

APPENDIX F NYSDEC CORRESPONDENCE



WESTERN BAYS RESILIENCY INITIATIVE: LONG BEACH WPCP CONSOLIDATION PROJECT

Work Window

Justification for Work in Tidal Wetlands of Hassocks

February 2020

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Nassau County Department of Public Works

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ACRONYMS AND ABBREVIATIONS

GOSR	Governor's Office of Storm Recovery
HDD	Horizontal Directional Drilling
HPDE	High Density Polyethylene
HUD	Department of Housing and Urban Development
LINAP	Long Island Nitrogen Action Plan
NYSDEC	New York State's Department of Environmental Conservation
STP	Sewerage Treatment Plant
USACE	United States Army Corps of Engineers
WPCP	Water Pollution Control Plant

1 INTRODUCTION

Project Overview

The Nassau County Department of Public Works (the County), pursuant to the Intermunicipal Agreement with the City of Long Beach (the City), as required by the City's Administrative Consent Order (CO) with the New York State Department of Environmental Conservation (NYSDEC), CO1-20151020-142, and the County's Bay Park Agreement with the NYSDEC, CO1-20170626-244, has proposed to design and construct a new sewage pipeline (force main) from the Long Beach Water Pollution Control Plant (WPCP) to the Bay Park Sewage Treatment Plant (STP) (the Consolidation Project).

The purpose of the Consolidation Project is to pump sewage from the Long Beach barrier island to the Bay Park STP for treatment. The combined impacts of the nitrogen loading from the Long Beach WPCP in the Western Bays and climate-related factors has led to a steady decline in the health of the South and North Black Banks Hassock and Pearsalls Hassock islands (e.g. loss of vegetation via wave action toppling vegetation), which is expected to continue without a combination of intervention and removal of the nitrogen sources.

This Consolidation Project, paired with another project, the Bay Park Conveyance Project (where a new sewage line from Bay Park STP to Cedar Creek WPCP is being planned), will allow treated effluent from the Bay Park STP to be discharged via the existing permitted Cedar Creek WPCP Atlantic Ocean outfall. The two projects will reduce the stress on an already impaired body of water (the Western Bays) by diverting sewage from the Long Beach barrier island to the Bay Park STP for treatment prior to discharge via the existing permitted Cedar Creek ocean outfall. The projects will improve the water quality of an important aquatic habitat and with it, the lives of nearby communities in southern Long Island; reducing nitrogen will significantly improve the overall condition of the Western Bays.

The Consolidation Project includes: (1) the conversion of the Long Beach WPCP's headworks and influent pump to a flow diversion pump station; (2) design and construction a force main using horizontal directional drilling (HDD) construction method; and, (3) tie-in force main to the Bay Park STP's influent header.

Permitting

Nassau County is collaborating with the New York Governor's Office of Storm Recovery (GOSR) on the planning, design, environmental review and permitting of the Long Beach WPCP Consolidation Project which was the subject of joint meetings with the New York State Department of Environmental Conservation (NYSDEC) and United States Army Corps of Engineers (USACE) New York District staff in September and October 2019. Construction of the Consolidation Project will result in temporary disturbance of approximately 4.6 acres and permanent disturbance of 0.002 acres of waters of the United States. The County will file an application for an individual Section 404 of the Clean Water Act (CWA) permit with the United States Army Corps of Engineers (USACE) for the project.

In an email correspondence dated November 25, 2019, NYSDEC noted that the typical work window for construction activities within tidal wetlands is December 1 to March 15. A meeting was held at the NYSDEC Stony Brook office on December 27, 2019 to discuss implications for the typical work window in tidal wetlands on a project of this scale. At this meeting, an approach to justify working on the hassocks (i.e., tidal wetlands) outside of the typically work windows was agreed upon, and NYSDEC requested that Nassau County prepare a written document explaining the long-term project benefits to the estuary and, also justify working continuously until the project is complete, and to submit it in advance of a future submittal of a Joint Application to the NYSDEC and USACE.

GOSR has also requested concurrence of the USACE and NYSDEC for the purpose of obtaining assurance of an expanded work period to accomplish the work as needed by GOSR and Department of Housing and Urban Development (HUD) for a planned Amended Action Plan for the Living with the Bays program to include the Long Beach Consolidation Project. GOSR's schedule calls for the Amended Action Plan to be published in April 2020. USACE was contacted on February 10, 2020 to: (i) request the expanded work window; (ii) discuss conceptual plans for restoration of wetlands on the hassocks; and, (iii) confirm mitigation requirements for unavoidable impacts on wetlands (Waters of the U.S.). The USACE subsequently contacted GOSR informing the agency that the USACE will accept the NEPA EA record for consultation with USFWS and NOAA NMFS regarding input on impacts and mitigation for species and, therefore, no meeting was required. The USACE further indicated that no compensatory mitigation would be required for the 0.002 acres of permanent impact and that the USACE will accept mitigation as required by the NYSDEC.

2 WORK WINDOW EXEMPTION JUSTIFICATION

2.1 Duration Required to Construct a New Force Main

Construction of a new sewer force main of this length in this location cannot be completed within a work window of four (4) months, or even consecutive, noncontiguous four-month work windows.

The proposed project requires the construction and operation of a below ground force main pipeline and associated aboveground facilities on the Hassocks. The 24-inch diameter force main pipe will be installed within a 30-inch diameter steel casing for a total of 17,995 feet (approximately 3.4 miles) in length from the pump station at the Long Beach WPCP to the existing 66-inch sewer main located within Bay Park west of the Bay Park STP. There will be two (2) aboveground air vents located along the force main on the Hassocks.

The force main construction will be performed with horizontal directional drilling (HDD) trenchless technology in three (3) sections, and with open cut (not within waters of the U.S.) trench construction methods utilized to connect the HDD segments at the ends of each drill, as well as to connect these sections to tie-in at Bay Park STP and to a pump station at the existing Long Beach WPCP property. Figure 1 provides an overview map of the project and associated facilities as discussed below.

Access Path

Access paths will be needed to transport and place drilling equipment and materials (30-inch diameter steel casing pipe, 24-inch diameter force main pipe, marsh mats for along the pipe laydown/assembly, pullback and drill site, and access path), to the pipe laydown/assembly and pullback site on Black Banks Hassock and drill site on Pearsalls Hassock.

Drill Site

Two (2) HDD drill locations will be required: one (1) north of the existing Long Beach WPCP (not within waters of the U.S.) and one (1) on Pearsalls Hassock (within waters of the U.S.) Additional construction activity will occur on Black Banks Hassock to facilitate installing a casing and force main pipe, and pullback of the casing and force main pipe through the casing, as well as tie-in connections of the pipe segments.

Pipe Pullback Site

A pipe pullback site will occur on Black Banks Hassock to facilitate pullback of the casing and force main pipe through the casing.

Pipe and Casing Laydown/Assembly

The HDD method requires that pipe be assembled and laid out in a continuous line for pulling through the excavated borehole on Black Banks Hassock. Assembly and laydown will also apply to the 30-inch diameter steel casing within which the 24-inch diameter force main pipe will be constructed.

Marsh Mats

For construction laydown/assembly and access path, wetland (swamp or marsh) mats will be used to protect the ground. These mats will be used at the drill rig and pipe pullback sites, along the pipe pullback

laydown corridors, and for the access paths on South Black Banks and Pearsalls Hassocks to provide access from the shore to the project site. Equipment and material transport on and off the Hassocks will be performed by barge. These marsh mats will remain on site in all work areas until work in specific sections is complete and restored.

Construction Limitations

Due to the total length of the force main pipe and limitations of HDD technology, the casing and the pipe will need to be installed in 3 sections. The three (3) force main sections presented on Figure 1 and Table 1 as follows:

Table 1: Pipeline Section, Construction Method, Length, and Route			
Pipeline Section	Construction Method	Length (linear feet)	Route
1	HDD	3,795	Drill #1 below the surface of Pearsalls Hassock to the 66-inch trunk sewer main that is under Bay Park STP
1	Open Cut (upland) ⁽¹⁾	5,120	Excavate through Bay Park to Bay Park STP
2	HDD	4,740	Drill #2 under Pearsalls Hassock south to South Black Banks Hassock
3	HDD	3,700	Drill #3 from the Long Beach WPCP to the South Black Banks Hassock
3	Open Cut (upland) ⁽¹⁾	640	Excavate through Long Beach WPCP

⁽¹⁾ Open Cut sections will be constructed in upland areas and not wetlands.

⁽²⁾ HDD lengths include the open cut connection between drill segments.

There are a number of limitations and requirements of the HDD process and other considerations that dictate the need to work on South Black Bank Hassocks and Pearsalls Hassock beyond the December 1 to March 15 work window for the length of time identified in the Project Schedule below. They are summarized as follows:

- A. Physical limitations of available HDD method to drill and ream a borehole and pull steel casing and a high-density polyethylene (HDPE) pipe of the diameter and total length required for the project. The total length of the pipe cannot be installed by setting up a drill rig at Long Beach and drilling, reaming a borehole and pulling pipe from Bay Park. Therefore, the casing and pipe need to be installed in sections. The length of Section 2 of the pipe and required curvature and length of Section 3 are at the safe limits for installing pipe using the HDD method.
- B. Limited number of very large drill rigs available to excavate a borehole and pull casing and pipe of the length, even in sections, and diameter required for the project. As such, it is not possible to set up and simultaneously complete drilling, reaming, and pulling of casing and pipe for Sections 2 and 3. This requires completing the drilling, reaming and pulling (from South Black Banks Hassocks) of

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Section 3 first and then moving the drill rig to Pearsalls Hassock and drilling, reaming and pulling (from South Black Banks Hassocks) of Section 2. The drill rig on Pearsalls Hassock used to install Section 2 can then be turned around for the drilling and reaming of the borehole and pulling of casing and pipe for Section 1.

- C. Need for access paths on South Black Banks Hassock and Pearsalls Hassock to remain in place during the drilling, reaming and pulling of casing and pipe to allow for the transport of casing, pipe and other materials to the sites and the removal of soils excavated from the borehole and connecting pipe sections. The access path and casing/pipe pullback site on South Black Banks Hassocks are also needed for access to and from and staging for the proposed wetland restoration project involving the transformation of an area of common reed to low marsh habitat.
- D. Since the casing and pipe need to be installed in sections, need to connect sections 2 and 3 on South Black Banks Hassock before completing the work and restoring the casing/pipe pullback site and access path to/from that site.



Figure 1 Project Elements

Project Schedule

The schedule for constructing the force main portion of the proposed project is anticipated to be approximately 1.5 years (17 - 18 months). The duration of temporary impacts to tidal wetlands associated with each project element is detailed in Table 2 below.

Table 2 Duration of Disturbance of Project Components at South Black Banks and Pearsalls Hassocks			
Area	Component	Disturbance (acres)	Duration (months)
South Black Banks Hassocks	Access Path	0.19	17
	Pullback Site	0.34	17
	Laydown Area/Assembly/Pullback for Section 3	2.39	3
	Laydown Area/Assembly/Pullback for Section 2	1.12	7
Pearsalls Hassock	Access Path	0.28	14
	Drill Site	0.34	14

For each drill segment, the duration of installation includes the pilot drill and backreaming, casing pipe laydown and string-up, casing pipe pullback, carrier pipe laydown and string-up, and carrier pipe pullback. For Drill Segment #1, this process has been estimated at 3 months in duration. Drill Segment #2 and Drill Segment #3 are estimated at 5 months and 3 months, respectively. Of note, these durations are for drilling activities only, and do not include site preparation (placing marsh mats), mobilization, demobilization, or the open cut connection between drill segments.

These duration estimates consider the long lengths of these segments and larger size of casing and carrier pipes and are appropriate for the scale of this project. All the construction activities listed above must be performed in sequence, with no time lapse in between, in order to have a successful installation. Once the drilling begins, the borehole is held open by pressurized drilling fluid through all stages of drilling, pipe reaming, and pipe pullback, and the pipe must be in place before removing the drilling fluid. A drill rig cannot be abandoned in the borehole, and the borehole cannot be left open, without the presence of this pressurized drilling fluid. Uninterrupted time in excess of the restrictive work window is required in order to complete each drill segment.

Site restoration is assumed to include restoration of pre-existing grades (i.e., drill site location); removal of marsh mats (i.e., pull back sites, and access paths); and planting of native plant species to specifications previously agreed upon with NYSDEC. Site restoration activities will commence immediately following completion of specific project components as discussed in more detail below.

2.2 Wetland Resource Impacts, Mitigation Accounting, Additional Restoration, and Overall Ecological Benefits

Loss of wetland services during the short duration of the project will be restored through on-site and in-kind restoration. Staged wetland restoration will commence during the work period to minimize and distribute losses of wetland functions and services across the hassock so that all losses are not simultaneously realized. Full-service restoration is expected within 3 years of completion of planting.

Two additional wetland restoration projects on the hassocks have been proposed to restore approximately an additional 4.5 acres of wetlands. The restoration projects have been selected based upon the net long-term benefits to the Western Bays.

The overall objective of the project is to remove nitrogen levels within the estuary and will have direct benefits to wetland functions and services important to natural resources as well as surrounding communities.

Critical to this justification report is recognition that the overall objective of the project is to eliminate nearly all nitrogen loading caused by sewage treatment plants in the Western Bays. NYSDEC has recognized the Western Bays as an impaired waterway due to these conditions, and this project specifically targets the State's Long Island Nitrogen Action Plan (LINAP). The reduction of nitrogen levels will improve water quality throughout the Western Bays, and support enhancement to a suite of ecosystem functions such as health of native marshes, and support of wildlife habitat. It will also enhance ecosystem services important to surrounding communities such as storm protection, recreation, and local quality of life.

In order to realize these long-term benefits to the Western Bays, the project will have unavoidable temporary impacts to state regulated tidal wetlands on both hassocks. The project team continues to evaluate construction alternatives to avoid and minimize these temporary impacts. It is important to note that the acreage and duration of these impacts will not be constant through the length of the project; but will vary depending on the activity and timing of restoration.

Impacts and Duration of Service Loss

Table 2, presented above, identifies the acreage and duration of impacts for each project element on the two hassocks. The following activities are assumed to occur associated with each project element:

- Drill site. Disturbances will include vegetation removal as well as soil excavation to support HDD drilling. Ancillary support activities will also occur within drill locations.
- Access Paths. Disturbance will include placement of marsh mats on existing vegetation for durations of 14 to 17 months.
- Laydown Area/Assembly/Pullback. Disturbance will include placement of marsh mats on existing vegetation for durations of 3 to 7 months

Clearing of woody vegetation is not anticipated to be required in tidal wetlands. Marsh mats and other temporary features to support construction will be placed during the allowable work window to minimize impacts to sensitive species (i.e., nesting birds). Nesting surveys will be completed with the potential of installing nesting deterrents prior to construction activities to minimize impacts to nesting birds.

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As noted above, site restoration is assumed to include restoring of pre-existing grades as necessary, removal of marsh mats, as well as planting of native plant species to specifications previously agreed upon with NYSDEC. Site restoration activities will commence immediately following completion of project components as listed in Table 2. It is important to note that the largest acreage of impacts as identified in Table 2 (i.e., 2.39 acres to support Laydown Area/Assembly/Pullback on Black Banks Hassock) will only occur over a 3-month period. The project is designed to minimize the total acreage impacted over longer durations (i.e., 14 or 17 months).

The relatively small footprints for access paths and drill sites that will remain in place over a period of 14 to 17 months is not anticipated to have any significant impact on tidal wetland services and functions provided across both hassocks. Specifically, (1) tidal hydrology will be maintained throughout the project through project design; (2) water quality (i.e., turbidity) will be addressed through sediment and erosion control practices to be installed and maintained throughout the project to prevent movement of disturbed soils and/or sediments; (3) native plant communities will be restored immediately following construction completion specific to different project elements; and (4) wildlife species that utilize the hassocks will access other areas of the hassocks with no anticipated impact to their population structure.

Mitigation Accounting

To address the extended construction period beyond the typical work window in tidal wetlands, site restoration activities will commence immediately following completion of specific project components. The objective of this is to minimize service loss to tidal wetlands, and quickly restore temporarily disturbed areas that will be utilized only for a short duration (i.e., 3 months).

Figure 2 below illustrates the fluctuation of disturbance of wetlands over time during the period of construction on South Black Banks Hassock. Figure 3 provides similar information for Pearsalls Hassock. In addition, the graphics include additional ecological restoration efforts that are discussed in more detail in the text that follows.

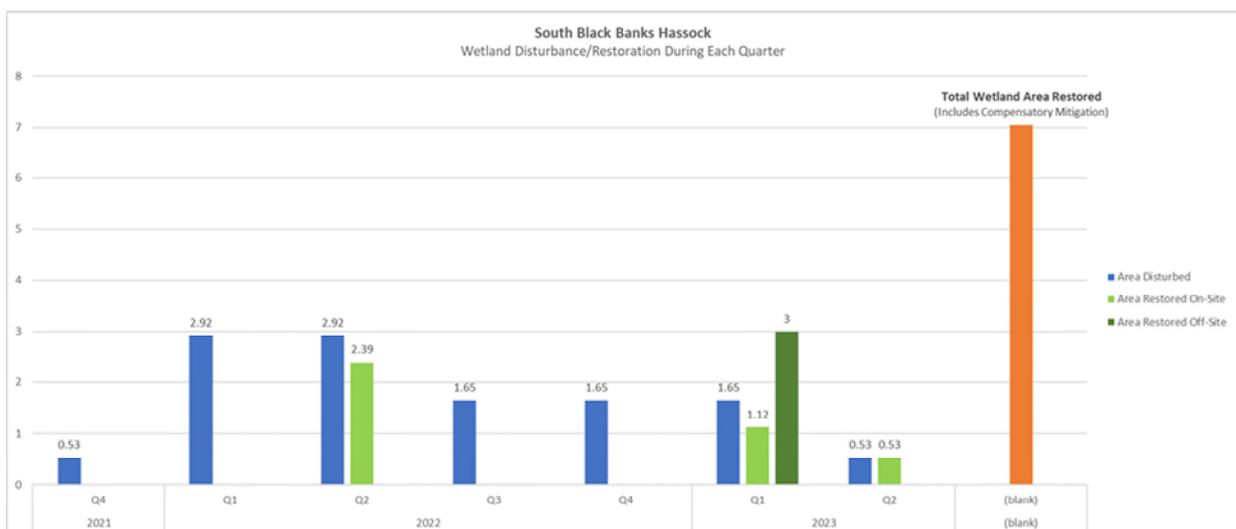


Figure 2 South Black Banks Hassock Wetland Disturbance/Restoration During Each Quarter

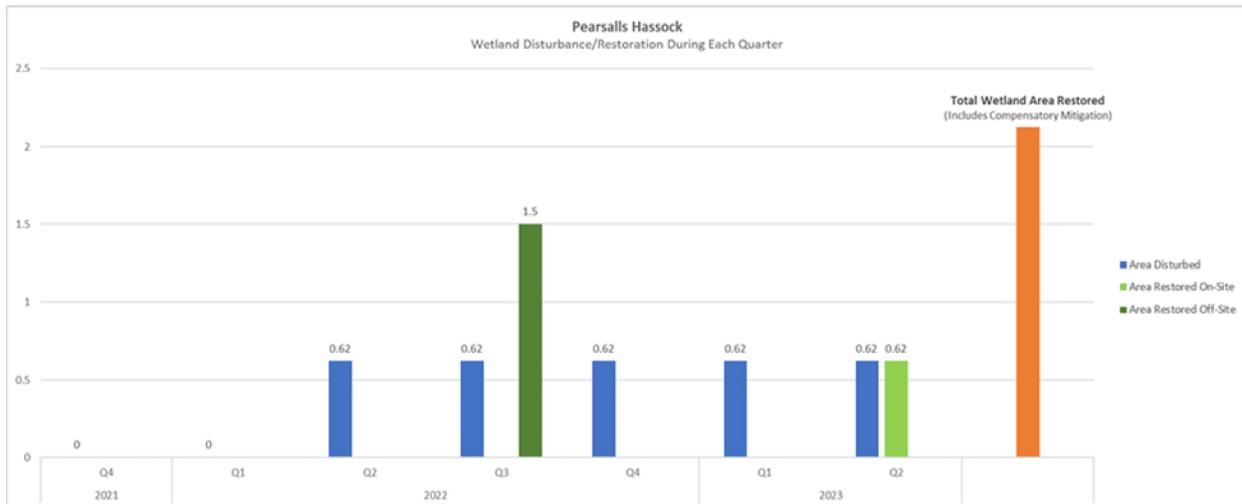


Figure 3 Pearsalls Hassock Wetland Distribution/Restoration During Each Quarter

Conclusion

Only 0.53 acres on South Black Banks Hassock would be impacted for the entire 17-month duration of activity for Sections 2 and 3, and only 0.62 acres on Pearsalls Hassock would be impacted for the entire 14-month duration of activity for Sections 1 and 2.

Wetland Restoration

South Black Banks Hassock

After Section 2 of the casing and pipe are installed on South Black Banks Hassock, the 2.39 acres disturbed for Pipe Laydown/Assembly and Pullback Area will be restored, and after Section 3 of the casing and pipe are installed the 1.12 acres of Pipe Laydown/Assembly and Pullback Area will be restored. Similarly, after the connections of Sections 2 and 3 are completed, the 0.34 acres disturbed for the Pipe Pullback site and the 0.19 acres disturbed for the Access Path will be restored.

Pearsall's Hassock

On Pearsall's Hassock 0.62 acres of tidal wetlands will be disturbed for a duration of approximately 14 months. However, an additional restoration project will be undertaken in 2022 to restore an additional 1.5 acres of low marsh habitat that has historically been lost along a tidal channel in the northern extent of the hassock. The objective is to provide compensation for the temporary service loss associated with impacts due to the access path and drill site and provide significant long-term benefits to tidal wetlands on the hassock. To account for temporary impacts to 0.62 acres of tidal wetlands, the project will restore a total of approximately 3.12 acres of tidal wetlands (i.e., 0.62 on-site and in-kind restoration plus 1.5 acres of additional restoration).

Multiple site-specific restoration efforts will be undertaken on South Black Banks Hassock to minimize the service loss associated with the construction project. Only 13% of anticipated impacts (i.e., 0.53 acres)

will be maintained throughout the 17-month construction period. The largest impacts (i.e., 2.39 acres associated with Laydown Area/Assembly/Pullback for Section 3) will be restored after only 3 months, and with most of the work associated with this impact occurring within the allowable work window. A second restoration project will be undertaken in 2023 to remove a large population of common reed (*Phragmites australis*) and restoration of both low and high marsh habitats to approximately 3 acres. To account for temporary impacts to approximately 4.04 acres of tidal wetlands, the project will restore approximately 7.04 acres (i.e., 4.04 on-site and in-kind restoration plus 3.0 acres of additional restoration).

Additional Ecological Restoration

As discussed during the December 27, 2019 meeting, and referred to in discussion above, Nassau County has proposed two ecological restoration projects on the hassocks to provide additional ecological benefits that specifically target restoration of native plant communities in addition to the expected benefits of reducing nitrogen loading within the Western Bays. The objective is to provide additional ecological benefits to the Western Bays to offset the temporary impacts associated with the required construction activities.

Pearsalls Hassock

To restore locations of significant bank erosion of intertidal channel on north side of Pearsalls Hassock, work would focus on re-creating a stable channel bank and then restoring historic grades suitable to support native low marsh habitats. This will provide restoration and enhancement to an additional 1.5 acres outside of the project area. The restoration design is anticipated to follow similar living shoreline projects implemented in protected tidal inlets and shorelines along the north Atlantic coastline.

South Black Banks Hassock

At a location of a large patch of common reed occurring in both high marsh and adjacent upland transitional habitat, the project objective is to create elevations at a height compatible with tidal hydrology necessary to restore low marsh habitat dominated by smooth cordgrass (*Spartina alterniflora*). The restoration of tidal hydrology is expected to introduce salinities in which common reed is intolerant of and cannot survive. This will provide restoration and enhancement to an additional 3.0 acres outside of the project area.

The PM-JV recognizes input from U.S. Fish and Wildlife Service in January 2020 that noted potential opportunities to strategically target suitable habitats to support the saltmarsh sparrow (*Ammodramus caudacutus*). Potentially strategic high marsh restoration could include restoration strategies specific to this species of conservation concern.

2.3 Best Management Practices and Impact Reducing Measures

Results of NYSDEC consultations have not identified significant concerns for potential impacts to tidal wetlands or associated sensitive species if appropriate and reasonable best management practices BMPs are instituted as part of the project. Identified BMPs include:

- Utilize, to the extent possible, the same access paths required for construction of the force main and for access for wetland restoration that were formally used for the geotechnical boring program

- Conduct tree and vegetation removal during the allowable work window and in advance of optimal nesting period
- laydown of marsh mats to support construction access will occur during the allowable work window;
- complete a pre-nesting survey in advance to assess areas and locations that would be viable nesting areas; and
- consider placement of bird deterrents (i.e., like herbivory control systems implemented in tidal marsh restoration projects) in areas of the planned work to discourage birds from nesting.
- the nesting of ospreys is recognized on both hassocks. The project design will relocate appropriate nesting towers. In addition, efforts may be undertaken to discourage nesting proximate to the project area as necessary up until the point eggs are present in a nest.

3 CONCLUSION

As a result of previous submissions and meetings the benefits of this project methodology have been demonstrated and acknowledged. The County wishes to advance the project to quickly achieve its benefits and make it eligible for HUD funding. The most feasible project route was chosen along with a construction method that is the least intrusive to the hassocks. The project cannot be feasibly constructed during a limited window. The project team has developed a construction plan that will minimize detrimental impacts during construction on the marsh during all seasons, but particularly during the growing season. Additionally, a significant marsh mitigation and restoration plan is proposed to further enhance the results of this beneficial project.



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Work Window

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ADDENDUM

March 2020

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2.1 Duration Required to Construct a New Force Main

Project Schedule

The attached graphic provides greater detail on what time of year each project component, including laying the access path; casing and pipe laydown, assembly and pullback; drilling, etc. is scheduled to occur. The graphic also presents the length of time that equipment will be staged on each Hassock and during which quarters of the year and months relative to the growing and non-growing seasons. Placement of mats for the access paths, drill rig and casing/pipe pullback site and the laydown/assembly/pullback areas for sections 2 and 3 of the casing/pipe have been scheduled to occur during the non-growing season and non-nesting season to avoid impacting wetland vegetation during the growing season and nesting birds during the nesting season. The attached graphic also identifies the time of year (quarters) when areas disturbed by equipment and construction activities would be restored and the time of year when additional wetland restoration, beyond the restoration of disturbed areas, is scheduled to occur on South Black Banks Hassock and Pearsalls Hassock.

Long Beach WPCP Consolidation - Construction Sequence, Limit of Disturbance, and Duration of Work

		Year	2021	2022				2023			Timeframe	Estimated Duration (Months)	
			Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3			
South Black Banks Hassock Activity	Area	Disturbance (acres)											
Site Preparation on South Black Banks													
Laying Marsh Mats for Access Path, Pullback Site & Casing/Pipe Laydown/Assembly & Pullback Areas	Sections 2 & 3		[Gantt Chart: Disturbance for Pipeline Construction]									December 2021 - March 15 2022	3
All Marsh Mats in place along Access Path		0.19	[Gantt Chart: Disturbance for Pipeline Construction]									March 2022 - May 2023	14
All Marsh Mats in place at Pipe Pullback Site	Sections 2 & 3	0.34	[Gantt Chart: Disturbance for Pipeline Construction]									March 2022 - Jan 2023	10
All Marsh Mats in Place for Section 3 Laydown Area	Section 3	2.39	[Gantt Chart: Disturbance for Pipeline Construction]									February 2022 - July 2022	6
All Marsh Mats in Place for Section 2 Laydown Area	Section 2	1.12	[Gantt Chart: Disturbance for Pipeline Construction]									March 2022 - December 2022	10
String Up/Place Equipment on South Black Banks													
Mobilize Pipe String Up Equipment & Materials	Section 3	0.00	[Gantt Chart: Disturbance for Pipeline Construction]									February 2022 - March 2022	1
Laydown/Assembly/Pullback Casing & Pipe Section 3	Section 3	2.39	[Gantt Chart: Disturbance for Pipeline Construction]									March 2022 - July 2022	4
Mobilize and Stage Casing & Pipe Pullback Area	Section 2	0.00	[Gantt Chart: Disturbance for Pipeline Construction]									July 2022 - August 2022	1
Laydown/Assembly/Pullback Casing & Pipe Section 2	Section 2	1.12	[Gantt Chart: Disturbance for Pipeline Construction]									August 2022 - December 2022	4
Remove Equipment from South Black Banks and Restore South Black Banks													
Restore Laydown/Assembly/Pullback Area	Section 3	2.39	[Gantt Chart: Restoration]									July 2022 - August 2022	2
Restore Laydown/Assembly/Pullback Area	Section 2	1.12	[Gantt Chart: Restoration]									April 2023 - May 2023	2
Connect Sections 2 & 3 and Install Air Valve	Sections 2 & 3	0.00	[Gantt Chart: Disturbance for Pipeline Construction]									December 2022 - January 2023	1
Restore Connection Area/Access Path/Pullback Site		0.53	[Gantt Chart: Restoration]									May 2023 - June 2023	2
Additional Restoration		3.00	[Gantt Chart: Restoration]										

LEGEND

- Disturbance for Pipeline Construction [Dark Blue Box]
- Disturbance for Wetland Restoration [Light Blue Box]
- Restoration [Green Box]

		Year	2021	2022				2023			Timeframe	Estimated Duration (Months)	
			Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3			
Pearsalls Hassock Activity	Area	Disturbance (acres)											
Site Preparation on Pearsalls Hassock													
Laying Marsh Mats for Access Path & Pullback Site			[Gantt Chart: Disturbance for Pipeline Construction]									January 2022 - February 2022	1
Marsh Mats in place along Access Path		0.28	[Gantt Chart: Disturbance for Pipeline Construction]									March 2022 - May 2023	14
Marsh Mats in place at Drill Site	Sections 1 & 2	0.34	[Gantt Chart: Disturbance for Pipeline Construction]									March 2022 - May 2023	14
Drill Rig On Pearsalls													
Mobilize Drill Rig to Pearsalls	Sections 1 & 2	0.00	[Gantt Chart: Disturbance for Pipeline Construction]									July 2022 - August 2022	1
Drilling Section 2	Section 2	0.00	[Gantt Chart: Disturbance for Pipeline Construction]									August 2022 - December 2022	4
Drilling Section 1	Section 1	0.00	[Gantt Chart: Disturbance for Pipeline Construction]									January 2023 - April 2023	3
Drill Rig Off Pearsalls													
Connect Sections 1 & 2 Install Air Valve	Sections 1 & 2	0.00	[Gantt Chart: Disturbance for Pipeline Construction]									April 2023 - May 2023	1
Restore Connection Area/Access Path/Drill Site		0.62	[Gantt Chart: Restoration]									June 2023 - July 2023	2
Addition Wetland Restoration		1.50	[Gantt Chart: Restoration]										

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

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West Fair Lawn, NJ 07410

Re: Application #1-2820-05050/00010
Long Beach WPCP Consolidation Project – Work Window Justification

Dear Mr. Gilmour:

Department of Environmental Conservation (DEC) has reviewed the documents submitted for the Long Beach Wastewater Pollution Control Plant consolidation proposal, titled “Long Beach Consolidation – Written Justification for Work Window”, dated 2/28/2020, and the accompanying addendum titled “Western Bays Resiliency Initiative: Long Beach WPCP Consolidation Project”, dated March 2020. DEC supports in concept the proposed timeframes for project completion, as the documents mentioned above as well as our previous conversations have demonstrated the need to work on the marsh outside of the typical work window of December through March. The following comments describe information that will be required as part of the permit application in regard to working on the marsh during the growing season.

1. It is likely that compression of the marsh sediments will occur beneath the marsh mats. Your application must detail pre-project elevations of the areas where matting will be in place through project completion and provide a plan to restore these areas to their initial elevation. The plan should detail monitoring throughout the project to control invasive species such as *Phragmites australis* that are known to colonize disturbed tidal wetland areas. It should be noted that this restoration is in addition to the mitigation required for the remainder of the project. DEC strongly encourages surveying for biological benchmarks in locations near the project area to determine at what elevation native plants are likely to be successful. This data may be necessary to develop a successful restoration plan.
2. The project timeframe notes that some of the restoration is scheduled for the summer months. Be advised that planting done in the summer is less likely to be successful than planting done in the spring or fall. Plantings in the summer are more likely to be subject to heat and drought conditions, stressing the native vegetation and providing a chance for invasive species to colonize. The applicant must make an effort to restore disturbed areas in the spring or fall following project completion. If restoration must be done in the summer, it will be the responsibility of the applicant to ensure successful plantings without the introduction of invasive plants.

3. Be advised that stockpiling excess material from the drilling will not be permitted on the marsh during the growing season. Your permit application must have a plan in place for the management of this material that includes an estimated volume of material to be excavated. Any material leaving the site will be subject to DEC's Division of Materials Management (DMM) regulations. Disposal of the dredge material at an off-site, upland location requires a case-specific Beneficial Use Determination (BUD) from (DMM), who will determine whether the proposal constitutes a beneficial use. In order to obtain a BUD, a written petition must be submitted to the department containing items detailed in the Solid Waste Management Facilities General Requirements [6 NYCRR Part 360.12(e)(2)]. Submissions must be sent to the Materials Management Supervisor at the following address:

Materials Management Supervisor
Division of Materials Management
SUNY @ Stony Brook
50 Circle Rd.
Stony Brook, NY 11790

Lastly, DEC expects the applicant to make every effort to stay on schedule with their proposed timeframes to minimize marsh disturbance. Please don't hesitate to contact me at 631-444-0364 with any questions.

Sincerely,



Elyssa Scott
Environmental Analyst

cc: K. Arnold – Nassau County DPW
C. Meek Gallagher - NYSDEC
M. Accardi - GOSR