GMB
ARCHITECTS / ENGINEERS

Stormwater Management Overview

City of Lewes
Board of Public Works

October 25, 2023

CITY OF LEWES / BPW
STORMWATER MANAGEMENT

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STORMWATER FACTS & FIGURES

CITY OF LEWES
4.5 Square Miles
2,900 Acres

- Cityside & Beachside Drainage System:
  - BPW-Maintained Catch Basin & Piping System
  - City-Maintained Streets & Curbs
  - Cityside Elevations Vary from 10 to 14 (NAVD ’88)
  - Beachside Elevations Vary from 2 to 11 (Canalside to Lewes Beach)
- December 2014 Study:
  - 975 Catch Basins, Junction Boxes, & Outfalls
- 25 Outfalls to Lewes-Rehoboth Canal
- 7 Outfalls to Canary Creek Watershed
- Some Runoff Directed to DRBA/DelDOT System on Freeman Highway
- DelDOT Preliminary Design:
  - Savannah Road / Cape Henlopen Drive SW Drainage Issues (at DQ)

MAJOR STORM WATERSHEDS

Washington Avenue Outfall Watershed

ACRES

70

MAJOR STORM WATERSHEDS

Beachside – Savannah Road Bridge Outfall Watershed

24" Discharge to Canal

ACRES

40

- Mean High Tide Issues
- 2.7 vs. Low Grade Elevations
- Typical of Entire Lewes Beachside

MAJOR STORM WATERSHEDS

Nebraska / Iowa Avenues
Outfall Watershed

ACRES

3

Catch Basin Collection & Discharge System

+

Porous Asphalt Paving

=

EFFECTIVE BEACHSIDE SWM APPROACH

- Note: Total Beachside Catch Basin Collection & Canal/Bay Discharge System
  - Tidal Flooding Issues Given Existing Low Grades & Normal Tide Elevations
  - Cost Ineffective: $4.1million in 2010 or approximately $5.5 million in 2021
  - Potential Beachside SW Study – via DNREC Surface Water Matching Planning Grant

MAJOR STORM WATERSHEDS

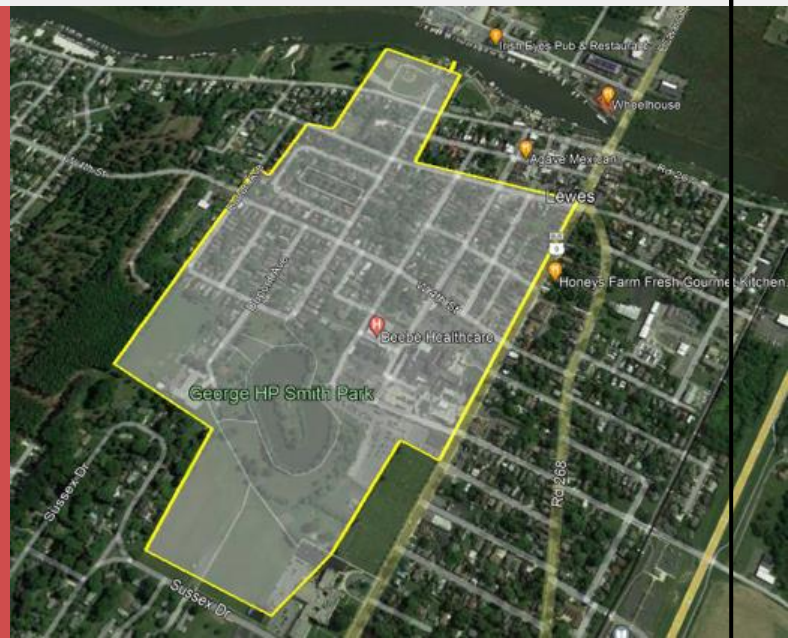
Overfalls Outfall Watershed

48” Discharge

ACRES

110

- Note: Approximately 20 Additional Discharges on Cityside from Smaller Drainagesheds



BEACHSIDE DRAINAGE

47

BEACHSIDE STREETS

- Cedar Avenue
- Bay Avenue
- Bayview Avenue
- Market Street
- Massachusetts Avenue
- Midland Avenue
- Alleyways
- Side Streets (approx. 40)

S

SOILS

- Sandy / Spotty
- Less Infiltrating Soils Moving Towards Canal

PP

PERMEABLE PAVING

- Beachside = Generally Good Candidate
- Each Street Must Be Tested

44%

CITY ROADWAYS IN POROUS PAVEMENT

- 9,300 of 21,000 feet
- Also, Cedar Avenue (DelDOT maintained)

SURGE TIDE VULNERABILITY STUDY

Most Vulnerable Locations

01. WEST END OF CEDAR AVENUE

- DEMA-Funded Flood Mitigation Study – Wrapping Up

02. NEW ROAD AT CANARY CREEK CROSSING

- DelDOT in Planning/Design Stage of Bridge Rebuild

03. SAVANNAH ROAD

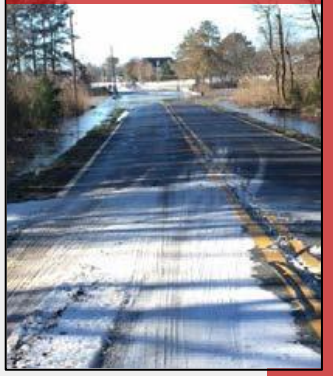
- Bridge to Cape Henlopen Drive – DelDOT Maintained

04. PILOTTOWN ROAD

- Canary Creek Bridge Crossing – DelDOT Maintained

West Cedar Avenue
January 2016 (Jonas)

Canary Creek Bridge,
New Road – January 2016



Pilottown Road Facing West
February 2021 (Nor'easter)

THANK YOU!

Charles M. O'Donnell, III, P.E.
Senior Project Director

110 Anglers Road, Unit 102
Lewes, DE 19958

410.430.7056 (cell)
codonnell@gmbnet.com
www.gmbnet.com

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