

Information for File # 2014-04140-TJH

Applicant: Northern States Power Company - Minnesota

Corps Contact: Tom Hingsberger

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Primary County: Chisago County

Section: Section 19

Township: 34N

Range: 18W

Information Complete On: December 4, 2014

Posting Expires On: April 20, 2015

Authorization Type: LOP-05-MN

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 could result in modifications to the scope of the project's regulated waterbody/wetland impacts and compensatory mitigation requirements identified above.

Project Includes: Rehabilitation of the Taylor's Falls Wall component of the St. Croix Falls Hydroelectric Project.

PROJECT DESCRIPTION AND PURPOSE: The purpose of the project is to repair the Taylor's Falls Wall, a critical water retaining structural component of the St. Croix Falls Dam. The deteriorated wall is over 100 years old and has extensive cracking, spalling, and leakage. The project would entail covering the upstream face and crest of the existing deteriorated wall with a membrane and placing compacted fill on the upstream and downstream sides of the wall to establish an earthen embankment. Organic soils

would be removed and re-used to establish a base for the embankment. The lower portion of the final slope on both sides will be protected from river flow and wave action with riprap.

NAME, AREA AND TYPES OF WATERS (INCLUDING WETLANDS) SUBJECT TO LOSS: Fill material would be discharged into a 0.74-acre area of the St. Croix River bed below the normal pool elevation of 755' MSL, and into a 0.90-acre area of shallow marsh Type 3 wetlands on the upstream side of the Taylor's Falls wall. The project would result in the permanent loss of 0.90 acre of shallow marsh wetlands behind the existing dam wall. The discharge of fill into 0.74 acre of the river would result in an upland conversion and permanent loss of 0.20 acre of riverine habitat riverward of the existing dam wall.

ALTERNATIVES CONSIDERED: No-build and monitor in place, localized patching repairs, construction of a supplemental buried membrane/rock wall, a grouted precast concrete panel wall, a sheet pile and grout wall, a concrete overlay, and complete wall replacement were evaluated. The applicant's preferred alternative of constructing an earth embankment around the existing wall provided advantages that included minimizing future operation and maintenance, safer access to the structure, and a more natural and aesthetic appearance than concrete or steel structures.

IMPACT MINIMIZATION: The applicant has stated that the amount of fill associated with their preferred alternative is the minimum amount required to maintain a stable grade. Embankment side slopes are proposed at 2.5:1 (Horizontal:Vertical). Additionally, the top width is minimized to 12 feet, the minimum width required for maintenance vehicles.

COMPENSATORY MITIGATION: Compensatory mitigation for the permanent loss of 0.90 acre of wetlands is required and would be provided via a wetland credit withdrawal from an approved wetland bank located within the St. Croix River Watershed. Additional mitigation for the 0.20 acre of habitat impacts to the St. Croix River is being developed for agency review.

Drawings: See attached.

TAYLORS FALLS DIKE CONSTRUCTION XCEL ENERGY - ST. CROIX FALLS HYDRO TAYLORS FALLS, MN



DRAWING INDEX	
SHEET	DESCRIPTION
1	TITLE SHEET
2	LEGEND AND ABBREVIATIONS
3	SITE PLAN - EXISTING CONDITIONS
4	SITE PLAN - PROPOSED
5	EMBANKMENT SECTION (STA 150+00)
6	EMBANKMENT SECTION (STA 400+00)
7	EMBANKMENT SECTION (STA 600+00)
8	TYPICAL EMBANKMENT CROSS SECTION
9	MISC. DETAILS

CHISAGO COUNTY



NORTH

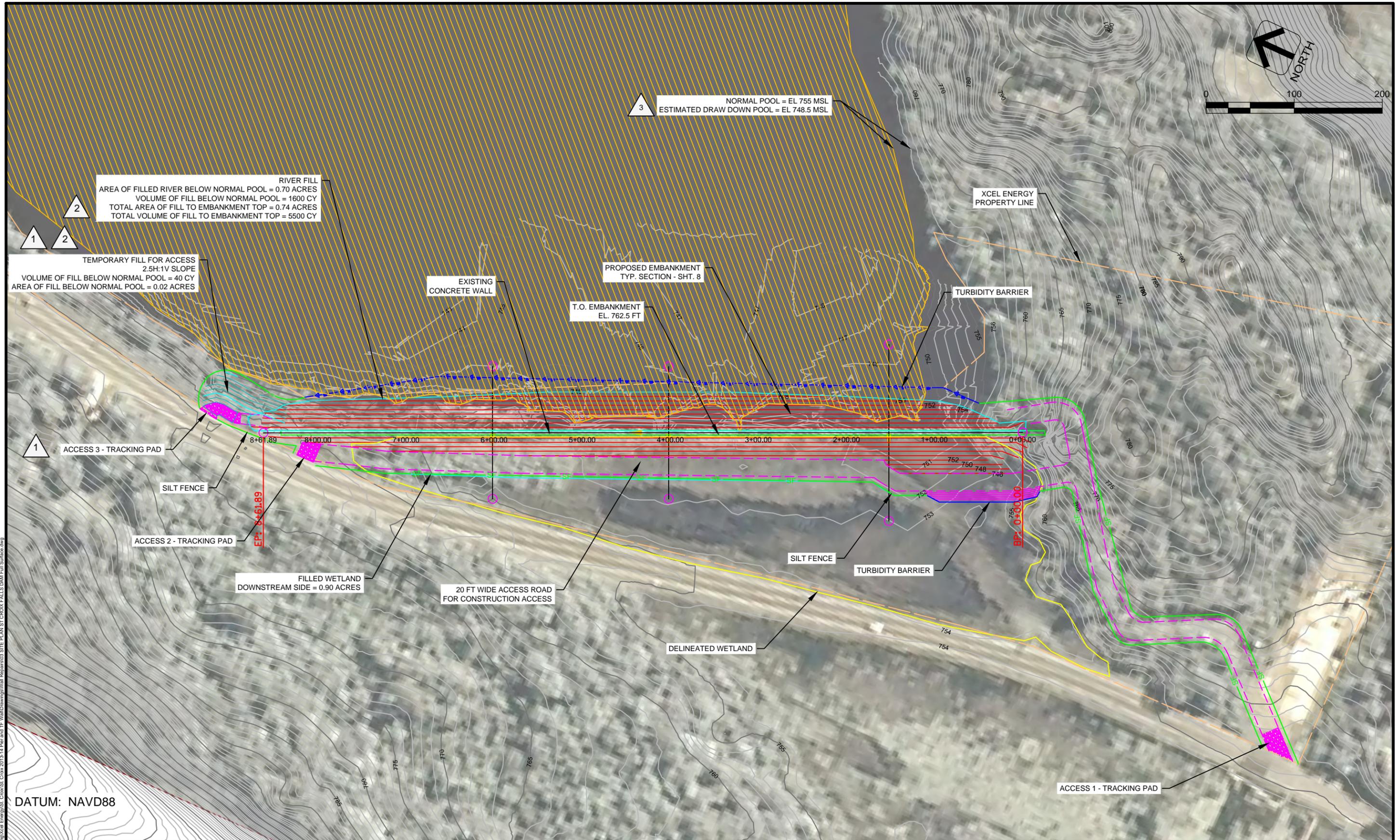
DESIGN BY J. ZANDER	ISSUED FOR FOR AGENCY APPROVAL	DATE JULY 2014	NO.	DATE	REVISION
DRAWN BY C. GOODWIN	PROJECT NO. 26-0772-00				

TAYLORS FALLS DIKE CONSTRUCTION
XCEL ENERGY - ST. CROIX FALLS HYDRO
TAYLORS FALLS, MINNESOTA



TITLE SHEET

SHEET NO.
1



2
 RIVER FILL
 AREA OF FILLED RIVER BELOW NORMAL POOL = 0.70 ACRES
 VOLUME OF FILL BELOW NORMAL POOL = 1600 CY
 TOTAL AREA OF FILL TO EMBANKMENT TOP = 0.74 ACRES
 TOTAL VOLUME OF FILL TO EMBANKMENT TOP = 5500 CY

1 2
 TEMPORARY FILL FOR ACCESS
 2.5H:1V SLOPE
 VOLUME OF FILL BELOW NORMAL POOL = 40 CY
 AREA OF FILL BELOW NORMAL POOL = 0.02 ACRES

1
 ACCESS 3 - TRACKING PAD

SILT FENCE

ACCESS 2 - TRACKING PAD

FILLED WETLAND
DOWNSTREAM SIDE = 0.90 ACRES

20 FT WIDE ACCESS ROAD
FOR CONSTRUCTION ACCESS

DELINEATED WETLAND

SILT FENCE

TURBIDITY BARRIER

ACCESS 1 - TRACKING PAD

3
 NORMAL POOL = EL 755 MSL
 ESTIMATED DRAW DOWN POOL = EL 748.5 MSL

XCEL ENERGY
PROPERTY LINE

TURBIDITY BARRIER

PROPOSED EMBANKMENT
TYP. SECTION - SHT. 8

T.O. EMBANKMENT
EL. 762.5 FT

EXISTING
CONCRETE WALL

DATUM: NAVD88

A:\Standard\ab
 K:\Water Resources\Employee\J.Zander\Projects\2013\14_Pkg and TE\WetDelineation\Wet Delineation\03 SITE PLAN ST CROIX FALLS DAM Full Surface.dwg

DES BY	BOOK NO	DATE	REVISION
J. ZANDER		1/07/15	ADDED ACCESS 3 AND TEMPORARY FILL
J. ZANDER	26-0772.00	1/15/15	UPDATED FILL VOLUMES AND AREAS
J. ZANDER		2/12/15	UPDATED DRAWDOWN RESERVOIR EXTENTS
C. GOODWIN		JULY 2014	

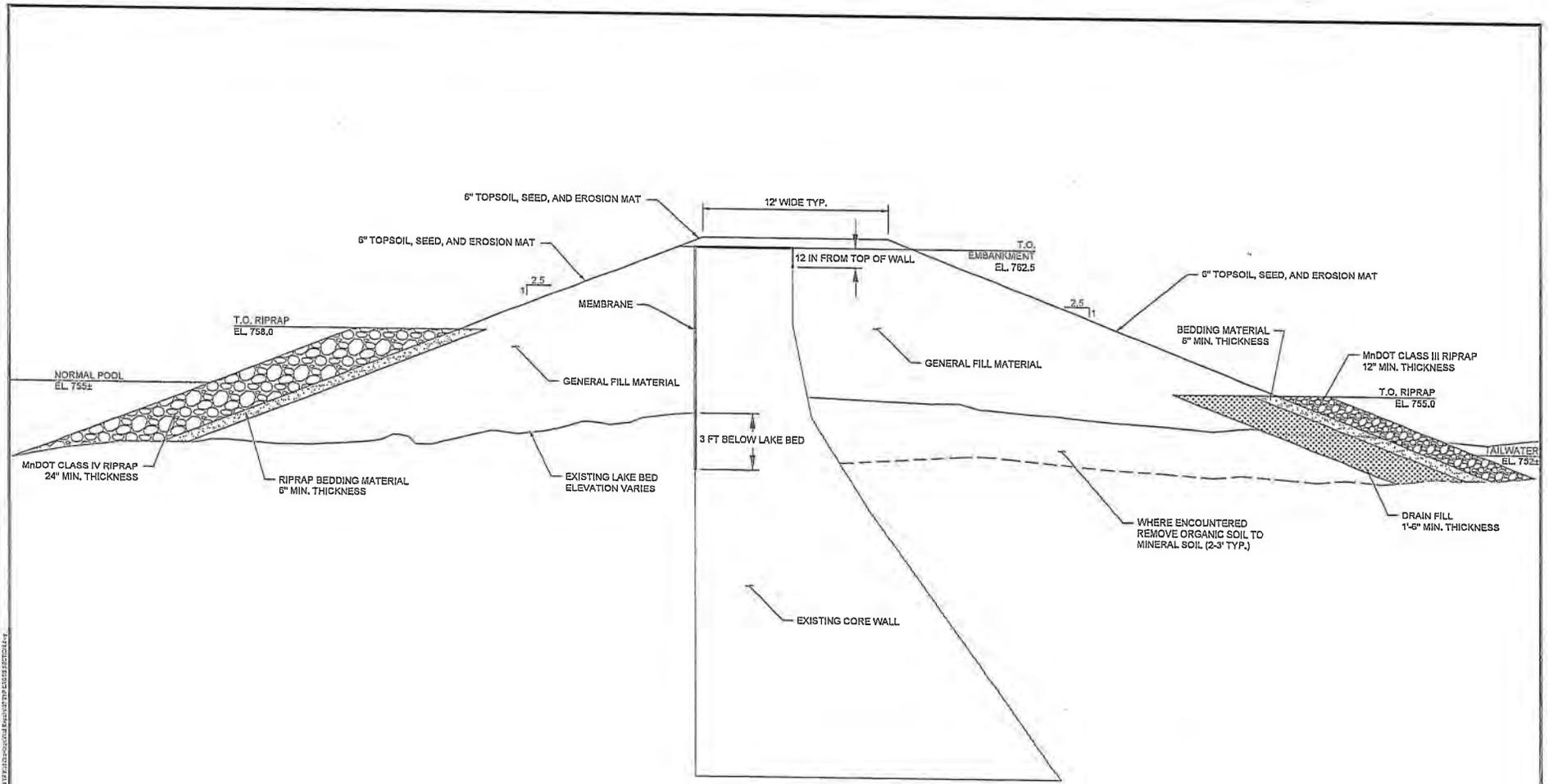
FOR AGENCY APPROVAL

TAYLORS FALLS DIKE CONSTRUCTION
 XCEL ENERGY - ST. CROIX FALLS HYDRO
 TAYLORS FALLS, MINNESOTA



SITE PLAN - PROPOSED

SHEET NO
4



NOT TO SCALE
 DATUM: NAVD88

DESIGN BY	J. ZANDER	BOOK NO.	
CHECK BY	J. ZANDER	PROJECT NO.	20-0772.00
DATE	C. GOODWIN	DATE	JULY 2014
NO.		DATE	
REVISION		NO.	DATE
REVISION		NO.	DATE

FOR AGENCY APPROVAL

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TYPICAL EMBANKMENT CROSS SECTION