml

SCDOT

FTA U.S. DEPARTMENT OF TRANSPORTATION FEDERAL TRANSIT ADMINISTRATION

FEDERAL AVIATION ADMINISTRATION

DEPARTMENT OF TRANSPORTATION UNITED STATES OF AMERICA

City of Charleston

MWBE Certification

This is to certify that

IPW Construction Group, LLC

has met the requirements and is a certified minority or woman-owned business enterprise in good standing with the City of Charleston, South Carolina's Minority and Women Business Enterprise Program.

February 28, 2018	0908021684	February 28, 2023
Date of Certification	Certification Number	Expiration Date

MBE Manager

Small & Minority Business

Contracting

& Certification

Certificate of Minority Owned Business

IPW CONSTRUCTION GROUP, LLC

located at

North Charleston, South Carolina

has been determined to be a

minority owned business operating in

the State of South Carolina

Director, Office of Small & Minority
Business Contracting & Certification

Certification Number: 201723

Date: May 11, 2017

Expiration Date: May 11, 2022

CCB1055378

STATE OF SOUTH CAROLINA

DEPARTMENT OF LABOR, LICENSING AND REGULATION

SC CONTRACTOR'S LICENSING BOARD

LICENSE CERTIFICATE

LICENSE# - CLG.117838 The following licensee: LICENSE# - CLG.117838

IPW CONSTRUCTION GROUP LLC
7623 DORCHESTER ROAD
N CHARLESTON SC 29418

has met the necessary qualifications required by the laws of the state of South Carolina and is duly qualified and entitled to practice as a:

GENERAL CONTRACTOR

for the Classification(s) and Group Limitation shown below:

BD5 IR5 MS5 HY5 WL5 AP5 CP5 DR5 GD5 HI5

Initial License Date: 03/04/2013
License Print Date: 08/31/2018
Expiration Date: 10/31/2020

*** Group Number and Dollar Limitations: ***
The number after your 2 letter classification(s) above is your Group#
Group #1 - $50,000 Group #3 - $500,000
Group #2 - $200,000 Group #4 - $1,500,000
Group #5 - $Unlimited

Administrator

Qualifying Party(s): MR CYRUS D SINOR
(a Primary QP will have a "PQ" after their certificate number)

It is at the discretion of the licensee, not the Board, to authorize officers or employees of the company to pull permits and conduct business.

CCG 1038040

STATE OF SOUTH CAROLINA
DEPARTMENT OF LABOR, LICENSING AND REGULATION
SC CONTRACTOR'S LICENSING BOARD

LICENSE CERTIFICATE

LICENSE# - CLM.112510 The following licensee: LICENSE# - CLM.112510

IPW CONSTRUCTION GROUP LLC
7623 DORCHESTER ROAD
N CHARLESTON SC 29418

has met the necessary qualifications required by the laws of the state of South Carolina and is duly qualified and entitled to practice as a:

MECHANICAL CONTRACTOR

for the Classification(s) and Group Limitation shown below:

EL5 PB5

Initial License Date: 03/04/2013
License Print Date: 09/07/2019
Expiration Date: 10/31/2021

*** Group Numbers and Dollar Limitations: ***
The number after your 2-letter classification(s) above is your Group#
Group #1 - $17,500 Group #3 - $100,000
Group #2 - $50,000 Group #4 - $200,000
Group #5 - $Unlimited

Administrator

Qualifying Party(s): LINWOOD S ROBERSON, MR CYRUS D SINOR
(a Primary QP will have a "PQ" after their certificate number)

It is at the discretion of the licensee, not the Board, to authorize officers or employees of the company to pull permits and conduct business.

COMMITTEE / COUNCIL AGENDA

13-)

TO: John J. Tecklenburg, Mayor

FROM: Geona Shaw Johnson **DEPT.** Housing & Community Dev

SUBJECT: CONTRACT WITH CHARLESTON HABITAT FOR HUMANITY

REQUEST: Mayor and City Council approval is requested to execute a contract in the amount of $50,000 with Charleston Habitat Humanity. The contract would allow for the provision of services related to minor repair and renovation for low and moderate income residents living in the City of Charleston. Funds to support this contract will be derived from prior year Community Development Block Grant (CDBG) Funds.

COMMITTEE OF COUNCIL: Ways and Means **DATE:** January 28, 2020

COORDINATION: This request has been coordinated with: *(attach all recommendations/reviews)*

	Yes	N/A	Signature of Individual Contacted	Attachment
Housing & Cmty Deve	x		Geona Shaw Johnson	X
Corporation Counsel	x			

FUNDING: Was funding previously approved? Yes ☐ No ☒ N/A ☐

If yes, provide the following: Organization Key _____ Account # 456005

Balance in Account $50,000 Amount needed for this item $50,000

NEED: Identify any critical time constraint(s).

CFO's Signature: Amy Wharton

FISCAL IMPACT:

Mayor's Signature: John J. Tecklenburg, Mayor

ORIGINATING OFFICE PLEASE NOTE: A FULLY STAFFED/APPROVED (except Mayor's Signature) PACKAGE IS DUE IN THE CLERK OF COUNCIL'S OFFICE NO LATER THAN 10:00AM THE DAY OF THE CLERK'S AGENDA MEETING.

CONTRACT BETWEEN THE CITY OF CHARLESTON
AND
CHARLESTON HABITAT FOR HUMANITY, INC.,
FOR
COMMUNITY DEVELOPMENT BLOCK GRANT

THIS CONTRACT (the "***Contract***") is entered into as of the _____ day of January, 2020, by and between the City of Charleston, South Carolina (the "***City***"), and Charleston Habitat for Humanity, Inc., a South Carolina nonprofit corporation (the "***Subrecipient***").

WHEREAS, the City of Charleston has applied for and received funds from the United States Government under Title I of the Housing and Community Development Act of 1974; and

WHEREAS, the City of Charleston wishes to engage Subrecipient in utilization of fifty thousand ($50,000.00) dollars in 44th Year Community Development Block Grant (CDBG) funds (the "***Funds***") as set forth below.

NOW, THEREFORE, it is agreed between the parties hereto that:

I. SCOPE OF SERVICE

A. Activities

Subrecipient shall utilize the Funds for minor renovation expenses in connection with the primary residences of a minimum of ten (10) low- or moderate-income persons or households earning eighty percent (80%) or below the Area Median Income residing in the City of Charleston, South Carolina. The Subrecipient shall utilize the Funds for the purpose outlined in the narrative attached thereof as Addendum A.

B. Performance/Objective Monitoring

1. The City of Charleston shall monitor the performance of the Subrecipient against goals and performance standards required herein. Substandard performance by Subrecipient, as determined by the City of Charleston, shall constitute non-compliance with this Contract. If action to correct such substandard performance is not taken within thirty days after being notified by the City of Charleston, Contract suspension or termination procedures shall be initiated. Additionally, such non-compliance will constitute a default under this Contract and will entitle the City to any and all remedies available under this Contract, at law or in equity.

III. PAYMENT

A. It is expressly agreed and understood that the total amount to be paid by the City of Charleston under this Contract shall not exceed fifty thousand ($50,000.00) dollars. Eighty-five (85%) percent of the Funds, equaling $42,500.00, shall be used for construction/ repair expenses and fifteen (15%) percent of the Funds, equaling $7,500.00, shall be used for salary and administrative costs.

B. Disbursements of the Funds to Subrecipient shall be made on a reimbursement basis upon receipt of invoices, supporting documentation, and approval by the City.

IV. NOTICES

All notices required under this Contract to either of the parties hereto shall be deemed properly given when deposited in United States mail either by registered or certified mail. Communication and details concerning this contract shall be directed to the following contract representatives:

City of Charleston
Geona Shaw Johnson, Director
Department of Housing and Community Development
75 Calhoun Street, Suite 3200
Charleston, South Carolina 29401
843.724.3766; Fax: 843.965.4180
Email: johnsong@ci-charleston.sc.us

City of Charleston Legal Department
50 Broad Street
Charleston, South Carolina 29401
843.724.3730; Fax: 843.724.3706

Office of the Mayor
Mayor John J. Tecklenburg
Post Office Box 625
Charleston, South Carolina 29401
843.577.6970; Fax: 843.720.3827

Subrecipient
Charleston Habitat for Humanity, Inc.
Attn: Lynn Bowley, Executive Director
731 Meeting Street
Charleston, South Carolina 29413
843.203.4021; Fax: _____

F. Grantor Recognition

The Subrecipient shall ensure recognition of the role of the grantor agency in providing services through this Contract. All activities, facilities and items utilized pursuant to this Contract shall be prominently labeled as to funding source. In addition, the Subrecipient shall include a reference to the support provided herein in all publications made possible with funds made available under this Contract.

G. Amendments

Subrecipient may amend this Contract at any time provided that such amendments make specific reference to this Contract, and are executed in writing, signed by a duly authorized representative of both parties, and approved by the Charleston City Council. Such amendments shall not invalidate this Contract, nor relieve or release the City of Charleston or the Subrecipient from its obligations under this Contract.

The City of Charleston, may, at its discretion, amend this Contract to conform with Federal, State and/or local government guidelines, policies and available funding amounts, or for other reasons. If such amendments result in a change in the funding, the scope of services, or schedule of the activities to be undertaken as part of this Contract, such modifications shall be incorporated only by written agreement signed by both the City of Charleston and the Subrecipient.

H. Suspension or Termination

In addition to any other remedy available under this Contract, at law, or in equity, the City may suspend or terminate this Contract, in whole or in part, if Subrecipient materially fails to comply with any term of this Contract or with any of the rules, regulations or provisions referred to herein. If the City determines that Subrecipient is not in compliance with this Contract, it shall notify Subrecipient in writing of such noncompliance. Thereafter, if Subrecipient fails to correct noncompliance within thirty (30) days, then Subrecipient shall, at the option of the City, be declared in default and the City may declare Subrecipient ineligible for any further participation in City contracts, and the City shall be entitled to seek any and all remedies available to it under this Contract, at law, or in equity.

VI. ADMINISTRATION REQUIREMENTS

A. Financial Management

1. Accounting Standards

3. Client Data

The Subrecipient shall maintain client data demonstrating client eligibility for services provided. Such data may include, but not be limited to, client name, address, income level or other basis for determining eligibility and description of services provided. Such information shall be made available to the City of Charleston and HUD staff or their designees for review upon request.

4. Property Records

The Subrecipient shall maintain real property inventory records which clearly identify properties purchased, improved or sold. Properties maintained shall continue to meet eligibility criteria and shall conform to the "change of use" restrictions specified in 24 CFR Part 570.505.

5. National Objectives

The Subrecipient shall maintain documentation that demonstrates that the activities carried out with funds under this Contract meet one or more of the CDBG program's national objectives: (1) benefit low and moderate income persons, (2) aid in the prevention of slums and blight, or (3) meet community development needs having a particular urgency - as defined in 24 CFR Part 570.208.

6. Close-Outs

Subrecipient's obligations to the City of Charleston shall not end until all close-out requirements are completed. Activities during this close-out period shall include, but are not limited to; making final payments, disposing of program assets (including the return of all unused materials, equipment, unspent cash advances, program income balances, and receivable accounts to the City of Charleston), and determining the custodianship of records.

Upon its expiration or dissolution, the Subrecipient shall transfer to the City of Charleston any Funds on hand which have been provided under this Contract and any accounts receivable attributable to the use of such Funds. Any real property or equipment under the Subrecipient's control that was acquired or improved in whole or in part with CDBG funds must be returned to the City and disposed of in a manner which result in the City being reimbursed in the amount of the current fair market value of the property, less any portion thereof attributable to the expenditures of non-CDBG funds for acquisition of, or improvement to, the property.

8. Contract Execution Date;
9. Reporting Month.

10. Progress Reports

The Subrecipient shall submit regular Progress Reports to the City of Charleston on a quarterly basis in the form and content required by the City of Charleston. Funds may be withheld until such documentation is submitted.

C. Financial Reporting and Payment Procedures

1. Budgets

The Subrecipient shall submit a detailed Contract budget in a form and content prescribed by the City's Finance Department for approval by the City. The City of Charleston and the Subrecipient may agree to revise the budget from time to time in accordance with existing City policies.

2. Program Income

The Subrecipient shall report quarterly on all program income defined at 24 CFR 570.500 (a) generated by activities carried out with CDBG funds made available under this Contract. The use of program income by the Subrecipient shall comply with the requirements set forth at 24 CFR 570.504. By way of further limitations, the Subrecipient may use the program income during the Contract period for activities permitted under this Contract. Any interest earned on cash advances from the U.S. Treasury is not program income and shall be remitted promptly to the City of Charleston.

3. Indirect Costs

If indirect costs are charged, the Subrecipient shall develop an indirect cost allocation plan in accordance with 2 CFR 200.414, as applicable, for determining the appropriate City of Charleston share of administrative costs and shall submit such plan to the City for approval.

4. Payment Procedures

The City of Charleston shall reimburse the Subrecipient monies available from the Funds under this Contract based upon invoices and documentation submitted by the Subrecipient and consistent with any approved budget, cost allocation plan and City policy concerning payments. Payments shall be made for eligible expenses actually incurred by the Subrecipient, and not

VII. PERSONNEL AND PARTICIPANT CONDITIONS

A. Civil Rights

1. Compliance

The Subrecipient shall comply with Title I of the Civil Rights Act of 1964, as amended, Title VIII, Fair Housing Law, Title VII of the Civil Rights Act of 1968, as amended, Title VIII. Fair Housing Law, Section 109 of Title I of the Housing and Community Development Act of 1974, Section 504 of the Rehabilitation Act of 1973, the Americans with Disabilities Act of 1990, the Age Discrimination Act of 1975, Executive Order 11063 and with Executive Order 11246, as amended by Executive Orders 11375 and 12086.

2. Nondiscrimination

The Subrecipient shall not discriminate against any employee or applicant for employment on the basis of race, creed, color, religion, ancestry, national origin, sex, disability or other handicap, age, marital status or status with regard to public assistance. The Subrecipient shall take affirmative action to ensure that all employment practices are free from such discrimination. Such employment practices include, but are not limited to the following: hiring, upgrading, demotion, transfer, recruitment or recruitment advertising, layoff, termination, rates of pay or other forms of compensation, and selection for training, including apprenticeship. The Subrecipient shall post in conspicuous places, available to employees and applicants for employment, notices to be provided by the contracting agency setting forth the provisions of this nondiscrimination clause.

3. Land Covenants

This Contract is subject to the requirements of Title VI of the Civil Rights Act of 1964 (P.L. 88-352) and 24 CFR Part 570. In regard to the sale, lease, or other transfer of land acquired, cleared or improved with assistance provided under this Contract, the Subrecipient shall cause or require a covenant running with the land to be inserted in the deed or lease for such transfer, prohibiting discrimination as herein defined, in the sale, lease, rental or in the use or occupancy of such land, or in any improvements erected or to be erected thereon, providing that the City and the United States are beneficiaries of and entitled to enforce such covenant. The Subrecipient, in undertaking its obligation to carry out the program assisted hereunder, agrees to take such measures as are necessary to enforce such covenant, and shall not itself so discriminate.

4. Section 504

4. EEO/AA Statement

The Subrecipient shall, in all solicitations or advertisements for employees placed by or on behalf of the Subrecipient, state that it is an Equal Opportunity or Affirmative Action employer.

C. Employment Restrictions

1. Prohibited Activity

a. The Subrecipient certifies that no Federal appropriated funds have been paid or shall be paid, by or on behalf, of any person for influencing or attempting to influence an office or employee of any agency, member of Congress, an officer or employee of Congress, or an employee of a member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan or cooperative agreement.

b. The Subrecipient certifies that if any funds other than Federal appropriated funds have been paid or shall be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the federal contract, grant, loan or cooperative agreement, it shall complete and submit Standard Form LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

c. The Subrecipient certifies that the language of paragraphs (a) and (b) above shall be included in documents for all subawards at all tiers (including subcontracts, subgrants, contracts under grants, loans and cooperative agreements) and that all lobbying as described in paragraphs (a) and (b) above shall be disclosed accordingly.

2. OSHA

Where employees are engaged in activities not covered under the Occupational Safety and Health Act of 1970, they shall not be required or permitted to work, be trained, or receive services in buildings or

direct federal financial assistance from HUD and is subject to the requirements of Section 3 of the Housing and Urban Development Act of 1968, as amended, 12 U.S.C. 1701. Section 3 requires that to the greatest extent feasible, opportunities for training and employment be given to lower income residents of the project area and contracts for work in connection with the project be awarded to business concerns which are located in, or owned in substantial part by persons residing in the areas of the project."

The Subrecipient agrees that no contractual or other disability exists which would prevent compliance with these requirements.

5. Debarred, Suspended or Ineligible Contractors

Financial assistance provided under this Contract shall not be used directly or indirectly to employ, award contracts to, or otherwise engage the services, of or fund any contractor or subcontractor or sub-subrecipient during any period of debarment, suspension or placement or eligibility status under the provisions of 24 CFR Part 24.

D. Conduct

1. Assignability

The Subrecipient shall not assign or transfer any interest in this Contract without the prior written consent of the City thereto. Notice of any such assignment or transfer shall be furnished promptly to the City.

2. Conflict of Interest

The Subrecipient shall abide by the provisions of 24 CFR 570.611 with respect to conflicts of interest and covenants that it presently has no financial interest and shall not acquire any financial interest, direct or indirect, which would conflict in any manner or degree with the performance or services required under this Contract. The Subrecipient further covenants that in the performance of this Contract no person having a financial interest shall be employed or retained by the Subrecipient hereunder. These conflict of interest provisions also apply to any person who is an employee, agent, consultant, officer, elected official or appointed official of the City or of any designated public agencies or Subrecipients which are receiving funds under the CDBG Program.

Part 50, as amended;
- National Environmental Policy Act of 1969; and
- HUD Environmental Review Procedures (24 CFR, Part 58)

B. Flood Disaster Protection

The Subrecipient shall comply with the requirements of the Flood Disaster Protection Act of 1973 (P.L. 2234) in regard to the sale, lease, or other transfer of land acquired, cleared or improved under the terms of this Contract, as it may apply to the provisions of this Contract. In addition, all properties assisted with Federal funds under this Contract are required to have flood insurance on the property.

C. Lead-Based Paint

The Subrecipient agrees that any construction or rehabilitation of residential structures with assistance provided under this Contract shall be subject to HUD Lead-Based Paint Regulations at 24 CFR 570.608, and 24 CFR Part 35, and in particular Subpart B thereof. Such regulations pertain to all HUD assisted housing and require that all owners, prospective owners and tenants of properties constructed prior to 1978 be properly notified that such properties may include lead-based paint. Such notification shall point out the hazards of lead-based paint and explain the symptoms, treatment and precautions that should be taken when dealing with lead-based paint poisoning.

IX. SEVERABILITY OF PROVISIONS

If any provision of this Contract is held invalid, the remainder of this Contract shall not be affected thereby if such remainder would then continue to conform to the terms and requirements of applicable laws.

X. FEDERAL COMPLIANCE

Notwithstanding any provision hereof, the Subrecipient acknowledges that the funding to be received under this Contract is federal funding and the Subrecipient shall abide by such rules and regulations promulgated by the United States Department of Housing and Urban Development as now and may hereafter be promulgated concerning the receipt or expenditure of such funds.

*****Remainder of Page Intentionally Left Blank*****
[Signatures on Following Page]

ADDENDUM A
SCOPE OF SERVICES
CHARLESTON HABITAT FOR HUMANITY, INC.

Charleston Habitat for Humanity, Inc. shall accomplish the following goals during the Performance Period.

1. Subrecipient shall provide minor rehabilitation services to the primary residences of a minimum of ten (10) low- or moderate-income persons or households earning eighty percent (80%) or below the Area Median Income (AMI) residing in the City of Charleston, South Carolina who own their home.

2. Subrecipient shall select houses for minor repair and renovation and certify through an application process the income eligibility of the clients receiving the service.

3. Subrecipient shall utilize funds for the purchase of materials for repairs to the homes of the households referenced above.

4. Subrecipient shall maintain documentation for the clients served and the services provided.

5. Subrecipient shall perform all work related to the repair of the homes selected to include obtaining the necessary permits, licenses and approvals from federal, state and local boards and commissions, as applicable. Work conducted should be performed in accordance with local, state and federal guidelines and regulations.

6. Subrecipient as required shall conduct lead-based paint risk assessments or subcontract work to a qualified contractor for each property prior to performing the work. Provide lead paint clearance testing results to homeowner and the City.

7. Subrecipient shall leverage funding to ensure ongoing sustainability of programs and provide evidence of funding pursued and attained in quarterly and annual progress reports.

8. Subrecipient shall submit quarterly and annual reports to the City of Charleston illustrating the progress of the program and the number of persons served.

COMMITTEE / COUNCIL AGENDA

14.)

TO: John J. Tecklenburg, Mayor

FROM: Chief Luther Reynolds **DEPT.** Police Department

SUBJECT: 2020 ILLUMINATION PROJECT AGREEMENT WITH KYLON MIDDLETON MINISTRIES, LLC

REQUEST: Approve independent contractor agreement with Kylon Middleton Ministries, LLC to perform consulting services in Connection with 2020 Illumination Project and continuation of listening sessions.

COMMITTEE OF COUNCIL: _____ **DATE:** _____

COORDINATION: This request has been coordinated with: *(attach all recommendations/reviews)*

	Yes	N/A	Signature of Individual Contacted	Attachment
Chief of Police	X		Luther Reynolds	X
Corporation Counsel	X			

FUNDING: Was funding previously approved? Yes [ ] No [ ] N/A [X]

If yes, provide the following: Dept./Div: 200000 Account #:: 52206

Balance in Account $ 538,846.00 Amount needed for this item $50,000

NEED: Identify any critical time constraint(s).

CFO's Signature: Amy Wharton

FISCAL IMPACT:

Mayor's Signature: _____

John J. Tecklenburg, Mayor

ORIGINATING OFFICE PLEASE NOTE: A FULLY STAFFED/APPROVED (except Mayor's Signature) PACKAGE IS DUE IN THE CLERK OF COUNCIL'S OFFICE NO LATER THAN 10:00AM THE DAY OF THE CLERK'S AGENDA MEETING.

STATE OF SOUTH CAROLINA)
)
COUNTY OF CHARLESTON)

INDEPENDENT CONTRACTOR AGREEMENT

THIS AGREEMENT is entered into this ___ day of _____, 2020, by and between the City of Charleston (hereinafter "the City") and Kylon Middleton Ministries, LLC, a business authorized to do business in the City of Charleston (hereinafter "the Contractor").

Whereas, the City wishes to continue the Illumination Project in 2020 and to enter into a non-exclusive independent contractor relationship with the Contractor to perform consulting services in connection with 2020 Illumination Project and the continuation of Listening Sessions; and,

Whereas, the Contractor wishes to enter into an independent contractor relationship with the City to provide such services.

NOW, THEREFORE, for and in consideration of the mutual covenants set forth below, the City and the Contractor agree as follows.

I. SCOPE OF SERVICES

A. Collaborate with faith leaders of the Mayor's Clergy Advisory Council to facilitate continued Listening Sessions in all parts of the community that achieve intentional interaction among diverse socio-economic groups of people.

B. Plan/Implement the following efforts with Illumination Project Team consisting of: Reverend Dr. Kylon Middleton, Dr. Anthony Dixon, Dr. Bob Kahle, Marla Robertson, Barbara Kelley-Davis, Charlton Brownell, and Ina Ivanova.

1. Quarterly COPS Roundtable discussions for neighborhoods with police: four (4) 1 hour 30 minutes sessions in Teams 1, 2, 3, and 4 to create community-policing strategies for each team (Racial Bias Audit Finding 26.2), to include education, awareness and information on updates and progress in the following areas: (1) Traffic stops, including field contacts; (2) Use of force, deadly and non-deadly; (3) The complaint process, internal and external; (4) Community-oriented policing practices; and (5) Recruitment, hiring, promotions, and personnel practices.

2. Listening Sessions and/or Community Unity Events with CAT Teams and all patrol officers to Build Capacity in vulnerable communities, to include the Latino community

on Johns Island, James Island, the Eastside community, and West Ashley (Racial Bias Audit Findings 27.1, 28.1, 30.1, 31.1, 33.1, 33.2, 33.3).

3. Host two (2) Illumination Project Signature Events, one in May 2020 at a house of worship to celebrate law enforcement in Charleston as a part of National Police Week, and the other in October 2020 at a location in the city TBD, in collaboration with the Mayor's Clergy Advisory Council, to unify our community in a forum that promotes peace, unity, racial harmony, and dignity (Racial Bias Audit Finding 33.1).

4. Executive coaching, community engagement, and Racial Bias Audit and CPD Strategic planning collaboration with Chief of Police (Racial Bias Audit Findings 1-48).

5. Citizen Police Advisory Council planning, facilitation and meeting logistics, and serve as a conduit to create community awareness and interest in the CPAC to share with the broader community the council's goals, objectives, and standard operating procedure (Racial Bias Audit Findings 32.1, 32.2, and 32.3).

6. Incubate a mentoring program for youth at Sanders Clyde Elementary School, on the Eastside, in collaboration with Furman University's The Riley Institute Diversity Leadership Institute Cohort, to further engage and build relationships with local youth, particularly in vulnerable communities (Racial Bias Audit Finding 25.1).

7. Implicit Bias, Diversity, and Inclusion Training-planning, facilitation and logistics with CPD (Racial Bias Audit Findings 27.1, 40.3, and 43.1).

C. DELIVERABLES

As established with the Illumination Project, these ongoing Listening Sessions are designed to provide civil, collaborative conversations in a facilitated, small-group setting. Sessions will produce not only deep understanding, they also suggest next steps to continue relationship building and success across all segments of our community. Detailed monthly reports with outcomes of each scope of service provided above to measure overall impact based on Illumination Project strategies.

D. MISCELLANEOUS

Expenses are all-inclusive and cover costs such as: Consulting fees, design and delivery of sessions, materials and copying, reports.

The Contractor will be responsible for supplying all personnel and equipment needed to perform such services.

The Contractor agrees that the services will be performed in a manner that is consistent with the nationally accepted standard of conduct in the profession, as determined by the City.

II. INDEPENDENT CONTRACTOR

The relationship of the Contractor to the City and its employees and agents is that of a non-exclusive independent contractor and not an employee. The Contractor acknowledges that the true nature of his relationship is that of an independent contractor in that the Contractor may use any appropriate method of conducting the services pursuant to this Agreement, based on its knowledge, skill, judgment, means and methods.

The Contractor agrees to pay all taxes associated on any income derived from this relationship. The City shall not be responsible for any income tax withholdings, self employment taxes, social security taxes/contributions, or other taxes. In addition, the Contractor is responsible for obtaining and the cost of all permits, licenses, and fees, including a City of Charleston business license if required.

The Contractor acknowledges that the City does not and will not provide worker's compensation insurance for Contractor and further acknowledges that the City does not provide any liability insurance for the benefit of the Contractor.

III. COMPLIANCE WITH LAWS, RULES AND POLICIES

Contractor will comply with all local, state and federal laws in the performance of this Agreement. Contractor will abide by such rules and policies as the City may from time to time establish, said rules and policies being subject to change without further notice.

The City of Charleston's name, seals, logos, or advertising slogans shall not be used by the Contractor without advance written permission.

IV. COMMUNICATION AND REPORTING

Quarterly report updates will be provided to the Mayor's Office, Council and the Police Department

The Contractor also agrees to provide progress reports to the City as may be requested from time to time by the Mayor, the Chief of Police, or their designees.

V. WORK PRODUCT

Services performed pursuant to the Agreement are deemed to be work for hire and the work product is owned exclusively by the City. The work product will not be disseminated publicly without prior written permission of the City.

VI. TERM OF AGREEMENT

This Agreement will commence on January 1, 2020 and will terminate on no later than December 31, 2020. The City reserves the right to renew this Agreement upon fifteen (15) days written notice for an additional twelve-month period of time.

VII. COMPENSATION

The Contractor's fees and expenses will not exceed $50,000 during the term of this Agreement.

Contractor will be paid as follows:

$50,000 payable in monthly installments of $4,167 (January- November) and $4,163 (December) to Kylon Middleton Ministries, LLC.

The Contractor shall be paid so long as the Contractor is performing the services described in this Agreement to an acceptable professional standard as determined by the City. In the event the Contractor is not able to perform these services, the Agreement will be terminated and the Contractor is not entitled to any further compensation arising from this Agreement.

The Contractor shall submit original invoices to the City's Legal Department in care of the City's Police Department in a form acceptable to the City and the City shall use its best efforts to make payment(s) to the Contractor within fourteen days after receipt of the Contractor's approved invoice(s). The compensation rate is inclusive of all business expenses and the City shall not be responsible for reimbursing any other expenses including travel.

VIII. SUBCONTRACTING

The Contractor acknowledges the unique nature of the services it offers; therefore, no subcontracting of work or services being performed under this Agreement shall be permitted and the terms of the Agreement apply to the Contractor alone and not to its heirs, assigns, beneficiaries or any other person or entity.

IX. INDEMNIFICATION AND INSURANCE

The Contractor shall be solely responsible for any and all of its actions, errors and/or omission arising from its performance of services under this Agreement and agrees to indemnify and hold harmless the City, its agents and employees, against any and all claims for injury, liability or damage, whether to person, property or business, that may arise as a result of the Contractor's actions.

X. TERMINATION

Either party may terminate this Agreement at any time, for any reason or no reason, upon fifteen (15) days' written notice. The Contractor will not be compensated for any costs or damages in connection with a termination of the Agreement with the exception of being paid for work performed that has been accepted by the City.

XI. ENTIRE AGREEMENT

This document contains the entire Agreement between the parties hereto and all previous negotiations leading thereto. This Agreement shall not be modified orally and shall only be changed by an agreement in writing signed by the parties.

XII. CONTROLLING LAW

The laws of South Carolina shall govern this Agreement.

XIII. NOTICES

All notices required under this Agreement to either of the Parties hereto shall be deemed properly given if sent by registered or certified mail (postage pre-paid) to the following:

To City:

John J. Tecklenburg
Mayor
80 Broad Street
Charleston, SC 29401

Corporation Counsel
City of Charleston Legal Department
50 Broad Street, 2nd Floor
Charleston, SC 29401
843.724.3730

To Contractor:

Reverend Dr. Kylon Jerome Middleton
Kylon Middleton Ministries, LLC
164 Market Street, Suite 216
Charleston, SC 29401
843.325.4577

IN WITNESS WHEREOF, the parties hereto, by their authorized representative, have signed this Agreement on the day and year first written above.

Kylon Jerome Middleton (Signature) 01/22/20 (date)
Reverend Dr. Kylon Jerome Middleton
Kylon Middleton Ministries, LLC

(Signature) 1/22/20 (date)
Witness

Luther Reynolds (Signature) 1-10-20 (date)
Chief of Police Luther T. Reynolds

(Signature) 1-10-20 (date)
Witness

(Signature) (date)
Mayor John J. Tecklenburg

(Signature) (date)
Witness

COMMITTEE / COUNCIL AGENDA

15.)

TO: John J. Tecklenburg, Mayor

FROM: Chief Luther Reynolds **DEPT.** Police

SUBJECT: POLICE DEPARTMENT – KENNEDY CENTER ALCOHOL ENFORCEMENT GRANT

REQUEST: To approve the award of $2,200 for field intelligence training to combat underage drinking and drug use.

COMMITTEE OF COUNCIL: W&M **DATE:** January 28, 2020

COORDINATION: This request has been coordinated with: *(attach all recommendations/reviews)*

	Yes	N/A	Signature of Individual Contacted	Attachment
Corporate Counsel	☐	☐		☐
Cap. Proj. Cmte. Chair	☐	☐		☐
Chief of Police	X	☐	Luther Reynolds	☐
Grants Coordinator	X	☐	Chelsea Taylor	☐

FUNDING: Was funding previously approved? Yes ☐ No X N/A ☐

If yes, provide the following: Dept./Div.: _____ Account #: _____

Balance in Account _____ Amount needed for this item _____

Does this document need to be recorded at the RMC's Office? Yes ☐ No X

NEED: Identify any critical time constraint(s).

This grant has already been accepted due to time constraints.

CFO's Signature: Matt Fl, Deputy CFO

FISCAL IMPACT:

This grant does not require a City match.

Mayor's Signature: _____
John J. Tecklenburg, Mayor

ORIGINATING OFFICE PLEASE NOTE: A FULLY STAFFED/APPROVED (except Mayor's Signature) PACKAGE IS DUE IN THE CLERK OF COUNCIL'S OFFICE NO LATER THAN 10:00AM THE DAY OF THE CLERK'S AGENDA MEETING.

Agreement between Berkeley/Charleston County AET Team and

The City of Charleston Police Department FY20

The South Carolina Department of Alcohol and Other Drug Abuse Services (DAODAS) have made available funds for the creation and support of Alcohol Enforcement Teams (AETs) in each judicial circuit to combat the issue of underage drinking in SC communities.
The AETs are to implement evidence-based environmental strategies to reduce underage alcohol use and its harmful consequences coupled with an active public education and prevention strategy. Enforcement of existing laws to restrict use and access by youth is one of our most useful tools in prevention, and prevention agency/law enforcement partnerships can lead to some of our most powerful and sustainable outcomes.

To support this goal the Berkeley/Charleston County AET Team will collaborate with the City of Charleston Police Department to conduct environmental strategies in the City of Charleston.

Towards this goal, the City of Charleston Police Department agrees to conduct evidenced-based strategies aimed at the issue of underage drinking in SC communities. In return for these activities, the Berkeley/Charleston County AET Team will award the City of Charleston Police Department funds to be used in their alcohol and drug enforcement duties.

The City of Charleston Police Department agrees to conduct at least 10 environmental strategies in their jurisdiction each month commencing July1, 2019.

The environmental strategies will be documented in the AET on line data system. Entries into the system must conform to the standard DAODAS AET forms and be submitted on a monthly basis.

If the goal of 10 environmental strategies per month is reached, the AET Team will compensate the department for up to $2,200.00.

The payment will be in one installment paid at the end of the fiscal year. The invoice will reflect evidence-based strategies/compliance checks conducted 7/1/19 through 6/30/20 and will total $2.200.00. A list of allowable uses for these funds will be provided

Salaries, vehicles, building improvements, or any other non-equipment related expenses will not be reimbursed.

The City of Charleston Police or the Berkeley/Charleston AET can terminate this agreement at any time and for any reason.

_____ _____

Berkeley/Charleston AET Designee Date City of Charleston Police Department Designee Date

_____

Witness Agency Date

Alcohol Enforcement Team FY2020
Contract Requirement

TO: **The City of Charleston Police Department**

From: **The Ernest E. Kennedy Center, 96 Wisteria Road, Goose Creek, SC 20445**

CONTRACT/PAYMENT PERIOD (month/year): July 2019- June 2020

The source of these federal funds is the Substance Abuse Prevention and Treatment Block Grant of the U.S. Substance Abuse and Mental Health Services Administration, US Department of Health and Human Services, CFDA number – 93.959.

Certification Regarding Debarment and Suspension

Subgrantee certifies to the best of his or her knowledge and belief, that Subgrantee, defined as the primary participant in accordance with 45 CFR Part 76, and its principals:

1) are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal Department or agency;

2) have not within a three- (3) year period preceding this grant been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State, or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification, or destruction of records, making false statements, or receiving stolen property;

3) are not presently indicted or otherwise criminally or civilly charged by a governmental entity (Federal, State, or local) with commission of any of the offenses enumerated in paragraph 2) above; and

4) have not within a three- (3) year period preceding this grant had one or more public transactions (Federal, State, or local) terminated for cause or default.

Should Subgrantee not be able to provide this certification, an explanation as to why must be reported to DAODAS in confidence before this grant's execution.

Subgrantee agrees by signing this grant that it will include, without modification, the clause titled "Certification Regarding Debarment, Suspension, Ineligibility, and Voluntary Exclusion-Lower Tier Covered Transactions" in all lower tier covered transactions (i.e., transactions with Subgrantees and/or contractors) and in all solicitations for lower tier covered transactions in accordance with 45 CFR Part 76.

Please initial and date below:

_____City of Charleston Police Department Designee

Date: _____