



US Army Corps
of Engineers
St Paul District

**APPLICANT: Northshore Mining
Company**

REFER TO: 2007-00841-TWP

Special Public Notice

ISSUED: 18 December 2015

EXPIRES: 28 December 2015

SECTION: 404 - Clean Water Act

NORTHSHORE MINING COMPANY (NSM) HAS REQUESTED A MODIFICATION TO PERMIT 2007-00841-TWP.

NSM has requested an extension of the permit expiration date from December 31, 2015, to December 31, 2017. A two-year time extension of the permit expiration date will be issued by the Corps prior to December 31, 2015.

PROJECT LOCATION:

The project site is located in Sections 2, 3, 4, 9, 10, and 11, T. 55N., R. 8W., Lake County, Minnesota.

The compensatory mitigation for the work in waters of the U.S. has been accomplished through the purchase of wetland banking credits from the Embarrass River Wetland Mitigation Bank (now owned and maintained by the Minnesota Department of Natural Resources) located in the St. Louis River watershed in St. Louis County.

The project has not changed scope or design since the permit was issued November 9, 2009, and as modified on December 19, 2014, with a 1-year time extension of the permit expiration to December 31, 2015.

BACKGROUND: The overall purpose of the project is to relocate the outlet of Bear Lake. Currently, the lake overflows are directed out of the northwest corner of the lake into a seepage recovery pond adjacent to Dam 5 of the applicant's Milepost 7 Tailings Basin. Water that accumulates in the seepage recovery pond is pumped into the main tailings basin water pond. Water is released from the tailings pond to a tributary of the West Branch of the Beaver River via a permanent discharge, entering the West Branch of the Beaver River in the same location as the original Bear Lake outflow. The Dam 5 seepage recovery pond must be modified as the tailings dam continues to be constructed wider and higher. As a result, a new outlet must be developed for Bear Lake that will divert its overflow away from the tailings dam. The new overflow and conveyance channel would continue to direct Bear Lake outflow to the West Branch of the Beaver River.

The proposed plan for the permanent diversion is consistent with the historical concept plan that was approved in the original Milepost 7 Tailings Disposal System permits, and which was included in the long-term development plan for the system. The tailings basin must be continued to be used for the applicant to continue their operations.

The project would impact 4.33 acres of wetlands (2.97 acres direct and 1.36 acres indirect), consisting of the following: 0.38 acre of floodplain wetland (type 1), 1.64 acres of wet meadow wetland (type 2), 0.18 acre of deep marsh wetland (type 5), 1.66 acres of scrub shrub wetland (type 6), and 0.46 acre of forested wetland (type 7).

Compensatory mitigation for the proposed 4.33 acres of unavoidable wetland impact had been accomplished through the purchase of 4.55 wetland banking credits from the Embarrass River Wetland Mitigation Bank located in the St. Louis River watershed in St. Louis County.

Operations - Regulatory (2007-00841-TWP)
SUBJECT: Northshore Mine Company Permit Extension

STATUS: The Corps submitted a letter dated September 23, 2015, to the U.S. Fish and Wildlife Service with a determination that the project may likely affect, but not adversely affect the Northern long-eared bat. The bat species was listed on the Endangered Species list in early 2015. The tree clearing activities would commence between October 1st and March 31st, which is outside the spring and fall migration, and roosting period.

The U.S. Fish and Wildlife Service responded in a letter dated October 13, 2015, with concurrence that the project may affect, but is not likely to adversely affect the Northern long-eared bat. This concluded informal consultation with the Service for the Northern long-eared bat.

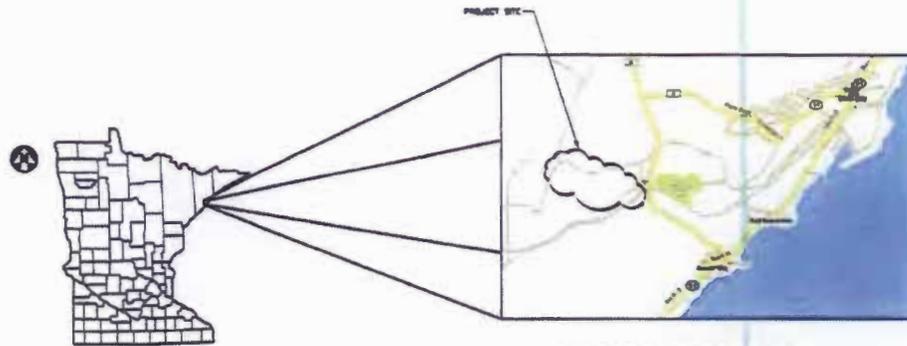
A Special Condition would be added to the permit time extension that tree clearing would commence between October 1st and March 31st, to protect the Northern long-eared bat.

DESCRIPTION OF PERMIT MODIFICATION: The expiration date for DA permit 2007-00841-TWP is being extended from December 31, 2015 to December 31, 2017. A special condition is being included to protect the Northern long-eared bat (a Federally listed threatened species). There are no other changes to the terms or conditions of the permit.

If you have questions about the project modification, call Daryl W. Wierzbinski at the Duluth office of the Corps, telephone number (218) 720-5284.

Benjamin R. Cox
Chief, Northwest Section

**NORTHSHORE MINING COMPANY
BEAR LAKE OUTLET
AT
MILEPOST SEVEN TAILINGS BASIN
SILVER BAY, MINNESOTA**



SITE VICINITY MAP

INDEX OF SHEETS

BEAR LAKE OUTLET

TS-001	TITLE SHEET
CC-001	OVERALL SITE PLAN
CC-002	PLAN AND PROFILE STA 0+00 TO 13+00
CC-003	PLAN AND PROFILE STA 13+00 TO 18+50
CC-004	PLAN AND PROFILE STA 43+00 TO 57+00
CC-005	PLAN AND PROFILE STA 57+00 TO 68+70
CC-006	TYPICAL DITCH SECTIONS
CC-007	CONCRETE CATCH BASIN AND HDPE CULVERT - DETAILS AND SECTIONS
CC-008	SETTLEMENT POND, EMBANKMENT AND DETAILS
CC-009	CULVERT AND RIPRAP APRONS- DETAILS AND SECTIONS
CC-010	CROSS-SECTIONS - STA. 0+00 TO 3+50
CC-011	CROSS-SECTIONS - STA. 4+00 TO 8+00
CC-012	CROSS-SECTIONS - STA. 8+50 TO 13+50
CC-013	CROSS-SECTIONS - STA. 14+00 TO 18+00
CC-014	CROSS-SECTIONS - STA. 44+50 TO 52+00
CC-015	CROSS-SECTIONS - STA. 64+00 TO STA 68+70
CC-016	DIVERSION BERM - PLAN AND SECTION
EC-001	EROSION CONTROL SITE PLAN
EC-002	EROSION CONTROL DETAILS
SS-001	OUTLET STRUCTURE - PLAN, SECTIONS, AND DETAILS
SS-002	OUTLET STRUCTURE - SECTIONS

2007-00841-TWP

Drawing 1 of 8

DRAFT - FOR REVIEW

2007-00841-TWP
 NORTHSHORE MINING COMPANY
 SILVER BAY, MINNESOTA
 PROJECT NO. 2007-00841-TWP
 SHEET NO. TS-001

BARR	NORTHSHORE MINING COMPANY	SILVER BAY, MINNESOTA	MILEPOST SEVEN TAILINGS BASIN	SILVER BAY, MINNESOTA	BEAR LAKE OUTLET	PLAN	TS-001

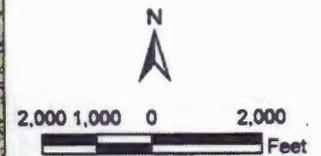
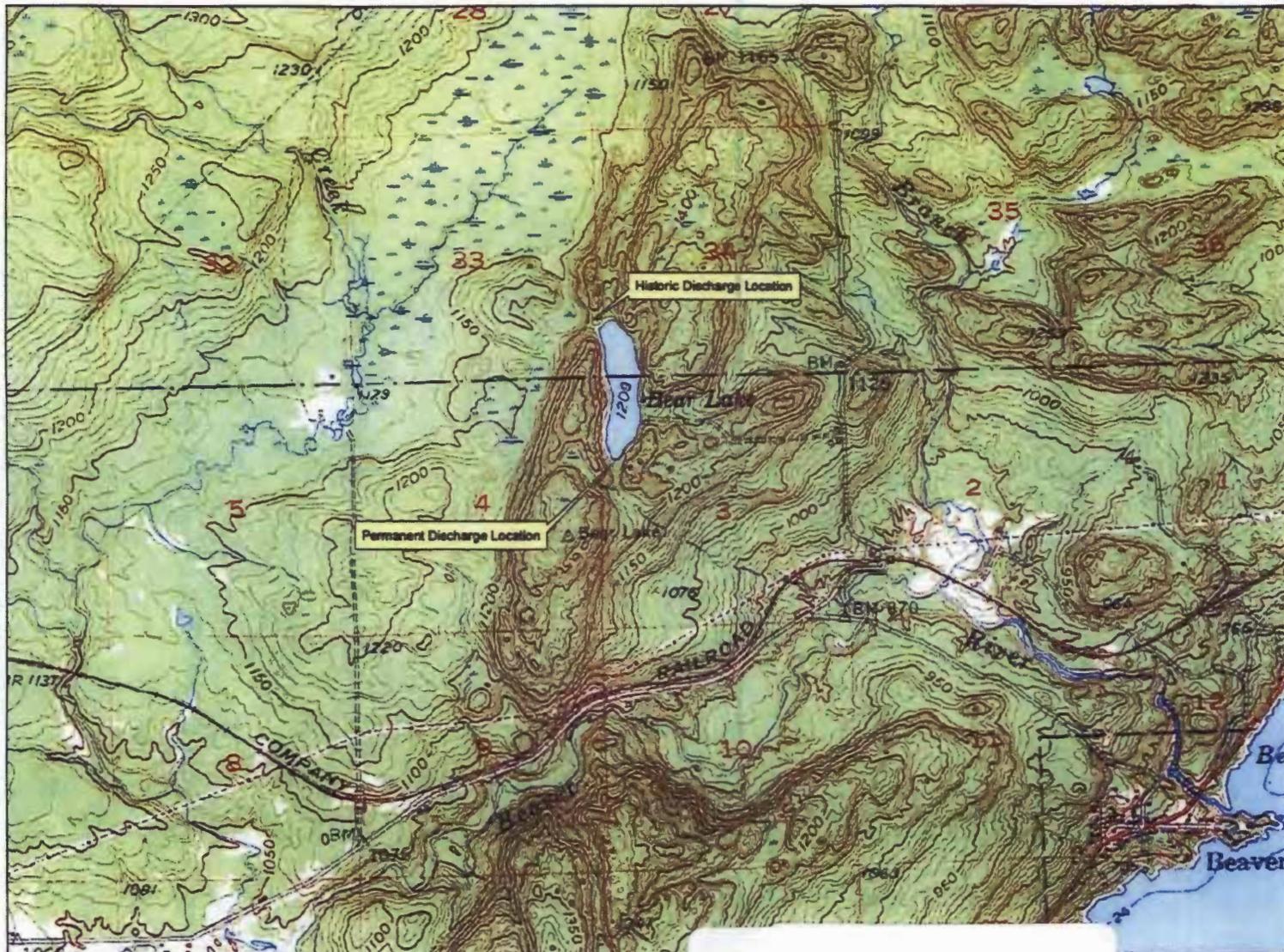
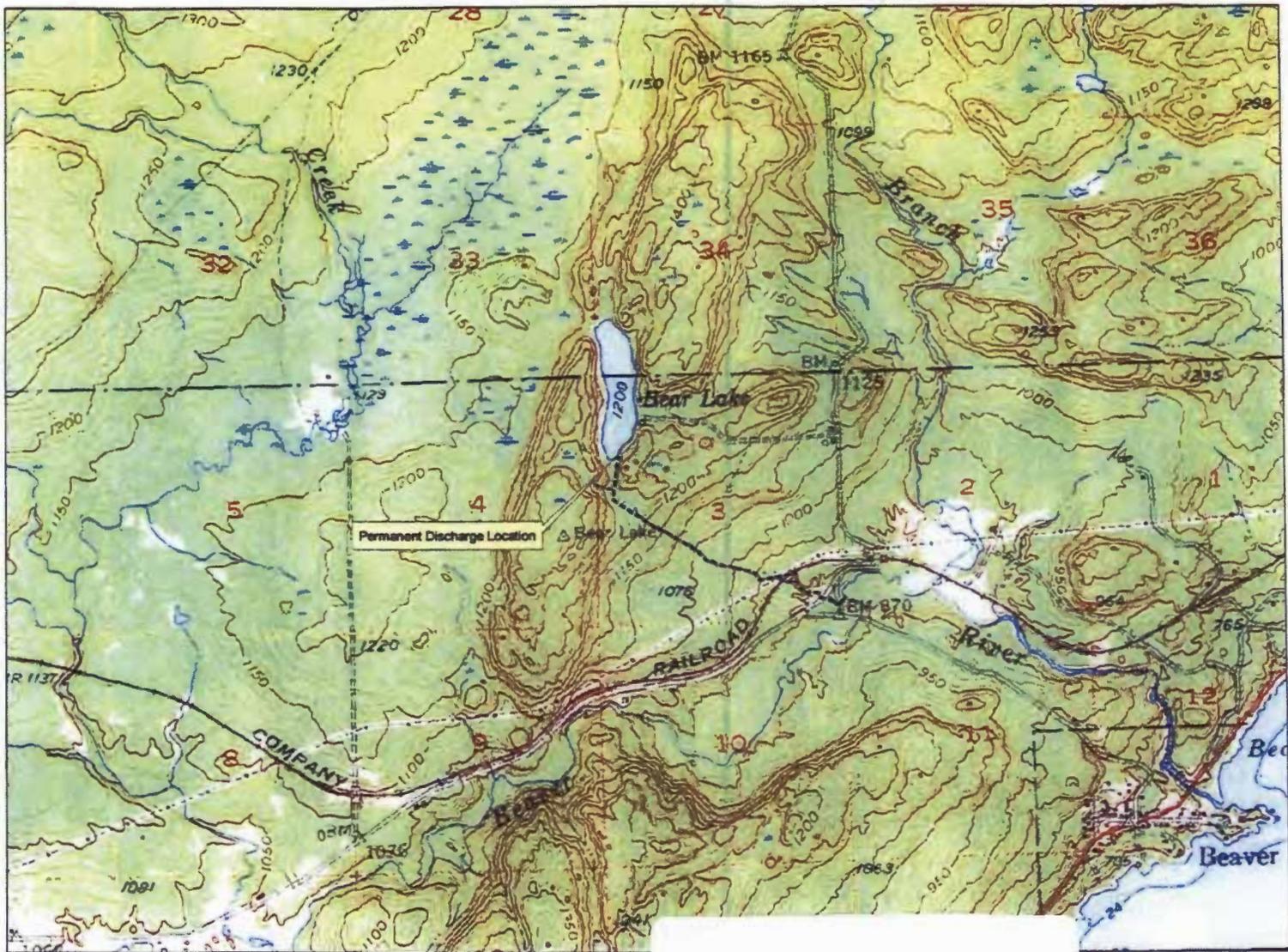


Figure 1
 LOCATION MAP
 Bear Lake Outlet
 Northshore Mining
 Silver Bay, Minnesota

Map Poster Date: 5/7/2008 2:48:18 PM File: I:\Project\23036\Map\Map\Figure_1_DesignReport.mxd User: BMJ

USGS Silver Bay Quadrangle

2007-00841-TWP
 Drawing 2 of 8



Legend

--- Proposed Alignment

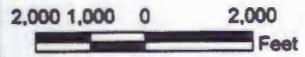
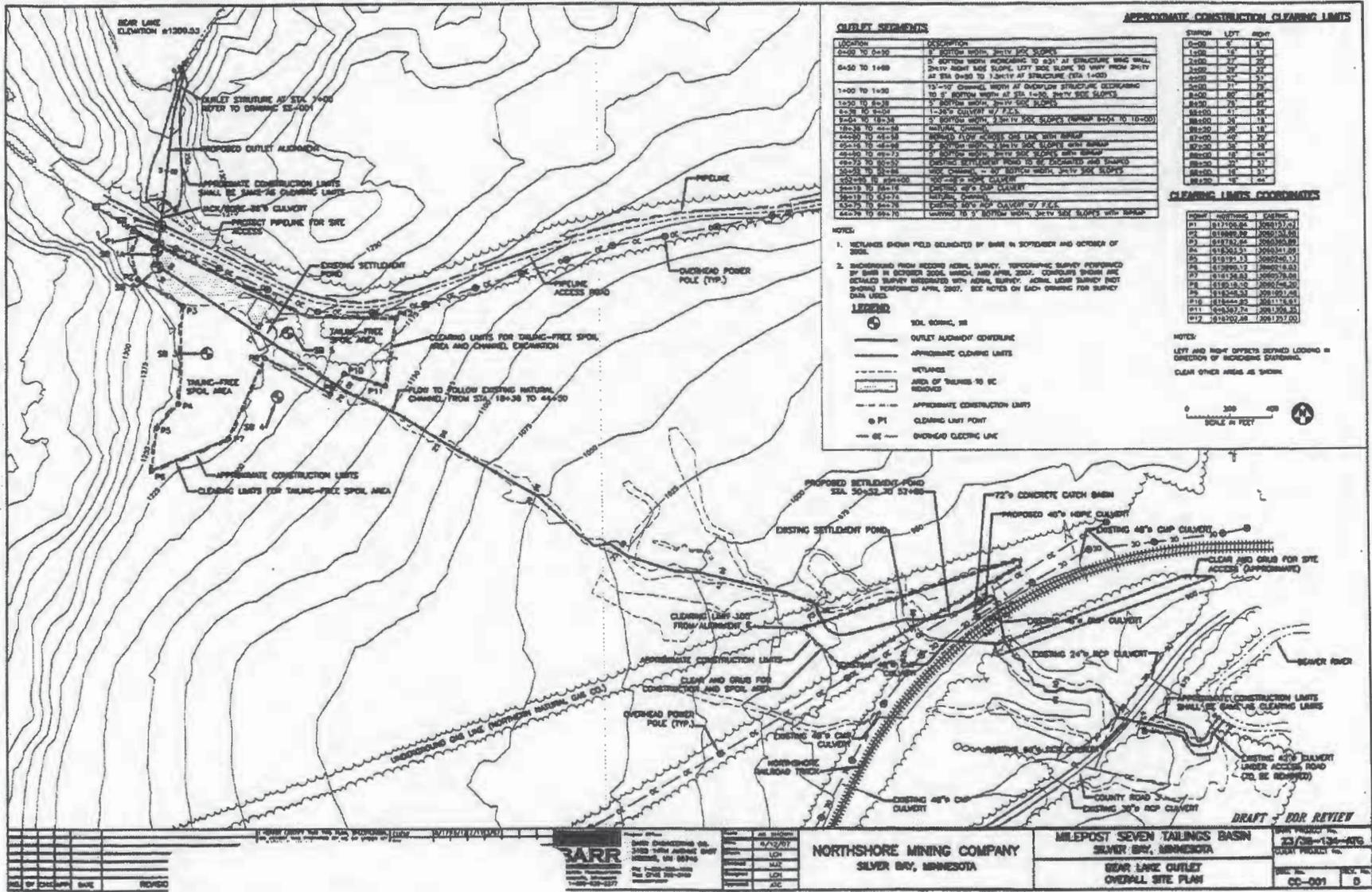


Figure 2
PROPOSED OUTLET
AND DISCHARGE ROUTE
 Bear Lake Outlet
 Northshore Mining
 Silver Bay, Minnesota

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1954 USGS Silver Bay Quadrangle



OUTLET SEGMENTS

LOCATION	DESCRIPTION
0+00 TO 0+50	12' BOTTOM WITH 2:1 SV SIDE SLOPES
0+50 TO 1+00	3' BOTTOM WITH INCREASING TO 6:1 AT STRUCTURE WING WALL. 2:1 SV RIGHT SIDE SLOPE, LEFT SIDE SLOPE TO 1:1 WITH 2:1 SV AT STA 0+50 TO 1+00 AT STRUCTURE (STA 1+00)
1+00 TO 1+50	12'-10" CHANNEL WITH AT OVERFLOW STRUCTURE DECREASING TO 3' BOTTOM WITH AT STA 1+50. 2:1 SV SIDE SLOPES
1+50 TO 2+00	12' BOTTOM WITH 2:1 SV SIDE SLOPES
2+00 TO 2+50	1'-30" CULVERT 57' P.C.
2+50 TO 3+00	3' BOTTOM WITH 2:1 SV SIDE SLOPES (MINIMUM 8'-0" TO 16'-0")
3+00 TO 3+50	RAISED FLOW CHANNEL ONE LANE WITH BRIDGE
3+50 TO 4+00	3' BOTTOM WITH 2:1 SV SIDE SLOPES WITH BRIDGE
4+00 TO 4+50	12' BOTTOM WITH 2:1 SV SIDE SLOPES WITH BRIDGE
4+50 TO 5+00	EXISTING SETTLEMENT ROAD TO BE EXCAVATED AND GRADED
5+00 TO 5+50	300' CHANNEL - 3' BOTTOM WITH 2:1 SV SIDE SLOPES
5+50 TO 6+00	EXISTING 48" CIP CULVERT
6+00 TO 6+50	NATURAL CHANNEL
6+50 TO 7+00	EXISTING 48" RCP CULVERT AT P.C.
7+00 TO 7+50	RAISED TO 3' BOTTOM WITH 2:1 SV SIDE SLOPES WITH BRIDGE

APPROXIMATE CONSTRUCTION CLEARING LIMITS

STATION	LEFT	RIGHT
0+00	0'	0'
1+00	10'	10'
2+00	17'	17'
3+00	30'	30'
4+00	32'	32'
5+00	37'	37'
6+00	80'	80'
7+00	75'	75'
8+00	41'	41'
9+00	30'	30'
10+00	40'	40'
11+00	38'	38'
12+00	38'	38'
13+00	37'	37'
14+00	37'	37'
15+00	37'	37'
16+00	37'	37'
17+00	37'	37'

CLEARING LIMITS COORDINATES

POINT	NORTHING	EASTING
P1	617408.84	306413.01
P2	617408.82	306413.00
P3	617414.26	306416.89
P4	618303.53	306434.89
P5	618191.11	306426.13
P6	618305.17	306428.83
P7	616136.83	306429.88
P8	618135.02	306426.20
P9	618305.23	306429.83
P10	617408.82	306413.01
P11	605307.70	3061308.30
P12	618305.20	306429.83

NOTES

- BOUNDARIES SHOWN FIELD COLLECTED BY BARR IN SEPTEMBER AND OCTOBER OF 2007.
- BOUNDARIES FROM RECORD AERIAL SURVEY. TOPOGRAPHIC SURVEY PERFORMED BY BARR IN OCTOBER 2008, MARCH, AND APRIL, 2009. COORDINATES SHOWN ARE DETAIL SURVEY BOUNDARIES WITH AERIAL SURVEY. ADJACENT LAND SURVEY NOT SHOWN PERFORMED APRIL, 2007. SEE NOTES ON EACH DRAWING FOR SURVEY DATA LISTS.

LEGEND

- SOIL BORING, 18'
- OUTLET ALIGNMENT CENTERLINE
- APPROXIMATE CLEARING LIMITS
- SETBACKS
- AREA OF TREES TO BE REMOVED
- APPROXIMATE CONSTRUCTION LIMITS
- CLEARING LIMIT POINT
- OVERHEAD ELECTRIC LINE

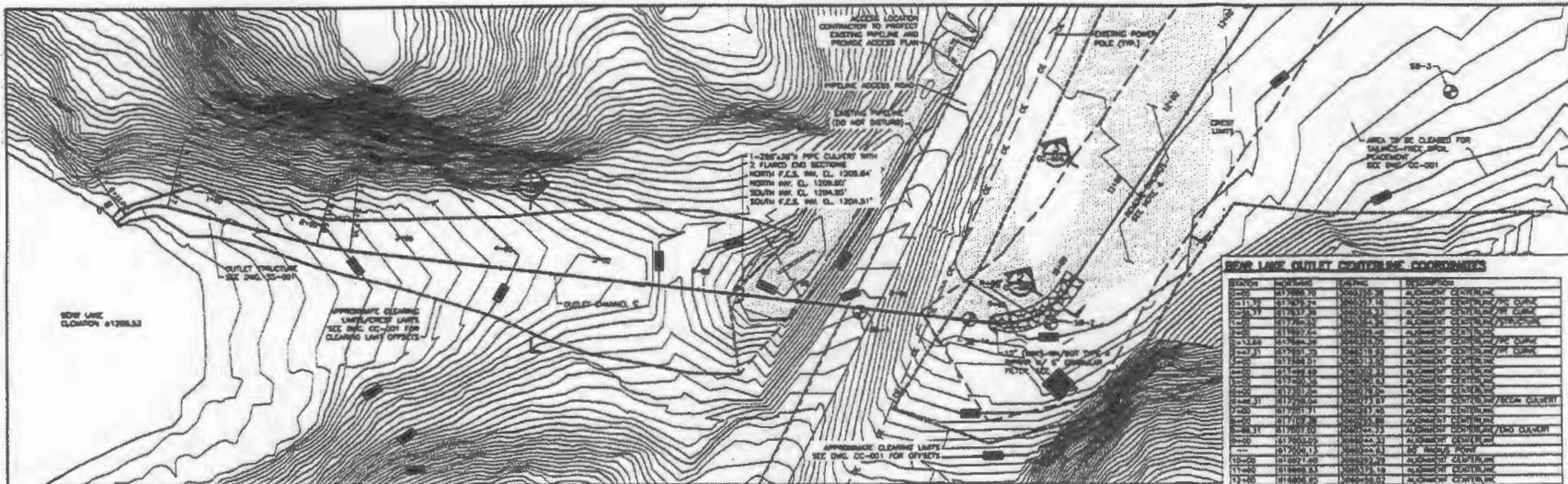
NOTES

LEFT AND RIGHT OFFSETS DEFINED LOOKING IN DIRECTION OF INCREASING STATIONING.

CLEAR OTHER AREAS AS SHOWN.

0 100 200 400
SCALE IN FEET

2007-00841-TWP
Drawing 4 of 8



BEAR LAKE OUTLET CENTERLINE COORDINATES

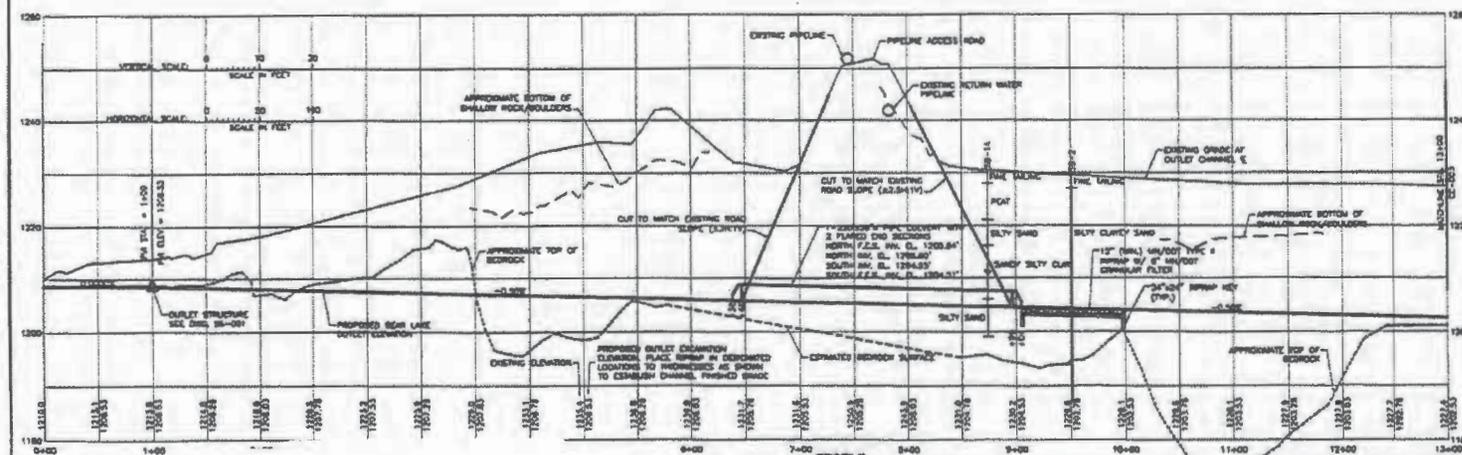
STATION	NORTHING	EASTING	DESCRIPTION
0+00	817988.70	120025.74	ALIGNMENT CENTERLINE
1+17.2	817973.72	120025.74	ALIGNMENT CENTERLINE/PIVOT POINT
2+00.0	817963.30	120025.74	ALIGNMENT CENTERLINE/PIVOT POINT
3+00.0	817949.20	120025.74	ALIGNMENT CENTERLINE/PIVOT POINT
4+00.0	817931.20	120025.74	ALIGNMENT CENTERLINE/PIVOT POINT
5+00.0	817909.20	120025.74	ALIGNMENT CENTERLINE/PIVOT POINT
6+00.0	817883.20	120025.74	ALIGNMENT CENTERLINE/PIVOT POINT
7+00.0	817853.20	120025.74	ALIGNMENT CENTERLINE/PIVOT POINT
8+00.0	817819.20	120025.74	ALIGNMENT CENTERLINE/PIVOT POINT
9+00.0	817781.20	120025.74	ALIGNMENT CENTERLINE/PIVOT POINT
10+00.0	817739.20	120025.74	ALIGNMENT CENTERLINE/PIVOT POINT
11+00.0	817693.20	120025.74	ALIGNMENT CENTERLINE/PIVOT POINT
12+00.0	817643.20	120025.74	ALIGNMENT CENTERLINE/PIVOT POINT
13+00.0	817589.20	120025.74	ALIGNMENT CENTERLINE/PIVOT POINT
14+00.0	817531.20	120025.74	ALIGNMENT CENTERLINE/PIVOT POINT
15+00.0	817469.20	120025.74	ALIGNMENT CENTERLINE/PIVOT POINT
16+00.0	817403.20	120025.74	ALIGNMENT CENTERLINE/PIVOT POINT
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97+00.0	799079.20	120025.74	ALIGNMENT CENTERLINE/PIVOT POINT
98+00.0	798701.20	120025.74	ALIGNMENT CENTERLINE/PIVOT POINT
99+00.0	798319.20	120025.74	ALIGNMENT CENTERLINE/PIVOT POINT
100+00.0	797933.20	120025.74	ALIGNMENT CENTERLINE/PIVOT POINT

PLAN
SCALE IN FEET
0 50 100

- LEGEND**
- ⊙ SOL BOREHOLE
 - OUTLET ALIGNMENT CENTERLINE
 - - - WETLANDS
 - - - CHANNEL CREST LINES
 - - - APPROXIMATE CLEARING LIMITS
 - ⊙ POWER POLE
 - AREA OF TAILINGS TO BE REMOVED
 - GE — OVERHEAD ELECTRIC LINE

- NOTES**
- WETLANDS SHOWN FIELD DELINEATED BY BARR IN SEPTEMBER AND OCTOBER OF 2006.
 - SOUNDINGS FROM BEST AVAILABLE AERIAL SURVEY. TOPOGRAPHIC SURVEY PERFORMED BY BARR IN OCTOBER 2006. WIDTH AND AREA, 2007. CHANNELS SHOWN ARE TOPOGRAPHIC SURVEY RECORDED WITH LEAS AGENC SURVEY.
 - SOUNDINGS OF SHALLOW ROCK AND TOP OF BEDROCK SHOWN ARE INTERPRETED FROM SOUNDINGS REPLY PERFORMED BY BARR IN OCTOBER, NOVEMBER, AND JANUARY 2007. APPROXIMATE ACTUAL CONDITIONS MAY VARY.
 - REMOVE ALL TAILINGS IN PROJECT AREA PRIOR TO GROUND CONSTRUCTION (8+00 TO 27+00 AND 30+00 TO 41+00). DEPTH OF TAILING IS APPROXIMATELY 2.5' (SEE 30+10 AND 30+20). TAILINGS EXPOSED ARE PLACED IN TAILING AREA FOR TAILINGS-FREE SOILS TO BE SHOWN. ALL EXPOSED TAILINGS SHALL BE REMOVED AND PLACED IN LOCATION DESIGNATED BY OWNER AT THE BARR. APPROXIMATE TAILING EXPOSURE VOLUME: 8,000 CY IN-PLACE.

DRAFT - FOR REVIEW



PROFILE
SCALE IN FEET
0 50 100

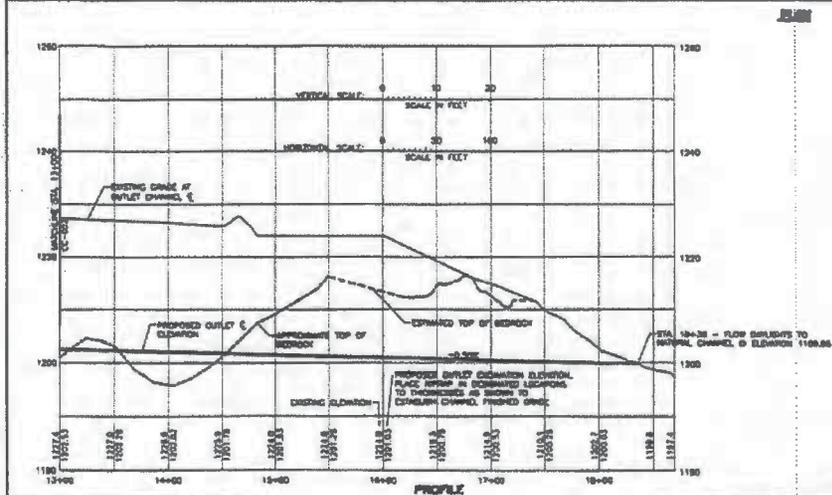
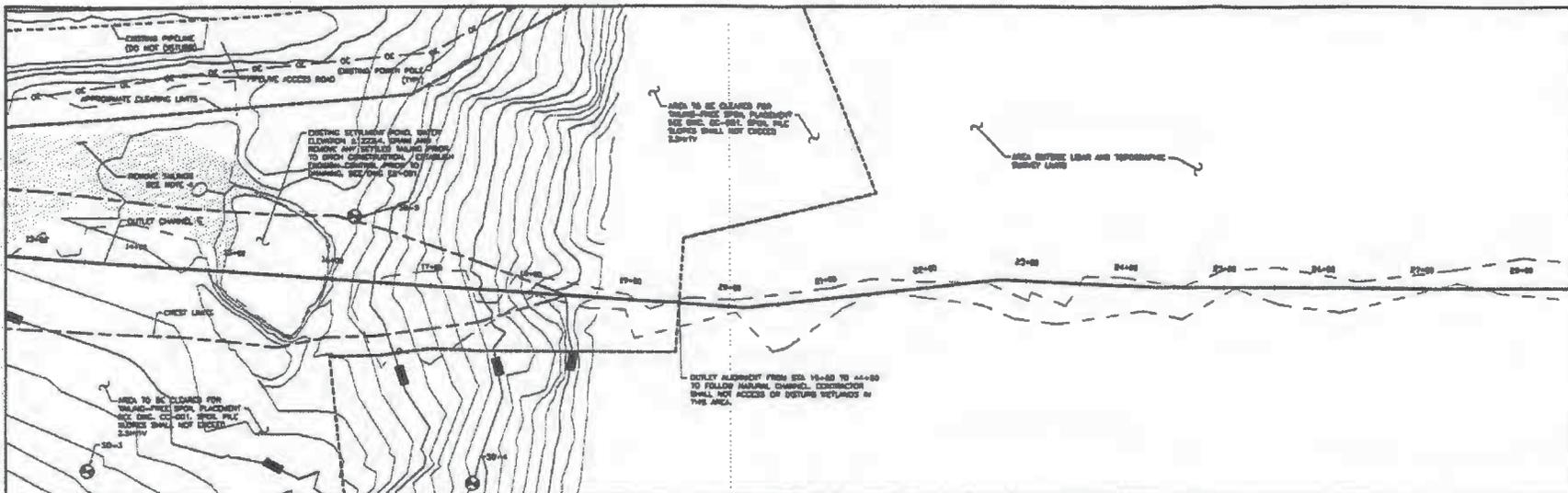
NO.	DATE	BY	CHKD.	DESC.
1	07/12/07

BARR
 Project No. 07-12-07
 Date: 07/12/07
 Scale: 1"=40' HORIZ. 1"=20' VERT.
 Title: BEAR LAKE OUTLET
 Plan and Profile - STA. 0+00 TO 13+00

NORTHSHORE MINING COMPANY
 SILVER BAY, MINNESOTA

MILEPOST SEVEN TAILINGS BASIN
 SILVER BAY, MINNESOTA
 BEAR LAKE OUTLET
 PLAN AND PROFILE - STA. 0+00 TO 13+00

Sheet No. 23/20-13A-02G
 Date: 07/12/07
 Scale: 1"=40' HORIZ. 1"=20' VERT.



NEAR LAKE OUTLET CENTERLINE COORDINATES

STATION	NORTHING	EASTING	DESCRIPTION
13+00	811973.78	1000700.00	ALIGNMENT CENTERLINE
14+00	811997.50	1000700.00	ALIGNMENT CENTERLINE
15+00	812041.03	1000700.00	ALIGNMENT CENTERLINE
16+00	812100.00	1000700.00	ALIGNMENT CENTERLINE
17+00	812170.00	1000700.00	ALIGNMENT CENTERLINE
18+00	812240.00	1000700.00	ALIGNMENT CENTERLINE
19+00	812310.00	1000700.00	ALIGNMENT CENTERLINE
20+00	812380.00	1000700.00	ALIGNMENT CENTERLINE

- LEGEND**
- ⊙ SOL BORING, 58
 - OUTLET ALIGNMENT CENTERLINE
 - WETLANDS
 - CHANNEL CREST LIMITS
 - APPROXIMATE CLEARING LIMITS
 - POWER POLE
 - ▨ AREA OF WETLANDS TO BE REMOVED
 - OC OVERHEAD ELECTRIC LINE

- NOTES**
- WETLANDS SHOWN FIELD OBSERVED BY BMR IN SEPTEMBER AND OCTOBER OF 2007.
 - BACKGROUND FROM 2007 LIGHT AERIAL SURVEY. TOPOGRAPHIC SURVEY MONITORED BY BMR IN OCTOBER 2008, MARCH, AND APRIL 2009. CONTOURS SHOWN ARE INTERPOLATED SURVEY INFORMATION FROM LIGHT AERIAL SURVEY.
 - DEPTH OF SHALLOW REEF AND TOP OF BEDROCK SHOWN ARE AS DETERMINED FROM GEOPHYSICS STUDY (PERFORMED BY SOMER GEOSCIENCES, INC.) AND ARE APPROXIMATE. ACTUAL CONDITIONS MAY VARY.
 - REMOVE ALL TREES IN PROJECT AREA PRIOR TO CONSTRUCTION (45+30 TO 57+10 AND 58+00 TO 57+00). DEPTH OF TAILING IS APPROXIMATELY 2.5' (SEE 58+14 AND 58+2). TREES CANNOT BE PLACED IN SPILL AREA FOR TAILINGS-FREE SPILLS AS SHOWN. ALL EXISTING TREES SHALL BE MAINTAINED AND PLACED IN LOCATION DETERMINED BY SURVEY OF THE SPILL. APPROXIMATE TAILING EXCURSION VOLUMES: 6,000 CY @ 50' PLACE.

DRAFT - FOR REVIEW

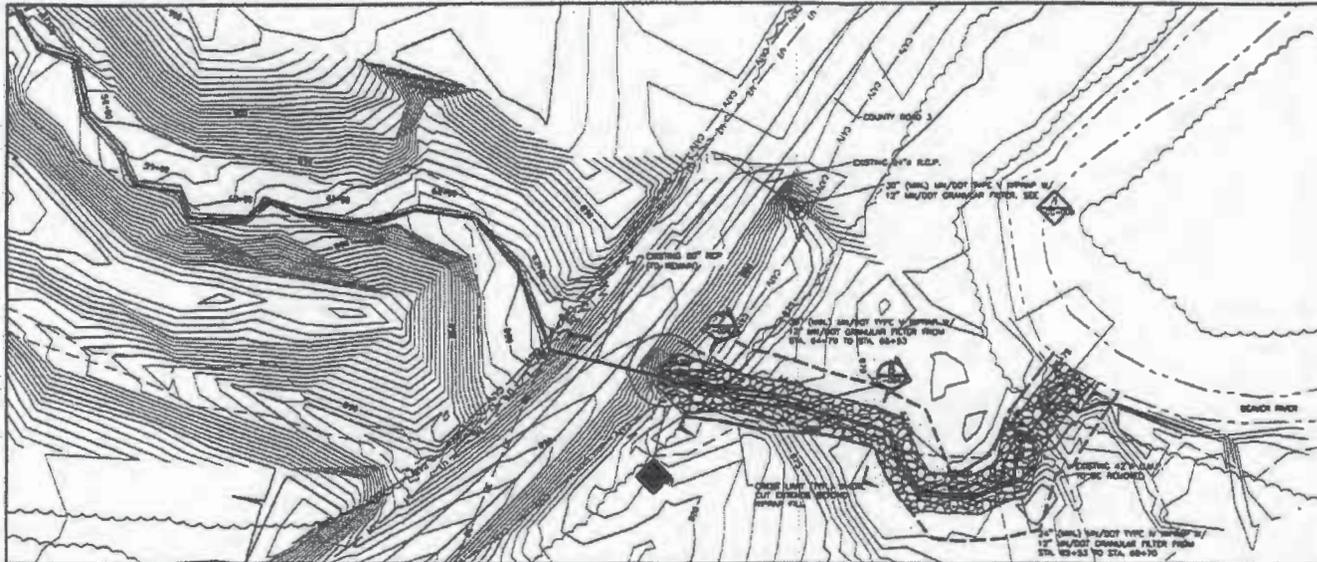
NO.	DATE	BY	CHKD.

BARR
 Project Office:
 3128 140th Avenue SW
 Edina, MN 55424
 Tel: 763-551-1000
 Fax: 763-551-3442
 www.barr-engineering.com

NORTHSHORE MINING COMPANY
 SILVER BAY, MINNESOTA

MILEPOST SEVEN TAILINGS BASIN
 SILVER BAY, MINNESOTA
 BDM LAKE OUTLET
 PLAN AND PROFILE - STA. 13+00 TO 18+30

PROJECT NO: 03/08-134-ATG
 CLIENT PROJECT NO:
 DATE: 02-05
 REV: D



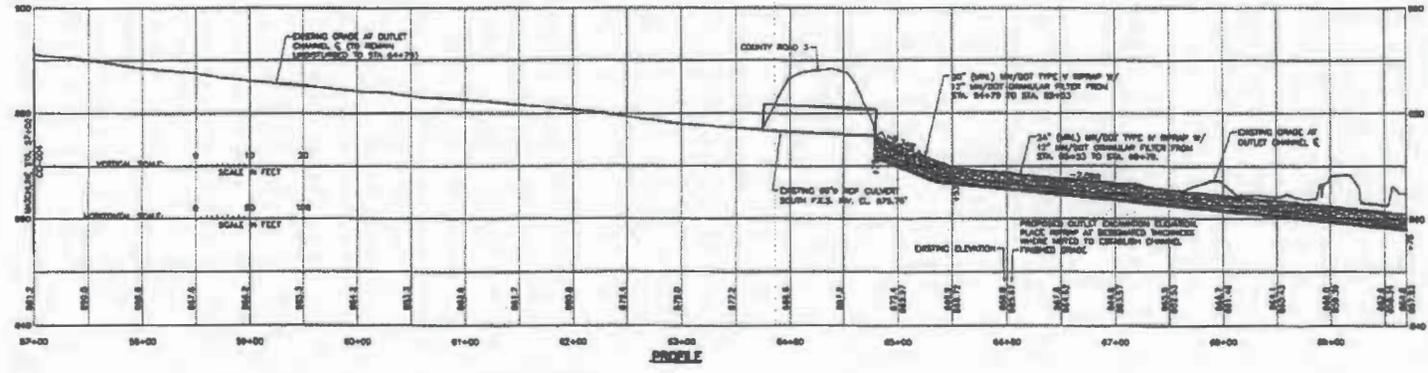
BEAR LAKE OUTLET CENTERLINE COORDINATES

LOCATION	CHORD BEARING	EASTING	NORTHING
64+00	314°19'24.00"	328480.79	143640.00
65+00	314°17'27.00"	328482.00	143640.00
66+00	314°15'30.00"	328483.22	143640.00
67+00	314°13'33.00"	328484.44	143640.00
68+00	314°11'36.00"	328485.66	143640.00
69+00	314°09'39.00"	328486.88	143640.00
70+00	314°07'42.00"	328488.10	143640.00

- NOTES:**
1. WETLANDS SHOWN FIELD DELINEATED BY BARR IN SEPTEMBER AND OCTOBER OF 2004.
 2. SHADING FROM AERIAL SURVEY, REVISED SURVEY PERFORMED BY BARR IN OCTOBER 2004, MARCH, AND APRIL 2007. CONTOURS SHOWN ARE DETAIL SURVEY RECORDED WITH AERIAL SURVEY.
 3. CONTOUR LINES SHOWN FROM AERIAL SURVEY, 1' MINOR AND 20' MAJOR.
 4. CONTOUR LINES SHOWN FROM PHOTO SURVEY, 1' MINOR AND 5' MAJOR.
 5. UNDERGROUND UTILITIES SHOWN ARE APPROXIMATE. CONTACT CROWN STATE GNC CALL FOR LOCATION PRIOR TO CONSTRUCTION @ 1-800-282-1186.

- LEGEND**
- OUTLET ALIGNMENT CENTERLINE
 - - - WETLANDS
 - - - OVERHEAD ELECTRIC LINE
 - - - UNDERGROUND TELEPHONE LINE (LOCATION APPROXIMATE)
 - - - UNDERGROUND FIBER OPTIC (LOCATION APPROXIMATE)
 - POWER POLE
 - - - APPROXIMATE CLEARANCE LIMITS
 - - - CHANNEL CENTER LINE

PLAN
0 50 100
SCALE IN FEET



PROFILE

DRAFT - FOR REVIEW

DATE	BY	APP	CHK

2007-00841-TWP
Drawing 8 of 8

BARR Engineering & Construction
1100 14th Avenue S.W.
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Tel: 1-800-282-1187

NORTHSHORE MINING COMPANY
SILVER BAY, MINNESOTA

MILEPOST SEVEN TAILINGS BASIN
SILVER BAY, MINNESOTA

DATE PROJECT NO.
23/38-134-JTC
CLIENT PROJECT NO.
SHEET NO. REV. NO.
CC-005 D

cc: 2007-00841-TWP 1100 14th Avenue S.W., Edina, MN 55425, Tel: 1-800-282-1187