

BETWEEN A ROCK AND A HARD PLACE

Expanding Sewer Service in the
Town of Stoughton, Massachusetts



ENVIRONMENTAL
 PARTNERS
— An Apex Company —

SPEAKERS



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AGENDA

- Project Background
- Pre-design Activities and Subsurface Exploration
- Findings and Analysis
- Design, Permitting, Bidding, and Construction Considerations
- Next Steps and Acknowledgments
- Questions



PROJECT BACKGROUND

History of Funding Sewer Projects | Public Forums and Meetings
Scope of Services | Phase Areas

PROJECT BACKGROUND

SCOPE OF SERVICES

1

Background

- Park Street / Campanelli Industrial Park area listed as top priority area to expand sewer service based on economic and environmental factors
 - Limited ability to expand Campanelli Industrial Park with septic systems
 - Approx. 52% of properties in South Stoughton area have cesspools or septic systems that have been in service for over 20 years

2

Project Focus

- Expansion of sewer system to service residents and businesses from Fano Drive on Park Street south to the Brockton town line and into Campanelli Industrial Park
 - Phase 1: 73 properties
 - Phase 2: 158 properties



PROJECT BACKGROUND

PUBLIC FORUMS AND MEETINGS

- Completed Sewer Priority Plan – November 2015
- Board of Selectmen Presentation – December 18, 2018
- Public Forum – January 16, 2019
- Finance Committee Presentation – March 20, 2019
- Board of Selectmen Presentation – April 16, 2019
- Finance Committee Presentation – May 1, 2019
- Annual Town Meeting 2019 Presentation and Approval of DESIGN Article
- Advertise Request for Quotes and Award Contract to Environmental Partners for Task 1 (Geotechnical Investigation) – August 2019
- Perform Sub-surface Exploration – Oct.-Nov. 2019
- Board of Selectmen Presentation – December 17, 2019
- Business Stakeholder Information Meeting – February 6, 2020
- Board of Selectmen Presentation – February 18, 2020
- Board Selectmen Presentation (Connection Policy & Betterments Only) – March 3, 2020
- Finance Committee Meeting – March 11, 2020



HISTORY OF FUNDING SEWER PROJECTS

1911 through 2000

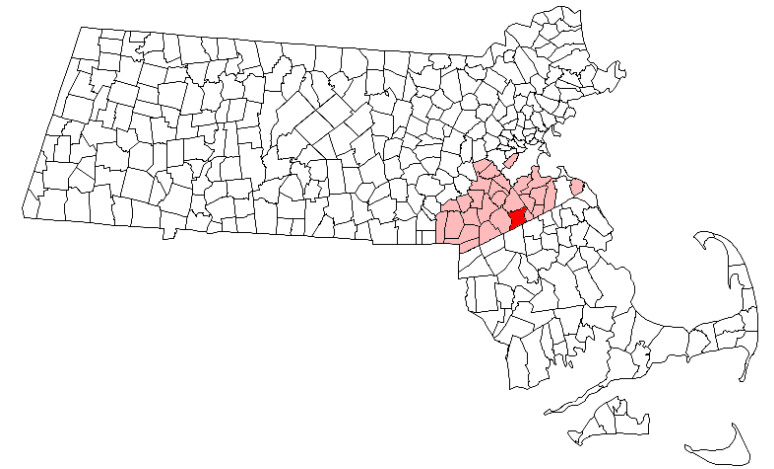
- Town bears a minimum of 1/3rd of Sewer Costs and utilized supplemental funding from outside sources (Federal Government, etc.)

2000 – Enabling Act Amendments

- Allowed Town Meeting to determine funding participation by the Town
- In practice, Town has required Abutters to bear 100% of costs
- Little or no Federal or State Grant money has been available since 2000

Results

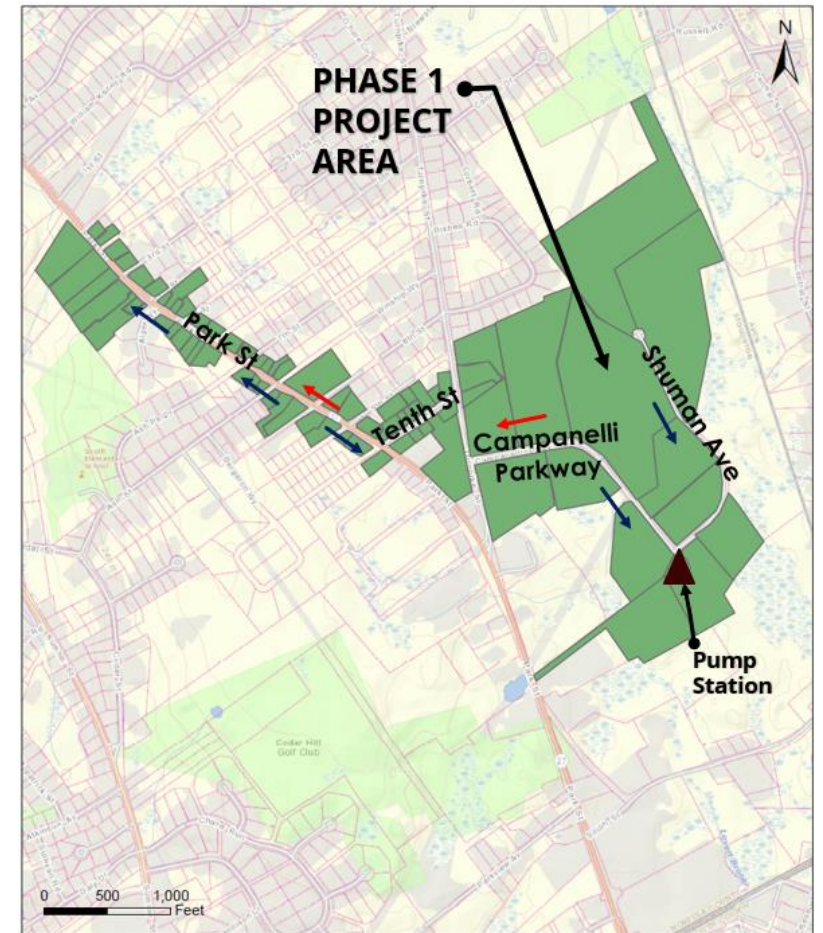
- 1911-2000: Nearly 70% of Stoughton received municipal Sewer
- 2000-2020: Minimal Sewer Extensions have occurred.



PROJECT BACKGROUND

PHASE 1

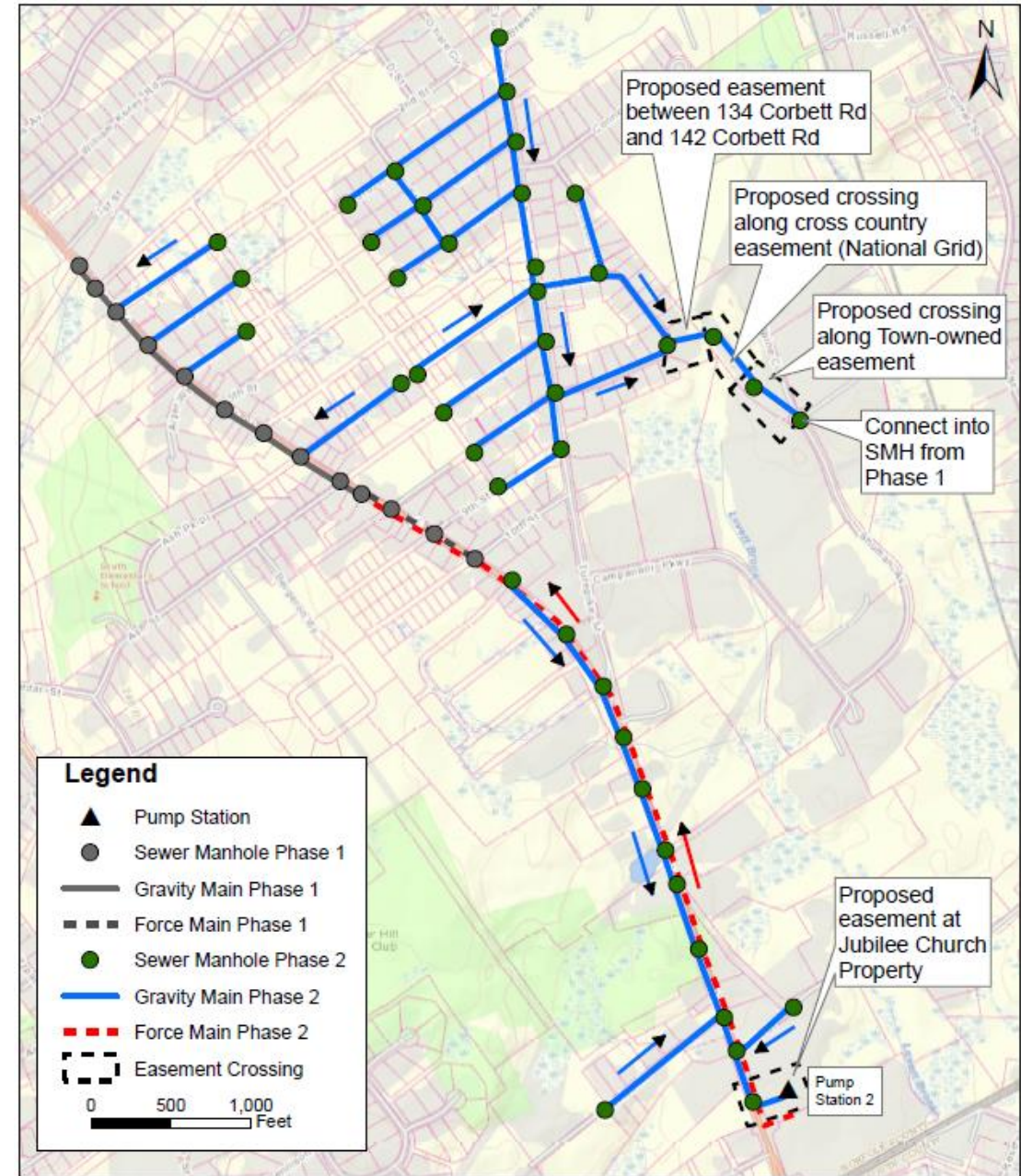
- 73 properties
 - (28 Commercial/ Industrial, 45 Residential)
- 8,700 LF gravity sewer
- 4,200 LF force main
- 1 Municipal Pump Station



PROJECT BACKGROUND

PHASE 2

- Sewer Shed Area consists of:
 - Park Street (south of Turnpike Street)
 - Turnpike Street (within proposed limit of work)
 - Residential neighborhood north of Campanelli Industrial Park
- Key Characteristics:
 - New municipal pump station on Park Street
 - Connection to force main into SMH existing from Phase 1
 - ~22,000 LF of gravity sewer
 - ~5,200 LF of force main
- 158 properties (combination of residential, industrial and commercial)
- Majority of work is on Route 27



FIELD ACTIVITIES AND SUBSURFACE EXPLORATION

Subsurface Exploration Findings | Sewer and Ledge Profile |
Boring Results | Lack of Routine Maintenance

SUBSURFACE EXPLORATION FINDINGS

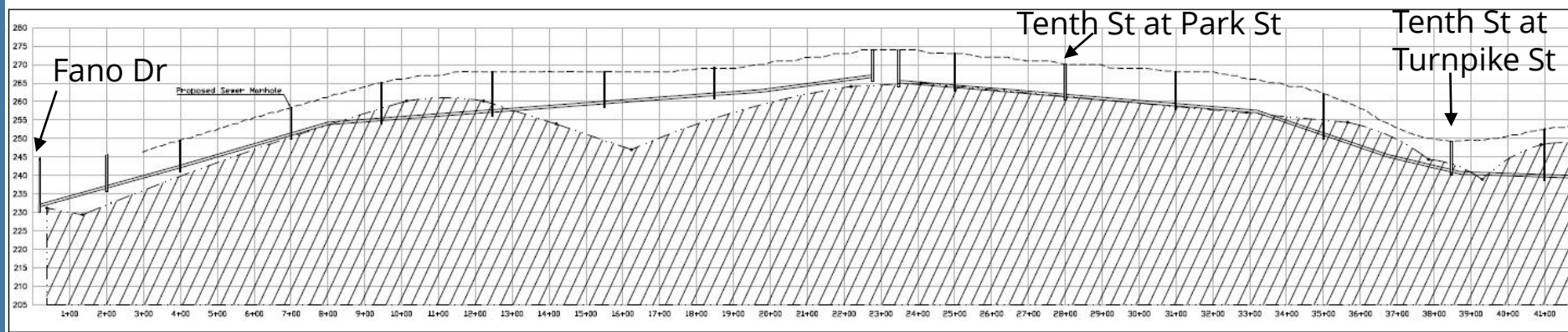
- Total of 115 borings taken; 64 borings hit refusal (rock/ledge) using conventional drill rigs and geoprobes
- Significant amount of ledge found at Campanelli Parkway and Turnpike Street, and parts of Park Street



SUBSURFACE EXPLORATION FINDINGS

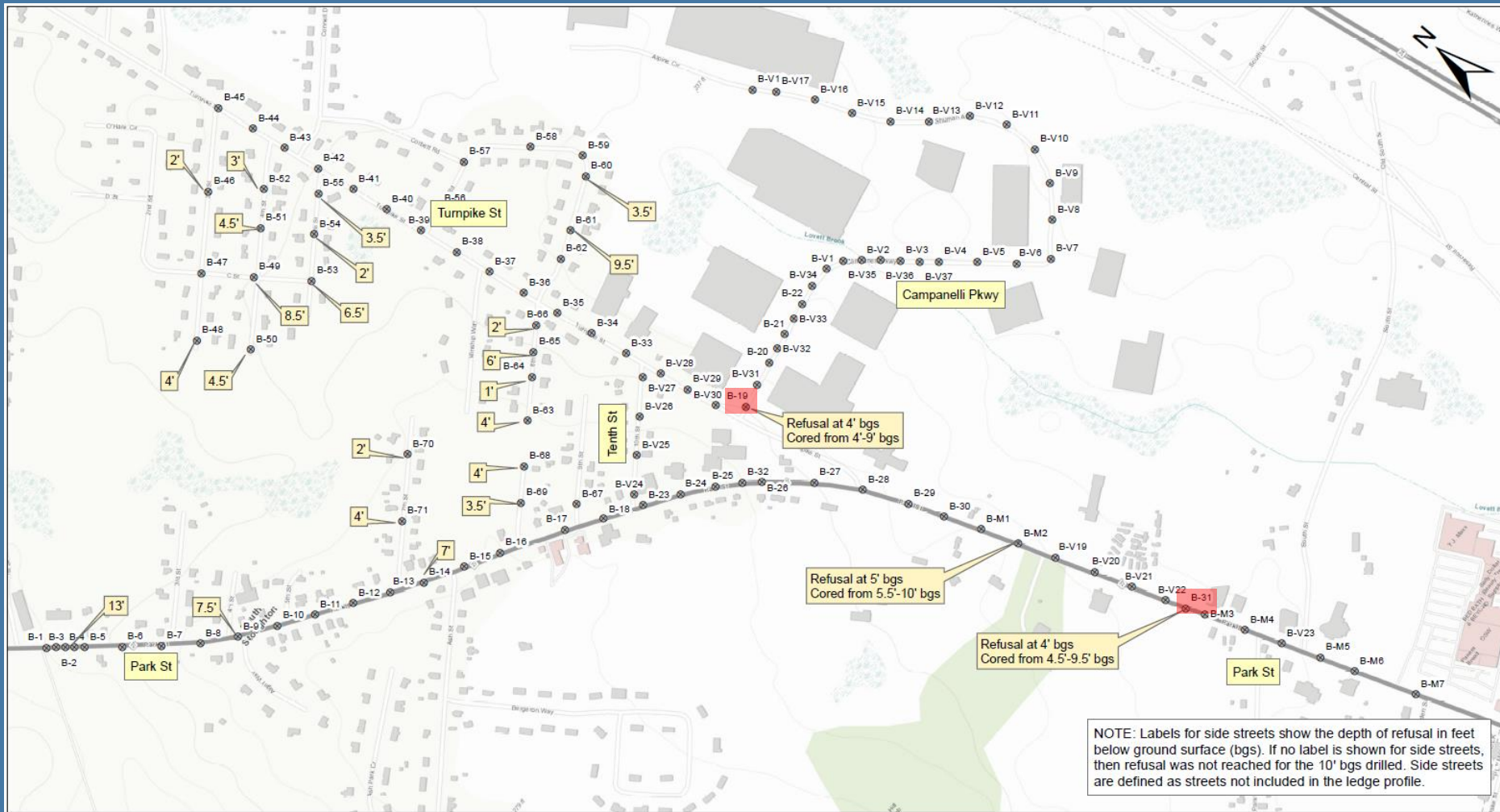
- Ledge Estimation for Sewer Expansion:
 - Phase 1: ~4,500 CY of ledge
 - Phase 2: ~3,500 CY of ledge
- Groundwater at shallow depth within proposed Pump Station at Campanelli Parkway
- Field verified ledge quantities were greater than originally estimated





Phase 1 – Plan / Profile of Gravity Sewer and Ledge Outline
 Park St (Fano Drive to Tenth St) & Tenth Street





Boring Results along Phase 1 & Phase 2 Roadways



FINDINGS AND ANALYSIS

Review of Design Options | Financing Opportunities
Sewer Connection Policy | Betterment Policy

REVIEW OF DESIGN OPTIONS

- EP reviewed three options for Phase 1 expansion:
 - Option 1: Gravity Collection System with Sewer Pump Station in Campanelli Industrial Park
 - Option 2: Low Pressure Sewer System
 - Option 3: Combination of Gravity Collection System and Low-Pressure Sewer System
- Town elected to proceed with Option 1 (OPCC \$7.327 Million), contingent upon finding source of grant funding for project

| Item Descriptions | Phase 1 Option 1 | Phase 1 Option 2 | Phase 1 Option 3 |
|---------------------|--------------------|--------------------|--------------------|
| Project Cost | \$7,327,000 | \$5,688,000 | \$7,007,000 |



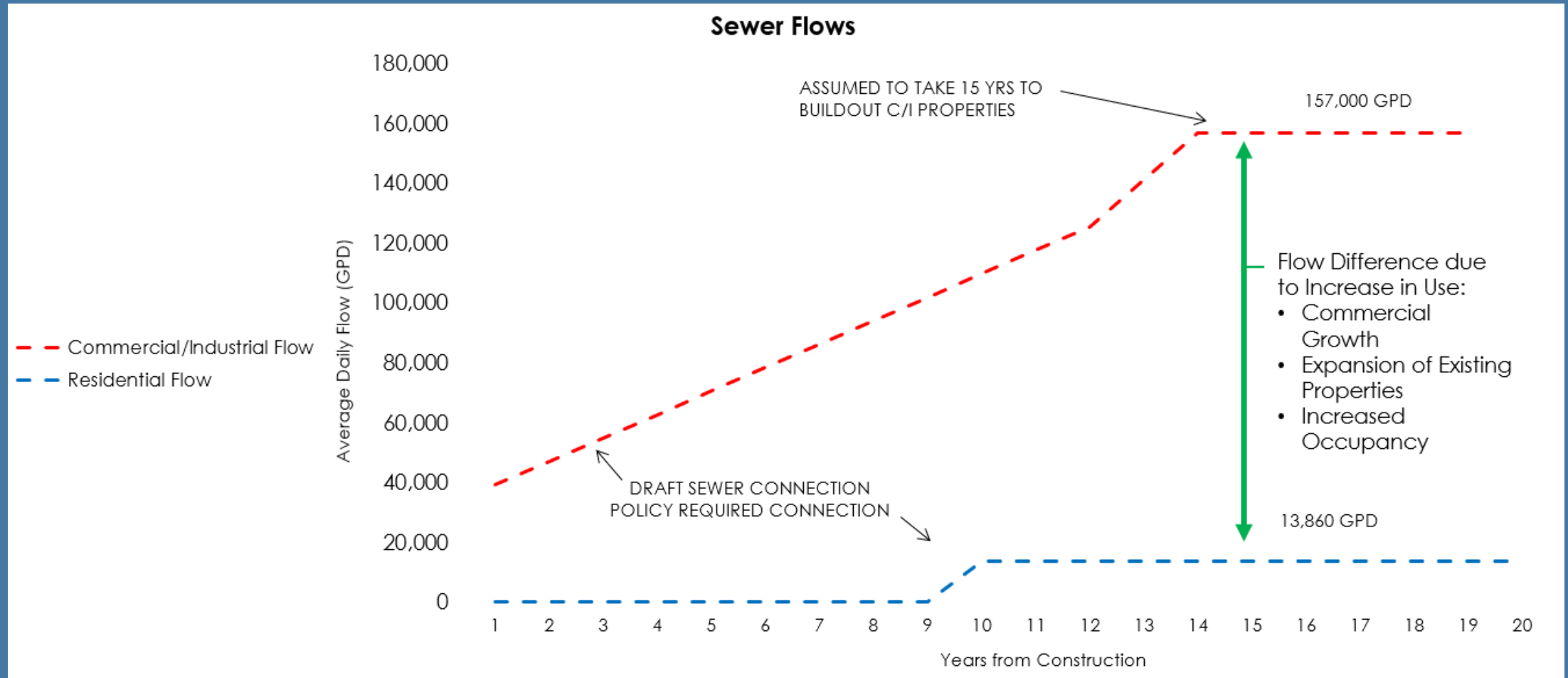
FINANCING OPPORTUNITIES

- Town voted to approve \$7.5 Million appropriation towards Phase 1 sewer expansion in June 2020
- EP worked with Town to pursue additional grant funding to help fund the Phase 1 sewer expansion
 - \$2.5 Million grant through MassWorks Infrastructure Program
 - \$350,000 grant through EDA CARES Act
- As part of project, EP worked with Town on preparing cost-benefit analysis to look at ROI over 20-year period
 - Town prepared a Betterment Policy to fund project based on # of Equivalent Units



FINDINGS AND ANALYSIS

SEWER CONNECTION POLICY



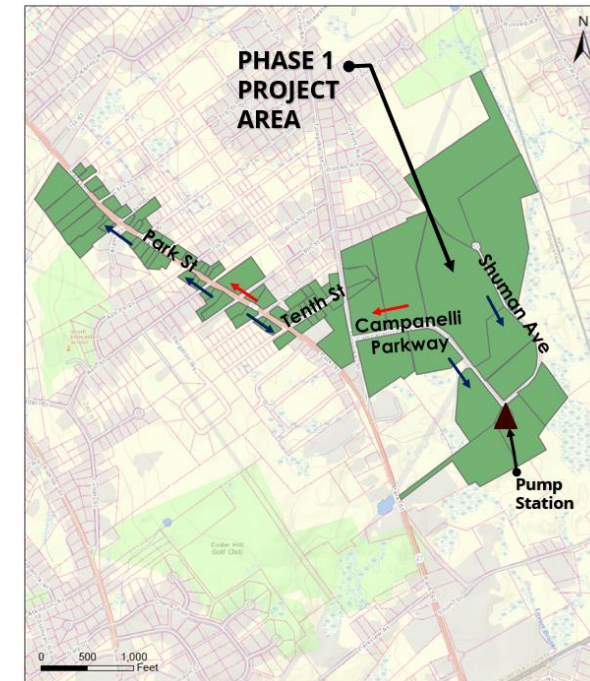
Town can expect to receive a positive ROI within 20-year period



DESIGN, PERMITTING, BIDDING, &
CONSTRUCTION CONSIDERATIONS

DESIGN CONSIDERATIONS

- Significant amount of ledge present along alignment – ~4,500 CY of ledge removal
- Interface with future Phase 2 design – Required deeper excavation to connect via gravity
- Topographical alignment – Deep excavation (i.e., up to 20-ft deep)
- Traffic management on Park Street – MassDOT highway (Rt. 27)



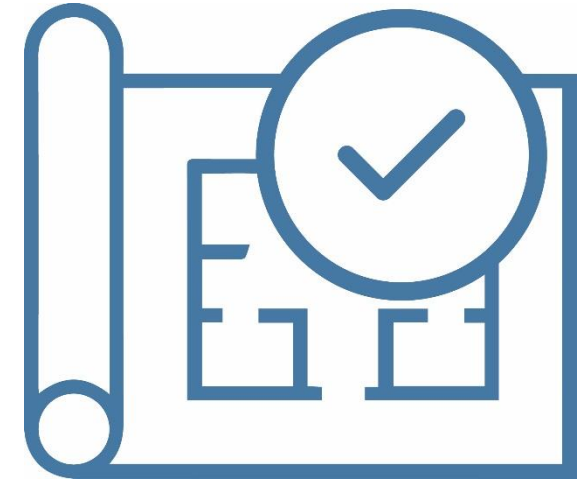
PERMITTING CONSIDERATIONS

MWRA Sewer Expansion Approval

MassDOT State Highway Access Permit

MassDEP Notice of Intent/Local
Conservation Commission

MEPA Review and ENF Filing



BIDDING & CONSTRUCTION CONSIDERATIONS

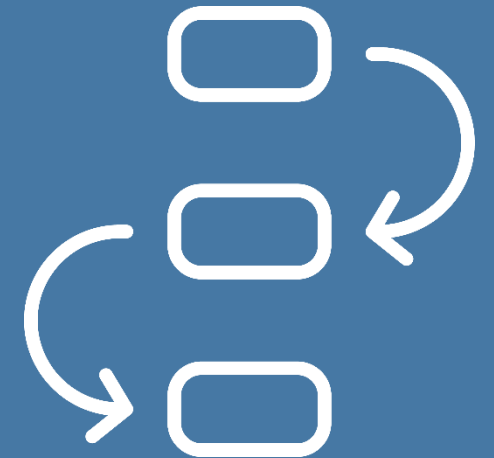
- Phase 1 was separated into two contracts for funding reasons:
 - Contract 1 – Sewer Collection System
 - Contract 2 – Pre-Packaged Sewer Pump Station
- Both contracts were bid in 2021 and awarded to C. Naughton Corp. of Bridgewater, MA
 - Total cost of both contracts ~\$5.1 Million
- Construction began on Contract 1 in November 2021, while Contract 2 work delayed until September 2022 due to material/equipment delays
- Ledge removal under Contract 1 came in around half of original estimate (2,310 CY compared to 4,500 CY)



NEXT STEPS AND ACKNOWLEDGMENTS

NEXT STEPS

- Pump Station scheduled to be brought online in Spring 2023
- Residential and Commercial/Industrial Users required to connect into sewer system once commissioned
 - Residential: Within 10 Years (or 3 Years with no fees)
 - Commercial/Industrial: Within 3 Years (or 1 Year with no fees)
- Town looking at potential financial opportunities for Phase 2 sewer expansion:
 - Bipartisan Infrastructure Act
 - Clean Water State Revolving Fund
 - MassWorks Infrastructure Program



ACKNOWLEDGEMENTS

- Town of Stoughton Engineering Department
 - Marc Tisdelle, Interim Town Administrator
 - Craig Horsfall, Interim Town Engineer
- Town of Stoughton Board of Selectmen and Finance Committee
- MassWorks and EDA Grant Programs
- Kleinfelder
- C. Naughton Corp.
- Environmental Partners Design Team



Q&A

THANK YOU

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