Rehoboth Beach Commissioners Meeting
Ocean Outfall & Treatment Plant Project Update
July 26, 2017

Jeff Sturdevant | Principal

Kelvin George Principal

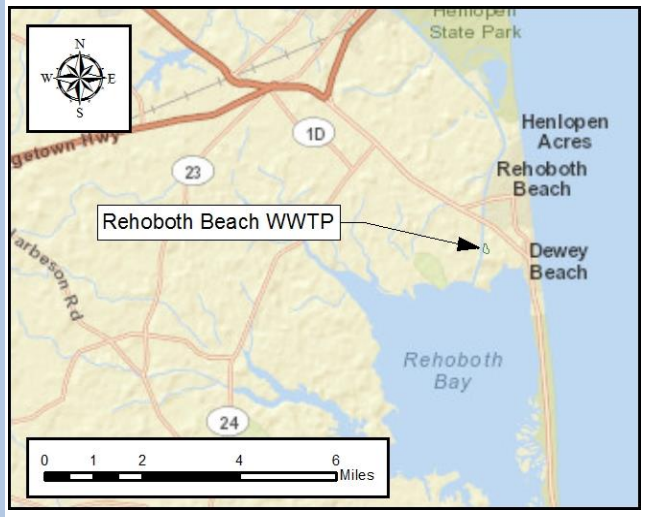
Rehoboth Beach Ocean Outfall/CIP Project(s) Update

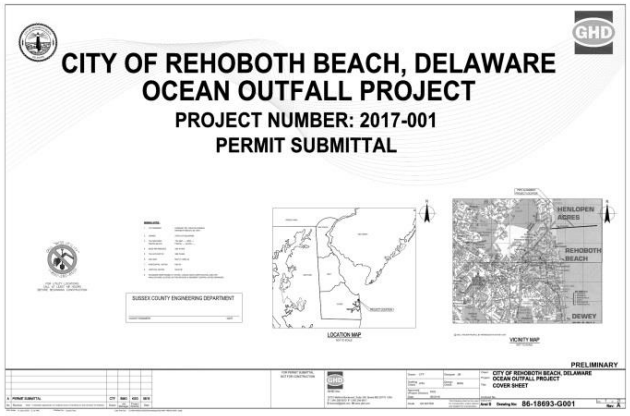
Agenda

- Project Overview
- Projects
- Bid Results
- Project Funding
- Project Cost Breakdown
- CIP Improvements Cost Breakdown
- Ocean Outfall Completion Schedule
- Agreement for Wastewater/Biosolids Services.

Project Overview

1996	Rehoboth Bay identified as a Water Quality Limited Segment
1998	TMDL for Rehoboth Bay
2002	Consent order finalized
2005	Effluent Disposal Study
2009	Joint Sussex County/City of Rehoboth Land Application Report
2009	Alternative Discharge Cost Evaluation
1/2015	EIS Complete
1/2015	ROD Issued
6/2017	Design & Permitting Complete
7/20/17	Bidding Complete





Projects Ocean Outfall

Effluent Pump Station

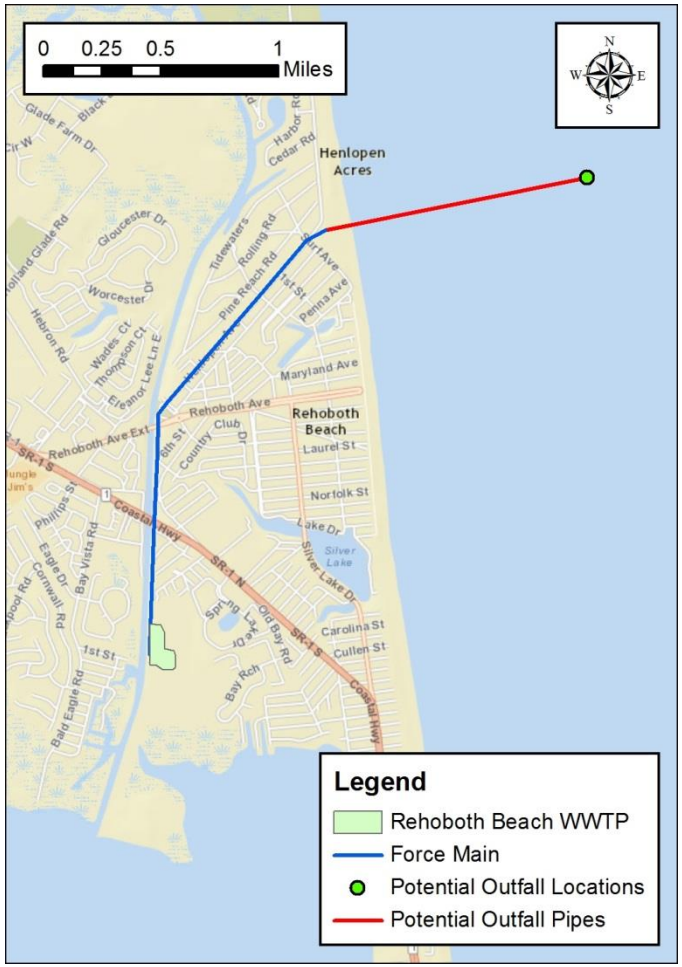
- Effluent pump station located at the RBWWTP

Force Main

- Force main from the RBWWTP to the outfall staging area (approximately 11,400 ft)

Outfall Pipe

- 24-inch outfall pipe from the staging area to the outfall diffuser, 6,000 ft away



Projects Wastewater Treatment Plant

T-1 Immediate Needs

- Project to replace roof and life safety equipment

CIP Upgrade Phase 1

- Project for fast-track installation of new clarifiers and filters
- City will procure equipment directly, Contractors will bid to install the equipment

CIP Upgrade Phase 2

- Project to upgrade the remainder of the WWTP
- Procurement will follow traditional Design-Bid-Build model

CIP Improvements Breakout - Wastewater Treatment Plant

- Rehab Preliminary Treatment Facility **(Completed as an Immediate Needs Project)**
- Painting of Emergency Storage Tanks
- Rehab of Oxidation Ditches
- Secondary Clarifiers **(Completed as part of Phase 1 Improvements)**
- Filter Building/Filter Improvement **(Completed as part of Phase 1 Improvements)**
- Rehab of disinfection system
- Replace activated sludge pumps, sludge transfer pumps, and plant drain pumps
- Upgrade secondary scum system
- New automated chemical feed system for alkalinity addition
- Replacement of main Switchgear assembly (and new Electrical Building)
- Installation of new Emergency Generator
- Rehab of HVAC and architectural components for various buildings
- Construction of new Maintenance Building
- Construction of new Sludge Dewatering Building

Project Bids - Low Bid vs. Engineer's OPCC

Ocean Outfall	Bid	Engineer's OPCC
Manson Construction Co.	$27,655.850.00	$23,100,000.00
Force Main		
A-Del Construction	$5,700,447.00	$4,858,500.00
Effluent Pump Station		
Allan Myers	$1,768,555.00	$1,741,000.00
Subtotals	$35,124,852.00	$29,699,500.00
WWTP CIP Phase 1		
Allan Myers	$2,256,555.00	$2,770,000.00*
Totals	$37,381,407.00	$32,469,500.00

*Includes equipment costs

SRF Loan

Project	Available Loan Amount
Ocean Outfall	$25,000,000
Rehoboth Beach WWTP CIP (Phases 1 & 2)	$10,488,000
Biosolids (Phase 2)	$12,500,000
Total Available SRF Loan Amount	**$47,988,000**

Per the Referendum 2015, the City is Authorized to borrow $52.5M

Project Cost Breakdown

Component	Bids	Change* Order Contingency	Total Construction Cost
RBWWTP Pumping Station	$1,768,555	$88,428	$1,856,983
Rehoboth Treatment CIP Phase 1	$2,256,555	$138,807	$2,369,383
Rehoboth Force main	$5,700,447	$285,022	$5,985,469
Rehoboth Ocean Outfall	$27,655,850	$1,382,792	$29,038,643
Subtotal	**$37,381,407**	**$1,869,070**	**$39,250,478**
Admin, Legal & Construction Eng. Services			$3,950,000.00
Total Project Cost			**$43,200,478**
Total Budgeted Cost			**$52,500,000**
Remaining Budget Amount			**$9,299,522**

* Change Order Contingency is estimated at 5% of Bid Cost

Wastewater Treatment Plant - Phase 1 & 2

Base Contract Scope	Estimated Construction Cost	Phase 2A Improvements	Phase 2B Improvements
Site Civil Improvements	$ 1,417,000		$ 1,417,000
B-1: Control & Sludge Dewatering Building	$ 837,000	$ 837,000	$ -
B-2: Filtration Building (included in Phase 1)			
B-3: Blower Building	$ 574,000		$ 574,000
B-4: Effluent Control Building	$ -	$ -	$ -
B-5: Chlorine Building (including Lime Silo & Building)	$ 301,000		$ 301,000
B-6: New Electrical Building	$ 397,000	$ 397,000	$ -
B-7: Biosolids Treatment Facility & Solids Storage	$ 5,574,000		$ 5,574,000
B-10: Chemical & Blower Building	$ 320,000		$ 320,000
ES-1: Electrical Substation	$ 30,000	$ 30,000	$ -
PS-1 Secondary Sludge & Scum Pumping Station	$ 373,000		$ 373,000
PS-2: Diversion Tanks & Plant Drain Pumping Station	$ 788,000		$ 788,000
SB-1: Splitting Box	$ 6,000	$ 6,000	$ -
SB-2: Splitting Box	$ 6,000	$ 6,000	$ -
PF-1: Parshall Flume	$ -	$ -	$ -
T-1: Preliminary Treatment Facility	$ 2,097,000	$ 2,097,000	$ -
T-2A,B: Oxidation Ditches	$ 2,817,000	$ 303,000	$ 2,514,000
T-3A/B: Secondary Clarifiers (included in Phase 1)		$ -	$ -
T-4A,B: Ultraviolet Disinfection	$ 19,000	$ -	$ 19,000
T-4C,D: Chlorination/Dechlorination Tanks	$ 37,000		$ 37,000
T-5A,B: Post Aeration	$ 223,000		$ 223,000
T-6A,B: Aerobic Digestion Tanks	$ 298,000		$ 298,000
T-7: Sludge Thickener	$ 152,000	$ -	$ 152,000
T-8: Sludge Day Tank	$ 7,000	$ -	$ 7,000
T-9A,B: Diversion Tanks	$ 447,000	$ -	$ 447,000
T-9C: Diversion Tank (Sludge Storage Tank)	$ 223,000	$ -	$ 223,000
MC-1: Meter Chamber	$ -	$ -	$ -
Garage	$ 294,000	$ -	$ 294,000
Main Power Distribution Equipment & Emergency Generator	$ 4,941,000	$ 4,941,000	$ -
Construction Cost Subtotals	$ 22,178,000	$ 8,617,000	$ 13,561,000

Ocean Outfall – Project Schedule

Task	Date
Bid Advertisement	June 9, 2017
Notice to Proceed	August 16, 2017
Mobilization	October 1, 2017
Construction Completion	April 30, 2018

City/County - Agreement for Wastewater/Bio-solids Services

New Agreement sets forth a partnership with Sussex County to share in infrastructure costs, reducing user rates for all.

Continues the Original 1983 City/County Agreement to:

- Treat sewage from both City and County sources at the City Plant
- Payment for Operational Costs for the plant will be split between the City and County based on actual flows to the facility.
- Sets Term of Agreement to 25 years.
- Quantity of sewage:
  - sets initial reserve allocation for County of 42% of plant design capacity.
  - Allows the County to increase flow allocation to 50% of plant design capacity in the future. Debt service increases proportional to final flow allocation
  - Future flow allocation increase possible if available, thru payment of City's sewer impact fee.

City/County - Agreement for Wastewater/Bio-solids Services

New Agreement sets forth a partnership with Sussex County to share in infrastructure costs, reducing user rates for all.

- County to provide BioSolids Treatment Services
  - County will transport, treat and dispose of Rehoboth's Biosolids at Facility to be constructed at County's inland Bays Facility.
  - City will pay annual bio-solids handling fee based on actual tonnage treated.
  - City to pay no fee for operational costs.
- Project Cooperation
  - Ocean Outfall - County to review and comment on future Outfall Project contracts and change-orders.
  - Rehoboth WWTP and Shared Transmission Projects –
    - future major capital projects and change-orders are subject to review and comment by County prior to commencement.
    - City and County can jointly develop add alternate projects, if needed, and either party has the authority to require an Add Alternate that will be solely funded by the requesting party.

www.ghd.com