

LEGEND

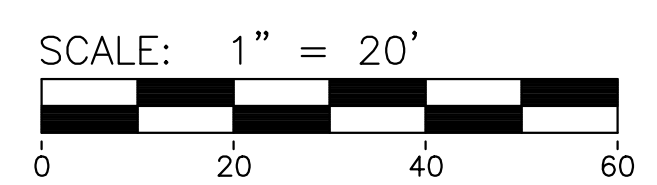
- 8.38 EXIST. CONTOUR
- x836.2 EXIST. SPOT ELEVATION
- o-U.P. EXIST. UTILITY POLE
- GUY WIRE
- EXIST. AC UNIT
- OH EXIST. OVERHEAD UTILITY LINE
- EXIST. LIGHT POLE
- EXIST. GAS LINE
- EXIST. WATER MAIN
- EXIST. HYDRANT
- EXIST. GATE VALVE IN BOX
- EXIST. GATE VALVE IN WELL
- EXIST. FIRE DEPARTMENT CONNECTION
- EXIST. STORM SEWER
- EXIST. CATCH BASIN OR INLET
- EXIST. DOWNSPOUT
- EXIST. SANITARY SEWER
- EXIST. CLEANOUT

- ug UNDERGROUND
- p SIGN
- catv CABLE TELEVISION RISER
- g GAS METER
- POST POST
- o FOUND IRON PIPE
- o SET IRON ROD
- o CONTROL PT.
- o FENCE
- o GUARDRAIL
- o SINGLE TREE
- o TREE OR BRUSH LIMIT
- o SECTION CORNER

BENCHMARKS:

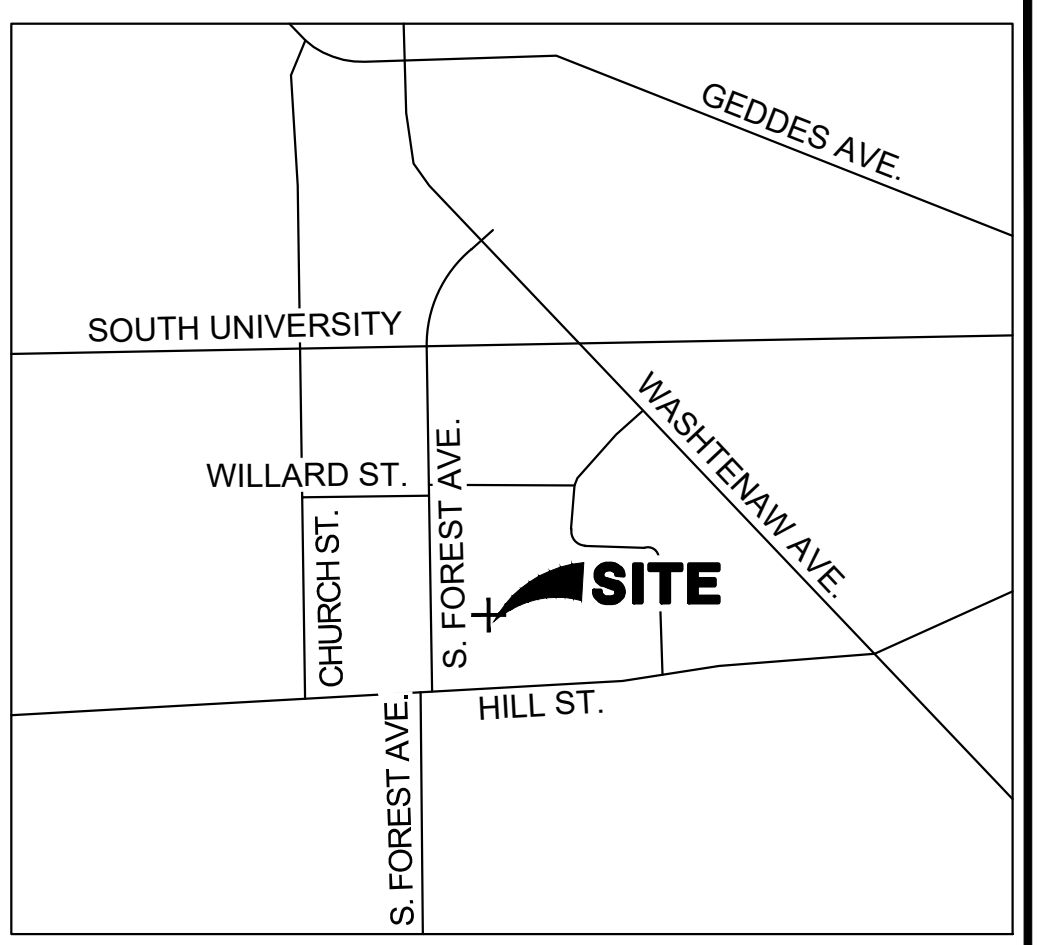
- #1: SET SPIKE SE SIDE OF UTILITY POLE, 1'± WEST OF B/CURB, WEST SIDE OF S. FOREST AVE., & 50'± WEST OF SW PROPERTY CORNER. ELEVATION=867.33 NAVD 88.
- #2: SET SPIKE SW SIDE OF UTILITY POLE AT NE PROPERTY CORNER. ELEVATION=872.66 NAVD 88.

TAG#	DBH	COMMON NAME	GENUS/SPECIES	STEMS	SCORE	LM	INV	REM
719	10"	Linden	Tilia americana					
720	2"	Ginkgo	Ginkgo biloba					
721	2"	Rugged Ridge Maple	Acer myriacari					X
722	3"	Sweetgum	Liquidambar styraciflua					X
723	31"	Red Oak	Quercus rubra		18	X		
724	16"	White Mulberry	Morus alba				X	
725	18"	American Elm	Ulmus americana		19	X		
726	6"	Norway Maple	Acer platanoides	twin			X	
727	8"	White Mulberry	Morus alba				X	
728	6"	Black Cherry	Prunus serotina				X	
729	13"	American Elm	Ulmus americana		18	X		
730	6"	American Elm	Ulmus americana				X	
731	7"	Black Cherry	Prunus serotina				X	
732	9"	White Mulberry	Morus alba	twin			X	
733	37"	White Oak	Quercus alba		21	X		
734	6"	White Mulberry	Morus alba				X	
735	10"	White Mulberry	Morus alba				X	
736	7"	White Mulberry	Morus alba				X	
737	23"	Black Cherry	Prunus serotina		18	X		
738	8"	American Elm	Ulmus americana				X	
739	14"	American Elm	Ulmus americana				X	
740	11"	American Elm	Ulmus americana				X	
741	19"	American Elm	Ulmus americana	dead				



NOTES:

- 1) This survey was prepared using First American Title Insurance Company title commitment No. NCS-1131415-STLO with an effective date of May 17, 2022.
- 2) The parcel herein described is in Zone X (unshaded); the area determined to be outside of the 0.2% annual chance floodplain per Federal Emergency Management Agency flood insurance rate map # 26161C0263E, effective date; April 3, 2012.
- 3) The parcel herein described has 78 regular parking spaces.
- 4) There is no evidence of current earth moving work, building construction or building additions.
- 5) There is no evidence of changes that will be made to the existing right-of-way lines or sidewalks in the near future.
- 6) No wetlands currently exist on the property.
- 7) Access via Forest Avenue Public.
- 8) Legal Description in Title Commitment is the same as shown on the Survey.



VICINITY SKETCH

NOT TO SCALE

LEGAL DESCRIPTION

Land in the City of Ann Arbor, Washtenaw County, MI, described as follows:
Beginning on the East line of Forest Avenue, 16.53 inches North of the Southwest corner of Lot 10 of Block 5 of R.S. Smith's Second Addition To The City of Ann Arbor, Washtenaw County, Michigan; thence East 138 feet; thence South 16.53 inches to said South line of Lot 10; thence East to the Southeast corner of said Lot 10; thence North 8 rods (132 feet) and 16.53 inches to the Northeast corner of Lot 9 in said Subdivision; thence West along the North line of Lot 9 to the Northwest corner thereof; thence South 8 rods (132 feet) to the place of beginning, being Lot 9 and part of Lot 10 in Block 5 of R.S. Smith's Second Addition To The City of Ann Arbor, as recorded in Liber 48 of Deeds, Page 40, Washtenaw County Records.

Being more particularly described as:
Commencing at the South 1/4 corner of Section 28, Town 2 South, Range 6 East, City of Ann Arbor, Ann Arbor Township, Washtenaw County, Michigan; thence South 87 degrees 50 seconds 59 minutes West 594.98 feet along the centerline of Hill Street, as monumented; thence North 00 degrees 00 seconds 00 minutes East 352.15 feet along the centerline of South Forest Avenue, as monumented; thence North 90 degrees 00 seconds 00 minutes East 330.00 feet to the North West corner of Lot 9, Block 5, of R.S. Smith's Second Addition To The City of Ann Arbor, as recorded in Liber 48 of Deeds, Page 40, Washtenaw County, Michigan and Point of Beginning; thence North 89 degrees 44 minutes 09 seconds East 395.87 feet along the North line of said Lot 9; thence South 00 degrees 08 minutes 29 seconds East 132.94 feet along the East line of Lots 9 & 10 of said Block 5; thence South 89 degrees 41 minutes 03 seconds West 258.19 feet along the South line of Lot 10 of said Block 5; thence North 00 degrees 18 minutes 57 seconds West 1.38 feet; thence South 89 degrees 41 minutes 03 seconds West 138.00 feet to a point which is 1.38 feet North of the Southwest corner of said Lot 10; thence North 00 degrees 00 minutes 00 seconds East 131.92 feet along the East right-of-way line of said South Forest Avenue to the Point of Beginning.

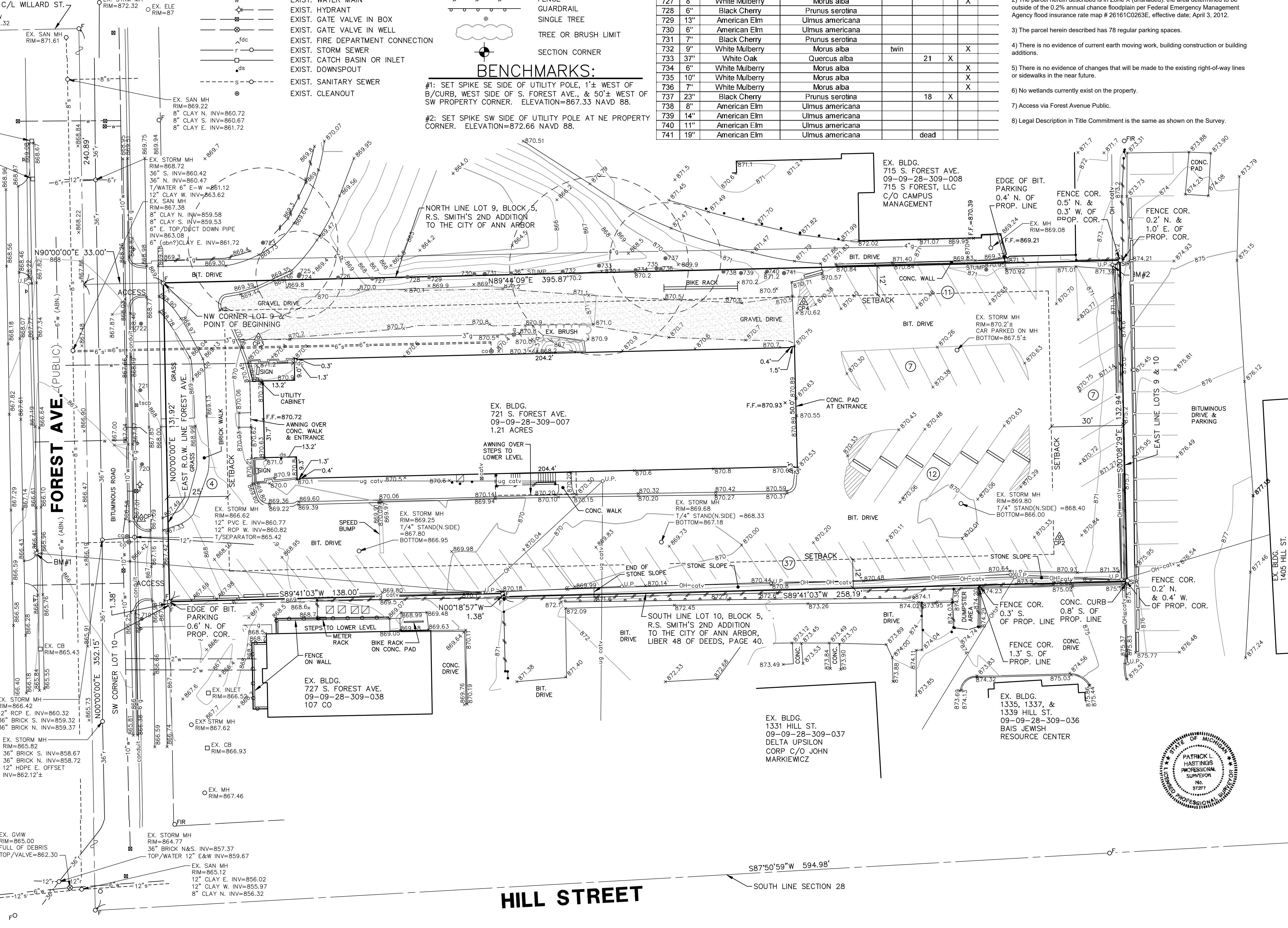
BEING SUBJECT TO:
7) Interest of others in oil, gas and mineral rights, if any, whether or not recorded in the Public Records.
8) Interest, if any, of the United States, State of Michigan, or any political subdivision thereof, in the oil, gas and minerals in and under and that may be produced from the captioned land.

CERTIFICATION

To: Subtext Acquisitions, LLC, a Missouri limited liability company and First American Title Insurance Company;
This is to certify that this map or plat and the survey on which it is based were made in accordance with the 2021 Minimum Standard Detail Requirements for ALTA/NSPS Land Title Surveys, jointly established and adopted by ALTA and NSPS, and includes items 1, 2, 3, 4, 6(a), 6(b), 7(a), 8, 9, 10, 11, 13, 14, 16, 18, 19 and 20 of Table A thereof.
The field work was completed on June 6, 2022.
MIDWESTERN CONSULTING, LLC
By: Patrick L. Hastings, P.S. No. 4001037277
Date: July 20, 2022



M:\Civil\136_P\0122170\Site Plan\22170_ALTA.dwg, 3/1/2023 7:40 AM, J.H. Ahern, None
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The underground utilities shown have been located from field survey information and existing records. The surveyor makes no guarantees that the underground utilities shown comprise all such utilities in the area, either in-service or abandoned. The surveyor further does not warrant that the underground utilities shown are in the exact location indicated. Although the surveyor does certify that they are located as accurately as possible from the information available.

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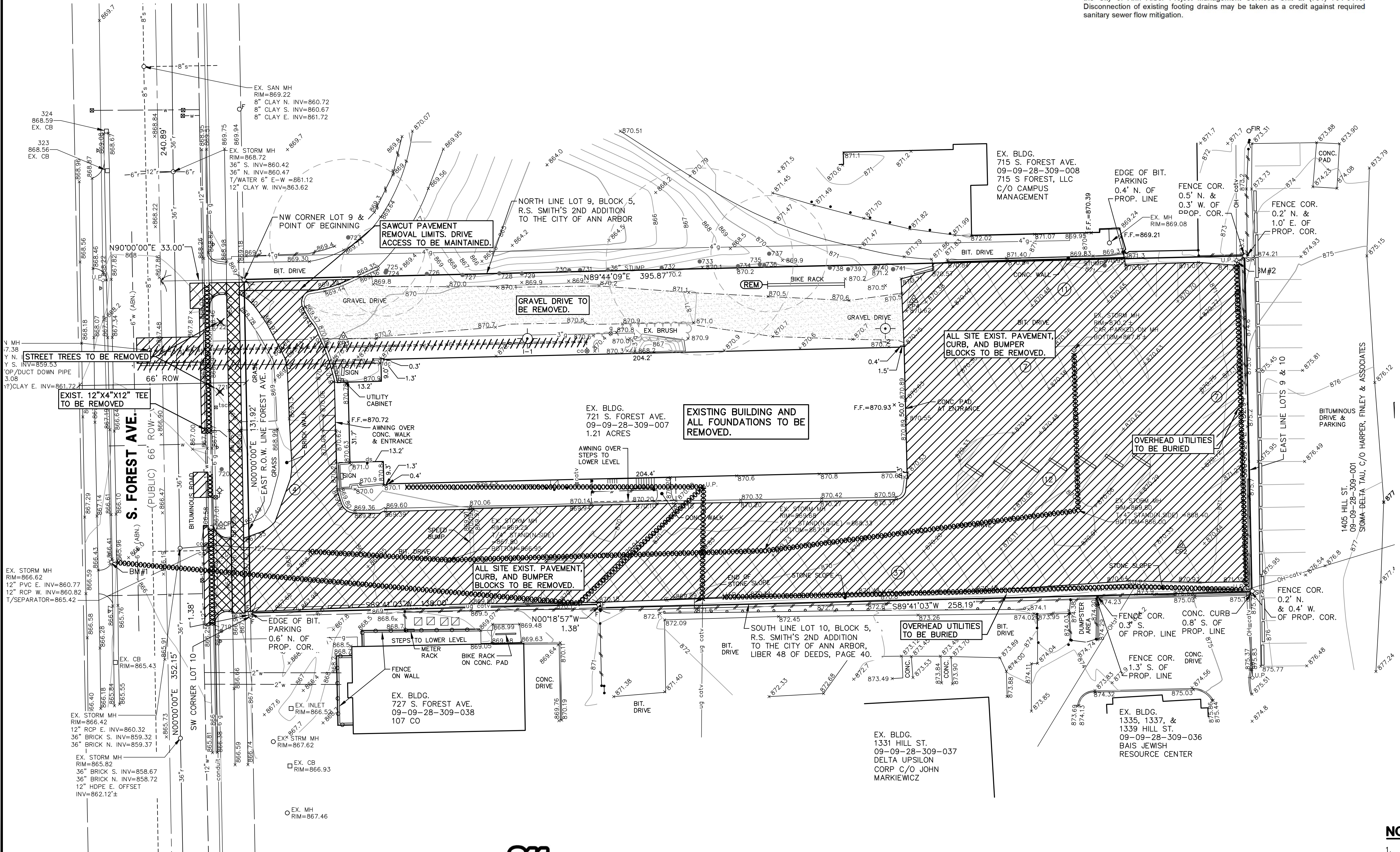
CLIENT
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ST. LOUIS, MO 63103
RYAN BUMB
314-396-2835

VERVE ANN ARBOR
SITE PLAN AND PUD REZONING FOR CITY COUNCIL
ALTA SITE PLAN

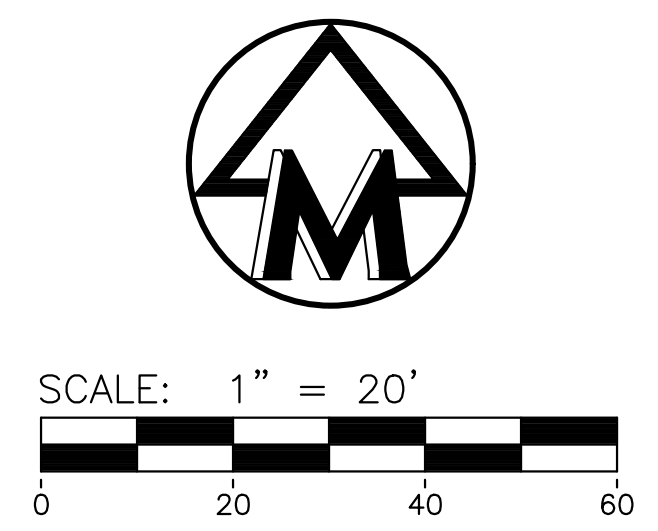
JOB No. **22170**
DATE: SHEET 2 OF 22
REV. DATE: 7/14/23
ENG. JCA
P.M. SWB
TECH. JCA
PLOT: 22170-ALTA.dwg

2

S 1/4 COR. SECTION 8, T2S, R6E



- REMOVAL PLAN NOTES:**
- ASCE 38-02 quality level survey involves surveying visible above ground utility facilities such as manholes, valve boxes, posts, etc., and correlating this information with existing utility records. When using this information, it is not unusual to find that many underground utilities have been either omitted or erroneously plotted.
 - Existing easements, if any, are to be relocated or vacated as required.
 - Forest Ave. is under the jurisdiction of the City of Ann Arbor. All work within the right-of-way is subject to a permit from the City.
 - All existing on-site easements, if any, are to be vacated or relocated as necessary per the proposed development plans.
 - The existing water service lead in Forest Ave. has been noted in records as a 12"x6" tee reduced to a 4" lead. The 4" reducer is to be removed and the 6" lead extended as the proposed domestic service lead.
 - All franchise utilities are to be removed by or per the party having jurisdiction.
 - Two street trees are to be removed on S. Forest Ave.
 - All site work is to comply with the City of Ann Arbor Standard Specifications available on line. [www.a2gov.org/departments/engineering/Documents/Table of Contents.pdf](http://www.a2gov.org/departments/engineering/Documents/Table%20of%20Contents.pdf)
 - All existing on-site improvements are to be removed unless otherwise noted.
 - During demolition of the existing structures, the contractor will be responsible for identifying any existing footing drains that are connected to the sanitary sewer. These are to be verified on site by the City prior to removal. If footing drains for the existing buildings are connected to the sanitary sewer system, disconnection will be required in accordance with current City specifications. To schedule inspection, call the City of Ann Arbor Project Management Services Unit at (734) 794-6410. Disconnection of existing footing drains may be taken as a credit against required sanitary sewer flow mitigation.



LEGEND

838	EXIST. CONTOUR
×836.2	EXIST. SPOT ELEVATION
○-○ U.P.	EXIST. UTILITY POLE
○-○ GP	EXIST. GUY POLE
⊖	GUY WIRE
⊠	ELEC. TRANSFORMER
— OH —	EXIST. OVERHEAD UTILITY LINE
*	EXIST. LIGHT POLE
— t —	EXIST. TELEPHONE LINE
— e —	EXIST. ELECTRIC LINE
— g —	EXIST. GAS LINE
— g —	EXIST. GAS VALVE
f.o.	EXIST. FIBER OPTIC LINE
— w —	EXIST. WATER MAIN
⊕	EXIST. HYDRANT
⊕	EXIST. GATE VALVE IN BOX
⊕	EXIST. GATE VALVE IN WELL
⊕	EXIST. CURB STOP & BOX
⊕	FIRE DEPARTMENT CONNECTION
⊕	EXIST. STORM SEWER
⊕	EXIST. CATCH BASIN OR INLET
⊕	EXIST. BEEHIVE INLET
⊕	EXIST. DOWNSPOUT
⊕	EXIST. SANITARY SEWER
⊕	EXIST. CLEANOUT
⊕	SIGN
⊕	TELEPHONE RISER
⊕	CABLE TELEVISION RISER
⊕	ELECTRIC METER
⊕	WATER METER
⊕	POST
⊕	EXIST. BOLLARD
⊕	FENCE
⊕	GUARDRAIL
⊕	SINGLE TREE
⊕	TREE OR BRUSH LIMIT
⊕	SECTION CORNER
⊕	SOIL BORING LOCATION
⊕	EXIST. TEST PIT LOCATION
○ S	SET IRON PIPE
○ F	FOUND IRON PIPE
○ S	SET MONUMENT
○ S	FOUND MONUMENT
⊕ FPK	SET P.K.
⊕ FPK	FOUND P.K.
○ S	SET IRON ROD
○ S	FOUND IRON ROD
⊕	CONTROL PT.
⊕	CENTERLINE
⊕	PROPERTY LINE
⊕	CONCRETE TO BE REMOVED
⊕	BITUMINOUS TO BE REMOVED
⊕	UTILITY TO BE ABANDONED
⊕	CURB OR UTILITY TO BE REMOVED
⊕	TREE TO BE REMOVED
⊕	ITEM TO BE RELOCATED
⊕	ITEM TO BE REMOVED

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 RYAN BUMB
 314-396-2835

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 SITE PLAN AND PUD REZONING FOR CITY COUNCIL
 DEMOLITION PLAN

22170
 JOB No. 22170
 REV. DATE 11/18/22
 PER CITY REVIEW 12/30/22
 DATE: 9/21/22
 SHEET 3 OF 22
 CADD: JCA
 ENG: JCA
 P.M.: SWB
 TECH: SWB
 2/22/2021

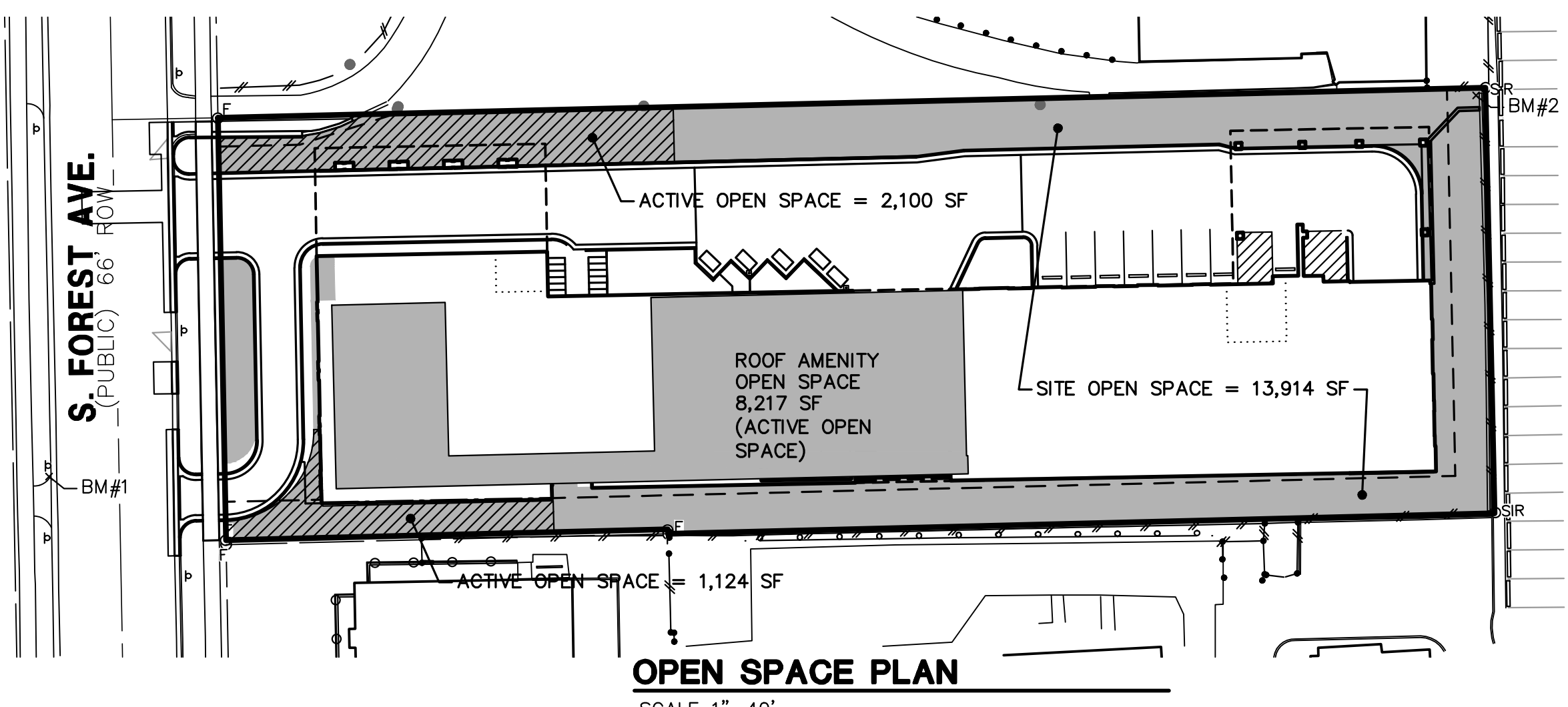
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NOTES

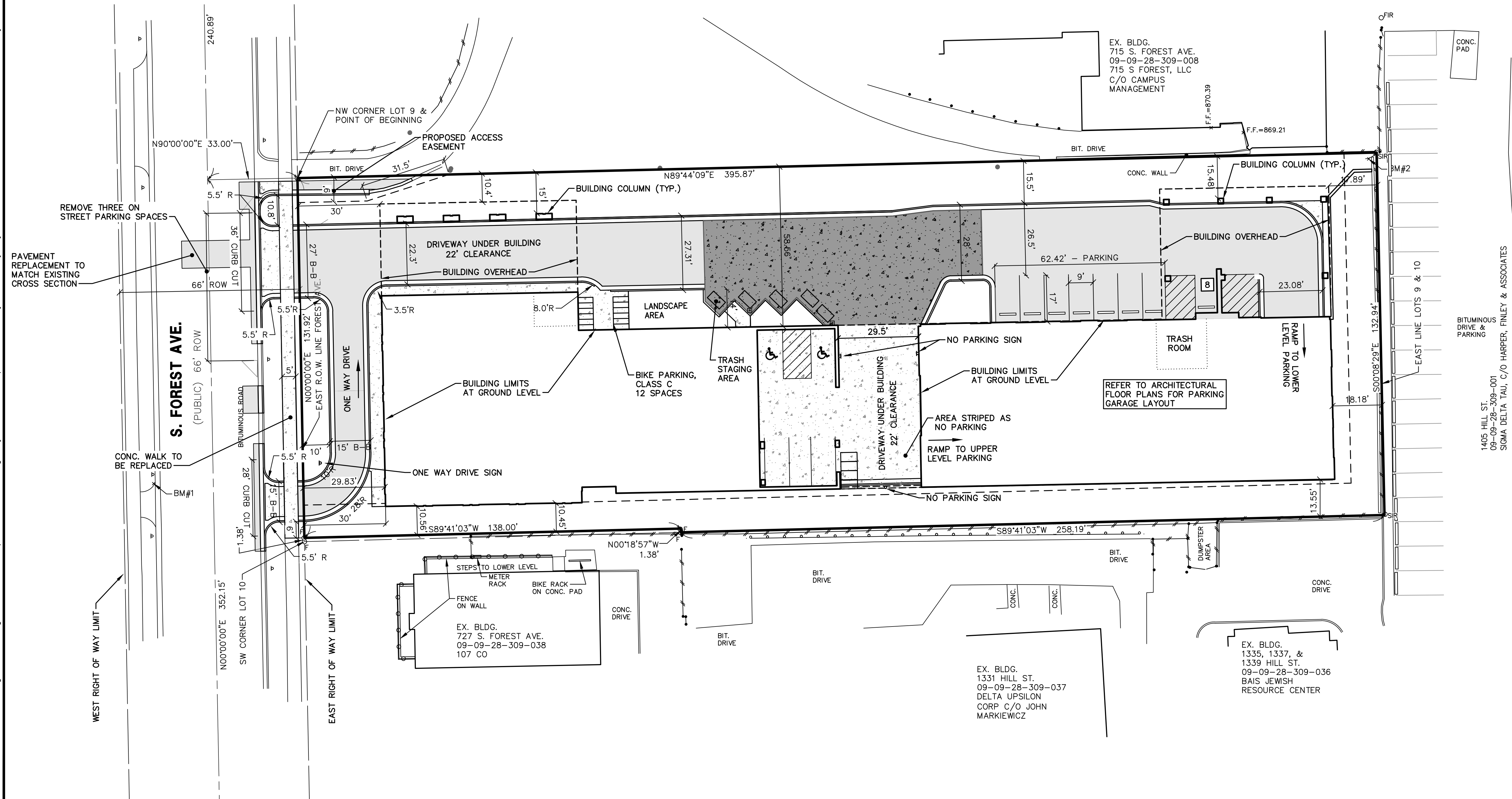
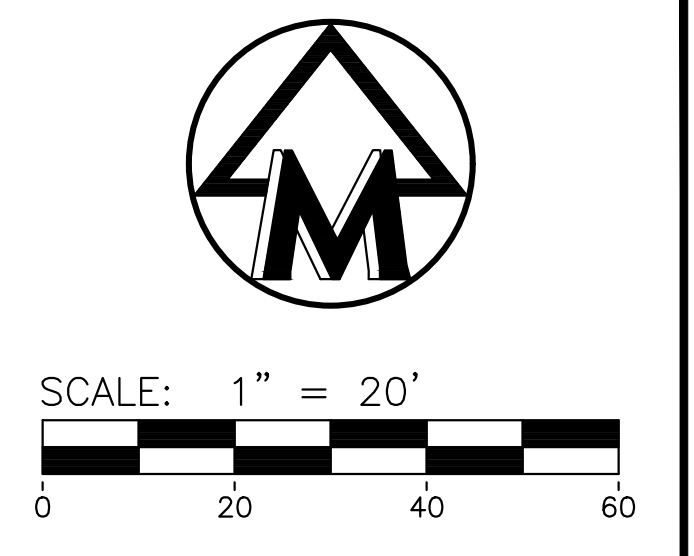
- THE BASE SURVEY WAS PREPARED BY MIDWESTERN CONSULTING IN MONTH YEAR. ALL UNDERGROUND UTILITIES AND STRUCTURES HAVE BEEN SHOWN TO A REASONABLE DEGREE OF ACCURACY AND IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THEIR EXACT LOCATION AND TO AVOID DAMAGE THERETO. THE CONTRACTOR SHALL REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO COMMENCING WORK.

MA:\Civ\132_Proj\132170\Site Plan\22170691.dwg, 3/1/2023 7:41 AM, Jim Albert, 4 DIMENSIONAL SITE PLAN, MLLC PDF, ps3
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OPEN SPACE
 SITE AREA = 13,914 SF
 ROOFTOP = 8,217 SF
 TOTAL = 22,131 SF
 SITE AREA = 52,529 SF
 OPEN SPACE = 42.1 %

ACTIVE (INCLUDED IN OVERALL)
 3,224 SF + 8,217 SF(ROOF) = 11,441 SF
 ACTIVE OPEN SPACE = 21.8%



LEGEND

- ⊙ NUMBER OF STANDARD PARKING SPACES IN ROW
- ⊠ NUMBER OF SMALL CAR PARKING SPACES IN ROW
- ⊕ NUMBER OF BARRIER FREE PARKING SPACES IN ROW
- BF BARRIER FREE PARKING SIGN
- BFV VAN ACCESSIBLE BARRIER FREE PARKING SIGN
- R BARRIER FREE SIDEWALK RAMP
- PROP. CURB & GUTTER
- PROP. BITUMINOUS PAVEMENT
- PROP. CONCRETE PAVEMENT
- PROP. HEAVY DUTY CONCRETE
- P SIGN

NOTES

1. ALL VEHICLE CHARGING STATIONS ARE LOCATED WITHIN THE PARKING GARAGE AREAS.
2. ALL CLASS A BIKE PARKING SPACES ARE LOCATED WITHIN THE BUILDING.
3. ALL PAVEMENT REPLACEMENT TO MEET CITY STANDARD SPECIFICATIONS. SAWCUT ALL REMOVAL LIMITS.
4. ALL CURB DIMENSIONS ARE TO BACK OF CURB.
5. ALL RADII DIMENSIONS ARE TO FACE OF CURB.

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 SITE PLAN AND PUD REZONING FOR CITY COUNCIL
 DIMENSIONAL SITE PLAN

4

DATE: 9/21/22
 SHEET 4 OF 22

REV. DATE	REV. DATE
11/18/22	CADD: JCA
12/30/22	ENG: JCA
2/14/23	PM: SWB
	TECH: /ZZ170691

JOB No. **22170**

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

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UTILITY PLAN NOTES:

- Domestic water and fire suppression water services are to tap into existing 12" water main in Forest Ave. The domestic water service is proposed to reuse existing tee connection. Booster pumps will be provided for domestic and fire water services. Refer to MEP plans for booster pump specifications.
- The sanitary sewer leads will tap into the existing sanitary main in Forest Ave. The existing 6" sanitary sewer lead will be removed and the proposed placed in the same location. The existing manhole will be inspected, cleaned and repaired as needed.
- If footing drains for the existing building are connected to the sanitary sewer system, disconnection will be required in accordance with current City specifications. The existing building was constructed in 1960. The contact person to schedule inspection of footing drain connections, if any, is Alison Heatley who can be reached at 734 794-6410, extension 43621.
- The proposed storm detention tanks primarily drain by infiltration. An emergency overflow is proposed to discharge to the existing connection to City storm sewer located +/- 25 feet north of the south property corner.
- No firewalls are proposed within the building.
- Pool backwash water is to be de-chlorinated and routed to the storm detention chamber.
- The proposed building's sump pump will discharge to the storm water management system.

Existing Flow

50 Apartments (between 600 & 1200 sf) at 250 gpd/unit = 12500 gpd

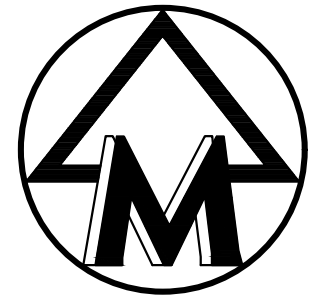
Design Flow

Based on the City of Ann Arbor's sanitary sewer flow evaluation Table 'A', the design dry weather flow rate will be:

44 Apartments (Up to 600 Square Feet) @ 175 gpd = 7700 gpd
 44 Apartments (601-1200 Square Feet) @ 250 gpd = 11000 gpd
 92 Apartments (1200+ Square Feet) @ 300 gpd = 27600 gpd
 44 - Five Bedroom Apartments @ 375 gpd = 16500 gpd
 4 - Six Bedroom Apartments @ 450 gpd = 1800 gpd
 106 parking spaces @ 27 gpd per space = 2862 gpd
 325 SF Pool x 1 person/ 50 sf X 20 gpd/per = 130 gpd
 Total 67592 gpd

Mitigation Flow

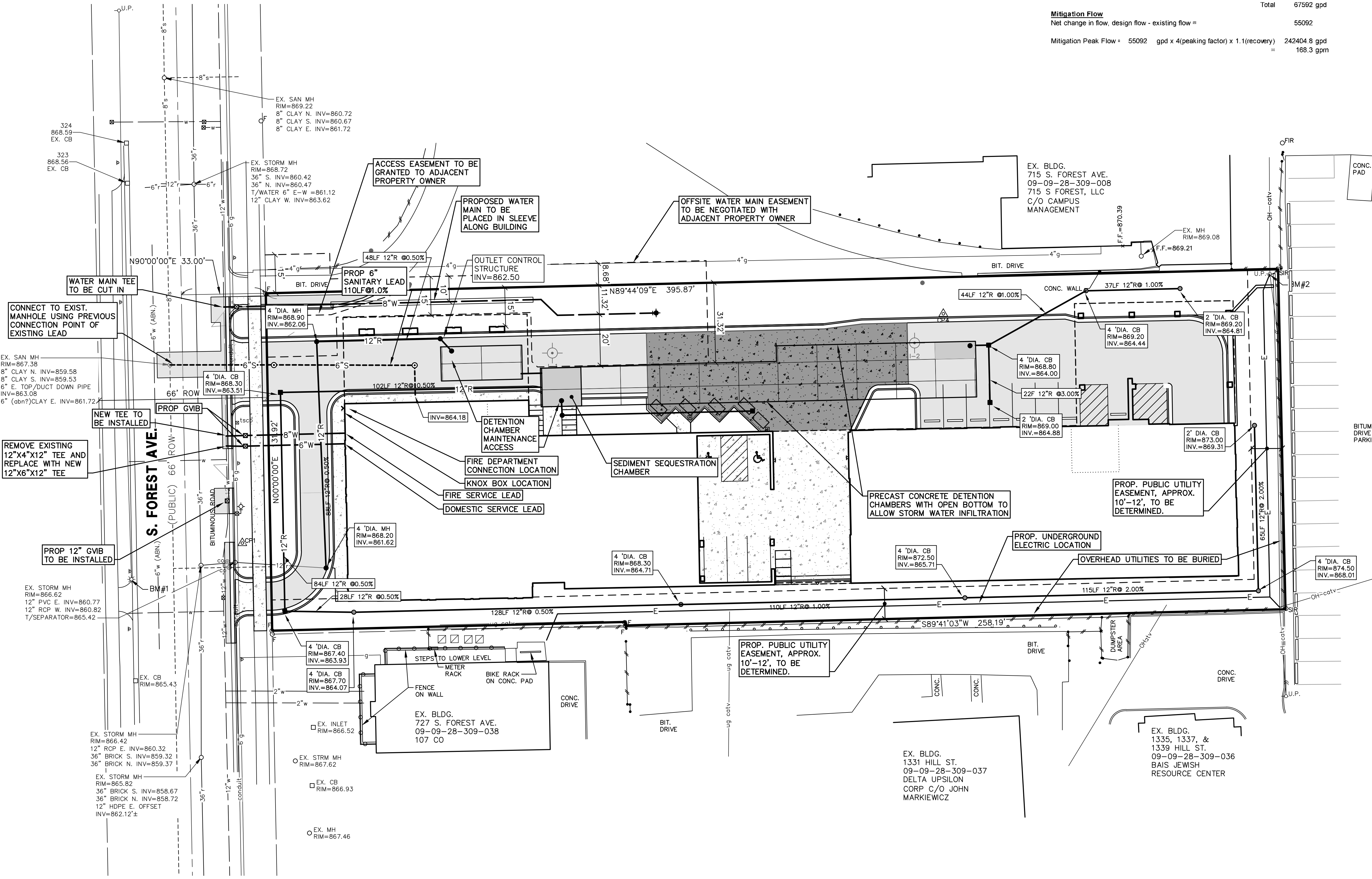
Net change in flow, design flow - existing flow = 55092
 Mitigation Peak Flow = 55092 gpd x 4(peaking factor) x 1.1(recovery) = 242404.8 gpd
 168.3 gpm



SCALE: 1" = 20'



Know what's below.
Call before you dig.



LEGEND

- o- U.P.
- o- GP
- GUY WIRE
- ELEC. TRANSFORMER
- EXIST. GENERATOR
- EXIST. OVERHEAD UTILITY LINE
- EXIST. LIGHT POLE
- PROP. LIGHT POLE
- PROP. BUILDING LIGHT
- EXIST. TELEPHONE LINE
- PROP. TELEPHONE LINE
- EXIST. ELECTRIC LINE
- EXIST. GAS LINE
- PROP. GAS LINE
- EXIST. GAS VALVE
- EXIST. WATER MAIN
- PROP. WATER MAIN
- EXIST. HYDRANT
- PROP. HYDRANT
- EXIST. GATE VALVE IN BOX
- PROP. GATE VALVE IN BOX
- EXIST. GATE VALVE IN WELL
- PROP. GATE VALVE IN WELL
- EXIST. CURB STOP & BOX
- PROP. CURB STOP & BOX
- EXIST. FIRE DEPT. CONNECTION
- PROP. FIRE DEPT. CONNECTION
- PROP. KNOXBOX
- EXIST. STORM SEWER
- PROP. STORM SEWER
- EXIST. CATCH BASIN OR INLET
- PROP. CATCH BASIN OR INLET
- EXIST. BEEHIVE INLET
- PROP. BEEHIVE INLET
- EXIST. ROOF DRAIN
- EXIST. DOWNSPOUT
- PROP. DOWNSPOUT
- EXIST. SANITARY SEWER
- PROP. SANITARY SEWER
- EXIST. CLEANOUT
- PROP. CLEANOUT
- TELEPHONE RISER
- CABLE TELEVISION RISER
- ELECTRIC METER
- WATER METER
- GAS METER
- PROP. VEHICLE CHARGING STATION

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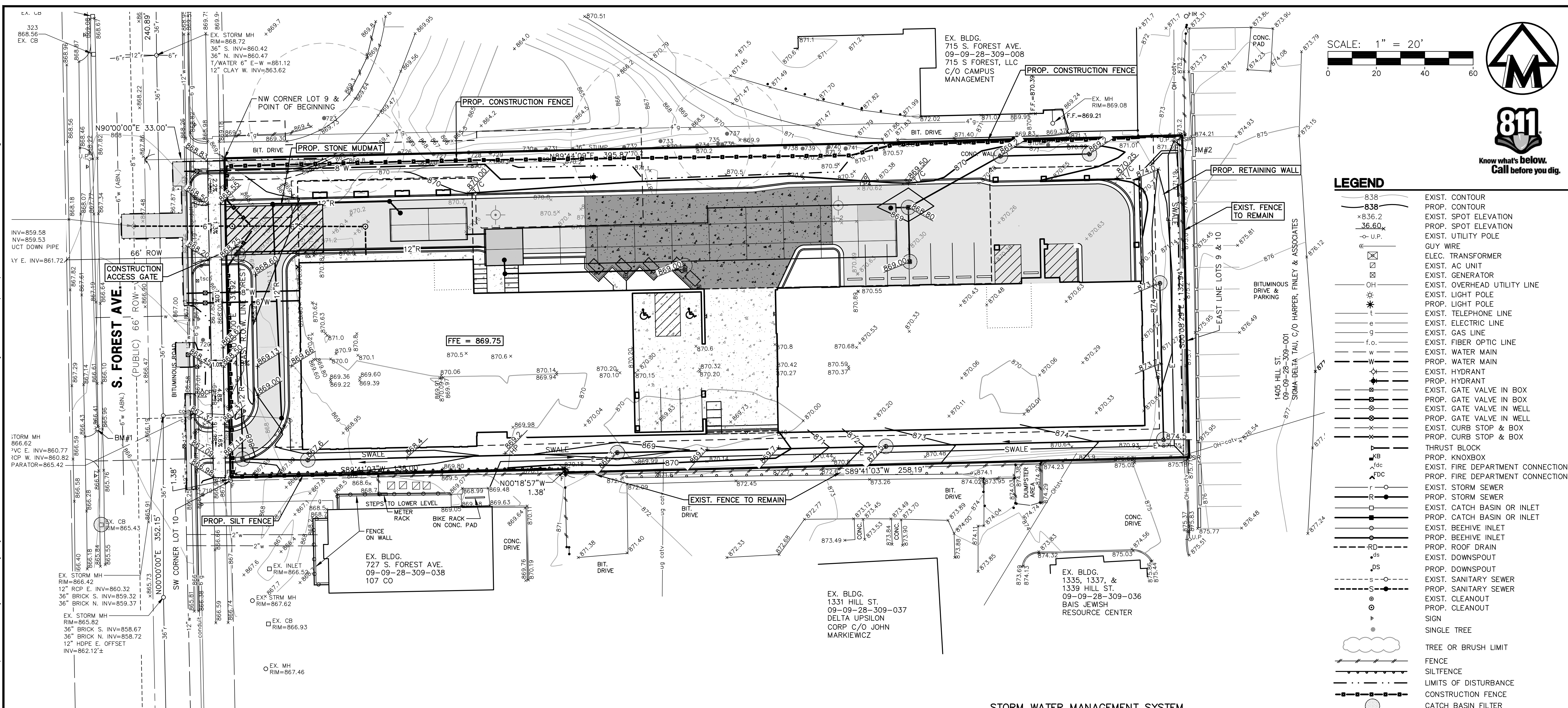
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 UTILITY PLAN

5
 JOB No. **22170**
 DATE: 9/21/22
 SHEET 5 OF 22
 REV. DATE: 11/18/22
 PER CITY REVIEW: ENG. JCA
 PER CITY REVIEW: 12/30/22
 PER CITY REVIEW: ENG. JCA
 PER CITY REVIEW: P.M. SWB
 PER CITY REVIEW: TECH: JWB
 PER CITY REVIEW: /ZZ170UP1

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M:\Civ\132_P\132170\Site Plan\132170SP1.dwg, 3/1/2023 7:41 AM, Jim Albert, 6 GRADING AND SOIL EROSION CONTROL PLAN, MCLLC PDF, ps3
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36.60	PROP. SPOT ELEVATION
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TRANSFORMER	ELEC. TRANSFORMER
AC UNIT	EXIST. AC UNIT
GENERATOR	EXIST. GENERATOR
OVERHEAD UTILITY LINE	EXIST. OVERHEAD UTILITY LINE
LIGHT POLE	EXIST. LIGHT POLE
TELEPHONE LINE	EXIST. TELEPHONE LINE
ELECTRIC LINE	EXIST. ELECTRIC LINE
GAS LINE	EXIST. GAS LINE
FIBER OPTIC LINE	EXIST. FIBER OPTIC LINE
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PROP. WATER MAIN	PROP. WATER MAIN
HYDRANT	EXIST. HYDRANT
PROP. HYDRANT	PROP. HYDRANT
GATE VALVE IN BOX	EXIST. GATE VALVE IN BOX
PROP. GATE VALVE IN BOX	PROP. GATE VALVE IN BOX
GATE VALVE IN WELL	EXIST. GATE VALVE IN WELL
PROP. GATE VALVE IN WELL	PROP. GATE VALVE IN WELL
CURB STOP & BOX	EXIST. CURB STOP & BOX
PROP. CURB STOP & BOX	PROP. CURB STOP & BOX
THRUST BLOCK	THRUST BLOCK
PROP. KNOXBOX	PROP. KNOXBOX
EXIST. FIRE DEPARTMENT CONNECTION	EXIST. FIRE DEPARTMENT CONNECTION
PROP. FIRE DEPARTMENT CONNECTION	PROP. FIRE DEPARTMENT CONNECTION
EXIST. STORM SEWER	EXIST. STORM SEWER
PROP. STORM SEWER	PROP. STORM SEWER
EXIST. CATCH BASIN OR INLET	EXIST. CATCH BASIN OR INLET
PROP. CATCH BASIN OR INLET	PROP. CATCH BASIN OR INLET
EXIST. BEEHIVE INLET	EXIST. BEEHIVE INLET
PROP. BEEHIVE INLET	PROP. BEEHIVE INLET
ROOF DRAIN	PROP. ROOF DRAIN
EXIST. DOWNSPOUT	EXIST. DOWNSPOUT
PROP. DOWNSPOUT	PROP. DOWNSPOUT
EXIST. SANITARY SEWER	EXIST. SANITARY SEWER
PROP. SANITARY SEWER	PROP. SANITARY SEWER
EXIST. CLEANOUT	EXIST. CLEANOUT
PROP. CLEANOUT	PROP. CLEANOUT
SIGN	SIGN
SINGLE TREE	SINGLE TREE
TREE OR BRUSH LIMIT	TREE OR BRUSH LIMIT
FENCE	FENCE
SILTFENCE	SILTFENCE
LIMITS OF DISTURBANCE	LIMITS OF DISTURBANCE
CONSTRUCTION FENCE	CONSTRUCTION FENCE
CATCH BASIN FILTER	CATCH BASIN FILTER

STORM WATER MANAGEMENT SYSTEM PERMANENT MAINTENANCE PLAN, SCHEDULE, AND COST ESTIMATE

MAINTENANCE PLAN BUDGET

Annual inspection of system for sediment accumulation	\$350.00
Removal of sediment accumulation every two (2) years, as needed	\$600.00
Inspect for floatables and debris annually and after major storms	\$300.00
Removal of floatables and debris annually and after major storms	\$600.00
Inspect system for erosion annually and after major storms	\$300.00
Re-establish permanent vegetation on eroded slopes, as needed	\$200.00
Clean drives semiannually	\$250.00
Total Annual Budget	\$2,600.00

PERMANENT MAINTENANCE TASKS AND SCHEDULE

Task	Components					Schedule
	Drives and Walks	Storm Sewer System	Catch Basin Sumps	Catch Basin Inlet Castings	Detention Chambers	
Inspect for sediment accumulation	X					annually
Removal of sediment accumulation		X	X		X	every 2 years, as needed
Inspect for floatables and debris		X	X	X	X	annually
Cleaning of floatables and debris		X	X	X	X	annually
Clean streets	X					semi-annually

SOIL EROSION CONTROL NOTES

- All soil erosion control measures shall comply with the current City of Ann Arbor ordinances, Washtenaw County standards and specifications for soil erosion and sedimentation control, and State of Michigan "Soil Erosion and Sedimentation Control Act - P.A. 347".
- Prior to commencing earthmoving operations, the grading contractor shall install the temporary catch basin filter(s) shown on the plans.
- The removal of trapped sediment and the cleanout or replacement of clogged storm may be necessary after each storm event during the project.
- Only upon stabilization of all disturbed areas may the temporary gravel filters be removed. All storm sewers must be also cleaned of all sediment.
- All inlets and catch basins will have sediment filters installed after their construction. These filters will be maintained until all areas around the structure have been stabilized.
- The Contractor will maintain all necessary soil erosion control devices until soil stabilization has occurred.
- Appropriate emergency access will be provided during construction.
- The estimated cost of soil erosion control measures is \$4000.
- The estimated cost to protect all soil surfaces from erosion should construction discontinues is \$3000.
- External streets will be immediately cleaned of any tracked mud following each mud-tracking occurrence.
- Estimated project earthwork is 6,000 CYD excavation and 1,000 CYD fill. This number is an estimate only and should not be used for construction or estimating purposes.
- Dewatering operations during construction, if necessary, must be done per City requirements including sediment control and disposal.
- Final locations and dimensions of the mud tracking mat and concrete washout area are to be determined by the contractor subject to City approval.

MAINTENANCE PROGRAM FOR SOIL EROSION CONTROLS

- The Owner shall be responsible for maintaining the permanent soil erosion control measures. Maintenance responsibilities shall become part of any sales or exchange agreement for the land on which the permanent SESC measures are located.

OPERATION TIME SCHEDULE BEGINNING JUNE 2023

CONSTRUCTION SEQUENCE	2023		2024			2025							
	AUG.	SEP.	OCT.	NOV.	DEC.	JAN.	FEB.	MARCH	APRIL	MAY	JUNE	JULY	AUG.
SESC PRE-GRADING MEETING													
INSTALL AND MAINTAIN SOIL EROSION CONTROL MEASURES AS REQUIRED													
BUILDING DEMOLITION													
UTILITY INSTALLATION AND SITE DEMOLITION													
MASS EXCAVATION													
FOUNDATION CONSTRUCTION													
BUILDING CONSTRUCTION													
FINAL GRADE SITE													
PLACE MULCH AND SEEDING													
FINAL CLEAN-UP & REMOVAL OF SOIL EROSION CONTROLS													

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MIDWESTERN CONSULTING
3845 Plaza Drive Ann Arbor, Michigan 48108
(734) 995-0200 • www.midwesternconsulting.com
Land Development • Land Survey • Institutional • Municipal
Wireless Communications • Transportation • Landfill Services

VERVE ANN ARBOR
SITING AND PUD REZONING FOR CITY COUNCIL
GRADING AND SOIL EROSION CONTROL PLAN

6

DATE: 9/21/22
SHEET: 6 OF 22
REV. DATE: 11/18/22
PER CITY REVIEW: 12/30/22
PER CITY REVIEW: 2/15/23
TECH: JZL/TGP/PT

JOB No. **22170**
REV. DATE: 11/18/22
PER CITY REVIEW: 12/30/22
PER CITY REVIEW: 2/15/23
TECH: JZL/TGP/PT

CLIENT: VERVE ANN ARBOR FOREST, LLC
3000 LOCUST STREET
ST. LOUIS, MO 63103
RYAN BUMB
314-396-2835

Table with 6 columns: Cover Type, Soil Type, Area (sq ft), Area (ac), Runoff Coeff (C), (C) x Area. Rows include Building, Pavement, Grass (A, B, C, D), and Water Surface.

Table with 6 columns: Cover Type, Soil Type, Area (sq ft), Area (ac), Curve Number, (CN) x Area. Rows include Building, Pavement, Grass, and Water Surface.

Table with 6 columns: Cover Type, Soil Type, Area (sq ft), Area (ac), Curve Number, (CN) x Area. Rows include Building, Pavement, Grass, and Water Surface.

W2 - First Flush Runoff Calculations (Vf1)
A. Vfr = 1" x 11/12" x 43560 sq ft/ac x A x C where A = 1.21 and where C = 0.79
Vfr = 1" x 11/12" x 43560 sq ft/ac x 1.21 x 0.79 = 3,458 cft

W3 - W3 - Pre-Development Bankfull Runoff Calculations (Vof-pr)
A. 2 year / 24 hour storm event: Pr = 2.35 in
B. Pre-Development CN: CN = 58
C. S = (1000 / CN) - 10: S = 7,241 in
D. Q = [(P-0.25)/2] / (P+0.85): Q = 0.100 in
E. Total Site Area excluding "Self-Crediting" BMPs: Q = 52,529 sq ft
F. Vof-pr = Q x (1/12) x Area: Vof-pr = 437 cft

W4 - Pervious Cover Post-Development Bankfull Runoff Calculations (Vof-per-post)
A. 2 year / 24 hour storm event: Pr = 2.35 in
B. Pervious Cover CN From Worksheet 1: CN = 69
C. S = (1000 / CN) - 10: S = 4,493 in
D. Q = [(P-0.25)/2] / (P+0.85): Q = 0.354 in
E. Pervious Cover Area from Worksheet 1: Q = 12,329 sq ft
F. Vof-per-post = Q x (1/12) x Area: Vof-per-post = 364 cft

W5 - Impervious Cover Post-Development Bankfull Runoff Calculations (Vof-imp-post)
A. 2 year / 24 hour storm event: Pr = 2.35 in
B. Impervious Cover CN From Worksheet 1: CN = 98
C. S = (1000 / CN) - 10: S = 0.204 in
D. Q = [(P-0.25)/2] / (P+0.85): Q = 2.122 in
E. Impervious Cover Area from Worksheet 1: Q = 40,200 sq ft
F. Vof-imp-post = Q x (1/12) x Area: Vof-imp-post = 7,108 cft

W6 - W6 - Pervious Cover Post-Development 100-Year Runoff Calculations (V100-per-post)
A. 100 year / 24 hour storm event: Pr = 5.11 in
B. Pervious Cover CN From Worksheet 1: CN = 69
C. S = (1000 / CN) - 10: S = 4,493 in
D. Q = [(P-0.25)/2] / (P+0.85): Q = 0.354 in
E. Pervious Cover Area from Worksheet 1: Q = 12,329 sq ft
F. V100-per-post = Q x (1/12) x Area: V100-per-post = 2,094 cft

W7 - W7 - Impervious Cover Post-Development 100-Year Runoff Calculations (V100-imp-post)
A. 2 year / 24 hour storm event: Pr = 5.11 in
B. Impervious Cover CN From Worksheet 1: CN = 98
C. S = (1000 / CN) - 10: S = 0.204 in
D. Q = [(P-0.25)/2] / (P+0.85): Q = 4.873 in
E. Impervious Cover Area from Worksheet 1: Q = 40,200 sq ft
F. Vof-imp-post = Q x (1/12) x Area: Vof-imp-post = 16,325 cft

W8 - Time of Concentration (Tc-hrs)
A. Assume 15-minute minimum time of concentration: Tc = 0.25 hr

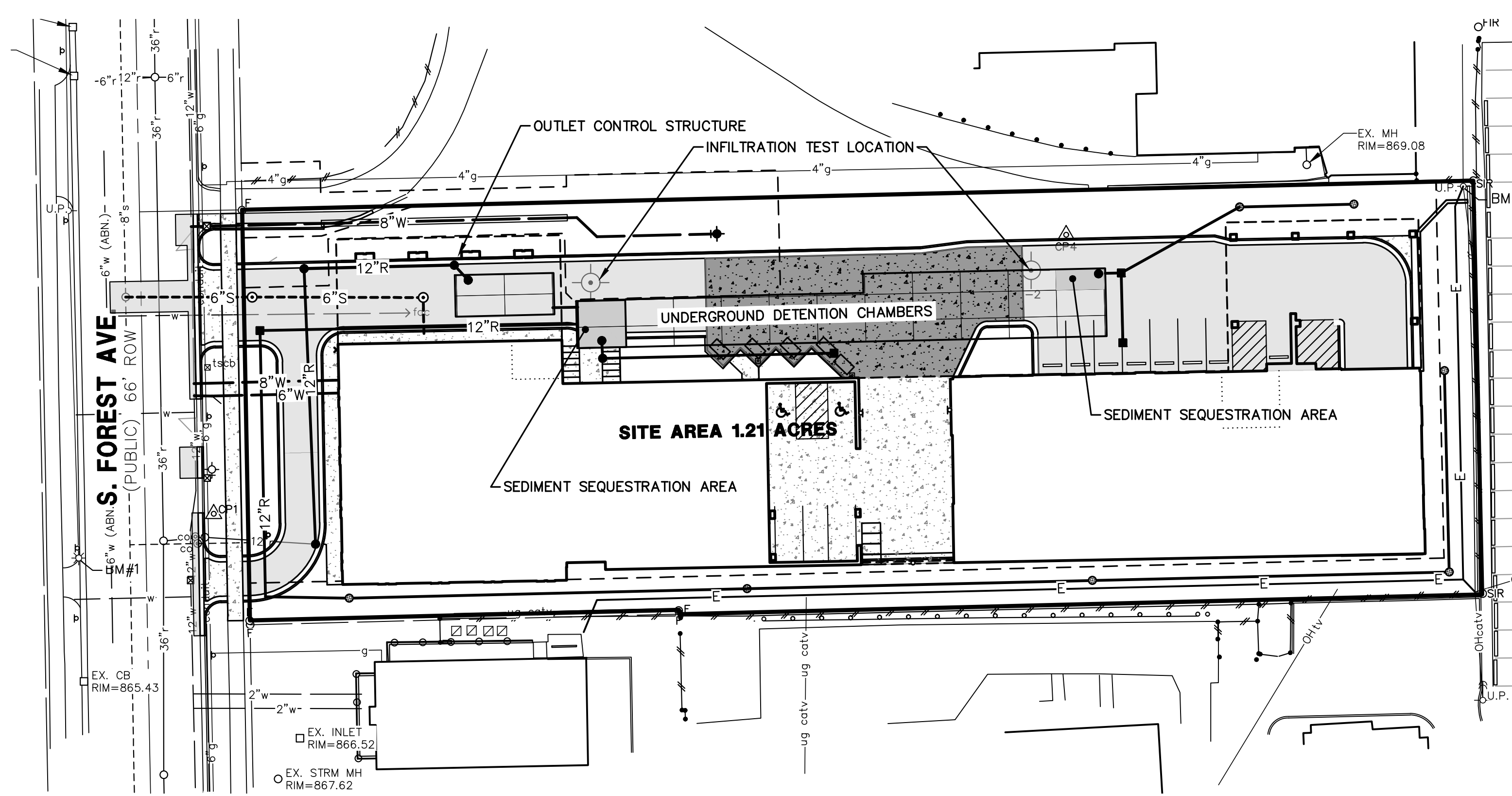
W9 - Runoff Summary & On-Site Infiltration Requirement
A. Summary from Previous Worksheets
First Flush Volume (Vf1): 3,458 cft
Pre-Development Bankfull Runoff Volume (Vof-pr): 437 cft
Pervious Cover Post-Development Bankfull Runoff Volume (Vof-per-post): 364 cft
Impervious Cover Post-Development Bankfull Runoff Volume (Vof-imp-post): 7,108 cft
Total BF Volume (Vof-pr + Vof-per-post + Vof-imp-post): 7,472 cft
Pervious Cover Post-Development 100-Year Volume (V100-per-post): 2,094 cft
Impervious Cover Post-Development 100-Year Volume (V100-imp-post): 16,325 cft
Total 100-Year Volume (V100): 18,419 cft
B. Determine On-site Infiltration Requirement
Subtract the Pre-Development Bankfull from the Post-Development Bankfull Volume
Total Post-Development Bankfull Volume (Vof-post): 7,472 cft
Pre-Development Bankfull Runoff Volume (Vof-pr): 437 cft
Bankfull Volume Difference: 7,035 cft
Infiltration Requirement (Vin): 7,035 cft

W10 - Detention/Retention Requirement
A. Qp = 238.6 Tc^0.82: 743.63 cfs/in x sq. mi
B. Total Site Area excluding "Self-Crediting" BMPs: 1.21 ac
C. Q100 = Q100-per + Q100-imp: 6,911 in
D. From W6 and W7, respectively
E. Peak Flow (PF) = Qp x Q100 x Area / 640: 9.68 cfs
F. Delta = PF - 0.15 x Area (ac): 9.50 cfs
G. Vdet = Delta / PF x V100: 18,074 cft
Required Detention not including infiltration credit or penalty: 18,074 cft
Sediment Forebay Volume Required (5% of V100): 921 cft

Table with 5 columns: Proposed BMP, Area (sq ft), Surface, Design Infiltr. Rate (in/hr), Infiltr. Volume in 6-hr Drawdown (cft), Total Volume Reduction (cft). Rows include Pervious Paving, Infiltration Bed, Subsurface Infiltration Bed, Infiltration Trench, Bioretention Systems, Rain Gardens, Dry Well, Biocells, Vegetated Filter Strip, Green Roof.

W11 - Determine Applicable BMPs and Associated Volume Credits
Total Volume Reduction Credit by Proposed Structural BMPs (cft): 19,424
Runoff Volume Infiltration Requirement (Vinf) from W9 (cft): 7,035
Runoff Volume Credit (cft): 12,389

W13 - Site Summary of Infiltration & Detention
A. Stormwater Management Summary
Min Infiltration Requirement (Vin): 7,035 cft
Designed/Provided Infiltration Volume: 19,424 cft
% Minimum Required Infiltration Provided: 276 %
Total Calculated Detention Volume: Vdet: 18,074 cft
Net Required Detention Volume: -1,350 cft
(Vdet - Designed/Provided Infiltration Volume)
B. Detention Volume Increase for sites where the required infiltration volume cannot be achieved.
% Required Infiltration NOT Provided: 0.0 %
(100% - % Minimum Required Infiltration Provided)
Net % Penalty (20% x % Required Infiltration NOT Provided): 0.0 %
Total Required Detention Volume, including penalty: 18,074 cft
(100% + Net % Penalty) x Net Required Detention Volume



SCALE: 1" = 30'
LEGEND
U.P. - U.P.
ELEC. TRANSFORMER
EXIST. AC UNIT
EXIST. GENERATOR
EXIST. OVERHEAD UTILITY LINE
EXIST. LIGHT POLE
PROP. LIGHT POLE
EXIST. TELEPHONE LINE
EXIST. ELECTRIC LINE
EXIST. GAS LINE
EXIST. FIBER OPTIC LINE
EXIST. WATER MAIN
PROP. WATER MAIN
EXIST. HYDRANT
PROP. HYDRANT
EXIST. GATE VALVE IN BOX
PROP. GATE VALVE IN BOX
EXIST. GATE VALVE IN WELL
PROP. GATE VALVE IN WELL
EXIST. CURB STOP & BOX
PROP. CURB STOP & BOX
PROP. FIRE DEPARTMENT CONNECTION
EXIST. STORM SEWER
PROP. STORM SEWER
EXIST. CATCH BASIN OR INLET
PROP. CATCH BASIN OR INLET
PROP. BEEHIVE INLET
EXIST. SANITARY SEWER
PROP. SANITARY SEWER
EXIST. CLEANOUT
PROP. CLEANOUT
SIGN
FENCE
INFILTRATION TEST LOCATION

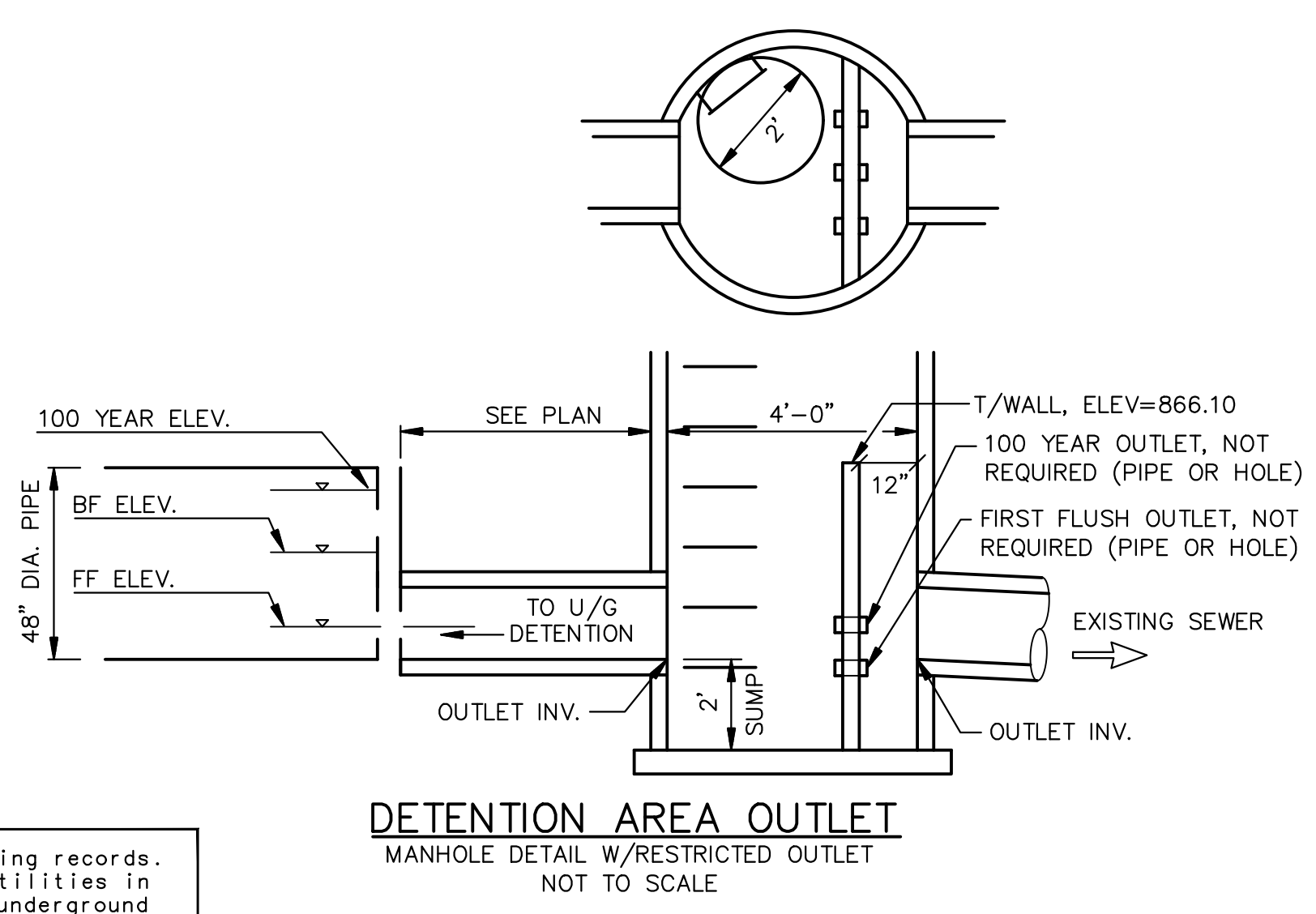
Detention Outlet Calculations
A. Required Detention Volumes (Reduced by 6-hour infiltration)
Storm Event Req'd Volume less Infil. Credit = Final Volume
First Flush: 3,458 cft - 6,028 cft = (2,570) cft
Bankfull: 7,472 cft - 6,028 cft = 1,444 cft
100-year: 18,074 cft - 6,028 cft = 12,046 cft
Forebay Volume Required (5% of 100-yr) = 602 cft

B. Detention Volumes Provided
Table with 5 columns: Elevation, Area (sq ft), Depth (ft), Volume (cft), Cum. Volume (cft). Rows show elevations from 862.5 to 868.5.

Storage Elevation Calculation
Bankfull Elevation (Xbf) = 863.0 - 862.5 = Xbf = 862.93 ft
100-Year Elevation (X100) = 866.5 - 866.0 = X100 = 866.10 ft

C. Full Infiltration Design
Total Storage Volume: 18,074 cft
Infiltration Area: 3349 sq ft
Infiltration Rate, Average: 3.60 in/hr
Infiltration Flow Rate: 1004.70 cft/hr
Time to Fully Drain: 18.0 hr
This is less than 48 hours max, so the basin complies with the drawdown requirement.

UNDERGROUND DETENTION NOTES:
STORMWTR DETENTION/INFILTRATION IS PROPOSED UTILIZING STORMTRAP PRECAST CONCRETE CHAMBERS PLACED ON STONE BEDDING.
BOTTOM OF STONE = 861.50
TOP OF STONE = 862.50
TOP OF CHAMBERS = 876.75

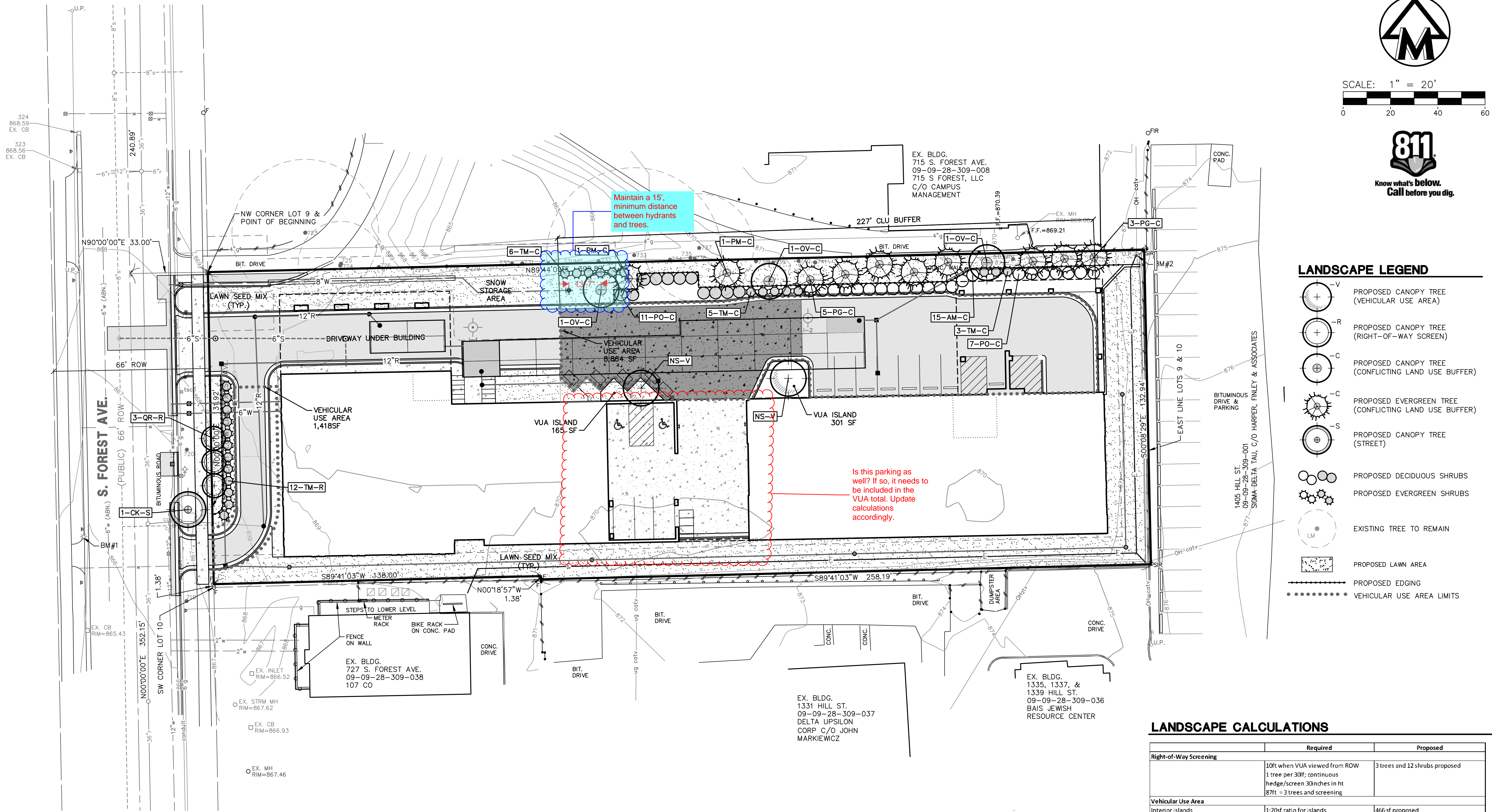


Soil Boring No. 1-01
SUBSURFACE PROFILE and SOIL SAMPLE DATA table with columns for ELEV. (ft), PRO. FILE, GROUND SURFACE ELEVATION, DEPTH (ft), SAMPLE TYPE, BLOW/5 FEET, STD. WTL. RESISTANCE (lb), MOISTURE CONTENT (%), DRY DENSITY (pcf), LIQUID LIMIT (PL), and UNIFORM CORN. STRENGTH (psf).

Soil Boring No. 1-02
SUBSURFACE PROFILE and SOIL SAMPLE DATA table with columns for ELEV. (ft), PRO. FILE, GROUND SURFACE ELEVATION, DEPTH (ft), SAMPLE TYPE, BLOW/5 FEET, STD. WTL. RESISTANCE (lb), MOISTURE CONTENT (%), DRY DENSITY (pcf), LIQUID LIMIT (PL), and UNIFORM CORN. STRENGTH (psf).

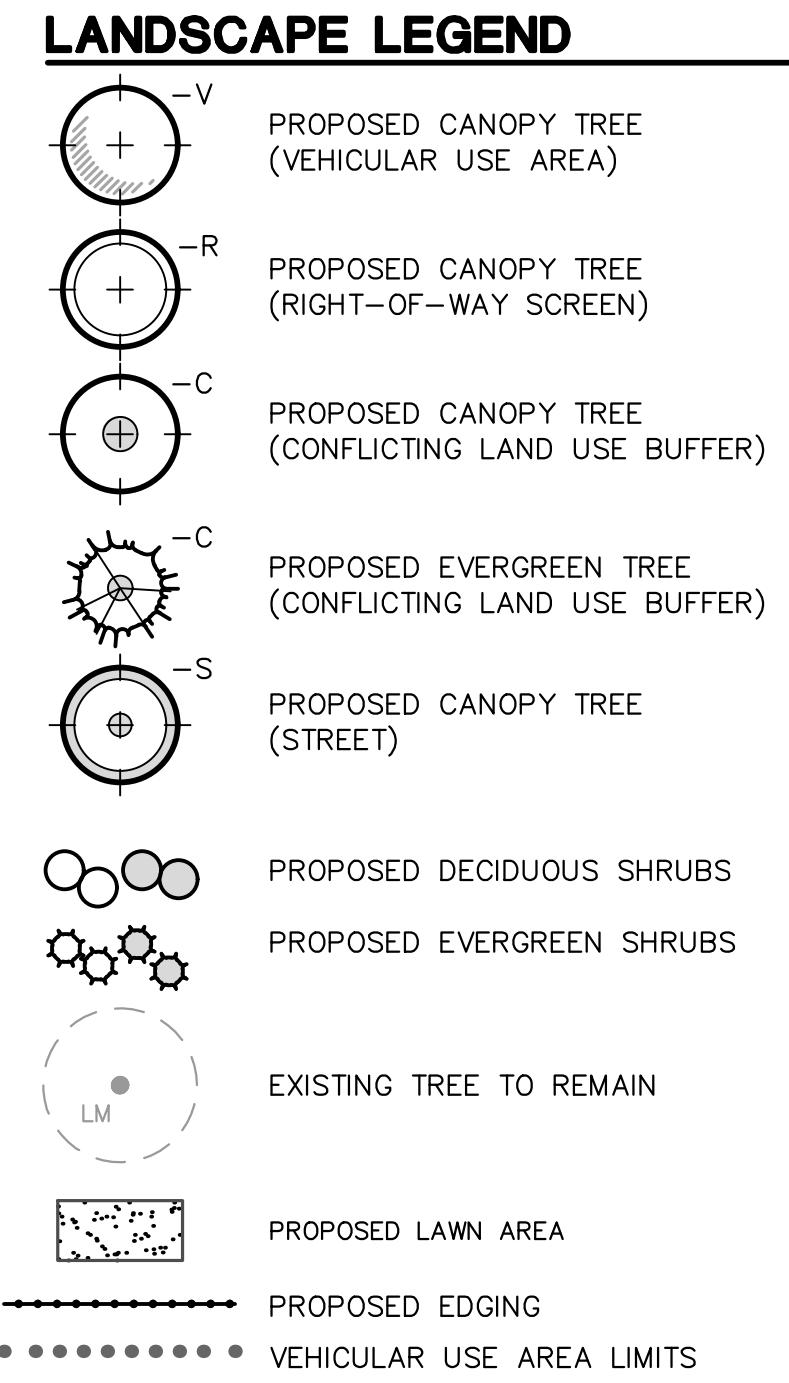
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VERVE ANN ARBOR
SITE PLAN AND PUD REZONING FOR CITY COUNCIL
STORM WATER MANAGEMENT PLAN
7
JOB No. 22170
DATE: 9/21/22
SHEET 7 OF 22
REV. DATE: 11/18/22
ENG. JCA
ADD: JCA
P.M. SWB
TECH: SWB
/22/17/22



Maintain a 15' minimum distance between hydrants and trees.

Is this parking as well? If so, it needs to be included in the VUA total. Update calculations accordingly.



PLANT SCHEDULE

Total	Street (-S)	VUA (-V)	ROW (-R)	CLU (-C)	Symbol	Botanical Name	Common Name	Size	Spacing	Root	Remarks
19	1	2	3	13	Total						
1	1				CK	Cornus kousa	Kousa Dogwood	2" cal.	15' o.c.	B&B	single stem
2		2			NS	Nyssa sylvatica	Black Gum	2.5" cal.	15' o.c.	B&B	Single Stem
3			3		OV	Ostrya virginiana	Hop Hornbeam	2.5" cal.	15' o.c.	B&B	
8			8		PC	Picea glauca	White Spruce	8" ht.	15' o.c.	B&B	Full
2			2		PM	Picea mariana	Black Spruce	8" ht.	15' o.c.	B&B	Full
3			3		QR	Quercus robur x alba 'Crimchmidt'	Crimson Spire Oak	2.5" cal.	10' o.c.	B&B	fastigate
15			15		AM	Aronia melanocarp 'autumn magic'	Autumn Magic chokeberry	24" ht.	5' o.c.	#5 cont.	
18			18		PO	Physocarpus opulifolius 'Little Devil'	Little Devil Ninebark	3-4' ht.	5' o.c.	#5 cont.	
20			12	8	TM	Taxus x media 'Densiformis'	Densiformis yew	18-24" ht.	5' o.c.	#5 cont.	

LANDSCAPE CALCULATIONS

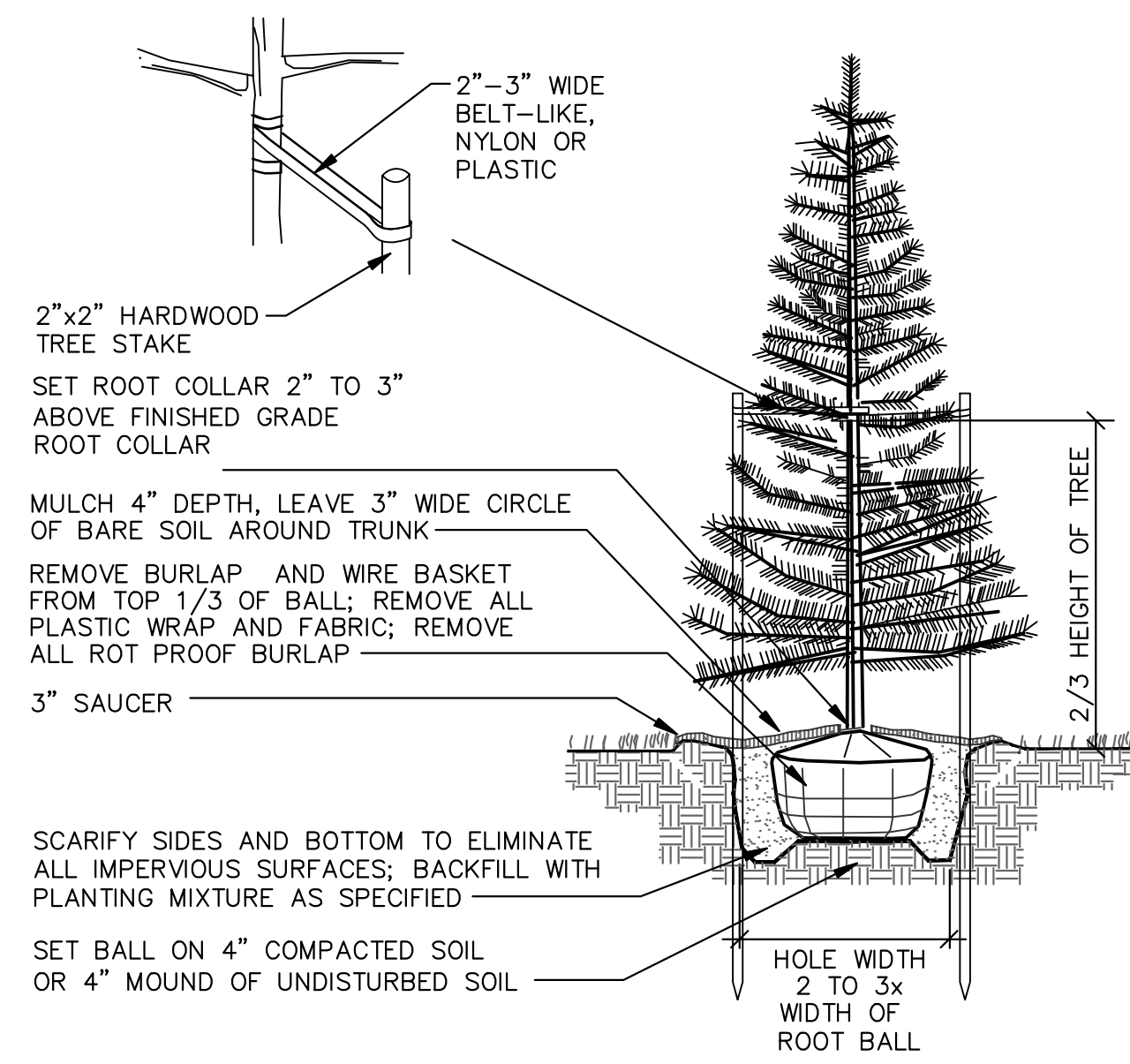
	Required	Proposed
Right-of-Way Screening	10ft when VUA viewed from ROW 1 tree per 30ft; continuous hedge/screen 30inches in ht 87ft = 3 trees and screening	3 trees and 12 shrubs proposed
Vehicular Use Area		
Interior islands	1:20f ratio for islands 8,864 sf / 20 = 443 sf islands	466 sf proposed
Bio-retention Island	if >750sf islands; 50% bioretention	Not applicable - required interior landscape area less than 750sf
Interior island trees	1 tree per island; 1 tree per 250sf island	2 trees proposed
Snow pile storage	identify locations on plan	identified on landscape plan
Conflicting Land Use Buffer	when adjacent to public park and R4 adjacent to residential purposes	15ft wide; 1 tree per 15ft, 50% evergreen; continuous screening 4ft high
Street Trees		
Street trees	1 tree per 45ft minus curb cuts 87ft / 45ft = 2 trees	1 proposed tree, 1 existing tree (720)
Street tree canopy loss fee	total dbh removed - caliper replacement trees x \$244 per inch (5in - 2in) x \$244 = \$732	\$732 to City Tree Fund prior to issuing building permits **
Tree Mitigation	50% dbh of LM tree removed	Not applicable - no landmark trees proposed to be removed

* A CLUB is provided along the vehicular use area however as part of the PUD approval relief from providing a CLUB around the perimeter of the parcel is requested.
 ** When applying for a grading permit, a ROW Street Tree Permit will also be required. There is no cost for this permit. Include the project number (SP22-2013) on the application. The Canopy Loss Fee will be invoiced through that permit.

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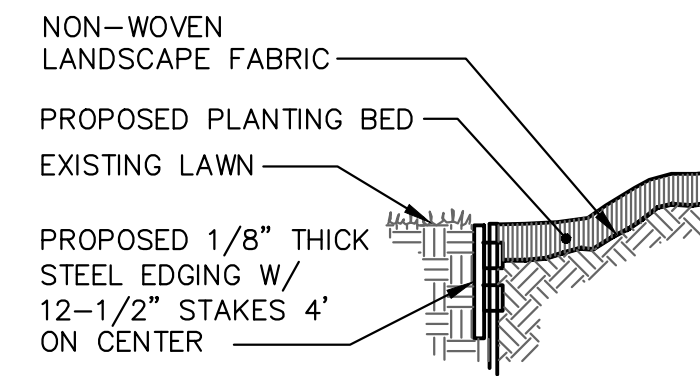
M:\Civ\136_P\01\22170\Site Plan\22170L01.dwg, 3/1/2023 7:41 AM, Jim Ahnert, 9 LANDSCAPE NOTES AND DETAILS, MCLLC PDF ps3
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NOTE: A: STAKING IS ONLY REQUIRED IF THE SITE IS WINDY OR THE TREES ARE GREATER THAN 3" CALIPER. IF TREES MUST BE STAKED, THE STAKED SHALL BE REMOVED IN ONE YEAR.



EVERGREEN TREE PLANTING DETAIL
NOT TO SCALE

NOTE: MATERIALS TO BE FLUSH WITH THE TOP OF EDGING



STEEL EDGING DETAIL
NOT TO SCALE

3 SECTIONS OF 2 PLY REINFORCED HOSE PER TREE

NOTE: PRUNE 20% OF BRANCHES RETAINING NORMAL PLANT SHAPE. TREE SHALL BEAR SAME RELATION TO FINISH GRADE AS IN NURSERY.

DO NOT CUT LEADER

2 PLY REINFORCED RUBBER HOSE POSITIONED DIRECTLY ABOVE FIRST BRANCH

12-14 GA. GALV. DOUBLE STRAND TWISTED GUYING WIRE, 3 GUYS PER TREE, 120" APART

TREE WRAP

4" MULCH AS SPECIFIED REMOVE BURLAP FROM TOP 1/3 OF BALL; REMOVE ALL PLASTIC WRAP AND FABRIC; REMOVE ALL ROT PROOF WRAP

3" SAUCER

2"x 2"x 30" GUYING STAKE

SCARIFY SIDES AND BOTTOM TO ELIMINATE IMPERVIOUS SURFACES; BACKFILL WITH PLANTING MIXTURE AS SPECIFIED

SET BALL ON 4" COMPACTED SOIL OR 4" MOUND OF UNDISTURBED SUBGRADE

DECIDUOUS TREE - PLANTING DETAIL
SCALE : NTS

DO NOT TRIM EVERGREENS
SHRUB SHALL BEAR SAME RELATION TO FINISH GRADE AS IN NURSERY
DO NOT PLANT SHRUBS TO WITHIN 42" OF TREE TRUNKS IN SHRUB BEDS

4" MULCH AS SPECIFIED

3" SAUCER

REMOVE BURLAP FROM TOP 1/3 OF BALL; REMOVE ALL PLASTIC WRAP AND FABRIC; REMOVE ALL ROT PROOF WRAP

PLANT MIXTURE AS SPECIFIED

SCARIFY SIDES & BOTTOM TO ELIMINATE IMPERVIOUS SURFACES

SET BALL ON 4" COMPACTED SOIL OR 4" MOUND OF UNDISTURBED SUBGRADE

SHRUB PLANTING DETAIL
NOT TO SCALE

NOTE: PRUNE 20% OF BRANCHES AND FOLIAGE RETAINING NORMAL PLANT SHAPE

SHAPE DO NOT TRIM EVERGREENS

SHRUB SHALL BEAR SAME RELATION TO FINISH GRADE AS IN NURSERY

DO NOT PLANT SHRUBS TO WITHIN 42" OF TREE TRUNKS IN SHRUB BEDS

4" MULCH AS SPECIFIED

3" SAUCER

REMOVE BURLAP FROM TOP 1/3 OF BALL; REMOVE ALL PLASTIC WRAP AND FABRIC; REMOVE ALL ROT PROOF WRAP

PLANT MIXTURE AS SPECIFIED

SCARIFY SIDES & BOTTOM TO ELIMINATE IMPERVIOUS SURFACES

SET BALL ON 4" COMPACTED SOIL OR 4" MOUND OF UNDISTURBED SUBGRADE

EVERGREEN SHRUB PLANTING DETAIL
NOT TO SCALE

LANDSCAPE NOTES

- For any plant quantity discrepancies between the plan view and the plant schedules, the plant schedule shall take precedence.
- Plant materials shall be selected and installed in accordance with standards established by the City of Ann Arbor.
- In-ground automatic irrigation shall be provided for all landscaped planting or water outlets shall be provided within 150 feet of all required plantings.
- All diseased, damaged or dead material shown on the site plan as proposed plantings shall be replaced by the end of the following growing season.
- Restore disturbed areas with a minimum of four (4) inches of topsoil and then seed/fertilize/mulch.
- All disturbed areas not to be seeded with seed mixes identified on the Landscape Plan shall be lawn areas. Fertilizer for the initial installation of lawns shall provide not less than one (1) pound of actual nitrogen per 1,000 sq ft of lawn area and shall contain not less than two percent (2%) potassium and four percent (4%) phosphoric acid.
Lawn (turfgrass) seed mix shall consist of:
15% Park Kentucky Bluegrass
10% Park Kentucky Bluegrass
40% Ruby Creeping Red Fescue
15% Pennine Perennial Ryegrass
20% Scalds Hard Fescue
Seed shall be applied at a rate of five pounds (5 lbs) per 1000 sq ft. Mulch within 24 hours with two (2) tons of straw per acre, or 71 bales of excelsior mulch per acre. Anchor straw mulch with spray coating of adhesive material applied at the rate of 150 gals. / acre.
7. After the first growing season, only fertilizers that contain NO phosphorus shall be used on the site.
8. All seeded areas with slopes less than 1:3 (one vertical foot for every 3 horizontal feet) shall be mulched with straw mulch at the rate of two (2) bales per 1,000 square feet. All seeded areas with slopes greater than 1:3 shall be seeded and biodegradable erosion control blanket North American Green SC150, or equivalent, shall be applied with biodegradable stakes.
9. Deciduous plants shall be planted between March 1 and May 15 and from October 1 until the prepared soil becomes frozen. Evergreen plants shall be planted between March 1 and June 1 and from August 15 to September 15.
10. All planting beds are to receive four (4) inches of shredded hardwood bark mulch.
11. All trees to be located a minimum of 10 feet from public utilities.
12. All single trunk, deciduous trees shall have a straight and a symmetrical crown with a central leader. One sided trees or those with thin or open crowns shall not be accepted.
13. All evergreen trees shall be branched fully to the ground, symmetrical in shape and have not been sheared in the last three (3) growing seasons.
14. All compacted subgrade soils in proposed landscape areas shall be tilled to a minimum 12-inch depth prior to placement of topsoil, geotextile fabric, or other planting media as specified.
15. Proposed trees will be planted a minimum of 15 feet apart.
16. Planting Soil: Existing, in-place or stockpiled topsoil. Supplement with imported topsoil as needed. Verify suitability of existing surface soil to produce viable planting soil. Final approval of soil composition shall be provided by the landscape contractor. Remove stones, roots, plants, sod, clods, clay lumps, pockets of coarse sand, concrete slurry, concrete layers or chunks, cement, plaster, building debris, and other extraneous materials harmful to plant growth. Mix surface soil with the following soil amendments to produce planting soil:
a. Ratio of Loose Compost to Topsoil by Volume: 1:4
b. Weight of Lime per 1000 Sq. Ft.: Amend with lime only on recommendation of soil test to adjust soil pH.
c. Weight of Sulfur or Aluminum Sulfate per 1,000 Sq. Ft.: Amend with sulfur or aluminum sulfate only on recommendation of soil test to adjust soil pH.
d. Volume of Sand: Amend with sand only on recommendation of Landscape Architect to adjust soil texture.
e. Weight of Slow-Release Fertilizer per 1,000 Sq. Ft.: Amend with fertilizer only on recommendation of soil test to adjust soil fertility.
17. Snow storage areas are located along the edges and corners of parking areas as shown on the plan.
18. All species deviations must be approved in writing by the City of Ann Arbor prior to installation.
19. The City of Ann Arbor has adopted an ordinance limiting phosphorus in fertilizer. To assist in compliance with the State mandated TMDL for phosphorus within the Middle Huron River basin. Applications of fertilizer beyond the initial topsoil and seeding shall be a fertilizer with no phosphorus.

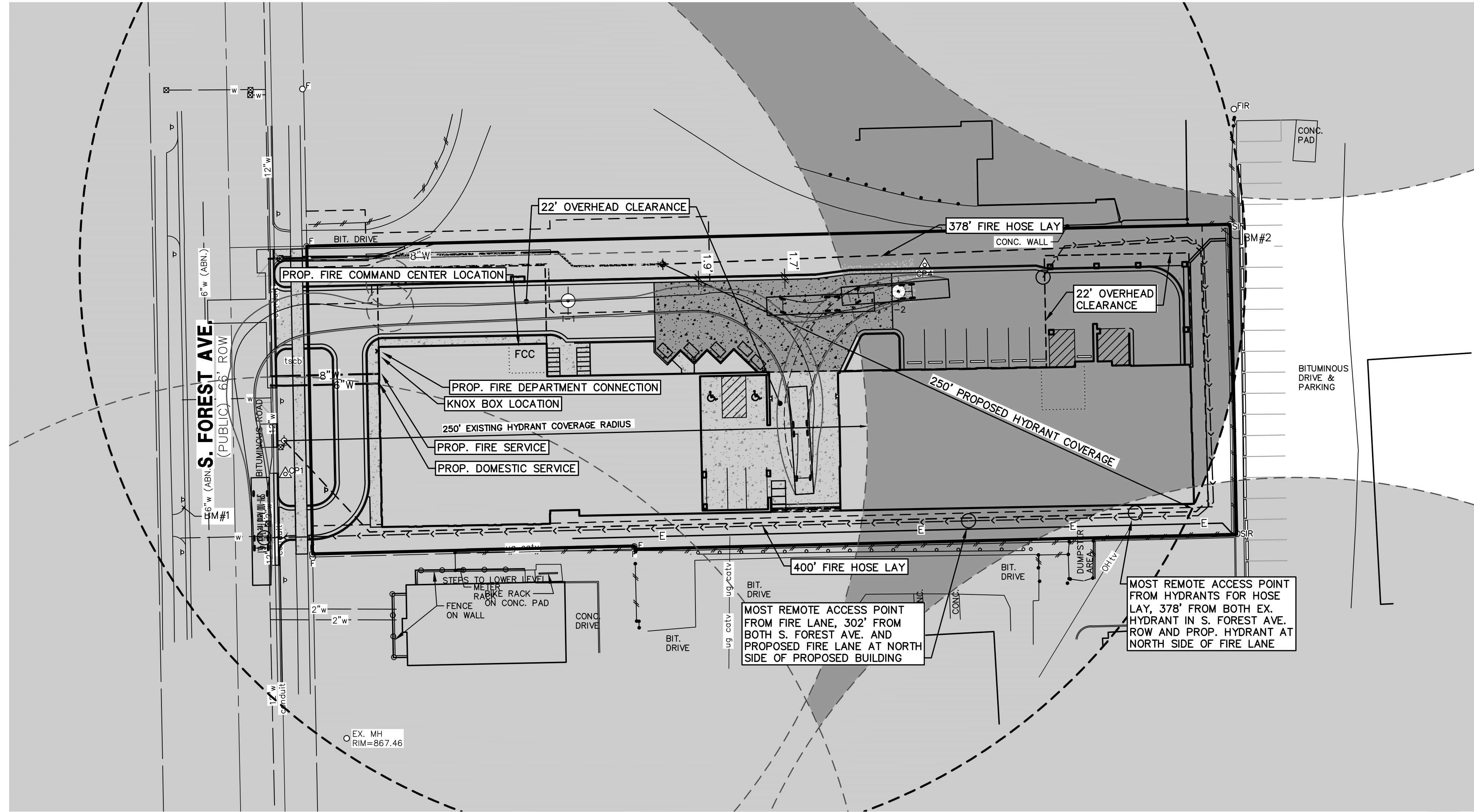
Maintenance:

- Maintain plantings by pruning, cultivating, watering, weeding, fertilizing, mulching, restoring planting saucers, adjusting and repairing tree-stabilization devices, resetting to proper grades or vertical position, and performing other operations as required to establish healthy, viable plantings. Spray or treat as required to keep trees and shrubs free of insects and disease.
- Fill in as necessary soil subsidence that may occur because of settling or other processes. Replace mulch materials damaged or lost in areas of subsidence.
- Apply treatments as required to keep plant materials, planted areas, and soils free of pests and pathogens or disease. Use integrated pest management practices whenever possible to minimize the use of pesticides and reduce hazards. Treatments include physical controls such as hosing off foliage, mechanical controls such as traps, and biological control agents.
- Contractor shall warranty all plant material and trees to remain alive and be in healthy, vigorous and like new condition for the specified period from installation to Substantial Completion. The entire Landscaping Project, including but not limited to: plants (perennials), trees, shrubs, mulches, shrubs, etc are to be under Warranty for One Year after Substantial Completion date of the Project. At the end of the specified One Year Warranty period the Owner's Representative will inspect plant material for compliance. Contractor shall replace, in accordance with the drawings and specifications, all plants, trees, shrubs, etc or as determined by the Owner's Representative, are in an unhealthy or unsightly condition. Warranty shall not include damage or loss of plants, trees, and shrubs caused by fires, floods, freezing rains, lightning storms, or winds over 75 miles per hour, acts of vandalism or negligence on the part of the owner, or any other incident beyond landscape contractor's control.
- Watering: The contractor shall keep seed moist for optimum plant growth (1" of total water per week, including rainfall) until the grass and/or flowers are four (4) inches high typical.
- Protection from traffic and erosion in newly seeded areas is the responsibility of the contractor. Safety fences and/or silt fence with appropriate signage may be used at the contractor's expense until the grasses and flowers are fully established.
- Erosion shall be repaired by the contractor.
- Turf installations shall meet the following criteria as determined by Owner:
a. Satisfactory Seeded Turf: At end of maintenance period, a healthy, uniform, close stand of grass has been established, free of weeds and surface irregularities, with coverage exceeding 90 percent over any 10 sq. ft. and bare spots not exceeding 5 by 5 inches.
b. Satisfactory Sodded Turf: At end of maintenance period, a healthy, well-rooted, even-colored, viable turf has been established, free of weeds, open joints, bare areas, and surface irregularities.
c. Use specified materials to reestablish turf that does not comply with requirements and continue maintenance until turf is satisfactory.

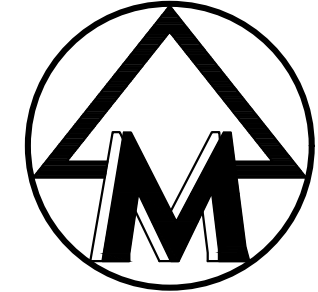
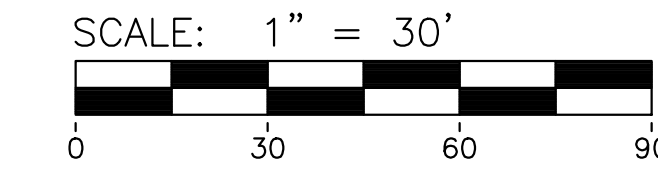
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VERVE ANN ARBOR	
SITE PLAN AND PUD REZONING FOR CITY COUNCIL LANDSCAPE NOTES AND DETAILS	
9	
DATE: 9/21/22	REV. DATE: 11/18/22
SHEET 9 OF 22	ADD: ENG. JCA
	PKM: SWB
	TECH: /ZZZ170L01
JOB No. 22170	
REVISIONS:	
PER CITY REVIEW	

M:\Civ\130_Proj\22170\Site Plan\22170FP-001.dwg, 3/1/2023 7:42 AM, Jim Albert, 10 FIRE PROTECTION PLAN, MCLLC PDF, p03
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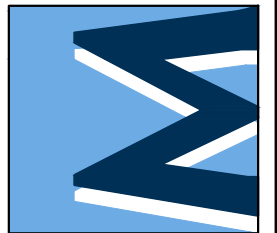
FIRE PROTECTION PLAN



FIRE PROTECTION PLAN NOTES:

1. Water services are to be separate domestic and fire lines.
2. Addressing: numerics shall be a minimum of 4 inches in height and clearly visible when approaching the building.
3. Flow requirements: flow shall comply with NFPA 13 standards and shall meet 2015 International Fire Code (IFC) standards found in Appendix B, Table B 105.1 of the code.
4. Fire department connections (FDC's) shall be within 100 feet of a hydrant.
5. Fire department connection (FDC): hook-up location is subject to Fire Marshal's approval.
6. FDC's shall be 4 inch Storz connections or (2) 2 1/2 inch NST connections.
7. FDC access shall comply with IFC 912.3.
8. FDC signage shall be provided and shall comply with IFC 912.4.
9. Fire protection alarm and detection system shall be in compliance with all applicable codes adopted by the City of Ann Arbor, including NFPA 72, 2007 edition and all other referenced standards.
 - a. A horn strobe device shall be installed above the FDC and shall activate upon sprinkler water flow.
 - b. Emergency responder radio coverage shall comply with 2015 IFC Section 510.
 - c. Emergency voice/alarm communications system shall comply with 2015 IFC Section 907.6.2.2.
 - d. Occupant notification appliances shall activate throughout the notification zones upon sprinkler water flow.
 - e. Place signage on Fire Suppression System Control Room door (IFC 2015 Section 509.1) if applicable.
10. Knox Box emergency access system with keys to access the building, the Fire Suppression System Control Room (if applicable), an elevator key, and any other keys to areas that may be relevant during emergencies will be required. Knox Box with proper keys shall be in place prior to issuance of Certificates of Occupancy for the buildings.
11. The Knox Box shall be mounted no higher than 6 feet from grade in an approved location on the exterior for emergency access to the building as well as access to the Fire Suppression System Control Rooms if applicable.
12. Construction sequencing
 - a. Hydrants must be in service and approved during construction.
 - b. Hydrants providing protection coverage for the building must be in service and approved by both engineering and fire departments before the fire department will support permit issuance for new construction phase and before combustible materials are placed on the job site.
 - c. Storage areas for construction materials must be approved so as not to interfere with fire/emergency site access.
 - d. If site access is to be restricted during construction, Knox Box locks for gates are to be provided.
13. No firewalls will be constructed within the building.
14. Booster pumps will be provided on the domestic water service and the fire suppression water service leads. The pumps shall meet 2015 IFC standards, Section 914.3.1.2.
15. No separate Fire Suppression System Control Room is required.

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VERVE ANN ARBOR FOREST, LLC
3000 LOCUST STREET
ST. LOUIS, MO 63103
RYAN BUMB
314-396-2835

VERVE ANN ARBOR
SITE PLAN AND PUD REZONING FOR CITY COUNCIL
FIRE PROTECTION PLAN

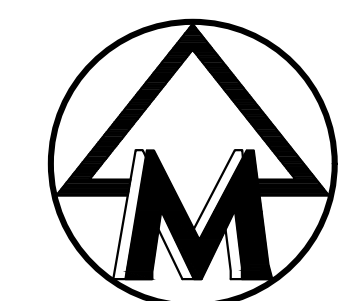
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JOB No.	22170
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MA:CV113E_P01\22170\Site Plan\22170RFP.dwg, 3/1/2023 7:42 AM, Jim Abbott, 11 SOLID WASTE PLAN, MCLL PDF.ppt3
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SCALE: 1" = 30'



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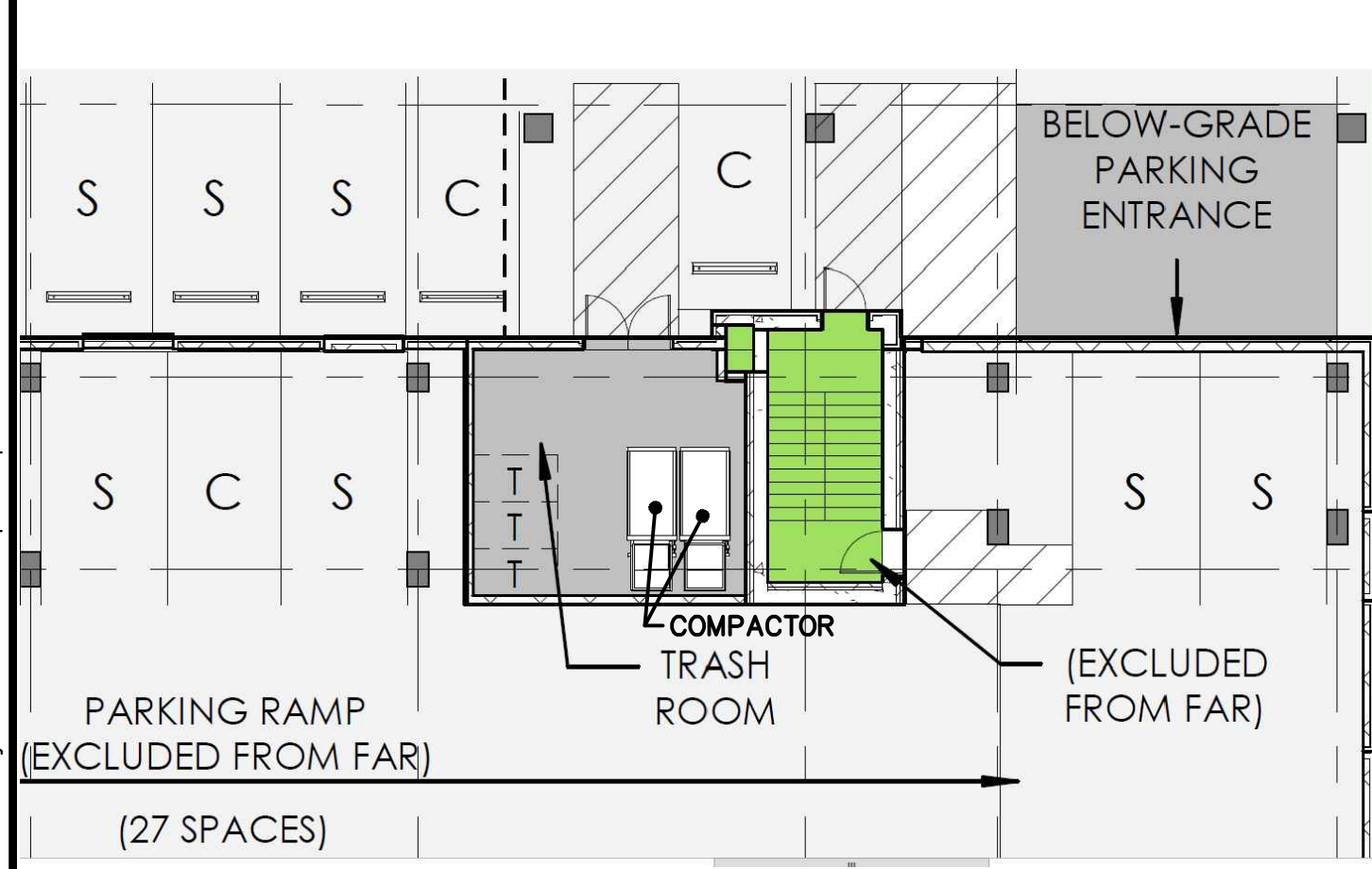
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SOLID WASTE PLAN

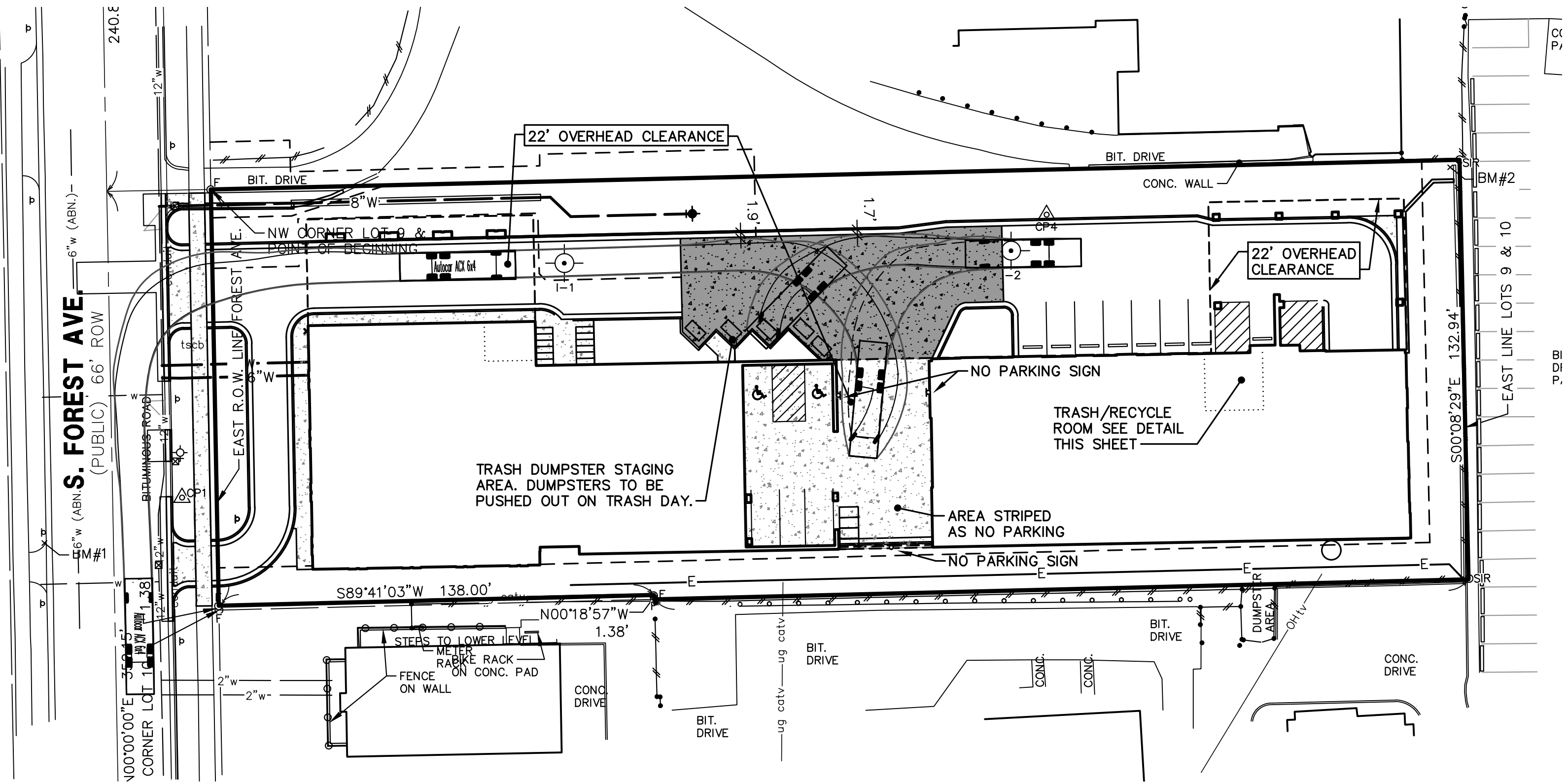
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SHEET 11 OF 22
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REV. DATE: 7/17/23
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TRASH/RECYCLE ROOM DETAIL



SOLID WASTE COLLECTION

Diversified Waste Solutions has reviewed the property information and site plans. Below are the comments and recommendations for the waste and recycling operation at Verve Ann Arbor 721 Forest Ave. Ann Arbor, MI

For the current building and demographic plans, services would be as follows:

- Site services:
• 745 beds x .3 cubic yards = 224 total cubic yards per month generated.
• Weekly volume of 52 cubic yards.
• Trash: 40 yards per week
• Recycling: 12 yards per week
• Hauling:
• Building maintenance staff to stage dumpsters for pickup
• Frequency:
• Once per week
• Twice per week (M F)
• Additional Notes:
• Compost services can be added in the trash room through multiple 96gal cart or 2 yard small container storage.

James Brando
Director of Business Operations
Diversified Waste Solutions
(630) 262-8275
321 Stevens St. Suite A Geneva, IL 60134 James@dwsmgt.com

Refuse and Recyclables Management Plan

The 721 S Forest apartment building will have trash and recycling chutes serving all floors that will deposit Solid Waste and Recyclables in a single solid waste & recycling room on the ground floor where compactors will deposit said solid waste and recyclables into roll able containers. There will be seven (7) three (3) yard rolling compactor containers for trash and four (4) three (3) yard containers for recyclables. Trash and Recycling will be serviced two (2) times per week for trash and two (2) times per week for recyclables with the number of containers serviced on each pick up varying.

These containers will be brought out of the waste/recyclables handling room by the building maintenance staff and moved to the container pick-up staging area outside the waste/recyclables handling room to be serviced by the trash and recyclables collection truck. The emptied containers will then be returned to the waste/recyclables handling room by the building maintenance staff. The rolling containers will not remain outside the waste/recyclables handling room for more than 1 hour after being emptied.

- NOTES:
1. There is a trash room within the building that will utilize 3 cubic-yard self-containing/compacting containers for trash 3 cubic yard poly containers for recycling. Both trash and recycling will be compacted within the building and wheeled outside to a staging area for pickup. Containers will be accessed by front lifting fork. The initial plan is for garbage and recycling pickup to occur 2 times per week. The schedule and frequency of pickup will be adjusted to provide the required service.
2. Trash/recycle pickup is to be public. The City of Ann Arbor has a single hauler for all commercial refuse collection in the City, which began July 1, 2009. The City's single hauler commercial refuse collection program has the following features: A commercial refuse collection contract has been signed with Waste Management of Michigan, Inc. (WMM). WMM will be providing collection and container rental services for all commercial refuse collection service orders requested by the City. WMM was selected to provide these services through a competitive procurement. The service contract extends until June 30, 2023.

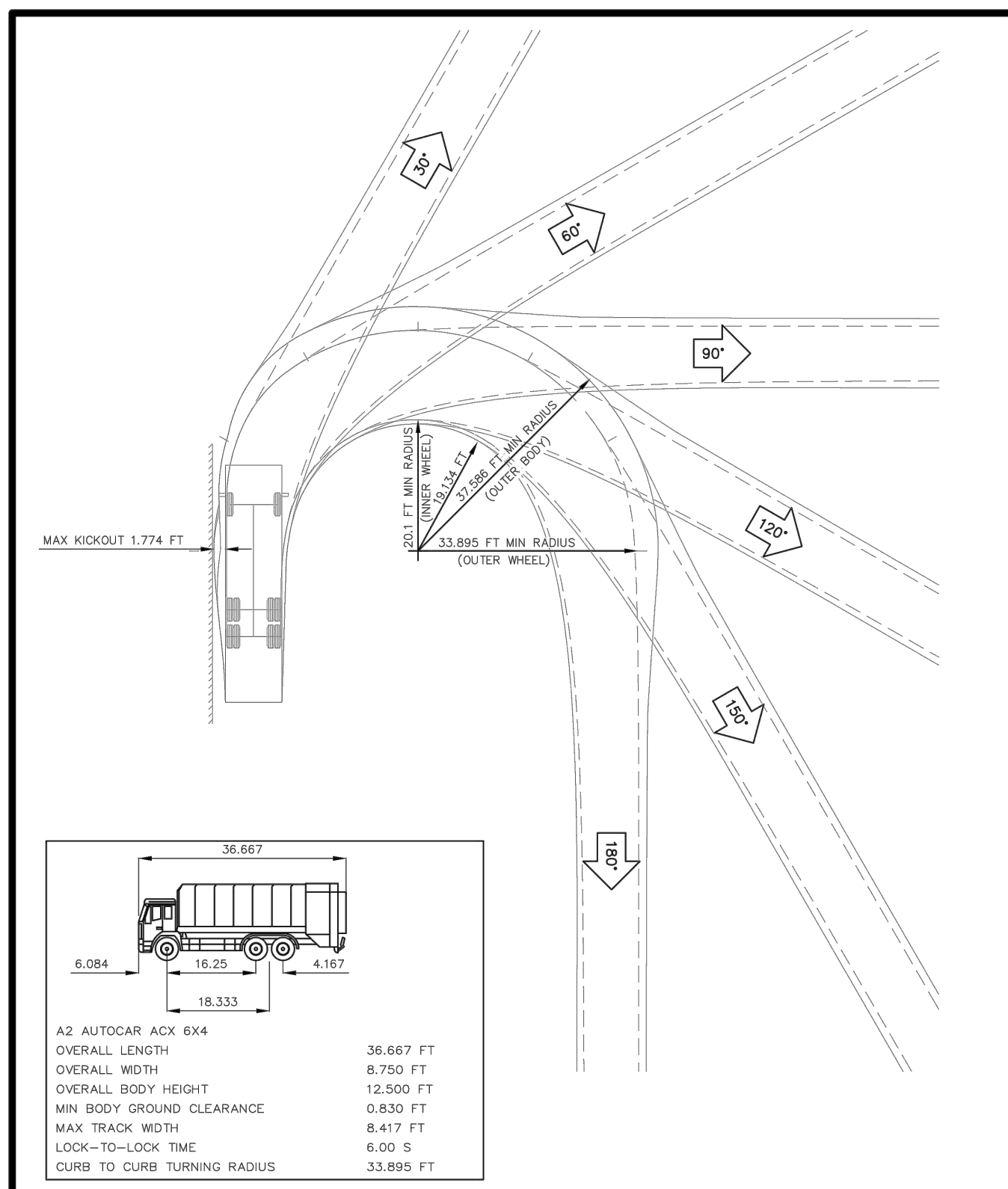


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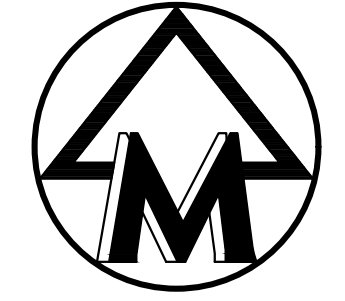
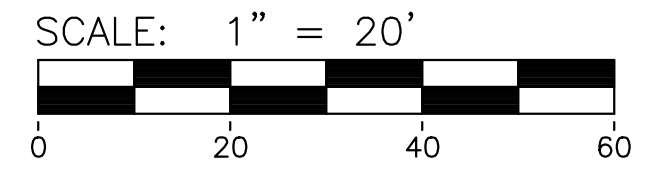
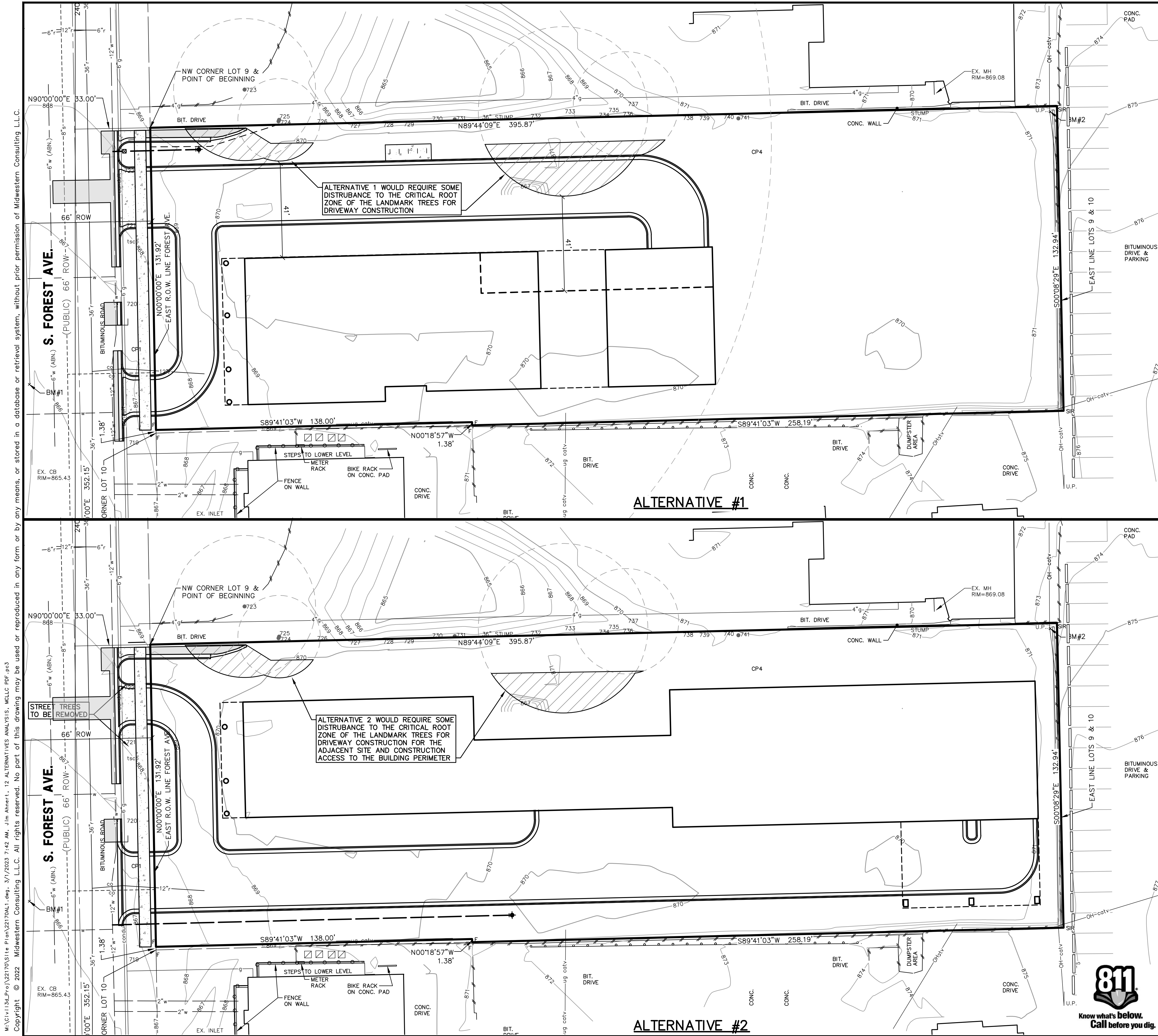
- 1. MAINTAIN A CLEAR SPACE DIRECTLY IN FRONT OF THE SOLID WASTE ENCLOSURE. THE CLEAR SPACE SHALL BE A MINIMUM OF FIFTY (50) FEET LONG BY THE WIDTH OF THE INSIDE DIMENSION (I.D.) OF THE ENCLOSURE WALLS PLUS FOUR (4) FEET ON EACH SIDE. A MINIMUM VERTICAL CLEARANCE OF AT LEAST TWENTY-FIVE (25) FEET MUST BE PROVIDED ABOVE THIS AREA.
2. INGRESS AND EGRESS ROUTES MUST BE DEVELOPED BASED ON SOLID WASTE SWEEP PATH REQUIREMENTS PER SD-SW-4. A MINIMUM HORIZONTAL CLEARANCE OF FOUR (4) FEET FROM THE EDGE OF THE SWEEP PATH AND A MINIMUM VERTICAL CLEARANCE OF AT LEAST FIFTEEN (15) FEET MUST BE PROVIDED ALONG THE ENTIRE SOLID WASTE COLLECTION ROUTE.
3. PROVIDE TEN (10) FEET MINIMUM HORIZONTAL CLEARANCE FROM SOLID WASTE ENCLOSURE TO MAJOR ELECTRICAL EQUIPMENT, ABOVE GROUND UTILITY SERVICES, AND EDGE OF OVERHEAD OBSTRUCTIONS SUCH AS TREE BRANCHES, BALCONIES, AND OVERHANGS.
4. IF FORWARD ACCESS TO THE PUBLIC STREET IS NOT AVAILABLE FOR THE SOLID WASTE VEHICLE, THE SITE DEVELOPMENT LAYOUT MUST ACCOMMODATE A TURN-AROUND LOCATION MEETING REQUIREMENTS WITHIN SOLID WASTE REFERENCE SPECIFIC TURN-AROUND DETAIL (SD-SW-5) AND ACCEPTABLE TO THE PS&A.
5. FOR SITES THAT CANNOT ACCOMMODATE A TURN-AROUND, THE FOLLOWING ADDITIONAL REQUIREMENTS MUST BE MET:
5.1. SOLID WASTE VEHICLES MUST BE ABLE TO SERVICE DUMPSTERS WITHOUT IMPEDING THE PUBLIC STREET OR SIDEWALK.
5.2. THE COLLECTION LOCATION SHALL BE CLEARLY DELINEATED AND NOT HAVE A SLOPE GREATER THAN 2% IN ANY DIRECTION.
5.3. BOLLARDS OR ADEQUATE CLEAR SPACE MUST BE PROVIDED BEHIND THE LIFT POINT SO THE DUMPSTERS ARE NOT PUSHED INTO ANY BUILDING OR ACCESS ROUTE.
5.4. ALL SWEEP-PATH CLEARANCE AND VERTICAL CLEARANCE REQUIREMENTS PREVIOUSLY IDENTIFIED SHALL BE PROVIDED.
5.5. SOLID WASTE VEHICLE BACK-UP DISTANCES MUST BE LESS THAN 30' ALONG SERVICING ROUTE.
6. GATES ON BIN ENCLOSURES SHALL OPEN A MINIMUM OF 120 DEGREES FROM THE CLOSED POSITION. THE GATES SHALL NOT IMPEDE ON THE REQUIRED BIN ENCLOSURE OPENING WIDTH, SHALL NOT BLOCK ADJACENT PARKING SPOTS, AND NOT BE IMPEDED BY ADJACENT CURBS OR LANDSCAPING.
7. GATES SHALL BE DESIGNED TO BE FREE STANDING WITHOUT CENTER POLE DESIGN. IF CENTER POLE DESIGN IS NECESSARY, 12 INCHES SHALL BE ADDED TO THE MINIMUM INTERIOR WIDTH OF THE ENCLOSURE.
8. GATE DESIGN SHALL INCLUDE A RELIABLE MEANS TO SECURE THE DOOR IN BOTH THE OPEN AND CLOSED POSITIONS.

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- 9. THE PROPERTY OWNER SHALL BE RESPONSIBLE FOR THE INSTALLATION AND MAINTENANCE OF NO PARKING SIGNS ALONG THE SOLID WASTE INGRESS/EGRESS ROUTE TO ENSURE THE ROUTE REMAINS FREE OF VEHICLES.
10. REFER TO ASSOCIATED STANDARD DETAILS SD-SW-1 AND SD-SW-2 FOR REQUIREMENTS ON SINGLE AND DOUBLE WIDE SOLID WASTE BIN ENCLOSURE LAYOUT AND DESIGN CRITERIA. THE CITY SHALL HAVE THE ABILITY TO MODIFY OR INTERPRET THESE DETAILS AS NECESSARY TO ACCOMMODATE THE CITY OR CITY CONTRACTOR'S NEEDS FOR SOLID WASTE PICK-UP.
11. SOLID WASTE EQUIPMENT ACCESS ROADS AND SERVICE AREA SURFACES SHALL BE DESIGNED AND MAINTAINED TO SUPPORT THE IMPOSED LOADS OF COLLECTION VEHICLES WEIGHING UP TO 66,000 LBS GROSS VEHICLE WEIGHT (GVW) AND SHALL BE PROVIDED WITH AN APPROVED SURFACE SO AS TO PROVIDE ALL WEATHER DRIVING CAPABILITIES. PROPERTY OWNER SHALL BE RESPONSIBLE FOR ALL SNOW AND ICE REMOVAL REQUIRED FOR SAFE ACCESS.
12. FOR SITES THAT CANNOT ACCOMMODATE A STANDARD DUMPSTER ENCLOSURE, THE DUMPSTERS MAY BE ROLLED OUT OF A BUILDING OR ALTERNATE ENCLOSURE BY THE PROPERTY OWNER TO AN APPROVED COLLECTION LOCATION.
13. SOLID WASTE COLLECTION LOCATIONS MUST BE LOCATED WITHIN THE BOUNDARIES OF THE PROPERTY UNLESS AN APPROPRIATE EASEMENT IS OBTAINED.

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LEGEND

838	EXIST. CONTOUR
×836.2	EXIST. SPOT ELEVATION
→ U.P.	EXIST. UTILITY POLE
—	GUY WIRE
□	EXIST. AC UNIT
—	EXIST. OVERHEAD UTILITY LINE
*	EXIST. LIGHT POLE
g	EXIST. GAS LINE
w	EXIST. WATER MAIN
⊕	EXIST. HYDRANT
⊕	EXIST. GATE VALVE IN BOX
⊕	EXIST. GATE VALVE IN WELL
⊕	EXIST. FIRE DEPT. CONNECTION
⊕	EXIST. STORM SEWER
⊕	EXIST. CATCH BASIN OR INLET
⊕	EXIST. DOWNSPOUT
⊕	EXIST. SANITARY SEWER
⊕	EXIST. CLEANOUT
ug	UNDERGROUND
⊕	SIGN
⊕	CABLE TELEVISION RISER
⊕	GAS METER
⊕	POST
⊕	FOUND IRON PIPE
⊕	SET IRON ROD
⊕	CONTROL PT.
⊕	FENCE
⊕	GUARDRAIL
⊕	SINGLE TREE
⊕	TREE OR BRUSH LIMIT
⊕	SECTION CORNER

ALTERNATIVE #1

Description: Alternative #1 examined the development potential of the property by extending the watermain as far as possible without impacting the critical root zone of the two westerly trees.

Findings:

- Fire hydrant coverage is the driving factor in extending the watermain easterly into the site. Currently the existing building is in non-conformance for fire protection coverage.
- Extending the new hydrant only to the point of critical root zone requires truncating the easterly end of the building by approximately 15'. Stormwater detention chamber revisions were not contemplated as the disturbance is minor and the geometry has been tailored to recognize the critical root zone.
- Pavement disturbance cannot be avoided as fire code requires a 26' wide paved fire access road located no closer than 15' from the face of the building resulting in a need for pavement up to 41' from the face of the building. Narrowing up the building to accommodate this need would result in single loaded hallways and an inefficient design.
- If the north edge of the fire lane were to be placed at the most southerly edge of the critical root zone, the alternate location of the north wall of the building would be so far south that the building would very narrow and inefficient.

Discussion:

- Extending the hydrant lead only the minimum distance to the critical root zone resulted in a highly inefficient design that is financially unfeasible.
- Attempts to recover lost units would result in a higher building that would produce more shade on the existing trees.

ALTERNATIVE #2

Description: Alternative #2 examined extending the watermain along the south property line while placing the north building face at the critical root zone of the largest tree.

Findings:

- This geometry results in a side yard setback of 35' on the north while the proposed design utilized a 12' setback to the south.
- The watermain could extend the full distance to allow full development of the property.
- Fire lane access requires that the southerly edge of this lane be located 41' from the south face of the building and 5' off the property line. This places the south face of the building 46' off the property line.

Discussion:

- While this alternative allowed development of the easterly portion of the property, the inefficient placement of the north side of the building, combined with the need for fire access and a watermain easement results in a building that is so narrow it is inefficient.
- Attempts to recover lost units would result in a higher building that would produce more shade on the existing trees.
- Moving the building closer to the trees would result in higher periods of shade.

COMMENTS ON PROPOSED DESIGN

The proposed design recognizes that there are minor impacts to the critical root zones on the trees that are located on an adjacent property. We feel these design impacts are acceptable in light of the following information.

- The trees are in an urban environment currently and apparently have acclimated to it. Pavement and gravel on this property and the parcel they are located on covers a significant amount of their existing critical root zone. In some cases, pavement exists right to the base of the trees.
- Previous installation of a gas main have provided previous impacts in the critical root zone greater than the ones proposed by this project.
- If desired by City staff the watermain could be bored through the CRZ of the westerly trees at a depth of 5.5' to 8.5' avoiding most of the roots of these trees.
- In most cases the impact to the CRZ's is occurring in the outer limits of the area of concern.

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VERVE ANN ARBOR
 SITE PLAN AND PUD REZONING FOR CITY COUNCIL
 ALTERNATIVES ANALYSIS

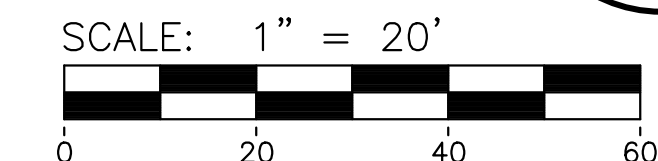
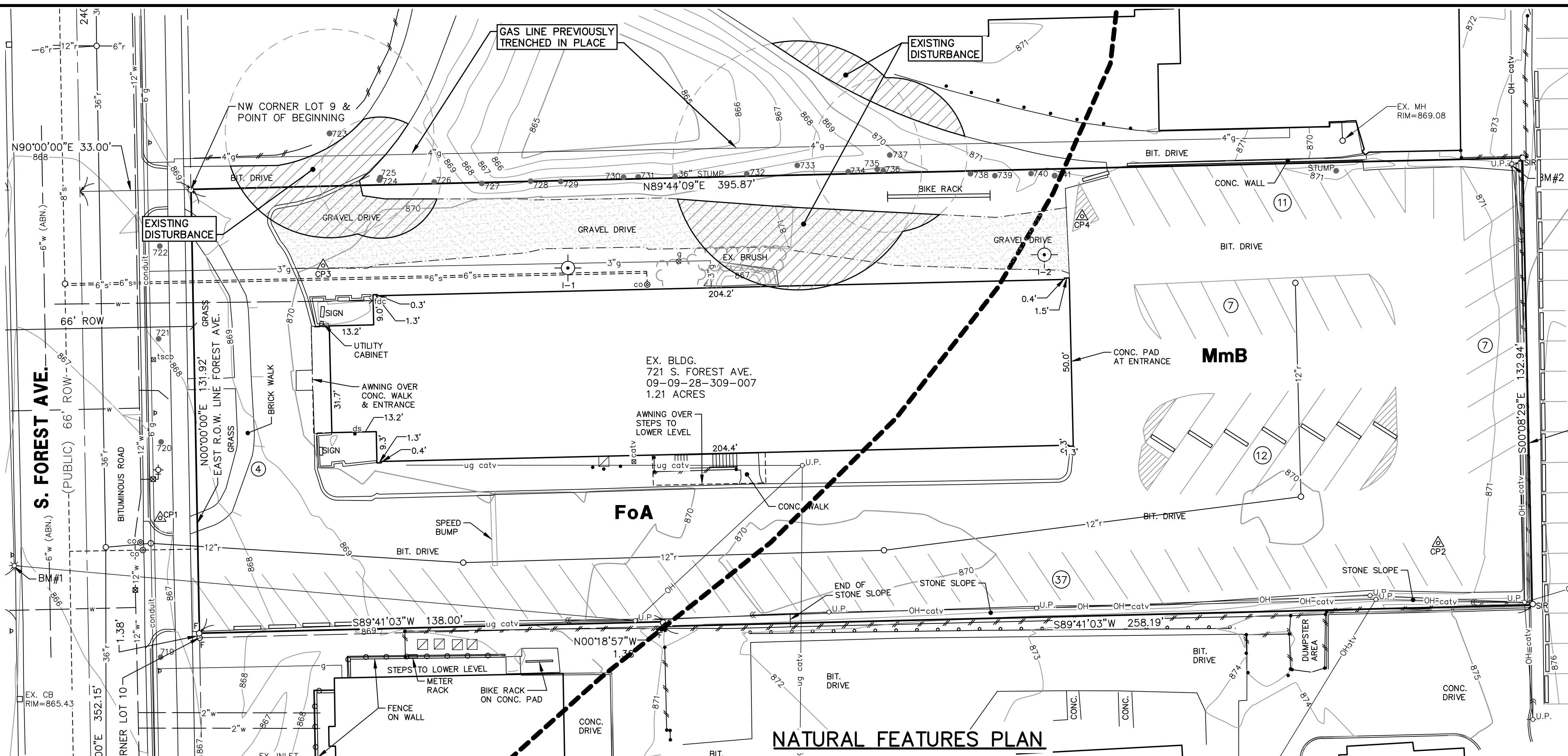
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MA:\Civ\132_P\132170\Site Plan\22170\F1.dwg, 3/1/2023 7:42 AM, Jim Albert, 13 SITE ANALYSIS NATURAL FEATURES AND OVERLAY PLAN, MCLC PDF.ppt3
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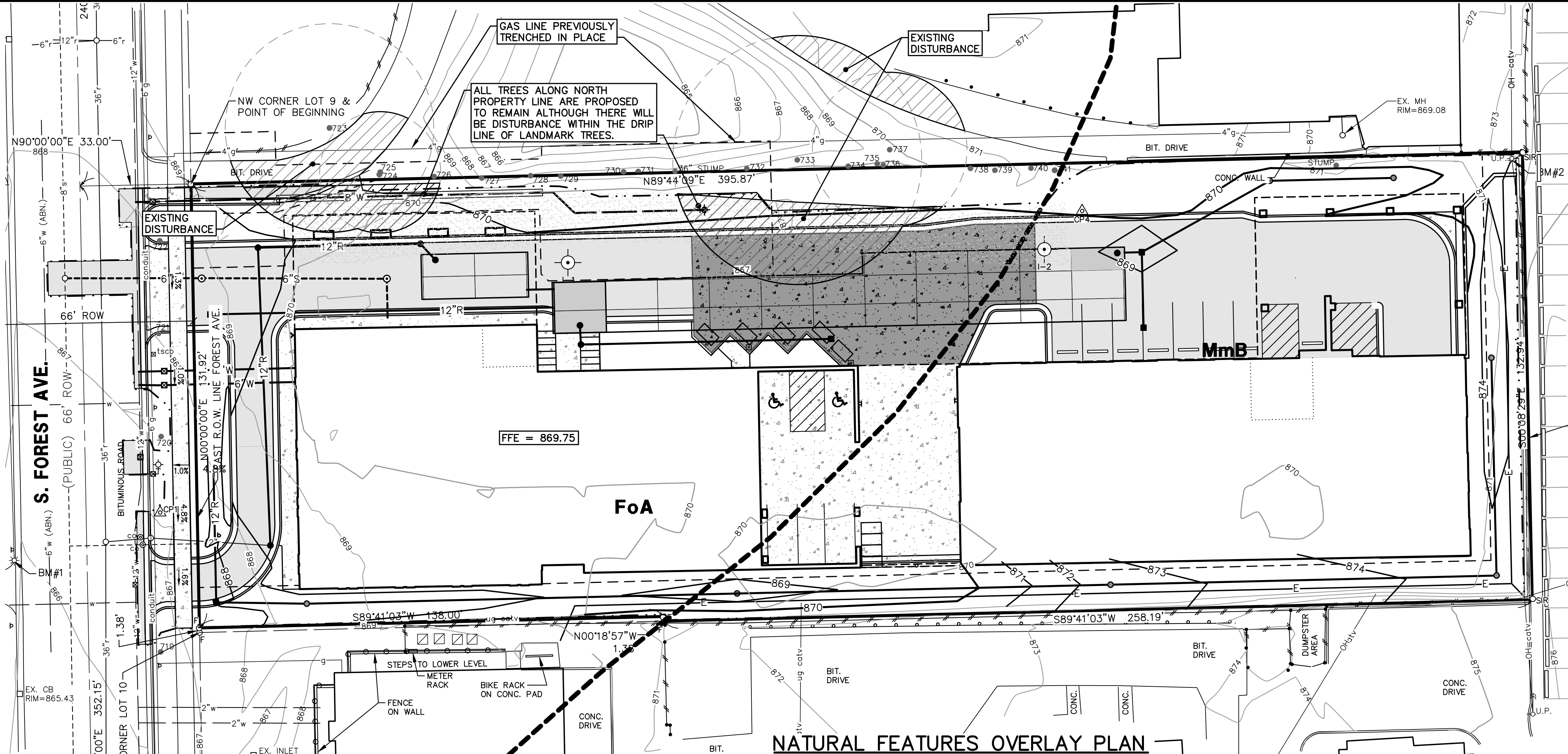


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H	EXIST. HYDRANT
G	EXIST. GATE VALVE IN BOX
g	EXIST. GATE VALVE IN WELL
FD	EXIST. FIRE DEPT. CONNECTION
S	EXIST. STORM SEWER
ds	EXIST. CATCH BASIN OR INLET
S	EXIST. SANITARY SEWER
o	EXIST. CLEANOUT
ug	UNDERGROUND
catv	SIGN
g	CABLE TELEVISION RISER
g	GAS METER
o	POST
O	FOUND IRON PIPE
S	SET IRON ROD
△	CONTROL PT.
---	FENCE
---	GUARDRAIL
o	SINGLE TREE
o	TREE OR BRUSH LIMIT
+	SECTION CORNER

Natural Features Inventory and Impact

The site does not contain any landmark trees, 100 year floodplains, steep slopes, watercourses, wetlands or endangered species habitat. Landmark trees do exist on the property to the north and the critical root zones of four trees extend onto this site. Landmark trees include 23" black cherry, 31" red oak, 18" elm and 37" white oak. The trees currently have disturbance within their critical root zones in the form of bituminous paving and gravel driveways. Gravel and pavement drives can be seen right up to the base of the trunk of two of the trees. A previous underground gas main has likely bisected all of their critical root zones as well. While some of this existing disturbance will be removed, new pavement and the installation of a fire hydrant lead will produce new disturbance within the critical root zones. Disturbances has been kept to the minimum and generally occurs in the outer reaches of the critical root zone.



TAG#	DBH	COMMON NAME	GENUS/SPECIES	STEMS	SCORE	LM	INV	REM
719	10"	Linden	Tilia americana					
720	2"	Ginkgo	Ginkgo biloba					
721	2"	Rugged Ridge Maple	Acer myrtilloides					X
722	3"	Sweetgum	Liquidambar styraciflua					X
723	31"	Red Oak	Quercus rubra	18	X	X		
724	16"	White Mulberry	Morus alba					X
725	18"	American Elm	Ulmus americana	19	X			
726	6"	Norway Maple	Acer platanoides	twin				X
727	8"	White Mulberry	Morus alba					X
728	6"	Black Cherry	Prunus serotina					X
729	13"	American Elm	Ulmus americana					
730	6"	American Elm	Ulmus americana					
731	7"	Black Cherry	Prunus serotina					X
732	6"	White Mulberry	Morus alba					X
733	37"	White Oak	Quercus alba	twin	21	X		
734	6"	White Mulberry	Morus alba					X
735	10"	White Mulberry	Morus alba					X
736	7"	White Mulberry	Morus alba					X
737	23"	Black Cherry	Prunus serotina	18	X			
738	8"	American Elm	Ulmus americana					
739	14"	American Elm	Ulmus americana					
740	11"	American Elm	Ulmus americana					
741	19"	American Elm	Ulmus americana					dead

SITE SOILS INFORMATION
 FoA - Fox Sandy Loam, 0 to 2 percent slopes
 MmC - Miami Loam, 6 to 12 percent slopes

MIDWESTERN CONSULTING

385 Plaza Drive Ann Arbor, Michigan 48108
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 3000 LOCUST STREET
 ST. LOUIS, MO 63103
 RYAN BUMB
 314-396-2835

VERVE ANN ARBOR

SITE PLAN AND PUD REZONING FOR CITY COUNCIL

SITE ANALYSIS, NATURAL FEATURES AND OVERLAY PLAN

13

JOB No. 22170

REVISIONS:

DATE: 9/21/22


SHEET 13 OF 22

ENG: JCA

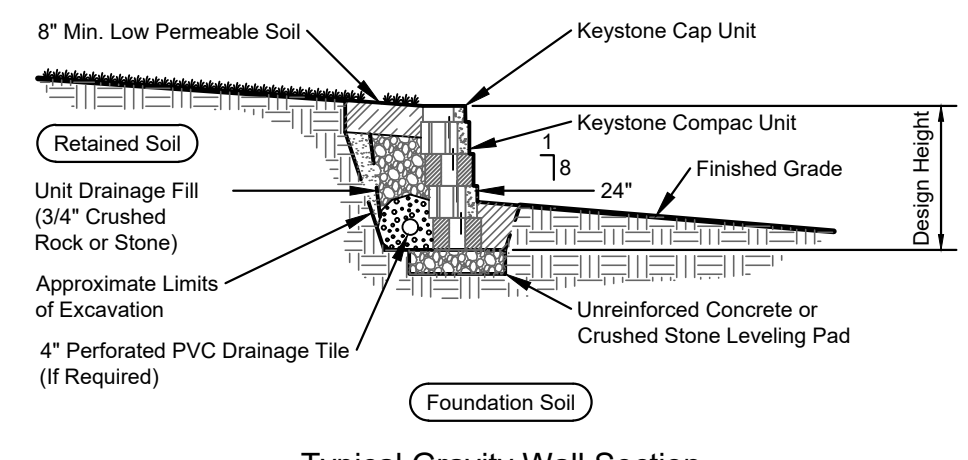
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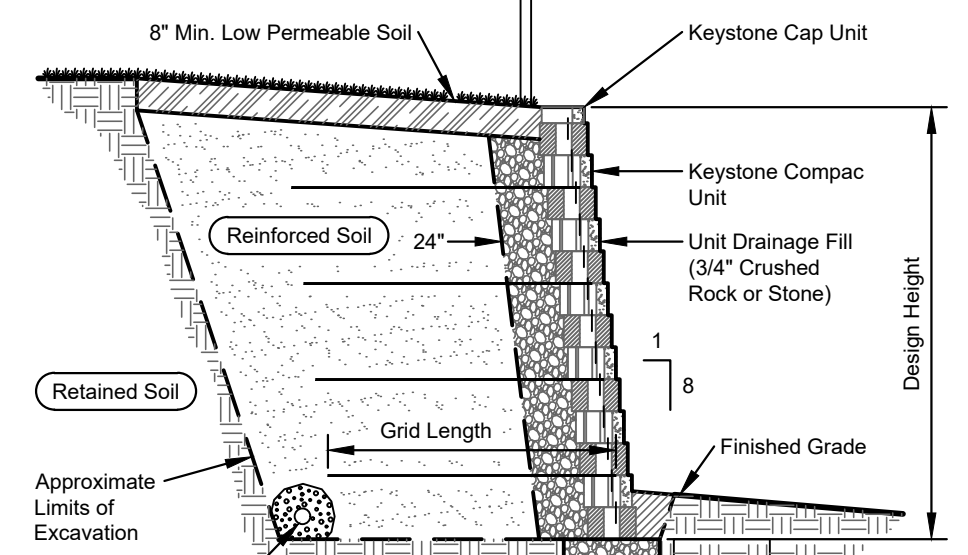
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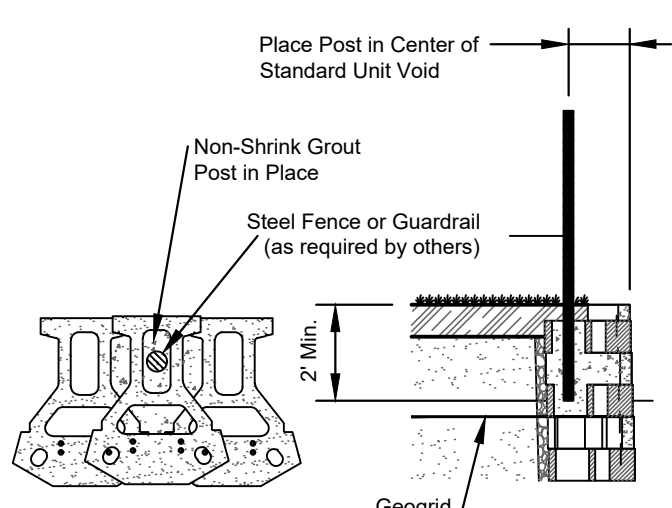
M:\CIVIL\3D_Plan\22170\Site Plan\2217001.dwg, 3/1/2023 7:42 AM, Jim Albert, 14 MISCELLANEOUS DETAILS, MLLC PDF, p.3
 Copyright © 2022, Midwestern Consulting L.L.C. All rights reserved. No part of this drawing may be used or reproduced in any form or by any means, or stored in a database or retrieval system, without prior permission of Midwestern Consulting L.L.C.



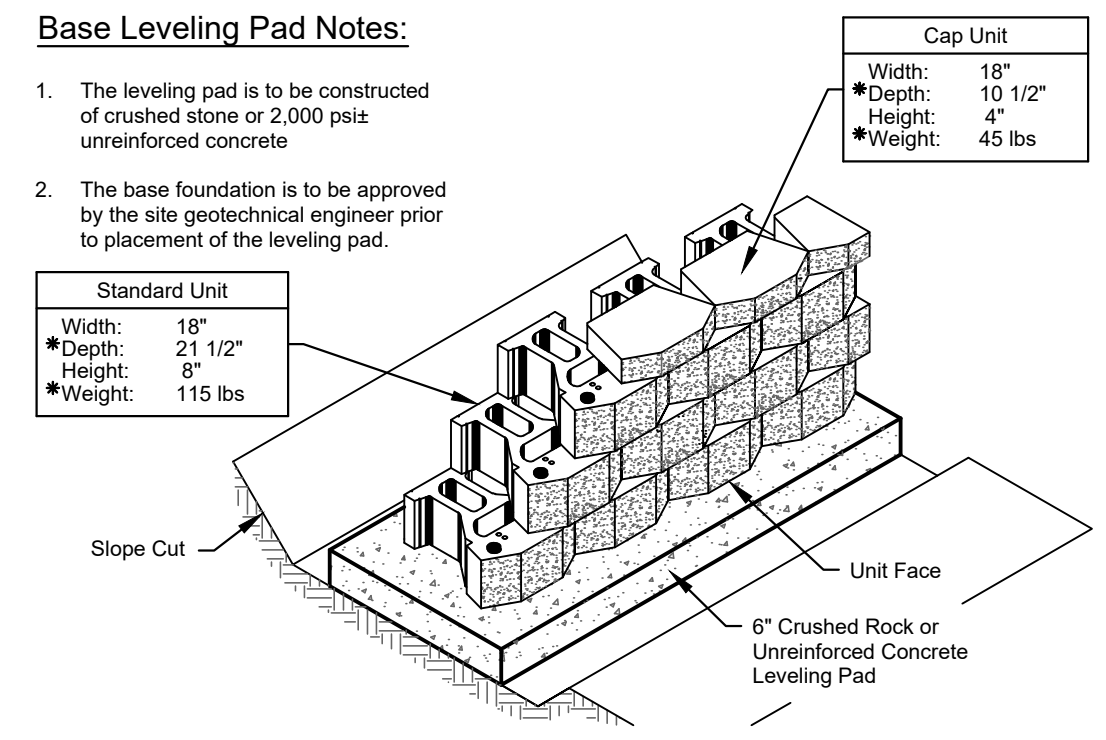
Typical Gravity Wall Section
Compac Unit - 1" Setback



Typical Reinforced Wall Section
Compac Unit - 1" Setback



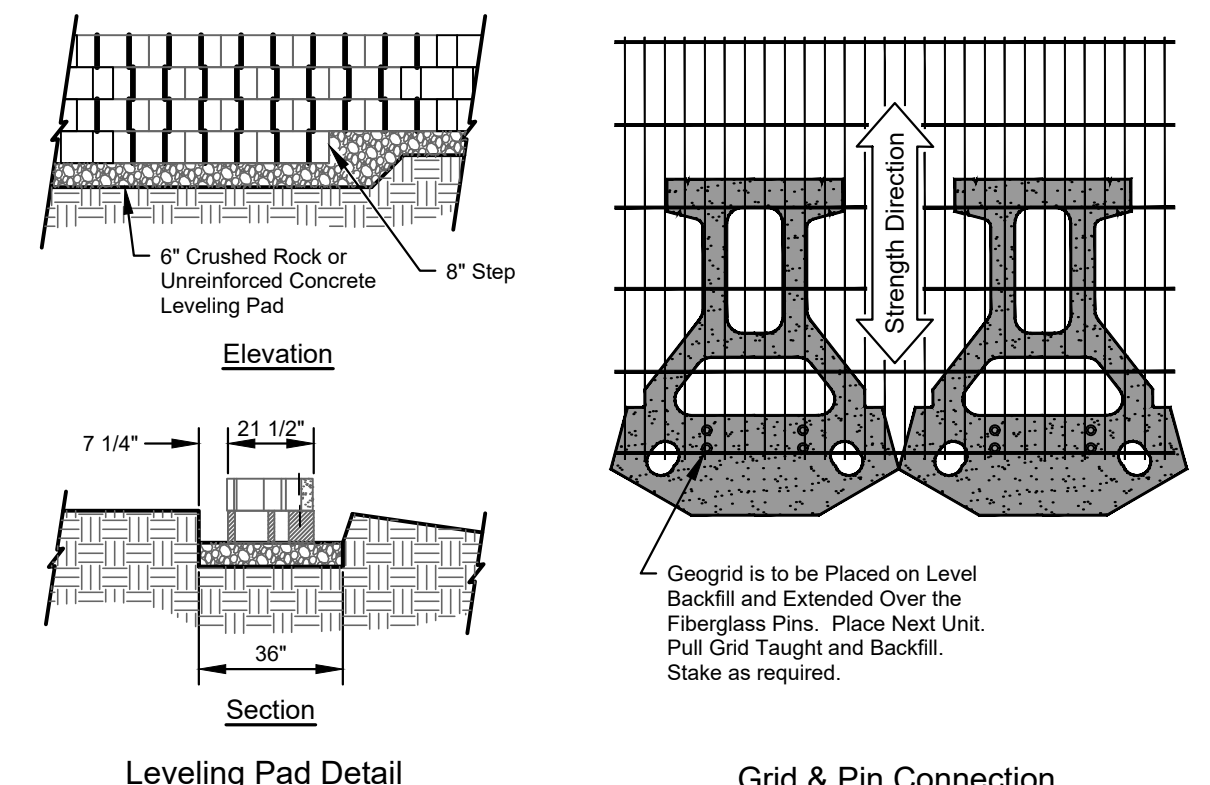
Fence Section & Plan Detail
Standard Unit - Near Vertical Setback



Standard Unit/Base Pad Isometric View
*Dimensions & Weight May Vary by Region

Note:
1. Check with manufacturer specifications on correct direction of orientation for geogrid to obtain proper strength.

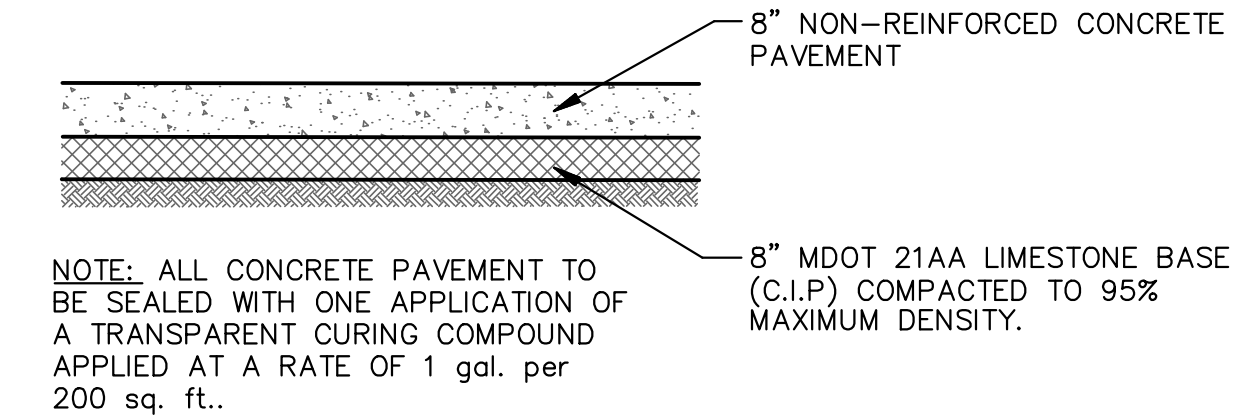
KEYSTONE
RETAINING WALL SYSTEMS
A GEORGIN COMPANY
4444 W 78th Street
Minneapolis, MN 55435
952-997-1040
OR APPROVED EQUAL



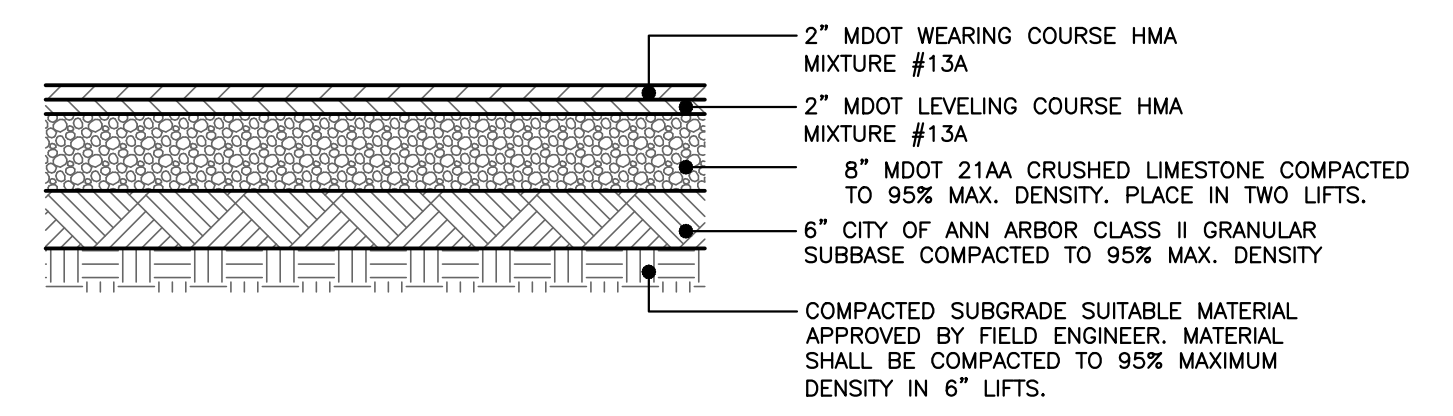
Leveling Pad Detail

Grid & Pin Connection

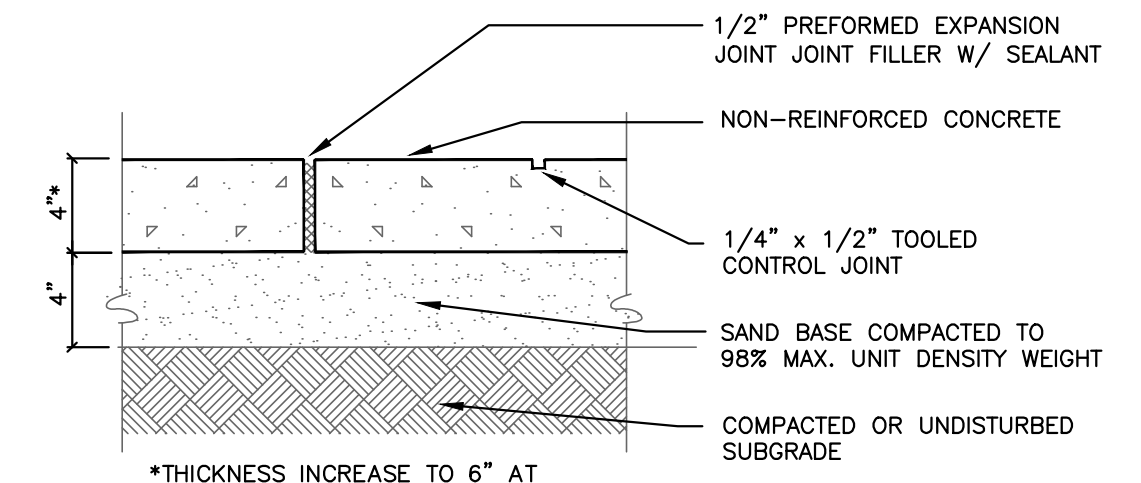
PRECAST BLOCK WALL DETAILS
NOT TO SCALE



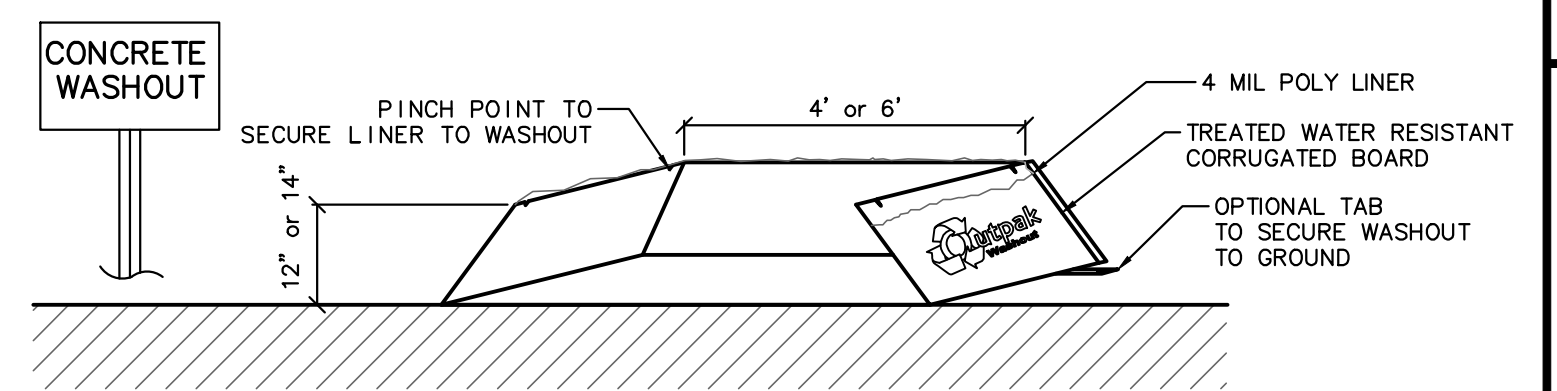
PROP. HEAVY DUTY CONCRETE DETAIL
NOT TO SCALE



ONSITE BITUMINOUS PAVEMENT SECTION
BITUMINOUS REPAIR IN THE ROW SHALL MATCH EXIST. SECTION
NOT TO SCALE



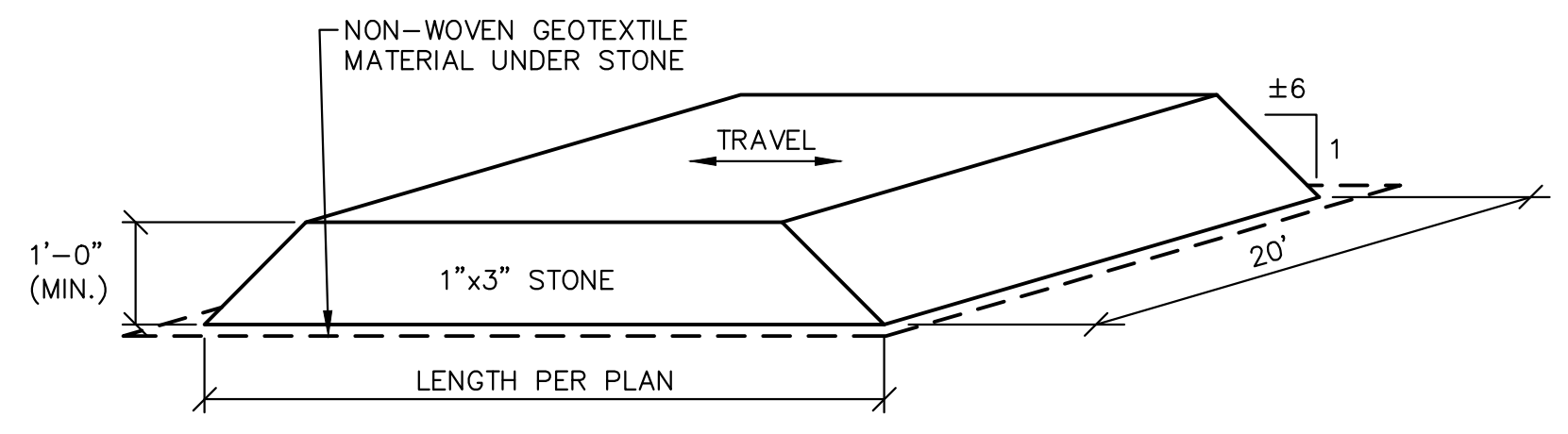
CONCRETE WALK DETAIL
NO SCALE



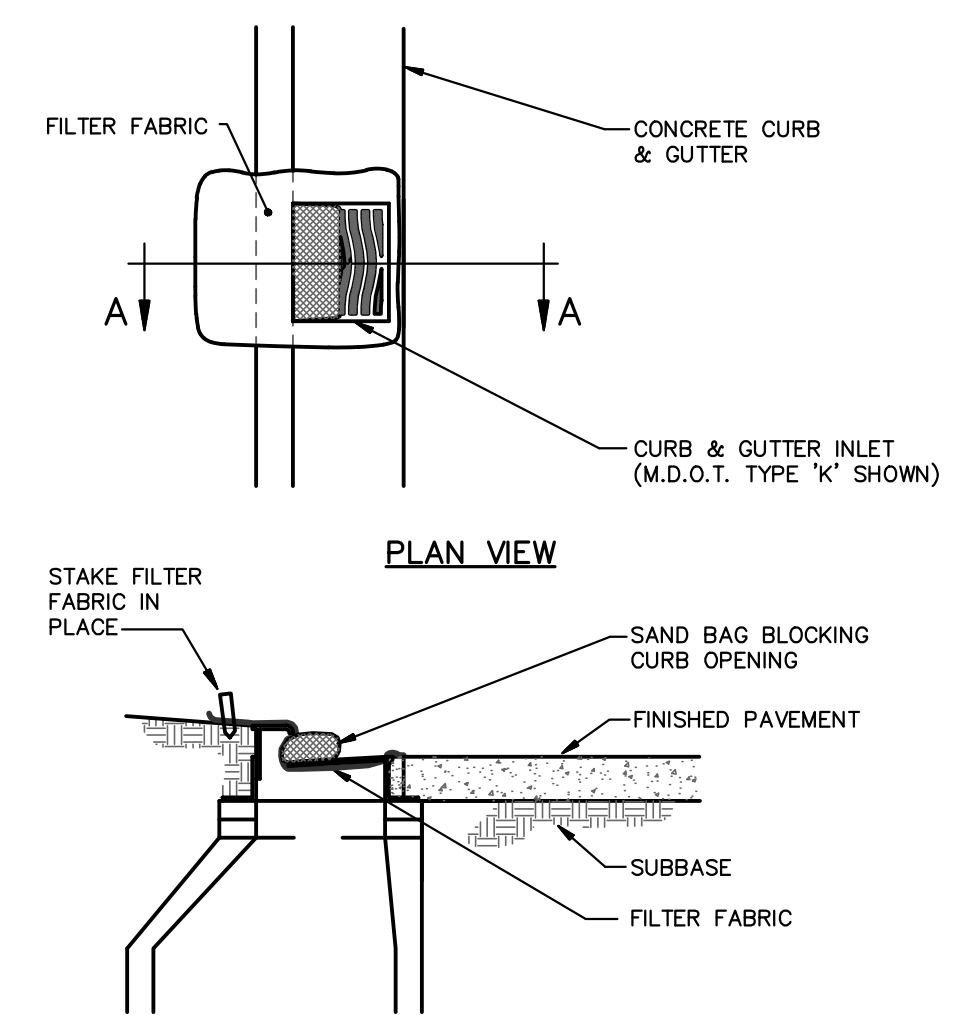
CONCRETE WASHOUT

- NOTES:**
1. THE CONCRETE WASHOUT AREA SHALL BE INSTALLED PRIOR TO ANY CONCRETE PLACEMENT ON THIS PROJECT.
 2. SIGNS SHALL BE PLACED AS NECESSARY TO CLEARLY INDICATE THE LOCATION OF THE CONCRETE WASHOUT.
 3. THE CONCRETE WASHOUT AREA WILL BE REPLACED AS NECESSARY TO MAINTAIN CAPACITY FOR WASTE CONCRETE AND OTHER LIQUID WASTE.
 4. WASHOUT RESIDUE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF AT AN APPROVED WASTE SITE.
 5. DO NOT MIX EXCESS AMOUNTS OF FRESH CONCRETE OR CEMENT ON-SITE.
 6. DO NOT WASH OUT CONCRETE TRUCKS INTO STORM DRAINS, OPEN DITCHES, STREETS, OR STREAMS.
 7. AVOID DUMPING EXCESS CONCRETE IN NON-DESIGNATED DUMPING AREAS.
 8. LOCATE WASHOUT AREA AT LEAST 50' (15 METERS) FROM STORM DRAINS, OPEN DITCHES, OR WATERBODIES.
 9. WASH OUT WASTES INTO THE OUTPACK WASHOUT AS SHOWN WHERE THE CONCRETE CAN SET, BE BROKEN UP, AND THEN DISPOSED OF PROPERLY.

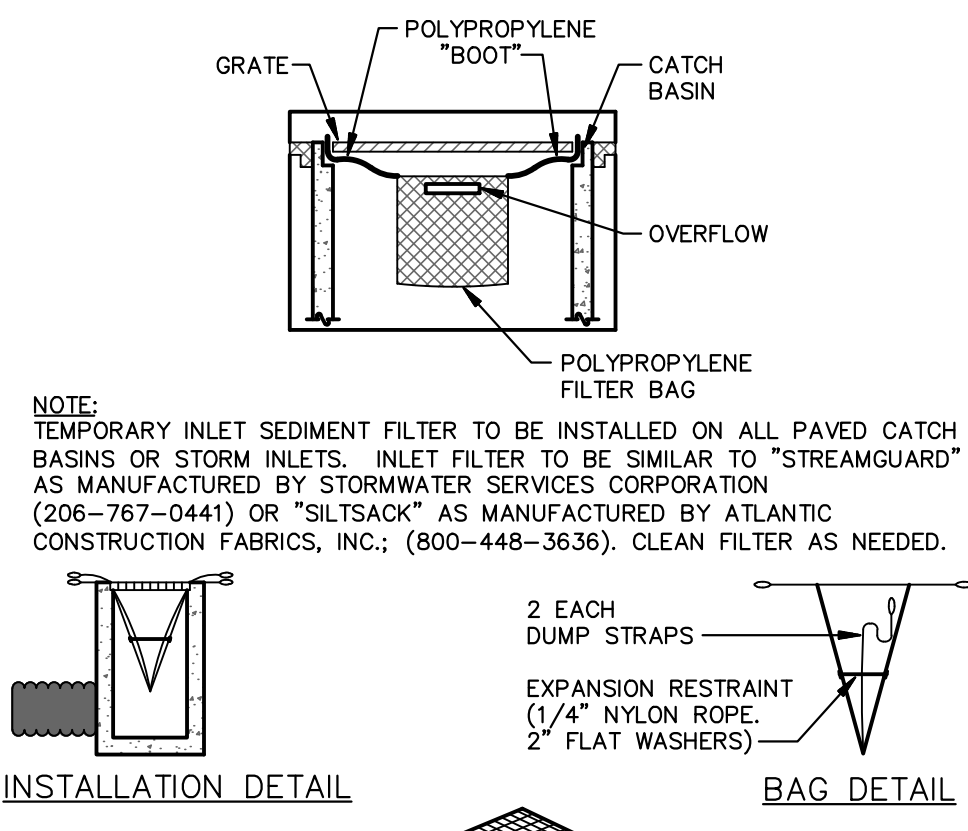
CONCRETE WASHOUT SYSTEM
NOT TO SCALE



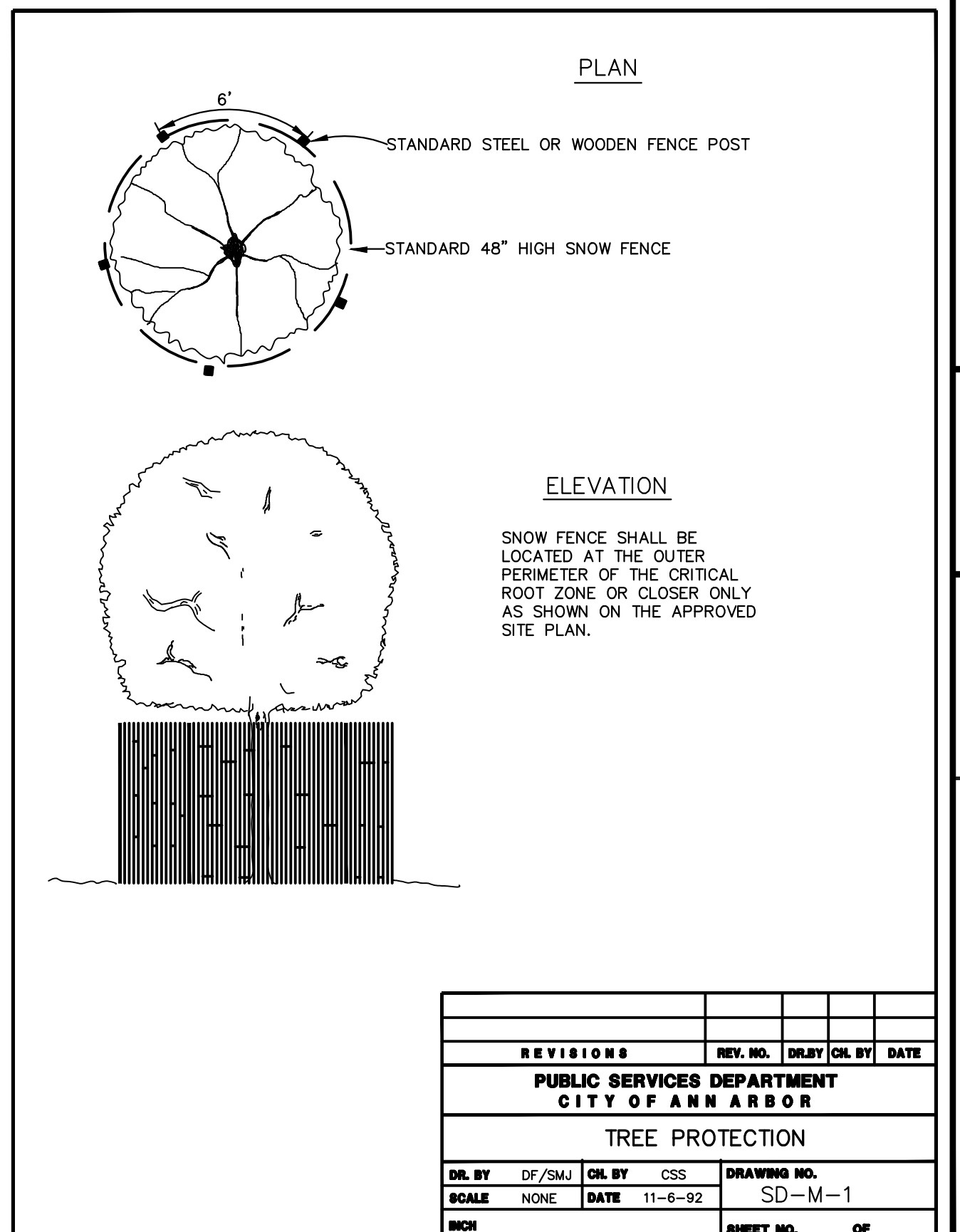
GRAVEL MUD TRACKING MAT (60t)
NOT TO SCALE



CURB & GUTTER INLET FILTER (58t)
AT EXISTING INLETS AND AT PROPOSED INLETS AFTER PAVING
NO SCALE



SILT SACK DETAIL (59t)
NO SCALE



REVISIONS	REV. NO.	DATE	BY	DATE

PUBLIC SERVICES DEPARTMENT
CITY OF ANN ARBOR

TREE PROTECTION

DR. BY	DF/SMJ	CHK BY	CSS	DRAWING NO.	SD-M-1
SCALE	NONE	DATE	11-6-92	SHEET NO.	OF

The underground utilities shown have been located from field survey information and existing records. The surveyor makes no guarantees that the underground utilities shown comprise all such utilities in the area, either in-service or abandoned. The surveyor further does not warrant that the underground utilities shown are in the exact location indicated. Although the surveyor does certify that they are located as accurately as possible from the information available.



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VERVE ANN ARBOR
 SITE PLAN AND PUD REZONING FOR CITY COUNCIL
 MISCELLANEOUS DETAILS

14

DATE: 9/21/22
 SHEET 14 OF 22
 REV. DATE: 11/18/22
 ENG. JCA
 CADD: JCA
 P.M.: SWB
 TECH.:
 /Z217001

22170
 JOB NO.
 REVISIONS:
 PER CITY REVIEW