Purchasing Division
Finance Department

Room 120
411 West First Street
Duluth, Minnesota 55802

218-730-5340
purchasing@duluthmn.gov

Addendum 2
Solicitation 24-99200
Lower Spirit Nordic Trail Construction

This addendum serves to notify all bidders of the following changes to the solicitation documents:

- The Bid form has been updated and is attached to this addendum.
- Sheet C000 has been updated and is attached to this addendum.
- Sheet SWP1 has been updated and is attached to this addendum.
- Sheet C200 has been updated and is attached to this addendum.
- Sheet C201 has been updated and is attached to this addendum.
- Sheet C202 has been updated and is attached to this addendum.

Please acknowledge receipt of this Addendum by checking the acknowledgement box within the www.bidexpress.com solicitation.

Posted: **February 5, 2024**

CITY OF DULUTH Lower Spirit Nordic Trails Construction Duluth Project N L30159

ITEM NO.	MNDOT SPEC NO.	DESCRIPTION	UNIT	BASE BID 1 QUANTITY 0.8 KM LOOP
1	2021.501	MOBILIZATION	LUMP SUM	0.50
2	2101.502	GRUBBING	EACH	110.00
3	2105.501	COMMON EXCAVATION	CU YD	1165.00
4	2105.604	GEOTEXTILE FABRIC TYPE V	SQ YD	308.00
5	2118.507	AGGREGATE SURFACING (CV) CL 5	CU YD	49.00
6	2411.000	NATURAL STONE RETAINING WALL	LIN FT	1020.00
7	2501.502	12" CS PIPE APRON	EACH	6.00
8	2501.502	18" CS PIPE APRON	EACH	12.00
9	2501.502	24" CS PIPE APRON	EACH	2.00
10	2501.503	12" CP PIPE CULVERT (SMOOTH)	LIN FT	170.00
11	2501.503	18" CP PIPE CULVERT (SMOOTH)	LIN FT	380.00
12	2501.503	24" CP PIPE CULVERT (SMOOTH)	LIN FT	50.00
13	2511.507	RANDOM RIPRAP CLASS IV	CU YD	244.00
14	2563.601	TRAFFIC CONTROL	LUMP SUM	0.50
15	2573.502	CULVERT END CONTROLS	EACH	10.00
16	2573.503	SEDIMENT CONTROL LOG TYPE COMPOST	LIN FT	2830.00
17	2575.501	SEEDING	ACRE	2.10
18	2575.502	SEED MIXTURE TYPE 36-311	LB	71.00
19	2575.604	ROLLED EROSION PREVENTION CATEGORY 25	SQ YD	3500.00

ITEM NO.	MNDOT SPEC NO.	DESCRIPTION	UNIT	BASE BID 2 QUANTITY 2.0 K CONNECTOR
1	2021.501	MOBILIZATION	LUMP SUM	0.50
2	2101.502	GRUBBING	EACH	69.00
3	2105.501	COMMON EXCAVATION	CU YD	872.00
4	2105.604	GEOTEXTILE FABRIC TYPE V	SQ YD	792.00
5	2112.603	SUBGRADE PREPARATION	LIN FT	2080.00
6	2118.507	AGGREGATE SURFACING (CV) CL 5	CU YD	260.00
7	2411.000	NATURAL STONE RETAINING WALL	LIN FT	800.00
8	2501.502	12" CS PIPE APRON	EACH	2.00
9	2501.502	15" CS PIPE APRON	EACH	6.00
10	2501.502	18" CS PIPE APRON	EACH	4.00
11	2501.502	24" CS PIPE APRON	EACH	6.00
12	2501.502	30" CS PIPE APRON	EACH	4.00
13	2501.503	12" CP PIPE CULVERT (SMOOTH)	LIN FT	70.00
14	2501.503	15" CP PIPE CULVERT (SMOOTH)	LIN FT	155.00
15	2501.503	18" CP PIPE CULVERT (SMOOTH)	LIN FT	110.00
16	2501.503	24" CP PIPE CULVERT (SMOOTH)	LIN FT	215.00
17	2501.503	30" CP PIPE CULVERT (SMOOTH)	LIN FT	190.00
18	2511.507	RANDOM RIPRAP CLASS IV	CU YD	304.00
19	2557.602	TRAIL GATE, TYPE SPECIAL	EACH	1.00
20	2557.602	TRAIL GATE, TYPE SPECIAL 2	EACH	1.00
21	2563.601	TRAFFIC CONTROL	LUMP SUM	0.50

22	2573.502	CULVERT END CONTROLS	EACH	11.00
23	2573.503	SEDIMENT CONTROL LOG TYPE COMPOST	LIN FT	3249.00
24	2575.501	SEEDING	ACRE	3.10
25	2575.502	SEED MIXTURE TYPE 36-311	LB	104.00
26	2575.604	ROLLED EROSION PREVENTION CATEGORY 25	SQ YD	3200.00

1 SCHEDULE OF ESTIMATED QUANTITIES

LINE ITEM NO.	NOTE	ITEM NO.	ITEM DESCRIPTION	UNIT	0.8K LOOP QUANTITIES	2.0K CONNECTOR QUANTITIES	TOTAL ESTIMATED QUANTITIES	NOTES
1		2021.501	MOBILIZATION	LUMP SUM	0.50	0.50	1	
2	2	2101.502	GRUBBING	EACH	110.00	69.00	179	
3	3	2105.501	COMMON EXCAVATION	CU YD	1,165.00	872.00	2037	
4	4	2105.604	GEOTEXTILE FABRIC TYPE V	SQ YD	308.00	792.00	1100	
5		2112.603	SUBGRADE PREPARATION	LIN FT	-	2,080.00	2080	SEE GRADING TABLE
6	5	2118.507	AGGREGATE SURFACING (CV) CL 5	CU YD	49.00	260.00	309	
7	2	2411.000	NATURAL STONE RETAINING WALL	LIN FT	1,020.00	800.00	1820	
8		2501.502	12" CS PIPE APRON	EACH	6.00	2.00	8	SEE CULVERT TABLE
9		2501.502	15" CS PIPE APRON	EACH	-	6.00	6	SEE CULVERT TABLE
10		2501.502	18" CS PIPE APRON	EACH	12.00	4.00	16	SEE CULVERT TABLE
11		2501.502	24" CS PIPE APRON	EACH	2.00	6.00	8	SEE CULVERT TABLE
12		2501.502	30" CS PIPE APRON	EACH	-	4.00	4	SEE CULVERT TABLE
13	14	2501.503	12" CP PIPE CULVERT (SMOOTH)	LIN FT	170.00	70.00	240	SEE CULVERT TABLE
14	14	2501.503	15" CP PIPE CULVERT (SMOOTH)	LIN FT	-	155.00	155	SEE CULVERT TABLE
15	14	2501.503	18" CP PIPE CULVERT (SMOOTH)	LIN FT	380.00	110.00	490	SEE CULVERT TABLE
16	14	2501.503	24" CP PIPE CULVERT (SMOOTH)	LIN FT	50.00	215.00	265	SEE CULVERT TABLE
17	14	2501.503	30" CP PIPE CULVERT (SMOOTH)	LIN FT	-	190.00	190	SEE CULVERT TABLE
18		2511.507	RANDOM RIPRAP CLASS IV	CU YD	244.00	304.00	548	SEE CULVERT TABLE
19	6	2557.602	TRAIL GATE, TYPE SPECIAL	EACH	-	1.00	1	
20	6	2557.602	TRAIL GATE, TYPE SPECIAL 2	EACH	-	1.00	1	
21		2563.601	TRAFFIC CONTROL	LUMP SUM	0.50	0.50	1	
22		2573.502	CULVERT END CONTROLS	EACH	10.00	11.00	21	
23		2573.503	SEDIMENT CONTROL LOG TYPE COMPOST	LIN FT	2,830.00	3,249.00	6079	PLACE DOWNSLOPE OF ALL CONSTRUCTION AREAS
24	8	2575.501	SEEDING	ACRE	2.10	3.10	5.2	
25		2575.502	SEED MIXTURE TYPE 36-311	LB	71.00	104.00	175	APPLICATION RATE = 33.5 LBS/ACRE
26	7	2575.604	ROLLED EROSION PREVENTION CATEGORY 25	SQ YD	3,500.00	3,200.00	6700	PLACE ON ALL SLOPES STEEPER THAN 1:3 (33.33%)

EARTHWORK SUMMARY - 0.8 KM LOOP TRAIL

EXCAVATION (CY)

GRADING MATERIAL EXCAVATION (UA) - GROSS CUT FROM SITE — 1165.4 CY

TOTAL = 1165.4 CY

COMMON (UA) (PAY QUANTITY)

MATERIAL AVAILABLE FOR EMBANKMENT — Compaction Factor = 1.1 — 1059.4 CY

TOTAL = 1059.4 CY

EMBANKMENT (CY)

SELECT GRADING MATERIAL REQUIRED (CV) — 1189.4 CY

TOTAL = 1189.4 CY

GRADING MATERIAL DIFFERENCE (CV) = -130 DEFICIT

*VALUE IS AN ASSUMED AVERAGE NUMBER. — TOTAL MATERIAL DIFFERENCE (CV) = -130 DEFICIT

EARTHWORK SUMMARY - 2.0 KM CONNECTOR TRAIL

EXCAVATION (CY)

GRADING MATERIAL EXCAVATION (UA) - GROSS CUT FROM SITE — 871.54 CY

TOTAL = 871.54 CY

COMMON (UA) (PAY QUANTITY)

MATERIAL AVAILABLE FOR EMBANKMENT — Compaction Factor = 1.1 — 792.31 CY

TOTAL = 792.31 CY

EMBANKMENT (CY)

SELECT GRADING MATERIAL REQUIRED (CV) — 972.83 CY

TOTAL = 972.83 CY

GRADING MATERIAL DIFFERENCE (CV) = -180.5 DEFICIT

*VALUE IS AN ASSUMED AVERAGE NUMBER. — TOTAL MATERIAL DIFFERENCE (CV) = -180.5 DEFICIT

CULVERT TABLE

	2501.503	2501.503	2501.503	2501.503	2501.503	2501.502	2501.502	2501.502	2501.502	2501.502	SPEC. 2511	SPEC. 2511	
	12" CP PIPE CULVERT (SMOOTH)	15" CP PIPE CULVERT (SMOOTH)	18" CP PIPE CULVERT (SMOOTH)	24" CP PIPE CULVERT (SMOOTH)	30" CP PIPE CULVERT (SMOOTH)	12" CS PIPE APRON	15" CS PIPE APRON	18" CS PIPE APRON	24" CS PIPE APRON	30" CS PIPE APRON	RANDOM RIPRAP CLASS IV (UPSTREAM)	RANDOM RIPRAP CLASS IV (DOWNSTREAM)	NOTES
CULVERT ID	LIN FT	LIN FT	LIN FT	LIN FT	LIN FT	EACH	EACH	EACH	EACH	EACH	CU YD	CU YD	
51A			60					1			12	0	
51B			60					1			0	12	
52			50					2			14	14	AA, BB
53			50					2			12	14	AA, BB
54			50					2			12	14	AA, BB
55	60					2					10	10	AA
56A				50					2		16	16	AA, BB
56B			50					2			12	12	AA, BB
56C			60					2			12	12	AA, BB
60	60					2					12	12	AA
66A	50					2					8	8	AA, H
100				110					2		14	16	AA, BB
105		50					2				10	12	AA, BB
110	70					2					8	10	AA
115			50					2			12	14	AA, BB
120				50					2		14	16	AA, BB
125				55					2		14	16	AA, BB
130		55					2				14	14	AA, BB
135		50					2				12	14	AA, BB
140			60					2			14	16	AA, BB
145					90					2	16	16	X, AA, BB
150					100					2	16	16	W
PROJECT ITEM TOTALS	**240**	**155**	**490**	**265**	**190**	**8**	**6**	**16**	**8**	**4**	**264**	**284**	

SEE CULVERT NOTES ON SHEET C001

ALL CONTRACTORS AND SUBCONTRACTORS SHALL VERIFY ALL DIMENSIONS BY MEASUREMENT AT THE BUILDING AND/OR SITE

0 1

BAR IS ONE INCH ON ORIGINAL DRAWING. IF NOT ONE INCH ON THIS DRAWING ADJUST SCALES ACCORDINGLY.

PLOT DATE: Feb 01, 2024 - 10:15pm
FILENAME: K:\a-fil\Duluth_City\20749000\04_Production\01_CAD\02_Sheets\LNSC Title Sheet.dwg

NO.	DATE	BY	DESCRIPTION OF REVISIONS
1	2/2/24	ERM	REVISED SEQ TABLE

DESIGNED ERM
DRAWN JRD
CHECKED ERM

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.
SIGNATURE: _____ DATE: 1/25/2024
PRINTED NAME: EMILY R. MAJOR LIC. NO.: 52201

TKDA
11 E. Superior Street, Suite 420
Duluth, MN 55802
218.724.8578
tkda.com

STATEMENT OF ESTIMATED QUANTITIES
LOWER NORDIC SKI CENTER SKI TRAILS

PROJ. NO. 20749.000

DRAWING NO. C000

STORM WATER POLLUTION PREVENTION PLAN (SWPPP) NARRATIVE

PROJECT DESCRIPTION AND CONTACTS:

PROJECT NAME AND LOCATION: SPIRIT MOUNTAIN SNOWMOBILE TRAIL, DULUTH, MINNESOTA
PROJECT SCOPE: STUMP GRUBBING, TRAIL SHAPING & GRADING, BRIDGE ABUTMENT CONSTRUCTION, CULVERT INSTALLATION, AND LANDSCAPING.

PROJECT CONTACTS	NAME	PHONE NUMBER
OWNER: CITY OF DULUTH	JIM SHOBERG	218.730.4415
CONTRACTOR'S EROSION AND SEDIMENT CONTROL SUPERVISOR	TBD	TBD
CONTRACTOR'S EROSION AND SEDIMENT CONTROL INSTALLER	TBD	TBD
OWNER CONSTRUCTION PROJECT MANAGER	TBD	TBD
CERTIFIED SWPPP DESIGNER	EMILY R. MAJOR	218.216.3142
WATERSHED DISTRICT	TBD	TBD
MPCA CONSTRUCTION STORMWATER COMPLIANCE (SAINT LOUIS COUNTY)	TBD	TBD

CONTRACTOR CHECKLIST:

- CONTRACTOR SHALL SUPPLY THE NAME, CONTACT INFORMATION, AND TRAINING CERTIFICATES FOR THE EROSION AND SEDIMENT CONTROL SUPERVISOR AND BACKUP INDIVIDUAL. THIS INFORMATION SHALL BE KEPT WITH THE SWPPP (AMENDMENT).
- CONTRACTOR SHALL POST A COPY OF THE NPDES CONSTRUCTION STORM WATER PERMIT AT THE SITE ENTRANCE.
- CONTRACTOR SHALL INCLUDE THEIR PROPOSED AND OWNER ACCEPTED CONSTRUCTION SCHEDULE WITH THE SWPPP.
- CONTRACTOR SHALL INCLUDE A MAP(S) OF ALL OFF-SITE AREAS USED FOR THE PROJECT (BORROW AND DISPOSAL AREAS) WITH THE SWPPP.
- CONTRACTOR SHALL PREPARE A MAP(S) SHOWING LOCATIONS OF SITE ENTRANCE/EXITS AND HAUL ROUTES TO AND FROM THE PROJECT AND INCLUDE WITH THE SWPPP.
- CONTRACTOR SHALL DOCUMENT HOW RAINFALL WILL BE TRACKED IN THE SWPPP.
- CONTRACTOR SHALL DOCUMENT ALL SUBCONTRACTORS IN THE SWPPP.
- CONTRACTOR SHALL PREPARE ALL SWPPP AMENDMENTS AND THEY SHALL BE KEPT WITH THE SWPPP.
- CONTRACTOR SHALL COMPLETE ALL REQUIRED INSPECTIONS PER THE NPDES CONSTRUCTION STORM WATER PERMIT. ALL INSPECTION FORMS SHALL BE KEPT WITH THE SWPPP. INSPECTION FORMS CAN BE CONTRACTOR DEVELOPED OR MINNESOTA POLLUTION CONTROL AGENCY STANDARD FORMS.
- CONTRACTOR SHALL COMBINE ALL ITEMS INTO BINDER TO CREATE SWPPP, WHICH SHALL BE KEPT AT THE PROJECT SITE.

SWPPP SUMMARY/OVERVIEW:

THIS SWPPP HAS BEEN DEVELOPED TO ADDRESS THE REQUIREMENTS OF NPDES PERMIT MNR100001, PARTS 5-23. THIS SWPPP INCLUDES A COMBINATION OF NARRATIVE AND PLAN SHEETS THAT DESCRIBE THE TEMPORARY AND PERMANENT EROSION AND SEDIMENT CONTROL FOR THE PROJECT. THE NUMBERED SECTIONS BELOW CORRESPOND TO THE SAME SECTIONS OF THE NPDES PERMIT.

3.3 FOR PROJECTS DISTURBING LESS THAN 50 ACRES AND DO NOT DISCHARGE TO AN IMPAIRED OR SPECIAL WATER, SWPPP DOES NOT NEED TO BE INCLUDED WITH PERMIT APPLICATION. PERMIT COVERAGE IS EFFECTIVE UPON APPLICATION AND COMPLETING THE PAYMENT PROCESS.

3.4 FOR PROJECTS DISTURBING 50 ACRES OR MORE AND DISCHARGE TO AN IMPAIRED OR SPECIAL WATER WITHIN 1 MILE, SWPPP DOES NEED TO BE INCLUDED WITH PERMIT APPLICATION. PERMIT COVERAGE IS EFFECTIVE ONCE APPLICATION IS SUBMITTED, PAYMENT IS RECEIVED, AND A DETERMINATION FROM MPCA IS RECEIVED STATING THAT REVIEW OF SWPPP IS COMPLETE. REVIEW PROCESS WILL TAKE UP TO 30 DAYS.

5.3 SEE EROSION AND SEDIMENT CONTROL PLANS AND DETAILS FOR BMPS USED TO COMPLY WITH THE REQUIREMENTS OF THE NPDES PERMIT.

5.4 **TIMING FOR INSTALLATION OF ALL EROSION PREVENTION AND SEDIMENT CONTROL BMPS:**

AREA	TIME FRAME
ESTABLISH SEDIMENT CONTROL DEVICES ON ALL DOWN GRADIENT PERIMETERS AND UPGRADIENT OF ANY BUFFER ZONES	ESTABLISH SEDIMENT CONTROL DEVICES ON ALL DOWN GRADIENT PERIMETERS AND UPGRADIENT OF ANY BUFFER ZONES
REPAIR, REPLACE OR SUPPLEMENT PERIMETER CONTROL BMPS	WHEN BMP BECOMES NON FUNCTIONAL OR SEDIMENT REACHES $\frac{1}{2}$ THE HEIGHT OF THE BMP BY THE END OF THE NEXT BUISNESS DAY AFTER DISCOVERY.
REPAIR, REPLACE OR SUPPLEMENT ALL NONFUNCTIONAL BMPS	BY THE END OF THE NEXT BUISNESS DAY AFTER DISCOVERY.
REPAIR, REPLACE OR SUPPLEMENT INLET PROTECTION BMPS	WHEN THEY BECOME NONFUNCTIONAL OR SEDIMENT REACHES $\frac{1}{2}$ THE HEIGHT AND/OR DEPTH OF THE BMP BY THE END OF THE NEXT BUSINESS DAY AFTER DISCOVERY.
REMOVE TRACKED SEDIMENT FROM PAVED SURFACES BOTH ON AND OFF SITE (LIGHTLY WET PRIOR TO SWEEPING)	WITHIN 24 HOURS OF DISCOVERY
REMOVE ALL DELTAS AND SEDIMENT DEPOSITED IN SURFACE WATERS AND RESTABILIZE	WITHIN 7 DAYS OF DISCOVERY

DESCRIPTION OF THE PERMANENT STORMWATER TREATMENT SYSTEM: NA.

5.5 LOCATION AND TYPE OF ALL TEMPORARY AND PERMANENT EROSION PREVENTION AND SEDIMENT CONTROL BMPS ARE SHOWN ON THE EROSION AND SEDIMENT CONTROL PLANS AND DETAILS. PROCEDURES USED TO ESTABLISH ADDITIONAL BMPS HAVE BEEN IDENTIFIED IN SECTION 6 OF THIS SWPPP NARRATIVE.

5.6 TEMPORARY SEDIMENT BASINS ARE NOT REQUIRED SINCE TOTAL DISTURBED SURFACE DRAINING TO A COMMON LOCATION IS LESS THAN 10 ACRES AND IMPAIRED RECEIVING WATER IS LOCATED MORE THAN 1 MILE AWAY.

5.7 **ESTIMATED QUANTITIES ANTICIPATED FOR ALL EROSION PREVENTION AND SEDIMENT CONTROL BMPS ARE SHOWN IN TABLE BELOW:**

ESTIMATED QUANTITIES
EROSION PREVENTION AND SEDIMENT CONTROL
SPIRIT MOUNTAIN SNOWMOBILE TRAILS

ITEM	UNIT	TOTAL ESTIMATED QUANTITY	MNDOT SPEC	NOTES
RANDOM RIPRAP CLASS III	CU YD	63	2511.507	DOES NOT INCLUDE MAINTENANCE
STORM DRAIN INLET PROTECTION	EACH	3	2573.502	
CULVERT END CONTROLS	EACH	16	2573.502	
SEDIMENT CONTROL LOG TYPE COMPOST	LIN FT	8941	2573.503	PLACE DOWNSLOPE OF CONSTRUCTION AREAS
SEEDING	ACRE	1.53	2575.505	
SEED MIXTURE 36-311	POUND	51	2575.508	
ROLLED EROSION PREVENTION CATEGORY 25	SQ YD	5524	2575.604	PLACE ON ALL SLOPES STEEPER THAN 1:3

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ESTIMATED QUANTITIES
EROSION PREVENTION AND SEDIMENT CONTROL
LOWER NORDIC SKI CENTER SKI TRAILS

ITEM	UNIT	TOTAL ESTIMATED QUANTITY	MNDOT SPEC	NOTES
RANDOM RIPRAP CLASS III	CU YD	548	2511.507	DOES NOT INCLUDE MAINTENANCE
CULVERT END CONTROLS	EACH	21	2573.502	
SEDIMENT CONTROL LOG TYPE COMPOST	LIN FT	6079	2573.503	
SEEDING	ACRE	5.2	2575.505	
SEED MIXTURE 36-311	POUND	175	2575.508	
ROLLED EROSION PREVENTION CATEGORY 25	SQ YD	6700	2575.604	PLACE ON ALL SLOPES STEEPER THAN 1:3

QUANTITIES FOR INFORMATIONAL PURPOSES ONLY AS REQUIRED BY NPDES PERMIT

5.8 **NUMBER OF ACRES OF IMPERVIOUS SURFACE FOR BOTH PRE- AND POST-CONSTRUCTION ARE SHOWN IN THE LAND FEATURES TABLE BELOW:**

LAND FEATURE CHANGES:	
TOTAL PROJECT AREA =	7.82 ACRES
TOTAL DISTURBED AREA =	7.82 ACRES
TOTAL PRE CONSTRUCTION IMPERVIOUS AREA =	0 ACRES
TOTAL POST CONSTRUCTION IMPERVIOUS AREA =	0 ACRES
TOTAL NEW IMPERVIOUS AREA =	0 ACRES

NOTES:
1. DISTURBED AREA IS WHERE EXCAVATION INTO THE UNDERLYING SOIL TAKES PLACE.
2. AGGREGATE SURFACING AND SELECT GRANULAR LAYER BELOW IN PLACE PAVEMENT IS NOT THE UNDERLYING SOIL.
3. MPCA NPDES PERMIT REQUIRED IF TOTAL DISTURBED AREA EXCEEDS 1 ACRE.
4. PERMANENT STORMWATER TREATMENT IF NET CHANGE IN IMPERVIOUS SURFACE EXCEEDS 1 ACRE. NOT REQUIRED IF AN EXISTING REGIONAL POND HAS BEEN DESIGNED FOR THE DEVELOPMENT.

5.9 SITE MAP WITH EXISTING AND FINAL GRADES, STEEP SLOPES 1:3 (V:H) OR 33.3 PERCENT OR STEEPER, IMPERVIOUS SURFACES, AND LOCATIONS OF POTENTIAL POLLUTANT-GENERATING ACTIVITIES IS SHOWN ON THE CONSTRUCTION PLANS. SEE GRAND AVENUE NORDIC CENTER SKI TRAIL SHEETS 11 - 29 AND SPIRIT MOUNTAIN SNOWMOBILE TRAIL SHEETS 10 - 14.

SITE MAP SHOWING DRAINAGE AREA BOUNDARIES IS AVAILABLE FROM THE OWNER UPON REQUEST.

SITE MAP WITH DIRECTIONS OF FLOW AND DISCHARGE POINTS WHERE STORMWATER IS LEAVING THE SITE OR ENTERING A SURFACE WATER IS SHOWN ON FOLLOWING SHEET.

5.10 SITE MAP OF ALL SURFACE WATERS, EXISTING WETLANDS, AND STORMWATER PONDS WITHIN 1 MILE (AERIAL RADIUS) FROM THE PROJECT BOUNDARY IS SHOWN ON FOLLOWING SHEET.

5.11 STORMWATER RUNOFF FROM THE PROJECT AREA FLOWS INTO KNOWLTON CREEK.

5.12 PRESERVE A 50 FOOT NATURAL BUFFER TO SURFACE WATERS PER SECTION 9.17 OF THE PERMIT. PRESERVING A 100 FOOT NATURAL BUFFER TO A SPECIAL WATER PER SECTION 23.11 OF THE PERMIT. NOT APPLICABLE.

5.13 **INFEASIBILITY DOCUMENTATION FOR THE FOLLOWING REQUIREMENTS:**
TEMPORARY SEDIMENT BASINS PER SECTION 14 - TEMPORARY SEDIMENT BASINS NOT REQUIRED
- BUFFER ZONES PER SECTION 9.17 AND 23.11 - UNDISTURBED BUFFER ZONES ARE BEING MAINTAINED.

5.14 **DESCRIPTION OF ALTERNATIVE BMPS USED IF TEMPORARY SEDIMENT BASIN PER SECTION 14 IS INFEASIBLE:** NA.

5.15 **DOCUMENTATION OF REASONS WHY FULL VOLUME REDUCTION REQUIREMENT CANNOT BE MET:** NA.

5.16 **MITIGATION MEASURES REQUIRED FROM PREVIOUS REVIEWS (EAW, EIS, LOCAL, ETC.):** NO ADDITIONAL MITIGATION MEASURES BEYOND THE RULES OF APPLICABLE REGULATORY AGENCIES ARE REQUIRED.

5.17 **DESCRIPTION OF METHODS USED FOR PERMANENT COVER OF ALL EXPOSED SOIL AREAS:** ALL DISTURBED AREAS WILL BE SURFACED WITH GRAVEL OR TURF. NO SOIL WILL BE LEFT EXPOSED.

5.18 **LOCATIONS WHERE CONSTRUCTION WILL BE PHASED TO MINIMIZE EXPOSED SOIL AREA:** CONTRACTOR SHALL PHASE WORK ACTIVITIES TO THE MAXIMUM EXTENT TO MINIMIZE EXPOSED SOIL AREA. CONTRACTOR SHALL PLACE PERMANENT SITE RESTORATION BMPS IMMEDIATELY DURING WORK ACTIVITIES, UNLESS THE AREA IS TO BE RE-DISTURBED WITHIN 14 DAYS.

APPROXIMATE PROJECT PHASING FOR SPIRIT MOUNTAIN SNOWMOBILE TRAIL AND GRAND AVENUE NORDIC SKI TRAILS WILL BE AS FOLLOWS:

PHASE 1 - SPRING 2024

PLACE INLET PROTECTION AND PERIMETER CONTROL (SILT FENCE AND SEDIMENT CONTROL LOGS) DOWN GRADIENT OF THE PROPOSED DISTURBED SOIL AREA.

PHASE 2 - SPRING 2024 - SUMMER 2024

PERFORM GRADING AND CONSTRUCT TRAILS.

PHASE 3 - SUMMER 2024

FINAL STABILIZATION OF DISTURBED AREAS AND PLACEMENT OF GRAVEL OR TURF SURFACES.

PHASE 4 - SUMMER 2024 - FALL 2024

SPOT STABILIZATION AS NEEDED FOR DISTURBANCES RELATED TO INSTALLATION OF LIGHTING AND SNOW MAKING EQUIPMENT (GRAND AVENUE NORDIC SKI TRAILS ONLY)

5.19 **IMPAIRED WATERS AND TMDL (CONSTRUCTION RELATED):** THIS SITE DOES NOT DISCHARGE TO ANY IMPAIRED WATERS. THE RECEIVING WATER IS KNOWLTON CREEK.
A. IMPAIRED WATERS: NO RECEIVING WATERS WITH ANY IMPAIRMENTS.
B. TMDL: NO RECEIVING WATERS WITH TMDL IMPAIRMENTS.

5.20 **TRAINING DOCUMENTATION: DESIGNER OF SWPPP:** EMILY R. MAJOR, PE, U OF M, CERTIFIED SWPPP DESIGNER EXPIRES MAY 31, 2025, TKDA. DOCUMENTATION OF THE REQUIRED TRAINING FOR THE DESIGNER OF THE SWPPP IS AVAILABLE FROM TKDA UPON REQUEST. CONTRACTOR SHALL INCLUDE THEIR REQUIRED TRAINING DOCUMENTATION WITH THE SWPPP (AMENDMENT).

5.21 **PERSON KNOWLEDGEABLE IN EROSION PREVENTION AND SEDIMENT CONTROL AND WHO WILL OVERSEE IMPLEMENTATION OF THE SWPPP:** THE CONTRACTOR SHALL DESIGNATE ONE INDIVIDUAL, TRAINED PER THE REQUIREMENTS OF PART 21 OF THE PERMIT, TO OVERSEE IMPLEMENTATION OF THE SWPPP.

5.22 **CHEMICAL TREATMENTS:** CONTRACTOR CAN USE POLYMERS, FLOCCULANTS, OR OTHER SEDIMENTATION TREATMENT CHEMICALS IF APPLIED IN ACCORDANCE WITH ACCEPTED ENGINEERING PRACTICES, DOSING SPECIFICATIONS AND SEDIMENT REMOVAL DESIGN SPECIFICATIONS PROVIDED BY THE MANUFACTURER AND OWNER APPROVAL. AMEND SWPPP ACCORDINGLY IF CHEMICAL TREATMENTS ARE USED.

5.23 **LONG-TERM OPERATION AND MAINTENANCE OF THE INPLACE PERMANENT STORMWATER TREATMENT SYSTEMS:** THE OWNER IS RESPONSIBLE FOR LONG-TERM OPERATION AND MAINTENANCE OF THE INFILTRATION BASINS AND PRIVATE STORM SEWER SYSTEM. THE CITY OF DULUTH IS RESPONSIBLE FOR THE LONG-TERM OPERATION AND MAINTENANCE OF THE STORMWATER POND LOCATED AT THE GRAND AVENUE NORDIC CENTER (LOWER CHALET).

5.24 **METHODS TO MINIMIZE SOIL COMPACTION AND PRESERVE TOPSOIL:** TOPSOIL WILL BE STRIPPED, STOCKPILED, AND ULTIMATELY SPREAD OVER AREAS TO BE RESTORED.

5.25 **SITE ASSESSMENT FOR GROUNDWATER OR SOIL CONTAMINATION:** NO SOIL BORINGS WERE OBTAINED BY THE OWNER FOR THESE PROJECTS. DUE TO THE NATURE OF THE PROJECT WORK, IT IS NOT EXPECTED THAT GROUNDWATER OR SOIL CONTAMINATION WILL BE ENCOUNTERED.

5.26 **BMPS DESIGN FACTORS:** BMPS SHALL BE CAPABLE OF HANDLING TYPICAL MINNESOTA RAINFALLS RANGING FROM 0" TO 3" IN A SHORT DURATION.

6. **AMENDMENTS:** PERMITEES MUST AMEND THE SWPPP TO INCLUDE ADDITIONAL OR MODIFIED BMPS AS NECESSARY TO CORRECT PROBLEMS IDENTIFIED DURING INSPECTION OR ADDRESS SITUATIONS WHENEVER THERE IS A CHANGE IN DESIGN, CONSTRUCTION, OPERATION, MAINTENANCE, WEATHER OR SEASONAL CONDITIONS HAVING A SIGNIFICANT EFFECT ON THE DISCHARGE OF POLLUTANTS TO SURFACE WATERS.

7. **BMP SELECTION:** PERMITEES MUST SELECT, INSTALL, AND MAINTAIN THE BMPS IDENTIFIED IN THE SWPPP AND PERMIT IN AN APPROPRIATE AND FUNCTIONAL MANNER AND IN ACCORDANCE WITH RELEVANT MANUFACTURER SPECIFICATIONS AND ACCEPTED ENGINEERING PRACTICES. STORMWATER CALCULATIONS AND HYDRAULIC INFORMATION IS ON FILE WITH THE PROJECT ENGINEER AND IS AVAILABLE ON REQUEST.

SOIL CLASSIFICATION - 0.8 KM LOOP

DESCRIPTION	HYDROLOGIC SOIL GROUP	RANGE OF PARTICLES
BARTO, STONY-GREYSOLON-ROCK OUTCROP COMPLEX	D	GRAVELLY SANDY LOAM, BEDROCK

SOIL CLASSIFICATION - 2.0 KM LOOP

DESCRIPTION	HYDROLOGIC SOIL GROUP	RANGE OF PARTICLES
AHMEEK-CANOSIA-ROCK OUTCROP COMPLEX	D	SILT LOAM, GRAVELLY SANDY LOAM
ROCK OUTCROP-MESABA-BARTO COMPLEX	B/D	GRAVELLY SANDY LOAM, BEDROCK
AHMEEK-ROCK OUTCROP-FLUVAQUENTS	B/D	SILT LOAM, GRAVELLY SANDY LOAM
BARTO, STONY-GREYSOLON-ROCK OUTCROP COMPLEX	D	GRAVELLY SANDY LOAM, BEDROCK

SOIL CLASSIFICATION - UPPER CONNECTOR SNOWMOBILE TRAIL

DESCRIPTION	HYDROLOGIC SOIL GROUP	RANGE OF PARTICLES
AHMEEK-CANOSIA-ROCK OUTCROP COMPLEX	D	SILT LOAM, GRAVELLY SANDY LOAM

SOIL CLASSIFICATION - LOWER CONNECTOR SNOWMOBILE TRAIL

DESCRIPTION	HYDROLOGIC SOIL GROUP	RANGE OF PARTICLES
URBAN LAND-CUTTRE-ROCK OUTCROP COMPLEX	D	SILT LOAM, SILTY CLAY LOAM, CLAY
URBAN LAND-AMNICON-ROCK OUTCROP COMPLEX	D	SILT LOAM, SILTY CLAY LOAM, CLAY
BOWSTRING AND FLUVAQUENTS, LOAMY	A/D	MUCK, STRATIFIED FINE SAND TO LOAMY FINE SAND
AMNICON-CUTTRE COMPLEX	D	SILT LOAM, SILTY CLAY LOAM, CLAY
BARTO, STONY-GREYSOLON-ROCK OUTCROP COMPLEX	D	GRAVELLY SANDY LOAM, BEDROCK

SOIL CLASSIFICATION - BRIDGE UNDERPASS SNOWMOBILE TRAIL

DESCRIPTION	HYDROLOGIC SOIL GROUP	RANGE OF PARTICLES
URBAN LAND-AMNICON-ROCK OUTCROP COMPLEX	D	SILT LOAM, SILTY CLAY LOAM, CLAY
BOWSTRING AND FLUVAQUENTS, LOAMY	A/D	MUCK, STRATIFIED FINE SAND TO LOAMY FINE SAND

SOIL CLASSIFICATION - PUKER SNOWMOBILE TRAIL

DESCRIPTION	HYDROLOGIC SOIL GROUP	RANGE OF PARTICLES
AHMEEK-CANOSIA-ROCK OUTCROP COMPLEX	D	SILT LOAM, GRAVELLY SANDY LOAM
AHMEEK-ROCK OUTCROP-FLUVAQUENTS	D, B/D	SILT LOAM, GRAVELLY SANDY LOAM
BARTO, STONY-GREYSOLON-ROCK OUTCROP COMPLEX	D	GRAVELLY SANDY LOAM, BEDROCK

8.1 **EROSION PREVENTION PRACTICES:**
8.2 BEFORE WORK BEGINS, DELINEATE LOCATIONS NOT TO BE DISTURBED.
8.3 AVOID DISTURBING STEEP SLOPES. USE TECHNIQUES SUCH AS PHASING AND STABILIZATION PRACTICES DESIGN FOR STEEP SLOPES.
8.4 STABILIZE ALL EXPOSED SOIL AREAS, INCLUDING STOCKPILES. INITIATE STABILIZATION IMMEDIATELY WHEN ACTIVITY HAS CEASED.
- COMPLETE NO LATER THAN 14 DAYS.
- STABILIZATION NOT REQUIRED ON CONSTRUCTED BASE COMPONENTS OF ROADS OR SIMILAR SURFACES.
- STABILIZATION NOT REQUIRED ON TEMPORARY STOCKPILES WITHOUT SIGNIFICANT SILT, CLAY OR ORGANIC COMPONENTS BUT MUST PROVIDE SEDIMENT CONTROLS AT BASE OF THE STOCKPILE.

8.5 FOR DNR PUBLIC WATERS DURING SPECIFIED FISH SPAWNING TIME FRAMES, COMPLETE STABILIZATION OF ALL EXPOSED AREAS WITHIN 200 FEET OF WATERS EDGE, AND THAT DRAIN TO THESE WATERS, WITHIN 24 HOURS DURING RESTRICTION PERIOD. NOT APPLICABLE.
8.6 STABILIZE THE NORMAL WETTED PERIMETER OF THE LAST 200 FEET OF DRAINAGE DITCHES THAT DRAIN WATER FROM THE SITE WITHIN 24 HOURS AFTER CONNECTING TO SURFACE WATER OR PROPERTY EDGE.
8.7 DITCHES BEING USED AS A SEDIMENT CONTAINMENT SYSTEM DURING CONSTRUCTION DO NOT NEED TO BE STABILIZED.
8.8 DO NOT USE MULCH, HYDROMULCH, TACKIFIER, POLYACRYLAMIDE OR SIMILAR PRACTICE WITHIN ANY PORTION OF THE NORMAL WETTED PERIMETER OF A DITCH WITH A CONTINUOUS SLOPE OF GREATER THAN 2 PERCENT.
8.9 PROVIDE ENERGY DISSIPATION AT PIPE OUTLETS WITHIN 24 HOURS AFTER CONNECTION TO SURFACE WATER.
8.10 DO NOT DISTURB MORE LAND THAN CAN BE EFFECTIVELY INSPECTED AND MAINTAINED IN ACCORDANCE WITH SECTION 11 OF THE PERMIT.

9.1 **SEDIMENT CONTROL PRACTICES:**
9.2 PLACE SEDIMENT CONTROL BMPS ON ALL DOWNGRADIENT PERIMETERS OF THE SITE AND UPGRADIENT OF ANY BUFFER ZONES BEFORE ANY UPGRADIENT LAND DISTURBING ACTIVITIES BEGIN. KEEP BMPS IN PLACE UNTIL PERMANENT COVER IS ESTABLISHED.
9.3 IF SEDIMENT CONTROLS ARE OVERLOADED, PLACE ADDITIONAL REDUNDANT SEDIMENT CONTROL BMPS TO ELIMINATE OVERLOADING. AMEND SWPPP ACCORDINGLY.
9.4 DRAINAGE DITCHES AND SEDIMENT BASINS DESIGNED AS PART OF A SEDIMENT CONTAINMENT SYSTEM REQUIRE SEDIMENT CONTROL PRACTICES ONLY AS APPROPRIATE.
9.5 FLOATING SILT CURTAIN PLACED IN WATER IS NOT A SEDIMENT CONTROL BMP TO SATISFY SECTION 9.2 OF PERMIT EXCEPT WHEN WORKING ON SHORELINE OR BELOW WATERLINE. NOT APPLICABLE.
9.6 RE-INSTALL ALL SEDIMENT CONTROL BMPS ADJUSTED OR REMOVED TO ACCOMMODATE SHORT-TERM ACTIVITIES IMMEDIATELY AFTER ACTIVITY IS COMPLETE. MUST RE-INSTALL BEFORE NEXT RAIN EVENT.
9.7 PROTECT ALL STORM DRAIN INLETS USING APPROPRIATE BMPS DURING CONSTRUCTION UNTIL UPGRADIENT PERMANENT COVER IS ESTABLISHED.
9.8 INLET PROTECTION MAY BE REMOVED IF THERE IS A SAFETY CONCERN. DOCUMENT NEED FOR REMOVAL IN SWPPP.
9.9 PROVIDE SILT FENCE OR OTHER EFFECTIVE CONTROLS AT BASE OF STOCKPILES ON DOWNGRADIENT PERIMETER.
9.10 LOCATE STOCKPILES OUTSIDE OF NATURAL BUFFERS OR SURFACE WATERS INCLUDING CURB AND GUTTER UNLESS THERE IS A BYPASS IN PLACE FOR STORMWATER.
9.11 VEHICLE TRACKING BMPS REQUIRED TO MINIMIZE THE TRACK OUT OF SEDIMENT FROM CONSTRUCTION SITE OR ONTO PAVED ROADS.
9.12 STREET SWEEPING REQUIRED IF VEHICLE TRACKING BMPS ARE NOT ADEQUATE.
9.13 PLACE SEDIMENT BASINS AS REQUIRED PER SECTION 14 OF PERMIT.
9.14 IN AREAS OF SITE THAT WILL BE VEGETATED, RESTRICT VEHICLE TRAFFIC USE TO MINIMIZE SOIL COMPACTION.
9.15 PRESERVE TOPSOIL ON THE SITE, UNLESS INFEASIBLE.
9.16 DIRECT DISCHARGES FROM BMPS TO VEGETATED AREAS UNLESS INFEASIBLE.
9.17 PROVIDE 50 FOOT NATURAL BUFFER TO SURFACE WATERS. IF INFEASIBLE, PROVIDE REDUNDANT PERIMETER CONTROLS (MIN 5' APART).

10. **DEWATERING AND BASIN DRAINING:** IF DEWATERING IS REQUIRED FOR ANY WORK, THE CONTRACTOR SHALL PREPARE A DEWATERING PLAN FOR OWNER ACCEPTANCE PRIOR TO STARTING ANY WORK ACTIVITIES. DISCHARGED WATER SHALL BE TREATED PRIOR TO ENTERING A SURFACE WATER OR LEAVING THE SITE. CONTRACTOR SHALL ACQUIRE A WATER APPROPRIATIONS PERMIT FROM THE MNDNR FOR DEWATERING EXCEEDING 10,000 GALLONS PER DAY OR A TOTAL EXCEEDING 1 MILLION GALLONS PER YEAR.DEWATERING IS NOT EXPECTED FOR UNDERGROUND UTILITY PLACEMENT.

11. **INSPECTIONS:** INSPECT THE ENTIRE CONSTRUCTION SITE A MINIMUM OF ONCE EVERY SEVEN DAYS DURING ACTIVE CONSTRUCTION AND WITHIN 24 HOURS AFTER A RAINFALL EVENT GREATER THAN 0.5 INCHES IN 24 HOURS. INSPECT ALL TEMPORARY AND PERMANENT WATER QUALITY MANAGEMENT, EROSION PREVENTION AND SEDIMENT CONTROL BMPS, SURFACE WATERS AND CONSTRUCTION SITE EXITS UNTIL ALL CONSTRUCTION IS COMPLETE AND THE SITE HAS UNDERGONE FINAL STABILIZATION. RECORD ALL INSPECTIONS AND MAINTENANCE ACTIVITIES IN WRITING WITHIN 24 HOURS.

12. **POLLUTION PREVENTION MANAGEMENT MEASURES:**
- PROVIDE A SPILL KIT AT EACH WORK LOCATION ON THE SITE. ENSURE ALL SPILLS ARE CLEANED UP IMMEDIATELY.
- STORE ALL LIQUID CHEMICALS UNDER COVER WITH SECONDARY CONTAINMENT. CREATE AND FOLLOW A WRITTEN DISPOSAL PLAN FOR ALL WASTE MATERIALS. STORE, COLLECT AND DISPOSE OF ALL SOLID WASTE.
- FUEL AND MAINTAIN VEHICLES IN A DESIGNATED CONTAINED AREA WHENEVER FEASIBLE. USE DRIP PANS OR ABSORBENT MATERIALS TO PREVENT SPILLS OR LEAKED CHEMICALS FROM DISCHARGING TO SURFACE WATER OR STORMWATER CONVEYANCES.
- PROVIDE EFFECTIVE CONTAINMENT FOR ALL LIQUID AND SOLID WASTES GENERATED BY WASHOUT OF CONCRETE, STUCCO, PAINT, FORM RELEASE OILS, CURING COMPOUNDS AND OTHER CONSTRUCTION MATERIALS. LIQUID AND SOLID WASHOUT WASTES MUST NOT CONTACT THE GROUND. DESIGN THE CONTAINMENT SO THAT IT DOES NOT RESULT IN RUNOFF FROM THE WASHOUT OPERATIONS OR CONTAINMENT AREA.
- USE METHODS AND OPERATIONAL PROCEDURES THAT PREVENT DISCHARGE OR PLACEMENT OF BITUMINOUS GRINDINGS, CUTTINGS, MILLINGS, AND OTHER BITUMINOUS WASTES FROM AREAS OF EXISTING OR FUTURE VEGETATED SOILS AND FROM ALL WATER CONVEYANCE SYSTEMS, INCLUDING INLETS, DITCHES AND CURB FLOW LINES.
- USE METHODS AND OPERATIONAL PROCEDURES THAT PREVENT CONCRETE DUST, STREET SWEEPING DUST, SAWCUT SLURRY, PLANING WASTE, CONCRETE WASH OUT, AND OTHER CONCRETE WASTES FROM LEAVING MNDOT PROPERTY, DEPOSITING IN EXISTING OR FUTURE VEGETATED AREAS, AND FROM ENTERING STORMWATER CONVEYANCE SYSTEMS, INCLUDING INLETS, DITCHES AND CURB FLOW LINES.
- PORTABLE TOILETS MUST BE POSITIONED SO THAT THEY ARE SECURE AND WILL NOT BE TIPPED OR KNOCKED OVER. SANITARY WASTE MUST BE DISPOSED OF PROPERLY IN ACCORDANCE WITH MINN. R. CHAPTER 7041.

NO.	DATE	BY	DESCRIPTION OF REVISIONS
1	2/2/24	ERM	REVISED QUANTITY TABLES

DESIGNED ERM
DRAWN JRD
CHECKED ERM

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.
SIGNATURE: Emily R Major DATE: 1/25/2024
NAME: EMILY R. MAJOR LIC. NO.: 52201

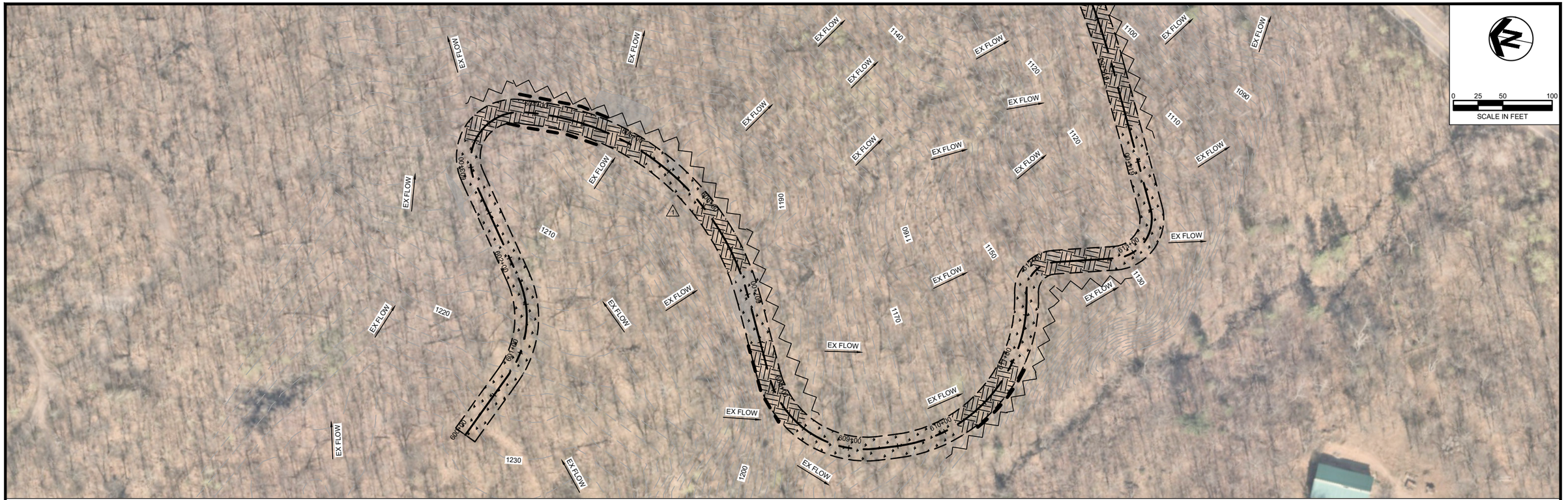
TKDA
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Duluth, MN 55802
218.724.8578
tkda.com

LOWER NORDIC SKI CENTER SKI TRAILS

STORMWATER POLLUTION PREVENTION PLAN

PROJ. NO. 20747.000 & 20749.000
DRAWING NO. SWP 1

PLOT DATE: Feb 01, 2024 - 10:20pm
FILENAME: K:\a-fl\Duluth_City\20749000\04_Production\01_CAD\02_Sheets\LNSC SWPPP.dwg



TRAIL AREA: SUBGRADE PREPARATION, SEED AND TOPSOIL

TRAIL AREA: GRUB, GRADE (COMMON EXCAVATION), SEED AND TOPSOIL

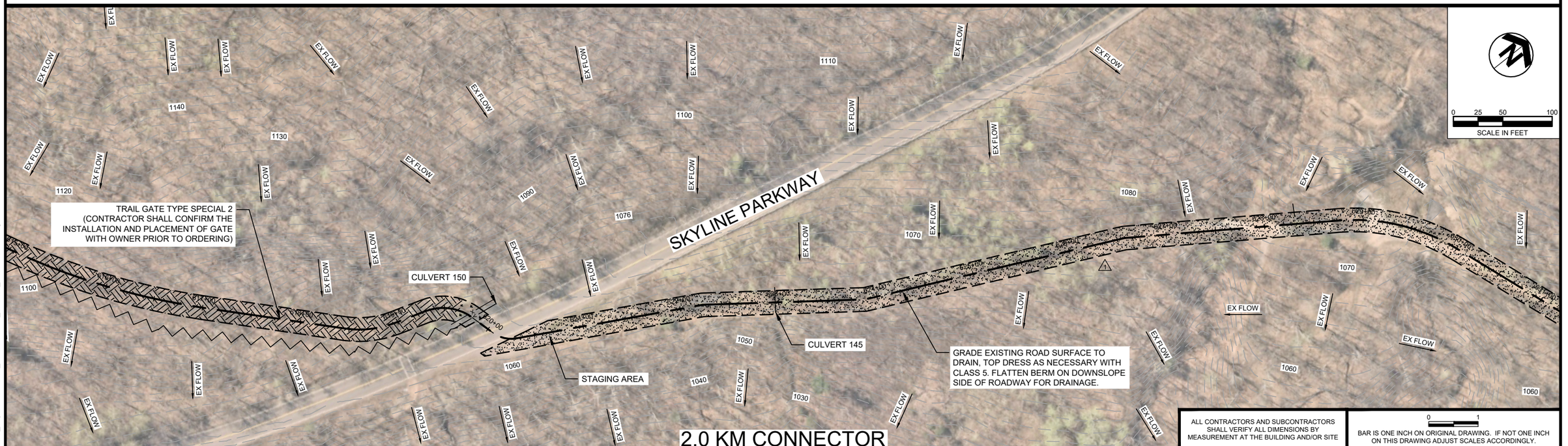
TOP DRESSING & GRADING: AGGREGATE SURFACING CL 5

WETLAND

2.0 KM CONNECTOR

EX FLOW — DRAINAGE FLOW DIRECTION

NATURAL STONE RETAINING WALL — TRAIL EDGE — CONSTRUCTION LIMITS — XS — SILT FENCE



2.0 KM CONNECTOR

ALL CONTRACTORS AND SUBCONTRACTORS SHALL VERIFY ALL DIMENSIONS BY MEASUREMENT AT THE BUILDING AND/OR SITE

0 1

BAR IS ONE INCH ON ORIGINAL DRAWING. IF NOT ONE INCH ON THIS DRAWING ADJUST SCALES ACCORDINGLY.

NO.	DATE	BY	DESCRIPTION OF REVISIONS
---	2/2/24	ERM	REVISED ALIGNMENT AND SEDIMENT CONTROL LOG PLACEMENT

DESIGNED ERM

DRAWN JRD

CHECKED ERM

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Duluth, MN 55802
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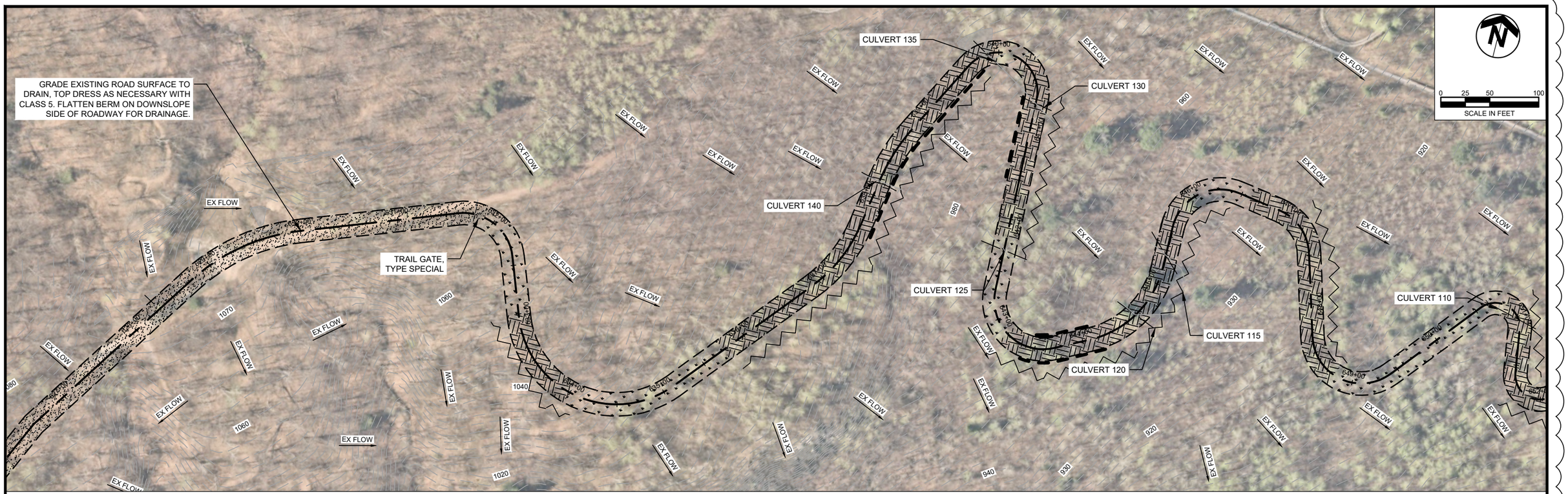
LOWER NORDIC SKI CENTER SKI TRAILS

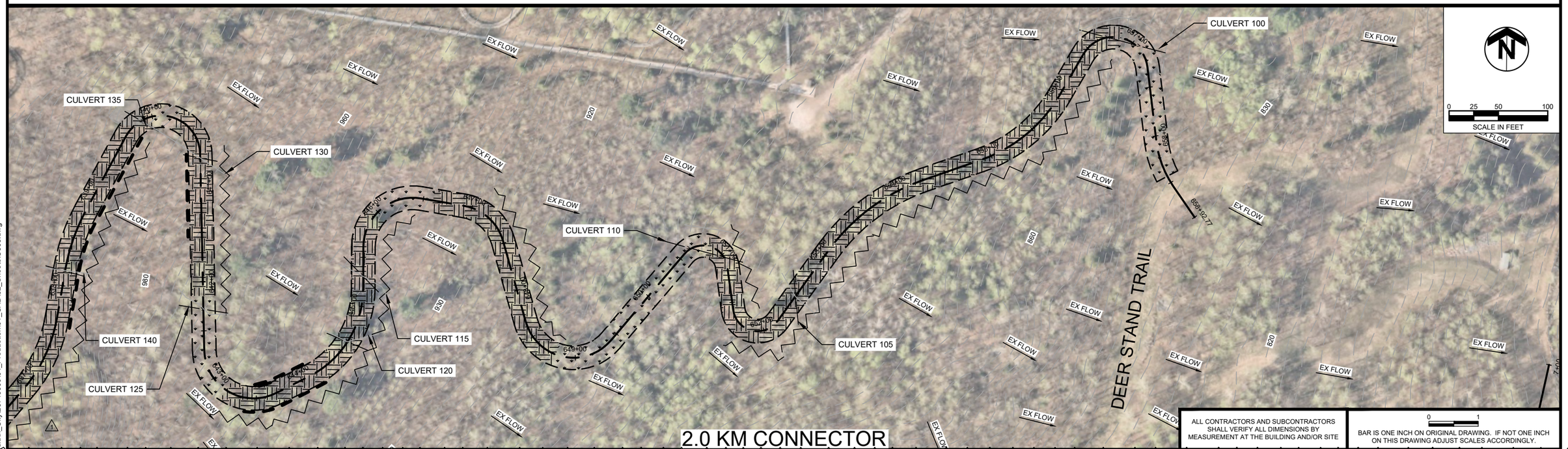
PLAN

PROJ. NO. 20749.000

DRAWING NO. C200

PLOT DATE: Feb 01, 2024 - 10:22pm
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ALL CONTRACTORS AND SUBCONTRACTORS SHALL VERIFY ALL DIMENSIONS BY MEASUREMENT AT THE BUILDING AND/OR SITE

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NO.	DATE	BY	DESCRIPTION OF REVISIONS
1	2/2/24	ERM	REVISED SEDIMENT CONTROL LOG AND CULVERT PLACEMENT

DESIGNED ERM
DRAWN JRD
CHECKED ERM

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SIGNATURE: Emily R. Major DATE: 1/25/2024

NAME: EMILY R. MAJOR LIC. NO.: 52201

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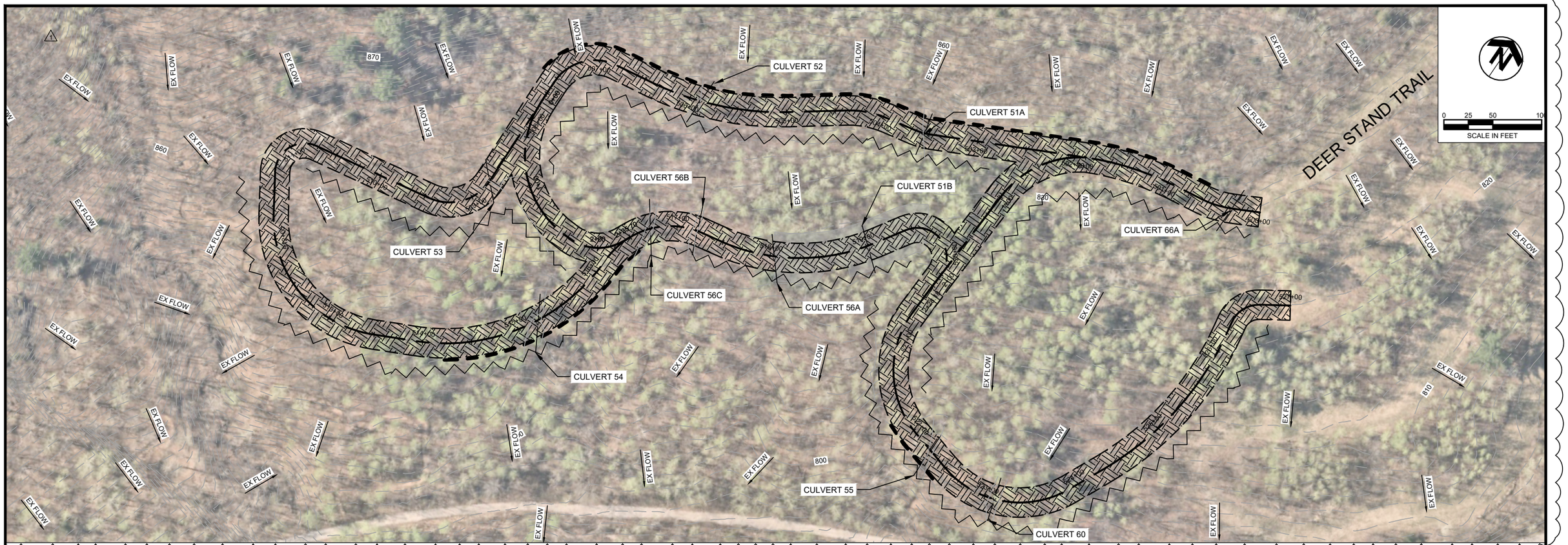
LOWER NORDIC SKI CENTER SKI TRAILS

PLAN

PROJ. NO. 20749.000

DRAWING NO. C201

PLOT DATE: Feb 01, 2024 - 10:23pm
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TRAIL AREA: SUBGRADE PREPARATION, SEED AND TOPSOIL

TRAIL AREA: GRUB, GRADE (COMMON EXCAVATION), SEED AND TOPSOIL

TOP DRESSING & GRADING: AGGREGATE SURFACING CL 5

WETLAND

0.8 KM LOOP

EX FLOW

DRAINAGE FLOW DIRECTION

NATURAL STONE RETAINING WALL

TRAIL EDGE

CONSTRUCTION LIMITS

XS

SILT FENCE

PLOT DATE: Feb 01, 2024 - 10:26pm
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NO.	DATE	BY	DESCRIPTION OF REVISIONS
1	2/2/24	ERM	ADJUSTED CULVERT LOCATIONS

DESIGNED ERM
DRAWN JRD
CHECKED ERM

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SIGNATURE: Emily R. Major DATE: 1/25/2024

NAME: EMILY R. MAJOR LIC. NO.: 52201

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Duluth, MN 55802
218.724.8578
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LOWER NORDIC SKI CENTER SKI TRAILS

PLAN

PROJ. NO. 20749.000

DRAWING NO. C202

ALL CONTRACTORS AND SUBCONTRACTORS SHALL VERIFY ALL DIMENSIONS BY MEASUREMENT AT THE BUILDING AND/OR SITE

0 1

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