



MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY

Petition for Contested Case Hearing

The procedural authority for a contested case hearing is the Michigan Administrative Procedures Act, 1969 PA 306, as amended, MCL 24.201 *et seq.* Information requested on this form may be provided in an alternative written format or additional pages may be attached.

Petitioner Information

Permit or Application Number (On permit or application as assigned by EGLE):

☐ Petitioner's Name or ☐ Agent's Name: _____

Street Address: _____

City: _____ State: _____ ZIP Code: _____

Mailing Address (If different): _____

City: _____ State: _____ ZIP Code: _____

Phone: _____ Email: _____

Statement of Authority

I petition a contested case hearing be initiated under the authority of:

☐ Part _____ of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended, MCL 324.101 *et seq.*

☐ Part _____ of the Public Health Code, 1978 PA 368, as amended, MCL 333.1101 *et seq.*

☐ Other statute:

(Identify statute by popular name, the public act year and number, MCL, and if applicable, the part of the statute)

☐ Administrative Rule: R: _____

Title: _____

☐ Order: Number: _____

Title: _____

Statement of matters asserted, including the site location and other pertinent facts:

Petitioner's relationship/interest to the activity or proposed project:

Relief sought by Petitioner:

Signature of Petitioner/Agent

Date

Submittal Information

Submit this completed petition and attachments to:

Michigan Office of Administrative Hearings and Rules
Ottawa Building, Second Floor
611 West Ottawa Street
P.O. Box 30695
Lansing, MI 48909-8195
Phone: 517-335-2484
Fax: 517-763-0148
Email: MOAHR-GA@Michigan.gov

Notice: A copy of EGLE's final action on an application or permit must be attached to this or any alternative written petition.

If you need this information in an alternate format, contact EGLE-Accessibility@Michigan.gov or call 800-662-9278.

EGLE does not discriminate on the basis of race, sex, religion, age, national origin, color, marital status, disability, political beliefs, height, weight, genetic information, or sexual orientation in the administration of any of its programs or activities, and prohibits intimidation and retaliation, as required by applicable laws and regulations.

This form and its contents are subject to the Freedom of Information Act and may be released to the public.

Appendix A
Names and Contact Information for Agents of
Petitioner Grand Traverse Band of Ottawa and Chippewa Indians

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Appendix B
Permit No. WRP049588 v1.0



NOTICE OF AUTHORIZATION

Permit Number: WRP049588 v1.0

Issued: July 15, 2026

Site Name: Enbridge Energy-Line 5-Straits of Mackinac

Expires: July 15, 2031

The Michigan Department of Environment, Great Lakes, and Energy (EGLE), Water Resources Division, P.O. Box 30458, Lansing, Michigan 48909-7958, under provisions of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended; specifically:

☒ Part 303, Wetlands Protection ☒ Part 325, Great Lakes Submerged Lands

Authorized activity:

Fill, grade, and place structures within 1.53 acres of coastal wetlands in Mackinac County on Point LaBarbe.

Place a water intake structure on 0.17 acres of Lake Michigan submerged land as follows:

- A 61-foot-long, 14-inch diameter pipe extending from where the intake line exits bottomlands to the structure.
- A 12-foot-wide by 12-foot-long precast concrete pad with the intake structure placed on top.
- Up to 15 concrete ballasts, each measuring 48 inches long by 24 inches wide by 40 inches tall, along the intake pipe and intake structure.

Permittee shall mitigate for impacts as a condition of this permit.

Waterbody Affected: Lake Michigan and Wetlands Adjacent to Lake Michigan

Property Location: Emmet County, Village of Mackinaw City

Mackinac County, City of St. Ignace

Town/Range/Section 39N04W10

Permittee:

Enbridge Energy, c/o Paul Turner

425 W. Superior St., Ste. 1100

Duluth, MN 55802

Jerrod Sanders, Director
Water Resources Division
269-350-1801

This notice must be displayed at the site of work.

Laminating this notice or utilizing sheet protectors is recommended.

Please refer to the above permit number with any questions or concerns.

EGLE
WRP049588 v1.0
Approved
Issued On: 07/15/2026
Expires On: 07/15/2031



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

Issued To:

**Enbridge
c/o Paul Turner
425 W. Superior St., Ste. 1100
Duluth, MN 55802**

**Permit No: WRP049588 v1.0
Submission No.: HQ3-8BYB-N9DT1
Site Name: Enbridge Energy-Line 5-Straits of Mackinac
Issued: July 15, 2026
Expires: July 15, 2031**

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**

EGLE certifies that the activities authorized under this permit are in compliance with the State Coastal Zone Management Program and certifies without conditions under the Federal Clean Water Act, Section 401 that the discharge from the activities authorized under this permit will comply with Michigan's water quality requirements in Part 31, Water Resources Protection, of the NREPA and associated administrative rules, where applicable.

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

Authorized Activity:

Fill, grade, and place structures within 1.53 acres of coastal wetlands in Mackinac County on Point LaBarbe.

Place a water intake structure on 0.17 acres of Lake Michigan submerged land as follows:

- A 61-foot-long, 14-inch diameter pipe extending from where the intake line exits bottomlands to the structure.**
- A 12-foot-wide by 12-foot-long precast concrete pad with the intake structure placed on top.**
- Up to 15 concrete ballasts, each measuring 48 inches long by 24 inches wide by 40 inches tall, along the intake pipe and intake structure.**

Permittee shall mitigate for impacts as a condition of this permit.

All work shall be completed in accordance with the attached plans and the terms and conditions of this permit.

Waterbody Affected: Lake Michigan and Wetlands Adjacent to Lake Michigan

Property Location: Emmet County, Village of Mackinaw City
Mackinac County, City of St. Ignace
Town/Range/Section 39N04W10

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 their rights.
- I. This permit shall not be assigned or transferred without the written approval of EGLE.
- J. 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.
- K. 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).
- L. 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.
- M. 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.
- N. 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.

- O. 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 implementation.
- P. 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.
- Q. 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 for ensuring that the project is constructed in accordance with all drawings and specifications. The contractor is required to provide a copy of the permit to all subcontractors doing work authorized by the permit.
- R. Construction must be undertaken and completed during the dry period of the wetland. If the area does not dry out, construction shall be done on equipment mats to prevent compaction of the soil.
- S. Authority granted by this permit does not waive permit requirements under Part 91, Soil Erosion and Sedimentation Control (SESC), of the NREPA, or the need to acquire applicable permits from the County Enforcing Agent (CEA).
- T. Authority granted by this permit does not waive permit requirements under the authority of Part 305, Natural Rivers, of the NREPA. A Natural Rivers Zoning Permit may be required for construction, land alteration, streambank stabilization, or vegetation removal along or near a natural river.
- U. The permittee is cautioned that grade changes resulting in increased runoff onto adjacent property are subject to civil damage litigation.
- V. Unless specifically stated in this permit, construction pads, haul roads, temporary structures, or other structural appurtenances to be placed in a wetland or on bottomland of the water body are not authorized and shall not be constructed unless authorized by a separate permit or permit revision granted in accordance with the applicable law.
- W. 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.
- X. 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 any jurisdiction of the United States Army Corps of Engineers (USACE) or the need for a federal permit, if required.
 2. 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 County Enforcing Agent (CEA), if applicable.
 3. A stormwater 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 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 WRD. For sites with disturbance from 1 acre up to 5 acres, stormwater coverage is automatic once the

Part 91 permit is obtained or if work is being conducted by an APA. These 1-5-acre sites are not required to apply for coverage but are required to comply with stormwater discharge permit requirements. Information on the stormwater discharge permit is available from the WRD's Stormwater Permit Program at <https://www.michigan.gov/egle/about/organization/water-resources/soil-erosion>.

4. The discharge of garbage, litter, sewage, oil, or other liquid or solid pollutants into Michigan waters is prohibited from any vessel or floating craft that is owned, controlled, or operated by the permittee or a contractor of the permittee, pursuant to Section 324.9502 of the Michigan Compiled Laws.

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 91, and Part 31 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 SESC procedures may be a violation of this permit and is a violation of Part 91 and Part 31 of the NREPA. A violation of these parts subjects the permittee to potential fines and penalties.

5. Notification shall be made to the WRD five days prior to starting the project. Please notify Joseph Haas at HaasJ1@Michigan.gov.
6. Two concentric turbidity curtains shall enclose where the directional drilling for the water intake exits the lakebed. The turbidity curtain shall be installed to extend from the bed of the waterbody to a point above the existing water's surface. The turbidity curtain shall be maintained for the duration of the project and shall be left in place after completion of dredging until all disturbed sediments have settled. In the event there is a problem with the turbidity curtain and a failure to contain the sediments from leaving the project site, the project shall be immediately stopped, evaluated, and appropriate measures shall be taken to stop the release of sediments/turbidity. The permittee, agent, or contractor shall immediately notify the EGLE representative through MiEnviro Schedules of Compliance submission, or via email or phone at HaasJ1@Michigan.gov or 989-330-9252, on the turbidity curtain failure and the measures being taken to stop the release of sediments/turbidity.
7. If bentonite from the drilling operation settles on any gravel, cobble, or rock substrate, a method of vacuuming shall be employed to remove that bentonite from the substrate.
8. No work or dredging within the water authorized by this permit is allowed from October 15 to November 30 due to critical spawning, migration, and/or recreational use periods.
9. Fish mortality shall be monitored and documented with the number and size for each species that is killed.
10. During operation of the water intake, fish entrainment and impingement shall be monitored. Any entrained or impinged fish shall be rescued before continuing operation.
 - a. To prevent entrainment and impingement the max approach velocity shall be 0.33 feet per second and the max slot opening on wedge wire shall be 0.25 inches.

11. Construction shall be designed to minimize night sky illumination that interferes with bird migration.
12. Construction shall not interfere with wildlife data collection in the Straits of Mackinac such as the Mackinac Straits Raptor Watch.
13. Prior to the initiation of any permitted construction activities, a sedimentation barrier (e.g., silt fence, straw bale barrier, etc.) shall be constructed immediately downgradient of the construction site. Sedimentation barriers shall be specifically designed to handle the sediment type, load, water depth, and flow conditions of each construction site throughout the anticipated time of construction and unstable site conditions. The sedimentation barrier shall be maintained in good working order throughout the duration of the project. Upon project completion, the accumulated materials shall be removed and disposed of at an upland (i.e., non-wetland, non-floodplain, non-bottomland) site and stabilized with seed and mulch. The sedimentation barrier shall then be removed in its entirety and the area restored to its original configuration and cover. In the event there is a problem with the sedimentation barrier, and a failure to contain the sediments from leaving the project site, the project shall be immediately stopped, evaluated, and appropriate measures shall be taken to stop the release of sediments/turbidity.
14. All raw areas in uplands resulting from the permitted construction activity shall be effectively stabilized with sod and/or seed and mulch (or other technology specified by this permit or project plans) in a sufficient quantity and manner to prevent erosion and any potential siltation to surface waters or wetlands. Temporary stabilization measures shall be installed before or upon commencement of the permitted activity and shall be maintained until permanent measures are in place. Permanent measures shall be in place within five (5) days of achieving final grade.
15. All raw earth within 100 feet of a lake, stream, or wetland that is not brought to final stabilization by the end of the active growing season shall be temporarily stabilized with mulch blankets in accordance with the following dates: September 20th for the Upper Peninsula, October 1st for the Lower Peninsula north of US-10, and October 10th for the Lower Peninsula south of US-10.
16. If the project, or any portion of the project, is stopped and lies incomplete for any length of time other than that encountered in a normal work week, every precaution shall be taken to protect the incomplete work from erosion, including the placement of temporary gravel bag riprap, temporary seed and mulch, or other acceptable temporary protection. Temporary protection shall be removed upon completion of work.

No work shall be done in the stream during periods of above-normal flows except as necessary to prevent erosion.

17. All fill/backfill shall consist of clean inert material that will not cause siltation nor contain soluble chemicals, organic matter, pollutants, contaminants, or visible invasive species. All fill shall be contained in such a manner so as not to erode into any surface water, floodplain, or wetland. All raw areas associated with the permitted activity shall be stabilized with sod and/or seed and mulch, riprap, or other technically effective methods as necessary to prevent erosion.

18. The permittee shall monitor the drawdown daily and rescue fish, mussels, and other stranded organisms. Rescued fish and mussels must be relocated to areas of suitable habitat outside of the areas impacted by the project.
19. The permittee shall monitor vegetation stress monthly during the drawdown period. The permittee shall establish three transects within the wetland areas in proximity to the drawdown location to detect potential changes in the plant communities. Baseline vegetation sampling shall be conducted prior to initiation of the drawdown, between June 1 and August 1, of the year prior to initiation of the drawdown. A qualified individual able to identify plants to genus and species must conduct the wetland vegetation monitoring, monthly between May 1 and September 1 of any year during the drawdown activities. A monthly summarized report shall be submitted to EGLE through MiEnviro Schedules of Compliance submission or email at HaasJ1@Michigan.gov.

The locations of sample transect, 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. The report shall provide photographic documentation of all vegetation sampling transects during each monitoring event. At a minimum, transects shall extend 300 feet from the shoreline through the wetland, photos shall be located at both ends of each transect every 100 feet along the transect. Photos must be labeled with the location, date photographed, and direction.

The permittee shall provide a written summary of any changes to vegetation that have been identified and potential corrective measures to address them including any potential corrective actions based on results of the monitoring. If the vegetation shows significant stress or die-off, the permittee shall also quantify the impacts to wetlands, provide an update on the anticipated schedule for completion of the drawdown, and propose corrective actions to address the wetland impacts.

20. 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, appropriate measures shall be taken to allow for watercraft passage.

Notification shall be made to the United States Coast Guard 30 days prior to starting the project. Notify: United States Coast Guard, Attn: O.B.R., 9th Coast Guard District, 1240 East Ninth Street, Cleveland, Ohio 44199-2060.

21. No fill, excess soil, or other materials shall be placed in the 100-year floodplain, or any wetland or surface water area not specifically authorized by this permit, its plans, and specifications.
22. 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. Fencing 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.

23. Prior to the initiation of any permitted construction activity, a sedimentation barrier shall be installed along the entire route of the disturbed wetland area and maintained in good working order until permanent stabilization and revegetation of all disturbed areas have occurred. The sedimentation barrier shall be removed after revegetation.

Construction must be undertaken and completed during the dry period of the wetland, or when it is frozen.

If the area does not dry out or freeze, construction shall be done on temporary equipment mats to prevent compaction of the soil. Matting shall not be placed in areas with significant standing water unless specifically authorized by this permit, its plans, and specifications. Matting shall be placed at the narrowest point(s) of the wetland to minimize resource disturbance and shall be removed from wetland upon completion of this project.

24. Within 60 days of completion of the project, any disturbed wetland areas shall be restored to the original contour elevation, revegetated and reseeded with species native to Michigan appropriate to the site, and mulched to prevent erosion. Excessive rutting and/or soil disturbance shall be reported in writing to EGLE through MiEnviro Schedules of Compliance submission, or via email to HaasJ1@Michigan.gov. Monitoring and additional corrective measures may be required.
25. 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 utility crossings and associated structures. The permittee shall comply with the easement requirements for the subject bottomlands pursuant to Part 21, Subpart 9, of the NREPA. Please contact Great Lakes Submerged Lands staff for details. Contact information can be found at michigan.gov/egle/about/organization/water-resources/submerged-lands/great-lakes-bottomland-conveyances.
26. The permittee shall implement project design features that will ensure that the authorized pipeline, conduit, or utility installation does not result in drainage of the associated wetlands. If the pipeline, conduit, or utility installation causes drainage, the permittee remains liable and responsible for project modifications, as approved by EGLE, to halt the resultant drainage and to prevent future drainage of the wetland.
27. The permittee, their agent, and contractor shall exercise extreme caution to ensure that excess bore pressure is not applied during the drilling operation, as this could cause a rupture of bottomland and/or wetlands, causing the discharge of drilling mud (bentonite) into the waterbody or wetland. It is recommended that a geotechnical engineer or hydrogeologist be consulted to determine the maximum allowable bore pressure to prevent a rupture of the stream bottom.

In the event there is a leak of drilling mud (bentonite) material during the directional drilling operation, the project shall be immediately stopped, evaluated, and appropriate measures shall be taken to alleviate the release and contain the leaking material. The permittee is responsible for all liability associated with the occurrence of any unintended release of drilling mud, and is also ultimately responsible for the isolation, containment, restoration and final site cleanup, and disposal of the inadvertent fluid losses. **The permittee, agent or contractor must immediately notify the EGLE Pollution Emergency Alerting System (PEAS) at**

800-292-4706. The permittee, agent, or contractor shall also notify the EGLE representative at 989-330-9252 or HaasJ1@Michigan.gov, of any leaking problems through streambed or wetland. The notification shall include the following:

- a. The time and magnitude of the release.
- b. A description of the steps that are being taken to eliminate and control the inadvertent release.
- c. A time for the next notification to EGLE with the time not to exceed eight (8) hours.
- d. The name and telephone number of the person reporting the unintended release of drilling mud or of the person overseeing the construction efforts to halt and control the inadvertent return of fluids.

Upon EGLE's assessment of the situation, modifications to the permitted activity may be required.

28. The permittee and contractors shall take steps to minimize the risk of spreading terrestrial and aquatic invasive species during this project where feasible, including:
- a. Visually inspecting footwear (e.g., boots, hip boots, and waders) and removing and properly disposing of any plants or mud.
 - b. Visually inspecting field equipment (e.g., nets, shovels, rakes, etc.) and vehicles and removing and properly disposing of any plants and mud.
 - c. Draining all water from vehicles and equipment prior to leaving the site and before entering a new waterbody.
 - d. Thoroughly drying equipment (5-7 days, if possible) between sites, when possible.
 - e. Disinfecting vehicles and equipment between sites (e.g., diluted bleach solution, heated pressure washer), when possible. Disinfection shall be conducted away from surface waters, where the disinfecting solution will not enter any storm sewers and/or surface waters. Acceptable forms of disinfection include the following:
 - 1) Typical diluted bleach solution treatment is one half cup (4 fluid ounces) bleach to 5 gallons of water, applied by spraying or sponge so that the surface is thoroughly exposed to bleach solution for 10 minutes.
 - 2) Typical heated pressure wash is 140° F water temperature, sprayed for 5-10 seconds.
 - 3) Thoroughly washing vehicles and boats between sites (e.g., drive-through car wash).
 - 4) Using only native plants and seeds for restorations and best management practices. 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/invasives/id-report/watchlist

29. All slurry resulting from any dewatering operation shall be discharged through a filter bag or pumped to a sump located away from wetlands and surface waters and allowed to filter through natural upland vegetation, gravel filters, or other engineered devices for a sufficient distance and/or period of time necessary to remove sediment or suspended particles. The discharge of slurry water resulting from the hydrodemolition of concrete is not allowed to enter a lake, stream, or wetland.
30. The authorizations in this permit are limited to those identified above. This permit does not remove the permittee's liability or responsibility regarding any damage to adjacent properties, groundwater levels, or water wells in the vicinity of the project. Projects which include the pumping or discharge of water may require a National Pollution Discharge Elimination System (NPDES) permit under Part 31 of the NREPA. Also, removal or pumping of groundwater that interferes with drinking water wells in the area are subject to dispute resolution as outlined in Part 317, Aquifer Protection and Dispute Resolution, of the NREPA. Water shall not be withdrawn from a lake, wetland, or stream in such quantity and/or duration so as to adversely impact or degrade water quality standards, aquatic life, riparian rights or uses.
31. 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. 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 Endangered Species Act (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 Biological Opinion issued by the USFWS on October 30, 2025, 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.
32. Issuance of this permit does not obviate the need to obtain approval under Part 365, Endangered Species, of the NREPA, from the Michigan Department of Natural Resources (DNR) prior to commencement of construction activity. Please contact DNR-StateTEPermit@michigan.gov. For more information visit <https://www.michigan.gov/dnr/managing-resources/wildlife/wildlife-permits/threatened-endangered-species>.
33. The permittee shall, as a primary condition of this permit, mitigate the loss of 1.53 acres of coastal wetland, consisting of 0.34-acre of emergent, 0.18-acre of forested, and 1.01 acres of scrub-shrub.

The permittee is required to submit a revised approvable Wetland Mitigation and Monitoring Plan, which addresses the coastal values of the wetlands to be impacted, to EGLE by **December 31, 2026**. The permittee must receive approval of the wetland mitigation plan from EGLE before undertaking any activities governed by this permit. The wetland mitigation plan shall contain:

- a. Wetland mitigation goals and objectives, including the acreage (by ecological type) to be restored, created, and/or preserved and a description of the wetlands to be impacted. This shall include a proposed approach to address the unique coastal values of the wetlands to be impacted.
- b. Characterization of the existing conditions at the proposed wetland mitigation site including:
 - 1) A description of the topography, soils, hydrology, and vegetation.
 - 2) A plan view that includes topographic information (at 1-foot contour intervals), roads, trails, structures, property lines, directional arrows, scale, and the exact size and boundaries of existing wetlands, streams, and floodplain to the 100-year elevation.
 - 3) Typical cross-sections.
- c. The proposed wetland mitigation design, including:
 - 1) A description of the sources of hydrology, the source and type of soil amendments, wetland vegetation establishment, and wildlife structures.
 - 2) A plan view showing all of the proposed conditions of the mitigation site including all contour elevations (at 1-foot contour intervals), structures, the type and size of all proposed wetland areas, property lines, directional arrows, scale, and the conservation easement area.
 - 3) Typical cross-sections.
 - 4) A water budget of inputs and outputs to the proposed wetland (e.g., precipitation, groundwater, runoff, evapotranspiration).
 - 5) A vegetative establishment plan which includes a plan view, methods, species list with scientific and common names, type of propagule (seed, bare root stock, etc.), and source of any plant or seed stock.
- d. Locations of vegetative sampling transects, photo points, monitoring wells, and staff gauges for monitoring should be shown on a plan view.
- e. A schedule for completion of the mitigation site (e.g., initiation, grading, planting, introduction of hydrology, completion) and the site preparation and SESC methods to be used during construction.

- f. Information on current site ownership and provisions for the long-term protection of the site including methods to be used to prevent and control the establishment of invasive plant species, to prevent over-grazing of vegetation, and to remove trash.

Any activities governed by this permit are prohibited until a final wetland mitigation plan is submitted by the permittee and approved in writing by EGLE.

34. The permittee shall provide the following documentation of ownership for any proposed mitigation site. This documentation must be submitted with the original executed conservation easement to the address above.
- a. A title opinion from a licensed attorney that includes an analysis of proper chain of title, exceptions in the title insurance, and identification of any known environmental defects, ownership of mineral, oil, gas, and timber rights, or any encumbrances that would interfere with the conservation easement based on review of the title history and other records.
 - b. A 50-year title chain of title history including copies of all deeds, encumbrances, easements, severed mineral rights, and other pertinent documents.
 - c. A written statement from the property owner that there are no easements, encumbrances, or transfers of the property, in whole or in part, not disclosed in the title search or ownership history.
 - d. Subordination of any property interest (e.g., mineral rights, mortgages, easements) which would interfere with establishment and protection of the conservation easement.
 - e. A title insurance policy insuring the conservation easement area in the name of EGLE, in an amount determined by EGLE.
 - f. If the property owner is a company, documentation that the person executing the conservation easement has the authority to convey land on behalf of the company.
35. If the construction of the wetland mitigation has not been completed due to the fact that the activities authorized by this permit have not been initiated, then the permittee shall provide a written status report by December 31 each year until the wetland mitigation construction is complete. The written status report shall document the anticipated start date and completion date of the permitted activities and the wetland mitigation construction. The status report shall not be considered in lieu of or as a substitution for any of the annual monitoring reports required by this permit.
36. This project will have adverse effects on known historic and cultural resources, including their destruction and/or removal. These resources are unique and highly significant to the Anishinaabek communities, as well as the State of Michigan. The permittee shall, as a primary condition of this permit, mitigate the loss of historic, archaeological, and cultural resources.

The permittee is required to submit an approvable Cultural Resources Mitigation and Monitoring Plan to EGLE by **December 31, 2026**. EGLE will review the proposed plan in consultation with Michigan's federally recognized tribes and other state agencies. The permittee must receive approval of the Cultural Resources Mitigation and Monitoring Plan from

EGLE before undertaking any activities governed by this permit. The Cultural Resources Mitigation and Monitoring Plan shall include at a minimum:

- a. Cultural resources mitigation goals and objectives.
- b. The most current federal Cultural Resources Mitigation and Monitoring Plan, together with any additions developed to address comments, concerns, and identified deficiencies raised by Michigan's federally recognized tribes and other state agencies. The submittal shall clearly identify any new additions or revisions and explain how each concern or identified deficiency was addressed. This shall include any additions incorporated to accommodate applicable state and federal archaeological standards, tribal customs, the tribes' limited staffing, sufficient time for recovery actions, and funding resources.
- c. An adaptive management plan identifying how modifications to the implementation methods and/or schedule will be made, in order to ensure effective and appropriate mitigation actions are implemented.
- d. An updated schedule for completion of the cultural resources mitigation, which includes decision points where adaptive management modifications could be determined.

Any activities governed by this permit are prohibited until a final Cultural Resources Mitigation and Monitoring Plan is submitted by the permittee and approved in writing by EGLE.

Given the significant cultural resources impacts of this project, no cultural resources may be disturbed unless all the following permits are issued and not enjoined by a court: Michigan Public Service Commission's siting permit under Public Act 16 of 1929; the Michigan Department of Natural Resources' Threatened/Endangered Species permit under Part 365 of the NREPA; EGLE's NPDES permit under Part 31 of the NREPA; and U.S. Army Corps of Engineers' Department of the Army permit under Section 10 of the Rivers and Harbors Act of 1899 and Section 404 of the Clean Water Act.

37. The permittee shall submit a Recreation and Aesthetics Improvement Plan, which includes actions to address recreational and aesthetic impacts from the project, an onsite final stabilization tree and shrub planting plan, educational opportunities, and public water access.
38. The permittee shall provide a surety bond or letter of credit to EGLE in a form identical to the financial assurance models on EGLE's website at www.michigan.gov/wetlands in the amount of **\$1,100,000** to ensure that the wetland mitigation, the cultural resources mitigation, and the recreation and aesthetics improvements are completed 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 initiation of any activities governed by this project.

Prior to the transfer of this permit to another person, the bank credits must be purchased and mitigation requirements fulfilled, or 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.

The financial instrument will be released in the following manner, after the permittee demonstrates that the required items have been completed:

- a. \$500,000 for wetland mitigation, to be released following achievement of final performance standards confirmed in the approved final mitigation plan;
- b. \$500,000 for cultural resources mitigation, to be released following achievement of final performance standards confirmed in the final mitigation plan; and
- c. \$100,000 for recreation and aesthetics improvements, to be released following completion of the approved activities.

39. 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.

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

Name (Print) Paul Turner
Date 8/6/2026
Address 425 WEST SUPERIOR ST.
SUITE 1100, DULUTH, MN 55802
Telephone Number 218-269-0560
Email PAUL.TURNER@ENBRIDGE.COM

41. The permit or placard provided by EGLE with this permit shall be kept posted at the work site in a prominent location at all times for the duration of the project or until permit expiration.

42. 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 at the date of issuance. If the project is not completed by the expiration date, a new permit must be sought.

Upon signing by the permittee named herein, this permit must be returned to the WRD at HaasJ1@Michigan.gov for final execution. This permit shall become effective on the date of the EGLE representative's signature.

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



Permittee
Date 8/6/2026
Lisa Connolly, Director Environment Projects

Printed Name and Title

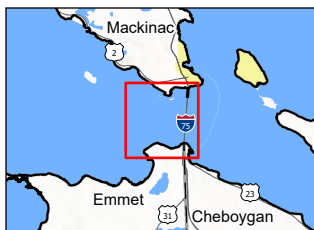


Issued By:

Jerrod Sanders, Director
Water Resources Division
269-350-1801

cc: Lisa Connolly, Enbridge
Joe McGaver, Enbridge
Christina Svoboda, Stantec
Jeff Benefiel, Stantec
Meg Schaap, Stantec
Katie Otanez, USACE
Kerrie Kuhne, USACE
Rebecca Graser, USACE
Carrie Tansy, USFWS
Scott Hicks, USFWS
Scott Slagor, SHPO
Stacy Tchorzynski, MHC
Jennifer Kleitch, DNR
Katie Lambeth, EGLE
Matt Smar, EGLE
Kyle Alexander, EGLE
Joseph Haas, EGLE
Jonathan Walt, EGLE
Emmet County Clerk
Emmet CEA
Emmet County Drain Commissioner
Village of Mackinaw City Clerk
Mackinac County Clerk
Mackinac CEA
Mackinac County Drain Commissioner
City of St. Ignace Clerk

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Notes
1. Coordinate System: NAD 1983 UTM Zone 16N
2. Data Sources: Stantec, Enbridge, NADS, USGS
3. Background: USGS 7.5' Topographic
Quadrangles
4. Figure prepared by Stantec Consulting Services
Inc.

Legend

Existing Line 5

0 2,000 4,000 Feet
(At original document size of 8.5x11)
1:48,000



Project Location
Mackinac County, Michigan
Prepared by JM on 2025-03-25
TR by AS on 2025-03-25
IR by KW on 2025-03-25

Client/Project
Enbridge Great Lakes Tunnel Project
Alternative Analysis & Minimization of Impact Report
193705885

Figure No.
1

Title
Existing Enbridge Line 5

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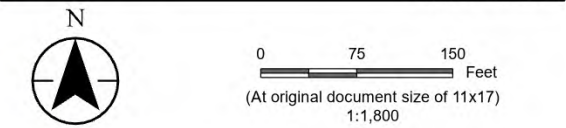
Figure No.
7A
Title
**Wetlands & Waterbodies
Limits of Disturbance - North**

Client/Project
Enbridge Great Lakes Tunnel Project

193705885

Project Location
Mackinac County, Michigan

Prepared by JM on 2024-05-01
TR by TG on 2024-05-14
IR by KW on 2024-05-15

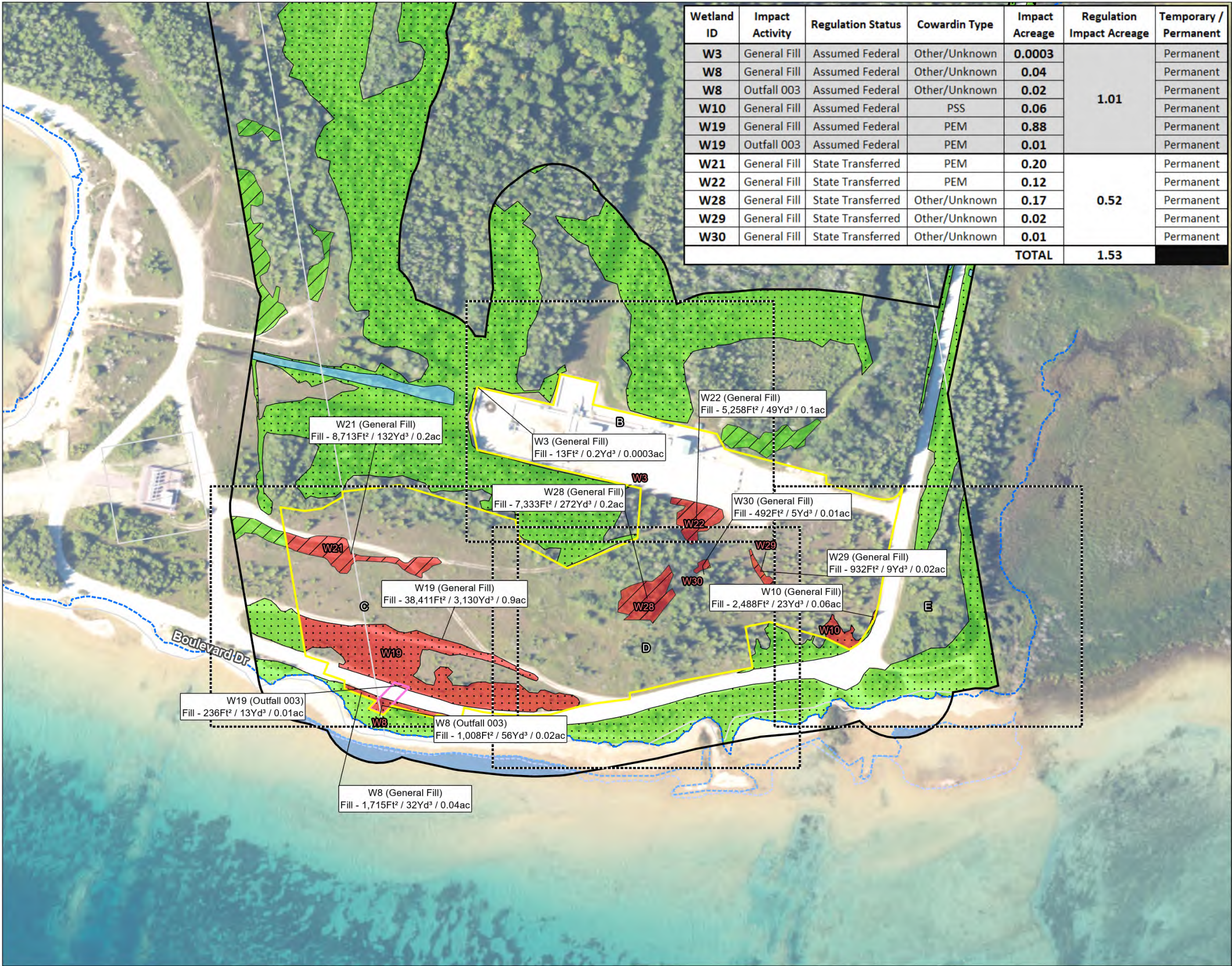


- Legend
- Limits of Disturbance
 - Wetland Delineation Study Area
 - Federal Ordinary High Water Mark (581.5')
 - Field-Recorded Water Level (May 24th, 2023)
 - Field-Recorded Water Level (May 22nd, 2024)
 - Field-Delineated Open Water
 - Field Delineated Wetlands - By Type
 - PEM
 - PSS
 - Other/Unknown
 - Wetland Outside Boundary
 - Wetland Regulation Status
 - Assumed Federal Wetlands
 - State Transferred Wetlands



Notes
1. Coordinate System: NAD 1983 UTM Zone 16N
2. Data Sources: Stantec, Enbridge, USGS, NADS
3. Background: NAIP 2022
4. Figure prepared by Stantec Consulting Services Inc.



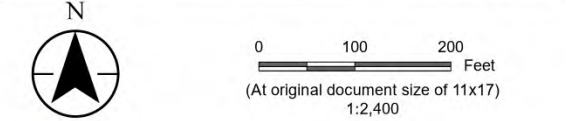


Wetland ID	Impact Activity	Regulation Status	Cowardin Type	Impact Acreage	Regulation Impact Acreage	Temporary / Permanent
W3	General Fill	Assumed Federal	Other/Unknown	0.0003	1.01	Permanent
W8	General Fill	Assumed Federal	Other/Unknown	0.04		Permanent
W8	Outfall 003	Assumed Federal	Other/Unknown	0.02		Permanent
W10	General Fill	Assumed Federal	PSS	0.06		Permanent
W19	General Fill	Assumed Federal	PEM	0.88		Permanent
W19	Outfall 003	Assumed Federal	PEM	0.01		Permanent
W21	General Fill	State Transferred	PEM	0.20	0.52	Permanent
W22	General Fill	State Transferred	PEM	0.12		Permanent
W28	General Fill	State Transferred	Other/Unknown	0.17		Permanent
W29	General Fill	State Transferred	Other/Unknown	0.02		Permanent
W30	General Fill	State Transferred	Other/Unknown	0.01		Permanent
TOTAL					1.53	

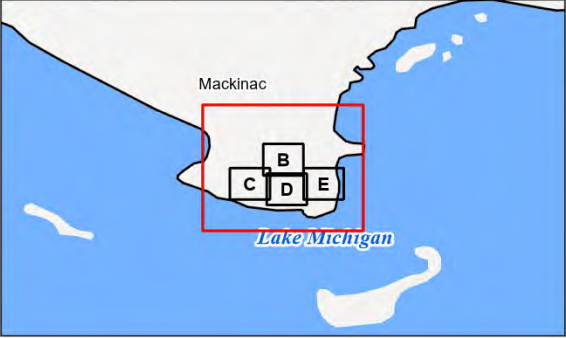
Figure No. 8A
Title Wetland Impacts

Client/Project Enbridge Great Lakes Tunnel Project 193705885

Project Location Mackinac County, Michigan Prepared by JM on 2024-05-01
TR by TG on 2024-05-14
IR by KW on 2024-05-15



- Legend
- Limits of Disturbance
 - Limits of Disturbance - Outfall Structure
 - Civil Survey Parcel
 - Wetland Delineation Study Area
 - Federal Ordinary High Water Mark (581.5')
 - Field-Recorded Water Level (May 24th, 2023)
 - Field-Recorded Water Level (May 22nd, 2024)
 - Field-Delineated Open Water
 - Field-Delineated Waterway
 - Impact Area
 - Wetland Outside Boundary
 - Wetland Regulation Status
 - Assumed Federal Wetlands
 - State Transferred Wetlands



Notes
1. Coordinate System: NAD 1983 UTM Zone 16N
2. Data Sources: Stantec, Enbridge, USGS, NADS
3. Background: NAIP 2022
4. Figure prepared by Stantec Consulting Services Inc.



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Page 1 of 5
EGLE
WRP049588 v1.0
Approved
Issued On: 07/15/2026
Expires On: 07/15/2031

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Figure No.
12A

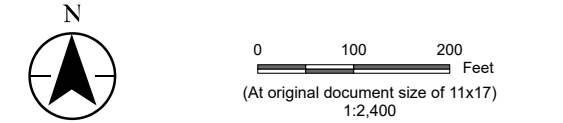
Title
**Construction Layout Map - Tunnel Retrieval Phase
Limits of Disturbance - North**

Client/Project
Enbridge Great Lakes Tunnel Project

193705885

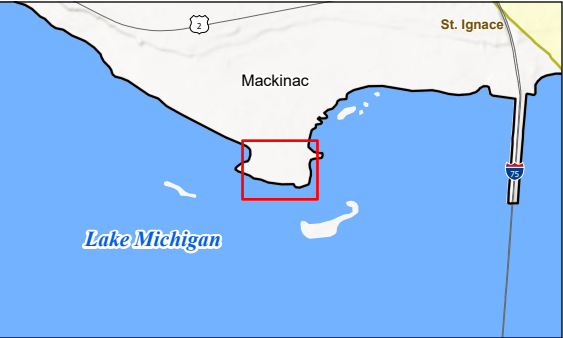
Project Location
Mackinac County, Michigan

Prepared by JM on 2024-05-01
TR by TG on 2024-05-14
IR by KW on 2024-05-15



Legend

- Limits of Disturbance
- Construction Site Component



Notes

1. Coordinate System: NAD 1983 UTM Zone 16N
2. Data Sources: Stantec, Enbridge, USGS, NADS
3. Background: NAIP 2022
4. Figure prepared by Stantec Consulting Services Inc.



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Figure No.
12C

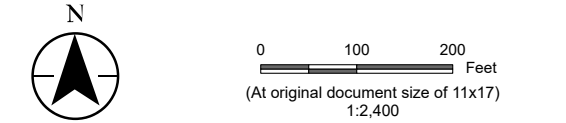
Title
**Construction Layout Map - Pipeline Installation Phase
Limits of Disturbance - North**

Client/Project
Enbridge Great Lakes Tunnel Project

193705885

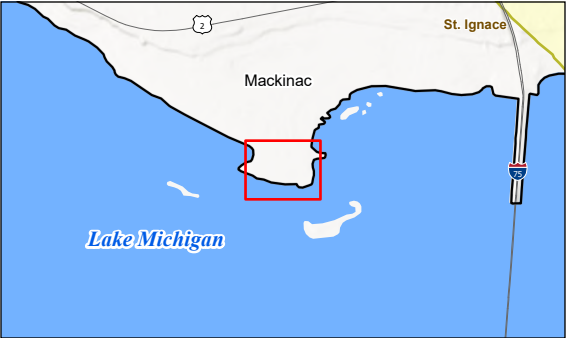
Project Location
Mackinac County, Michigan

Prepared by JM on 2024-05-01
TR by TG on 2024-05-14
IR by KW on 2024-05-15



Legend

- Limits of Disturbance
- Construction Site Component



Notes

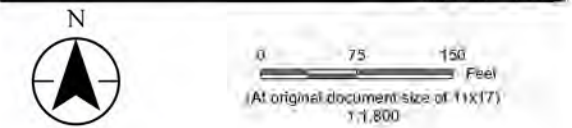
- Coordinate System: NAD 1983 UTM Zone 16N
- Data Sources: Stantec, Enbridge, USGS, NADS
- Background: NAIP 2022
- Figure prepared by Stantec Consulting Services Inc.



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Figure No. **3B** **DRAFT**
Title
North LOD Construction (all phases) and Operational Layout
Client/Project
Enbridge Great Lakes Tunnel Project
Project Location
Mackinac County, Michigan
Prepared by JLM on 2025-06-18
TR by SC on 2025-06-18
IR by XX on 2025-06-18



- Legend
- Limits of Disturbance
 - Proposed Tunnel Alignment
 - Proposed Tie-In
 - Existing Facility Fence
 - Combined Footprint of Construction Phases
 - Gravel Laydown & Parking
 - Approximate Raised Area of Operational Footprint
 - Approximate Tie-In Workspace
 - Ordinary High Water Mark (581.5' - IGLD 1985)
 - Field Delineated Waterway
 - Field Delineated Wetland
 - Wetland Impact (1.52 Acres)



Notes
1. Coordinate System: NAD 1983 UTM Zone 16N
2. Data Sources: Stantec, Enbridge, USGS, NADS
3. Background: NAIP 2022
4. Figure prepared by Stantec Consulting Services Inc.

Disclaimer: This document has been prepared based on information provided by others as cited in the Notes section. Stantec has not verified the accuracy and/or completeness of this information and shall not be responsible for any errors or omissions which may be incorporated herein as a result. Stantec assumes no responsibility for data supplied in electronic format, and the recipient accepts full responsibility for verifying the accuracy and completeness of the data.

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Figure No.
13A

Title
Operational Layout - North Side

Client/Project
Enbridge Great Lakes Tunnel Project 193705885

Project Location
Mackinac County, Michigan

Prepared by JM on 2024-05-01
TR by TG on 2024-05-14
IR by KW on 2024-05-15



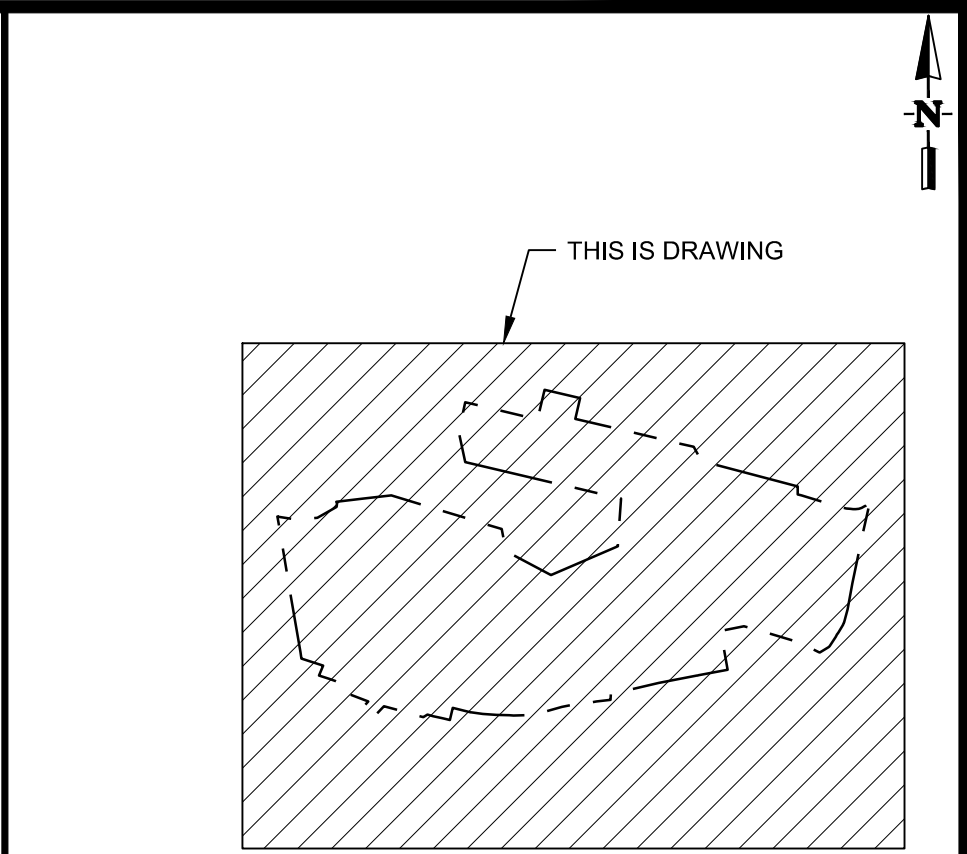
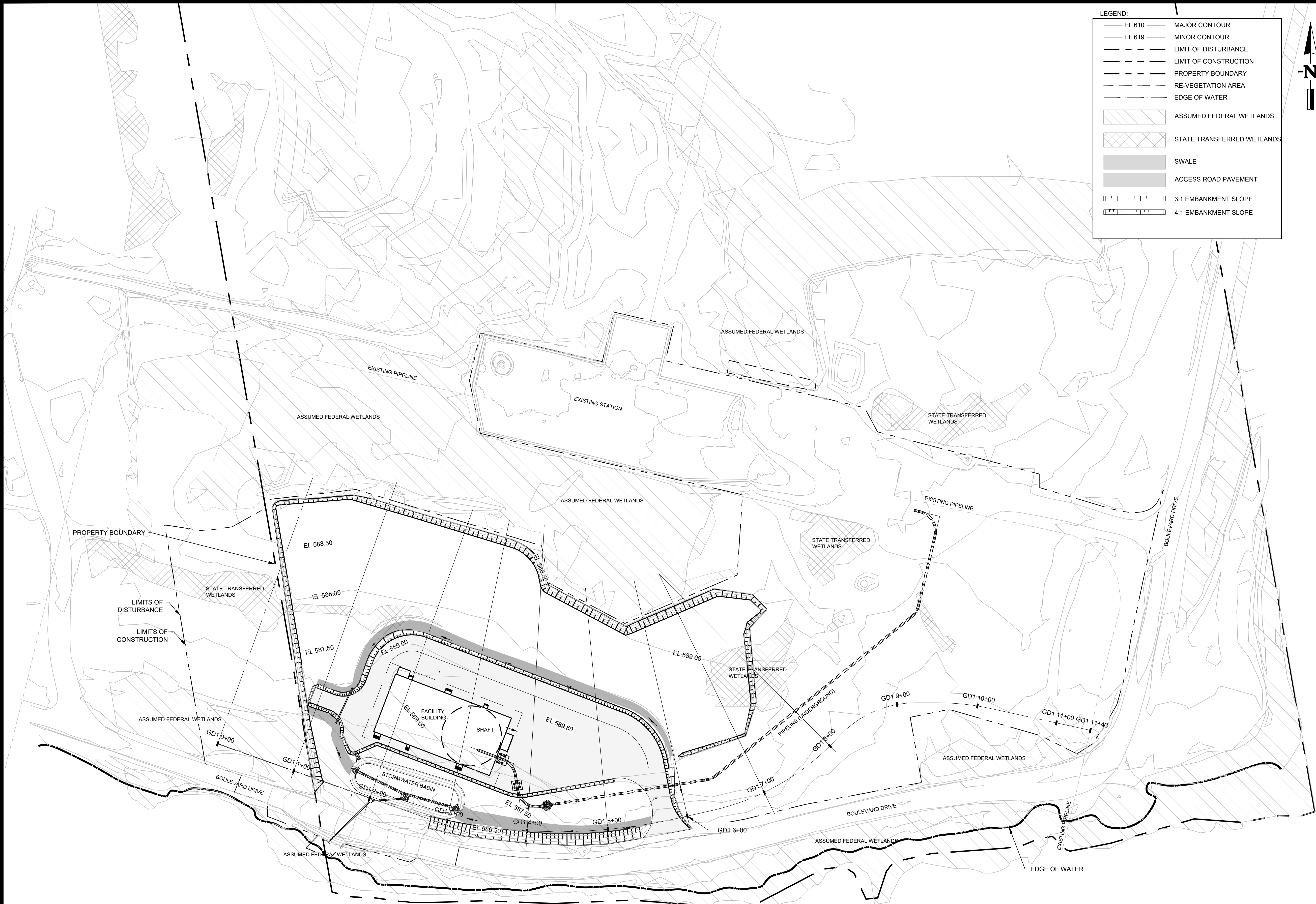
- Legend
- Limits of Disturbance
 - Permanent Fencing
 - Operational Layout
 - Building
 - Outfall / Storm Drain
 - Pavement (Access Road, Parking, Sidewalk)
 - Pond
 - Riprap
 - Shaft
 - Swale
 - Operational Landscaping
 - Vegetated Area
 - Riprap



Notes

- Coordinate System: NAD 1983 UTM Zone 16N
- Data Sources: Stantec, Enbridge, USGS, NADS
- Background: NAIP 2022
- Figure prepared by Stantec Consulting Services Inc.





- NOTES:
- FOR GENERAL NOTES REFER TO D-5-0.1-SKG201-1160.
 - THE COORDINATE SYSTEM IS DESCRIBED BELOW.
 - HORIZONTAL COORDINATE SYSTEM: NAD83 UTM BLM ZONE 16N (US FEET).
 - VERTICAL COORDINATE SYSTEM: NAVD88.
 - ALL ELEVATIONS AND STATIONS ARE IN US CUSTOMARY UNITS.
 - ELEVATION CONTOURS REPRESENT THE PROPOSED FINISHED GRADE ELEVATION.
 - THE DESIGN CONSIDERS 6-IN TOPSOIL REMOVAL FROM THE EXISTING SURFACE, AND PLACING IT ON TOP OF LANDSCAPE FILL WITHIN BOTH THE LANDSCAPING AND RE-VEGETATION AREAS.
 - CONTRACTOR SHALL REFER TO SPECIFICATION 312000 EARTHWORK, EXCAVATION AND BACKFILL FOR THE FULL SCOPE OF FILL REQUIREMENTS.
 - CONTRACTOR SHALL REFER TO SPECIFICATIONS 321100 - BASE AND AGGREGATE SURFACE COURSES FOR THE FULL SCOPE OF REQUIREMENTS FOR SUBBASE, BASE AND AGGREGATE SURFACE COURSES FOR THE GRAVEL ROADS.
 - CONTRACTOR SHALL UNIFORMLY GRADE AREA TO A SMOOTH SURFACE, FREE OF IRREGULAR SURFACE CHANGES.
 - REFER TO D-5-1.3-104372-1160 FOR ACCESS ROAD LAYOUT AND FINAL GRADING ON THE ACCESS ROAD.
 - REQUIRED MINIMUM ELEVATIONS OF BOULEVARD DRIVE SHALL BE COORDINATED WITH BOULEVARD DRIVE DESIGN CONSULTANT.
 - FINISHED GRADE AT TOP OF GRAVEL PAD SHALL BE SLOPED 2% MIN AWAY FROM THE BUILDING AT 10 FT PERIMETER OF THE BUILDING.
 - CONTRACTOR SHALL CONFIRM AND PROTECT THE INTEGRITY OF THE EXISTING PIPELINE DURING THE SITE GRADING AND CONSTRUCTION. IF NEEDED, CONTRACTOR SHALL PLAN FOR PHASING OF THE CONSTRUCTION TO ENSURE THE INTEGRITY OF THE EXISTING PIPELINE.
 - THE AREA OUTLINED TO BE RE-ESTABLISHED TO THE PRECONSTRUCTION GRADE ALLOWING FOR THE FINAL LANDSCAPING REQUIREMENTS DETAILED ON DRAWING D-5-1.21-SK700-1160.

REV: O.D	PROJECT TITLE: LINE 5 STRAITS OF MACKINAC	SEQ #: 310CV501
AFE: 20012629	PROJ NO: 2000143	
WP NO:		
REV	SUBSEQUENT REVISION	DATE BY CHK APPR

D-5-1.21-104357-1160	SITE GRADING DESIGN SECTIONS
D-5-1.21-104356-1160	SITE GRADING DESIGN SECTIONS
D-5-1.21-104355-1160	SITE GRADING DESIGN SECTIONS
D-5-1.21-104354-1160	GRADING PROFILES AND EARTHWORK VOLUME TABLES
D-5-0.1-SKG201-1160	CIVIL GENERAL NOTES

REFERENCE DRAWINGS			

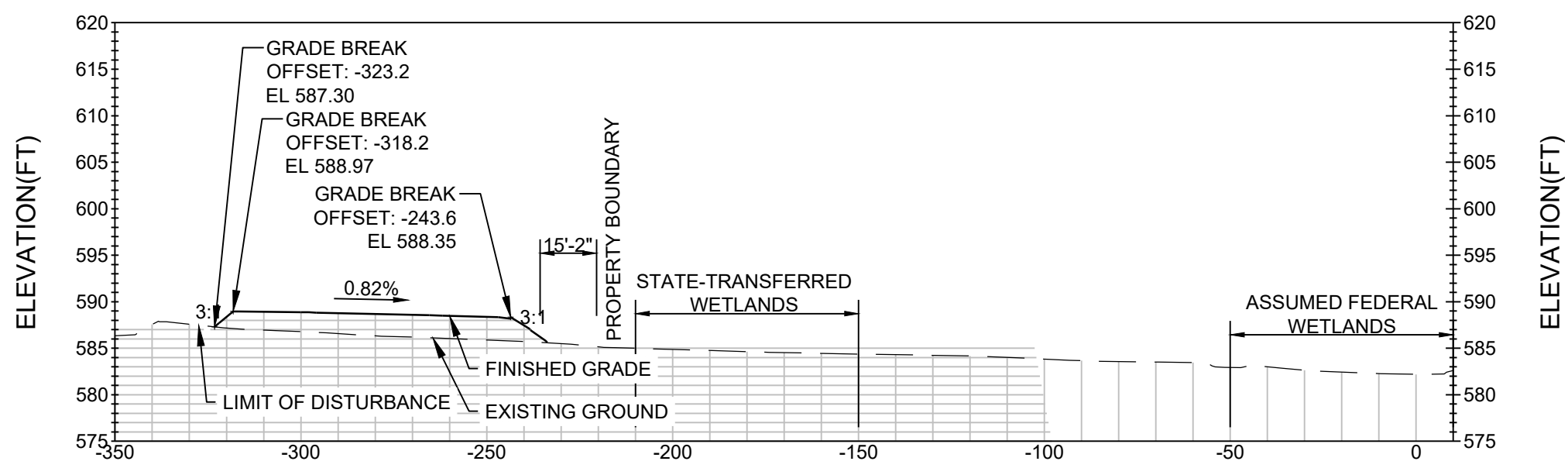
REV NO	REVISION DESCRIPTION	DATE BY	CHK	APPR

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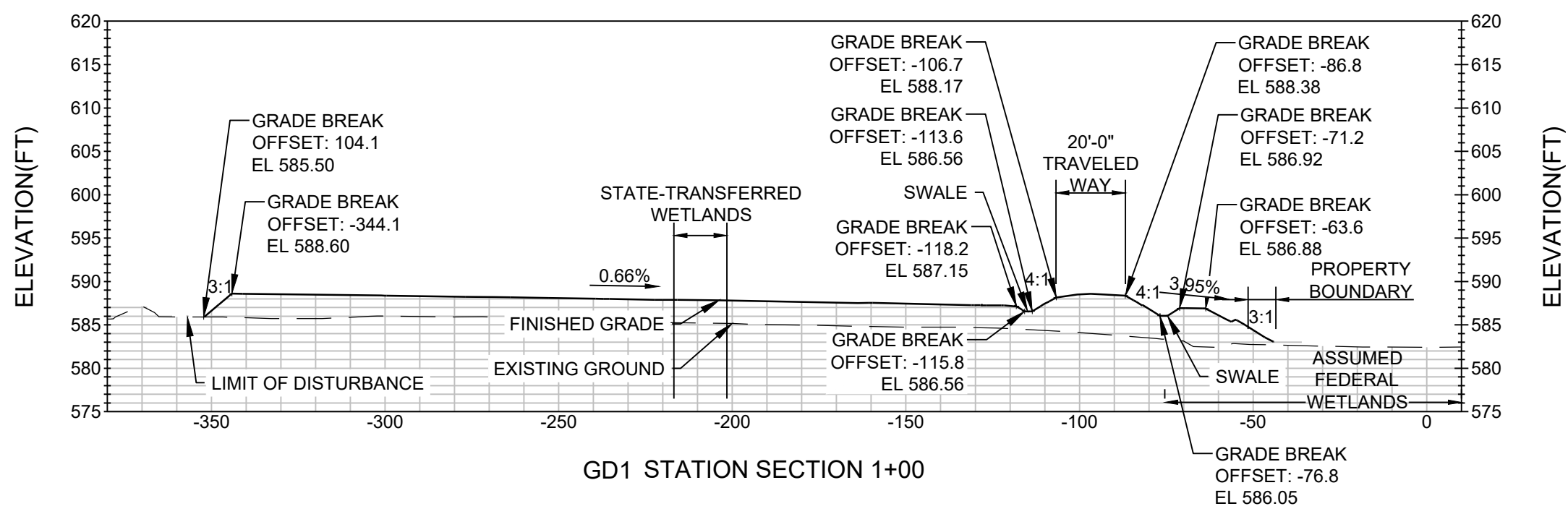
ENBRIDGE

MACKINAW STRAITS TUNNEL NORTH-SOUTH (MI) STATION
ALL SITE
SITE GRADING
FILL VOLUMES SKETCH

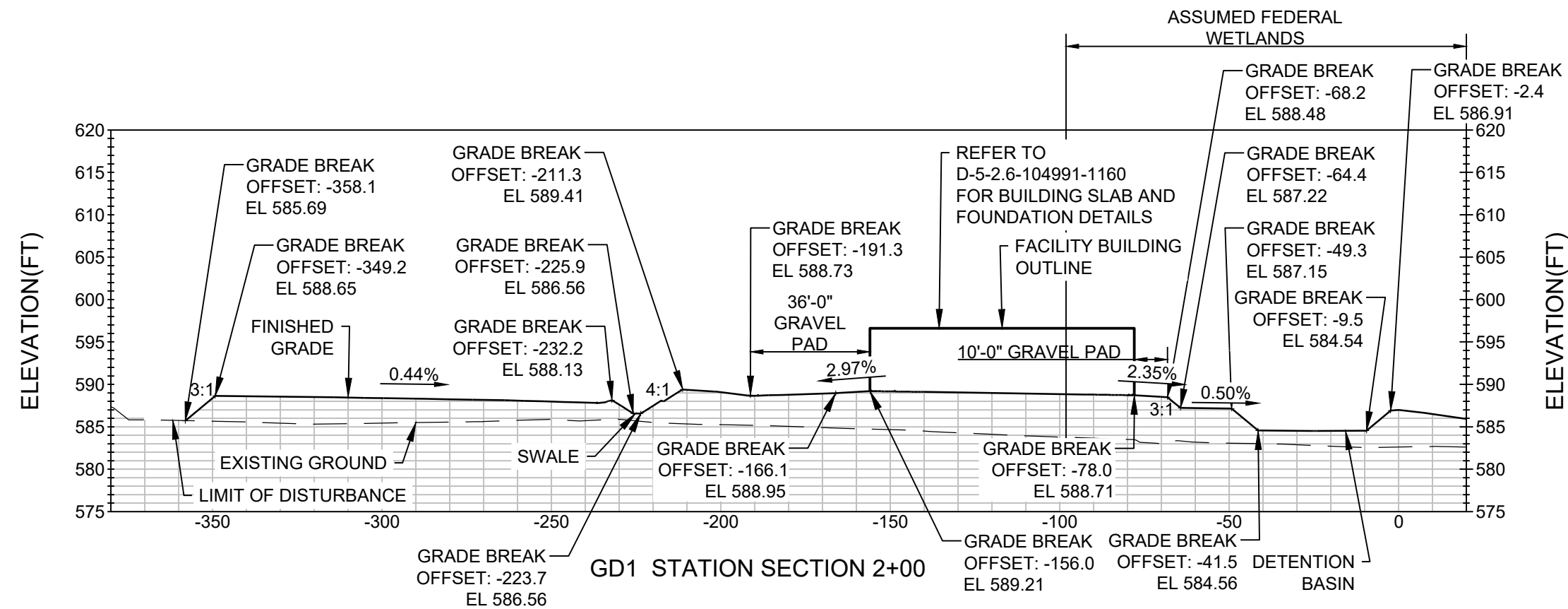
BY: NL	CHK: VL	ENG: V. LEE	ENB APPR: S. AHMADIAN
DATE: 2024-12-11	SCALE: 1" = 60'-0"	STATUS: SKETCH	
DWG NO.:		REV NO:	0.D



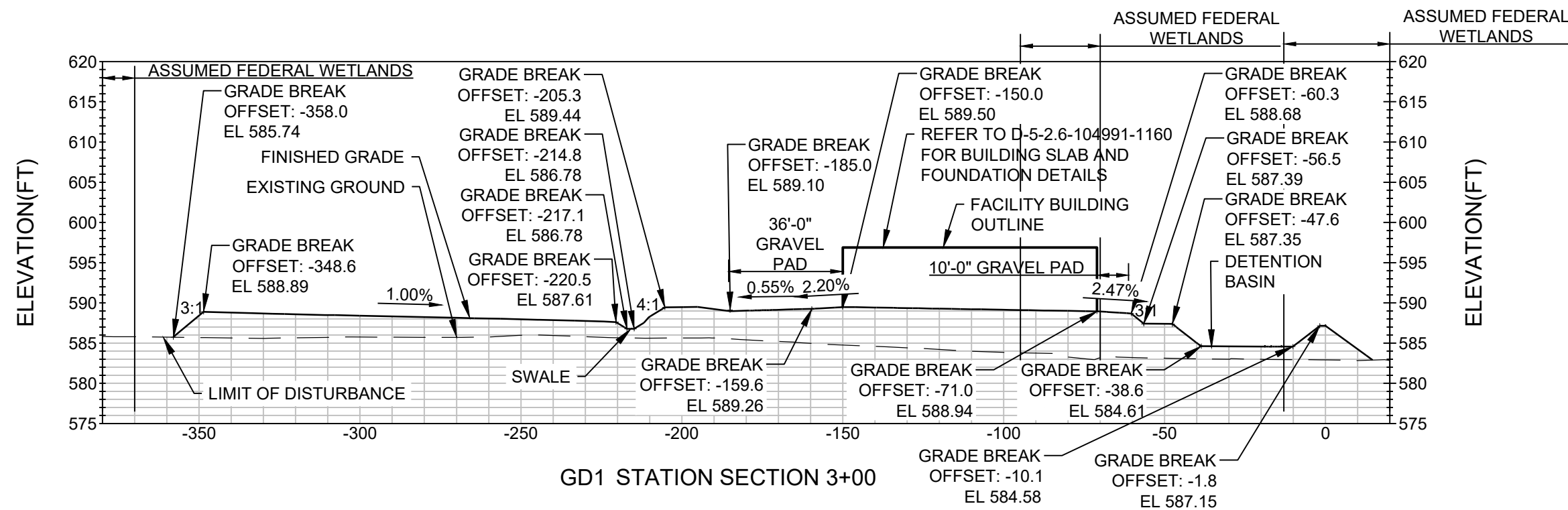
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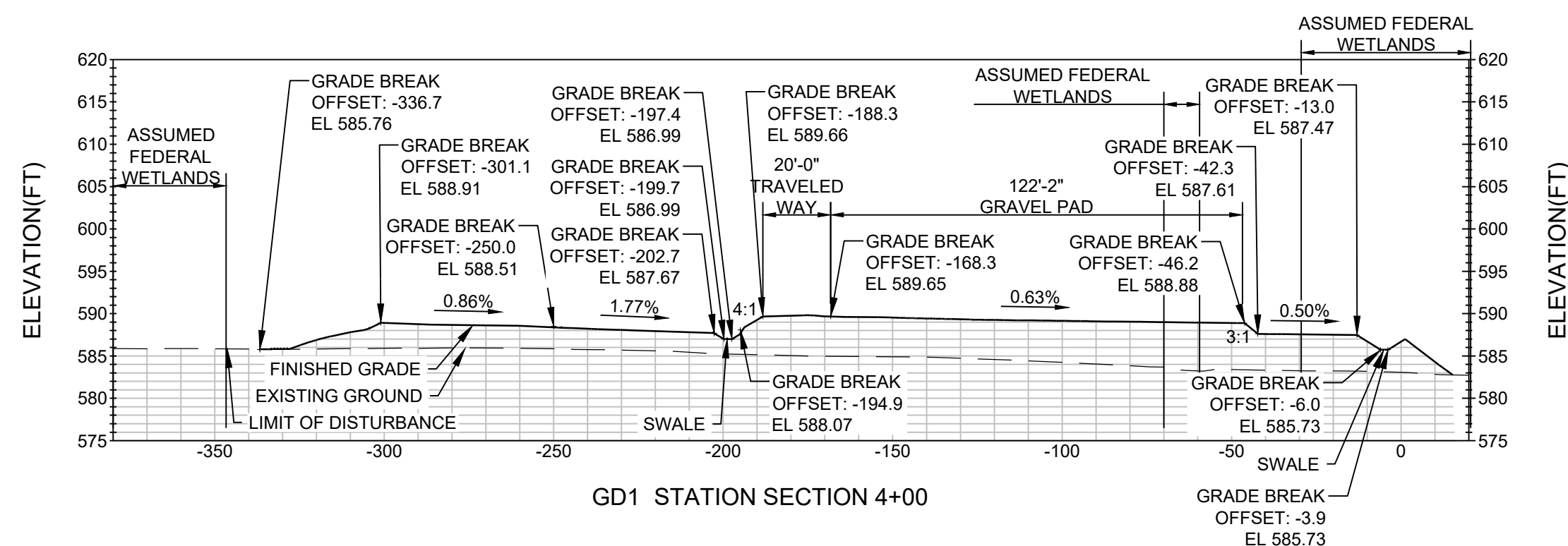
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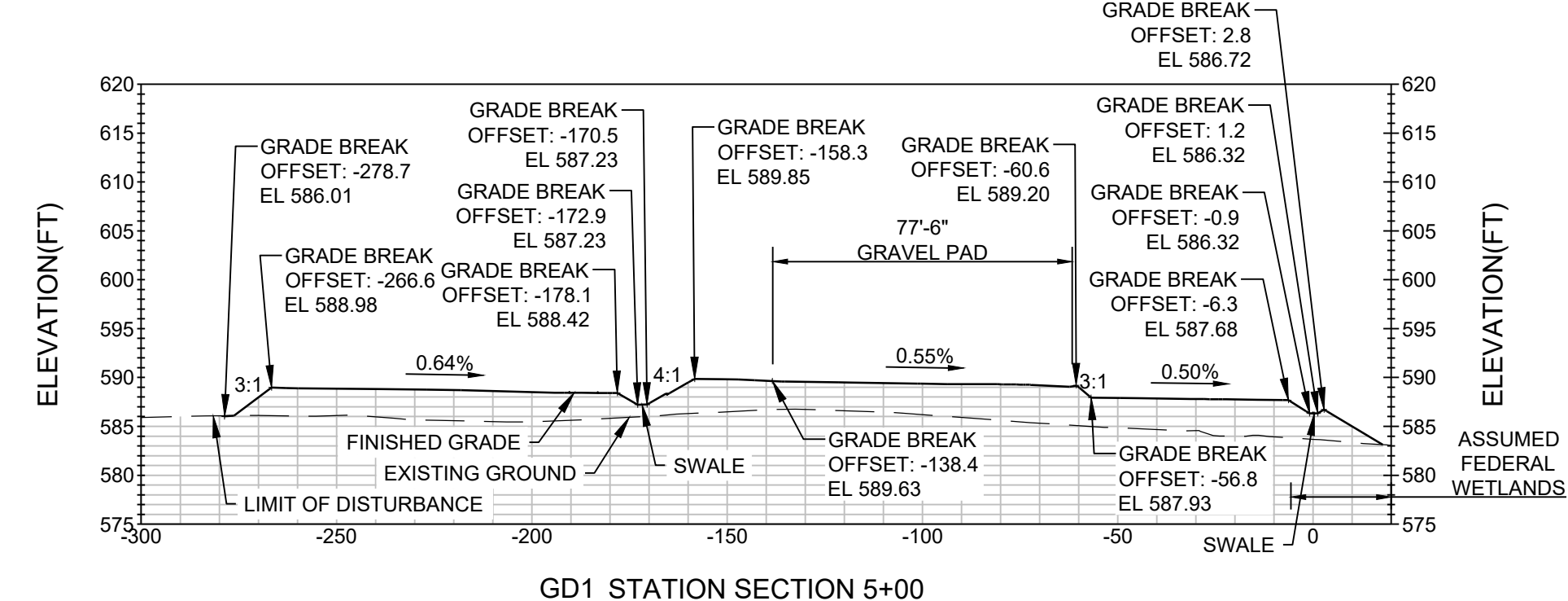
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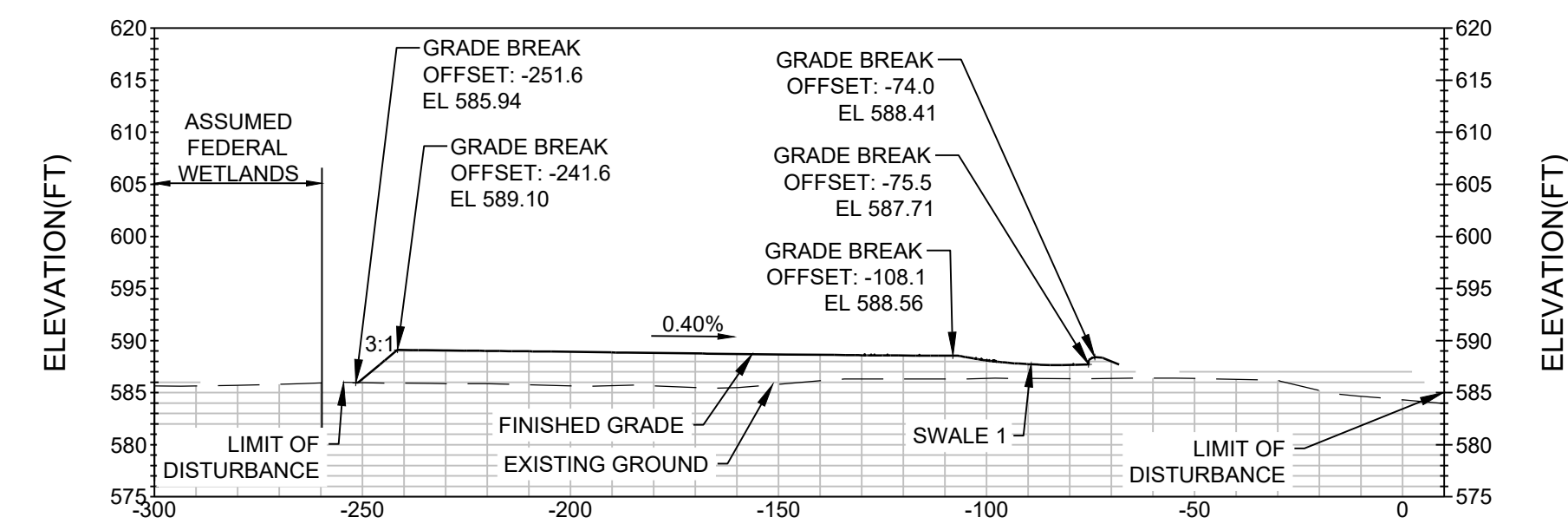
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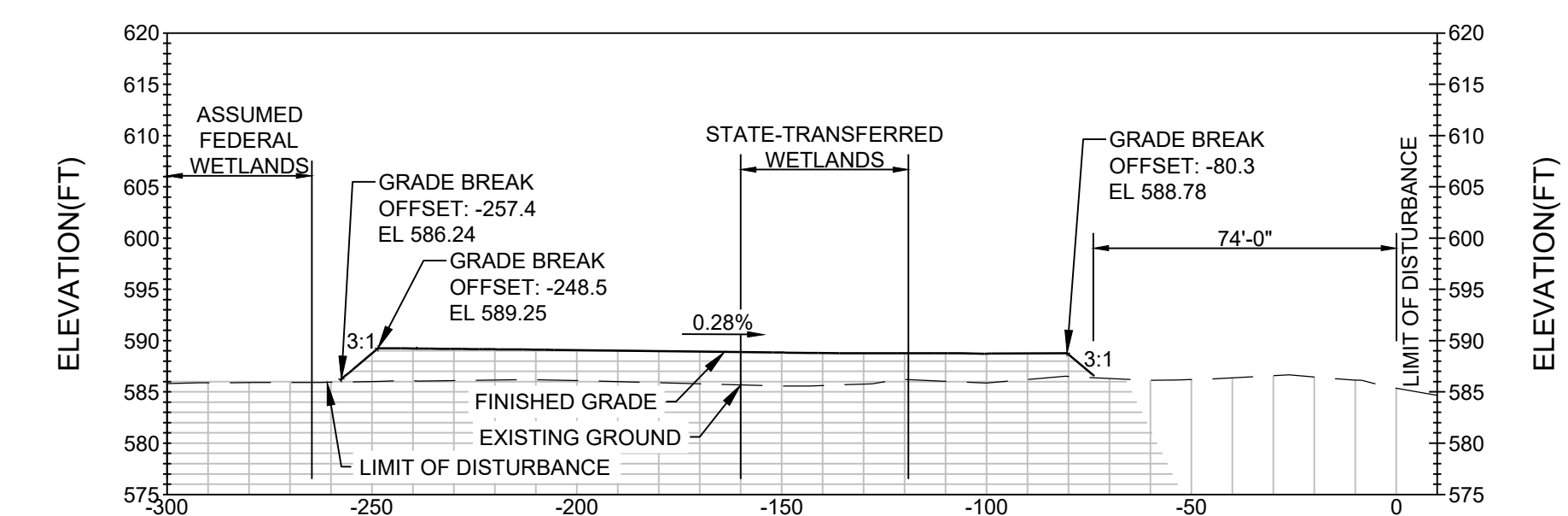
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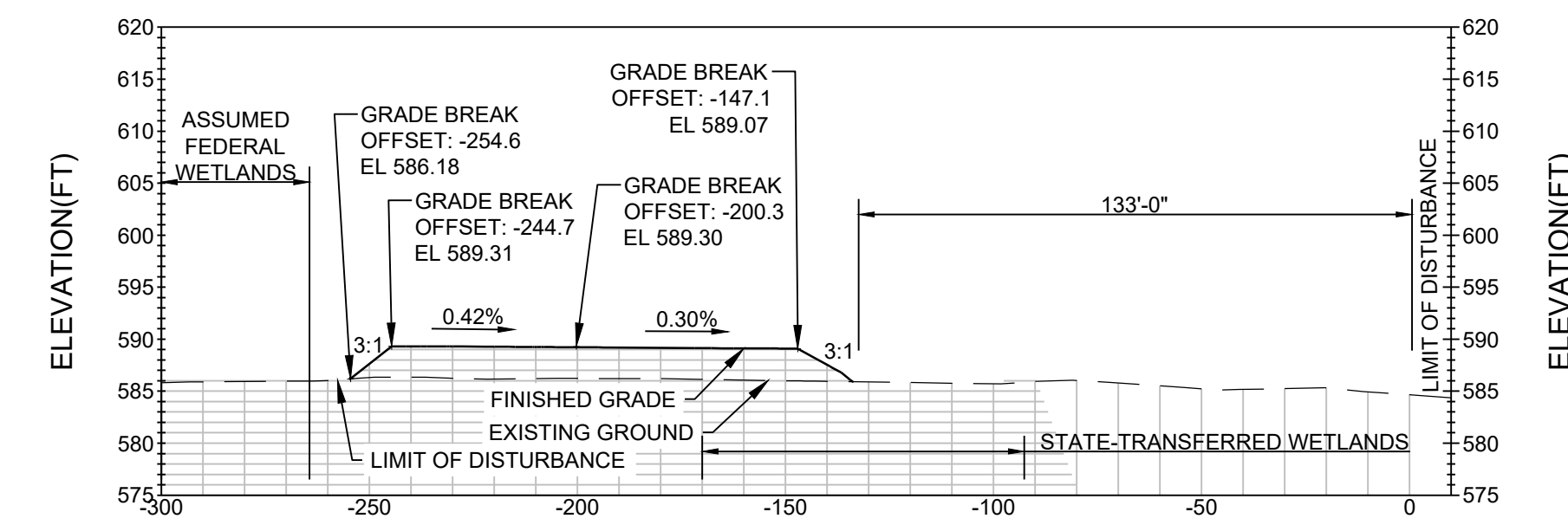
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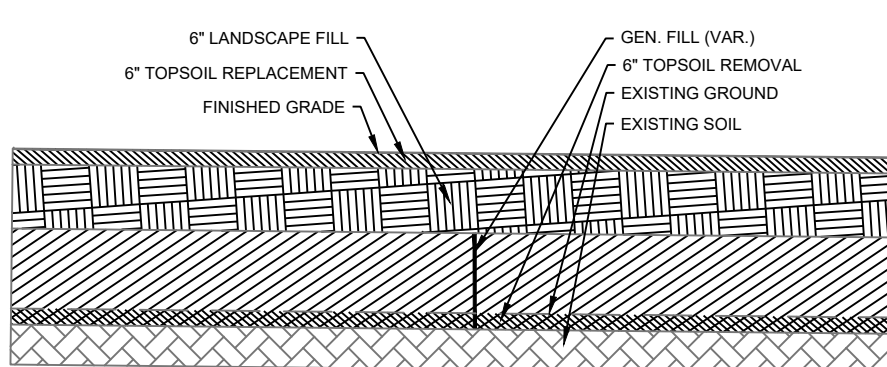
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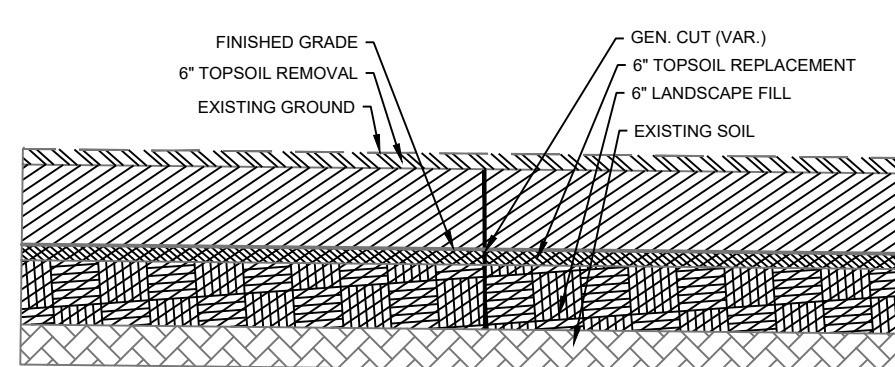
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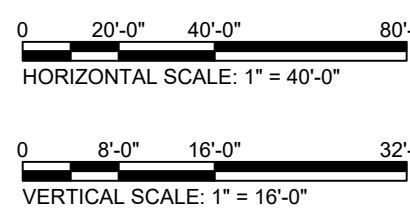
GD1 STATION SECTION 8+00



TYPICAL SECTION FOR EARTHWORK IN FILL FOR AREAS OFF THE GRAVELED PAD/ROADWAY



TYPICAL SECTION FOR EARTHWORK IN CUT FOR AREAS OFF THE GRAVELED PAD/ROADWAY



- LEGEND:
- EXISTING SURFACE
 - PROPOSED SURFACE
 - GRADING FILL
 - CUT
 - CONCRETE
 - 6" TOP SOIL REMOVAL
 - 2" LANDSCAPE FILL

- NOTES:
- FOR GENERAL NOTES REFER TO D-5-0.1-SKG201-1160.
 - DIMENSIONS AND ELEVATIONS ARE IN US CUSTOMARY UNITS.
 - ALL ELEVATIONS ARE BASED ON THE VERTICAL COORDINATE SYSTEM NAVD88.
 - ALL SLOPES REFER TO THOSE OF THE PROPOSED FINISHED GRADING.
 - THE DESIGN CONSIDERS REMOVAL OF 6-INCH THICK LAYER OF TOP SOIL.
 - REFER TO D-5-1.21-104358-1160 FOR POTENTIAL AREAS TO STOCKPILE THE TOPSOIL DURING THE CONSTRUCTION.
 - A MINIMUM 6 INCH TOP SOIL SHALL BE PLACED BACK ON ALL THE RE-VEGETATED AREA, AND WILL BE PART OF THE FINAL FILL IN THE SITE.
 - REFER TO D-5-1.3-104375-1160 FOR FINISHED GRADE ELEVATIONS AND SLOPE ON THE GRAVEL ACCESS ROAD AND PAD.

REV: 0.B	PROJECT TITLE: LINE 5 STRAITS OF MACKINAC	SEQ #: 310CV521
AFE: 20012629	PROJ NO: 2000143	
WP NO:		
REV	SUBSEQUENT REVISION	DATE BY CHK APPR

D-5-2.6-104991-1160	FOUNDATION AND SLAB ON-GRAD PLAN
D-5-1.21-104358-1160	EROSION AND SEDIMENT CONTROL PLAN
D-5-1.21-101214-1160	GRADING PLAN
D-5-0.1-SKG201-1160	CIVIL GENERAL NOTES

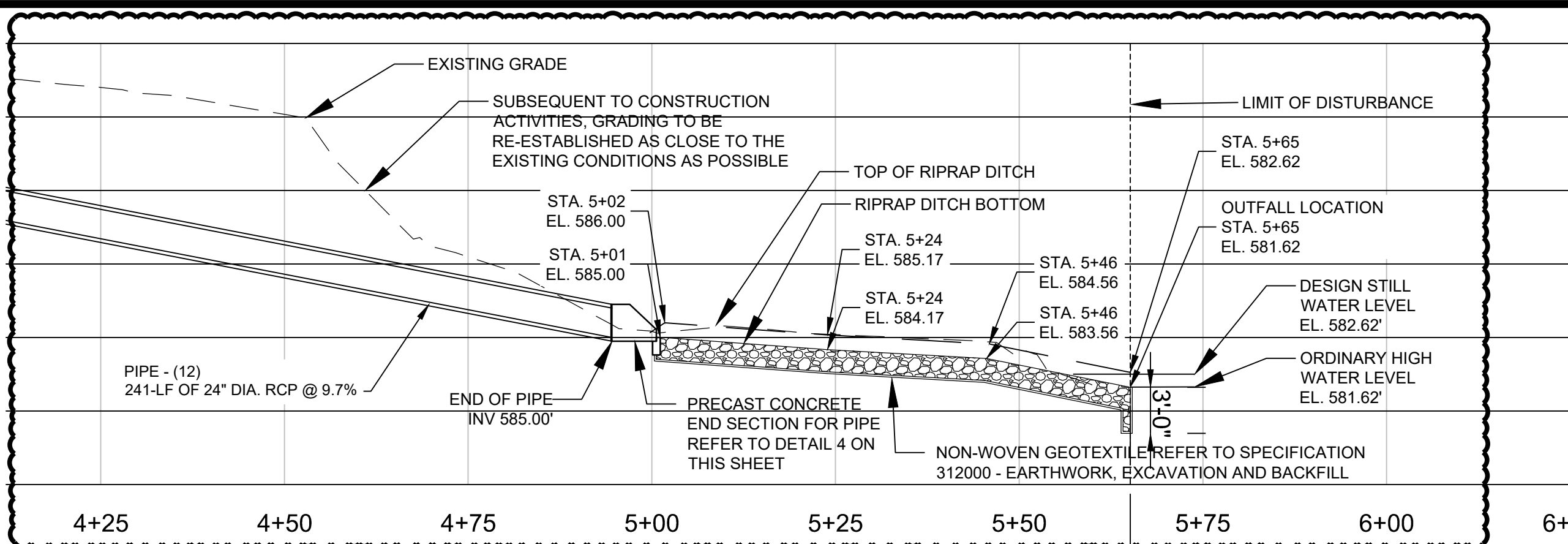
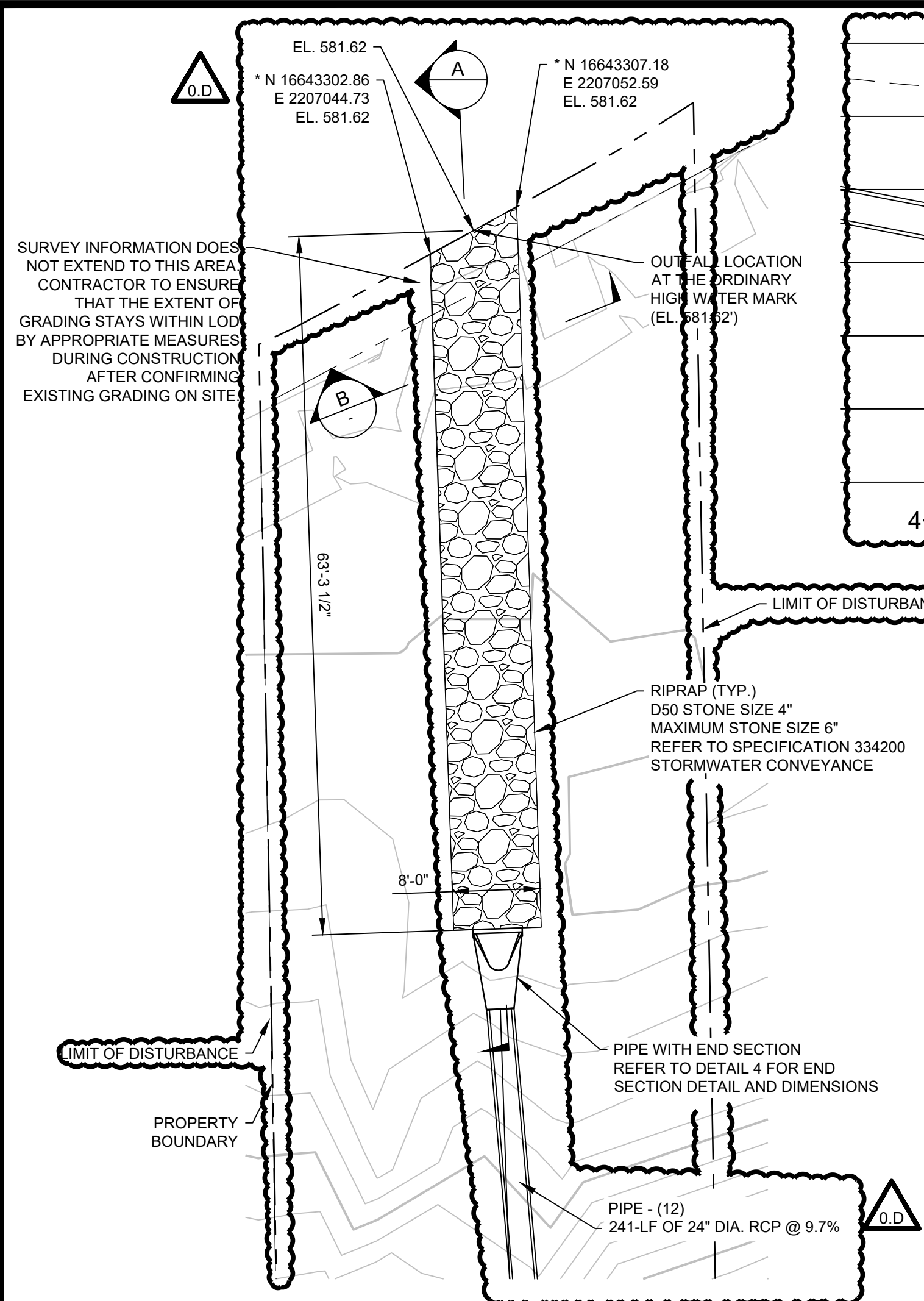
REFERENCE DRAWINGS				

REV NO	REVISION DESCRIPTION	DATE BY	CHK	APPR

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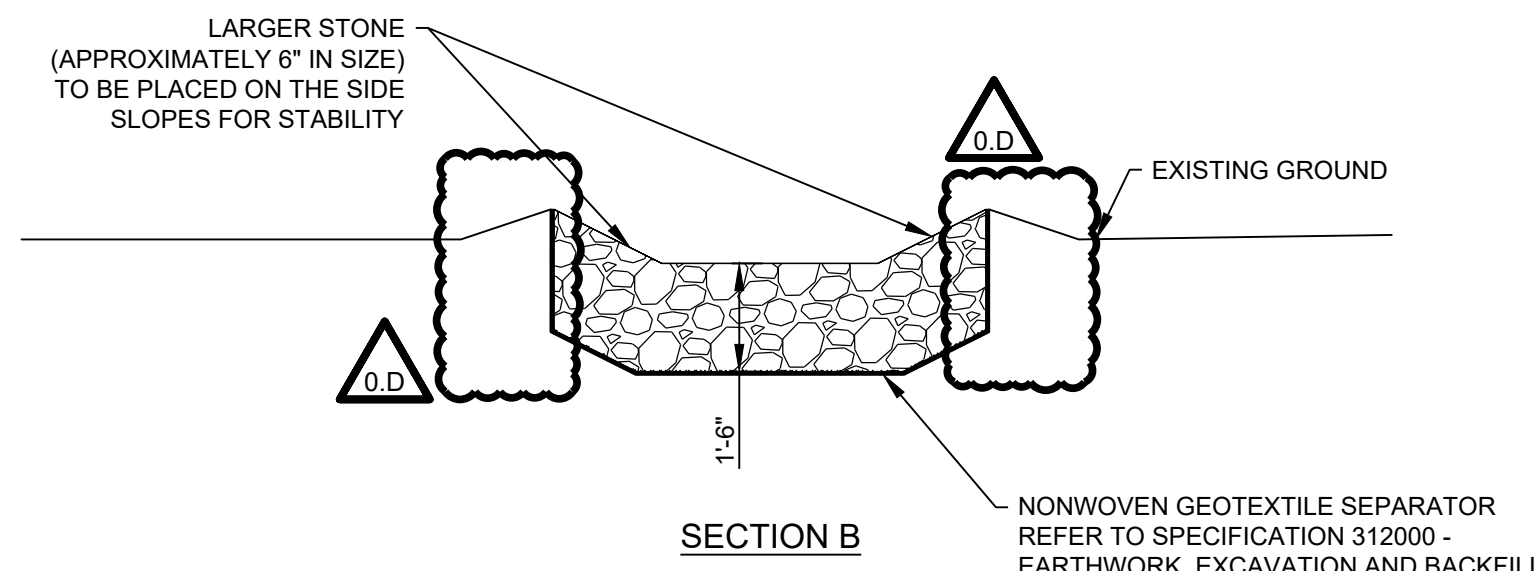
MACKINAW STRAITS TUNNEL NORTH (MI) STATION ALL SITE SITE GRADING DESIGN SECTIONS

BY: NL	CHK: DP	ENG: A. MOSAVI	ENB APPR: S. AHMADIAN
DATE: 2024-12-11	SCALE: 1" = 40'-0"	STATUS: SKETCH	
DWG NO.:			



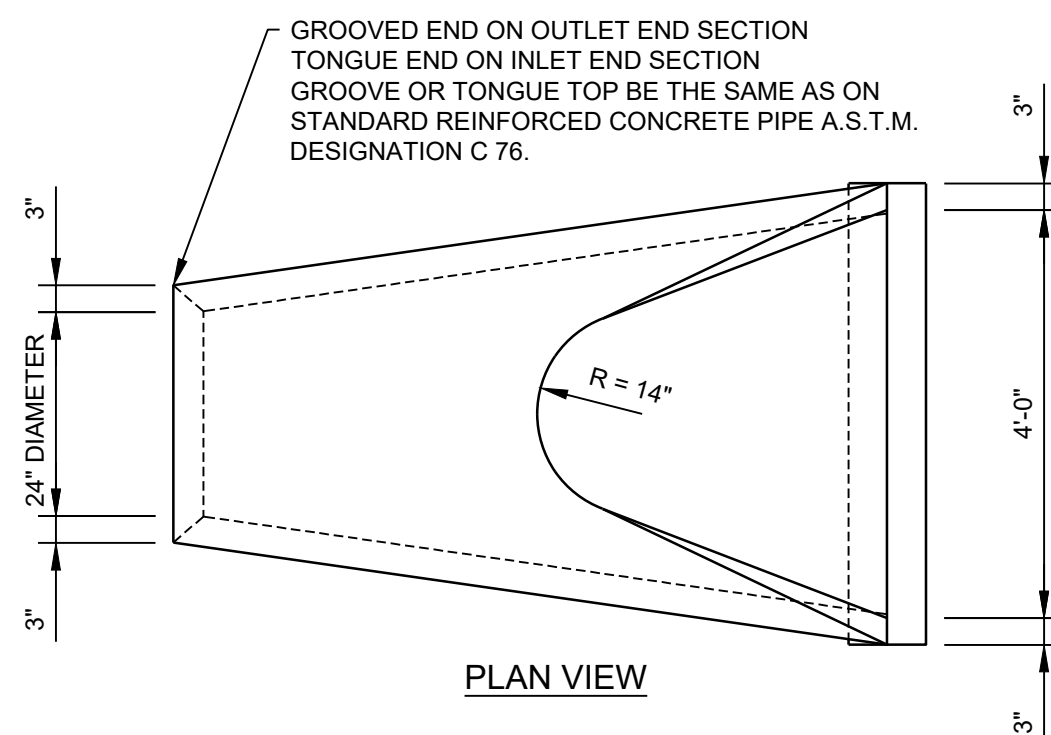
SECTION A

- NOTES:
1. RIPRAP APRON WITH DITCH EXTENDS TO THE ORDINARY HIGH WATER LEVEL (EL. 581.62).
 2. ADDITIONAL FILL MAY BE REQUIRED TO PROVIDE 3.5' COVER WHERE APPLICABLE.

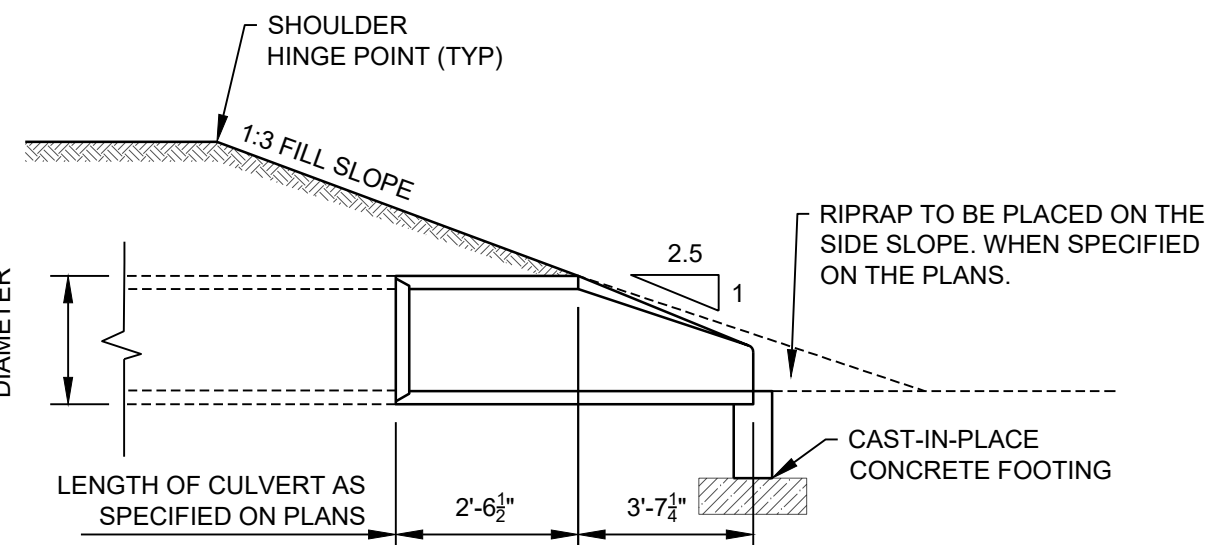


SECTION B

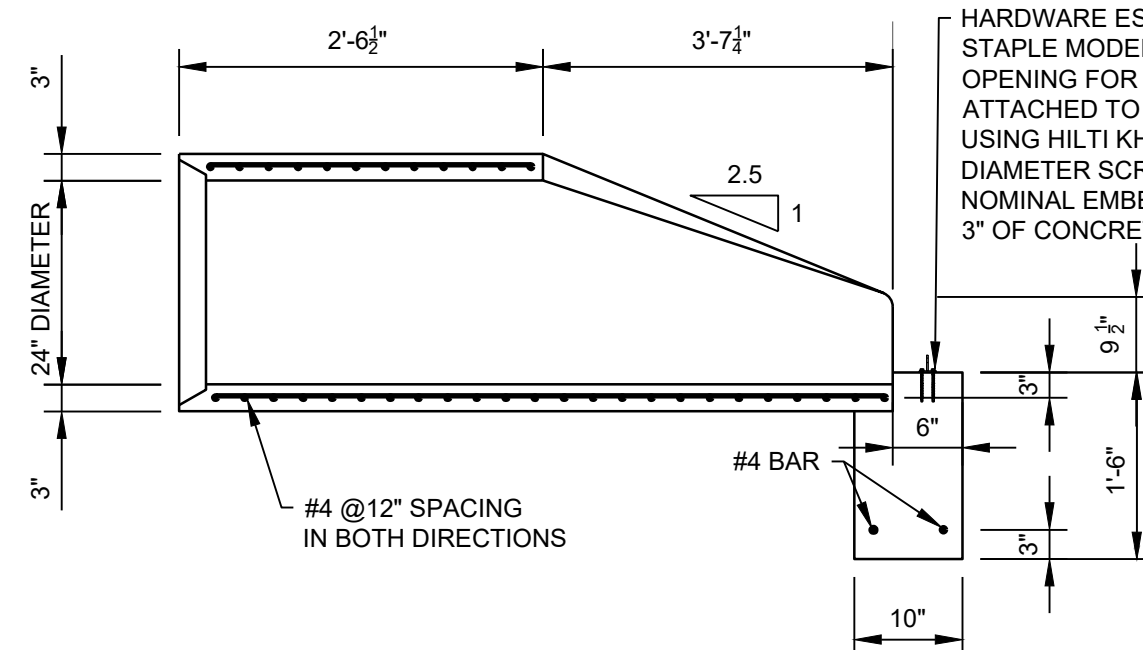
- NOTE:
1. REINFORCEMENT SHOP DRAWING TO BE PROVIDED BY THE CONTRACTOR.



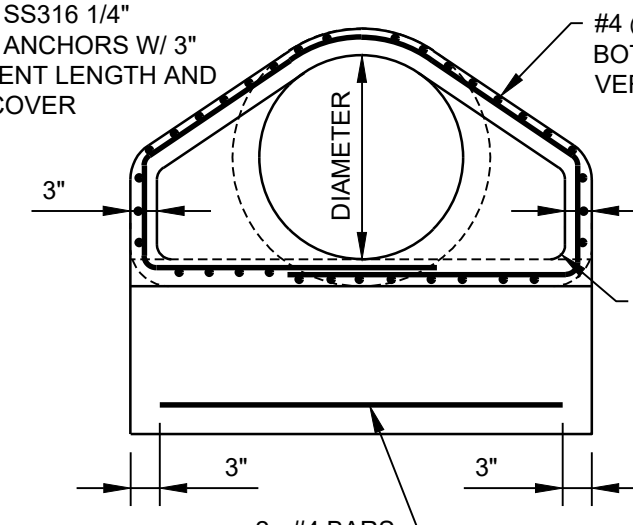
PLAN VIEW



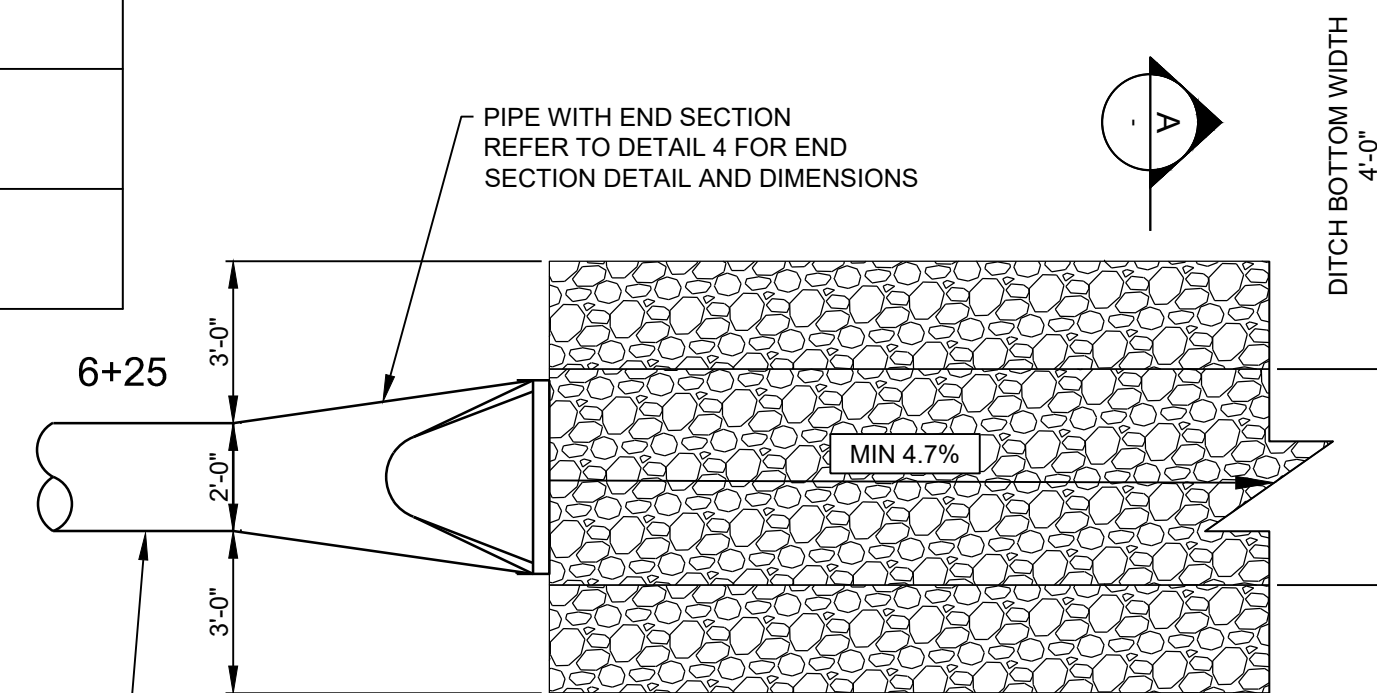
SLOPE DETAIL



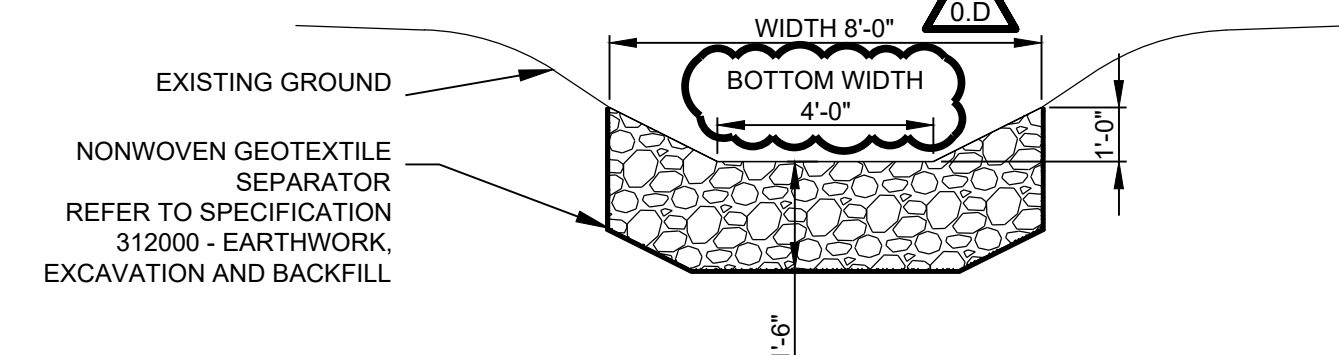
LONGITUDINAL SECTION



END ELEVATION



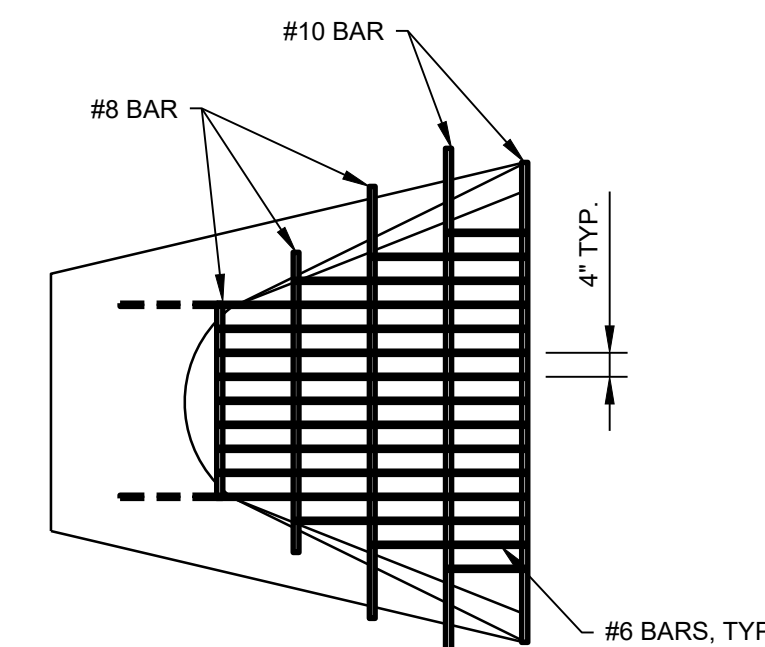
PLAN VIEW



SECTION A

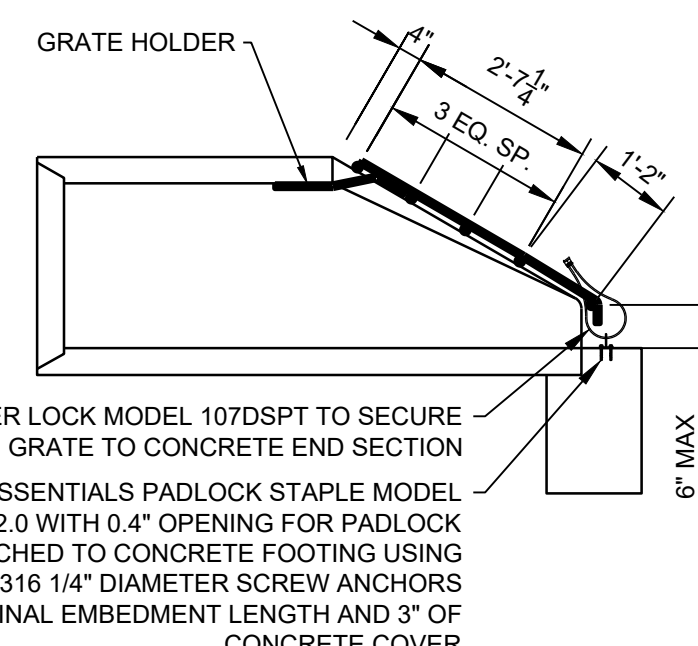
2 OUTFALL RIPRAP

NTS



PLAN VIEW

- NOTES:
1. GRATE SHALL BE MANUFACTURED AS PER MDOT R092C STANDARD FOR STEEL GRATES FOR END SECTIONS. REFER TO SECTION 2.12 IN SPECIFICATION 334200 STORMWATER CONVEYANCE.
 2. GRATE SHALL BE WELDABLE GRADE HOT-ROLLED STEEL BARS, PLAIN OR DEFORMED.
 3. FABRICATION OF THE GRATE SHALL BE BY WELDING EACH BAR INTERSECTION.
 4. FASTEN GRATE SECURELY AS SHOWN ON THE PLANS.
 5. REFER TO DETAIL 4 FOR PRECAST CONCRETE END SECTION.
 6. PRECAST CONCRETE END SECTION FROM DIFFERENT MANUFACTURERS VARY IN EXACT WIDTH AND SHAPE OF THE OPENING. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE THAT THE GRATE WILL ADEQUATELY COVER THE OPENING.



LONGITUDINAL SECTION

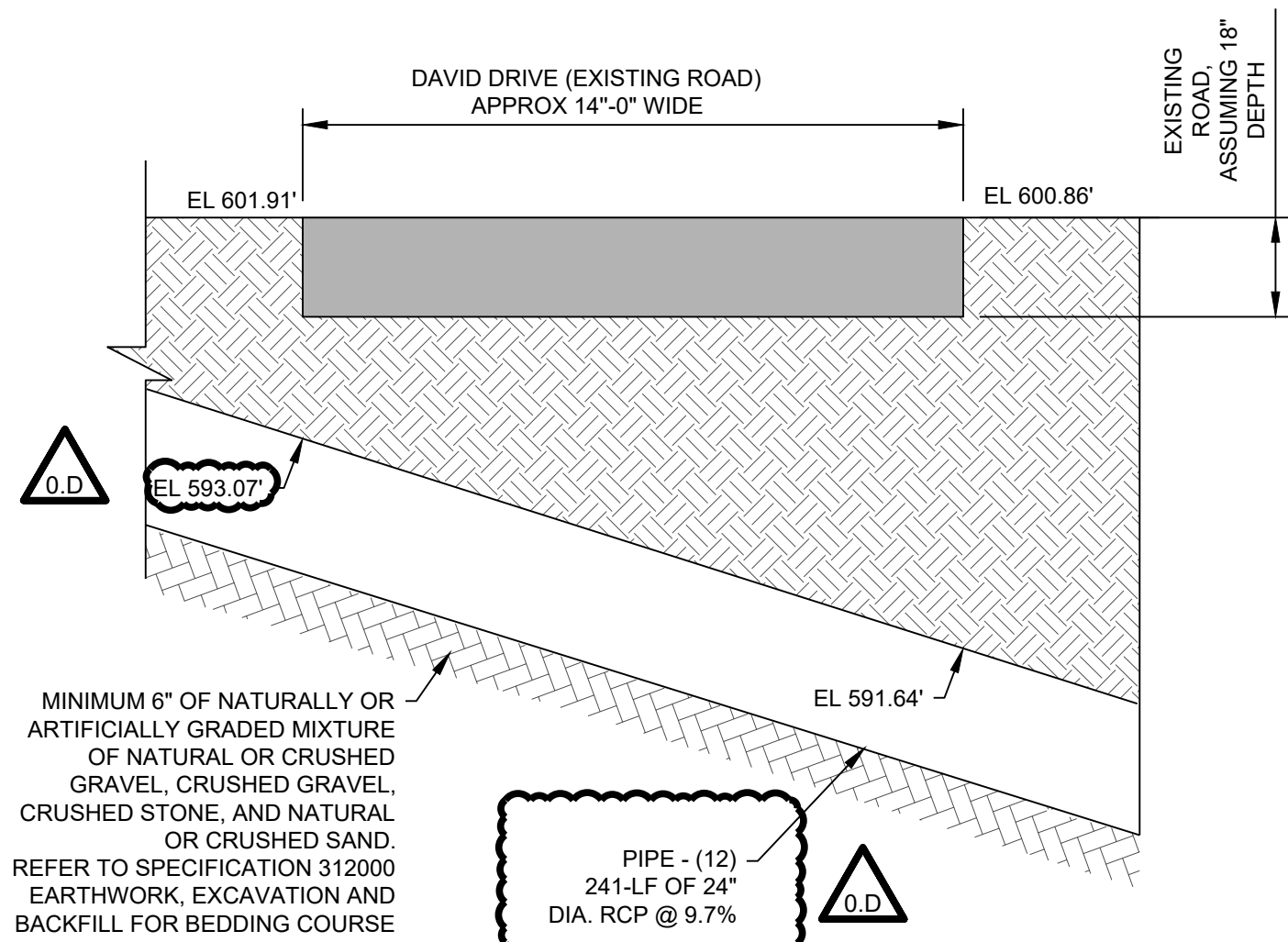
5 OUTFALL STEEL GRATE END SECTION

NTS

1 OUTFALL LOCATION TO LAKE MICHIGAN

NTS

* THE COORDINATES ARE AN ESTIMATE AND THEY NEED TO BE CONFIRMED FOR THE USACE OHWM ELEVATION OF 581.62' AT THE SITE AT THE TIME OF CONSTRUCTION BY THE CONTRACTOR



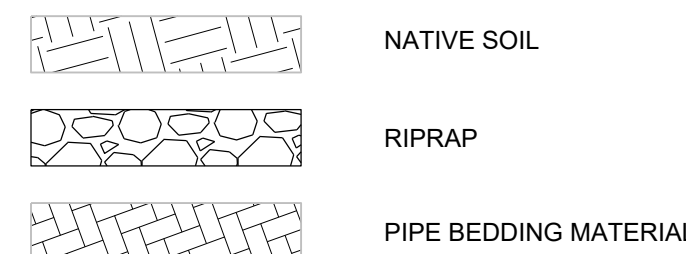
3 OUTFALL PIPE CROSSING STREET

NTS

4 PRECAST CONCRETE END SECTION FOR PIPE CULVERT

NTS

LEGEND:



NOTES:

1. FOR GENERAL NOTES REFER TO D-5-0.1-SKG202-1162.
2. REFER TO SPECIFICATION 312000 EARTHWORK, EXCAVATION AND BACKFILL FOR GEOTEXTILE REQUIREMENTS.
3. REFER TO MISCELLANEOUS CONCRETE IN SPECIFICATION 033000 FOR FULL SCOPE OF REQUIREMENTS FOR THE CAST-IN-PLACE CONCRETE FOR CULVERT FOUNDATIONS.
4. ALL CAST-IN-PLACE AND PRECAST CONCRETE SHALL ACHIEVE A MINIMUM COMPRESSIVE STRENGTH OF 4,500psi AT 28 DAYS. REFER TO TABLE 5 IN SPECIFICATION 033100 STRUCTURAL CONCRETE MATERIALS FOR FURTHER REQUIREMENTS.
5. THE END OF THE PIPE SHALL BE PLACED IN THE CONCRETE END SECTION SO THAT THE FLOW LINES ARE FLUSH. THE JOINT MUST BE COMPLETELY FILLED WITH MORTAR ON THE INSIDE AND OUTSIDE AND STRUCK FLUSH. THE JOINT MUST BE WRAPPED WITH GEOTEXTILE BLANKET 3'-0" WIDE WITH 1'-0" OVERLAP.
6. TO CHANGE THE EXISTING GRADE TO THE SLOPE OF THE CULVERT END SECTION, USE A TRANSITION SLOPE OF 10 FT IN LENGTH.
7. CONTRACTOR TO DESIGN SHEET PILING AFTER SITE EVALUATION OF THE EXISTING GRADING AND THE REQUIRED SUPPORT FOR THE OUTFALL RIPRAP AT THE EDGE OF LIMIT OF DISTURBANCE. REFER TO SPECIFICATION 315000 EXCAVATION SUPPORT AND PROTECTION FOR SHEET PILING REQUIREMENTS.

REV: 0.D	PROJECT TITLE: LINE 5 STRAITS OF MACKINAC	SEQ #: 510CV153
AFE: 20012629	PROJ NO: 2000143	
WP NO:		
REV	SUBSEQUENT REVISION	DATE BY CHK APPR

D-5-0.1-SKG202-1162 CIVIL GENERAL NOTES

REFERENCE DRAWINGS				

REV NO	REVISION DESCRIPTION	DATE BY	CHK	APPR

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ENBRIDGE

MACKINAW STRAITS TUNNEL SOUTH (MI) STATION
ALL SITE
SITE DRAINAGE SECTIONS AND DETAILS

BY: NL	CHK: RK	ENG: A. MOSAVI	ENB APPR: S. AHMADIAN
DATE: 2023-12-15	SCALE: NTS	STATUS: SKETCH	
DWG NO.:			REV NO:

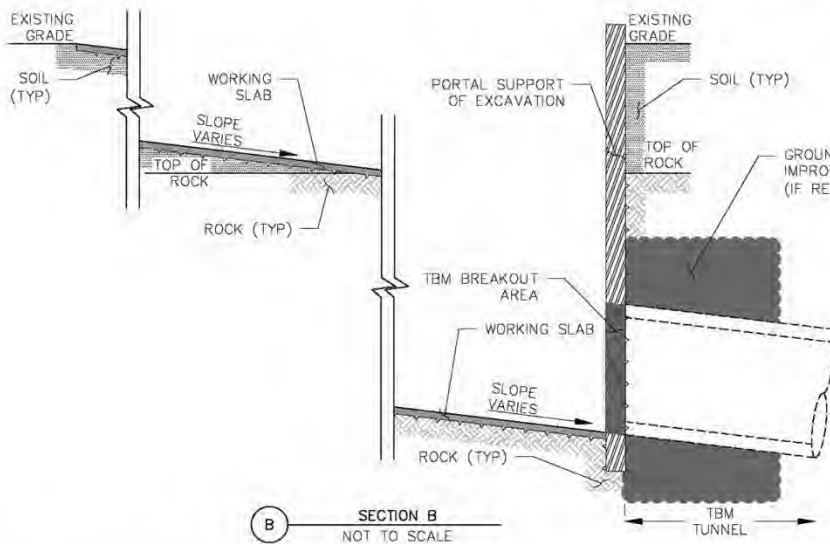
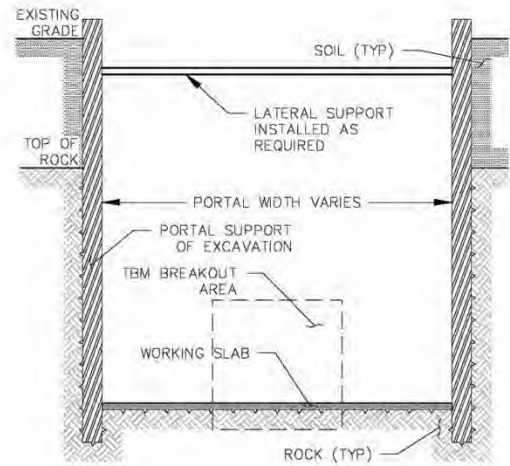
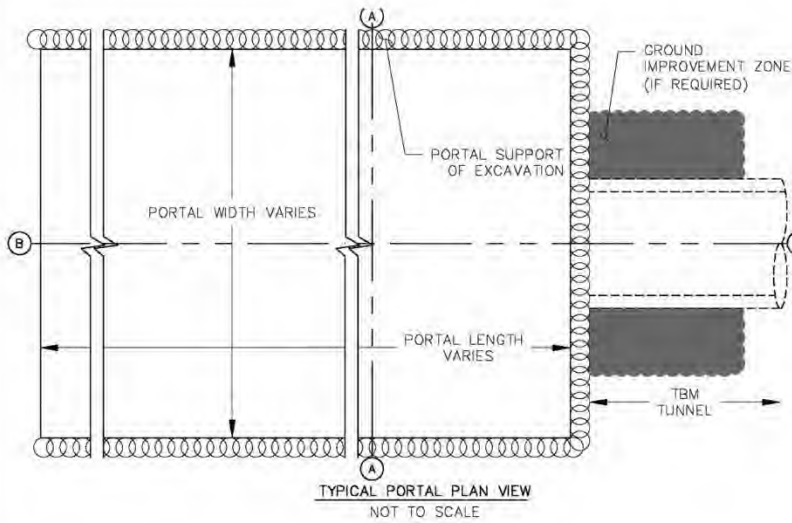
0.D

WDPMAS80-1.0

Approved

Issued On: 07/15/2026

Expires On: 07/15/2026

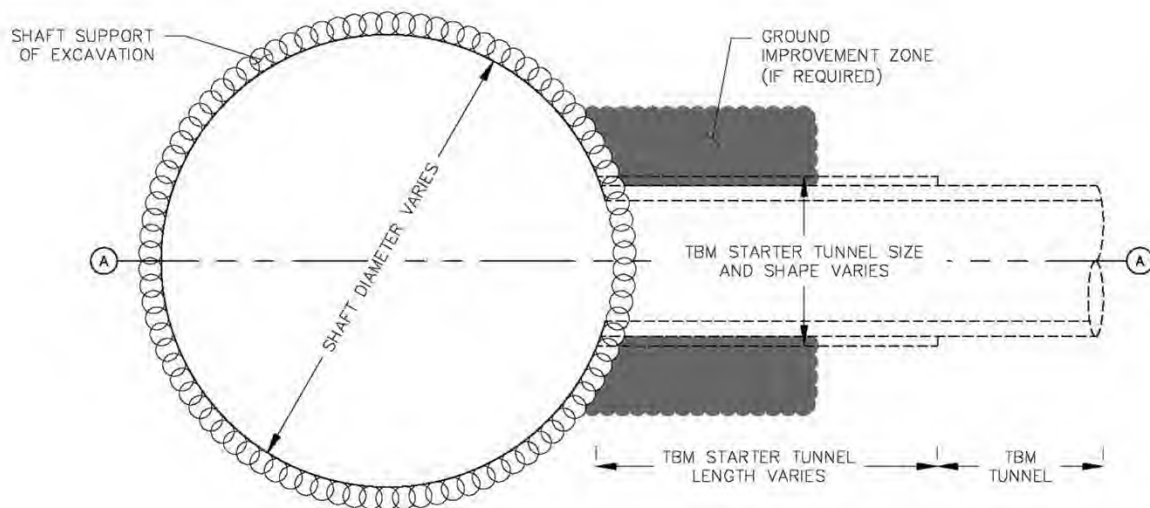


Notes
 1. Coordinate System: NAD 1983 UTM Zone 16N
 2. Data Sources: Stantec, Enbridge, NADS, USGS
 3. Background: N/A
 4. Figure prepared by Stantec Consulting Services Inc.

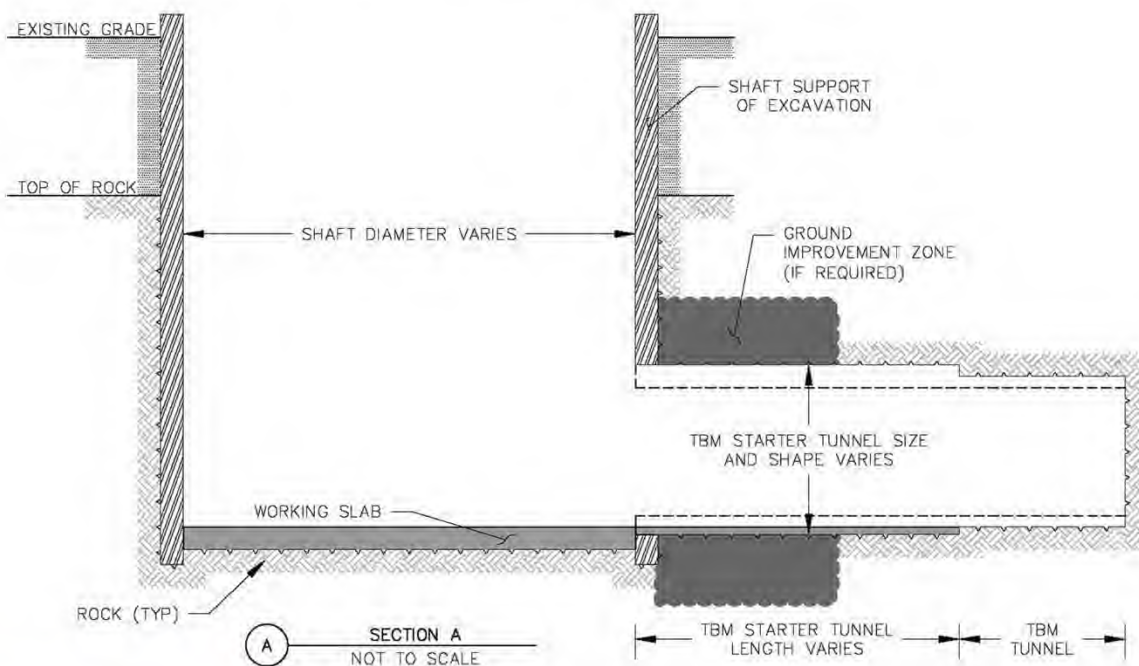


Project Location
 Mackinac County, Michigan
Prepared by JM on 2025-03-25
 TR by AS on 2025-03-25
 IR by KW on 2025-03-25
Client/Project
 Enbridge Great Lakes Tunnel Project
 Alternative Analysis & Minimization of Impact Report
 193705885

Figure No.
6
Title
Typical Tunnel Portal Design



TYPICAL SHAFT PLAN VIEW
NOT TO SCALE



SECTION A
NOT TO SCALE



Notes

1. Coordinate System: NAD 1983 UTM Zone 16N
2. Data Sources: Stantec, Enbridge, NADS, USGS
3. Background: N/A
4. Figure prepared by Stantec Consulting Services Inc.



Project Location
Mackinac County, Michigan

Prepared by JM on 2025-03-25
TR by AS on 2025-03-25
IR by KW on 2025-03-25

Client/Project
Enbridge Great Lakes Tunnel Project
Alternative Analysis & Minimization of Impact Report

193705885

Figure No.

7

Title
Typical Tunnel Shaft Design

V:\1937\Active\193705685\03_data\gis_cad\gis\mxd\2024_EGLE\193705685_GLTP_EGLE_2024.aprx Revised: 2025-02-03 By: jmarly



Figure No.
12B

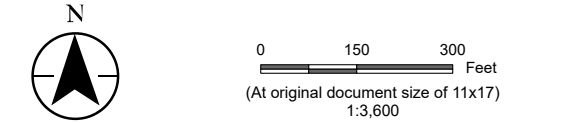
Title
**Construction Layout Map - Tunnel Retrieval Phase
Limits of Disturbance - South**

Client/Project
Enbridge Great Lakes Tunnel Project

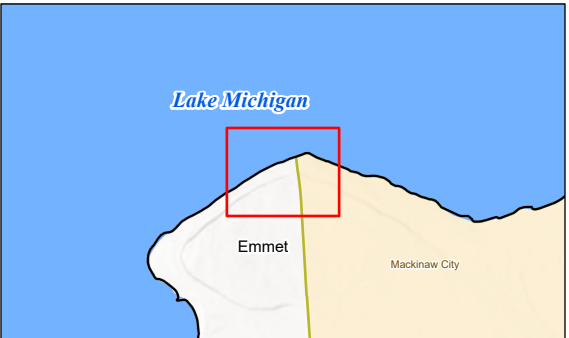
193705685

Project Location
Emmet County, Michigan

Prepared by JM on 2024-05-01
TR by TG on 2024-05-14
IR by KW on 2024-05-15



- Legend
- Limits of Disturbance
 - Approximate Water Intake
 - Approximate Water Intake Pipe
 - Construction Site Component
 - Limits for Water Intake Structure Placement
 - Hillslope



Notes

- Coordinate System: NAD 1983 UTM Zone 16N
- Data Sources: Stantec, Enbridge, USGS, NADS
- Background: NAIP 2022
- Figure prepared by Stantec Consulting Services Inc.



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Figure No.
12D

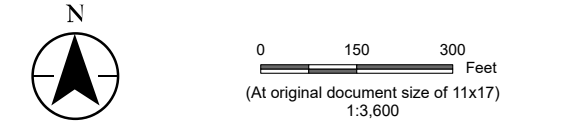
Title
**Construction Layout Map - Pipeline Installation Phase
Limits of Disturbance - South**

Client/Project
Enbridge Great Lakes Tunnel Project

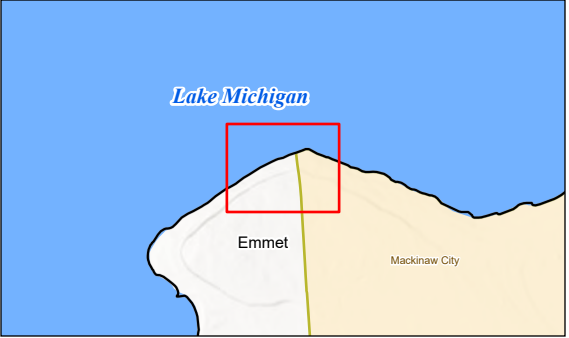
193705885

Project Location
Emmet County, Michigan

Prepared by JM on 2024-05-01
TR by TG on 2024-05-14
IR by KW on 2024-05-15



- Legend
- Limits of Disturbance
 - Approximate Water Intake
 - Approximate Water Intake Pipe
 - Construction Site Component
 - Limits for Water Intake Structure Placement
 - Hillslope



Notes

- Coordinate System: NAD 1983 UTM Zone 16N
- Data Sources: Stantec, Enbridge, USGS, NADS
- Background: NAIP 2022
- Figure prepared by Stantec Consulting Services Inc.



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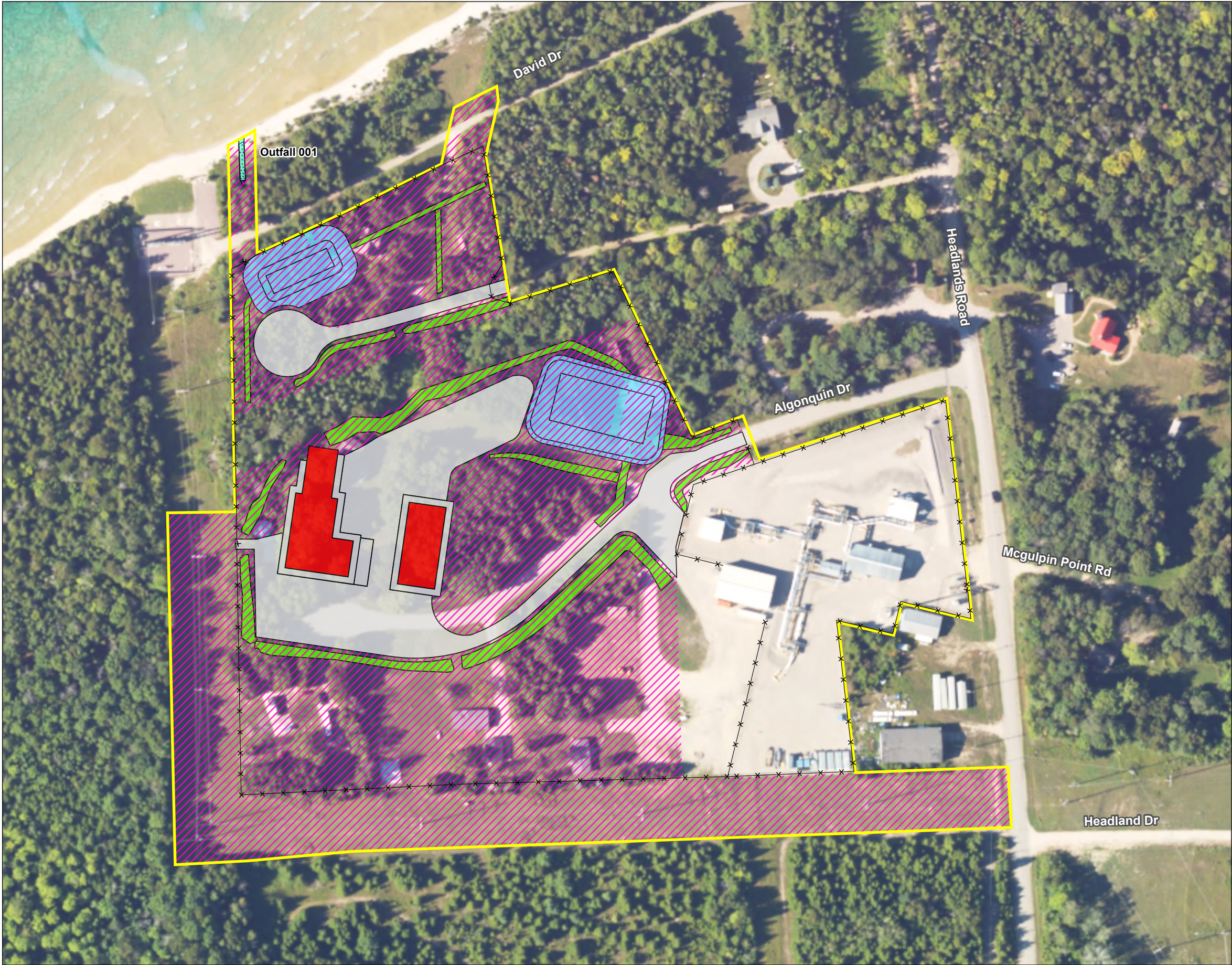


Figure No.
13B

Title
Operational Layout - South Side

Client/Project
Enbridge Great Lakes Tunnel Project

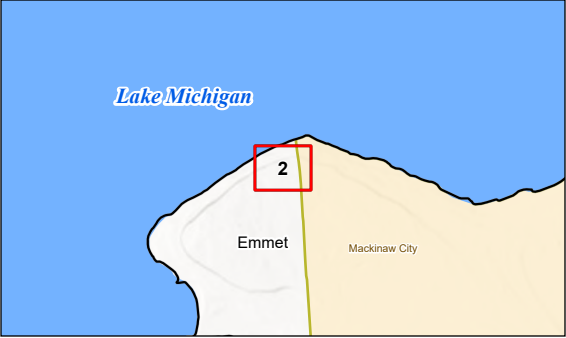
193705885

Project Location
Emmet County, Michigan

Prepared by JM on 2024-05-01
TR by TG on 2024-05-14
IR by KW on 2024-05-15



- Legend
- Limits of Disturbance
 - Permanent Fencing
 - Operational Layout
 - Building
 - Outfall / Storm Drain
 - Pavement (Access Road, Parking, Sidewalk)
 - Pond
 - Riprap
 - Swale
 - Operational Landscaping
 - Vegetated Area
 - Riprap



- Notes
- Coordinate System: NAD 1983 UTM Zone 16N
 - Data Sources: Stantec, Enbridge, USGS, NADS
 - Background: NAIP 2022
 - Figure prepared by Stantec Consulting Services Inc.



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Figure No.
3A

Title
HDD & Intake Structure Disturbance

Client/Project
Enbridge Great Lakes Tunnel Project

193705885

Project Location
Emmet County, Michigan

Prepared by JM on 2025-04-16
TR by AL on 2025-04-16
IR by CS on 2025-04-2021

N

050100

Feet

(At original document size of 11x17)
1:1,200

Legend

Limits of Disturbance

HDD Exit Point

HDD Pipe

Water Intake Ballasted Pipe

Ordinary High Water Mark

Limits for Water Intake Structure Placement

Turbidity Curtain

Water Intake Structure

Notes

1. Coordinate System: NAD 1983 UTM Zone 16N

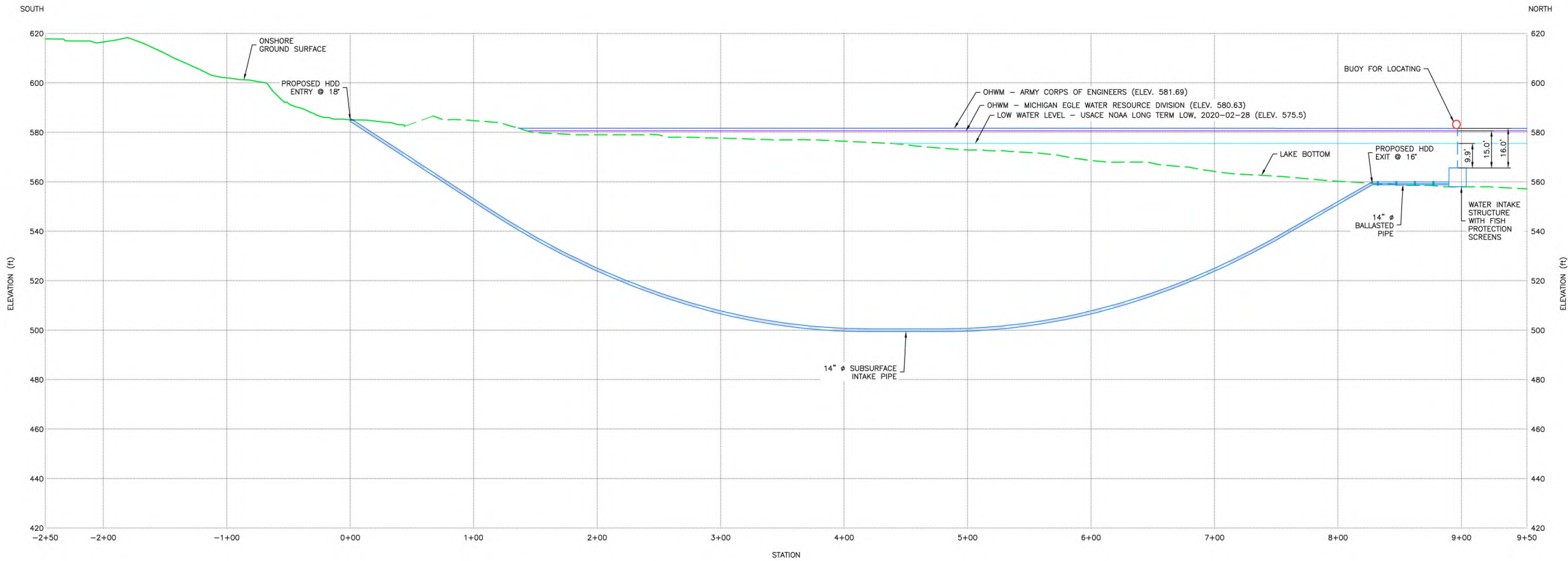
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3. Background: NAIP 2022

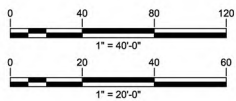
4. Figure prepared by Stantec Consulting Services Inc.



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PROFILE ALONG PROPOSED WATER INTAKE PIPELINE
SCALE 1"=40' HORIZONTAL
SCALE 1"=20' VERTICAL



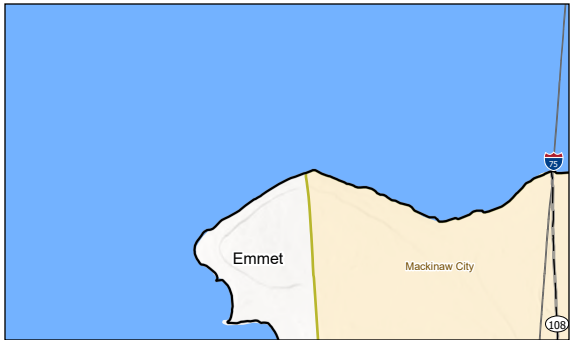
3B HDD Details

Client/Project
Enbridge Great Lakes Tunnel Project

193705885

Project Location
Mackinac & Emmet County, Michigan

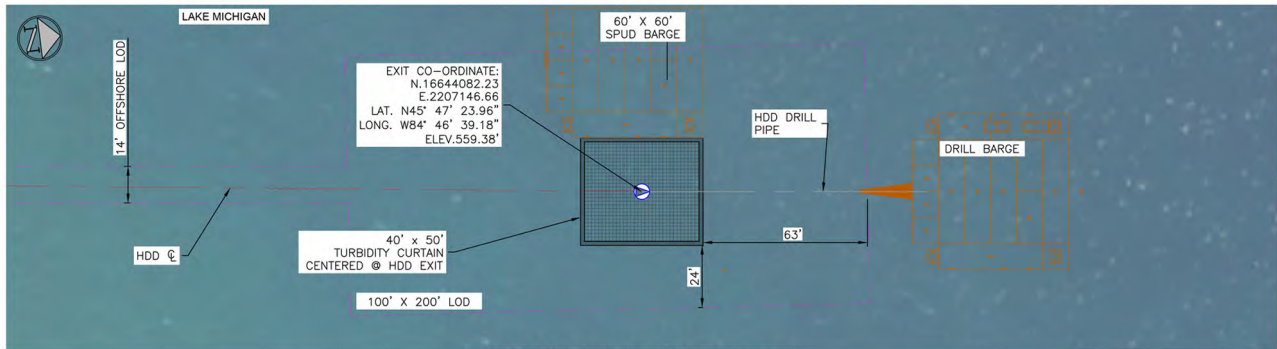
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TR by AL on 2025-04-16
IR by CS on 2025-04-21



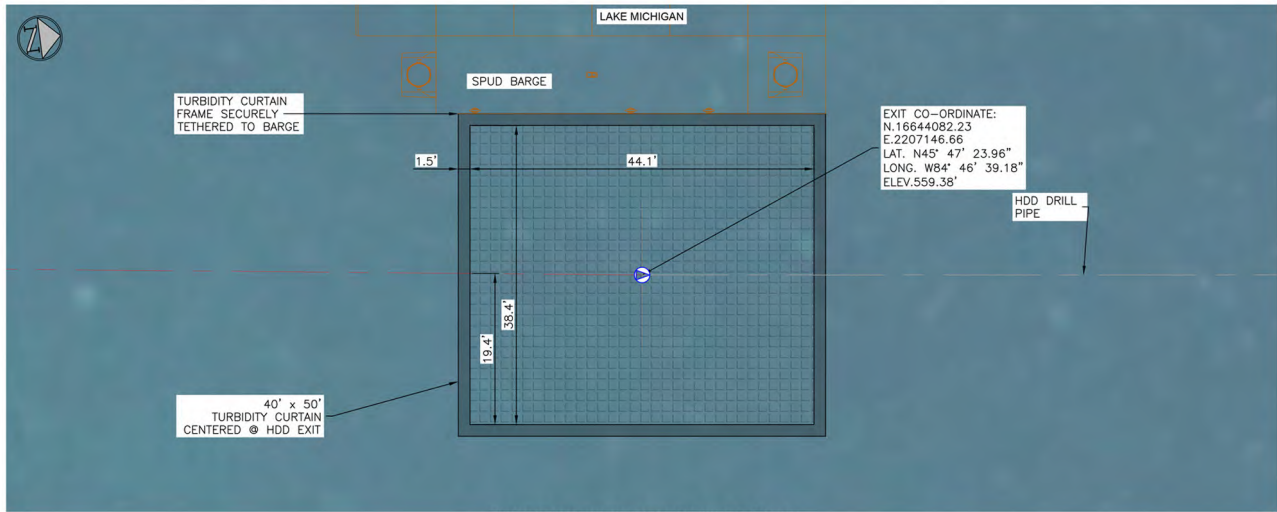
- Notes**
1. Coordinate System: NAD 1983 UTM Zone 16N
 2. Data Sources: Stantec, MSP-CV-REP-S0002-00, USGS, NADS
 3. Background: NAIP 2022
 4. Figure prepared by Stantec Consulting Services Inc.



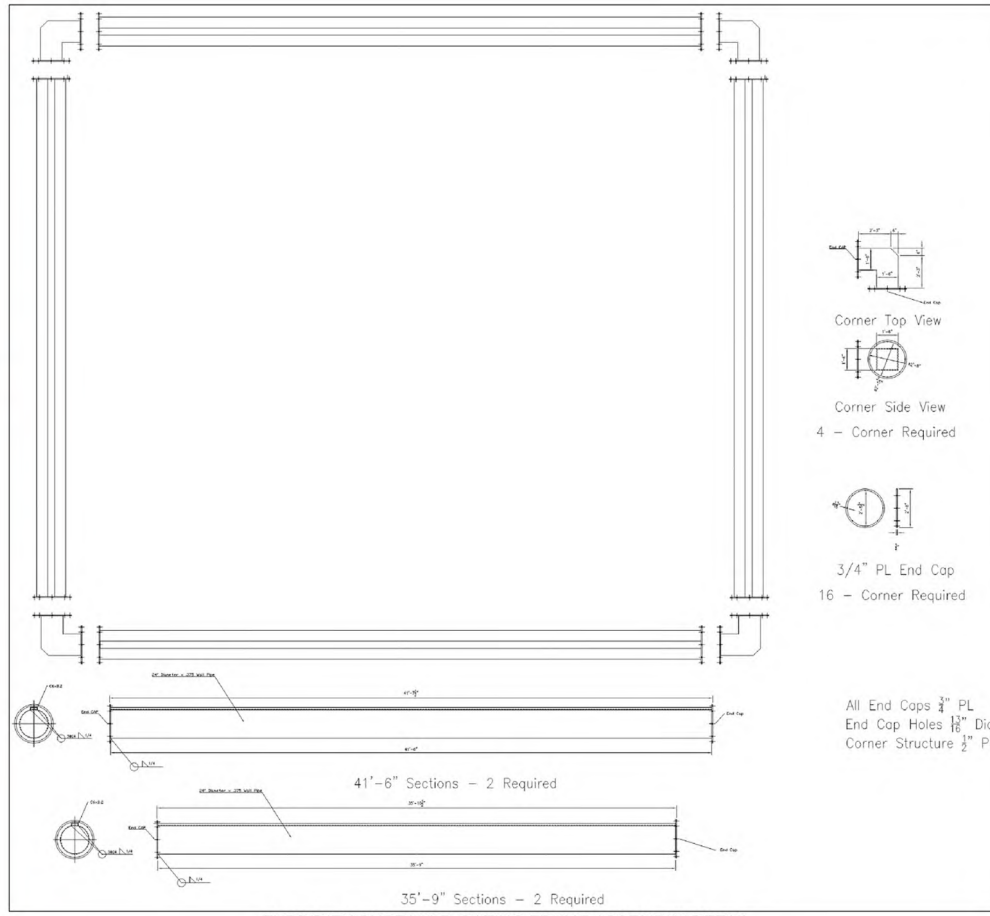
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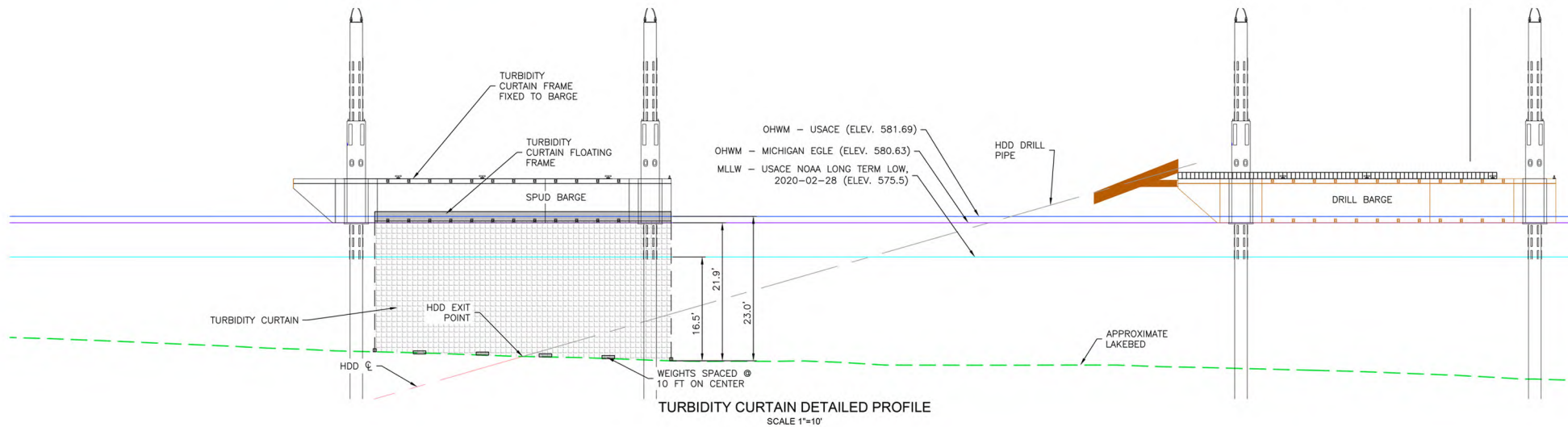
TURBIDITY CURTAIN OVERVIEW PLAN
SCALE 1"=30'



TURBIDITY CURTAIN DETAILED PLAN
SCALE 1"=10'



TURBIDITY CURTAIN FLOATING FRAME ASSEMBLY DETAIL
SCALE NTS



GENERAL NOTES

1. ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SPECIFIED. ALL DIMENSIONS ARE TO THE CENTERLINE OF BOREHOLE UNLESS OTHERWISE SPECIFIED.
2. EMERGENCY RESPONSE SPILL KITS MUST BE ON-SITE AND AVAILABLE FOR USE FOR THE DURATION OF THE PROJECT.
3. THE CONTRACTOR SHALL PROVIDE MATERIALS FOR TURBIDITY CURTAIN AND BE PREPARED TO IMPLEMENT IN RESPONSE TO A SURFACE RELEASE WITHIN THE WATER BODY.
4. TURBIDITY CURTAIN SHALL MEET THE MINIMUM REQUIREMENTS OF MDOT STANDARD CONSTRUCTION SPECIFICATION, SECTION 916.07.
5. A TURBIDITY CURTAIN ZONE HAS BEEN LOCATED NEAR THE HDD EXIT POINT IN ORDER TO COLLECT AND CONTAIN FLUIDS THAT MAY ESCAPE FROM THE BOREHOLE DURING PLOT AND REAMING OPERATIONS.
6. TURBIDITY CURTAIN SHALL REMAIN IN PLACE DURING ALL DRILLING OPERATIONS WITH ALLOWANCE FOR WATER LEVEL FLUCTUATION AND CURRENTS.

Figure 6c

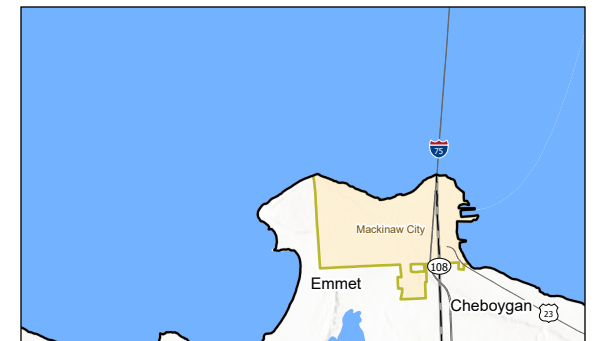
Title
**Water Intake
Turbidity Curtain Details**

Client/Project
Enbridge Great Lakes Tunnel Project

193705885

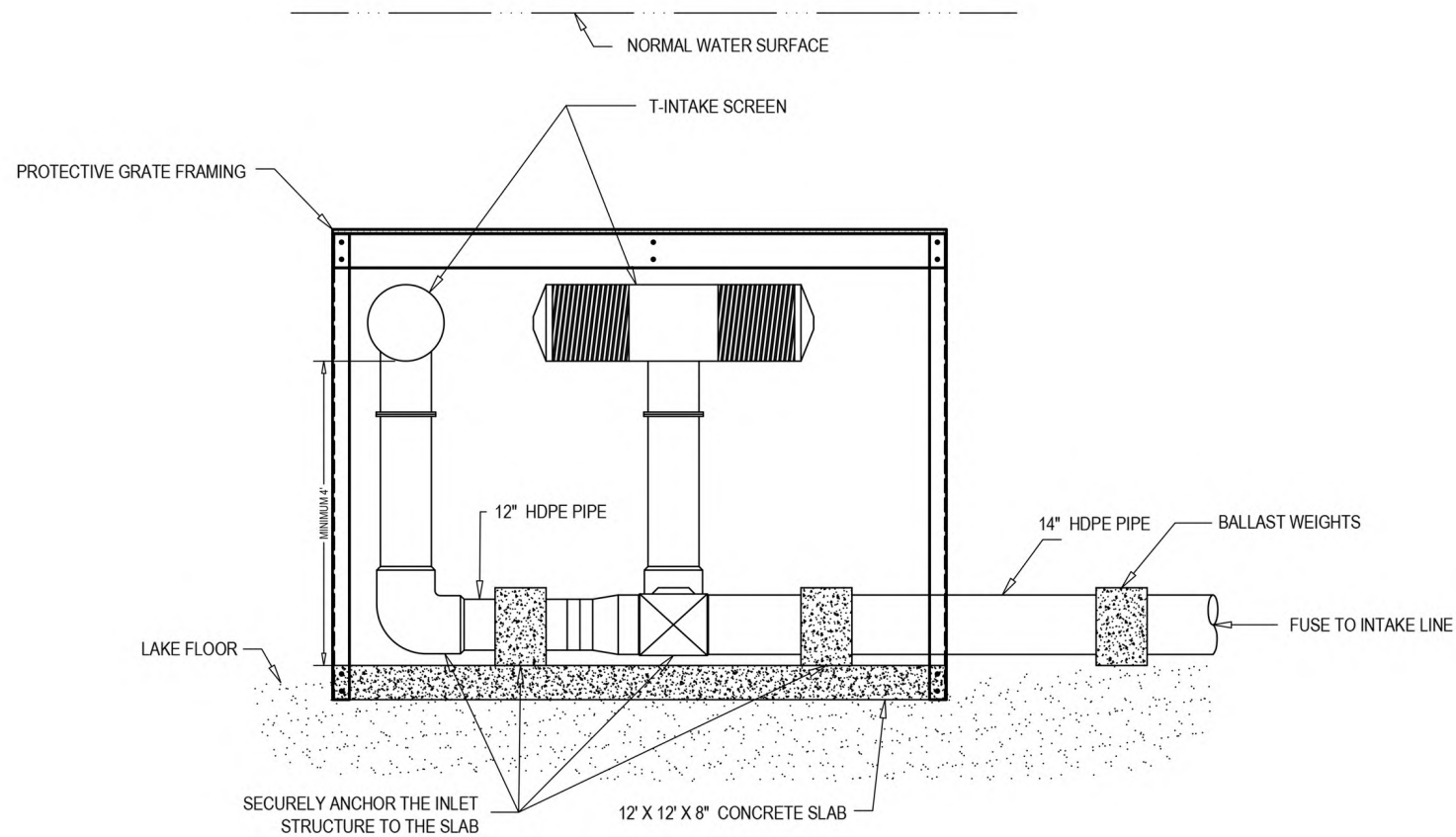
Project Location
Emmet County, Michigan

Prepared by JM on 2025-04-16
TR by AL on 2025-04-16
IR by CS on 2025-04-21

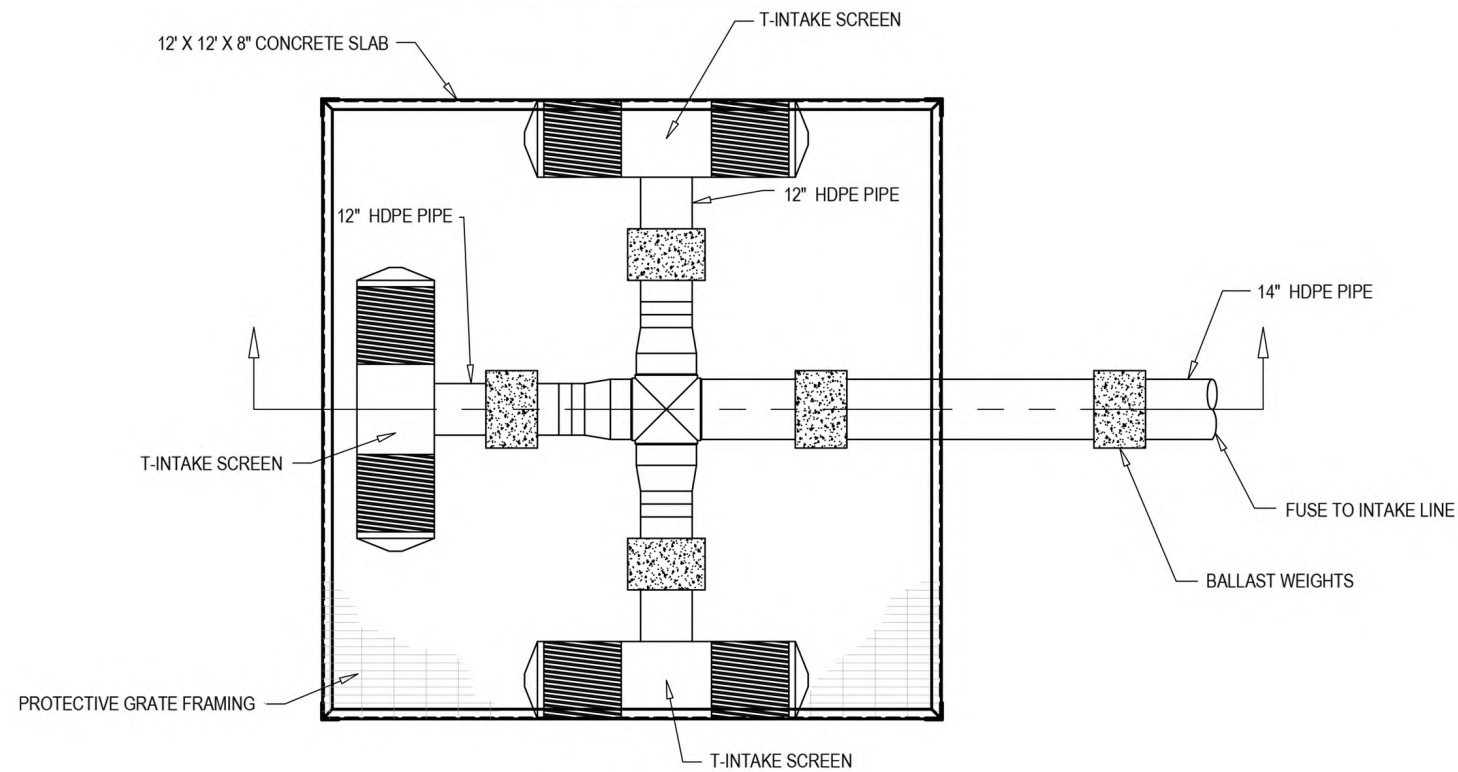


- Notes
1. Coordinate System: NAD 1983 UTM Zone 16N
 2. Data Sources: Stantec, MSP-CV-REP-S0002-00, USGS, NADS
 3. Background: NAIP 2022
 4. Figure prepared by Stantec Consulting Services Inc.





CROSS-SECTIONAL VIEW



PROFILE VIEW

Figure 6d

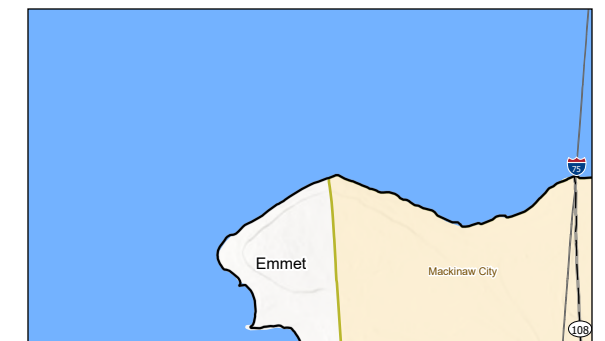
Title
Water Intake Structure
Intake Details

Client/Project
Enbridge Great Lakes Tunnel Project

193705885

Project Location
Mackinac & Emmet County, Michigan

Prepared by JM on 2025-04-16
TR by AL on 2025-04-16
IR by CS on 2025-04-23



- Notes**
1. Coordinate System: NAD 1983 UTM Zone 16N
 2. Data Sources: Stantec, MSP-CV-REP-S0002-00, USGS, NADS
 3. Background: NAIP 2022
 4. Figure prepared by Stantec Consulting Services Inc.



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EGLE
WRP049538 v1.0
Approved
Issued On:07/15/2026
Expires On:07/15/2031