Applicant:	Ted Carlson; Orion Investments
Consultant:	David Knaeble; Civil Site Group
Project:	7200 & 7250 France Avenue Redevelopment
Location:	7200 & 7250 France Avenue, Edina, MN
Applicable Rules:	2, 4, 5, 11 and 12
Reviewer:	Dallen Webster & Louise Heffernan; Barr Engineering Co.

#### **General Background & Comments**

The applicant proposes the construction of two commercial buildings with associated surface parking, two underground parking garages, landscaping, utilities, site amenities, and stormwater management improvements located at 7200 & 7250 France Avenue in Edina. Currently, the 5.17-acre site is occupied by two existing commercial office buildings and surface parking. In the northwest corner of the 7200 France Ave lot, a low-lying depression area (a basin within subwatershed LE 20 in both the City of Edina and NMCWD XP-SWMM models) becomes inundated during large stormwater events, requiring an analysis of NMCWD Rule 2.0 Floodplain Management and Drainage Alteration and 4.0 Stormwater Management, and the requirements on the project as discussed below.

Demolition and removal of the existing structures, foundations, base materials, existing pavement, and site amenities has been completed and approved as a separate permit (#2022-119) by the district.

The project site information includes the following:

- Total Site Area: 5.17 acres (225,355 square feet)
- Disturbed Area: 5.17 acres (225,355 square feet)
- Existing Site Impervious Area: 2.91 acres (126,803 square feet)
- Proposed Site Impervious Area: 3.33 acres (145,142 square feet)
- Increase in Site Impervious Area: 0.42 acres (14.4% increase in impervious area)
- Disturbed Site Impervious Area: 2.91 acres (100% of the existing impervious area is proposed to be disturbed)
- Regulated Site Impervious Area: 3.33 acres (145,142 square feet)

The project site is shown in Figure 1 below.

Figure 1. The site.



Exhibits Reviewed:

- 1. Permit Application dated January 13, 2023, (received January 13, 2023). Email correspondence dated January 16, 2023, outlining modeling items required to complete the application. Email correspondence dated February 7, 2023, and April 7, 2023, outlining additional items required to complete the application.
- 2. Plans dated January 13, 2023, and revised March 17, 2023, prepared by Civil Site Group.
- 3. Grading Plan (Sheet C3.0 A) revised March 31, 2023, (received April 10, 2023), prepared by Civil Site Group.
- 4. Stormwater Management Report dated June 30, 2022, revised January 13, 2023, January 17, 2023, March 14, 2023, (received March 17, 2023), and April 10, 2023, prepared by Civil Site Group.
- 5. Electronic HydroCAD models received January 16, 2023, revised March 17, 2023, prepared by Civil Site Group.
- 6. Electronic P8 model files received January 17, 2023, revised March 17, 2023, prepared by Civil Site Group.
- Geotechnical Evaluation dated December 9, 2022, and January 12, 2023, prepared by Braun Intertec, including boring information completed by Haugo GeoTechnical Services in 2018.
- 8. United States Geological Survey (USGS) Spreadsheet Calculator of the Hantush Method and Groundwater Mounding Analysis received March 7, 2023, completed by Civil Site Group.

- 9. Civil Site Group Comment Responses dated March 14, 2023, (received March 17, 2023), revised April 10, 2023, prepared by Civil Site Group.
- 10. Documentation, including signed statements received April 10, 2023, that the applicant, Ted Carlson, is the owner of the 7200 and 7250 France Avenue properties.

The application with the submittal items above is complete.

#### 2.0 Floodplain Management and Drainage Alterations

Because the project will involve land-altering activities below the 100-year frequency flood elevation of the existing on-site low area defined as a water basin under the NMCWD rules, the project must conform to the requirements of the District's Floodplain Management and Drainage Alterations Rule 2.0 in accordance with Rule 2.2.1.

In existing conditions, the on-site low area/basin receives stormwater runoff from the majority of the site, a portion of surrounding residential and commercial properties, as well as overflow from France Avenue and West 72<sup>nd</sup> Street. Stormwater is pumped from the basin at a rate of 0.5 c.f.s. (225 gallons per minute) into the storm sewer system along West 72<sup>nd</sup> Street.

Proposed earth work and grading for the basin expansion/reconstruction will take place below elevation 842.9 M.S.L., the existing 100-year frequency flood elevation of the basin, based on the NMCWD and City of Edina Atlas 14 XP-SWMM models. The basin is to provide volume retention, rate control and water quality management.

Rule 2 criteria for floodplain and drainage alterations includes the following:

# 2.3.1: The low floor elevation of all new and reconstructed buildings, bridges and boardwalks must be constructed in accordance with the NMCWD Stormwater Rule, subsection 4.3.3.

Rule 4.3.3 states that all new and reconstructed buildings must be constructed such that the low floor is at least two feet above the 100-year high water elevation or one foot above the emergency overflow of a constructed facility or waterbody.

With the low floor underground parking garage elevations proposed to range from 834.5-836.0 M.S.L. and an existing 100-year frequency flood elevation of 842.9 M.S.L. for the basin within subwatershed LE 20, the plots in Appendix 4a as described in Rule 4.3.3 were used to evaluate compliance. Appendix 4a analysis is summarized in the table below. The January 12, 2023, Braun Intertec geotechnical report indicates the highest groundwater elevation encountered in the site borings is elevation 827.5 M.S.L. The plans and stormwater narrative indicate that the closest structure will be constructed approximately 70 feet from the proposed basin. The table below summarizes the minimum permissible depth to the water table for the proposed structures.

#### Minimum Permissible Depth to Water Table

Building Structure	Low Floor Elevation ( M.S.L.)	Existing Groundwater Elevation* (M.S.L.)	Minimum Permissible Low Floor Elevation above Water Table** (M.S.L.)
7200 France Ave (Proposed)	834.5	827.5	829.9
7250 France Ave (Proposed)	836.0	827.5	829.9

\*Provided in the Braun Intertec Geotechnical Report, boring log Haugo SB-7.

\*\*Minimum permissible depth to water table allowable is 2.4 feet using Appendix 4a, Plot 5 for 4-6 feet of pond increase.

With the expanded basin to now provide volume retention through infiltration, additional analysis was required and provided by the applicant, identifying the potential groundwater mounding impacts to the low floor parking garages to demonstrate compliance with low floor criteria. The "USGS Stormwater Infiltration and Groundwater Mounding" calculator was utilized to evaluate the potential extent of the groundwater mound beneath the structures resulting from the proposed infiltration.

The applicant submitted information to demonstrate that groundwater mounding beneath the low floor elevations of the structures, located 142 feet from the center of the proposed infiltration basin, is 0.021 feet or elevation 827.5 M.S.L. A separation of 7.0 feet is provided between the low floor elevation of the proposed 7200 France Ave structure and the modeled groundwater elevation with mounding below the structure. A separation of 8.5 feet is provided between the low floor elevation of the proposed 7250 France Ave structure and the modeled groundwater elevation with mounding below the structure. The engineer agrees with the modeling results.

Rule 4.3.3 also states that a stormwater management facility must be constructed at an elevation that ensures no adjacent habitable building will be brought into noncompliance with a standard in subsection 4.3.3. As shown in the table below, two feet of separation is provided between the low floor elevations of the existing adjacent structures and the 100-year high water level elevation of the proposed basin.

Building Structure	Low Floor Elevation* (M.S.L.)	Proposed 100-Year HWL of Basin (M.S.L.)	Difference between Low Floor Elevation and 100-Year HWL (feet)
7209 Bristol Circle (Existing)	851.8	839.8	12.0
7203 Bristol Circle (Existing)	849.0	839.8	9.2
7205 Bristol Circle (Existing)	849.0	839.8	9.2
7300 Gallagher (Existing)	851.0	839.8	11.2

#### Low Floor Criteria for Existing Structures

\*Low floor elevations for the townhomes (Bristol Circle) assume eight-foot-tall basements and are based on data received from the City of Edina Lot Survey information. The low floor of the apartment building to the southwest (7300 Gallagher) was assumed to

have an 11' height from the first floor down to the garage floor. The City of Edina Engineering department agreed that the assumed elevations appear reasonable according to email correspondence received from the City of Edina.

Additionally, Rule 4.3.3 states that all new and reconstructed buildings must be constructed such that no opening where surface flow can enter the structure is less than two feet above the 100-year high-water elevation of an adjacent facility. The low opening garage entrance at the 7200 France Ave structure is elevation 846 M.S.L., 6.2 feet above the 100-year high water elevation of the proposed reconstructed/expanded basin. The low opening garage entrance at the 7250 France Ave structure is elevation 848 M.S.L., 8.2 feet above the 100-year high water elevation of the proposed reconstructed/expanded basin.

The submittal demonstrates and the engineer finds the project is in conformance with subsection 2.3.1 criteria.

2.3.2: Placement of fill below the 100-year flood elevation is prohibited unless fully compensatory flood storage is provided within the floodplain and:

- a. at the same elevation +/- 1 foot for fill in the floodplain; or
- *b.* at or below the same elevation for fill in the floodplain of a water basin or constructed stormwater facility.

The project proposes reconstruct, expand and lower the bottom elevation of existing basin within subwatershed LE 20 to provide additional flood storage volume below the 100-year flood elevation. Based on the proposed basin stage-storage information, the project will result in an increase of approximately 79,370 cubic feet (2,940 cubic yards) of flood storage volume below elevation 842.9 M.S.L., the existing100-year frequency flood elevation of the existing low area. Additional flood volume storage will be provided at the same elevation or +/- 1 foot for fill place within the floodplain. The submittal demonstrates and the engineer finds the project is in conformance with subsection 2.3.2 criteria.

2.3.3. The District will issue a permit to alter surface flows only if it finds that the alteration is not reasonably likely to have a significant adverse impact on any upstream or downstream landowner and is not reasonably likely to have a significant adverse effect on flood risk, basin or channel stability, groundwater hydrology, stream base-flow, water quality or aquatic or riparian habitat.

As stated in the subsection 2.3.2 analysis, the project will result in an increase in flood storage volume (2,940 cubic yards) below elevation 842.9 M.S.L., the 100-year frequency flood elevation of the existing basin. Because the project will increase flood storage volume and eliminate an overflow from France Avenue and West 72nd Street to the basin within LE 20, the project results in a decrease in the 100-year flood elevation of the basin. Additionally, the controlled pumped outlet will be maintained at 0.5 c.f.s.in post-project conditions. The project is not likely to adversely impact flood risk or transfer flood risk to upstream or downstream landowners, in compliance with subsection 2.3.3 criteria.

The project does not impose requirements on channel stability to the creek. Water quality will not be adversely impacted, as demonstrated in the *Stormwater Management* section of this report. The project is not likely to deter wildlife (such as waterfowl, amphibians, reptiles) from using the area adjacent to basin, if currently used. Revegetation plans provided by the applicant include seeding and revegetation of the reconstructed/expanded basin. As stated in the subsection 2.3.2 analysis, the groundwater hydrology will not be

adversely affected as a result of the project because the project does not propose significant alterations that would result in significant groundwater mounding (e.g. change in pumping, establishment of new normal water levels, or physical characteristic changes such as depth of water or bed permeability).

The submittal demonstrates and the engineer finds that the project is not reasonably likely to have significant adverse impacts in conformance with Rule 2.3.3 criteria.

2.3.4 No structure may be placed, constructed, or reconstructed and no surface may be paved within 50 feet of the centerline of any water course, except that this provision does not apply to:

a. Bridges, culverts, and other structures and associated impervious surface regulated under Rule 6.0;

b. Trails 10 feet wide or less, designed primarily for nonmotorized use.

No water course is within 50 feet of the proposed land-disturbing activities.

## 4.0 Stormwater Management

NMCWD's requirements for stormwater management apply to the project because more than 50 cubic yards of material will be disturbed and 5,000 square feet or more of surface area is altered, Rules 4.2.1a and b.

The NMCWD's Rule for Redevelopment, Rule 4.2.3, states, if a proposed activity will disturb more than 50% of the existing impervious surface on the site or will increase the imperviousness of the site by more than 50%, stormwater management will apply to the entire project site. Otherwise, the stormwater requirements will apply only to the disturbed, replaced, and net additional impervious surface on the project site. Since the project will disturb the entire site (100% of the existing impervious surface is proposed to be disturbed), stormwater management is required for the entire site, including the 3.33 acres (145,142 square feet) of impervious surface. The reconstructed/expanded basin will provide stormwater management.

Rule 4.3.1a requires the retention onsite of 1.1 inches of runoff from the regulated impervious surface. A retention volume of 13,305 cubic feet is required from the proposed 145,142 square feet of site impervious surface. The Braun Intertec geotechnical report identifies the underlying soil within the area of the proposed basin as poorly graded sand with silt (SP-SM) underlain by poorly graded sand (SP). The plans indicate that soils with low permeability in area of the proposed basin will be excavated to the SP soils (approximately elevation 830.6 M.S.L.), removed, and backfilled with material suitable for infiltration. An infiltration rate of 0.45 inches per hour has been used for design, using infiltration rates identified in the Minnesota Storm Water Manual. The table below summarizes the volume retention required and volume retention achieved. The proposed project is in conformance with subsection 4.3.1a.

Required Volume Retention	Required Volume	Provided Volume
Depth (inches)	(cubic feet)	(cubic feet)
1.1	13,305	18,007

#### **Volume Retention Summary**

With an infiltration area of 13,212 square feet to be provided (7,391 square feet required), the required 13,305 cubic feet of volume retention is drawn down within the required 48-hours, complying with Rule 4.3.1a (ii).

Rule 4.3.1b requires the 2-, 10-, and 100-year post development peak runoff rates be equal to or less than the existing discharge rates for all collection points where stormwater leaves the site. The applicant used a HydroCAD hydrologic model to simulate runoff rates at the two collection points where stormwater discharge leaves the site. The existing and proposed 2-, 10- and 100-year frequency discharge rates from the site are summarized in the tables below.

Existing Conditions				
Modeled Discharge Location	2- year (c.f.s.)	10- year (c.f.s.)	100- year (c.f.s.)	
To North: W 72 <sup>nd</sup> Street storm sewer	<1.0	<1.0	<1.0	
To surrounding streets: W 72 <sup>nd</sup> Street, France Ave, and Gallagher Drive	2.1	3.7	7.6	
Total	2.6	4.2	8.1	

Rate	Control	Summary
		<b>,</b>

Proposed Conditions				
Modeled Discharge Location	2- year (c.f.s.)	10- year (c.f.s.)	100- year (c.f.s.)	
To North: West 72 <sup>nd</sup> Street Storm Sewer	<1.0	<1.0	<1.0	
To Surrounding Streets: W 72 <sup>nd</sup> Street, France Ave, and Gallagher Drive	2.0	3.3	6.3	
Total	2.5	3.8	6.8	

The proposed stormwater management plan will provide rate control in compliance with the NMCWD requirements for the 2-, 10-, and 100-year events. Rule 4.3.1b criteria is met.

NMCWD's water quality criterion requires 60% annual removal efficiency for total phosphorus (TP) and 90% annual removal efficiency for total suspended solids (TSS). Stormwater management to achieve the required TP and TSS removals will be provided by the reconstructed/expanded basin. A P8 model was used to evaluate the reconstructed/expanded basin's annual removal efficiencies. The results of the P8 modeling are summarized in the table below showing the annual TSS and TP removal requirements are achieved. The engineer agrees with the modeling results and the project is in conformance with subsection 4.3.1c criteria.

Pollutant of Interest	Regulated Site Loading (Ibs./year)	Required Load Removal (Ibs./year)	Provided Load Reduction (Ibs./year)
Total Suspended Solids (TSS)	204.0	183.6 (90%)	185.4 (90.9%)
Total Phosphorus (TP)	0.8	0.5 (60%)	0.7 (89.5%)

#### Annual TSS and TP Removal Summary

In accordance with subsection 4.3.1a (i), where infiltration or filtration facilities, practices or systems are proposed, pretreatment of runoff is required to be provided. Sump manholes with baffles will provide pretreatment for runoff prior to entering the infiltration facility.

Rule 4.3.3 states that all new and reconstructed buildings must be constructed such that the low floor is at least two feet above the 100-year high water elevation or one foot above the emergency overflow of a constructed facility. A stormwater management facility must be constructed at an elevation that ensures no adjacent habitable building will be brought into noncompliance with a standard in subsection 4.3.3. Additionally, Rule 4.3.3 states that all new and reconstructed buildings must be constructed such that no opening where surface flow can enter the structure is less than two feet above the 100-year high-water elevation of an adjacent facility. The engineer finds that the project is in conformance with Rule 4.3.3 criteria as demonstrated in subsection 2.3.1 above.

Rule 4.5.4d (i) requires at least three feet of separation between the bottom of a stormwater management facility and groundwater. The highest groundwater elevation encountered by the borings identified in the Braun Intertec report is elevation 827.5 M.S.L. The bottom elevation of the basin is 831.6 feet M.S.L., providing a separation of 4.1 feet. Rule 4.5.4d (i) is met.

In accordance with Rule 4.3.4, a post-project chloride management plan must be provided that will, 1) designate an individual authorized to implement the chloride-use plan and 2) designate a MPCA certified salt applicator engaged in the implementation of the chloride-use plan for the site.

Subsection 4.3.5 requires the submission of a maintenance plan. All stormwater management structures, and the stormwater management facility must be designed for maintenance access and properly maintained in perpetuity to assure that they continue to function as designed. The applicant must provide a receipt showing recordation of a maintenance declaration for the operation and maintenance of the stormwater infrastructure.

## 5.0 Erosion and Sediment Control

NMCWD's requirements for erosion and sediment control apply to the project because more than 50 cubic yards of material will be disturbed and 5,000 square feet or more of surface area is altered, Rules 5.2.1a and b.

The erosion control plan prepared by Civil Site Group includes installation of perimeter control (silt fence and sediment control logs) at the limits of construction, a stabilized rock construction entrance and storm sewer inlet protection. Erosion control blanket and a final stabilization seed mixture will be implemented for final stabilization measures.

The contractor for the project will need to designate a contact who will remain liable to the district for performance under NMCWD'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. NMCWD must be notified if the responsible individual changes during the permit term.

# 11.0 Fees

Fees for the project are:

Rules 2.0, 4.0 and 5.0\$2,2	25	5	С	)
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# 12.0 Financial Assurances

Financial Assurances for the project are:

Rule 4: Stormwater Management Facility: 7,391 sq. ft. x \$12/sq. ft.=	\$88,698
Rules 5: Perimeter Control: 2,150 L.F. x \$2.50/L.F. =	\$5,375
Inlet Protection: 33 x \$100 =	\$3,300
Site Restoration: 5.17 acres x \$2,500/acre =	\$12,925
Chloride Management Plan: \$5,000	\$5,000
Contingency and Administration	\$47,502

### **Findings**

- 1. The proposed project includes the information necessary, plan sheets and erosion control plan for review.
- The project conforms to Rule 2.0 requirements. The proposed project will conform to Rules 4.0 and 5.0 requirements with the fulfilment of the conditions identified in the *Recommendations* section of this report.
- 3. The proposed stormwater management facility will provide volume retention, rate control and water quality management in accordance with subsections 4.3.1a-c criteria.
- 4. In accordance with NMCWD Rule 4.3.5, the applicant must provide a maintenance and inspection plan that identifies and protects the design, capacity, and functionality of the stormwater management facility.
- 5. The discharge rate of pumped water from the site into the storm sewer system along 72nd Street will be maintained in post-project conditions.

## **Recommendation**

#### Approval, contingent upon:

Compliance with the General Provisions (attached).

Financial Assurance in the amount of \$162,800, \$157,800 for stormwater management, erosion control and site restoration, and \$5,000 for compliance with the chloride management requirements.

The applicant provides a name and contact information for the individual 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 4.3.5, a receipt showing recordation of a maintenance declaration for the operation and maintenance of the stormwater management facility and stormwater infrastructure. A draft of the declaration must be approved by the district prior to recordation.

# By accepting the permit, when issued, the applicant agrees to the following stipulations for closeout of the permit and release of the financial assurance after the project:

Per Rule 4.5.8, an as-built drawing of the stormwater management facility conforming to the design specifications, including surveyed elevations of the outlet and identification of the discharge rate of pumped water to 72<sup>nd</sup> Street, is required to be provided.

The plans indicate the proposed low opening garage entrance is elevation 846 M.S.L. at the 7200 France Avenue structure and 848 M.S.L. at the 7250 France Avenue structure. The stormwater narrative indicates the proposed low floor underground parking garage elevations of the 7200 and 7250 France Ave structures range from 834.5-836.0 M.S.L. The as-built low floor and low opening elevations must be provided, and compliance with the freeboard requirements identified in subsection 2.3.1 and 4.3.3 must be met. Design that differs from the approved plans will need to be the subject of a request for a permit modification or new permit.

The work for the 7200 & 7250 France Ave Redevelopment under the terms of Permit 2023-003 must have an impervious surface area and configuration materially consistent with the approved plans. Design that differs materially from the approved plans (e.g., in terms of the total impervious area or stormwater management design) will need to be the subject of a request for a permit modification or new permit, which will be subject to review for compliance with all applicable regulatory requirements.

Submission of a plan for post-project management of Chloride use on the site. The plan must include 1) the designation of an individual authorized to implement the chloride use plan and 2) the designation of a Minnesota Pollution Control Agency certified salt applicator engaged in the implementation of the chloride-use plan for the site. The release of the \$5,000 of the financial assurance required for the chloride-management plan requires that chloride-management plan has been provided and approved by the District's Administrator.

Rule 12.4.1b requires demonstration and confirmation that the stormwater management facility has been constructed or installed and is functioning as designed and permitted. Verification, through daily observation logs and photographs, must be provided showing the stormwater facility used for volume retention has drawn down within 48 hours from the completion of two 1-inch (approximate) separate rainfall events.



# **GENERAL GRADING NOTES:**

- 1. CONTRACTOR SHALL VERIFY ALL BUILDING ELEVATIONS, (FFE, LFE, GFE), PRIOR TO CONSTRUCTION BY CROSS CHECKING WITH ARCHITECTURAL, STRUCTURAL AND CIVIL ELEVATIONS FOR EQUIVALENT "100" ELEVATIONS. THIS MUST BE DONE PRIOR TO EXCAVATION AND INSTALLATION OF ANY FOOTING MATERIALS. VERIFICATION OF THIS COORDINATION SHALL BE CONFIRMED IN WRITING BY CIVIL, SURVEYOR, ARCHITECTURAL, STRUCTURAL AND CONTRACTOR PRIOR TO CONSTRUCTION.
- 2. ALL EXISTING UTILITY LOCATIONS SHOWN ARE APPROXIMATE. CONTACT "GOPHER STATE ONE CALL" (651-454-0002 OR 800-252-1166) FOR UTILITY LOCATIONS, 48 HOURS PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL REPAIR OR REPLACE ANY UTILITIES THAT ARE DAMAGED DURING CONSTRUCTION AT NO COST TO THE OWNER.
- 3. SEE SITE PLAN FOR HORIZONTAL LAYOUT & GENERAL GRADING NOTES.
- 4. THE CONTRACTOR SHALL COMPLETE THE SITE GRADING CONSTRUCTION (INCLUDING BUT NOT LIMITED TO SITE PREPARATION, SOIL CORRECTION, EXCAVATION, EMBANKMENT, ETC.) IN ACCORDANCE WITH THE REQUIREMENTS OF THE OWNER'S SOILS ENGINEER. ALL SOIL TESTING SHALL BE COMPLETED BY THE OWNER'S SOILS ENGINEER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL REQUIRED SOIL TESTS AND INSPECTIONS WITH THE SOILS ENGINEER.
- 5. ANY ELEMENTS OF AN EARTH RETENTION SYSTEM AND RELATED EXCAVATIONS THAT FALL WITHIN THE PUBLIC RIGHT OF WAY WILL REQUIRE A "RIGHT OF WAY EXCAVATION PERMIT". CONTRACTOR IS RESPONSIBLE FOR AQUIRING THIS PERMIT PRIOR TO CONSTRUCTION IF APPLICABLE
- 6. ALL EXISTING UTILITY LOCATIONS SHOWN ARE APPROXIMATE. CONTACT "GOPHER STATE ONE CALL" (651-454-0002 OR 800-252-1166) FOR UTILITY LOCATIONS, 48 HOURS PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL REPAIR OR REPLACE ANY UTILITIES THAT ARE DAMAGED DURING CONSTRUCTION AT NO COST TO THE OWNER.
- 3. GRADING AND EXCAVATION ACTIVITIES SHALL BE PERFORMED IN ACCORDANCE WITH THE NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT REQUIREMENTS & PERMIT REQUIREMENTS OF THE CITY.
- 4. PROPOSED SPOT GRADES ARE FLOW-LINE FINISHED GRADE ELEVATIONS, UNLESS OTHERWISE NOTED.
- 5. GRADES OF WALKS SHALL BE INSTALLED WITH 5% MAX. LONGITUDINAL SLOPE AND 1% MIN. AND 2% MAX. CROSS SLOPE, UNLESS OTHERWISE NOTED.
- 6. PROPOSED SLOPES SHALL NOT EXCEED 3:1 UNLESS INDICATED OTHERWISE ON THE DRAWINGS. MAXIMUM SLOPES IN MAINTAINED AREAS IS 4:1
- 7. PROPOSED RETAINING WALLS, FREESTANDING WALLS, OR COMBINATION OF WALL TYPES GREATER THAN 4' IN HEIGHT SHALL BE DESIGNED AND ENGINEERED BY A REGISTERED RETAINING WALL ENGINEER. DESIGN DRAWINGS SHALL BE SUBMITTED FOR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION.
- 8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTENANCE OF GRADE STAKES THROUGHOUT THE DURATION OF CONSTRUCTION TO ESTABLISH PROPER GRADES. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR A FINAL FIELD CHECK OF FINISHED GRADES ACCEPTABLE TO THE ENGINEER/LANDSCAPE ARCHITECT PRIOR TO TOPSOIL AND SODDING ACTIVITIES.
- 9. IF EXCESS OR SHORTAGE OF SOIL MATERIAL EXISTS, THE CONTRACTOR SHALL TRANSPORT ALL EXCESS SOIL MATERIAL OFF THE SITE TO AN AREA SELECTED BY THE CONTRACTOR, OR IMPORT SUITABLE MATERIAL TO THE SITE.
- 10. EXCAVATE TOPSOIL FROM AREAS TO BE FURTHER EXCAVATED OR REGRADED AND STOCKPILE IN AREAS DESIGNATED ON THE SITE. THE CONTRACTOR SHALL SALVAGE ENOUGH TOPSOIL FOR RESPREADING ON THE SITE AS SPECIFIED. EXCESS TOPSOIL SHALL BE PLACED IN EMBANKMENT AREAS, OUTSIDE OF BUILDING PADS, ROADWAYS AND PARKING AREAS. THE CONTRACTOR SHALL SUBCUT CUT AREAS, WHERE TURF IS TO BE ESTABLISHED, TO A DEPTH OF 6 INCHES. RESPREAD TOPSOIL IN AREAS WHERE TURF IS TO BE ESTABLISHED TO A MINIMUM DEPTH OF 6 INCHES.
- 11. FINISHED GRADING SHALL BE COMPLETED. THE CONTRACTOR SHALL UNIFORMLY GRADE AREAS WITHIN LIMITS OF GRADING, INCLUDING ADJACENT TRANSITION AREAS. PROVIDE A SMOOTH FINISHED SURFACE WITHIN SPECIFIED TOLERANCES, WITH UNIFORM LEVELS OR SLOPES BETWEEN POINTS WHERE ELEVATIONS ARE SHOWN, OR BETWEEN SUCH POINTS AND EXISTING GRADES. AREAS THAT HAVE BEEN FINISH GRADED SHALL BE PROTECTED FROM SUBSEQUENT CONSTRUCTION OPERATIONS, TRAFFIC AND EROSION. REPAIR ALL AREAS THAT HAVE BECOME RUTTED BY TRAFFIC OR ERODED BY WATER OR HAS SETTLED BELOW THE CORRECT GRADE. ALL AREAS DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE RESTORED TO EQUAL OR BETTER THAN ORIGINAL CONDITION OR TO THE REQUIREMENTS OF THE NEW WORK.
- 12. PRIOR TO PLACEMENT OF THE AGGREGATE BASE, A TEST ROLL WILL BE REQUIRED ON THE STREET AND/OR PARKING AREA SUBGRADE. THE CONTRACTOR SHALL PROVIDE A LOADED TANDEM AXLE TRUCK WITH A GROSS WEIGHT OF 25 TONS. THE TEST ROLLING SHALL BE AT THE DIRECTION OF THE SOILS ENGINEER AND SHALL BE COMPLETED IN AREAS AS DIRECTED BY THE SOILS ENGINEER. THE SOILS ENGINEER SHALL DETERMINE WHICH SECTIONS OF THE STREET OR PARKING AREA ARE UNSTABLE. CORRECTION OF THE SUBGRADE SOILS SHALL BE COMPLETED IN ACCORDANCE WITH THE REQUIREMENTS OF THE SOILS ENGINEER. NO TEST ROLL SHALL OCCUR WITHIN 10' OF ANY UNDERGROUND STORM RETENTION/DETENTION SYSTEMS.
- 13. TOLERANCES
- 13.1. THE BUILDING SUBGRADE FINISHED SURFACE ELEVATION SHALL NOT VARY BY MORE THAN 0.30 FOOT ABOVE, OR 0.30 FOOT BELOW, THE PRESCRIBED ELEVATION AT ANY POINT WHERE MEASUREMENT IS MADE.
- 13.2. THE STREET OR PARKING AREA SUBGRADE FINISHED SURFACE ELEVATION SHALL NOT VARY BY MORE THAN 0.05 FOOT ABOVE, OR 0.10 FOOT BELOW, THE PRESCRIBED ELEVATION OF ANY POINT WHERE MEASUREMENT IS MADE. 13.3. AREAS WHICH ARE TO RECEIVE TOPSOIL SHALL BE GRADED TO WITHIN 0.30 FOOT ABOVE OR BELOW THE REQUIRED ELEVATION,
- UNLESS DIRECTED OTHERWISE BY THE ENGINEER. 13.4. TOPSOIL SHALL BE GRADED TO PLUS OR MINUS 1/2 INCH OF THE SPECIFIED THICKNESS.

# 14. MAINTENANCE

- 14.1. THE CONTRACTOR SHALL PROTECT NEWLY GRADED AREAS FROM TRAFFIC AND EROSION, AND KEEP AREA FREE OF TRASH AND DEBRIS.
- 14.2. CONTRACTOR SHALL REPAIR AND REESTABLISH GRADES IN SETTLED, ERODED AND RUTTED AREAS TO SPECIFIED TOLERANCES. DURING THE CONSTRUCTION, IF REQUIRED, AND DURING THE WARRANTY PERIOD, ERODED AREAS WHERE TURF IS TO BE ESTABLISHED SHALL BE RESEEDED AND MULCHED.
- 14.3. WHERE COMPLETED COMPACTED AREAS ARE DISTURBED BY SUBSEQUENT CONSTRUCTION OPERATIONS OR ADVERSE WEATHER, CONTRACTOR SHALL SCARIFY, SURFACE, RESHAPE, AND COMPACT TO REQUIRED DENSITY PRIOR TO FURTHER CONSTRUCTION.

CITY OF EDINA GRADING NOTES:

RESERVED FOR CITY SPECIFIC GRADING NOTES.

**EROSION CONTROL NOTES:** SEE SWPPP ON SHEETS SW1.0 - SW1.6

**GROUNDWATER INFORMATION:** 

PER GEOTECHNICAL REPORT BY NORTHERN TECHNOLOGIES, INC., DATED 04-09-14 GROUNDWATER WAS OBSERVED AT ELEVATIONS RANGING FROM 817.3 TO 818.8.

# **GRADING PLAN LEGEND:**



SPOT GRADE ELEVATION (GUTTER/FLOW LINE UNLESS OTHERWISE NOTED) SPOT GRADE ELEVATION GUTTER SPOT GRADE ELEVATION TOP OF CURB SPOT GRADE ELEVATION BOTTOM OF STAIRS/TOP OF STAIRS SPOT GRADE ELEVATION MATCH EXISTING GRADE BREAK - HIGH POINTS CURB AND GUTTER (T.O = TIP OUT)

EMERGENCY OVERFLOW



Know what's **below**. Call before you dig.



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