Information for File # 2013-04665-JTF

Applicant	**Enbridge Energy, Limited Partnership**
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Phone	(651) 290-5694
Primary County	Carlton
Sec/Township/Range:	SW ¼, Sec. 8, T. 49N., R. 18W.; SE ¼, Sec. 1, T. 49N., R. 19W.
Information Complete On	**January 3, 2014**
Posting Expires On	**January 13, 2014**
Authorization Type	LOP-10-FDL

This application is being reviewed in accordance with the practices for documenting Corps jurisdiction under Sections 9 & 10 of the Rivers and Harbor Act of 1899 and Section 404 of the Clean Water Act identified in Regulatory Guidance Letter 07-01. We have made a preliminary determination that the aquatic resources that would be impacted by the proposed project are regulated by the Corps of Engineers under Section 404 of the Clean Water Act. Our jurisdictional review and final jurisdictional determination could result in modifications to the scope of the project's regulated waterbody/wetland impacts and compensatory mitigation requirements identified above. An approved jurisdictional determination will be made prior to reaching a permit decision, and will be posted on the St. Paul District web page at http://www.mvp.usace.army.mil/.

PROJECT PURPOSE & NEED: The maintenance work is necessary to inspect and repair anomaly indications identified through Enbridge's pipeline inspection program. The purpose of the project is to inspect, and if necessary, repair sections of Enbridge's pipelines on Line 2 at Milepost (MP) 1062.2017 and Line 4 at MP 1063.9201 that are adjacent to wetland areas within the boundaries of the Fond du Lac (FdL) Reservation.

PROJECT DESCRIPTION:
The area around Line 2 and Line 4 would be excavated, visually and physically inspected, and repaired as needed. Each excavation would be approximately 30 to 40 feet wide, 60 to 80 feet long and up to 10 feet deep. The total area of temporary disturbance for each Milepost excavation is estimated to be 0.08 acres.

Equipment used would include a backhoe or similar excavator, and trucks to transport personnel, equipment and soil. Erosion control measures, such as silt fence and straw bales, would be installed as needed prior to soil disturbance in accordance with Enbridge's Environmental Mitigation Plan. The soil erosion control structures would be maintained by Enbridge personnel.

Enbridge may temporarily place rock in the bottom of the excavations to create a safe and dry surface to complete pipeline inspection and repair maintenance work. Within wetlands, Enbridge would install a physical barrier, such as geotextile fabric, below the rock to separate the rock and native soils. The rock and physical barrier would be removed from the excavations prior to backfilling of the excavation.

Access to the maintenance location at MP 1062.2017 would be from the southeast via Township Road 535, across Stoney Brook via a temporary bridge, proceeding northwest on the existing Enbridge right-of way (ROW) to the maintenance location. A portion of the access route is located in wetland. Timber mats would be used as necessary to prevent compaction and rutting in the wetland areas.

Access to the site crosses through wetlands. Enbridge plans to create frost roads to facilitate access through the wetland, as the weather conditions allow, using caution not to disturb any soil in the process of creating and utilizing them. Timber mats would be utilized where necessary to ensure no rutting or mixing of wetland soils occurs. Stoney Brook would be crossed using a temporary clear span bridge with in-stream pier supports installed. To construct the bridge, approximately 5 to 7 temporary piers would be installed within the channel of Stoney Brook to support the bridge decking. The piers would be installed to minimize stream flow restriction. Pier caps, I-beams, and timber mats would be placed across the waterbody and would be constructed to extend beyond the top of bank on each side of the waterbody. The bridge would be designed such that the bridge end supports would extend beyond the immediate top of the bank and not on the sides to avoid streambank impacts. Wooden swamp mat ramps would be used as ramps on the approaches of the bridge. No fill would be used. All efforts would be made to ensure that the stream bank and immediate top of bank are not disturbed during installation, use and removal of the bridge, regardless of the presence of frozen ground conditions.

Prior to the installation of the temporary bridge, geotechnical soil borings would be collected. The soil borings would be collected from Township Road 535, adjacent to Stoney Brook. The soil borings are required to determine the depth of pier installation necessary to support the bridge. Enbridge collected the soil borings in December 2013.

Access to the site would be via a temporary timber mat access route that would extend approximately 1,000 feet across wetland area. Total temporary impacts to wetlands from the access route, excavation, and staging areas is estimated to be 0.86 acre.

Access to the maintenance location MP at 1063.9201would be from County Road 421/Ditchbank Road onto the Enbridge ROW and proceeding northwest along the ROW to the maintenance location. Access to the site crosses through the wetlands. Enbridge plans to create frost roads to facilitate access through the wetland, as the weather conditions allow, using caution not to disturb any soil in the process of creating and utilizing them. Timber mats would be utilized where necessary to ensure no rutting or mixing of wetland soils occurs.

Access to the site would be via a temporary timber mat access route that would extend approximately 1,000 feet across wetland area. Timber mats are approximately 16 feet-wide. Total temporary impacts to wetlands from the access route, excavation, and staging areas is estimated to be 0.86 acre.

Erosion and sediment control measures would be implemented prior to beginning work at each maintenance location. Equipment encroaching upon wetlands would operate from frost/ice roads and clean timber or construction mats, as necessary to eliminate rutting, soil mixing, and minimize compaction. Enbridge would limit the size of the excavation and amount of work space utilized within wetlands. Upon completion of the work, the sites would be restored and seeded with an approved FDL mix. Installed erosion and sediment control structures would be removed after new growth has been established.

Site restoration would begin as soon as soil conditions permit seed bed preparation and seed germination. Enbridge may conduct dormant seeding during frozen conditions, as feasible. Every effort would be made to begin site restoration, including installation of permanent erosion control measures, as soon as practicable.

Enbridge anticipates that dewatering activities (using pumps) may be necessary at the maintenance locations. Dewatering discharges would be directed to a filtration sediment bag placed inside a geotextile lined straw bale dewatering structure. The dewatering structure would be located in an upland area near the construction sites, where possible.

Final cleanup would begin with removal of all construction-related debris and material which is not an integral part of the pipeline (including litter generated by pipeline crews and excess rock and large woody debris, greater than 1.5 inch diameter and/or 12 inches in length) from the Landowner's property. After clean-up is completed, the disturbed areas shall be graded to restore the contours of the land to previous conditions. After final grading, slopes in areas other than cropland would be stabilized with permanent erosion control structures.

Swales across the right-of-way would be restored to original contours wherever practicable. Swales would be seeded and mulched with straw for the width of the ROW. Drainage ditches and intermittent streams would be permanently restored and stabilized with erosion control blanket, permanent seeding, or other appropriate measures. The bridge and in-stream piers would be removed from Stoney Brook without disturbing the waterbody banks, regardless of frozen conditions.

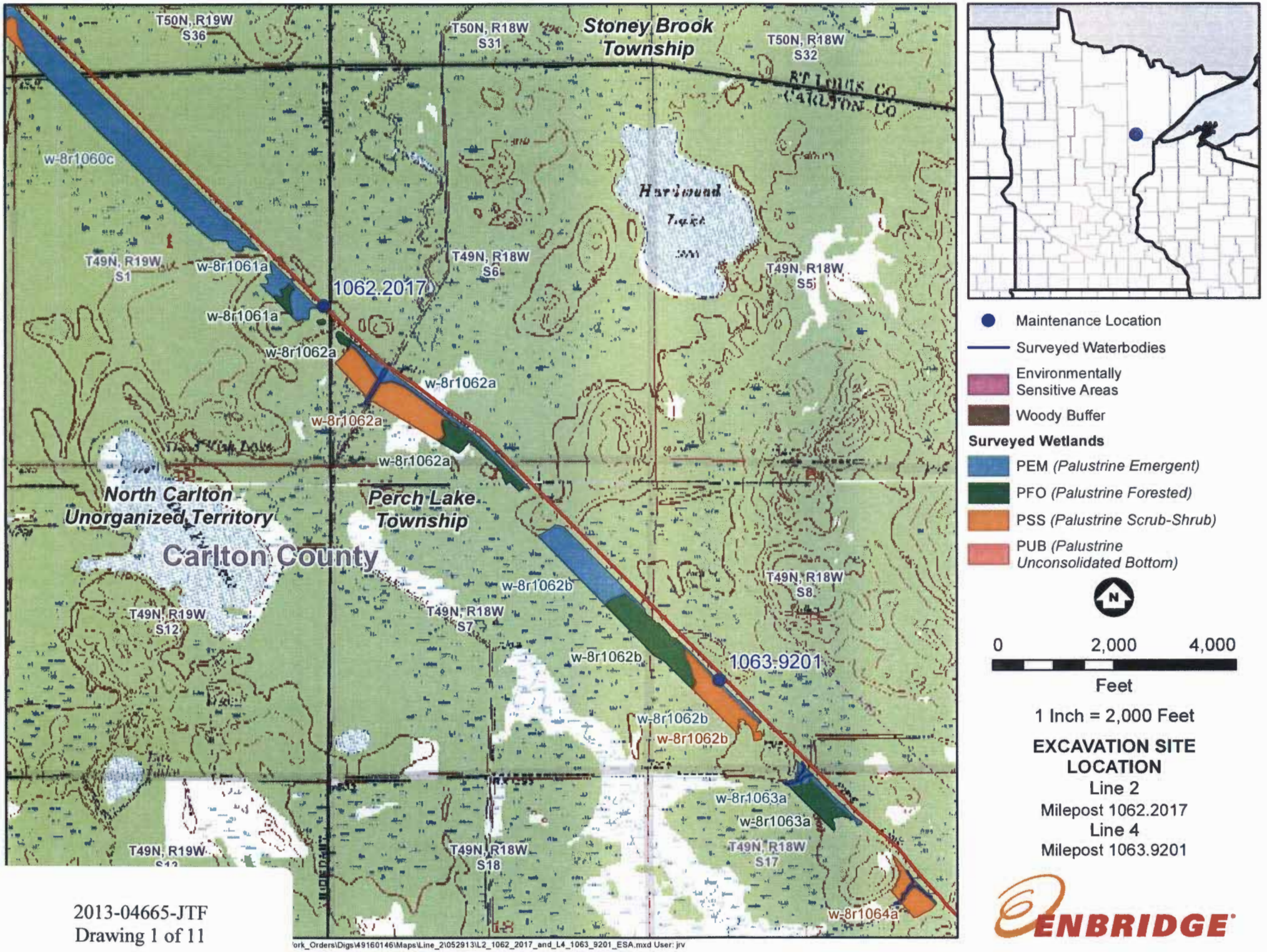
NAME, AREA AND TYPES OF WATERS (INCLUDING WETLANDS) SUBJECT TO LOSS: The project at Lines 2 and 4 would result in temporary impacts to 1.72 acres of fresh meadow, shrub swamp, and bog wetlands. The sites would be restored upon completion of the project. Site restoration would begin as soon as soil conditions permit seed bed preparation and seed germination. Disturbed areas would be graded to restore the contours of the land to previous conditions. Erosion control structures would be removed after new growth has been established.

ALTERNATIVES CONSIDERED: The no-build alternative was dismissed due to failure to act would result in non-compliance with pipeline safety regulations. Safety and liability risk would be compromised by no action as well.

The second alternative of excavation of the trench, repair or replace the damaged pipe sections at each of the two different milepost locations, and subsequently backfill and restore saturated, unstable wetlands during the winter months was chosen. This alternative would have the least adverse effect on wetlands because of frost.

COMPENSATORY MITIGATION: No permanent wetland impacts would result from the project, thus there would be no required compensatory mitigation.

DRAWINGS: See attached.



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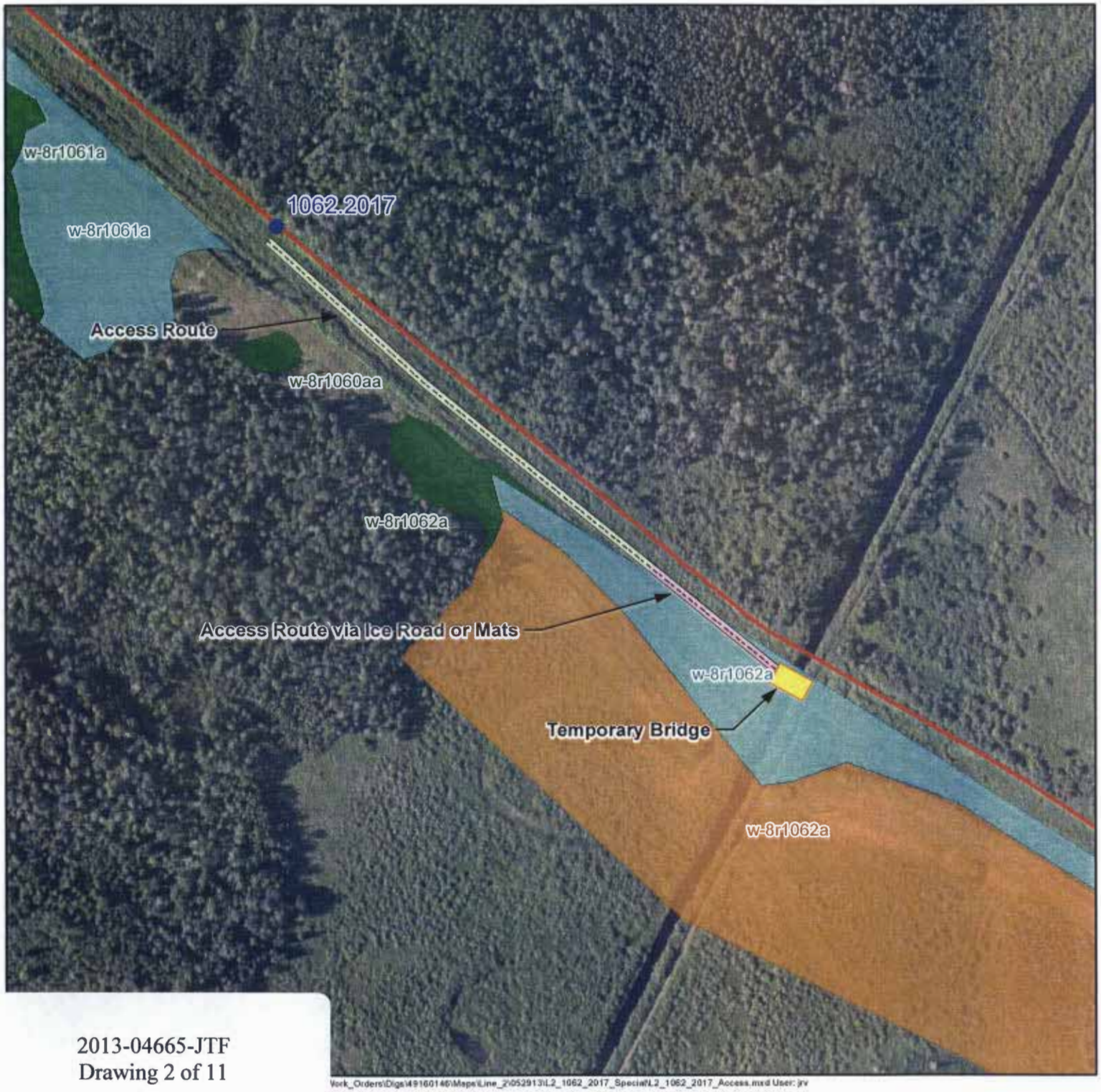

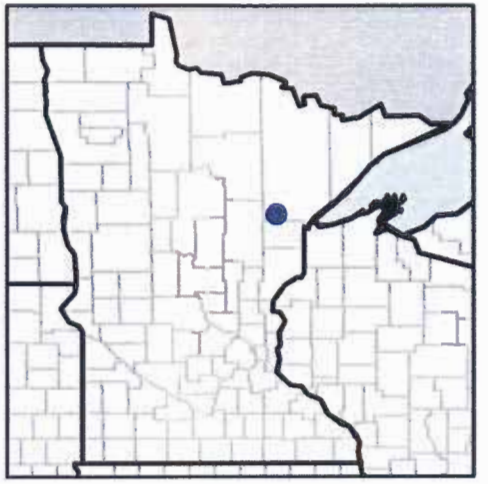

- Maintenance Location
- Access Route
- Access Route via Ice Road or Mats
- Temporary Bridge

Surveyed Wetlands

- PEM *(Palustrine Emergent)*
- PFO *(Palustrine Forested)*
- PSS *(Palustrine Scrub-Shrub)*
- PUB *(Palustrine Unconsolidated Bottom)*

0 2,000 4,000

Feet

1 Inch = 300 Feet

Imagery: Microsoft; 2011

ACCESS
Line 2
Milepost 1062.2017

ENBRIDGE

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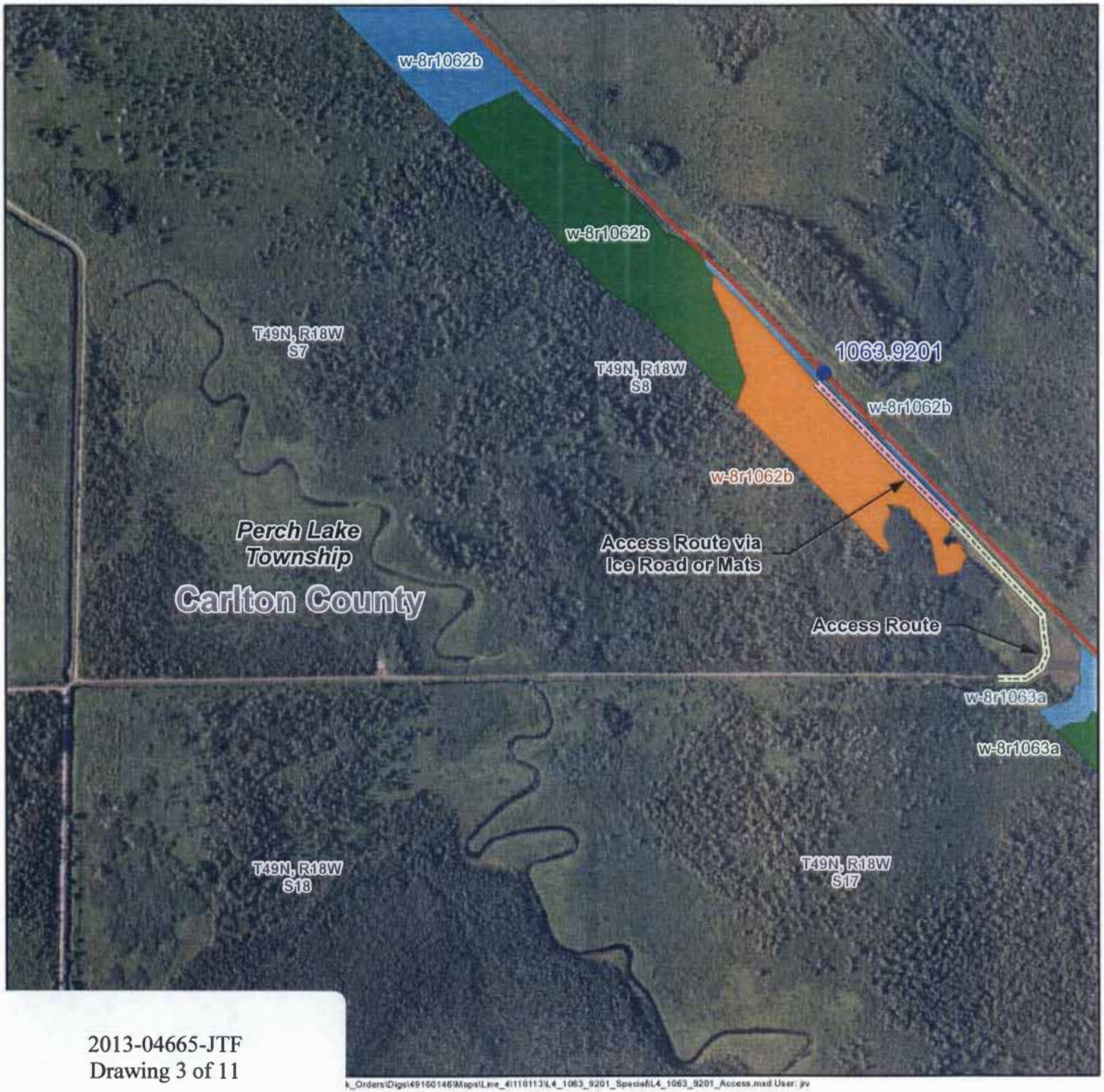

- Maintenance Location
- Access Route
- Access Route via Ice Road or Mats

Surveyed Wetlands

- PEM *(Palustrine Emergent)*
- PFO *(Palustrine Forested)*
- PSS *(Palustrine Scrub-Shrub)*
- PUB *(Palustrine Unconsolidated Bottom)*

0 700 1,400

Feet

1 Inch = 700 Feet

Imagery: Microsoft; 2011

ACCESS
Line 4
Milepost 1063.9201

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Drawing 3 of 11

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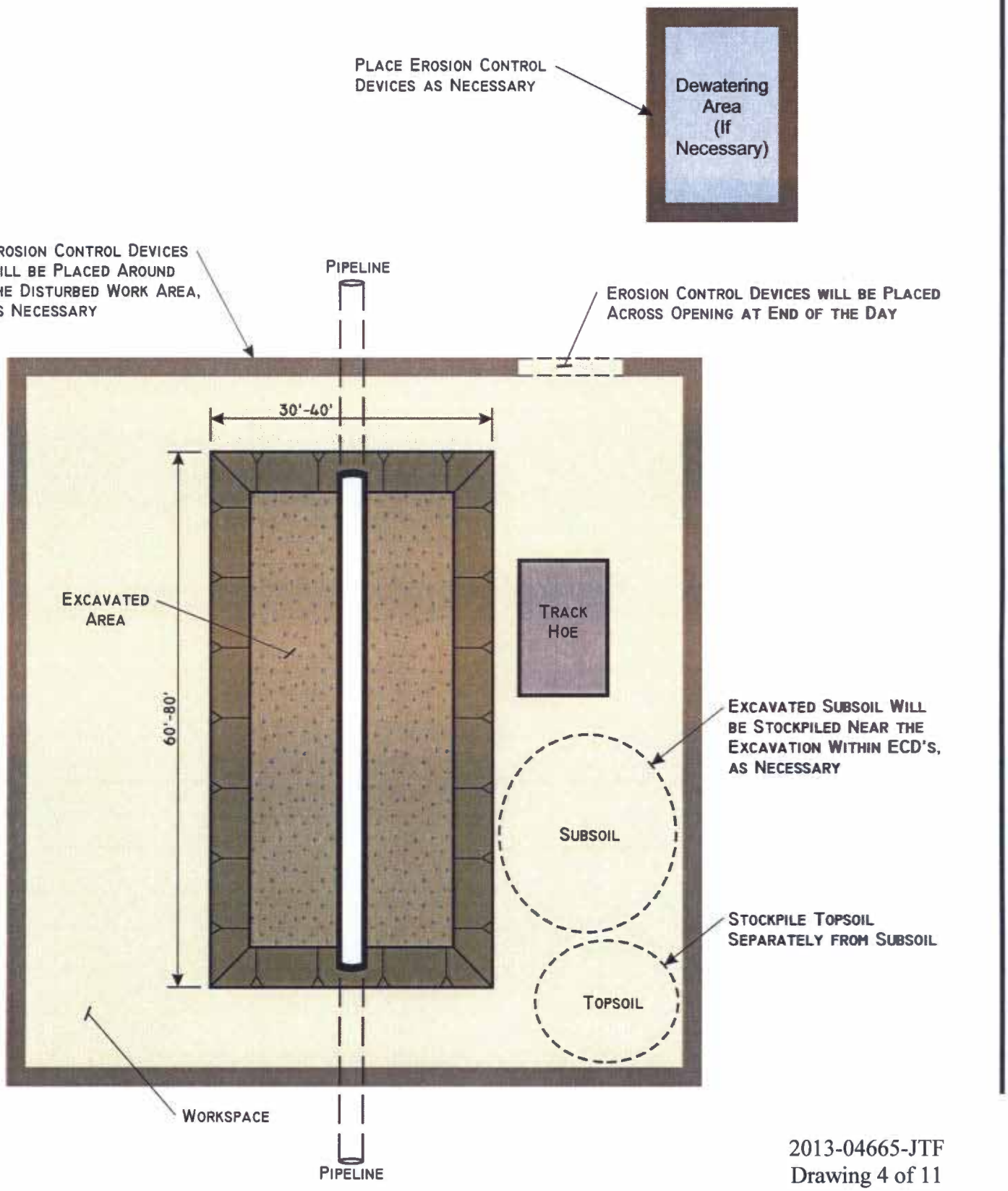

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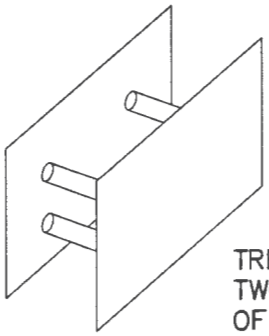
ENBRIDGE

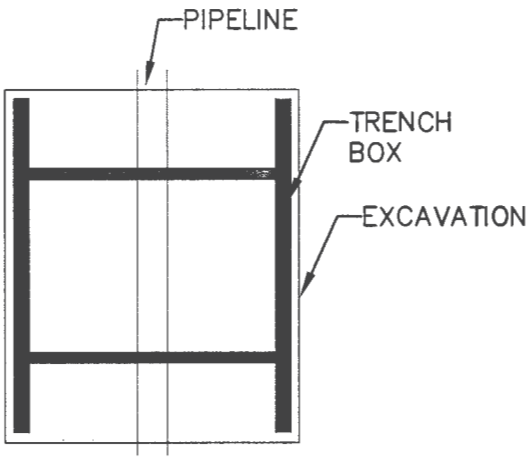
Figure 1

Environmental Mitigation Plan
Typical Maintenance Excavation
Plan View

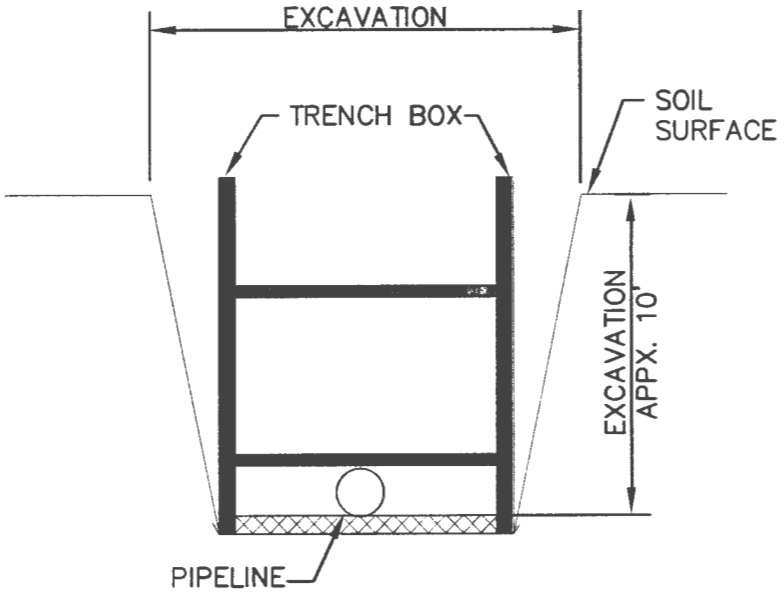
Date: 12/12/2012
Revised:
Scale: Not to Scale



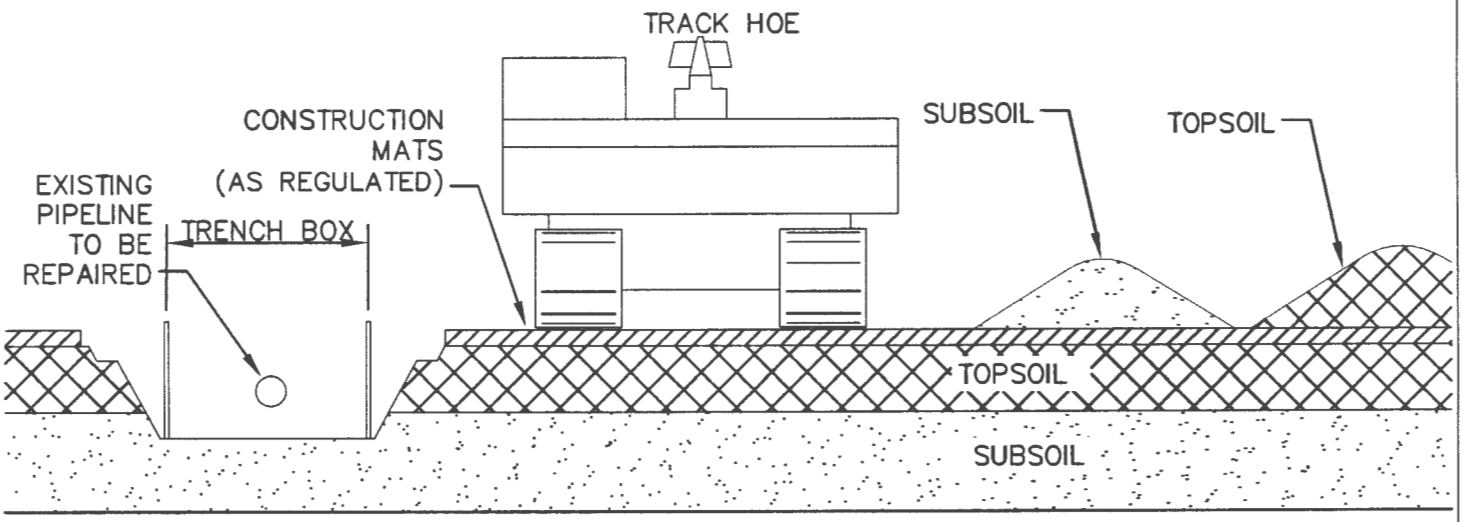
TRENCH BOXES CONSIST OF TWO STEEL PLATES THAT HOLD UP THE SIDES OF AN EXCAVATION. THE PLATES ARE HELD IN PLACE BY STEEL BRACES.



PLAN: TRENCHBOX



PROFILE: TRENCHBOX



PROFILE: TRENCHBOX

Scale	NONE
Date	1/3/2013
Drawn	CFN
Checked	EMM
Designed	EMM
Approved	EMM

FOR ENVIRONMENTAL PERMITTING
TRENCHBOX TYPICAL

FIGURE 2

BARR PROJECT No. 49/16-0146
CLIENT PROJECT No.
SHEET No.
REV. No.

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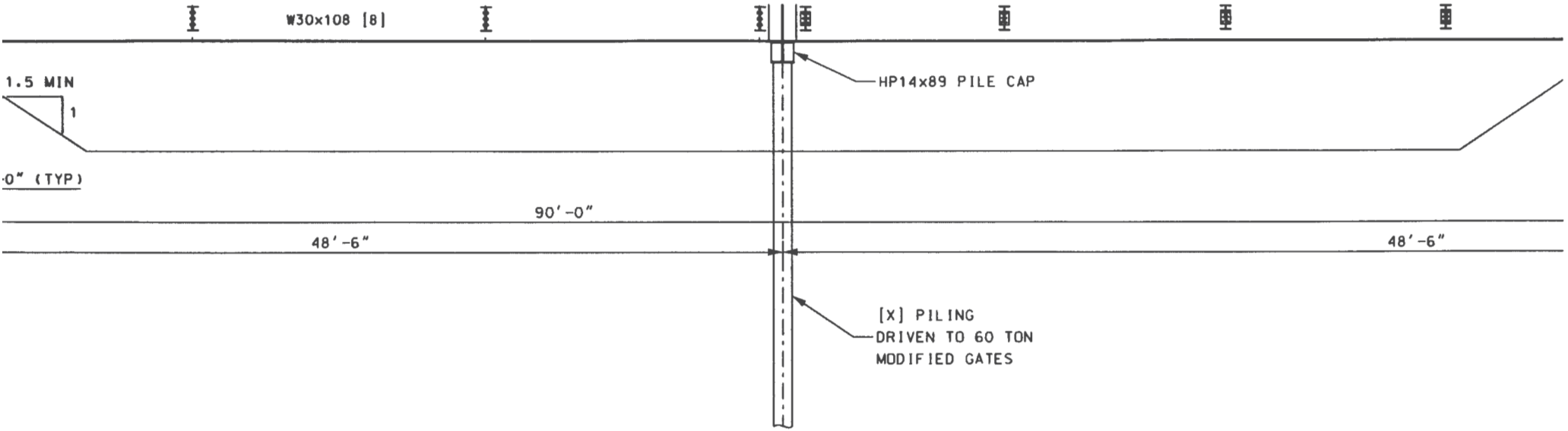
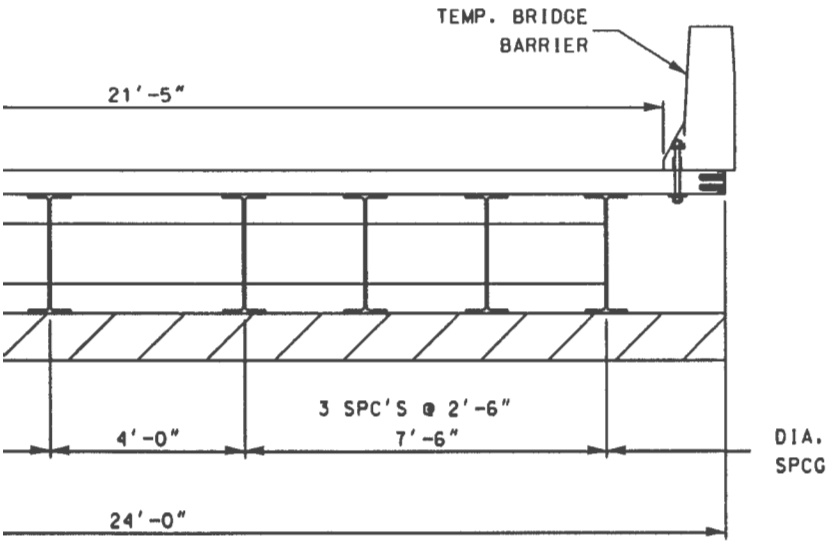
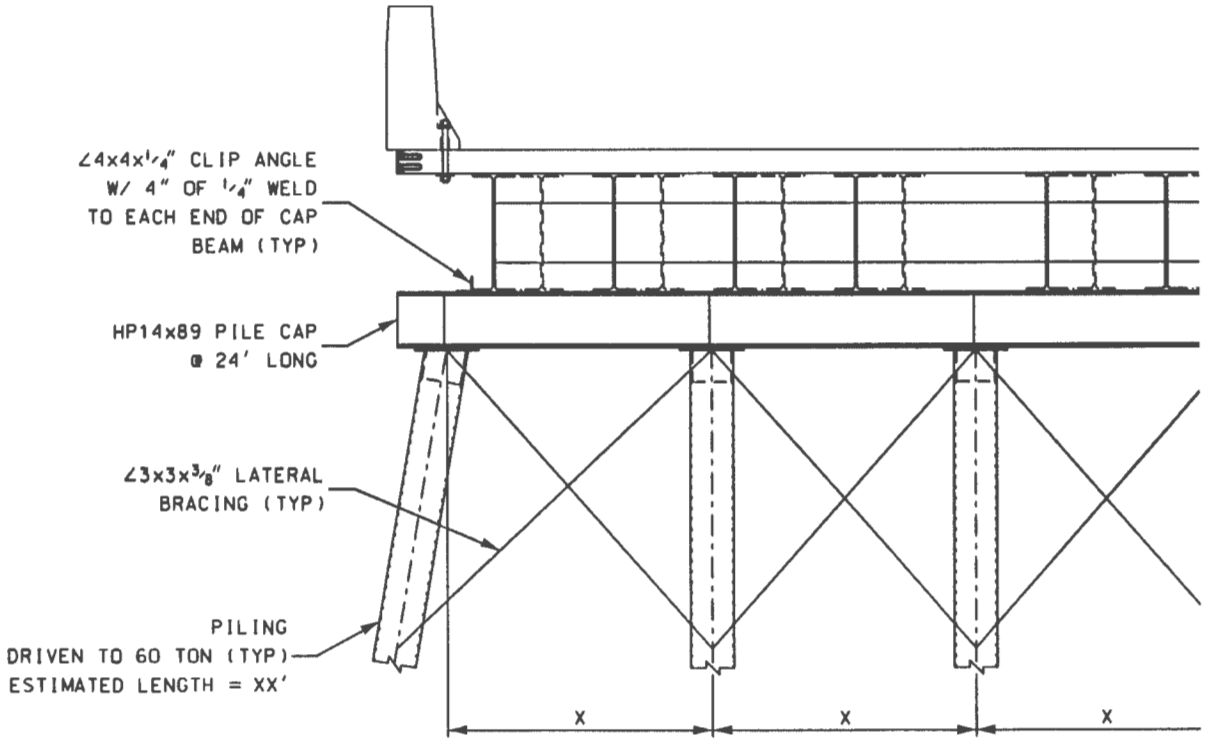


TEMPORARY BRIDGE
ELEVATION



TEMPORARY BRIDGE
ABUTMENT SECTION



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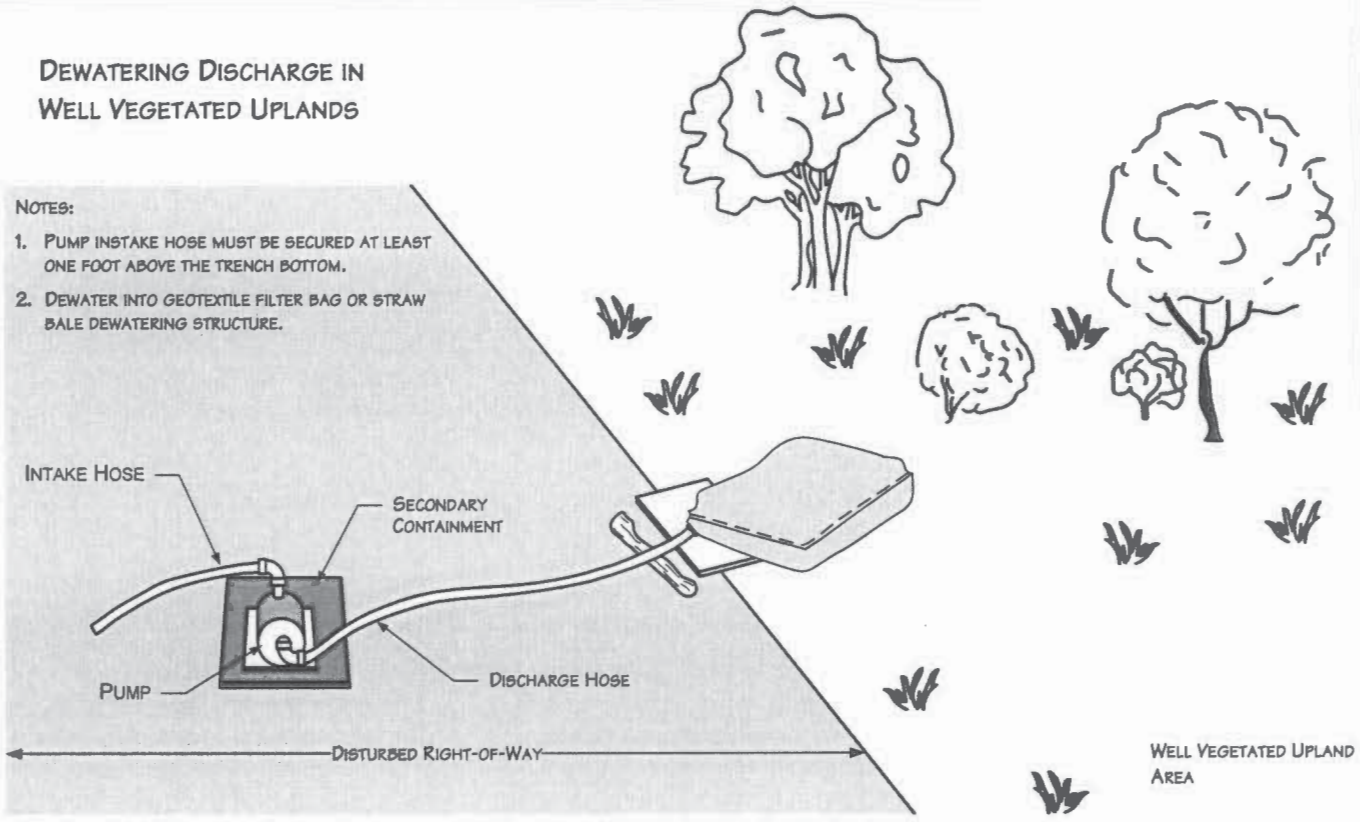
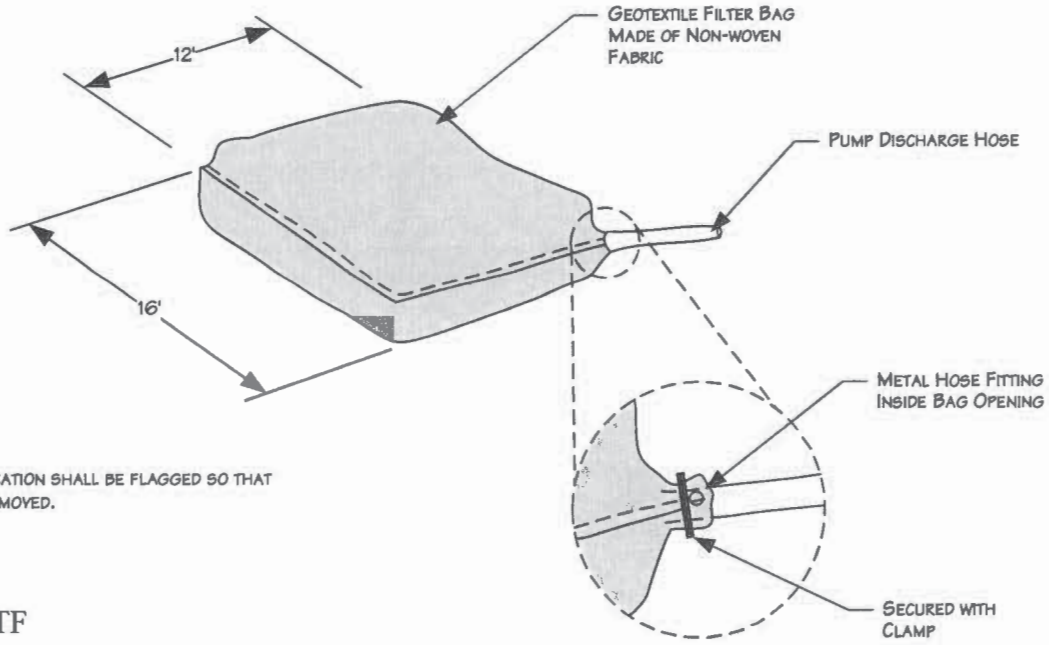
Dewatering Discharge in Well Vegetated Uplands



Geotextile Filter Bag



Note:

1. Filter bag location shall be flagged so that bag can be removed.

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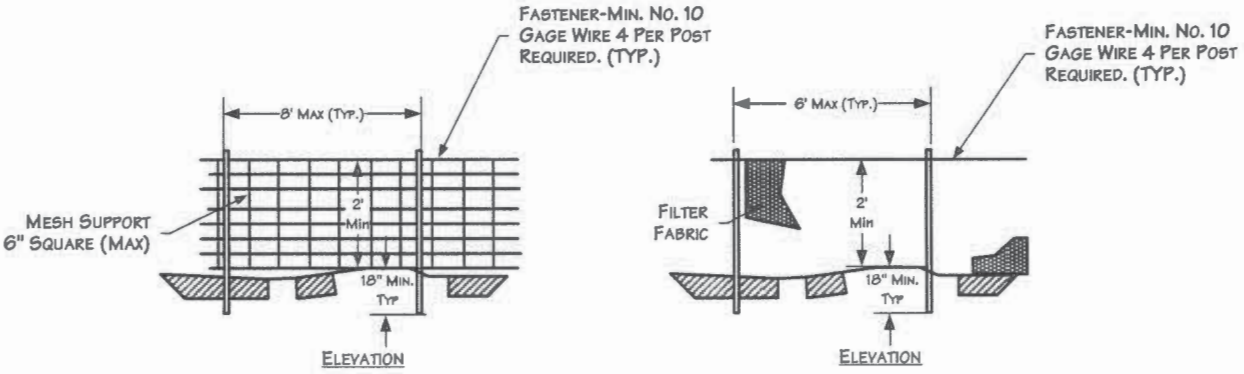
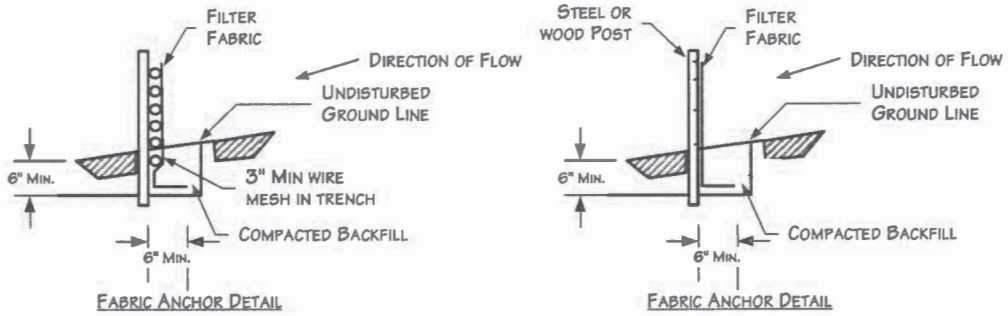
For environmental review purposes only

ENBRIDGE

Figure 19
Environmental Mitigation Plan
Typical Dewatering Measures

DATE:	5/25/2001
REVISED:	1/16/2009
SCALE:	NTS
DRAWN BY:	KMKENDALL
K:\335\ALBERTA\2006-135\400\2.7.VSD	

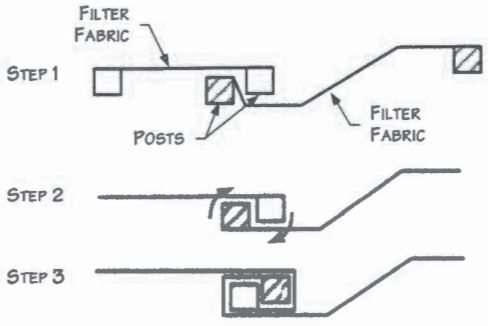




SILT FENCE WITH WIRE SUPPORT PLAN

SILT FENCE PLAN
NTS

NOTES:
1. WIRES OF MESH SUPPORT SHALL BE MIN. GAGE NO. 12.
2. FILTER FABRIC SHALL MEET THE REQUIREMENTS OF THE SPECIFICATION WITH EQUIVALENT OPENING SIZE OF AT LEAST 30 FOR NONWOVEN AND 50 FOR WOVEN. (SIEVE NO.)
3. THE POSTS USED TO SUPPORT THE SILT FENCE SHOULD BE HARDWOOD MATERIAL WITH A MINIMUM CROSS SECTIONAL AREA OF 4 INCHES SQUARE AND 4 FEET LONG. METAL POSTS SHOULD BE USED IN AREAS THAT POND WATER.



ATTACHING TWO SILT FENCES

NOTES:
1. PLACE THE END POST OF THE SECOND FENCE INSIDE THE END POST OF THE FIRST FENCE.
2. ROTATE BOTH POSTS AT LEAST 180 DEGREES IN A CLOCKWISE DIRECTION TO CREATE A TIGHT SEAL WITH THE FABRIC MATERIAL.
3. DRIVE BOTH POSTS A MINIMUM OF 18 INCHES IN THE GROUND AND BURY THE FLAP.

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ENBRIDGE

Figure 8
Environmental Mitigation Plan
Typical Silt Fence Installation

DATE:	5/25/2001
REVISED:	3/23/2011
SCALE:	NTS
DRAWN BY:	KMKENDALL
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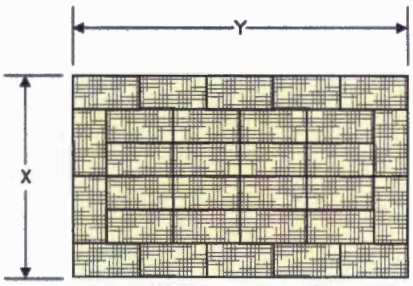
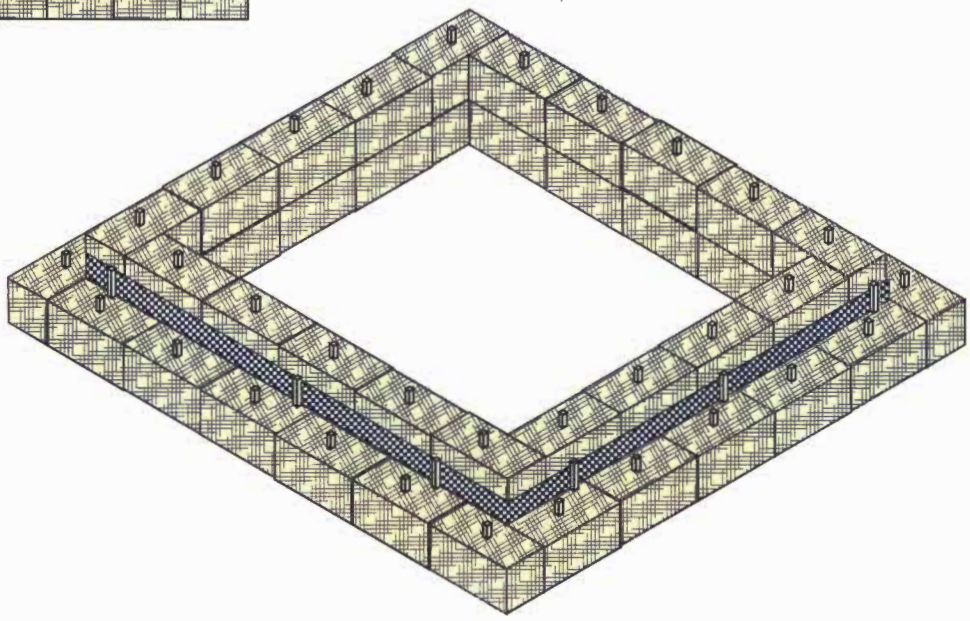
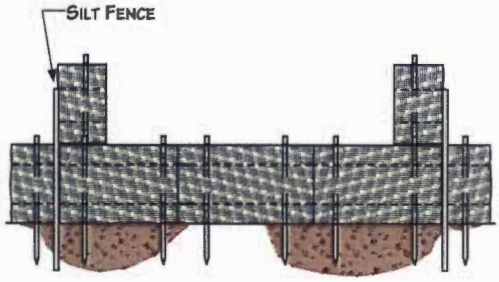


NOTES

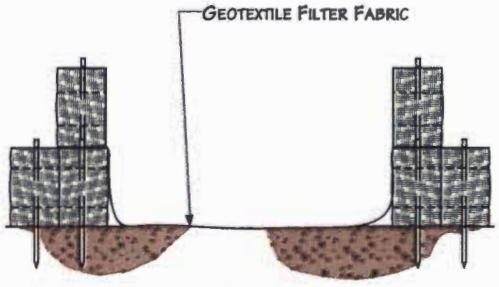
1. ARRANGE THE STRAW BALES TO THE X AND Y DIMENSIONS AS SPECIFICIED BELOW.
2. IF BOTTOM OF STRUCTURE IS NOT LINED WITH STRAW BALES (OPTION 1), LINE ENTIRE STRUCTURE WITH GEOTEXTILE FILTER FABRIC.



PERSPECTIVE VIEW



OPTION 1



OPTION 2

MINIMUM SUMP DIMENSIONS (FEET)		MAXIMUM PUMPING RATE
X	Y	GALLONS PER MINUTE
10	20	300
15	20	350
20	20	400
20	25	450
25	25	500
25	30	550
30	30	660

Figure 20
Environmental Mitigation Plan
Typical Straw-Bale Dewatering Structure

DATE: 5/25/2001
REVISED: 10/24/08
SCALE: NTS
DRAWN BY: KMKENDALL
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2013-04665-JTF
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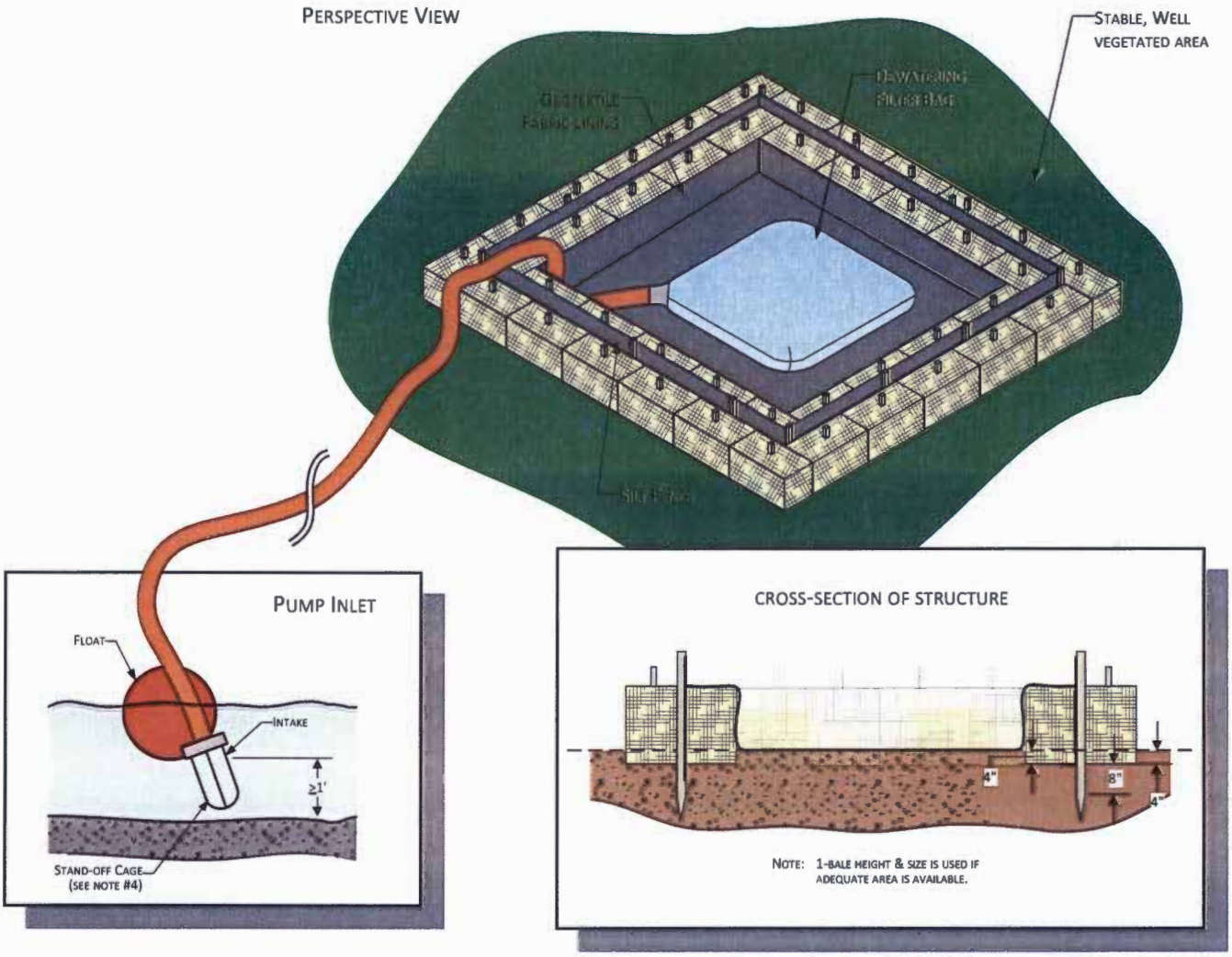


CONSTRUCT DEWATERING STRUCTURE TO ACCOMMODATE ANTICIPATED PUMPING RATES. SEE EXAMPLE BELOW.

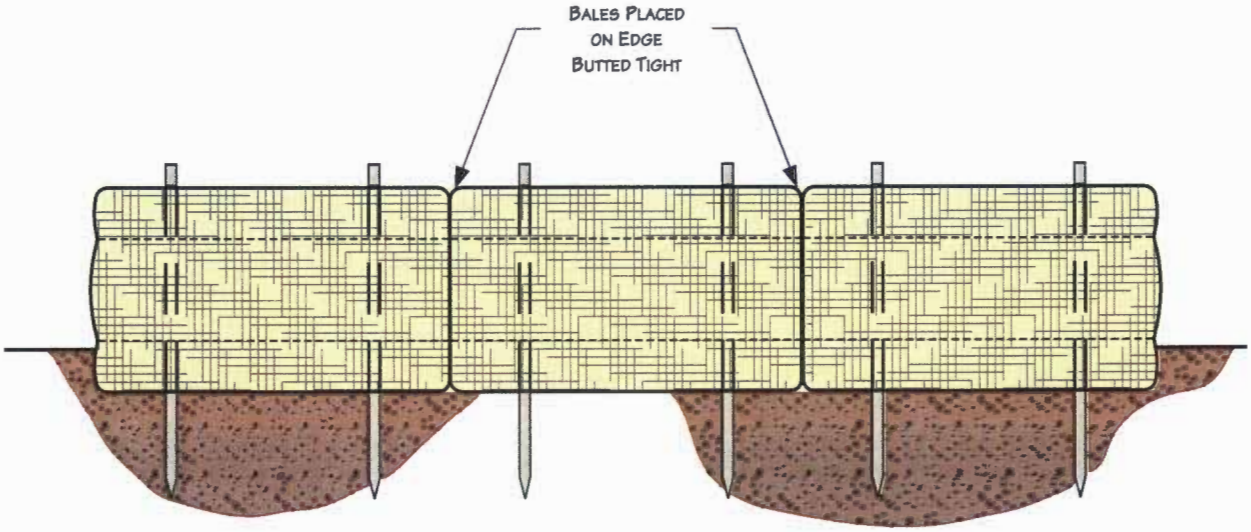
EXAMPLE PUMPING RATE = 200 G.P.M.
STORAGE VOLUME (C.F.) = 16 X 200 G.P.M. = 3200 C.F.
HEIGHT OF STRAW BALE STRUCTURE = 1.5 FEET (1 BALE) (BASED ON HEIGHT OF BALES, NOT SILT FENCE)
INSIDE DIMENSIONS OF STRUCTURE = 46 X 46 FEET SQUARE

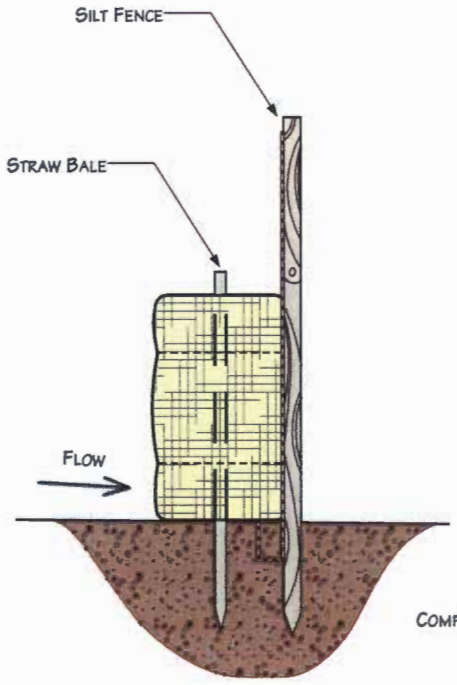
NOTES:

1. SILT FENCE ENDS MUST BE WRAPPED TO JOIN TWO SECTIONS.
2. INSTALL SILT FENCE 2 INCHES ABOVE TOP OF STRAW BALE, AND ANCHOR A MINIMUM OF 8 INCHES STRAIGHT DOWN.
3. SILT FENCE POST STAKING MUST BE 4 FEET OR LESS.
4. DEWATERING INTAKE HOSE SUPPORTED AT LEAST 1 FOOT FROM BOTTOM OF TRENCH BEING DEWATERED.
5. USE A FILTER BAG AT THE DISCHARGE HOSE END.
6. EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE INSPECTED AND MAINTAINED IN ACCORDANCE WITH THE COMPANY'S UPLAND EROSION CONTROL, REVEGETATION, AND MAINTENANCE PLAN.

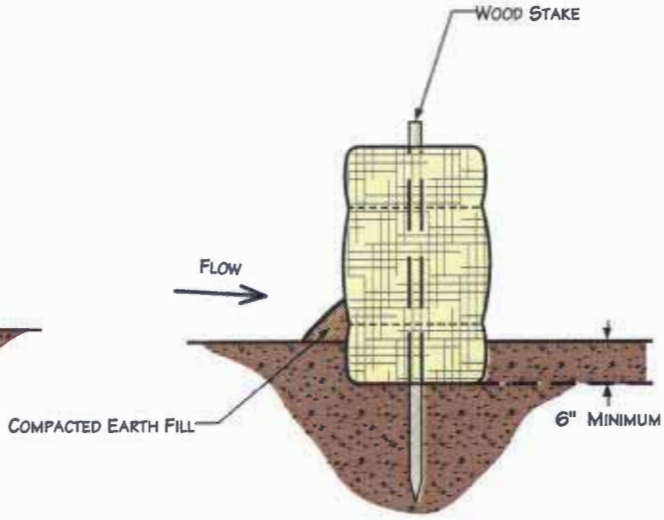
Figure 24C
Environmental Mitigation Plan
Straw Bale Dewatering Structure

SCALE: NTS	DATE: 3/11/2003	REVISED: 3/25/2011	DRAWN BY: KJANDERSON





STRAW BALES & SILT FENCE



STRAW BALES ONLY

For environmental review purposes only.

Figure 8
Environmental Mitigation Plan
Typical Straw Bale Installation

DATE:	5/25/01
REVISED:	1/19/09
SCALE:	Not to Scale
DRAWN BY:	KMKENDALL
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