

Environmental Assessment

STAMP Offsite Sanitary & Process Wastewater Sewer Force Main

Iroquois National Wildlife Refuge New York

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List of Abbreviations

BBS - Breeding Bird Survey	MGD - Million Gallons Per Day
BGEPA - Bald and Golden Eagle Protection Act	NAAQS - National Ambient Air Quality Standards
BMP - Best Management Practice	NEPA - National Environmental Policy Act
CAA - Clean Air Act	NHP - Natural Heritage Program
CCEP - CC Environment & Planning	NLEB - Northern Long-Eared Bat
CEQ - Council of Environmental Quality	NRCC - Northeast Regional Climate Center
CFR - Code of Federal Regulations	NWI - National Wetlands Inventory
CWA - Clean Water Act	NWP - Nationwide Permit
DOI - Department of the Interior	NYSBAM - New York State Department of Agriculture and Markets
EA - Environmental Assessment	NYSDEC - New York State Department of Environmental Conservation
ESA - Endangered Species Act	NYSDOT - New York State Department of Transportation
FEMA - Federal Emergency Management Agency	OSHA - Occupational Safety and Health Administration
FGEIS - Final Generic Environmental Impact Statement	PCN - Pre-Construction Notification
FIRM - Flood Insurance Rate Maps	PVC - Polyvinyl Chloride
GCEDC - Genesee County Economic Development Center	SEQR - State Environmental Quality Act
GEIS - Generic Environmental Impact Statement	SGCN - Species of Greatest Conservation Need
GGLDC - Genesee Gateway Local Development Center	SGIS - Smart Growth Impact Statement
HCP - Habitat Conservation Plan	STAMP - Science & Technology Advanced Manufacturing Park
HDD - Horizontal Directional Drilling	STP - Shovel Test Pit
HDPE - High-Density Polyethylene	TWMA - Tonawanda Wildlife Management Area
HP-SGCN - High-Priority Species of Greatest Conservation Need	USACE-JD - U.S. Army Corps of Engineers Jurisdiction
INWR - Iroquois National Wildlife Refuge	USFWS - U.S. Fish and Wildlife Service
IPCC - Intergovernmental Panel on Climate Change	USGS - U.S. Geological Survey
ITPs - Incidental Take Permits	WOUS - Waters of the US
MBTA - Migratory Bird Treaty Act	WWTF - Wastewater Treatment Facility

Chapter 1 Purpose and Need for Federal Action

1.1 Introduction

This Environmental Assessment (EA) has been prepared for the U.S. Fish and Wildlife Service (USFWS) in accordance with the National Environmental Policy Act (NEPA) of 1969, as amended (42 USC § 4321 *et seq.*), the regulations of the Council of Environmental Quality (CEQ), 40 Code of Federal Regulations (CFR) parts 1500 through 1508, and the regulations of the Department of the Interior (DOI) 43 CFR part 46. This EA evaluates the effects of USFWS issuance to the Genesee County Industrial Development Agency d/b/a the Genesee County Economic Development Center (GCEDC) and its affiliate, the Genesee Gateway Local Development Corporation (GGLDC) of approximately 14.32 acres of new right-of-way located within the Iroquois National Wildlife Refuge (INWR) to accommodate a proposed new force main (Force Main) for sanitary and process wastewater to extend from the proposed Western New York Science & Technology Advanced Manufacturing Park (STAMP) site (Site) to a discharge location at Oak Orchard Creek on Highway 63, approximately 4.8 miles north of the Hamlet of Alabama.

1.2 Purpose and Need for the Federal Action

The GCEDC and the GGLDC have been working for the last decade on the development of the Western New York STAMP project. The Site is planned as an advanced manufacturing campus on approximately 1,262 acres of land in the Town of Alabama, New York, located along the west side of New York State Highway 77/63 (north of Judge Road), approximately five miles north of the I-90/New York State Thruway (STAMP Site).

The purpose of the proposed federal action (issuance of right-of-way within an existing road right-of-way from the INWR) is to allow for the transport of up to 6 million gallons per day (MGD) of combined sanitary and process wastewater effluent generated, recycled, and treated at the Site to the proposed discharge location at Oak Orchard Creek. The proposed action is needed to accommodate discharge of treated sanitary effluent and treated industrial process wastewater generated at the Site. Design details for the proposed action are provided in the Engineering Report in Appendix A. The treated sanitary and industrial process wastewater is referred to as “effluent” throughout the remainder of this document. All proposed disturbances described and analyzed in this document are limited to the staging areas shown on the plan sheets in Appendix A. Other construction related activities including parking of vehicles and staging of equipment and/or materials will only take place on existing hard surfaces such as along public roadways or on existing driveways and parking areas.

1.3 Project Area

The project area for the Force Main begins at the Site in the Town of Alabama in Genesee County and ends at Oak Orchard Creek in Orleans County, approximately 4.8 miles north of the Hamlet of Alabama

on Highway 63. As discussed in the following chapter, two alternative Force Main routes are evaluated in this EA. Both routes follow existing roadways and are located largely within existing roadway rights-of-way.

The INWR, located within the project area, is managed by the USFWS for the purpose of providing an inviolate sanctuary for migratory birds. The INWR is approximately 10,828 acres in size. Containing the Oak Orchard Swamp, with over 6,000 acres in wetlands, the INWR serves as a nesting, feeding, resting, and staging area for migratory waterfowl. The INWR is also home to more than 3,000 acres of bottomland hardwood and 1,800 acres of grasslands and shrublands; its habitats support approximately 260 species of birds, 42 species of mammals, and reptiles, fish, amphibians and insects. NYS Route 63 bisects the INWR in the north/south direction.

Also, located within the project area is the Tonawanda Wildlife Management Area (TWMA). The TWMA is approximately 3,100 acres in size and is owned by the State of New York and managed by the New York State Department of Environmental Conservation (NYSDEC) for the purposes of wildlife management, wildlife habitat management, and wildlife-dependent recreation. It is located in the Tonawanda Creek floodplain southwest of the Oak Orchard Swamp – southwest of and contiguous to the INWR, separated from the INWR by Lewiston Road. The TWMA, together with the INWR and the Oak Orchard Wildlife Management Area – which is located east of and contiguous to the INWR, separated from the INWR by Knowlesville Road – provide a cumulative 19,000-acre complex of State and Federal wetlands, streams, fields, and forests.

The project area of interest in this EA can be more narrowly defined to encompass a total of approximately 14.32 acres within the INWR, located on the west side of NYS Route 63. This area is the focus of the proposed federal action; issuance of right-of-way from the USFWS would be required to construct the Force Main along the Applicant Preferred Route (Alternative B). In addition, a second area approximately 15.70 acres located within the TWMA, along the south side of Lewiston Road and west side of Salt Works Road, is evaluated; as discussed in the following chapters, issuance of new right-of-way from the TWMA would be required for the No Action Alternative (Alternative A). Alternate A is immediately contiguous to the INWR but would not require any federal action because it would be located on the opposite side of the road from the southern and western boundaries of the INWR. Figures 1 through 7 are located at the end of this document and provide additional detail and illustrations about the project area of interest.

Please see Figure 1, Project Area.

Chapter 2 Alternatives

2.1 Introduction

This chapter provides information on the development and evaluation of project alternatives. Two alternatives – the No Action Alternative (Alternative A) and the Applicant Preferred Action Alternative (Alternative B) – are evaluated in detail here and in Appendix B where features common to both alternatives are described. Additional project alternatives that were considered but have been eliminated from further study are also discussed here for context.

2.2 Alternatives or Actions Considered but Eliminated from Further Study

2.2.1 Alternative Evaluated in FGEIS for STAMP Project (January 2012)

As mentioned previously, the proposed action being evaluated in this EA involves installation of a Force Main within the INWR along NYS Route 63 to transport effluent generated at STAMP.

The GCEDC, as lead agency pursuant to the State Environmental Quality Act (SEQR), prepared a Generic Environmental Impact Statement (GEIS) and a Smart Growth Impact Statement (SGIS), which analyzed the potential impacts of the STAMP project pursuant to the requirements of SEQR and the State Smart Growth Public Information Policy Act. In January 2012, the Final GEIS (FGEIS) for STAMP was accepted as complete. The FGEIS identified alternatives for wastewater treatment for STAMP and assumed a maximum of 3 MGD of sanitary discharge would be needed. The preferred treatment alternative at that time included an on-Site Wastewater Treatment Facility (WWTF) with discharge to Oak Orchard Creek, Whitney Creek or Tonawanda Creek. The Tonawanda Seneca Nation had concerns with discharging to Whitney Creek with flows into Tonawanda Creek because the creek flows through the Reservation and is an essential part of the Nation's way of life and cultural heritage. Another concern regarding an on-Site WWTF as expressed by NYSDEC was the impact of WWTF discharges to Whitney Creek on the hydrology of the Tonawanda Wildlife Management Area. Based on feedback received during the GEIS process, several meetings with the neighboring Tonawanda Seneca Nation, and changes in the development focus of the STAMP Site to focus on the semiconductor industry, new alternatives for treatment of wastewater were developed.

In 2011 a report outlining potential options for providing sanitary sewer treatment to the STAMP site was prepared. At that time, the initial sanitary flows were expected to be 1.0 MGD (million gallons per day) with a future expansion up to 3.0 MGD. The Report considered six (6) separate alternatives for treatment. The treatment method and locations considered were as follows:

1. Onsite WWTF (wastewater treatment facility) and a discharge of treated effluent to Tonawanda Creek, west of Indian Falls along NYS Route 77

2. Onsite WWTF and a discharge of treated effluent to Tonawanda Creek, along Judge Road
3. Regional WWTF with a discharge to Tonawanda Creek in Indian Falls
4. Onsite WWTF and a discharge of treated effluent to Dry Brook, a tributary of Oak Orchard Creek, near Village of Oakfield
5. Onsite WWTF and a discharge of treated effluent to Oak Orchard Creek, north of INWR
6. Onsite WWTF and a discharge of treated effluent to Whitney Creek, along Crosby Road

At that time, the recommended alternative was an onsite WWTF with a discharge to Whitney Creek, a regulated intermittent stream. This was the least expensive option and shortest route. The potential downstream impacts to Whitney Creek were noted as something that needed to be further evaluated. Based on initial discussions with the NYSDEC, a discharge to Whitney Creek was potentially feasible based on volume and concentration levels for a regulated intermittent stream.

Through meetings and discussions from 2011 to 2013, the Tonawanda Seneca Nation (TSN) expressed significant concerns over discharging to Whitney Creek, upstream of their lands. They indicated that such a discharge would endanger their lifestyle and culture and impact their ecosystem. In addition, after further analysis, the NYSDEC expressed concerns over discharging upstream of the Tonawanda Wildlife Management Area (TWMA).

In 2013, the projected total volume of combined wastewater from the STAMP site increased from 3 MGD to 12 MGD (11 MGD of process water + 1 MGD of sanitary). A Report completed by CH2MHill reviewed new alternative sanitary sewer treatment options and discharge locations. Based on the investigation, the recommended discharge location for the sanitary flows was the Village of Medina collection system. This new alternative did not involve an onsite WWTF at the STAMP site but rather involved pumping the raw sanitary waste to the Village of Medina's existing WWTF. The process wastewater was expected to be treated onsite and pumped to Lake Ontario. Whitney Creek was eliminated from consideration due to the lack of endorsement from the TSN and NYSDEC.

In 2017, the memorandum of understanding (MOU) with the Village of Medina expired and there was a lack of interest in entering into a new MOU. In addition, the total projected volume of combined wastewater decreased from 12 MGD to 6 MGD, primarily through onsite recycling of the process water. This created new potential treatment options and discharge locations. Whitney Creek was not considered as a potential discharge point because of the previous lack of endorsement from the TSN and NYSDEC even at the lower flows. The focus for potential discharge turned to Oak Orchard Creek as the current proposed receiving waters for treated discharge.

2.2.2 Alternatives Evaluated in Conceptual Water and Wastewater Alternatives Analysis and Recommendations Report (August 2013)

In August of 2013, a Conceptual Water and Wastewater Alternatives Analysis and Recommendations Report prepared for the STAMP project identified potential sanitary sewage conveyance and treatment options for the STAMP Site. Five potential scenarios were identified, assessed, and eliminated, including:

- Construct an on-Site treatment facility and discharge via pipeline to an off-Site location beyond the local area;
- Pump the wastewater to the City of Lockport WWTP;
- Construct an on-Site wastewater treatment facility to discharge to a local receiving water;
- Construct an on-Site treatment facility with deep-well injection of effluent;
- Manage wastewater through reuse alternatives.

Three additional alternatives were evaluated, including:

- Transport and off-Site wastewater treatment at the Bird Island Wastewater Treatment Facility in Buffalo
- Transport and off-Site wastewater treatment at the Van Lare Wastewater Treatment Facility in Rochester
- Transport and off-Site wastewater treatment at the Village of Medina Wastewater Treatment Facility

All three of these alternatives were determined to be technically viable. Based on this report, the Medina WWTF was selected as the preferred effluent alternative.

2.2.3 Alternatives Evaluated in Force Main Route Analysis Report (February 2016)

In February 2016, a force main route analysis was completed to evaluate route alternatives for conveyance of sanitary sewage from the Site to the Medina collection system. All of the alternatives analyzed included an on-Site pump station located within the designated utility area, approximately in the center of the Site. Four alternatives were considered in the analysis. Three of these alternatives shared a route from the Site through the INWR; they differed in the routing to reach the Medina WWTF on the northern end of the project limits. The fourth alternative followed Lewiston Road to Salt Works Road (traversing the western border of the INWR and the eastern border of TWMA). Profiles and a geological review were completed for each alternative route, and based on existing topography, existing bedrock, and existing wetlands and streams, it was determined that all alternatives were feasible with regard to construction.

Two alternatives have been carried forward for evaluation in this EA. (Three of the four alternatives evaluated in the route analysis report require the exact same new right-of-way through the INWR and are therefore included as a single alternative in this EA). These include the No Action Alternative (which

follows Lewiston Road to Salt Works Road and would require new right-of-way from the TWMA) and the Applicant Preferred Alternative (which follows NYS Route 63 through the INWR).

2.3 Alternative A (No Action) – No issuance of ROW from INWR

Alternative A (No Action) contemplates a scenario that would require no need for permits from the USFWS because the Force Main would be on the opposite side of the road from the INWR and therefore would not physically be within the INWR. Alternative A (No Action) evaluates the installation of the Force Main in areas within the TWMA (across the road from the western boundary of the INWR) and would include installation of approximately 49,000 linear feet of 18” polyvinyl chloride (PVC) and 20” high-density polyethylene (HDPE) sanitary Force Main, main line valves, maintenance manholes, metering manholes, Force Main markers, and a pump station. The Force Main would convey effluent from the Main Sanitary Pump Station located at the utility area within the STAMP Site to a discharge point in Oak Orchard Creek along Highway 63, approximately 4.8 miles north of the Hamlet of Alabama.

The new Force Main would cross Crosby Road, and be located along a proposed access roadway on the STAMP Site, Lewiston Road (NYS Route 77), Salt Works Road, West Shelby Road, and to the discharge point in Oak Orchard Creek along Highway 63.

The project area consists of lawn area, farm fields, woodlands, road embankments, driveways and roadway crossings. Portions of the project include stream crossings, State and Federal wetland crossings, and crossing the TWMA lands. The new Force Main would be primarily installed within the existing roadway rights-of-way along the route except for a few areas located within permanent easements.

The estimated construction cost of Alternative A is \$16.7 million. It is estimated that installation of the Force Main for Alternative A would take approximately 35 weeks to complete.

Alternative A was not identified as the Applicant Preferred Action by the GCEDC based on an approximately 3.2-mile greater project distance and an increased cost of approximately \$3.6 million as compared with Alternative B. Important to the Applicant in evaluating Alternative A was the fact that even though no USFWS permits would be needed for Alternative A, there are no environmental benefits as compared to Alternative B as a result of avoiding the INWR and constructing instead within the TWMA. In fact, because of the longer length of the project, particularly within the TWMA, there would be equal or additional environmental impacts as a result of selecting Alternative A along with greater socioeconomic impacts.

Applicants note that economic factors, such as the costs of different alternatives, should be taken into consideration and balanced against the environmental impacts throughout the NEPA process. *See Calvert Cliffs’ Coordinating Comm., Inc. v. U.S. Atomic Energy Comm’n*, 449 F.2d 1109, 1113 (D.C. Cir. 1971). The Calvert Cliffs’ case is particularly helpful in that the Court quotes Senator Henry Jackson, NEPA’s principal sponsor, in its discussion of the purposes and mandates of NEPA Section 102 (42 U.S.C. § 4332, which provides the mechanism for achieving NEPA policy and goals). As a part of the discussion, the Court noted that agencies must identify and develop methods and procedures to give appropriate consideration to

economic and technical considerations and must balance those interests with environmental amenities/costs. *Id.* Thus, it is appropriate for agencies to consider economic feasibility in an alternatives analysis. See *Wright v. Inman*, 923 F. Supp. 1295, 1303 (D. Nev. 1996) (citing *Sylvester v. U.S. Army Corps of Engineers*, 882 F.2d 407, 409 (9th Cir. 1989)). In *Sylvester*, the Court stated that the Corps may legitimately consider cost to the applicant in evaluating alternatives. 882 F.2d at 409.

2.3.1 Alternative A – Segment within TWMA

The portion of Alternative A that would be located within the TWMA, which is the focus of this EA, would include:

- Installation of approximately 15,900 linear feet of Force Main,
- A new right-of-way approval for a total of 15.70 acres (a width of 43’ measured from the roadway centerline on the east side of Lewiston Road),
- Approximately 30 main line valves,
- Approximately 15 maintenance manholes,
- Approximately 2 metering manholes,
- Approximately 15 Force Main markers; and
- Approximately 31 staging areas, each 1,200 square feet, totaling disturbance of 0.85 acres.

Construction of the segment of Alternative A located within the TWMA would be limited to an estimated 10-week window that would be scheduled in coordination with NYSDEC and USFWS to avoid the migratory bird breeding and nesting season.

Depending on field conditions, the number of staging areas could be reduced during construction to reduce environmental impacts, if, for example, the Contractor were able to install longer HDD segments or if the mid-point staging area could be eliminated. Additional staging areas would not be expected to be required, but in the event of an equipment malfunction, emergency or unforeseen circumstances during construction, it may be necessary to install additional staging areas in locations not previously identified or modify the location of a proposed staging area. Every effort would be made during construction to avoid modifying the proposed layout. Coordination and authorization from TWMA personnel would be required prior to making any layout changes.

2.4 Alternative B (Applicant Preferred Action) – Issuance of ROW from INWR

Alternative B (Applicant Preferred Action) involves the installation of a total length of approximately 33,000 linear feet of 18” PVC and 20” HDPE sanitary force main, main line valves, maintenance manholes, metering manholes, and Force Main markers. The new Force Main would convey effluent from the Main Sanitary Pump Station located at the utility area within the STAMP site along Crosby Road, Lewiston Road (NYS Route 77), Alleghany Road (NYS Route 63) and to a discharge point in Oak Orchard Creek along Highway 63 approximately 4.8 miles north of the Hamlet of Alabama. Design details for Alternative B are provided in the Engineering Report in Appendix A.

The project area consists of fields, woodlands, road embankments, driveways and roadway crossings. Portions of the project include stream crossings, State and Federal wetland crossings, and crossing the INWR lands. The new Force Main would be primarily installed within the existing roadway rights-of-way except for a few areas located within permanent easements.

The estimated construction cost of Alternative B is \$13.1 million. It is estimated that Alternative B would take approximately 27 weeks to construct. Alternative B was identified as the Applicant Preferred Action by the GCEDC with input from NYSDEC regarding the surface water discharge location.

2.4.1 Alternative B – Segment within INWR

The portion of Alternative B that would be located within the INWR, which is the focus of this EA, would include:

- Installation of approximately 14,332 linear feet of Force Main,
- A new right-of-way approval for a total of 14.32 acres (a width of 43' measured from the roadway centerline on the west side of NYS Route 63 for most of the route, with a width of 54' measured from the roadway centerline along an 800-foot segment to avoid an existing NYS DOT bridge and concrete wingwalls at a crossing of Oak Orchard Creek),
- Approximately 27 main line valves,
- Approximately 12 maintenance manholes,
- Approximately 2 metering manholes,
- Approximately 14 Force Main markers; and
- Approximately 27 staging areas, each 1,200 square feet, totaling disturbance of 0.74 acres.

Construction of the segment of Alternative B located within the INWR would be limited to an estimated 8-week window that would be scheduled in coordination with USFWS to avoid the migratory bird breeding and nesting season.

Depending on field conditions, the number of staging areas could be reduced during construction to reduce environmental impacts, if, for example, the Contractor were able to install longer HDD segments or if the mid-point staging area could be eliminated. Additional staging areas would not be expected to be required, but in the event of an equipment malfunction, emergency or unforeseen circumstances during construction, it may be necessary to install additional staging areas in locations not previously identified or modify the location of a proposed staging area. Every effort would be made during construction to avoid modifying the proposed layout. Coordination and authorization from INWR personnel would be required prior to making any layout changes.

In addition to installation of the Force Main, Alternative B includes a proposal to enhance two of four existing access roads that connect Route 63 with the berm of a large managed wetland on INWR and to remove the other two access roads that are currently unused and restore to wetland (Figure 7). Enhancement of the two access roads currently being used could include replacing deteriorated culvert pipe, adding crushed stone, and grading to provide a smooth, even driving/parking surface to facilitate

management access by refuge staff and public access as appropriate. Removal of the two currently unused access roads would involve removal of the existing culvert pipe, excavation of all existing, imported earthen material to original grade, disposal of excess material to an appropriate off site location. The disturbed area would then be restored to wetland by recontouring soil and replacing topsoil to blend in with the surrounding grade and seeding with a native wetland seed mix appropriate to the adjacent wetland type. The enhancement and removal/restoration of existing access roads described above would be feasible if completed as part of the installation of the proposed Force Main. The result would support the mission of the National Wildlife Refuge System by improving access for habitat management, wildlife management, and public access.

The GCEDC anticipates forming a sewage works corporation under the New York State Transportation Corporations Law to own and operate all STAMP sewage infrastructure including the Force Main that would cross the Refuge along NYS Route 63. Pursuant to New York State law, a sewage works corporation is organized to provide for the disposal of sewage, through a system of pipelines, treatment plants and other means of disposal, and erects, operates, maintains and performs other necessary acts related to disposal systems for sewer areas formed within towns, villages or other municipal areas of the state. Formation of the sewage works corporation, and design of the system is subject to the review and approval of affected local governments, the County Department of Health, as well as the New York State Public Service Commission. In conjunction with the construction and operation of the sewage system, the sewage works corporation must post a performance bond for cost of construction of the system and must also guarantee that it will maintain and operate the system for at least five years in the amount of the estimated cost of operation and maintenance less estimated revenue. Additionally, the stock of the sewage works corporation must be placed in escrow and title will pass to the local government in the event of failure to complete construction or abandonment of maintenance and operation. Finally, the sewage works corporation has the right to acquire real estate or any interest therein necessary for purposes of incorporation, by condemnation or agreement, and may lay, repair or maintain the system over the lands of others. Overall, the State of New York has a thorough and comprehensive set of requirements for sewage works corporations formed under the New York State Transportation Corporations Law to ensure safe and reliable construction, maintenance and operation of sewage systems owned by such entities.

Chapter 3 Affected Environment and Environmental Consequences

3.1 Introduction

This chapter describes the existing conditions within the proposed project areas. The existing conditions, or affected environment, are the baseline conditions that may be affected by the proposed alternatives. This chapter also summarizes the positive and negative direct and indirect environmental impacts of the project alternatives, as well as cumulative impacts. As defined by the CEQ, direct impacts are caused by the action and occur at the same time and place. Indirect impacts are caused by the action and are later in time or farther removed in distance but are still reasonably foreseeable (40 CFR 1508.8). A cumulative impact is the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time (40 CFR 1508.7).

Avoidance, minimization, and mitigation measures for adverse impacts are also addressed. As defined by the CEQ (40 CFR 1508.20), mitigation may include:

- Avoiding the impact altogether by not taking a certain action or parts of an action;
- Minimizing impacts by limiting the degree or magnitude of the action and its implementation;
- Rectifying the impact by repairing, rehabilitating, or restoring the affected environment;
- Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action; and
- Compensating for the impact by replacing or providing substitute resources or environments.

For each resource or impact category discussed, only the project segment within the TWMA (Alternative A) or the INWR (Alternative B) is addressed. .

3.2 Land Use

The TWMA and INWR are zoned as land conservation uses in Genesee and Orleans Counties. As mentioned in Section 1.3, the INWR is approximately 10,828 acres in size and is managed by USFWS for the purpose of wildlife conservation. Containing the Oak Orchard Swamp, with over 6,000 acres in wetlands, the INWR serves as a nesting, feeding, resting, and staging area for migratory waterfowl. The INWR is also home to more than 3,000 acres of bottomland hardwood and 1,800 acres of grasslands and shrublands; its habitats support approximately 260 species of birds, 42 species of mammals, and reptiles, fish, amphibians and insects. NYS Route 63 bisects the INWR in the north/south direction. The TWMA is approximately 3,100 acres in size and is owned by the State of New York and managed by NYSDEC for the purposes of wildlife management, wildlife habitat management, and wildlife-dependent recreation. It is

located in the Tonawanda Creek floodplain southwest of the Oak Orchard Swamp – southwest of and contiguous to the INWR, separated from the INWR by Lewiston Road.

3.2.1 Land Use Impacts/Mitigation

Alternative A (No Action) – Alternative A would be located primarily within the existing Lewiston Road right-of-way within the TWMA. Approximately 15.70 acres of new right-of-way would be required from the TWMA, with temporary disturbances to approximately 0.85 acre of lands within the TWMA resulting from construction of staging areas to facilitate HDD installation of the Force Main. Following construction, all disturbed areas would be restored to their original conditions. Permanent changes to ground surface include presence of valve boxes, maintenance manhole covers, and metering manhole covers. These will remain in place at grade. Collectively these total less than 0.07 acre. Because of the directional drill method and minimal long term changes along the proposed right-of-way, there is no significant land use impacts that would result from Alternative A.

Land uses within the TWMA are managed by NYSDEC in accordance with management goals and applicable plans. As land use impacts to the TWMA resulting from Alternative A would be minor in context and intensity, temporary, and fully restored, Alternative A is not expected to cause or contribute to significant cumulative impacts to land uses in the TWMA.

Alternative B (Applicant Preferred Action) – Alternative B would be located primarily within existing NYS Route 63 rights-of-way within the INWR. Approximately 14.32 acres of new right-of-way would be required from the INWR, with temporary disturbances to approximately 0.74 acre of lands within the INWR resulting from construction of staging areas to facilitate HDD installation of the Force Main. Following construction, all disturbed areas would be restored to their original conditions. Permanent changes to ground surface include presence of valve boxes, maintenance manhole covers, and metering manhole covers. These will remain in place at grade. Collectively these total less than 0.06 acre. Because of the directional drill method and minimal long term changes along the proposed right-of-way, there is no significant land use impacts that would result from Alternative B.

In addition to mitigation through the general best management practices (BMPs) and restoration of temporary impact areas, Alternative B includes planned improvements to two of the four existing access roads connecting Route 63 with INWR to facilitate habitat management and access, and removal of the two unused access roads followed by restoration to wetland habitat. This is in addition to any mitigation necessary as part of local, state, and federal permit conditions.

Land uses within the INWR are managed by USFWS in accordance with management goals and applicable plans. As land use impacts to the INWR resulting from Alternative B would be minor in context and intensity, temporary, fully restored, and compensated for with any necessary permit-related mitigation and improvements or restoration of existing access roads, Alternative B is not expected to cause or contribute to significant cumulative impacts to land uses in the INWR.

3.3 Soils

A review of NRCS soil survey data revealed 22 soil types within the Alternative A project area (in the TWMA) and 15 soil types within the Alternative B project area (in the INWR) (NRCS, 2017). Seven soil types are found along both routes. **Please see Appendix C for details.**

3.3.1 Soils Impacts/Mitigation

Alternative A (No Action) – Alternative A would result in disturbances to approximately 0.85 acre of soils within the TWMA.

Alternative B (Applicant Preferred Action) – Alternative B would result in disturbances to approximately 0.74 acre of soils within the INWR.

Alternative A (No Action) and Alternative B (Applicant Preferred Action) – Soil impacts would be localized and largely contained within previously disturbed roadway right-of-way corridors. Use of HDD construction methods would reduce impacts to soils by 90% as compared with an open trench method. BMPs would be implemented to further minimize these impacts. Surface disturbance caused by construction of the Force Main would result in the removal of vegetation from the soil surface. This can damage soil crusts and destabilize the soil. As a result, the soil surface could become more prone to accelerated erosion by wind and water. BMPs used during construction to reduce these impacts would include:

- Erosion and sediment control measures during and after construction
- Segregating topsoil from subsurface material for future reclamation
- Re-seeding of disturbed areas using native seed mix immediately after construction activities are complete
- Use of appropriately sized construction equipment for the scope and scale of the project
- Maintaining proper drainage
- Regrading to match original topography following installation of the Force Main

Soil compaction can occur by use of heavy equipment. When soil is compacted, it decreases permeability and increases surface runoff. This is especially evident in silt and clay soils. In addition, soils may be impacted by the mixing of soil horizons. Soil compaction and mixing of soil horizons would be minimized by topsoil segregation.

HDD techniques require the use of drilling fluid to keep the drilling head cool, stabilize the bore hole and lubricate the pipe during pulling operations. The drilling fluid is made from mixing bentonite and other additives with water to produce a slurry that can be pumped. Rarely, an inadvertent release of drilling fluid can occur during the HDD process. Drilling fluid seepage is generally the result of pressurization of the drill hole beyond the containment capability of the overburden soil material or as a result of fractures in the rock, low density soils or unconsolidated soils. Providing adequate depth of cover for the installation of the pipe reduces this potential.

The contractor would control the fluid injection rate and actively monitor the fluid levels at the entrance and exit points during the HDD process. The staging areas would contain temporary fluid containment areas which would provide early indications of fluid encroaching on the surface. The HDD operations would have equipment to contain the fluid in the event that the fluid broke initial containment including excavation and vacuum abilities (back hoes and Vacuum trucks). If the fluid began to encroach the surface, drilling operations would be immediately suspended until fluid containment is regained.

Contamination of soils from a leak once the proposed Force Main is operational is not anticipated. However, in the event there is a leak, the effluent would not pose a threat to the environment because of the contents of the Force Main meets regulatory agency permit limits for direct discharge. The entire length of the Force Main would be pressure tested to ensure there are no leaks prior to placing it into service. A qualified operations and maintenance company would monitor the flows entering and exiting the TWMA or INWR weekly to ensure that there are no leaks. In the event that a leak occurred, all pumping operations would be stopped, an Emergency Response Plan would be activated, and NYSDEC and USFWS would be immediately notified (See Appendix A). The immediate upstream and downstream main line valves would be closed to isolate the leak and reduce the amount of effluent flowing to the leak area. The Force Main would be repaired by excavating down to the damaged area, replacing the damaged pipe and installing the necessary repair fittings.

Soils within the TWMA and INWR are largely protected from disturbance, aside from those consistent with management activities (e.g. diking and impoundments, prescribed fires, reforestation, etc.). As soil impacts resulting from Alternatives A and B would be minor in context and intensity as well as temporary, Alternatives A and B are not expected to cause or contribute to significant cumulative impacts to soils in the TWMA or INWR.

3.4 Surface Water

The proposed project area is located in two watersheds: the Niagara River/Lake Erie Watershed (southern part of project area) and the Lake Ontario Tributaries Watershed (northern part of project area). This area is topographically flat and rife with streams and tributaries draining generally west to the Niagara River/Lake Erie or generally north to Lake Ontario (NYSDEC, 2017).

3.4.1 Surface Water Impacts/Mitigation

Alternative A (No Action) – Alternative A would require three stream crossings located within the TWMA (crossing #1-3 on map). **Please see Figure 2.**

Alternative B (Applicant Preferred Action) – Alternative B would require four stream crossings located within the INWR (crossing #5-8 on map). **Please see Figure 2.** A Pre-Construction Notification (PCN) was submitted to USACE and NYSDEC in June 2016.

Alternative A (No Action) and Alternative B (Applicant Preferred Action) – HDD methods would be used to avoid impacts to bed and bank at all stream crossing locations. No direct or indirect impacts to streams or other surface waters are anticipated.

All of the streams and tributaries that would be crossed are Class C, Standard C, meaning that they are not considered “protected waters” by the State, and the proposed crossings would not require a New York State Protection of Waters permit. Class C waters support fisheries and are suitable for non-contact activities.

Some or all of these streams may be under the jurisdiction of the US Army Corps of Engineers (USACE-JD) as Waters of the US (WOUS); it is anticipated a Nationwide Permit (NWP) 12 – Utility Line Activities and associated Clean Water Act (CWA) Section 401 Water Quality Certification would be needed for crossings of WOUS.

Streams within the TWMA and INWR are largely protected from disturbance; however, other past, present, and reasonably foreseeable future actions outside the TWMA and INWR can impact the streams within these protected borders, including water quality of the streams. According to NYSDEC, major sources of water quality concerns in these watersheds include agricultural and other nonpoint sources of pollutants, legacy industrial contaminants, and invasive and other aquatic plant growth (NYSDEC, 2017). Because the streams within the TWMA and INWR would be avoided by Alternatives A and B, they would not cause or contribute to any cumulative impacts to surface water within the TWMA and/or the INWR.

3.5 Wetlands

To determine the wetland resources within the proposed project area, National Wetlands Inventory (NWI) maps and NYSDEC maps identifying State-regulated wetlands and associated buffers were reviewed. The predominant wetland feature on the landscape within the proposed project area is the Oak Orchard wetland complex, which is partially located in the INWR and TWMA. A variety of palustrine emergent, palustrine forested, and palustrine scrub-shrub wetlands are associated with this complex. **Please refer to Figures 3 and 4.**

3.5.1 Wetland Impacts/Mitigation

Alternative A (No Action) – All wetlands located outside the TWMA would be avoided using HDD construction methods. Impacts to wetlands within the TWMA would be minimized with the use of HDD; however, avoidance of wetlands would not be possible due to the nature of the TWMA. Construction of the Force Main would generate impacts to wetland/buffer totaling approximately 0.68 acre. These federal and state-mapped wetlands and buffers are all part of the Oak Orchard wetland complex. Impacts would be localized to those wetland areas located immediately adjacent to Lewiston Road. While the vast majority of the unavoidable wetland impacts would be temporary (0.61 acre), minor permanent impacts of approximately 0.07 acre would result from the main line valves, maintenance and metering manholes, and Force Main markers that would remain in place in wetland areas once the Force Main was operational. **Please see Table 1.**

Table 1 - Alternative A Wetland/Buffer Impacts in TWMA		
Total Impacts (acres)	Temporary Impacts (acres)	Permanent Impacts
0.68	0.61	0.07

Prior to construction, a field wetland delineation would be completed for wetlands and buffers along the proposed project corridor and submitted to USACE and NYSDEC for a jurisdictional/regulatory determination of boundaries. A refined impact assessment would be completed based on the delineation maps prepared using GPS of wetland boundaries in the field.

Alternative B (Applicant Preferred Action) – All wetlands located outside the INWR would be avoided using HDD construction methods. Impacts to wetlands within the INWR would be minimized with the use of HDD; however, avoidance of wetlands would not be possible due to the nature of the INWR. Construction of the Force Main would generate impacts to wetland/buffer totaling approximately 0.56 acre. These wetlands and buffers are part of the Oak Orchard wetland complex. Impacts would be localized to those wetland areas located immediately adjacent to NYS Route 63. While the vast majority of the unavoidable wetland impacts would be temporary (0.50 acre), minor permanent impacts of approximately 0.06 acre would result from the main line valves, maintenance and metering manholes, and Force Main markers that would remain in place in wetland areas once the new Force Main was operational. **Please see Table 2.**

Table 2 - Alternative B Temporary Wetland/Buffer Impacts in INWR		
Total Impacts (acres)	Temporary Impacts (acres)	Permanent Impacts
0.56	0.50	0.06

A field wetland delineation has been completed for wetlands within the INWR by CC Environment & Planning (CCEP) (CCEP, 2016) and was submitted to USACE and NYSDEC in June 2016.

In addition to restoration of temporary disturbance areas and any required compensatory mitigation for wetland impacts (described below), construction of the Force Main through INWR includes a proposal to remove two unused access roads and culverts west of Route 63 within the proposed ROW and to restore these areas to wetland habitat if desired by USFWS. **Please see Figure 7.**

Removal of unused access roads would involve removal of the existing culvert pipe, excavation of all existing, imported earthen material to original grade, disposal of excess material to an appropriate off site location. The disturbed area would then be restored to wetland by recontouring soil and replacing topsoil to blend in with the surrounding grade and seeding with a native wetland seed mix appropriate to the adjacent wetland type.

Alternative A (No Action) and Alternative B (Applicant Preferred Action) – Immediately following construction within either the TWMA or the INWR, the disturbed wetland areas would be restored. The staging areas would be removed, restoring hydrology to the wetland areas. The Site would be re-contoured to match pre-disturbance conditions and re-seeded with a native wetland seed mix appropriate to the adjacent wetland type (e.g. emergent, forested, scrub/shrub). The only exception being manhole covers that will be at or above the elevation of the centerline of the road and graded and planted to blend in visually. As mentioned previously, topsoil would be segregated from subsoil during construction and

would be used in the restoration – no new topsoil would be brought into the TWMA or the INWR from outside the management area/refuge, to minimize the potential for introduction of invasive species.

An NWP-12 would be required for any unavoidable impacts to USACE-JD wetlands that are less than 0.5 acre. A CWA Section 404 Individual Permit would be required for unavoidable impacts to any USACE-JD wetlands that exceed 0.5 acre. A Section 401 Water Quality Certification would be required from NYSDEC for any impacts requiring an Individual Permit or NWP. A NYS Freshwater Wetlands Permit would also be required from NYSDEC for any unavoidable impacts to NYSDEC-regulated wetlands, including the 100' buffer area surrounding the wetland.

Wetland mitigation measures including avoidance, minimization, and restoration would be implemented as described. Additional measures, including compensation for impacts by providing substitute resources, may be required to ensure no net loss of wetland functions and values of the resource. A wetland mitigation plan would be developed in coordination with USACE, NYSDEC, and USFWS, as determined necessary through coordination with each agency. USACE and USFWS both use landscape-level (watershed) approaches to compensatory wetland mitigation planning (USACE, 2008; USFWS, 2016a), while NYSDEC's policy is to provide compensatory mitigation in the immediate vicinity of the impact [6 CRR-NY 663.5(g)(1)(i)]. The USACE generally does not require compensatory mitigation for impacts less than 0.1 acre per basin. NYSDEC does not have a defined impact threshold for requiring compensatory mitigation; its need is determined on a case-by-case basis. The USFWS generally adheres to the "no net loss" policy of functions and values. It is possible that different wetland mitigation activities would be necessary to satisfy each agency. At a minimum, compensatory mitigation through the purchase of in lieu fee credit will ensure no net loss of wetland acreage, function and value.

No indirect impacts to wetlands are anticipated. It has been estimated that more than 50% of wetlands in New York State had been lost to agricultural drainage, development, and other human uses (Dahl and Allord, 1997). Within the TWMA and INWR, wetland habitats are protected, and wetland acreages and functions have been gained over time as a result of management activities. The majority of wetland impacts associated with Alternatives A and B would be temporary and fully restored with the exception permanent impacts associated with valves and manhole covers (0.06 acre for Alternative B). Compensatory mitigation would ensure no net loss of any permanent impacts. Therefore, the proposed project is not expected to cause or contribute to significant cumulative impacts to wetlands, positively or negatively.

3.6 Groundwater

A review of the depth to groundwater associated with the soils within the proposed project area revealed dozens of ratings ranging from zero to greater than 200 centimeters (NRCS, 2017). A USGS groundwater monitoring well is located in the proposed project area, on the north border of the INWR (Dunlop Road) just west of NYS Route 63 (Site Number 430924078241301, Local number OI-27). Between December 5, 2008 and December 7, 2016, depth to groundwater was continuously recorded at this location. The

maximum level was 38.34 feet below ground surface. The minimum level was 48.29 feet below ground surface. The mean groundwater depth was 41.79 feet below ground surface (USGS, 2017a).

A review of aquifer data identified one unconfined aquifer located in the northern portion of the project area, along the proposed Alternative A (No Action) route. **Please see Figure 5, Groundwater.**

3.6.1 Groundwater Impacts/Mitigation

Alternative A (No Action) and Alternative B (Applicant Preferred Action) – As reported by NYSDEC (NYSDEC, 2017a), groundwater contamination from sewer lines is estimated to be low in the State, and Force Main leaks are usually detected and corrected quickly. This type of activity has been given a statewide “low” level of concern for groundwater contamination by NYSDEC.

Direct or indirect groundwater impacts are not anticipated from either proposed project alternative. The groundwater depth is substantially lower than the proposed Force Main depth (5-6 feet below ground surface). The unlikely occurrence of a drilling fluid leak during construction operations or a leak once the proposed Force Main system is operational could have the potential to contaminate groundwater resources beneath and downstream of the area(s) experiencing a leak. If a drilling fluid or Force Main leak were to occur, it is anticipated that it would be quickly detected and resolved without contaminating groundwater resources.

The contractor would control the drilling fluid injection rate and actively monitor the fluid levels at the entrance and exit points during the HDD process. The staging areas would contain temporary fluid containment areas which would provide early indications of fluid encroaching on the surface. The HDD operations would have equipment to contain the fluid in the event that the fluid broke initial containment including excavation and vacuum abilities (back hoes and Vacuum trucks). If the fluid began to encroach the surface, drilling operations would be immediately suspended until fluid containment is regained.

The entire length of the Force Main would be pressure tested to ensure there are no leaks prior to placing it into service. An operations and maintenance provider would monitor the flows entering and exiting the TWMA/INWR weekly to ensure that there are no leaks. In the event that a leak occurred, as per the Emergency Response Plan (Appendix A), all pumping operations would be stopped and NYSDEC and USFWS would be immediately notified. The immediate upstream and downstream main line valves would be closed to isolate the leak and reduce the amount of fluid flowing to the leak area. The Force Main would be repaired by excavating down to the damaged area, replacing the damaged pipe and installing the necessary repair fittings.

Because no direct or indirect impacts are anticipated, Alternatives A and B would also not contribute to cumulative impacts to groundwater.

3.7 Floodplains

According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRM), much of the proposed project area is located within a 100-year floodplain associated with the Oak Orchard Creek wetland system. This includes the INWR and TWMA lands. **Please see Figure 6, Floodplains.**

3.7.1 Floodplain Impacts/Mitigation

Alternative A (No Action) and Alternative B (Applicant Preferred Action) –Alternatives A and B would involve construction in a mapped floodplain. However, the proposed project alternatives both consist primarily of a buried utility line that would not change elevations or add fill in the floodplain. No direct or indirect impacts to the floodplain would result from the utility line in either alternative. Ancillary and permanent infrastructure (valves and manhole covers) will result in approximately 104.4 cubic yards of fill in floodplain areas for Alternative A and 139.2 cubic yards of fill in floodplain areas for Alternative B. In both cases, fill is minimal with no significant impacts to the floodplain. Coordination with local floodplain permit and certification administrators would be required.

3.8 Vegetation

CC Environment & Planning conducted a field review of the proposed project area in November 2015 and May 2016. Most of these lands are previously disturbed upland areas including roadway shoulders, mowed roadway shoulders, excavated ditches, culverts, and brushy cleared land. A smaller portion of the project area, primarily at stream and wetland crossings and adjacent to federal and State-owned lands, consists of intermittent and perennial streams and wetlands (shallow emergent marsh, common reed marsh, shrub swamp, and red maple hardwood swamp). Ecological communities referenced above are designated in accordance with community descriptions in *Ecological Communities of New York State* (Edinger et al. 2014).

Commonly observed plant species during the field review are shown in **Appendix D, Common Plant Species in Project Area**. No State-protected native plants were identified during the field review.

3.8.1 Vegetation Impacts/Mitigation

Alternative A (No Action) and Alternative B (Applicant Preferred Action) – Ground clearing activities associated with construction of the Force Main would result in vegetation disturbance to approximately 0.85 or 0.74 acre, respectively. The areas of proposed surface disturbances are minimized through use of HDD and are predominantly located in previously disturbed roadway rights-of-way.

Care would be taken to prevent the introduction or spread of invasive plant species, which is a potential indirect impact associated with both alternatives. BMPs related to invasive species management that would be incorporated into the proposed project include:

- Use of a weed-free source for project materials
- No topsoil would be brought into the TWMA (Alternative A)/INWR (Alternative B)
- Use of designated cleaning areas for tools, equipment and vehicles

- Inspection and cleaning of tools, equipment and vehicles before entering the TWMA/INWR
- Minimize soil disturbances within the TWMA/INWR through use of HDD construction methods
- Implement erosion control methods during and after construction
- Re-seed disturbed areas with native plant mix appropriate to pre-construction conditions and consistent with surrounding vegetation
- Commitment to monitor and manage the restoration of disturbed areas for noxious weeds and successful restoration of native plant communities for 2 seasons following construction

Other past, present, and reasonably foreseeable future actions within the TWMA and INWR that affect vegetation are largely associated with management activities aimed at creating and improving the desired wildlife habitats. Because the direct and indirect impacts to vegetation associated with Alternatives A and B are minimal in context and intensity, are temporary, and are expected to be fully mitigated, these alternatives are not expected to cause or contribute to significant cumulative impacts to vegetation within the TWMA or INWR.

3.9 Noise

The baseline existing noise levels at the TWMA and INWR are not known; however, it is expected that the primary noise source at both of these locations is traffic. The segment of Alternative A located within the TWMA (Lewiston Road) currently receives average daily traffic volumes of less than 2,400 vehicles with a posted speed limit of 40 miles per hour (NYSDOT, 2016). The segment of Alternative B located within the INWR (NYS Route 63) currently receives average daily traffic volumes of nearly 5,000 vehicles with a posted speed limit of 55 miles per hour (NYSDOT, 2016).

3.9.1 Noise Impacts/Mitigation

Alternative A (No Action) and Alternative B (Applicant Preferred Action) – Construction activities would generate noise. Construction would typically occur on weekdays (Monday-Friday) during business hours (approximately 7 am – 4 pm).

Due to the large amount of high quality habitat for breeding and nesting birds, as well as other wildlife species, available at the TWMA and the INWR, it is anticipated that noise-sensitive species would not nest in close proximity to Lewiston Road or NYS Route 63. However, individual birds or other wildlife may be present and be temporarily affected by construction noise activities; such impacts may include dispersal to habitats with lower noise levels, stress, disruption of feeding, drowning out of mating calls, masking of predator approaches, and/or suppression of animal sounds (Yong, 2017). Most avian species are particularly vulnerable during nesting and migration periods. Performing construction during these periods may decrease reproductive success. Therefore, the 8-10 week construction duration within the TWMA or INWR would be timed in coordination with USFWS to avoid the breeding and nesting season for migratory birds.

Following construction, the Force Main and ancillary infrastructure would not generate noise. Indirect noise impacts are not anticipated. Due to the short duration of the temporary construction impacts and

the proposed mitigation, Alternatives A and B are not expected to cause or contribute to significant cumulative noise impacts.

3.10 Threatened and Endangered Species

3.10.1 Federally Listed Species

In accordance with Section 7 of the Endangered Species Act (ESA) of 1973, 50 CFR Part 402, as amended, each federal agency is required to ensure the following two criteria: first, any action authorized, funded or carried out by such agency must not be likely to jeopardize the continued existence of any federally-listed endangered or threatened species or species proposed to be listed. Second, no such action can result in the destruction or adverse modification of habitat of such species that is designated or proposed to be designated critical by the US Department of Interior Secretary.

Section 9 of the ESA prohibits the “take” of species listed by USFWS as threatened or endangered. Take is defined as follows: “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect or attempt to engage in such conduct.” In recognition that a take cannot always be avoided, Section 10(a) of the ESA includes provisions for take that is incidental to, but not the purpose of, otherwise lawful activities. Section 10(a)(1)(B) incidental take permits (ITPs) may be issued if take is incidental and does not jeopardize the survival and recovery of the species (50 CFR 17.32 and 17.22). In conjunction with the application for an ITP, a Habitat Conservation Plan (HCP) is required under section 10(a)(1)(B) of the Act to describe the anticipated effects of the proposed taking by non-federal entities. Specifically, an HCP describes how impacts will be avoided and minimized to the maximum extent practicable, unavoidable impacts will be mitigated, and how the funding for the conservation plan is assured. An HCP can include listed as well as non-listed species, such as candidate species or species which have been proposed for listing. USFWS will complete an internal Section 7 conference process prior to issuance of any ITP.

A report provided from the USFWS ECOS-IPaC website for the proposed project area in Genesee and Orleans Counties, New York, identified one federally-listed species: the threatened northern long-eared bat (*Myotis septentrionalis*). There are no other federally listed, proposed, or candidate species and no designated or proposed critical habitats.

Northern Long-eared Bat

The northern long-eared bat (NLEB) is a medium-sized bat that occurs across central, eastern and northern portions of the United States and across Canada. During summer months, the species commonly roosts singly or in colonies in the trees of wooded areas, and to a lesser extent in caves, mines and the built environment. Foraging for insects occurs at night and, for females, the home range has been documented to be from 47 to 425 acres in size. Roost sites change frequently and can be up to approximately one mile apart from one another (USFWS, 2015a).

Potential roosts sites include live trees or snags that are greater than or equal to three inches’ diameter at breast height that exhibit exfoliating bark, cracks, crevices or cavities. Isolated trees may be potential roost sites if they exhibit the characteristics described above and are less than 1,000 feet from the nearest

roosting site or suitable wooded habitat (USFWS, 2014). From mid-summer to fall, bats move to hibernacula to breed and hibernate. The distance between roost and hibernacula can range from five to 168 miles (USFWS, 2015a). The fungal disease white-nose syndrome is the primary threat to the species.

The USFWS Summer Survey Guidelines for 2016 were followed to identify the potential for suitable NLEB habitat within the proposed project area in order to assess the potential for adverse effects to the species, as summarized in Table 3 below.

Table 3 - Initial Project Screening Summary for Northern Long-Eared Bat	
Actions Taken Per USFWS 2016 Summer Survey Guidelines for Phase I – Initial Project Screening	Results Summary
Step 1. Coordinate with the USFWS Field Office regarding existing NLEB summer occurrence information	Determined that proposed action is not located near known maternity sites or within 0.25 miles of a known hibernaculum as of April 15, 2016 ¹
Step 2. Conduct habitat assessment (desktop or field-based)	Trees that could provide potentially suitable summer habitat were identified in the field at five locations along the proposed project corridor. Many of these trees are conifers located singly or in small groups in residential settings. While potential habitat is minimal within the proposed project corridors, diverse and high- quality habitat is available immediately adjacent, throughout the TWMA and INWR.
Step 3. Assess potential for adverse effects to NLEB	Tree removal associated with construction activities have the potential to impact individual bats, if present. Following construction, operation of the proposed sanitary sewer Force Main would not result in any impacts to the species or its habitat.

3.10.2 Federally Listed Species Impacts/Mitigation

Alternative A (No Action) and Alternative B (Applicant Preferred Action) – A project commitment has been made to schedule any necessary tree removal to outside the pup season (June 1 – July 31) and, where possible, within the hibernation period (October 31 – March 31) to avoid impacts to the NLEB. Based on the presence of minimal potential habitat along the proposed project corridor, no known maternity sites or hibernaculum, and temporal restrictions on tree removal, it is anticipated that the proposed action may affect, but is not likely to adversely affect, the NLEB. This determination is appropriate when the proposed project is likely to cause insignificant, discountable, or wholly beneficial effects to individuals of listed species.

3.10.3 State Listed Species

State-listed species that have been recorded in the general vicinity of the project alternatives include five threatened avian species: the pied-billed grebe (*Podilymbus podiceps*), sedge wren (*Cistothorus platensis*), Henslow’s sparrow (*Ammodramus henslowii*), bald eagle (*Haliaeetus leucocephalus*), and northern harrier

¹ <http://www.fws.gov/midwest/endangered/mammals/nleb/nhisites.html>

(*Circus cyaneus*), as well as the endangered eastern massasauga rattlesnake (*Sistrurus catenatus*) and the endangered bog turtle (*Clemmys muhlenbergii*).

Pied-Billed Grebe

The pied-billed grebe is a small waterbird whose range extends from the southern U.S. to Central America and parts of South America. The pied-billed grebe migrates to New York State sometime between late March and mid-April and remains through the fall, heading south between September and November. Pied-billed grebes rely on large wetlands with “hemi-marsh” (an even mixture of emergent vegetation and open water) conditions that provide sufficient cover for nesting and are deep enough for underwater foraging. Breeding grounds for the species are scattered across New York State, with confirmed sightings of the species in the general vicinity of the proposed action – near the Genesee/Orleans/Niagara County border – during the breeding bird surveys conducted in 1980-1985 as well as 2000-2005. Historic declines of the species resulted from habitat loss and residual effects of DDT and other pesticide exposure. Wetland conservation and restoration efforts have helped to boost species numbers in recent years (NYSDEC, 2017b).

The pied-billed grebe is recorded as a species known to nest on or near the INWR (USFWS, 2007). A field review conducted by CCEP in November 2015 and May 2016 identified no potentially suitable habitat for the pied-billed grebe within the survey corridors; however, diverse and high quality habitats are available throughout the TWMA and INWR (CCEP, 2016).

Sedge Wren

The sedge wren is a small wren that is considered a short-distance migrant. Its range extends from the southeastern U.S. to the north central U.S. and central Canada. The sedge wren breeds in wet meadows or hayfields dominated by sedges and grasses. It is sensitive to changes in water level and vegetation, and within New York State its status has been elevated from a species of special concern to a threatened species. Breeding bird survey records identify probable sedge wren sightings in the general vicinity of the proposed action – near the Genesee County/Orleans County/Niagara County border – during 1980-1985 and both probable and possible sightings of the species during 2000-2005, with no confirmed sightings in Genesee or Orleans Counties during either survey. The primary threat to the sedge wren is loss of wetland breeding habitat (NYSDEC, 2017c).

The sedge wren is recorded as a species known to nest on or near the INWR (USFWS, 2007). A field review conducted by CCEP in November 2015 and May 2016 identified no potentially suitable habitat for the sedge wren within the survey corridors; however, diverse and high quality habitats are available throughout the TWMA and INWR (CCEP, 2016).

Henslow’s Sparrow

The Henslow’s sparrow breeds from South Dakota, Minnesota, Wisconsin, Michigan, Ontario, and Massachusetts south to Kansas, Missouri, Illinois, Kentucky, West Virginia, and North Carolina and locally in Texas. In New York, populations are very localized and found primarily in the central and western parts of the state. Henslow’s sparrow habitat consists of fallow, weedy, often moist fields and meadows.

Breeding occurs in a variety of habitats with tall, dense grass and herbaceous vegetation, including upland weedy hayfields, pastures without shrubs, wet meadows, drier areas of salt marshes, grassy fields, and sedge covered hillsides with recently planted pine seedlings. The species will also use lightly grazed pastures. The Henslow's sparrow population has been in decline for decades; the major threat to the species is a loss of breeding habitat as agricultural grasslands are developed or abandoned to subsequently revert back to forests. Breeding bird survey records identify one probable sighting near the western edge of the Genesee/Orleans County border in 1980-1985 and two probable sightings near the Genesee County/Orleans County/Niagara County border during 2000-2005 (NYSDEC, 2017d).

The Henslow's sparrow is recorded as a species known to nest on or near the INWR (USFWS, 2017). A field review conducted by CCEP in November 2015 and May 2016 identified no potentially suitable habitat for the Henslow's sparrow within the survey corridors; however, diverse and high quality habitats are available throughout the TWMA and INWR (CCEP, 2016).

Bald Eagle

In addition to being protected as a State-listed species, the bald eagle is protected through the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) of 1940. The MBTA, 916 U.S.C. 703-711, provides protection for 1,007 migratory bird species. The MBTA regulates impacts to these species such as direct mortality, habitat degradation, and/or displacement of individual birds. The MBTA defines "taking" to include by any means or in any manner, any attempt at hunting, pursuing, wounding, killing, possessing, or transporting any migratory bird, nest, egg, or part thereof, except when specifically permitted by regulations. The BGEPA, 16 U.S.C. 668-668d, as amended, was written with the intent to protect and preserve bald and golden eagles, both of which are treated as species of concern within the Department of the Interior. BGEPA prohibits, except under certain specified conditions, the taking, possession, or commerce of bald and golden eagles. Under the BGEPA, to "take" includes to pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest, or disturb, wherein "disturb" means to agitate or bother a bald or golden eagle to the degree that it interferes or interrupts normal breeding, feeding or sheltering habitats, causing injury, death, or nest abandonment.

The bald eagle is found throughout North America, in every state except Hawaii, and in Canada. Eagles prefer undisturbed areas near large lakes and reservoirs, marshes and swamps, or stretches along rivers where they can find open water and fish. In the last century, reproductive impairment from pesticides, especially DDT, and heavy metals caused virtual extirpation of the bald eagle from New York and many other areas. Since the ban on DDT in 1972, eagles and other birds of prey are again producing young. Habitat destruction through logging and development along watercourses still poses a substantial threat to the species.

Bald eagles mate for life and return to nest in the general area from which they fledged. Once a pair selects a nesting territory, they use it for the rest of their lives. Nests are usually located high in tall, live white pine trees near water. Nests are reused and added to each year, often becoming more than eight feet deep, six feet across, and weighing hundreds of pounds.

Two pairs of bald eagles maintain nests on the INWR (USFWS, 2017a).

Northern Harrier

The northern harrier breeds in North America from northern Alaska and Canada south to central and southern California, Mexico and portions of the southern US, excluding the southeast region. Wintering occurs from southern Canada to northern South America. Communal flocks roost on the ground during winter and migratory periods in agricultural fields, abandoned fields and salt marshes. The northern harrier breeds in both freshwater and brackish marshes, tundra, fallow grasslands, meadows and cultivated fields. It nests in flimsy structures made of sticks and grass on the ground. The species experienced significant population declines in the 1950s due to losses of breeding habitat and the effects of pesticides (NYSDEC, 2017e).

The northern harrier is recorded as a species known to nest on or near the INWR (USFWS, 2007).

Bog Turtle

The bog turtle is New York's smallest turtle and one of the smallest turtles in the world. The species is found in the eastern U.S., scattered in disjunct colonies from New York and Massachusetts south to southern Tennessee and Georgia. This is a semi-aquatic species, preferring habitat with cool, shallow, slow-moving water, deep soft muck soils and tussock-forming herbaceous vegetation. In New York, the bog turtle is found in open, early successional types of habitats such as wet meadows or open calcareous boggy areas generally dominated by sedges or sphagnum moss. Threats to the species include habitat loss and degradation and illegal collecting. In New York, development and natural succession are the major threat to bog turtle habitat (NYSDEC, 2017f).

The bog turtle is also a federally-listed threatened species, and the USFWS identifies both Genesee and Orleans Counties as locations where the bog turtle is known or believed to occur (USFWS, 2017b). However, it should be noted that the species was not identified as listed for the proposed project area in the USFWS ECOS-IPaC query. Therefore, it is presumed that the species is not located within the proposed project area. A desktop and field habitat review conducted by CCEP in November 2015 and May 2016 identified a low potential for suitable habitat and low likelihood of species occurrence within the survey corridors (CCEP, 2016).

Eastern Massasauga

The eastern massasauga rattlesnake is a small snake – averaging two feet in length – with a thick body, heart-shaped head, and vertical pupils. This species is believed or known to occur in two counties in New York: Onondaga and Genesee, as well as nine other U.S. States and one Canadian province. Eastern massasauga rattlesnakes hibernate in the winter and are active in the spring, summer, and fall. During the active seasons, the snake generally uses higher, drier habitats, open canopy wetlands, and adjacent upland areas; however, this varies regionally, and individual snakes can be found in a wide variety of habitats, including many types of wetlands. During the winter, the species moves to lower, wet areas for overwintering or hibernation. Habitat loss and fragmentation are the primary threats to the species. Additional risk factors include disease and climate change (USFWS, 2016b).

It should be noted that while there is a presumed extant population of the eastern massasauga rattlesnake in Genesee County (USFWS, 2016c), the species was not identified as listed for the proposed project area in the USFWS ECOS-IPaC query. Therefore, it is presumed that the species is not located within the proposed project area. A field review conducted by CCEP in November 2015 and May 2016 identified a low potential for suitable habitat and low likelihood of species occurrence within the survey corridors (CCEP, 2016).

3.10.4 State Listed Species Impacts/Mitigation

Alternative A (No Action) and Alternative B (Applicant Preferred Action) – Earthwork associated with construction activities undertaken for Alternatives A and B has the potential to impact individuals of the five state-listed threatened avian species (pied-billed grebe, sedge wren, Henslow’s sparrow, bald eagle, and northern harrier), if present. Indirect impacts to these species can be caused by noise associated with construction activities (such as clearing, grading, and excavation), which may lead to dispersal to habitats of lower noise levels. Many studies over the past two decades have shown that human-made noise can cause stress, disrupt feeding, drown out mating calls, mask the approach of predators, and suppress the complexity of animal songs (Yong, 2017). The potential for other construction-related impacts, including temporary habitat avoidance, temporary habitat loss, dust generation, exposure to contaminants, and/or injuries due to construction vehicle collisions with wildlife, also exists.

The segment of Alternative A located within the TWMA is located within a roadway corridor (Lewiston Road) that experiences average daily traffic volumes of just under 2,400 vehicles with a posted speed limit of 40 mph. The segment of Alternative B located within the INWR is located within a roadway corridor (NYS Route 63) that experiences average daily traffic volumes of just under 5,000 vehicles with a posted speed limit of 55 mph.

The combined INWR/TWMA/Oak Orchard Management Areas provide approximately 19,000 acres of protected wetland habitats as well as a variety of other habitat types. Based on the abundant availability of suitable habitat outside of the roadway corridors, it is anticipated that species sensitive to noise would not be nesting immediately adjacent to the roadway corridors and are not likely to be affected by the proposed construction activities; however, it is possible that individual birds may be affected.

In order to further minimize the potential for impacts to state-listed avian species, construction would be timed to avoid the breeding and nesting seasons for these species. The exact windows of avoidance would be determined through coordination with USFWS and NYSDEC and included in the project plans.

Following construction, temporary impact areas and associated habitats would be immediately and fully restored to their pre-existing conditions. No impacts are anticipated to State-listed avian species resulting from operation of the proposed Force Main. Based on the potential for temporary construction impacts to individuals, the proposed project alternatives may affect, but are not likely to adversely affect, the state-listed threatened pied-billed grebe, sedge wren, Henslow’s sparrow, bald eagle, or Northern Harrier. This determination is appropriate when the proposed project is likely to cause insignificant, discountable, or wholly beneficial effects to individuals of listed species.

No effects are anticipated to the State-listed endangered bog turtle or eastern massasauga rattlesnake, neither of which is anticipated to be present in the proposed project area. This determination is appropriate when the proposed project would not directly or indirectly affect (negatively or beneficially) individuals or designated critical habitats. Please refer to Table 4 below.

Table 4 - State Listed Species Impacts/Mitigation Summary				
Species	State Listing Status	Description of Activities with Potential Impacts to Habitat or Individuals	Mitigation Measures	Effect Determination
Pied-billed grebe	Threatened	Potential for temporary habitat avoidance, habitat loss, noise disturbance, dust generation, exposure to contaminants, and/or injuries due to construction vehicle collisions during construction on the INWR/TWMA lands. Once the system is operational, no impacts are anticipated.	Route siting along previously disturbed roadway corridors to minimize habitat loss and fragmentation. HDD installation to minimize wetland habitat disturbances in INWR/TWMA. Avoidance of construction during breeding and nesting season for these species; full restoration temporary impact areas within INWR/TWMA immediately following construction.	Both build alternatives may affect, but are not likely to adversely affect, the pied-billed grebe, sedge wren, Henslow's sparrow, bald eagle, and northern harrier.
Sedge wren	Threatened			
Henslow's sparrow	Threatened			
Bald eagle	Threatened			
Northern harrier	Threatened			
Bog turtle	Endangered	None anticipated – habitat and species not expected to be present.	None	No effect
Eastern massasauga	Endangered			No effect

3.11 Other Avian Species

The proposed project is located within the Atlantic Flyway migration corridor of North America (NWF, 2017). To determine the presence of bird species that may occur within the proposed project area, information provided by USFWS and NYSDEC regarding avian species at the INWR and TWMA/Oak Orchard WMA were reviewed, as were the New York State Natural Heritage Program (NHP) and the North American Breeding Bird Survey (BBS) databases.

The INWR serves primarily as a nesting, feeding, resting and staging area for migratory waterfowl. The varied habitats – including emergent marsh, forested wetlands, and grassland habitat types – support approximately 268 species of birds (USFWS, 2017). Of the 268 species, 125 species are known to nest on

or near the INWR (USFWS, 2007). The primary purpose of the TWMA is wildlife management, wildlife habitat management, and wildlife-dependent recreation. The TWMA is used extensively by nesting waterfowl and as a resting and feeding area for migratory birds during spring and fall migration. Upwards of 100,000 geese and thousands of ducks rely on these habitats (NYSDEC, 2017g).

The BBS is an annual bird survey occurring at the height of the breeding season (June). Coordinated by the US Geological Survey (USGS) Patuxent Wildlife Research Center and the Canadian Wildlife Service, and the National Wildlife Research Center, the BBS has over 4,100 survey routes located throughout Canada and the US. The proposed project area is located between two routes: the Byron Route and the Harris Hill Route. The Byron Route runs north/south in Genesee and Orleans Counties, east of the proposed project area, and has been run for 44 years. The Harris Hill Route runs east/west in Genesee and Erie Counties; the portion within Genesee County is south of the proposed project area. The Harris Hill Route has been run for 11 years. A total of 118 species were identified along both routes (a high of 50 species along the Byron Route and a high of 94 species along the Harris Hill Route, with overlap between the two routes) (Sauer et. al, 2017).

A combined species list was developed, showing all avian species identified along the two BBS routes closest to the proposed project area, as well as the species known to nest on or near the INWR. This totaled 141 species. Of these, 16 species have been identified by New York State as High-Priority Species of Greatest Conservation Need (HP-SGCN) and 17 species have been identified as Species of Greatest Conservation Need (SGCN). Both designations indicate that the status of the species is known and conservation action is needed. HP-SGCN are experiencing a population decline or have identified threats that may put them in jeopardy, and are in need of timely management intervention (within 10 years) or they are likely to reach critical population levels in the State. SGCN are experiencing some level of population decline, have identified threats that may put them in jeopardy, and need conservation actions to maintain stable population levels or sustain recovery (NYSDEC, 2015a). With one exception, all of the HP-SGCN and SGCN in or near the project area are known to nest at the INWR. **Please see Appendix E, Bird and Mammal Species Lists.**

3.11.1 Avian Species Impacts/Mitigation

Alternative A (No Action) and Alternative B (Applicant Preferred Action) – Earthwork associated with construction activities for Alternatives A and B has the potential to impact individual nesting birds on the INWR or TWMA resulting from temporary habitat avoidance, temporary habitat loss, noise disturbance, dust generation, exposure to contaminants, and/or injuries resulting from construction vehicle collisions with birds during construction.

As mentioned previously, the segment of Alternative A located within the TWMA is located within a roadway corridor (Lewiston Road) that experiences average daily traffic volumes of just under 2,400 vehicles with a posted speed limit of 40 mph. The segment of Alternative B located within the INWR is located within a roadway corridor (NYS Route 63) that experiences average daily traffic volumes of just under 5,000 vehicles with a posted speed limit of 55 mph. The combined INWR/TWMA/Oak Orchard

Management Areas provide approximately 19,000 acres of protected wetland habitats as well as a variety of other habitat types that support hundreds of nesting birds each spring/summer. Based on the abundant availability of suitable habitat outside of the roadway corridors, it is anticipated that species sensitive to human disturbances would not be nesting immediately adjacent to the roadway corridors and are not likely to be affected by the proposed construction activities.

Coordination would take place with USFWS to determine a construction schedule that would avoid the migratory bird breeding and nesting season in order to minimize impacts to avian species. Following construction, temporary impact areas and associated habitats would be immediately and fully restored to their pre-existing conditions. No long-term impacts are anticipated to avian species resulting from operation of the Force Main. Because potential impacts to avian species are expected to be temporary, minimal in context and intensity, and mitigated, Alternatives A and B are not expected to cause or contribute to significant impacts to avian species.

3.12 Other Wildlife and Habitats

USFWS provides a list of 42 mammal species that have been recorded on the INWR or are known or have existed there. These include one marsupial; four species of moles and shrews; eight species of bats; two species of hares and rabbits; 16 species of rodents; 10 species of carnivores, and one hoofed mammal species (USFWS, 2001). As the TWMA is contiguous to the INWR and also provides a variety of similar habitat types, it is assumed that the same species use the TWMA.

Of the 42 mammal species recorded at the INWR, two bat species have been identified by New York State as HP-SGCN and three bat species have been identified as SGCN. Both of these designations indicate that the status of the species is known and conservation action is needed. HP-SGCN are experiencing a population decline, or have identified threats that may put them in jeopardy, and are in need of timely management intervention (within 10 years) or they are likely to reach critical population levels in the State. SGCN are experiencing some level of population decline, have identified threats that may put them in jeopardy, and need conservation actions to maintain stable population levels or sustain recovery (NYSDEC, 2015a). In addition to the mammal species recorded at the INWR, a variety of reptiles, fish, amphibians, insects and other wildlife species use both the INWR and TWMA habitats.

3.12.1 Other Wildlife and Habitats Impacts/Mitigation

Alternative A (No Action) and Alternative B (Applicant Preferred Action) –The mammals, reptiles, fish, amphibians and insects using the INWR and TWMA habitats would not be impacted on a population level from either proposed alternative. Individuals and habitats located within the proposed construction limits may be temporarily impacted from construction activities, if present. As with avian species, potential temporary construction impacts to wildlife may include temporary habitat avoidance, temporary habitat loss, noise disturbance, dust generation, exposure to contaminants, and/or injuries resulting from collisions with construction vehicles.

Construction activities within the TWMA (Alternative A) or the INWR (Alternative B) are expected to be confined to a period of 8-10 weeks. Following construction, habitats would be fully restored, and species are expected to return to their habitats and continue to thrive. The following BMPs would be used to mitigate impacts to wildlife and habitats:

- Siting the proposed infrastructure along previously disturbed roadway corridors and within existing rights-of-way to minimize habitat loss and fragmentation
- Use of HDD installation in TWMA/INWR to minimize disturbance to wildlife or habitats
- Immediate restoration of hydrology in TWMA/INWR by removal of coffer dams once that portion of construction is complete
- Re-grading disturbed areas to pre-construction conditions
- Re-seeding with native seed mix to match surrounding vegetation and pre-construction conditions
- BMPs to reduce the likelihood of invasive species introduction or spread

Past, present, and reasonably foreseeable future actions that affect wildlife habitats within the TWMA and INWR are primarily associated with management activities intended to protect and enhance habitats for the benefit of wildlife species. The potential impacts to wildlife and habitats associated with Alternatives A and B are minor in context and intensity, temporary, and would be mitigated; neither alternative is expected to cause or contribute to significant cumulative impacts to wildlife and habitats either positively or negatively.

3.13 Cultural Resources

In accordance with 16 USC, 470hh(a), information concerning the nature and location of archaeological resources and traditional cultural properties, and detailed information regarding archaeological and cultural resources, is confidential. Such information is exempt from the Freedom of Information Act and are not included in this EA.

3.13.1 Cultural Resources Impacts/Mitigation

Alternative A (No Action) – If Alternative A were selected as the preferred alternative, the need for cultural resource surveys and Section 106 consultation with SHPO would be identified.

Alternative B (Applicant Preferred Action) – An Application for Permit for Archaeological Investigations was approved by USFWS, and Deuel Archaeology completed a Phase I survey and report for the proposed disturbance areas located within the INWR along approximately 4,351 linear meters (14,275 linear feet) where proposed sewer main will be installed via directional drill. Based on Phase IA background research, the project area is considered to have a high degree of archaeological sensitivity for precontact sites and a moderate degree of sensitivity for historic sites in undisturbed contexts. During the Phase IB field investigation, 182 shovel test pits (STPs) were excavated at 8-meter (26.2-foot) intervals in the 27 directional drill staging areas. Photographs were taken to show general field conditions, field methodology, prior ground disturbances, standing water, and the stratigraphy of the STPs. No cultural

resources eligible for the State or National Registers of Historic Places were identified. No further archaeological investigation is recommended for the sewer project within the INWR. The Phase I report was reviewed by Amy Wood, Regional Historic Preservation Officer for USFWS. Ms. Wood supported the findings and recommendation in an email dated April 18, 2018.

The proposed project, including both Alternatives A and B, has been designed in accordance with comments from the Tonawanda Seneca Nation. The Nation has been consistent in supporting off-Site wastewater solutions that do not involve Whitney Creek and Tonawanda Creek, both of which flow through Nation Territory. Both Alternatives avoid involvement of these two waterways addressing the Nation's concerns about the impacts of the development of the STAMP Site on the Nation and its people and culture. Most recently, Nation representatives have raised the issue that the Nation's Territory should be considered a Traditional Cultural Property (TCP) eligible for listing on the National Register of Historic Places.

3.14 Public Health and Safety

Public health and safety concerns associated with this type of development include the potential for a drilling fluid leak during HDD construction.

3.14.1 Public Health and Safety Impacts/Mitigation

Alternative A (No Action) and Alternative B (Applicant Preferred Action) – Alternatives A and B have been developed in coordination with the general public and public agencies to ensure positive public health and safety outcomes. Transporting treated effluent generated at the STAMP site to a surface water discharge point eliminates risk of contamination by raw sewage should there be any unanticipated leaks. Alternative B (Applicant Preferred Action) has been identified as the preferred alternative because it provides additional public benefits associated with a shorter route (which creates fewer impacts to public resources) and cost-savings.

HDD techniques, which would be used to drill beneath existing roadways, streams, wetlands, and the TWMA or the INWR to reduce impacts, require the use of drilling fluid to keep the drilling head cool, stabilize the bore hole and lubricate the pipe during pulling operations. The drilling fluid is made from mixing bentonite and other additives with water to produce a slurry that can be pumped. Rarely, an inadvertent release of drilling fluid can occur during the HDD process. Drilling fluid seepage is generally the result of pressurization of the drill hole beyond the containment capability of the overburden soil material or as a result of fractures in the rock, low density soils or unconsolidated soils. Providing adequate depth of cover for the installation of the pipe reduces this potential.

The contractor would control the fluid injection rate and actively monitor the fluid levels at the entrance and exit points during the HDD process. The staging areas would contain temporary fluid containment areas which would provide early indications of fluid encroaching on the surface. The HDD operations would have equipment to contain the fluid in the event that the fluid broke initial containment including

excavation and vacuum abilities (back hoes and vacuum trucks). If the fluid began to encroach the surface, drilling operations would be immediately suspended until fluid containment is regained.

Potential public health and safety impacts resulting from a leak of effluent once the Force Main is operational are not anticipated. The entire length of the Force Main would be pressure tested to ensure there are no leaks prior to placing it into service. An operations and maintenance company would monitor the flows entering and exiting the TWMA or the INWR weekly to ensure that there are no leaks. In the event that a leak occurred, all pumping operations would be stopped and NYSDEC or USFWS would be immediately notified. The immediate upstream and downstream main line valves would be closed to isolate the leak and reduce the amount of fluid flowing to the leak area. The Force Main would be repaired by excavating down to the damaged area, replacing the damaged pipe and installing the necessary repair fittings. A written Emergency Response Plan to address any potential leaks has been developed and is provided with the Engineering Report in Appendix A. The Emergency Response Plan will be included as part of the Operations and Maintenance Manual for the system.

The proposed project is not anticipated to cause or contribute to significant cumulative impacts to public health and safety, when viewed in combination with other past, present, or reasonably foreseeable future actions affecting public health and safety.

3.15 Visual/Aesthetics

The visual landscape in the segments of the TWMA and INWR under consideration includes roadway rights-of-way surrounded by protected natural areas.

3.15.1 Visual/Aesthetic Impacts/Mitigation

Alternative A (No Action) and Alternative B (Applicant Preferred Action) – The Force Main that would be installed under both project alternatives would be buried 5 to 6’ beneath the ground surface and would not have any visual impacts. Ancillary infrastructure that would remain above ground in the TWMA/INWR is described below. These components are minimal and, with the exception of the pipeline markers which are intended to be easily seen, would be camouflaged to minimize visual intrusions on the landscape. No indirect or cumulative impacts to the visual environment are anticipated. **Please refer to Table 5.**

Table 5 - Proposed Project Components Located Above Ground			
Item	Description	# in TWMA	# in INWR
Metering manholes	Buried with the exception of 24” diameter cast iron cover visible at surface. Surrounding area graded and restored following construction.	2	2
Maintenance manholes	Buried with the exception of 24” diameter cast iron cover visible at surface. Surrounding area graded and restored following construction. At some locations, a 2” diameter candy-cane shaped pipe would extend 2’ above surface for venting; the pipe would be painted to blend in with surroundings.	15	12

Table 5 - Proposed Project Components Located Above Ground			
Item	Description	# in TWMA	# in INWR
Main line valves	Buried with exception of 8" diameter cast iron valve box cover, installed level with finished grade.	30	27
Pipeline markers	Fiberglass markers 4" wide and 5' above ground.	15	14

3.16 Socioeconomics

Socioeconomic conditions depend on the character, habits, and economic conditions of people living within the proposed project area. Business, employment, transportation, utilities, etc. are factors that affect the social climate of a community. Other factors that distinguish the social habits of one particular area from another include the geography, geology and climate. Any project that would adversely or beneficially affect the factors listed above would have a social impact on the residents of a particular community.

3.16.1 Socioeconomics Impacts/Mitigation

The proposed project will benefit the socioeconomics of the local community and region and provide improved infrastructure and amenities to residents in the proposed project area. At full build-out, STAMP is expected to provide more than 9,000 new jobs to our region, result in water and wastewater utilities for communities in the Towns of Alabama and Oakfield, and result in significant community development.

Alternative B (Preferred Alternative) will provide these benefits at a significantly lower cost (\$3.6 million less than Alternative A) and take approximately eight weeks less time to implement.

3.17 Resources that would be Unaffected by Project Alternatives

NEPA and CEQ regulations direct agencies to “avoid useless bulk...and concentrate effort and attention on important issues” (40 CFR 1502.15). The following resources or impact categories may be relevant to other proposals or projects, but are not relevant to the alternatives being considered in this EA.

3.17.1 Geological Setting

The proposed project areas traverse multiple geological units, beginning at the southern end of the project with the Camillus, Syracuse, and Vernon Formations (consisting of shale and dolostone); then passing through a linear band of Ilion Shale, then a very narrow segment of Decew Dolostone and Rochester Shale, and finally terminating in the Medina Group (consisting of sandstone and shale) (USGS, 2017). Neither of the alternatives being considered would affect the geological setting.

3.17.2 Climate and Climate Change

According to the Northeast Regional Climate Center (NRCC), data collected at the Ridgeway weather station (located just north of Medina) reported average temperatures below 25 degrees Fahrenheit in the coldest months and over 70 degrees Fahrenheit in the summer months. The area receives an average of 31.72 inches of precipitation annually, distributed fairly consistently throughout the year. The area

historically receives an average of 61” of snowfall from October through April, with more than two-thirds of that in December – February (NRCC, 2017).

Neither of the alternatives evaluated in this EA would affect the climate in the project area or influence climate change.

3.17.3 Environmental Justice

U.S. Census data were reviewed for Genesee County, Orleans County, the Town of Alabama, Town of Shelby and the Village of Medina. None of these locations had minority or poverty populations that approached or exceeded the thresholds for being considered environmental justice populations (US Census Bureau, 2017). Therefore, environmental justice is not relevant to the proposed action and will not be evaluated further.

3.17.4 Air Quality

In accordance with the federal Clean Air Act (CAA) requirements, the air quality in a given region or area is measured by the concentration of criteria pollutants in the atmosphere. The air quality in a region is as result of not only the types and quantities of atmospheric pollutants and pollutant sources in an area, but also surface topography, the size of a topological “air basin,” and the prevailing meteorological conditions.

Under the CAA, the United States Environmental Protection Agency developed numerous concentration-based standards, or National Ambient Air Quality Standards, that represent the maximum allowable concentrations for sulfur dioxide (SO₂), particulate matter (PM), nitrogen dioxide (NO₂), ozone (O₃), lead (Pb), and carbon monoxide (CO).

In New York State, air pollution is tracked through the New York State Department of Environmental Quality’s air quality monitoring network. The New York State Ambient Air Quality Report for 2015 identified that air quality standards for all criteria pollutants were met in Region 8, which is where the proposed action is located (NYSDEC, 2015b). Neither of the proposed alternatives being considered in this EA would result in air quality impacts. Both project alternatives would have the potential for obnoxious odors associated with air releases; however, no air permit would be necessary.

3.17.5 Farmlands

There are no farmlands located within the TWMA or INWR boundaries. Farmlands do occur along both Alternative A and B routes within Genesee and Orleans Counties, including farmlands in Agricultural Districts; however, these are outside of the project segments being evaluated in this EA. Approval from the New York State Department of Agriculture and Markets would be required for the proposed project prior to construction, and the proposed project would meet a variety of minimum design standards to minimize or mitigate farmland impacts.

3.18 Summary

Please see the table in Appendix F for a summary of environmental impacts and mitigation associated with both project alternatives. Alternative A (No Action) impacts to several resources are anticipated to

be greater than those associated with Alternative B (Applicant Preferred Action). Please see Appendix F, Summary of Environmental Impacts and Mitigation.

3.19 Permits and Approvals

Table 6 - Permits and Approvals Needed for Alternative B – Applicant Preferred Action			
Permit/Approval Name	Permitting/Approval Agency	Reason for Permit or Approval	Anticipated Schedule for Obtaining Permit/Approval
Nationwide Permit 12 – Utility Line Activities and/or Individual CWA Section 404 Permit	USACE	Construction of Force Main beneath USACE-jurisdictional wetlands and WOUS; temporary and permanent impacts to USACE-JD wetlands and WOUS.	TBD
Clean Water Act Section 401 Water Quality Certification	NYSDEC	Water quality certification associated with the NWP 12 and/or Individual 404 Permit	TBD
Article 24 – Freshwater Wetlands Permit	NYSDEC	Unavoidable impacts to NYSDEC-regulated wetlands	TBD
Section 106 Compliance	NYS SHPO	Proposed federal action (approval of INWR ROW) triggers NHPA compliance	Spring 2018
Highway Work Permit	NYS DOT	Work along and within NYSDOT rights-of-way	TBD
Highway Permit	Town of Alabama Planning Board	Main pump station building	TBD
Highway Permit	Town of Shelby Planning Board	Intermediate pump station building	TBD
Ag & Markets	NYS Department of Agriculture and Markets	Impacts to farmlands enrolled in Agricultural Districts	TBD
Floodplain	Local floodplain administrator	Construction in mapped floodplain	TBD

Chapter 4 Preparers and Public Coordination

4.1 Introduction

This chapter identifies the names and qualifications of the principal people contributing information to this EA. In accordance with Part 1502.6 of the CEQ regulations for implementing NEPA, the efforts of an interdisciplinary team comprising technicians and experts in various fields were required to accomplish this study.

This chapter also provides information about public coordination in development of this EA.

4.2 Preparers

Table 7 - Preparers			
Name	Title	Affiliation	Project Role
Thomas Roster	Refuge Manager	INWR	EA review
Mark Masse	Senior Vice President of Operations	Genesee County Economic Development Center	Project development, EA review
Adam Walters	Partner	Phillips Lytle	Legal sufficiency review
Sheila Hess	Principal Ecologist/CEO	CC Environment & Planning	Field resource surveys, impact assessment, agency coordination, EA coordination and review
Jason Foote, P.E.	Senior Associate	Clark Patterson Lee	Project Manager, alternatives development
Tom Carpenter, P.E.	Principal	Clark Patterson Lee	EA review
Andrew Kosa, P.E.	Project Manager	Clark Patterson Lee	EA review
Dan Insinna	Civil Engineer	Clark Patterson Lee	GIS mapping and data collection
Charlotte Brett	Environmental Planner	Independent Consultant	Principal author, data collection, impact assessment
Jeremy D. Deuel	Principal Investigator/Owner	Deuel Archaeology	Cultural resource surveys

4.3 Public Coordination

A 30-day public review and comment period will be provided for this EA.

Chapter 5 References

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Edinger et al. 2014 *Ecological Communities of New York State*. Found at: http://www.dec.ny.gov/docs/wildlife_pdf/ecocomm2014.pdf

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Figures

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Date last plotted: 7/25/2018 9:39 AM
Plotted By: Nicole Cullen

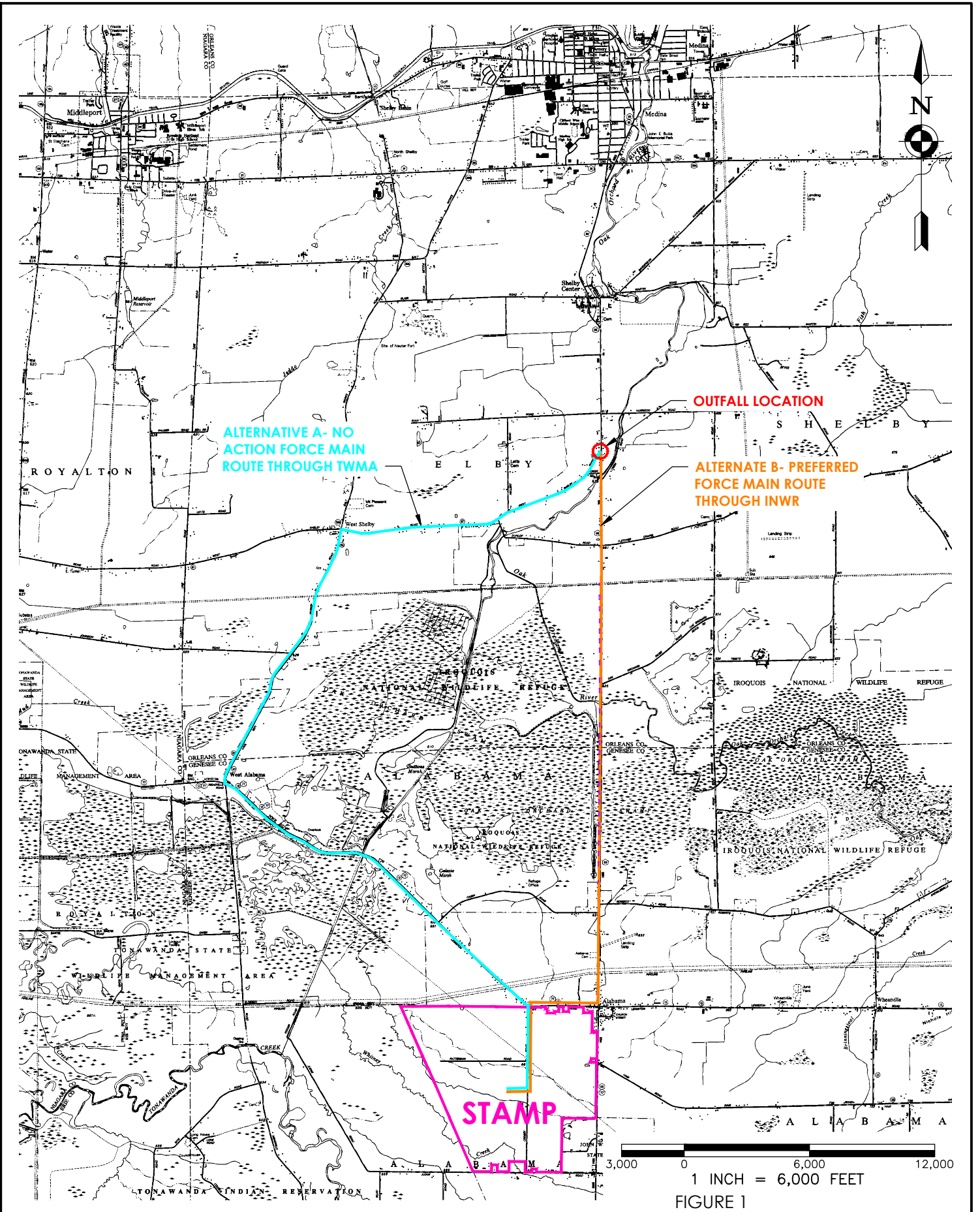


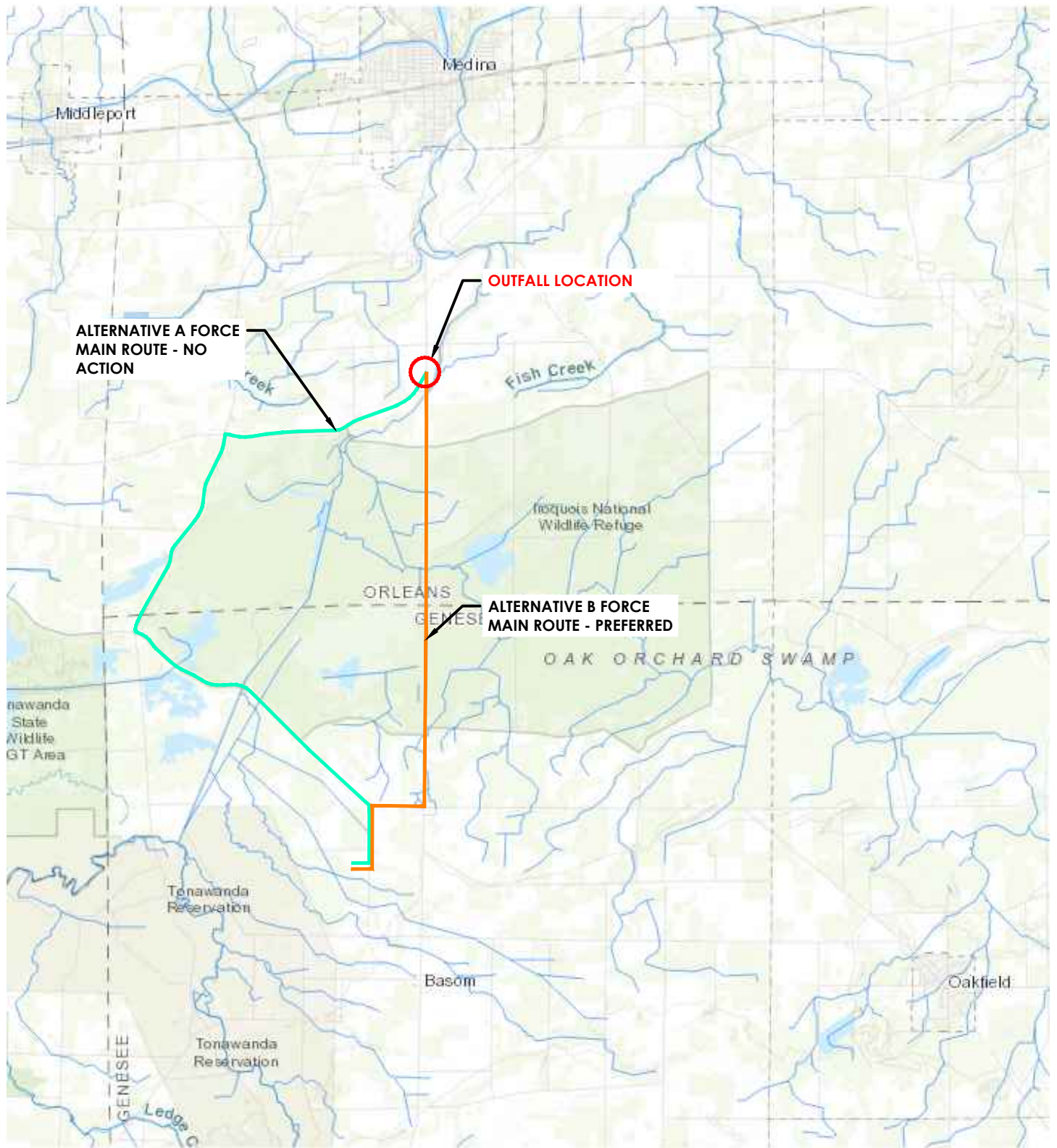
FIGURE 1



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SCALE: AS NOTED
PROJ. #: 12498.30

PROJECT AREA
**STAMP OFFSITE SANITARY AND PROCESS
WASTEWATER SEWER FORCE MAIN**
TOWN OF ALABAMA, NEW YORK



Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

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FIGURE 2

SURFACE WATER

STAMP OFFSITE SANITARY AND PROCESS
WASTEWATER SEWER FORCE MAIN

TOWN OF ALABAMA, NEW YORK STATE



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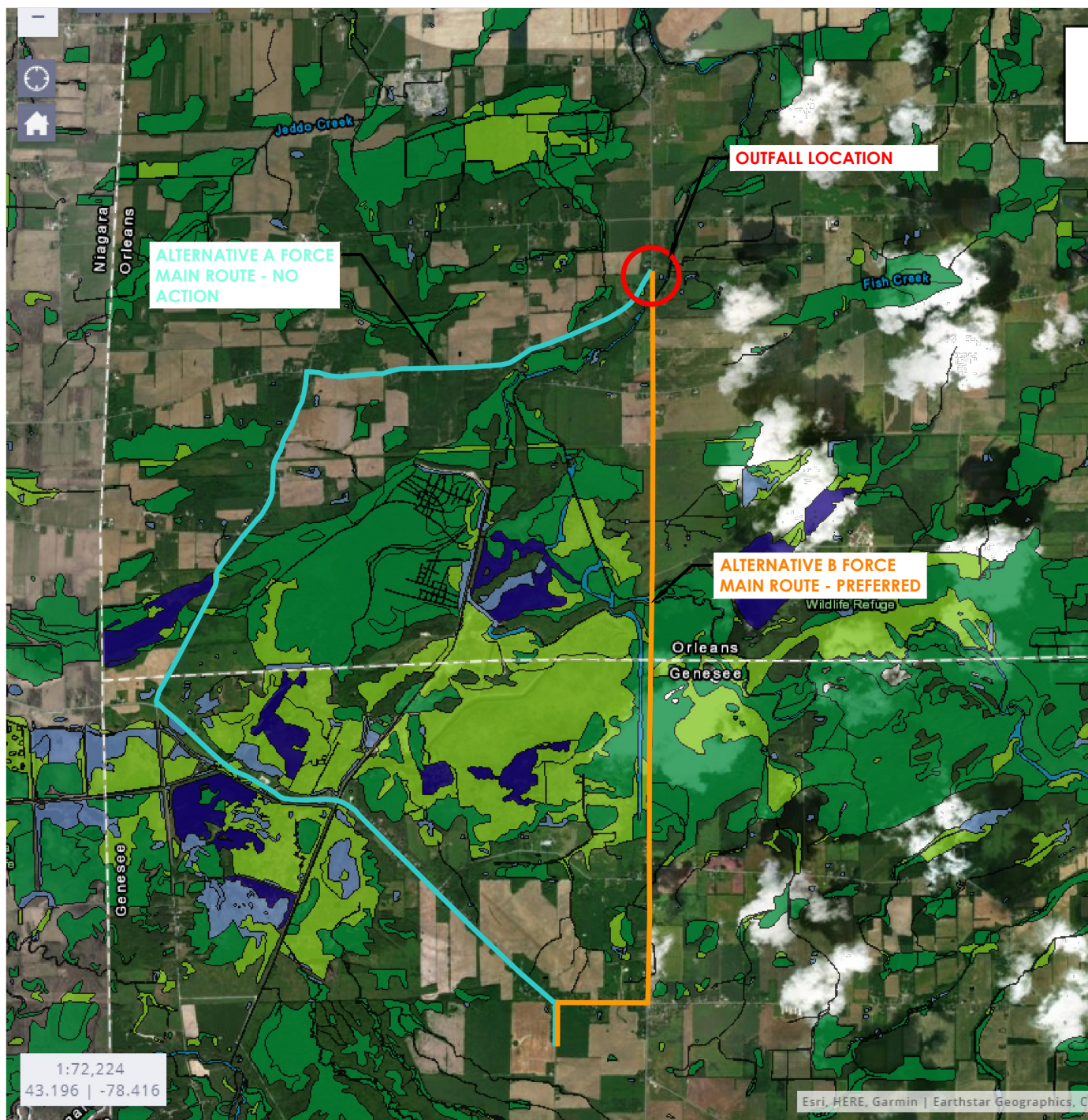
CHECKED: JAF

SCALE: NTS

PROJ. #: 12498.30



U.S. Fish and Wildlife Service
National Wetlands Inventory



1:72,224
43.196 | -78.416

Esri, HERE, Garmin | Earthstar Geographics, CN

April 19, 2017 CATEGORIES OF WETLANDS

- | | | |
|---|--|-------------------|
| 1 Estuarine and Marine Deepwater | 4 Freshwater Forested/Shrub Wetland | 7 Other |
| 2 Estuarine and Marine Wetland | 5 Freshwater Pond | 8 Riverine |
| 3 Freshwater Emergent Wetland | 6 Lake | |

FIGURE 3

NWI WETLANDS

STAMP OFFSITE SANITARY AND PROCESS
WASTEWATER SEWER FORCE MAIN
TOWN OF ALABAMA, NEW YORK STATE



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SCALE: NTS

PROJ. #: 12498.30

Plotted By: Nicole Cullen

Date last plotted: 7/25/2018 9:35 AM

Date last accessed: 7/25/2018 9:07 AM

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Date last plotted: 7/25/2018 9:42 AM
Plotted By: Nicole Cullen

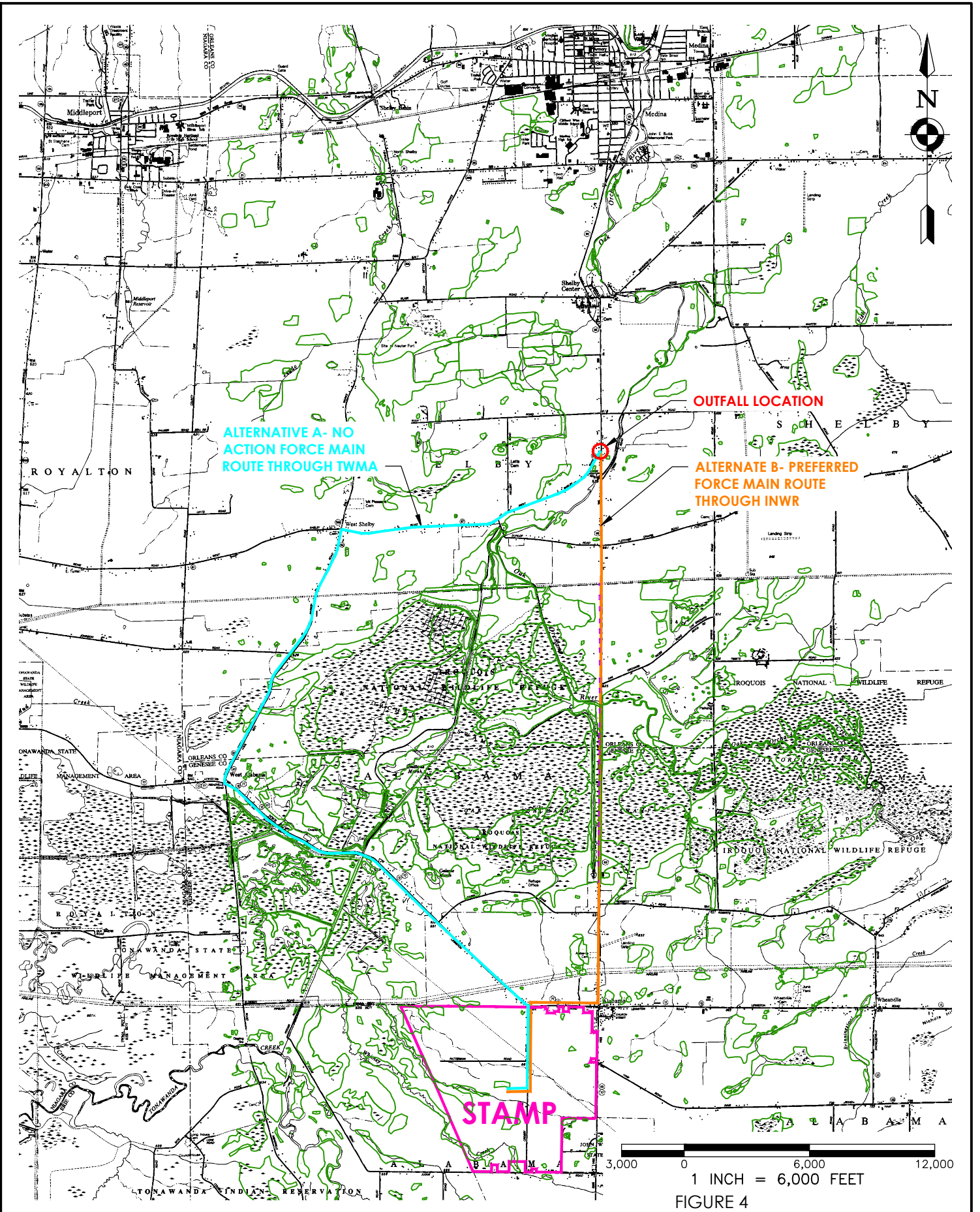


FIGURE 4



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CHECKED: JAF
SCALE: AS NOTED
PROJ. #: 12498.30

NYSDEC REGULATED WETLANDS
STAMP OFFSITE SANITARY AND PROCESS
WASTEWATER SEWER FORCE MAIN
TOWN OF ALABAMA, NEW YORK

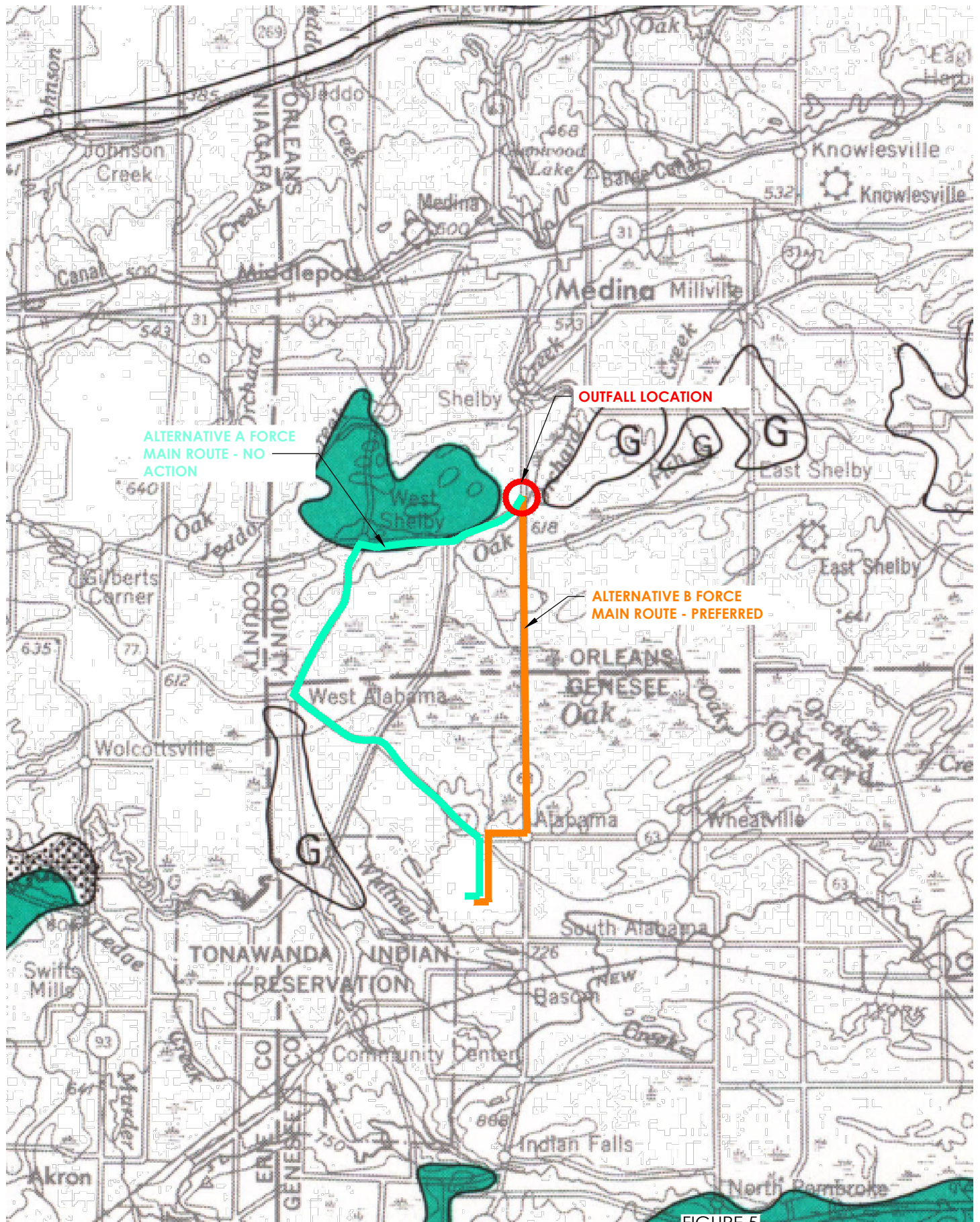


FIGURE 5



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CHECKED: JAF

SCALE: 1" = 10,000

PROJ. #: 12498.30

GROUNDWATER MAP

STAMP OFFSITE SANITARY AND PROCESS
 WASTEWATER SEWER FORCE MAIN

TOWN OF ALABAMA, NEW YORK STATE

Plotted By: Nicole Cullen

Date last plotted: 7/25/2018 9:45 AM

Date last accessed: 6/26/2018 4:12 PM

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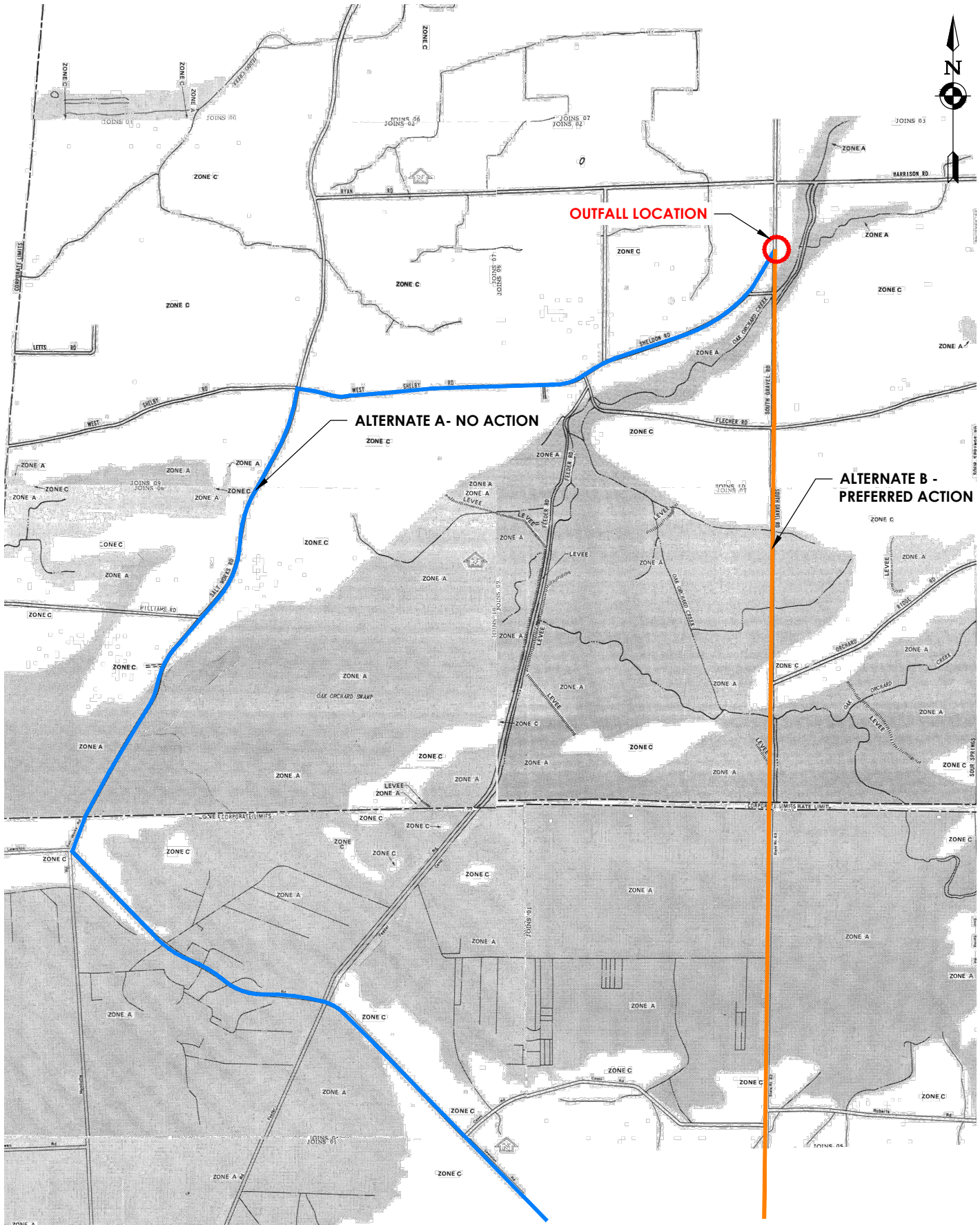


FIGURE 6

FLOODPLAINS

STAMP OFFSITE SANITARY AND PROCESS WASTEWATER SEWER FORCE MAIN

TOWN OF ALABAMA, NEW YORK STATE



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DATE: 04/25/18
 DRAWN: DGI
 CHECKED: JAF
 SCALE: N.T.S.
 PROJ. #: 12498.30

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 Plotted By: Andrew Kosa

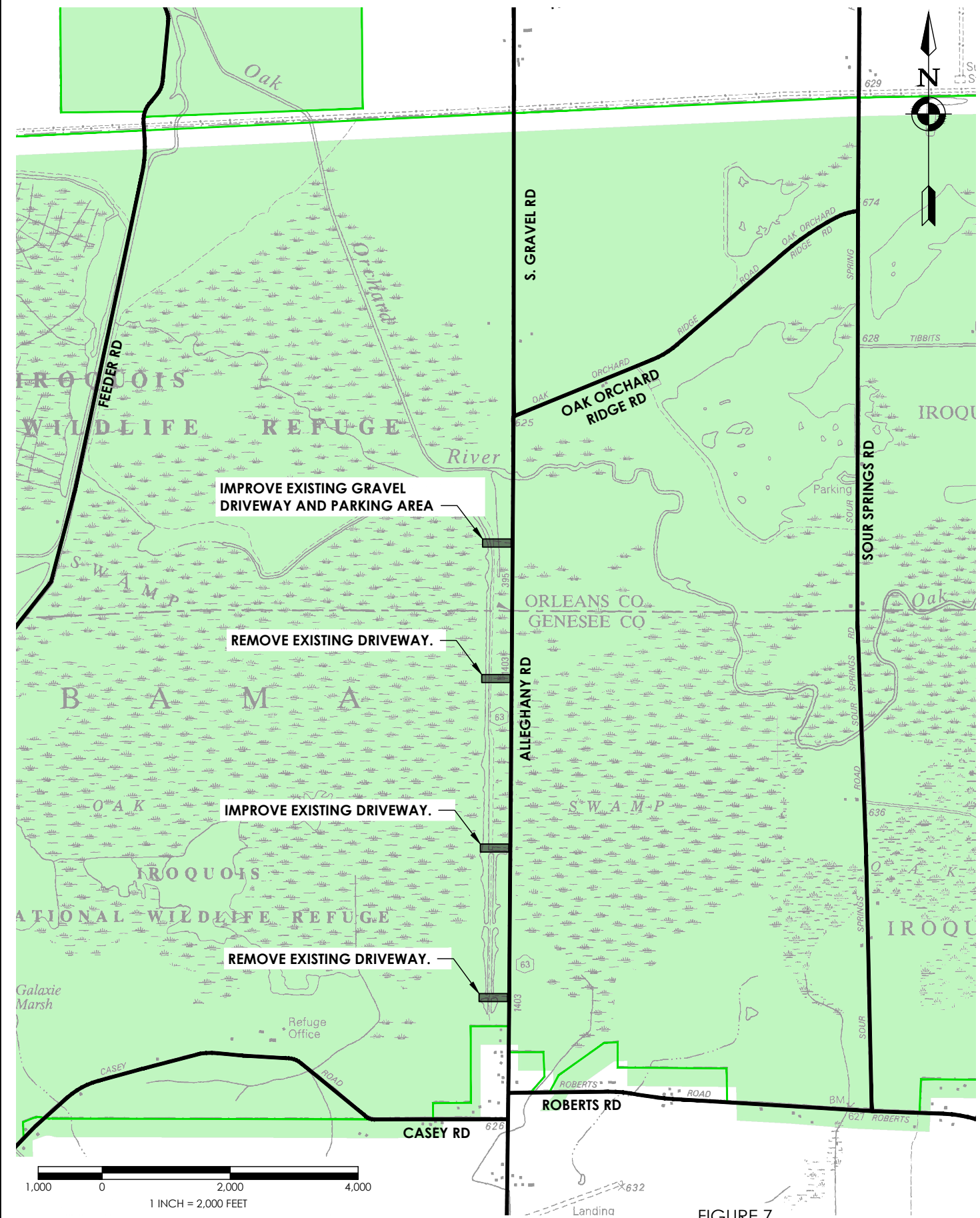


FIGURE 7



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CHECKED:	JAF
SCALE:	1" = 2,000'
PROJ. #:	XXXX.XX

INWR ENHANCEMENT MAP

PROJECT TITLE

CITY, STATE

Appendix A
Engineering Report
[Under Separate Cover]

Appendix B

Features and Assumptions Common to both Alternatives

Features and Assumptions Common to Both Alternatives

The following features would be common to both Alternative A (No Action) and Alternative B (Applicant Preferred Action) (CPL, 2017). Additional details are in the Engineering Report in Appendix A:

- **Project termini** – both alternatives would convey effluent from the Main Sanitary Pump Station located at the utility area within the Site to a surface water discharge point on Oak Orchard Creek approximately 4.8 miles north of the Hamlet of Alabama.
- **Force main pipe** – both alternatives would use a combination of 18” diameter PVC and 20” HDPE Force Main pipe. Both proposed alternatives would be designed to accommodate up to a maximum of approximately 6 MGD of effluent, with approximately 100,000 gallons per day expected initially. The HDPE pipe would be installed at a 1.0% slope. The Force Main pipe would be installed sloping up and down along the route in order to provide designated high points. The Force Main pipe would be installed with a minimum depth of cover of 5’ for all areas, except under stream and creek channels where it would be installed 6’ below the channel bottom.
- **Flow meters** – A 12” magnetic flow meter, located on the discharge piping within the new Main Pump Station building, would monitor the instantaneous and total flows exiting the STAMP Site under both alternatives. Additionally, separate insertion type flow meters would be used at the points where the Force Main enters and exits the INWR (in the case of Alternative B – Applicant Preferred Action) or the TWMA (in the case of Alternative A – No Action). The instantaneous and average daily flows from these meters would be compared to those from the main meter to ensure that the Force Main is not leaking with the INWR/TWMA. A written Emergency Response Plan to address any potential leaks has been developed and will be included as part of the Operations and Maintenance Manual for the system. The metering manholes would be completely buried with the exception of the 24” diameter cast iron frame and cover, used to access the meter. In order to prevent water from entering the manholes, the elevation of the cover would be above the high water level of the INWR/TWMA, which in some cases may be above the centerline of the existing roadway. In areas where the cover is above the existing normal ground elevation, the area surrounding the manhole could be graded and naturally restored to camouflage the structure from the surrounding area.
- **Maintenance manholes** – Maintenance manholes would be installed at each high point along the route of the Force Main to provide access to required air releases. Each manhole would be a 6’ diameter precast concrete structure containing an internal access ladder, a removable section of 18” pipe, air release/vacuum breaker valve, and vent piping. Air-release/vacuum breaker valves are required to prevent air from becoming captured inside the Force Main pipe, which causes flow constriction and results in poor pumping efficiencies. The removable fitting provides a means to access the Force Main for flushing, testing and bypass pumping purposes. The fitting would consist of a 24” long straight section of 18” diameter ductile iron pipe that could easily be removed for the attachment of other fittings, testing equipment or bypass pumps. Each manhole would also have a 24” diameter cast iron manhole cover placed on top for access to the internal components. The cover would be installed so it is level with the finish grade and placed on top of the pipe for access. Since some of the maintenance manholes would be in areas where the high

water level of the INWR (for Alternative B – Applicant Preferred Action)/TWMA (for Alternative A – No Action) would be above the elevation of the air release/vacuum valve, the air release/vacuum breaker piping would extend above grade to ensure the air release valve vented the air properly. For these locations, a 2” diameter galvanized steel vent in the shape of a candy cane that extends approximately 2’ above the high water level would be required. The vent would contain a screen over the end of the pipe to prevent animals from entering the vent piping. The piping would be painted to blend in with the surroundings.

- **Main line valves** - The Force Main would require numerous main line valves along the route from the STAMP Site to the Village of Medina. A valve would be located on each side of the maintenance manholes and both of the metering manholes. The valves would provide a means to isolate sections of the Force Main for testing and maintenance purposes. Each valve would require a cast iron valve box, installed to finish grade, for access to the valve’s operating unit. The top of the valve box would be approximately 8” in diameter and installed level with the finish grade.
- **Force main markers** - Fiberglass pipeline markers would be placed at periodic intervals along the entire Force Main route. Each marker would be approximately 4” wide and extend 5’ above grade. The markers would be used to help identify the location of the underground pipe, especially during the winter months and within heavily vegetated areas.
- **Construction methods** – Open cut construction methods which are located outside of INWR, would be used for lawn and field areas, which form the majority of the route for both alternatives. HDD methods would be used to avoid or minimize impacts at all roadway crossings, wetlands, streams, and within the INWR/TWMA. Erosion and sediment control would be used during construction.
- **Temporary staging areas within INWR/TWMA** – Due to equipment limitations, it is not possible or practical to complete the entire segments in the INWR (for Alternative B – Applicant Preferred Action) or TWMA (for Alternative A – No Action) using a single HDD setup. Based on existing soils conditions and physical limitations with the HDD equipment, each HDD setup would be no longer than 1,000’. Therefore, the proposed crossing of the INWR would be completed using multiple separate and shorter HDD segments connected together. A temporary staging area is also proposed at the mid-point of the HDD segment in the event that the designated slope of the Force Main could not be properly maintained and had to be excavated. Each HDD segment would require a staging area where the HDD machine and other equipment would be located to complete the drilling process. The two HDD pipe ends would also be joined together within the staging areas. Each staging area would have an exterior dimension of approximately 20’ x 60’. Every effort would be made to locate the staging areas within previously disturbed areas to help minimize impacts to the environmentally sensitive areas within the INWR/TWMA. The majority of the staging areas would be located within the existing roadway embankment of NYS Route 63 or Lewiston Road, existing access driveways or at higher elevation points. The temporary staging areas would be fully restored following construction.

- **Construction sequencing** - Construction of all temporary staging areas would take place prior to starting the HDD process. The staging areas would be created by importing a clay based subsoil material for the construction of earthen cofferdams around staging areas. The subsoil material would originate offsite from a borrow pit and would be screened prior to placement. If necessary, the soil material placed within the water would be adequately compacted to provide a watertight barrier between the INWR/TWMA and the work inside the staging area. The soil imported to construct the cofferdam would be placed at approximately a 1:1 slope with the height of the cofferdam depending on the water level in the area. The height should be at least 1' above the normal water level to prevent water from overtopping the cofferdam and entering the work area. If the normal water level is high and the staging area cannot be relocated or eliminated, the footprint of the staging area may be slightly increased to provide the necessary area for equipment. This increase would not exceed 20' x 60'. There may also be instances where it may not be necessary to import soil for the staging areas located at higher elevations. Staging areas may be left in place for up to 2-3 months while remaining work, Force Main testing and restoration take place. Silt fence or erosion sock would be installed around the entire perimeter of the cofferdam and along the edge of water immediately after it is installed. Erosion controls would be maintained until the cofferdam is removed – once construction is complete – and the area is restored to its original condition. Due to the seasonal high water level in the area, dewatering pumps may be required to remove water seeping into the excavations inside of the staging area. All water pumped from staging areas would be directed to a silt sock located adjacent to the staging area before discharge back into the INWR/TWMA. Once the construction of all the staging areas is complete and all erosion controls in place, a new Force Main would be installed by HDD method between each staging area. Approximately 20 feet of the end of each section would be excavated by open cut method to provide the proper cover and to install the maintenance manhole. Subsurface excavations would be backfilled with the same native material removed from the excavation after work is complete. Topsoil and subsoil would be segregated upon removal and replaced in kind. The excavated areas within driveways would be backfilled with select fill material to prevent settlement from vehicles. The open cut portion of the work should take approximately 1 or 2 days to complete for each staging area. Clay plugs would be installed around the Force Main at the limits of the staging areas to help prevent the migration of water along the outside of the pipe. A temporary shoring system or trench box would be used during the installation of the Force Main and maintenance manhole to provide a safe area for workers, as required by the New York State Department of Transportation (NYSDOT) and Occupational Safety and Health Administration (OSHA); all shoring would be removed upon completion of the work.

Appendix C

Soil Types

Soil Types						
Map Unit Symbol	Map Unit Name	Rating Code ²	Alternative A		Alternative B	
			Area (in acres)	% of Total Area	Area (in acres)	% of Total Area
AnA	Appleton silt loam, 0 to 3 percent slopes	B/D	0.9	4.5		
Apa	Appleton silt loam, 0 to 3 percent slopes	B/D	0.5	2.4		
ArB	Arkport very fine sandy loam, 1 to 6 percent slopes	A	4.5	23.3		
ArC	Arkport very fine sandy loam, 6 to 12 percent slopes	A	0.4	1.9		
Ca	Canandaigua soils	C/D			1.1	8.0
CaA	Canandaigua silt loam, 0 to 2 percent slopes	C/D	0.2	0.2	0.1	0.8
CbA	Canandiagua mucky silt loam, 0 to 2 percent slopes	C/D	1.2	6.0	2.9	20.7
Cg	Cheektowaga fine sandy loam	C/D			1.0	7.3
ChA	Churchville silt loam, 0 to 2 percent slopes	C/D			0.3	1.8
Cs	Cosad loamy fine sand	C/D			0.1	0.1
EIB	Elnora loamy fine sand, 2 to 6 percent slopes	A/D	1.6	8.4	0.9	6.2
FH	Fluvaquents and Humaquepts, ponded	A/D	0.3	1.8		
Fo	Fonda mucky silt loam	C/D	0.4	1.8		
FpA	Fredon gravelly loam, 0 to 3 percent slopes	B/D	0.4	2.3		
GnA	Galen very fine sandy loam, 0 to 2 percent slopes	A/D	0.5	2.5		
GnB	Galen very fine sandy loam, 2 to 6 percent slopes	A/D	0.1	0.5		
HbB	Hilton loam, 3 to 8 percent slopes	C/D	1.1	5.9		
Ju	Junius loamy fine sand	A/D			0.5	3.5

² Group A soils have a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. Group B soils have a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. Group C soils have a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. Group D soils have a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas.

Soil Types						
Map Unit Symbol	Map Unit Name	Rating Code ²	Alternative A		Alternative B	
			Area (in acres)	% of Total Area	Area (in acres)	% of Total Area
Ld	Lamson very fine sandy loam	A/D	0.6	3.1		
Ma	Madalin silty clay loam, 0 to 3 percent slopes	C/D	1.2	6.1		
MdB	Madrid fine sandy loam, 3 to 8 percent slopes	B	0.5	2.6	0.6	4.2
NgA	Niagara silt loam, 0 to 2 percent slopes	C/D			0.3	2.0
OdA	Odessa silt loam, 0 to 3 percent slopes	D			1.6	11.1
OdB	Odessa silt loam, 3 to 8 percent slopes	D	0.1	0.4	0.7	1.0
OnB	Ontario loam, 3 to 8 percent slopes	C	2.2	11.3		
OvA	Ovid silt loam, 0 to 3 percent slopes	C/D	0.2	1.2	0.2	1.6
Pd	Palms muck	B/D	0.2	0.8	2.7	18.8
Pm	Palms muck	B/D			1.6	11.2
PsB	Phelps gravelly loam, 3 to 8 percent slopes	B/D	0.6	3.4		
Wy	Wayland soils complex, 0 to 3 percent slopes, frequently flooded	B/D	0.4	2.1		

Appendix D

Common Plant Species in Project Area

Commonly Observed Plant Species in Project Area	
Scientific Name	Common Name
<i>Acer negundo</i>	Box elder
<i>Acer spp.</i>	Maple
<i>Ageratina altissima</i>	White snakeroot
<i>Ambrosia artemisiifolia</i>	Annual ragweed
<i>Arctium lappa</i>	Common burdock
<i>Artemisia vulgaris</i>	Common wormwood
<i>Asclepias syriaca</i>	Common milkweed
<i>Calystegia sepium</i>	Hedge bindweed
<i>Cichorium intybus</i>	Chicory
<i>Cornus spp.</i>	Dogwood
<i>Dactylis glomerata</i>	Orchard grass
<i>Dipsacus fullonum</i>	Teasel
<i>Echinocystis lobata</i>	Wild Cucumber Vine
<i>Eupatorium perfoliatum</i>	Boneset
<i>Eutrochium maculatum</i>	Spotted joe pye weed
<i>Fraxinus pennsylvanica</i>	Green ash
<i>Impatiens capensis</i>	Jewelweed
<i>Juglans nigra</i>	Black walnut
<i>Malus domestica</i>	Apple tree
<i>Mentha arvensis</i>	Wild mint
<i>Parthenocissus quinquefolia</i>	Virginia creeper
<i>Phalaris arundinacea</i>	Reed canarygrass
<i>Pheum pratensis</i>	Timothy
<i>Phragmites australis</i>	Common reed
<i>Polygonum spp.</i>	Smartweeds
<i>Populus deltoides</i>	Eastern cottonwood
<i>Prunus virginiana</i>	Choke cherry
<i>Rhamnus cathartica</i>	Common buckthorn
<i>Rhus typhina</i>	Staghorn sumac
<i>Rosa multiflora</i>	Multiflora rose
<i>Salix spp.</i>	Willow
<i>Solidago spp.</i>	Goldenrod
<i>Symphotrichum spp.</i>	Aster species
<i>Tilia americana</i>	Basswood
<i>Toxicodendron raicans</i>	Poison ivy
<i>Typha spp.</i>	Cattail
<i>Vitis aestivalis</i>	Summer grape

Appendix E

Bird and Mammal Species Lists

Avian Species Sighted Along Byron (2005-2016) and Harris Hill (1967-2016) BBS Routes and Nesting Species at INWR		
Acadian Flycatcher (A)	Eastern Phoebe (A)	Prothonotary Warbler (A/B)
Alder Flycatcher (A)	Eastern Screech-Owl (A)	Purple Finch (A)
American Black Duck (A/B)	Eastern Towhee (A)	Purple Martin (A)
American Bittern (A/C)	Eastern Whip-poor-will	Red-bellied Woodpecker (A)
American Coot (A)	Eastern Wood-Pewee (A)	Red-breasted Nuthatch
American Crow (A)	European Starling (A)	Red-shouldered Hawk (A/C)
American Goldfinch (A)	Field Sparrow (A)	Red-tailed Hawk (A)
American Kestrel (A/C)	Gadwall (A)	Red-winged Blackbird (A)
American Redstart (A)	Golden-crowned Kinglet (A)	Ring-billed Gull
American Robin (A)	Golden-winged Warbler (A/B)	Ring-necked Pheasant (A)
American Wigeon (A)	Grasshopper Sparrow (A/B)	Rock Pigeon (A)
American Woodcock (A/C)	Gray Catbird (A)	Rose-breasted Grosbeak (A)
Bald Eagle (A/C)	Great Blue Heron (A)	Ruby-throated Hummingbird (A)
Baltimore Oriole (A)	Great Crested Flycatcher (A)	Ruffed Grouse (A/C)
Bank Swallow	Great Horned Owl (A)	Savannah Sparrow (A)
Barn Swallow (A)	Green Heron (A)	Scarlet Tanager (A/C)
Barred Owl (A)	Green Winged Teal (A)	Sedge Wren (A/B)
Belted Kingfisher (A)	Hairy Woodpecker (A)	Sharp-shinned Hawk (A)
Black Tern (A/B)	Henslow's Sparrow (A/B)	Song Sparrow (A)
Black-and-white Warbler	Hooded Merganser (A)	Sora (A)
Black-billed Cuckoo (A/C)	Hooded Warbler (A)	Spotted Sandpiper (A)
Black-capped Chickadee (A)	Horned Lark (A/B)	Swamp Sparrow (A)
Black-throated Blue Warbler (C)	House Finch (A)	Tree Swallow (A)
Black-throated Green Warbler	House Sparrow (A)	Tufted Titmouse (A)
Blue Jay (A)	House Wren (A)	Turkey Vulture (A)
Blue-gray Gnatcatcher (A)	Indigo Bunting (A)	Unid. Eastern/Western Meadowlark
Blue-headed Vireo	Killdeer (A)	Unid. Empidonax Flycatcher
Blue-winged Teal (A/C)	King Rail (A/B)	Upland Sandpiper (A/B)
Blue-winged Warbler (A/C)	Least Bittern (A/C)	Veery (A)
Bobolink (A/B)	Least Flycatcher (A)	Vesper Sparrow (A/B)
Brown Creeper (A)	Mallard (A)	Virginia Rail (A)
Brown Thrasher (A/B)	Marsh Wren (A)	Warbling Vireo (A)
Brown-headed Cowbird (A)	Mourning Dove (A)	White-breasted Nuthatch (A)
Canada Goose (A)	Mourning Warbler (A)	Wild Turkey (A)
Cedar Waxwing (A)	Northern Cardinal (A)	Willow Flycatcher (A)
Cerulean Warbler (A/C)	Northern Flicker (A)	Wilson's Snipe (A)
Chestnut-sided Warbler	Northern Harrier (A/C)	Wood Duck (A)
Chimney Swift	Northern Mockingbird	Wood Thrush (A/C)
Chipping Sparrow (A)	Northern Pintail (A/C)	Yellow-bellied Sapsucker (A)
Cliff Swallow	Northern Rough-winged Swallow	Yellow-billed Cuckoo (A)
Common Gallinule	Northern Shoveler (A)	Yellow-breasted Chat (A/B)
Common Grackle (A)	Northern Waterthrush (A)	Yellow-throated Vireo (A)
Common Moorhen (A)	Orchard Oriole	Yellow Warbler (A)
Common Yellowthroat (A)	Osprey (A)	A = species known to nest on or near INWR
Cooper's Hawk (A)	Ovenbird (A)	
Downy Woodpecker (A)	Pied-billed Grebe (A/C)	

Avian Species Sighted Along Byron (2005-2016) and Harris Hill (1967-2016) BBS Routes and Nesting Species at INWR		
Eastern Bluebird (A)	Pileated Woodpecker (A)	B = NYS High Priority Species of Greatest Conservation Need
Eastern Kingbird (A)	Red-eyed Vireo (A)	C = NYS Species of Greatest Conservation Need
Eastern Meadowlark (A/B)	Red-headed Woodpecker (A/B)	

Mammals Recorded at INWR		
Beaver	Longtail Weasel	Shorttail Weasel
Big Brown Bat	Masked Shrew	Silver-Haired Bat (B)
Bobcat	Meadow Jumping Mouse	Small-footed Myotis
Coyote	Meadow Vole	Snowshoe Hare
Deer Mouse	Mink	Southern Flying Squirrel
Eastern Chipmunk	Muskrat	Starnose Mole
Eastern Cottontail	Northern Flying Squirrel	Striped Skunk
Eastern Gray Squirrel	Norway Rat	Virginia Opossum
Eastern Pipistrelle (A)	Porcupine	White-footed Mouse
Gray Fox	Raccoon	Whitetail Deer
Hairytail Mole	Red Bat (B)	Woodchuck
Hoary Bat (B)	Red Fox	Woodland Jumping Mouse
House Mouse	Red Squirrel	
Keen Myotis	River Otter	A = NYS High Priority Species of Greatest Conservation Need
Little Brown Myotis (A)	Shorttail Shrew	B = NYS Species of Greatest Conservation Need

Appendix F

Summary of Environmental Impacts and Mitigation

Summary of Environmental Impacts			
Resource/Impact Category	Alternative A (No Action) Impacts	Alternative B (Applicant Preferred Action) Impacts	Mitigation
Land Use	<ul style="list-style-type: none"> Majority of route located within existing rights of way to minimize land use impacts. Approximately 15.7 acres of new right-of-way needed from TWMA, with approximately 0.85 acre of temporary disturbance for construction of HDD staging areas. No permanent land use changes resulting from Alternative A. 	<ul style="list-style-type: none"> Majority of route located within existing rights of way to minimize land use impacts. Approximately 14.3 acres of new right-of-way needed from INWR, with approximately 0.74 acres of temporary disturbance for construction of HDD staging areas. No permanent land use changes resulting from Alternative B. 	<ul style="list-style-type: none"> Disturbed areas fully restored following construction. Use of HDD installation methods to substantially reduce disturbance to TWMA/INWR lands as well as streams, wetlands, and roadway crossings. For Alternative B, improvement of two of the four existing access driveways connecting Route 63 to INWR for habitat management access and parking facilities. Removal of two unused access driveways and restoration of these areas to wetland grade and vegetation.
Soils	<ul style="list-style-type: none"> Disturbances to approximately 0.85 acre of soils within the TWMA. 	<ul style="list-style-type: none"> Disturbances to approximately 0.74 acre of soils within the INWR. 	<ul style="list-style-type: none"> Use of HDD would minimize impacts by approximately 90% within TWMA and INWR Erosion and sediment control measures would be implemented during and after construction. Topsoil would be segregated from subsurface material for future reclamation. Disturbed areas would be re-seeded using native seed mix consistent with surrounding areas immediately after construction activities are complete. Appropriately sized construction equipment for the scope and scale of the project would be used. Proper drainage would be maintained. Disturbed areas would be re-graded to match original topography following installation of the proposed Force Main.
Surface Water	<ul style="list-style-type: none"> 3 stream crossings within the TWMA None of the streams are “protected waters” of the State; a New York State Protection of Waters permit would not be needed. Some or all of these streams may be under USACE-JD as WOUS. NWP 12 – Utility Line Activities and associated CWA Section 401 Water Quality Certification needed for any crossings of WOUS. 	<ul style="list-style-type: none"> 4 stream crossings within the INWR None of the streams are “protected waters” of the State; a New York State Protection of Waters permit would not be needed. Some or all of these streams may be under the jurisdiction of the US Army Corps of Engineers (USACE-JD) as Waters of the US (WOUS). NWP 12 – Utility Line Activities and associated Clean Water Act (CWA) Section 401 Water Quality Certification needed for any crossings of WOUS. 	<ul style="list-style-type: none"> HDD methods used to avoid impacts to bed and bank at stream crossing locations.
Wetlands	<ul style="list-style-type: none"> Wetland impacts avoided and minimized to the extent feasible. Unavoidable temporary impacts to approximately 0.61 acres of wetlands in TWMA would occur from construction of staging areas (including cofferdams) to facilitate HDD installation of the proposed Force Main. Minor permanent impacts (0.07 acre) would result from the installation of main line valves, maintenance and metering manholes, and Force Main markers that would remain in place once the new wastewater system was operational. 	<ul style="list-style-type: none"> Wetland impacts avoided and minimized to the extent feasible. Unavoidable temporary impacts to approximately 0.50 acres of wetlands in INWR would occur from construction of staging areas (including cofferdams) to facilitate HDD installation of the proposed Force Main. Minor permanent impacts (0.06 acre) would result from the installation of main line valves, maintenance and metering manholes, and Force Main markers that would remain in place once the new wastewater system was operational. 	<ul style="list-style-type: none"> Location of the Force Main along and within previously disturbed roadway corridors would lessen impacts to wetlands. HDD methods would be used to avoid or minimize impacts to wetlands. Immediate restoration of disturbed sites following construction, including restoration of hydrology, re-grading soils to match original contours, and planting with a native wetland seed mix appropriate to the disturbed wetland type. A mitigation plan to offset lost functions and values would be developed if needed through coordination with USFWS, USACE, and NYSDEC during the permitting processes. For Alternative B, restoration of two currently unused access roads would result in restoration of additional wetland habitat.
Groundwater	<ul style="list-style-type: none"> No impacts to groundwater are anticipated. 	<ul style="list-style-type: none"> No impacts to groundwater are anticipated. 	<ul style="list-style-type: none"> Plan in place in case of drilling fluid leak during construction. Monitoring to ensure any effluent leaks would be quickly identified and fixed.
Floodplains	<ul style="list-style-type: none"> Minor impacts (104.4 cubic yards) to the mapped floodplain 	<ul style="list-style-type: none"> Minor impacts (139.2 cubic yards) to the mapped floodplain 	<ul style="list-style-type: none"> Coordination with local floodplain administrators required.
Vegetation	<ul style="list-style-type: none"> Ground clearing activities would result in approximately 0.85 acre of vegetation disturbance within the TWMA. 	<ul style="list-style-type: none"> Ground clearing activities would result in approximately 0.74 acre of vegetation disturbance within the INWR. 	<ul style="list-style-type: none"> Weed-free source will be used for project materials No topsoil would be brought into the TWMA or INWR Designated cleaning areas would be used for tools, equipment and vehicles

Summary of Environmental Impacts			
Resource/Impact Category	Alternative A (No Action) Impacts	Alternative B (Applicant Preferred Action) Impacts	Mitigation
			<ul style="list-style-type: none"> Tools, equipment and vehicles would be inspected and cleaned before entering the TWMA/INWR Vegetation disturbances within the TWMA/INWR reduced by 90% through use of HDD construction methods Erosion control methods implemented during and after construction Disturbed areas re-seeded with native plant mix appropriate to pre-construction conditions and consistent with surrounding vegetation following construction Monitoring and maintenance of restored areas for noxious weeds and native plant community establishment for 2 seasons following construction
Noise	<ul style="list-style-type: none"> Due to the large amount of high quality habitat for breeding and nesting birds, as well as other wildlife, available at the combined INWR/ TWMA/ Oak Orchard WMA, it is anticipated that noise-sensitive species would not nest in close proximity to Lewiston Road, which has a posted speed limit of 40 mph and average daily traffic volumes of nearly 2,400 vehicles. Following construction, the Force Main and ancillary infrastructure would not generate noise. 	<ul style="list-style-type: none"> Due to the large amount of high quality habitat for breeding and nesting birds, as well as other wildlife, available at the combined INWR/ TWMA/ Oak Orchard WMA, it is anticipated that noise-sensitive species would not nest in close proximity to NYS Route 63, which has a posted speed limit of 55 mph and average daily traffic volumes of nearly 5,000 vehicles. Following construction, the proposed Force Main and ancillary infrastructure would not generate noise. 	<ul style="list-style-type: none"> Construction avoidance during migratory bird breeding and nesting season, as determined through coordination with USFWS.
Threatened and Endangered Species	<ul style="list-style-type: none"> Alternative A may affect, but is not likely to adversely affect, the federally threatened Northern long-eared bat. Alternative A also may affect, but is not likely to adversely affect, five state-listed threatened species: the pied-billed grebe, sedge wren, Henslow's sparrow, bald eagle, and northern harrier. Alternative A would have no effect on two state-listed endangered species: the bog turtle or eastern massasauga rattlesnake. 	<ul style="list-style-type: none"> Alternative B may affect, but is not likely to adversely affect, the federally threatened Northern long-eared bat. Alternative B also may affect, but is not likely to adversely affect, five state-listed threatened species: the pied-billed grebe, sedge wren, Henslow's sparrow, bald eagle, and northern harrier. Alternative B would have no effect on two state-listed endangered species: the bog turtle or eastern massasauga rattlesnake. 	<ul style="list-style-type: none"> No tree removal has been identified for Alternative B. Any necessary tree removal for either Alternative would take place outside the NLEB pup season (June 1 – July 31), and, where possible, within the hibernation period (October 31 – March 31). Construction avoidance during breeding and nesting season of state-listed avian species, as determined through coordination with USFWS and NYSDEC. Route siting along previously disturbed roadway corridors to minimize habitat loss and fragmentation. Full restoration of impacted areas within INWR/TWMA immediately following construction.
Other Avian Species	<ul style="list-style-type: none"> Potential for temporary habitat avoidance, habitat loss, noise disturbance, dust generation, exposure to contaminants, and/or injuries due to construction vehicle collisions with birds during construction on the TWMA lands. Once the system is operational, no impacts are anticipated. 	<ul style="list-style-type: none"> Potential for temporary habitat avoidance, habitat loss, noise disturbance, dust generation, exposure to contaminants, and/or injuries due to construction vehicle collisions with birds during construction on the INWR lands. Once the system is operational, no impacts are anticipated. 	<ul style="list-style-type: none"> Route siting along previously disturbed roadway corridors to minimize habitat loss and fragmentation. HDD installation to minimize wetland habitat disturbances in INWR/TWMA Construction avoidance during migratory bird breeding and nesting season, as determined through coordination with USFWS. Full restoration of impacted areas within INWR/TWMA immediately following construction. For Alternative B, restoration of additional wetland habitat with removal of unused access roads.
Other Wildlife and Habitats	<ul style="list-style-type: none"> No population-level impacts to mammals, reptiles, fish, amphibians and insects using TWMA habitats. Individuals and habitats located within the proposed construction limits may be temporarily impacted from construction activities, if present. Construction activities within the TWMA are expected to be confined to a period of 8-10 weeks. Following construction, habitats would be fully restored, and species are expected to return to their habitats and continue to thrive. 	<ul style="list-style-type: none"> No population-level impacts to mammals, reptiles, fish, amphibians and insects using TWMA habitats. Individuals and habitats located within the proposed construction limits may be temporarily impacted from construction activities, if present. Construction activities within the INWR are expected to be confined to a period of 8-10 weeks. Following construction, habitats would be fully restored, and species are expected to return to their habitats and continue to thrive. 	<ul style="list-style-type: none"> Siting the proposed infrastructure along previously disturbed roadway corridors and within existing rights-of-way to minimize habitat loss and fragmentation Use of HDD installation in TWMA/INWR to minimize disturbance to wildlife or habitats Immediate restoration of hydrology in TWMA/INWR by removal of coffer dams once that portion of construction is complete Re-grading disturbed areas to pre-construction conditions Re-seeding with native seed mix to match surrounding vegetation and pre-construction conditions BMPs to reduce the likelihood of invasive species introduction or spread.

Summary of Environmental Impacts			
Resource/Impact Category	Alternative A (No Action) Impacts	Alternative B (Applicant Preferred Action) Impacts	Mitigation
Cultural Resources	<ul style="list-style-type: none"> Cultural resource surveys and SHPO coordination would be required if Alternative A became the preferred action. 	<ul style="list-style-type: none"> Cultural resource surveys have been completed for areas proposed for disturbance on the INWR; a no effect determination has been provided by both state and federal review agencies. 	<ul style="list-style-type: none"> Buffer areas have been designed with additional room to accommodate moving HDD staging areas if needed to avoid cultural resources.
Public Health and Safety	<ul style="list-style-type: none"> Low potential for a drilling fluid leak during construction. Low potential for effluent leak once system is operational. 	<ul style="list-style-type: none"> Low potential for drilling fluid leak during construction. Low potential for effluent leak once system is operational. 	<ul style="list-style-type: none"> HDD fluid injection would be closely controlled and monitored. Temporary fluid containment areas and equipment would be provided on-Site in case they were needed. In the event of a drilling fluid leak, drilling operations would be immediately suspended until fluid containment is regained. Once the system is operational, it would be monitored weekly at the entrance and exit to the INWR/TWMA to ensure no effluent leaks. In the event that an effluent leak occurred, pumping operations would be stopped and USFWS and NYSDEC notified. The immediate upstream and downstream main line valves would be closed to isolate the leak and reduce the amount of fluid flowing to the leak area. The Force Main would be repaired by excavating down to the damaged area, replacing the damaged pipe and installing the necessary repair fittings.
Visual/Aesthetics	<ul style="list-style-type: none"> Following construction, few visible signs of the proposed project would remain on the landscape. Metering manholes, maintenance manholes, main line valves, and Force Main markers would be located along the route (including in the TWMA), but would be minimal intrusions in the context of the setting and located within/immediately adjacent to the Lewiston Road corridor. 	<ul style="list-style-type: none"> Following construction, few visible signs of the proposed project would remain on the landscape. Metering manholes, maintenance manholes, main line valves, and Force Main markers would be located along the route (including in the INWR), but would be minimal intrusions in the context of the setting and located within/immediately adjacent to the NYS Route 63 corridor. 	<ul style="list-style-type: none"> Metering and maintenance manholes and main line valves would be graded level with the finish grade and topography restored to match blend in with surrounding areas. In areas where average high water mark is above manhole elevation, a 2" steel vent would extend 2' above high water level; this would be painted to blend in with the surrounding area and screened to prevent animals from entering the pipe.
Socioeconomic	<ul style="list-style-type: none"> The overall project will benefit socioeconomics of the local community and region in terms of job creation, community development, infrastructure/utilities, and amenities. 	<ul style="list-style-type: none"> The overall project will benefit socioeconomics of the local community and region in terms of job creation, community development, infrastructure/utilities, and amenities. This alternative saves over \$3.6 million in construction and takes less time to implement. 	<ul style="list-style-type: none"> None

Appendix G

Summary of Responses to Public Comments

STAMP REQUEST FOR ROW EA AND CD RESPONSE TO PUBLIC COMMENTS – 3-20-20

This document provides a response to comments received during the public review period of the National Environmental Protection Act (NEPA) Environmental Assessment (EA) and U.S. Fish and Wildlife Service (USFWS) Compatibility Determination (CD) for the Science & Technology Advanced Manufacturing Park (STAMP) Offsite Sewer Project Request for Right-of-Way (ROW) across Iroquois National Wildlife Refuge (INWR).

Public review meetings were held on February 4, 2020 and February 6, 2020. A request to extend the public review period by one week was granted at the first public meeting so that the public review period ran from January 16, 2020 until February 21, 2020. All comments received at the public meetings and written comments are represented below. A response to each comment is provided directly below the comment in italics. Comments have been placed into categories and numbered for ease of reference.

Project Design and Construction

1. Why put pipe in area that is inaccessible and then need to replace entire pipe with HDD?

The intent of that sentence is that if a pipe needs to be replaced in an area that is environmentally sensitive and should be avoided, then HDD will be used to replace that pipe.

2. Does the federal government get paid for ROW Permit?

Yes, there is a fee associated with the application for a ROW with appropriate permit fees to maintain it. Additionally, the applicant needs to reimburse the USFWS for staff time involved for processing the application and required documents.

3. What type of discharge/company?

The discharge and type of company is unknown at this time. The discharge will require a NYSDEC permit and all discharges from the STAMP site will be permitted, meeting all State and Federal requirements.

4. Is NYSDEC and USACE involved?

Yes – SPDES and wetland permitting.

5. Make sure hoses on equipment have double coverings and other protective BMPs – be clear on what will happen if there is a spill during or after construction – concerned about a project like this (STAMP) that has been sitting there and what if never constructed.

STAMP REQUEST FOR ROW EA AND CD RESPONSE TO PUBLIC
COMMENTS – 3-20-20

The contractor will be responsible for following the Emergency Action Plan and proper procedures if a spill occurs.

6. When HDD fluid is injected – does it stay there?

HDD fluid is pumped during the HDD process. Most of the fluid will stay in the drilled hole to solidify the hole and some fluid will be pulled back and is filtered in the containment area. The fluid will be filtered with filter socks and dewater pumps and any-additional fluid will be taken offsite.

7. Where will it be taken and how can you be sure?

The disposal will be up to the contractor, likely a landfill. Landfill tickets or some other form of proof of proper disposal will be required.

8. What would water pressure be at max flow?

This will be determined during final design.

9. Why not treat in Medina?

During the approval process, Medina leadership changed. Onsite treatment is a better option overall for the STAMP project.

10. What are the Phases in design flows on page 4 of the engineering report?

The design flows were intended to be a projection of the full build out at STAMP.

11. Need to remove first paragraph on page 5 because that is based on 2013 planning. Now treating onsite and instead of 11 MGD to Medina, will recycle and discharge treated up to 6 MGD

Noted.

12. What is the Alternative Routes Analysis and is it still relevant?

A study that evaluated the best route for the wastewater pipeline. It is still relevant, and the information gathered during that process is still relevant.

13. Why is the pipe diameter 18"-20"?

HDD required 20" pipe to provide an inside diameter of 18" due to its wall thickness.

14. What is the estimated flow at the end of the pipe at 6 MGD?

STAMP REQUEST FOR ROW EA AND CD RESPONSE TO PUBLIC
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The amount could fluctuate depending on the businesses and the final design of the STAMP WWTF. The flow will be no more than 6,000,000 gallons in a 24-hour period.

15. Environmental inspector referenced in Frac out plan – who is that?

CPL will have a full-time onsite inspector with daily reporting.

16. In Frac out plan – a vacuum truck will be on call if there is a spill. Shouldn't a vacuum truck be right there instead of on call to pick up immediately?

We will explore the cost and likelihood of need for this option. If needed, it could be a requirement under the contract.

17. Since 2013, have there been any new developments making fracking fluid less toxic?

We will explore this during the detailed design phase of the project.

18. One concern is that the Engineers Report is from 2013 – and it states a pH of 8-10 but 10 is high and if that were to leak what would happen to the swamp?

It would depend on how much is discharged and actual the pH in the swamp and dispersal, etc. Measures will be taken during construction to prevent discharges during construction. Full time monitoring will assist in detecting leaks in the future.

19. Signs on pipes – will it say Sewer Main or will it be changed to post-treated effluent?

It will be changed to read "Post-Treated Effluent"

20. No more vent pipes, right?

There will be air release valves, but the wastewater will already be treated by the onsite WWTF.

21. The pipe will be tested with 150 PSI – is that normal or low?

This is the required test pressure only and will only be used for testing purposes. The actual pressure in the pipe during operation will be lower.

22. If the slurry exceeds 5 cy – must stop or brought under control. How do you get that under control?

Drilling operations will be suspended until frac out no longer exceeds containment. On site storage tanks may be utilized by the contractor as well.

STAMP REQUEST FOR ROW EA AND CD RESPONSE TO PUBLIC
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23. As on page 10 of the EA, why would there need to be a modification of the proposed layout?

If drilling hits shallow bedrock or unforeseen obstacles, the route may need to be altered to allow installation. Any major changes in the route will be approved in the field by the inspector and reviewed by the USFWS.

24. We are concerned about his project because there is very little “for sure” with this project. The only “for sure” is...an 18 to 20-inch wastewater line from STAMP to Oak Orchard Creek 4.8 miles north of Alabama with a water flow of 6 MGD.

This project has been designed to a level of detail specific to review under NEPA and the Refuge Compatibility Determination process. Additional design efforts are currently taking place.

25. We are concerned about going under the creek and the use of HDD fluid injection. We feel it is dangerous to chance contaminating the wildlife refuge.

Trenchless directional drilling construction methods will be used to install the force main below the creek as required. These methods are used throughout the region in order to reduce or avoid impacts on the surrounding environment.

26. We feel a vacuum truck should be on site at all times during construction, not on call.

We will explore the cost and likelihood of need for this option. If needed, it could be a requirement under the contract.

27. Extra protection should be on all construction equipment, all hoses and filling of all the equipment with fluid should be done away from water and in a safe zone.

The contractor will be responsible for following the Emergency Action Plan and proper procedures if a spill occurs.

28. Many questions unanswered because we don't know what will happen if contaminates do go into the groundwater.

Operation monitoring will be continuous. We will have flow meters placed at the beginning and end of the Refuge that will electronically measure the flow amount continuously and an alarm sent if there is a discrepancy in amount of water coming in and leaving the Refuge. The contractor will be responsible for following the Emergency Action Plan and proper procedures if a spill occurs.

29. It's hard to talk positive about this project when there isn't any water treatment plant and we don't know the kind of wastewater going into this pipe.

STAMP REQUEST FOR ROW EA AND CD RESPONSE TO PUBLIC
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A WWTF will be constructed on the STAMP site. The wastewater will be treated prior to being pumped through the force main to a specified discharge location. All discharges will be permitted and monitored for compliance.

Project Operation

30. What noxious odors would be released?

None – that line in the EA should be updated with change in project to treated effluent.

31. What vents out of the 2-foot pipe out of the manhole?

There will be air release valves, but the wastewater will already be treated by the onsite WWTF, thus reducing odors.

32. What about contaminants and leaks and monitored outside of business hours.
Hard to comment because there doesn't seem to be a best management plan or long-term monitoring or plans for WWTP and how do you know if you don't what you'll be treating?

Engineering Report will be posted online, and hard copies placed at GCEDC and INWR. An onsite WWTF is currently being design for the STAMP project. Monitoring will be continuous. There will be flow meters placed at the beginning and end of the Refuge that will electronically measure the flow amount continuously and an alarm sent if there is a discrepancy in amount of water coming in and leaving the Refuge

33. How is the pipe monitored, what level will effluent be treated to?

Conversations with NYSDEC are underway to get the required levels that businesses will need to treat to. The monitoring is done electronically even outside of business hours. There are construction details, a frac out plan, SWPPP, equipment, construction BMP – that will be placed on the website

34. What about an automatic shut off option?

That is something that will be reviewed and may be incorporated into the full design of the WWTF.

35. What about after the 2-year monitoring period?

A private transportation corp will be developed to run sewer and water – a private utility line responsible for monitoring and maintaining.

36. Will USFWS have their own spill equipment on site in case there is a spill to respond quicker than private transportation corp.

STAMP REQUEST FOR ROW EA AND CD RESPONSE TO PUBLIC
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That is not part of the plan at this time.

37. Who will be there monitoring construction contractor to make sure that no impacts?

Inspectors will be there full time making sure the force main is constructed according to the design plans. It is likely that the NYSDOT will make periodic visits and the USFWS will be onsite during construction as well.

38. Need to have full time monitoring, not weekly.

Operation Monitoring is actually continuous. There will be flow meters placed at the beginning and end of the Refuge that will electronically measure the flow amount continuously and an alarm sent if there is a discrepancy in amount of water coming in and leaving the Refuge.

39. Is the 12V power system for remote reading inside metering manhole to measure flow?

Operation Monitoring will be continuous. There will be flow meters placed at the beginning and end of the Refuge that will electronically measure the flow amount continuously and an alarm sent if there is a discrepancy in amount of water coming in and leaving the Refuge. The required power system will be further defined in design.

40. Page 53 – Notification states “and/or” between USACE and USFWS, why?

It will be USFWS so the “USACE” will be removed.

41. Are there plans in the future of that discharge line being owned by the Town?

The Town of Alabama has stated that they do not want to own the force main. It will be private but will have to be backed by the Town should private transportation corp fail for some reason. The Town does have long term plans to construct sewer mains within the hamlet that would be then sent to the WWTF on the STAMP site.

42. If the Town sent a sewer line for the hamlet to the treatment plant at STAMP would a bigger or second line be required?

No, we will reserve 100,000 gallons of capacity for future Town possibilities.

43. No one knows if there is any long-term monitoring of the leaks or other problems, no monitoring on weekends or after business hours.

Operation monitoring is actually continuous. There will be flow meters placed at the beginning and end of the Refuge that will electronically measure the flow amount

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continuously and an alarm sent if there is a discrepancy in amount of water coming in and leaving the Refuge.

44. We are concerned that no automatic shut-offs will be in place before INWR in case of leaks.

That is something that will be reviewed and may be incorporated into the full design of the WWTF.

45. We hope the vent pipe will be changed to say, “Caution Pressure Wastewater Main”.

Noted.

46. When we asked if there was an “Emergency Response Plan”, the GCEDC said they weren’t that far yet. But there is an entire section in the Engineering Report showing us they are still going by the 2013 report or they just don’t care about what is in the report.

There are construction details, a frac out plan, SWPPP, equipment, construction BMP – that will be placed on the website. Detailed design of the force main is currently underway.

Wildlife and Habitat

47. What about construction outside of April-June and other bird/animal species?

Construction through the refuge will avoid the April-June timeframe and HDD will also be utilized to minimize the impacts of construction, including to bird/animal species.

48. Did we review other areas outside of refuge for wildlife habitat, listed species, northern harrier, etc?

Yes, this document is for only addressing the INWR.

49. How far is the heron rookery from the centerline of the road?

At least 200 feet into the woods.

50. We are concerned about what time of year this project will be at INWR; salamanders and birds mate and lay eggs in early spring, turtles lay eggs in June, turtles hatch in September. They can’t tell us when work will be at INWR?

Construction through the refuge will avoid the April-June timeframe and HDD will also be utilized to minimize the impacts of construction, including to bird/animal species. This also includes the amount of area that will be disturbed during construction.

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51. We have little trust with GCEDC. We hope every precaution will be taken to protect all wildlife so this project can be completed with least amount of damage to wildlife.

Noted.

52. We hope that the monies that INWR receive for use of this land doesn't affect the ability to make the right decisions for all wildlife.

The decision to allow the ROW is based on being a refuge compatible use which relates back to the purpose the refuge was establishes and/or the Mission of the National Wildlife Refuge System. It is agreed that the suggested 10' wide (5' either side of CL) would be appropriate depending on depth of force main. However, access is also a consideration. It is desirable to access the sewer line from the existing Route 63 roadway.

Cultural Resources

53. What cultural resources would be considered significant? Would human remains be significant?

Yes. A Phase 1 survey was completed at all HDD drilling sites to assess the potential of all cultural resources with synopsis presented in this EA. If any cultural resources, including human remains, are discovered during construction, all project actions are halted until investigated by USFWS Regional Archeologist and/or the State Historic Preservation Officer.

54. Are other methods being used for CRI like radar to avoid damage to potential resources with standard test pits?

Not at this time.

General Comments

55. Do our comments matter?

Yes, comments are considered in the findings and completion of NEPA which will be provided to the public when complete.

56. From our point of view this project is nothing more than a waste of time and money and taking a chance on polluting INWR and harming wildlife.

Noted.

Comments Not Relevant to This EA/CD

57. Where is the 6MG of water coming from and how did you come up with that amount?

Niagara County. We reviewed various industry standards for companies that we are trying to attract, which has changed over time. Originally, we looked at 12 MGD, but have since reduced to 6 MGD due to the likelihood of recycling of process water onsite.

58. Have the impacts associated with bringing water from Niagara County been considered?

A SEQR update is in progress.

59. What does NYSDEC typically allow as required treatment – what levels? What is the standard that NYSDEC will use?

We have not been given those limits yet because it depends on volume and constituency of Oak Orchard Creek. DEC does have limits onsite for different industries, but it is based also on the low flow of the stream.

60. Spills are a real concern.

Spills are a NYSDEC issue and will work with NYSDEC to ensure compliance and NYSDEC will issue permit to individual companies to individually enforce.

61. Will there be a meeting for NYSDEC review (SPDES and Wetland permits)?

There will be a public notice period.

62. What considerations are given to extra flow downstream?

A Hydrology study will be conducted to ensure the STAMP discharge will not cause additional flooding issues and if the discharge needs to be adjusted to a different location along the creek.

63. What is the water temperature that will be discharged?

That will be part of the SPDES permit requirements, but the discharge cannot have more than a 5-degree difference between the stream and discharge temperature.

64. It's disheartening to me that I can't trust NYSDEC to do its job.

Noted.

65. The USACE won't give permits until an anchor tenant is identified for this site.

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Noted.

66. We did not read the Conceptual Water and Wastewater Alternatives and Recommendations Report, so we can't comment on that report.

Noted.

67. We must keep in mind that STAMP has been going on for ten years without any tenants.

Noted.

Appendix H

Finding of No Significant Impact