Peninsula Flood Reduction Work
Historical Overview
Historical Overview

1878 Tidal Drains
Historical Overview
Historical Overview

1859 Plan of New Tidal Drains

As now Built by the City Council of Charleston
Need for Improvements
Peninsula Drainage System
MASTER DRAINAGE
and
FLOODPLAIN MANAGEMENT PLAN
for
CITY OF CHARLESTON, SOUTH CAROLINA

JOSEPH P. RILEY, JR., MAYOR

CITY COUNCIL BY DISTRICT
6. ARTHUR W. CHRISTOPHER
7. BRENDA C. SCOTT
8. ROBERT FORD
9. ESTHER E. TEICHENBURG

DIRECTOR OF PUBLIC SERVICE

GEORGE H. GILL, JR.

DAVIS & FLOYD, INC.
CONSULTING ENGINEERS
MAY 1984
Master Drainage Plan

• City’s 1984 Drainage Masterplan identified projects:
  • Calhoun East
  • Market
  • Spring/Fishburne
  • Calhoun West
  • Beaufain

• Projects outside of the Peninsula included:
  • Ardmore Canal
  • Byrnes Downs
  • Forest Acres
  • Church Creek
Summary of the City’s Drainage Projects

- **2010**: Church Creek, $3.7 mil
- **2017**: Forest Acres, $15 mil
- **2020**: Spring/Fishburne, $154 mil
- **2001**: Calhoun East, $15.8 mil
- **2000**: Ardmore, $5 mil
- **2007**: Byrnes Down, $6.7 mil
- **2016**: Calhoun West, Preliminary Engineering, $1.1 mil
- **2018**: Market St, $30 mil
East Bay / Calhoun & Market Street
East Bay / Calhoun & Market Street

Surficial Soils

Cooper Marl

Santee Limestone

40-70 feet

200 feet
East Bay / Calhoun Project
East Bay / Calhoun Project
Market Street Drainage
Tunneling
Market Street Drainage
Market Street Drainage
Market Street Drainage
Market Street Drainage Improvements
Market Street Drainage Improvements
Market Street Drainage Improvements
Market Street Drainage Improvements
Market Street Drainage Improvements
Market Street Drainage Improvements
Market Street Drainage Improvements
Spring / Fishburne Drainage Improvements Project

US 17 SEPTIMA CLARK TRANSPORTATION INFRASTRUCTURE RE-INVESTMENT PROJECT (TIGER)

LEGEND
- DROP SHAFT
- ACCESS SHAFT
- COLLECTION SYSTEM
- DEEP CONVEYANCE TUNNEL
- OUTFALL
- DRAINAGE BASIN
- PUMP STATION
- PUMP STATION SITE
Spring / Fishburne Drainage
Spring / Fishburne Drainage
Spring / Fishburne Drainage Improvements
Spring / Fishburne Drainage Improvements
Spring /Fishburne Drainage Improvements
Spring / Fishburne Drainage
Spring / Fishburne Drainage Improvements
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Spring / Fishburne Drainage Improvements
Calhoun West Drainage & Sea Level Rise Mitigation
Calhoun West Drainage & Sea Level Rise Mitigation
Calhoun West Drainage & Sea Level Rise Mitigation

• Deep tunnels with pumping appear to be the most viable long-range solutions due to:
  • Remote, low-lying areas
  • Historic urban setting
  • Dense utility grids
  • Poor near-surface soil conditions

• Permitting requirements and funding acquisition will take time

• Design for 2.5’ of Sea Level Rise (per City’s Sea Level Rise Strategy)
Calhoun West Drainage & Sea Level Rise Mitigation

• Low Battery Wall (±5000 LF) is being designed for 2.5’ SLR
• Potential to raise Lockwood Dr.
• Pump Station & Outfall designed to meet SLR requirements
• Smaller-scale improvements are being investigated that can be implemented in a shorter time frame

• These include:
  • System inspection, maintenance & repair
  • Temporary pumping
  • Drainage improvements between Alberta Sottile Long Lake and Cannon Park
  • Raising streets where possible

• Tidal valves have been replaced at Rutledge & Limehouse outfalls along the Battery
$235,000,000
Capital Investment
Between 1990 and 2020

• $81.1M Complete
• $27.2M Under construction
• $126.9M Funded

• $7.1 2016 Maintenance Budget
Aggressive Funding

- ~ 1990 2 mil dedicated to drainage since ($2.2 million per year - $9.5 million bond)
- ~ 1992 Hugo HMGP $2.8 million, $2.3 million SCDOT
- 1994 Stormwater Utility fees $4.00
- $110.5M grants and contributions awarded
  - $10M ARRA TIGER Grant
  - $12.5 50/50 Match from SCDOT/FHA
  - $88M SIB
- Spring/Fishburne - Balance from the Gateway TIF
- 2016 - Additional 2 mil dedicated to drainage
Aggressive Funding

• 2012 $46 million stormwater revenue bond
• 2016 - Additional 2 mil dedicated to drainage beginning in 2016 ($2.2 million per year)
• 2017 – HMGP grants for $8.3 million
• 2018 – Stormwater fee increase to $8.00 per month
• Future funding Opportunities
  • Possible USACOE funding – shoreline protection and WRDA
  • FEMA-HMGP, FMA, PDM
  • SIB, SCDOT and Accommodation Taxes
Department of Public Service Projects

Infrastructure Improvement Projects
The City of Charleston recognizes the importance of a comprehensive strategic plan for capital improvements as a vital part of the City’s mission to preserve and enhance the quality of life for our citizens. The five-year Capital Improvement Plan (CIP) addresses short and long-term capital needs in all functional areas of City government. Projects include the renovation and preservation of historic buildings; park and recreation improvements; road, bridge, and sidewalk improvements; stormwater drainage projects; construction of new facilities; and equipment needs. The City’s Capital Improvements Division manages most buildings, parks, and recreational facilities projects.

The Department of Public Service manages stormwater improvement projects and infrastructure projects related to roads, sidewalks, bridges, and currently the repair of the historic Battery Seawall.

With its myriad flooding and drainage challenges, the City of Charleston has a comprehensive Master Drainage Plan to tackle the large capital projects to improve the quality of life in the City. The City has been tirelessly working on alleviating these drainage problems since the establishment of the Stormwater Utility in 1996 using this money to fund only stormwater projects. In addition, City officials continue to seek new and innovative funding sources to fully leverage our limited resources and stretch the tax payer dollar. This page provides detailed descriptions of capital projects that are in various stages of development.

Forest Acres Drainage Improvement Project
Market Street Drainage Improvement Project
US17 Septima Clark Drainage Improvement Project
Wagener Terrace Storm Drainage Repair Project
Seawall Repair
Dupont-Wappoo Watershed Master Plan
Mayor John J. Tecklenburg

Councilmember Mike Seekings

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