

Applicant: Peter Worthington; MWF Properties Bloomington  
Consultant: Dave Knaeble; Civil Site Group  
Project: Lyndale Avenue Flats Multifamily Housing Construction  
Location: 9320 Lyndale Avenue South: Bloomington  
Rule(s): 4 and 5  
Reviewer(s): LLH/BCO

### **General Background & Comments**

The project proposes the development of a 1.8-acre vacant lot with a paved driveway through the eastern portion of the site, 9320 Lyndale Avenue South in Bloomington, MN. Though the site is vacant, there is a 12,849 square foot driveway extending across it, so the proposed project is analyzed under the NMCWD rules as a redevelopment. Proposed work includes the following:

- construction of a 24,500-square foot multi-story apartment building with underground parking
- site improvements including concrete and bituminous sidewalks, surface parking, landscaping, utilities, and retaining walls
- a stormwater management facility
- demolition and removal of the existing pavement driveway and associated base materials

The proposed work will extend onto City of Bloomington right-of-way to “tie-in” with the existing topography and for the construction of concrete sidewalks, a portion of the bituminous pavement entrance driveway, and associated site elements along the southern and eastern boundaries of the site.

The site is within the boundaries of a subsurface contamination site with associated vapor concerns, the Lyndale Avenue Corridor Site, as shown in the attached figure. Infiltration within the vapor intrusion area of concern boundary would likely mobilize contamination into and through groundwater, facilitate the release of vapors into the soil (which may enter nearby buildings), and pose health risks to the people living and working in the buildings.

Phase I and Phase II Environment Site Assessments were completed for this site. The assessments found concentrations of various volatile organic compounds (VOCs), tetrachloroethene (PCE) and trichloroethene (TCE) in the soil. The levels were found to exceed the Minnesota Pollution Control Agency risk-screening criteria in various samples. Groundwater was not encountered as part of the Phase II subsurface investigation, therefore, no groundwater characterization or sampling activities occurred as part of the investigation.

The applicant has requested that the site be considered restricted under subsection 4.3.2 of the NMCWD rules. The applicant has provided technical documentation to support the restricted site request, including the Phase I and Phase II Environmental Site Assessment reports and a geotechnical evaluation. The engineer has reviewed the findings from the environmental site assessments, and concurs that infiltration is precluded on the site and the site is restricted.

Given the extent of imperviousness planned for the property (and approved by Bloomington), other forms of volume retention practices, such as reuse, are not practicable due to the volume of stormwater generated from the 80% impermeable surface coverage and lack of green space for reuse. Retention to the standard identified in subsection 4.3.1a (1.1-inches) is not practicably feasible, and site conditions (as described above) are such that no infiltration should occur, making 0.55-inches of retention is not practicable and indeed retention to the maximum extent practicable is zero. The applicant must provide rate control and water quality treatment in accordance with Rules 4.3.1b and c, respectively.

The project site information includes the following:

- Total Site Area: 1.75 acres (76,442 square feet)
- Existing Site Impervious Area: 0.29 acres (12,849 square feet)
- Proposed Site Impervious Area: 1.41 acres (61,227 square feet)
- Total Disturbed and Reconstructed Impervious Area: 0.29 acres (12,849 square feet)

The Nine Mile Creek Watershed District'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 more than 50% of the existing impervious surface on the site and will increase the imperviousness of the site by more than 50%, applicable stormwater management criteria is required for the 61,227 square feet of proposed impervious surface.

The District's requirements for both stormwater management and 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 4.2.1a and b and 5.2.1a and b.

Stormwater management rate control and water quality management for runoff from the building and the majority of surface parking areas will be provided by an underground stormwater management facility (UGSWMF) beneath the surfacing parking west of the building. A portion of stormwater runoff from landscaping and impervious surface will drain east and south towards Lyndale Avenue South and West 94<sup>th</sup> Street, respectively.

Although the District's floodplain management and drainage alterations rule does not apply to the project (Rule 2), a portion of the site is inundated during high water conditions as a result of the capacity of the City's storm sewer system. The City of Bloomington's Atlas-14 elevation is 825.3 M.S.L. for the inundation area. This high water level and resultant onsite inundation area is not regulated by NMCWD, as the area is not a natural waterbody or constructed facility. The City has approved the final development plans for the project, including underground compensatory storage pipes onsite, which will "tie-in" to the existing storm sewer

infrastructure and provide additional flood storage volume during high water conditions. The underground compensatory storage system of pipes, as described above, will not receive surface runoff from the site.

Silt fence at the construction limits and two stabilized rock construction entrances will be utilized for temporary erosion and sediment control. Storm drain inlet protection will be provided for erosion control at the surface parking areas, and along West 94<sup>th</sup> Street and Lyndale Avenue South, downgradient from land-disturbing activities. Erosion control blanket and seeding will be utilized for permanent stabilization.

Since on-site volume retention will not be provided, the relationship of groundwater to the bottom of a stormwater facility is not applicable.

The permit decision is before the managers because the applicant has requested that the site be considered 'restricted' for purposes of analysis of NMCWD stormwater-management requirements and the proposed management plan does not provide at least 0.55 inches of volume retention. Determination of such applications exceeds the authority delegated to the administrator.

#### Exhibits

1. Signed Permit Application dated September 25, 2020.
2. Plans dated September 25, 2020 prepared by Civil Site Group.
3. Stormwater Management Report dated August 7, 2019, revised August 28, 2019 and September 25, 2020 prepared by Civil Site Group, including the following supplemental items:
  - P8 water quality modeling output report dated September 24, 2020, prepared by Civil Site Group.
  - Existing and proposed HydroCAD model report dated September 24, 2020, prepared by Civil Site Group.
  - Drainage area maps dated September 25, 2020, prepared by Civil Site Group.
4. Geotechnical Evaluation Report dated May 15, 2019 prepared by Chosen Valley Testing (CVT).
5. Phase I and Phase II Environmental Site Assessments dated May 2019 prepared by Wenck Associates.
6. City of Bloomington Letter of Project Approval dated October 9, 2019.
7. Stormwater Management Facility Estimate of Cost submitted October 6, 2020 prepared by Civil Site Group

The application with the submittal items described above is complete.

#### **4.0 Stormwater Management**

Stormwater management rate control and water quality management for runoff from the building and the majority of surface parking areas will be provided by an underground stormwater management facility (UGSWMF) beneath the surfacing parking west of the proposed building. A portion of stormwater runoff from landscaping and impervious surface will

drain east and south towards Lyndale Avenue South and West 94<sup>th</sup> Street, respectively. However, the onsite water quality system has been sized to handle stormwater runoff generated by the entire site.

As previously stated, the site has been impacted by contaminants at concentrations of potential concern. Due to subsurface contamination identified at the site, infiltration presents a risk of mobilizing contaminants that would further impact groundwater within the Lyndale Avenue Corridor Site. The applicant has requested that the site be considered restricted under subsection 4.3.2 of the NMCWD rules. The engineer has reviewed the findings from the environmental site assessments, and concurs that infiltration is precluded on the site, as infiltration processes could mobilize harmful subsurface contaminants. The stormwater management facility is to be constructed to minimize mobilization of subsurface contamination.

In existing conditions, the site is relatively flat, with runoff generally draining to the east and south to the City storm sewer system at West 94<sup>th</sup> Street and Lyndale Avenue South. The proposed UGSWMF consists of 84-inch solid pipe. Treated stormwater runoff will be conveyed to the City storm sewer system along West 94<sup>th</sup> Street. In order to comply with the rate control criteria, Rule 4.3.1b, the 2-, 10-, and 100-year post development peak runoff rates must be equal to or less than the existing discharge rates at all locations where stormwater leaves the site. The applicant used a HydroCAD hydrologic model to simulate runoff rates. The existing and proposed 2-, 10- and 100-year frequency discharges from the site are as follows:

<b>Existing Conditions</b>			
<b>Drainage Area</b>	<b>2-year (c.f.s.)</b>	<b>10-year (c.f.s.)</b>	<b>100-year (c.f.s.)</b>
To South and East (EX1)	1.4	3.9	11.6
<b>Total</b>	<b>1.4</b>	<b>3.9</b>	<b>11.6</b>

<b>Proposed Conditions</b>			
<b>Drainage Area</b>	<b>2-year (c.f.s.)</b>	<b>10-year (c.f.s.)</b>	<b>100-year (c.f.s.)</b>
To South from UGSWMF (PR1A)	0.5	2	8.5
To East and South from Overland Flow (PR1B)	0.6	1.2	2.7
<b>Total</b>	<b>1.1</b>	<b>3.2</b>	<b>11.2</b>

Rule 4.3.1b is met.

The District's water quality criteria requires 60% annual removal efficiency for total phosphorus and 90% annual removal efficiency for total suspended solids. The results from a P8 model provided shows the UGSWMF will provide an annual removal efficiency of 90% for total suspended solids (900 lbs.) and 61% for total phosphorus (12 lbs.) for water quality treatment. Rule 4.3.1c is met.

For compliance with NMCWD Rule 4.3.1a, the applicant considered a combination of onsite best management practices, as previously described. Under District Rule 4.3.2, Restricted Sites, retention to the standard identified in subsection 4.3.1a (1.1-inches) is not practicably feasible, and site conditions (as described above) are such that 0.55-inches of retention is not practicable and indeed retention to the maximum extent practicable is zero, as a result of soil contamination. The applicant provides rate control and water quality treatment in accordance with paragraphs 4.3.1b and 4.3.1c, respectively, and the project conforms to Rule 4.3.2b.

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. The volume of runoff generated from the site impervious surface will be detained by the UGSWMF. The high water elevation (822.6 M.S.L.) will remain below the ground surface not having an impact on the 821.2 M.S.L. low floor elevation and low opening of the building at the underground parking garage entrance. There are no direct pipe connections between the low floor elevation of the structure and the UGSWMF. A surface overflow from the UGSWMF, should it occur, is located within a proposed manhole with a rim elevation at 825.6 M.S.L., 1 foot lower than the crest of the bituminous driveway leading to the low floor and low opening of the building (821.2 M.S.L.).

The project conforms to NMCWD Rule 4.3.3.

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.

Rules 4.5.4d and 4.3.1a (i) and (ii) do not apply to the project, since the onsite treatment system relies entirely on detention of stormwater, not filtration or infiltration.

### **5.0 Erosion and Sediment Control**

The requirements of Rule 5.0 - Erosion and Sediment Control are applicable to the project since land-disturbing activities will involve excavation of more than 50 cubic yards of material and will disturb 5,000 square feet of more of surface area or vegetation, Rules 5.2.1a and b. Erosion control measures include silt fence at the construction limits, two stabilized rock construction entrances and storm drain inlet protection. Permanent stabilization methods include installation of erosion control blanket and seeding.

The project contact is Dave Knaeble, Civil Site Group.

### **11.0 Fees**

Fees for the project are:

Rules 4.0 and 5.0

\$1,500

## **12.0 Financial Assurances**

Financial Assurances for the project are:

Rule 4: Stormwater Management Facility:	\$196,250 <sup>1</sup>
Chloride Management:	\$5,000
Rule 5: Perimeter control: 1,120 L.F. x \$2.50/L.F.= \$2,800	
Inlet Control: 12 x \$100/each = \$1,200	
Site restoration: 1.8 acres x \$2,500/acre = \$4,500	\$8,500
Contingency and Administration	\$88,050

## **Findings**

1. The proposed project includes the information necessary, plan sheets and erosion control plan for review.
2. Rules 4 and 5 are met.
3. The site has been identified within the boundaries of a groundwater contamination area with associated vapor concerns, the Lyndale Avenue Corridor Site. The applicant has requested that the site be considered restricted under subsection 4.3.2 of the NMCWD rules. The applicant has provided technical documentation to support the restricted site request, including the Phase I and Phase II Environmental Site Assessments and the geotechnical evaluation. The engineer has reviewed findings from the technical documentation, and concurs that infiltration is precluded on the site and the site is restricted. Volume retention is not feasible for the site as a result of soil contamination, and retention to the maximum extent practicable is zero, as infiltration is likely to cause or exacerbate migration of subsurface contaminants.
4. The proposed stormwater management facility will provide rate control and water quality management in accordance with Rules 4.3.1b and 4.3.1c, respectively. 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. Although the District's floodplain management and drainage alterations rule does not apply to the project (Rule 2), a portion of the site is inundated during high water conditions in relation to the City of Bloomington's Atlas-14 inundation resulting from the capacity of the City storm sewer system. The City storm sewer 100-year high water inundation area onsite is not regulated by NMCWD since the inundation area is not a natural waterbody or constructed facility. The City has approved the final development plans for the project, including the underground compensatory storage at the northwestern boundary of the site.

## **Recommendation**

Approval, contingent upon:

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<sup>1</sup> A cost of \$157,000 was provided by Civil Site Group for the stormwater management facility. In accordance with Schedule B-Financial Assurance Rates, a cost of \$196,250, 125% of the construction and maintenance costs, is shown.

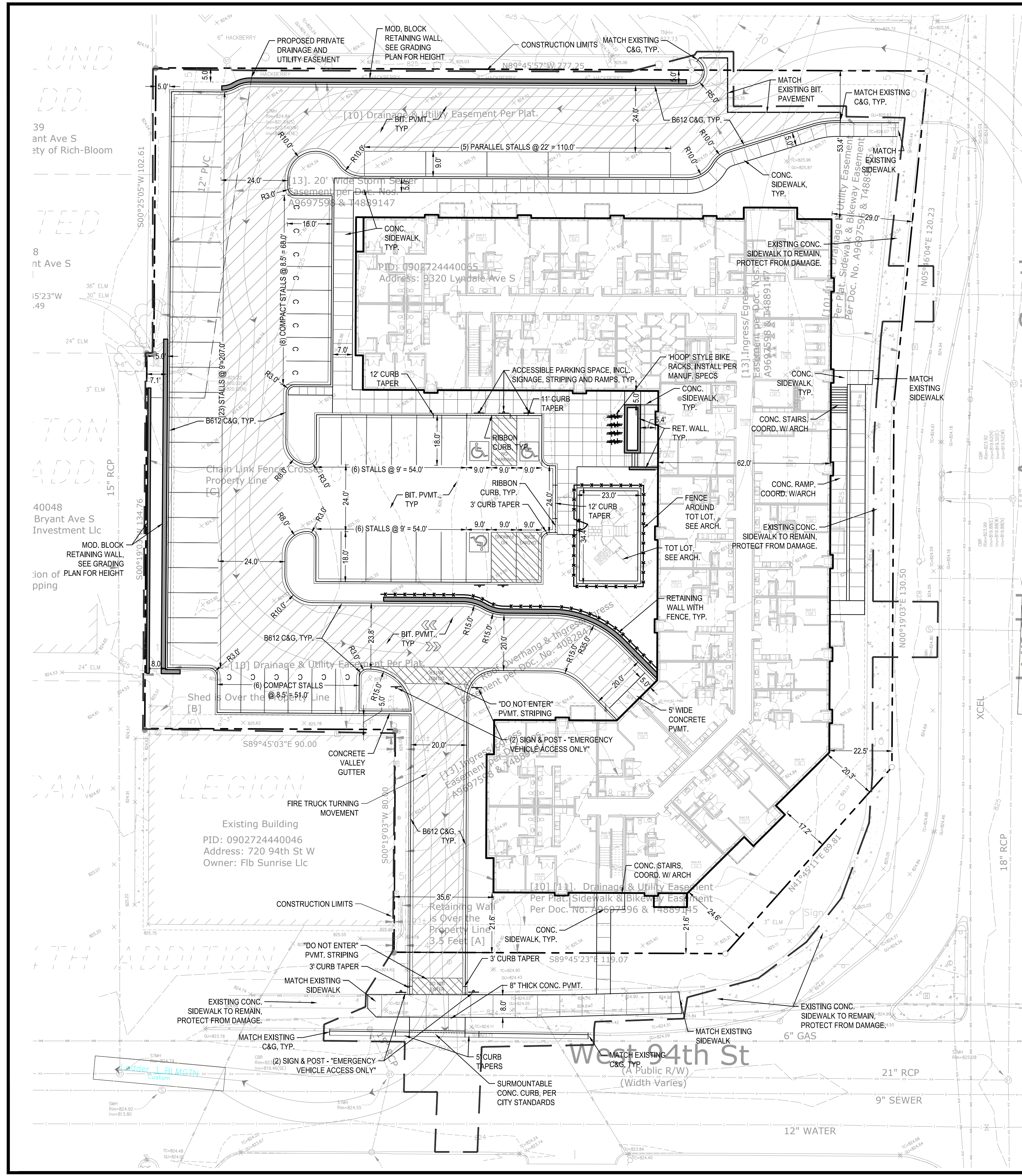
1. General Conditions
2. Financial Assurance in the amount of \$297,800, \$292,800 for stormwater management, erosion control and site restoration, and \$5,000 for compliance with the chloride management requirements.
3. Submission of written documentation that a drainage easement over hydrologic features has been submitted to the City of Bloomington (Rule 4.5.4i), if such easement is required by the City.
4. Per Rule 4.3.5, a receipt showing recordation of a maintenance declaration for the onsite stormwater management facility. A draft of the declaration must be approved by the District prior to recordation.
5. Submittal of written documentation demonstrating that the necessary approval and permissions have been obtained from the City of Bloomington for land disturbing activities within City right-of-way along the eastern and southern boundaries of the site.

By accepting the permit, when issued, the applicant agrees to the following stipulations:

1. Per Rule 4.5.8, an as-built drawing of the stormwater management facility conforming to the design specifications.
2. 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.
3. For the release of the \$292,800 financial assurance required, 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.

#### Board Action

It was moved by Manager \_\_\_\_\_, seconded by Manager \_\_\_\_\_ to approve permit application No. 2020-109 with the conditions recommended by staff.



- CITY OF BLOOMINGTON SITE SPECIFIC NOTES:**
- CONTRACTOR SHALL OBTAIN A PUBLIC WORKS PERMIT FOR OBSTRUCTIONS AND CONCRETE WORK WITHIN THE RIGHT-OF-WAY. PERMIT IS REQUIRED PRIOR TO REMOVALS OR INSTALLATION. CONTACT SEAN JENKINS (952-563-4545).
  - ALL CONSTRUCTION AND POST-CONSTRUCTION PARKING AND STORAGE OF EQUIPMENT AND MATERIALS MUST BE ON-SITE. USE OF PUBLIC STREETS FOR PRIVATE CONSTRUCTION PARKING, LOADING/UNLOADING AND STORAGE WILL NOT BE ALLOWED.
  - ALL RETAINING WALLS GREATER THAN 4 FEET WILL BE DESIGNED BY A MN LICENSED PE. SHOP DRAWINGS SHOULD BE SUBMITTED TO CSG FOR REVIEW AND APPROVAL.
  - W. 94TH STREET WAS OVERLAID IN 2017. RESTORATION FEES MAY APPLY.

- OPERATIONAL NOTES:**
- SNOW REMOVAL:**  
ALL SNOW SHALL BE PUSHED TO LANDSCAPED AREAS.
- TRASH REMOVAL:**  
TRASH REMOVAL SHALL OCCUR AT THE WEST ENTRY TO THE BUILDING. COORDINATE WITH PROPERTY MANAGEMENT.
- DELIVERIES:**  
DELIVERIES SHALL OCCUR AT THE EAST ENTRY TO THE BUILDING.

- SITE LAYOUT NOTES:**
- CONTRACTOR SHALL VERIFY LOCATIONS AND LAYOUT OF ALL SITE ELEMENTS PRIOR TO BEGINNING CONSTRUCTION, INCLUDING BUT NOT LIMITED TO, LOCATIONS OF EXISTING AND PROPOSED PROPERTY LINES, EASEMENTS, SETBACKS, UTILITIES, BUILDINGS AND PAVEMENTS. CONTRACTOR IS RESPONSIBLE FOR FINAL LOCATIONS OF ALL ELEMENTS FOR THE SITE. ANY REVISIONS REQUIRED AFTER COMMENCEMENT OF CONSTRUCTION, DUE TO LOCAL ADJUSTMENTS SHALL BE CORRECTED AT NO ADDITIONAL COST TO OWNER. ADJUSTMENTS TO THE LAYOUT SHALL BE APPROVED BY THE ENGINEER/LANDSCAPE ARCHITECT PRIOR TO INSTALLATION OF MATERIALS. STAKE LAYOUT FOR APPROVAL.
  - THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS PRIOR TO CONSTRUCTION, INCLUDING A RIGHT-OF-WAY AND STREET OPENING PERMIT.
  - THE CONTRACTOR SHALL VERIFY RECOMMENDATIONS NOTED IN THE GEO TECHNICAL REPORT PRIOR TO INSTALLATION OF SITE IMPROVEMENT MATERIALS.
  - CONTRACTOR SHALL FIELD VERIFY COORDINATES AND LOCATION DIMENSIONS OF THE BUILDING AND STAKE FOR REVIEW AND APPROVAL BY THE OWNERS REPRESENTATIVE PRIOR TO INSTALLATION OF FOOTING MATERIALS.
  - LOCATIONS OF STRUCTURES, ROADWAY PAVEMENTS, CURBS AND GUTTERS, BOLLARDS, AND WALKS ARE APPROXIMATE AND SHALL BE STAKED IN THE FIELD, PRIOR TO INSTALLATION. FOR REVIEW AND APPROVAL BY THE ENGINEER/LANDSCAPE ARCHITECT.
  - CURB DIMENSIONS SHOWN ARE TO FACE OF CURB. BUILDING DIMENSIONS ARE TO FACE OF CONCRETE FOUNDATION. LOCATION OF BUILDING IS TO BUILDING FOUNDATION AND SHALL BE AS SHOWN ON THE DRAWINGS.
  - THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OR SAMPLES AS SPECIFIED FOR REVIEW AND APPROVAL BY THE ENGINEER/LANDSCAPE ARCHITECT PRIOR TO FABRICATION FOR ALL PREFABRICATED SITE IMPROVEMENT MATERIALS SUCH AS, BUT NOT LIMITED TO THE FOLLOWING. FURNISHINGS, PAVEMENTS, WALLS, RAILINGS, BENCHES, FLAGPOLES, LANDING PADS FOR CURB RAMPS, AND LIGHT AND POLE. THE OWNER RESERVES THE RIGHT TO REJECT INSTALLED MATERIALS NOT PREVIOUSLY APPROVED.
  - PEDESTRIAN CURB RAMPS SHALL BE CONSTRUCTED WITH TRUNCATED DOME LANDING AREAS IN ACCORDANCE WITH A.D.A. REQUIREMENTS-SEE DETAIL.
  - CROSSWALK STRIPING SHALL BE 24" WIDE WHITE PAINTED LINE, SPACED 48" ON CENTER PERPENDICULAR TO THE FLOW OF TRAFFIC. WIDTH OF CROSSWALK SHALL BE 5' WIDE. ALL OTHER PAVEMENT MARKINGS SHALL BE WHITE IN COLOR UNLESS OTHERWISE NOTED OR REQUIRED BY ADA OR LOCAL GOVERNING BODIES.
  - SEE SITE PLAN FOR CURB AND GUTTER TYPE. TAPER BETWEEN CURB TYPES-SEE DETAIL.
  - ALL CURB RADII ARE MINIMUM 3' UNLESS OTHERWISE NOTED.
  - CONTRACTOR SHALL REFER TO FINAL PLAT FOR LOT BOUNDARIES, NUMBERS, AREAS AND DIMENSIONS PRIOR TO SITE IMPROVEMENTS.
  - FIELD VERIFY ALL EXISTING SITE CONDITIONS, DIMENSIONS.
  - PARKING IS TO BE SET PARALLEL OR PERPENDICULAR TO EXISTING BUILDING UNLESS NOTED OTHERWISE.
  - ALL PARKING LOT PAINT STRIPPING TO BE WHITE, 4" WIDE TYP.
  - BITUMINOUS PAVING TO BE "LIGHT DUTY" UNLESS OTHERWISE NOTED. SEE DETAIL SHEETS FOR PAVEMENT SECTIONS.
  - ALL TREES THAT ARE TO REMAIN ARE TO BE PROTECTED FROM DAMAGE WITH A CONSTRUCTION FENCE AT THE DRIP LINE. SEE LANDSCAPE DOCUMENTS.

**SITE AREA TABLE:**

SITE AREA CALCULATIONS	EXISTING CONDITION		PROPOSED CONDITION	
	AREA (SF)	PERCENT (%)	AREA (SF)	PERCENT (%)
BUILDING COVERAGE	0	0.0%	24,498	32.0%
ALL PAVEMENTS	12,697	16.6%	35,890	47.0%
ALL NON-PAVEMENTS	63,746	83.4%	16,055	21.0%
<b>TOTAL SITE AREA</b>	<b>76,443</b>	<b>100.0%</b>	<b>76,443</b>	<b>100.0%</b>
IMPERVIOUS SURFACE				
EXISTING CONDITION	12,697	16.6%		
PROPOSED CONDITION	60,388	79.0%		
DIFFERENCE (EX. VS PROP.)	47,691	62.4%		

- SITE PLAN LEGEND:**
- [Symbol] LIGHT DUTY BITUMINOUS PAVEMENT. SEE GEOTECHNICAL REPORT FOR AGGREGATE BASE & WEAR COURSE DEPTH, SEE DETAIL.
  - [Symbol] CONCRETE PAVEMENT AS SPECIFIED (PAD OR WALK) SEE GEOTECHNICAL REPORT FOR AGGREGATE BASE & CONCRETE DEPTHS, SEE DETAIL.
  - [Symbol] HEAVY DUTY BITUMINOUS PAVEMENT. SEE GEOTECHNICAL REPORT FOR AGGREGATE BASE & WEAR COURSE DEPTH, SEE DETAIL.
  - [Symbol] PROPERTY LINE
  - [Symbol] CONSTRUCTION LIMITS
  - [Symbol] CURB AND GUTTER-SEE NOTES (T.O.) TIP OUT GUTTER WHERE APPLICABLE-SEE PLAN
  - [Symbol] TRAFFIC DIRECTIONAL ARROW PAVEMENT MARKINGS
  - [Symbol] SIGN AND POST ASSEMBLY. SHOP DRAWINGS REQUIRED.  
HC = ACCESSIBLE SIGN  
NP = NO PARKING FIRE LANE  
ST = STOP  
CP = COMPACT CAR PARKING ONLY

**CivilSite**  
Civil Engineering • Surveying • Landscape Architecture  
4931 W. 35th Street, Suite 200  
St. Louis Park, MN 55416  
civilsitegroup.com 612-615-0060

**MWF properties**

**kaas wilson architects**

**PROJECT**

**LYNDALE FLATS APARTMENTS**

9320 LYNDALE AVENUE SOUTH, BLOOMINGTON, MN 55420

MWF PROPERTIES  
7645 LYNDALE AVENUE SOUTH, MINNEAPOLIS, MN 55423

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.

*David J. Knaeble*  
David J. Knaeble  
DATE 9/25/20 LICENSE NO. 48776

**ISSUE/SUBMITTAL SUMMARY**

DATE	DESCRIPTION
9/21/19	CITY SUBMITTAL
9/26/19	CITY RESUBMITTAL
9/29/20	WATERSHED SUBMITTAL

DRAWN BY: BN REVIEWED BY: DK  
PROJECT NUMBER: 19169

**REVISION SUMMARY**

DATE	DESCRIPTION

**SITE PLAN**

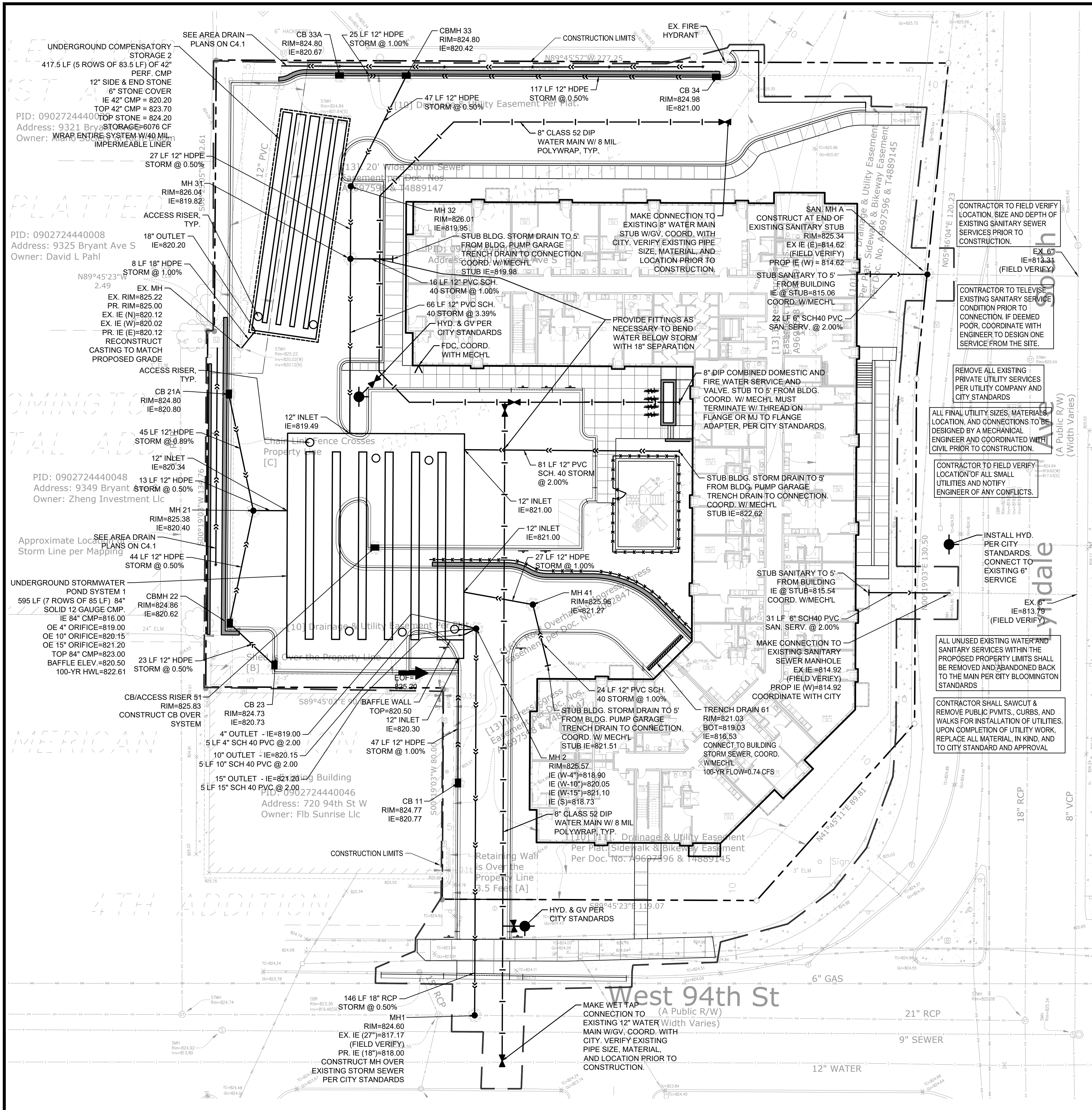
**C2.0**

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

1" = 20'-0"  
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**GENERAL UTILITY NOTES:**

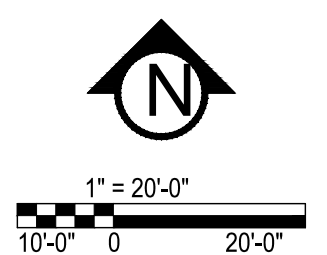
- SEE SITE PLAN FOR HORIZONTAL DIMENSIONS AND LAYOUT.
- CONTRACTOR SHALL FIELD VERIFY LOCATION AND ELEVATION OF EXISTING UTILITIES AND TOPOGRAPHIC FEATURES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER OF DISCREPANCIES OR VARIATIONS FROM THE PLANS.
- ALL EXISTING UTILITY 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.
- UTILITY INSTALLATION SHALL CONFORM TO THE CURRENT EDITION OF "STANDARD SPECIFICATIONS FOR WATER MAIN AND SERVICE LINE INSTALLATION" AND "SANITARY SEWER AND STORM SEWER INSTALLATION" AS PREPARED BY THE CITY ENGINEERS ASSOCIATION OF MINNESOTA (CEAM), AND SHALL CONFORM WITH THE REQUIREMENTS OF THE CITY AND THE PROJECT SPECIFICATIONS.
- CASTINGS SHALL BE SALVAGED FROM STRUCTURE REMOVALS AND RE-USED OR PLACED AT THE DIRECTION OF THE OWNER.
- ALL WATER PIPE SHALL BE CLASS 52 DUCTILE IRON PIPE (DIP) AWWA C151, ASME B16.4, AWWA C110, AWWA C153 UNLESS OTHERWISE NOTED.
- ALL SANITARY SEWER SHALL BE SDR 26 POLYVINYL CHLORIDE (PVC) ASTM D3034 & F679, OR SCH 40 ASTM D1785, 2665, ASTM F794, 1866) UNLESS OTHERWISE NOTED.
- ALL STORM SEWER PIPE SHALL BE HDPE ASTM F714 & F2306 WITH ASTM D3212 SPEC FITTINGS UNLESS OTHERWISE NOTED.
- PIPE LENGTHS SHOWN ARE FROM CENTER TO CENTER OF STRUCTURE OR TO END OF FLARED END SECTION.
- UTILITIES ON THE PLAN ARE SHOWN TO WITHIN 5' OF THE BUILDING FOOTPRINT. THE CONTRACTOR IS ULTIMATELY RESPONSIBLE FOR THE FINAL CONNECTION TO BUILDING LINES. COORDINATE WITH ARCHITECTURAL AND MECHANICAL PLANS.
- CATCH BASINS AND MANHOLES IN PAVED AREAS SHALL BE SUMPED 0.04 FEET. ALL CATCH BASINS IN GUTTERS SHALL BE SUMPED 0.15 FEET PER DETAILS. RIM ELEVATIONS SHOWN ON THIS PLAN DO NOT REFLECT SUMPED ELEVATIONS.
- ALL FIRE HYDRANTS SHALL BE LOCATED 5 FEET BEHIND BACK OF CURB UNLESS OTHERWISE NOTED.
- HYDRANT TYPE, VALVE, AND CONNECTION SHALL BE IN ACCORDANCE WITH CITY REQUIREMENTS. HYDRANT EXTENSIONS ARE INCIDENTAL.
- A MINIMUM OF 8 FEET OF COVER IS REQUIRED OVER ALL WATERMAIN, UNLESS OTHERWISE NOTED. EXTRA DEPTH MAY BE REQUIRED TO MAINTAIN A MINIMUM OF 18" VERTICAL SEPARATION TO SANITARY OR STORM SEWER LINES. EXTRA DEPTH WATERMAIN IS INCIDENTAL.
- A MINIMUM OF 18 INCHES OF VERTICAL SEPARATION AND 10 FEET OF HORIZONTAL SEPARATION IS REQUIRED FOR ALL UTILITIES, UNLESS OTHERWISE NOTED.
- ALL CONNECTIONS TO EXISTING UTILITIES SHALL BE IN ACCORDANCE WITH CITY STANDARDS AND COORDINATED WITH THE CITY PRIOR TO CONSTRUCTION.
- CONNECTIONS TO EXISTING STRUCTURES SHALL BE CORE-DRILLED.
- COORDINATE LOCATIONS AND SIZES OF SERVICE CONNECTIONS WITH THE MECHANICAL DRAWINGS.
- COORDINATE INSTALLATION AND SCHEDULING OF THE INSTALLATION OF UTILITIES WITH ADJACENT CONTRACTORS AND CITY STAFF.
- ALL STREET REPAIRS AND PATCHING SHALL BE PERFORMED PER THE REQUIREMENTS OF THE CITY. ALL PAVEMENT CONNECTIONS SHALL BE SAWCUT. ALL TRAFFIC CONTROLS SHALL BE PROVIDED BY THE CONTRACTOR AND SHALL BE ESTABLISHED PER THE REQUIREMENTS OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MMUTCD) AND THE CITY. THIS SHALL INCLUDE BUT NOT BE LIMITED TO SIGNAGE, BARRICADES, FLASHERS, AND FLAGGERS AS NEEDED. ALL PUBLIC STREETS SHALL BE OPEN TO TRAFFIC AT ALL TIMES. NO ROAD CLOSURES SHALL BE PERMITTED WITHOUT APPROVAL BY THE CITY.
- ALL STRUCTURES, PUBLIC AND PRIVATE, SHALL BE ADJUSTED TO PROPOSED GRADES WHERE REQUIRED. THE REQUIREMENTS OF ALL OWNERS MUST BE COMPLIED WITH. STRUCTURES BEING RESET TO PAVED AREAS MUST MEET OWNERS REQUIREMENTS FOR TRAFFIC LOADING.
- CONTRACTOR SHALL COORDINATE ALL WORK WITH PRIVATE UTILITY COMPANIES.
- CONTRACTOR SHALL COORDINATE CONNECTION OF IRRIGATION SERVICE TO UTILITIES. COORDINATE THE INSTALLATION OF IRRIGATION SLEEVES NECESSARY AS TO NOT IMPACT INSTALLATION OF UTILITIES.
- CONTRACTOR SHALL MAINTAIN AS-BUILT PLANS THROUGHOUT CONSTRUCTION AND SUBMIT THESE PLANS TO ENGINEER UPON COMPLETION OF WORK.
- ALL JOINTS AND CONNECTIONS IN STORM SEWER SYSTEM SHALL BE GASTIGHT OR WATERTIGHT, APPROVED RESILIENT RUBBER JOINTS MUST BE USED TO MAKE WATERTIGHT CONNECTIONS TO MANHOLES, CATCHBASINS, OR OTHER STRUCTURES.
- ALL PORTIONS OF THE STORM SEWER SYSTEM LOCATED WITHIN 10 FEET OF THE BUILDING OR WATER SERVICE LINE MUST BE TESTED IN ACCORDANCE WITH MN RULES, CHAPTER 4714, SECTION 1109.0.

**CITY OF BLOOMINGTON UTILITY NOTES:**

- CONTRACTOR SHALL OBTAIN A PUBLIC WORKS PERMIT FOR UNDERGROUND WORK WITHIN THE RIGHT-OF-WAY. PERMIT IS REQUIRED PRIOR TO REMOVAL OR INSTALLATION. CONTACT UTILITIES (952-563-4568) FOR PERMIT INFORMATION.
- UTILITY PERMITS ARE REQUIRED FOR CONNECTIONS TO THE PUBLIC STORM SANITARY, AND WATER SYSTEM. CONTACT UTILITIES (952-563-8777) FOR PERMIT INFORMATION.
- PROVIDE A MINIMUM OF 8' AND A MAXIMUM OF 10' OF COVER OVER ALL WATER LINES, VALVES, & SERVICES.
- TAPS OF LIVE WATER MAINS ARE COMPLETED BY CITY AND PAID FOR AND COORDINATED WITH CONTRACTOR.
- UTILITY AND MECHANICAL CONTRACTORS MUST COORDINATE THE INSTALLATION OF ALL WATER AND SEWER SERVICE PIPES INTO THE BUILDING TO ACCOMMODATE CITY INSPECTION AND TESTING.
- HDPE PIPE CONNECTIONS INTO ALL CONCRETE STRUCTURES MUST BE MADE WITH WATER TIGHT MATERIALS UTILIZING AN A-LOK OR WATERSTOP GASKET OR BOOT, CAST-IN-PLACE RUBBER BOOT, OR APPROVED EQUAL. WHERE THE ALIGNMENT PRECLUDES THE USE OF THE ABOVE APPROVED WATERTIGHT METHODS, CONSEAL 231 WATERSTOP SEALANT, OR APPROVED EQUAL WILL ONLY BE ALLOWED AS APPROVED BY THE ENGINEER.
- CONTRACTOR MUST PROVIDE A UTILITY AS-BUILT TO THE CITY PRIOR TO ISSUANCE OF CERTIFICATE OF OCCUPANCY.
- USE CLASS 52 DIP WATER MAIN FOR PIPE 12-INCHES IN DIAMETER AND SMALLER. A MINIMUM 8 MIL POLYWRAP IS REQUIRED ON ALL DIP.
- ALL COMPONENTS OF THE WATER SYSTEM, UP TO THE WATER METER OR FIRE SERVICE EQUIPMENT MUST UTILIZE PROTECTIVE INTERNAL COATINGS MEETING CURRENT ANSII/AWWA STANDARDS FOR CEMENT MORTAR LINING OR SPECIAL COATING. THE USE OF UNLINED OR UNCOATED PIPE IS NOT ALLOWED.
- HDPE PIPE CONNECTIONS INTO ALL CONCRETE STRUCTURES MUST BE MADE WITH WATER TIGHT MATERIALS UTILIZING AN A-LOK OR WATERSTOP GASKET OR BOOT, CAST-IN-PLACE RUBBER BOOT, OR APPROVED EQUAL. WHERE THE ALIGNMENT PRECLUDES THE USE OF THE ABOVE APPROVED WATERTIGHT METHODS, CONSEAL 231 WATERSTOP SEALANT, OR APPROVED EQUAL WILL ONLY BE ALLOWED AS APPROVED BY THE ENGINEER.

**UTILITY LEGEND:**

- CATCH BASIN
- MANHOLE
- GATE VALVE AND VALVE BOX
- PROPOSED FIRE HYDRANT
- WATER MAIN
- SANITARY SEWER
- STORM SEWER
- FES AND RIP RAP



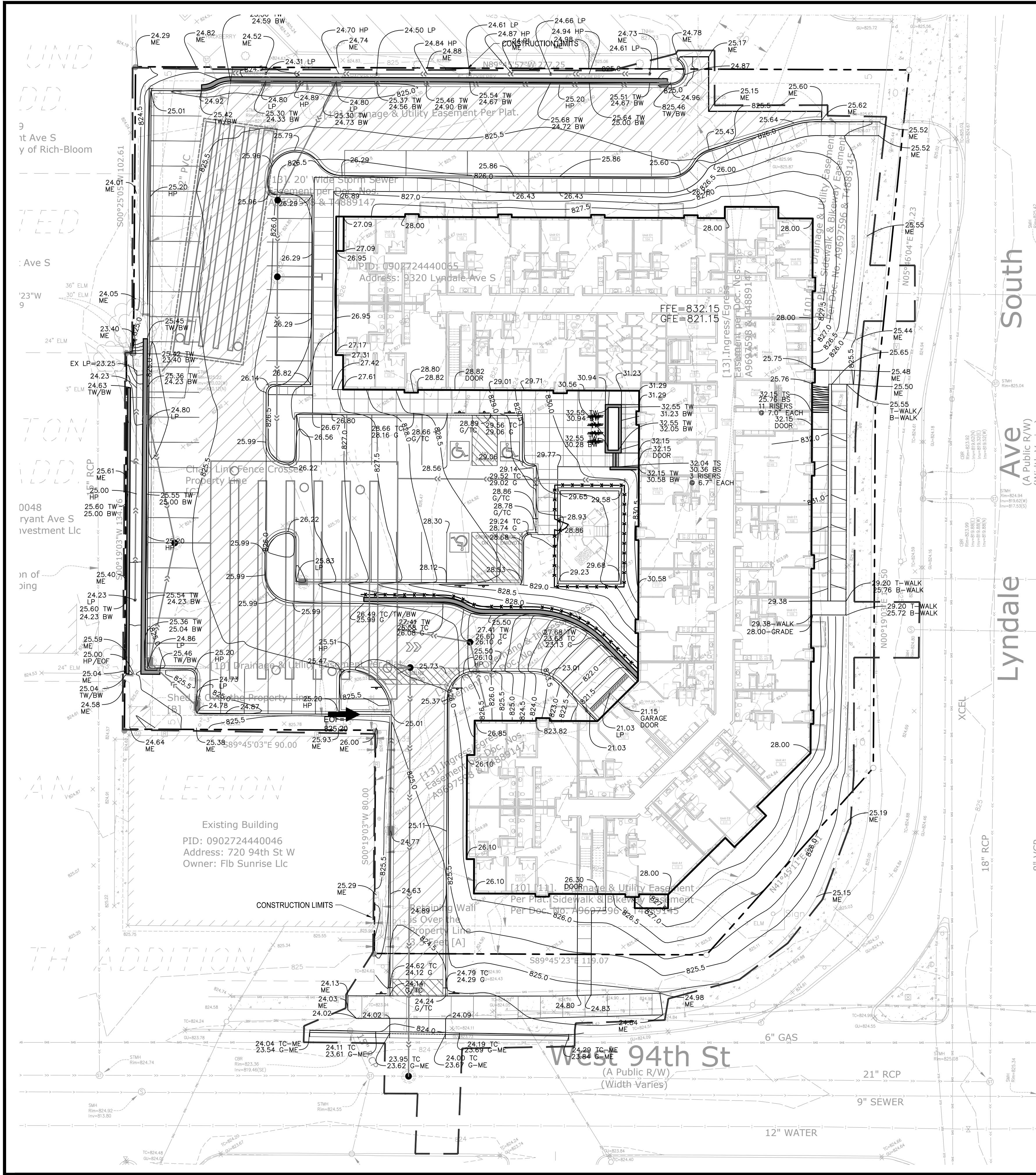
I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

*David J. Knaeble*  
David J. Knaeble  
DATE: 9/25/20 LICENSE NO. 48776

ISSUE/SUBMITTAL SUMMARY	
DATE	DESCRIPTION
9/25/20	CITY SUBMITTAL
9/25/20	CITY SUBMITTAL
9/25/20	WATERSHED SUBMITTAL

REVISION SUMMARY	
DATE	DESCRIPTION

DRAWN BY: BN		REVIEWED BY: DK	
PROJECT NUMBER: 19169			



**GENERAL GRADING NOTES:**

- SEE SITE PLAN FOR HORIZONTAL LAYOUT & GENERAL GRADING NOTES.
- 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.
- GRADING AND EXCAVATION ACTIVITIES SHALL BE PERFORMED IN ACCORDANCE WITH THE NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT REQUIREMENTS & PERMIT REQUIREMENTS OF THE CITY.
- PROPOSED SPOT GRADES ARE FLOW-LINE FINISHED GRADE ELEVATIONS, UNLESS OTHERWISE NOTED.
- GRADES OF WALKS SHALL BE INSTALLED WITH 5% MAX. LONGITUDINAL SLOPE AND 1% MIN. AND 2% MAX. CROSS SLOPE, UNLESS OTHERWISE NOTED.
- PROPOSED SLOPES SHALL NOT EXCEED 3:1 UNLESS INDICATED OTHERWISE ON THE DRAWINGS. MAXIMUM SLOPES IN MAINTAINED AREAS IS 4:1
- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- TOLERANCES
  - 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.
  - 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.
  - 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.
  - TOPSOIL SHALL BE GRADED TO PLUS OR MINUS 1/2 INCH OF THE SPECIFIED THICKNESS.
- MAINTENANCE
  - THE CONTRACTOR SHALL PROTECT NEWLY GRADED AREAS FROM TRAFFIC AND EROSION, AND KEEP AREA FREE OF TRASH AND DEBRIS.
  - 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.
  - 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.

**EROSION CONTROL NOTES:**

SEE SWPPP ON SHEETS SW1.0-SW1.7

**GROUNDWATER INFORMATION:**

PER GEOTECHNICAL REPORT BY CHOSEN VALLEY TESTING, INC., DATED 05/15/19.  
NO GROUNDWATER WAS OBSERVED IN ANY OF THE TESTED BORINGS.

**CITY OF BLOOMINGTON GRADING NOTES:**

- RESERVED FOR CITY SPECIFIC GRADING NOTES.

**GRADING PLAN LEGEND:**

- 1125 ----- EX. 1' CONTOUR ELEVATION INTERVAL
- 1137 ----- 1.0' CONTOUR ELEVATION INTERVAL
- 41.26 ----- SPOT GRADE ELEVATION (GUTTER/FLOW LINE UNLESS OTHERWISE NOTED)
- 891.00 G ----- SPOT GRADE ELEVATION GUTTER
- 891.00 TC ----- SPOT GRADE ELEVATION TOP OF CURB
- 891.00 BS/TS ----- SPOT GRADE ELEVATION BOTTOM OF STAIRS/TOP OF STAIRS
- 891.00 ME ----- SPOT GRADE ELEVATION MATCH EXISTING
- ⊙ ----- GRADE BREAK - HIGH POINTS
- ===== CURB AND GUTTER (T.O. = TIP OUT)
- EOFF=1135.52 ----- EMERGENCY OVERFLOW



Know what's below.  
Call before you dig.



1" = 20'-0"

24/09/2020 2:32:32 PM



**PROJECT**  
**LYNDALE FLATS APARTMENTS**

9320 LYNDALE AVENUE SOUTH, BLOOMINGTON, MN 55420

**MWF PROPERTIES**  
7645 LYNDALE AVENUE SOUTH, MINNEAPOLIS, MN 55423

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.

*David J. Knaeble*  
David J. Knaeble  
DATE: 9/25/20 LICENSE NO. 48776

**ISSUE/SUBMITTAL SUMMARY**

DATE	DESCRIPTION
9/21/19	CITY SUBMITTAL
9/28/19	CITY RESUBMITTAL
9/29/20	WATERSHED SUBMITTAL

DRAWN BY:BN REVIEWED BY:DK

PROJECT NUMBER: 19169

**REVISION SUMMARY**

DATE	DESCRIPTION
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**GRADING PLAN**

**C3.0**

Primary chemicals of concern: tetrachloroethylene (PCE) and trichloroethylene (TCE)

