Permit Application Review Permit No. 2021-133
Received complete: November 22, 2021

Applicant:	Brian Vlach, Three Rivers Park District (TRPD)
Applicant's Contact:	Dan Mossing, Emmons & Oliver Resources (EOR)
Project:	Bryant Lake Culvert Replacement
Location:	6800 Rowland Rd, Eden Prairie
Rule(s):	3, 5, and 6
Reviewer(s):	Louise Heffernan and Bob Obermeyer; Barr Engineering

General Background & Comments

Three Rivers Park District (TRPD) is proposing the replacement of a culvert beneath a gravel maintenance access road in Bryant Lake Regional Park. The access road runs south from Rowland Road to the maintenance shed located just north of the paved trail (east of the main entryway into the park). The culvert to be replaced is located approximately 275 feet north of the maintenance shed. The existing culvert was installed as a field crossing by the previous property owner. The joints of the culvert have separated making the crossing unsafe and requiring replacement of the culvert.

The existing 30-inch reinforced concrete pipe (RCP) culvert pipe (to be replaced) is within a drainageway that conveys surface runoff from the watershed east of the maintenance road to the southwest towards Bryant Lake. The existing pipe is to be replaced in-kind at the same upstream and downstream invert elevations.

The project will not alter the drainage patterns within the watershed nor increase the impervious area within the watershed. The project, located entirely on TRPD property, will include the following activities:

- Removal of a section of the gravel road and existing culvert pipe. Removal of four trees.
- Replacement of existing culvert with 30" RCP pipe with two and flared end sections (FES), installation of drop wall footings to minimize scour at both the inlet and outlet of the pipe, and riprap at the pipe outlet with geotextile fabric. The existing upstream riprap is to be reused.
- A scour pool at the end of the culvert's outlet and riprap is to be excavated to further dissipate energy at the outlet of the pipe.
- Restoration of the section of the access road removed.

The District's Wetland Management Rule (Rule 3.0) applies to the project, as a result of the proposed land-disturbing activities associated with the culvert replacement. Wetlands have been identified both upstream and downstream of the culvert location. The district is the Local Governing Unit (LGU) responsible for administering the Wetland Conservation Act (WCA) in

Eden Prairie. The wetland boundaries have been approved by the district and has issued a Notice of Decision.

A 100-year frequency flood elevation of 855.7 M.S.L. has been determined for the downstream wetland. A flood elevation for the upstream wetland has not been determined. For this review, the downstream flood elevation has been extended to the upstream wetland for comparative purposes with the district rules for the work proposed. The existing and proposed upstream and downstream pipe invert elevations are 861.6 M.S.L. and 860.4 M.S.L., respectively. The work proposed is above the flood elevation of the downstream wetland and elevation assumed for the upstream wetland therefore the district's floodplain rule, Rule 2, does not apply to the project.

Exhibits

1. Permit application dated received September 27, 2021.
2. Construction plans received September 27, 2021 (dated September 27, 2021), prepared by EOR.
3. Email correspondence sent October 29, 2021, indicating two items required for the application to be completed.
4. WCA Notice of Decision (NOD) signed by NMCWD Administrator September 20, 2021.
5. Email correspondence received November 9, 2021, requesting revision of NOD to indicate a utility exemption.
6. WCA revised Notice of Decision signed by NMCWD Administrator November 22, 2021

The application with the submitted information is complete.

3.0 Wetlands Management

The District's Wetland Management Rule 3.0 applies to the project because land-disturbing activities associate with the culvert replacement are within the boundaries of both wetlands at the culvert location. As previously stated, NMCWD is the Local Government Unit (LGU) responsible for administering the requirements of the Wetland Conservation Act in Eden Prairie.

A Notice of Decision for Boundary and Type Determination, and de minimis exemption was issued September 20, 2021. It was later amended on November 22, 2021, to a utility exemption. Based on the final determination, Subsection 3.2.2a of the District's Rules indicates that the provisions of Rule 3.4 Wetland Buffers do not apply to wetlands that are disturbed by utility improvements or repairs that are the subject of a no-loss determination from the LGU. Based on the final determination, no buffer area is required for the project.

4.0 Stormwater Management

The District's Stormwater Management Rule 4.0 applies to the project because more than 50 cubic yards of material will be disturbed (Rules 4.2.1a-b).

The existing gravel access road that will be disturbed for the culvert replacement does not propose to create or disturb any bituminous surface. The culvert replacement and associated land alteration activities is being undertaken solely for the purposes of water-resources improvement. The project will prevent and minimize continued sediment from being

discharged into the downstream wetland area from the pipe sections being separated. Therefore, in accordance with Rule 4.2.2, the stormwater requirements of Rule 4.0 do not apply.

5.0 Erosion and Sediment Control

The district's requirements for Erosion and Sediment Control Rule 5.0 apply to the project because more than 50 cubic yards of material will be disturbed (Rules 5.2.1a-b).

The erosion control and restoration plan submitted includes installation of sediment control logs, erosion control blanket will be installed as temporary stabilization, while MNDOT seed mixture 36-211 is planned for permanent stabilization.

TRPD must designate a contact who will remain liable to the district for performance under the District's Erosion and Sediment Control Rule 5.0 from the time the permitted activities commence until vegetative cover is established, in accordance with subsection 5.4.1e.

6.0 Waterbody Crossings and Structures

The District's Waterbody Crossings and Structures Rule 6.0 applies to the waterbody crossing improvements and reconstruction activities described in the *General Background and Comments* section of this report. Conformance with Rule 6.3 criteria is required.

Rule 6.3.1 states construction, improvement, repair or removal of a waterbody crossing in contact with the bed or bank of a waterbody:

a) *Must retain adequate hydraulic capacity and assure no net increase in the flood stage of the pertinent waterbody:*

The existing 30-inch RCP crossing of the maintenance access road in Bryant Lake Regional Park is to be replaced with an in-kind 30-inch RCP at the same grade and elevation as the existing pipe. The hydraulic capacity of the crossing will be maintained and not result in an increase in the flood stage of the drainageway conveyance system.

b) *Must retain adequate navigational capacity pursuant to any requirements of the waterbody's classification by the District:*

The existing drainageway is not used for navigational purposes.

c) Must not be reasonably likely to significantly adversely affect water quality, change the existing flowline/gradient, or cause increased scour, erosion, or sedimentation:

The proposed storm sewer improvements, including installation of flared end sections with the riprap, will provide stabilization and minimize erosion and scour from occurring at the pipe outfalls.

As stated in item (a), the hydraulic capacity of the existing storm sewer system within the project site will be maintained, as the pipe replacement will be replaced in-kind at the same existing elevations.

Erosion control measures including silt fence and bioroll check dams will be installed to minimize water quality impacts (sedimentation) during construction. Disturbed areas will be stabilized with erosion control blanket and native seeds.

d) Must provide post-project wildlife passage along each bank and riparian area

The project will not permanently change conditions that will deter wildlife from using the area adjacent to the project area once the project is complete. Construction activities may temporarily displace wildlife until the area is restored to pre-project conditions.

e) *Shall represent the "minimal impact" solution to a specific need with respect to all other reasonable alternatives:*

The project as proposed is the minimal impact solution to correct the existing culvert failure.

Rule 6.3.2 states, *projects involving directional boring or horizontal drilling must provide for minimum clearance of 3 feet below the bed of a waterbody and a minimum setback of 50 feet from any stream bank for pilot, entrance and exit holes.*

No directional boring or horizontal drilling below a waterbody is proposed, and no directional boring or horizontal drilling underneath or near a stream bank is proposed.

Rule 6.3.3 states, removal of structures or other waterway obstructions:

a) *Shall maintain the original cross-section and bed conditions to the greatest extent practicable:*

As previously stated, the culvert replacement will be in-kind and installed at the same grade and elevation as the existing crossing. There will not be a change to the original cross-section or bed conditions.

b) *Shall achieve complete removal of the structure, including any footings or pilings that impede navigation:*

The existing culvert will be totally removed and replaced. There are no known footings or pilings associated with the project that are required to be removed.

c) *Shall not involve the removal of a water-level control device:*

No removal of structures or other water obstructions is proposed with the project.

Rule 6.3.4 requires *that the plans must state no activity affecting the bed of a protected water may be conducted between April 1 and June 30 on public waterbodies to minimize the impacts on fish spawning and migration:*

The drainageway is not identified by the Minnesota Department of Natural Resources as a protected water course.

Rule 6.3.5 states, *a separate permit under District Rule 7.0 is not required for shoreline or streambank stabilization associated with a waterbody crossing or structure, but such stabilization must comply with the criteria 7.3.3c to e.*

In accordance with the requirements of subsection 6.5 for the maintenance of the waterbody structures, TRPRD must submit a draft agreement with NMCWD providing for maintenance of the waterbody crossings, then execute the agreement on approval of NMCWD.

7.0 Shoreline and Streambank Improvements

Because the waterbody crossing improvements involve placement of riprap and granular filter material at the storm sewer outfalls to dissipate energy, the requirements of Rule 7.0 Shoreline and Streambank Improvements apply to the project. Rule 7.2.2 states that no NMCWD permit

under Rule 7.0 is required for activities in an incidental wetland or for utility improvements or repairs that are the subject of a no-loss determination or utility exemption from the relevant LGU. As stated in the Wetland Management Section, the NMCWD being the LGU administering the requirements of WCA has issued a utility exemption for the project.

11.0 Fees

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

Rules 3.0, 5.0, and 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

The proposed project includes the information necessary, plan sheets and erosion control plan, for review.

Rules 3, 5, and 6 are met.

Recommendation

Approval contingent upon the following:

General Provisions

The applicant providing a name and contact information from the contractor responsible for the erosion and sediment control at the site. NMCWD must be notified if the responsible individual changes during the permit term.

Per Rule 6.5, the City must submit for NMCWD approval, then execute an agreement providing for the maintenance of the crossing replaced by the project

The wetland in contact with the downstream end of the culvert proposed to be replaced was identified as a potential hydrologic restoration opportunity as part of the district's recent Wetland Restoration and Protection Opportunity Identification project. The district plans to prioritize hydrologic restoration opportunities based on initial identification of willing landownership partners and prioritization of desirable functional goals for each area in the study following further evaluation. Should improvements, repairs or modifications within this area be proposed, the district would be interested in evaluating this area and partnering with Three Rivers Park District for hydraulically restoring the wetland.

CONSTRUCTION LIMITS

EXISTING RIPRAP
(SALVAGE & REUSE)

RCP FLARED END SECTION
W/ DROPWALL FOOTING
INV: 861.62
01
07

RCP FLARED END SECTION
W/ DROPWALL FOOTING
INV: 860.43
01
07

1' DEEP
SCOUR POOL

RESTORE ALL GRADES
BACK TO EXISTING

30" RCP @ 3.6%
- 21 LF
02
07
01
08

CL II RIPRAP APPRON
15'W X 18'L X 1'D
8 CY
W/ GEOTEXTILE
FABRIC
30 SY
01
08

2:1

4:1

SCALE IN FEET
0 5 10 20

NO	DATE	BY	REVISION
6			
5			
4			
3			
2			
1	09/27/2021	DEM	CONSTRUCTION DRAWINGS

GSOC GOPHER STATE ONE CALL 811 Know what's below. Call before you dig.

NOT FOR CONSTRUCTION

SUBMISSION DATE:
09/27/2021

DESIGN BY	DRAWN BY	CHECKED BY
DEM	DEM	XXX

EOR PROJECT NO.
1075-0026

Emmons & Olivier Resources, Inc.
1919 Univ Ave S #300
St Paul, MN 55104
Tele: 651.770.8448
www.eorinc.com
water ecology community

ThreeRivers PARK DISTRICT

BRYANT LAKE CULVERT REPLACEMENT
EDEN PRAIRIE, HENNEPIN COUNTY,
MINNESOTA

STATE PROJECT NO. ----

CITY PROJECT NO. ---

SITE PLAN

SHEET 05 OF 09 SHEETS

Plot Date: 09/27/2021
Drawing name: X:\Clients_State\01075_Three_Rivers_Park_District\0026_Bryant_Lake_Culvert\09_GIMS\dwg\1075_0026_CD.dwg
Xrefs: '1075-0026_X-Base2, 1075-0026_P-Base