CITY of DULUTH
PROJECT SPECIFICATIONS

City of Duluth Traverse Trail Phase III – Enger and Central Park

City of Duluth, MN
411 West 1st St.
Duluth, MN 55802

City Project #: 15-13

Bid #: 15-0449

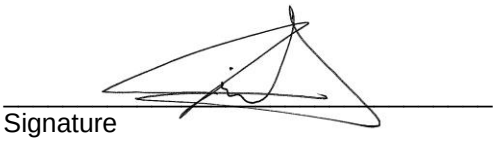
Opening Date: June 30, 2015

Time: 2:00 PM

Place: Room 100, City Hall

SPECIFICATIONS SIGNATURE PAGE

I HEREBY CERTIFY THAT THIS PLAN, specification or report was prepared by me or under my direct supervision and that I am a duly Registered Landscape Architect under the laws of the State of Minnesota.



Signature

James M. Shoberg
Typed or Printed Name

6/5/15
Date

45577
License No.

SPECIAL PROVISIONS
Job Number: 15-13
City of Duluth Traverse Trail Phase III – Enger and Central Park
June 5, 2015

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The following forms and regulations/rules/statutes and interpretations, which are incorporated by reference in this contract, are available on the World Wide Web at the sites listed below. The City of Duluth will use its best efforts to ensure that the most recent, applicable forms and regulations/rules/statutes and interpretations are included on the web sites provided; however, if you are the successful bidder, prior to signing the contract, you are responsible for comparing the versions of the forms and regulations/rules/statutes and interpretations attached to the contract which you are signing with the versions on the web to ensure conformity.

THE VERSIONS OF THE FORMS AND REGULATIONS/RULES/STATUTES and INTERPRETATION ATTACHED TO THE CONTRACT WILL BE CONTROLLING. HARD COPIES OF ALL FORMS ARE AVAILABLE AT THE ENGINEERING DIVISION, EXCEPT THE NON-COLLUSION AND AFFIRMATIVE ACTION POLICY STATEMENT, WHICH ARE AVAILABLE AT THE CITY OF DULUTH PURCHASING DEPARTMENT.

Item listing from web:

FORM	WEB SITE
Affidavit of Non-Collusion (required by awarded contractor only)	http://www.duluthmn.gov/engineering/standard-construction-specifications/construction-documents/
Affirmative Action Policy Statement/Certificate – EEO (required by awarded contractor only)	http://www.duluthmn.gov/engineering/standard-construction-specifications/construction-documents/
Certified Payroll Report form WH347 (front side only)	www.dol.gov/whd/forms/WH347.pdf
Contractor's Haul Route	http://www.duluthmn.gov/engineering/standard-construction-specifications/construction-documents/
Debarment/Suspension Notice (most current version)	www.dot.state.mn.us/pre-letting/prov/order/suspension.pdf
HUD 4010	http://portal.hud.gov/hudportal/documents/huddoc?id=4010.pdf
IC-134 form	www.taxes.state.mn.us/Forms_and_Instructions/ic134.pdf
IC-134 on-line submittal	https://www.mndor.state.mn.us/tp/contractoraffidavit/_/
MN Rules 5200.1105 & .1106	https://www.revisor.mn.gov/rules/?id=5200
MN Statutes 177.41 to 177.44	www.revisor.mn.gov/statutes/?id=177
Notice to Bidders - Prompt Payment to Subs	http://www.duluthmn.gov/engineering/standard-construction-specifications/construction-documents/
NPDES Permit Declaration Form	http://www.dot.state.mn.us/stateaid/projectdelivery/pdp/dcp/dcp-checklist.pdf
One-Call Instructions	http://www.duluthmn.gov/engineering/standard-construction-specifications/construction-documents/
Request to Sublet TP-21834 (5-12-09)	www.dot.state.mn.us/const/labor/forms.html
Request to Sublet Summary	www.dot.state.mn.us/const/labor/forms.html
Responsible Contractor Certification (MS 16C.285)	http://www.duluthmn.gov/engineering/standardconstruction-specifications/construction-documents/
Statement of Compliance Form (8-2013)	www.dot.state.mn.us/const/labor/forms.html
Statement of Compliance Form – 2nd page of WH347	http://www.dol.gov/whd/forms/WH347.pdf
Supplemental General Conditions Part II 4/15/11	http://www.duluthmn.gov/engineering/standard-construction-specifications/construction-documents/

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City of Duluth Traverse Trail Phase III – Enger and Central Park
June 5, 2015

NOTICE TO ALL BIDDERS:

The City of Duluth Public Works & Utilities Department – Engineering Division 2015 Edition Standard Construction Specifications book with any amendments, addendums or supplements is incorporated by reference and is deemed to be a part hereof as if fully incorporated and set forth herein. The Standard Construction Specification is available on the City website at www.duluthmn.gov/engineering/index.cfm.

SP-1 SCOPE OF WORK

To satisfy funding requirements for the project, the work outlined in this document shall be completed by November 1st 2015.

Overall, the project's scope of work includes up to ±13,217 (±2.5 miles) gross linear feet of new bike optimized, multi-use trail construction, purpose built for mountain bikes.

The Storm Water Pollution Prevention Plan (SWPPP) outlines general construction information for stormwater best management practices (BMPs) as they apply to the trail project construction activities.

This project is funded by a grant from the Federal Recreational Trails Program administered by the Minnesota Department of Natural Resources as well as funding from City of Duluth and the local mountain bike club Cyclist of Gitchi Gumi Shores (COGGS).

SP-2.0 CONSTRUCTION SEASON

In Duluth snow cover typically persists from mid-April to mid-May. All construction that is awarded as part of this contract must be completed by November 1st 2015.

SP-2.1 REBID

The City of Duluth reserves the right to reject any or all bids according to budget constraints and re-bid accordingly.

SP-2.2 PRE BID MEETING

A pre bid meeting will not be held. If the contractor wants to see the site they are to contact the Parks Project Coordinator Jim Shoberg jshoberg@duluthmn.gov 218.730.4316 for a site visit and tour.

SP-2.3 PROJECT BID

BASE BID – Goat Hill Trail

SP-2.4 SUBMITTAL CHECKLIST

Be sure to include both Bid Worksheets A and B, the 5% bid bond along with any City of Duluth required documentation as part of your submittal to City of Duluth Purchasing Department. It is the responsibility of the contractor to ensure they provide all required documentation and information necessary for a qualified bid.

SP-2.5 TRAIL MATRIX

Please refer to the "Trail Specifications Matrix" for detailed trail design information.

SP-2.6 BID AWARD

Low bid will not be the only consideration for award.

SP-2.7 GOVERNING SPECIFICATION

Construction Specifications shall be the governing specification.

SP-2.8 UNIT BIDS

Contractor must provide price for all units and trail types on bid sheet even if there is a zero quantity noted in the Bid Worksheet. Final quantities may be modified in the field, but unit prices are fixed. Failure to provide a unit bid price for any item will invalidate the bid for that project.

SP-2.9 MOBILIZATION

Contractor is only allowed one mobilization unit item.

SP-2.10 BOARDWALKS / TTFs

There are no permits necessary for the contractor to obtain for the construction of the Boardwalks/TTFs. All necessary permits will be in place by the start of construction. Boardwalks/TTFs are to be built and field fit following the designs in the plans and specifications. Contractor is to provide shop drawings or shop sketch of proposed boardwalk construction for

approval by the Landscape Architect for a given segment of TTF boardwalk to verify compliance to construction documents. Upon completion of construction of Boardwalks/TTFs final approval of structures will be done by the Landscape Architect. Pre-engineered TTF structures must be pre-approved by the Landscape Architect as an approved equal prior to submission of the bid.

SP-2.11 ROCKY CONSTRUCTION AREAS

This trail segment traverse through a diversity of soil and terrain types including soils with very little rock or cobble to segment of slick rock and rock scree piles. The overall objective of this trail is to construct the trail as "Green" beginner friendly trail. However it is understood that construction trail tread though slick rock and rock outcropping areas may be very difficult to meet a Green Traditional Trail Specification. In those areas that have slick rock or outcropped bedrock a Blue Traditional Singletrack specification is acceptable, per the attached "Trail Specifications Matrix". However where ever possible in those areas a "Green" Trail specification is desired.

SP-2.12 FLAGGING & FINAL DESIGN

See section 5.2 of the specifications for details on flagging and final design.

SP-2.13 TREAD HARDENING / TURF BLOCK PAVERS

Tread hardening using native stone will be implemented where native stone is available. Turf block pavers or approved equal product will be used when there is not any native stone available. Any alternative pre-manufactured armoring products that the contract would like to use must be pre-approved by the Landscape Architect prior to them being accepted as an approved alternative product. If native stone cannot be found within the 50 trail corridor the Owner will approve in writing either; going outside the 50 foot corridor to gather rocks that are visible and easily collected without significant disturbance, or approve use of turf block pavers or an approved equal product in place of the rock armoring.

SP-2.14 EQUIPMENT WIDTH

The contractor shall perform the required work using hand tools and/or small mechanized equipment that is a maximum of fifty inches (50") in width. Equipment with adjustable width tracks should be able to reduce track width to less than fifty inches (50").

SP-2.15 WET AREAS

Wet areas, drainages and swales are to be avoided in the field by the contractor and left undisturbed.

SP-2.16 WARRANTY PERIOD

The warranty period is one year from the date of acceptance by the Owner.

SP-2.17 TRAIL ACCESS POINTS

Directions to the flag lines and project locations can be found in Section 2 of the Specifications. Refer to the plan set for information on existing ATV trails and road locations that can provide access to the trail construction areas. Any damage caused by the contractors vehicles and/or equipment must be fully restored at the expense of the contractor. Vegetation that is disturbed on these existing trails must be reestablished to prevent erosion.

SP-3 (1806) DETERMINATION AND EXTENSION OF CONTRACT TIME

The Contract Time will be determined in accordance with the provisions of Mn/DOT 1806 and the following:

SP-3.1 Construction operations shall be started within 10 days following receipt of the "Notice to Proceed". The "Notice to Proceed" will not be issued until agency agreement between the City and the DNR are finalized.

SP-3.2 All work required under this Contract shall be completed by November 1, 2015.

SP-3.3 The provisions of Mn/DOT 1806.1C(3) are modified to the extent that the phrase "during the inclusive period from November 15 to April 15," is deleted. A similar phrase set forth in the second paragraph of Mn/DOT 1807.2 is also deleted.

SP-3.4 No work which will restrict or interfere with traffic shall be performed between 12:00 noon on the day preceding and 6:30 a.m. on the day following any consecutive combination of a Saturday, Sunday, and legal holiday without written permission from the Engineer. If the Contractor chooses not to work at all on the day preceding the holiday period, no working day charges will be assessed. If the Contractor chooses to work prior to 12:00 noon on the day preceding the holiday period or if the Contractor obtains written permission to work after 12:00 noon on the day preceding the holiday period, working day charges will be assessed only for the actual hours worked.

SP-3.5 When all, or a portion, of the Contract Time is specified as a calendar completion date, as provided in Mn/DOT 1103, the time is presumed to have been determined by considering the Proposal quantities, normal weather for the locality and season of the year, and the necessity of having the work completed by the specified date. The time may be extended by the Engineer only in accordance with the following:

When the Contract Time is specified as a fixed calendar completion date, any time extensions granted must be justified on the basis of unavoidable delay in starting or completing the progress controlling operations, and then, only when and to the extent that it is shown that delay time could not be overcome and the work brought back on schedule through reasonable adjustments in the Progress Schedule. Provided the Contractor has made all reasonable efforts to maintain an adequate and acceptable Progress Schedule, the specified completion date may be extended as the Engineer determines to be justified, for any of the following reasons:

1) Delays caused by failure of the City Council to award the Contract at least 10 calendar days in advance of the latest date specified for beginning construction operations.
2) Delays caused by an earthquake, flood, cloudburst, cyclone, tornado, or other cataclysmic phenomenon of a nature beyond the power of the Contractor to foresee and make preparations in defense against.
3) Delays caused by acts of the Government or a political subdivision, or by acts of the public enemy, including fires, epidemics, and strikes not caused by improper acts or omissions of the Contractor.
4) Delays caused by an action or non-action of the Department, such as suspension of work by order of the Engineer through no fault on the Contractor.
5) Delays caused in incompletion of work being done by other Contractors or utility owners, or due to other unforeseeable interferences not the fault of the Contractor.
6) Delays direction attributable to the performances of Extra Work or increased quantities or work.
7) Extraordinary delays in delivery or materials, resulting from strikes, lockouts, freight embargoes, governmental acts, or sudden disaster, or a nature beyond the power of the Contractor or his/her supplier to foresee and forestall.

   Delays caused by plant and equipment failure, and delays due to unsuitable weather or conditions resulting therefrom, will not be allowed as justification for time extension except when and only to the extent the Engineer considers justified in view of unavoidable circumstances or events. Normal weather delays and the usual plant and equipment failures must be allowed for establishing work schedules. An extension of time may be granted for such delays as are considered to be in excess of the normal, but only when it is shown that the lost time would not reasonably be made up through acceleration of the remaining work. Failure to prosecute the work continuously and effectively for the full time allowed, with adequate work force and schedule, will be cause for denial of any such time extension that may otherwise be allowed.

SP-4 **(1903) INCREASED OR DECREASED QUANTITIES**

The provisions of Mn/DOT 1903 regarding overruns and underruns shall not apply to the following items of work under the Contract:

TRAIL CONSTRUCTION TYPES A,B AND C
SWITCHBERMS TYPES A, B AND C
BERMS
PERMANENT SEED AND MULCH
TEMPORARY SEED AND MULCH
ROCK ARMORING
ROCK CRIB WALL / RETAINING WALL
ROCK BENCH CONSTRUCTION
TURF BLOCK PAVERS
TURN PIKE TRAIL CONSTRUCTION
ROCK CHECKS
EROSION CONTROL BLANKET CATEGORY 3 & 4
COIR ROLLS (BIO ROLLS)
TTF BOARDWALK
TTF BRIDGES

Stormwater Pollution Prevention Plan

"Duluth Traverse" Mountain Bike Trail System

Prepared for
City of Duluth

February 2013

BARR

332 West Superior St.

Duluth, MN 55802

Phone: (218) 529-8200

"Duluth Traverse"
Construction Stormwater Pollution Prevention Plan

February 2013

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List of Appendices

Duluth Traverse: Project Construction SWPPP

This SWPPP is based on the Minnesota Pollution Control Agency's SWPPP Template. The General Stormwater Permit for Construction Activity is included as Appendix C to this SWPPP.

A NPDES Construction Stormwater Permit has been applied for the entire Duluth Traverse Mountain Bike Trail System. However, this SWPPP document titled "Duluth Traverse Phase 1 Construction SWPPP" has been designed for the Phase 1 portion of the project. The SWPPP will be amended as needed and for future phases. This SWPPP has been design to be in compliance with the Minnesota Stormwater General Permit for Construction Activity (MNR100001). The main SWPPP outlines general construction information and best management practices (BMPs) as they apply to the overall Duluth Traverse Project construction activities.

Construction Activity Information

Project name: Duluth Traverse Phase 1 Construction:

Project location: (Briefly describe where construction activity occurs. Include address if available.)

Address or describe area: Construction will start in Lester Park in Duluth, MN and also in the Mission Creek watershed located near Fond Du Lac, MN.

City or Township: Duluth State: MN Zip code: 55802

Latitude/longitude of approximate centroid of project: 46^0 45' 39.80" 92^0 09' 4.32"

Method of collection of latitude/longitude:

☐ GPS ☒ Online tool ☐ USGS Topographic map Scale used:

All cities where construction will occur: Duluth

All counties where construction will occur: Carlton, St. Louis

All townships where construction will occur: Midway

Project size (number of acres to be disturbed): 35.53 acres

Project type:

☐ Residential ☐ Commercial/Industrial ☐ Road construction

☐ Residential and road construction ☒ Other (describe): Construction of natural surface trail

Cumulative impervious surface:

Existing area of impervious surface: 0 (to the nearest quarter acre)

Post construction area of impervious surface: 10.25 (to the nearest quarter acre)

Receiving waters

Water body ID*	Name of water body	Type (ditch, pond, wetland, lake, stream, river)	Special water? (See Stormwater Permit Appendix A)	Impaired Water?** (See Stormwater Permit Appendix A)
	Mission Creek and tributaries	stream	☒ Yes ☐ No	☐ Yes ☒ No
	Sargent Creek and tributaries	stream	☒ Yes ☐ No	☐ Yes ☒ No
	Lester River and tributary	stream	☒ Yes ☐ No	☐ Yes ☒ No
	Associated wetlands	Wetlands	☐ Yes ☒ No	☐ Yes ☐ No

* Water Body identification (ID) might not be available for all water bodies. Use the Special and Impaired Waters Search Tool at: www.pca.state.mn.us/water/stormwater/stormwater-c.html.

** Impaired water for the following pollutant(s) or stressor(s): phosphorus, turbidity, dissolved oxygen, or biotic impairment.

Dates of construction (Briefly describe where construction activity occurs. Include address if available.)

Construction start date: June 2013 **Estimated completion date:** November 2013

Contact Information

Owner of the site

Business or firm name: City of Duluth

Corporate Authority (Owner): Cindy Voigt **Title**: City Engineer

Mailing address: City Engineer, 411 West 1st Street 2nd Floor

City: Duluth **State**: MN Zip code: 55802

E-mail address: cvoigt@duluthmn.gov **Telephone** (218) 730-5200

Contact name: Matt Decur **Title**: Engineer

Mailing address: City Engineer, 411 West 1st Street 2nd Floor

City: Duluth **State**: MN Zip code: 55802

E-mail address: mdecur@duluthmn.gov **Telephone** (218) 730-5104

Contractor (Person who will oversee implementation of the SWPPP)

Business or firm name:

Party responsible for long-term operation and maintenance of the permanent Stormwater Management System

Business or firm name: N/A

Corporate Authority (Owner): **Title**:

Mailing address:

City: **State**: **Zip code:**

E-mail address: **Telephone**:

Contact name: **Title**:

Mailing address:

City: **State**: **Zip code:**

E-mail address: **Telephone**:

General Construction Project Information

Describe the construction activity (what will be built, general timeline, etc.):

The City of Duluth proposes to construct the Duluth Traverse, a mountain bike trail system over the next five to seven years depending on financing and upon approval of all necessary permits and authorizations. Phase 1 construction is scheduled to take place in the Lester Park (3.64 miles) and Mission Creek (13-21.5 miles) areas of Duluth, Minnesota in 2013 depending on funding.

The project will construct:

- A bike treadway approximately 18-36” wide within a trail corridor approximately 60” wide
- Boardwalks to cross wetlands
- Timber bridges to cross ravines, swales and streams where existing crossings are not available
- Grade reversals and turns to slow stormwater flow

Describe soil types found at the project:

The proposed trail will cross soils that are primarily composed of Duluth glacial till soils that vary from silty to sandy loams with clay and shallow bedrock. Occasional rock outcrops can be viewed along various proposed trail routes. Trail excavation will be avoided, and will be crossed with boardwalks in unavoidable encounters with in peat and mucky soils.

General Site Information (III.A)

1. **Describe the location and type of all temporary and permanent erosion prevention and sediment control Best Management Practices (BMPs). Include the timing for installation**

and procedures used to establish additional temporary BMPs as necessary. (General Permit Part III.A.4.a)

BMPs that will be implemented project-wide where applicable include:

Pre-Construction Protocol

- Soil disturbance will be minimized wherever possible, primarily through a multi-phased construction approach. This will minimize the amount of disturbed areas that are not stabilized at any one time. (General Permit Part IV.B.2)
- All BMPs within 200 feet of site surface water shall be stabilized within 24 hours. Temporary (or permanent) sediment basins are not needed in this project because of the minimal footprint and sheet flow construction design. (Part IV.B.3).
- Contractor will be required to limit soil disturbance area in advance of actively working it, and must have the ability to stabilize and restore prior to forecasted rain events and weekends if not working on weekends.

Pre-Construction Steps

- Before land disturbing work activities begin, the limits of the area to be disturbed will be delineated with flagging, stakes, signs, or other equivalent means. Area(s) not to be disturbed will be clearly labeled (from Part IV.B.1).
- Prior to soil disturbance temporary BMPs will be used downgradient and/or in areas that are anticipated to have concentrated flow. These BMPs may include:
    - Sediment control for sheet flow
    - Vegetated buffer strips (retain existing vegetation where possible)
    - Native material barriers (e.g., topsoil stockpile/berm)

During Construction Protocol

Erosion Prevention

- Existing vegetation will be preserved where possible to limit exposed soil.
- Boardwalks and bridges will be used to cross wetlands and streams respectively minimizing soil disturbance and impact to water resources.
- Trail treadways will be constructed and shape to shed water to provide sheet flow to vegetated areas for filtration and infiltration.
- Berms will be constructed to facilitate turns on the trail treadways to slow erosion potential.
- Diversion berms with downgradient slopes within 200 feet of surface water stabilized within 24 hours.
- Stabilization of exposed soil on the back side of the berms will include seed, mulch, or blankets or similar measures.
- Grade reversals are to be installed concurrent with wattles (biologs, staked in place) to help with erosion.
- Rock hardening (armoring) in concentrated flow areas of the trail tread (not installed in wetland areas)

Sediment Control

- Vehicle tracking of sediment from the site onto nearby streets is not expected, but will be minimized by the use of smaller equipment
- If sediment tracking occurs, then regular street sweeping will be utilized and

installation of rock entrance/exit pad(s) will be considered.

- Stabilization of soils during construction within 7 days of soil being worked.
- The trail tread will constructed to shed water.
- Grade Reversals are to be installed concurrent with wattles (biologs, staked in place) to help with erosion.
- Ditches are not planned as part of this project, however in the event that they are encountered and disturbed, the normal wetted perimeter of drainage ditches or swales must be stabilized within 24 hours after connecting to surface water (at least the 200 lineal feet closest to the surface water).
- Uninterrupted earthen slopes for grades 3:1 or steeper will be kept to no more than 75 feet in length through the utilization of bio rolls, rock checks, tread drains/grade dips or through other acceptable practices (Part IV.C.1.c.).

Good housekeeping

- Good housekeeping procedures will be implemented to ensure minimization for potential spills and other hazards through:
- Appropriate material handling procedures, labeling of materials, and storage of materials inside when possible or within adequate storage containers
- Any generated solid waste will be properly disposed.

Stormwater Inspections

- Stormwater inspections will be conducted by a trained inspectors within the following time intervals:
    - Once every 7 days during active construction AND
    - Within 24 hours after a rainfall event greater than 0.5 inches in 24 hours, and again within 7 days after such rainfall events. (Part IV.E.1)
    - A stormwater inspection form is available in Appendix E to this SWPPP
- During stormwater inspections the site will be monitored for areas where erosion or sedimentation is occurring and, if necessary, the appropriate actions will be taken and/or additional BMPs will be installed. These actions may include:
    - BMPs will be maintained and repaired.
    - BMPs will be replaced and or cleaned when sediment accumulates up to 1/2 of the device's height no later than 72 hours after discovery (Part IV.E.4.b.).
    - All non-functioning BMPs will be repaired or replaced no later than 24 hours of discovery (Part IV. E.4.a.).
    - Sediment and deltas will be removed that are deposited in surface waters within 7 days of discovery (Part Iv.E.4.d.).
    - Sediment will be removed if tracked onto paved roads within 24 hours of discovery (Part IV. E.4.d.).
    - Sediment that has escaped off site will be removed in a manner and at a frequency sufficient to minimize offsite impacts (Part IV.E.4.f.).

Post-Construction Protocol

- Temporary and Final stabilization must occur after construction on a portion of the site has temporarily or permanently ceased as a means to prevent erosion.
    - All disturbed soils (except for the trail treadway) will be stabilized with seed and/or mulch or if necessary by other means. This will be accomplished as soon as possible to limit soil erosion, but in no case later than 7 days after

the construction activity has temporarily or permanently ceased.
    - All exposed soil will be stabilized with permanent cover (uniform perennial vegetative cover to a density of 70% or constructed to shed water in a manner that minimizes soil erosion.
    - Mulch will be used as part of establishment of permanent vegetative cover.
    - All sediment will be removed from ditches and BMPs.
    - All temporary non-biodegradable BMPs will be removed and appropriately disposed/recycled.
- Stabilization will in no case shall the stabilization occur later than:
    - Within 24 hours for BMPs located within 200 feet of surface water (Part IV.B.3.).
    - Or within 7 days for other construction areas (Part IV.B.3.).
    - After final stabilization is achieved (uniform perennial vegetative cover to a density of 70% or greater over the entire pervious surface) of all originally proposed construction activity has been completed and permanent cover established on those areas a Notice of Termination must be completed and returned to the MPCA (Part IV.G.6.).
- Notice of Termination form is available as Appendix G to this document.

2. Attach to this SWPPP a table with the anticipated quantities for the life of the project for all erosion prevention and sediment control BMPs (III. A. 4.b).

A table with the anticipated quantities of BMPs is included in sub-project SWPPPs available in Appendix A.

3. Site maps that include the following features (General Permit III.A.3.b – f) are located in Appendix B:

- Due to the length of trail and the steep terrain, existing and final grades were not determined within the project limits. However, locations of boardwalks and bridges are shown for reference in the maps.
- Locations of soil types.
- Location of areas of construction

Figures 1-10 shows the Duluth Traverse (including Phase 1) in relation to all surface waters and existing wetlands within one mile from the project boundaries that will receive stormwater runoff from the site (identifiable on maps such as USGS 7.5 minute quadrangle maps or equivalent).

4. Were stormwater mitigation measures required as the result of an environmental, archaeological, or other required local, state, or federal review of the project?

☐ Yes ☒ No

If yes, describe how these measures were addressed in the SWPPP. (III.A.6.)

Not applicable

5. **Is the project located in a karst area such that additional measures would be necessary to protect drinking water supply management areas as described in Minn. R. chapters 7050 and 7060?** ☐ Yes ☒ No

If yes, describe the additional measures to be used. (III.A.7.)

Not applicable

6. **Does the site discharge to a calcareous fen listed in Minn. R. 7050.0180, subp. 6. b.?** ☐ Yes ☒ No

If yes, a letter of approval from the Minnesota Department of Natural Resources must be obtained prior to application for this permit. (Part I B.6 and Part III.A.8)

7. **Does the site discharge to water that is listed as impaired for the following pollutant(s) or stressor(s): phosphorus, turbidity, dissolved oxygen or biotic impairment?** Use the Special and Impaired Waters Search Tool at: www.pca.state.mn.us/water/stormwater/stormwater-c.html. ☒ Yes ☐ No

Unnamed tributaries to Mission Creek, Mission Creek, Unnamed tributaries to Sargent Creek, Sargent Creek, Unnamed tributary to Lester River, Lester River and associated wetlands.

Does the impaired water have an approved Total Maximum Daily Loads (TMDL) with an Approved Waste Load Allocation for construction activity? ☐ Yes ☒ No

If yes:

List the receiving water, the areas of the site discharging to it, and the pollutant(s) identified in the TMDL.
List the BMPs and any other specific construction stormwater related implementation activities identified in the TMDL.

If the site has a discharge point within one mile of the impaired water and the water flows to the impaired water but no specific BMPs for construction are identified in the TMDL, the additional BMPs in Appendix A (C.1 and C.2) must be added to the SWPPP and implemented. (III.A.7). The additional BMPs only apply to those portions of the project that drain to one of the identified discharge point.

Training (III.A)

- In accordance with R10001 Part III.A.2, individuals involved with preparing, reviewing, revising, and amending this SWPPP have been properly trained in erosion prevention, sediment control, and stormwater management. At least one Contractor representative must be trained.
- Appendix D contains certificates of personnel involved with this SWPPP, and includes:
    - the names of the personnel trained that prepared this SWPPP;
    - the dates of the training;
    - name of instructor(s) and entity providing training;
    - and content of training course or workshop (including number of hours of training).

Selection of a Permanent Stormwater Management System (III.C)

1. Will the project create a new cumulative impervious surface greater than or equal to one acre? ☒ Yes ☐ No

The issue of impervious surface and permit requirements for the Duluth Traverse was reviewed with the MPCA. There will be 58.3 miles of new trial associated with the Duluth Traverse Mountain Bike Trail. Assuming the driving width will be approximately 18" wide, there will be 10.6 acres of new bike trail driving lane constructed. The soils in the driving lane will get compacted with use, creating a surface that retards infiltration and will result in an increase in rate and volume of stormwater runoff. The trail cross section is designed to shed water. For these reasons, the driving lane portion of the trail cross section is considered impervious. The alignment of the trail has been carefully selected to avoid wet areas and will be constructed with considerable emphasis on sustainability. The compacted trail surface will resist erosion and not be a significant source of sediment. Because of the careful design considerations, minimal sediment load and the lack of opportunity to provide permanent stormwater treatment associated with the trail, the MPCA has decided that it will not, generally, require permanent stormwater treatment for the trail portions of the project.

2. Describe which method will be used to treat runoff from the new impervious surfaces created by the project (III.C):

- Infiltration/Filtration

Include all calculations and design information for the method selected. See Part III.C of the permit for specific requirements associated with each method.

Due to the limited impact and the limited space available for basins and ponds, the project has been designed for infiltration and filtration using natural vegetation buffers, and BMPs to produce sheet flow rather than areas that promote concentrated flows.

3. If it is not feasible to meet the treatment requirement for the water quality volume, describe why. This can include proximity to bedrock or road projects where the lack of right of way precludes the installation of any permanent stormwater management practices. Describe what other treatment, such as grasses swales, smaller ponds, or grit chambers, will be implemented to treat runoff prior to discharge to surface waters. (III.C)

See item 1 discussion.

4. If proposing an alternative method to treat runoff from the new impervious surfaces, describe how this alternative will achieve approximately 80 percent removal of total suspended solids on an annual average basis (III.C.5).

Note: If proposing an alternative method, you must submit your SWPPP to MPCA at least 90 days prior to the starting date of the construction activity.

Not applicable

Erosion Prevention Practices (IV.B)

1. **Describe construction phasing, vegetative buffer strips, horizontal slope grading, and other construction practices to minimize erosion. Delineate areas not to be disturbed (e.g., with flags, stakes, signs, silt fence, etc.) before work begins.**

    - The Duluth Traverse Phase 1 construction activities will be phased, beginning in May 2013 (pending all authorizations). Use of a multi-phased approach will limit the area of soil exposed at one time and allow for greater attention to implementing erosion prevention practices within each defined sub-project area.
    - Duluth Traverse Phase 1 construction activities will be staged to the maximum extent practicable: a) to minimize the amount of disturbed area exposed at any one time; b) to stabilize disturbed areas as soon as possible; c) provide additional BMPs to protect portions of the work that have reached final stabilization.
    - Prior to the start of land disturbing activities, site preparation BMPs shall be implemented along the downgradient perimeter of the sub-project.
    - Erosion prevention practices will commence prior to the start of construction. Areas not to be disturbed will be delineated with flagging, stakes, and/or fencing. To prevent erosion and to control sediment from entering these areas, bio rolls, berms of topsoil or another adequate BMP will be put in place downgradient.
    - During construction native vegetative buffers will be retained wherever possible.
    - However, during the course of construction in some areas it may not be possible to retain native vegetation. Where vegetation interferes with construction activities it may be graded. The non-trail tread area will be stabilized with seed and/or mulch to minimize erosion. The trail tread will be designed to shed water to vegetated areas.
        - All non-trail tread exposed areas will be stabilized as soon as possible to limit soil erosion, but in no case later than 7 days after construction activity in that portion of the site has temporarily or permanently ceased.

2. **Describe temporary erosion protection or permanent cover used for exposed soil. All exposed soil areas must be stabilized as soon as possible but in no case later than 14 days after the construction activity in that portion of the site has temporarily or permanently ceased (part IV.B.2).**

    - Temporary erosion protection may include, but is not limited to: straw, mulch, erosion blanket, geotextiles, rock, and similar methods.
    - Permanent erosion protection may include, but is not limited to: packed trail surface, rock hardening or armoring, permanent vegetation, and other landscaped material that will permanently arrest soil erosion.

3. **For drainage or diversion ditches, describe practices to stabilize the normal wetted perimeter within 200 lineal feet of the property edge or point of discharge to surface water. The remaining portions of the temporary or permanent ditch or swale must be stabilized within 14 days after connecting to surface waters and construction in that portion of the ditch has temporarily or permanently ceased.**

    - In general, excavation in drainage or diversion ditches will be avoided but if construction in ditches is required, it will be stabilized with rip rap, anchored mats, geotextiles, and/or other permanent stabilization methods designed to withstand concentrated flow.

- Application of mulch, hydromulch, tackifier, polyacrylamide, or similar erosion prevention practices are not acceptable temporary or permanent stabilization methods in drainage ditches or areas where concentrated flow occurs.

4. Describe other erosion prevention practices (list and describe).

- See Appendix A for project quantity estimates.

Sediment Control Practices (IV.C)

Describe sediment control practices used to minimize sediments from entering surface waters, including curb and gutter systems and storm drain inlets. Sediment control practices must include:

The sediment control practices utilized to minimize sediment from entering surface waters, curb and gutter systems, and storm drain inlets are described here. The following list comprises the minimum sediment control practices that will be implemented throughout Project Duluth Traverse. Site-specific, detailed sediment control practices are available in Appendix A.

- Unbroken earthen slopes for grades of 3:1 or steeper will be kept to no more than 75 feet in length (Part IV.C1.c.).
- Sediment control practices at all down gradient perimeters will be established before land disturbing activities begin (Part IV.C.1.b). These practices may include:
    - Grade reversals
    - Turns
    - Filter logs (biorolls)
    - Rock checks
- Storm drain inlets will be adequately protected if located nearby and potentially affected by the proposed project (Part IV.C.4).
- Vehicle tracking of sediment from the site and onto paved roads (through the use of mulch, course rock or equivalent systems) will be minimized (Part IV.C.6.).
    - If tracking occurs, street sweeping will be utilized within 24 hours of discovery and installation of a rock entrance/exit pad will be considered.
- Temporary stockpiles will be protected with bio rolls or equivalent and appropriate sediment controls (Part IV.C.5.).
- Sediment control practices will be utilized. These practices may include:
    - Vegetative buffer/filter strips or native vegetation
    - Slash barriers
    - Other native material barriers
    - Bio rolls
    - Grade reversals
    - Turns
    - Check dams
    - Rock dams

Dewatering and Basin Draining (IV.D)

1. Will the project include dewatering or basin draining? ☐ Yes ☒ No

Dewatering is not expected.

2. **If yes, describe BMPs used so the discharge does not adversely affect the receiving water or downstream landowners.** n/a

Additional BMPs for Special Waters and Discharges to Wetlands (Appendix A, Parts C and D)

1. Special Waters. Does your project discharge to special waters? ☒ Yes ☐ No

2. **If proximity to bedrock or road projects where the lack of right of way precludes the installation of any of the permanent stormwater management practices, then other treatment such as grassed swales, smaller ponds, or grit chambers is required prior to discharge to surface waters. Describe what other treatment will be provided.**

   The proposed trail will be constructed to shed water to existing vegetated buffer/filter strips. Tread drains and grade dips will be constructed to direct water to the buffer strips filtered with bio rolls.

3. **Describe erosion and sediment controls for exposed soil areas with a continuous positive slope to a special waters, and temporary sediment basins for areas that drain five or more acres disturbed at one time.**

   The project proposes no ditches and is not expected to drain 5 or more acres at one time. The project was reviewed in consultation with the MPCA, and as designed, the Agency has not required the construction of temporary sediment basins.

4. **Describe the undisturbed buffer zone to be used (not less than 100 linear feet from the special water).**

   The project will use undisturbed buffer zones within 100 feet of the special waters wherever possible. However, portions of the trail are constructed within this buffer. Within this zone, removal of woody vegetation will be avoided as much as possible. Boardwalks and bridges will be used to maintain the natural buffer and avoid soil disturbance in these areas to the extent practicable.

5. **Describe how the permanent stormwater management system will ensure that the pre and post project runoff rate and volume from the 1, and 2-year 24-hour precipitation events remains the same.**

   Wherever possible, the project has been designed to slow the flow of stormwater to sheet flow, to naturally vegetated buffer strips for filtering and infiltration.

6. **Describe how the permanent stormwater management system will minimize any increase in the temperature of trout stream receiving waters resulting in the 1, and 2-year 24-hour precipitation events.**

   The project will be designed to minimize the removal of natural vegetation adjacent to trout streams and cross perpendicular to streams to maximize natural shading. Existing bridges will be used wherever possible to minimize new crossings of these resource waters.

7. **Wetlands. Does your project discharge stormwater with the potential for significant adverse impacts to a wetland (e.g., conversion of a natural wetland to a stormwater pond)?** ☐ Yes ☒ No

If Yes, describe the wetland mitigation sequence.

Inspections and Maintenance (IV.E)

Describe procedures to routinely inspect the construction site:

- Inspections must include stabilized areas, erosion prevention and sediment control BMPs, and infiltration areas.

- Stormwater Inspections will be conducted by City Engineering staff, a COGGS member and/or the contractor trained in inspection and installation in accordance with General Permit No. MNR100001. Inspections will be conducted:
    - once every 7 days during active construction, and
    - within 24 hours after a rainfall event greater than 0.5 inches in 24 hours, and within 7 days after such rainfall.
    - Inspections will include monitoring for areas where erosion or sedimentation is occurring. Installation of additional BMPs will be considered to correct erosion and sedimentation.
- BMPs will be maintained and repaired as follows:
    - All non-functioning BMPs will be repaired or replaced within 24 hours of discovery.
    - Sediment deposited in surface waters will be removed within 7 days of discovery.
    - Sediment tracked onto paved roads will be removed within 24 hours of discovery.

Pollution Prevention Management Measures (IV.F)

1. **Describe practices to properly manage and dispose of solid waste, including trash (IV.F.1):**
Care will be taken to prevent wastes from contacting stormwater. Collected sediment, floating debris, paper, plastic, fabric, construction debris, and other wastes will be properly disposed of in appropriate covered waste containers in order to minimize stormwater contact with waste products. All solid wastes will be collected by the contractor and removed from the site.

2. **Described practices to properly manage hazardous materials (IV.F.2):**
Care will be taken to prevent hazardous materials from contacting stormwater. Appropriate materials handling procedures will be implemented on-site. Oil, gasoline, and any other hazardous substances will be properly stored to prevent spills or leaks. The containers will be properly labeled and secured (via padlock when off-site) in appropriate secondary containment whenever possible.

3. **Describe practices for external washing of trucks and other construction vehicles (IV.F.3):**
If vehicle tracking is found to be contributing to the stormwater sediment load, then a vehicle washing station will be set up before the vehicle site exit to facilitate the removal of excess dirt prior to exiting the site. If necessary during muddy conditions, physical cleaning or pressure washing of the undercarriage may be employed. Runoff from the wash area will be contained to settle sediment prior to it leaving the immediate wash area.

4. **Describe how are you going to provide a safe, lake proof, concrete washout on site (IV.F.4):**
Concrete is not planned to be used on this project.

5. **Describe your spill prevention plan:**
Care will be taken to prevent spills, including implementation of good housekeeping measures and minimization of the amount of chemicals, waste-generating products, and hazardous materials brought on site.

6. **Describe measures to address sanitary and septic waste:**

Portable sanitary facilities may be brought on site. Sanitary waste from the portable facilities will be disposed of, as necessary by a licensed sanitary waste provider in accordance with applicable regulations. Facilities will be secured to prevent spilling waste/chemicals from portable toilets caused by vandalism.

Final Stabilization (IV.G)

Describe how you will achieve final stabilization of the site (IV.G).

All exposed non-trail tread soil will be stabilized with permanent cover (uniform perennial vegetative cover with a density of 70% over the entire pervious surface). The native trail tread designed to shed water will be stabilized through compaction during construction and use.

Records Retention (III.D)

Describe your record retention procedures (must be kept at the site) (III.D). Records must include:

- Copy of SWPPP and any changes
- Training documentation (III.A.2.)
- Inspection and maintenance records
- Permanent operation and maintenance agreements
- Calculations for the design of temporary and permanent stormwater management systems

This SWPPP is a template for the entire Duluth Traverse Mountain Bike Trail System. Specifications are primarily designed for Phase 1 construction of trails in the Lester Park and Mission Creek areas. Future phases of the Traverse are dependent on funding and permitting approvals. This SWPPP will need to be amended as needed by the contractor and City of Duluth for this project and future phases of construction.

The following records will be retained on-site along with this SWPPP:

- Training documentation (Appendix D).
- SWPPP Amendments (Appendix F), which will include updates as they apply to Phase 1 and any future phase work.
- Inspection and maintenance records (Appendix E).

If engineered temporary or permanent stormwater controls are installed then long-term operation and maintenance agreements as well as design calculations will be added to this plan as appropriate.

Figures

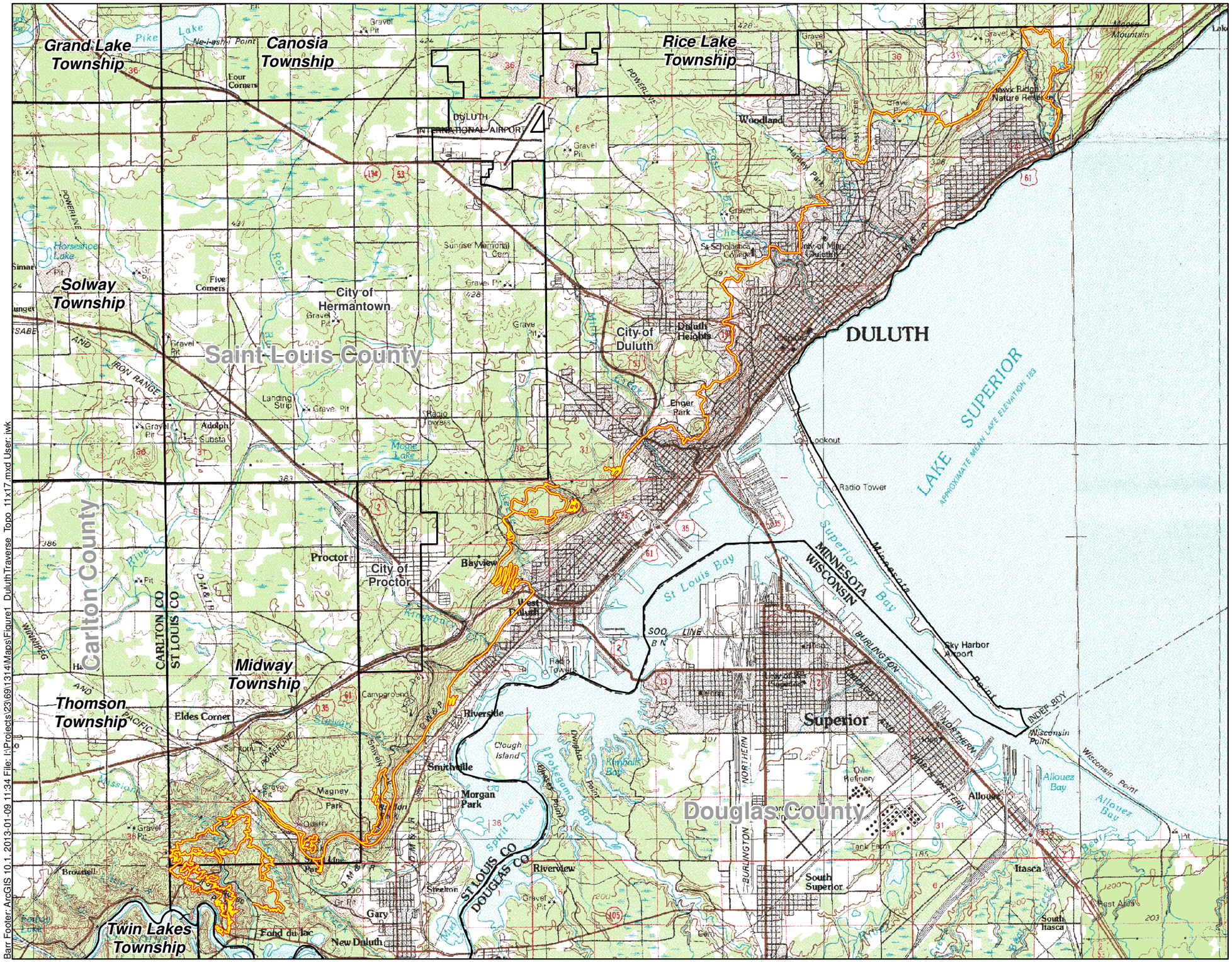
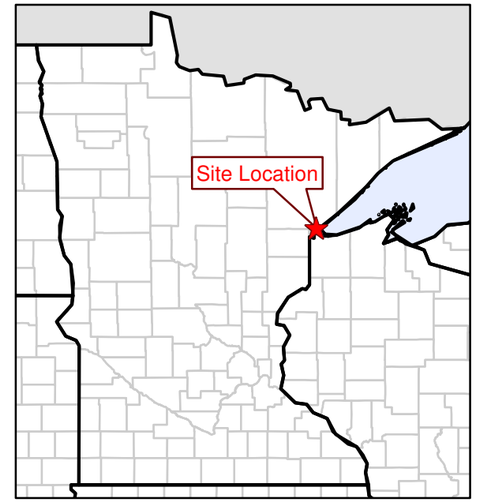


Figure 1

TRAIL LOCATION
Duluth Traverse
Duluth, Minnesota

BARR

Barr Footer: ArcGIS 10.1 2013-01-09 11:34 File: I:\Projects\23\69\1314\Maps\Figure1 DuluthTraverse Topo 11x17.mxd User: jwk



Proposed Lester River Trail - Phase 1

Proposed Mission Creek Trail - Phase 1

Other Duluth Traverse Trails

Minor Civil Divisions

0 1.5 3

Miles

1 Inch = 1.5 Miles

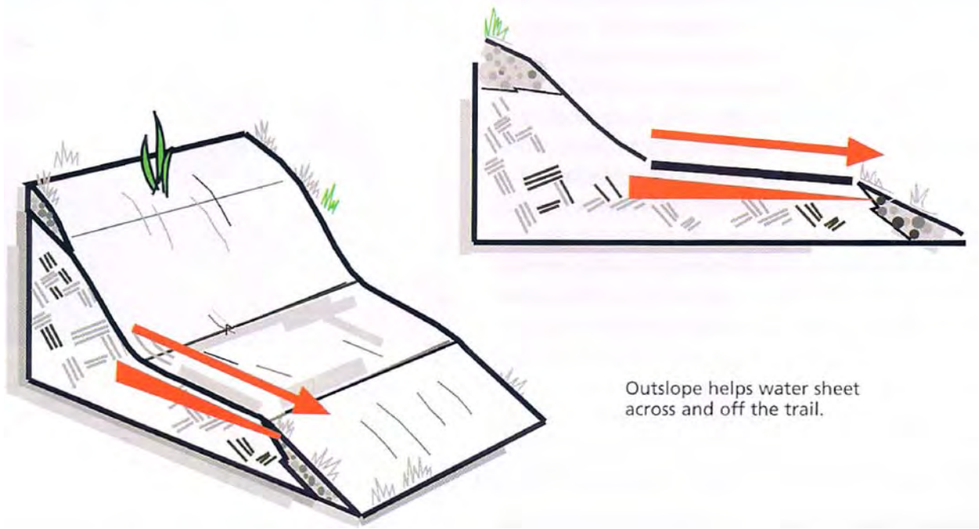
Figure 2

PHASE 1 TRAIL LOCATIONS
Duluth Traverse
Duluth, Minnesota

BARR

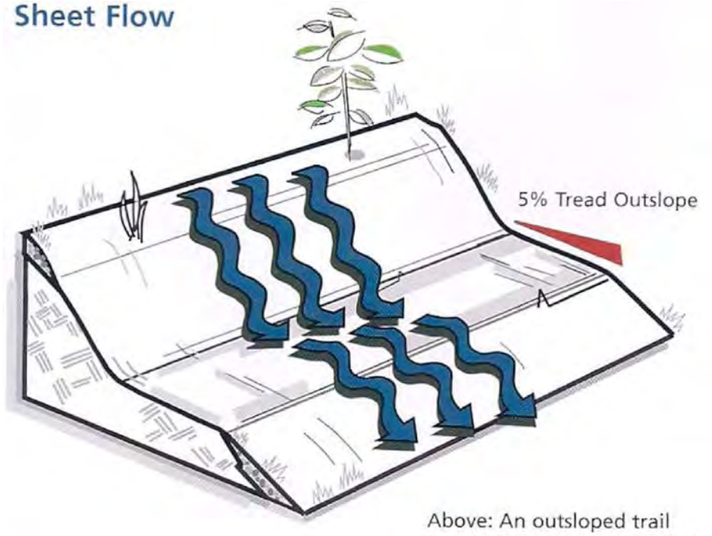
Barr Footer: ArcGIS 10.1, 2013-01-09 11:53 File: I:\Projects\23\69\1314\Maps\Figure2_DuluthTraverse_Phase1_Trails_11x17.mxd User: iwk

Outslope



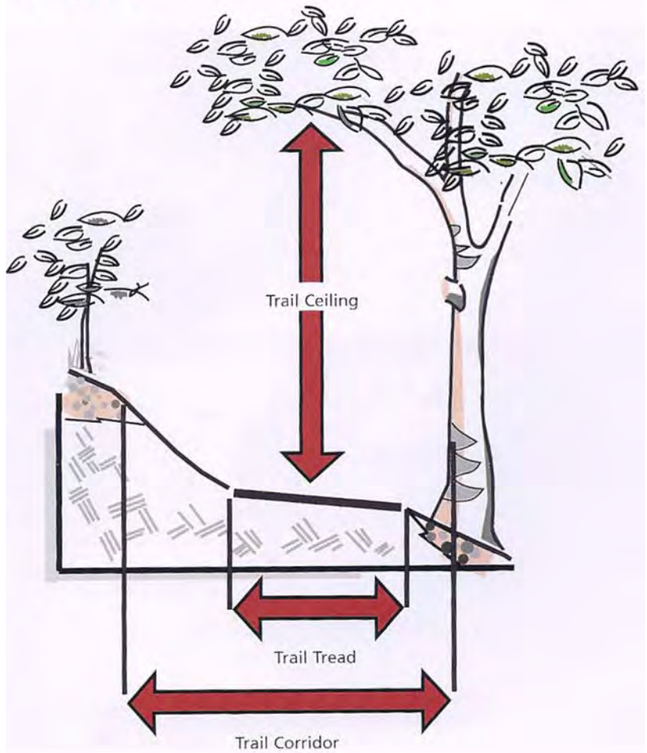
Outslope helps water sheet across and off the trail.

Sheet Flow

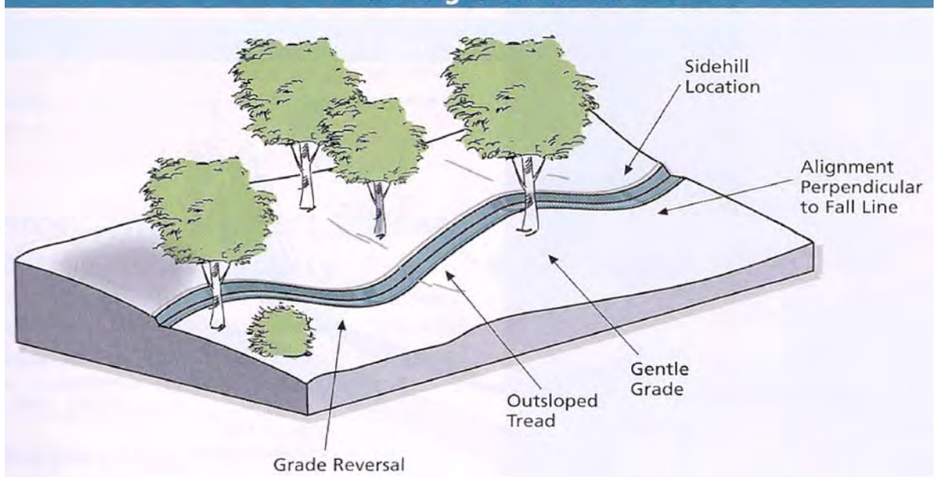


Above: An outsloped trail tread allows water to drain in a gentle, non-erosive manner called "sheet flow."

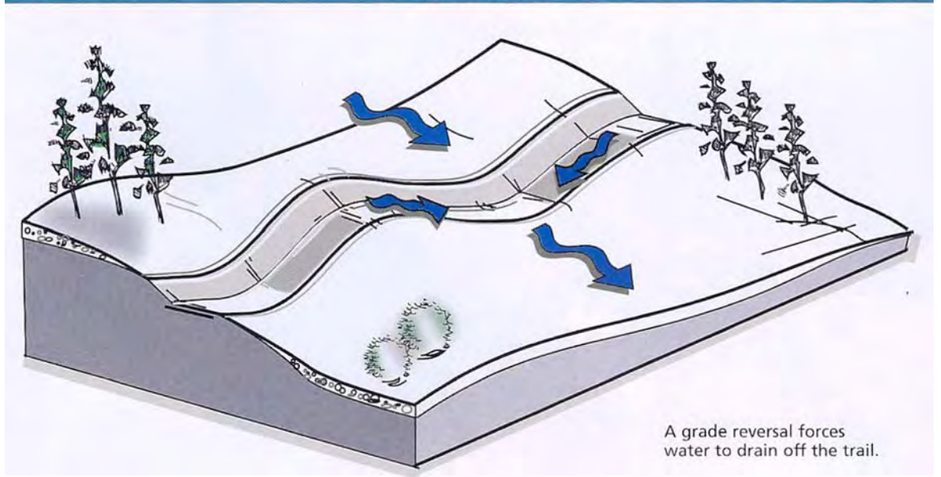
Trail Corridor



Rolling Contour Trail



Grade Reversal



A grade reversal forces water to drain off the trail.

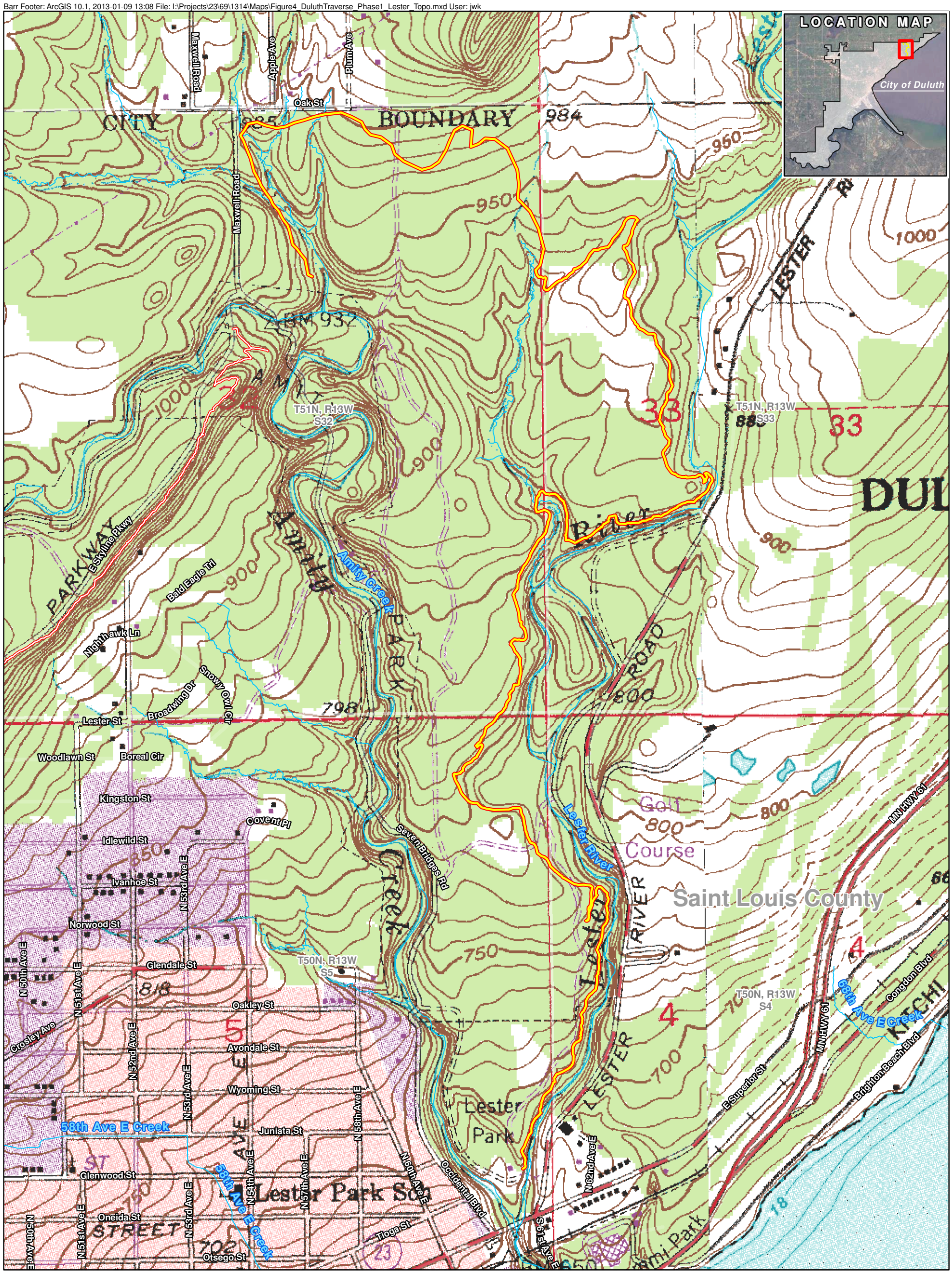
All images provided courtesy of
International Mountain Bike Association (IMBA)

Figure 3

TRAIL CONFIGURATIONS
Duluth Traverse
Duluth, Minnesota

BARR

Barr Footer: ArcGIS 10.1, 2013-01-09 14:25 File: I:\Projects\23\69\1314\Maps\Figure3_DuluthTraverse_TrailDrawings_11x17.mxd User: iwk

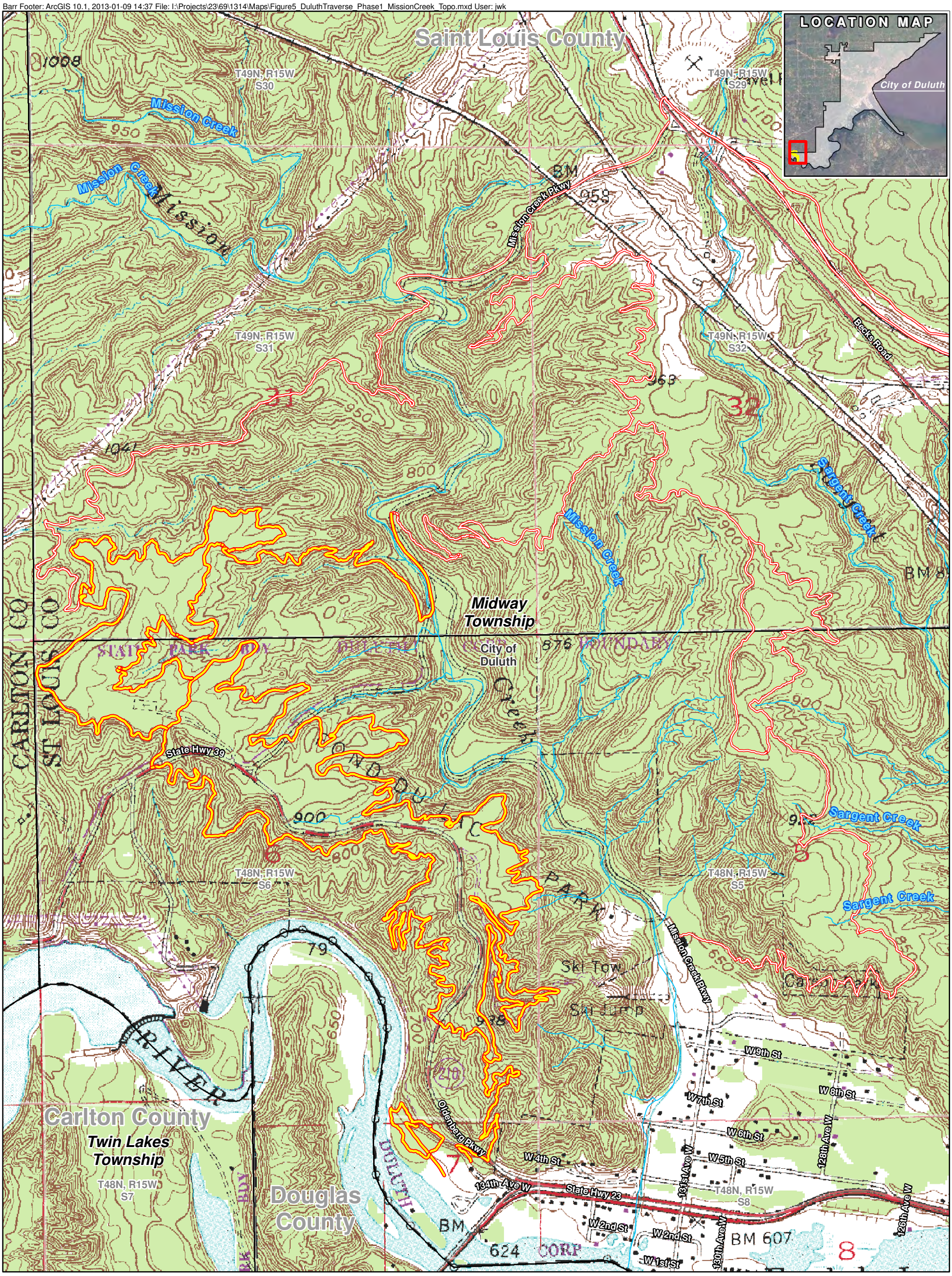


BARR

Figure 4

LESTER RIVER PROPOSED TRAIL
PHASE 1
Duluth Traverse
Duluth, Minnesota

Barr Footer: ArcGIS 10.1, 2013-01-09 14:37 File: I:\Projects\23\69\1314\Maps\Figure5_DuluthTraverse_Phase1_MissionCreek_Topo.mxd User: jwk



Mission Creek Proposed Trails

Duluth Traverse Proposed Trails

Duluth Streams

BARR

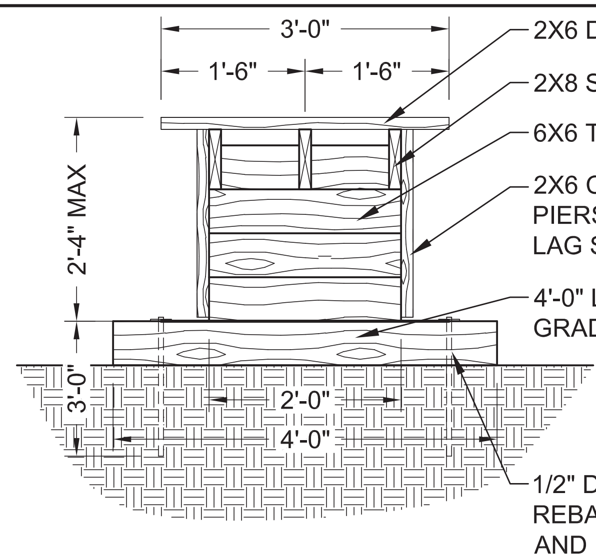
Figure 5

MISSION CREEK PROPOSED TRAIL
PHASE 1
Duluth Traverse
Duluth, Minnesota

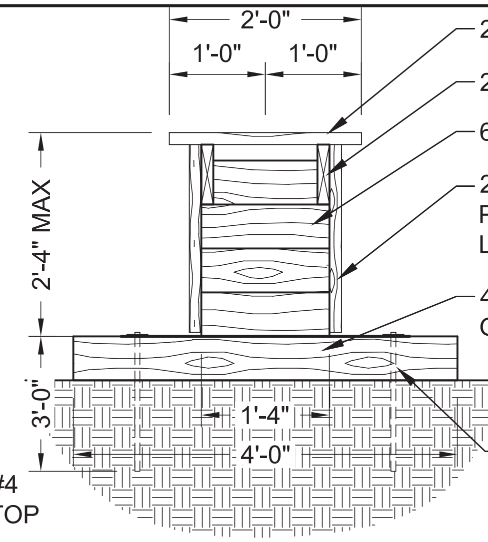
0 1,000 2,000

Feet

All data overlaid USGS 7.5' Topographic Map



36" WIDE BOARDWALK
NOT TO SCALE
1/8



24" WIDE BOARDWALK
NOT TO SCALE
2/8

MATERIAL NOTES:

A. LUMBER SHALL BE ROUGH SAWN RED PINE #2 OR BETIER, SIZED TO THE FULL DIMENSIONS SHOWN ON THE PLANS UNLESS NOTED OTHERWISE. ALL LUMBER SHALL BE TREATED ACCORDING TO THE OPTIONS INDICATED BELOW. TREATMENTS OTHER THAN THOSE LISTED MUST BE APPROVED BY THE ENGINEER PRIOR TO BIDDING.

A.1. PRESERVATIVE TREATMENT:

A.1.1. LUMBER SHALL BE TREATED IN ACCORDANCE WITH AWPA STANDARD C2/C9 .

A.1.1.1. PRESERVATIVES FOR MEMBERS NOT IN GROUND CONTACT SHALL BE ACQ (0.4 LBS/CF RET.)

A.1.1.2. PRESERVATIVES FOR 6x6's OR OTHER MEMBERS IN GROUND CONTACT SHALL BE ACQ (0.60 LBS/CF RET.)

A.1.2. FIELD TREATMENT: ALL FIELD CUTS AND DRILLED HOLES SHALL BE SATURATED WITH 2 COATS OF COPPER NAPTHENATE (2% SOLUTION). ALLOW TREATMENT TO ABSORB INTO WOOD PRIOR TO APPLYING SECOND COAT AS PER TREATMENT MANUFACTURERS RECOMMENDATIONS.

A.1.2.1. WHENEVER POSSIBLE APPLY THIS TREATMENT AWAY FROM WATER. USE EXTRA CARE IN THIS TREATMENT PROCESS NEAR OR OVER WATER. REFER TO MANUFACTURER'S RECOMMENDATIONS.

A.2. HARDWARE

A.2.1. HOT·DIP GALVANIZED (TRIPLE DIPPED): ALL HARDWARE SHALL MEET ASTM A307. HOT DIP GALVANIZE ALL HARDWARE IN ACCORDANCE WITH ASTM A153.

A.2.2. ATTACH DECKING TO STRINGERS WITH 4" X #10 SCREWS. TWO PER DECK BOARD TO EACH STRINGER CONNECTION.

A.2.3. ATTACH STRINGERS TO PIERS WITH 3/8 " DIA. LAG SCREWS WITH FLAT WASHER ON HEAD END. TWO LAG SCREWS PER STRINGER TO PIER CONNECTION.

A.2.3. ATTACH 6X6's TOGETHER WITH 10" LONG RING·SHANK SPIKES. STAGGER SPIKES - MINIMUM OF 4 SPIKES FOR EACH 6X6 TO 6X6 CONNECTION.

A.2.4. ATTACH HEADERS TO STRINGERS WITH 4" LONG X #10 SCREWS. THREE PER HEADER TO STRINGER CONNECTION.

A.2.5. ATTACH HEADER AND STRINGER TO 6X6 BLOCKING WITH 4" LONG X #10 SCREWS. TWO PER HEADER TO LEVELING GRADE BEAM OR STRINGER TO LEVELING GRADE BEAM CONNECTION.

A.3. LEVELING GRADE BEAMS SHALL BE SHIMMED LEVEL WITH 2 X 6 ROUGH SAWN RED PINE #2 OR BETTER SIZED TO THE FULL DIMENSIONS SHOWN ON PLAN.

A.3.1. PRESERVE LUMBER IN ACCORDANCE TO ABOVE AWPA PRESERVATION TREATMENT.

ARCHITECTURAL RESOURCES • INC.

• ARCHITECTURE
• ENGINEERING
• LANDSCAPE ARCHITECTURE
• INTERIOR DESIGN

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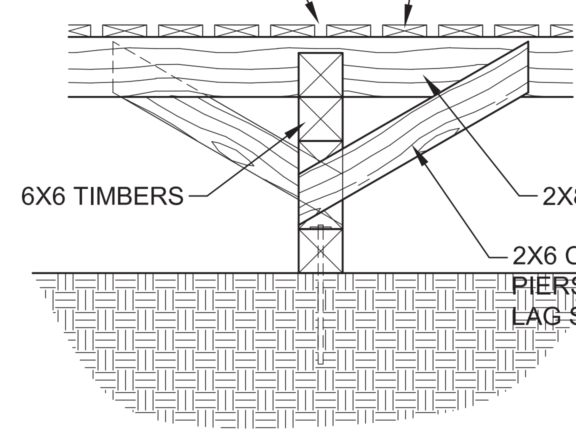
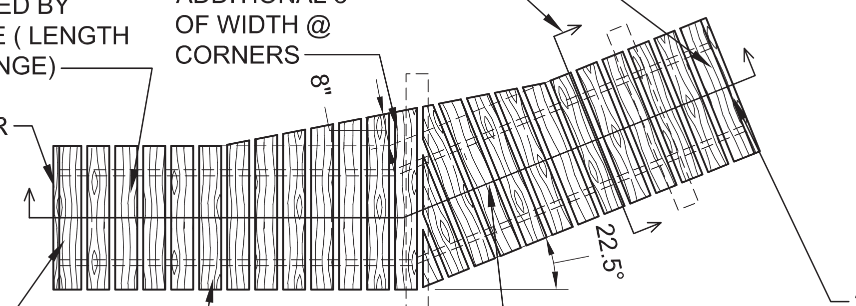
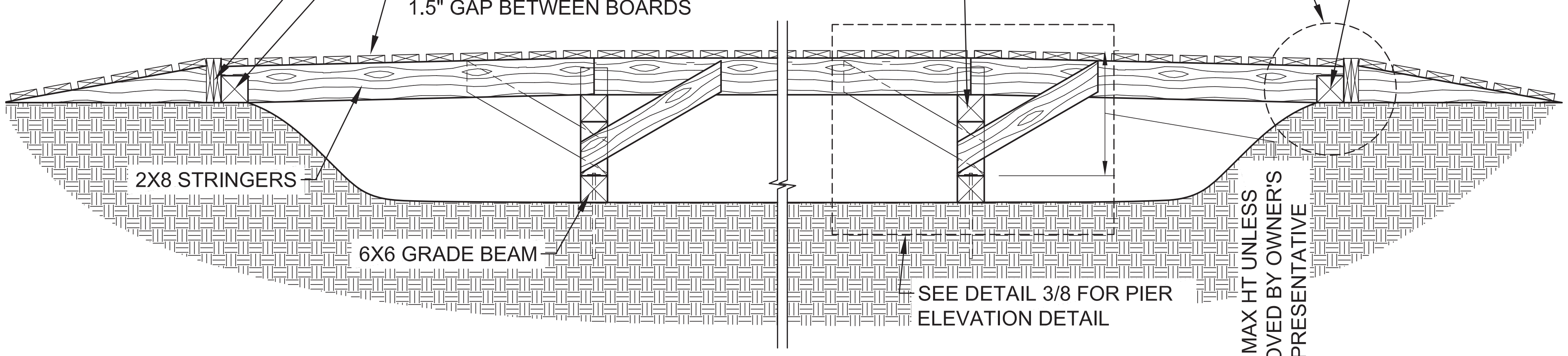


TYPICAL ELEVATION @ PIER LOCATION
NOT TO SCALE
3/8

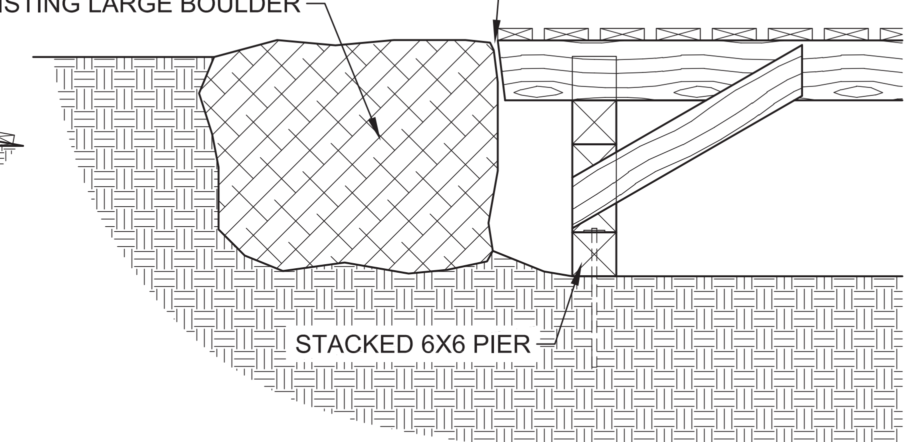


TYPICAL PLAN DETAIL OF BRIDGE (36" WIDE SHOWN)
NOT TO SCALE
4/8

NO EXCAVATION OR FILL IS PERMITTED IN WETLANDS, CONSULT WITH OWNER'S REPRESENTATIVE



TYPICAL ELEVATION DETAIL FOR BOARDWALK (WET AREA CROSSINGS)
NOT TO SCALE
5/8



BOARDWALK CROSSING ABUTTING TO BOULDER
NOT TO SCALE
6/8

DULUTH TRAVERSE TRAIL LESTER PARK PHASE 1
DULUTH, MINNESOTA

PROJECT NO.: 12-039
DATE: JANUARY-2013
DRAWN BY: TTP
REVISIONS:

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 LANDSCAPE ARCHITECT UNDER THE LAWS OF THE STATE OF MINNESOTA
PRELIMINARY DO NOT USE FOR CONSTRUCTION
JAMES M. SHOBERG JANUARY-2013 46577
REG. NO.

TRAIL DETAILS

Figure 6

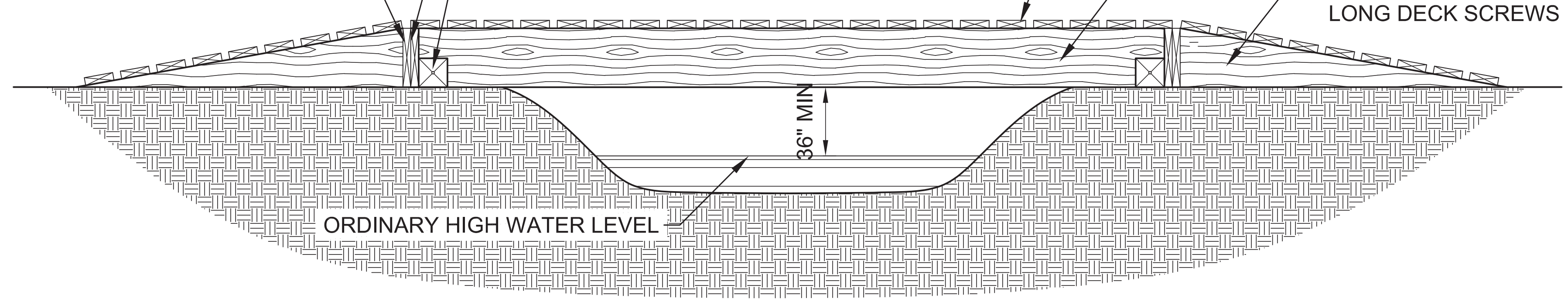
CITY OF DULUTH PROJECT NO. XXXXX | DRAWN BY: TTP | SHEET NO. 9 OF X

MATERIAL NOTES:

A. LUMBER SHALL BE ROUGH SAWN RED PINE #2 OR BETIER, SIZED TO THE FULL DIMENSIONS SHOWN ON THE PLANS UNLESS NOTED OTHERWISE. ALL LUMBER SHALL BE TREATED ACCORDING TO THE OPTIONS INDICATED BELOW.
TREATMENTS OTHER THAN THOSE LISTED MUST BE APPROVED BY THE ENGINEER PRIOR TO BIDDING.
- A.1. PRESERVATIVE TREATMENT:
  - A.1.1. LUMBER SHALL BE TREATED IN ACCORDANCE WITH AWPA STANDARD C2/C9.
    - A.1.1.1. PRESERVATIVES FOR MEMBERS NOT IN GROUND CONTACT SHALL BE ACQ (0.4 LBS/CF RET.)
    - A.1.1.2. PRESERVATIVES FOR 6x6's OR OTHER MEMBERS IN GROUND CONTACT SHALL BE ACQ (0.60 LBS/CF RET.)
  - A.1.2. FIELD TREATMENT: ALL FIELD CUTS AND DRILLED HOLES SHALL BE SATURATED WITH 2 COATS OF COPPER NAPTHENATE (2% SOLUTION). ALLOW TREATMENT TO ABSORB INTO WOOD PRIOR TO APPLYING SECOND COAT AS PER TREATMENT MANUFACTURERS RECOMMENDATIONS.
    - A.1.2.1. WHENEVER POSSIBLE APPLY THIS TREATMENT AWAY FROM WATER. USE EXTRA CARE IN THIS TREATMENT PROCESS NEAR OR OVER WATER. REFER TO MANUFACTURER'S RECOMMENDATIONS.
- A.2. HARDWARE
  - A.2.1. HOT·DIP GALVANIZED (TRIPLE DIPPED): ALL HARDWARE SHALL MEET ASTM A307. HOT DIP GALVANIZE ALL HARDWARE IN ACCORDANCE WITH ASTM A153.
  - A.2.2. ATTACH DECKING TO STRINGERS WITH 4" X #10 SCREWS. TWO PER DECK BOARD TO EACH STRINGER CONNECTION.
  - A.2.3. ATTACH STRINGERS TO PIERS WITH 3/8 " DIA. LAG SCREWS WITH FLAT WASHER ON HEAD END. TWO LAG SCREWS PER STRINGER TO PIER CONNECTION.
  - A.2.3. ATTACH 6X6's TOGETHER WITH 10" LONG RING·SHANK SPIKES. STAGGER SPIKES - MINIMUM OF 4 SPIKES FOR EACH 6X6 TO 6X6 CONNECTION.
  - A.2.4. ATTACH HEADERS TO STRINGERS WITH 4" LONG X #10 SCREWS. THREE PER HEADER TO STRINGER CONNECTION.
  - A.2.5. ATTACH HEADER AND STRINGER TO 6X6 BLOCKING WITH 4" LONG X #10 SCREWS. TWO PER HEADER TO LEVELING GRADE BEAM OR STRINGER TO LEVELING GRADE BEAM CONNECTION.
- A.3. LEVELING GRADE BEAMS SHALL BE SHIMMED LEVEL WITH 2 X 6 ROUGH SAWN RED PINE #2 OR BETTER SIZED TO THE FULL DIMENSIONS SHOWN ON PLAN.
  - A.3.1. PRESERVE LUMBER IN ACCORDANCE TO ABOVE AWPA PRESERVATION TREATMENT.

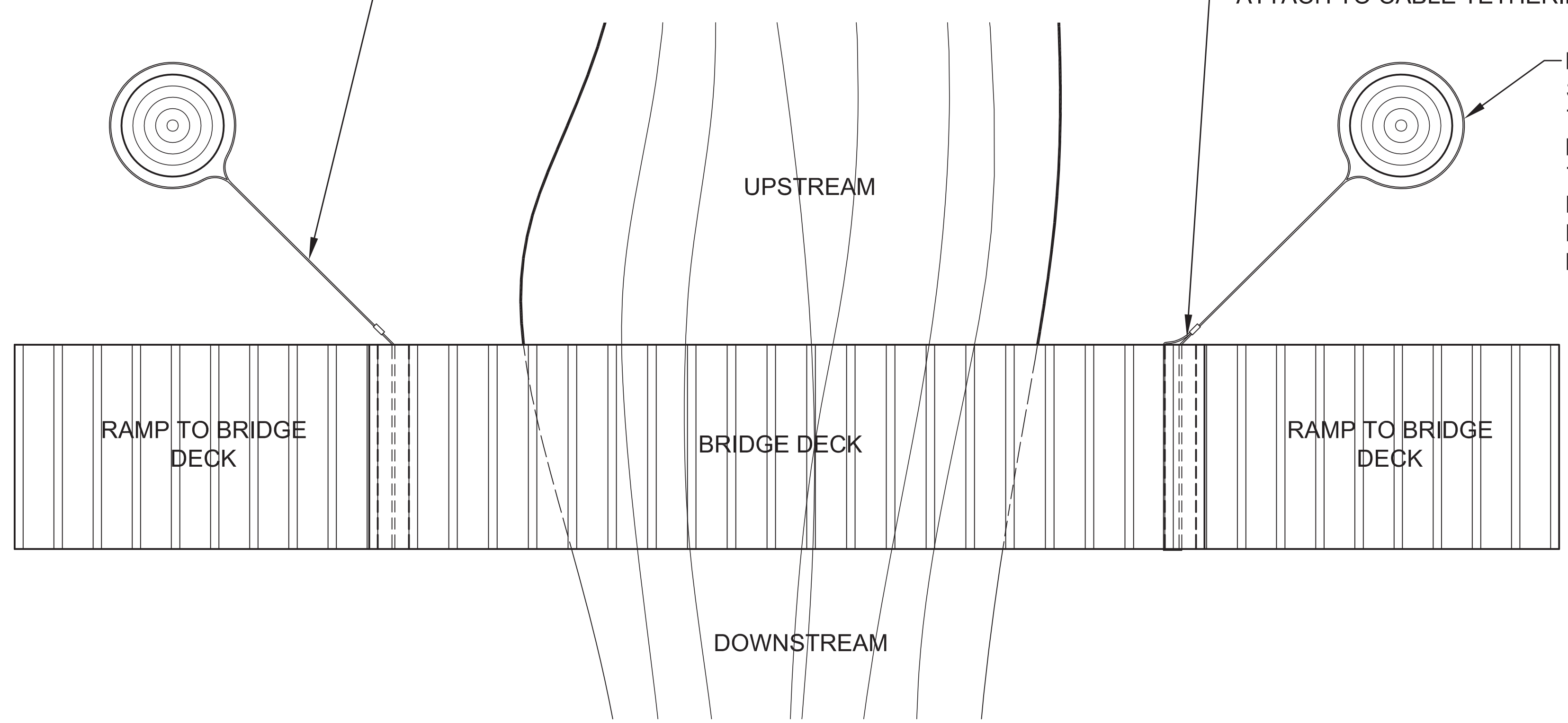
GENERAL NOTES:

1. SEE SPECIFICATIONS SECTION 3 FOR PROJECT DETAILS
2. SEE SPECIFICATIONS SECTION 4 FOR FINISHED TRAIL CONSTRUCTION DETAILS.
3. SEE SPECIFICATIONS SECTION 5 FOR UNIT DEFINITIONS AND TREAD CONSTRUCTION DETAIL DRAWINGS.
4. ALL DISTURBED AREAS NOT PART OF ACTIVE TREAD TO BE SEEDED AND MULCHED WITHIN 7 DAYS OF NOT BEING WORKED. SEE (SWPPP) STORM WATER POLLUTION PREVENTION PLAN FOR DETAILS.
5. CUT BRUSH AND SLASH MUST BE DISPOSED IN AN UPLAND LOCATION AND MUST BE KEPT OUT OF STREAMS, GULLIES, SWALES, WETLANDS, AND LOW AREAS. SEE SPECIFICATIONS FOR DETAILS.
6. NO EXCAVATION OR FILL PERMITTED IN WETLANDS CONSULT WITH OWNERS REPRESENTATIVE PRIOR TO DOING ANY WORK WITHIN SUSPECTED WETLAND AREAS.



TYPICAL ELEVATION DETAIL FOR BRIDGE (CREEK CROSSINGS)
NOT TO SCALE

1/9



TYPICAL PLAN DETAIL FOR BRIDGE (CREEK CROSSINGS)
NOT TO SCALE

2/9

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- ENGINEERING
- LANDSCAPE ARCHITECTURE
- INTERIOR DESIGN

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126 EAST SUPERIOR STREET
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PHONE 218-727-8481
FAX 218-727-8483
EMAIL: archres@cpinternet.com

DULUTH TRAVERSE TRAIL LESTER PARK PHASE 1

DULUTH, MINNESOTA

PROJECT NO.: 12-039
DATE: JANUARY-2013
DRAWN BY: TTP
REVISIONS:

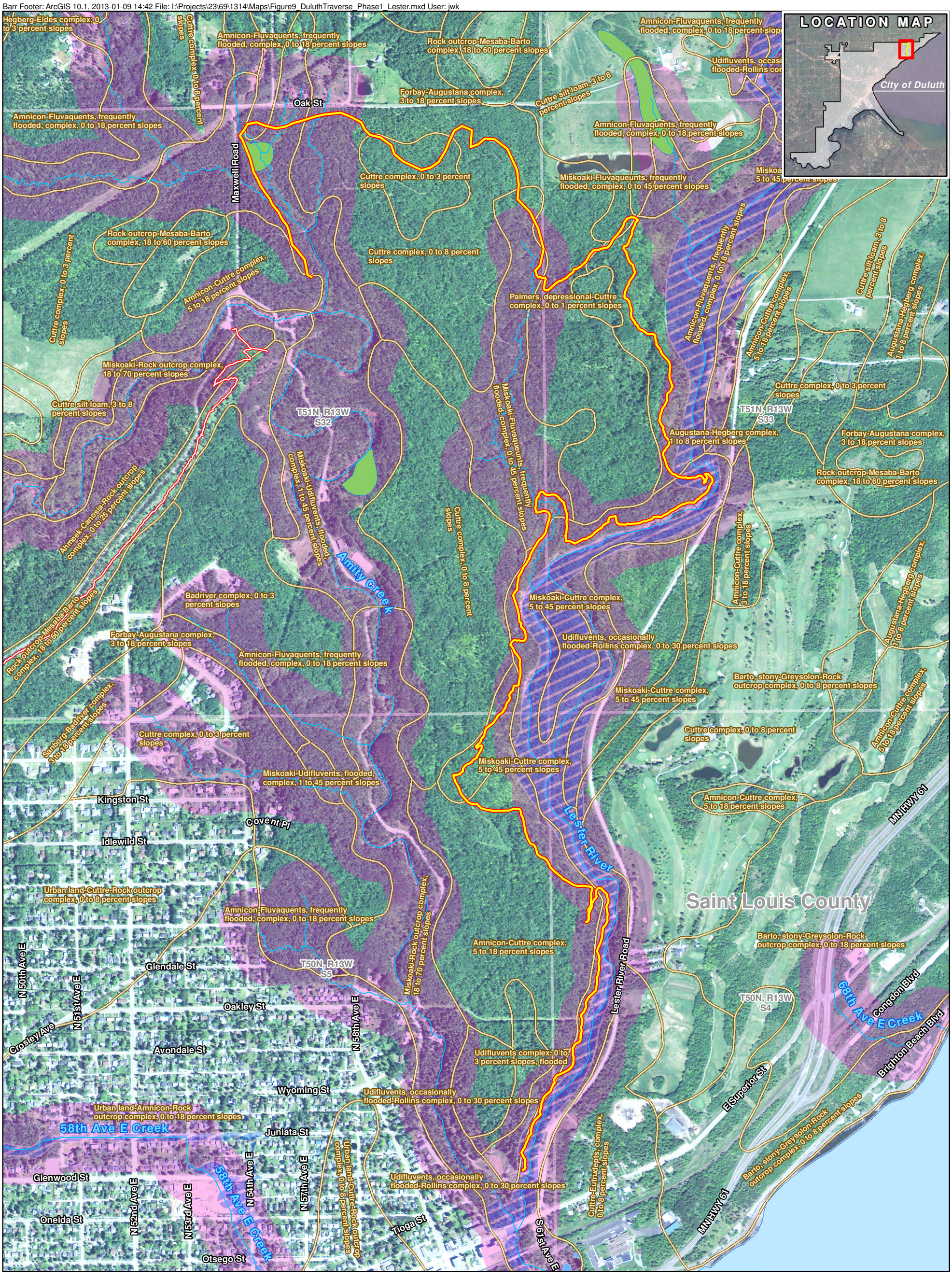
I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION, AND THAT I AM A DULY LICENSED PROFESSIONAL LANDSCAPE ARCHITECT UNDER THE LAWS OF THE STATE OF MINNESOTA
JAMES M. SHOBERG 46577
JANUARY-2013
REG. NO.

PRELIMINARY
DO NOT USE FOR CONSTRUCTION

TRAIL DETAILS

Figure 7

Barr Footer: ArcGIS 10.1, 2013-01-09 14:42 File: I:\Projects\23\69\1314\Maps\Figure9_DuluthTraverse_Phase1_Lester.mxd User: jwk



- Lester Proposed Trail
- Duluth Traverse Proposed Trails
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine
- Duluth Streams
- Soils
- City of Duluth Shoreline Zoning Districts
- FEMA Floodplain

N

0 800 1,600

Feet

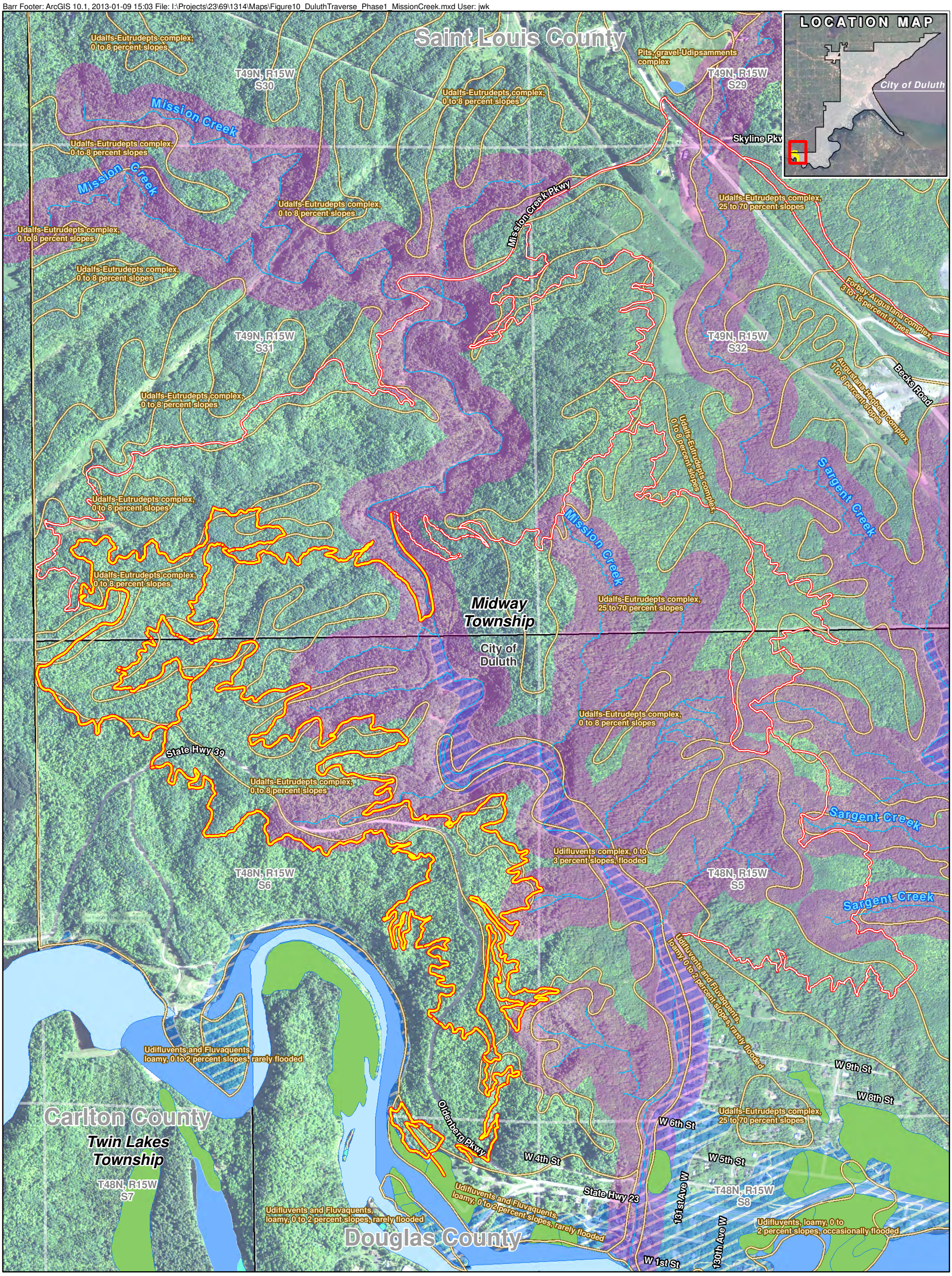
USDA FSA Imagery Circa August, 2010

BARR

Figure 9

LESTER RIVER PROPOSED TRAIL
PHASE 1
Duluth Traverse
Duluth, Minnesota

Barr Footer: ArcGIS 10.1, 2013-01-09 15:03 File: I:\Projects\23\69\1314\Maps\Figure10_DuluthTraverse_Phase1_MissionCreek.mxd User: jwk



- Mission Creek Proposed Trails
- Duluth Traverse Proposed Trails
- Duluth Streams
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine
- Soils
- City of Duluth Shoreline Zoning Districts
- FEMA Floodplain

0 1,000 2,000

Feet

USDA FSA Imagery Circa August, 2010

BARR

Figure 10

MISSION CREEK PROPOSED TRAIL PHASE 1

Duluth Traverse
Duluth, Minnesota

Appendices

Appendix A

Duluth Traverse Estimated Quantities and Design Computations

Duluth Traverse, Phase 1 - Mission Creek Project.
Trail length including features: 21.6 miles

Estimate of Structures

- Boardwalks: 98 totaling 1,669 ft (crossing flat areas)
- Elevated Boardwalks: 41 totaling 611 ft (crossings over swales or ditches)
- Rock Hardenings: 10 totaling 77.5 ft (concentrated flow areas)
- Bridges: 7 totaling 94 ft (crossings over 3' in height above grade)

Points with no Attributed Lengths

- 149 Berms (turns)
- 9 Switchbacks (turns)

****

Duluth Traverse, Phase 1 - Lester River Project.
Trail length including features: 3.5 miles

Estimate of Structures

- Boardwalks: 25 totaling 502 ft (crossing flat areas)
- Rock Crib Wall: 1 totaling 10.5 ft
- Rock Hardenings: 1 totaling 14 ft (concentrated flow areas)
- Bridge w/ Railing: 1 totaling 21 ft (crossings over 3' in height above grade)

Points with no Attributed Lengths

- 18 Berms – turns (Estimated total length of 242 ft)

Assumptions: 2 rolling grade dips/drains per turn (berm or switch back)
Install one (1) 6" 4-6' long bio roll per trail rolling grade dip/. Install 1 stake per 2' length of bio roll.

Assume a disturbed area 2' wide adjacent to trail of side cast topsoil to be reseeded based on length of trail less boardwalk and bridge lengths for temporary seeding. Assumptions native seed regenerating in duff layer, and 15-20 % of disturbed area will need permanent seed mix.

Rock hardenings shall be installed in concentrated flow sections of trail tread where needed but not in wetland areas.

Boardwalks / bridges will cross wetlands, swales and ditches / streams respectively.

Temporary Erosion Control Seed Mix			
		Seeding Rate lb/ac	% of Mix Component
Common Name	***Scientific Name***		
Canada/Nodding Wild Rye	*Elymus canadensis*	4	10
Winter Wheat	*Triticum* spp.	16	40
Oats	*Avena sativa*	16	40
Virginia Wild Rye	*Elymus virginicus*	4	10
	Cover Crop Totals:	**40**	**100**

Temporary Seeding Assumptions: Project will disturb an estimated 2' wide path for removal of topsoil and berm construction across project length less boardwalks and bridges areas. The estimated quantity is for the temporary seeding of 6.0 acres @ 40 lbs. /ac. is 240 lbs.

Mulch – Use certified weed-free straw mulch or approved weed free equivalent @ 2 tons per acre. Temporary seeding estimated @ 6 acres * 2 tons per acre or 12 tons.

Permanent Erosion Control Seed Mix			
		Seeding Rate lb/ac	% of Mix Component
Common Name	***Scientific Name***		
Fringed Brome Grass	*Bromus ciliatus*	2	6
Bluejoint	*Calamagrostis canadensis*	0.13	0.4
Poverty Grass	*Danthonia spicata*	0.5	1.5
Canada Wild Rye	*Elymus canadensis*	1.25	4
Slender Wheatgrass	*Elymus trachycaulus*	2	6
Fowl Bluegrass	*Poa palustris*	1	3
False Melic	*Schizachne purpurascens*	0.25	1
	Total Grasses:	**7.13**	**21.9**
Oats	*Avena sativa*	**25.0**	**78.1**
	Cover Crop Totals:	**32.13**	**100**

Permanent Seeding Assumptions: Project will require have natural seed in duff layer in topsoil with an estimated 20% will need to be permanently seeded. Twenty % of the estimated temporary seed quantity 6.0 acres is 1.2 acres @ 32.13 lbs. /ac. or 38 lbs. for the permanent seed mixture.

Mulch – Use certified weed-free straw mulch or approved weed free equivalent @ 2 tons per acre. Permanent seeding estimated @ 1.2 acres * 2 tons per acre or 2.4 tons

SECTION 31 25 00 EROSION & SEDIMENTATION CONTROLS

PART 1 - GENERAL

1.01 SUMMARY

A. The Conditions of the Contract and the Provisions of Division 01 apply to all work of this Section.

B. Section Includes:
1. Temporary measures to control soil erosion or sediment control devices.
2. Furnishing, installing and maintaining erosion or sediment control devices.

C. Related Work Specified Elsewhere:
1. None

D. Method of Measurement
1. Bale Checks
   a. Measure by number of bales furnished and acceptably installed.
2. Erosion Control Blanket
   a. Erosion control blanket quantities will be measured by square yard and acceptably installed.
3. Sediment Logs/Coir Logs
   a. Measured by linear foot accepted and installed.
4. Rock Armoring/Hardening
   a. Measured on by the square yard accepted and installed.
5. Rock Checks
   a. Measured on by the square yard accepted and installed.
   b. Native stone/rock where possible
   c Imported stone/rock must be approved by Owner's Representative and from a local source

1.02 REFERENCES

A. Mn/DOT 1803.5 Erosion Control

B. Mn/DOT 2573 – Temporary Erosion Control

C. Protecting Water Quality in Urban Areas- Best Management Practices for Minnesota, published by the Minnesota Pollution Control Agency.

D. Storm Water Pollution Prevention Plan (SWPPP) as prepared by Barr Engineering.

1.03 DEFINITIONS

A. For the NPDES permit process, the operator is defined as the Contractor.

1.04 PERMITS

A. Owner is obtaining SWPPP and NPDES permits as required by State and Federal law. Contractor shall apply and obtain any other additional permits as required by local, State or Federal law.

B. Secure additional permits for work outside indicated right of way, construction strips, or work limits for County or Municipal sediment control or grading permits, State Waterway Construction, or Wetlands Permits, or other environmental permits as required by Law.
1. Secure arrangements in writing, including statement that requirements and standards of restabilization and restoration for access ways and all other disturbed areas shall meet or exceed

restabilization and restoration standards. Send copy of final access agreement and copy of additionally required State or County permits to Landscape Architect, before beginning work in areas outside work limits.

1.05 UTILITIES

A. Rules and regulations governing the respective utilities shall be observed in executing all work under this Section.

B. Active utilities shown on the drawings shall be adequately protected from damage and removed and relocated only as indicated or specified. Where active utilities are encountered but are not shown on the drawings, the Landscape Architect shall be advised; the work shall be adequately protected, supported or relocated as directed by the Landscape Architect; the contract price will be adjusted for such additional work.

C. This contractor shall contact the local governing utility for assistance in locating utilities.

D. As per Minnesota Statutes Chapter 216D, this Excavator shall give 48 hours notice (prior to digging) to the Minnesota State Gopher One Call Excavation Hotline 1-800-252-1166.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Bale Checks – shall be in accordance with Erosion Control 1803.5 – 2 Mn/DOT 3822, Type 1.

B. Erosion Control Blanket – shall be in accordance with MN/DOT 3885.

C. Sediment Logs/Coir Logs – Curlex Sediment Logs or approved equal.

D. Rock Armoring/Hardening – shall be in accordance with IMBA Specifications

E. Rock Checks – shall be in accordance with MN/DOT 3601 Riprap, Type I

2.02 EROSION CONTROL BLANKET

A. Double Woven 100% Biodegradable Net Straw Fiber Erosion Control Blanket (North American Green **S150BN**)
   1. Matrix: 100% agricultural straw, min. wt. 0.50 lbs/yd2 (0.27 kg/m2)
   2. Netting: Top and bottom woven natural fiber with opening sizes of 0.50 - 1.00 in (1.27 - 2.54 cm)
   3. Stitching: Biodegradable thread on 1.50 in (3.81 cm) centers
   4. Roll Size: 6.67ft (2.03m) x 108.00ft (32.92m), 80.00yd2 (66.89 m2)
   5. Roll Weight ± 10%: 52.22 lbs (23.69 kg)

PART 3 - EXECUTION

3.01 GENERAL REQUIREMENTS

A. The Contractor shall control drainage and erosion on the Project including: haul roads, temporary construction, waste disposal sites, plant and storage locations, and borrow pits other than commercially operated sources. The Contractor shall clean up the area, shape the area to allow storm runoff with minimum erosion, replace topsoil, and establish vegetative cover to the satisfaction of the Owner on areas where the potential for pollution has been increased due to the Contractors' operations.

1. Before Construction the Contractor shall install temporary erosion control measures in areas tributary to public waters before construction in a drainage area.

2. During Construction the Contractor shall schedule and install temporary and permanent erosion control measures, construct drainage facilities, finish earthwork operations, place topsoil, establish turf, and conduct other work that will contribute to the control of erosion and sedimentation. Unless precluded by snow cover, all exposed soil areas with a continuous positive slope within 200 feet of surface waters, or from a curb, gutter, storm sewer inlet, temporary or permanent drainage ditch, or other storm water conveyance system, shall have temporary protection or permanent cover for the exposed soil areas within twenty-four (24) hours of discovery. (For the purposes of this provision, exposed soil areas do not include stockpiles or surcharge areas of sand, gravel, aggregate, concrete, or bituminous.)
3. Vehicle Tracking. The Contractor shall minimize vehicle tracking of sediment or soil off site at locations where vehicles exit the construction site onto paved surfaces. Tracked sediment shall be removed from paved surfaces, which do not drain back into the construction site, within 24 hours of discovery.
4. Suspension of Grading. The Contractor shall shape exposed soil and incorporate temporary and permanent erosion control measures to the satisfaction of the Owner before suspension of grading operations for any appreciable length of time.

B. **Erosion Control Schedule.** The Contractor shall prepare and submit a weekly schedule of proposed erosion control activities for the Owner's approval. The Owner may require schedules to be submitted orally or in writing. The schedule shall provide a discussion of:
1) Proposed erosion control installations and when they will be installed.
2) Areas ready for permanent turf establishment and when it will be accomplished.
3) Grading operations and how erosion control will be incorporated into the work.
4) Repair or maintenance required on erosion control installations and when it will be accomplished.
5) Proposed erosion control measures during periods of suspension of work. The Owner may also require the Contractor to submit a site plan detailing proposed erosion control and sediment control measure and a chart indicating starting and completion times for each of the construction operations at the site. The Contractor shall not start work in the affected areas until the erosion control schedule and required documents have been accepted by the Owner.

C. **Compensation.** The Contractor will receive compensation for erosion control as provided for in the Contract. All other expenses incurred in complying with these provisions and Air, Land and Water Pollution (Mn/DOT 1717) shall be borne by the Contractor. The Contractor will not receive compensation for erosion control out of the 50' trail alignment corridor unless so specified in the Contract. Temporary and permanent erosion or pollution control measures ordered by the Owner, which are necessitated by additional Contract work or by unforeseen failure of the original erosion or sediment control work provided for in the Contract, will be paid for at the appropriate Contract prices for like work or as Extra Work in the absence of comparable items of work.

D. **Withholding of Payment.** When the Contractor fails to install erosion or sediment control measures ordered by the Owner, the Owner may withhold payment from related work until the control measures are undertaken by the Contractor.

3.02 PLACING TEMPORARY EROSION CONTROL ITEMS

A. Construct items in conformance with typical sections and elevation controls shown on the plans.

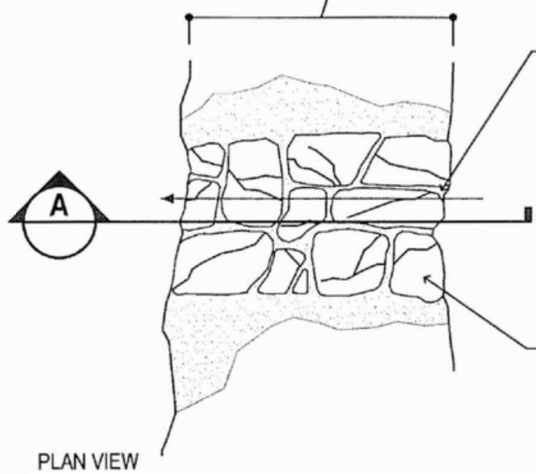
B. Remove all items upon completion of the contract work.

C. Spread and shape accumulated sediment to permit natural drainage and provide for turf establishment.

3.03 ACCEPTANCE OF WORK

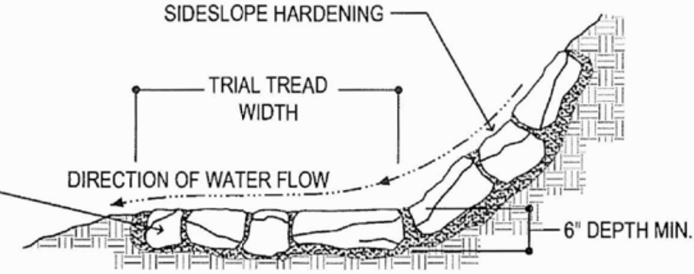
A. Maintain and repair erosion control item to ensure proper function.

END OF SECTION



PLAN VIEW

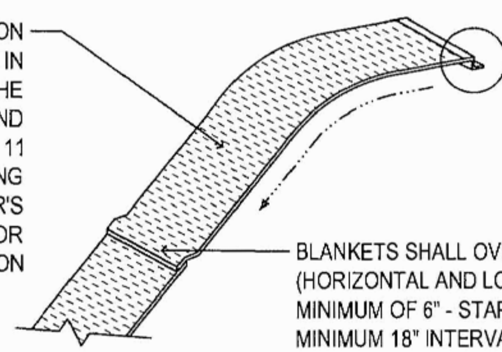
NOTE: PAYMENT FOR TREAD HARDENING WILL BE ON A SQUARE YARD BASIS.

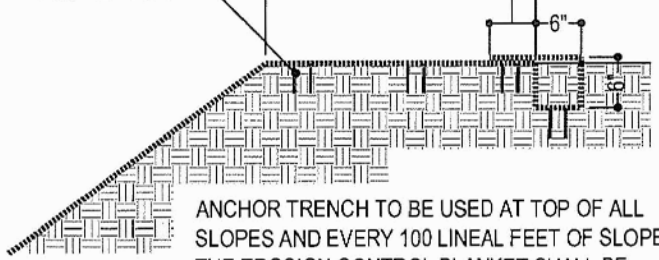


SECTION "A" - TRAIL TREAD HARDENING POTENTIAL APPLICATIONS


EXAMPLE IMAGE OF TRAIL TREAD HARDENING

TRAIL TREAD HARDENING AND SIDESLOPE HARDENING DETAIL
NOT TO SCALE 1/10





ANCHOR TRENCH TO BE USED AT TOP OF ALL SLOPES AND EVERY 100 LINEAL FEET OF SLOPE. THE EROSION CONTROL BLANKET SHALL BE PLACED IN A 6"x6" TRENCH, STAPLED IN PLACE AND BACKFILLED WITH SOIL AND COMPACTED - BLANKET SHALL BE OVERLAPPED A MINIMUM OF 6" AS SHOWN ABOVE THE BLANKET AND SECURED IT WITH STAPLES

ANCHOR TRENCH SECTION DETAIL

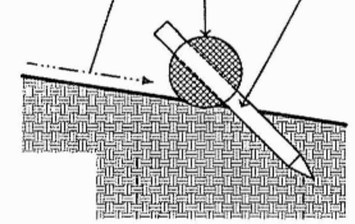
EROSION CONTROL BLANKET:

CATEGORY 3: AS DIRECTED BY OWNER'S REPRESENTATIVE FOR DISTURBED AREAS WITH SLOPES BETWEEN 3:1 AND 2:1, COVER WITH CATEGORY 3 EROSION CONTROL BLANKET CONSISTING OF 100% STRAW MATRIX, SUCH AS WESTERN EXCELSIOR EXCEL SS-2 WITH ALL NATURAL NETTING (OR APPROVED EQUAL) MEETING THE MnDOT SPECIFICATION SECTION 3885 REQUIREMENTS.

CATEGORY 4: AS DIRECTED BY OWNER'S REPRESENTATIVE FOR DISTURBED AREAS WITH 2:1 SLOPES OR OVER, COVER WITH CATEGORY 4 EROSION CONTROL BLANKET CONSISTING OF 30% COCONUT / 70% STRAW BLEND, SUCH AS WESTERN EXCELSIOR EXCEL CS-3 WITH ALL NATURAL NETTING (OR APPROVED EQUAL) MEETING THE MnDOT SPECIFICATION SECTION 3885 REQUIREMENTS.

WOOD FIBER BLANKET DETAIL
NOT TO SCALE 2/10

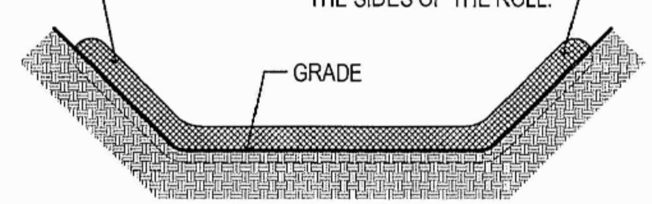
100% COIR FIBER ROLLS A MINIMUM OF 8" DIAMETER, BOUND BY HIGH STRENGTH 2"x2" TWISTED COIR NETTING - ROLLS SHALL BE PLACED PERPENDICULAR TO THE FLOW OF WATER AND SHALL BE IN DIRECT CONTACT WITH THE SOIL AND SECURELY STAKED IN PLACE.



1" x 2" x 24" LONG WOODEN STAKES TO BE DRIVEN THROUGH THE COIR ROLLS AT MAX. 12" O.C. SPACING AND AT A 45 DEGREE ANGLE WITH THE TOP OF THE STAKE POINTING UPSTREAM. STAKES SHALL EXTEND A MINIMUM OF 8" INTO SOIL.

CROSS-SECTION DETAIL

COIR ROLLS SHALL EXTEND FAR ENOUGH UP THE SIDES OF THE SLOPE TO ENSURE THE WATER DOES NOT FLOW AROUND THE SIDES OF THE ROLL.



SECTION VIEW

COIR ROLL DETAIL
NOT TO SCALE 3/10

CITY OF DULUTH PROJECT NO. XXXXX | DRAWN BY: TTP | SHEET NO. 8 OF X

ARCHITECTURAL RESOURCES • INC.

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DULUTH TRAVERSE TRAIL
MISSION CREEK PHASE 1
DULUTH, MINNESOTA

PROJECT NO.: 12-039
DATE: JANUARY-2013
DRAWN BY: TTP
REVISIONS:

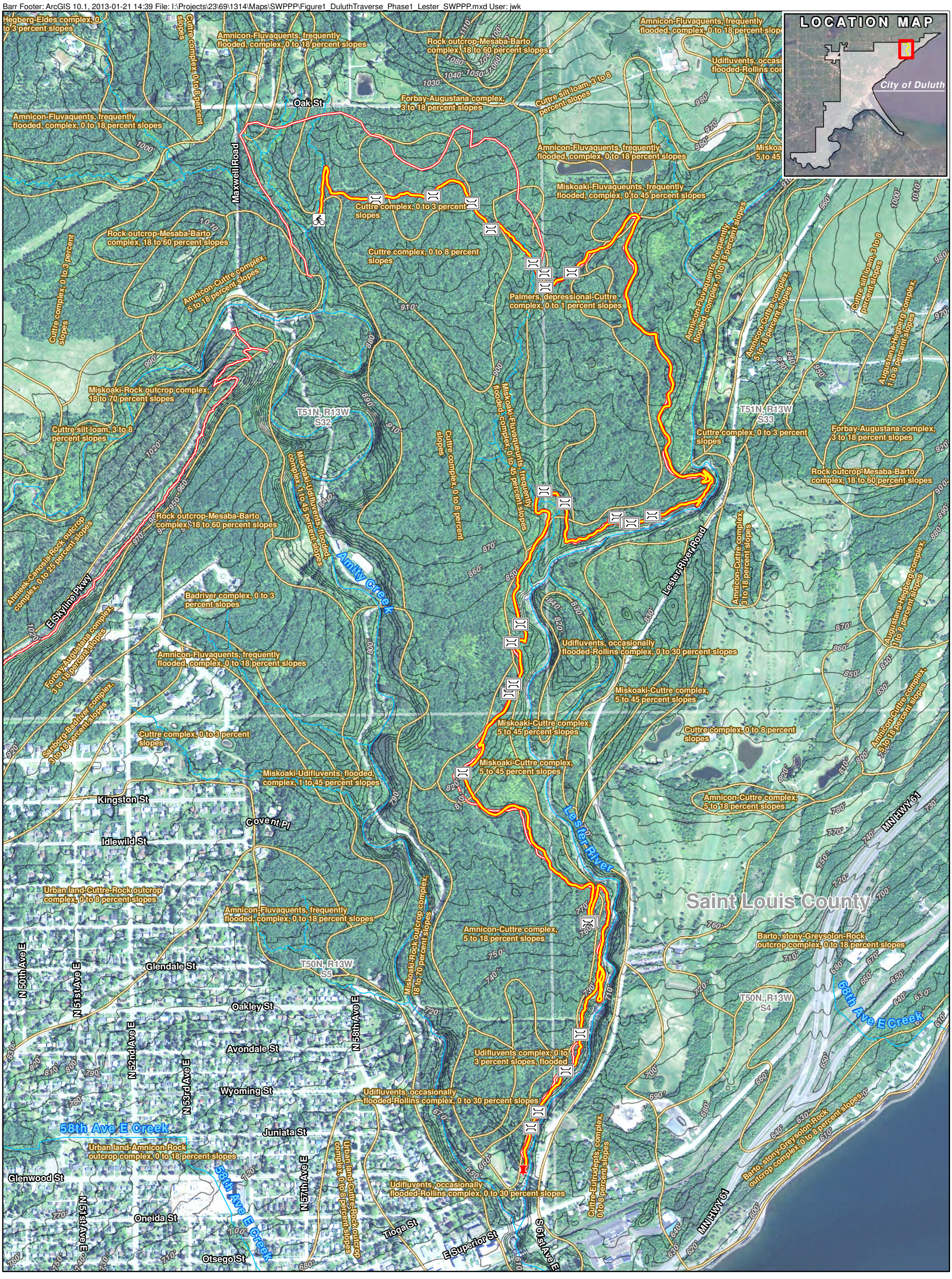
I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION, AND THAT I AM A DULY LICENSED PROFESSIONAL LANDSCAPE ARCHITECT UNDER THE LAWS OF THE STATE OF MINNESOTA
PRELIMINARY DO NOT USE FOR CONSTRUCTION JANUARY-2013
JAMES ... 46877 REG. NO.

SWPPP DETAILS

10

Appendix B

Site Plans


LOCATION MAP
City of Duluth
Oak St
Maxwell Road
Cuttre complex, 0 to 3 percent slopes
Cuttre complex, 0 to 8 percent slopes
Palmers, depressional-Cuttre complex, 0 to 1 percent slopes
Miskoaki-Fluvaqueunts, frequently flooded, complex, 0 to 45 percent slopes
Amnicon-Fluvaquents, frequently flooded, complex, 0 to 18 percent slopes
Rock outcrop-Mesaba-Barto complex, 18 to 60 percent slopes
Forbay-Augustana complex, 3 to 18 percent slopes
Cuttre silt loam, 3 to 8 percent slopes
Udifluvents, occasionally flooded-Rollins complex, 0 to 30 percent slopes
Amnicon-Cuttre complex, 5 to 18 percent slopes
Miskoaki-Rock outcrop complex, 18 to 70 percent slopes
Miskoaki-Udifluvents, flooded, complex, 1 to 45 percent slopes
Miskoaki-Cuttre complex, 5 to 45 percent slopes
Augustana-Hegberg complex, 1 to 8 percent slopes
T51N, R13W S32
T51N, R13W S33
T50N, R13W S5
T50N, R13W S4
Amity Creek
Lester River
Lester River Road
E Skyline Pkwy
MN HWY 61
68th Ave E Creek
58th Ave E Creek
Saint Louis County
Kingston St
Idlewild St
Covent Pl
Glendale St
Oakley St
Avondale St
Wyoming St
Juniata St
Oneida St
Tioga St
E Superior St
Otsego St
Glenwood St
N 50th Ave E
N 51st Ave E
N 52nd Ave E
N 53rd Ave E
N 57th Ave E
N 58th Ave E
S 61st Ave E
Lester Proposed Trail
Proposed Boardwalk Locations
COGGS Loop Connector
Trail Start
Duluth Traverse Proposed Trails
Duluth Streams
10-Foot Contours (MNDNR 2009)
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0
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BARR
Figure 1
LESTER RIVER PROPOSED TRAIL
PHASE 1
Duluth Traverse
Duluth, Minnesota

Mission Creek Proposed Trails
Proposed Boardwalk Locations
Duluth Traverse Proposed Trails
Duluth Streams
10-Foot Contours (MNDNR 2009)
Soils

0 1,000 2,000
Feet

USDA FSA Imagery Circa August, 2010

BARR

Figure 2

MISSION CREEK PROPOSED TRAIL PHASE 1
Duluth Traverse
Duluth, Minnesota

Appendix C

MPCA NPDES Permit Application and Construction Stormwater General Permit

Minnesota Pollution Control Agency

Complete your application online!

Application for General Stormwater Permit for Construction Activity (MN R100001)

National Pollutant Discharge Elimination System / State Disposal System (NPDES/SDS)

Please submit to: Minnesota Pollution Control Agency
Construction Stormwater Permit Program
520 Lafayette Road North, St. Paul, MN 55155-4194

PLEASE READ: This form is for new permit applications only. Use the Notice of Termination/Permit Modification form to transfer permit coverage for a project or a portion of a project to a new owner/contractor. Forms are available at the MPCA's Construction Stormwater Web site: www.pca.state.mn.us/water/stormwater/stormwater-c.html. Complete your application online!

Please refer to the application instructions and the NPDES/SDS General Stormwater Permit for Construction Activity (MN R100001) as you complete this form. Brackets '[ ]' refer to specific parts of the permit. For assistance, call the Stormwater Program at 651-757-2119 or toll-free at 800-657-3804.

Are you ready to apply?

1. Stormwater Pollution Prevention Plan (SWPPP)

a. Has a Stormwater Pollution Prevention Plan been developed for this project and incorporated into the project's plans and specifications [Part III.A] ☒ Yes ☐ No

b. If an environmental review was required for this project or a common plan of development or sale that includes this project, has the environmental review been completed and all stormwater mitigative requirements been incorporated in the SWPPP as required in Part III.A.6 of the permit? ☒ Yes ☐ No ☐ NA

2. Discharges to Special or Impaired Waters

a. If any portion of the project has a discharge point within 1 mile of a special water or a water that is impaired for sediment or a sediment related parameter (see Appendix A.B), does the SWPPP contain the additional requirements found in Appendix A, Part A-C? If the project does not have a discharge point within 1 mile of a special water or a water that is impaired for sediment or a sediment related parameter of the permit indicate "NA" ☒ Yes ☐ No ☐ NA

b. If this project is discharging to a Calcareous fen, has an approval letter been obtained from the DNR as required in Part III.A.8 of the permit? ☐ Yes ☐ No ☒ NA

STOP if you responded 'No' to any question above. A SWPPP must be developed prior to submitting a permit application. Complete the above requirements and check 'Yes' before submitting this application. Continue if you responded 'Yes' or 'NA' to all questions above.

3. Additional Application Review:

a. Will the project include alternative treatment methods? [Part III.C.5] If yes, this application and the alternative treatment plans must be submitted a minimum of 90 days before construction starts. ☐ Yes ☒ No

b. If yes, are the plans attached? ☐ Yes ☐ No

c. Will the project disturb 50 acres? AND Is there a discharge point within one mile of an impaired or special water whose discharge may reach an impaired or special water listed in Appendix A of the permit? [Part II.B.1.b] If yes, this application and the SWPPP must be submitted a minimum of 30 days before construction starts. ☐ Yes ☒ No

d. If 'Yes,' is the SWPPP attached? ☐ Yes ☒ No

4. Application Fee:

Is the required $400 Application Fee (payable to the MPCA) enclosed? ☒ Yes

Construction Activity Information

5. Project name: Duluth Traverse Mountain Bike Trail

6. Project location:

a. Briefly describe where the construction activity occurs (For example: "Intersection of 45th St. and Irving Ave.") Include address if available: From Lester Park to Mission Creek in the City of Duluth.

b. All cities where project will occur: Duluth.

c. All counties where project will occur: St. Louis

d. All townships where project will occur: Midway

e. Project ZIP Code: Varies

f. Latitude and longitude of approximate centroid of project:

Latitude:		*Longitude:*	
__.____ ○	N (decimal) *Preferred*	__.____ ○	W (decimal) *Preferred*
46 ○ 45 ' 39	N (degrees, minutes, seconds)	92 ○ 09 ' 04	W (degrees, minutes, seconds)

g. Method used to collect latitude and longitude:

☐ GPS

☐ USGS Topographic map — Map scale: GIS

☒ Other

7. Project size:

Number of acres to be disturbed to the nearest quarter acre: 35.50 acres

8. Project map:

A map must be included with the application for all projects disturbing 50 acres or more. Is a project map included? ☒ Yes ☐ No

9. Project type:

☐ Residential
☐ Commercial / Industrial
☐ Road construction
☐ Residential / Road construction
☐ Commercial / Road construction
☐ Commercial / Residential / Road construction
☒ Other: Natural surface mountain bike trail

10. Cumulative impervious surface:

a. Existing area of impervious surface in acres: 0.0

b. Post-construction area of impervious surface in acres (If additional new impervious surface created by the project is less than one acre, skip to Question 12): 10.25

11. Permanent stormwater management:

- ☐ Wet sedimentation basin
- ☐ Infiltration / filtration
- ☐ Regional ponding
- ☒ Other (Use only if there is no feasible way of installing the treatment systems listed above for reasons such as lack of right-of-way or proximity to bedrock)
- ☐ Alternative methods (If using alternative methods, construction cannot commence until receiving approval from the MPCA.)

12. Receiving waters:

Identify surface waters within one mile of project boundary that will receive storm water from the site or discharge from permanent Stormwater management system. Include waters shown on USGS 7.5 minute quad or equivalent, all Special Waters and Impaired waters identified in Appendix A of the permit (To find Special or Impaired Waters, use the Special and Impaired Waters Search tool at www.pca.state.mn.us/water/stormwater/stormwater-c.html.

The Impaired Waters* list, also known as the Section 303(d) list can be found at http://www.pca.state.mn.us/water/tmdl/index.html Use additional paper if necessary.

* Impaired waters for the purpose of this permit are those identified as impaired for the following pollutant(s) or stressor(s): phosphorus, turbidity, dissolved oxygen, or biotic impairment

Name of water body	Type of water body (Ditch, pond, wetland, stream, river)	Special Water? See Stormwater Permit, Appendix A	Impaired Water? See Stormwater Permit, Appendix A
Mission Creek and unnamed tributaries	stream	☒ Yes ☐ No	☐ Yes ☒ No
Sargent Creek and unnamed tributaries	stream	☒ Yes ☐ No	☐ Yes ☒ No
Lester River and unnamed tributary	stream	☒ Yes ☐ No	☐ Yes ☒ No
Associated wetlands	wetland	☐ Yes ☒ No	☐ Yes ☒ No

13. Dates of construction

a. Start date: 06 / 01 / 13

b. Estimated Completion date: 11 / 30 / 13

STOP This form will not be accepted if the Owner and Contractor contact information sections, below, are BOTH not completed and signed. If the owner is also the contractor, or a contractor hasn't yet been selected, the owner must also fill out the contractor information section and sign again.

Responsible parties — BOTH PARTIES MUST SIGN

Owner

City of Duluth				
Business or firm name				
Voight	Cindy	City Engineer		
Last name	First name	Title		
cvoight@duluthmn.gov		218-730-5200		
E-mail		Phone (include area code)		
411 West 1st Street 2nd Floor	Duluth		MN	55802
Mailing address	City		State	ZIP Code
Matt Decur	mdecur	218-730-5104		
Alternate contact name	E-mail	Phone (include area code)		

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage this system, or the persons directly responsible for gathering the information, the information is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

I also certify under penalty of law that I have read, understood, and accepted all terms and conditions of the NPDES/SDS General Stormwater Permit Construction Activity (MN R100001) that authorizes stormwater discharges associated with the construction site identified on this form.

X Authorized signature: _____ Date: _____

This Application must be signed by:

- ***Corporation**: a principal executive officer of at least the level of vice-president or the duly authorized representative or agent of the executive officer if the representative or agent is responsible for the overall operation of the facility that is the subject of the permit application.*
- ***Partnership or Sole Proprietorship**: a general partner or the proprietor.*
- ***Municipality, State, Federal or Other Public Agency**: principal executive officer or ranking elected official.*

Contractor

Business or firm name				
Last name	First name	Title		
E-mail		Phone (include area code)		
Mailing address	City		State	ZIP Code
Alternate contact name	E-mail	Phone (include area code)		

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage this system, or the persons directly responsible for gathering the information, the information is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

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X Authorized signature: _____ Date: _____

This Application must be signed by:

- ***Corporation**: a principal executive officer of at least the level of vice-president or the duly authorized representative or agent of the executive officer if the representative or agent is responsible for the overall operation of the facility that is the subject of the permit application.*
- ***Partnership or Sole Proprietorship**: a general partner or the proprietor.*
- ***Municipality, State, Federal or Other Public Agency**: principal executive officer or ranking elected official.*

- ***Municipality, State, Federal or Other Public Agency:*** *principal executive officer or ranking elected official.*

Minnesota Pollution Control Agency

INSTRUCTIONS FOR THE APPLICATION FOR MINNESOTA'S NPDES/SDS GENERAL STORMWATER PERMIT FOR CONSTRUCTION ACTIVITY

Submission of an application is notice that the owner and general contractor identified on the application intend to be authorized by an NPDES/SDS permit issued for Stormwater discharges associated with a construction activity in the State of Minnesota.

Are you ready to apply?

1. Indicate if a **Stormwater Pollution Prevention Plan** (SWPPP) has been prepared and the appropriate sections (a and b of this question) have been addressed by answering **"Yes" or "No"**. A SWPPP is a plan for Stormwater discharge that includes erosion prevention measures and sediment controls that, when implemented, will decrease soil erosion on a parcel of land and decrease pollution in receiving waters. This plan must be developed prior to submitting a permit application. A sample plan and development tools are available from the U.S. Environmental Protection Agency Stormwater Pollution Prevention Plans for Construction Activities and from the MPCA "Stormwater Compliance Tool Kit for Small Construction Operators"

   For section "b" indicate if an **Environmental Review** has been completed if required, by answering **"Yes" or "No" or "NA"** (not applicable). Environmental review looks at how a proposed project could potentially affect the environment and looks at ways to avoid or minimize impacts before the project is permitted and built. Examples of categories that may need an environmental review include residential development; industrial, commercial, and institutional facilities; and also highway projects. For certain projects, environmental review is mandatory. For more details see the Guide to Minnesota Environmental Review Rules, Chapter 6.

2. Discharges to Special or Impaired Waters
   a. Special waters have qualities that warrant extra protection. There are several categories of special waters and the requirements are different for each. A list of these special water categories can be found in Appendix A of the permit. The additional requirements apply only to those portions of a project that drain to a discharge point on the project that is within 1 mile of and flows to the special water. Refer to Appendix A of the permit for the list of special waters and what additional requirements apply to each. The information is also available using the Special and Impaired Waters Search Tool .

      Impaired waters are bodies of water that do not meet the water quality standards set up for their designated use as determined by the State. Projects discharging to impaired waters also have additional requirements. The additional requirements apply only to those portions of a project that drain to a discharge point on the project that is within 1 mile of and flows to the impaired water. The specific requirements can be found in Appendix A of the permit. Impaired waters for the purpose of this permit are limited to those identified as impaired pursuant to section 303(d) of the Clean Water Act where the pollutant(s) or stressor(s) are phosphorus (nutrient eutrophication biological indicators), turbidity, dissolved oxygen, or biotic impairment (fish bioassessment, aquatic plant bioassessment and aquatic macroinvertebtrate bioassessment). Use the interactive Special and Impaired Waters Search Tool to determine if your project is required to follow the additional requirements. On the application, indicate if the SWPPP for the project incorporates the additional requirements, if applicable. Consult the web page General Information about Impaired Waters and Current TMDL List of Impaired Waters for additional information including a list of impaired waters.
   b. An approval letter from the Department of Natural Resources (DNR) is needed to discharge to calcareous fens. If the DNR does not respond to the request for a letter of approval within 30

calendar days, you may apply for permit coverage and check the NA box. Document this process in the SWPPP for the project.

3. Additional Application Review
   a. Indicate by answering **"Yes" or "No"** whether the project will include **alternative methods** for the permanent stormwater management system. You have the option of proposing an alternative, innovative, permanent stormwater management system. You must send in the permit application and the additional required information (see Part III.C.5 of the Permit) at least **90** days prior to the start of construction if you choose this approach. You must receive an approval letter from the MPCA for this method before beginning construction.
   b. Attach the plans for the alternative system.
   c. If the project disturbs **50 acres or more** and has a discharge point (including sheet flow) that is within one mile of and flows to an impaired or special water listed in Appendix A, the application and SWPPP need to be submitted to the MPCA a minimum of **30** days prior to the start of construction.

4. The application requires a $400 application **fee**. Indicate that the application fee has been enclosed by answering **"Yes"**. Please make checks payable to: **Minnesota Pollution Control Agency** and submit the check with the completed application to: MPCA, Construction Stormwater Permit Program, 520 Lafayette Road North, St. Paul, MN 55155-4194. Applications received without the required fee will be returned to the sender.

Construction Activity Information

5. List the construction project's **name**. Be specific. Examples: "Driveway at 123 Main St, Hudson", "Highway 169 bridge replacement (#79605) at the Rum River".

6. Project Location
   a. Provide an **address** (if available) and **brief description** of the construction activity's location (**for example**, "North West Corner of the Intersection of 45th Street and Irving Avenue, Minneapolis, MN"). Use any type of description that accurately portrays the project location.
   b-e. Provide the names of all cities, counties, zip codes, and townships the construction activity takes place in (**for example**, a roadway may cross county, city, or township boundaries).
   f. Give the latitude and longitude of the centroid of the site. If the centroid of the site is not within the site, give the latitude and longitude of a point within the site that is closest to the centroid of the site. Give these values in degrees and decimal of degrees (preferred) alternatively in degrees, minutes and seconds. To obtain the decimals of a degree, divide the minutes by 60 and the seconds by 360 and add this to the degrees.
   g. State how the information was gathered, if by GPS, by using a USGS topographic map (give the scale), or an online tool such as the Toxics Release Inventory Facility Siting Tool. To use this tool, type either the zip code or the city/township and the state. Zoom in to obtain the latitude and longitude.

7. List, in acres, the **amount** of area that will be **disturbed** for this project. This is not the size of the property; do not include areas of the project that will not be disturbed.

8. **Add** the **map** to the SWPPP. United States Geological Survey (USGS) 7.5-minute quad maps or equivalent maps may be used. USGS 7.5-minute quad maps may be printed from the Special and Impaired Waters Search Tool or ordered at the USGS store. The map does not need to be submitted with the application unless the project is disturbing 50 acres or more. The map should include the project boundaries. The project boundaries can be added to the map electronically using the search tool above.

9. Indicate the type of construction activity by **checking the appropriate box**. Check "Residential and Road Construction" if the road is part of a common plan of development and is developed in association with residential development. If you check "Other", describe the project.

10. Indicate to the nearest quarter acre, the existing and resulting **areas of impervious surfaces**. Impervious surface means a constructed hard surface that either prevents or retards the entry of water into the soil and causes water to run off the surface in greater quantities and at an increased rate of flow than prior to development. **Examples** include rooftops, sidewalks, patios, driveways, parking lots, storage areas, and concrete, asphalt, or gravel roads. (a.) "Existing" area means the area of impervious surface that is present prior to the start of this construction project. (b.) "Post construction" means the entire area of impervious surface after construction is completed. Subtract (a.) from (b.) to determine the area of new impervious

surface.

11. For projects creating one or more acres of cumulative new impervious surfaces, **check the appropriate box** to indicate which type(s) of **permanent stormwater management practices** will be used. The "Other" box is limited to those situations (such as proximity to bedrock) that are described in Part III.C of the permit. See the permit for a further description. If the "Other' box is checked, describe which situation outlined in Part III. C. fits the project and what other permanent treatment (such as grassed swales, smaller ponds and/or grit chambers) will be used on the project.

12. BRIEFLY describe which **water body(s)** will receive stormwater runoff from the construction site or from the discharge from permanent Stormwater management systems by **completing the table**. To determine which water body(s) will receive stormwater runoff discharges, make a brief survey of the project's surrounding area. Include the waters identified on a USGS 7.5-minute quad or equivalent map. See Appendix A of this permit to determine if a water body is a special water or visit the website Special Waters Document. Impaired waters for the purpose of this permit are those identified as impaired for the following pollutant(s) or stressor(s) phosphorus (nutrient eutrophication biological indicators), turbidity, dissolved oxygen, or biotic impairment (fish bioassessment, aquatic plant bioassessment and aquatic macroinvertebrate bioassessment). The easiest way to find special or impaired waters in addition to all waterbodies is to use the interactive map tool, Special and Impaired Waters Search tool. Impaired waters are also listed here: http://www.pca.state.mn.us/water/tmdl/index.html

13. List the **start** and estimated **completion dates** of the construction project.

Responsible Parties

14. **Owner Information:** Provide the information requested of the owner of the company, organization, or other entity for which this construction project is being done. The **Owner** means the person or party possessing the title of the land on which the construction activities will occur; or if the construction activity is for a lease, easement, or mineral rights license holder, the party or individual identified as the lease, easement or mineral rights license holder; or the contracting government agency responsible for the construction activity. **The owner is the party responsible for the compliance with all terms and conditions of the permit.** The **alternate contact** should be the owner's representative in charge of the project.

    After completing this application, certify it with a **signature and date** from an individual authorized to sign the application. This application form must be signed by either a principal executive officer, vice president, representative agent responsible for overall operations, general partner, or a proprietor. If the activity is being conducted by a unit of government (state, county, municipality, or township), this application must be signed by a principal executive officer or ranking elected official (**for example**, city or county engineer, administrator, or manager; director of public works; mayor, etc.) For additional information, see Minnesota Rules 7001.0060.

15. **Contractor (Operator) Information:** Provide the information requested of the contractor. The **Contractor** means the party who signs the construction contract with the owner to construct the project described in the final plans and specifications. Where the construction project involves more than one contractor, the general contractor will be the party responsible for managing the project on behalf of the owner. In some cases the owner may be the general contractor. In these cases, the owner may contract an individual as the operator who would be the co-permittee. **The operator (usually the general contractor) is jointly responsible with the owner for compliance with Part II.B., Part II.C., and Part IV of the permit.**

    After this application has been completed by the owner, the contractor must certify it with a **signature and date** from an individual authorized to sign the form. The application must be signed by either a principal executive officer, vice president, representative agent responsible for overall operations, general partner, or a proprietor. If the general contractor is a unit of government (state, county, municipality, or township), this application must be signed by a principal executive officer, ranking elected official, administrator, manager, coordinator, or engineer. (For additional information, see Minnesota Rules 7001.0060.) The **alternate contact** should be the contractor's representative in charge of the project.

Send the completed application and fee to: **MPCA** **Construction Stormwater Permit Program** **520 Lafayette Road North** **St. Paul, MN 55155-4194**	Questions? For more information, call the MPCA Stormwater Hotline at 651-757-2119 or 800-657-3804.

GENERAL PERMIT
AUTHORIZATION TO DISCHARGE
STORMWATER ASSOCIATED WITH CONSTRUCTION ACTIVITY
UNDER THE NATIONAL POLLUTANT DISCHARGE ELIMINATION
SYSTEM/STATE DISPOSAL SYSTEM PERMIT PROGRAM

ISSUANCE DATE: August 1, 2008 **EXPIRATION DATE: August 1, 2013**

In compliance with the provisions of the Clean Water Act, as amended, (33 U.S.C. 1251 et seq.), 40 CFR 122, 123, and 124, as amended, et seq.; Minn. Stat. chs. 115 and 116, as amended, Minn. R. chs. 7001 and 7090:

This permit regulates the discharges of **stormwater** to the **waters of the state** of Minnesota associated with **construction activity**. This permit covers the **stormwater** discharges identified in Part I.A. of this permit. The limitations on permit coverage are identified in Part I.B. of this permit.

This permit requires the development and implementation of a **Storm Water Pollution Prevention Plan (SWPPP)**. No person shall commence **construction activity** covered by Part I.A. until permit coverage under this permit is effective or, if applicable, until the Minnesota Pollution Control Agency (MPCA) has issued an individual **National Pollutant Discharge Elimination System (NPDES)/**State Disposal System (SDS) construction **stormwater** permit for the project. The **SWPPP** must be completed prior to submitting any permit application and prior to conducting any **construction activity** by any required **Permittee**.

Unless notified by the MPCA to the contrary, applicants who submit a complete and accurate application (including permit fee) in accordance with the requirements of this permit are authorized to discharge **stormwater** from construction sites under the terms and conditions of this permit as described in Part II.B.

Signature: _____

Brad Moore
Commissioner
Minnesota Pollution Control Agency

If you have questions on this permit, including the specific permit requirements, permit reporting or permit compliance status, please contact the appropriate MPCA offices.

Minnesota Pollution Control Agency
Municipal Division
Construction Stormwater Program
520 Lafayette Road North
St. Paul, MN 55155-4194

Telephone: 651-296-6300
Toll-free in Minnesota: 800-657-3864

TABLE OF CONTENTS

PART I. PERMIT COVERAGE AND LIMITATIONS

A. PERMIT COVERAGE

1. This permit is required for **construction activity** and **small construction activity** as defined in 40 CFR pt. 122.26(b)(14)(x) and (b)(15), respectively.

2. This permit authorizes, subject to the terms and conditions of this permit, the discharge of **stormwater** associated with **construction activity** and **small construction activity.**

   Construction activity includes clearing, grading and excavation, that disturbs land of equal to or greater than five (5) acres and includes the disturbance of less than five (5) acres of total land area that is a part of a larger **common plan of development or sale** if the larger common plan will ultimately disturb five (5) acres or more.

   Small construction activity includes clearing, grading and excavation, that disturbs land of equal to or greater than one (1) acre, and includes the disturbance of less than one (1) acre of total land area that is part of a larger **common plan of development or sale** if the larger common plan will ultimately disturb equal to or greater than one and less than five (5) acres. **Small construction activity** does not include routine maintenance that is performed to maintain the original line and grade, hydraulic capacity, or original purpose of the facility.

3. This permit covers all areas of the State of Minnesota.

4. For Parts I.B through Appendix A of this permit, all reference to **construction activity** includes both **small construction activity** and **construction activity**.

5. Coverage under this permit is not required when all runoff from **construction activity** or **small construction activity** is routed directly to and treated by a "treatment works", as defined in Minn. Stat. § 115.01, subd. 21, that is operated under an individual NPDES/SDS permit with a Total Suspended Solids effluent limit for all treated runoff.

6. Previously Permitted Ongoing Projects. **Permittee(s)** of ongoing projects covered initially under the previous MPCA-issued NPDES/SDS Construction Stormwater General Permit (issuance date August 1, 2003) must continue coverage under this reissued permit. The **Permittee(s)** of those ongoing projects shall amend the **SWPPP** for the project to meet the requirements of this reissued permit no later than 18 months after the issuance date of this reissued permit if the termination-of-coverage requirements in Part II.C. will not be met within 18 months of the issuance date of this reissued permit. Any additional permanent treatment in Appendix A. Part C.2 is not required for previously permitted projects that have discharges to impaired waters or if the project is located between 2000 feet and one mile of, and discharges to, a special water.

   a. If the previously permitted ongoing project will meet the termination-of-coverage requirements in Part II.C within 18 months of the issuance date of this reissued permit, the **Permittee(s)** shall comply with the 2003 construction general permit until the project is complete and a **Notice of Termination** consistent with Part II.C. of this reissued permit is submitted.

   b. If the previously permitted ongoing project will not be able to meet the terms and conditions of this reissued permit, an individual permit will be required in accordance with Minn. R. ch. 7001.

B. LIMITATIONS OF COVERAGE

This permit does not cover the following activities:

1. Discharges or releases that are not **stormwater** except those non-**stormwater** discharges authorized under Part IV.D.

2. The placement of fill into **waters of the state** requiring local, state, or federal authorizations (such as U.S. Army Corps of Engineers Section 404 permits, Minnesota Department of Natural Resources Public Waters Work Permits or Local Governmental Unit Wetland Conservation Act replacement plans or determinations).

3. **Stormwater** discharges associated with industrial activity that originate from the site after construction activities have been completed and the site has undergone **Final Stabilization**. Post-construction, industrial **stormwater** discharges may need to be covered by a separate NPDES/SDS permit.

4. Non-point source agricultural and silvicultural discharges excluded from **NPDES** permit requirements under 40 CFR pt. 122.3(e).

5. Discharges to the waters identified below unless the requirements of Appendix A. are complied with:

   a. Discharges into **outstanding resource value waters** as listed in Minn. R. 7050.0180, subp. 3, 4, 5, 6 and 6a, except calcareous fens listed in Minn. R. 7050.0180, subp. 6b.

   b. Discharges into Trout waters as listed in Minn. R. 6264.0050, subp. 2 and 4.

   c. Discharges into **wetlands** as defined in Minn. R. 7050.0130, item F.

   d. Discharges from projects that have not met applicable Environmental Review requirements under state or federal laws.

   e. Discharges that adversely impact or contribute to adverse impacts on a state or federal listed endangered or threatened species or adversely modify a designated critical habitat.

   f. Discharges which adversely affect properties listed or eligible for listing in the National Register of Historic Places or affecting known or discovered archeological sites.

6. Discharges to calcareous fens listed in Minn. R. 7050.0180, subp. 6b, without a letter of approval from the Minnesota Department of Natural Resources (DNR). If the DNR does not respond to the permittee's request for approval within 30 calendar days, the application can be submitted.

7. Discharges to waters identified as impaired pursuant to section 303 (d) of the federal Clean Water Act (33 U.S.C. § 303(d)) where the identified pollutant(s) or stressor(s) are phosphorus (nutrient eutrophication biological indicators), turbidity, dissolved oxygen, or biotic impairment (fish bioassessment, aquatic plant bioassessment and aquatic macroinvertebrate bioassessment), and with or without a U.S. Environmental Protection Agency (USEPA) approved Total Maximum Daily Load (TMDL) for any of these identified pollutant(s) or stressor(s), unless the applicable requirements of Part III.A.9 are met.

PART II. SUBMITTING THE APPLICATION

A. PREREQUISITE FOR SUBMITTING A PERMIT APPLICATION

The **owner** must develop a **SWPPP** in accordance with Part III (Storm Water Discharge Design Requirements) of this permit. The plans are not to be submitted to the MPCA (unless the project size is 50 acres or more and will discharge to certain waters as described in Part II.B.1.b.) but are to be retained by the **owner** in accordance with Part III.D (Record Retention). The applicants' failure to complete the **SWPPP** prior to submitting the application will result in the application being returned and the **stormwater** discharges associated with **construction activity** will not be authorized by this permit.

B. APPLICATION AND DURATION OF COVERAGE

1. Application Required.

   a. The **owner** and **operator** shall submit a complete and accurate application form (or a photocopy thereof) with the appropriate fee for project size (see application form) to the MPCA for each project which disturbs one (1) or more acres of land. The **owner** and **operator** of a **common plan of development or sale** that will ultimately disturb one (1) or more acres must submit a complete and accurate application to the MPCA.

   b. For certain projects or **common plans of development or sale** disturbing 50 acres or more, the application must be submitted at least 30 days before the start of construction activity. This requirement pertains to projects that have a discharge point on the project that is within one mile of, and flows to, a special water listed in Appendix A, Part B. or waters listed as impaired under section 303(d) of the federal Clean Water Act (see the MPCA's web site) where the identified pollutant(s) or stressor(s) are phosphorus (nutrient eutrophication biological indicators), turbidity, dissolved oxygen, or biotic impairment (fish bioassessment, aquatic plant bioassessment and aquatic macroinvertebrate bioassessment). Applicants must submit a complete and accurate application form and **SWPPP** including all calculations for the Permanent **Stormwater** Management System (see Part III.A – C).

2. The **Owner** and **Operator** are **Permittee(s)**. The **owner** who signs the application is a **Permittee** and is responsible for compliance with all terms and conditions of this permit. The **operator** (usually the **general contractor**) who signs the application is a **Permittee** for Parts II.B., Part II.C., Part IV. and applicable construction activity requirements found in Appendix A. Part C. of this permit and is jointly responsible with the **owner** for compliance with those portions of the permit.

3. Permit Coverage. The commencement of any **construction activity** (e.g., land disturbing activities) covered under Part I.A. of this permit is prohibited until permit coverage under this permit is effective or, if applicable, until the MPCA has issued an individual NPDES/SDS construction **stormwater** permit for the project.

   a. Except as provided in subp. 3.b., 3.c. and 3.d below, permit coverage will become effective seven (7) calendar days after the postmarked date of the completed application form.

b. For projects disturbing 50 acres or more, that have a discharge point on the project that is within one mile of, and flows to, a special water listed in Appendix A, Part B. or waters listed as impaired under section 303(d) of the federal Clean Water Act, the applicants must submit a complete application and **SWPPP** to the MPCA at least thirty (30) calendar days prior to the commencement of **construction activity**. MPCA staff will review the **SWPPP** submitted with the complete application and permit coverage will become effective 30 calendar days after the postmarked date or MPCA date stamp (whichever is first) of the complete application or on the effective date identified within a permit coverage letter issued by the MPCA. For incomplete applications (e.g. lack of fees or signature) or incomplete **SWPPPs** (e.g. missing calculations, **Best Management Practice (BMP)** specifications or timing of **BMP** installation narrative), the 30 calendar day review period begins on the date that all required information is submitted.

c. For proposals to use Alternative Method(s) for the Permanent Stormwater Management System under Part III.C.5, the applicants must submit a complete application and **SWPPP**, including the Alternative Method documentation under Part III.C.5, to MPCA for review and approval at least 90 days prior to the proposed starting date of **construction activity**.

   i. The MPCA will notify the applicant within the 90-day period, in writing, whether the alternative method is approved or not approved and, if applicable, the basis for denial.

   ii. The applicant may re-submit the alternative method after addressing the MPCA's basis for denial. The MPCA will respond within 30 days.

   iii. Permit coverage will become effective upon receipt of an alternative treatment method approval letter from MPCA. Any **construction activity** on the project is not covered under this permit until receiving the alternative treatment approval letter.

d. Except as provided in parts 3.b. and 3.c., for, projects that apply online, permit coverage will become effective two (2) calendar days after the online application process is complete.

4. Coverage Letter. For projects under subpart 3.a. of this part, the **Permittee(s)** will receive a permit letter and certificate acknowledging permit coverage, usually within 30 days of the postmarked date of the complete application.

5. Change of Coverage. For construction projects where the **owner** or **operator** changes, (e.g., an original developer sells portions of the property to various homebuilders or sells the entire site to a new owner):

   a. The original/current **owner** shall provide a copy of the complete notice of termination/permit modification form (as required in Part II.C.2.b) to the new **owner**. The original/current **owner** shall provide a **SWPPP** to the new **owner** and **operator** that specifically addresses the remaining **construction activity**. Note: The notice of termination/permit modification form replaces the subdivision registration, permit transfer/modification and notice of termination forms.

   b. The new **owner** or **operator** shall submit a complete and signed permit modification portion (permit modifications include subdivision registration or permit transfer) of the notice of termination/permit modification form to the MPCA prior to commencing **construction activity** on site or in no case later than seven (7) days after taking ownership of the property. The new **Permittee(s)** are responsible for compliance with all terms and conditions of this permit as described in Part II.B.2.

c. If an **operator** or **general contractor** has completed their portion of work on the site, is no longer in operational control of the project, and all contractual obligations between the **owner** and **operator** or **general contractor** relating to compliance with the terms and conditions of this permit have been met, the **operator** or **general contractor**, may transfer permit coverage back to the **owner** or to a new **operator** using the notice of termination/permit modification form. A signature from both the owner and operator is required.

C. TERMINATION OF COVERAGE

1. **Permittee(s)** wishing to terminate coverage under this permit must submit a **Notice of Termination (NOT)** to the MPCA. Compliance with this permit is required until a **NOT** is submitted. The **Permittee(s)** coverage under this permit terminates at midnight on the postmark date of the **NOT**, or on the date an online **NOT** is submitted to the MPCA.

2. Termination of coverage scenarios:

   a. Termination of coverage for the entire project.

      i. All **Permittee(s)** must submit a **NOT** within 30 days after **Final Stabilization** (see Part IV.G.) has been completed on all portions of the site for which the **Permittee** is responsible and all **construction activity** has been completed. If the site includes permanent stormwater management systems, the requirements for final cleanout/maintenance must be performed as required in **Final Stabilization**, Part IV.G.2.

      ii. **Permittee(s)** must submit a **NOT** within 30 days after selling the entire site including roads and stormwater infrastructure, and coverage is transferred to another owner as described in Part II.B.5.

   b. Termination of coverage for a portion of the entire project.

      All **Permittee(s)** must submit a **NOT** within seven (7) days after selling or otherwise legally transferring portions of the site to another party and they are no longer the **owner** or **operator**. The portions of the site being sold to another party must be in compliance with the permit (e.g. all **temporary erosion protection** and **sediment control** measures must be in place). The form must include signatures from the original **Permittee(s)** and contact information for the new **owner** of the property.

   c. Termination of coverage obtained using a subdivision registration.

      If permit coverage was obtained using the subdivision registration process, **Permittee(s)** are required to submit a **NOT** within 30 days after achieving **Final Stabilization** (see Part IV.G.).

3. **Permittee(s)** that use an alternative method for the Permanent **Stormwater** Management System as described in Part III.C.5, are prohibited from terminating this permit until **Final Stabilization** has been achieved on site and either:

a. The two years of monitoring data required in Part III.C.5 has been submitted to the MPCA and the MPCA has determined that the required treatment has been achieved. The **Permittee** will be notified in writing within 30 days after the monitoring data has been submitted. If the **Permittee** has not heard from the MPCA within 30 days after submitting the required data, the Permittee can submit a **NOT**.

b. The Permittee can submit a **NOT**, even if the timeframe is less than two years, if the MPCA determines that the alternative method is achieving the required treatment.

During the monitoring and evaluation of the alternative method, the **Permittee** is not responsible for other permit requirements that have been transferred as described in Part II.B.5.

PART III. STORMWATER DISCHARGE DESIGN REQUIREMENTS

A. STORM WATER POLLUTION PREVENTION PLAN

The **owner** must develop a Storm Water Pollution Prevention Plan (**SWPPP).** The **SWPPP** shall be completed prior to submitting any permit application and prior to conducting any **construction activity** by any required **Permittee(s)**. The plan must be a combination of narrative, plan sheets and if appropriate standard detail sheets that address the foreseeable conditions, at any stage in the construction or post construction activities. The plan must include a description of the nature of the **construction activity**. The plan must address the potential for discharge of sediment and/or other potential pollutants from the site. For **stormwater** discharges from **construction activity** where the **owner** or **operator** changes, the new **owner** or **operator** can implement the original **SWPPP** created for the project, modify the original SWPPP, or develop and implement their own **SWPPP**. **Permittee(s)** shall ensure either directly or through coordination with other **Permittee(s)** that their **SWPPP** meets all terms and conditions of this permit and that their activities do not render another party's **erosion prevention** and **sediment control BMPs** ineffective.

1. As part of the **SWPPP** the **owner** must identify a person knowledgeable and experienced in the application of **erosion prevention** and **sediment control BMPs** who will oversee the implementation of the **SWPPP**, and the installation, inspection and maintenance of the **erosion prevention** and **sediment control BMPs** before and during construction. The **owner** must identify who will have the responsibility for long term operation and maintenance of the Permanent **Stormwater** Management System (see Part III.C.). The **owner** shall develop a chain of responsibility with all **operators** on the site to ensure that the **SWPPP** will be implemented and stay in effect until the construction project is complete, the entire site has undergone **Final Stabilization**, and a **NOT** has been submitted to the MPCA.

2. Training requirements. **Permittee(s)** must comply with these training requirements no later than 18 months after the issuance date of this permit. The **Permittee(s)** shall ensure the individuals identified in this part have been trained in accordance with this Permit's training requirements. The **Permittee(s)** shall ensure the training is recorded in or with the **SWPPP** before the start of construction or as soon as the personnel for the project have been determined.

   a. Who must be trained:

      i. Individual(s) preparing the **SWPPP** for the project.

      ii. Individual(s) overseeing implementation of, revising, and amending the **SWPPP** and individual(s) performing inspections as required in Part IV.E. One of these individual(s) must be available for an on site inspection within 72 hours upon request by the MPCA.

iii. Individual(s) performing or supervising the installation, maintenance and repair of **BMPs**. At least one individual on a project must be trained in these job duties.

b. Training content. The content and extent of training must be commensurate with the individual's job duties and responsibilities with regard to activities covered under this permit for the project. At least one individual present on the permitted project site (or available to the project site in 72 hours) must be trained in the job duties described in Part III.A.2.a.ii and Part III.A.2.a.iii.

c. Training documentation.

i. Documentation must be in or with the **SWPPP** or be available within 72 hours upon request.

ii. Names of the personnel associated with this project that are required to be trained per Part III.A.2.a. of this permit.

iii. Dates of training and name of instructor(s) and entity providing training.

iv. Content of training course or workshop (including number of hours of training).

d. The **Permittee(s)** shall ensure that the individuals are trained by local, state, federal agencies, professional organizations, or other entities with expertise in **erosion prevention**, **sediment control** or permanent **stormwater** management such as the University of Minnesota, Minnesota Erosion Control Association, Soil and Water Conservation Districts or the MPCA.

3. The **SWPPP** must incorporate the requirements of Part III (Stormwater Discharge Design Requirements), Part IV (Construction Activity Requirements) and Appendix A for the project. A narrative describing the timing for installation of all **erosion prevention** and **sediment control BMPs** required in Part III, Part IV and Appendix A must also be included in the **SWPPP**.

4. The **SWPPP** requirements must be incorporated into the project's final plans and specifications and/or project documentation, as appropriate, and must include:

a. Location and type of all temporary and permanent **erosion prevention** and **sediment control BMPs** along with procedures to be used to establish additional temporary **BMPs** as necessary for the site conditions during construction. **Standard plates** and/or specifications for the **BMPs** used on the project must be included in the final plans and specifications for the project.

b. Estimated preliminary quantities tabulation anticipated at the start of the project for the life of the project must be included for all **erosion prevention** and **sediment control BMPs** in the **SWPPP**.

c. The **SWPPP** must include the number of acres of impervious surface for both pre- and post-construction.

d. A site map with existing and final grades, including dividing lines and direction of flow for all pre-and post-construction **stormwater** runoff drainage areas located within the project limits. The site map must also include **impervious surfaces** and soil types.

e. Locations of areas not to be disturbed. Buffer zones, if required in Appendix A. Part C.3, must be described and identified on plan sheets or project maps in the **SWPPP**.

f. Location of areas where construction will be phased to minimize duration of exposed soil areas.

g. All **surface waters** and existing **wetlands**, which can be identified on maps such as United States Geological Survey 7.5 minute quadrangle maps or equivalent maps within one mile from the project boundaries, which will receive **stormwater** runoff from the construction site, during or after construction. Where **surface waters** receiving runoff associated with **construction activity** will not fit on the plan sheet, they must be identified with an arrow, indicating both direction and distance to the **surface water**. The **SWPPP** must identify if the **surface water** is a special or impaired water.

h. Methods to be used for **Final Stabilization** of all exposed soil areas.

5. The **Permittee(s)** must amend the **SWPPP** as necessary to include additional requirements, such as additional or modified **BMPs**, designed to correct problems identified or address situations whenever:

   a. There is a change in design, construction, operation, maintenance, weather or seasonal conditions that has a significant effect on the discharge of pollutants to **surface waters** or **underground waters**;

   b. Inspections or investigations by site **operators**, local, state or federal officials indicate the **SWPPP** is not effective in eliminating or significantly minimizing the discharge of pollutants to **surface waters** or **underground waters** or that the discharges are causing water quality standard exceedances (e.g. nuisance conditions as defined in Minn. R. 7050.0210, subp. 2); or

   c. The **SWPPP** is not achieving the general objectives of minimizing pollutants in **stormwater** discharges associated with **construction activity**, or the **SWPPP** is not consistent with the terms and conditions of this permit.

   d. At any time after permit coverage is effective, the MPCA may determine that the project's **stormwater** discharges may cause, have reasonable potential to cause, or contribute to non-attainment of any applicable water quality standard, or that the **SWPPP** does not incorporate the applicable requirements in Part III.A.9, Discharges to Impaired Waters and TMDLs. If MPCA makes such determination(s) or any of the determinations in Parts III.A.5.a.-.c., MPCA will notify the **Permittee(s)** in writing. In response, the **Permittee(s)** must develop a supplemental **BMP** action plan or appropriate **SWPPP** amendments describing **SWPPP** modifications to address the identified concerns and submit information requested by MPCA, which may include an individual permit application. If MPCA's written notification requires a response, failure to respond within the specified timeframe constitutes a permit violation.

6. The **SWPPP** must factor in any findings of and include any **stormwater** mitigation measures required as the result of any environmental, archeological or other required local, state or federal review conducted for the project. For the purposes of this permit provision, mitigation measures mean avoiding, minimizing, rectifying (e.g., repairing, rehabilitating, restoring), reducing, eliminating or compensating for impacts related to: (1) **stormwater** discharges associated with the project's **construction activity**; and (2) **erosion prevention**, **sediment control** and the Permanent **Stormwater** Management System for the project.

7. The **SWPPP** must provide additional measures as necessary to assure compliance with **surface and ground water** standards in Minn. R. chs. 7050 and 7060 in karst areas and to ensure protection of drinking water supply management areas (see Minn. R. 4725.4450).

8. If runoff from the site discharges to a calcareous fen listed in Minn. R. 7050.0180, subp. 6b, and a letter of approval from the Minnesota Department of Natural Resources (DNR) has been obtained, this must be documented in the **SWPPP** for the project. Any additional **stormwater** mitigation measures contained in the DNR approval letter must be incorporated into the **SWPPP** for the project. If the DNR does not respond to the request for a letter of approval within 30 calendar days, this must be documented in the SWPPP for the project.

9. Discharges to Impaired Waters and TMDLs

   This part describes the requirements for projects that have a discharge point on the project that is within one mile of, and flows to, an impaired water that is identified on the most recent USEPA approved list of impaired waters. Impaired waters for the purposes of this permit are those waters identified as impaired pursuant to section 303(d) of the Clean Water Act where the identified pollutant(s) or stressor(s) are phosphorus (nutrient eutrophication biological indicators), turbidity, dissolved oxygen, or biotic impairment (fish bioassessment, aquatic plant bioassessment and aquatic macroinvertebrate bioassessment), and a TMDL is either required, or complete and USEPA approved, for any of the identified pollutant(s) or stressor(s).

   a. Requirements for Discharges to Impaired Waters

      For projects that have a discharge point on the project that is within one mile of, and flows to, an impaired water, the **Permittee(s)** must identify the impaired water(s) in the **SWPPP**, and whether there is a USEPA approved TMDL for the pollutant(s) or stressor(s) identified in this part. Unless otherwise notified by the MPCA in writing, the **Permittee(s)** identification of impaired waters must be based on the most recent USEPA approved section 303(d) Clean Water Act list of impaired waters and USEPA approved TMDLs at the time a complete permit application is submitted. The **Permittee(s)** identification must include those TMDLs applicable to the project's **stormwater** discharge that were approved at any time prior to permit application submittal and are still in effect.

   b. Impaired Water Without an Approved TMDL or With an Approved TMDL and No Waste Load Allocation

      If runoff from the site discharges to an impaired water, and a TMDL has not been approved by USEPA or there is a USEPA approved TMDL that does not establish a Waste Load Allocation (WLA) for construction **stormwater**, the **Permittee(s)** must incorporate into their **SWPPP**, and implement, the additional **BMPs** in Appendix A, Part C.1 and C.2.

c. Impaired Water With an Approved TMDL and WLA

If runoff from the site discharges to an impaired water for which there is a USEPA approved TMDL that establishes a WLA for construction **stormwater**, and the TMDL does not identify any specific implementation activities that would apply to the site discharges, the **Permittee(s)** must incorporate into their **SWPPP**, and implement, the additional BMPs in Appendix A, Part C.1 and C.2. If the TMDL identifies specific implementation activities regarding construction stormwater that would apply to the site discharges, the Permittee(s) must include the following in the **SWPPP**:

i. Identify the receiving water, the areas of the site discharging to it, and the pollutant(s) identified in the TMDL; and

ii. **BMPs** identified in the TMDL and any other specific construction stormwater related implementation activities identified in the TMDL.

B. TEMPORARY SEDIMENT BASINS

Where ten (10) or more acres of disturbed soil drain to a common location, a temporary (or permanent) sediment basin must be provided prior to the runoff leaving the construction site or entering **surface waters**. The **Permittee** is encouraged, but not required, to install temporary sediment basins where appropriate in areas with steep slopes or highly erodible soils even if less than ten (10) acres drains to one area. The basins must be designed and constructed according to the following requirements:

1. The basins must provide storage below the outlet pipe for a calculated volume of runoff from a two (2) year, 24 hour storm from each acre drained to the basin, except that in no case shall the basin provide less than 1800 cubic feet of storage below the outlet pipe from each acre drained to the basin.

2. Where no such calculation has been performed, a temporary (or permanent) sediment basin providing 3,600 cubic feet of storage below the outlet pipe per acre drained to the basin, shall be provided where attainable until **permanent cover** is established for the entire drainage area of the temporary basin.

3. Temporary basin outlets must be designed to prevent short-circuiting and the discharge of floating debris. The basin must be designed with the ability to allow complete basin drawdown (e.g., perforated riser pipe wrapped with filter fabric and covered with crushed gravel, pumps or other means, see Part IV.D.) for maintenance activities, and provide a **stabilized** emergency overflow to prevent failure of pond integrity. **Energy dissipation** must be provided for the basin outlet (see Part IV.B.4).

4. The temporary (or permanent) basins must be constructed and made operational concurrent with the start of soil disturbance that is upgradient of the area and contributes runoff to the pond.

5. Where the temporary sediment basin is not attainable due to site limitations, equivalent **sediment controls** such as smaller sediment basins, and/or sediment traps, silt fences, vegetative buffer strips, or any appropriate combination of measures are required for all down slope boundaries of the construction area and for those side slope boundaries deemed appropriate as dictated by

individual site conditions. In determining whether installing a sediment basin is attainable, the **Permittee** must consider public safety and may consider factors such as site soils, slope, and available area on site. This determination must be documented in the **SWPPP**.

C. PERMANENT STORMWATER MANAGEMENT SYSTEM

All **stormwater** must be discharged in a manner that does not cause nuisance conditions, erosion in receiving channels or on downslope properties, or inundation in **wetlands** causing a significant adverse impact to the **wetlands**.

Where a project's ultimate development replaces vegetation and/or other pervious surfaces with one or more acres of cumulative **impervious surface**, a **water quality volume** of ½ inch of runoff from the new **impervious surfaces** created by the project must be treated by one of the methods outlined in Part III.C.1 through Part III.C.5 prior to the runoff leaving the construction site or entering **surface waters** (excluding man made drainage systems that convey **stormwater** to a constructed permanent **stormwater** management facility designed to treat the **water quality volume** from the project).

For those areas of a project where there is no feasible way to meet the treatment requirement for the **water quality volume**, other treatment such as grassed swales, smaller ponds or grit chambers is required prior to discharge to **surface waters**. A cumulative maximum of three (3) acres or 1% of project size whichever is larger can be treated in this manner.

Where the proximity to bedrock precludes the installation of any of the permanent **stormwater** management practices outlined in Part III.C., other treatment, such as grassed swales, smaller ponds, or grit chambers, is required prior to discharge to **surface waters**.

For work on linear projects where the lack of right of way precludes the installation of any of the permanent **stormwater** management practices outlined in Part III.C., other treatment such as grassed swales, smaller ponds, or grit chambers, is required prior to discharge to **surface waters**. A reasonable attempt must be made to obtain right of way during the project planning process. Documentation of these attempts must be in the **SWPPP** for the project or made available upon request within 72 hours.

1. Wet Sedimentation Basin

   a. The basin must have a permanent volume of 1800 cubic feet of storage below the outlet pipe for each acre that drains to the basin. The basin's permanent volume must reach a minimum depth of at least 3 feet and must have no depth greater than 10 feet. The basin must be configured such that scour or resuspension of solids is minimized.

   b. The basin's **water quality volume** is calculated as ½ inch of runoff from the new **impervious surfaces** created by the project.

   c. Basin outlets shall be designed such that the **water quality volume** is discharged at no more than 5.66 cubic feet per second (cfs) per acre of surface area of the pond.

   d. Basin outlets must be designed to prevent short-circuiting and the discharge of floating debris. Basin outlets must have **energy dissipation**.

e. The basin must provide a **stabilized** emergency overflow to accommodate storm events in excess of the basin's hydraulic design.

f. Adequate maintenance access must be provided (typically 8 ft. wide) along with a maintenance plan identifying whom will be performing future maintenance of the basin.

2. Infiltration/Filtration

Infiltration/Filtration options include but are not limited to: infiltration basins, infiltration trenches, rainwater gardens, sand filters, organic filters, bioretention areas, enhanced swales, dry storage ponds with underdrain discharge, off-line retention areas, and natural depressions. Infiltration must be used only as appropriate to the site and land uses. Settleable solids, floating materials, oils and grease should be removed from the runoff to the maximum extent practicable before runoff enters the infiltration/filtration system. Filtration systems must have a reasonable chance of achieving approximately 80% removal of total suspended solids. The **Permittee(s)** must evaluate the impact of constructing an infiltration practice on existing hydrologic features (e.g., existing **wetlands**) and try to maintain pre-existing conditions (e.g., do not breach a perched water table which is supporting a **wetland**). For a discussion of potential stormwater hotspots, ground water warnings, design measures, maintenance considerations or other retention, detention, and treatment devices, see the **Minnesota Stormwater Manual** or MPCA's **Protecting Water Quality in Urban Areas** found on the MPCA's web-site.

a. Infiltration systems should not be excavated to final grade until the contributing drainage area has been constructed and fully **stabilized**.

b. During construction of an infiltration system, rigorous **erosion prevention** and **sediment controls** (e.g., diversion berms) should be used to keep sediment and runoff completely away from the infiltration area. The area must be staked off and marked so that heavy construction equipment will not compact the soil in the proposed infiltration area.

c. To prevent clogging of the infiltration or filtration system, a pretreatment device such as a vegetated filter strip, small sedimentation basin, or water quality inlet (e.g., grit chamber) must be used to settle particulates before the **storm water** discharges into the infiltration or filtration system.

d. Infiltration or filtration systems shall be sufficient to infiltrate or filter a **water quality volume** of ½ inch of runoff from the new **impervious surfaces** created by the project.

e. The **water quality volume** shall discharge through the soil surface or filter media in 48 hours or less. Additional flows that cannot be infiltrated or filtered in 48 hours should be routed to bypass the system through a **stabilized** discharge point. A way to visually verify that the system is operating as designed must be provided.

f. Appropriate on-site testing consistent with the recommendations found in the **Minnesota Stormwater Manual** shall be conducted to ensure a minimum of 3 feet of separation from the seasonally **saturated soils** (or from bedrock) and the bottom of the proposed infiltration system. Calculations or computer model results that demonstrate the design adequacy of the infiltration system must be included as part of the **SWPPP**.

g. Adequate maintenance access must be provided (typically 8 ft. wide) along with a maintenance plan identifying whom will be performing future maintenance of the infiltration or filtration system.

h. Use of designed infiltration systems receiving runoff from vehicle fueling and maintenance areas is prohibited.

3. Regional Ponds

Regional ponds can be used provided that they are constructed ponds, not a natural **wetland** or water body, (**wetlands** used as regional ponds must be mitigated for, see Appendix A) and designed in accordance with this permit's design requirements (see Part III.C.1) for all water from **impervious surfaces** that reach the pond. **Permittee(s)** shall not construct regional ponds in **wetlands**, regardless of their condition, quality or designation by local plans, unless the mitigative sequence in Appendix A. D. of this permit has been completed. There must be no significant degradation of the waterways between the project and the regional pond. The **owner** must obtain written authorization from the applicable local governmental unit (LGU) or private entity that owns and maintains the regional pond. The LGU's or private entity's written authorization must identify that the regional pond will discharge the **water quality volume** (½ inch of runoff from the impervious watershed area) at no more than 5.66 cfs per acre of surface area of the pond. The **owner** must include the LGU's or private entities' written authorization in the **SWPPP**. The LGU's or private entity's written authorization must be obtained before the **owner** finalizes the **SWPPP** and before any application for this permit is made to the MPCA.

4. Combination of Practices

A combination of practices, including those required by a LGU, which meet the requirements of Part III.C.1, 2 and 3 respectively, (i.e., wet sedimentation basins, infiltration/filtration, and regional ponds) may be used such that the **water quality volume** of ½ inch of runoff from the new **impervious surfaces** created by the project is accounted for in the **owner's** permanent **storm water** management system (e.g., ¼ inch infiltrated and ¼ inch treated through a wet sedimentation basin). If any combination of these practices is used, the **SWPPP** must contain documentation (e.g., LGU or private entity's authorization, infiltration computer model results or calculations, etc.) identifying the volume that each practice addresses.

5. Alternative Method

Where an alternative, innovative treatment system is proposed and demonstrated by calculation, design or other independent methods to achieve approximately 80% removal of total suspended solids on an annual average basis, the **Commissioner** will approve the method if the process outlined in Part II.B.3.c. is completed, and the following information is submitted:

a. All calculations, drainage areas, plans, and specifications for the proposed alternative method and a graphic representation of the area to be served by the method. These items must be included in the **SWPPP** and submitted to the MPCA at least 90 days prior to the proposed starting date of the **construction activity**.

b. A two (2) year monitoring plan to sample runoff from the proposed method. The plan must include a discussion of the methods used to collect samples, location where samples will be taken (upstream and downstream of the proposed method), frequency of samples (minimum of six runoff events sampled), identify lab used to analyze the samples and quality assurance and quality control methods to be used. The plan must include a schedule for submitting the monitoring data annually.

c. A mitigation plan that addresses how the **water quality volume** will be treated in the event that the monitoring data shows the proposed alternative treatment method does not function as designed.

d. The alternative method must achieve approximately 80% removal of total suspended solids on an average annual basis for the conditions expected at the site. The design must also consider public safety, health and water quality concerns. Proprietary information on effectiveness will not be considered for alternative treatment method review and approval.

No **construction activity** on the project is covered under this permit until the applicant receives an alternative treatment approval letter from the MPCA as described in Part II.B.3.c.

D. RECORD RETENTION

The **SWPPP** (original or copies) including, all changes to it, and inspections and maintenance records must be kept at the site during construction by the **Permittee** who has operational control of that portion of the site. The **SWPPP** can be kept in either the field office or in an on site vehicle during normal working hours.

All **owner(s)** must keep the **SWPPP**, along with the following additional records, on file for three (3) years after submittal of the **NOT** as outlined in Part II.C. This does not include any records after submittal of the **NOT**.

1. Any other permits required for the project;

2. Records of all inspection and maintenance conducted during construction (see Part IV.E. Inspections and Maintenance);

3. All permanent operation and maintenance agreements that have been implemented, including all right of way, contracts, covenants and other binding requirements regarding perpetual maintenance; and

4. All required calculations for design of the temporary and Permanent **Stormwater** Management Systems.

PART IV. CONSTRUCTION ACTIVITY REQUIREMENTS

A. STORM WATER POLLUTION PREVENTION PLAN

The **Permittee(s)** must implement the **SWPPP** and the requirements of this part. The **BMPs** identified in the **SWPPP** and in this permit must be selected, installed, and maintained in an appropriate and functional manner that is in accordance with relevant manufacturer specifications and accepted engineering practices.

B. EROSION PREVENTION PRACTICES

1. The **Permittee(s)** must plan for and implement appropriate construction phasing, vegetative buffer strips, horizontal slope grading, and other construction practices that minimize erosion, so that the inspection and maintenance requirements of Part IV.E. are complied with. The location of areas not to be disturbed must be delineated (e.g. with flags, stakes, signs, silt fence etc.) on the development site before work begins.

2. All exposed soil areas must be **stabilized** as soon as possible to limit soil erosion but in no case later than 14 days after the construction activity in that portion of the site has temporarily or permanently ceased. Temporary stockpiles without significant silt, clay or organic components (e.g., clean aggregate stockpiles, demolition concrete stockpiles, sand stockpiles) and the constructed base components of roads, parking lots and similar surfaces are exempt from this requirement but must comply with Part IV.C.5.

3. The **normal wetted perimeter** of any temporary or permanent drainage ditch or swale that drains water from any portion of the construction site, or diverts water around the site, must be **stabilized** within 200 lineal feet from the property edge, or from the point of discharge into any **surface water**. Stabilization of the last 200 lineal feet must be completed within 24 hours after connecting to a **surface water**.

   Stabilization of the remaining portions of any temporary or permanent ditches or swales must be complete within 14 days after connecting to a **surface** water and construction in that portion of the ditch has temporarily or permanently ceased.

   Temporary or permanent ditches or swales that are being used as a sediment containment system (with properly designed rock ditch checks, bio rolls, silt dikes etc.) do not need to be **stabilized**. These areas must be **stabilized** within 24 hours after no longer being used as a sediment containment system.

4. Pipe outlets must be provided with temporary or permanent **energy dissipation** within 24 hours after connection to a **surface water**.

C. SEDIMENT CONTROL PRACTICES

1. **Sediment control** practices must minimize sediment from entering **surface waters**, including curb and gutter systems and storm sewer inlets.

   a. Temporary or permanent drainage ditches and sediment basins that are designed as part of a sediment containment system (e.g., ditches with rock check dams) require **sediment control** practices only as appropriate for site conditions.

   b. If the down gradient treatment system is overloaded, additional upgradient **sediment control** practices or redundant BMPs must be installed to eliminate the overloading, and the **SWPPP** must be amended to identify these additional practices as required in Part III.A.4, a. through c.

   c. In order to maintain sheet flow and minimize rills and/or gullies, there shall be no unbroken slope length of greater than 75 feet for slopes with a grade of 3:1 or steeper.

2. **Sediment control** practices must be established on all down gradient perimeters before any upgradient land disturbing activities begin. These practices shall remain in place until **Final Stabilization** has been established in accordance with Part IV.G.

3. The timing of the installation of **sediment control** practices may be adjusted to accommodate short-term activities such as clearing or grubbing, or passage of vehicles. Any short-term activity must be completed as quickly as possible and the **sediment control** practices must be installed immediately after the activity is completed. However, **sediment control** practices must be installed before the next precipitation event even if the activity is not complete.

4. All storm drain inlets must be protected by appropriate **BMPs** during construction until all sources with potential for discharging to the inlet have been **stabilized**. Inlet protection may be removed for a particular inlet if a specific safety concern (street flooding/freezing) has been identified and the **Permittee(s)** have received written correspondence from the jurisdictional authority (e.g. city/county/township/MnDOT engineer) verifying the need for removal. The written correspondence must be documented in the **SWPPP** or available within 72 hours upon request. When written correspondence can not be obtained in a timely manner, the specific inlet protection can be removed to alleviate the immediate safety concern. However, efforts to obtain written correspondence must be documented in the SWPPP and available within 72 hours upon request. Permission to remove inlet protection based on a specific safety concern must still be obtained from the jurisdictional authority within 30 days of removal.

5. Temporary soil stockpiles must have silt fence or other effective **sediment controls**, and cannot be placed in **surface waters**, including **stormwater** conveyances such as curb and gutter systems, or conduits and ditches unless there is a bypass in place for the stormwater**.**

6. Vehicle tracking of sediment from the construction site (or onto streets within the site) must be minimized by **BMPs** such as stone pads, concrete or steel wash racks, or equivalent systems. Street sweeping must be used if such **BMPs** are not adequate to prevent sediment from being tracked onto the street (see Part IV.E.4.d.).

7. The **Permittee** must install temporary sedimentation basins as required in Part III.B. of this permit.

D. DEWATERING AND BASIN DRAINING

1. **Dewatering** or basin draining (e.g., pumped discharges, trench/ditch cuts for drainage) related to the **construction activity** that may have turbid or sediment laden discharge water must be discharged to a temporary or permanent sedimentation basin on the project site whenever possible. Discharge from the temporary or permanent sedimentation basin must be visually checked to ensure adequate treatment is obtained in the basin and that nuisance conditions (see Minn. R. 7050.0210, subp. 2) will not result from the discharge. If the water cannot be discharged to a sedimentation basin prior to entering the **surface water**, it must be treated with the appropriate **BMPs**, such that the discharge does not adversely affect the receiving water or downstream landowners. The **Permittee(s)** must ensure that discharge points are adequately protected from erosion and scour. The discharge must be dispersed over natural rock riprap, sand bags, plastic sheeting, or other accepted **energy dissipation** measures. Adequate sedimentation control measures are required for discharge water that contains suspended solids.

2. All water from **dewatering** or basin draining activities must be discharged in a manner that does not cause nuisance conditions, erosion in receiving channels or on downslope properties, or inundation in **wetlands** causing significant adverse impact to the **wetland.**

E. INSPECTIONS AND MAINTENANCE

1. The **Permittee(s)** (either the **owner** or **operator**, whoever is identified in the **SWPPP**) must routinely inspect the entire construction site at least once every seven (7) days during active construction and within 24 hours after a rainfall event greater than 0.5 inches in 24 hours. Following an inspection which occurs within 24 hours after a rainfall event, the next inspection must be conducted within seven (7) days after that.

2. All inspections and maintenance conducted during construction must be recorded in writing and these records must be retained with the **SWPPP** in accordance with Part III.D. Records of each inspection and maintenance activity shall include:

   a. Date and time of inspections;

   b. Name of person(s) conducting inspections;

c. Findings of inspections, including recommendations for corrective actions;

d. Corrective actions taken (including dates, times, and party completing maintenance activities);

e. Date and amount of all rainfall events greater than 1/2 inch (0.5 inches) in 24 hours;

f. Documentation of changes made to the **SWPPP** as required in Part III.A.4; and

3. Where parts of the construction site have **permanent cover**, but work remains on other parts of the site, inspections of the areas with **permanent cover** may be reduced to once per month. Where construction sites have **permanent cover** on all exposed soil areas and no construction activity is occurring anywhere on the site, the site must be inspected for a period of twelve (12) months (the inspections may be ceased during frozen ground conditions). Following the twelfth month of **permanent cover** and no **construction activity**, inspections may be terminated until construction activity is once again initiated or sooner if notified in writing by the MPCA. Where work has been suspended due to frozen ground conditions, the required inspections and maintenance schedule must begin within 24 hours after runoff occurs at the site or prior to resuming construction, whichever comes first.

4. All **erosion prevention** and **sediment control BMPs** must be inspected to ensure integrity and effectiveness. All nonfunctional **BMPs** must be repaired, replaced, or supplemented with functional **BMPs** within 24 hours after discovery, or as soon as field conditions allow access unless another time frame is specified below. The **Permittee(s)** must investigate and comply with the following inspection and maintenance requirements:

   a. All silt fences must be repaired, replaced, or supplemented when they become nonfunctional or the sediment reaches 1/3 of the height of the fence. These repairs must be made within 24 hours of discovery, or as soon as field conditions allow access.

   b. Temporary and permanent sedimentation basins must be drained and the sediment removed when the depth of sediment collected in the basin reaches 1/2 the storage volume. Drainage and removal must be completed within 72 hours of discovery, or as soon as field conditions allow access (see Part IV.D.).

   c. **Surface waters**, including drainage ditches and conveyance systems, must be inspected for evidence of erosion and sediment deposition. The **Permittee(s)** must remove all deltas and sediment deposited in **surface waters**, including drainage ways, catch basins, and other drainage systems, and restabilize the areas where sediment removal results in exposed soil. The removal and stabilization must take place within seven (7) days of discovery unless precluded by legal, regulatory, or physical access constraints. The **Permittee** shall use all

reasonable efforts to obtain access. If precluded, removal and stabilization must take place within seven (7) calendar days of obtaining access. The **Permittee** is responsible for contacting all local, regional, state and federal authorities and receiving any applicable permits, prior to conducting any work.

d. Construction site vehicle exit locations must be inspected for evidence of off-site sediment tracking onto paved surfaces. Tracked sediment must be removed from all paved surfaces, within 24 hours of discovery, or if applicable, within a shorter time to comply with Part IV.C.6.

e. The **Permittee(s)** are responsible for the operation and maintenance of temporary and permanent water quality management **BMPs**, as well as all **erosion prevention** and **sediment control BMPs**, for the duration of the construction work at the site. The **Permittee(s)** are responsible until another **Permittee** has assumed control according to Part II.B.5 over all areas of the site that have not been finally **stabilized** or the site has undergone **Final Stabilization**, and a **NOT** has been submitted to the MPCA.

f. If sediment escapes the construction site, off-site accumulations of sediment must be removed in a manner and at a frequency sufficient to minimize off-site impacts (e.g., fugitive sediment in streets could be washed into storm sewers by the next rain and/or pose a safety hazard to users of public streets).

5. All infiltration areas must be inspected to ensure that no sediment from ongoing **construction activity** is reaching the infiltration area and these areas are protected from compaction due to construction equipment driving across the infiltration area.

F. POLLUTION PREVENTION MANAGEMENT MEASURES

The **Permittee(s)** shall implement the following pollution prevention management measures on the site:

1. Solid Waste: Collected sediment, asphalt and concrete millings, floating debris, paper, plastic, fabric, construction and demolition debris and other wastes must be disposed of properly and must comply with MPCA disposal requirements.

2. Hazardous Materials: Oil, gasoline, paint and any hazardous substances must be properly stored, including secondary containment, to prevent spills, leaks or other discharge. Restricted access to storage areas must be provided to prevent vandalism. Storage and disposal of hazardous waste must be in compliance with MPCA regulations.
3. External washing of trucks and other construction vehicles must be limited to a defined area of the site. Runoff must be contained and waste properly disposed of. No engine degreasing is allowed on site.

4. Concrete washout onsite: All liquid and solid wastes generated by concrete washout operations must be contained in a leak-proof containment facility or impermeable liner. A compacted clay liner that does not allow washout liquids to enter ground water is considered an impermeable liner. The liquid and solid wastes must not contact the ground, and there must not be runoff from the concrete washout operations or areas. Liquid and solid wastes must be disposed of properly and in compliance with MPCA regulations. A sign must be installed adjacent to each washout facility to inform concrete equipment operators to utilize the proper facilities.

G. FINAL STABILIZATION

The **Permittee(s)** must ensure **Final Stabilization** of the site. **Final Stabilization** requires all of Parts IV.G.1-5 or Part IV.G.6:

1. **Final Stabilization** requires that all soil disturbing activities at the site have been completed and all soils must be **stabilized** by a uniform perennial vegetative cover with a density of 70% over the entire pervious surface area, or other equivalent means necessary to prevent soil failure under erosive conditions.

2. The **Permittee(s)** must ensure that the permanent **stormwater** treatment system meets all requirements in Part III, C. This includes but is not limited to, a final clean out of temporary or permanent sedimentation basins that are to be used as permanent water quality management basins and final construction or maintenance of infiltration basins. All sediment must be removed from conveyance systems and ditches must be **stabilized** with **permanent cover**.

3. Prior to submission of the **NOT**, all temporary synthetic and structural **erosion prevention** and **sediment control BMPs** (such as silt fence) must be removed on the portions of the site for which the **Permittee** is responsible. **BMPs** designed to decompose on site (such as some compost logs) may be left in place.

4. For residential construction only, individual lots are considered finally **stabilized** if the structure(s) are finished & **temporary erosion protection** and downgradient perimeter control has been completed and the residence has been sold to the homeowner. Additionally, the **Permittee** must distribute the MPCA's "**Homeowner Fact Sheet"** to the homeowner to inform the homeowner of the need for, and benefits of, **permanent cover**.

5. For construction projects on land used for agricultural purposes (e.g., pipelines across crop or range land) **Final Stabilization** may be accomplished by returning the disturbed land to its preconstruction agricultural use.

6. A **Permittee** may terminate permit coverage prior to completion of all **construction activity** if all of the following conditions are met in addition to Part IV.G.2 through Part IV.G.3 and where applicable, Part IV.G.4 or Part IV.G.5.

   a. **Construction activity** has ceased for at least 90 days.

   b. At least 90% (by area) of all originally proposed **construction activity** has been completed and **permanent cover** established on those areas.

   c. On areas where **construction activity** is not complete, **permanent cover** has been established.

PART V. GENERAL PROVISIONS

A. APPLICABILITY CRITERIA

1. If the **Commissioner** determines that **stormwater** discharges associated with a **construction activity** are contributing to a violation of a water quality standard or would be more appropriately regulated by an individual permit, the **Commissioner** may require the **owner** to be covered by an individual **stormwater** discharge permit. The **Commissioner** may require the **owner** to develop and implement specific **BMPs** and monitor the discharge from the site. If applicable, upon issuance of an individual permit, this general permit would no longer apply.

2. If the terms and conditions of this general permit cannot be met, an **owner** may request an individual permit, in accordance with Minn. R. 7001.

3. Any interested person may petition the MPCA to require an individual NPDES/SDS permit in accordance with 40 CFR 122.28(b)(3).

B. RESPONSE

The **SWPPP**, including all certificates, reports, records, or other information required by this permit, must be made available to federal, state, and local officials within 72 hours upon request for the duration of the permit and for three years following the **NOT**. This does not include any records after submittal of the **NOT**.

C. PROHIBITIONS

This permit prohibits discharges of any material other than **stormwater,** and discharges from **dewatering** or basin draining activities in accordance with Part IV.D.1 and 2. For example, prohibited discharges include but are not limited to vehicle and equipment washing, maintenance spills, wash water, and discharges of oil and other hazardous substances.

D. TRANSFER OF OWNERSHIP OR CONTROL

This permit may not be assigned or transferred by the permit holder except when transfer occurs in accordance with the applicable requirements of Part II.B.5.

E. CIVIL AND CRIMINAL LIABILITY

Nothing in this permit must be construed to relieve the **Permittee(s)** from civil or criminal penalties for noncompliance with the terms and conditions provided herein. Nothing in this permit must be construed to preclude the initiation of any legal action or relieve the **Permittee(s)** from any responsibilities, liabilities, or penalties to which the **Permittee(s)** is or may be subject to under Section 311 of the Act and Minn. Stat. chs. 115 and 116, as amended. The **Permittee(s)** are not liable for permit requirements for activities occurring on those portions of a site where another party has submitted a notice of termination/permit modification form as described in Part II. B.5.b or the permittee has submitted the notice of termination/permit modification form as described in Part II.C.2.b except for monitoring responsibilities listed under Part III.C.5 if applicable.

F. SEVERABILITY

The provisions of this permit are severable. If any provision of this permit, or the application of any provision of this permit to any circumstances, is held invalid, the application of such provision to other circumstances, and the remainder of this permit must not be affected thereby.

G. NPDES/SDS RULE STANDARD CONDITIONS

The **Permittee(s)** must comply with the provisions of Minn. R. 7001.0150, subp. 3 and Minn. R. 7001.1090, subp. 1(A), 1(B), 1(C), 1(H), and 1(I). This permit does not require the submittal of a data monitoring report, except where monitoring is required in Part III.C.5.

H. INSPECTION AND ENTRY

The **Permittee(s)** must comply with the provisions of 40 CFR 122.41(i), Minn. Stat. ch. 115.04 and Minn. Stat. ch. 115B.17. The **Permittee(s)** shall allow representatives of the MPCA or any member, employee or agent thereof, when authorized by it, upon presentation of credentials, to enter upon any property, public or private, for the purpose of obtaining information or examination of records or conducting surveys or investigations.

APPENDIX A

A. GENERAL REQUIREMENTS

All requirements in this Appendix are in addition to **BMPs** already specified in the permit. Where provisions of Appendix A conflict with requirements elsewhere in the permit, the provisions in Appendix A take precedence. All **BMPs** used to comply with this Appendix must be documented in the **SWPPP** for the project. If the terms and conditions of this Appendix cannot be met, an individual permit will be required in accordance with Minn. R. ch. 7001.

B. REQUIREMENTS FOR DISCHARGES TO SPECIAL WATERS AND IMPAIRED WATERS

Additional **BMPs** together with enhanced runoff controls are required for discharges to the following special waters (part B.1 through B.8 of Appendix A) and impaired waters (part B.9 of Appendix A). The **BMPs** identified for each special or impaired water are required for those areas of the project draining to a discharge point on the project that is within one mile of a special or impaired water and flows to that special or impaired water.

1. **Wilderness areas:** Boundary Waters Canoe Area Wilderness; Voyageurs National Park; Kettle River from the site of the former dam at Sandstone to its confluence with the Saint Croix River; Rum River from Ogechie Lake spillway to the northernmost confluence with Lake Onamia. Discharges to these waters must incorporate the **BMPs** outlined in C.1, C.2, C.3 and C.4 of this Appendix.

2. **Mississippi River:** Those portions from Lake Itasca to the southerly boundary of Morrison County that are included in the Mississippi Headwaters Board comprehensive plan dated February 12, 1981. Discharges to these waters must incorporate the **BMPs** outlined in C.1, C.2 and C.3 of this Appendix.

3. **Scenic or recreational river segments:** Saint Croix river, entire length; Cannon River from northern city limits of Faribault to its confluence with the Mississippi River; North Fork of the Crow River from Lake Koronis outlet to the Meeker-Wright county line; Kettle River from north Pine County line to the site of the former dam at Sandstone; Minnesota River from Lac qui Parle dam to Redwood County state aid highway 11; Mississippi River from county state aid highway 7 bridge in Saint Cloud to northwestern city limits of Anoka; and Rum River from state aid Highway 27 bridge in Onamia to Madison and Rice streets in Anoka. Discharges to these waters must incorporate the **BMPs** outlined in C.1, C.2 and C.3 of this Appendix.

4. **Lake Superior:** (Prohibited and restricted.) Discharges to Lake Superior must incorporate the **BMPs** outlined in C.1, C.2 and C.3 of this Appendix.

5. **Lake Trout Lakes:** Identified in Minn. R. 7050.0470, including those inside the boundaries of the Boundary Waters Canoe Area Wilderness and Voyageurs National Park. Discharges to these waters must incorporate the **BMPs** outlined in C.1, C.2, C.3 and C.4 of this Appendix.

6. **Trout Lakes:** Identified in Minn. R. 6264.0050, subp. 2. Discharges to these waters must incorporate the **BMPs** outlined in C.1, C.2, C.3, and C.4 of this Appendix.

7. **Scientific and natural areas:** Boot Lake, Anoka County; Kettle River in sections 15, 22, 23, T 41 N, R 20, Pine County; Pennington Bog, Beltrami County; Purvis Lake-Ober Foundation, Saint Louis County; Waters within the borders of Itasca Wilderness Sanctuary, Clearwater County; Iron Springs Bog, Clearwater County; Wolsfeld Woods, Hennepin County; Green Water Lake, Becker County; Blackdog Preserve, Dakota County; Prairie Bush Clover, Jackson County; Black Lake Bog, Pine County; Pembina Trail Preserve, Polk County; and Falls Creek, Washington County. Discharges to these waters must incorporate the **BMPs** outlined in C.1, C.2, C.3 and C.4 of this Appendix.

8. **Trout Streams:** Listed in Minn. R. 6264.0050, subp. 4. Discharges to these waters must incorporate the **BMPs** outlined in C.1, C.2, C.3, and C.5 of this Appendix.

9. **Impaired Waters**: waters identified as impaired under section 303 (d) of the federal Clean Water Act for phosphorus (nutrient eutrophication biological indicators), turbidity, dissolved oxygen or aquatic biota (fish bioassessment, aquatic plant bioassessment and aquatic macroinvertebrate bioassessment). Discharges to these waters must incorporate the **BMPs** outlined in C.1 and C.2 of this Appendix.

Note on impaired waters listing terminology: The terms in parenthesis in Appendix A Part B.9 above are the most current terminology used to list waters as impaired at the time of permit issuance. These terms are subject to change. For example, at one time waters were listed as impaired for phosphorus and now those same waters are listed as impaired for nutrient eutrophication biological indicators. If the terminology changes for one of the pollutant(s) or stressor(s) identified in the permit, the MPCA will keep a list of the new terms on its construction **stormwater** web site.

C. ADDITIONAL BMPS FOR SPECIAL WATERS AND IMPAIRED WATERS

For the BMPs described in C.2, C.4 and C.5 of this Appendix:

Where the proximity to bedrock precludes the installation of any of the permanent **stormwater** management practices outlined in Appendix A, other treatment such as grassed swales, smaller ponds, or grit chambers is required prior to discharge to **surface waters**.

For work on linear projects where the lack of right of way precludes the installation of any of the permanent **stormwater** management practices outlined in Appendix A, other treatment such as grassed swales, smaller ponds, or grit chambers is required prior to discharge to **surface waters**.

1. During construction.

   a. All exposed soil areas must be **stabilized** as soon as possible to limit soil erosion but in no case later than seven (7) days after the **construction activity** in that portion of the site has temporarily or permanently ceased.

   b. Temporary sediment basin requirements described in Part III.B.1-5 must be used for common drainage locations that serve an area with five (5) or more acres disturbed at one time.

2. Post construction. The **water quality volume** that must be treated by the project's permanent **stormwater** management system described in Part III.C. shall be one (1) inch of runoff from the new **impervious surfaces** created by the project. Where site conditions allow, at least ½ inch of the **water quality volume** must be infiltrated. See Part III.C.2 for more information on infiltration design and appropriate site conditions. If it is determined that site conditions are not appropriate for infiltration (e.g. lack of 3 ft. of separation to seasonally saturated ground water, proximity to bedrock, contaminated soils) the reasons should be documented in the **SWPPP** for the project. Infiltration is not required in Hydrologic Soil Group D soils.

3. Buffer zone. An undisturbed buffer zone of not less than 100 linear feet from the special water (not including tributaries) shall be maintained at all times. Exceptions from this requirement for areas, such as water crossings, limited water access and restoration of the buffer are allowed if the **Permittee** fully documents in the **SWPPP** the circumstances and reasons that the buffer encroachment is necessary. Replacement of existing impervious surface within the buffer is allowed under this permit. All potential water quality, scenic and other environmental impacts of these exceptions must be minimized by the use of additional or redundant **BMPs** and documented in the **SWPPP** for the project.

4. Enhanced runoff controls. The Permanent **Stormwater** Management System must be designed such that the pre- and post-project runoff rate and volume from the 1 and 2-year 24-hour precipitation events remain the same or are reduced.

5. Temperature Controls. The Permanent **Stormwater** Management System must be designed such that the discharge from the project will minimize any increase in the temperature of trout stream receiving waters resulting from the 1-and 2-year 24-hour precipitation events. This includes all tributaries of designated trout streams within the section that the trout stream is located. Projects that discharge to trout streams must minimize the impact using one or more of the following measures, in order of preference:

   a. Minimize new **impervious surfaces**.

   b. Minimize the discharge from connected **impervious surfaces** by discharging to vegetated areas, or grass swales, and through the use of other non-structural controls.

   c. Infiltration or evapotranspiration of runoff in excess of pre-project conditions (up to the 2-year 24-hour precipitation event).

d. If ponding is used, the design must include an appropriate combination of measures such as shading, filtered bottom withdrawal, vegetated swale discharges or constructed **wetland** treatment cells that will limit temperature increases. The pond should be designed to draw down in 24 hours or less.

e. Other methods that will minimize any increase in the temperature of the trout stream.

D. REQUIREMENTS FOR DISCHARGING TO WETLANDS

If the project has any **stormwater** discharges with the potential for significant adverse impacts to a **wetland** (e.g., conversion of a natural **wetland** to a **stormwater** pond) , the **Permittee(s)** must demonstrate that the **wetland** mitigative sequence has been followed in accordance with D.1 or D.2 of this appendix.

1. If the potential adverse impacts to a **wetland** on a specific project site have been addressed by permits or other approvals from an official statewide program (U.S. Army Corps of Engineers 404 program, Minnesota DNR, or the State of Minnesota Wetland Conservation Act) that are issued specifically for the project and project site, the **Permittee** may use the permit or other determination issued by these agencies to show that the potential adverse impacts have been addressed. For the purposes of this permit, deminimus actions are determinations by the permitting agency that address the project impacts, whereas a non-jurisdictional determination does not address project impacts.

2. If there are impacts from the project that are not addressed in one of the permits or other determinations discussed in Appendix A, Part D.1 (e.g., permanent inundation or flooding of the **wetland**, significant degradation of water quality, excavation, filling, draining), the **Permittee** must minimize all adverse impacts to **wetlands** by utilizing appropriate measures. Measures used must be based on the nature of the **wetland**, its vegetative community types and the established hydrology. These measures include in order of preference:

   a. Avoid all significant adverse impacts to **wetlands** from the project and post-project discharge.

   b. Minimize any unavoidable impacts from the project and post-project discharge.

   c. Provide compensatory mitigation when the **Permittee** determines that there is no reasonable and practicable alternative to having a significant adverse impact on a **wetland**. For compensatory mitigation, **wetland** restoration or creation shall be of the same type, size and whenever reasonable and practicable in the same watershed as the impacted **wetland**.

E. DISCHARGES REQUIRING ENVIRONMENTAL REVIEW

This permit does not replace or satisfy any environmental review requirements, including those under the Minnesota Environmental Policy Act or the National Environmental Policy Act. The **owner** must verify that any environmental review required by law, including any required Environmental Assessment Work Sheets or Environmental Impact Statements, Federal environmental review, or other required review is complete, and the **owner** must incorporate any **stormwater** mitigation measures required as the result of any environmental review into the **SWPPP** for the project. If any part of your common plan of development or sale requires environmental review, coverage under this permit can not be obtained until such environmental review is complete.

F. DISCHARGES AFFECTING ENDANGERED OR THREATENED SPECIES

This permit does not replace or satisfy any review requirements for endangered or threatened species, from new or expanded discharges that adversely impact or contribute to adverse impacts on a listed endangered or threatened species, or adversely modify a designated critical habitat. The **owner** must conduct any required review and coordinate with appropriate agencies for any project with the potential of affecting threatened or endangered species, or their critical habitat.

G. DISCHARGES AFFECTING HISTORIC PLACES OR ARCHEOLOGICAL SITES

This permit does not replace or satisfy any review requirements for historic places or archeological sites, from new or expanded discharges which adversely affect properties listed or eligible for listing in the National Register of Historic Places or affecting known or discovered archeological sites. The **owner** must be in compliance with National Historic Preservation Act and conduct all required review and coordination related to historic preservation, including significant anthropological sites and any burial sites, with the Minnesota Historic Preservation Officer.

APPENDIX B. - DEFINITIONS

1. "**Best Management Practices (BMPs)**" means **erosion prevention** and **sediment control,** and water quality management practices that are the most effective and practicable means of controlling, preventing, and minimizing degradation of **surface water**, including avoidance of impacts, construction-phasing, minimizing the length of time soil areas are exposed, prohibitions, and other management practices published by state or designated area-wide planning agencies.

   Individual **BMPs** found in this permit are described in the current version of **Protecting Water Quality in Urban Areas**, Minnesota Pollution Control Agency 2000. **BMPs** must be adapted to the site and can be adopted from other sources. However, they must be similar in purpose and at least as effective and stringent as MPCA's **BMPs**. (Other sources include manufacturers specifications, **Storm Water Management for Construction Activities: Developing Pollution Prevention Plans and Best Management Practices**, U.S. Environmental Protection Agency 1992, and **Erosion Control Design Manual**, Minnesota Department of Transportation, et al, 1993).

2. **"Commissioner"** means the **Commissioner** of the MPCA or the **Commissioner's** designee.

3. **"Common Plan of Development or Sale"** means a contiguous area where multiple separate and distinct land disturbing activities may be taking place at different times, on different schedules, but under one proposed plan. One plan is broadly defined to include design, permit application, advertisement or physical demarcation indicating that land-disturbing activities may occur.

4. "**Construction Activity**" includes **construction activity** as defined in 40 C.F.R. pt. 122.26(b)(14)(x) and **small construction activity** as defined in 40 C.F.R. pt. 122.26(b)(15). This includes a disturbance to the land that results in a change in the topography, existing soil cover (both vegetative and non-vegetative), or the existing soil topography that may result in accelerated **stormwater** runoff, leading to soil erosion and movement of sediment into **surface waters** or drainage systems. Examples of **construction activity** may include clearing, grading, filling, and excavating. **Construction activity** includes the disturbance of less than one acre of total land area that is a part of a larger **common plan of development or sale** if the larger common plan will ultimately disturb one (1) acre or more.

5. **"Dewatering**" means the removal of water for **construction activity**. It can be a discharge of appropriated surface or groundwater to dry and/or solidify a construction site. It may require Minnesota DNR permits to be appropriated and if contaminated may require other MPCA permits to be discharged.

6. "**Energy Dissipation**" means methods employed at pipe outlets to prevent erosion. Examples include, but are not limited to: concrete aprons, riprap, splash pads, and gabions that are designed to prevent erosion.

7. **"Erosion Prevention"** means measures employed to prevent erosion including but not limited to: soil stabilization practices, limited grading, mulch, temporary erosion protection or **permanent cover**, and construction phasing.

8. "**Final Stabilization**" See part IV.G.

9. "**General Contractor**" means the party who signs the construction contract with the **owner** or **operator** to construct the project described in the final plans and specifications. Where the construction project involves more than one contractor, the **general contractor** could be the party responsible for managing the project on behalf of the **owner** or **operator**. In some cases, the **owner** or **operator** may be the **general contractor**. In these cases, the **owner** may contract an individual as the **operator** who would become the Co-**Permittee**.

10. "**Homeowner Fact Sheet"** means a fact sheet developed by the MPCA to be given to homeowners at the time of sale by a builder to inform the homeowner of the need for, and benefits of, **Final Stabilization**.

11. "**Impervious Surface**" means a constructed hard surface that either prevents or retards the entry of water into the soil and causes water to run off the surface in greater quantities and at an increased rate of flow than prior to development. Examples include rooftops, sidewalks, patios, driveways, parking lots, storage areas, and concrete, asphalt, or gravel roads.

12. "**National Pollutant Discharge Elimination System (NPDES)**" means the program for issuing, modifying, revoking, reissuing, terminating, monitoring, and enforcing permits under the Clean Water Act (Sections 301, 318, 402, and 405) and United States Code of Federal Regulations Title 33, Sections 1317, 1328, 1342, and 1345..

13. "**Normal Wetted Perimeter**" means the area of a conveyance, such as a ditch, channel, or pipe that is in contact with water during flow events that are expected to occur once every year.

14. "**Notice of Termination**" means notice to terminate coverage under this permit after construction is complete, the site has undergone **Final Stabilization**, and maintenance agreements for all permanent facilities have been established, in accordance with all applicable conditions of this permit.

15. **"Operator"** means the person (usually the **general contractor**), designated by the **owner**, who has day to day operational control and/or the ability to modify project plans and specifications related to the **SWPPP**. The person must be knowledgeable in those areas of the permit for which the **operator** is responsible, (Part II.B. and Part IV.) and must perform those responsibilities in a workmanlike manner.

16. "**Owner**" means the person or party possessing the title of the land on which the construction activities will occur; or if the **construction activity** is for a lease, easement, or mineral rights license holder, the party or individual identified as the lease, easement or mineral rights license holder; or the contracting government agency responsible for the **construction activity**.

17. "**Permanent Cover**" means surface types that will prevent soil failure under erosive conditions. Examples include: gravel, asphalt, concrete, rip rap, roof tops, perennial cover, or other landscaped material that will permanently arrest soil erosion. A uniform perennial vegetative cover (e.g., evenly distributed, without large bare areas) with a density of 70% of the native background vegetative cover for the area must be established on all unpaved areas and areas not covered by permanent structures, or equivalent permanent stabilization measures. **Permanent cover** does not include the practices listed under temporary erosion protection.

18. "**Permittee**" means a person or persons, firm, or governmental agency or other institution that signs the application submitted to the MPCA and is responsible for compliance with the terms and conditions of this permit.

19. "**Public Waters**" means all water basins and watercourses that are described in Minn. Stat. 103G.005 subd. 15

20. **"Saturated Soil"** means the highest seasonal elevation in the soil that is in a reduced chemical state because of soil voids being filled with water. **Saturated soil** is evidenced by the presence of redoximorphic features or other information.

21. "**Sediment Control**" means methods employed to prevent sediment from leaving the site. **Sediment control** practices include silt fences, sediment traps, earth dikes, drainage swales, check dams, subsurface drains, pipe slope drains, storm drain inlet protection, and temporary or permanent sedimentation basins.

22. "**Small Construction Activity**" means small construction activity as defined in 40 C.F.R. part 122.26(b)(15) . Small construction activities include clearing, grading and excavating that result in land disturbance of equal to or greater than one acre and less than five acres. **Small construction activity** includes the disturbance of less than one (1) acre of total land area that is part of a larger **common plan of development or sale** if the larger common plan will ultimately disturb equal to or greater than one and less than five (5) acres.

23. "**Stabilized**" means the exposed ground surface has been covered by appropriate materials such as mulch, staked sod, riprap, erosion control blanket, mats or other material that prevents erosion from occurring. Applying mulch, hydromulch, tackifier, polyacrylamide or similar **erosion prevention** practices is not acceptable stabilization in temporary or permanent drainage ditches or areas where concentrated overland flow occurs. Grass seeding is not stabilization.

24. "**Standard Plates**" means general drawings having or showing similar characteristics or qualities that are representative of a **construction activity** or practice.

25. "**Stormwater**" is defined under Minn. R. 7077.0105, subp. 41(b), and includes precipitation runoff, **stormwater** runoff, snowmelt runoff, and any other surface runoff and drainage.

26. **"Storm Water Pollution Prevention Plan"** means a plan for **stormwater** discharge that includes **erosion prevention** measures, **sediment controls** and Permanent **Stormwater** Management Systems that, when implemented, will decrease soil erosion on a parcel of land and decrease off-site nonpoint pollution.

27. **"Surface Water or Waters"** means all streams, lakes, ponds, marshes, **wetlands**, reservoirs, springs, rivers, drainage systems, waterways, watercourses, and irrigation systems whether natural or artificial, public or private.

28. "**Temporary Erosion Protection**" means methods employed to prevent erosion. Examples of temporary erosion protection include; straw, wood fiber blanket, wood chips, and erosion netting.

29. "**Underground Waters**" means water contained below the surface of the earth in the saturated zone including, without limitation, all waters whether under confined, unconfined, or perched conditions, in near surface unconsolidated sediment or regolith, or in rock formations deeper underground. The term ground water shall be synonymous with underground water.

30. **"Waters of the State"** (as defined in Minn. Stat. § 115.01, subd. 22) means all streams, lakes, ponds, marshes, watercourses, waterways, wells, springs, reservoirs, aquifers, irrigation systems, drainage systems and all other bodies or accumulations of water, surface or underground, natural or artificial, public or private, which are contained within, flow through, or border upon the state or any portion thereof.

31. **"Water Quality Volume"** means ½ inch of runoff from the new **impervious surfaces** created by this project and is the volume of water to be treated in the Permanent **Stormwater** Management System, as required by this permit except as provided in Appendix A.C.2.

32. **"Wetland" or "Wetlands**" is defined in Minn. R. 7050.0130, subp. F and includes those areas that are inundated or saturated by **surface water** or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in **saturated soil** conditions. **Wetlands** generally include swamps, marshes, bogs, and similar areas. Constructed **wetlands** designed for wastewater treatment are not **waters of the state**. **Wetlands** must have the following attributes:

    a. A predominance of hydric soils;

    b. Inundated or saturated by **surface water** or ground water at a frequency and duration sufficient to support a prevalence of hydrophytic vegetation typically adapted for life in a **saturated soil** condition; and

    c. Under normal circumstances support a prevalence of such vegetation.

Appendix D

Construction Stormwater Training Documentation

Tom Tri

UNIVERSITY OF MINNESOTA

Certificate of Attendance

2004-2005 Erosion/Sediment Control Certification

Professional Development Hours

Tom Tri

Participant

Design of Stormwater Pollution Prevention Plans

Educational Activity

University of Minnesota

Activity Sponsor

Leo Holm, Dwayne Stenlund, John Chapman

Instructor/Leader

January 24-25 2005

Activity Date

12

Professional Development Hours

Please retain any or all of the following for your records: Registration Receipts, Agenda/syllabus, course plan, seminar brochure, and any narrative of the content or expected outcome of the education activity

UNIVERSITY OF MINNESOTA
Erosion and Sediment Control Program
Department of Bioproducts and Biosystems Engineering
1390 Eckles Avenue
St. Paul, MN 55108
612-625-9733 or 800-646-2282
http://www.erosion.umn.edu

2/11/2009

TOM TRI
BARR ENGINEERING
332 WEST SUPERIOR STREET
SUITE 600
DULUTH MN 55802

Your test score(s) for all Erosion and Sediment Control Certification workshops that you have attended to date are listed below. A score of 70% or above is required for certification.

If your score is lower, you have not received certification, However, you have the option of re-taking the exam at one of the remaining scheduled courses. Please contact our office at the address or phone above for instructions.

You will receive a wallet-sized certification card in June. Until then, this letter is your proof of certification for all courses.

If you have questions about this program, or if you have received this notice in error, please contact us at the above address or phone number.

2/11/2009

UNIVERSITY OF MINNESOTA
Erosion/Sediment Control Certification Program

TRI, TOM
BARR ENGINEERING
332 WEST SUPERIOR STREET
SUITE 600
DULUTH MN 55802

This letter expires June 30, 2009

	Event	Score	Date	Location	Certification Expires
Certified	Site Mgmt Recert	91%	Mar 23, 2006	Carlton	2009*
Certified	Design of SWPPP Rec	92%	Oct 25, 2007	Arden Hills	2011
Certified	Site Management Rec	92%	Feb 04, 2009	Baxter	2012

An asterisk (*) indicates this certification is about to expire - attend a class this year to continue the certification

Erosion/Sediment Control Inspector/Installer

For those who install or inspect the installation of erosion/sediment control devices and the establishment of vegetation.

Erosion/Sediment Control Site Management

For those who supervise, run, or direct grading work, culvert replacement work, and bridge construction work over rivers and streams.

Design of Stormwater Pollution Prevention Plans

For those who are involved with the design of stormwater pollution prevention plans.

BARR ENGINEERING COMPANY

CERTIFIES THAT

KIT GRAYSON

HAS SUCCESSFULLY COMPLETED

Construction Stormwater Inspector/Installer Training
January 20, 2012

Lead Course Instructor:

Dwayne Stenlund, CPESC
Minnesota Department of Transportation
with assistance from Jacob Thompson and Jennifer Flemming, Barr Engineering

BARR

Appendix E

SWPPP Inspection Forms

NPDES/SDS Construction Stormwater Inspection Report

Corrective Actions Needed *yes* ☐ *no* ☐

Project Name / Location		
Owner Name	Telephone ( ) - ext.	Fax ( ) - ext.
Contractor Name	Telephone ( ) - ext.	Fax ( ) - ext.
Inspector Name	Telephone ( ) - ext.	Fax ( ) - ext.
/ / Inspection Date /Time	Weather Conditions	☐ Weekly ☐ Monthly Type of Inspection

1) **Erosion Control Practices During Construction**
check for corrective actions needed

a) Does the Pond have side slopes MISSING temporary protection or permanent cover *Separate basin checklist completed*? *yes* ☐ *no* ☐

b) Is the normal wetted perimeter of temporary or permanent (connected) ditch that drains water is stabilized within 24 hrs (200' back from surface water) *yes* ☐ *no* ☐

c) Are exposed, erodible soils w/ positive slopes MISSING stabilization BMPs *(installed in appropriate or functional manner)* ☐ Localized ☐ Widespread

d) Is there temporary or permanent energy dissipation (w/ 24 hour) MISSING at outlets connected to surface water *yes* ☐ *no* ☐

Description of Corrected Action Needed:

2) **Sediment Control Practices During Construction** *check for corrective actions needed*

a) Has there been a discharge of sediment? (additional upgradient controls required) If so, is it ☐ Localized ☐ Widespread

b) Are there MISSING temporary sedimentation basins (disturbance > 10 acres, or > 5 acres near special water areas) *yes* ☐ *no* ☐

c) Are the Inlet control BMPs NOT functional or missing? *yes* ☐ *no* ☐

d) Are there Perimeter controls MISSING downgradient prior to land disturbing activities *yes* ☐ *no* ☐

Description of Corrected Action Needed:

3) **Maintenance** *check for corrective actions needed*

a) Do erosion and sediment control BMPs need repair, replacement or enhancement? *yes* ☐ *no* ☐

b) Has temporary sedimentation basin maintenance been performed (collected sediment > ½ basin volume) *yes* ☐ *no* ☐

c) **Are there sediment deposits** in ditches or surface waters NOT removed, **describe affected area or water** ☐ Localized ☐ Widespread

d) Is there sediment tracking on paved surfaces at exits *yes* ☐ *no* ☐ Is it ? ☐ Localized ☐ Widespread

Description of Corrected Action Needed:

4) **Inspections** *check for corrective actions needed*

a) Stormwater Pollution Prevention Plan (SWPPP): SWPPP ON site ☐ SWPPP NOT on site ☐ SWPPP not reviewed at inspection ☐

Inspections/maintenance (1 per 7 days or 24 hours of .0.5 inch precip.) Is there MISSING data: date, name, findings, corrective actions, rainfall, changes to SWPPP ☐

Description of Corrected Action Needed:

5) **Stormwater Management** (site hydrology) 1 acre or more of new impervious surface added yes ☐ no ☐ *check for corrective actions needed*

a) Wet sedimentation basin ☐ Regional pond ☐ Infiltration/filtration ☐ Alternative method ☐

b) When required, pretreatment MISSING ☐ **c1) Dewatering Activities** **c2) Turbid discharges to surface waters or causing erosion off site** ☐

d) Project causing wetland impacts ☐ If yes: WCA permit required ☐ DNR **permit** required ☐

Description of Corrected Action Needed:

6) **Management Pollution Prevention** *check for corrective actions needed Are there:*

a) Is there Solid waste NOT disposed of properly ☐

b) Are there Hazardous materials NOT in secondary containment or/and NOT restricted access ☐

c) Undefined areas for construction vehicles external washing ☐

d) Undefined concrete washout areas on site and post a sign ☐

Corrected Action Needed:

7) **Record Observations for Future Documentation**

☐ Photographs of site ☐ Document where corrective action is needed ☐ Sample runoff taken

Appendix F

SWPPP Update Form

SWPPP Modification Log

Inspection Date	Corrective Action Identified	Corrective Action Taken	SWPPP Modified Date

Appendix G

Notice of Termination/Transfer Forms

Minnesota Pollution Control Agency
520 Lafayette Road North
St. Paul, MN 55155-4194

Notice of Termination/ Permit Modification Form

NPDES Construction Stormwater Permit Program

Transfer or terminate your National Pollutant Discharge Elimination System (NPDES) Construction Stormwater Permit. Allowable changes are permit termination and permit transfer for all or a portion of the site. This form replaces the Notice of Termination (NOT), Permit Transfer, Permit Modification, and Subdivision Registration forms used under the former permit.

Instructions for this form are located on the Internet at http://www.pca.state.mn.us/publications/wq-strm2-60i.pdf.

Form will be invalid and returned to sender unless the checkbox associated with the applicable actions is checked and the corresponding signature is provided in section A-1, A-2, A-3, and or A-4.

Please submit to: **Construction Stormwater Permit Program**
Minnesota Pollution Control Agency
520 Lafayette Road North
St. Paul, Minnesota 55155-4194

Existing Permit Identification

a. Current permit ID: C000 __ __ __ __ __ or SUB00 __ __ __ __ __

b. Project name: _____

Project location: _____

Briefly describe where the construction activity occurs (for example: Intersection of 45th St. and Irving Ave.). Include address if available.

Select Option 1, 2, or 3

1. Notice of Termination (NOT) for entire site by existing owner

Select this option when a project has achieved final stabilization with existing owner / contractor and no part of the site is being transferred to a new owner and all construction activity is complete.

c. ☐ Notice of Termination for entire existing permitted site or a subdivided site. (Current owner and contractor must sign under the "Current" Owner and "Current" Contractor sections respectively).

Check above box and sign section A-1 and A-2 on page 2.

2. Transfer of entire site to new owner or contractor (Transfer/Modification)

Select this option if the ***entire*** site (represented by the ID above) has either a new owner and/or new general contractor. Check all the boxes below that apply.

d ☐ New Owner for entire existing permitted site.

e. ☒ New Contractor for entire existing permitted site.

f. ☐ Current Owner for entire existing permitted site.

g. ☐ Current Contractor for entire existing permitted site.

Check above box(es) and sign section A-3 and A-4 page 3 and or check above box(es) and sign section A-1 and A-2 page 2

Both "Current" and "New" Parties must sign this form (preferred), however, separate forms are acceptable.

3. Transfer of a portion of a site to a new owner or contractor (Subdivision)

Select this option if *a **portion*** of a site (permitted under the ID above) has either a new owner and/or new general contractor. Check the boxes below that apply.

h. Describe the portion of the site being transferred: Lot _____ Block _____

Project location/address: _____

City, State, and Zip: _____

Example: SW quadrant of 45th Street and Irving Avenue or Lots 1-17 of block 20. Include list of addresses if available or include a map

i. ☐ New Owner for portion of existing site.

j. ☐ New Contractor for portion of existing site.

k. ☐ Current Owner of the portion to be transferred.

l. ☐ Current Contractor of the portion to be transferred.

Check above box(es) and sign section A-3 and A-4 page 3 and or check above box(es) and sign section A-1 and A-2 page 2

Both "Current" and "New" Parties must sign this form (preferred), however, separate forms are acceptable.

Current Owner Authorized Signature (A-1)

Business/Firm name: _____

Last name: _____ First name: _____ Title: _____

E-mail address: _____ Telephone: ( ) _____ Ext. _____

Mailing address: _____

City: _____ State: _____ Zip code: _____

Alternate contact:

Last name: _____ First name: _____ Title: _____

E-mail address: _____ Telephone: ( ) _____ Ext. _____

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage this system, or the persons directly responsible for gathering the information, the information is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

I also certify under penalty of law that I have read, understood, and accepted all terms and conditions of the National Pollutant Discharge Elimination System (NPDES)/State Disposal System (SDS) General Stormwater Permit Construction Activity (MN R100001) that authorizes stormwater discharges associated with the construction site identified on this form.

Authorized signature: _____ Date: _____

*This Application must be signed by: **Corporation:** a principal executive officer of at least the level of vice-president or the duly authorized representative or agent of the executive officer if the representative or agent is responsible for the overall operation of the facility that is the subject of the permit application. **Partnership or Sole Proprietorship**: a general partner or the proprietor. **Municipality, State, Federal or Other Public Agency:** principal executive officer or ranking elected official.*

Current Contractor Authorized Signature (A-2)

Business/Firm name: _____

Last name: _____ First name: _____ Title: _____

E-mail address: _____ Telephone: ( ) _____ Ext. _____

Mailing address: _____

City: _____ State: _____ Zip code: _____

Alternate contact:

Last name: _____ First name: _____ Title: _____

E-mail address: _____ Telephone: ( ) _____ Ext. _____

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage this system, or the persons directly responsible for gathering the information, the information is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

I also certify under penalty of law that I have read, understood, and accepted all terms and conditions of the National Pollutant Discharge Elimination System (NPDES)/State Disposal System (SDS) General Stormwater Permit Construction Activity (MN R100001) that authorizes stormwater discharges associated with the construction site identified on this form.

Authorized signature: _____ Date: _____

*This Application must be signed by: **Corporation:** a principal executive officer of at least the level of vice-president or the duly authorized representative or agent of the executive officer if the representative or agent is responsible for the overall operation of the facility that is the subject of the permit application. **Partnership or Sole Proprietorship**: a general partner or the proprietor. **Municipality, State, Federal or Other Public Agency:** principal executive officer or ranking elected official.*

"New" Owner Authorized Signature (A-3)

Business/Firm name: _____

Last name: _____ First name: _____ Title: _____

E-mail address: _____ Telephone: (____) _____ Ext. _____

Mailing address: _____

City: _____ State: _____ Zip code: _____

Alternate contact:

Last name: _____ First name: _____ Title: _____

E-mail address: _____ Telephone: (____) _____ Ext. _____

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage this system, or the persons directly responsible for gathering the information, the information is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

I also certify under penalty of law that I have read, understood, and accepted all terms and conditions of the National Pollutant Discharge Elimination System (NPDES)/State Disposal System (SDS) General Stormwater Permit Construction Activity (MN R100001) that authorizes stormwater discharges associated with the construction site identified on this form.

Authorized signature: _____ Date: _____

This Application must be signed by: ***Corporation:*** *a principal executive officer of at least the level of vice-president or the duly authorized representative or agent of the executive officer if the representative or agent is responsible for the overall operation of the facility that is the subject of the permit application.* ***Partnership or Sole Proprietorship****: a general partner or the proprietor.* ***Municipality, State, Federal or Other Public Agency:*** *principal executive officer or ranking elected official.*

"New" Contractor Authorized Signature (A-4)

Business/Firm name: _____

Last name: _____ First name: _____ Title: _____

E-mail address: _____ Telephone: (____) _____ Ext. _____

Mailing address: _____

City: _____ State: _____ Zip code: _____

Alternate contact:

Last name: _____ First name: _____ Title: _____

E-mail address: _____ Telephone: (____) _____ Ext. _____

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage this system, or the persons directly responsible for gathering the information, the information is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

I also certify under penalty of law that I have read, understood, and accepted all terms and conditions of the National Pollutant Discharge Elimination System (NPDES)/State Disposal System (SDS) General Stormwater Permit Construction Activity (MN R100001) that authorizes stormwater discharges associated with the construction site identified on this form.

Authorized signature: _____ Date: _____

This Application must be signed by: ***Corporation:*** *a principal executive officer of at least the level of vice-president or the duly authorized representative or agent of the executive officer if the representative or agent is responsible for the overall operation of the facility that is the subject of the permit application.* ***Partnership or Sole Proprietorship****: a general partner or the proprietor.* ***Municipality, State, Federal or Other Public Agency:*** *principal executive officer or ranking elected official.*

If you have questions about the administrative details of the permit process go to: http://www.pca.state.mn.us/publications/wq-strm2-60i.pdf or call the Minnesota Pollution Control Agency at **651-296-6300 or 800-657-3864** and ask for *"Construction Stormwater."* If you have technical questions, ask for the *"Stormwater Policy and Technical Assistance Unit."*

CONSTRUCTION SPECIFICATION
June 5, 2015

City of Duluth Project #: 15-13
City of Duluth Bid Number: 15-0449

City of Duluth Traverse Trail Phase III – Enger & Central Park

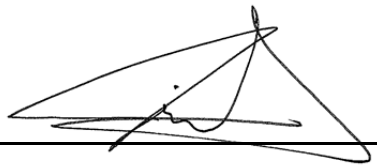
CITY OF DULUTH
Parks & Recreation Division
411 West First Street
Ground Floor City Hall
Duluth, Minnesota 55802
(218)730-4300

Table of Contents

1.0 Certification

DATE: JUNE 5, 2015

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED LANDSCAPE ARCHITECT UNDER THE LAWS OF THE STATE OF MINNESOTA.

NAME	REGISTRATION NUMBER
	
JAMES M. SHOBERG, LANDSCAPE ARCHITECT	**45577**

SECTION 1: PROJECT DESCRIPTION AND SCOPE

1.1 General Project Description

The City of Duluth, Minnesota (herein referred to as "Owner") is seeking a contractor to provide an experienced trail crew to construct approximately 2.5 miles of new mountain bike-specific natural surface singletrack trails on public lands in Enger and Central Park located in Duluth, MN. This is Phase 3 of a multi-year project that seeks to create upwards of 100 miles of singletrack. Duluth, MN is situated at the western most point of the Great Lakes on the north shore of Lake Superior.

The surrounding city park lands demand a high standard-of-care during construction activities due to steep topography, exposed bedrock and proximity to trout streams. Blasting is not an anticipated component of this bid however rock breaking will be encountered in this build. For more information about soil conditions visit the National Cooperative Soil Survey at http://websoilsurvey.sc.egov.usda.gov/

The contractor will be responsible for implementing and maintaining the Stormwater Pollution Prevention Plan (SWPPP) supplied by the Owner.

The trail alignment corridor has been flagged by COGGS for the Owner. The flag line represents the center line of a 50 foot wide corridor. As part of this project the contractor is responsible for final field alignment and design and must remain within 25 feet on either side of the corridor flag line. It is also the responsibility of the contractor to remain 50' away from private property where possible as depicted in the plan. If there is a need to go outside the corridor or get closer than 50' to a private property the contractor must receive written Owner approval.

The area is front country, with many areas of mobile phone coverage, and is located less than one hour from emergency medical service.

1.2 Mountain Bike-Specific Singletrack

It cannot be more strongly emphasized that this project is for purpose-built mountain bike natural surface singletrack trail. Desired characteristics include: cambered trail surfaces, insloped turns, aggressively rolling terrain, incorporation of native rock features, and seamless transitions between trail types. Trail features and flow should *progress* as a user gets deeper into the system; larger, tighter, more narrow examples of similar elements moving from "green" (easier) to "blue" (more difficult) to "black" (most difficult) areas. Along segments intended for more skilled trail users, optional lines available only to more-skilled riders are highly desirable.

In partnership with the Owner, the contractor will be expected to maximize the potential of the landscape hosting the trail corridors. Creativity is encouraged. A

portfolio of previous mountain bike-focused work will be heavily weighted in the selection process.

1.3 Project Scope

To satisfy funding requirements for the project, the work outlined in this document shall be completed by November 1st 2015.

Overall, the project's scope of work includes up to approximately ±2.5 gross miles of new trail construction including: berms, switchberms, technical trail feature (TTF) boardwalks, rock armoring and bridges. The Storm Water Pollution Prevention Plan (SWPPP) outlines general construction information and best management practices (BMPs) as they apply to the trail project construction activities.

This project is funded by a grant from the Federal Recreational Trails Grant Program as well as private funding from the local mountain bike club Cyclist of Gitchee Gumee Shores (COGGS) and funding support from the City of Duluth.

1.4 Additions and Deletions

No extras or additional work outside of the construction documents will be allowed or paid for unless such extras or additional work are ordered in writing by the Owner, and the price fixed and agreed upon before such work is performed. The Owner will not accept any overruns nor will it pay any quantities beyond those specified.

The Owner shall have the right, without invalidating the contract, to make additions to or deductions from the work defined in this document, and in case such deductions or additions are made, an equitable adjustment of the addition to or deduction in cost shall be made between the Owner and the contractor, but must be agreed to in writing.

1.5 Discrepancies

Should the contractor discover discrepancies in this document, the plans or specification, the matter shall at once be brought to the attention of the Owner, and the discrepancies corrected before proceeding further. Bid tabulation sheets quantities take precedence over quantity discrepancies in the specifications or plans.

SECTION 2: PROJECT LOCATION MAP

2.1 Project Location Descriptions

The primary site access and parking area for access to the Enger & Central Park trail segment is located in Duluth, MN 500 feet NE off of West Skyline Parkway where Skyline Parkway crosses over Highway 53. This area is a wide gravel shoulder area within the right of way of Skyline Parkway. The Phase III flag line starts in that vicinity.

Staging & Laydown Area GPS Coordinates

GPS Coordinates: 46°46’32.45” N and 92°08’22.01” W

SECTION 3: PROJECT DETAILS

Below are brief project descriptions and important project details.

3.1 Enger and Central Park Trail Segment (Goat Hill Trail)

Description: [Green Traditional Two Way with Segments of Blue Traditional Two Way]. This section of trail will be part of the connector "Duluth Traverse Trail" that traverses the entire city.

This trail segment traverse through a diversity of soil and terrain types including soils with very little rock or cobble to segment of slick rock and rock scree piles. The overall objective of this trail is to construct the trail as "Green" beginner friendly trail. However it is understood that construction trail tread though slick rock and rock outcropping areas may be very difficult to meet a Green Traditional Trail Specification. In those areas that have slick rock or outcropped bedrock a Blue Traditional Singletrack specification is acceptable, per the attached "Trail Specifications Matrix". However where ever possible in those areas a "Green" Trail specification is desired.

Length: Estimated ±13,217 linear feet, ±2.5 Miles

SECTION 4: FINISHED TRAIL CONSTRUCTION AND MAINTENANCE GUIDELINES

4.1 Trail Design

Design of any new segments or reroutes must be guided by the sustainable trail principles published by accepted resources such as the current editions of the *Trail Solutions; IMBA's Guide to Building Sweet Singletrack*; *Managing Mountain Biking; IMBA's Guide to Providing Great Riding;* the USDA's *Trail Construction and Maintenance Notebook* and the *Minnesota Department of Natural Resources' Trail Planning, Design, and Development Guidelines*.

4.2 Bike-Specific Trail Flow

All trails constructed as part of this project shall be natural surface singletrack trail that is purpose-built for mountain bicyclists, sometimes described as *flow trails*. A subset of the larger family of rolling contour trails, flow trails share the following basic characteristics:

- *Synergy with the landscape:* Making the most of what the natural terrain provides by using the trail to explore the topography and features (rocks, trees, waterways) present. Some describe a trail with good flow as one that has been revealed in the landscape, not so much as constructed.
- *Opposition to user forces:* Flow trails maximize the efficiencies afforded by using a bicycle, and are designed to counteract forces that direct a user off the trail. Bermed turns and cambered tread surfaces, for example, promote traction, safety, sustainability, and enjoyment.
- *Conservation of momentum:* The ideal trail avoids "flow killers" such as sharp turns, incongruent features, and disjointed climbs and descents. Instead, it utilizes undulations and cambered turns to rewards smooth, deliberate riding and maximizes forward motion. A flow trail encourages a better understanding of the bicyclist/bicycle interface, allowing riders to reach that unique sensation of floating through the landscape.
- *Leading the user forward:* A sense of discovery, combined with a design that maximizes a rider's forward momentum, helps to draw the user forward. The trail is never repetitive or predictable, nor is it "awkward", with variety and innovation combining to create an intuitive feel.

4.3 Trail Specifications

The trail system is composed of a number of loops and segments design, constructed, and maintained to a defined trail specification as outlined in the "Trail Specification Matrix". Making use of a range of different specifications results in a *complete* trail system when creating the overall trail system masterplan. This method appeals to a wider range of users, with different fitness, technical proficiency, or preferred modality. It is important that individual segments and loop maintain consistent specification over their length to ensure visitors have the experience they expect.

A project-specific "Trail Specification Matrix" is included along with the definition of project units.

4.4 Erosion and Sedimentation Control

Management of erosion and sediment on this project is defined in the provided Storm Water Pollution Prevention Plan (SWPPP). All construction activities must conform to the requirements of the SWPPP. Any inconsistencies created by the construction specifications do not excuse the contractor violating the procedures and requirements laid out in the SWPPP.

No excavation or fill is permitted in wetlands. Wetlands will not be marked in the field. It is the responsibility of the contractor to consult with Owner prior to doing any work within suspected wetlands areas. The Owner will be responsible for identifying suspected wetlands.

4.5 Trail Construction Best Practices

To satisfy erosion and sediment control requirements, trail must be finished as the project advances. Any roughed-in corridors not being worked for 7 days must be sustainable and readily drain to reduce the exposure of non-compacted tread to moisture. Any segments requiring delayed finishing must be approved in advance by the Owner. Any disturbed areas not part of active tread must be stabilized within 7 days of not being worked with native duff from within the trail corridor or erosion control blanket and seed as defined in the SWPPP. Wood chips created from the slash as a result of the trail corridor clearing are an acceptable mulch alternative to weed free straw.

4.6 Corridor Clearing

Corridor clearing shall be confined to within four (4) feet of trail and backslope edges. Specific values are identified in the "Trail Specifications Matrix" included with the definition of project units.

4.7 Debris

Cut and scatter all branches, roots and brush to a maximum height of eighteen inches (18”) above grade. No debris shall be left within ten feet (10’) of trail. Butt-ends of any sawed limbs must face away from trail. Cut brush and slash must be disposed of in an upland location and must be kept out of streams, gullies, swales, low areas, and suspected wetlands.

4.8 Tread

All tread should be constructed as full bench whenever possible. If fill is required, it should be supported by a stone retaining wall sufficient to support unauthorized equestrian use. Stone retaining wall is not an anticipated unit item in this project and is not part of this contract.

Specific tread widths are based on their difficulty rating and are specified in the “Trail Specifications Matrix” included along with the definition of project units. Narrower gateways through natural obstacles (trees, rock outcrops) are encouraged. Tread widths in areas of dynamic flow, jump landings, and insloped turns, for example, may be wider to accommodate the full range of riding experiences. Significant deviations from these examples require prior written approval from the Owner.

4.9 Trees

These trails are to be built with minimal impact to the over story trees and the surrounding forest. Only brush and small trees should be removed from the trail corridor. On City property trees larger than 6” DBH require permission from the Owner before they are removed. On County property trees larger than 4” DBH require permission from the Owner before they are removed. Property ownership is identified in the plans. Removal of healthy trees approaching this size should be avoided and only done when there is not a better option. Dead, dying, and rotted trees can be removed to open up the trail corridor as necessary for grading or if they present a clear hazard to trail builders or trail users.

4.10 Rocks

Maximum size rock material to be left in trail is based on the difficulty rating and defined in the “Trail Specification Matrix”. Specific values are identified in the “Trail Specifications Matrix” including definition of project units.

Rocks that are unearthed during grading shall be built into trail features or stabilized not more than five feet (5’) away from the trail-edge. It is not permitted to allow rocks to roll down the slope. The trail will be routed around or over rocks and fractured stones that cannot be moved with the approved equipment.

These requirements do not apply in areas where rocky tread is integral to the flow goals of a specific segment (e.g., technical rock gardens, slabs that provide jump or “kicker” opportunities). Exceptions also apply in boulder fields or where only a portion of the tread is obstructed. All rock embedded in the trail surface should be stable. When used in structures, care will be taken to match rock to the immediate surroundings; grain patterns, lichen growth, etc. Excess tool marks on rocks shall be avoided as much as possible. Non-native rock may not be imported into a work area without approval of Owner.

4.11 Woody Material

Woody material such as stumps, logs, roots and brush shall be removed from the trail tread. No stumps less than twelve inches (12”) in diameter shall be left within four feet (4’) of the trail tread. Wood chips created from the slash as a result of the trail corridor clearing are an acceptable mulch alternative to weed free straw. Contractor may ONLY chip woody material that was created as a result of the corridor clearing.

4.12 Fall Zone Clearing

Areas adjacent to dynamic trail segments where visitors have a greater potential to exit the immediate trail corridor will be cleared of impact focusers; butt-end branches, stumps, and rocks under six-inch (6”) diameter.

4.13 Backslope

Backslope of trail should be graded to three-to-one (3:1) slope or until it matches the existing slope. In areas where the backslope has the potential to become part of the active tread it must be finished to trail tread specifications.

4.14 Trail, Finished Condition

Hand finish and grading of trail tread, backslope, down slope spoils, and drainage features shall leave a surface that matches the texture of the surrounding forest floor while enabling water to drain off the trail.

4.15 Spoils Stabilization

All excavated materials not used in the trail tread or other constructed trail features must be stabilized within seven (7) days of not being worked. Spoils should be distributed in a thin layer adjacent to the trail tread not more than 4” in depth. Care should be taken to avoid placing spoils in drainages, swales or wetlands. When possible, spoils should be mulched with native materials to discourage erosion while native seed stocks reestablish. In areas without adequate native duff mulch, wood chip mulch may be substituted along with the approved seed mix per the attached seed mix exhibit. In certain circumstances,

installation of formal erosion control measures may be required. Estimated quantities of the necessary erosion control measures are enumerated in the bid worksheets and will be paid out per the unit bid price. Any erosion control measures that are in excess of the estimated quantities must be approved by the Owner prior to installation.

4.16 Turns

A turn is defined as a change-of-direction that turns more than 90 degrees across the local landscape. All turns are to be bike optimized insloped turns. Turns that exceed 12" of insloped tread height above the surrounding landscape are identified in the plan sheets as constructed features. The plan sheets identify constructed feature turns as either insloped switchbacks also known as *switchberms* or an insloped bermed turn or *berm.* If conditions warrant, a traditional rolling crown switchback may be substituted for a switchberm with prior written approval from the Owner or Owner. Insloped turns that are less than 12" in height above the surrounding landscape are included in the contractors unit bid price for all trail construction types.

Insloped and off camber tread necessary for trail flow that are less than a 90 degree change in direction are not turns and are included in the contractors unit bid price for all trail construction types.

Acceptable values for turn radius, camber and turnpad grade are identified in the trail specifications. Turns should be constructed to have good flow for wheeled trail users. All turns must include an entrance and exit rolling grade dip. Building through uneven grades, flat areas and undulations local to a specific turn is included in the contractor's unit bid price.

Turns that are less than 12" in insloped height are included in the contractors unit bid price for all trail types. Berms and switchberms that are over 12" in height are called out and quantified in the plans sheets.

If it is determined in the field that additional turns or an alternative type of turn is necessary than what was specified in the plans, the contractor must request written approval from the Owner prior to construction.

See 5.9 Berm (figure 10) and 5.10 Switchberm (figure 11) for unit turn types.

4.17 Brollers (Bermed Rollers)

A broller is defined as tilted tread surface that is insloped or off camber in excess of the standard tread out slope of 5%. Brollers do not result in a change of direction across the landscape and do not cross the fall line. Brollers are included in the unit bid price for all trail construction types and are not considered berms or turns.

4.18 Grade Reversals

A designed grade reversal or constructed rolling grade dip should occur at least every one hundred feet (100') and preferably more frequently. Any grade reversal must be strongly anchored to discourage short cutting.

In mountain bike-specific trails, grade reversals also double as flow elements, such as rollers, jumps, and pump/rhythm sections. In this context grade reversal shape, size, and placement should reflect the specifications for its location within the system. Specific details will be determined by the contractor in partnership with the Owner.

4.19 Above-Grade Earthen Structures

Any portion of trail rising above the grade of its surroundings must be composed of mineral soil. If soil is scarce, a rock core may be used so long as it provides less than fifty percent (50%) of the total volume of the structure. Use of organic materials, duff, woody materials, etc., is absolutely prohibited.

Fill structures must have a fill slope of at least the angle of repose of the local soil. A retaining wall may be substituted for a fill slope with permission of the Owner. Fill structures must be completely stabilized and compacted in no greater than six-inch (6") lifts. Acceptable techniques include track-packing or compaction via a dedicated tamping unit. Hand tamping is not acceptable. Raw soil faces that do not become tread must be mulched and seeded in the same fashion as spoils and satisfy the terms of the project SWPPP.

Examples of above-grade earthen structures include aggressive grade reversals ("rollers", "brollers", "jumps"), berms, switchberms and turn pads on insloped switchbacks.

4.20 Water Diversions

All tread should be out-sloped at five percent (5%). When not possible or desirable due to purpose-built in-sloping, resource concerns, or obstructions, water can be directed down the trail for up to fifty feet (50') before a water diversion location.

4.21 Invasive Species

To reduce the spread of invasive plant species all hand tools and mechanized equipment should be free of invasive seeds and clean of any dirt and mud when entering a project site. When transferring materials between distinct locations within the project site all tools and equipment must again be cleaned to discourage transport of invasives to the local landscape.

4.22 Filter Strips

Filter strips are vegetated areas downslope of the trail corridor intended to treat sheet flows coming off the tread. Filter strips function by slowing down flow velocities, filtering out sediments, and providing an opportunity for infiltration into the underlying soils. Properly mulched spoils may be designated as part of the filter strip. Filter strips shall not be used as regular travel-ways for equipment and materials. Areas with inadequate filter strip capacity above waterways may require installation of formal erosion control measures to satisfy erosion and sediment control plan requirements.

At all times, filter strip characteristics must satisfy the terms of the project Stormwater Pollution Prevention Plan (SWPPP).

4.23 Environmental and Historic Preservation

The corridors identified in the provided design have been vetted through an assessment process to ensure they respect sensitive environmental and historic areas. The construction shall avoid any disruption or dislocation of sensitive cultural resources found on the site unless expressly authorized in writing by the Owner. Any known sensitive cultural areas will be communicated to the contractor in writing before construction begins. In the event that previously unidentified historical artifacts are found during the construction process, trail construction must be immediately suspended in that area until it can be evaluated and a determination made on how to proceed. The Owner will need to make final determination on how to proceed around sensitive cultural resources after consulting with appropriate archeologist personnel. The trail may be rerouted around the sensitive area or special accommodations may be made such as boardwalk. The decision on how to proceed will depend on the type and sensitivity of the resource and the distance separating it from the planned trail.

4.24 Signage and Wayfinding

Installations of intersection trail signage and wayfinding aids are the responsibility of the Owner and are not part of this bid package. Any details on the signage have been included in the project plans as reference to the contractor. Signage and its installation will comply with all the requirements of the authorized governing unit. Construction documents and maps will identify the signage requirements, locations, frequency, and physical design plus materials standards.

4.25 Mechanized Equipment Best Practices

All track marks will be raked smooth. Affected area will be finished to have a *nature shape*, e.g., spoils piles rounded, smoothed and cleared of significant brush, blade edges blended. A spill kit suitable for five gallons of fluid will be

onsite and within 500 feet of mechanized equipment whenever equipment is being operated. Scarring of trees is to be avoided.

Machine service and fueling is not permitted with 500 feet of a wetland or drainage.

Machine access is restricted to the trail corridor. Separate access routes may only be created and used with prior written permission of the Owner. Any approved access route must be retired and reclaimed back to its original condition upon project completion.

SECTION 5: UNIT DEFINITIONS AND DETAIL DRAWINGS

Any accompanying figures are for illustrative purposes only and do not relieve contractor of the need to satisfy written requirements. All units may not be used in all projects. Additional units may be required. In this case, the Owner will establish their definition via a change order process.

5.1 Trails Specifications (table 1)

A "Trail Specifications Matrix" provides the foundation for the possible trail styles and a starting point for their defining characteristics. Contractor should always start here, whether composing their bid or designing/constructing trail elements. The Owner understands that all trail, and especially bike-specific trail, is an art form strongly driven by local conditions and anticipates a collaborative effort between all parties involved.

Note that all types fit within the sustainable trail guidelines framework. While short specific grades may exceed typical suggested maximums, armoring is suggested in these cases. It is not acceptable to sacrifice "the half rule" or eliminate grade reversals to meet experience driven goals. When creating trails at these upper limits grade reversals are more important than ever.

A top-level summary of the various styles detailed in the matrix:

- *Traditional* – Typical shared-use natural surface singletrack as described in the standard trail texts. May include bike-specific elements, like in-sloped turns, berms, brollers, rollers, and jumps.
- *Bump and Pump* – Natural surface singletrack strongly influenced by pump tracks. Distinguishing feature is the high frequency of roller features. Proper shaping and spacing of rollers is critical, both to increase their utility as a method of propulsion and to match the intended speed and flow style of the segment. All turns are insloped. Tread surface is smoother than average. More difficult Bump and Pump segments may add smaller technical features and tread texture.
- *Jump* – A natural surface trail more focused on jump opportunities. Similar to Bump and Pump but with longer features less frequently placed. Tread is wider than average in recognition of the dynamic riding style likely on these segments. Corridor clearing limits are larger as well for similar reasons. Most Jump segments are directional.
- *Gravity* – An extremely technical downhill-specific trail. More difficult Gravity segments include mandatory drops in the tread. These segments may include structures to manufacture the desired experience when natural terrain is lacking. May include elements of Bump and Pump or Jump. Gravity trails are directional.

5.2 Trail Flagging

In this project, the centerline of a 50’ wide trail corridor has been flagged by COGGS for the Owner. The plans and specifications are based on this trail corridor. Final trail design is the responsibility of the Contractor within this corridor.

Final trail design consists of a one-time 300 LF pin flagged trail segment flagged by the Contractor prior to the start of construction for each trail specification type. This project has two trail specification types, Traditional Green Bike Optimized Singletrack and Traditional Blue Bike Optimized Singletrack. Final design pin flagging must reside within the approved corridor. This is to communicate design intent to the Owner for each trail specification type that is identified in the plans. Upon approval of the pin flagged segment by the Owner and verification that it meets the specification requirements the Contractor can proceed with project construction within the 50’ corridor following the requirements of the specifications.

Corridor is marked with pink and/or orange hanging flags. Final trail design should be at least fifty feet (50’) from property boundaries unless otherwise authorized by the Owner or identified in the plans.

Contractor shall mark with flagging tape all trees over six inches (6”) DBH that are to be removed. Final determination on removal lies with the Owner.

The trail should have a grade reversal a minimum of every one-hundred feet (100’). Trail should follow a rolling contour alignment and abide by the Half Rule. Grades must match the trail type defined by the “Trail Specification Matrix” for a specific segment.

5.3 Trail Construction (figures 1 - 4)

Trail construction unit costs are a combination of trail specification and landscape type. For each project, the specification is constant. But as the landscape changes, different construction units apply, matching the local terrain. Trail construction unit types A, B, and C are identified in the plan set and on the bid worksheets.

Measurement and payment for trail construction is based on landscape averages as depicted in the plan set. Grading through localized uneven grades, flat areas and undulations is included in the contractor’s unit bid price for all trail unit construction types.

Creation of typical trail features as enumerated in the specifications (ex. Rollers and Brollers) are included in the trail construction units.

Each linear foot unit shall satisfy the enumerated guidelines for the specification associated with the specific segment. Trail width guidelines apply to active tread only; backslope and any fill slopes are not included. Tread variance will satisfy the guidelines for its location in the system. Note the global design attempts to match trail specifications to the landscape most suited for that type.

But in local landscapes where there is a mismatch, the contractor will be expected to modify the area to match the trail specification. Example is creating an easier "green" style trail through a locally rocky area. However in this specific project we are allowing "blue" construction through the rocky areas.

The trail corridor shall be cleared of all woody plants less than four inches (4") DBH. The extent of corridor clearing will meet the requirements for the specific trail type. Any stumps resulting from the clearing should be excavated and removed. Any woody debris not used in trail closure should be removed from sight of the trail or arranged to blend into the landscape.

Limb trimming will be done to open up the trail corridor as defined in specification for the specific segment. Limb trimming and pruning shall be completed using approved trimming techniques that comply with the guidelines for tree care operations from the American National Standards Institute (ANSI) contained in the ANSI A300 Pruning Standards and ANSI Z133.1-2000.

The trail tread shall consist of packed earth or rock. Any stumps and/or roots should be excavated and removed from the trail tread. Backslope dimensions are derived from surrounding area such that they satisfy the earlier stated three-to-one (3:1) definition. Any stumps and/or roots in the backslope should be flush-cut. In areas where the backslope has the potential to become part of the active tread (ex. naturally formed in-slopes or berms) it must be finished to trail tread specifications.

The trail should contain frequent grade reversals. To encourage self-cleaning the grade of the drains at the bottom of the grade reversals must be at least fifteen percent (15%) and typically not greater than twenty-five percent (25%). If the drain grade exceeds twenty-five percent (25%) then installing Rock Rip-Rap (see Section 5 – Rock Rip-Rap) may be requested by the Owner in the bottom of the drain to prevent head-cutting. If grade reversals result in a fill slope, these slopes and the associated feature(s) will be finished to satisfy the above-grade earthen structure guidelines. Contractor is expected to create frequent grade reversal regardless of the local landscape, this is included in low sideslope Type A trail construction. This may require localized topography modification, borrow pits and raised tread when building through landscapes with low slope angles.

Any downslope spoils must be distributed such that no berm is present. When distributing, care shall be taken to match the local terrain. Spoils must be stabilized within seven (7) days of not being worked with a covering of forest duff. In areas with insufficient duff, sterile wood chips may be substituted for forest materials. Excess soil shall not be distributed into drainages, wetlands or adjacent to streams. Refer to the SWPPP for further details.

If borrow pits are created in the course of trail construction they will be finished to satisfy the requirements of the trail and its surroundings: slopes graded to the local angle of repose, stumps and roots trimmed, spoils stabilized

and covered with forest duff. Borrow pit wall must be broken down to blend into the surrounding landscape slopes.

For billing purposes, trail construction is measured along the centerline of the tread.

5.4 Armored Tread/Stone Pitching (figure 5)

Width of armored tread should be at least 1.5 times the width of the local trail specification to permit users to find their line as the trail matures, and at least two (2) times in areas where more variation is likely (e.g., jump landings, insloped turns).

Stone pitching must extend at least ten inches (10”) deep with a minimum of two-thirds (2/3) of the rock buried below the surface of the surrounding grade. Stones should be stable and aligned perpendicular to the direction of travel. Each end of a pitched section shall be supported by larger “bookend” stones embedded in the ground. Stones used for armoring should be two inches (2”) to twenty-four inches (24”) thick and twelve inches (12”) to forty-eight inches (48”) wide. Voids shall be filled with compacted native soil, crushed rock, and/or crusher fines. Additional guide stones may be necessary along the edges of the trail if the final surface of the trail appears more rugged than the adjacent landscape.

For billing purposes, armoring is measured along the centerline of the tread. This unit includes the construction of the trail as well as armoring. Contractor cannot invoice for both trail construction and armoring of a given linear foot of trail.

5.5 Armored Tread/Turf Block Pavers (figure 6)

Turf block pavers are an alternate armoring technique to stone pitching where it is difficult to source appropriate native stone. As turf block pavers allow a more predictable tread surface, they are particularly appealing for “green”-style trails or for flow elements where excessive tread variance is not desired (e.g., high-speed insloped turns, some constructed jump elements.

Width of armored tread should be at least 1.5 times the width of the local trail specification to permit users to find their line as the trail matures, and at least two (2) times in areas where more variation is likely (e.g., jump landings, insloped turns). Turf blocks pavers must be installed as directed by manufacturer’s recommendations. Final installation should be nominally at-grade with the surrounding landscape. Individual paver blocks should be completely supported to reduce the chance of breakage. Height variance and joint spacing should both be less than one-half inch (0.5”). Blocks should be laid in a pattern to minimize joint lines. Paver voids are filled with local materials compacted to reduce settling.

For billing purposes, armoring is measured along the centerline of the tread. This unit includes the construction of the trail as well as armoring. Contractor cannot invoice for both trail construction and armoring of a given linear foot of trail.

5.6 Rolling Grade Dip (figure 7)

A rolling grade dip is a drainage feature added to existing trail.

The minimum length of the drain portion shall be six feet (6') and the rise must be at least ten feet (10') long; the height differential between the bottom of the dip and the top of rise shall be approximately twelve inches (12") to twenty-four inches (24"). The sides of rise must have a fill slope of at least two-to-one (2:1) or the angle of repose of the local soil, whichever is greater.

To encourage self-cleaning the grade of the drains at the bottom of the grade reversals must be at least fifteen percent (15%) and typically not greater than twenty-five percent (25%). If the drain grade exceeds twenty-five percent (25%) then installing Rock Rip-Rap (see Section 5 – Rock Rip-Rap) in the bottom of the drain to prevent head-cutting may be requested by the Owner. If grade reversals result in a fill slope, these slopes and the associated feature(s) will be finished to satisfy the above-grade earthen structure guidelines.

Rolling grade dips must be sited at least thirty feet (30') uphill from significant turns in order to reduce the effects of unweighting on higher speed users. Exceptions on these dimensions and requirements may be made on a site-by-site basis to accommodate terrain constraints. In certain locations the Owner may determine that smaller structures reinforced with large rocks that fit the character of the trail may an acceptable substitute.

A rolling grade dip is billed as a "whole" unit.

5.7 Terrace (figure 8)

A terrace is a combination of landing, drain, retaining wall, and step useful for creating sustainable shared-use trail in steeper corridors than would be supported by the natural surface tread alone. Steps are used to accelerate the climb/descent while the use of landings between risers allows continued use by bicycles and equestrians. Terraces may be incorporated in new trail construction or applied as a corrective maintenance measure.

Step risers should be constructed out of stone; rot-resistant wood may be substituted with the approval of the Owner. Maximum riser height is determined from the step height requirements of the trail segment. The riser shall be battered in the direction of uphill travel. A riser may be assembled from multiple stones with the understanding it must withstand the dynamic loading of climbing and descending users.

The landing must have a minimum length of at least 1.5 times the stride or wheelbase of the longest users. Each landing must contain a drain to the

downhill side; it is not acceptable for a landing to drain over its riser. Drain differential must be at least six inches (6”). The fill required to create the landing is included in this unit.

The downhill edge of the landing must be supported by a retaining wall of stone; rot resistant wood may be substituted with the approval of the Owner. The landing’s retaining wall must satisfy all the requirements of a stand-alone wall (see Section 5 – Rock Retaining Wall).

A terrace is billed per riser. For example, the figure shows parts of three (3) terraces

5.8 Rock Retaining Wall (figure 9)

A rock Crib Wall or Rock Retaining Wall is defined as a row of stones stacked greater than 12” in height specifically designed to hold back soils and raise the tread to meet variations in the running grade of the trail tread. A row of stones placed at the downslope of a tread in order to create a full bench are not considered a retaining/crib wall and are included in the contractors unit price for that specific trail construction type. The bidding unit of a rock retaining wall is square-feet, calculated from the exposed vertical face, Square Face Foot (SQ FF). Rock retaining walls should be stable and battered (inclined back into the slope) a minimum of fifteen percent (15%) from vertical. All walls should have rubble backfill of at least six inches (6”) in depth behind the wall to allow for drainage and to prevent damage from frost heaves. The base of the wall should be placed on firm compacted mineral soil or rock outcroppings. Any small stones used to “chink” larger stones in place should be placed in the back of the wall. The top of the wall shall not be counted in the width of the trail tread. The top layer of stones shall be installed in a manner to avoid being accidentally dislodged by trail users. Deadmen (stones that extend from the wall into the slope) should be used to ensure integrity. There should be one deadman for every five square face foot (5 SQ FF) of wall.

5.9 Insloped Bermed Turn (Berm) (figure 10)

A berm is defined as an insloped change-of-direction that turns more than 90 degrees across the local landscape *not requiring* the trail to cross the fall line and is over 12” in height above the surrounding landscape. Trail tread that uses an existing embankment to change direction is also not a berm and is included in all trail construction unit types.

Acceptable values for berm radius, camber and turnpad grade are identified in the “Trail Specifications Matrix”. Berm radii should be consistent.

Fill structure for a berm will comply with composition, compaction, and fill slope requirements of an above-grade earthen structure.

For billing purposes, a berm is measured along the centerline of the tread by the linear foot at the point where the berm is over 12” in height above the bypass

trail grade. This unit includes the construction of the bypass trail as well as the berm. Contractor cannot invoice for both trail construction and creating a berm over a given linear foot of trail. Locations and lengths of berms are identified in the plans.

5.10 Insloped Switchback (Switchberm) (figure 11)

A switchberm is defined as an insloped change-of-direction that turns more than 90 degrees across the local landscape *requiring* the trail to cross the fall line and is over 12" in height above the surrounding landscape. The switchberm unit includes any walls, armoring, setup berm, and drainage features associated with the structure as well as the trail itself.

Switchberm units are broken into three different units based on the sideslope of the surrounding terrain: Type "A" for low sideslopes, Type "B" for medium sideslopes and Type "C" for high sideslopes.

Each switchberm or insloped switchback requires a grade reversal or rolling grade dip before and after; these shall not be counted as separate units for payment purposes. The dips for these drainage features should be a minimum of six feet (6') long. To encourage self-cleaning the grade of the drains at the bottom of the reversal/dip must be at least fifteen percent (15%) and typically not greater than twenty-five percent (25%). If the drain grade exceeds twenty-five percent (25%) then installing Rock Rip-Rap (see Section 5 – Rock Rip-Rap) in the bottom of the drain to prevent head-cutting may be requested by the Owner. The uphill dip should be sited to minimize unweighting effects for higher speed users.

All switchberms or insloped switchbacks will be created with an insloped turnpad. Specifications for radius and cross slopes across the turn are defined in the "Trail Specifications Matrix" for the particular trail segment. Turning radii should be consistent. Turns with a running grade of twenty percent (20%) or greater in the apex should have a rock armored drain two feet (2') wide following the inside of the turn. Interior of legs shall be anchored by and filled with large rocks and/or woody debris to discourage shortcutting.

If required, the fill structure for the turnpad will comply with composition, compaction, and fill slope requirements of an above-grade earthen structure. Client may require that a retaining wall be employed in place of a fill slope. Any retaining structures will be constructed of stone and comply with all rock retaining wall specifications. If multiple switchbacks are required, they will be sited to minimize "stacking".

A switchberm is billed as a "whole" unit. The unit starts at the initiation of the uphill and completion of the downhill drainage structures. Quantities, type, and locations are identified in the plans.

5.11 Rock Bench Construction

Rock bench construction is defined as trail tread construction through areas of exposed bedrock and slick rock where rock breaking and or blasting may be required. The rock found in Duluth is weathered at the surface and often fractured lending rock breaking a proven technique to get through these difficult areas. It is not anticipated that any blasting will be required as part of this project.

In order to save on construction costs construction through rocky areas a variation form the Green Trail specification to the Blue Traditional Trail Specification as enumerated in the "Trail specification Matrix" is allowed. However, effort must be made to keep the construction as close to the Green Specification as possible.

Rock bench construction is billed per the linear foot.

5.12 Technical Trail Features and Boardwalks (figure 12)

Placement and detailed design of any Technical Trail Feature (TTF) and Boardwalks will be a collaborative effort between the contractor and the Owner.

Contractor is to provide shop drawings of the actual boardwalk planned to be constructed for approval by the Owner for a given segment of TTF boardwalk based on the engineered construction documents found in the plan set.

TTFs and Boardwalks should have a playful and organic appearance to better match the natural environment. Recommendations include curved structures instead of straight lines or angles and trail deck that pitch, yaw, and vary in width.

Specific guidelines for TTFs and boardwalks are included in the plan set supplied for the project.

General guidelines include the following. Wooden structures must be designed and constructed with the assistance of an experienced professional. Acceptable materials for the riding/deck surface must be rough cut lumber and includes: Cedar, Tamarack and Treated Pine. All other lumber used in the construction can be either rough cut or planed dimensional treated pine lumber. Treated lumber shall be treated in accordance with AWPA Standard C2/C9 with ACQ 0.4 LBS/CF Ret. And 0.6 LBS/CF Ret. for 6x6's and wood in contact with the ground. Unapproved treated lumber, creosote soaked railroad ties, or similar lumber cannot be used since these would introduce toxins into the natural environment.

All cuts and drilled holes shall be saturated with 2 coats of copper Napthenate in a 2% solution. Allow treatment to absorb into wood prior to applying second coat. Avoid applying treatment over water and be extra careful whenever applying this treatment over or near water to prevent contaminating the water. Follow the treatment manufacturer's recommendations.

Hardware shall be corrosion/rust resistant, such as triple dipped hot dip-hot dipped galvanized or stainless steel, intended for outdoor use, and matched to

the material to insure long-term integrity. All hardware shall meet ASTM A307. All hardware that is hot dipped galvanized shall meet ASTM A153. Nails are not an acceptable fastener and will be rejected.

Deck materials should be rough-cut or finished with a slip-prevention coating to maximize traction. Approaches and configuration of structures shall be adjusted to reduce the accumulation of organic material on deck surface. A fall zone sufficient to accommodate the likely trajectory of a trail user accidentally leaving the structure shall be cleared of all materials that could focus impact (e.g., stumps, sharp rocks, woody materials).

Pre-engineered TTFs are an acceptable alternative to custom construed wooden features. Deck material on pre-engineered TTF must match the acceptable deck materials as described in this specification section.

To reduce the amount of toxic chips introduced into the landscape, preparatory tasks (primary cutting and drilling, refinishing of cut edges of all treated lumber) shall occur offsite. At the project site, all final drilling, fitting, and retreating will be done in a “temporary workshop” area where a tarp or similar is used to capture chips and any spilled preservatives.

This unit includes design, materials, preparatory tasks, mobilizing materials into the project area, and installation.

For billing purposes, a boardwalk or bridge is measured along the centerline of the tread. This unit includes the construction of the trail as well as the boardwalk. Contractor cannot invoice for both trail construction and boardwalk of a given linear foot of trail.

5.13 Reconstruct Tread

Any tread reconstruction should match the new trail construction listed above. For billing purposes, reconstructed tread is measured along the centerline.

5.14 Rock Rip-Rap

Rock Rip-Rap is a six inch (6’) deep layer of placed stone intended to stabilize slopes with concentrated storm flow. Typically this technique will be used to protect drains of rolling grade dips and drainage channels below an armored crossing. Individual stones should be gabion-class or equivalent. Rock Rip-Rap is measured by the square yard.

5.15 Coir Roll (Bio Log) Installation (figure 13)

Coir Rolls or Bio Logs are formal erosion control measures. They are installed in areas where the existing vegetative filter strip is inadequate to prevent sediment from reaching adjacent water courses. See project SWPPP for additional detail.

Rolls/Logs are placed parallel to trail and/or anticipated concentrated flows, set in a minor indentation excavated approximately two inches (2”) deep. They

are held in place with one inch-by-one inch (1”x1”) or one inch-by-two inch (1”x2”) wooden bio degradable stakes driven through the center of the roll/log at least six inches (6”) into the ground, stopping about two inches (2”) above the roll/log. Use five (5) stakes twenty inches (20”) to twenty-four (24”) long in the typical roll/log. Set the roll/log with foot-tamped backfill on the uphill side to prevent water from flowing underneath.

This unit includes mobilizing rolls/logs into the project area and installation.

5.16 Causeway or Turnpike Trail Construction (figure 14)

A causeway or turnpike is defined as an elevated trail tread utilizing mineral fill material confined by stable edge materials on both sides such as stone or rot resistant timber and is to be used when constructed through poorly drained areas. This application cannot be used in wetlands. Where suspected wetlands are present a boardwalk must be constructed to avoid disturbance.

A ditch can be dug parallel to and on both sides of the causeway to improve drainage. This variation is often called a turnpike. The material excavated from the ditches can be used to help fill the causeway if they are composed of mineral soil. The interior of the turnpike must be excavated down to mineral soil to create a firm and stable base for the fill material.

Causeway or turnpike trail tread construction is billed per the linear foot.

5.17 Trail Closure (figure 15)

Compacted tread will be scarified to encourage regrowth of native seed stock. Small plants and other nearby growth will be transplanted into scarified treadway. Seed and mulch meeting the mix requirements of the SWPPP may be used in this application. Exposed soils will be covered with local leaf litter. Trail tread will be disguised with woody debris. If trail is incised, check dams will be placed at a minimum of every twenty feet (20’) to capture sediment. If trail is actively eroding, grade reversals will be added to stem continued damage. Trail corridor will be erased via the placement of vertical debris. If length of trail to be closed is greater than one hundred (100) linear feet than vertical debris must extend a minimum of fifty feet (50’) from each end or until visible sight line is diminished, whichever is greater.

For billing purposes, closure is measured along the centerline.

5.18 Modifications

Modifications to the specifications may be allowed, however, they must be made to the Owner in writing.

5.19 Tables And Figures

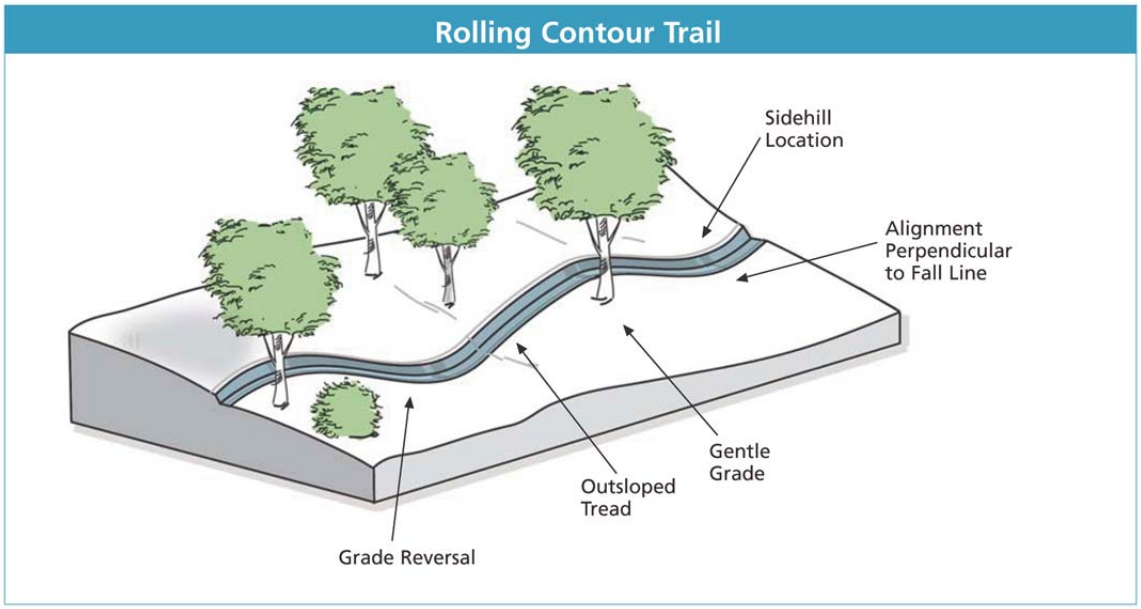


Figure 1: Rolling Contour Trail

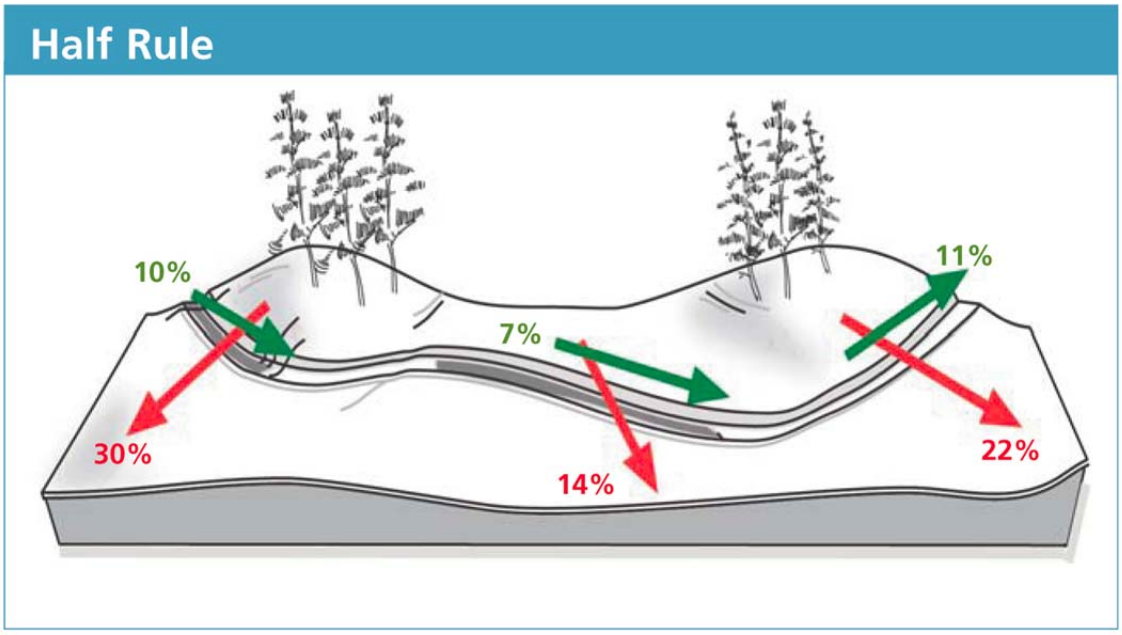


Figure 2: Illustration of The Half Rule

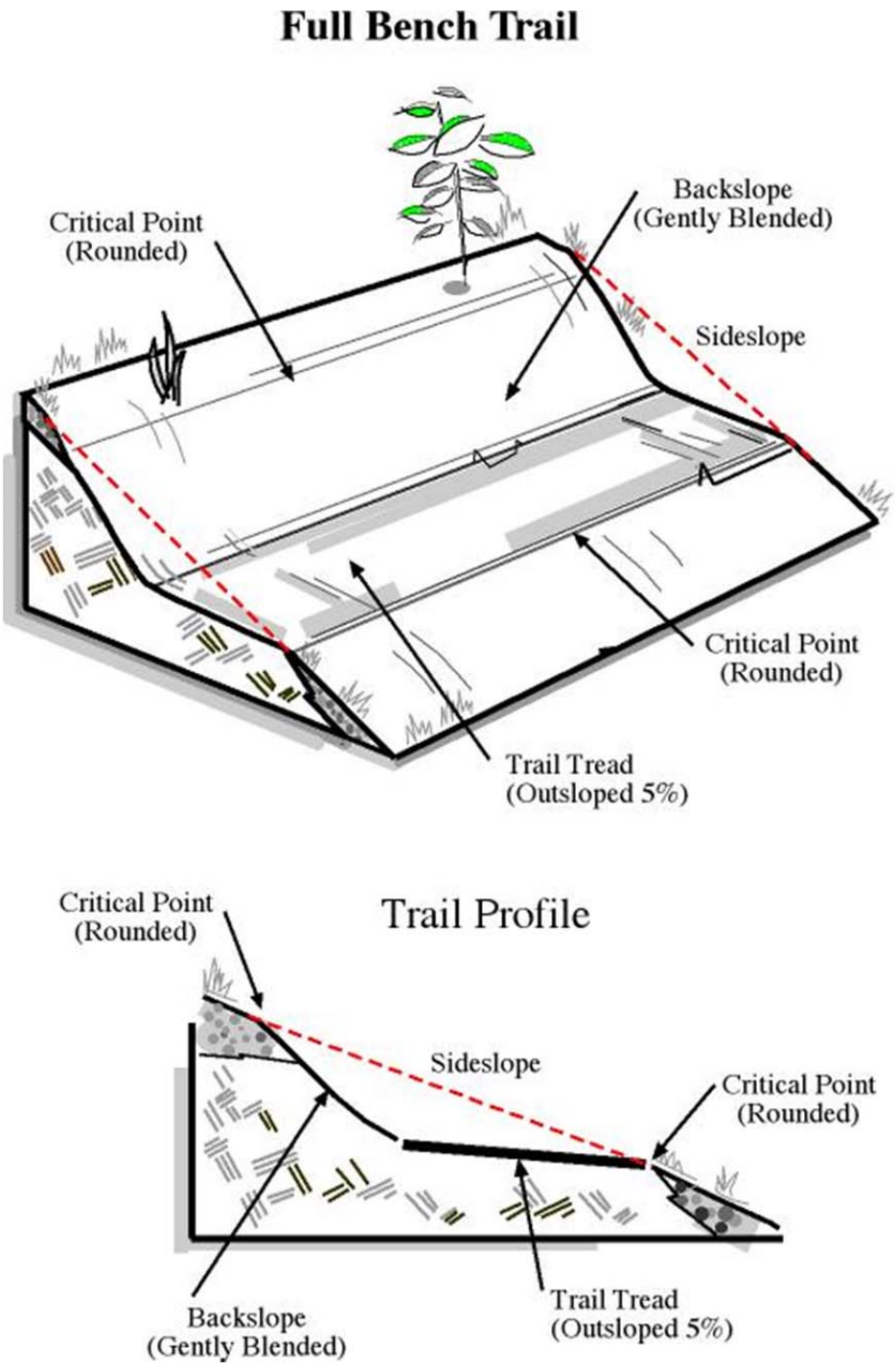


Figure 3: Full Bench Trail

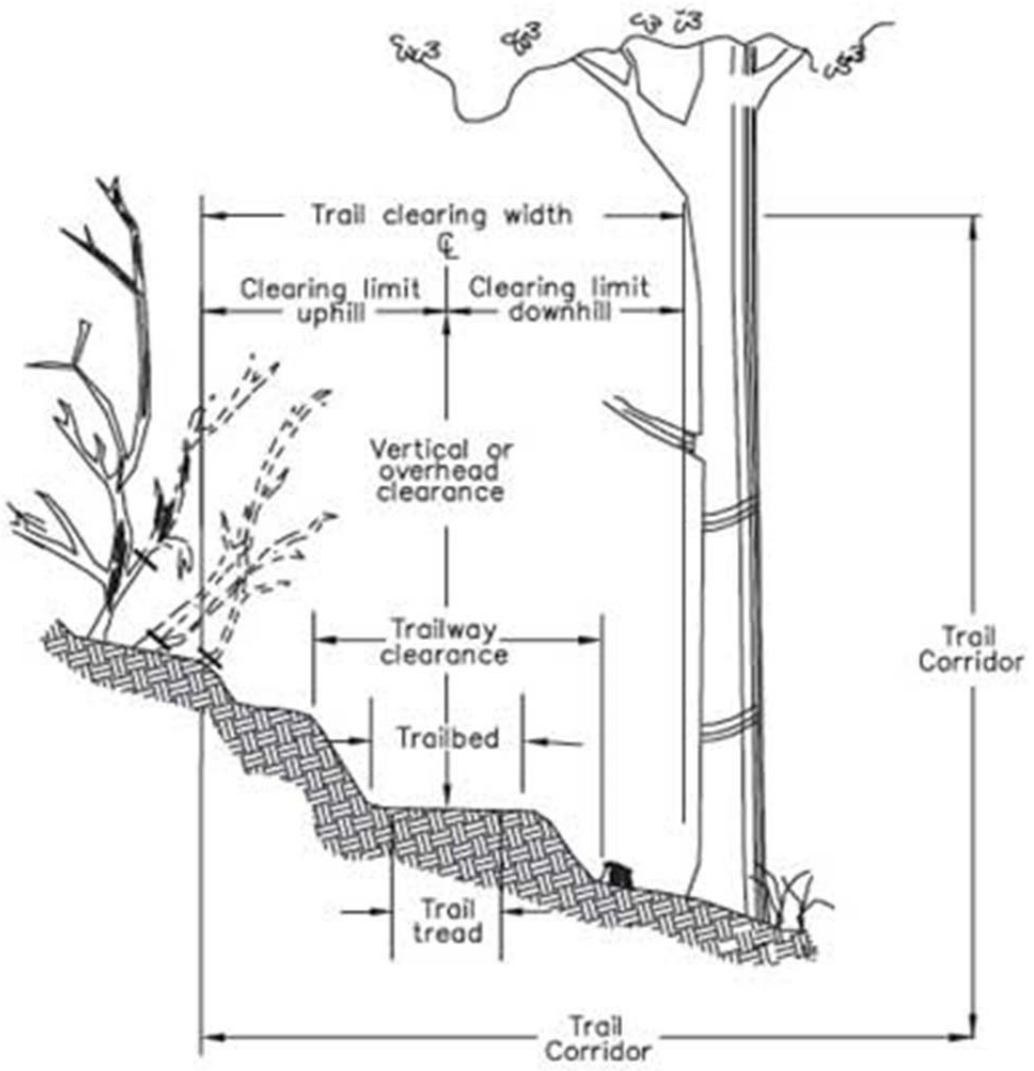


Figure 4: Clearing limits

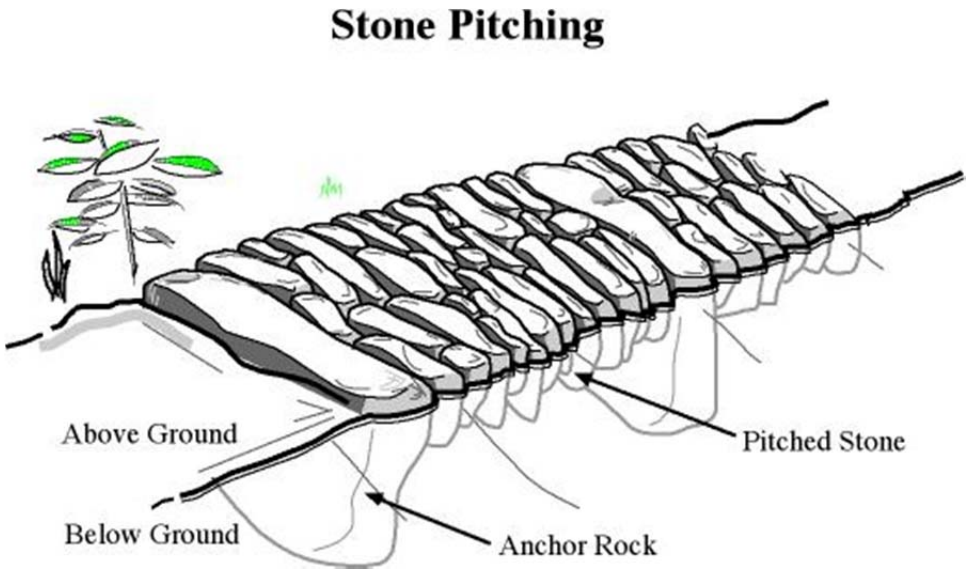


Figure 5: Tread Rock Armoring

Figure 6: Turf Block Pavers

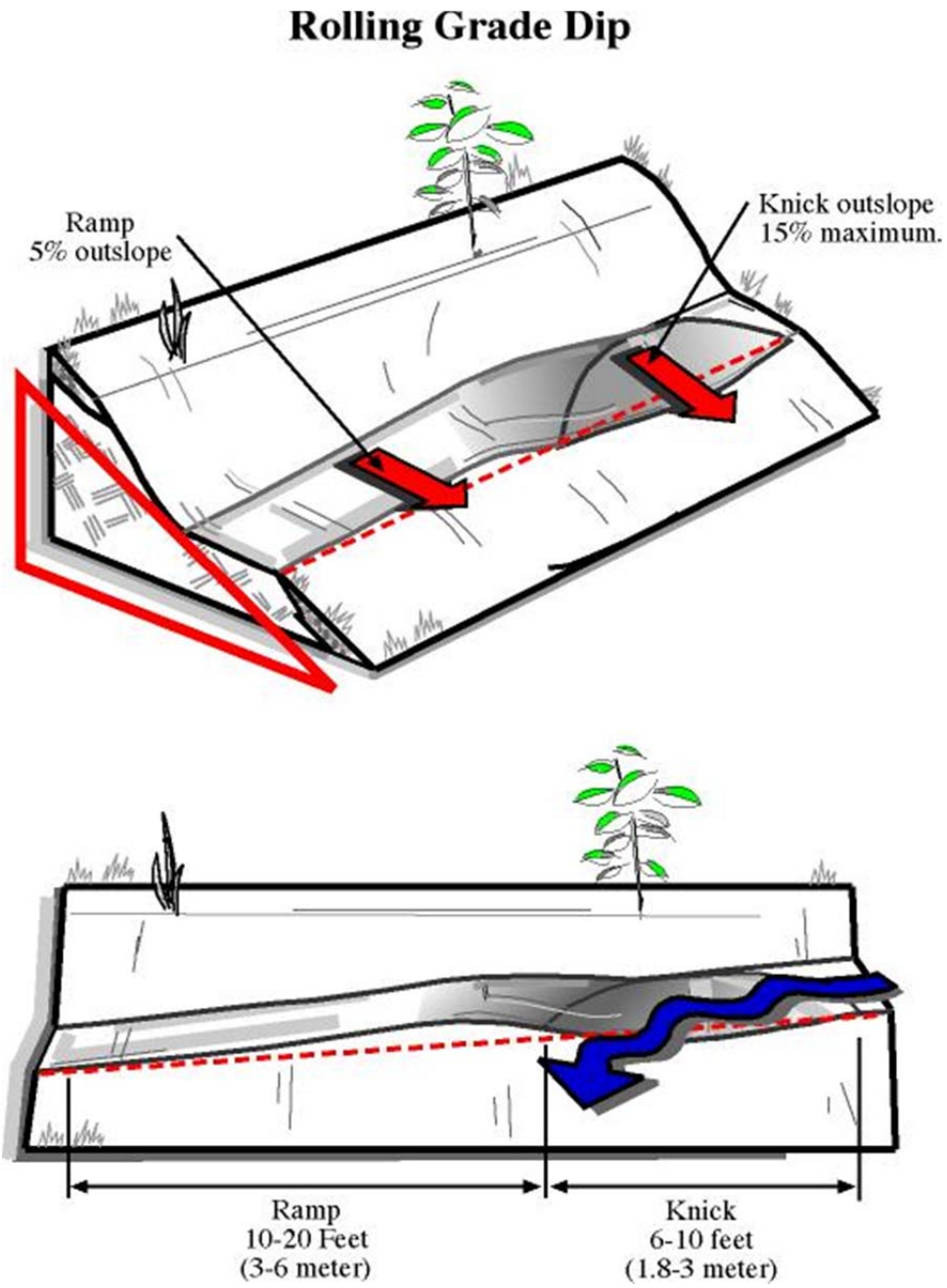


Figure 7: Rolling Grade Dip

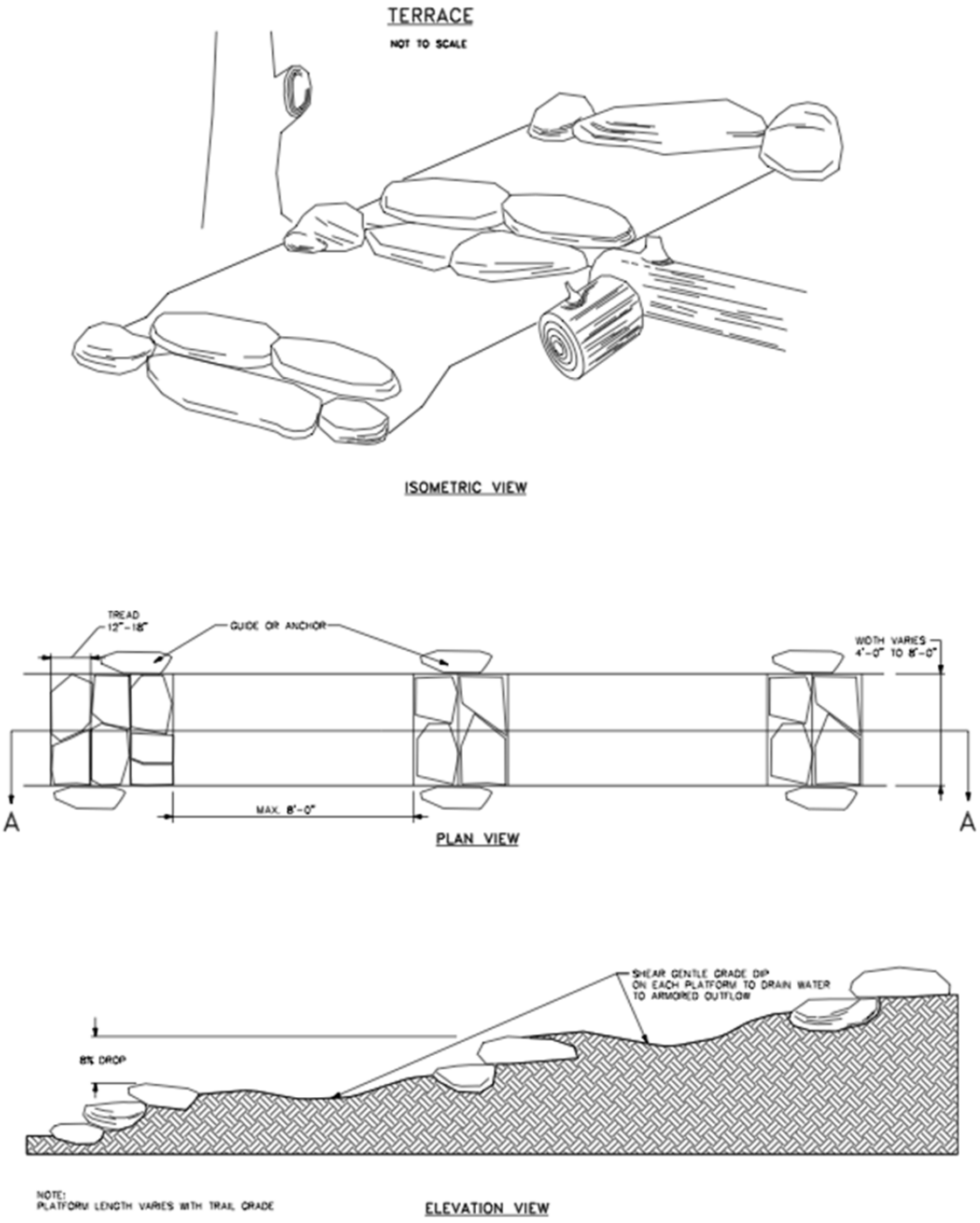


Figure 8: Terrace

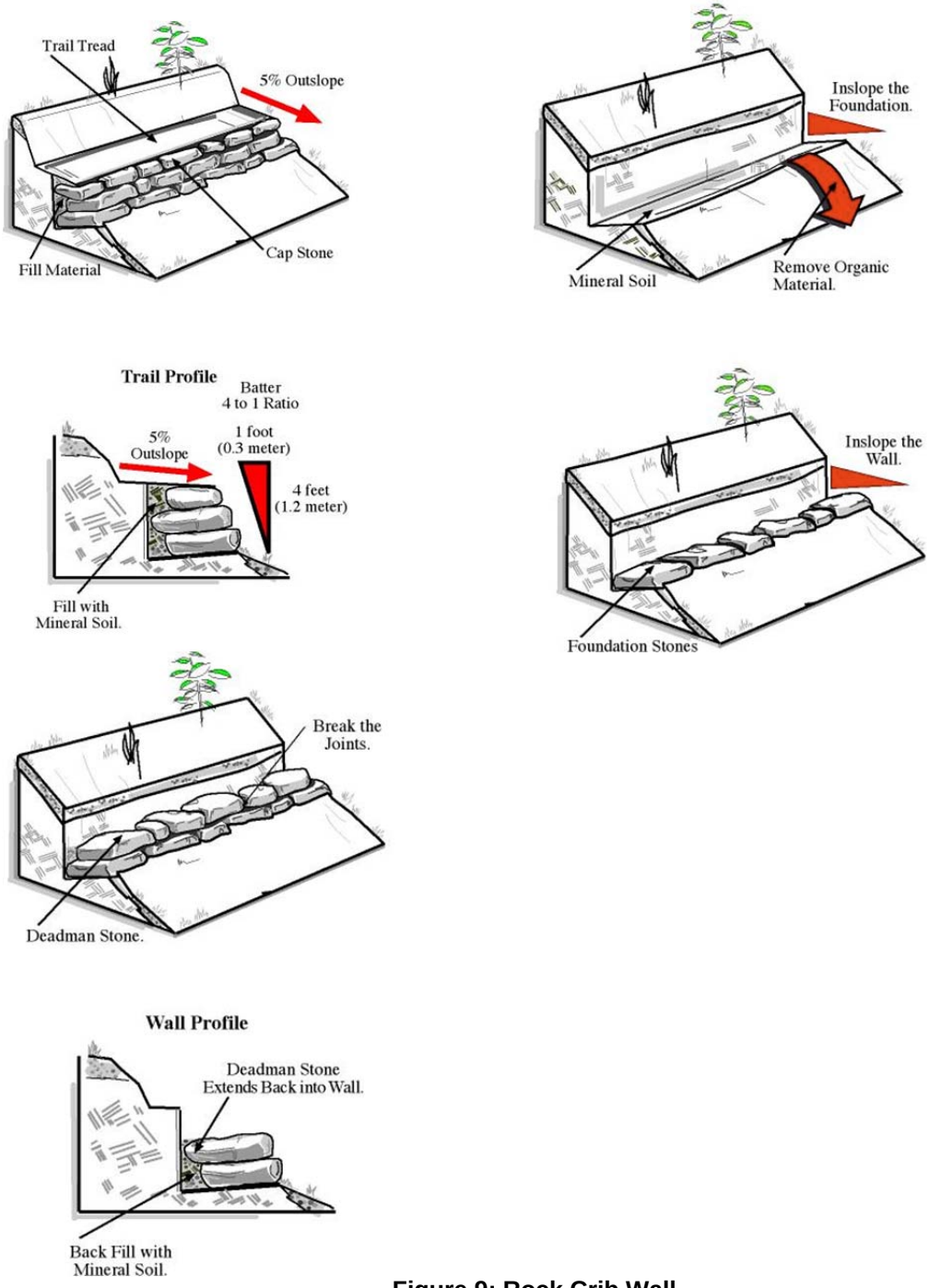


Figure 9: Rock Crib Wall

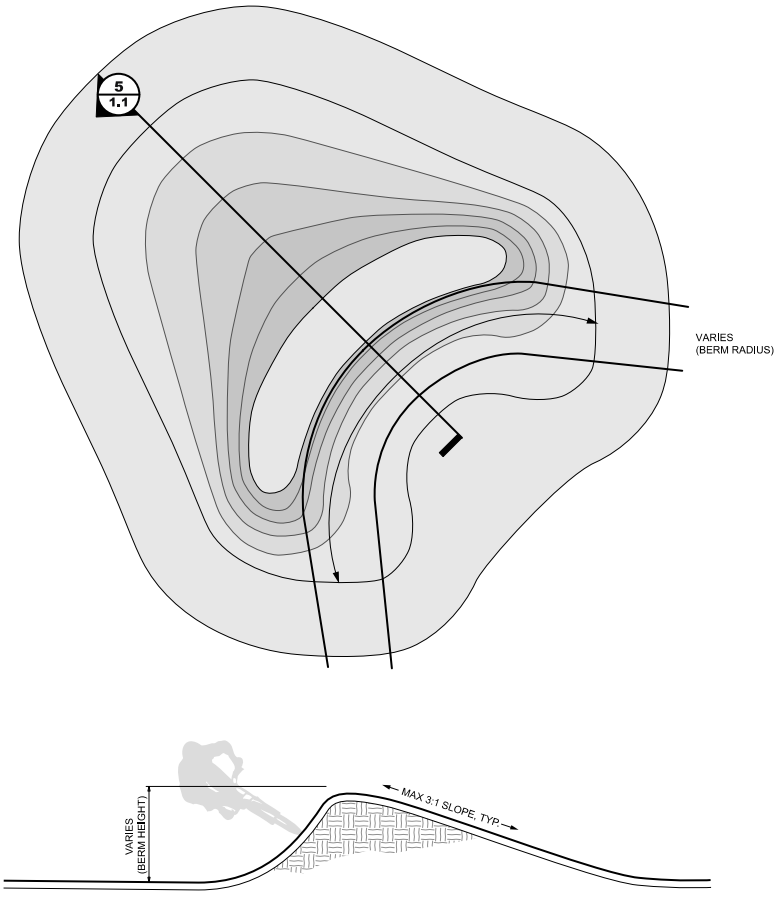


Figure 10: Berm

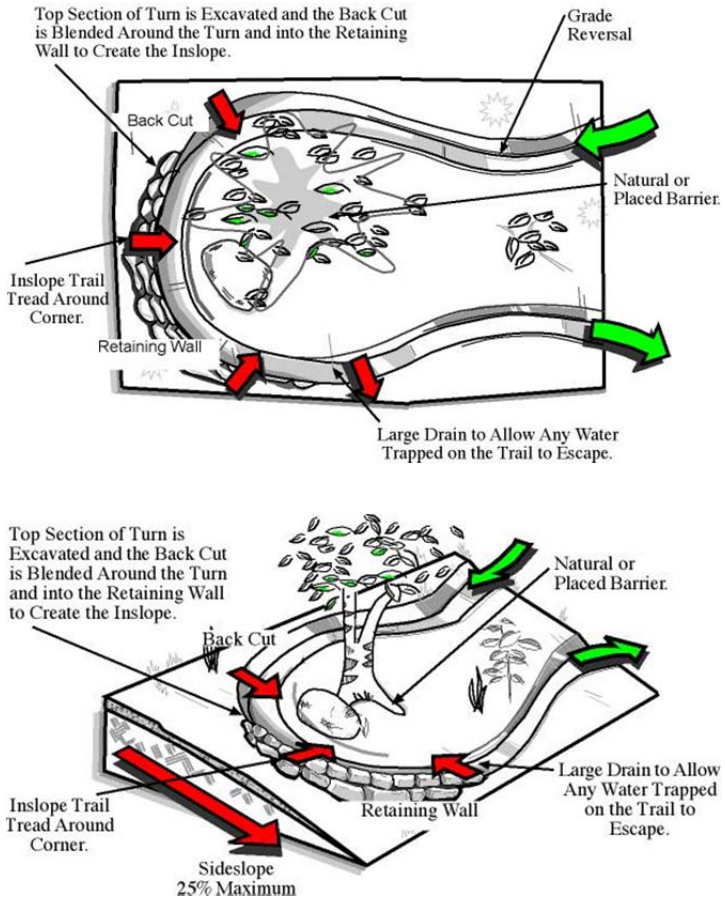


Figure 11: Insloped Switchback (Switchberm)

Figure 12: Technical Trail Feature Boardwalk (TTF)

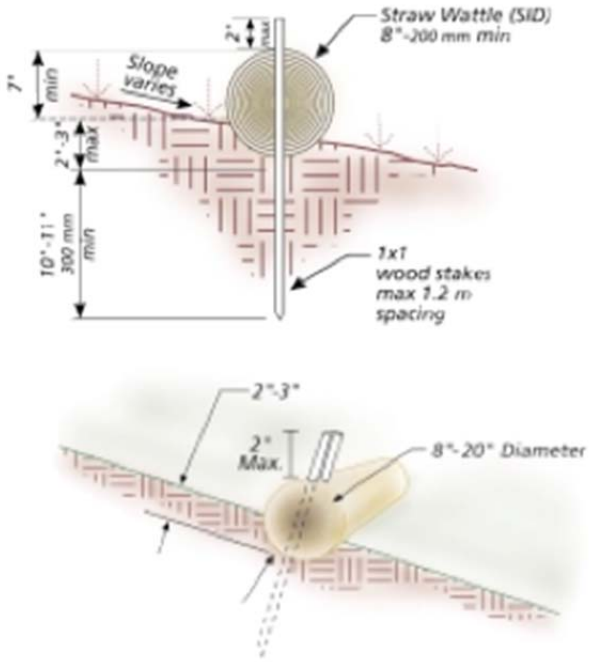


Figure 13: Coir Roll (Bio Log) Installation

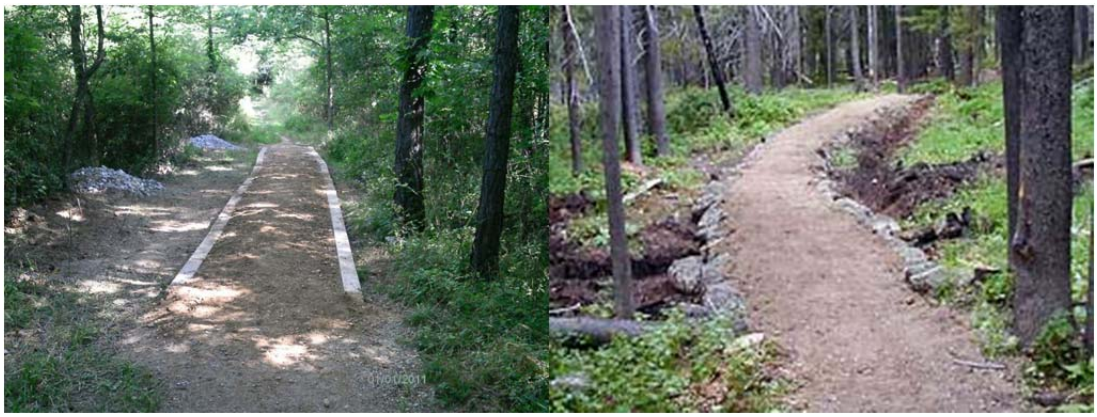


Figure 14: Causeway or Turnpike Trail Construction

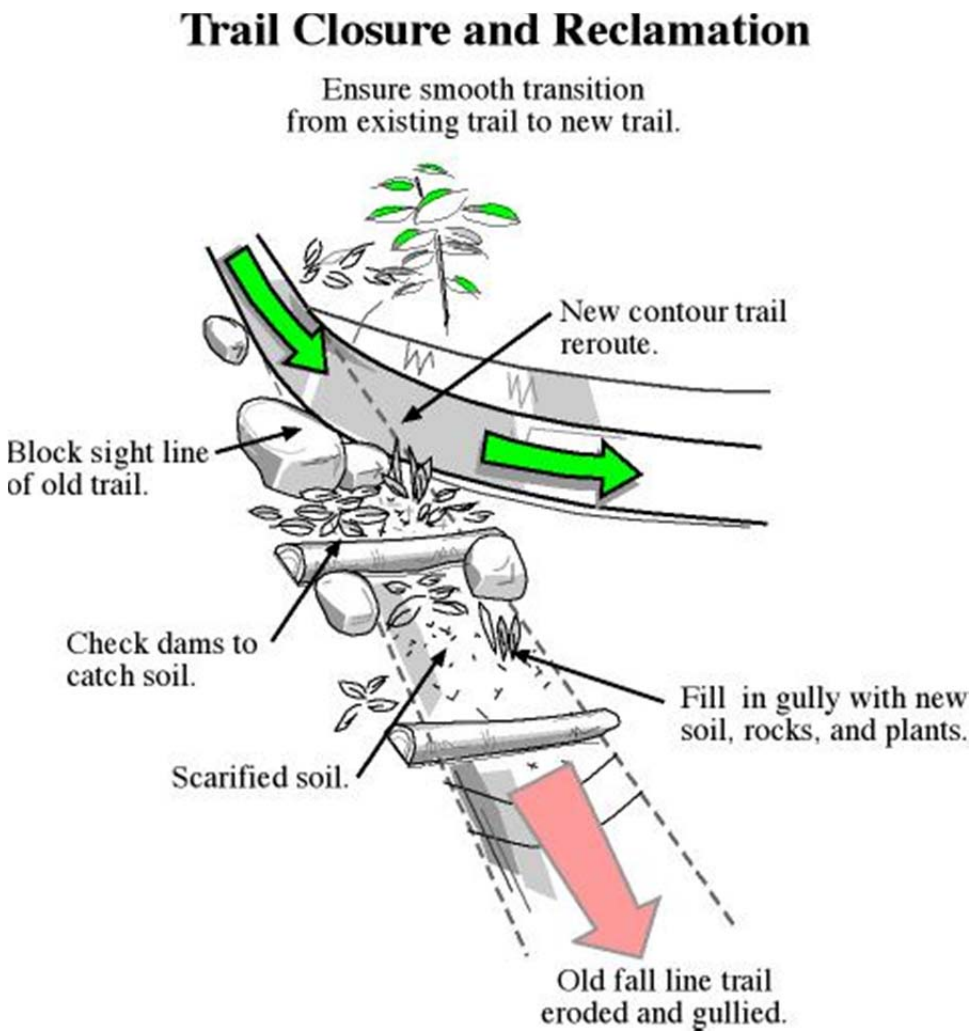


Figure 15: Trail Closure

SECTION 6: CONTRACTOR QUALIFICATIONS, REQUIREMENTS AND RESPONSIBILITIES

6.1 Professional Association

The contractor shall be a Professional Trailbuilders Association (PTBA) member in good standing. Equivalent professional experience and ability, as determined by the Owner, is acceptable.

6.2 Mountain Bike-Optimized Experience

The contractor shall have demonstrable experience in building sustainable mountain bike-optimized singletrack trail in a backcountry environment. Mountain bike-optimized singletrack is that which maximizes the fun and efficiency of the bicycling experience through the provision of trail features and macro and micro design techniques.

6.3 Tools

The contractor shall perform the required work using hand tools and/or small mechanized equipment that is a maximum of fifty inches (50”) in width. Equipment with adjustable width tracks should be able to reduce track width to less than fifty inches (50”). Some sites may not be suitable for equipment this large and other sites may not be suitable for any mechanized equipment regardless of size due to terrain constraints. Permanent modification of trail outside the scope of work to accommodate equipment access (e.g., widening of an existing trail) is not desirable and must be specifically approved by in advance by the Owner.

6.4 Mechanized Equipment Best Practices

Using mechanized equipment equipped with tracks is strongly recommended. On project work, tracks are required for heavy equipment (greater than 500 lbs. gross weight).

All equipment will be clean and free of debris before introduced to work site. Equipment is subject to inspection at the start and during the project.

All mechanized equipment shall be in good mechanical condition, free of any fluid leaks and be equipped with spark arrestors if applicable.

Each machine will be equipped with a readily accessible fully charged fire extinguisher. Heavy equipment must have two extinguishers. Mounting locations should be chosen such that at least one fire extinguisher is accessible in the event of a rollover.

A spill kit with appropriate capacity must be mounted on the machine or available within 500 feet whenever equipment is operating.

Any equipment that does not meet these criteria shall be shut down until in compliance. If not correctable it will be removed from the project site at the request of the Owner and at no additional cost to the Owner.

As part of their bid package, the contractor will be asked to supply the expected list of mechanized equipment required to complete the project.

6.5 Backcountry Protocol

The Contractor's crew shall be familiar with backcountry operation and safety protocols as well as be familiar and adept at "leave no trace" practices.

When operating mechanized equipment, at least two workers will be in close proximity to provide assistance in the event of an emergency. Each worker will have a cell phone or radio with them that can be used to summon emergency service personnel. At least one GPS type device should be on hand at each worksite to help give location information to emergency dispatch personnel.

6.6 Personal Protective Equipment

It is the responsibility of the contractor to ensure that all employees working on the project equipped with and are using as appropriate the proper Personnel Protective Equipment (PPE) for the work being done. Helmets, eye protection, hearing protection, protective gloves, steel-toed boots, sunscreen, and protective clothing are considered some of the basic PPE. Face shields, breath protection, insect repellent, knee pads, shin guards and chaps are some of the other PPE that should be deployed where appropriate for the work being performed. The contractor must have at least one OSHA-compliant First Aid Kit readily available at each worksite.

6.7 Timetable

As part of their bid package, the Contractor will provide an approximate timetable and schedule detailing how all project work will be met.

6.8 Meetings and Progress Reviews

The contractor shall meet with the Owner at the beginning of each work week or as otherwise agreed upon by both parties to: review progress, check completed trail and trail features against the construction documents for completeness, tabulate completed work for payment and project expectations for the upcoming week.

6.9 What Contractor Provides

The Contractor shall provide the necessary supervision, equipment, materials, and tools to perform specified trail maintenance and trail construction

on identified trails and sites, including fuel for any mechanized equipment/tools and any and all personal protection and safety equipment required.

6.10 Food and Water

The Contractor shall be responsible for providing food and water for self and staff.

6.11 Toilet Facilities

The contractor will be responsible for providing worksite sanitary facilities (ex. Porta-potties) for project staff or make alternate arrangements as appropriate for work areas where restroom facilities are not readily accessible.

The use of Porta-potties will be dependent on the location of the worksite relative to vehicle accessibility and concerns about potential vandalism in remote locations.

6.12 Parking

Construction personnel shall confine parking of private vehicles to within the area of the project limits or to those parking spaces available on public streets or pull off parking areas along skyline parkway and or public parking lots.

6.13 Public Safety

The Contractor shall ensure that reasonable precautions are taken to protect the public at all times where work is being performed.

6.14 Environmental Footprint

Contractor will be expected to institute practices to minimize the environmental footprint of construction activities. Examples are minimizing the running time of idle mechanized equipment, running equipment on bio-fuels such as bio-diesel, or buying carbon credits to offset carbon dioxide emission from the fossil fuels consumed.

6.15 Fees for Licenses, Permits, and Insurance

All costs for required licenses and insurance shall be borne by the contractor. Permits necessary for land access and environmental permits are the responsibility of the Owner and are in place.

6.16 Employee/Subcontractor Conduct

All of the contractor’s employees and subcontractors shall conduct themselves in a proper manner at all times. Intoxication or any unsafe behavior by the contractor’s employees while performing duties related to this contract is strictly prohibited. The contractor will be required to remove from the site any

individual whose continued employment or retainer is deemed to be contrary to the public interest or inconsistent with the best interests of this trail construction project, and will not use such individual to perform services under this contract.

6.17 Employee Competence

The contractor may be required to immediately remove from the worksite any employee or subcontractor of the contractor who is incompetent or who endangers persons or property or whose physical or mental condition is such that it would impair the employee's ability to satisfactorily perform the work. Notification to the contractor shall be made by voice promptly and confirmed in writing as soon as possible. No such removal shall reduce the contractor's obligation to perform all work required under this contract.

6.18 Compliance with Modern Practices

All work shall be performed and completed in a thoroughly skillful, efficient and professional manner in accordance with best modern practices, regardless of any omissions from the attached specifications and/or drawings.

6.19 Condition of Materials and Equipment

All materials and equipment incorporated into the trail shall be new or otherwise in good working order and shall comply with the applicable standard in every case where such a standard has been established for the particular type of material in question.

6.20 Disposal of Materials and Supplies Not Approved

Materials, supplies, etc., that have been delivered to the job but do not comply with specifications and have not been approved, upon notification, the contractor shall immediately remove from the premises any such condemned material, supplies, etc., and replace them with material, supplies, etc., in full accordance with the specifications.

6.21 Disposal of Materials and Supplies Not Used

Materials, supplies, etc., have been delivered to the job but are not used shall be removed from the site and properly disposed by the contractor.

6.22 Access Control

The contractor is prohibited from installing gates, cables, chains, fences, and other types of barricades to limit access to the project site without prior written permission from the Owner. It is anticipated that some type of access control will be necessary to control access to the trail that is under construction. It will be up to the Contractor to determine the best access control prescription.

6.23 Use of Premises – Storage

Contractor shall confine its apparatus, storage of materials, and operation of its employees/subcontractors to limits indicated by law, ordinance, permits, and/or directions of the Owner, and shall not unreasonably encumber the premises with project materials. Before any work is undertaken the contractor shall consult with the Owner and secure from Owner the use of such space as may be available for the storage of materials and/or equipment. Contractor will be held responsible for any damage done in connection with the use of this location for storage.

The Owner or Owner is not responsible for any damages that may occur to the contractor's equipment during storage whether it is from natural causes or caused by man from such unlawful acts as theft, vandalism, and arson. The contractor is responsible for providing their own property insurance. The contractor is responsible for providing their own storage and transportation equipment such as trailers, tarps, locks, or other security devices.

6.24 Trail Rehabilitation

The Contractor shall rehabilitate sections of trail that will be closed as a result of trail realignment. Any travel-ways created as a result of construction and/or ingress/egress will be restored to their original condition.

6.25 Use of Subcontractors

The Contractor shall be able to use subcontractors to complete the work provided the subcontractors meet all qualifications and satisfy all conditions defined in this RFQ. Contractor is responsible for all actions of their subcontractor.

Subcontractor staff must be described in the bid submission. Use of subcontractors not described in the bid submission will only be allowed with written permission from the Owner.

6.26 Indemnity

The contractor shall indemnify, save, and hold harmless the Owner, the land owner, and their employees and agents, against any and all claims, damages, liability and court awards including costs, expenses, and attorney fees and related costs, incurred as a result of any act or omission by the contractor, or their employees, agents, subcontractors, or assignees pursuant to the terms of this contract.

6.27 Protection of Finished Construction

Contractor shall assume the responsibility for the protection of all finished construction under his Contract and shall repair and restore any and all damage of finished work to its original state.

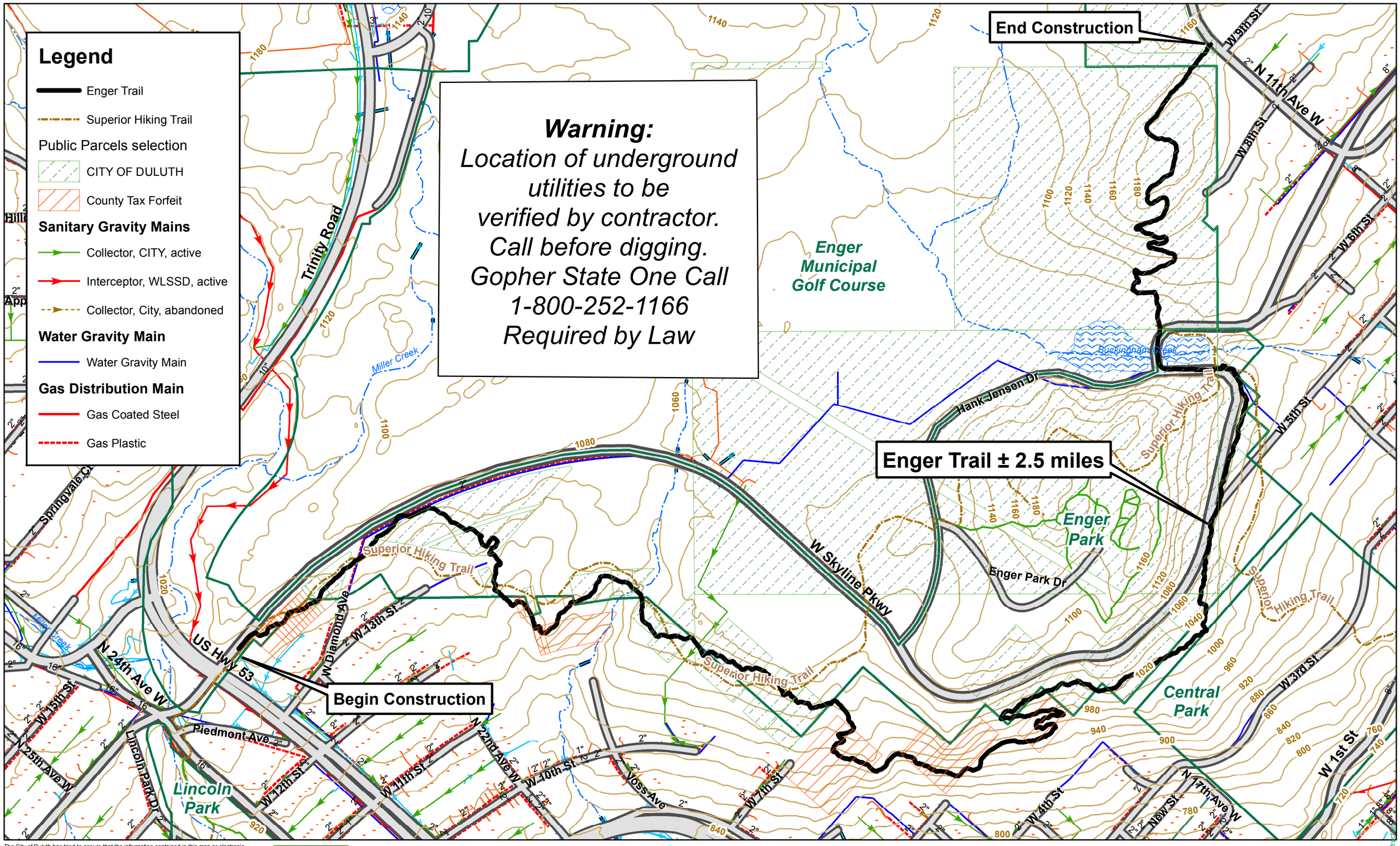
Where responsibility can be established for damage to finished construction, the cost for repair or replacement shall be charged to the party responsible.

SECTION 7: FINAL INSPECTION, SUBTANTIAL COMPLETION, RETAINAGE, WARRANTY AND PAYMENT

Upon the substantial completion of the contract work, the Owner shall accompany the contractor on an inspection of the work to create a final punch list. All defects found in the work that do not meet the intent of the construction documents will be corrected before payment will be authorized.

Substantial completion is defined as the point at which the requirements of the construction documents have been meet and the Owner issues a letter of acceptance.

Final payment will be made upon substantial completion and approval of work per sub-project minus a 5% retainage. This retainage is held for a one year warranty period and starts on the date of substantial completion.



The City of Duluth has tried to ensure that the information contained in this map or electronic document is accurate. The City of Duluth makes no warranty or guarantee concerning the accuracy or reliability. This drawing/data is neither a legally recorded map nor a survey and is not intended to be used as one. The drawing/data is a compilation of records, information and data located in various City, County and State offices and other sources affecting the area shown and is to be used for reference purposes only. The City of Duluth shall not be liable for errors contained within this data provided or for any damages in connection with the use of this information contained within.

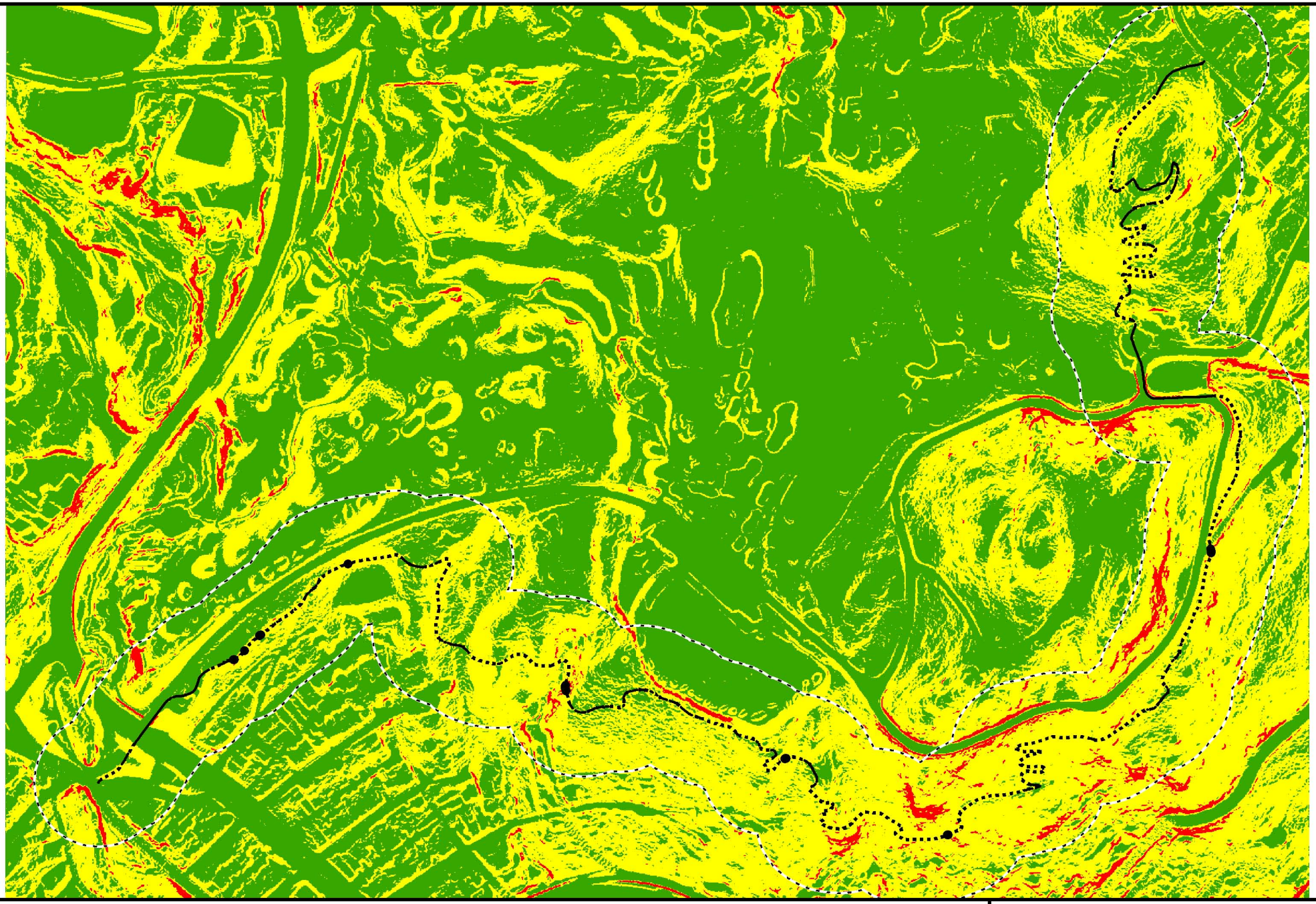
Duluth Traverse - Enger Park & Central Park Trail Segment

0 212.5 425 850 Feet

1 inch = 425 feet

Printed: 6/4/2015

Traverse_Constr.mxd



Trail Construction Type

- Type A (0-15% Slope)
- Type B (16-60% Slope)
- Type C (> 61% Slope)
- 300 ft Trail Buffer

Percent Slope

- 0 - 15
- 15 - 60%
- > 60%

City Of Duluth

Duluth Traverse Trail
Phase 1
Engar Park

Trail Slope Analysis

0 300 600 1,200 Feet

1 inch = 600 feet

N

MN DNR, Arrowhead Duluth LiDAR 2012.
Data collection Fall 2012.
Data resolution 1-meter.
Coordinate System: NAD83 UTM 15N

Map Produced 02/09/2015

Trail Specifications
Duluth Traverse Trail System

Version: 1.4 (2/4/14)

Label	Working title	Difficulty Rating	Symbol[1]	Use	Directional	Feature Frequency[2]	Constructed Tread Width[3, 4]	Ave Trail Grade per 1000'	Max Trail Grade: climbing[5]	Max Trail Grade: descending[6]	Min Turn Radius	Max Turnpad Grade[7]	Max Berm/Turn Camber[8]	Corridor Width (4' above tread)	Corridor Height Minimum	Exposure (without railing)	Unavoidable Obstacles	Avoidable Obstacles (over 50% of tread or less)	Rollable Feature Height (jumps, berms, etc.)	Roughasity (surface texture)[9]	Tread and trail features	Notes
Spec 1	Green Singletrack (Traditional bike optimized shared-use singletrack)	Easier	Green Circle	bike, foot	Two-Way	Low	48"	5%	20%	20%	10'	10%	15%	48"-72"	10-12'	less the 36"	less then 2"	less then 6"	12"	low	Firm trail surface. May include rock armored section.	
Spec 2	Blue Singletrack (Traditional bike-optimized singletrack)	More Difficult	Blue Square	bike, foot	Two-Way	Medium	36"	7%	25%	50% (armored over 25%)	8'	15%	30%	36"-72"	8-12'	less then 48"	less then 8"	less then 24"	24"	med	Modest rough tread is expected. May include steps and terraces.	May include features similar to those on easier "Bump and Pump" or "Jump" trails.
Spec 3	Black Singletrack (Traditional technical singletrack)	Most Difficult	Black Diamond	bike, foot	Preferred	High	18"	10%	50% (armored over 25%)	100% (armored over 25%)	6'	15%	50%	36"-48"	8-12'	no limit	less then 18"	less then 48"	36"	high, some very high	Significant unavoidable obstacles are expected. May include steps, stairs, rock gardens, loose rock, and significantly exposed sections.	Seek out rocky ridges. Selective machine work to create very organic appearing rock strewn tread. Most rock and tread work is aimed at sustainability rather than ease of passage. Trials-like sections ok.
Spec 4	Green Bump Pump	Easier	Green Circle	bike, foot	Preferred	High	48"	3-5%	20%	30% (armor as function of flow)	15'	10%	30%	48-72"	8-10'	less the 36"	less then 2"	less then 6"	12"	low	Firm trail surface. Rollers and berms. May include rock surfaced sections.	
Spec 5	Blue Bump Pump	More Difficult	Blue Square	bike, foot	Preferred	High	36"	7-10%	30%	100% (armor as function of flow)	10'	15%	50%	36"-72"	10'-12'	less then 60"	less then 2"	less then 24"	24"	low	Firm trail surface. Rollers, roller doubles, berms predominate. May include significant armored sections.	Demonstration trail at Spirit Mtn is an example of the upper end of this spectrum.
Spec 6	Black Bump Pump	Most Difficult	Black Diamond	bike	One-Way	High	36"	10-12%	n/a	150% (armor as function of flow)	7'	25%	150%	36"-72"	10'-12'	less then 120"	less then 8"	less then 48"	36"	med	Firm trail surface. Rollers, roller doubles, berms predominate. May also include steps, stairs, rock gardens and exposed	
Spec 7	Green Jump	Easier	Green Circle	bike	One-Way	Medium	48"+	3-5%	n/a	30% (armor as function of flow)	20'	10%	150%	48-72"	10-12'	less the 36"	less then 2"	less then 6"	18"	low	Smooth continuously cambered trail surface. Easily rollable jumps.	A green jump trail could fit within a stacked-loop system. Blue and Black are likely best done at a resort.
Spec 8	Blue Jump	More Difficult	Orange Pill, medium	bike	One-Way	Low	48"+	7-10%	n/a	100% (armor as function of flow)	15'	15%	∞%	48-72"	12'-15'	less then 60"	less then 2"	less then 24"	30"	low	Smooth continuously cambered trail surface. May include significant armored sections. More complex jump	Complete berms, plan on extreme drainage solutions - sumps + culverts.
Spec 9	Black Jump	Most Difficult	Orange Pill, large	bike	One-Way	Low	48"+	10-12%	n/a	150% (armor as function of flow)	15'	25%	∞%	48-72"	12'-15'	less then 120"	less then 8"	less then 48"	48"	med	Firm trail surface. May include rock surfaced sections. Some jumps may not be rollable.	Complete berms, plan on extreme drainage solutions - sumps + culverts.
Spec 10	Green Gravity	Easier	Orange Pill, small	bike	One-way	Medium	48"	7-10%	n/a	100% (armor as function of flow)	20'	15%	150%	48-72"	12'	less the 36"	less then 18"	less then 24"	18"	high	Entry level downhill course. Will include rocks, steps, and terraces. Drops will be rollable.	For all DH types, potentially only at Spirit Mtn.
Spec 11	Blue Gravity	More Difficult	Orange Pill, medium	bike	One-way	Medium	36"	10-15%	n/a	∞% (mandatory drops	15'	25%	∞%	36"-72"	12'	less then 60"	less then 48"	n/a	30"	very high	Intermediate level downhill course. Mandatory drops. Will include significant steps, stairs, rock gardens and exposed	
Spec 12	Black Gravity	Most Difficult	Orange Pill, large	bike	One-way	High	24"	15-20%	n/a	∞% (mandatory drops	15'	25%	∞%	36"-72"	12'	less then 120"	less then 72"	n/a	48"	very high	Advanced level downhill course. Significant mandatory drops. Will include extreme terrain that has a high penalty for failure.	
Spec 13	Gateway trail	Easiest	Green Circle	bike, foot, horse	Two-Way	low	48"+	3-5%	10%	15%	12'		10%		10-12'							Very front-country, likely connected to a recreation park. Typically under a mile.
Spec 14	Accessible trail	Easiest		bike, foot, horse	Two-Way	none																AASTHO spec trail.

Footnotes…

1. Orange Pill Symbol assumes trails inside controlled-access facilities, like a bike park or resort.
2. Feature Frequency is averaged over long distances. Per 100': "low" = 2-3 features, "med" = 3-5 features, "high" = 5-10 features.
3. Constructed tread width may narrow over short distances to 50% of spec. Examples include rock or tree gateways.
4. Tread width also applies to bridges and boardwalks. Check with local regulations for overriding guidelines on width or any other requirements (height restrictions, railings, etc.).

5 & 6. Max grades climbing and descending refer to extremely short segments, 10 feet or less.

7. Turnpad grade measures the rise/fall across the turning surface at the base of any inslope.
8. Max camber is measured at the top of the inslope. More advanced berms will go to "vertical".
9. Roughasity attempts to capture average tread coarseness. Tread area with obstacles: "low" = less then 5%, "med" = less then 20%, "high" = over 20%, "very high" = over 50%.

General Notes!

Sustainable trails guidelines provide the foundation for all design + construction decisions ("half rule", frequent grade reversals, max grades function of soils + use, etc.).

All trails should have a minimum grade and camber (in/outslope) of 3% to ensure a well-drained tread.

Temporary Erosion Control Seed Mix			
		Seeding Rate lb/ac	% of Mix Component
Common Name	***Scientific Name***		
Canada/Nodding Wild Rye	*Elymus canadensis*	4	10
Winter Wheat	*Triticum* spp.	16	40
Oats	*Avena sativa*	16	40
Virginia Wild Rye	*Elymus virginicus*	4	10
	Cover Crop Totals:	**40**	**100**

Temporary Seeding Assumptions: Project will disturb an estimated 2' wide path for removal of topsoil and berm construction across project length less boardwalks and bridges areas. The estimated quantity is for the temporary seeding of 6.0 acres @ 40 lbs. /ac. is 240 lbs.

Mulch – Use certified weed-free straw mulch or approved weed free equivalent @ 2 tons per acre. Temporary seeding estimated @ 6 acres * 2 tons per acre or 12 tons.
Use native duff in place of weed free straw wherever possible. Wood chips made from the woody materials created as a result of the corridor clearing is also an acceptable alternative to weed-free straw.

Permanent Erosion Control Seed Mix			
		Seeding Rate lb/ac	% of Mix Component
Common Name	***Scientific Name***		
Fringed Brome Grass	*Bromus ciliatus*	2	6
Bluejoint	*Calamagrostis canadensis*	0.13	0.4
Poverty Grass	*Danthonia spicata*	0.5	1.5
Canada Wild Rye	*Elymus canadensis*	1.25	4
Slender Wheatgrass	*Elymus trachycaulus*	2	6
Fowl Bluegrass	*Poa palustris*	1	3
False Melic	*Schizachne purpurascens*	0.25	1
	Total Grasses:	**7.13**	**21.9**
Oats	*Avena sativa*	**25.0**	**78.1**
	Cover Crop Totals:	**32.13**	**100**

Permanent Seeding Assumptions: Project will require have natural seed in duff layer in topsoil with an estimated 20% will need to be permanently seeded. Twenty % of the estimated temporary seed quantity 6.0 acres is 1.2 acres @ 32.13 lbs. /ac. or 38 lbs. for the permanent seed mixture.

Mulch – Use certified weed-free straw mulch or approved weed free equivalent @ 2 tons per acre. Permanent seeding estimated @ 1.2 acres * 2 tons per acre or 2.4 tons
Use native duff in place of weed free straw wherever possible. Wood chips made from the woody materials created as a result of the corridor clearing is also an acceptable alternative to weed-free straw.

City of Duluth
CERTIFIED PAYROLL CHECKLIST

[Federal funded projects rev 4/22/13]
www.duluthmn.gov/engineering/construction_documents.cfm

For ease of communication, the e-mail address of the person responsible for certified payroll reports (CPRs) is necessary from the prime contractor and all subcontractors.
Please reply to the e-mail address in item #19.

1) Contractor's name and address must appear on the top line of each **certified payroll report (CPR).**

2) **City project number, name, and location must appear on each weekly CPR AND the Statement of Compliance.**

3) **CPRs must be numbered sequentially**; for example, #1, #2, #3, etc.
   - **Should the prime contractor or any subcontractor NOT perform work on a project for one or several weeks, DO NOT submit any CPRs at all. When work resumes, mark the CPR with the next sequential number.**
   - **Should a project continue into another year, continue with the same number sequence.**

4) Each **employee's complete address** and the **last four digits of the social security number** must be on the first CPR his/her name appears; subsequent CPRs need only show the name.
   - Hours of work must clearly correspond with the appropriate dates; overtime hours listed separately.

5) **CLASSIFICATION and CODE NUMBERS**
   Each employee's classification title, group number, and code number **must be indicated on each CPR** using the State of Minnesota Master Job Classification listing.
   - **NOTE** that the U S DOL prevailing wage schedules DO NOT match the State of Minnesota's for every classification—use caution when applying these code and group numbers.
   - **A listing of simply "operator" or "laborer" or "driver," etc. will not be accepted.**
     - » **CPRs will be returned for correction and monthly projects payments could be delayed.**
   - Employees who work in more than one classification must have the hours spent in each classification clearly indicated on separate lines with the appropriate wage.
   - Web site: https://www.revisor.mn.gov/rules/?id=5200/1100

6) - The U S DOL form WH-347 may be used for preparing the actual certified payroll report.
     web site: http://www.dol.gov/whd/wh347.pdf
   Any other form or software may be used as long as it mirrors the format of the report above.

7) **Total Pay Package**
   - The total pay package—base rate plus fringe benefits—must be equal to or greater than that established in the project prevailing wage schedules **or** the project labor agreement (PLA), if the project is subject to one.
     - » An employer may pay a lower hourly rate and higher fringe benefit rate than stated in the project's wage decision for regular time PROVIDING the total is equal to or greater than that of the wage decision— overtime must be applied to the higher prevailing wage in the project's wage decision.

   - **The overtime rate must be paid at NO LESS than the rate of pay as established in the project's wage decision multiplied by one and one-half half OR the base rate the employee is being paid if it is higher than the wage decision base rate.**

   - The **U.S. DOL Statement of Compliance** [on the reverse side of the WH-347 payroll form] must be used **in addition** to the **MnDOT Prime Contractor-Subcontractor's Statement of Compliance (8/2013);** the second page must be completed in full regarding the fringe benefits.

web sites: http://www.dol.gov/whd/wh347.pdf (page two)
http://dot.state.mn.us/const/labor/forms.html

- The fringe benefit package is an integral portion of the prevailing wage. Should the **prime contractor or any subcontractor (regardless of tier)** become delinquent with any fringe benefit plan administrator's requirements for monthly payment, an estimated amount due that plan plus penalties may be withheld from the monthly estimate(s) **OR** the entire monthly estimates(s) may be withheld. See item #10.

8) **Other Deductions**
- **"Other Deductions"** must be identified; for example: garnishment, alimony, child support, other court ordered deductions, specific fringe benefits, etc. Copies of these documents must be submitted with the first certified payroll report the deduction appears OR an involuntary deduction form must be included with the first certified payroll report the deduction appears.
- **Voluntary deductions** must be clearly marked as to the type: medical, life insurance, 401K, loan payment, etc. A copy of the employee's signed authorization for the voluntary deduction(s) must be included with the first certified payroll the deduction appears.
- **Union dues, union vacation pay, etc.** do not need an authorization form; however, those deductions must be clearly marked on the CPR and the Statement of Compliance which accompanies each CPR.
  web site: www.duluthmn.gov/engineering/construction_documents.cfm

9) **Apprentices**
- **Apprentices must be clearly identified on each certified payroll.**
- **A copy of the official state-approved apprenticeship agreement ALONG WITH the ratio language for that particular trade must be included with the first certified payroll report the apprentice appears.**
- Failure to complete the complete apprenticeship papers may result in a delay of project payments.

10) **Fringe Benefits**
- Only plans approved by the U.S. Department of Labor will be allowed.
- Payments made to bonafide plans must be timely per the stipulations of the plan administrator.
- Delinquent payments may result in a delay of monthly estimates or an estimated dollar amount due deducted from the monthly estimate. MnDOT 1906 Partial Payments will be implemented.

11) **Trucking Operations**
- **CPRs are required from ALL multiple truck operations (MTOs), partnerships, and corporations which have workers on a city of Duluth construction project.**
- **CPRs are required** from MTOs, partnerships, and corporations who have a contract with a broker and use their own employees or themselves (in a partnership or corporation) on a city of Duluth construction project.
  - » Each *partner* performing work on a project must submit a copy of his/her commercial driver's license (CDL), cab card, and insurance certificate for the truck being operated with that weekly CPR. It is not necessary to repeat such supporting documentation until a different truck is used and/or certificates have expired.
- **Independent truck operators (ITOs)** must submit copies of their CDL, cab card, and insurance certificate for each truck being operated before commencing work on the construction project. These documents must be sent to the prime contractor who will, then, forward the material to Labor Compliance Specialist. No CPRs are required.

12) **Owners/Salaried Persons**
City Ordinance 8940, 6/18/85 defines a laborer, mechanic: all persons utilized, employed, or working on a project who are doing work usually done by mechanics and laborers, including proprietors, partners, and members of cooperatives.
- This means that all persons working on a City of Duluth project including owners, partners, salaried person, working foremen, etc. performing laborer and/or mechanic work shall be reported on the certified payroll reports including all data required of any laborer or mechanic.

13) **Base Workweek**
The base workweek is 40 hours. Overtime must be paid on hours exceeding 40 per week.

14) **Overtime**
On this project, time and one-half the regular hourly rate is paid for hours exceeding 40 per week.

15) **Originals**
ORIGINAL certified payroll reports must be **submitted WEEKLY**. The prime contractor is responsible for all subcontractors' certified payroll reports.
FAXED certified payroll reports WILL NOT be accepted.
QUICKEN BOOK users will need to provide data in a format as the WH-347 payroll form.
(See web site in item #6)

16) **Statement of Compliance**
BOTH the **U.S. DOL Statement of Compliance** and the **MnDOT Prime Contractor-Subcontractor's Statement of Compliance 8/2013** must be completed in full and attached to each weekly certified payroll report.
www.dot.state.mn.us/const/labor/forms.html MnDOT
www.dol.gov/whd/wh347.pdf U S DOL
- Check box A or B for fringe benefit allocation (on the front side of the MnDOT form).
- The back side of the MnDOT form requires the amount paid by classification and category plus the name, address, etc. of the fringe benefit plans.
- Any employee who has an exception to the fringe benefits must be explained in section "C."
- For fringe benefits paid in cash:
  - » indicate this in section "C"
  - » the fringe amount will be added to the employee's regular hourly rate; this total amount will appear on the certified payroll report and is subject to all payroll taxes
    - overtime is calculated at one and one-half the regular hourly rate [see #6 above] plus the fringe benefit amount
- A handwritten—**original**—signature must appear on the back side.

17) **EEO Reports are required on this project**
- Use the MnDOT EEO-13 form. Web site: http://www.dot.state.mn.us/civilrights/forms.html
- See the project's specifications/contract for specifics.
- Submit the monthly reports to the Labor Compliance Specialist in item #19

18) **IC-134**
Form IC-134, Withholding Affidavit for Contractors must be submitted before the full retainage can be released.
- on-line: www.mndor.state.mn.us lower right side of screen, click: Submit Contractor Affidavit
- hard copies: www.taxes.state.mn.us/Forms_and_Instructions/ic134.pdf

19) Send weekly original certified payroll reports and EEO reports to:
direct: 218/730-5200
fax: 218/730-5907
Julie Johnson
City of Duluth
211 City Hall
411 West 1st Street
Duluth, MN 55802-1191

Note to subcontractors: the original certified payroll reports must be submitted to the prime contractor. The prime contractor will make a copy for its records and send the originals to the address in item #19.

General Decision Number: MN150105 05/22/2015 MN105

Superseded General Decision Number: MN20140105

State: Minnesota

Construction Type: Heavy

County: St Louis County in Minnesota.

HEAVY CONSTRUCTION PROJECTS

Note: Executive Order (EO) 13658 establishes an hourly minimum wage of $10.10 for 2015 that applies to all contracts subject to the Davis-Bacon Act for which the solicitation is issued on or after January 1, 2015. If this contract is covered by the EO, the contractor must pay all workers in any classification listed on this wage determination at least $10.10 (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract. The EO minimum wage rate will be adjusted annually. Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Modification Number	Publication Date
0	01/02/2015
1	05/22/2015

BOIL0647-004 01/01/2013

	Rates	Fringes
BOILERMAKER	$ 32.40	25.37

CARP0361-020 07/11/2011

ST LOUIS COUNTY (Southern 1/3 including Cotton, Floodwood, Fond Du Lac, and Proctor)

	Rates	Fringes
CARPENTER (Including Form Work)	$ 31.07	15.80

CARP0361-021 07/11/2011

ST LOUIS (Duluth)

	Rates	Fringes
CARPENTER (Including Form Work)	$ 31.47	15.80

CARP0606-010 05/01/2011

ST LOUIS COUNTY (Northeast 2/3 including Cook, Cusson, Ely; and Western part including Chisholm, Greaney, and Orr)

	Rates	Fringes
CARPENTER (Including Form Work)	$ 31.07	15.80

ELEC0242-012 06/01/2014

ST. LOUIS (South part bounded on the north by the north line of Kelsey Township extended east & west)

	Rates	Fringes
ELECTRICIAN	$ 32.54	24.07

ELEC0294-006 06/01/2014

ST. LOUIS (North part bounded on the south by the south line of Ellsburg Township, extended east & west)

	Rates	Fringes
ELECTRICIAN	$ 33.72	73.34%

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* ENGI0049-064 05/01/2015

	Rates	Fringes
OPERATOR: Power Equipment		
Group 2	$ 33.78	17.90
Group 3	$ 33.23	17.90
Group 4	$ 32.93	17.90
Group 5	$ 29.89	17.90
Group 6	$ 28.68	17.90

POWER EQUIPMENT OPERATOR CLASSIFICATIONS

GROUP 2: Crane with over 135' Boom, excluding jib; Dragline & Hydraulic Backhoe with shovel-type controls, 3 cubic yards and over; Grader/Blade finishing earthwork and bituminous.

GROUP 3: Dragline & Hydraulic Backhoe with shovel-type controls up to 3 cubic yards; Loader 5 cu yd and over; Mechanic; Tandem Scraper; Truck Crane; Crawler Crane

GROUP 4: Bituminous Roller 8 tons & over; Crusher/Crushing Plant; Drill Rig; Elevating Grader; Loader over 1 cu yd; Grader; Pump; Scraper up; to 32 cu yd; Farm Tractor with Backhoe attachment; Skid Steer Loader over 1 cu yd with Backhoe attachment; Bulldozer over 50 hp.

GROUP 5: Bituminous Roller under 8 tons; Bituminous Rubber Tire Roller; Loader up to 1 cu yd; Bulldozer 50 hp or less.

GROUP 6: Oiler; Self-Propelled Vibrating Packer 35 hp and over.

CRANE OVER 135' BOOM, EXCLUDING JIB - $ .25 PREMIUM;
CRANE OVER 200' BOOM, EXCLUDING JIB - $ .50 PREMIUM

UNDERGROUND WORK:
UNNELS, SHAFTS, ETC. - $ .25 PREMIUM
UNDER AIR PRESSURE - $ .50 PREMIUM

HAZARDOUS WASTE PROJECTS (PPE Required):
LEVEL A - $1.25 PREMIUM
LEVEL B - $ .90 PREMIUM
LEVEL C - $ .60 PREMIUM

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* IRON0512-028 05/01/2015

	Rates	Fringes
IRONWORKER, STRUCTURAL AND REINFORCING	$ 31.04	23.45

LABO1091-006 05/01/2014

ST LOUIS (South of T. 55 N)

	Rates	Fringes
LABORERS		
(1) Common or General	$ 26.97	16.21
(2) Mason Tender Cement/Concrete	$ 27.17	16.21
(6) Pipe Layer	$ 29.47	16.21

LABO1091-007 05/01/2014

SOUTHERN ST. LOUIS COUNTY

	Rates	Fringes
LABORER		
Common or General (Natural Gas Pipeline only)	$ 26.97	16.21

LABO1097-002 05/01/2014

NORTHERN ST. LOUIS COUNTY

	Rates	Fringes
LABORER		
Common or General (Natural Gas Pipeline only)	$ 25.02	18.16

LABO1097-005 05/01/2014

ST LOUIS (North of T. 55 N)

	Rates	Fringes
LABORERS		
(1) Common or General	$ 25.02	18.16
(2) Mason Tender Cement/Concrete	$ 25.22	18.16
(6) Pipe Layer	$ 27.52	18.16

PLAS0633-036 05/01/2012

ST. LOUIS COUNTY (North of T 55N)

	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER	$ 26.71	14.64

PLAS0633-039 05/01/2012

ST. LOUIS COUNTY (South of T 55N)

	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER	$ 32.78	16.80

TEAM0160-018 05/01/2014

	Rates	Fringes
TRUCK DRIVER (DUMP)		
(1) Articulated Dump Truck	$ 27.70	14.80
(2) 3 Axles/4 Axles; 5 Axles receive $0.30 additional per hour	$ 27.15	14.80
(3) Tandem Axles; & Single Axles	$ 27.05	14.80

SUMN2009-072 09/28/2009

	Rates	Fringes
LABORER: Landscape	$ 12.88	4.61

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses

(29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of "identifiers" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than "SU" or "UAVG" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the "SU" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

* an existing published wage determination
* a survey underlying a wage determination
* a Wage and Hour Division letter setting forth a position on a wage determination matter
* a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISION