



# Individual Permit: 1981-2100

Status: Initial Amendment Review

## Workflow/Waters/Amend Request 11/05/2024

### Change Request

I want to change the nature of the work that is authorized on this permit.

### Attachments

Document Type	File Name
Construction Plans	Cell_2W_Diversion_Ditch_Specifications.pdf
Construction Plans	Cell_2W_Diversion_Ditch_Plans_10-21-2024.pdf

### Comments

NewRange Copper Nickel LLC (NewRange) is requesting an amendment of its dam safety permit (permit no. 1981-2100) that was issued in 1981 for the existing LTV legacy tailings management facility (LTV TMF). If approved, the amendment will allow NewRange to enhance dam stability and prevent ponded water in Cell 2W in the event of an extreme, 10,000-year storm. The LTV TMF has existed in its current form since LTV closed in January 2001, and there have been no issues. The Cell 2W diversion ditch is a water management option identified by NewRange and our Independent Tailings Review Board (ITRB) as an effective means for the current state of care and maintenance and would eventually be incorporated in a passive-closure design (Global Industry Standard on Tailings Management (GISTM), Table 2: Flood Design Criteria) for the LTV TMF. This passive-closure scenario is designed to contain up to a 10,000-year, 10-day duration rain-on-snow event (total precipitation volume of 16.1 inches), in the unlikely event such a scenario occurs. The project involves the construction of a diversion ditch to safely direct runoff from Cell 2W into the pond on Cell 1E. Under current conditions, runoff would report to Cell 2E, which has an exterior dam. Cell 1E contains more available storage than Cell 2E and can maintain greater beach lengths (which makes it more reliable for dam stability); therefore, it is prudent to direct runoff to Cell 1E and minimize runoff to Cell 2E. Historically, a decant structure was maintained on Cell 2W to perform a similar function of directing excess water to Cell 1E during operations. However, that structure was abandoned in the early 2000's by Cliffs Erie LLC, the owner at the time, and is no longer operational. In its current state, the decant structure will not meet the purpose or need of this diversion ditch for the selected storm event. The future use of the legacy TMF is uncertain pending current engineering studies. Development of the Cell 2W diversion ditch is a preventative measure intended to improve overall dam safety and will benefit the TMF whether it is utilized by NewRange in the future or closed.

Submitted by Erik Olson on 11/05/2024

### Request Reasons

- Any change to authorized action

## Request Text

[Return to Overview](#)

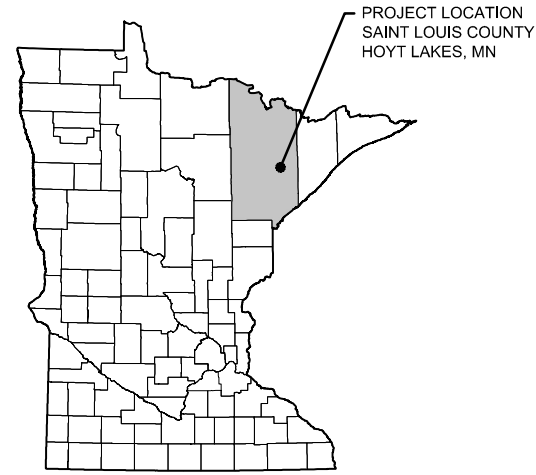


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# LEGACY FACILITY CELL 2W DIVERSION DITCH PROJECT

## NEW RANGE COPPER NICKEL LLC



MINNESOTA COUNTY MAP

**CONTACTS:**

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 Heather Lau  
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**PROPERTY OWNER'S REPRESENTATIVE:**  
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 NewRange Copper Nickel LLC  
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 www.newrangeoppernickel.com



### INDEX OF SHEETS

- G-01 . . . . TITLE SHEET, PROJECT LOCATION AND SHEET INDEX
- C-01 . . . . CELL 2W TO CELL 1E DIVERSION DITCH - PLAN & PROFILE
- C-02 . . . . CELL 2W TO CELL 1E DIVERSION DITCH - DETAILS
- C-03 . . . . CELL 2W TO CELL 1E DIVERSION DITCH - SECTIONS
- C-04 . . . . FILL AREAS PLAN

**GENERAL NOTES:**

1. CONTOUR DATA SHOWN IN THIS PLAN SET IS BASED ON 2022 LIDAR TOPOGRAPHY.
2. IMAGERY: COPYRIGHT PICTOMETRY INTERNATIONAL CORP AND SAINT LOUIS COUNTY, MINNESOTA, 2023.
3. HORIZONTAL DATUM AND COORDINATE SYSTEM: NAD83 STATE PLANE, MINNESOTA NORTH, US SURVEY FEET.
4. VERTICAL DATUM: NAVD88.



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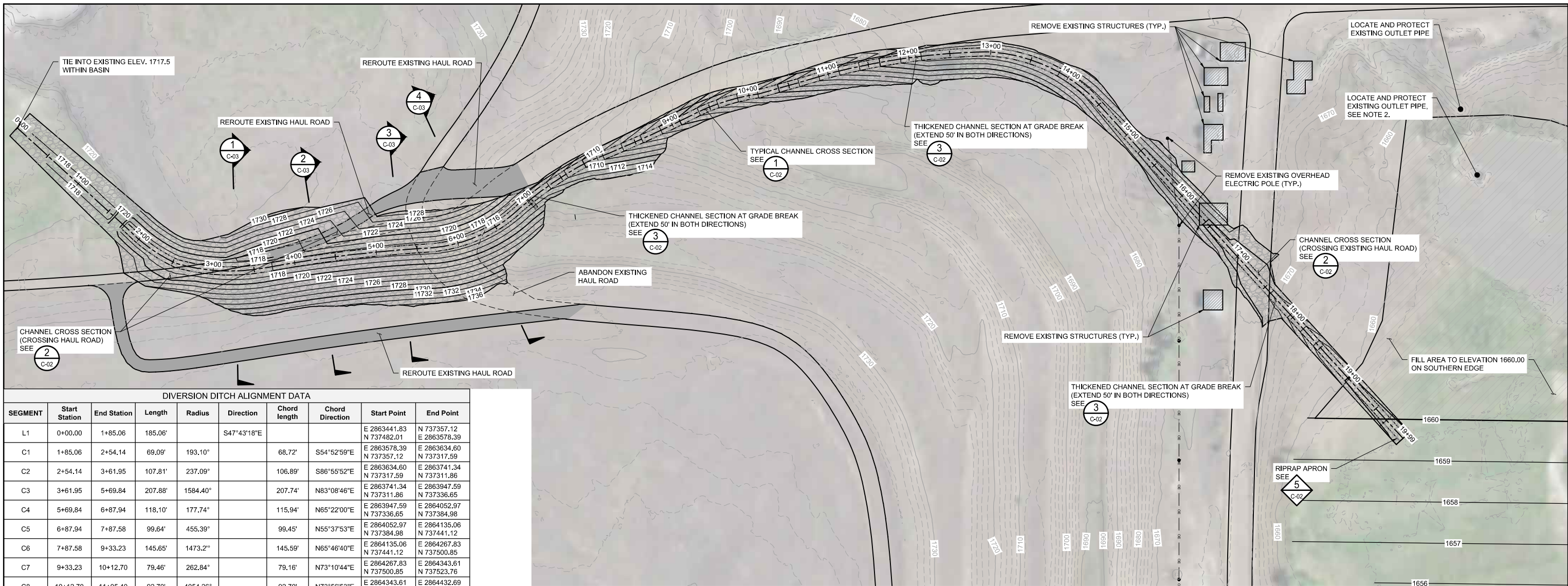


ISSUED FOR PERMITTING  
 AND CONSTRUCTION

		I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.		CLIENT 08/28/24		PERMIT 10/11/24 10/21/24		BARR ENGINEERING CO. 4300 MARKETPOINTE DRIVE SUITE 200 MINNEAPOLIS, MN 55435		Scale AS SHOWN		LEGACY FACILITY CELL 2W DIVERSION DITCH PROJECT HOYT LAKES, MN.		BARR PROJECT No. 23/69-2679.05	
		PRINTED NAME HEATHER LAU		CONSTRUCTION RECORD		RELEASED TO/FOR A 0 1 2 3 4 5		Corporate Headquarters: Minneapolis, Minnesota Ph: 1-800-632-2277 Ph: (952) 832-2601 www.barr.com		Date 10/21/2024		TITLE SHEET, PROJECT LOCATION AND SHEET INDEX		CLIENT PROJECT No.	
		SIGNATURE <i>Heather Lau</i>		DATE 10/21/2024		LICENSE # 58700		Checked HNH		Designed BARR		Approved HNH		DWG. No. G-01	
NO.		BY		CHK.		APP.		DATE		REVISION DESCRIPTION		REV. No.		4	

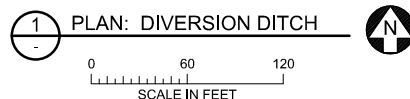
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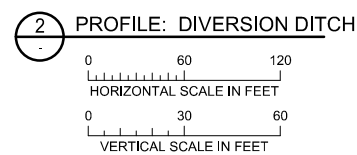
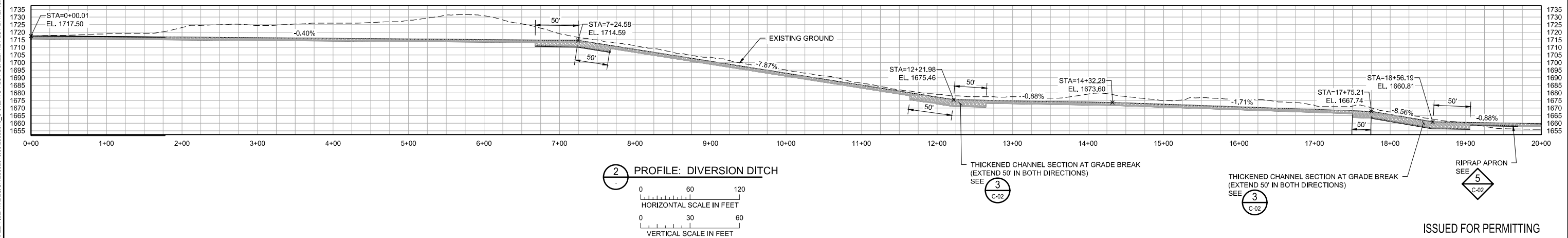


DIVERSION DITCH ALIGNMENT DATA

SEGMENT	Start Station	End Station	Length	Radius	Direction	Chord length	Chord Direction	Start Point	End Point
L1	0+00.00	1+85.06	185.06'		S47°43'18"E			E 2863441.83 N 737482.01	N 737357.12 E 2863578.39
C1	1+85.06	2+54.14	69.09'	193.10'		68.72'	S54°52'59"E	E 2863578.39 N 737357.12	E 2863634.60 N 737317.59
C2	2+54.14	3+61.95	107.81'	237.09'		106.89'	S86°55'52"E	E 2863634.60 N 737317.59	E 2863741.34 N 737311.86
C3	3+61.95	5+69.84	207.88'	1584.40'		207.74'	N83°08'46"E	E 2863741.34 N 737311.86	E 2863947.59 N 737336.65
C4	5+69.84	6+87.94	118.10'	177.74'		115.94'	N65°22'00"E	E 2863947.59 N 737336.65	E 2864052.97 N 737384.98
C5	6+87.94	7+87.58	99.64'	455.39'		99.45'	N55°37'53"E	E 2864052.97 N 737384.98	E 2864135.06 N 737441.12
C6	7+87.58	9+33.23	145.65'	1473.29'		145.59'	N65°46'40"E	E 2864135.06 N 737441.12	E 2864267.83 N 737500.85
C7	9+33.23	10+12.70	79.46'	262.84'		79.16'	N73°10'44"E	E 2864267.83 N 737500.85	E 2864343.61 N 737523.76
C8	10+12.70	11+05.40	92.70'	4054.26'		92.70'	N73°56'53"E	E 2864343.61 N 737523.76	E 2864432.69 N 737549.39
C9	11+05.40	12+93.71	188.31'	829.96'		187.90'	N82°13'39"E	E 2864432.69 N 737549.39	E 2864618.87 N 737574.80
C10	12+93.71	14+32.30	138.60'	199.59'		135.83'	S67°58'23"E	E 2864618.87 N 737574.80	E 2864744.63 N 737523.68
L2	14+32.30	19+98.92	566.63'		S47°19'52"E			E 2864744.63 N 737523.68	E 2865126.21 N 737104.79



- GENERAL NOTES:**
- EXCAVATED MATERIAL SHALL BE IMMEDIATELY TRANSPORTED, PLACED, AND SPREAD FOR FILL AT THE LOCATIONS INDICATED ON C-04. LOCALIZED STOCKPILING OF MATERIAL IS PROHIBITED. EXCESS EXCAVATED MATERIAL, IF ANY, SHALL BE PLACED AT AN OWNER-APPROVED LOCATION, TAKING CARE TO AVOID PLACEMENT AT A LOCATION AND/OR TO A GEOMETRY THAT WOULD REPRESENT A NOTABLE CREST-OF-SLOPE SURCHARGE.
  - AVOID PLACEMENT OF FILL MATERIAL NEAR EXISTING OUTLET PIPE AS DIRECTED BY OWNER IN THE FIELD.
  - STRUCTURES NOTED AS "REMOVE EXISTING STRUCTURES" ARE TO BE REMOVED BY OTHERS PRIOR TO DIVERSION DITCH CONSTRUCTION, UNLESS OTHERWISE DIRECTED BY OWNER.



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PRINTED NAME: HEATHER LAU  
 SIGNATURE: *Heather Lau*  
 DATE: 10/21/2024 LICENSE # 58700

CLIENT	08/28/24								
PERMIT									
BID	07/03/24	08/29/24	09/16/24						
CONSTRUCTION									
RECORD									
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**BARR**  
 Project Office:  
 BARR ENGINEERING CO.  
 4300 MARKETPOINTE DRIVE  
 SUITE 200  
 MINNEAPOLIS, MN 55435  
 Corporate Headquarters:  
 Minneapolis, Minnesota  
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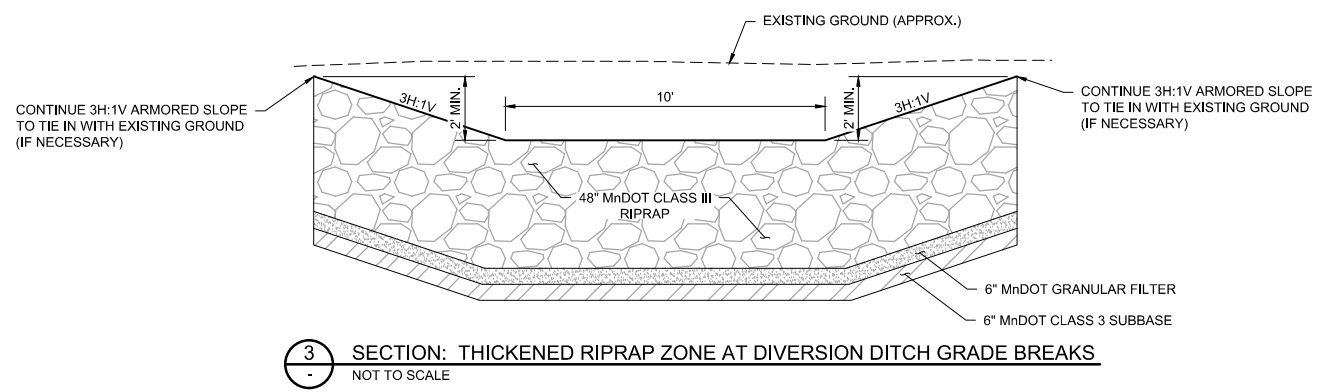
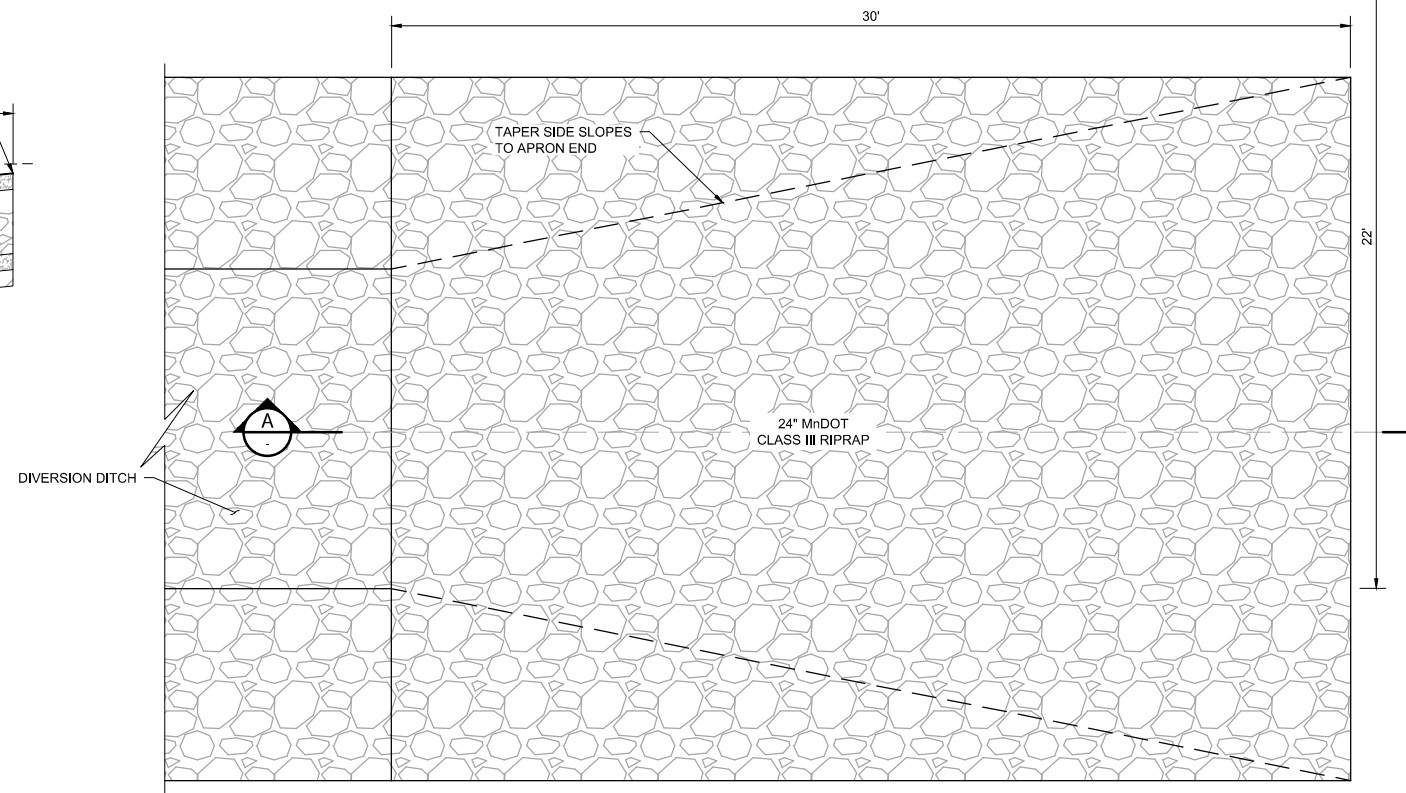
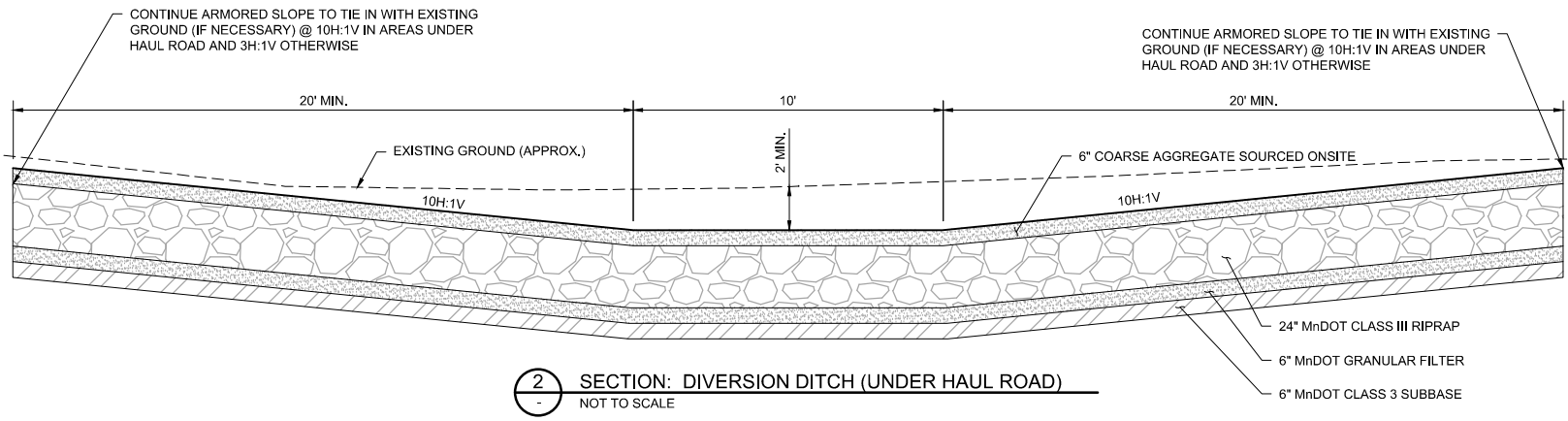
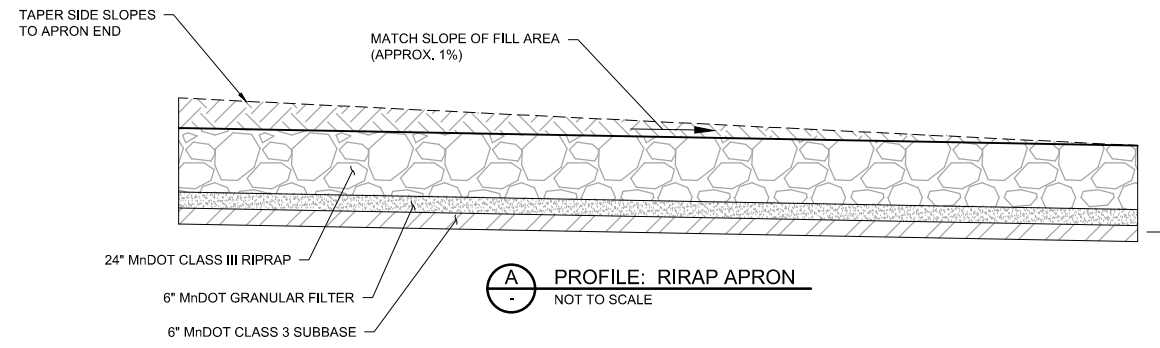
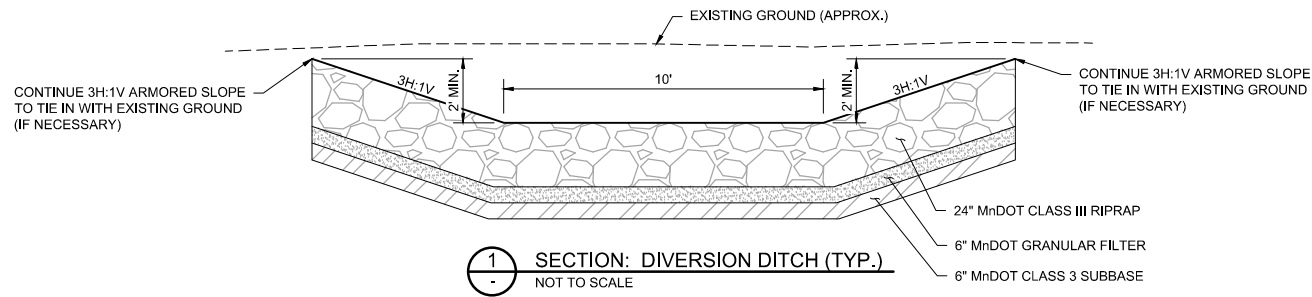
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Checked	HNH
Designed	BARR
Approved	HNH

**NEWRANGE COPPER NICKEL LLC**  
 HOYT LAKES, MINNESOTA

**LEGACY FACILITY CELL 2W DIVERSION DITCH PROJECT**  
 HOYT LAKES, MN.  
 CELL 2W TO CELL 1E DIVERSION DITCH  
 PLAN & PROFILE

BARR PROJECT No.	23/69-2679.05
CLIENT PROJECT No.	
DWG. No.	C-01
REV. No.	4

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- NOTES:**
1. UTILIZE MnDOT CLASS III RIPRAP OR OTHER OWNER APPROVED RIPRAP GRADATION (SOURCED ONSITE AS DIRECTED BY OWNER).
  2. GRADATION MUST BE COMPLIMENTARY TO UNDERLYING GRANULAR FILTER GRADATION.
  3. UTILIZE THICKENED RIPRAP ZONE AT DIVERSION DITCH GRADE BREAKS. SEE SHEET C-01 OR ZONE LENGTH.

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PRINTED NAME: HEATHER LAU  
 SIGNATURE: *Heather Lau*  
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CLIENT PERMIT	06/28/24								
BID	07/03/24	08/29/24	09/18/24	10/11/24	10/21/24				
CONSTRUCTION RECORD									
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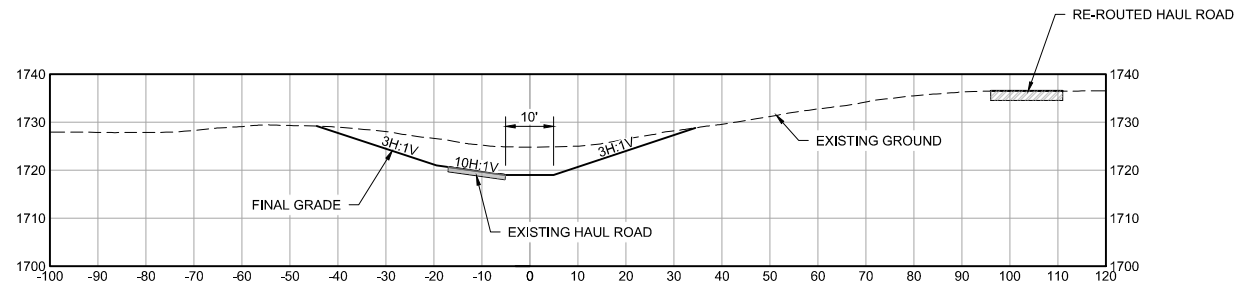
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Designed	BARR
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**NEWRANGE COPPER NICKEL LLC**  
 HOYT LAKES, MINNESOTA

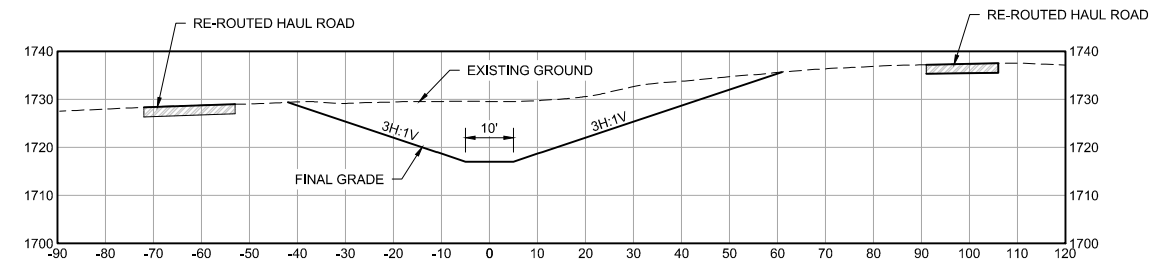
LEGACY FACILITY CELL 2W DIVERSION DITCH PROJECT  
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 CELL 2W TO CELL 1E DIVERSION DITCH  
 DETAILS

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DWG. No. C-02	REV. No. 4

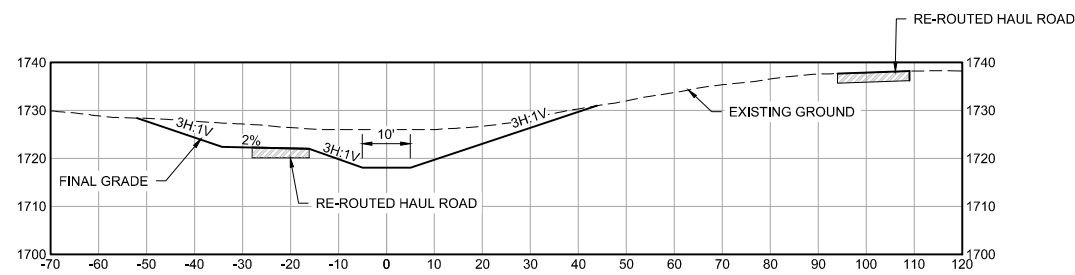
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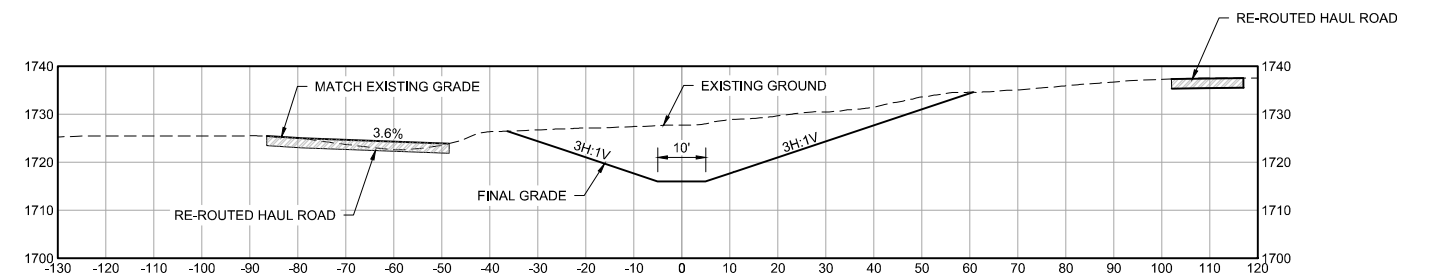
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3 SECTION: DIVERSION DITCH (STA. 3+50)  
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2 SECTION: DIVERSION DITCH (STA. 2+50)  
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4 SECTION: DIVERSION DITCH (STA. 4+50)  
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CONSTRUCTION			10/11/24	10/21/24	
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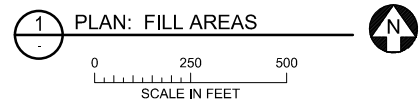
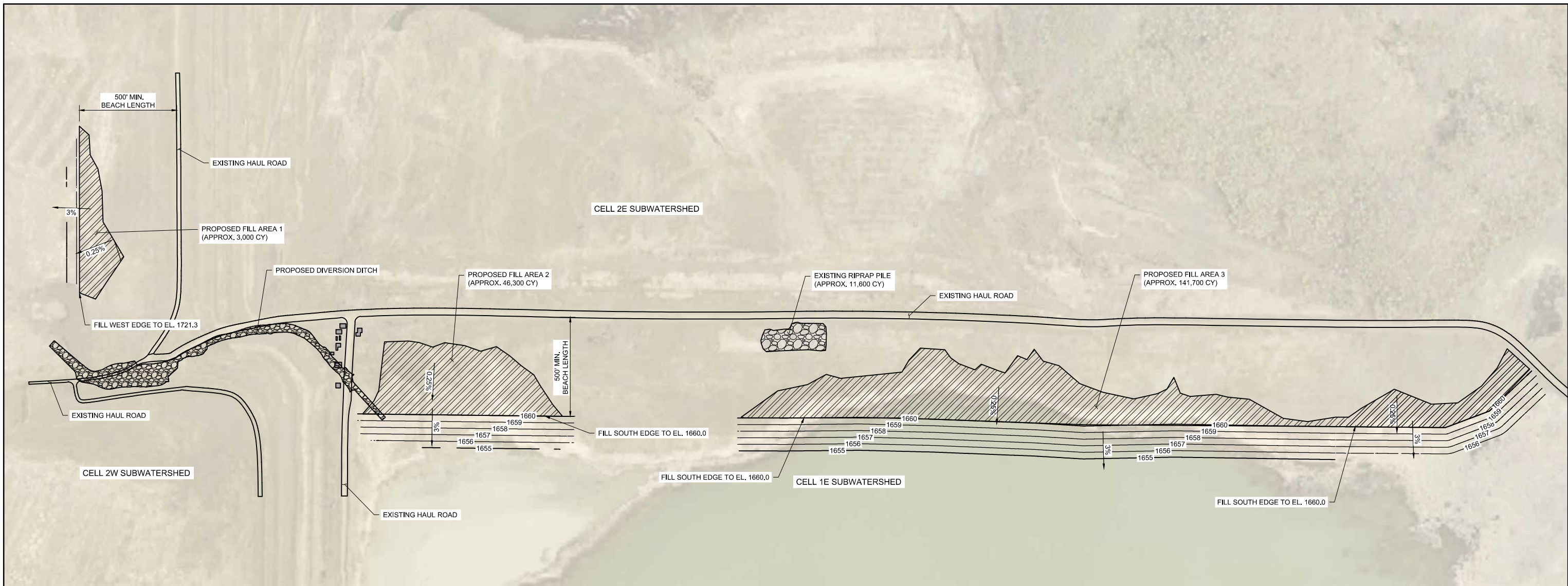
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Designed	BARR
Approved	HNH

NEW RANGE COPPER NICKEL LLC  
HOYT LAKES, MINNESOTA

LEGACY FACILITY CELL 2W DIVERSION DITCH PROJECT HOYT LAKES, MN.	
CELL 2W TO CELL 1E DIVERSION DITCH SECTIONS	

BARR PROJECT No. 23/69-2679.05	
CLIENT PROJECT No.	
DWG. No. C-03	REV. No. 4





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## SECTION 01110

### SUMMARY OF WORK

#### PART 1: GENERAL

##### 1.01 CONTRACT DOCUMENTS

- A. The Contract Documents are as defined in the Instructions to Bidders and the Contract. The terms of the Contract Documents apply to these Specifications as fully as though repeated herein.
- B. The format of these Specifications is based upon the CSI MASTERFORMAT (1995 Edition); however differences in format and subject matter location do exist. It is the CONTRACTOR'S sole responsibility to thoroughly read and understand these Specifications and request written clarification of those portions that are unclear.
- C. Division of the Work as made in these Contract Documents is for the purpose of specifying and describing work, which is to be completed. There has been no attempt to make a classification according to trade or agreements which may exist between CONTRACTOR, Subcontractors, or trade unions or other organizations. Such division and classification of the Work shall be the CONTRACTOR'S sole responsibility.

##### 1.02 EXISTING SITE CONDITIONS AND USES

- A. The Project site is located at the NewRange Copper Nickel LLC (NewRange) Tailings Management Facility, near Hoyt Lakes, Minnesota. The CONTRACTOR'S main access is located off 6500 Kensington Road.
- B. Access to the tailing management facility will be by existing haul roads.

##### 1.03 WORK COVERED BY CONTRACT DOCUMENTS

- A. The overall scope of the Work which is more fully described in these Contract Documents includes, but is not necessarily limited to, furnishing all labor, tools, equipment, and materials necessary to:
  - 1) Mobilize and demobilize labor, supervision, equipment, materials, and temporary facilities.
  - 2) Construction permits have been obtained by the OWNER. Obtain all other necessary permits prior to performing the Work.
  - 3) Construction of temporary erosion control during construction.
  - 4) Clearing and grubbing.
  - 5) Excavation to construct a new diversion ditch.



- 6) Realignment of existing haul roads.
  - 7) Hauling and placement of riprap, granular aggregate, Class 3 subbase, and coarse aggregate within the diversion ditch.
  - 8) Hauling and placement of fill materials in locations indicated on the Drawings.
  - 9) Prepare for and assist with evaluation of Cell 2W inlet riser fill type and condition.
  - 10) Restoration of site to existing conditions.
- B. It is the intent of the Contract Documents to cover all aspects of the Project. Should there be some item or items not shown on the Contract Drawings or not described in these Specifications which are required for the Work, those items and the furnishing of all labor, materials, and equipment shall be considered incidental to the Work and no additional compensation will be provided.
- C. The Work includes the furnishing of all labor, supervision, equipment, tools, machinery, materials, and other items required for the construction of a complete project as specified. Equipment furnished shall be in safe operating condition and of adequate size, capacity, and condition for the performance of the Work. CONTRACTOR shall obtain all measurements necessary for the Work and shall be responsible for establishing all dimensions, lines, and grades for the Work.
- D. CONTRACTOR shall be solely responsible for the coordination of its activities with regard to the Project and the activities of Subcontractors and OWNER.
- E. CONTRACTOR shall obtain all approvals, authorizations, and/or permits that may be required and are not being provided by the OWNER.
1. Mobilization of materials, labor, equipment, etc. to the site shall not be commenced until CONTRACTOR has completed the work preparation phase, unless authorized by the OWNER.
  2. The work preparation phase shall include obtaining all approvals, authorizations, letters of acceptance, and/or permits that are not being provided by the OWNER and are required of the CONTRACTOR to actually perform the site work.

#### 1.04 WORK BY OWNER

- A. CONTRACTOR shall be responsible for all survey necessary to construct the Project according to the Drawings and Specifications. OWNER will provide the control points, benchmarks, and initial layout for use by CONTRACTOR. CONTRACTOR shall perform all other survey necessary, including, but not limited to, setting slope stakes, maintaining benchmarks, stationing and maintain own grade stakes and others as necessary to construct the Project in accordance with the Drawings and Specifications.

- B. The OWNER or OWNER'S Representative may at their discretion make surveys required to determine quantities for payment. The CONTRACTOR may witness all such surveys and all Drawings and calculations shall be available for the CONTRACTOR'S inspection and review. In the event of a quantity dispute, CONTRACTOR shall provide their survey information and calculations to the OWNER for review.

#### 1.05 OWNER FURNISHED PRODUCTS

- A. OWNER will provide riprap, coarse aggregate, and fill materials as available on site for installation by CONTRACTOR.

#### 1.06 CONTRACTOR USE OF PREMISES

- A. Definition of Site: The Site is defined as the area within the construction limits. The construction limits include the diversion ditch, fill areas, and existing haul routes, as shown on the Drawings. CONTRACTOR shall limit operations, including materials and equipment storage, to the area within the construction limits. Any disturbance outside the construction limits shall be fully restored at the CONTRACTOR'S expense prior to the completion of the Work. CONTRACTOR shall obtain approval of OWNER at all locations where CONTRACTOR uses land not included in the construction limits. Tailings shall not be transported outside of the basin limits.
- B. Hours of Operation: Working hours shall be set by the CONTRACTOR, subject to approval by the OWNER and limited to daylight hours.
- C. Protection and Repair of Existing Facilities, Utilities, and Instrumentation: CONTRACTOR shall perform operations carefully and in such a manner as to protect existing structures, such as but not limited to Underground Facilities, Utilities, and Instrumentation. Obstructions not shown on the Drawings may exist and shall be exposed by CONTRACTOR without damage. CONTRACTOR shall be responsible for damage to existing structures, Underground Facilities, Utilities, and Instrumentation resulting from CONTRACTOR'S operations, and shall repair or replace damaged items to OWNER'S satisfaction.
- D. Unfavorable Construction Conditions: When unfavorable weather, soil, drainage, or other unsuitable construction conditions exist, CONTRACTOR shall confine operations to work which will not be adversely affected by such conditions. No portion of the Work shall be constructed under conditions which would adversely affect the quality of the Work, unless special means or precautions are taken to perform the Work in a proper and satisfactory manner.
- E. Survey Markers: CONTRACTOR shall conduct operations so as to preserve benchmarks, survey reference points, and stakes, existing or established by OWNER for the construction. CONTRACTOR will be charged the expense of repairing or replacing survey markers and shall be responsible for mistakes or lost time that result due to damage or destruction of survey markers due to CONTRACTOR'S operations.

1.07 SEQUENCE OF WORK

- A. Work shall commence within 5 calendar days of the Notice to Proceed, unless a later date is stated in the Notice to Proceed, and shall be completed on or before the date indicated in the Contract.
- B. CONTRACTOR shall determine the sequence of Work required to efficiently carry out the Work. The sequence of the Work shall be clearly evident from the CONTRACTOR'S construction schedule, submitted with the bid in accordance with the Contract. The schedule shall be approved by OWNER and include as a minimum all tasks listed in Section 1.03.

1.08 WORK BY OTHERS [NOT USED]

1.09 PROJECT CONTACTS

- A. CONTRACTOR shall submit to OWNER a list of personnel available for ongoing technical support and who are familiar with the Project and are responsible for its completion.
- B. The list should include at least 3 persons, including the CONTRACTOR'S superintendent, and should include names, functional titles, mailing addresses, delivery addresses, and phone numbers (office, field office, and mobile).
- C. At least 2 phone numbers shall be furnished which will provide 24-hour answering by a competent technical representative of CONTRACTOR in the event of an emergency or other unanticipated condition requiring immediate attention. At least one person shall be available at all times for immediate response to the site within 2 hours of being called. The responding person shall be the CONTRACTOR'S representative at the Site and shall have authority to act on behalf of CONTRACTOR.

1.10 BASIS FOR COMPENSATION

- A. All costs to comply with the requirements of this Section of the Specifications shall be considered to be included in the Contract Price and no additional compensation will be provided.

**PART 2: PRODUCTS [NOT USED]**

**PART 3: EXECUTION [NOT USED]**

**END OF SECTION 01110**



## SECTION 01270

### UNIT PRICE MEASUREMENT AND PAYMENT

#### PART 1: GENERAL

##### 1.01 GENERAL

- A. This Section of the Specifications describes the measurement and payment for the Work to be done under the items listed on the Bid Form.
- B. Each unit or lump sum price stated on the Bid Form shall constitute full compensation as herein specified for each item of Work completed in accordance with the requirements of the Contract Documents including Drawings and Specifications, including all clean up and restoration.
- C. All costs in connection with the Work, including furnishing all materials, machinery, supplies and appurtenances; providing all construction equipment and tools; and performing all necessary labor, coordination, supervision, and management to fully complete the Work shall be included in the unit prices or unit lump sum prices quoted on the Bid Form. All Work not specifically set forth as a separate bid item herein shall be considered a subsidiary obligation of the CONTRACTOR and all costs in connection therewith shall be included in the amounts and prices submitted on the Bid Form.

##### 1.02 ESTIMATED QUANTITIES

- A. All estimated quantities for Unit Price items in the Bid Form are approximate and are to be used only as a basis for determining the initial Contract Price. The actual amount of Work to be completed or materials to be furnished under the Unit Price items may differ from the estimated quantities. The basis of payment for work or materials furnished or placed will be the plan quantities of work performed or material furnished and placed. The CONTRACTOR agrees to make no claim for damages, anticipated profits, or otherwise due to any difference between the quantities of Work actually performed or materials furnished and placed and the estimated quantities included in the Bid Form.

##### 1.03 INTENT OF BID FORM ORGANIZATION

- A. Payment for all Work shall be in accordance with the terms and conditions set forth elsewhere in the Contract Documents and the CONTRACTOR'S Bid prices set forth in CONTRACTOR'S conformed Bid Form. The Bid items set forth in the Bid Form subdivide the Project for purposes of measurement and payment only and are intended to represent the entire and complete Project as set forth in the Contract Documents. The Bid items set forth in the Bid Form shall constitute full compensation to CONTRACTOR for providing all supervision, labor, materials, equipment, tools and supplies, and overhead and profit to complete the Work in complete accordance with the Contract Documents.

- B. The following paragraphs provide additional descriptions of the Work included in each of the Bid items subject to the provisions of Paragraphs 1.01, 1.02, and 1.03 of this Section
  - 1. Some of the Bid items are based on unit lump sum prices. Partial progress payment for those unit lump sum items shall be made in accordance with percent completed for each item based on the breakdown of the lump sum price in CONTRACTOR'S conformed Bid Form.
  - 2. Other Bid items are based on Unit Prices. For those items, progress payments shall be based on the actual quantities of each item of Work completed in accordance with the Contract Documents.
- C. The procedures for submitting and processing progress payments are set forth elsewhere in the Contract Documents.

#### 1.04 BID ITEMS

##### A. Mobilization/Demobilization

- 1. Method of Measurement: Mobilization/Demobilization will be measured on the basis of a lump sum unit.
- 2. Basis of Payment: CONTRACTOR will be paid a lump sum (L.S.) unit price based on the provisions of Mn/DOT Specification 2021. The lump sum price shall be payment in full for the costs of all supervision, labor, materials, equipment, overhead and profit, and performing all operations as are necessary for mobilization, demobilization, and maintaining the haul roads and dust control all complete as specified. This item shall include the CONTRACTOR'S premium for any special insurance obtained for this project; furnishing, installing and maintaining CONTRACTOR'S facilities; providing work area security; and all safety requirements within Section 01501; development, implementation, and maintenance of appropriate health and safety plan; providing all electrical, water, and telephone services required or needed by the CONTRACTOR to perform the work; providing CONTRACTOR'S work trailer; equipment mobilization and demobilization; site cleanup during and upon completion of the work; preparing and transmitting the required submittals; obtaining all other permits required of the CONTRACTOR; identifying and locating utilities as necessary for the Work; and all incidentals and other items not specifically paid for but included in the total scope of the Work.

##### B. Clearing and Grubbing

- 1. Method of Measurement: Clearing and grubbing shall be measured on a per acre (Acre) basis of Work performed as determined by field survey by the OWNER or OWNER'S Representative.
- 2. Basis of Payment: The CONTRACTOR will be paid for furnishing all supervision, labor, equipment, and materials and performing all operations necessary to perform the Work.

C. Diversion Ditch Excavation

1. Method of Measurement: Ditch excavation shall be measured by the in-place volume in cubic yards (C.Y.) as determined by the average end area method using surveys performed by the OWNER or OWNER'S Representative.
2. Basis of Payment: The CONTRACTOR will be paid for furnishing all supervision, labor, equipment, and materials, and performing all operations necessary to excavate material from the ditch alignment in the locations specified on Drawing C-01.

D. Place Fill Material

1. Method of Measurement: Placement of fill material shall be measured by the in-place volume in cubic yards (C.Y.) as determined by the average end area method using surveys performed by the OWNER or OWNER'S Representative.
2. Basis of Payment: The CONTRACTOR will be paid for furnishing all supervision, labor, equipment, and materials, and performing all operations necessary to haul, place, and compact material in the locations specified on Drawings C-01 and C-04.

E. Place Coarse Aggregate

1. Method of Measurement: Placement of coarse aggregate shall be measured by the in-place volume in cubic yards (C.Y.) as determined by the average end area method using surveys performed by the OWNER or OWNER'S Representative.
2. Basis of Payment: The CONTRACTOR will be paid for furnishing all supervision, labor, equipment, and materials, and performing all operations necessary to haul, place, and compact material in the locations specified on Drawing C-02.

F. Place Granular Filter

1. Method of Measurement: Placement of granular filter material shall be measured by the in-place volume in cubic yards (C.Y.) as determined by the average end area method using surveys performed by the OWNER or OWNER'S Representative.
2. Basis of Payment: The CONTRACTOR will be paid for furnishing all supervision, labor, equipment, and materials, and performing all operations necessary to haul, place, and compact material in the locations specified on Drawing C-02.

G. Place Class 3 Subbase

1. Method of Measurement: Placement of Class 3 subbase shall be measured by the in-place volume in cubic yards (C.Y.) as determined by the average end area method using surveys performed by the OWNER or OWNER'S Representative.



2. Basis of Payment: The CONTRACTOR will be paid for furnishing all supervision, labor, equipment, and materials, and performing all operations necessary to haul, place, and compact material in the locations specified on Drawing C-02.

H. Install Riprap

1. Method of Measurement: Installation of riprap will be measured by the cubic yard (C.Y.) of riprap placed to the lines and grades indicated on the Project plans.
2. Basis of Payment: The CONTRACTOR will be paid in full for furnishing all supervision, labor, equipment, and materials, and performing all operations for installation of the riprap.

**PART 2: PRODUCTS [NOT USED]**

**PART 3: EXECUTION [NOT USED]**

**END OF SECTION 01270**

## SECTION 01311

### PROJECT COORDINATION

#### PART 1: GENERAL

##### 1.01 COORDINATION

- A. CONTRACTOR shall be completely responsible for coordinating all aspects of the CONTRACTOR'S Work and for assuring that the Work of the various Sections of the Specifications is completed in an orderly sequence incorporating all interdependent elements, whether specifically identified or not.
- B. CONTRACTOR shall coordinate with OWNER where Work areas coincide with OWNER'S Work.

##### 1.02 CONSTRUCTION SCHEDULE AND REPORTS

- A. With the bid, the CONTRACTOR shall submit a schedule/timeline with the various construction events showing the time of performance for each particular Project. Also with the bid, the CONTRACTOR shall submit a listing of proposed construction equipment to be used during the Project. The list shall show the **type, number, and volume capacity of the equipment**, along with a schedule showing the average monthly material movement that this equipment will achieve for the construction schedule. A listing of pre-arranged sub-contractors shall be submitted with the bid. The CONTRACTOR shall also submit with the bid a resume or statement of qualifications for the CONTRACTOR and the CONTRACTOR'S superintendent that demonstrates the bidder's ability to complete Projects of this magnitude.
- B. During construction, the CONTRACTOR shall submit weekly progress reports to the OWNER or OWNER'S Representative, which should consist of daily tallies of load counts/loose volume for each type of material hauled and placed, and any other estimates of major units of work including Contract hourly work.

##### 1.03 PROJECT TIME

- A. The Project shall begin as soon as possible. Diversion ditch excavation, fill placement, aggregate installation, and riprap installation shall be complete by December 31, 2024. The CONTRACTOR shall keep the OWNER or OWNER'S Representative informed at all times when construction work is to be performed.

##### 1.04 MEETINGS

- A. Meetings between the OWNER or OWNER'S Representative and CONTRACTOR will be held daily at the Work site to inspect the progress of the Work; at which time the CONTRACTOR is to report on the progress of the job, state problems and proposed solutions, and discuss actions to be taken to keep the job on schedule. If the CONTRACTOR believes that a meeting is necessary at some time other than when a meeting is scheduled, the CONTRACTOR is

obligated to request such a meeting. The CONTRACTOR shall immediately notify the OWNER or OWNER'S Representative of any prospective delays in the Work.

**END OF SECTION 01311**



## SECTION 01501

### SAFETY

#### PART 1: GENERAL

##### 1.01 GENERAL

- A. In accordance with generally accepted construction practices, the CONTRACTOR shall be solely and completely responsible for jobsite conditions and safety procedures and programs, including safety and health of all persons and property, on those portions of the site affected by or used by CONTRACTOR, CONTRACTOR'S employees, subcontractors, agents, and others during performance of the Work. This requirement will apply continuously and not be limited to normal working hours. Observation of the Work and CONTRACTOR'S performance by OWNER and OWNER'S Representative is not intended to include review of the adequacy of the CONTRACTOR'S safety and health procedures and programs on or near the construction site. The CONTRACTOR is solely responsible for the protection of property and the safety and health of its employees, subcontractors, suppliers, agents, and others on or near the site.
- B. The CONTRACTOR shall either have or apply for and obtain an identification number from the Mine Safety and Health Administration (MSHA) prior to commencement of work on the Project. All persons working on NewRange property shall have appropriate MSHA training at the CONTRACTOR'S expense.
- C. The CONTRACTOR shall follow all applicable MSHA safety requirements.
- D. The CONTRACTOR shall follow all NewRange safety regulations.
- E. Provide a list of personnel, their safety training, and the dates of the most recent training.

##### 1.02 SAFETY

- A. CONTRACTOR shall be responsible for furnishing CONTRACTOR'S employees, as well as any subcontractor's employees, with all safety equipment and other protection devices needed to comply with laws and regulations or accepted safety practices. CONTRACTOR shall also be responsible for furnishing all visitors to the site with all safety equipment, including, but not limited to, hard hats and eye protection.
- B. The CONTRACTOR shall hold weekly safety meetings with all employees that will be working on the jobsite. These meetings can be at the start of a shift and should cover various relevant safety issues that pertain to the Work being done. The CONTRACTOR shall maintain a list of employee attendance and provide this list to the OWNER as required.
- C. CONTRACTOR shall make all persons on the site familiar with the safety precautions appropriate to the construction zones and refuse entry by any person not authorized by OWNER.

- D. CONTRACTOR shall be responsible for any safety violation and/or fine that may occur because of any neglect by CONTRACTOR, CONTRACTOR'S employees, CONTRACTOR'S subcontractors, or any third party under CONTRACTOR'S supervision or direction.
- A. CONTRACTOR shall provide safe access to all portions of the Work for use by OWNER and OWNER'S authorized representatives in the performance of their observation duties. Said access shall conform to laws and regulations and to all requirements of any regulatory agency or agencies who claim jurisdiction over the safety of the Project area. If OWNER is unable to observe CONTRACTOR'S Work, due to conditions, which in the opinion of OWNER are, unsafe, OWNER'S payment for such Work may be withheld until Work has been determined to be in compliance with the Contract Documents.

1.04 CONTROLLED SUBSTANCE

- A. Alcoholic beverages, drugs, or personnel under their influence are not allowed on the OWNER'S property. Any CONTRACTOR'S employee in violation of this policy will be permanently barred from the property.

1.05 LIABILITY

- A. Firearms are not allowed on NewRange property.

1.06 REPORT OF ACCIDENT OR INJURY

- A. CONTRACTOR shall immediately report to the OWNER any accident or injury to personnel or property damage that may occur. Any damage to existing structures by the CONTRACTOR shall be repaired promptly by the CONTRACTOR at no cost to the OWNER.

1.07 INSURANCE

- A. CONTRACTOR shall maintain insurance to limits required by Contract for the duration of the Project.

1.08 BASIS FOR COMPENSATION

- A. All costs to comply with the requirements of this Section of the Specifications shall be considered to be included in the Contract Price and no additional compensation will be provided.

**PART 2: PRODUCTS [NOT USED]**

**PART 3: EXECUTION [NOT USED]**

**END OF SECTION 01501**

## SECTION 01505

### MOBILIZATION

#### PART 1: GENERAL

##### 1.01 DESCRIPTION

- A. All Work included in this Section shall be performed in accordance with the following paragraphs, the General Requirements set forth in Division 1 of these Specifications and in accordance with all the provisions of the Contract Documents.
- B. The Work covered by this Section of the Specifications consists of, but is not limited to furnishing all supervision, labor, equipment, and materials and performing all operations necessary to:
  - 1. Move (mobilize) personnel, equipment, supplies, and incidentals to the Project site.
  - 2. Perform all preparations necessary to commence performance of the Work.
  - 3. Provide all supervision to complete the Work.
  - 4. Perform all Work that must be performed before beginning Work on the various items described elsewhere in these Specifications.
  - 5. Provide temporary utilities necessary for the completion of the Work.
  - 6. Furnish all submittals described in these Specifications.
  - 7. Furnish all insurance required specifically for this Project.
  - 8. Perform Project coordination, provide updates, and attend Project conferences and meetings.
  - 9. Provide onsite health and safety requirements.
  - 10. Obtain all permits required specifically for this Work, other than those obtained by OWNER.
  - 11. Maintain a clean and orderly work site on a daily basis throughout the duration of the Project.
  - 12. Control surface water in the work area including seepage and drainage.
  - 13. Removing (demobilizing) all equipment, surplus materials, fencing, temporary utilities, etc. from the Project site after it is no longer necessary.
  - 14. Cleaning up the area within the construction limits at the completion of the Work.
  - 15. Provide field office accommodations for CONTRACTOR'S use.

16. Maintain haul roads and provide dust control for CONTRACTOR'S operations.

C. The Work covered by this Section also includes repairing any damage to existing features that are specified to remain at the completion of the Work such as roads.

1.02 BASIS FOR COMPENSATION

A. Compensation for all Work covered under this Section of these Specifications shall be set forth in Section 01270.

**PART 2: PRODUCTS [NOT USED]**

**PART 3: EXECUTION [NOT USED]**

**END OF SECTION 01505**

## **SECTION 02100**

### **CLEARING AND GRUBBING**

#### **PART 1: GENERAL**

##### 1.01 DESCRIPTION

- A. The conditions of the Construction Contract and Division 1 – General Requirements apply to the Work specified in this Section.
- B. This item covers removing and disposing of trees, shrubs, brush, stumps, roots, and other plant life that exist within the clearing limits shown on the Drawings.

##### 1.02 REFERENCES

- A. Minnesota Department of Transportation Standard Specifications for Construction 2000 Edition, hereafter referred to as Mn/DOT Standard Specifications.

##### 1.03 SUBMITTALS [NOT USED]

##### 1.04 RELATED WORK [NOT USED]

##### 1.05 SEQUENCING AND SCHEDULING [NOT USED]

##### 1.06 BASIS FOR COMPENSATION

- A. Compensation for all Work covered under this Section of these Specifications shall be as set forth in Section 01270, Measurement and Payment.

#### **PART 2: PRODUCTS [NOT USED]**

#### **PART 3: EXECUTION**

##### 3.01 ORDER OF WORK

- A. The provisions of Mn/DOT Specification 2101 shall apply to the execution of this Work.

**END OF SECTION 02100**



## SECTION 02140

### TEMPORARY EROSION CONTROL

#### PART 1: GENERAL

##### 1.01 DESCRIPTION

- A. All Work included in this Section shall be performed in accordance with the following paragraphs, the General Requirements set forth in Division 1 of these Specifications, and the provisions of the other Contract Documents.
- B. The Work covered by this Section consists of furnishing all equipment and performing all labor for the control of water in the Work areas as shown on the Drawings and specified herein. This Work shall include the provision, operation, and maintenance of pumps and/or dewatering systems along with temporary rock dikes to allow the proper construction of the Works.

##### 1.02 REFERENCES [NOT USED]

##### 1.03 SUBMITTALS

- A. CONTRACTOR shall submit a grain size (sieve) analysis for the material to be used to construct the rock dikes prior to using the material for the Work.

##### 1.04 RELATED WORK [NOT USED]

##### 1.05 SEQUENCING AND SCHEDULING

- A. Water control operations shall be coordinated with the OWNER to minimize disruption of site operations.

##### 1.06 ENVIRONMENTAL REQUIREMENTS

- A. CONTRACTOR shall carry out the control of water in compliance with all federal, state, and local applicable stream discharge and pollution requirements.
- B. The tailing basin is a zero-discharge facility. No tailing basin water shall be discharged outside of the tailing basin limits if the water currently exists within these limits.

##### 1.07 BASIS FOR COMPENSATION

- A. Compensation for all Work covered under this Section of these Specifications shall be as set forth in Section 01270.

## **PART 2: PRODUCTS**

### **2.01 ROCK DIKES**

- A. Gradation of material used for rock dikes shall consist of 3/4-inch to 1-1/2 inch rock containing no more than 5-percent fines passing the No. 200 sieve.
- B. If OWNER identifies on-site materials meeting the gradation specification for rock dikes, OWNER's materials shall be used instead of importing materials from off site, with compensation for use of onsite instead of imported material to be as agreed with OWNER.
- C. Tailings material from the basin is not acceptable material.

## **PART 3: EXECUTION**

### **3.01 CONTROL OF WATER**

- A. Water levels and flow volumes shall be controlled in the Work area to an extent that the permanent Works are not adversely affected. Additional effort for control of water may be required by the CONTRACTOR, at no additional cost to OWNER, if, in the opinion of the OWNER, water being discharged from the Work area will potentially adversely affect the permanent Works.
- B. CONTRACTOR shall maintain all systems for controlling water for the period required to complete the Work.
- C. Once the excavation is complete and prior to the turf establishment, CONTRACTOR shall incorporate the rock dike material into the ditch bottom and side slopes and restore these areas as part of this Work.
- D. The provisions of Mn/DOT Specification 2573 shall apply to the execution of this Work.

**END OF SECTION 02140**

## SECTION 02300

### EARTHWORK

#### PART 1: GENERAL

##### 1.01 DESCRIPTION

- A. All Work included in this Section shall be performed in accordance with the following paragraphs, the General Requirements set forth in Division 1 of these Specifications, and the provisions of the other Contract Documents.
- B. Work covered by this Section includes furnishing all supervision, labor, materials, and equipment required to complete all general or miscellaneous earthwork at the Site including, but not limited to:
  - 1. Excavation of material for diversion ditch construction
  - 2. Placement of riprap, coarse aggregate, and granular filter within diversion ditch at locations designated on Drawings C-01 and C-02
  - 3. Hauling, placing, and compacting material to realign existing haul roads
  - 4. Hauling, placing, and compacting material within embankment fill areas to grades and locations designated on Drawing C-04
  - 5. Disposal of unsuitable materials at an OWNER-approved fill location
  - 6. Inspection of existing Cell 2W reinforced concrete inlet riser closure condition
- C. Related Sections
  - 1. Section 02140 Temporary Erosion Control
  - 2. Section 02375 Riprap Protection

##### 1.02 REFERENCES

- A. American Society for Testing and Materials, Current Edition, hereafter referred to as ASTM.
- B. The following are complete titles of references cited in this Section:
  - 1. ASTM D 422, "Standard Test Method for Particle Size Analysis of Soils"
  - 2. ASTM D 2488, "Standard Practice for Description and Identification of Soils (Visual-Manual Procedure)"

4. ASTM D 698, “Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort”
5. ASTM D 2167, “Standard Test Method for Density and Unit Weight of Soil in Place by the Rubber Balloon Method”
6. ASTM D 2922, “Standard Test Method for Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth)”
7. ASTM D 1556, “Standard Test Method for Density of Soil in Place by the Sand Cone Method”
8. ASTM D 4718, “Standard Practice for Correction of Unit Weight and Water Content for Soils Containing Oversize Particles”

1.03 SUBMITTALS [NOT USED]

1.04 TESTING

- A. The OWNER or OWNER’S Representative will be responsible for all testing. The CONTRACTOR may, at own discretion, test the materials as necessary to ensure they meet the Project Specifications.
- B. The CONTRACTOR shall provide OWNER or OWNER’S Representative safe access to the Work and materials to be tested.
- C. Except for riprap, all earthen materials (inclusive of tailings) to be placed as fill to thickness greater than 6-inches may be tested by the OWNER or OWNER’S Representative for in place moisture and density. OWNER or OWNER’S Representative will determine the need for and frequency of testing for each material placed and CONTRACTOR shall assist with and/or accommodate testing as may from time-to-time be requested by OWNER or OWNER’S Representative.

1.05 BASIS FOR COMPENSATION

- A. Compensation for all Work covered under this Section of these Specifications shall be set forth in Section 01270.

**PART 2: PRODUCTS**

2.01 GENERAL

- A. All embankment fill material shall be free of wood, organic soils, topsoil, snow, ice, and other unsuitable materials.
- B. Suitable material for embankment construction shall contain boulders no larger than 6-inch diameter.

- C. Unsuitable material shall be disposed of onsite at locations designated by the OWNER.

## 2.02 MATERIAL SOURCES

- A. All materials used must be approved by the OWNER or OWNER'S Representative. If unsuitable materials are encountered, the CONTRACTOR shall notify the OWNER and the OWNER may choose to use the material or direct the CONTRACTOR to alternate material source sites.
- B. It is anticipated that there will be a sufficient quantity of material from the excavation to construct the diversion ditch. In the event there is not a sufficient quantity of any or all of the specified materials, the CONTRACTOR shall obtain material from an alternate site not listed and shown on the Drawings. CONTRACTOR shall notify OWNER or OWNER'S Representative that there is insufficient material. OWNER and CONTRACTOR will identify an alternate site and negotiate a cost for the Work prior to commencement of the Work.
- C. Any shortfall of coarse tailings shall be made up by excavation and transport of coarse tailings from the OWNER-established coarse tailings borrow area located atop the east-central portion of tailings basin Cell 2W.

## PART 3: EXECUTION

### 3.01 ORDER OF WORK

- A. The following list of tasks identifies the order of Work for the construction of the diversion ditch and embankment fill areas. Some tasks may occur concurrently provided there is proper coordination between OWNER and CONTRACTOR. OWNER will be responsible for coordinating with the CONTRACTOR for the diversion ditch and embankment fill areas. CONTRACTOR shall provide timely notice of progress and completion of diversion ditch and embankment fill areas to allow for turf establishment by OWNER.
  1. CONTRACTOR shall excavate diversion ditch and realign existing haul roads
  2. CONTRACTOR shall place fill at embankments to the grades indicated on the Drawings
  3. CONTRACTOR shall dispose of unsuitable material at designated locations indicated by the OWNER

### 3.02 EXAMINATION

- A. CONTRACTOR shall examine the area and conditions for performing earthwork. If unsatisfactory conditions occur during the Work, CONTRACTOR shall notify OWNER or OWNER'S Representative and shall not proceed with the Work until unsatisfactory conditions have been corrected.
- B. It shall be the CONTRACTOR'S responsibility to determine to its own satisfaction the location and nature of all surface and subsurface obstacles and the soil and water conditions that will be encountered during construction.



- C. Limited subsurface information is available and may be obtained from the OWNER at the CONTRACTOR'S request. The results of the subsurface explorations are indicative of conditions at the locations of explorations but are not necessarily those which may be encountered throughout the entire Project area. The information is set forth to generally assist the CONTRACTOR in estimating subsurface conditions which will be encountered. The CONTRACTOR shall examine the site and the records and decide for himself the extent and character of material which will be encountered.

### 3.03 PREPARATION

- A. The CONTRACTOR shall make arrangements to locate all existing utilities and underground facilities in the areas of Work. If any are to remain in place, CONTRACTOR shall provide adequate means of protection during earthwork operations.
- B. The CONTRACTOR shall protect structures, fences, utilities, wells, and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by earthwork operations.
- C. Surface water shall be controlled sufficiently to permit placement of embankment materials in the dry.

### 3.04 EXCAVATION

- A. Construct excavations in accordance with applicable laws and regulations.
- B. Excavate to the lines, elevations, slopes, and dimensions shown on the Drawings, or as necessary to complete the Work shown on the Drawings. Finish grading of areas excavated shall be incidental to the excavation work. CONTRACTOR shall coordinate with OWNER or OWNER'S Representative when excavation is complete to allow adequate time to perform the necessary surveying to determine the quantity of material removed prior to construction of embankment.
- C. Unauthorized Excavation
  - 1. Should the CONTRACTOR, through error, neglect, or ease of construction, excavate beyond the limits defined by the Contract Documents, the CONTRACTOR shall furnish all necessary materials, labor, and equipment to restore such unauthorized excavation in a manner which will not be detrimental to the performance of the ditch and existing haul roads and in accordance with the requirements of the OWNER or OWNER'S Representative. These corrections shall be performed by the CONTRACTOR without additional compensation.

### 3.05 MATERIAL SOURCE

- A. Material Source Development
  - 1. The CONTRACTOR shall develop the designated material sources identified by the OWNER to the extent necessary to obtain the required quantities of the various diversion

ditch and embankment materials. Material source development shall include necessary exploration, clearing, and stripping within the material source limits and disposing of material unsuitable for embankment construction at locations indicated by the OWNER. The CONTRACTOR shall be responsible to promote positive drainage of the area so that materials may be excavated with minimal disturbance. Dewatering may consist of ditching, grading, or piping to route water away from haul roads and basin areas.

2. Haul road maintenance shall be part of material source development and will be the CONTRACTOR'S responsibility. The fill material for haul road maintenance and realignment will be sourced with excavated diversion ditch materials.

### 3.06 PLACEMENT OF FILL MATERIAL

#### A. General

1. Placement of fill materials will be performed at areas designated on the Drawings. The CONTRACTOR shall keep the OWNER informed of his operations so that proper inspection and testing can be implemented. No fill material shall be placed frozen or placed on a frozen subgrade. Fill shall be placed in 1-foot increments after compaction.
2. The CONTRACTOR shall finish all areas to the lines and grades shown on the Contract Drawings and as approved by the OWNER. All finish grading shall be accomplished using normal mechanical construction equipment. Finish grading of areas receiving fill shall be incidental to excavation work.

### 3.07 COMPACTION OF FILL MATERIAL

#### A. Moisture Content and Density

1. The following table gives the moisture and density requirements for the fill materials requiring compaction, generally consisting of materials to be placed to greater than a 6-inch lift thickness and/or where compaction is otherwise specified.

Material	Allowable Moisture Content Range from Optimum	Minimum Percent Compaction <sup>1</sup>
Tailings	-3% to +3%	90%
Roadway Aggregate <sup>2</sup>	-3% to +3%	95%

<sup>1</sup> ASTM D 698 – “Standard Proctor”

<sup>2</sup> For surfacing of realigned haul roads

- B. Compaction of fill and the foundation shall be with equipment designed for the type of material being placed. Compaction equipment shall be operated in non-vibratory compaction mode unless otherwise approved by OWNER or OWNER'S Representative. In the event that the initial density tests on the compacted material show that satisfactory results are not being

achieved, the CONTRACTOR shall change his procedures to the extent necessary to achieve the specified moisture content and density. The options available to the CONTRACTOR in making such changes in the procedure include one or a combination of the following:

1. Increase number of passes by the compaction equipment of each lift.
2. Decrease the thickness of the lift to be compacted.
3. Adjust soil moisture content prior to compaction by sprinkling and mixing water if the soil is drier than the specified allowable moisture content range, or aerating and drying if the soil is wetter than the specified allowable moisture content range.
4. Change the type or size of compaction equipment.
5. If the fill is placed and does not meet the compaction requirements, and the above methods have been tried, the CONTRACTOR shall remove the fill and replace at the CONTRACTOR'S expense until the fill meet the Specifications.

C. Quality Compaction (Visual Inspection) Method

1. Compaction requirements for embankment material shall conform to Mn/DOT Standard Specification 2105.3.F2.

3.08 TOLERANCES

A. Construct the excavation and fill Work within the dimensional tolerances given below. Elevation and thickness tolerances are acceptable deviations from the elevations and material thicknesses shown on the Drawings.

B. Tolerances

1. Diversion ditch excavation shall be to construction elevations -0.05, +0.05 feet in accordance with the Drawings to provide proper drainage.
2. Embankment fill shall be constructed to -0.2, +0.2 feet in accordance with the Drawings.
3. Roadway aggregate on relocated haul roads shall be constructed to -0.2, +0.2 feet in accordance with the Drawings.

3.09 FIELD QUALITY CONTROL

A. The CONTRACTOR shall utilize equipment, materials, and procedures which are anticipated to meet the quality requirements specified.

B. The CONTRACTOR shall permit OWNER to observe subgrades before further construction Work is performed thereon. Tests of subgrades and fill layers may be taken by the OWNER.

- C. The CONTRACTOR shall alter methods of construction as necessary to meet the Project Specifications.

3.10 HAUL ROAD GRADING AND DUST CONTROL

- A. The CONTRACTOR shall be solely responsible for grading and watering haul routes. The CONTRACTOR shall furnish a water truck, pumping equipment, road grading equipment, and operator(s). The CONTRACTOR shall maintain the active haul routes in a smooth condition and shall apply water as necessary to control dust emissions to the satisfaction of the OWNER. The OWNER will monitor dust emissions at the project Work site closely and zero tolerance will be enforced. Construction shutdown may be enforced by the OWNER if dust control measures are not implemented.

3.11 TURF ESTABLISHMENT SCHEDULE

- A. OWNER shall complete turf establishment within 7 calendar days of completion and acceptance of sections of the diversion ditch and embankment fill.

**END OF SECTION 02300**

## SECTION 02375

### RIPRAP PROTECTION

#### PART 1: GENERAL

##### 1.01 DESCRIPTION

- A. All Work included in this Section shall be performed in accordance with the following paragraphs, as well as the General Requirements set forth in Division 1 of these Specifications.
- B. Work covered under this Section includes providing all supervision, materials, equipment, and labor to furnish and install riprap and erosion protection materials including, but not limited to:
  - 1. Riprap placement along diversion ditch bottom and side slopes as shown on the Drawings.
- C. Related Sections:
  - 1. Section 02300 Earthwork

##### 1.02 REFERENCES

- A. Minnesota Department of Transportation Standard Specifications for Construction, 2000 Edition, hereafter referred to as Mn/DOT Standard Specifications.
- B. American Society for Testing and Materials, Current Edition, hereafter referred to as ASTM.

##### 1.03 SUBMITTALS [NOT USED]

##### 1.04 SEQUENCING AND SCHEDULING [NOT USED]

##### 1.05 BASIS FOR COMPENSATION

- A. Compensation for all Work covered under this Section of these Specifications shall be as set forth in Section 01270, Measurement and Payment.

#### PART 2: PRODUCTS

##### 2.01 RIPRAP

- A. Riprap materials shall be sourced onsite as designated by the OWNER and shall conform to the requirements of Mn/DOT Standard Specification 3601 for the class and type indicated on the Drawings.

##### 2.02 GRANULAR FILTER



- A. Granular filter shall conform to the requirements of Mn/DOT Standard Specifications 3601 for the thickness indicated on the Drawings.

2.03 COARSE AGGREGATE

- A. Coarse aggregate shall be sourced onsite as designated by the OWNER and conform to the requirements of Mn/DOT Standard Specifications 3601 for the thickness indicated on the Drawings.

**PART 3: EXECUTION**

3.01 RIPRAP

- A. The sourcing of onsite riprap shall be directed by the OWNER. Onsite riprap shall be placed in accordance with the Mn/DOT Standard Specification 3601.2A for Random Riprap. Gradation of riprap must be complementary to underlying granular filter and Class 3 subbase gradation.

**END OF SECTION 02375**

## SECTION 02480

### TURF ESTABLISHMENT

#### PART 1: GENERAL

##### 1.01 DESCRIPTION

- A. The conditions of the Construction Contract and Division 1 – General Requirements apply to the Work specified in this Section.
- B. This item covers the establishment of herbaceous ground cover on all diversion ditch, fill areas, and embankment slopes. It shall include fertilizing, seeding, and mulching.

##### 1.02 REFERENCES

- A. Minnesota Department of Transportation Standard Specifications for Construction, 2000 Edition, hereafter referred to as Mn/DOT Standard Specifications.

##### 1.03 SUBMITTALS

- A. CONTRACTOR shall submit seed mixture prior to application.

##### 1.04 SEQUENCING AND SCHEDULING

- A. Seed application shall conform to Mn/DOT 2575.3D.

##### 1.05 BASIS FOR COMPENSATION

- A. Compensation for all Work covered under this Section of these Specifications shall be as set forth in Section 01270.

#### PART 2: PRODUCTS

##### 2.01 SEED

- A. Seed shall be Mn/DOT Specification 3876, Mix Number 328, applied at the following rates:
  - 1. Grass seed mix shall be applied at 16 pounds per acre
  - 2. Cover crop mix shall be applied at 70 pounds per acre
  - 3. Economy forbs mix shall be applied at 2 pounds per acre

Total = 88 pounds per acre

2.02 FERTILIZER

- A. Fertilizer shall be Mn/DOT Specification 3881, 18-1-8, applied at the rate of 120 pounds per acre.

2.03 MULCH

- A. Mulch shall be Mn/DOT Specification 3882, Type 1 with disk anchoring, applied at a rate of 2 tons per acre.

**PART 3: EXECUTION**

3.01 ORDER OF WORK

- A. The provisions of Mn/DOT Specification 2575 shall apply to the execution of this Work.

**END OF SECTION 02480**