AGENCY USE	Previous USACE File Number	Date Received	DEQ File Number
	USACE File Number		Fee received $

Validate that all parts of this checklist are submitted with the application package. Fill out application and additional pages as needed.

- ☐ All items in Sections 1 through 9 are completed.
- ☐ Project-specific Sections 10 through 20 are completed.
- ☐ Dimensions, volumes, and calculations are provided for all impact areas.
- ☐ All information contained in the headings for the appropriate Sections (1-20) are addressed, and identified attachments (➡) are included.
- ☐ Map, site plan(s), cross sections; one set must be black and white on 8 ½ by 11 inch paper; photographs.
- ☐ Application fee is attached.

1 Project Location Information *For Latitude, Longitude, and TRS info anywhere in Michigan see www.mcgi.state.mi.us/wetlands/*

Project Address (road, if no street address)	Zip Code	Municipality (Township/Village/City)	County
Enbridge Pipelines (Lakehead), L.L.C.; Lake Michigan (all work in-water) between Upper and Lower Michigan	***NA***	***NA***	***Mackinac and Emmet (in Straits)***

Property Tax Identification Number(s)	Latitude	Township/Range/Section (TRS)
NA	_____ . _____ N	T ***40N & 39N*** N or S; R ***4W*** E or W;
Subdivision/Plat and Lot Number	Longitude	Sec***24 & 10/11***
NA	- _____ W	OR Private Claim # _____

2 Applicant and Agent Information

Owner/Applicant (individual or corporate name)	Agent/Contractor (firm name and contact person)
Easement - Enbridge Pipelines (Lakehead), L.L.C.	
Mailing Address ***26 East Superior Street, Suite 309***	Mailing Address
City ***Duluth*** State ***MN*** Zip Code ***55802***	City State Zip Code
Contact Phone Number ***218-464-5632*** Fax	Contact Phone Number Fax
Email ***shane.yokom@enbridge.com***	E-mail

☒ No ☐ Yes Is the applicant the sole owner of all property on which this project is to be constructed and all property involved or impacted by this project? ➡ If no, attach letter(s) of authorization from all property owners including the owner of the disposal site.

Property Owner's Name (If different from applicant) ***State of Michigan (see the attached easement document [Attachment E of the Supplemental Information])***	Mailing Address
Contact Phone Number	City State Zip Code

3 Project Description

Project Name ***2017 Line 5 Anchor Installation Project***	Preapplication File Number – – –P
Name of Water body ***Lake Michigan***	Date project staked/flagged ***NA***

The proposed project is on, within, or involves (check all that apply)

- ☐ an inland lake (5 acres or more)
- ☐ a pond (less than 5 acres)
- ☐ a stream, river, ditch or drain
- ☐ a legally established County Drain
  Date Drain was established
- ☐ a channel/canal
- ☐ 500 feet of an existing water body
- ☒ a Great Lake or Section 10 Waters
- ☐ a wetland
- ☐ a 100-year floodplain
- ☐ a dam
- ☐ a designated high risk erosion area
- ☐ a designated critical dune area
- ☐ a designated environmental area

Project Use

- ☒ private
- ☐ commercial
- ☐ public/government
- ☐ project is receiving federal/state transportation funds
- ☐ Wetland Restoration
- ☐ other

Indicate the type of permit being applied for: ☒ General Permit ☐ Minor Project ☐ Individual (All other projects.) ➡ See Appendix C.

Written Summary of All Proposed Activities ***Enbridge plans to conduct maintenance on its existing 20-inch-diameter Line 5 pipelines, by installing helical anchor support stuctures at 22 locations within the Straits of Mackinac. See the attached Supplemental Information.***

Construction Sequence and Methods ***A marine infrastructure and utility contractor will be used to execute the anchor installations and the work activity will be conducted from barges. Any equipment staging will be done at existing port facilities, no temporary workspaces, or new access routes will be required for the Project. See the attached Supplemental Information.***

4 Project Purpose, Use and Alternatives *Attach additional sheets as necessary.*

Describe the purpose of the project and its intended use; include any new development or expansion of an existing land use.

The purpose of the project is to install 22 anchor supports on the dual pipelines to decrease the span distance at these locations. See the attached Supplemental Information.

Describe the alternatives considered to avoid or minimize resource impacts. Include factors such as, but to limited to, alternative locations, project layout and design, and construction technologies. For utility crossings include alternative routes and construction methods.

A no-build alternative would not meet the Project need. See the attached Supplemental Information.

5 Locating Your Project Site *Attach a legible black and white map with a North arrow.*

Names of roads of closest intersection ***NA - work conducted entirely in water***

Directions from main intersection to the project site, with distances from the best and nearest visible landmark and water body ***See the attached Supplemental Information***

Description of buildings on the site *(color; 1 or 2 story, other)*	Description of adjacent landmarks or buildings *(address; color; etc)*
NA	***NA***

How can your site be identified if there is no visible address? ***NA***

6 Easements and Other Permits

☒ No ☐ Yes Is there a conservation easement or other easement, deed restriction, lease, or other encumbrance upon the property?

➡ If yes, attach a copy. Provide copies of court orders and legal lake levels if applicable.

List all other federal, interstate, state, or local agency authorizations including required assurances for Critical Dune Area projects.

Agency	Type of Approval	Number	Date Applied	Date approved /denied	Reason for denial
U.S. Coast Guard	***Notification***				
Mackinac Bridge Authority	***Notification***				

7 Compliance

If a permit is issued, when will the activity begin? (M/D/Y)	Proposed completion date (M/D/Y)

☒ No ☐ Yes Has any construction activity commenced or been completed in a regulated area?

➡ If Yes, identify the portion(s) underway or completed on drawings or attach project specifications and give completion date(s).

☒ No ☐ Yes Were the regulated activities conducted under a DEQ and/or USACE permit?

➡If Yes, list the permit numbers

☒ No ☐ Yes Are you aware of any unresolved violations of environmental law or litigation involving the property?

➡ If Yes, attach explanation.

8 Adjoining Property Owners *Provide current mailing addresses. Attach additional sheets/labels for long lists.*

☐ Established Lake Board ☐ Lake Association	Contact Person	Mailing Address	City	State and Zip Code

List all adjoining property owners.

If you own the adjoining lot, provide the requested information for the first adjoining parcel that is not owned by you.

Property Owner's Name	Mailing Address	City	State and Zip Code
County of Emmet	***200 Division Street***	***Petoskey***	***MI 49770***
City of St. Ignace	***396 N. State Street***	***St. Ignace***	***MI 49781***

9 Applicant's Certification *Read carefully before signing.*

I am applying for a permit(s) to authorize the activities described herein. I certify that I am familiar with the information contained in this application; that it is true and accurate; and, to the best of my knowledge, that it is in compliance with the State Coastal Zone Management Program. I understand that there are penalties for submitting false information and that any permit issued pursuant to this application may be revoked if information on this application is untrue. I certify that I have the authority to undertake the activities proposed in this application. By signing this application, I agree to allow representatives of the DEQ, USACE, and/or their agents or contractors to enter upon said property in order to inspect the proposed activity site before and during construction and after the completion of the project. I understand that I must obtain all other necessary local, county, state, or federal permits and that the granting of other permits by local, county, state, or federal agencies does not release me from the requirements of obtaining the permit requested herein before commencing the activity. I understand that the payment of the application fee does not guarantee the issuance of a permit.

	Printed Name	Signature	Date
☐ Property Owner ☐ Agent/Contractor ☒ Corp. or Public Agency / Title	***Justin Hoffman,*** ***Supervisor, Special Projects***	Justin Hoffman	***May 9, 2017***

10 Projects Impacting Inland Lakes, Streams, Great Lakes, Wetlands or Floodplains

- Complete only those sections A through M applicable to your project.
- If your project impacts wetlands also complete Section 12. If your project impacts regulated floodplains also complete Section 13.
- To calculate volume in cubic yards (cu yd), multiply the average length in feet (ft) times the average width (ft) times the average depth (ft) and divide by 27. Example: (25 ft long x 10 ft wide x 2 feet deep) / 27 = 18.5 cubic yards
- Some projects on the Great Lakes require an application for conveyance prior to Joint Permit Application completeness.

➡Provide a black and white overall site plan, with cross-section and profile drawings. Show existing lakes, streams, wetlands, and other water features; existing structures; and the location of all proposed structures, land change activities and soil erosion and sedimentation control measures. Review Appendix B and EZ Guides for aid in providing complete site-specific drawings.

➡Provide tables for multiple impact areas or multiple activities such as multiple fill areas or multiple culverts. Include your calculations.

Water Level Elevation

On inland waters ☐ NGVD 29 ☐ NAVD 88 ☐ other Observed water elevation (ft) date of observation (M/D/Y)

On a Great Lake ☐ IGLD 85 ☐ surveyed ☐ converted from observed still water elevation.

☐ A. PROJECTS REQUIRING FILL (See All Sample Drawings)

➡Attach a site plan and cross-section views to scale showing maximum and average fill dimensions with calculations.

➡ For multiple impact areas on a site provide a table with location, dimensions and volumes for each fill area.

Purpose ☐ bioengineered shore protection ☐ boat ramp ☐ boat well ☐ bridge or culvert ☐ crib dock ☐ riprap ☐ seawall ☐ swim area ☐ other

Dimensions of fill (ft) Length Width Maximum Depth	Total volume (cubic yards)	Volume below OHWM (cubic yards)
Maximum water depth in fill area (ft)	Area filled (sq ft)	Will filter fabric be used under proposed fill? ☐ No ☐ Yes (If Yes, type)

Fill will extend feet into the water from the shoreline and upland feet out of the water.

Type of clean fill ☐ peastone % ☐ sand % ☐ gravel % ☐ other

Source of clean fill ☐ commercial ☐ on-site ➡ If on-site, show location on site plan. ☐ other ➡ If other, attach description of location.

☐ B. PROJECTS REQUIRING DREDGING OR EXCAVATION (See Sample Drawings)

- Refer to www.mi.gov/jointpermit for spoils disposal and authorization requirements.

➡Attach a site plan and cross-section views to scale showing maximum and average dredge or excavation dimensions with calculations.

➡For multiple impact areas on a site provide a table with location, dimensions and volumes for each dredge/excavation area.

Purpose ☐ boat ramp ☐ boat well ☐ bridge or culvert ☐ maintenance dredge ☐ navigation ☐ pond/basin ☐ other

Dimensions (ft) Length Width Maximum Depth	Total volume (cu yds)	Volume below OHWM (cu yds)

Has this same area been previously dredged?	☐ No ☐ Yes	If Yes, provide date and permit number:
Will the previously dredged area be enlarged?	☐ No ☐ Yes	If Yes, when and how much?
Is long-term maintenance dredging planned?	☐ No ☐ Yes	If Yes, how often?

Dredge or Excavation Method ☐ Hydraulic ☐ Mechanical ☐ other

Spoils Disposal

Dredged or excavated spoils will be placed ☐ on-site ☐ landfill ☐ USACE confined disposal facility ☐ other upland off-site

For disposal, provide a ➡Detailed spoils disposal area location map and site plan with property lines.

➡Letter of authorization from property owner of spoils disposal site, if disposed off-site.

For volumes less than 5,000 cu yards, has proposed dredge material been tested for contaminants within the past 10 years?

☐ No ☐ Yes ➡If Yes, provide test results with a map of sampling locations.

☐ C. PROJECTS REQUIRING RIPRAP (See Sample Drawings 2, 3, 8, 12, 14, 22, and 23)

Riprap water ward of the ordinary high water mark: dimensions (ft) length width depth	Volume(cu yd)
Riprap landward of the ordinary high water mark: dimensions (ft) length width depth	Volume(cu yd)

Type and size of riprap (inches) ☐ field stone ☐ angular rock ☐ other	Will filter fabric or pea stone be used under proposed riprap? ☐ No ☐ Yes, Type

☐ **D. SHORE PROTECTION PROJECTS** (See EZ Guides and Sample Drawings 2, 3, and 17. Complete Sections 10A, B, and/or C.)
➡ For bioengineering projects include the list of native plants/seeds, if available.

Type and length (ft) ☐ bioengineering (ft) ☐ revetment (ft) ☐ riprap (ft) ☐ seawall/bulkhead (ft)	
Structure is ☐ new ☐ repair ☐ replacement of an existing structure	Will the existing structure be removed? ☐ No ☐ Yes
Proposed Toe Stone (linear feet)	Distance of project from adjacent property lines (ft)
Distance of project from an obvious fixed structure (example - 50 ft from SW corner of house)	
For bioengineering projects indicate the structure type ☐ brush bundles ☐ coir log ☐ live stakes ☐ tree revetment ☐ other	

☐ **E. DOCK - PIER – MOORING PILINGS** (See Sample Drawing 10)
➡ Attach a copy of the property legal description, mortgage survey, or a property boundary survey report.

Dock Type ☐ open pile ☐ filled ☐ crib ☐ floating ☐ cantilevered ☐ spring piles ☐ piling clusters ☐ other	
Is the structure within the applicant's riparian area interest area? ☐ No ☐ Yes ➡ Show parcel property lines on the site plan.	
Proposed structure dimensions (ft) length width	Use ☐ private ☐ public ☐ commercial
Dimensions of nearest adjacent structures (ft) length width	Distance of dock from adjacent property lines (ft)

☐ **F. BOAT WELL** (See EZ Guide. Complete Sections 10A and 10B)

Dimensions (ft) length width depth	Number of boats
Type of sidewall stabilization ☐ concrete ☐ riprap ☐ steel ☐ vinyl ☐ wood ☐ other	
Volume of backfill behind sidewall stabilization (cu yd)	Distance of boat well from adjacent property lines (ft)

☐ **G. BOAT RAMP** (See EZ Guide. Complete sections 10A, 10B, and 10C for mattress and pavement fill, dredge, and riprap)

Type ☐ new ☐ existing ☐ maintenance/improvement		Use ☐ private ☐ public ☐ commercial
Existing overall boat ramp dimensions (ft) length width depth		Type of construction material ☐ concrete ☐ wood ☐ stone ☐ other
Proposed overall ramp dimensions (ft) length width depth		Proposed ramp dimensions (ft) below ordinary high water mark length width depth
Number of proposed skid piers	Proposed skid pier dimensions (ft) length width	Distance of ramp from adjacent property lines (ft)

☐ **H. BOAT HOIST – ROOFS** (See EZ Guide)

Type ☐ cradle ☐ side lifter ☐ other	Located on ☐ seawall ☐ dock ☐ bottomlands
Hoist dimensions, including catwalks (ft) length width	
Area occupied, including cat walks (sq ft)	Distance of hoist from adjacent property lines (ft)
Permanent Roof ☐ No ☐ Yes ➡ If Yes, how is the roof supported?	Maximum Roof Dimensions (ft): length width height

☐ **I. BOARDWALKS and DECKS in WETLANDS or FLOODPLAINS** (See Sample Drawings 5 and 6. Complete Sections 12 and/or 13)
➡ Provide a table for multiple boardwalks and decks proposed in one project; include locations and dimensions.

Wetlands		**Floodplains**	
Boardwalk ☐ on pilings ☐ on fill Dimensions (ft) length width	Deck ☐ on pilings ☐ on fill Dimensions (ft) length width	Boardwalk ☐ on pilings ☐ on fill Dimensions (ft) length width	Deck ☐ on pilings ☐ on fill Dimensions (ft) length width

☐ **J. INTAKE PIPES** (See Sample Drawing 16) or **OUTLET PIPES** (See Sample Drawing 22)

If outlet pipe, discharge is to ☐ inland lake ☐ stream, drain or river ☐ overland flow ☐ Great Lake ☐ wetland ☐ other			
Number of pipes	Pipe diameters and invert elevations	Does pipe discharge below the OHWM?	☐ No ☐ Yes
		Is the water treated before discharge?	☐ No ☐ Yes
Type ☐ headwall ☐ end section ☐ other		Dimensions of headwall OR end section (ft) length width height	

☐ **K. MOORING and NAVIGATION BUOYS** (See EZ Guide for Sample Drawing)

➡Provide a site plan showing the distances between each buoy and from the shore to each buoy, and depth (ft) of water at each location.
➡Provide cross-section drawing(s) showing anchoring system(s) and dimensions.

Purpose of buoy ☐ mooring ☐ navigation ☐ scientific structures ☐ swimming ☐ other

Number of buoys	Dimensions of buoys (ft) width height swing radius chain length	Boat Lengths	Type of anchor system

Buoy Location: Latitude . N Longitude -- . W. ➡ Provide a table for multiple buoys.

Do you own the property along the shoreline?	☐ No ☐ Yes	➡ If No, attach an authorization letter from the property owner(s).
Do you own the bottomlands?	☐ No ☐ Yes	➡ If No, attach an authorization letter from the property owner(s).

☐ **L. FENCES**

➡Provide an overall site plan showing the proposed fencing through streams, wetlands or floodplains.
➡Provide a drawing of fence profile showing the design, dimension, post spacing, mesh, and distance from ground to bottom of fence.

Purpose of fence ☐ Airport ☐ Cervidae ☐ Livestock ☐ Residential ☐ Security ☐ Other

Total length (ft) of fence through streams wetlands floodplains	Fence height (ft)	Fence type and material

☐ **M. OTHER** - e.g., structure removal, maintenance or repair, aerator, dry fire hydrant, gold prospecting, habitat structures, scientific measuring devices, soil borings, or survey activities.

Structure description, dimensions and volumes. Complete Sections 10A-C as applicable.

11 Expansion of an Existing or Construction of a New Lake or Pond (See Sample Drawings 4 and 15)

➡Complete Section 10J for outlets and Section 17 for water control structures.
➡Provide elevations, cross-sections and profiles of outlets, dams, dikes, water control structures and emergency spillways to nearest water bodies.

Which best describes your proposed water body use (check all that apply)
☐ mining ☐ recreation ☐ storm water retention basin ☐ wastewater basin ☐ wildlife ☐ other

Water source for lake/pond
☐ groundwater ☐ natural springs ☐ Inland Lake or Stream ☐ storm water runoff ☐ pump ☐ sewage ☐ other

Location of the lake/basin/pond ☐ floodplain ☐ wetland ☐ stream (inline) ☐ upland

Maximum dimensions (ft) length width depth	Maximum Area: ☐ acres ☐ sq ft

Has the there been a hydrologic study performed on the site?	☐ No ☐ Yes	➡ If Yes, provide a copy.
Has the DEQ conducted a wetland assessment for this parcel?	☐ No ☐ Yes	➡ If Yes, provide a copy or WIP number:
Has a professional wetland delineation been conducted for this parcel?	☐ No ☐ Yes	➡ If Yes, provide a copy with data sheets.

Spoils Disposal

Dredged or excavated spoils will be placed ☐ on-site ☐ landfill ☐ USACE confined disposal facility ☐ other upland off-site
For disposal, provide a ➡Detailed spoils disposal area location map and site plan with property lines.
➡Letter of authorization from property owner of spoils disposal site, if disposed off-site.

12 Activities That May Impact Wetlands (See Sample Drawings 8 & 9). Complete other Sections as applicable.

- Locate your site and wetland information with the DEQ Wetlands Map Viewer at www.mcgi.state.mi.us/wetlands/
- For information on the DEQ's Wetland Identification Program (WIP) visit www.mi.gov/wetlands.
  - ➡ Provide a detailed site plan with labeled property lines, upland and wetland areas, and dimensions and volumes of wetland impacts.
  - ➡ Complete the wetland dredge and wetland fill dimension information below for each impacted wetland area.
  - ➡ Attach tables for multiple impact areas or activities.
  - ➡ Attach at least one cross-section for each wetland dredge and/or fill area; show wetland and upland boundaries on the cross-section.

Has the DEQ conducted a wetland assessment for this parcel?	☐ No ☐ Yes	➡ If Yes, provide a copy or WIP number:
Has a professional wetland delineation been conducted for this parcel?	☐ No ☐ Yes	➡ If Yes, provide a copy with data sheets
Is there a recorded DEQ easement on the property?	☐ No ☐ Yes	➡ If Yes, provide the easement number
Did the applicant purchase the property before October 1, 1980?	☐ No ☐ Yes	➡ If Yes, provide documentation.
Is any grading or mechanized land clearing proposed?	☐ No ☐ Yes	➡ If Yes, label the locations on the site plan.
Has any of the proposed grading or mechanized land clearing been completed?	☐ No ☐ Yes	➡ If Yes, label the locations on the site plan

Proposed Activity

☐ boardwalk or deck (Section 10I)	☐ bridges and culverts (Section 14)	☐ designated environmental area
☐ dewatering	☐ draining surface water	☐ driveway / road
☐ fences (Section 10L)	☐ fill or dredge	☐ restoration
☐ septic system	☐ stormwater discharge (Section 10J)	☐ other

FILL	Dimensions maximum length (ft) maximum width (ft)	Area ☐ acres ☐ sq ft	Average depth (ft)	Volume (cu yd)
DREDGE	Dimensions maximum length (ft) maximum width (ft)	Area ☐ acres ☐ sq ft	Average depth (ft)	Volume (cu yd)

Spoils Disposal

Dredged or excavated spoils will be placed ☐ on-site ☐ landfill ☐ USACE confined disposal facility ☐ other upland off-site

For disposal, provide a ➡ Detailed spoils disposal area location map and site plan with property lines.

➡ Letter of authorization from property owner of spoils disposal site, if disposed off-site.

Septic System

The proposed project will be serviced by:
☐ public sewer ☐ private septic system
➡ Show system on plans.

If a private septic system is proposed, has an application for a permit been made to the County Health Department? ☐ No ☐ Yes
If Yes, has a permit been issued? ☐ No ☐ Yes ➡ Provide a copy of the permit.

Describe the wetland impacts, the proposed use or development, and the alternatives considered:

Does the project impact more than 1/3 acre of wetland? ☐ No ☐ Yes
➡ If Yes, submit a Mitigation Plan with the type and amount of mitigation proposed. For more information go to www.mi.gov/wetlands

Describe how impacts to waters of the United States will be avoided and minimized:

Describe how the impact to waters of the United States will be compensated. OR Explain why compensatory mitigation should not be required for the proposed impacts.

13 Floodplain Activities (See Sample Drawing 5 and others. Complete other applicable sections.)

- For more information go to www.mi.gov/floodplainmanagement. This site also lists the projects and requirements for an expedited floodplain review under "Expedited Review Information for Minor Floodplain Projects."
- Examples of projects proposed within the non-floodway portions of the 100-year-floodplain which may qualify for an expedited review: Open pile decks and boardwalks; residences, commercial/industrial facilities, garages and accessory structures; parking lots; pavilions, gazebos, large community playground structures; residential swimming pools
- Examples of projects proposed within the floodway portions of the floodplain which may qualify for an expedited review: Open pile decks and boardwalks, (non-enclosed) that are anchored to prevent floatation and that do not extend over the bed and bank of a watercourse; parking lots constructed at grade or resurfacing that is no more than 4 inches above the existing grade; dry hydrants that do not require fill placement; scientific structure such as staff gauges, water monitoring devices, water quality testing devices, and core sampling devices which meet specific design criteria and fish structures that meet specific design criteria.
- For expedited review include:
  - Photographs of the work site labeled to identify what is being shown and with the direction of the photo clearly indicated. Include photographs of any river or stream adjacent to the project.
  - A letter or statement from the local unit of government acknowledging your proposed application. See the website for sample wording.
- A hydraulic analysis or hydrologic analysis may be required to fully assess floodplain impacts.
- The state building code requires an Elevation Certificate for any building construction or addition in a floodplain. A sample form can be found at www.fema.gov/nfip/elvinst.shtm.
  - Attach additional sheets or tables for multiple proposed floodplain activities and provide hydraulic calculations.
  - Show reference datum used on plans.

Proposed Activity ☐ fill ☐ excavation or cut ☐ other	100-year floodplain elevation (ft) (if known) Datum ☐ NGVD 29 ☐ NAVD 88 ☐ other
Site is feet above ☐ ordinary high water mark (OHWM) OR ☐ observed water level. Date of observation (M/D/Y)	
Fill volume below the 100-year floodplain elevation (cu yds)	Compensating cut volume below the 100-year floodplain elevation (cu yds)

Buildings and/or Additions

Type of construction is ☐ residential ☐ garage/pole barn ☐ non residential ☐ other

Construction is ☐ new ☐ addition AND Serviced by ☐ public sewer ☐ private septic ☐ other

Lowest adjacent grade (ft): existing proposed

datum ☐ NGVD 29 ☐ NAVD 88 ☐ other

Existing Structure Information	Proposed Structure Information
Foundation type ☐ basement ☐ concrete slab on grade ☐ pilings ☐ crawl space ☐ other	Foundation type ☐ basement ☐ concrete slab on grade ☐ pilings ☐ crawl space ☐ other
Foundation floor elevation (ft)	Foundation floor elevation (ft)
Height of crawl space/basement from finished foundation floor to bottom of floor joists (ft)	Height of crawl space/basement from finished foundation floor to bottom of floor joists (ft)
Elevation of 1st floor above basement floor/crawl space (ft)	Elevation of 1st floor above basement floor/crawl space (ft)

For enclosed areas below the flood elevation, such as a crawl space, garages and accessory structures:

Area of proposed foundation (sq ft)

Elevation of proposed enclosed area (ft) datum ☐ NGVD 29 ☐ NAVD 88 ☐ other

Number of flood vents net opening of each vent (sq inches) lowest elevation of flood vents (ft)

ENBDNR0003212

14 Bridges and Culverts Including Foot and Cart Bridges. (See EZ Guides and Sample Drawings 5, 14A, 14B, 14C, 14D.)

- Complete other applicable Sections, including 10A-C.
- A hydraulic analysis or hydrologic analysis may be required to fully assess impacts. ➡Attach hydraulic calculations.
- High Water Elevation - describe reference point and highest known water level above or below reference point and date of observation.

➡Attach additional sheets for multiple bridges and/or culverts.

➡Provide detailed site-specific drawings of existing and proposed Plan and Elevation View at a scale adequate for detailed review.

➡Provide all information in the boxes below; do not write in a reference to plan sheets. Show reference datum used on plans.

Stream Information

The site has a high water elevation (ft) ☐ above or ☐ below the Reference Point of Date observed		
Reference datum used ☐ NGVD 29 ☐ NAVD 88 ☐ IGLD 85 (Great Lakes coastal areas) ☐ other		
Average stream width (ft) at the ordinary high water mark (OHWM) outside the influence of any ponding or scour holes around the structure	Upstream	
	Downstream	
Cross-sectional area of primary channel (sq ft) (See Sample Drawing 14C for more information)		
The width of the stream where the water begins to overflow its banks. Bankfull width (ft)		
The invert of the stream 100-feet from structure (ft)	Upstream	
	Downstream	
Is the existing culvert perched? ☐ No ☐ Yes If Yes, provide a profile of the channel bottom at the high and low points for a distance of 200 feet upstream and downstream of the culvert.		

Complete this form for each bridge / culvert location.		Existing	Proposed
Bridge			
Number of bridge spans			
Bridge type (concrete box beam, concrete I-beam, timber, etc.)			
Bridge span (length perpendicular to stream) (ft)			
Bridge width (parallel to stream) (ft)			
Bottom of bridge beam (ft)	Upstream		
	Downstream		
Stream invert elevation at bridge (ft)	Upstream		
	Downstream		
Bridge rise from bottom of beam to streambed (ft)			
Culvert			
Number of culverts			
Culvert type (arch, bottomless, box, circular, elliptical, etc.)			
Culvert material (concrete, corrugated metal, plastic, etc.)			
Culvert length (ft)			
Culvert ☐ width ☐ diameter (ft)			
Culvert height prior to any burying (ft)			
Depth culvert will be buried (ft)			
Elevation of culvert crown (ft)	Upstream		
	Downstream		
Higher elevation of ☐ culvert invert OR ☐ streambed within culvert (ft)	Upstream		
	Downstream		
Complete for both Bridges and Culverts			
Entrance design (mitered, projecting, wingwalls, etc.)			
Total structure waterway opening above streambed (sq ft)			
Total structure waterway area below the 100-year elevation (sq ft) (if known)			
Elevation of road grade at structure (ft)			
Elevation of low point in road (ft)			
Distance from low point of road to mid-point of bridge crossing (ft)			
Length of approach fill from edge of bridge/culvert to existing grade (ft)			

A Licensed Professional Engineer may certify that your project will not cause a harmful interference for a range of flood discharges up to and including the 100-year flood discharge. The "Required Certification Language" is found under "forms" on the "maps, forms and documents" link from the www.mi.gov/jointpermit page or a copy may be requested by phone, email, or mail. A hydraulic report supporting this certification may also be required.

Is Certification Language attached? ☐ No ☐ Yes

15 Stream, River, or Drain Construction , Relocation and Enclosure Activities

- Complete Section 10C for riprap activities.
- If side casting or other proposed activities will impact wetlands or floodplains, complete Sections 12 and 13, respectively.
  - ➡ Provide a scaled overall site plan showing existing lakes, streams, wetlands, and other water features; existing structures; and the location of all proposed structures and land change activities.
  - ➡ Provide scaled cross-section (elevation) drawings necessary to clearly show existing and proposed conditions.
  - ➡ For activities on legally established county drains, provide original design and proposed dimensions and elevations.

Stream Information

Water elevation (ft) datum ☐ NGVD 29 ☐ NAVD 88 ☐ IGLD 85 (Great Lakes coastal areas) ☐ other
➡ Show elevation on plans with description.

Dimensions (ft) of existing stream/drain channel (ft) length width depth

Existing channel average water depth in a normal year (ft)

Proposed Activity ☐ enclosure ☐ improvement ☐ maintenance ☐ new drain ☐ relocation ☐ wetlands ☐ other

If an enclosed structure is proposed, check material type ☐ concrete ☐ corrugated metal ☐ plastic ☐ other

Dimensions (ft) of the structure: diameter length	Volume of fill (cu yds)
Will old/enclosed stream channel be backfilled to top of bank grade? ☐ No ☐ Yes	
Length of channel to be abandoned (ft)	Volume of fill (cu yds)
Dimensions (ft) of improved, maintained, new, relocated or wetland stream/drain channel. length width depth	Volume of dredge/excavation (cu yds)
How will slopes and bottom be stabilized?	Proposed side slopes (vertical / horizontal)

Spoils Disposal

Dredged or excavated spoils will be placed ☐ on-site ☐ landfill ☐ USACE confined disposal facility ☐ other upland off-site
For disposal, provide a
➡ Detailed spoils disposal area location map and site plan with property lines.
➡ Letter of authorization from property owner of spoils disposal site, if disposed off-site.

16 Drawdown of an Impoundment

- If wetlands will be impacted, complete Section 12.

Type of drawdown ☐ over winter ☐ temporary ☐ one-time event ☐ annual event ☐ permanent (dam removal) ☐ other

Reason for drawdown

Has there been a previous drawdown? ☐ No ☐ Yes If Yes, provide date (M/D/Y)		Previous DEQ permit number, if known
Does waterbody have established legal lake level? ☐ No ☐ Yes ☐ Not Sure		Dam ID Number, if known
Extent of vertical drawdown (ft)	Impoundment design head (ft)	Number of adjoining or impacted property owners
Date drawdown would start (M/D/Y)	Date drawdown would stop (M/D/Y)	Rate of drawdown (ft/day)
Date refilling would start (M/D/Y)	Date refill would end (M/D/Y)	Rate of refill (ft/day)
Type of outlet discharge structure to be used ☐ surface ☐ bottom ☐ mid-depth	Impoundment area at normal water level (acres)	Sediment depth behind impoundment discharge structure (ft)

17 Dam, Embankment, Dike, Spillway, or Control Structure Activities (See Sample Drawing 15)

- For more information go to www.mi.gov/damsafety. If wetlands will be impacted, complete Section 12.
- Information on removing a dam is available at www.mi.gov/damsafety and following the Related Link –Dam Management.

➡➡Attach detailed signed and sealed engineering plans for a Part 315 dam repair, dam alteration, dam abandonment, or dam removal.
➡Part 315 Dam Safety application fees are added to all other application fees.
➡Mail applications for dams regulated under Part 315 to DEQ, WRD, P.O. BOX 30458, LANSING, MI 48909-7958, attention Dam Safety.

Proposed Activity	☐ abandonment	☐ alteration	☐ enlargement of an existing dam
	☐ removal	☐ repair	☐ reconstruction of a failed dam
	☐ new dam construction	☐ other	

Dam ID Number, if known	Type of outlet discharge structure ☐ surface ☐ bottom ☐ mid-depth

Will proposed activities require a drawdown of the waterbody to complete the work? ☐ No ☐ Yes ➡ If Yes, complete Section 16.

Structural height (difference between embankment top elevation and streambed elevation at downstream embankment toe) (ft) _____

Hydraulic Height (difference between design flood elevation and streambed elevation at downstream embankment toe) (ft) _____	Impoundment size at design flood elevation (acres)

Does dam meet the criteria for regulation under Part 315? (i.e. hydraulic height of 6 feet or more and an impoundment size at the design flood of 5 surface acres or more) ☐ No ☐ Yes

Dredging/excavation volume (cu yd)	Fill volume (cu yd)	Riprap volume (cu yd)

Will a water diversion during construction be required? ☐ No ☐ Yes

If Yes, describe how the stream flow will be controlled through the dam construction area during the proposed project activities:

Complete the following for a new dam, reconstruction of a failed dam or enlargement of an existing dam

For Part 315 regulated dams, the following must be attached:
➡ Site-specific conceptual plans of the dam for resource impact review (An engineering report and detailed engineering plans are not required until the project has been determined to be permitable).
➡ A description and evaluation of the loss of natural resources associated with the project.
➡ A description of the natural resources that are associated with or created by the impoundment and how they offset the natural resources lost by the creation of the impoundment.
➡ An assessment of all known existing and potential adverse effects within the scope of the project.

Embankment dimensions	length (ft)	top width (ft)	bottom width (ft)	slopes (vertical / horizontal)	Upstream Downstream

Have soil borings been taken at dam location?	☐ No ☐ Yes	➡ If Yes, attach results.
Do you have flowage rights to all proposed flooded property at the design flood elevation?	☐ No ☐ Yes	➡ If No, provide a letter of authorization from the property owner.

Applications for Part 315 regulated dam removal projects must also include the following:

An evaluation of the capacity of the remaining structure to pass flood flows.
An evaluation of the quantity and quality of the sediments behind the impoundment.
A description of the methods to be employed to control sediments.
An assessment of all known existing and potential adverse impacts within the scope of the project.

18 Utility Crossings (See Sample Drawings 12 and 13, and EZ Guide)

- If side casting is proposed, complete Sections 10A and 10B. If spoils will be placed in or impact wetlands, complete Section 12.
  - ➡Attach additional sheets or tables with the requested information as needed for multiple crossings.
  - ➡For wetland crossings using the open trench method show clay plugs at the wetland/upland boundaries on the plans.

Crossing of ☐ Inland Lake or Stream ☐floodplain ☐ Great Lake ☐ wetlands (also complete Section 12)

What method will be used to construct the crossings? ☐ directional boring ☐ jack and bore ☐ open trench ☐ plow / knife ☐ flume

Utility Type	Number of lake or stream crossings	Number of wetland crossings	Pipe diameter with casing (in)	Pipe length per crossing (ft)	Distance below streambed or wetland (in)	Trench width (ft)
☐ sanitary sewer						
☐ storm sewer						
☐ watermain						
☐ cable						
☐ electric						
☐ fiber optic cable						
☐ oil/gas pipeline						

19 Marina Construction, Expansion and Reconfiguration (See Sample Drawing 21)

- For more information go to www.mi.gov/marinas
- Marinas located on the Great Lakes, including Lake St. Clair, may be required to secure leases or conveyances from the state of Michigan to place structures on the bottomlands. If a conveyance is necessary, an application must be submitted before the Joint Permit Application can be determined complete.
  - ➡Fully complete Section 10 E. For multiple structures provide a table with the requested information.
  - ➡Enclose a copy of any current pump-out agreement with another marina facility, if on-site sanitary pump out facilities are not available.
  - ➡Attach a copy of the property legal description, mortgage survey, or a property boundary survey to your application.
  - ➡ The WRD may require a riparian interest area (RIA) estimate survey, sealed by a licensed surveyor, in order to determine whether the proposed project will adversely impact riparian rights. Include any available sealed RIA estimate survey and/or written authorizations from affected adjoining riparian owners with your application.

Proposed Marina Activity ☐ New construction ☐ Expansion ☐ Reconfiguration

Do you have an existing Great Lake Conveyance? ☐ No ☐ Yes For more information visit www.mi.gov/deqgreatlakes.

Are sanitary pump-out facilities available? ☐ No ☐ Yes | Is there a pump out agreement? ☐ No ☐ Yes If Yes, provide a copy.

Marina Description	Current Count	Final Count
Number of boat slips/wells (do not include broadside dockage or mooring buoys)		
Lineal feet of broadside dockage		
Maximum number of boats at broadside dockage		
Number of mooring buoys		
Number of launch ramps/lanes		

20 Critical Dune Areas and High Risk Erosion Areas (See Sample Drawings 19 and 20)

Critical Dune Areas (See Sample Drawing 20)

- **Although not required, submitting PHOTOGRAPHS of the site may provide for a faster application review.**
- For more information go to www.mi.gov/jointpermit, select "Sand Dune Protection" under "Related Links."
- All property boundaries and proposed structure corners, including decks, septic systems, water wells, driveways, grading, and terrain alteration locations must be staked before the WRD site inspection.
- Scaled overhead and cross-section plans must include all property boundaries, locations, and dimensions of all existing structures and impacted areas, and all proposed structures, terrain alterations, and construction access. Cross-sections must show existing and proposed grades, including foundations.
- Construction in critical dune areas on slopes greater than 33 percent (1 vertical: 3 horizontal) is prohibited without a special exception.
- Construction in critical dune areas on slopes that measure from 25 percent (1 vertical: 4 horizontal) to less than 33 percent requires sealed plans prepared by a registered architect or licensed professional engineer.

High Risk Erosion Areas (See Sample Drawing 19)

- For more information go to www.mi.gov/jointpermit, select "HREA" under "Related Links."
- All property boundaries, proposed structure corners, and septic system locations must be staked before the WRD site inspection.
- Scaled overhead plans must include all property boundaries, and the location and dimensions of all structures and septic systems must be included.
- Additional information, including the building construction plans, may be required to complete the application review.

Critical Dune Areas

Parcel dimensions (ft) width depth	Date project staked (M/D/Y)
Property is a ☐ platted lot ☐ unplatted parcel	Year current property boundaries created

Dune habitat present in Building Site and access route (check all that apply): ☐Wooded ☐Open Dune ☐Shrubs ☐Bare Sand ☐Lakefront Lot ☐MNFI Community if known:_____

Type of construction activities ☐ addition ☐ driveway ☐ garage ☐ new home ☐ renovation ☐ septic ☐ deck(s) ☐ other

☐ Provide a sand relocation plan with location and dimensions of disposal area. Indicate ☐ on-site OR ☐ off-site
If on-site show location and how the disposal site will be accessed on the plans. Indicate the depth of the disposed sand on the plans.

☐ Provide the permit or letter from the County Enforcing Agent stating the project complies with Part 91 (Soil Erosion and Sedimentation Control).

The proposed project will be serviced by ☐ public sewer ☐ private septic system.
➡ On the plans, show the location and dimensions of the private septic system.
If a private septic system is proposed, has a permit been issued by the health department? ☐ No ☐ Yes
➡ If Yes, provide a copy of the permit for all Critical Dune Area projects.

☐ Provide a copy of the vegetation assurance letter.
☐ Provide a re-vegetation plan, including #_____ of trees to be removed and #_____ of trees to be replanted.

Proposed Utility Installation	Proposed New Construction
Utility Installation Method ☐ directional bore ☐ plowing in ☐ open trench ☐ other	Foundation type ☐ basement ☐ concrete slab ☐ pilings ☐ crawl space ☐ other
➡Show utility locations and dimensions on the site plan.	Area of existing structure (sq ft)
➡Show construction access route on the site plan.	Area of proposed structure (sq ft)
➡Show existing and proposed grades on the cross-section.	Area of existing deck (sq ft)
➡Show locations of vegetation to be removed on the site plan.	Area of proposed deck (sq ft)

Provide the following information for special use projects:
(a) Lot size, width, density, and front and side setbacks.
(b) Storm water drainage that provides for disposal of drainage water without serious erosion.
(c) Methods for controlling erosion from wind and water.
(d) Re-stabilization plan.
(e) Environmental Impact Statement.

ENBDNR0003217

High Risk Erosion Areas

Parcel dimensions (ft) width depth | Date project staked (M/D/Y)

Existing Structure Information	Proposed New Construction
Foundation type ☐ basement ☐ concrete slab ☐ pilings ☐ crawl space ☐ other	Foundation type ☐ basement ☐ concrete slab ☐ pilings ☐ crawl space ☐ other
Material above foundation wall ☐ block ☐ log ☐ stud frame ☐ other	Material above foundation wall ☐ block ☐ log ☐ stud frame ☐ other
Siding material ☐ block ☐ vinyl ☐ wood ☐ other	Siding material ☐ block ☐ vinyl ☐ wood ☐ other
Area of the foundation, excluding attached garage (sq ft)	Area of the foundation, excluding attached garage (sq ft)
Area of the garage foundation (sq ft)	Area of the garage foundation (sq ft)

If renovating or restoring an existing structure, indicate the renovation or restoration cost $

Current structure replacement value $

Tax assessed value of existing structure excluding land value $ Assessment Year

Provide the number of individual living units in the proposed building



Enbridge Pipelines (Lakehead) L.L.C.

MDEQ/USACE JOINT PERMIT APPLICATION
2017 Line 5 Anchor Installation Project

Supplemental Information

PRESENTED BY MERJENT, INC.
May 9, 2017

ENBRIDGE

merjent

Supplemental Information
Enbridge Pipelines (Lakehead) L.L.C.
2017 Line 5 Anchor Installation Project
Mackinac and Emmet Counties, Michigan

PROJECT SUMMARY

3 – Proposed Activities and Construction Methods

Enbridge Pipelines (Lakehead) L.L.C. (Enbridge) is planning to conduct maintenance on its existing dual 20-inch-diameter pipelines beneath the Straits of Mackinac. Enbridge is proposing to install anchors at 22 locations along the pipelines to decrease the span distances at these locations.

Enbridge, considering the history of previous anchor installation work, is seeking authorization to complete this project from the Michigan DEQ under Act 451, Section 325 and from USACE under Nationwide Permit 3.

Project activities will involve the installation of a helical anchoring system with saddle mounts around the pipeline in each of the proposed locations. The 22 anchors will be augured directly into the lake bed using 10-inch-diameter screws (total of 44 screws). The total lake bottom impact will be approximately 9 cubic yards considering the number and dimensions of the screws to be installed. The proposed locations for installation of the anchors are provided in Figures 1, 2, and 3 in Attachment A. Attachment B contains typical drawings depicting the auguring apparatus, as well as equipment that will be utilized for installation. Attachment C contains the anchor installation methodology.

A marine infrastructure and utility contractor, working from barges, will be used to complete the anchor installation. No new on-land staging, temporary workspaces, or new access routes will be required for the Project. The Project is scheduled to begin in July 2017 and is expected to take approximately 3 weeks, depending on weather.

Once selected, the contractor will prepare a safety plan and an environmental protection plan for this work activity. In the unlikely event of pipeline damage during this project, Enbridge will implement a repair plan and if needed follow the company Integrated Contingency Plan and Straits Tactical Response Plan.

4 – Project Purpose, Use and Alternatives

As part of an ongoing pipeline integrity and maintenance program, Enbridge monitors the length of pipeline spans on Line 5 to ensure that the dual pipelines are adequately supported and compliant with the State of Michigan easement agreement (Attachment D).

Supplemental Information
Enbridge Pipelines (Lakehead) L.L.C.
2017 Line 5 Anchor Installation Project
Mackinac and Emmet Counties, Michigan

All 22 proposed anchors to be installed in 2017 are preventative and proactive in nature to minimize the potential of having any spans exceed 75 feet in the interim until the next underwater inspection is completed in 2018.

This Project is pipeline maintenance and is not associated with a new utility installation. The proposed activities are for the sole purpose of maintaining the previously authorized pipelines, and are consistent with those activities authorized under the recently reissued Nationwide Permit 3. The method of anchor installation is anticipated to incur no environmental impacts. The no-build alternative presents a future potential that the pipelines may exceed easement span distances between visual inspections.

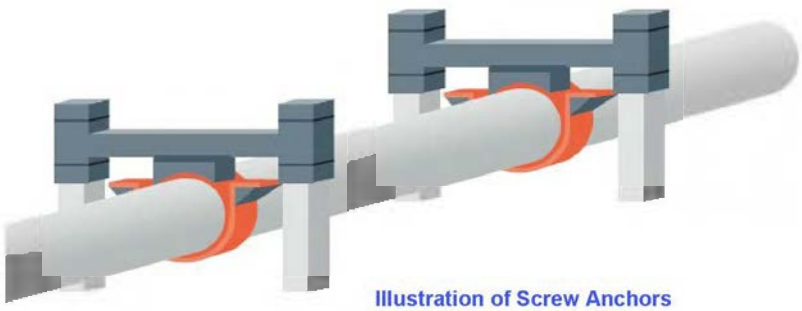


Illustration of Screw Anchors installed on a lake bottom

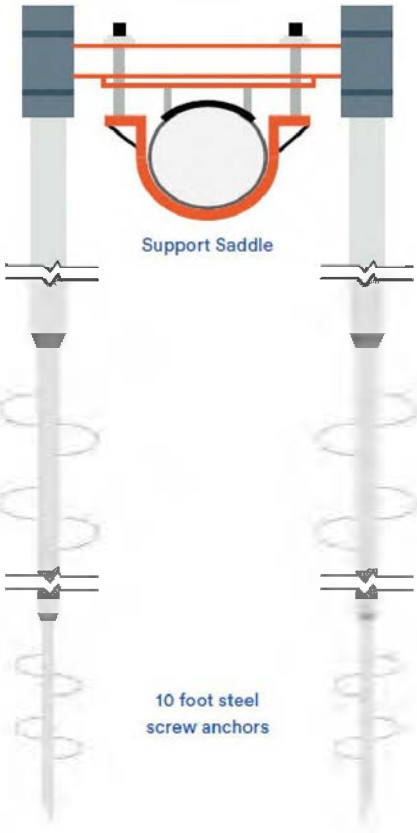
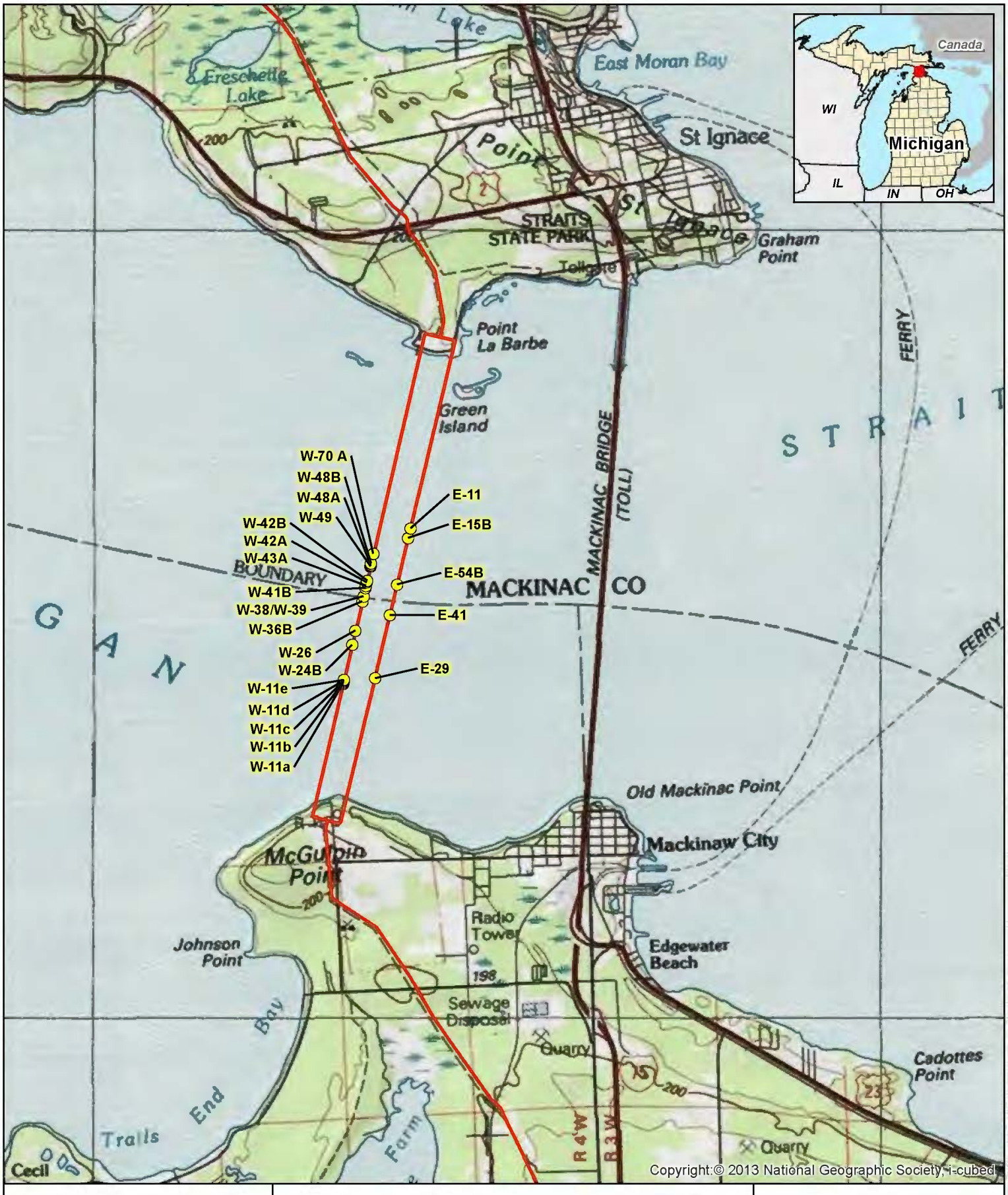
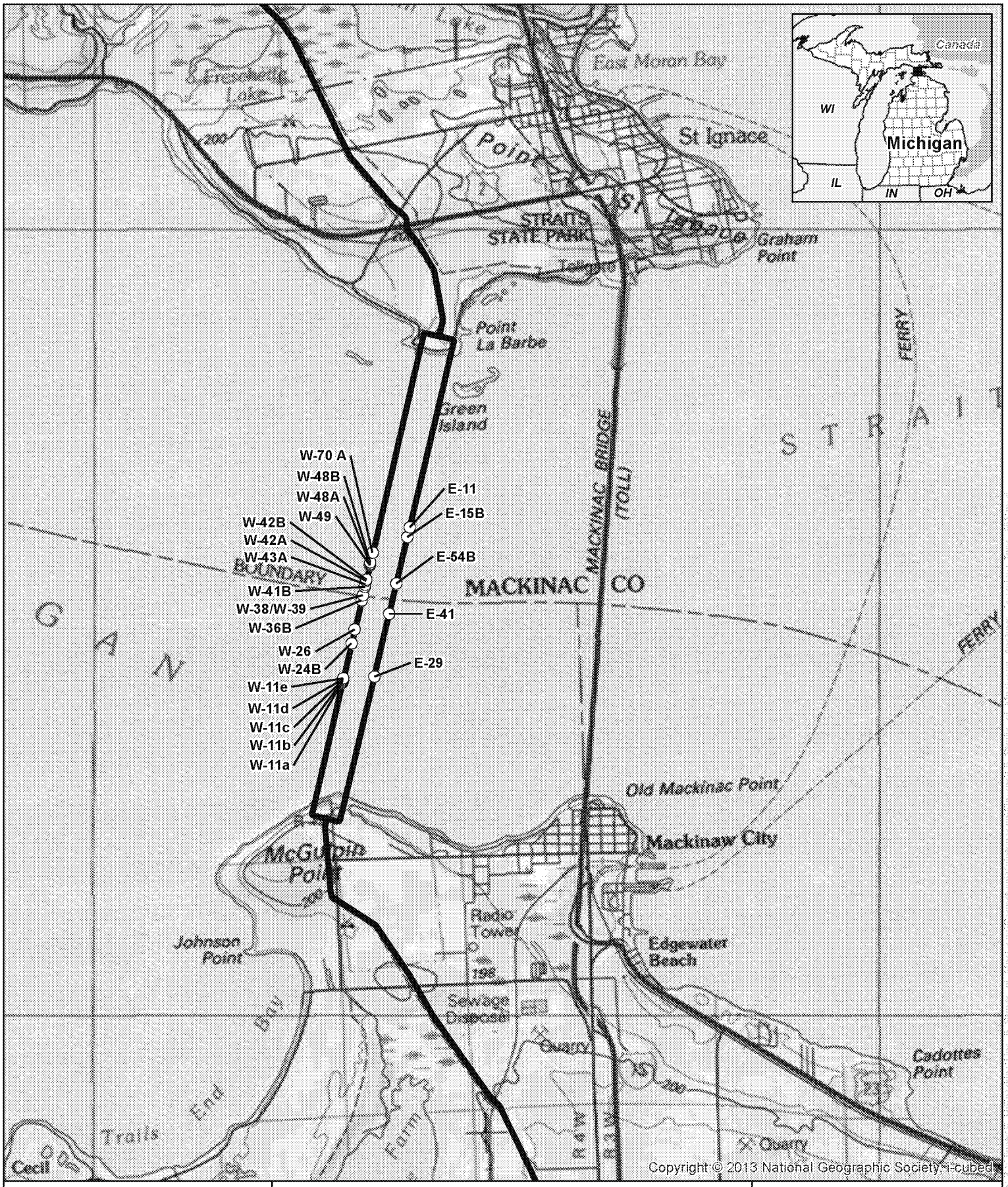


Illustration of Screw Anchor Technology
(viewed in direction of pipeline)

ATTACHMENT A
FIGURES


Canada
WI
Michigan
IL
IN
OH
East Moran Bay
Point
St Ignace
STRAITS STATE PARK
Graham Point
Point La Barbe
Green Island
MACKINAC BRIDGE (TOLL)
FERRY
STRAIT
W-70 A
W-48B
W-48A
W-49
W-42B
W-42A
W-43A
W-41B
W-38/W-39
W-36B
W-26
W-24B
W-11e
W-11d
W-11c
W-11b
W-11a
E-11
E-15B
E-54B
E-41
E-29
BOUNDARY
MACKINAC CO
GAN
Old Mackinac Point
Mackinaw City
McGulpin Point
Radio Tower
Johnson Point
Edgewater Beach
Sewage Disposal
Quarry
Cadottes Point
Trails End
Farm
Cecil
R 4W
R 3W
Copyright:© 2013 National Geographic Society, i-cubed
0 0.5 1 Miles
1 inch = 1 miles
N
W
E
S
ENBRIDGE
For Environmental Review Purposes Only
Figure 1a
Line 5 Straits of Mackinac
Enbridge Pipelines (Lakehead) L.L.C.
2017 Proposed Anchor Locations
2017 Proposed Anchor Locations
Line 5



0 0.5 1 Miles

1 inch = 1 miles

N W E S

ENBRIDGE

For Environmental Review Purposes Only

Figure 1b

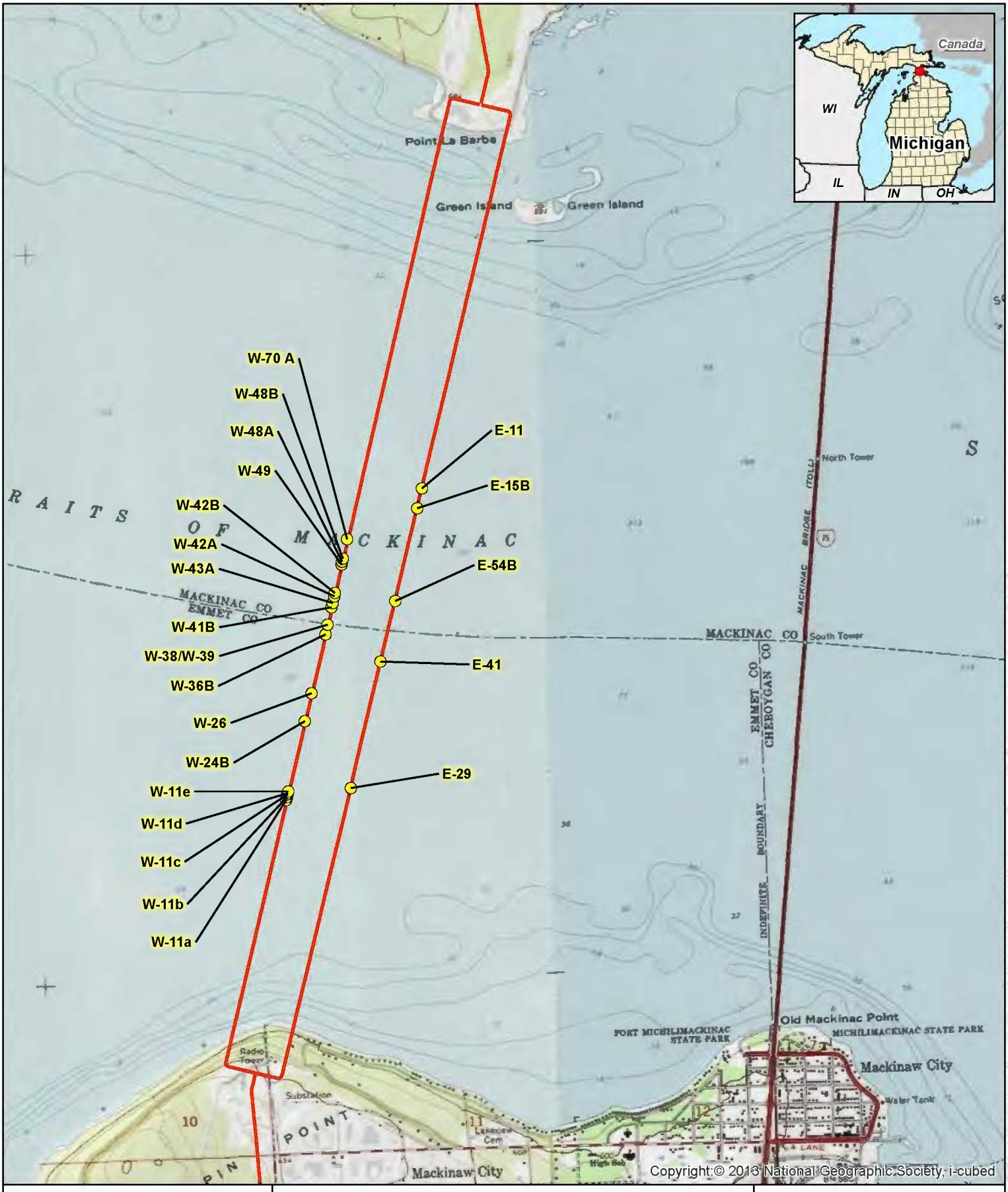
Line 5 Straits of Mackinac

Enbridge Pipelines (Lakehead) L.L.C.

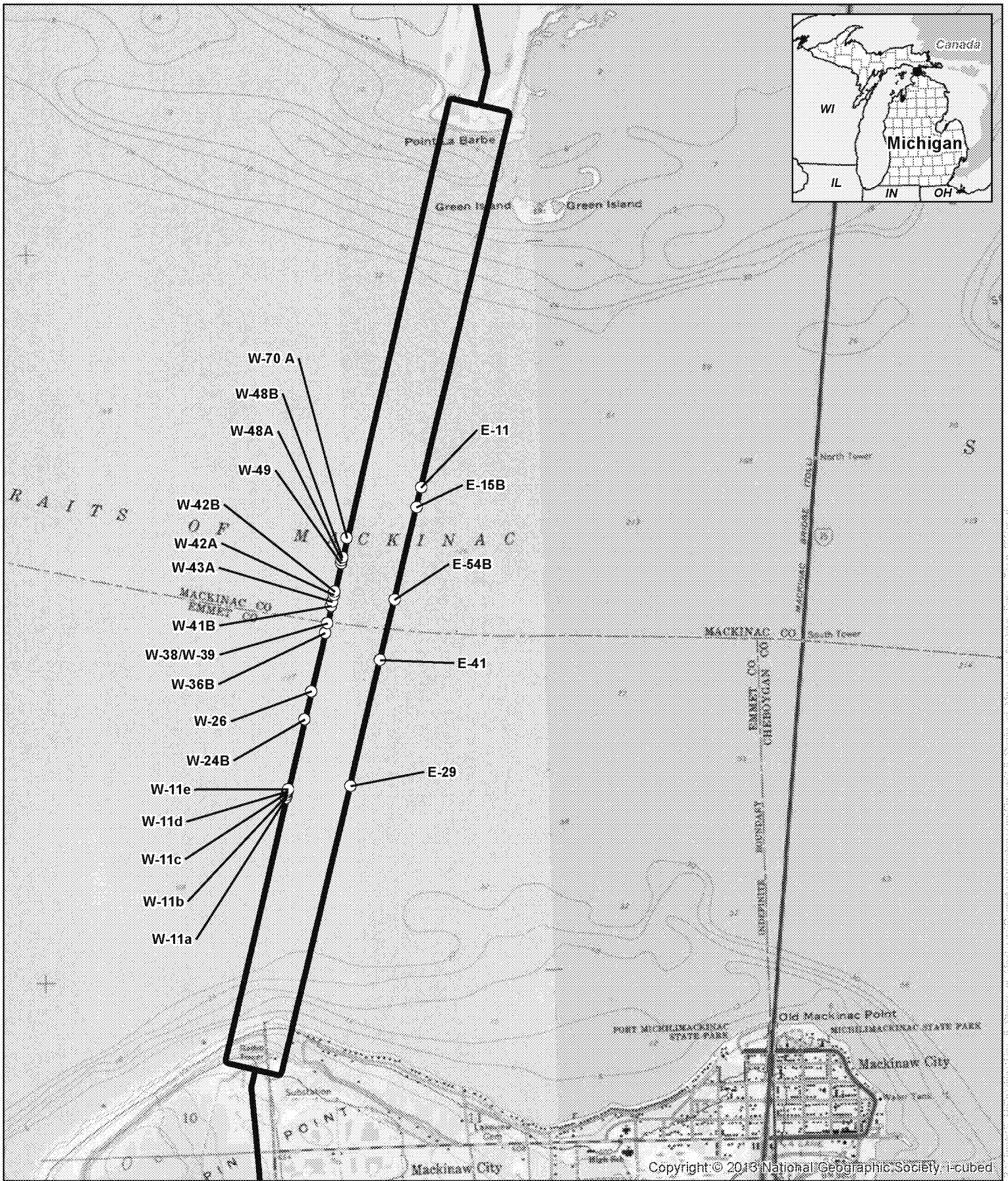
2017 Proposed Anchor Locations

○ 2017 Proposed Anchor Locations

Line 5



ENBDNR0003226



0 0.25 0.5 Miles

1 inch = 0.5 miles

N W E S

ENBRIDGE

For Environmental Review Purposes Only

Figure 2b

Line 5 Straits of Mackinac

Enbridge Pipelines (Lakehead) L.L.C.

2017 Proposed Anchor Locations

○ 2017 Proposed Anchor Locations

Line 5

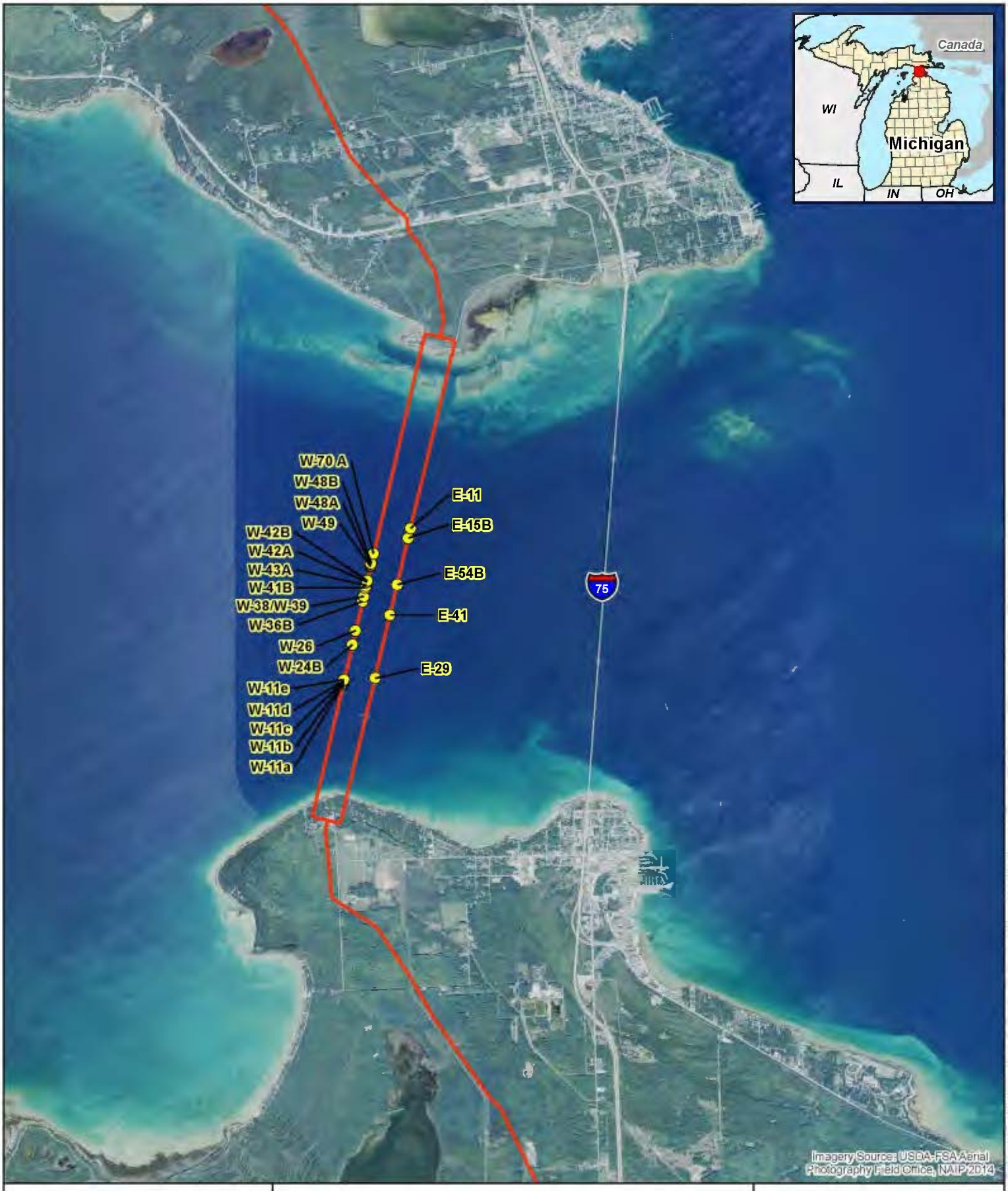
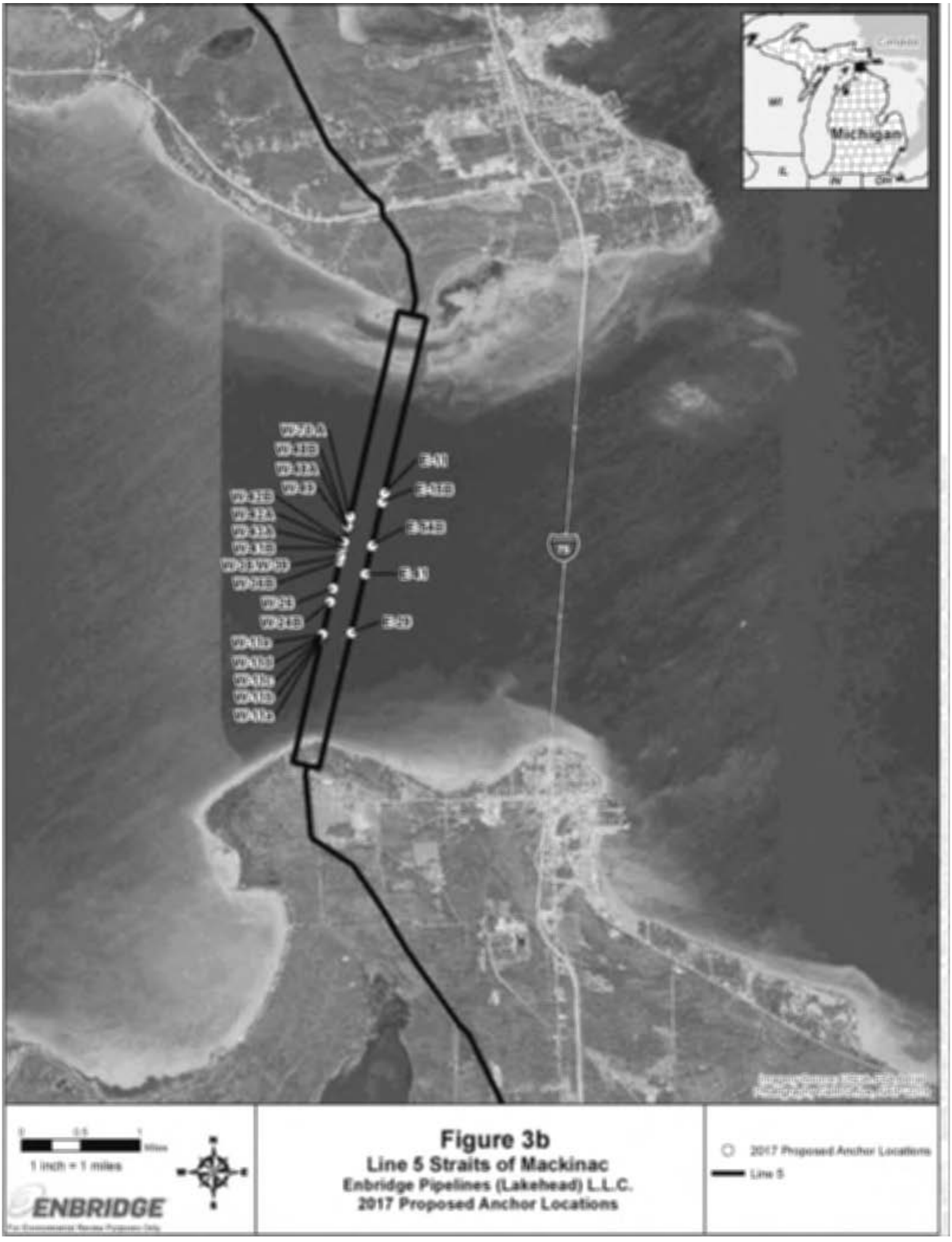


Figure 3a

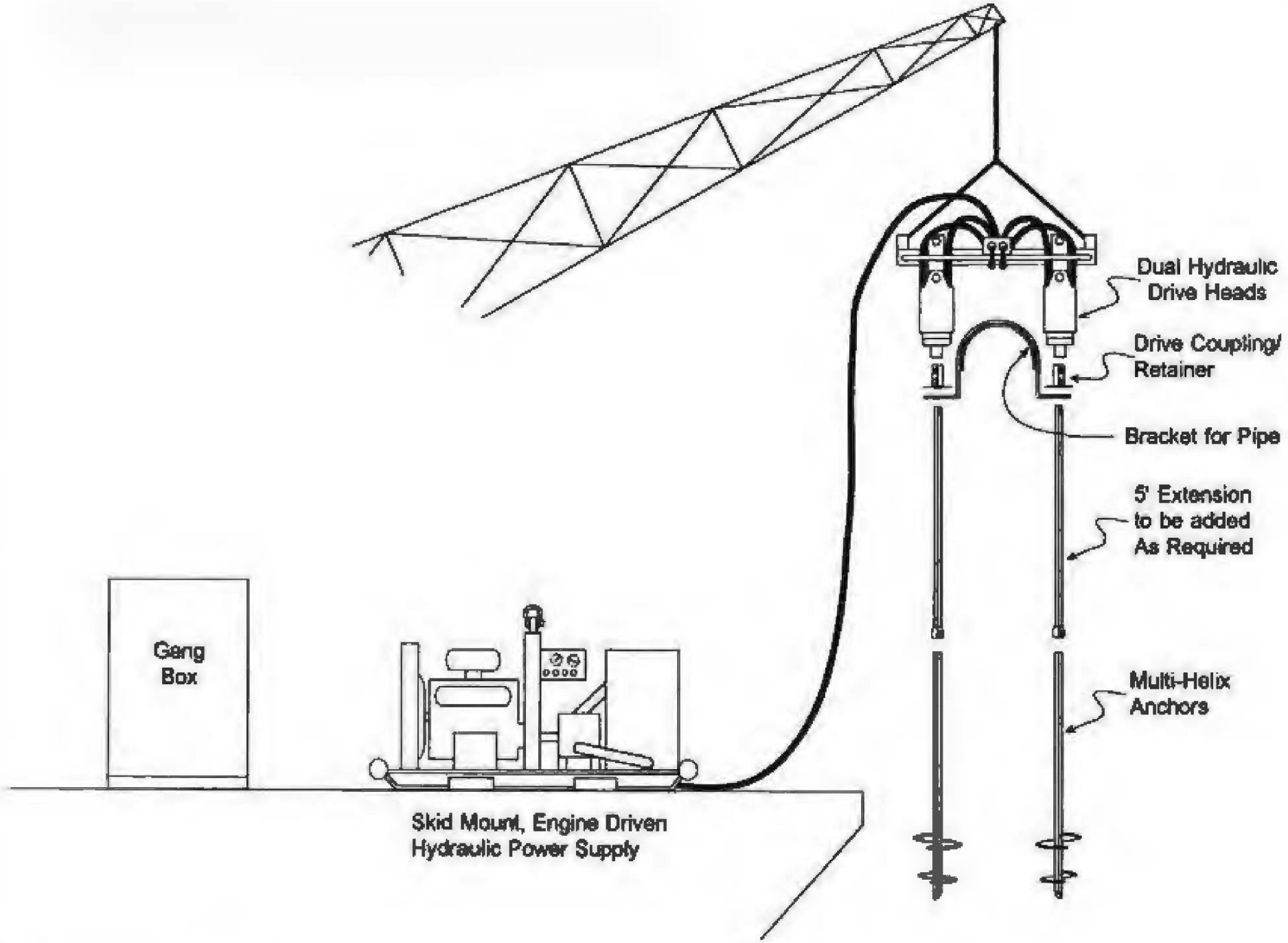
Line 5 Straits of Mackinac

Enbridge Pipelines (Lakehead) L.L.C.

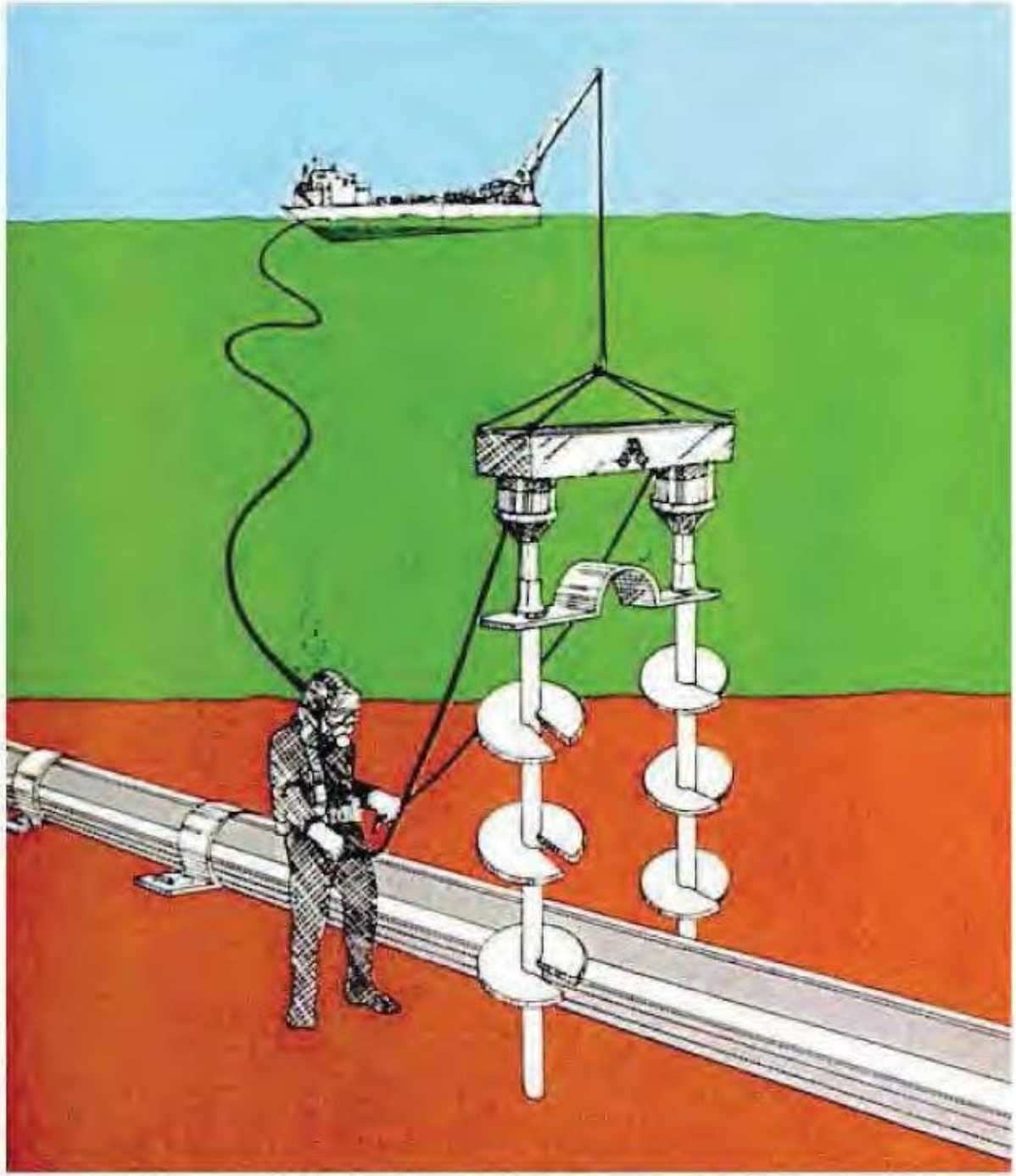
2017 Proposed Anchor Locations


Michigan
WI
IL
IN
OH
75
1 inch = 1 miles
ENBRIDGE
Figure 3b
Line 5 Straits of Mackinac
Enbridge Pipelines (Lakehead) L.L.C.
2017 Proposed Anchor Locations
2017 Proposed Anchor Locations
Line 5

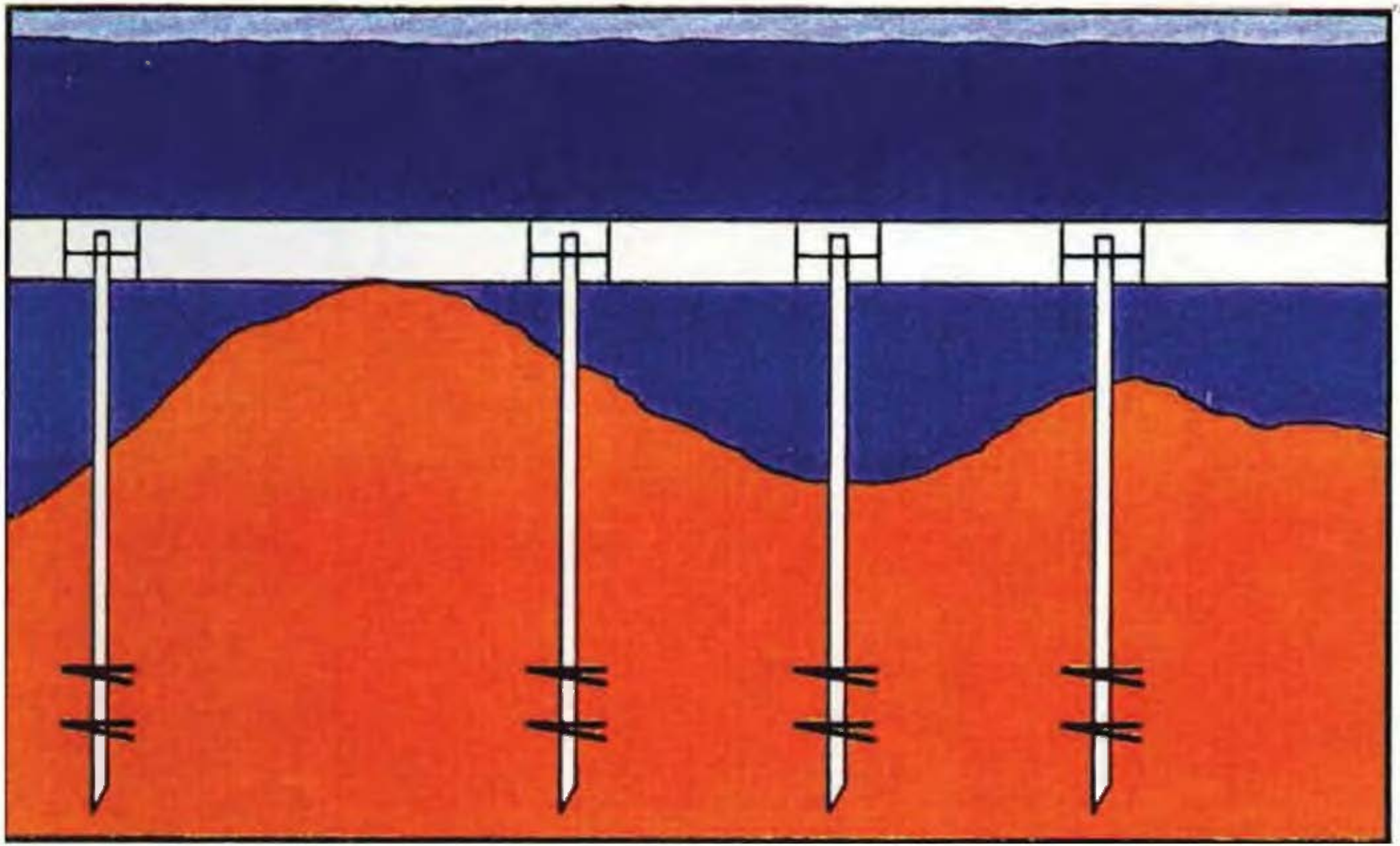
ATTACHMENT B
CONSTRUCTION TYPICALS


Dual Hydraulic
Drive Heads
Drive Coupling/
Retainer
Bracket for Pipe
5' Extension
to be added
As Required
Multi-Helix
Anchors
Gang
Box
Skid Mount, Engine Driven
Hydraulic Power Supply

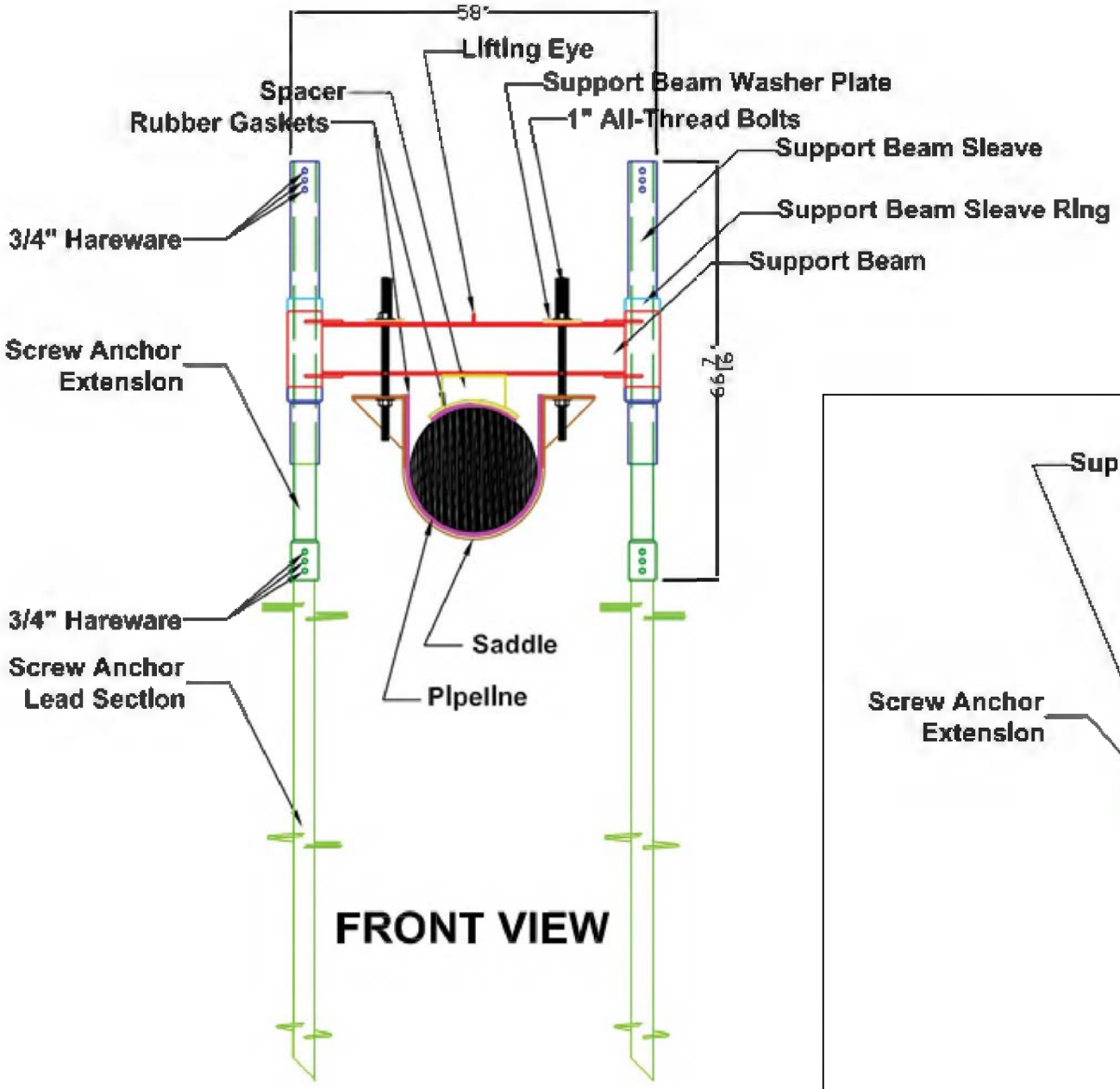
ENBRIDGE

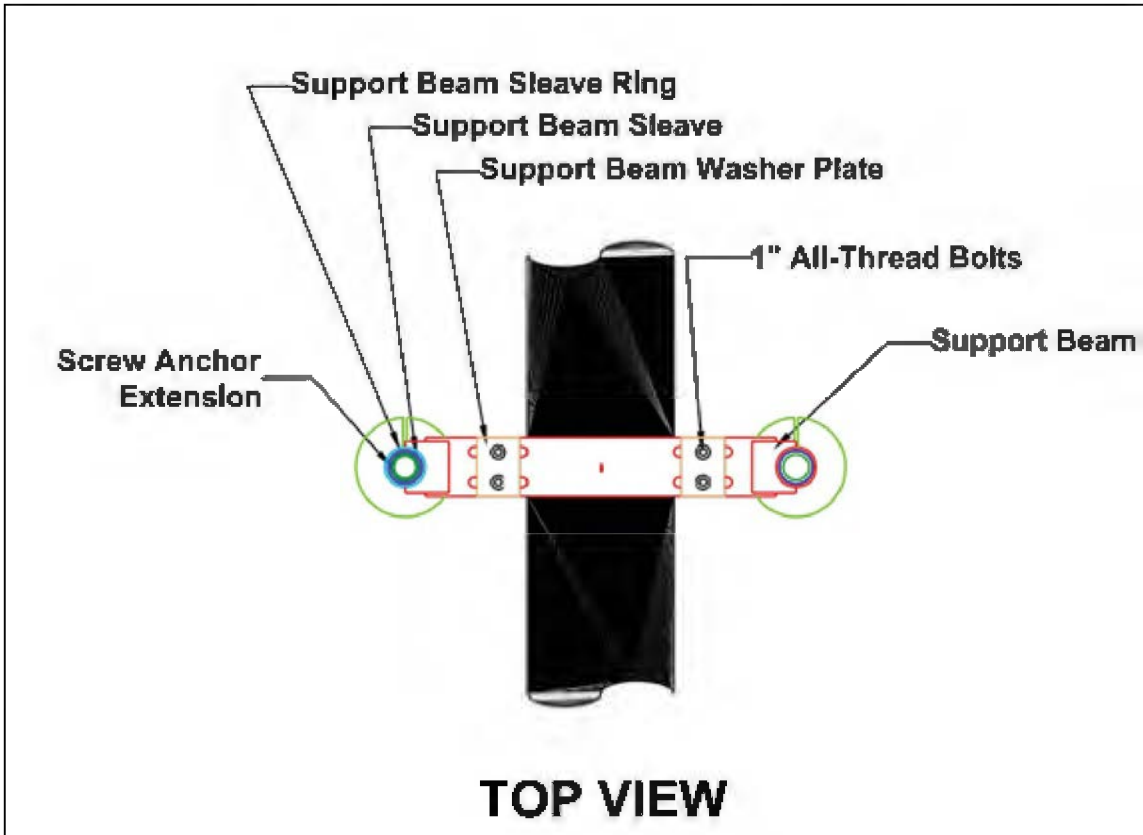


ENBRIDGE

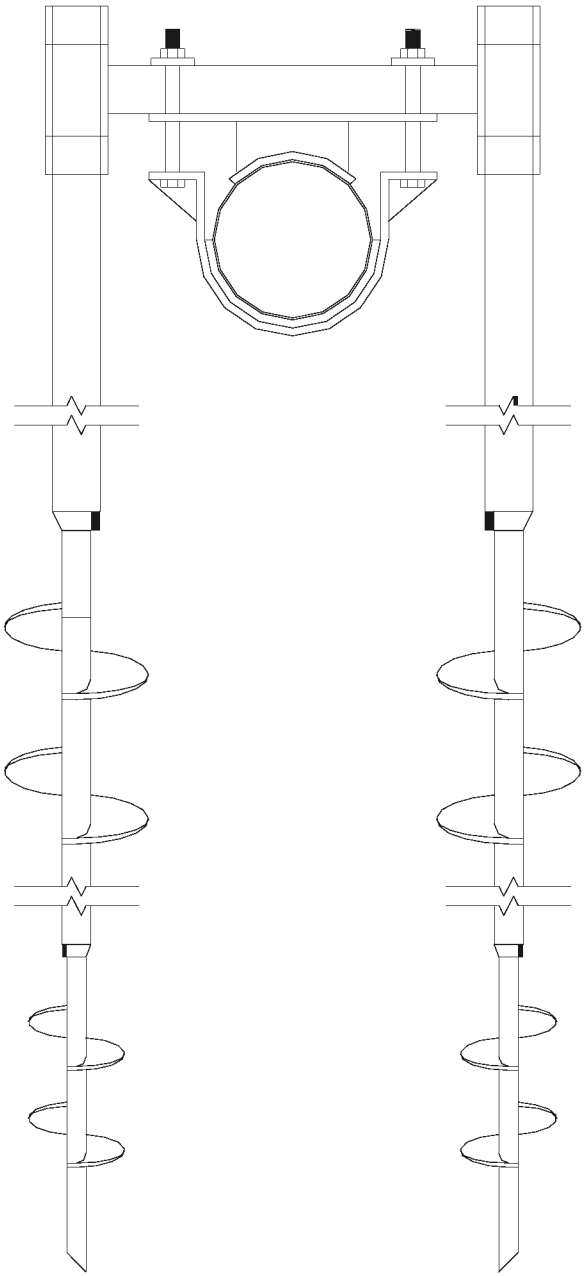


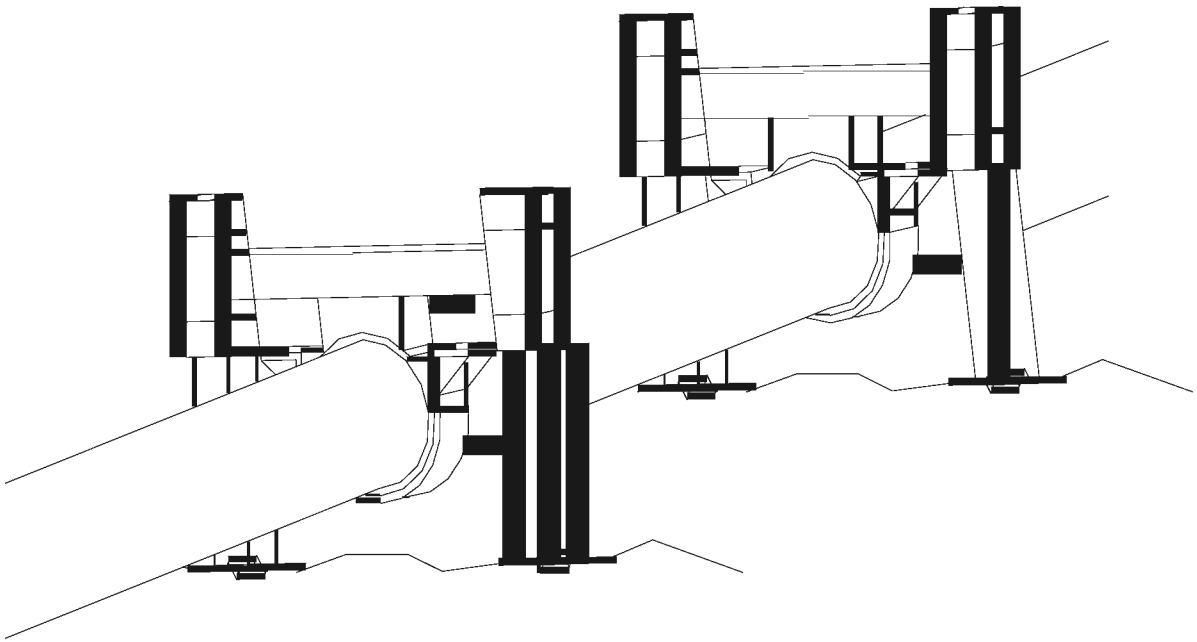
ENBRIDGE


58"
Lifting Eye
Spacer
Support Beam Washer Plate
Rubber Gaskets
1" All-Thread Bolts
Support Beam Sleave
Support Beam Sleave Ring
3/4" Hareware
Support Beam
Screw Anchor
Extension
94.99"
3/4" Hareware
Saddle
Screw Anchor
Lead Section
Pipeline
FRONT VIEW


Support Beam Sleave Ring
Support Beam Sleave
Support Beam Washer Plate
1" All-Thread Bolts
Support Beam
Screw Anchor
Extension
TOP VIEW

ENBRIDGE





ENBRIDGE

ATTACHMENT C

ANCHOR INSTALLATION METHODOLOGY

Anchor Installation Methodology

1. The work crew conducts a visual survey to determine exact anchor locations based on lake bed topography.
2. The work barge is positioned for each anchor location and moored to create a stable work platform.
3. A functional test of installation equipment is completed.
4. The work crew lowers the installation equipment and positions it above the lake floor approximately 50 feet from the pipeline.
5. Using the ROV's camera, the anchor and tool are moved into position for installation over the pipeline.
6. Using the ROV's camera, the anchors are hydraulically screwed into the lake bed.
7. Once the anchor is installed, a diver descends and completes the final installation of the pipe saddle to the anchor. The torques values of the saddle fasteners are recorded for each anchor to document proper installation.
8. Using the ROV, a 360 degree inspection is completed for each location.

ATTACHMENT D
EASEMENT DOCUMENT

Contract No. DA-20-064-eng-1275

DEPARTMENT OF THE ARMY

NOTE.—It is to be understood that this instrument does not give any property rights either in real estate or material, or any exclusive privileges; and that it does not authorize any injury to private property or invasion of private rights, or any infringement of Federal, State, or local laws or regulations, nor does it obviate the necessity of obtaining *State assent* to the work authorized. IT MERELY EXPRESSES THE ASSENT OF THE FEDERAL GOVERNMENT SO FAR AS CONCERNS THE PUBLIC RIGHTS OF NAVIGATION. (See *Cummings* v. *Chicago*, 188 U. S., 410.) 16—18160-2

PERMIT Office of the District Engineer
Detroit District
Corps of Engineers.
Detroit 26, Michigan
2 July, 1953.

Lakehead Pipe Line Company, Inc.
510 - 22nd Avenue East
Superior, Wisconsin

Gentlemen:

Referring to written request dated 14 May 1953

I have to inform you that, upon the recommendation of the Chief of Engineers, and under the provisions of Section 10 of the Act of Congress approved March 3, 1899, entitled "An act making appropriations for the construction, repair, and preservation of certain public works on rivers and harbors, and for other purposes," you are hereby authorized by the Secretary of the Army.

to place two (2) twenty-inch (20") submarine pipe lines for transporting
(Here describe the proposed structure or work.)
crude oil

across the Straits of Mackinac
(Here to be named the river, harbor, or waterway concerned.)

at Mackinaw City, Michigan (McGulpin Point) to St. Ignace, Michigan (Point LaBarbe)
(Here to be named the nearest well-known locality, preferably a town or city—and the distance in miles and tenths from some definite point in the same, stating whether above or below or giving direction by points of compass.)

in accordance with the plans shown on the drawing attached hereto marked: "Proposed
(Or drawings; give file number or other definite identification marks.)
Two 20" O.D. Crude Oil Pipe Lines Across the Straits of Mackinac Between McGulpin Pt. Emmet Co. and Pt. LaBarbe, Mackinac Co. Application by Lakehead Pipe Line Co., Inc. Mar 14, 1953"

subject to the following conditions:

ENBDNR0003239

(*a*) That the work shall be subject to the supervision and approval of the District Engineer, Corps of Engineers, in charge of the locality, who may temporarily suspend the work at any time, if in his judgment the interests of navigation so require.

(*b*) That any material dredged in the prosecution of the work herein authorized shall be removed evenly and no large refuse piles, ridges across the bed of the waterway, or deep holes that may have a tendency to cause injury to navigable channels or to the banks of the waterway shall be left. If any pipe, wire, or cable hereby authorized is laid in a trench, the formation of permanent ridges across the bed of the waterway shall be avoided and the back filling shall be so done as not to increase the cost of future dredging for navigation. Any material to be deposited or dumped under this authorization, either in the waterway or on shore above high-water mark, shall be deposited or dumped at the locality shown on the drawing hereto attached, and, if so prescribed thereon, within or behind a good and substantial bulkhead or bulkheads, such as will prevent escape of the material in the waterway. If the material is to be deposited in the harbor of New York, or in its adjacent or tributary waters, or in Long Island Sound, a permit therefor must be previously obtained from the Supervisor of New York Harbor, Whitehall Building, New York City.

(*c*) That there shall be no unreasonable interference with navigation by the work herein authorized.

(*d*) That if inspections or any other operations by the United States are necessary in the interest of navigation, all expenses connected therewith shall be borne by the permittee.

(*e*) That no attempt shall be made by the permittee or the owner to forbid the full and free use by the public of all navigable waters at or adjacent to the work or structure.

(*f*) That if future operations by the United States require an alteration in the position of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army, it shall cause unreasonable obstruction to the free navigation of said water, the owner will be required upon due notice from the Secretary of the Army, to remove or alter the structural work or obstructions caused thereby without expense to the United States, so as to render navigation reasonably free, easy, and unobstructed; and if, upon the expiration or revocation of this permit, the structure, fill, excavation, or other modification of the watercourse hereby authorized shall not be completed, the owners shall, without expense to the United States, and to such extent and in such time and manner as the Secretary of the Army may require, remove all or any portion of the uncompleted structure or fill and restore to its former condition the navigable capacity of the watercourse. No claim shall be made against the United States on account of any such removal or alteration.

(*g*) That the United States shall in no case be liable for any damage or injury to the structure or work herein authorized which may be caused by or result from future operations undertaken by the Government for the conservation or improvement of navigation, or for other purposes, and no claim or right to compensation shall accrue from any such damage.

(*h*) That if the display of lights and signals on any work hereby authorized is not otherwise provided for by law, such lights and signals as may be prescribed by the U. S. Coast Guard, shall be installed and maintained by and at the expense of the owner.

(*i*) That the permittee shall notify the said district engineer at what time the work will be commenced, and as far in advance of the time of commencement as the said district engineer may specify, and shall also notify him promptly, in writing, of the commencement of work, suspension of work, if for a period of more than one week, resumption of work, and its completion.

(*j*) That if the structure or work herein authorized is not completed on or before the thirty-first day of December, 1956, this permit, if not previously revoked or specifically extended, shall cease and be null and void.

By authority of the Secretary of the Army:

ARTHUR C. NADMAN
Colonel, Corps of Engineers
District Engineer

ENG FORM 1 SEP 48 1721 (Civil) This form supersedes ED Form 96, dated 1 Apr 48, which may be used until exhausted.
U. S. GOVERNMENT PRINTING OFFICE 16—13108-3

ENBDNR0003240

L-2316

STRAITS OF MACKINAC PIPE LINE EASEMENT

CONSERVATION COMMISSION OF THE STATE OF MICHIGAN

TO

LAKEHEAD PIPE LINE COMPANY, INC.

THIS EASEMENT executed this twenty-third day of April, A.D. 1953, by the State of Michigan by the Conservation Commission, by Wayland Osgood, Deputy Director, acting under and pursuant to a resolution adopted by the Conservation Commission at its meeting held on February 13, 1953, and by virtue of the authority conferred by Act No. 10, P A 1953, hereinafter referred to as Grantor, to Lakehead Pipe Line Company, Inc., a Delaware corporation, of 510 22nd Avenue East, Superior, Wisconsin, hereinafter referred to as Grantee,

W I T N E S S E T H:

WHEREAS, application has been made by Grantee for an easement authorizing it to construct, lay and maintain pipe lines over, through, under and upon certain lake bottom lands belonging to the State of Michigan, and under the jurisdiction of the Department of Conservation, located in the Straits of Mackinac, Michigan, for the purpose of transporting petroleum and other products; and

WHEREAS, the Conservation Commission is of the opinion that the proposed pipe line system will be of benefit to all of the people of the State of Michigan and in furtherance of the public welfare; and

WHEREAS, the Conservation Commission duly considered the application of Grantee and at its meeting held on the 13th day of February, A.D. 1953, approved the conveyance of an easement.

ENBDNR0003241

NOW, THEREFORE, for and in consideration of the sum of Two Thousand Four Hundred Fifty Dollars ($2,450.00), the receipt of which is hereby acknowledged, and for and in consideration of the undertakings of Grantee and subject to the terms and conditions set forth herein, Grantor hereby conveys and quit claims, without warranty express or implied, to Grantee an easement to construct, lay, maintain, use and operate two (2) pipe lines, one to be located within each of the two parcels of bottom lands hereinafter described, and each to consist of twenty inch (20") O.D. pipe, together with anchors and other necessary appurtenances and fixtures, for the purpose of transporting any material or substance which can be conveyed through a pipe line, over, through, under and upon the portion of the bottom lands of the Straits of Mackinac in the State of Michigan, together with the right to enter upon said bottom lands, described as follows:

All bottom lands of the Straits of Mackinac, in the State of Michigan, lying within an area of fifty (50) feet on each side of the following two center lines:

(1) Easterly Center Line: Beginning at a point on the northerly shore line of the Straits of Mackinac on a bearing of South twenty-four degrees, no minutes and thirty-six seconds East (S 24° 00' 36" E) and distant one thousand seven hundred and twelve and eight-tenths feet (1,712.8') from United States Lake Survey Triangulation Station "Green" (United States Lake Survey, Latitude 45° 50' 00", Longitude 84° 44' 58"), said point of beginning being the intersection of the center line of a twenty inch (20") pipe line and the said northerly shore line; thence, on a bearing of South fourteen degrees thirty-seven minutes and fourteen seconds West (S 14° 37' 14" W) a distance of nineteen thousand one hundred and forty-six and no tenths feet (19,146.0') to a point on the southerly shore line of the Straits of Mackinac which point is the intersection of the said center line of the twenty inch (20") pipe line and the said southerly shore line; and is distant seven hundred and seventy-four and seven tenths feet (774.7') and on a bearing of South thirty-six degrees, eighteen minutes and forty-five seconds West (S 36° 18' 45" W) from United States Lake Survey Triangulation Station "A. Mackinac West Base" (United States

ENBDNR0003242

Lake Survey, Latitude 45° 47' 14", Longitude 84° 46' 22").

(2) Westerly Center Line: Beginning at a point on the northerly shore line of the Straits of Mackinac on a bearing of South forty-nine degrees, twenty-five minutes and forty-seven seconds East (S 49° 25' 47" E) and distant two thousand six hundred and thirty-four and nine tenths feet (2,634.9') from United States Triangulation Station "Green" (United States Lake Survey, Latitude 45° 50' 00", Longitude 84° 44' 58") said point of beginning being the intersection of the center line of a twenty inch (20") pipe line and the said northerly shore line; thence on a bearing of South fourteen degrees, thirty-seven minutes and fourteen seconds West (S 14° 37' 14" W), a distance of nineteen thousand four hundred and sixty-five and no tenths feet (19,465.0') to a point on the southerly shore line of the Straits of Mackinac which point is the intersection of the said center line of the twenty inch (20") pipe line and the said southerly shore line and is distant one thousand no hundred and thirty-six and four tenths feet (1,036.4') on a bearing of South sixty-three degrees, twenty minutes and fifty-four seconds East (S 63° 20' 54" E) from United States Lake Survey Triangulation Station "A. Mackinac West Base" (United States Lake Survey, Latitude 45° 47' 14", Longitude 84° 46' 22").

TO HAVE AND TO HOLD the said easement unto said Grantee, its successors and assigns, subject to the terms and conditions herein set forth, until terminated as hereinafter provided.

This easement is granted subject to the following terms and conditions:

A. Grantee in its exercise of rights under this easement, including its designing, constructing, testing, operating, maintaining, and, in the event of the termination of this easement, its abandoning of said pipe lines, shall follow the usual, necessary and proper procedures for the type of operation involved, and at all times shall exercise the due care of a reasonably prudent person for the safety and welfare

ENBDNR0003243

of all persons and of all public and private property, shall comply with all laws of the State of Michigan and of the Federal Government, unless Grantee shall be contesting the same in good faith by appropriate proceedings, and, in addition, Grantee shall comply with the following minimum specifications, conditions and requirements, unless compliance therewith is waived or the specifications or conditions modified in writing by Grantor:

(1) All pipe line laid in water up to fifty (50) feet in depth shall be laid in a ditch with not less than fifteen (15) feet of cover. The cover shall taper off to zero (0) feet at an approximate depth of sixty-five (65) feet. Should it be discovered that the bottom material is hard rock, the ditch may be of lesser depth, but still deep enough to protect the pipe lines against ice and anchor damage.

(2) Minimum testing specifications of the twenty inch (20") OD pipe lines shall be not less than the following:

Shop Test ---------- 1,700 pounds per square inch gauge
Assembly Test ------ 1,500 pounds per square inch gauge
Installation Test -- 1,200 pounds per square inch gauge
Operating Pressure - 600 pounds per square inch gauge

(3) All welded joints shall be tested by X-Ray.

ENBDNR0003244

(4) The minimum curvature of any section of pipe shall be no less than two thousand and fifty (2,050) feet radius.

(5) Automatic gas-operated shut-off valves shall be installed and maintained on the north end of each line.

(6) Automatic check valves shall be installed and maintained on the south end of each line.

(7) The empty pipe shall have a negative buoyancy of thirty (30) or more pounds per linear foot.

(8) Cathodic protection shall be installed to prevent deterioration of pipe.

(9) All pipe shall be protected by asphalt primer coat, by inner wrap and outer wrap composed of glass fiber fabric material and one inch by four inch (1" x 4") slats, prior to installation.

(10) The maximum span or length of pipe unsupported shall not exceed seventy-five (75) feet.

(11) The pipe weight shall not be less than one hundred sixty (160) pounds per linear foot.

(12) The maximum carbon content of the steel, from which the pipe is manufactured, shall not be in excess of .247 per cent.

ENBDNR0003245

(13) In locations where fill is used, the top of the fill shall be no less than fifty (50) feet wide.

(14) In respect to other specifications, the line shall be constructed in conformance with the detailed plans and specifications heretofore filed by Grantee with Lands Division, Department of Conservation of the State of Michigan.

B. Grantee shall give timely notice to the Grantor in writing:

(1) Of the time and place for the commencement of construction over, through, under or upon the bottom lands covered by this easement, said notice to be given at least five (5) days in advance thereof:

(2) Of compliance with any and all requirements of the United States Coast Guard for marking the location of said pipe lines;

(3) Of the filling of said pipe lines with oil or any other substance being transported commercially;

(4) Of any breaks or leaks discovered by Grantee in said pipe lines, said notice to be given by telephone promptly upon discovery and thereafter confirmed by registered mail;

ENBDNR0003246

(5) Of the completion of any repairs of said pipe lines, and time of testing thereof, said notice to be given in sufficient time to permit Grantor's authorized representatives to be present at the inspection and testing of the pipe lines after said repairs; and

(6) Of any plan or intention of Grantee to abandon said pipe lines, said notice to be given at least sixty (60) days prior to commencement of abandonment operations.

C. The easement herein conveyed may be terminated by Grantor:

(1) If, after being notified in writing by Grantor of any specified breach of the terms and conditions of this easement, Grantee shall fail to correct said breach within ninety (90) days, or, having commenced remedial action within such ninety (90) day period, such later time as it is reasonably possible for the Grantee to correct said breach by appropriate action and the exercise of due diligence in the correction thereof; or

ENBDNR0003247

(2) If Grantee fails to start construction of the pipe lines authorized herein within two years from date of execution of this instrument; or

(3) If Grantee fails for any consecutive three-year period to make substantial use of said pipe lines commercially and also fails to maintain said pipe lines during said period in such condition as to be available to commercial use within thirty (30) days.

D. Construction of the pipe lines contemplated by this instrument shall not be commenced until all necessary authorization and assent of the Corps of Engineers, United States Army, so far as concerns the public rights of navigation, shall have been obtained.

E. In the event of any relocation, replacement, major repair, or abandonment of either of the pipe lines authorized by this easement, Grantee shall obtain Grantor's written approval of procedures, methods and materials to be followed or used prior to commencement thereof.

F. The maximum operating pressure of either of said pipe lines shall not exceed six hundred (600) pounds per square inch gauge.

ENBDNR0003248

If there is a break or leak or an apparent break or leak in either of said pipe lines, or if Grantor notifies Grantee that it has good and sufficient evidence that there is or may be a break or leak therein, Grantee shall immediately and completely shut down the pipe line involved and said pipe line shall not be placed in operation until Grantee has conducted a shut-in two (2) hour pressure test of six hundred (600) pounds per square inch gauge showing that no substance is escaping from a break or leak in said pipe line.

G. If oil or other substance escapes from a break or leak in the said pipe lines, Grantee shall immediately take all usual, necessary and proper measures to eliminate any oil or other substance which may escape.

H. In the event the easement herein conveyed is terminated with respect to either or both of said pipe lines, or if any part or portion of a pipe line is abandoned, Grantee shall take all of the usual, necessary and proper abandonment procedures as required and approved by Grantor. Said abandonment operations shall be completed to the satisfaction of Grantor within one year after any abandonment of any part or portion of a pipe line; or in event of termination of this easement, within one year thereafter. After the expiration of one year following the termination of this easement, Grantee

ENBDNR0003249

shall at the option of Grantor quit claim to the State of Michigan all of its right, title and interest in or to any pipe line, appurtenances or fixtures remaining over, through, under or upon the bottom lands covered by this easement. Abandonment procedures as used herein include all operations that may be reasonably necessary to protect life and property from subsequent injury.

I. Grantee shall permit Grantor to inspect at reasonable times and places its records of oil or any other substance being transported in said pipe lines and shall, on request, submit to Grantor inspection reports covering the automatic shut-off and check valves and metering stations used in connection with the Straits of Mackinac crossing.

J. (1) Grantee shall indemnify and hold harmless the State of Michigan from all damage or losses caused to property (including property belonging to or held in trust by the State of Michigan), or persons due to or arising out of the operations or actions of Grantee, its employees, servants and agents hereunder. Grantee shall place in effect prior to the construction of the pipe lines authorized by this easement and shall maintain in full force and effect during the life of this easement, and until Grantor has approved completion of abandonment operations, a Comprehensive Bodily Injury and Property Damage Liability policy, bond or surety, in form and substance acceptable to Grantor in the sum of at least One Million Dollars ($1,000,000.00), covering the liability herein imposed upon Grantee.

ENBDNR0003250

(2) Grantee, prior to commencing construction of the pipe lines authorized by this easement, shall provide the State of Michigan with a surety bond in the penal sum of One Hundred Thousand Dollars ($100,000.00) in form and substance acceptable to Grantor, and surety or sureties approved by Grantor, to well, truly and faithfully perform the terms, conditions and requirements of this easement. Said bond shall be maintained in full force and effect during the life of this easement and until Grantor has approved completion of Grantee's abandonment operations. Said bond shall not be reduced in amount except with the written consent of Grantor.

K. Grantee shall within sixty (60) days thereafter notify Grantor in writing of any assignment of this easement.

L. The terms and conditions of this easement shall be binding upon and inure to the benefit of the respective successors and assigns of Grantor and Grantee.

M. All rights not specifically conveyed herein are reserved to the State of Michigan.

ENBDNR0003251

N. Grantee shall not improvise, construct or maintain ship-to-shore or ship-to-pipe line loading or unloading facilities over, through, under or upon any of the bottom lands herein described for the purpose of removing material from or injecting material into said pipe lines.

O. Grantor shall have the right at all reasonable times and places to inspect the pipe lines, appurtenances and fixtures authorized by this easement.

P. It shall not be a breach of the terms and conditions of this easement if for operating or maintenance reasons Grantee shall make use of only one of said pipe lines at a time.

Q. Where provision is made herein that Grantee shall obtain the authorization, approval or consent of Grantor, Grantor agrees that it will not unreasonably withhold the same.

IN WITNESS WHEREOF, the State of Michigan by the Conservation Commission, by Wayland Osgood, Deputy Director, acting pursuant to authority specifically conferred upon him, has caused this instrument to be executed this twenty-third day of April, A.D. 1953.

Signed, Sealed and Delivered
in the Presence of:

Jane Bower

Elizabeth Soule

STATE OF MICHIGAN
BY THE CONSERVATION COMMISSION

By Wayland Osgood (SEAL)
Wayland Osgood, Deputy Director,
pursuant to resolutions of the
Conservation Commission dated
February 13, 1953 and July 10,
1951

ENBDNR0003252

STATE OF MICHIGAN)
) ss.
COUNTY OF INGHAM)

On this twenty-third day of April, A.D. 1953, before me a Notary Public, in and for said county, personally appeared Wayland Osgood, Deputy Director, known by me to be the person who executed the within instrument and who, being duly sworn, deposes and says that he is the duly appointed deputy director of the Conservation Commission and that he executed the within easement under authority specifically conferred upon him by law and by the Conservation Commission at its meetings held on February 13, 1953 and July 10, 1951, and who acknowledged the same to be his free act and deed and the free act and deed of the State of Michigan by the Conservation Commission, in whose behalf he acts.

C. R. Humphrys

C. R. Humphrys, Notary Public, Ingham County, Michigan
My commission expires September 20, 1954

Examined and approved 4/23/53
as to legal form and effect:

P. Glen Dunn
Assistant Attorney General

ENBDNR0003253