



GRETCHEN WHITMER
GOVERNOR

STATE OF MICHIGAN
DEPARTMENT OF
ENVIRONMENT, GREAT LAKES, AND ENERGY
GAYLORD DISTRICT OFFICE



LIESL EICHLER CLARK
DIRECTOR

January 29, 2021

VIA EMAIL

Mr. Paul Turner
Enbridge Energy, Limited Partnership
11 East Superior Street, Suite 125
Duluth, Minnesota 55802

Dear Mr. Turner:

SUBJECT: Draft Permit for Countersignature; Submission Number HNY-NHX4-FSR2Q

The Michigan Department of Environment, Great Lakes, and Energy (EGLE), Water Resources Division (WRD), has reviewed the above-referenced application for permit pursuant to Part 303, Wetlands Protection, and Part 325, Great Lakes Submerged Lands, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended. As depicted in your application, the purpose of the project is to install two temporary discharge structures off McGulpin Point and two temporary discharge structures off Point LaBarbe in Lake Michigan, and place fill in 0.13 acres of wetland for the widening of Boulevard Drive including fill adjacent to the North Straits Facility.

We have determined that the project as proposed can be permitted. Enclosed is a draft permit that requires a countersignature.

Carefully review and fully understand the draft permit and all of its associated terms and conditions. As the permittee, you are responsible for assuring that the project is completed as authorized and in compliance with permit requirements. If you agree to all of the terms and conditions, sign the draft permit in the space provided, initial each of the drawings, and return the entire document to our office within 30 days of the date of this letter.

This permit is not valid until signed by an official of the WRD. Upon return of the signed and initialed document from you, the WRD will issue the permit in a timely manner and return a signed copy to you. Construction activity is not authorized to begin until a valid permit is held at the project site. If you do not return the signed and initialed document by the required date, an application denial letter will be sent to you.

If you have any questions regarding the specifics of this draft permit, please contact me at 989-330-9252; HaasJ1@Michigan.gov; or EGLE, WRD, Gaylord District Office, 2100 West M-32, Gaylord, Michigan 49735-9282. Please include your submission number, HNY-NHX4-FSR2Q, in your response.

Sincerely,

A handwritten signature in black ink, appearing to read 'Joe Haas', with a long horizontal flourish extending to the right.

Joseph Haas, District Supervisor
Gaylord District Office
Water Resources Division

Enclosure

cc: Emmet County Clerk
Emmet CEA
Mackinac County Clerk
Mackinac CEA
Moran Township Clerk
Wawatam Township Clerk
Ms. Katie Otanez, U.S. Army Corps of Engineers
Ms. Carrie Tansy, U.S. Fish and Wildlife Service
Mr. Travis Warner, Michigan Department of Licensing and Regulatory Affairs
Ms. Michelle Crook, Michigan Department of Natural Resources
Ms. Heather Hettinger, Michigan Department of Natural Resources
Mr. Ryan Mitchell, Michigan Department of Transportation
Ms. Stacy Tchorzynski, State Historic Preservation Office
Mr. Jeff Bridgland, EGLE
Ms. Katie Kruse, EGLE



**MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY
WATER RESOURCES DIVISION
PERMIT**

Issued To:

**Enbridge Energy, Limited Partnership
Attn: Paul Turner
11 E. Superior St., Ste. 125
Duluth, MN 55802**

**Permit No: WRP027179 v.1
Submission No.: HNY-NHX4-FSR2Q
Site Name: Enbridge Energy-Line 5-Straits of Mackinac
Issued: DRAFT – Countersign NOT A VALID PERMIT
Expires: DRAFT – Countersign NOT A VALID PERMIT**

This permit is being issued by the Michigan Department of Environment, Great Lakes, and Energy (EGLE), Water Resources Division (WRD), under the provisions of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA); specifically:

Part 303, Wetlands Protection

Part 325, Great Lakes Submerged Lands

Permission is hereby granted, based on permittee assurance of adherence to State of Michigan requirements and permit conditions, to:

Authorized Activity:

****DRAFT PERMIT: COUNTERSIGNATURE REQUIRED** **NOT A VALID PERMIT****

At McGulpin Point (South Straits) Place two (temporary) water intake/water discharge structures (pipe size varies 6"-12") on bottomlands in approximately 17 ft of water depth. Each discharge structure to occupy 10 ft x 10 ft (200 sq ft total impact) approximately 350 ft from shoreline. Structures to be placed within a 200 ft x 100 ft area, as shown on plans. Construct one (1) 30" RCP storm water outfall structure on bottomlands/shoreline with a total maximum 450 sq ft of 3"-3' angular rock.

At Point LaBarbe (North Straits) Place clean fill in up to 0.13 acre of wetlands to widen Boulevard Drive and fill adjacent to existing North Straits Facility. Place two (temporary) water intake structures (pipe size varies 6"-12") on bottomlands in approximately 10 ft of water depth. Each discharge structure to occupy 10 ft x 10 ft (200 sq ft total impact) approximately 280 ft from shoreline. Structures to be placed within a 200 ft x 100 ft area, as shown on plans. Construct two (2) 30" RCP storm water outfall structures on bottomlands/shoreline with a total maximum 900 sq ft of 3"-3' angular rock.

All work shall be completed in accordance with the attached plans.

A U.S. Army Corps of Engineers permit is required before this work can be conducted.

**Waterbody Affected: Straits of Mackinac, Lake Michigan and Lake Huron
Property Location: Emmet County, Wawatam Township, T39N-R04W-Section 10
Mackinac County, Moran Township, T40N-R04W-Section 23**

Authority granted by this permit is subject to the following limitations:

- A. Initiation of any work on the permitted project confirms the permittee's acceptance and agreement to comply with all terms and conditions of this permit.
- B. The permittee, in exercising the authority granted by this permit, shall not cause unlawful pollution as defined by Part 31 of the NREPA.
- C. This permit shall be kept at the site of the work and available for inspection at all times during the duration of the project or until its date of expiration.
- D. All work shall be completed in accordance with the approved plans and specifications submitted with the application and/or plans and specifications attached to this permit.
- E. No attempt shall be made by the permittee to forbid the full and free use by the public of public waters at or adjacent to the structure or work approved.
- F. It is made a requirement of this permit that the permittee give notice to public utilities in accordance with 2013 PA 174 (Act 174) and comply with each of the requirements of Act 174.
- G. This permit does not convey property rights in either real estate or material, nor does it authorize any injury to private property or invasion of public or private rights, nor does it waive the necessity of seeking federal assent, all local permits, or complying with other state statutes.
- H. This permit does not prejudice or limit the right of a riparian owner or other person to institute proceedings in any circuit court of this state when necessary to protect his rights.
- I. Permittee shall notify EGLE within one week after the completion of the activity authorized by this permit by completing and forwarding the attached preaddressed postcard to the office addressed thereon.
- J. This permit shall not be assigned or transferred without the written approval of EGLE.
- K. Failure to comply with conditions of this permit may subject the permittee to revocation of permit and criminal and/or civil action as cited by the specific state act, federal act, and/or rule under which this permit is granted.
- L. All dredged or excavated materials shall be disposed of in an upland site (outside of floodplains, unless exempt under Part 31 of the NREPA, and wetlands).
- M. In issuing this permit, EGLE has relied on the information and data that the permittee has provided in connection with the submitted application for permit. If, subsequent to the issuance of a permit, such information and data prove to be false, incomplete, or inaccurate, EGLE may modify, revoke, or suspend the permit, in whole or in part, in accordance with the new information.
- N. The permittee shall indemnify and hold harmless the State of Michigan and its departments, agencies, officials, employees, agents, and representatives for any and all claims or causes of action arising from acts or omissions of the permittee, or employees, agents, or representative of the permittee, undertaken in connection with this permit. The permittee's obligation to indemnify the State of Michigan applies only if the state: (1) provides the permittee or its designated representative written notice of the claim or cause of action within 30 days after it is received by the state, and (2) consents to the permittee's participation in the proceeding on the claim or cause of action. It does not apply to contested case proceedings under the Administrative Procedures Act, 1969 PA 306, as amended, challenging the permit. This permit shall not be construed as an indemnity by the State of Michigan for the benefit of the permittee or any other person.
- O. Noncompliance with these terms and conditions and/or the initiation of other regulated activities not specifically authorized shall be cause for the modification, suspension, or revocation of this permit, in whole or in part. Further, EGLE may initiate criminal and/or civil proceedings as may be deemed necessary to correct project deficiencies, protect natural resource values, and secure compliance with statutes.
- P. If any change or deviation from the permitted activity becomes necessary, the permittee shall request, in writing, a revision of the permitted activity from EGLE. Such revision request shall include complete documentation supporting the modification and revised plans detailing the proposed modification. Proposed modifications must be approved, in writing, by EGLE prior to being implemented.
- Q. This permit may be transferred to another person upon written approval of EGLE. The permittee must submit a written request to EGLE to transfer the permit to the new owner. The new owner must also submit a written request to EGLE to accept transfer. The new owner must agree, in writing, to accept all conditions of the permit. A single letter signed by both parties that includes all the above information may be provided to EGLE. EGLE will review the request and, if approved, will provide written notification to the new owner.

- R. Prior to initiating permitted construction, the permittee is required to provide a copy of the permit to the contractor(s) for review. The property owner, contractor(s), and any agent involved in exercising the permit are held responsible to ensure that the project is constructed in accordance with all permit conditions, drawings and specifications. The contractor is required to provide a copy of the permit to all subcontractors doing work authorized by the permit.
- S. Wetland fill/construction must be undertaken from the existing roadway and completed during the dry period of the wetland.
- T. Authority granted by this permit does not waive permit requirements under Part 91, Soil Erosion and Sedimentation Control, of the NREPA, or the need to acquire applicable permits from the County Enforcing Agent (CEA).
- U. A storm water discharge permit may be required under the Federal Clean Water Act for construction activities that disturb one or more acres of land and discharge to surface waters. For sites over five (5) acres, the permit coverage may be obtained by a Part 91 permit, or coverage as an Authorized Public Agency (APA), and filing a "Notice of Coverage" form to the EGLE, WRD. For sites with disturbance from one acre up to five acres, storm water coverage is automatic once the SESC permit is obtained or if work is being conducted by an APA. These one to five acre sites are not required to apply for coverage, but are required to comply with storm water discharge permit requirements. Information on the storm water discharge permit is available from the Water Resource Division's Storm Water Permit Program at www.michigan.gov/soilerosion under the "Construction Storm Water Info"
- V. Any discharge of sediment into waters of the state and/or to adjoining properties or off the road right-of-way is a violation of this permit, Part 31, Water Resources Protection, and Part 91 of the NREPA. Failure to comply with the soil erosion permit, agency procedures and/or the approved soil erosion plan for the site and/or failure to properly install and/or maintain soil erosion and sedimentation control procedures may be a violation of this permit and is a violation of Part 31 and Part 91 of the NREPA. A violation of these parts subjects the permittee to potential fines and penalties.
- W. Prior to the start of construction, all adjacent non-work wetland areas shall be protected by properly trenched sedimentation barrier to prevent sediment from entering the wetland. Orange construction fencing shall be installed as needed to prohibit construction personnel and equipment from entering or performing work in these areas. Fence shall be maintained daily throughout the construction process. Upon project completion, the accumulated materials shall be removed and disposed of at an upland site, the sedimentation barrier shall then be removed in its entirety and the area restored to its original configuration and cover.
- X. The permittee is cautioned that grade changes resulting in increased runoff onto adjacent property is subject to civil damage litigation.
- Y. Unless specifically stated in this permit, construction pads, haul roads, temporary structures, or other structural appurtenances to be placed in a wetland or on great lakes bottomland are not authorized and shall not be constructed unless authorized by a separate permit or permit revision granted in accordance with the applicable law.
- Z. For projects with potential impacts to fish spawning or migration, no work shall occur within fish spawning or migration timelines (i.e., windows) unless otherwise approved in writing by the Michigan Department of Natural Resources, Fisheries Division.

Work to be done under authority of this permit is further subject to the following special instructions and specifications:

1. Authority granted by this permit does not waive permit or program requirements under Part 91 of the NREPA or the need to acquire applicable permits from the CEA. To locate the Soil Erosion Program Administrator for your county, visit Michigan.gov/eglestormwater and select "Soil Erosion and Sedimentation Control Program" under "Related Links."

2. The authority to conduct the activity as authorized by this permit is granted solely under the provisions of the governing act as identified above. This permit does not convey, provide, or otherwise imply approval of any other governing act, ordinance, or regulation, nor does it waive the permittee's obligation to acquire any local, county, state, or federal approval or authorization necessary to conduct the activity.
3. The fill authorized by this permit may not be used for any other reason than those specified in the permitted activities section.
4. Fill shall consist of inert materials, which will not cause siltation nor contain soluble chemicals or organic matter, which is biodegradable. All fill shall be contained in such a manner as not to erode into any watercourse and/or wetland.
5. Excess soil materials from the project shall not be deposited in wetlands or surface water without first securing a permit under the Natural Resource and Environmental Protection Act, 1994 PA 451, as amended, Part 303 - Wetlands Protection, or other applicable statute. All excess soil material shall be placed on upland site, mulched, and/or seeded to prevent erosion into waters or wetlands.
6. Upon completion of the project, any disturbed wetland areas beyond the permitted area shall be restored to the original contour elevation, revegetated, and reseeded with species native to Michigan appropriate to the site to prevent erosion.
7. The structures placed on bottomlands shall be firmly anchored to prevent lateral movement.
8. The structures placed on bottomlands shall not adversely impact navigation.
9. Riprap shall consist of stone, rock, or clean broken concrete (containing no protruding steel reinforcement, soil or other fines, asphalt, soluble chemicals, or organic material).
10. Construction pads, haul roads, temporary structures, or other structural appurtenances to be placed on or over bottomlands and /or wetlands are not authorized by this permit and shall not be constructed unless authorized by separate permit or permit revision granted in accordance with applicable law.
11. The issuance of this permit does not convey any right, title or ownership in the state owned, public trust bottomlands of the Great Lakes occupied by fill, docks, seawall, pilings, breakwaters, or other structures at the project site. A conveyance of the occupied bottomlands is required pursuant to Part 325 of the NREPA to protect the general public's rights in the bottomlands and water of the Great Lakes. Contact EGLE, WRD, Submerged Lands Unit, P.O. Box 30458, Lansing, Michigan 48909-7958 to complete the conveyance process.
12. No fill, excess soil, or other material shall be placed in any wetland, floodplain, or surface water area not specifically authorized by this permit, its plans, and specifications.
13. This permit does not authorize or sanction work that has been completed in violation of applicable federal, state, or local statutes.
14. The permittee and contractors will take steps to minimize the risk of spreading terrestrial and aquatic invasive species during this project and will take measures to prevent spread, where feasible, including: Visually inspecting and removing any plants or mud from footwear (boots, hip-boots, and waders). Visually inspecting and removing and properly disposing of any plants and mud from field equipment (nets, shovels, rakes, etc.) and vehicles. Draining all water from vehicles and equipment, prior to leaving the site and before entering a new waterbody. Thoroughly drying equipment (5-7 days, if possible) between sites, when possible. Disinfecting vehicles and equipment between sites (e.g.,

diluted bleach solution, heated pressure washer), when possible. Disinfection should be conducted away from surface waters, where the disinfecting solution will not enter any storm sewers and/or surface waters. Typical diluted bleach solution treatment is ½ cup (4 fluid ounces) bleach to 5 gallons of water, applied by spraying or sponge so surface is thoroughly exposed to bleach solution for 10 minutes. Typical heated pressure wash is 140° water temperature, sprayed for 5-10 seconds. Thoroughly washing vehicles and boats between sites (e.g., drive-through car wash). Using only native plants and seed for restorations and best management practices.

15. If invasive aquatic or terrestrial plants are removed from a site, the permittee will take steps to minimize the spread of these species. Dispose of invasive plant material by bagging and transporting to a landfill, composting, or burning, as appropriate and in compliance with local and state laws. A "Watch List" of Michigan's high priority aquatic invasive species along with how to report sightings can be found at www.michigan.gov/aquaticinvasives.
16. The permit placard shall be posted at the work site in a prominent location at all times for the duration of the project or until permit expiration.
17. This permit is being issued for the maximum time allowed and no extensions of this permit will be granted. Initiation of the construction work authorized by this permit indicates the permittee's acceptance of this condition. The permit, when signed by EGLE, will be for a five-year period beginning on the date of issuance. If the project is not completed by the expiration date, a new permit must be sought.
18. In accordance with the requirements of the United States Coast Guard, should it become necessary to allow watercraft to pass through the project area at any time during the authorized construction, then appropriate measures shall be taken to allow for watercraft passage.
19. Notification shall be made to the United States Coast Guard, 30 days prior to starting the project. Notify: United States Coast Guard, 9th Coast Guard District, Attn: OBR, 1240 East Ninth Street, Cleveland, Ohio, 44199-2060.
20. Threatened or endangered species, specifically Dwarf Lake Iris and Houghton's Goldenrod, are known to occur on or near this project site and may be impacted by your activities. The U.S. Army Corps of Engineers (USACE) has federal permitting authority over this project and is required to comply with the federal Endangered Species Act (ESA) prior to permit issuance. In accordance with Clean Water Act's implementing regulations (40 CFR § 230.31(c)), where consultation with the U.S. Fish and Wildlife Service (USFWS) occurs under section 7 of the ESA, the USFWS conclusions concerning the impact(s) of the discharge on threatened and endangered species and their habitat shall be considered final. As a condition of this permit, all measures specified for this project in the expected Biological Opinion by the USFWS are non-discretionary and must be followed, as applicable, unless modifications are approved by USFWS. Any modifications approved by the USFWS shall be provided to EGLE. If the USACE permit is not issued or otherwise ceases to be in effect, please contact EGLE at 989-330-9252 and the USFWS at 517-351-2555 prior to commencement of construction activity to ensure ESA compliance.
21. The Straits of Mackinac bottomland and shore are notable for the presence of historic properties, such as terrestrial and bottomland archaeological sites (including historic aircraft and shipwrecks), submerged paleo landscapes, cemeteries and isolated human burials, significant architecture and objects, historic districts, National Historic Landmarks, and traditional cultural properties and landscapes. The USACE has federal permitting authority over this project and is required to comply with Section 106 of the National Historic Preservation Act of 1966, as amended (Section 106). Section 106 requires federal agencies to consider the effects of their undertakings on historic properties in consultation with the State Historic Preservation Officer, consulting Tribes, and other stakeholders. Any

adverse effects on historic properties must be avoided, minimized, or mitigated. The SHPO recommended additional survey to identify historic properties in the project area (November 10, 2020). This recommendation will remain under consideration during the Section 106 consultation process. Note that historic properties on state-owned land and the state-owned bottomland are the property of the State of Michigan. Archaeological surveys that may be proposed on state-owned land and the state-owned bottomland will require a Department of Natural Resources Permit for Archaeological Exploration on State-Owned Land.

22. Permittee shall provide the name, address, and telephone number of the person that the EGLE can contact if necessary and who has the authority to stop work on the project, as part of the counter-signed permit:

Date: _____

Name: _____

Address: _____

E-Mail: _____

Cell Phone No.: _____

Office Phone No.: _____

23. Prior to initiation of construction, a preconstruction meeting shall be held with the contractor, permittee or her/his representative(s), and representatives of EGLE. To arrange the required meeting, please contact EGLE, WRD, Gaylord District Office at 989-330-9252.
24. Notification shall be made to EGLE, WRD five days prior to starting the project. Please notify EGLE, WRD, Gaylord District Office at 989-330-9252.

Wetland Mitigation

The permittee shall, as a primary condition of this permit, mitigate the loss of 0.13 acres of coastal forested wetland. The authorization granted by this permit is contingent upon the completion of mitigation as follows:

- a. A new 0.26 acres of coastal forested wetland shall be created in accordance with plans approved by EGLE. Place 1.3 Acres of Great Lakes Coastal Wetlands into a conservation easement as wetland protection. If the permit conditions modify the mitigation plan, the permit conditions shall take precedence over the mitigation plan.
- b. EGLE understands the permittee's desire to use wetland mitigation bank credits in lieu of constructed mitigation. However, EGLE has been made aware that wetland mitigation bank credits are not available at this time but may be available in the near future. As such, EGLE is agreeing to a non-concurrent mitigation schedule for this permit. If by December 31, 2022 documentation of wetland mitigation bank credit acquisition has not been received by EGLE, the permittee shall submit an approvable Wetland Mitigation and Monitoring Plan in accordance with permit requirements by June 30, 2023. To account for temporal wetland losses, EGLE may also impose a 20% increase in the wetland mitigation requirement if documentation of wetland mitigation bank credit acquisition is not received by December 31, 2022.

- c. The permittee shall provide a surety bond or letter of credit to ensure EGLE in a form identical to the financial assurance models on the EGLE Web site at www.michigan.gov/wetlands in the amount of \$26,000.00 (0.26 acres of mitigation required x \$100,000.00/per acre) to ensure that wetland bank credits are purchased or the replacement wetland is constructed, the conservation easement is recorded, monitoring is completed, and corrective actions are performed as required to comply with the mitigation requirements and conditions of this permit. The financial assurance document must be provided and accepted by EGLE prior to signature of this permit by EGLE. **The financial assurance shall be released upon proof that the 0.26 acres of wetland credits were purchased, or the mitigation was completed in accordance with the Wetland Mitigation and Monitoring Plan (if applicable).**

Prior to the transfer of this permit to another person, the new person must obtain and provide a financial instrument acceptable to EGLE in the name of the new person and in the amount required by this permit.

Upon request of the permittee and with the submittal of adequate proofs, EGLE may release all or portions of the financial instrument in accordance with the following guidelines:

If the required wetland mitigation is fulfilled by purchasing mitigation bank credits, EGLE will release all financial assurance monies upon submittal of documentation that the required amount of mitigation bank credits have been purchased.

Fifty (50) percent of the financial instrument may be released after the permittee demonstrates substantial compliance with Performance Standards a. through e. and i., in this permit, for a minimum of two years after construction of the mitigation wetland.

The remaining 50 percent of the financial instrument will be released upon all of the following:

- 1) Submittal of all the required monitoring reports;
- 2) Substantial compliance with all of the performance standards as outlined in this permit, and
- 3) Final approval by the EGLE.

- d. The permittee shall execute a conservation easement over the mitigation area in a form identical to the conservation easement model on the EGLE Web site at www.michigan.gov/wetlands. The original executed conservation easement and associated exhibits must be sent to EGLE for review and recording prior to commencement of the permitted work. Send to: Conservation Easement Coordinator, EGLE, WRD, P.O. Box 30458, Lansing, Michigan, 48909, with a copy of the executed easement mailed to the District Office.

The permittee may request in writing a permit revision to extend the time deadline for submittal of the conservation easement. Such permit revision shall be considered a minor permit revision pursuant to Section 30313b and must be accompanied by the appropriate fee. An acceptable executed conservation easement must be submitted to EGLE by the permittee prior to commencement of any permitted work within regulated areas.

The landward conservation easement boundary shall be demarcated by the placement of signs along the perimeter. The signs shall be placed at an adequate frequency, visibility, and height for viewing, made of a suitable material to withstand climatic conditions, and should be replaced as needed. The signs shall include the following language:

WETLAND CONSERVATION EASEMENT
NO CONSTRUCTION OR PLACEMENT OF STRUCTURES ALLOWED.
NO MOWING, CUTTING, FILLING, DREDGING OR
APPLICATION OF CHEMICALS ALLOWED.
MICHIGAN DEPARTMENT OF ENVIRONMENT GREAT LAKES AND ENERGY

Except as otherwise provided by this permit or approved in writing by EGLE, the following activities are prohibited in perpetuity within the mitigation area: alteration of topography, creation of paths, trails, or roads; placement of fill, dredging, or excavation; drainage of surface or groundwater; construction or placement of any structure; plowing, tilling, or cultivating the soils or vegetation; cutting, removal, or alteration of vegetation; including the planting of non-native plant species; construction of unauthorized utility or petroleum lines; storage or disposal of garbage, trash, debris, abandoned equipment; accumulation of machinery or other waste materials; use or storage of off-road vehicles; placement of billboards or signs; or the use of the wetland for the discharge of storm water (except as otherwise allowed in this permit).

- e. Unless approved in writing by EGLE, forested and scrub-shrub wetlands shall be graded at the same elevation (i.e., flat). The mitigation site shall not be fine graded but shall be left in a rough grade state (allowing for the establishment of micro-topography). Any planting or seeding of the mitigation site must consist of native Michigan plant materials.
- f. Unless approved in writing by EGLE, the permittee shall install a water control structure that can manipulate the water levels in 2 to 6-inch increments. The failure to install adequate water control structures may lead to the need to re-grade the entire mitigation area should the hydrology establish differently than shown on the approved mitigation plans.
- g. The permittee shall notify EGLE, WRD, Gaylord District Office, in writing and within 20 days of completion of each of the following items:
 - 1) final grading
 - 2) seeding and plant installation
- h. In the event the permitted activity is begun but not completed, the permittee or owner of record shall remain responsible for completion of the mitigation wetland and associated conditions, as determined by EGLE. Such determinations shall be based upon the extent of the disturbance to the existing wetlands.
- i. Should the mitigation wetland fail to become established after two complete growing seasons, or fail to progress satisfactorily towards a self-sustaining wetland system as required by this permit, the permittee shall:
 - 1) Assess the problem and its probable causes.
 - 2) Develop reasonable and necessary corrective measures as a revision to original plans.
 - 3) Submit proposed corrective measures to EGLE for confirmation and approval within 60 days of identification of the problem.
 - 4) Upon EGLE approval, implement corrective measures.

Additional mitigation monitoring may be required to evaluate the success of the corrective measures.

Wetland Mitigation Performance Standards

The following performance standards will be used to evaluate the mitigation wetland:

- a. Construction has been completed in accordance with EGLE's approved plans and specifications included in the permit and mitigation plan.
- b. The mitigation wetland is characterized by the presence of water at a frequency and duration sufficient to support a predominance of wetland vegetation and the wetland types specified at the end of the monitoring period.
- c. A layer of high-quality topsoil, from the A horizon of an organic or loamy surface texture soil, is placed (or exists) over the entire wetland mitigation area at a minimum thickness of six (6) inches.
- d. The mitigation wetland shall be free of oil, grease, debris, and all other contaminants.
- e. A minimum of six (6) wildlife habitat structures, consisting of at least three (3) types, have been placed per acre of mitigation wetland. At least 50 percent of each structure shall extend above the normal water level. The types of acceptable wildlife habitat structures are:
 - 1) Tree stumps laid horizontally within the wetland area. Acceptable stumps shall be a minimum of 6 feet long (log and root ball combined) and 12 inches in diameter.
 - 2) Logs laid horizontally within the wetland area. Acceptable logs shall be a minimum of 10 feet long and 6 inches in diameter.
 - 3) Whole trees laid horizontally within the wetland area. Acceptable whole trees shall have all of their fine structure left intact (i.e., not trimmed down to major branches for installation), be a minimum of 20 feet long (tree and root ball), and a minimum of 12 inches in diameter.
 - 4) Snags which include whole trees left standing that are dead or dying, or live trees that will be flooded and die, or whole trees installed upright into the wetland. A variety of tree species should be used for the creation of snag habitat. Acceptable snags shall be a minimum of 20 feet tall (above the ground surface) and a minimum of 12 inches in diameter at breast height. Snags should be grouped together to provide mutual functional support as nesting, feeding, and perching sites.
 - 5) Sand mounds at least 18 inches in depth and placed so that they are surrounded by a minimum of 30 feet of water measuring at least 18 inches in depth. The sand mound shall have at least a 200 square foot area that is 18 inches above the projected high water level and oriented to receive maximum sunlight.
- f. The mean percent cover of native wetland species in the herbaceous layer at the end of the monitoring period is not less than 80 percent for forested wetland.

Extensive areas of open water and submergent vegetation areas having no emergent and/or rooted floating vegetation shall not exceed 20 percent of the mitigation wetland area. Extensive areas of bare soil shall not exceed five percent of the mitigation wetland area. For the purposes of these performance standards, extensive refers to areas greater than 0.01 acre (436 square feet) in size.

The total percent cover of wetland species in each plot shall be averaged for plots taken in the same wetland type to obtain a mean percent cover value for each wetland type. For the purposes of this standard, total percent cover is the percent cover of the ground surface covered by vegetation, bare soil, and open water, when viewed from above. Total percent cover cannot exceed 100 percent. Plots within identified extensive open water and submergent areas, bare soil areas, and areas without a predominance of wetland vegetation shall not be included in this average. Wetland species refers to species listed as facultative and wetter (FAC, FACW, OBL) on the USACE's "National List of Vascular Plant Species That Occur in Wetlands" for Region 3.

- g. The mitigation wetland supports a predominance of wetland vegetation (as defined in "EGLE Wetland Identification Manual") in each vegetative layer, represented by a minimum number of

native wetland species, at the end of the monitoring period. The minimum number of native wetland species per wetland type shall not be less than 15 species within the forested wetland.

The total number of native wetland plant species shall be determined by a sum of all species identified in sample plots of the same wetland type.

- h. At the end of the monitoring period, the mitigation wetland supports a minimum of:
- 1) Three hundred (300) individual surviving, established, and free-to-grow trees per acre in the forested wetland that are classified as native wetland species and consisting of at least three different species.
 - 2) Three hundred (300) individual surviving, established, and free-to-grow shrubs per acre in the scrub-shrub wetland that are classified as native wetland species and consisting of at least four different species.
 - 3) Optional: Eight (8) native wetland species of grasses, sedges, or rushes per acre in the wet meadow wetland.

Physiognomic classification of trees and shrubs shall be in accordance with the Michigan Floristic Quality Assessment (Michigan Department of Natural Resources, 2001).

- i. The mean percent cover of invasive species including, but not limited to, *Phragmites australis* (Common Reed), *Lythrum salicaria* (Purple Loosestrife), and *Phalaris arundinacea* (Reed Canary Grass) shall in combination be limited to no more than ten (10) percent within each wetland type. Invasive species shall not dominate the vegetation in any extensive area of the mitigation wetland.

If the mean percent cover of invasive species is more than ten (10) percent within any wetland type or if there are extensive areas of the mitigation wetland in which an invasive species is one of the dominant plant species, the permittee shall submit an evaluation of the problem to EGLE. If the permittee determines that it is infeasible to reduce the cover of invasive species to meet the above performance standard, the permittee must submit an assessment of the problem, a control plan, and the projected percent cover that can be achieved for review by EGLE. Based on this information, the EGLE may approve an alternative invasive species standard. Any alternative invasive species standard must be approved in writing by EGLE.

If the mitigation wetland does not satisfactorily meet these standards by the end of the monitoring period, or is not satisfactorily progressing during the monitoring period, the permittee will be required to take corrective actions.

Wetland Mitigation Monitoring

The permittee shall monitor the wetland mitigation for a minimum of five (5) years following grading, planting, and introduction of hydrology. A monitoring report, which compiles and summarizes all data collected during the monitoring period, shall be submitted annually by the permittee. Monitoring reports shall cover the period of January 1 through December 31 and be submitted to EGLE prior to January 31 of the following year. The permittee shall conduct the following activities and provide the information collected in the monitoring reports:

- a. Measure inundation and saturation at all staff gauges, monitoring wells, and other stationary points shown in the mitigation plan monthly during the growing season. Hydrology data shall be measured at a sufficient number of points sampled at a sufficient frequency to accurately depict the water regime of each wetland type.
- b. Sample vegetation in plots located along transects shown in the mitigation plan once between July 15 and August 31. Woody vegetation may be sampled earlier in the growing season to allow

for accurate counts. The number of sample plots necessary within each wetland type shall be determined by use of a species-area curve or other approach approved by the EGLE. The minimum number of sample plots for each wetland type shall be no fewer than five (5). Sample plots shall be located on the sample transect at evenly spaced intervals or by another approach acceptable to EGLE. If additional or alternative sample transects are needed to sufficiently evaluate each wetland type, they must be approved in advance in writing by EGLE.

The herbaceous layer (all non-woody plants and woody plants less than 3.2 feet in height) shall be sampled using a 3.28 foot by 3.28 foot (one square meter) sample plot. The shrub and tree layer shall be sampled using a 30-foot radius sample plot. The data recorded for each herbaceous layer sample plot shall include a list of all living plant species, and an estimate of percent cover in five (5) percent intervals for each species, bare soil areas, and open water areas relative to the total area of the plot. The number and species of surviving, established, and free-to-grow trees and surviving, established, and free-to-grow shrubs shall be recorded for each 30-foot radius plot.

Provide plot data and a list of all the plant species identified in the plots and otherwise observed during monitoring. Data for each plant species must include common name, scientific name, wetland indicator category from the U.S. Army Corps of Engineers 2012 National Wetland Plant List for Michigan (Lichvar, R.W. 2012), physiognomic classification, and whether the species is considered native according to the Michigan Floristic Quality Assessment (Michigan Department of Natural Resources, 2001). Nomenclature shall follow in the *Flora of North America*, which can be found at http://floranorthamerica.org/Main_Page.

The locations of sample transects and plots shall be identified in the monitoring report on a plan view showing the location of wetland types. Each transect and sample plot shall be permanently and visibly staked at a frequency sufficient to locate the transect and sample plots in the field.

- c. Delineate any extensive (greater than 0.01 acre in size) open water areas, bare soil areas, areas dominated by invasive species, and areas without a predominance of wetland vegetation, and provide their location on a plan view.
- d. Document any sightings or evidence of wading birds, songbirds, waterfowl, amphibians, reptiles, and other animal use (lodges, nests, tracks, scat, etc.) within the wetland noted during monitoring. Note the number, type, date, and hour of the sightings and evidence.
- e. Inspect the site, during all monitoring visits and inspections, for oil, grease, man-made debris, and all other contaminants and report findings. Rate (e.g., poor, fair, good, excellent) and describe the water clarity in the mitigation wetland.
- f. Provide annual photographic documentation of the development of the mitigation wetland during vegetation sampling from permanent photo stations located within the mitigation wetland. At a minimum, photo stations shall be located at both ends of each transect. Photos must be labeled with the location, date photographed, and direction.
- g. Provide one-time photographic documentation during construction of the placement of at least six (6) inches of high-quality soil, from the A horizon of an organic or loamy surface texture soil, across the site.
- h. Provide the number and type of habitat structures placed and representative photographs of each structure type.
- i. Provide a written summary of data from previous monitoring periods and a discussion of changes or trends based on all monitoring results. This summary shall include a calculation of the acres of

each wetland type established, a plan view drawing depicting each ecological type, and identification of all performance standards and whether each standard has been met.

- j. Provide a written summary of all the problem areas that have been identified and potential corrective measures to address them.

A qualified individual able to identify plants to genus and species must conduct the wetland monitoring. The EGLE reserves the right to reject reports with substandard monitoring data.

The EGLE will determine if the performance standards have been met. If the performance standards have not been met, the EGLE may require corrective actions and subsequent annual monitoring until final approval from the EGLE can be granted.

Prior to final written approval of the mitigation by EGLE, the permittee shall submit the following:

- i. A written statement that the mitigation is complete and request for final approval of the mitigation.
- ii. A copy of the permit.
- iii. "As-built" plans and specifications signed and sealed by a registered surveyor or licensed engineer.
- iv. A surveyed boundary of the established wetland within the mitigation area, including the total acreage of the mitigation wetland and the acreage of each type of wetland created. The wetland boundary shall be flagged and numbered in the field to allow easy identification by EGLE field staff.
- v. Complete all monitoring requirements including the submittal of all required monitoring reports.

Upon signing by the permittee named herein, this permit must be returned to EGLE, WRD, Gaylord District Office, 2100 West M-32, Gaylord, Michigan 49735-9282, or email to NevisonA@Michigan.gov for final execution. This permit shall become effective on the date of the EGLE representative's signature.

(Space left blank intentionally)

Permittee hereby accepts and agrees to comply with the terms and conditions of this permit.

Permittee

Date

Printed Name and Title of Permittee

Issued By:

Joseph Haas, District Supervisor
Cadillac/Gaylord District Offices
Water Resources Division

cc: Emmet County Clerk
Emmet CEA
Mackinac County Clerk
Mackinac CEA
Moran Township Clerk
Wawatam Township Clerk
Katie Otanez, U.S. Army Corps of Engineers
Carrie Tansy, U.S. Fish and Wildlife Service
Travis Warner, Michigan Department of Licensing and Regulatory Affairs
Michelle Crook, Michigan Department of Natural Resources
Heather Hettinger, Michigan Department of Natural Resources
Ryan Mitchell, Michigan Department of Transportation
Stacy Tchorzynski, State Historic Preservation Office
Jeff Bridgland, EGLE
Katie Kruse, EGLE

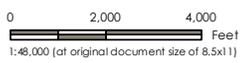


Legend
 Limits of Disturbance
 - - - - Existing Line 5

Figure No. **1**
 Title **Vicinity Map**

Client/Project
 Enbridge Great Lakes Tunnel Project
 Joint Permit Application

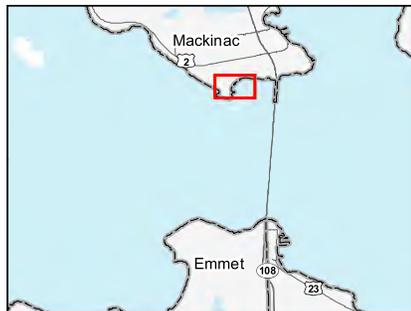
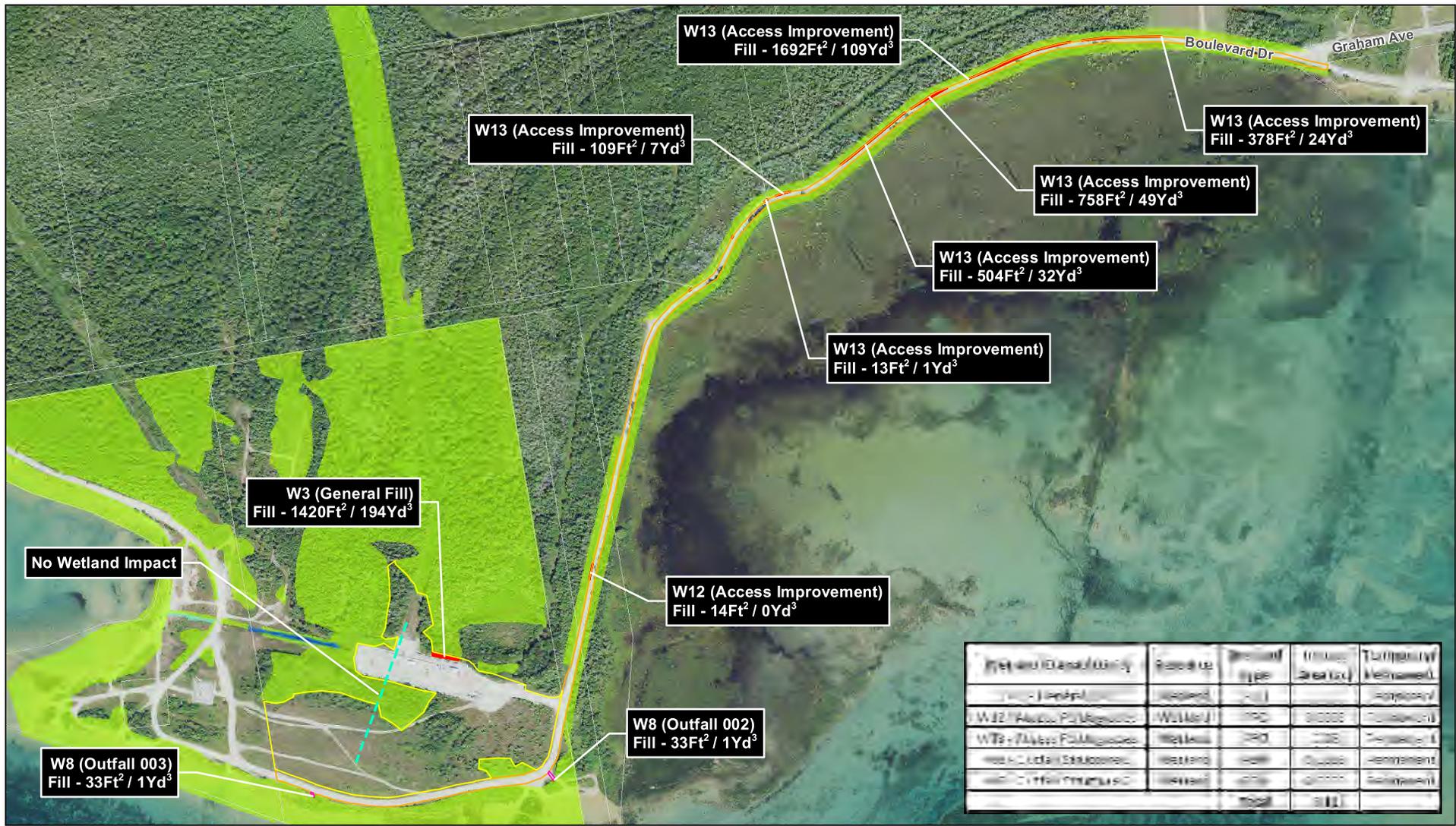
Project Location
 Emmet County & Mackinac County, MI
 Prepared by JM on 2019-12-19
 Technical Review by JH on 2019-12-20
 Independent Review by KW on 2020-03-31



Notes
 1. Coordinate System: NAD 1983 UTM Zone 14N
 2. Data Sources Include: Stantec, Enbridge, NADS, USGS
 3. Background: USGS 7.5' Topographic Quadrangles

Disclaimer: Stantec assumes no responsibility for data supplied in electronic format. The recipient accepts full responsibility for verifying the accuracy and completeness of the data. The recipient releases Stantec, its officers, employees, consultants and agents, from any and all claims arising in any way from the content or provision of the data.





Legend

- Parcel Boundary
- Potential Trenchless Tie-in Centerline
- Access Improvement
- General Fill
- Outfall Structure
- Stream 1 - EGLE Part 301 Regulated
- Stream 1 - USACE Section 404 Regulated
- Field Delineated Wetland
- Impact Area

Data Sources: Stantec, Enbridge, NADS, USGS

Figure No.
8A

Title
Wetland and Waterbody Impacts

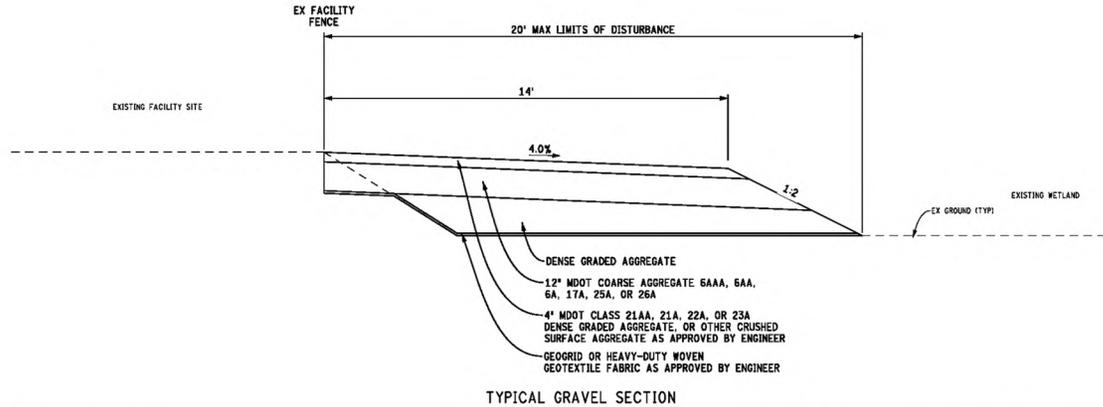
Client/Project
Enbridge Great Lakes Tunnel Project
Joint Permit Application

Project Location
Mackinac Co., MI

Prepared by JM on 2019-12-19
Technical Review by JH on 2019-12-20
Independent Review by KW on 2020-03-31



FILE: 3440075.dwg



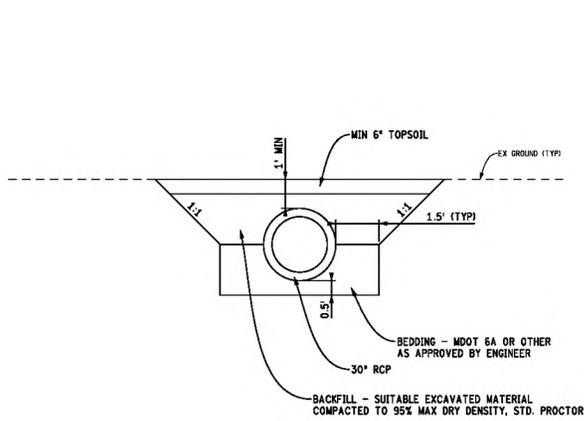
TYPICAL GRAVEL SECTION

| FINAL PLAN REVISIONS (SUBMITTAL DATE:) | | | | | | | |
|---|------|------|-------------|-----|------|------|-------------|
| NO. | DATE | AUTH | DESCRIPTION | NO. | DATE | AUTH | DESCRIPTION |
| | | | | | | | |

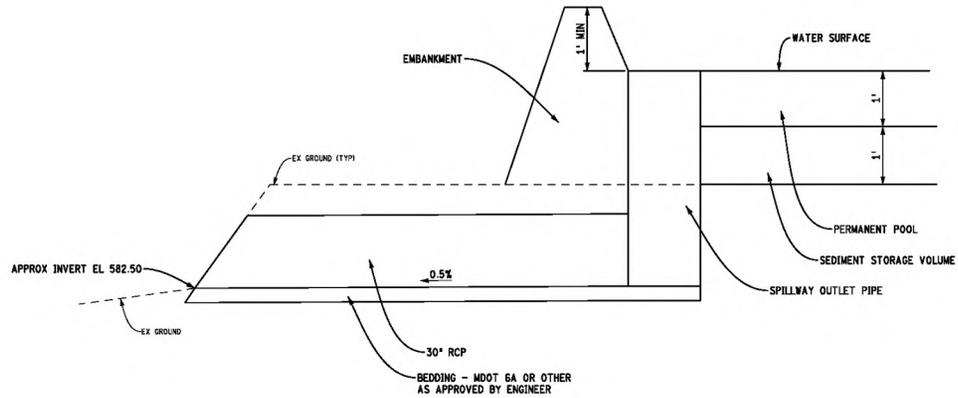


| | | |
|------------------------|-------------------------------|---------------|
| DATE: 01/31/2020 | GREAT LAKES TUNNEL PROJECT | DRAWING SHEET |
| DRAWN BY: A. SCHIMBERG | STRAITS OF MACKINAC, MICHIGAN | 014 |
| APPROVED BY: E. DNYRE | TYPICAL SECTION GRAVEL | |

FILE: 3440075.dwg



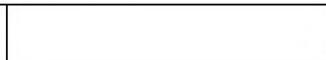
TYPICAL SECTION POND OUTLET CULVERT



TYPICAL SECTION POND OUTLET CULVERT

| FINAL PLAN REVISIONS (SUBMITTAL DATE:) | | | | | | | |
|---|------|------|-------------|-----|------|------|-------------|
| NO. | DATE | AUTH | DESCRIPTION | NO. | DATE | AUTH | DESCRIPTION |
| | | | | | | | |

NO SCALE



| | | |
|------------------------|-------------------------------|---------------|
| DATE: 02/28/2020 | GREAT LAKES TUNNEL PROJECT | DRAWING SHEET |
| DRAWN BY: A. SCHIMBERG | STRAITS OF MACKINAC, MICHIGAN | 015 |
| APPROVED BY: E. DNYRE | TYPICAL SECTION CULVERT | |



*Figures not to scale.

Data Sources: Stantec, Enbridge, WSP, NADS, USGS

Figure No.

5

Title

North Shore LOD Wetland Impact Cross-Sections

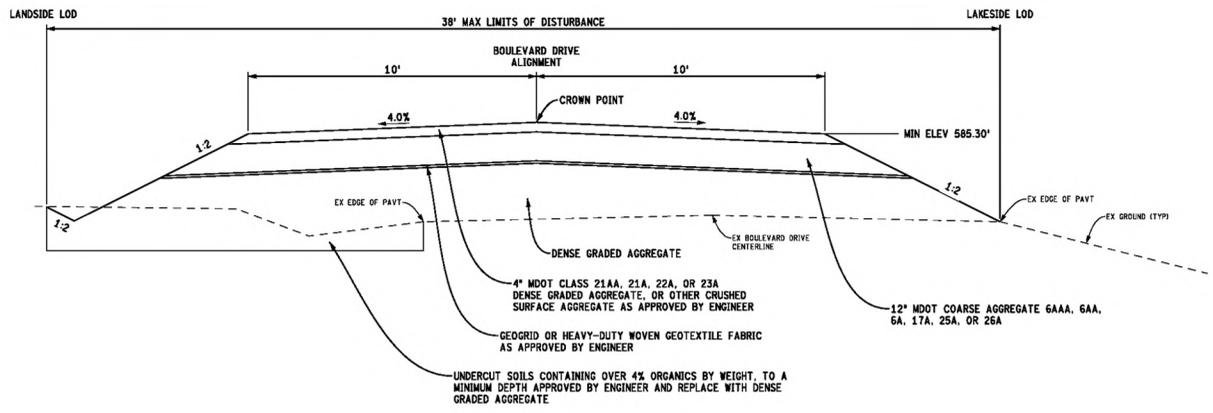
Client/Project

Enbridge Great Lakes Tunnel Project
Joint Permit Application

Project Location

Mackinac & Emmet County, Michigan





TYPICAL SECTION
 PROPOSED BOULEVARD DRIVE - SOUTH AND EAST OF
 FACILITY ACCESS (TWO-WAY TRAFFIC)
 FACING EAST

FILE: 31408075.000

| FINAL PLAN REVISIONS (SUBMITTAL DATE:) | | | | | | | | wsp | | ENBRIDGE | | DATE: 01/31/2020 | | GREAT LAKES TUNNEL PROJECT | | DRAWING SHEET | |
|---|------|------|-------------|-----|------|------|-------------|-----|--|----------|--|------------------------|--|---------------------------------|--|---------------|--|
| NO. | DATE | AUTH | DESCRIPTION | NO. | DATE | AUTH | DESCRIPTION | | | | | DRAWN BY: A. SCHIMBERG | | STRAITS OF MACKINAC, MICHIGAN | | | |
| | | | | | | | | | | | | APPROVED BY: E. DWYRE | | TYPICAL SECTION BOULEVARD DRIVE | | 003 | |



Data Sources: Stantec, Enbridge, WSP, NADS, USGS

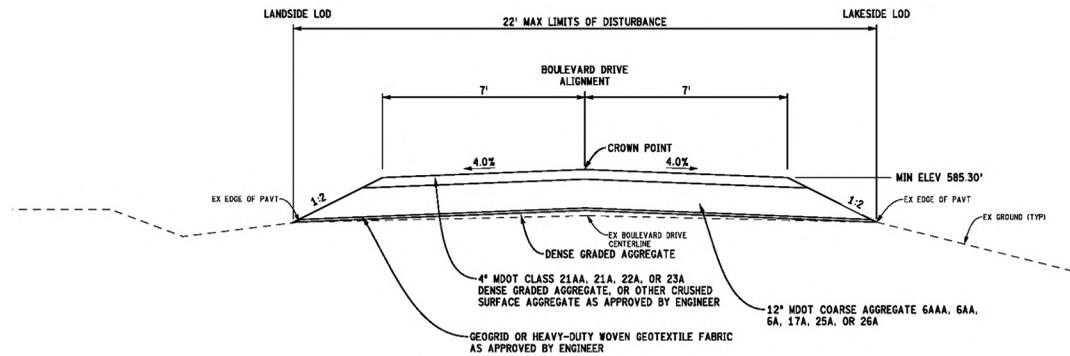
Figure No.
6A

Title
Access Road Typicals

Client/Project
 Enbridge Great Lakes Tunnel Project
 Joint Permit Application

Project Location
 Mackinac & Emmet County, Michigan





TYPICAL SECTION
 PROPOSED BOULEVARD DRIVE – NORTH OF FACILITY
 ACCESS (ONE-WAY TRAFFIC)
 FACING NORTH

FILE: 311402075 000

| FINAL PLAN REVISIONS (SUBMITTAL DATE:) | | | | VERT. (FT) | | wsp | ENBRIDGE | DATE: 01/31/2020 | | GREAT LAKES TUNNEL PROJECT | | DRAWING | SHEET |
|---|------|------|-------------|------------|------|-----|----------|------------------|-------------|----------------------------|---------------------------------|-------------------------------|-------|
| NO. | DATE | AUTH | DESCRIPTION | NO. | DATE | | | AUTH | DESCRIPTION | DRAWN BY: A. SCHINBERG | APPROVED BY: E. DWYRE | STRAITS OF MACKINAC, MICHIGAN | |
| | | | | | | | | | | | TYPICAL SECTION BOULEVARD DRIVE | | 004 |



Data Sources: Stantec, Enbridge, WSP, NADS, USGS

Figure No.
6B
 Title
Access Road Typical
 Client/Project
 Enbridge Great Lakes Tunnel Project
 Joint Permit Application
 Project Location
 Mackinac & Emmet County, Michigan

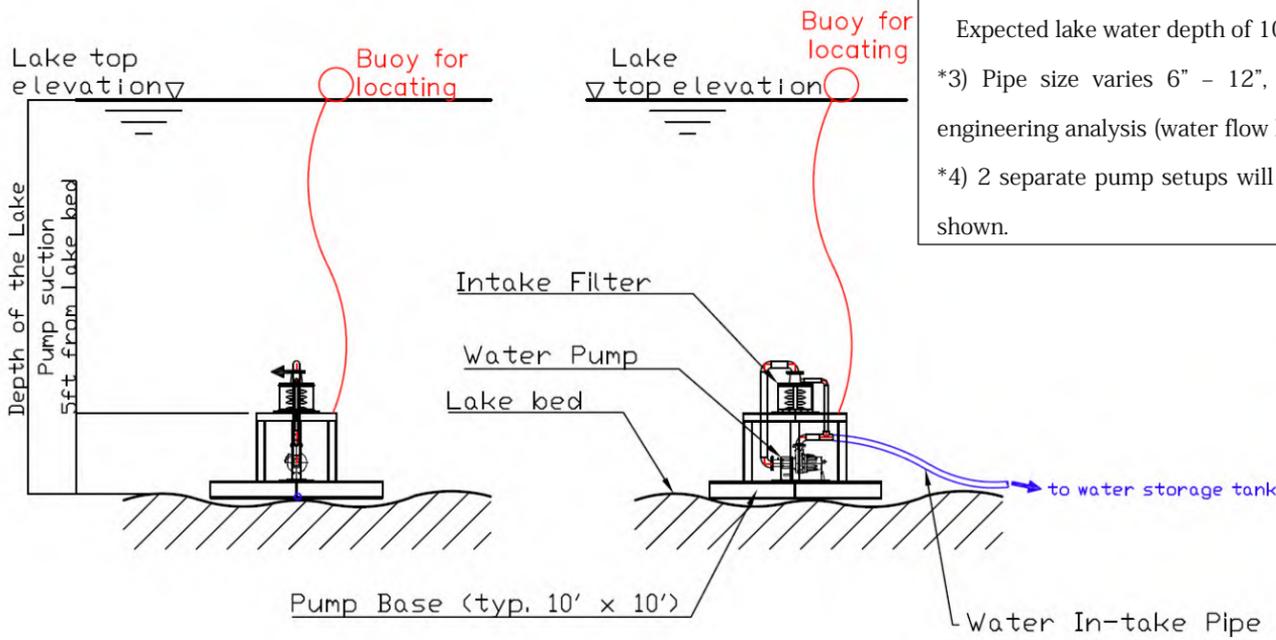


Concept of temporary water in-take (NORTH SIDE)

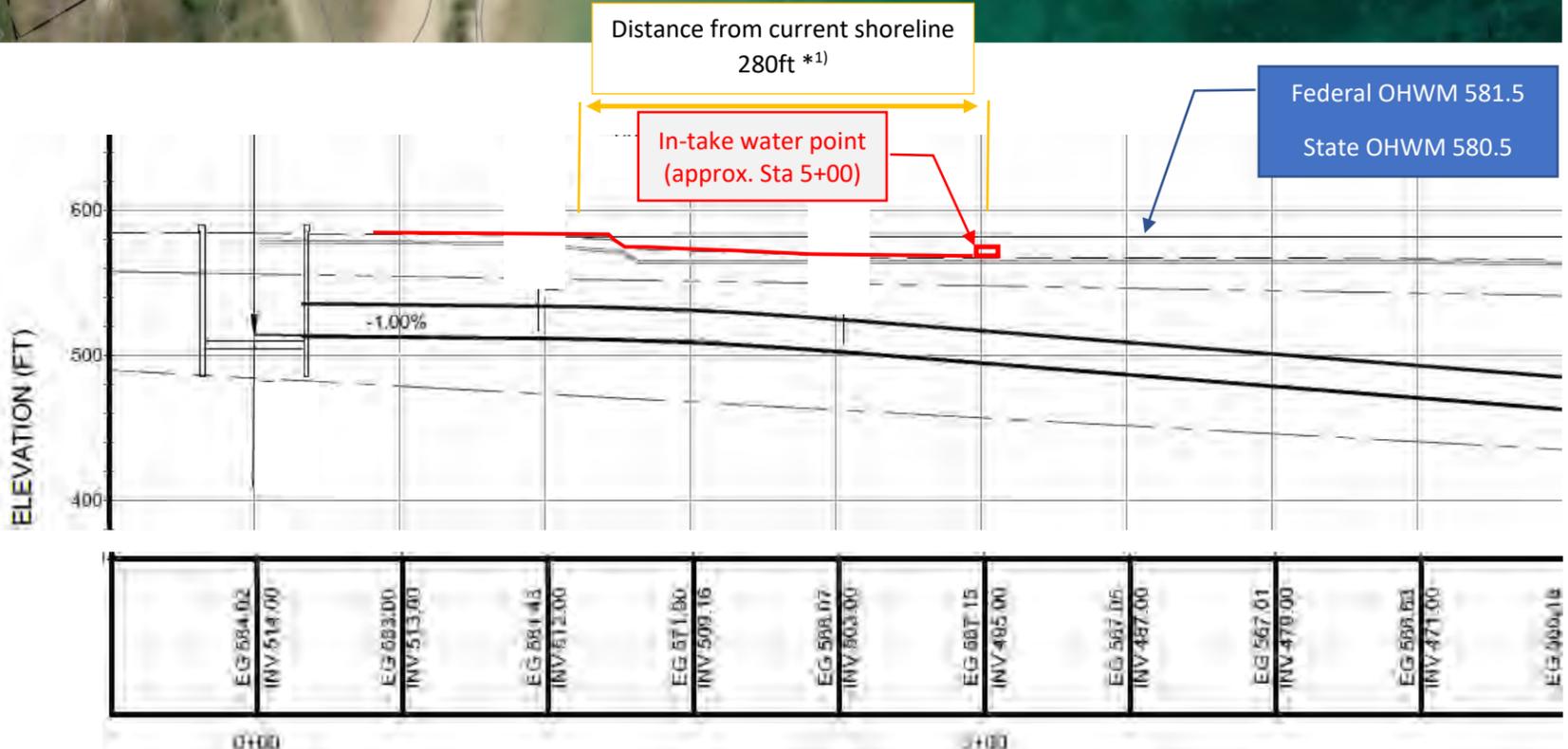
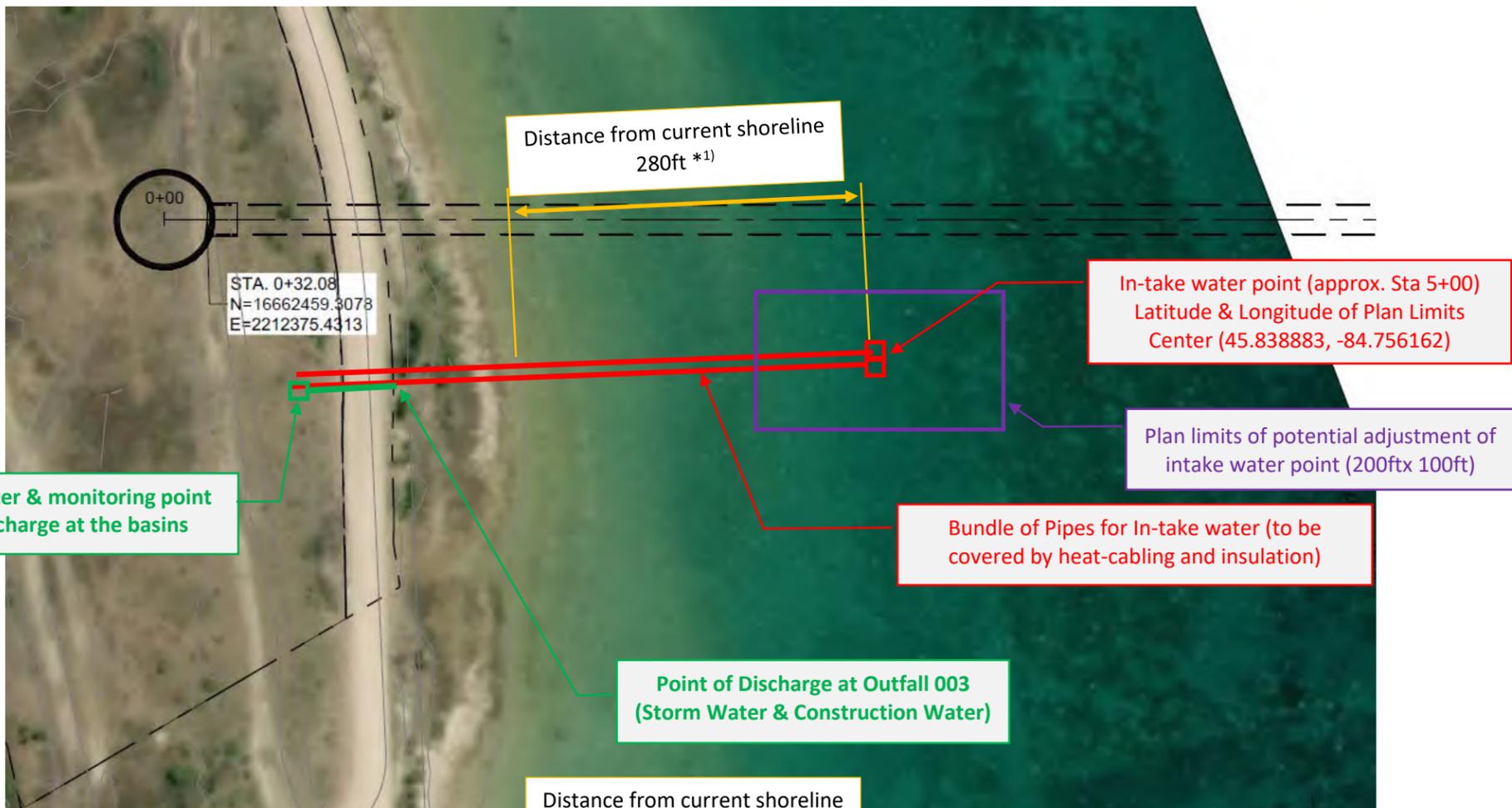
* The temporary in-take setup will be used only during the construction of the tunnel. Everything shown in the drawing will be removed at the end of construction.

- Note -

- *1) The current intake location is based on an approximate 10ft water depth, as shown in the profile below. The location is subject to adjustment based on the actual contour of lake bed. The adjusted location will be within the plan limits shown.
- *2) Allowance of minimum 5 ft between bottom of filter and lake bed.
Expected lake water depth of 10ft +/- (historical low is 5.5 ft below 581.5 in 2013)
- *3) Pipe size varies 6" - 12", Pump Base approximately 10' x 10' subject to engineering analysis (water flow hydraulic, stability against wave action, etc.)
- *4) 2 separate pump setups will be installed for redundancy within the plan limits shown.



Typ. Intake Filter

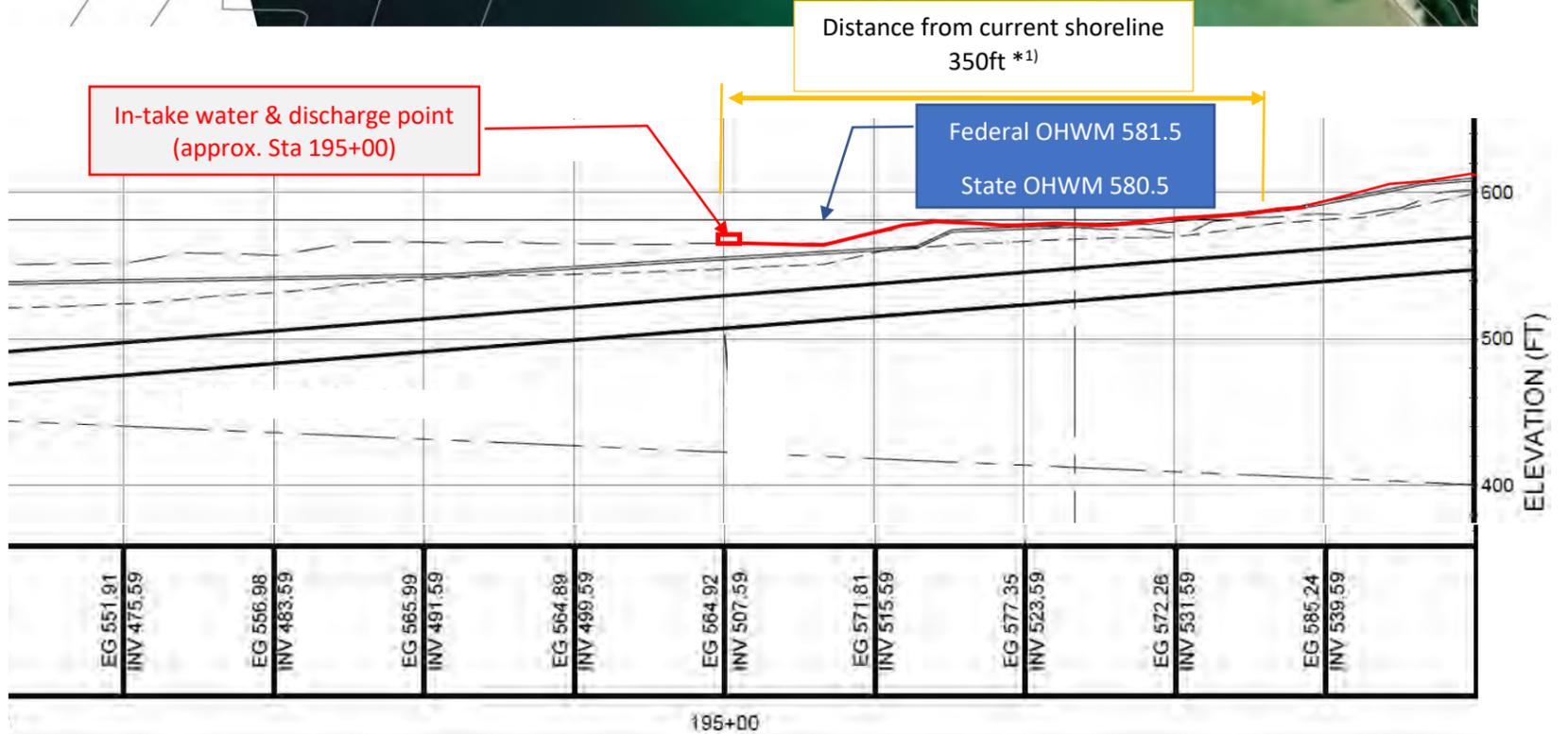
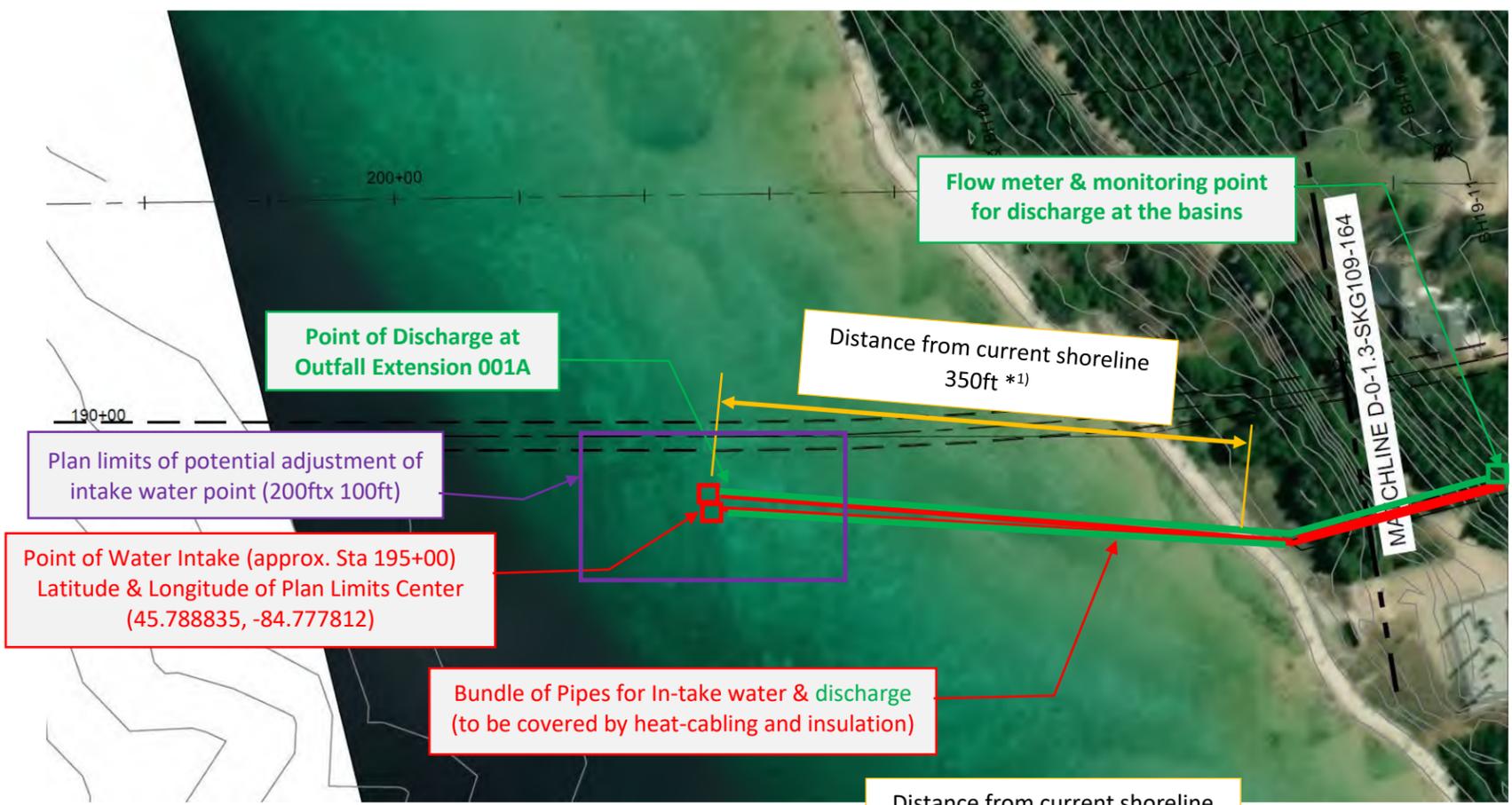
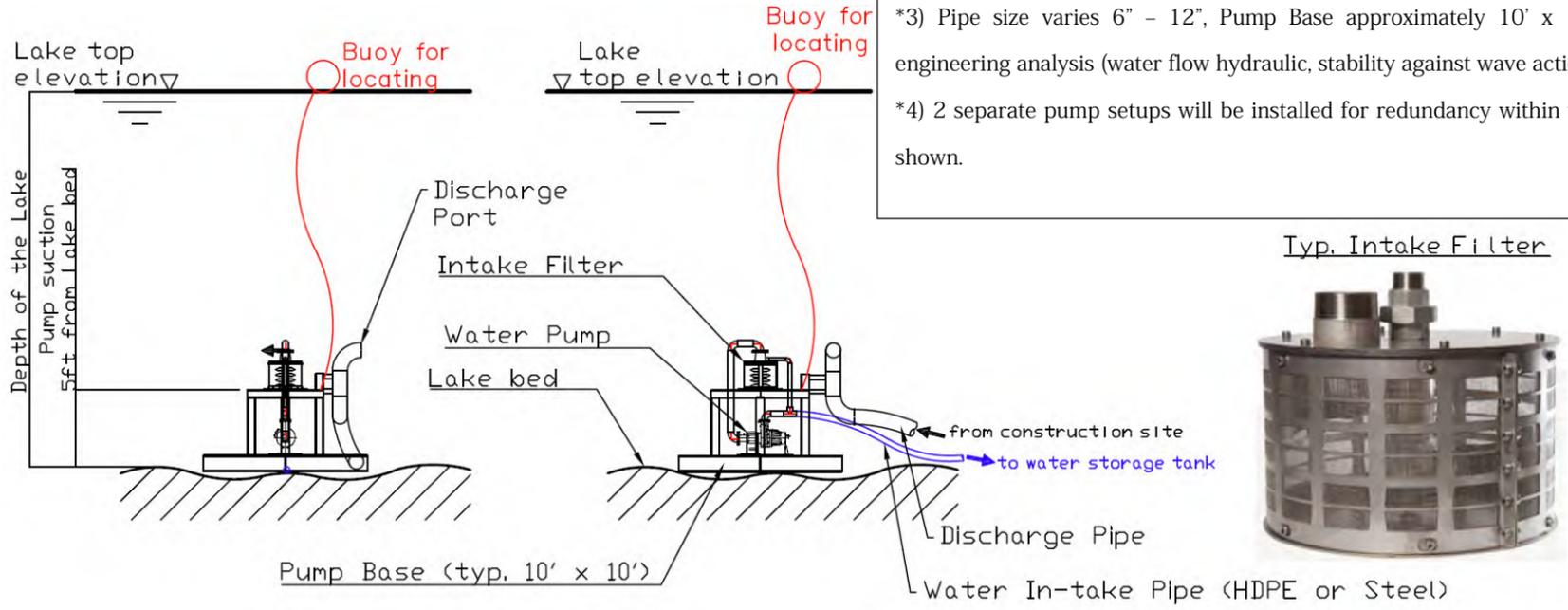


The conceptual designs shown have been preliminarily developed based on currently available bathymetric information. Prior to construction, the water depth at the specific design location will be confirmed, and detailed engineering will be performed to evaluate the stability of the intake base for water flow (hydraulic) conditions and wave action. If any revision/modifications are required to the location of the intakes or base dimensions are required, information will be re-submitted for review and approval prior to construction. As built locations, base elevations, and base dimensions will be submitted following construction.

Concept of temporary water in-take and discharge outfall 001A extension (SOUTH SIDE)

* The temporary in-take and discharge outfall setup will be used only during the construction of the tunnel. Everything shown in the drawing will be removed at the end of construction.

- Note -
- *1) The current intake location is based on an approximate 17ft water depth, as shown in the profile below. The location is subject to adjustment based on the actual contour of lake bed. The adjusted location will be within the plan limits shown.
 - *2) Allowance of minimum 5 ft between bottom of filter and lake bed.
Expected lake water depth of 17ft +/- (historical low is 5.5 ft below 581.5 in 2013)
 - *3) Pipe size varies 6" - 12", Pump Base approximately 10' x 10' subject to engineering analysis (water flow hydraulic, stability against wave action, etc.)
 - *4) 2 separate pump setups will be installed for redundancy within the plan limits shown.



The conceptual designs shown have been preliminarily developed based on currently available bathymetric information. Prior to construction, the water depth at the specific design location will be confirmed, and detailed engineering will be performed to evaluate the stability of the intake base for water flow (hydraulic) conditions and wave action. If any revision/modifications are required to the location of the intakes or base dimensions are required, information will be re-submitted for review and approval prior to construction. As built locations, base elevations, and base dimensions will be submitted following construction.

