Permit Application Review

Permit No. 2020-74
Received complete: June 16, 2020

Applicant:	Carol Hejlstone; City of Minnetonka
Consultant:	Mike Waltman; Bolton & Menk, Inc.
Project:	Lone Lake Park Mountain Bike Trail
Location:	Lone Lake Park: Minnetonka
Rule(s):	3,4 and 5
Reviewer:	BCO

General Background & Comments

The City of Minnetonka has submitted plans for the construction of approximately 26,000 lineal feet of an 18-inch (1.5 foot) wide trail through Lone Lake Park for mountain bikes. The trail will be totally on City of Minnetonka properties, Lone Lake Park and along the South Fork of Nine Mile Creek, north of Rowland Road. The trail is to follow the rolling topography within the area that varies vertically by more than 100 feet. The trail will likely be constructed using a "Dingo", a walk behind Bobcat-type machine, that will be able to create the 18-inch wide trail yet minimize the area disturbed.

In addition to Lone Lake, designated Public Waters 94P by the Minnesota Department of Natural Resources, there are three wetlands identified within the project area. The City is the local governmental unit administering the requirement of the Wetland Conservation Act within Minnetonka. The wetland boundaries have been determined and approved in November, 2016. No wetland impacts are proposed by the project however, section 3.4, Wetland Buffers, of the District Rules states for any activity for which a permit is required under any District rule must provide buffer on all wetlands downgradient from the activity. For this site, a Minnesota Routine Assessment Method analysis for determining wetland(s) value is not necessary since section 3.4.2 of the rules applies to require that the buffers extend to the top of the slope since the slope of the topography is greater than 12 percent or greater over a distance of 50 feet or more upgradient of the wetlands. Portions of the proposed non-motorized trail are to be located within the buffer area(s) which is allowable under section 3.4.6 of the rules

The proposed trail is an impervious surface because it will be, under NMCWD's definition of "impervious surface", *ground surface that has been compacted or covered with a layer of material, or is likely to become compacted from expected use, such that it is or will be highly resistant to infiltration of rainwater and snowmelt.* The trail will be constructed from the native underlying soils that will become compacted with use. More than 50 cubic yards and more

than 5,000 square feet surface area will be disturbed by the project, triggering both subsections Rules 4.2.1a and b of the NMCWD Stormwater Management Rule. However in this instance, stormwater is not required because section 4.2.2 c of the rules states that the requirements of section 4.2.1 do not apply if a trail not exceeding 10 feet in width is bordered downgradient by a pervious area extending at least half the width of the trail (9-inches). In all instances along the trail alignment this requirement is met.

The portions of the trail riparian to the South Fork of Nine Mile Creek and upstream of Rowland Road are a minimum of 2 feet above elevation 897 M.S.L., the Atlas 14 high water elevation No work or impacts are proposed below the 100-year flood elevation of the creek.

The following is additional information for the project:

- The water surface elevation of Lone Lake, recorded by District on June 1, 2020, was 901.5 M.S.L.
- The surface overflow elevation for Lone Lake, using Lidar topographic information, is 928 +/- M.S.L. Should an overflow from Lone Lake occur, the overflow is to the north to Shady Oak Lake.
- The lowest elevation of the trail adjacent to the lake is approximately 944 M.S.L. The trail will be approximately 42.5 feet above the current lake elevation and approximately 15.7 feet above the surface overflow from the lake. The section of the trail adjacent to the wetland complex south of the lake is 911 M.S.L. This is 10 feet above the current water surface elevation of the lake yet below the lakes surface overflow elevation of 928 M.S.L.

Exhibits

1. Permit Application submitted June 16, 2020.
2. Project narrative and plans, dated June 16, 2020, prepared by Bolton & Menk.
3. Wetland boundary and type application dated October 17, 2019, prepared by Bolton & Menk. Wetland Notice of Decision dated November 15, 2019, City of Minnetonka being the LGU administering WCA, approving the wetland boundary determination.
4. Environmental Impacts of Proposed Mountain Biking Trails in Lone Lake Park, dated February 27, 2020, prepared by Emmons & Olivier Resources.
5. Hydraulic Assessment Technical Memo, dated June 4, 2020, prepared by Emmons and Olivier Resources.

3.0 Wetlands Management

As previously stated, the City of Minnetonka is the LGU administering the requirements of WCA. However, section 3.4, Wetland Buffers, of the District Rules states that any activity for which a permit is required under any District rule triggers the NMCWD buffer requirement. The applicant must provide buffer on all wetlands disturbed by any activity and on all wetlands downgradient from the activity.

An MnRAM analysis for determining wetland(s) value is not required for this site since section 3.4.2 of the rules apply to require that the buffer(s) extend to the top of the slope since the

slope of the topography is 12 percent or greater over a distance of 50 feet or more upgradient of the wetland. The plans show that the required wetland buffer(s) extend to the top of the slope of the wetlands identified on the site, in each case extending beyond the maximum buffer width required by NMCWD of 60 feet. Wetland buffer makers consistent with section 3.4.5 are shown to be provided. Portions of the proposed non-motorized trail to be located within the buffer areas are allowable by section 3.4.6 of the rules.

4.0 Stormwater Management

The proposed trail is an impervious surface because it will be, under NMCWD's definition of "impervious surface," *ground surface that will be compacted from expected use, such that it is or will be highly resistant to infiltration of rainwater and snowmelt.* The District's requirements for stormwater management are triggered by the project because 50 cubic yards or more will be disturbed and 5,000 square feet or more of surface area will be disturbed, Rules 4.2.1a and b. However section 4.2.2 c of the rules states that stormwater management is not required for trail not exceeding 10 feet in width (1.5 feet, 18-inches, proposed) and is bordered down gradient by a pervious area extending at least half the width of the trail (9-inches). In all instances along the trail alignment this requirement is met.

5.0 Erosion and Sediment Control

Where surface runoff will be directed off the trail section, sediment logs will be installed downgradient for erosion control. The sediment logs are to be vegetated and will permanently remain in place to provide a long term method for preventing sedimentation of downgradient water resources. The project contact is Mike Waltman, Bolton & Menk.

11.0 Fees

Because the property owner is a public entity, no fees are charged:

Rules 2.0-6.0 $0

12.0 Financial Assurances

Because the property owner is a public entity, the District's financial assurance requirements do not apply.

Sureties for the project are: $0

Findings

1. The proposed project includes the information necessary, plan sheets and erosion control plan for review.
2. Rule 3, 4 and 5 are met.

Recommendation

Approval, contingent upon:

1. General Conditions of the District.

2. In accordance with Rule 4.3.5, submission of a document signed by an official with authority with the City of Minnetonka being a public entity assuming the maintenance obligation for the wetland buffers.

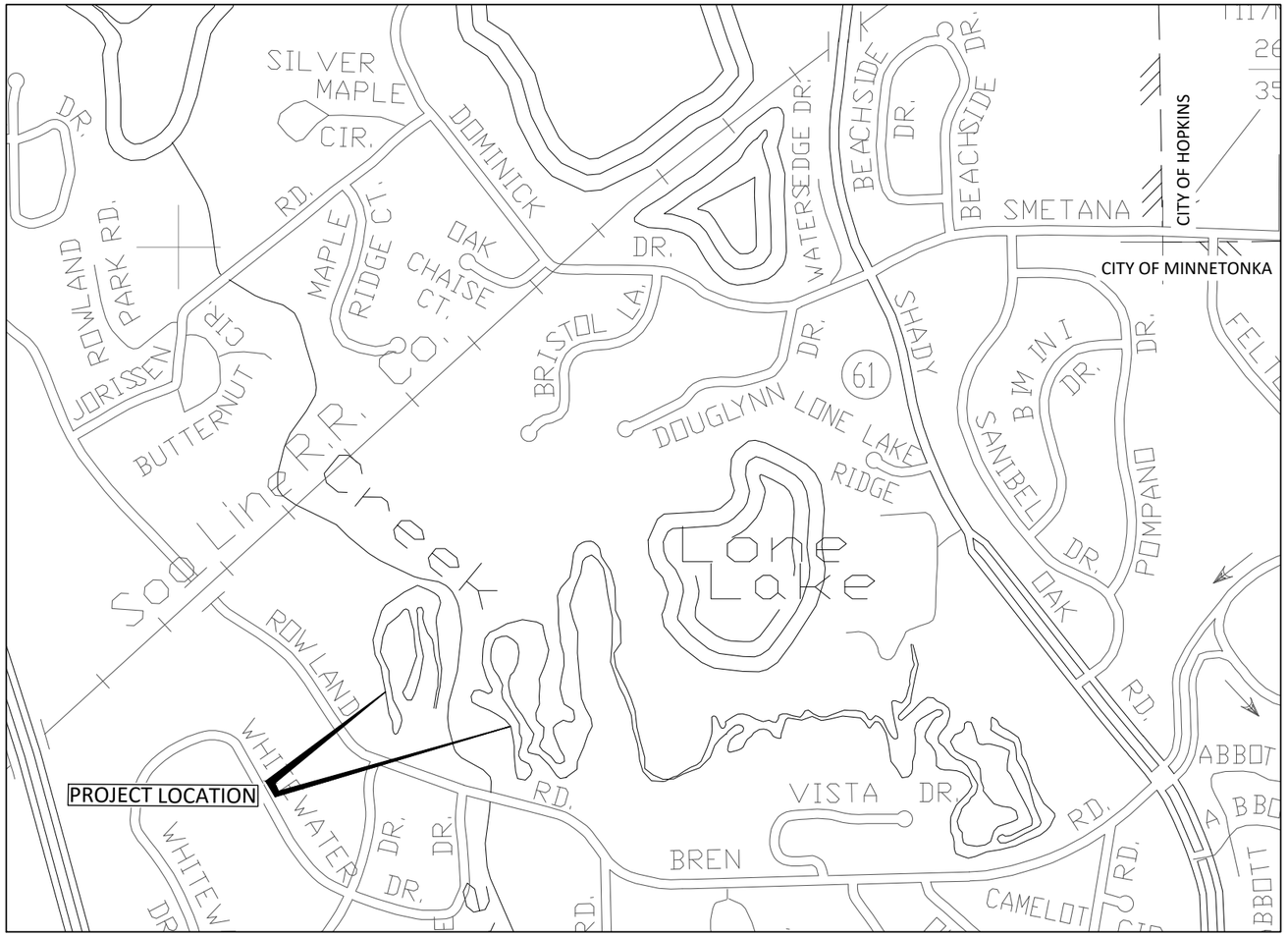
PLAN REVISIONS		
REV	ISSUED FOR	DATE

CITY OF MINNETONKA

CONSTRUCTION PLANS FOR

LONE LAKE MOUNTAIN BIKE TRAIL

MAY, 2020



MAP OF THE
CITY OF MINNETONKA
HENNEPIN COUNTY, MN

HORZ. 0 400 800
SCALE FEET

PROJECT DATUM:
HORIZONTAL: HENNEPIN COUNTY COORDINATE SYSTEM NAD83 (1986 ADJ.)
VERTICAL: NGVD29

SHEET INDEX

SHEET NO.	GENERAL
G0.01	TITLE SHEET
G0.02	LEGEND
C0.01 - C0.02	ALIGNMENT PLAN
C1.01	CONSTRUCTION NOTES & TABULATIONS
C1.02	CONSTRUCTION DETAILS
C2.01 - C2.03	STORMWATER POLLUTION PREVENTION PLAN
C2.04 - C2.07	EROSION CONTROL PLAN
C6.01 - C6.03	WEST TRAIL PLAN & PROFILE
C6.04 - C6.18	EAST TRAIL PLAN & PROFILE
C9.01 - C9.03	WEST TRAIL CROSS SECTIONS
C9.04 - C9.16	EAST TRAIL CROSS SECTIONS

THIS PLAN SET CONTAINS 47 SHEETS

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

Michael J Waltman LIC. NO. 48696 DATE: 6/16/2020
MICHAEL J. WALTMAN, P.E.

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BURNSVILLE, MINNESOTA 55337
Phone: (952) 890-0509
Email: Burnsville@bolton-menk.com
www.bolton-menk.com

CITY OF MINNETONKA

DESIGNED	CGB
DRAWN	CGB
CHECKED	MJW
CLIENT PROJ. NO.	

NO.	ISSUED FOR	DATE

MINNETONKA, MN
LONE LAKE MOUNTAIN BIKE TRAIL
TITLE SHEET

SHEET G0.01

EXISTING TOPOGRAPHIC SYMBOLS

- ACCESS GRATE
- AIR CONDITION UNIT
- ANTENNA
- AUTO SPRINKLER CONNECTION
- BARRICADE PERMANENT
- BASKETBALL POST
- BENCH
- BIRD FEEDER
- BOLLARD
- BUSH
- CATCH BASIN RECTANGULAR CASTING
- CATCH BASIN CIRCULAR CASTING
- CURB STOP
- CLEAN OUT
- CULVERT END
- DRINKING FOUNTAIN
- DOWN SPOUT
- FILL PIPE
- FIRE HYDRANT
- FLAG POLE
- FLARED END / APRON
- FUEL PUMP
- GRILL
- GUY WIRE ANCHOR
- HANDHOLE
- HANDICAP SPACE
- IRRIGATION SPRINKLER HEAD
- IRRIGATION VALVE BOX
- LIFT STATION CONTROL PANEL
- LIFT STATION
- LIGHT ON POLE
- LIGHT-GROUND
- MAILBOX
- MANHOLE-COMMUNICATION
- MANHOLE-ELECTRIC
- MANHOLE-GAS
- MANHOLE-HEAT
- MANHOLE-SANITARY SEWER
- MANHOLE-STORM SEWER
- MANHOLE-UTILITY
- MANHOLE-WATER
- METER
- ORDER MICROPHONE
- PARKING METER
- PAVEMENT MARKING
- PEDESTAL-COMMUNICATION
- PEDESTAL-ELECTRIC
- PEDESTRIAN PUSH BUTTON
- PICNIC TABLE
- POLE-UTILITY
- POST
- RAILROAD SIGNAL POLE
- REGULATION STATION GAS
- SATELLITE DISH
- SIGN TRAFFIC
- SIGNAL CONTROL CABINET
- SOIL BORING
- SIREN
- TELEPHONE BOOTH
- TILE INLET
- TILE OUTLET
- TILE RISER
- TRANSFORMER-ELECTRIC
- TREE-CONIFEROUS
- TREE-DEAD
- TREE-DECIDUOUS
- TREE STUMP
- TRAFFIC ARM BARRIER
- TRAFFIC SIGNAL
- TRASH CAN
- UTILITY MARKER
- VALVE
- VALVE POST INDICATOR
- VALVE VAULT
- VENT PIPE
- WATER SPIGOT
- WELL
- WETLAND DELINEATED MARKER
- WETLAND
- WET WELL
- YARD HYDRANT

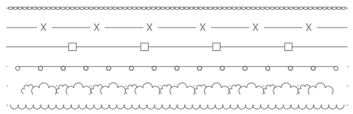
PROPOSED TOPOGRAPHIC SYMBOLS

- CLEANOUT
- MANHOLE
- LIFT STATION
- STORM SEWER CIRCULAR CASTING
- STORM SEWER RECTANGULAR CASTING
- STORM SEWER FLARED END / APRON
- STORM SEWER OUTLET STRUCTURE
- STORM SEWER OVERFLOW STRUCTURE
- CURB BOX
- FIRE HYDRANT
- WATER VALVE
- WATER REDUCER
- WATER BEND
- WATER TEE
- WATER CROSS
- WATER SLEEVE
- WATER CAP / PLUG
- RIP RAP
- DRAINAGE FLOW
- TRAFFIC SIGNS

SURVEY SYMBOLS

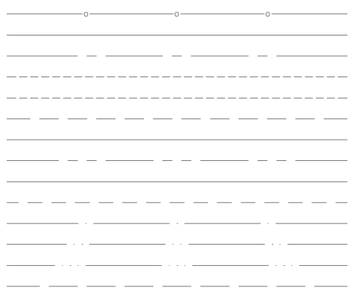
- BENCH MARK LOCATION
- CONTROL POINT
- MONUMENT IRON FOUND
- CAST IRON MONUMENT

EXISTING TOPOGRAPHIC LINES



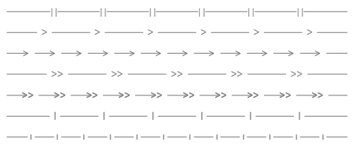
- RETAINING WALL
- FENCE
- FENCE-DECORATIVE
- GUARD RAIL
- TREE LINE
- BUSH LINE

SURVEY LINES



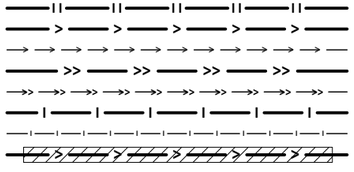
- CONTROLLED ACCESS
- BOUNDARY
- CENTERLINE
- EXISTING EASEMENT LINE
- PROPOSED EASEMENT LINE
- EXISTING LOT LINE
- PROPOSED LOT LINE
- EXISTING RIGHT-OF-WAY
- PROPOSED RIGHT-OF-WAY
- SETBACK LINE
- SECTION LINE
- QUARTER LINE
- SIXTEENTH LINE
- TEMPORARY EASEMENT

EXISTING UTILITY LINES



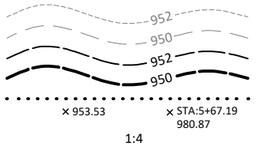
- FORCEMAIN
- SANITARY SEWER
- SANITARY SERVICE
- STORM SEWER
- STORM SEWER DRAIN TILE
- WATERMAIN
- WATER SERVICE

PROPOSED UTILITY LINES



- FORCEMAIN
- SANITARY SEWER
- SANITARY SERVICE
- STORM SEWER
- STORM SEWER DRAIN TILE
- WATERMAIN
- WATER SERVICE
- PIPE CASING

GRADING INFORMATION



- EXISTING CONTOUR MINOR
- EXISTING CONTOUR MAJOR
- PROPOSED CONTOUR MINOR
- PROPOSED CONTOUR MAJOR
- PROPOSED GRADING LIMITS / SLOPE LIMITS
- PROPOSED SPOT ELEVATION
- RISE:RUN (SLOPE)

HATCH PATTERNS

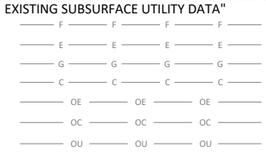
- BITUMINOUS
- CONCRETE

- GRAVEL

EXISTING PRIVATE UTILITY LINES

NOTE:
EXISTING UTILITY INFORMATION SHOWN ON THIS PLAN HAS BEEN PROVIDED BY THE UTILITY OWNER. THE CONTRACTOR SHALL FIELD VERIFY EXACT LOCATIONS PRIOR TO COMMENCING CONSTRUCTION AS REQUIRED BY STATE LAW. NOTIFY GOPHER STATE ONE CALL, 1-800-252-1166 OR 651-454-0002.

THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY QUALITY LEVEL D UNLESS OTHERWISE NOTED. THIS UTILITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINES OF CI/ASCE 38-02, ENTITLED "STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA"



- UNDERGROUND FIBER OPTIC
- UNDERGROUND ELECTRIC
- UNDERGROUND GAS
- UNDERGROUND COMMUNICATION
- OVERHEAD ELECTRIC
- OVERHEAD COMMUNICATION
- OVERHEAD UTILITY

UTILITIES IDENTIFIED WITH A QUALITY LEVEL :

LINE TYPES FOLLOW THE FORMAT: UTILITY TYPE - QUALITY LEVEL
EXAMPLE: G-A G-A UNDERGROUND GAS, QUALITY LEVEL A
UTILITY QUALITY LEVEL (A,B,C,D) DEFINITIONS CAN BE FOUND IN CI/ASCE 38-02.

UTILITY QUALITY LEVELS:

QUALITY LEVEL D: PROVIDES THE MOST BASIC LEVEL OF INFORMATION. IT INVOLVES COLLECTING DATA FROM EXISTING UTILITY RECORDS. RECORDS MAY INCLUDE AS-BUILT DRAWINGS, DISTRIBUTION AND SERVICES MAPS, EXISTING GEOGRAPHIC INFORMATION SYSTEM DATABASES, CONSTRUCTION PLANS, ETC.

QUALITY LEVEL C: INVOLVES SURVEYING VISIBLE SUBSURFACE UTILITY STRUCTURES SUCH AS MANHOLES, HAND-HOLES, UTILITY VALVES AND METERS, FIRE HYDRANTS, PEDESTALS AND UTILITY MARKERS, AND THEN CORRELATING THE INFORMATION WITH EXISTING UTILITY RECORDS TO CREATE COMPOSITE DRAWINGS. INCLUDES QUALITY LEVEL D ACTIVITIES.

QUALITY LEVEL B: INVOLVES DESIGNATING THE HORIZONTAL POSITION OF SUBSURFACE UTILITIES THROUGH SURFACE DETECTION METHODS AND COLLECTING THE INFORMATION THROUGH A SURVEY METHOD. INCLUDES QUALITY LEVEL C AND D TASKS.

QUALITY LEVEL A: PROVIDES THE HIGHEST LEVEL OF ACCURACY. IT INVOLVES LOCATING OR POTHOLING UTILITIES AS WELL AS ACTIVITIES IN QUALITY LEVELS B, C, AND D. THE LOCATED FACILITY INFORMATION IS SURVEYED AND MAPPED AND THE DATA PROVIDES PRECISE PLAN AND PROFILE INFORMATION.

ABBREVIATIONS

A	ALGEBRAIC DIFFERENCE	GRAV	GRAVEL	RSC	RIGID STEEL CONDUIT
ADJ	ADJUST	GU	GUTTER	RT	RIGHT
ALT	ALTERNATE	GV	GATE VALVE	SAN	SANITARY SEWER
B-B	BACK TO BACK	HDPE	HIGH DENSITY POLYETHYLENE	SCH	SCHEDULE
BIT	BITUMINOUS	HH	HANDHOLE	SERV	SERVICE
BLDG	BUILDING	HP	HIGH POINT	SHLD	SHOULDER
BMP	BEST MANAGEMENT PRACTICE	HWL	HIGH WATER LEVEL	STA	STATION
BR	BEGIN RADIUS	HYD	HYDRANT	STD	STANDARD
BV	BUTTERFLY VALVE	I	INVERT	STM	STORM SEWER
CB	CATCH BASIN	K	CURVE COEFFICIENT	TC	TOP OF CURB
C&G	CURB AND GUTTER	L	LENGTH	TE	TEMPORARY EASEMENT
CIP	CAST IRON PIPE	LO	LOWEST OPENING	TEMP	TEMPORARY
CIPP	CURED-IN-PLACE PIPE	LP	LOW POINT	TNH	TOP NUT HYDRANT
CL	CENTER LINE	LT	LEFT	TP	TOP OF PIPE
CL.	CLASS	MAX	MAXIMUM	TYP	TYPICAL
CLVT	CULVERT	MH	MANHOLE	VCP	VITRIFIED CLAY PIPE
CMP	CORRUGATED METAL PIPE	MIN	MINIMUM	VERT	VERTICAL
C.O.	CHANGE ORDER	MR	MID RADIUS	VPC	VERTICAL POINT OF CURVE
COMM	COMMUNICATION	NIC	NOT IN CONTRACT	VPI	VERTICAL POINT OF INTERSECTION
CON	CONCRETE	NMC	NON-METALLIC CONDUIT	VPT	VERTICAL POINT OF TANGENT
CSP	CORRUGATED STEEL PIPE	NTS	NOT TO SCALE	WM	WATERMAIN
DIA	DIAMETER	NWL	NORMAL WATER LEVEL		
DIP	DUCTILE IRON PIPE	OHW	ORDINARY HIGH WATER LEVEL		
DWY	DRIVEWAY	PC	POINT OF CURVE	AC	ACRES
E	EXTERNAL CURVE DISTANCE	PCC	POINT OF COMPOUND CURVE	CF	CUBIC FEET
ELEC	ELECTRIC	PE	PERMANENT EASEMENT	CV	COMPACTED VOLUME
ELEV	ELEVATION	PED	PEDESTRIAN, PEDESTAL	CY	CUBIC YARD
EOF	EMERGENCY OVERFLOW	PERF	PERFORATED PIPE	EA	EACH
ER	END RADIUS	PERM	PERMANENT	EV	EXCAVATED VOLUME
ESMT	EASEMENT	PI	POINT OF INTERSECTION	LB	POUND
EX	EXISTING	PL	PROPERTY LINE	LF	LINEAR FEET
FES	FLARED END SECTION	PRC	POINT OF REVERSE CURVE	LS	LUMP SUM
F-F	FACE TO FACE	PT	POINT OF TANGENT	LV	LOOSE VOLUME
FF	FINISHED FLOOR	PVC	POLYVINYL CHLORIDE PIPE	SF	SQUARE FEET
F&I	FURNISH AND INSTALL	PVMT	PAVEMENT	SV	STOCKPILE VOLUME
FM	FORCEMAIN	R	RADIUS	SY	SQUARE YARD
FO	FIBER OPTIC	R/W	RIGHT-OF-WAY		
F.O.	FIELD ORDER	RCP	REINFORCED CONCRETE PIPE		
GRAN	GRANULAR	RET	RETAINING		

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MICHAEL J. WALTMAN, P.E.
LIC. NO. 48696 DATE 6/16/2020

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Email: Burnsville@bolton-menk.com
www.bolton-menk.com

CITY OF MINNETONKA

DESIGNED	CGB
DRAWN	CGB
CHECKED	MJW
CLIENT PROJ. NO.	

NO.	ISSUED FOR	DATE

MINNETONKA, MINNESOTA
LONE LAKE MOUNTAIN BIKE TRAIL
LEGEND

SHEET G0.02

0 100 200
HORZ.
SCALE FEET

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CLIENT PROJ. NO.	

NO.	ISSUED FOR	DATE

MINNETONKA, MINNESOTA
LONE LAKE MOUNTAIN BIKE TRAIL
ALIGNMENT PLAN
WEST TRAIL

SHEET
C0.01

0 100 200
HORZ.
SCALE FEET

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MINNETONKA, MINNESOTA
LONE LAKE MOUNTAIN BIKE TRAIL
ALIGNMENT PLAN
EAST TRAIL

SHEET C0.02

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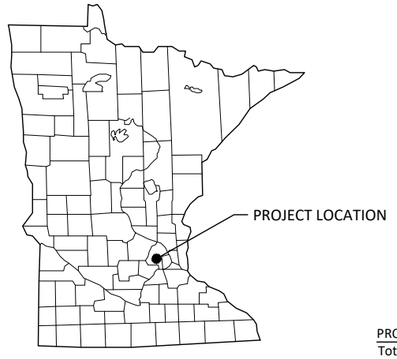
STORMWATER POLLUTION PREVENTION PLAN (SWPPP)

LONE LAKE MOUNTAIN BIKE TRAIL

CITY OF MINNETONKA
HENNEPIN COUNTY, MINNESOTA



LEGEND

1-MILE BOUNDARY
PROJECT BOUNDARY
OR IMPAIRED, SPECIAL OR PROTECTED WATERS
NATIONAL WETLANDS INVENTORY
CALCAREOUS FEN
RECEIVING WATERS

RESPONSIBLE PARTIES:
The Contractor and Owner will be joint applicants under the MPCA's General Stormwater Permit for Construction Activity as required by the National Pollutant Discharge Elimination System (NPDES) Phase II program.

The Contractor shall provide one or more trained Construction SWPPP Manager(s) knowledgeable and experienced in the application of erosion prevention and sediment control BMPs that will oversee the implementation of the SWPPP, and the installation, inspection and maintenance of the erosion prevention and sediment control BMPs.

A Construction SWPPP Manager must be available for an on-site inspection within 72 hours upon request by the MPCA.

	COMPANY	CONTACT PERSON	PHONE
OWNER:	City of Minnetonka	Carol HejlStone	952-939-8342
SWPPP DESIGNER:	Bolton & Menk, Inc.	Chad Booth	763-614-0801
CONTRACTOR:	TBD	TBD	TBD
CONSTRUCTION SWPPP MANAGER:	TBD	TBD	TBD
PARTY RESPONSIBLE FOR LONG TERM O&M:	City of Minnetonka	Carol HejlStone	952-939-8342

The SWPPP Designer, Construction SWPPP Manager, and BMP Installer must have appropriate training. Documentation showing training commensurate with the job duties and responsibilities is required to be included in the SWPPP prior to any work beginning on the site. Training documentation for the SWPPP Designer is included on the Narrative sheet. The Contractor shall attach training documentation to this SWPPP for the Construction SWPPP Manager and BMP Installer prior to the start of construction. This information shall be kept up to date until the project NOT is filed.

ADDITIONAL COMPENSATION
Payment for all work associated with Erosion and Sediment Control shall be as described in the Project Manual. Unless otherwise authorized by the Owner no additional payment shall be made for any work required to administer and maintain the site erosion and sediment control in compliance with the Minnesota Pollution Control Agency (MPCA) - General Stormwater Permit for Construction Activity (MN R100001) including but not limited to inspection, maintenance, and removal of BMPs or addition of BMPs to accommodate Contractor phasing.

DOCUMENT RETENTION
Permittees must make the SWPPP, including all inspection reports, maintenance records, training records and other information required by this permit, available to federal, state, and local officials within three (3) days upon request for the duration of the permit and for three (3) years following the NOT.

GENERAL STORMWATER DISCHARGE REQUIREMENTS
All requirements listed in Section 5.1 of the Permit for the design of the permanent stormwater management system and discharge have been included in the preparation of this SWPPP. These include but are not limited to:

1. The expected amount, frequency, intensity, and duration of precipitation.
2. The nature of stormwater runoff and run-on at the site
3. Peak flow rates and stormwater volumes to minimize erosion at outlets and downstream channel and stream bank erosion.
4. The range of soil particle sizes expected to be present on the site.

Permanent stormwater treatment systems for this project have been designed in accordance with the guidance in the MN Stormwater Manual in place at the time of bidding. Copies of the design information and calculations are part of this SWPPP and will be provided in digital format upon written request to the Engineer.

PROJECT AREAS (PER MPCA IMPERVIOUS DEFINITIONS):

Total Project Size (disturbed area) =	3.0	ACRES
Existing area of impervious surface =	0.0	ACRES
Post construction area of impervious surface =	0.0	ACRES
Total new impervious surface area created =	0.0	ACRES

PROJECT AREAS (PER NMCWD IMPERVIOUS DEFINITIONS):

Total Project Size (disturbed area) =	3.0	ACRES
Existing area of impervious surface =	0.0	ACRES
Post construction area of impervious surface =	0.88	ACRES
Post construction impervious linear trail area bordered by downgradient pervious buffer =	(0.88)	ACRES
Post construction net impervious area requiring stormwater management =	0.0	ACRES

Planned Construction Start Date: 7/1/2020
Estimated Construction Completion Date: 11/30/2020

PERMANENT STORMWATER MANAGEMENT SYSTEM:
Type of storm water management used if more than 1 acre of new impervious surface is created:

	Wet Sedimentation Basin
	Infiltration/Filtration
	Regional Pond
X	Permanent Stormwater Management Not Required

PROJECT LOCATION:

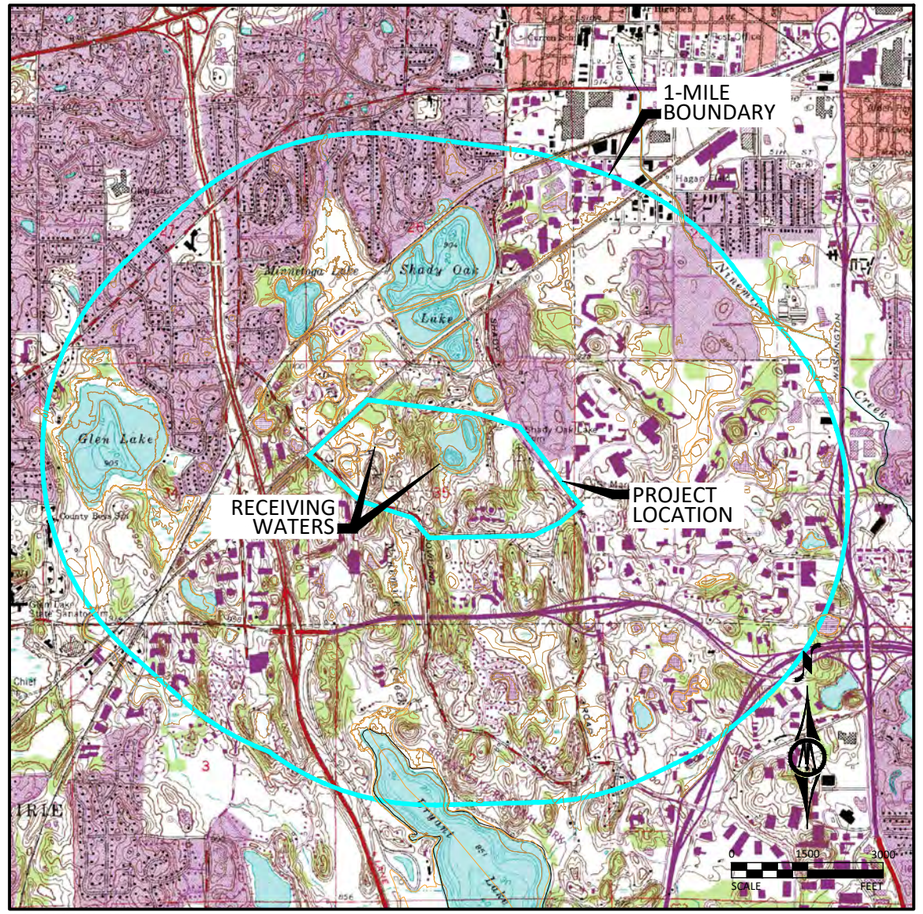
COUNTY	TOWNSHIP	RANGE	SECTION	LATITUDE	LONGITUDE
HENNEPIN	117	22	35	44.8988°	-93.4297°

BMP SUMMARY	QUANTITY	UNIT
MULCH TYPE 1 OR 5	7448	SY
EROSION CONTROL BLANKET CATEGORY 3N	3693	SY
EROSION CONTROL BLANKET CATEGORY 4N	1650	SY
SILT FENCE	11382	LF

DESCRIPTION OF CONSTRUCTION ACTIVITIES AND STORMWATER MANAGEMENT:
Construction activities include: Trail grading, temporary erosion and sediment control, and permanent stabilization.

Stormwater currently flows overland to nearby lakes, creeks, or ponds. After construction is complete stormwater will continue to follow the same drainage paths to the downstream water bodies.

This project is located in the Nine Mile Creek Watershed District. The new impervious area is less than 1 acre and therefore does not exceed the stormwater management criteria for the watershed district nor the NPDES construction permit. All NMCWD impervious area is bordered by a downgradient pervious surface.



RECEIVING WATERS:
Receiving waters, including surface water, wetlands, Public Waters, and stormwater ponds, within 1-mile of the project boundary are identified on the USGS 7.5 min quad map above. Receiving waters that are impaired, the impairment, and WLA are listed as follows. All specific BMPs relative to construction activities listed in the permit for special, prohibited, restricted, or impaired have been incorporated into this plan. All specific BMPs listed in approved TMDLs and those BMPs listed for construction related waste load allocations have also been incorporated.

NAME OF WATER BODY	TYPE (ditch, pond, wetland, lake, etc.)	Special, Prohibited, Restricted Water [1]	Flows to Impaired Water Within 1-Mile [2]	USEPA Approved Construction Related TMDL [3]
Lone Lake	Lake	No	No	No
Nine Mile Creek	Creek	No	No	No

[1] Special, prohibited, and restricted waters are listed in Section 23 of the MN Construction Stormwater General Permit (MNR100001).
[2] Identified as impaired under section 303 (d) of the federal Clean Water Act for phosphorus, turbidity, TSS, dissolved oxygen, and/or aquatic biota.
[3] Construction Related TMDLs include those related to: phosphorus, turbidity, TSS, dissolved oxygen, and/or aquatic biota.

IMPLEMENTATION SCHEDULE AND PHASING: The Contractor is required to provide an updated schedule and site management plan meeting the minimum requirements of Section 1717 of the Minnesota Standard Specifications for Construction.

1) Submit SWPPP Updates to Engineer. Submittal shall include any requested changes to the SWPPP, including but not limited to: Trained Personnel, Locations for Stockpiles, Concrete Washout, Sanitation Facilities, Types and Locations of Erosion & Sediment Control. Failure to submit updates shall be considered acceptance of the SWPPP as designed with no changes.
2) Install perimeter sediment control, inlet protection, and construction exit.
3) Perform trail grading and soil compaction.
4) Add additional temporary BMPs as necessary during construction based on inspection reports.
5) Ensure final stabilization measures are complete.
6) Provide digital copy of all Field SWPPP Documentation including Inspection Reports and SWPPP Revisions to the Owner.
7) Submit Notice of Termination (NOT) to MPCA. NOTE: The NOT must be submitted to MPCA before Final Stabilization is considered complete.

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
MICHAEL J. WALTMAN, P.E.
LIC. NO. 48696 DATE 6/16/2020

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CITY OF MINNETONKA

DESIGNED	CGB
DRAWN	CGB
CHECKED	MJW
CLIENT PROJ. NO.	

NO.	ISSUED FOR	DATE

MINNETONKA, MINNESOTA
LONE LAKE MOUNTAIN BIKE TRAIL
STORMWATER POLLUTION PREVENTION PLAN

SHEET C2.01

LEGEND

- PROJECT BOUNDARY
- SOIL TYPE
- IMPAIRED, SPECIAL OR PROTECTED WATERS
- NATIONAL WETLANDS INVENTORY
- DWSMA, LOW VULNERABILITY
- STEEP SLOPES (PER CITY OF MINNETONKA CODE OF REGULATIONS >20%)
- RECEIVING WATERS

0 200 400
SCALE FEET

SOIL TYPE SUMMARY

Map Unit Symbol	Soil Name	Hyd. Soil Group	Erodibility
MUSYM	MUNAME	HYDGRP	MUHELCL
L42A	KINGSLEY-GOTHAM COMPLEX, 0-2 % SLOPES	C	PHEL
L42B	KINGSLEY-GOTHAM COMPLEX, 2-6 % SLOPES	C	PHEL
L42C	KINGSLEY-GOTHAM COMPLEX, 6-12 % SLOPES	C	PHEL
L42D	KINGSLEY-GOTHAM COMPLEX, 12-18 % SLOPES	C	PHEL
L42F	KINGSLEY-GOTHAM COMPLEX, 18-25 % SLOPES	C	PHEL
L42F	KINGSLEY-GOTHAM COMPLEX, 25-35 % SLOPES	C	PHEL
L22C2	LESTER LOAM, 6-10 % SLOPES	C	PHEL
L37B	ANGUS LOAM, 2-6 % SLOPES	C	PHEL
L22E	LESTER LOAM, 10-22 % SLOPES	C	PHEL
L25A	LE SUEUR LOAM, 0-1 % SLOPES	C/D	NHEL
U3B	UDORTHENTS, 0-6 % SLOPES	B	NHEL
L59A	FORESTCITY-LUNDLAKE DEPRESSIONAL COMPLEX, 0-3 % SLOPES	C	NHEL
L62B	KORONIS KINGSLEY MALARDI COMPLEX, 2-6 % SLOPES	A	PHEL

NHEL - Not Highly Erodible Land
PHEL - Potentially Highly Erodible Land
HEL - Highly Erodible Land

LOCATION OF SWPPP REQUIREMENTS IN PROJECT PLAN

DESCRIPTION	SHEET NO.
SITE MAP	C2.01
DIRECTION OF FLOW	C2.04 - C2.07
FINAL STABILIZATION	C2.04 - C2.07
SOILS	C2.03
DRAINAGE STRUCTURES	N/A
DRAINAGE TABULATION	N/A
STORM SEWER PLAN & PROFILE SHEETS	N/A
EROSION & SEDIMENT CONTROL DETAILS	C1.02
EROSION CONTROL TABULATION	C1.01
TURF ESTABLISHMENT TABULATION	C1.01
NARRATIVE & NOTES	C2.01 - C2.02

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NO.	ISSUED FOR	DATE

MINNETONKA, MINNESOTA
LONE LAKE MOUNTAIN BIKE TRAIL
STORMWATER POLLUTION PREVENTION PLAN
SWPPP SOILS

SHEET
C2.03

INSTALL WETLAND BUFFER MONUMENTATION/MARKERS AT 200' SPACING TO MEET NMCWD AND CITY REQUIREMENTS (TYP.)

EP 440+94.69

LEGEND

- TRAIL
- GRADING LIMITS
- 100 YEAR STORM ELEVATION
- SHORELAND DISTRICT
- WETLAND BOUNDARY
- CITY DEFINED WETLAND BUFFER
- NMCWD DEFINED WETLAND BUFFER
- WETLAND BUFFER MONUMENTATION
- SILT FENCE

NOTE:
EROSION CONTROL AND TURF ESTABLISHMENT TABULATIONS ARE LOCATED ON SHEET C1.01.

HORZ. 0 50 100
SCALE FEET

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MINNETONKA, MINNESOTA
LONE LAKE MOUNTAIN BIKE TRAIL
EROSION CONTROL PLAN
WEST TRAIL

SHEET C2.04

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NOTE:
EROSION CONTROL AND TURF ESTABLISHMENT TABULATIONS ARE LOCATED ON SHEET C1.01.

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MINNETONKA, MINNESOTA
LONE LAKE MOUNTAIN BIKE TRAIL
EROSION CONTROL PLAN
EAST TRAIL

SHEET C2.05

HORZ. 0 50 100
SCALE FEET

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MINNETONKA, MINNESOTA
LONE LAKE MOUNTAIN BIKE TRAIL
EROSION CONTROL PLAN
EAST TRAIL

SHEET C2.06

MATCH LINE C
SEE BELOW

INSTALL WETLAND BUFFER MONUMENTATION/MARKERS AT 200' SPACING TO MEET NMCWD AND CITY REQUIREMENTS (TYP.)

MATCH LINE C
SEE ABOVE

MATCH LINE B
SEE SHEET C2.06

LEGEND

- TRAIL
- GRADING LIMITS
- 100 YEAR STORM ELEVATION
- SHORELAND DISTRICT
- WETLAND BOUNDARY
- CITY DEFINED WETLAND BUFFER
- NMCWD DEFINED WETLAND BUFFER
- WETLAND BUFFER MONUMENTATION
- SILT FENCE

NOTE:
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MINNETONKA, MINNESOTA
LONE LAKE MOUNTAIN BIKE TRAIL
EROSION CONTROL PLAN
EAST TRAIL

SHEET C2.07

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