



City of Fitchburg
Planning/Zoning Department
5520 Lacy Road
Fitchburg WI 53711
Phone (608) 270-4200

REZN-24-12

Rezoning Conditions of Approval

1. **Project Name:** Jamestown Quarry Apartments RZ
2. **Location:** 2975 KAPEC RD, Fitchburg, WI, 53719
3. **Permit Request No.:** RZ-2566-24
4. **Ordinance No.:** 2024-O-25
5. **Decision Date:** September 17, 2024
6. **Legal Description:** Metes and bounds
7. **Current Zoning Districts:** PDD-GIP
8. **Proposed Zoning Districts:** PDD-SIP

Zoning Conditions

1. No other permit or approval is waived or deemed satisfied except for the approval provided herein.
2. Approval of all fees and special assessments, including the Fitchrona Road utility Improvement.
3. Approval of ADR – Jamestown Quarry Apartments.
4. Standards of the PDD-SIP Ordinance to include:
 - a. Permitted Uses:
 - i. Permitted uses: Multifamily residential with 250-300 units with office not exceeding 3,000 square feet.
 - ii. Conditional uses: Office greater than 3,000 square feet, retail, childcare and recreation per the PDD-GIP document.
 - b. Minimum Lot Area: 6.6 Acres
 - c. Minimum Lot Width at Front Yard Setback: 960 feet
 - d. Minimum Lot Depth: 295 feet
 - e. Setbacks: Per attached SIP document
 - f. Maximum Building Height: Lesser of 5 stories or 52 feet
 - g. Minimum Off-Street Parking: 1.5 stalls per unit
 - h. Minimum Bike-Parking:
 - i. Long-Term: 0.75 stalls per unit
 - ii. Short-Term: 0.1 stalls per unit
 - i. Maximum Impervious Surface Ratio (ISR): 55%
 - j. Minimum Open Space: 40%
5. After submittal of PDD-SIP request, and upon approval by Plan Commission and Council, the applicant shall provide the original signed and notarized PDD-SIP document to the city within 30 days of the date of Council adoption.
6. Applicant's responsibility to comply with all Fire and Public Works requirements.



City of Fitchburg
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ADR-24-20

Architectural Design Review Conditions of Approval

- 1. Project Name:** ADR - Jamestown Quarry Apartments
- 2. Project Address:** 2975 Kapec Rd
- 3. Decision Date:** September 17, 2024
- 4. New or Addition:** New Construction
- 5. Project Type:** Multi-Family
- 6. Legal Description:** Metes and bounds

Zoning Conditions

1. No other permit or approval is waived or deemed satisfied except for the approval provided herein.
2. Approval and recording of final plat FP-2565-24.
3. Approval of Rezone RZ-2566-24.
4. Approval and recording of a subdivision improvement agreement. A building permit and occupancy for this project shall be subject to the subdivision improvement agreement.
5. Water impact fees, park impact fees, and any other outstanding fees and assessments shall be paid prior to issuance of any permits. Park impact fees may be deferred.
6. Installation of bike parking shall be done in conformance with the recommendations of the Association of Pedestrian and Bicycle Professionals.
7. Construction of a 10' asphalt multi-use path along this lot's frontage of Fitchrona Road is required.
8. Signage shall conform to the requirements of the City's Chapter 26 sign ordinance.
9. Subdivision Improvement Agreement shall be approved and executed prior to issuance of permits. Any necessary improvements dictated by Public Works to be essential prior to construction and/or occupancy must be completed and approved by Public Works prior to construction and/or occupancy.
10. Erosion Control and Stormwater Management (ECSWM) permit shall be obtained prior to any land disturbance.
11. Any changes to landscaping or site design shall require an amendment to ADR approvals. If such changes are minor, they may be approved administratively by the Zoning Administrator.
12. A stormwater maintenance agreement, recorded at the Dane County Register of Deeds office) will be required.
13. A city right of way permit is required for any work in the right of way.
14. The property shall be sufficiently screened along the northern property boundary with a mixture of landscaping and/or fencing approved by the Zoning Administrator.
15. Mechanical and utility equipment shall be screened from view of the right-of-way. Any exterior trash enclosures shall be screened by materials and colors complementary to the proposed primary structures.
16. Centralized mailboxes shall be in a location coordinated with and approved by City staff and USPS.
17. Coordinate unit addressing with the City Planner.
18. All lighting shall be full cut-off or dark sky compliant. Lighting should not exceed 0.3 footcandles at the property line.
19. Applicant's responsibility to comply with all Fire and Public Works requirements. Confirm hydrant locations with the Fire Department.

2975 Kapec Road
High-Density Residential Development
Fitchburg, Wisconsin

Table of Contents

PROJECT LOCATION & GENERAL DESCRIPTION 3
LAND USE 3
SITE DESIGN & GENERAL INFORMATION 3
PROJECT IMPLEMENTATION 6
NEIGHBORHOOD INPUT 6

PROJECT TEAM

CF Investments LLC
3636 Skytop Road
McFarland, WI 53558
Contact: Craig Frank
608.576.4309

Concepts in Architecture, LLC
W125 Amidon Road
Brooklyn, WI 53521
Contact: Jeffrey Groenier, Architect
608.698.3196

Snyder & Associates, Inc.
5010 Voges Road
Madison, WI 53718
Contact: Brian Arcand, P.E.
608.838.0444

PROJECT LOCATION & GENERAL DESCRIPTION

This proposal is for the development of the Multi-Family Lot 1 from the Jamestown Quarry General Implementation Plan. This lot has been approved for high-density, multi-family units as part of the General Implementation Plan approved for the ~ 33-acre site northwest of McKee Road and Fitchrona Road.

The development will consist of 273 market-rate multi-family units serving the increased demand for quality, higher-density housing in the Fitchburg area over the next five years and beyond.

Existing Site Conditions

A GIP approval was issued and recorded in May 2024 for the Jamestown Quarry. This SIP application is substantially in accordance with that GIP approval.

Legal Description: Lot __, Certified Survey Map Number _____ as recorded in Volume ____ of Certified Survey Maps, on page ____ as Document Number _____, Dane County Registry and located in the SE Quarter of the SW Quarter of Section 06, Township 6 North, Range 9 East, City of Fitchburg, Dane County, Wisconsin.

LAND USE

When complete, this project will contain multi-family residential units. The parcel will be consistent with the City's Comprehensive Plan with a High-Density Multi-Family Residential Use. The lot will have a total of 273 market-rate housing units. At the time of this Specific Implementation Plan, the mix of residential units (18 of which are townhome units) is as follows:

152 1-bedroom units	56%
101 2-bedroom units	37%
20 3-bedroom units	7%

SITE DESIGN & GENERAL INFORMATION

General Implementation Plan Data (from approved GIP)

Permitted Uses	Multifamily residential with 250-300 units with office not exceeding 3,000 SF
Conditional Uses	Office greater than 3,000 SF, retail, childcare and recreation per the PDD-GIP document
Building Height	Maximum of less of 5 stories or 62 feet
Open Space	40%
Setbacks	Per the SIP document

Vehicle Parking

The approved GIP does not include specific parking count requirements., however, it did state that parking should be located in the side yard, within the overall building footprint, or generally in a location separated from public right of way by buildings themselves. Additionally, a buffer should be provided between parking lots and adjoining streets using landscaping and/or decorative wall/fencing two to four feet in height. Parking lots with rows of more than fifteen (15) parking spaces should be interrupted by a landscaped median or island.

The proposed project provides 376 parking spaces with an additional 8 ADA parking spaces in the parking ramp on the interior of the building. The exterior parking provides an additional 67 parking stalls and another 2 ADA parking stalls for a total of 443 parking stalls and 10 ADA stalls for a combined total of 453 parking stalls, a ratio of 1.6 stalls per unit.

Bicycle Parking

In addition to off-street vehicular parking, we are proposing dedicated bike storage areas that will provide 207 bike stalls in the covered parking area. In addition, there will be 36 bike parking spaces at the exterior of the buildings for use by visitors.

Site Density

The overall density of the development is 41.84 dwelling units per acre, which is consistent with the GIP approval.

Stormwater Management Overview

The stormwater for the site has been designed to handle all State, County, and City requirements on site. Additionally, due to downstream flooding issues, the City has asked that no more than 1 cfs per acre be discharged to Fitchrona Road in the 100-year storm event.

Stormwater discharge from the building and site has been designed to discharge to the infrastructure designed as part of that project. Incremental treatment infrastructure within the driveways and site will be provided as needed to connect to those facilities, and the project will meet certification requirements under the relevant ordinances, etc.

All City of Fitchburg ordinance requirements will be met.

Maintenance of all storm sewer structures, pipes, and stormwater management facilities within the development parcel will be the responsibility of the property owner.

Landscape Design

The new landscape design for this project will meet all City of Fitchburg landscape design requirements.

Refuse and Recycling Storage and Removal

A private waste management company will be contracted to provide recycling and refuse services as appropriate for the development. Dumpsters are located within the parking garage and will be brought outside on wheels and emptied.

Specific Implementation Plan Data

At the time of this Specific Implementation Plan, the proposed data is as follows:

Base Site Calculations

Proposed Zoning	PD (Planned Development)
Lot Area	284,196 SF (6.5242 acres)
Lot Coverage	146,782 SF = 51.7%
Dwelling Units (DU)	273 units
Lot Area/DU	1,041 SF/DU
Density	41.84 DU/acre
Gross Floor Area (incl. parking garage)	103,622 SF

Unit Types (includes 18 townhome units)

1-bedroom	152
2-bedroom	101
3-bedroom	20
<u>Total units</u>	<u>273</u>

Parking spaces

Surface	69
Garage	384
<u>Total parking spaces</u>	<u>453</u>

Bike parking spaces

Garage (long term)	207
Surface (short term)	36
<u>Total bike parking spaces</u>	<u>243</u>

Under the proposed Planned Development Zoning, the project shall meet the following GIP Zoning Standards:

Minimum Lot Area	6.6 Acres
Minimum Lot Width at Front Yard	
Setback	960 feet
Minimum Lot Depth	295 feet
Minimum Front Street Setback	30 feet
Minimum Side Setback	105 feet
Minimum Side Street Setback	20 feet
Minimum Rear Setback	30 feet
Maximum Building Height	45 feet

PROJECT IMPLEMENTATION

The construction is anticipated to start in the fall of 2024 and maintain a schedule that allows for all improvements to be done in one single phase with completion in late 2025.

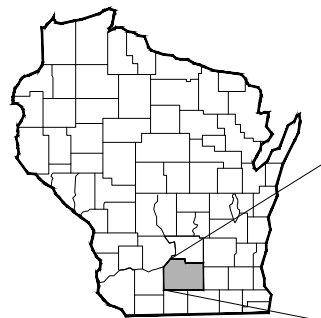
NEIGHBORHOOD INPUT

As this project is one portion of the larger project that has already had substantive neighborhood and community engagement and is consistent with that approved GIP and Comprehensive plan, no building-specific additional engagement has been planned at this time.

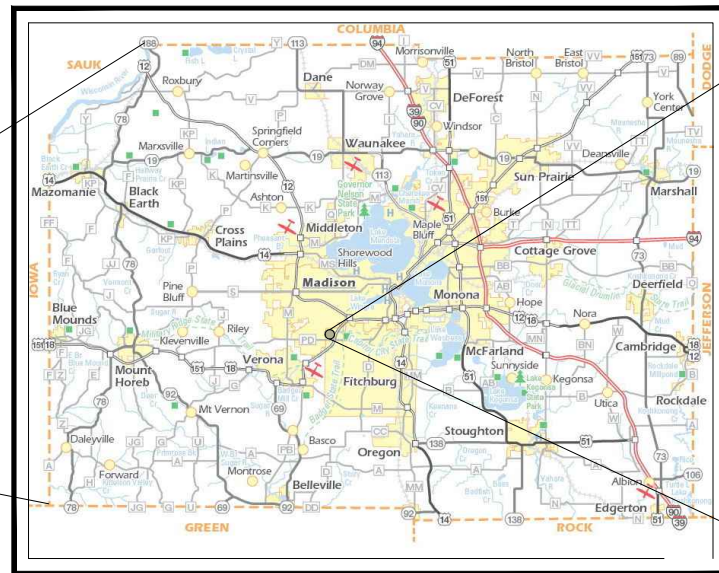
The neighborhood meeting for the GIP review took place on April 18, 2024.

2975 KAPEC ROAD CITY OF FITCHBURG

SECTION 06, TOWNSHIP 6N, RANGE 9E



REGIONAL MAP



DANE COUNTY
DANE COUNTY, WISCONSIN



SITE LOCATION MAP
CITY OF FITCHBURG,
DANE COUNTY, WISCONSIN



CONTACT INFORMATION

ENGINEER:
SNYDER & ASSOCIATES
BRIAN ARCAND
5010 VOGES ROAD
MADISON, WI 53718
608-838-0444 EXT. 3224

LAND OWNER
CF INVESTMENTS LLC
CRAIG FRANK
3636 SKYTOP ROAD
MCFARLAND, WI 53558

CITY OF FITCHBURG
TIM VOELKER - DIRECTOR OF PUBLIC WORKS
608-270-4261
TRACY FOSS - ASSISTANT DIRECTOR OF PUBLIC WORKS
608-270-4272
5520 LACY RD
FITCHBURG, WI 53711

UTILITY CONTACT INFORMATION

AT&T
CONTACT : LISA GUNDLACH
152 DIXON STREET
MADISON WI 53704
608-252-2006

SPECTRUM
CONTACT : BRANDON STORM
2701 DANIEL STREET
MADISON WI 53718
608-444-9493

MG&E - ELECTRIC
CONTACT : JIM HERFEL
133 BLAIR STREET
MADISON WI 53703
608-252-7224

MG&E - GAS
CONTACT : JANE ROSSING
133 BLAIR STREET
MADISON WI 53703
608-252-7233

Sheet List Table

Sheet Number	Sheet Title
C 100	TITLE SHEET
C 200	DEMO PLAN
C 300	SITE PLAN
C 400	GRADING PLAN
C 401	EROSION CONTROL PLAN
C 402	BASIN DETAILS
C 403	DETAILED GRADING PLAN - WEST
C 404	DETAILED GRADING PLAN - EAST
C 500	UTILITY PLAN
C 700	NOTES
C 701	EROSION CONTROL NOTES
C 702	EROSION CONTROL DETAILS
C 703	SITE & PAVEMENT DETAILS
C 704	SITE AND PAVEMENT DETAILS CONTINUED
C 705	SANITARY DETAILS
C 706	STORM DETAILS
C 707	WATER MAIN DETAILS
L 100	LANDSCAPE NOTES
L 200	LANDSCAPE PLAN
L 300	LANDSCAPE DETAILS

UTILITY WARNING

THE UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND/OR RECORDS OBTAINED. THE SURVEYOR MAKES NO GUARANTEE THAT THE UTILITIES OR SUBSURFACE FEATURES SHOWN COMPRISE ALL SUCH ITEMS IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UTILITIES OR SUBSTANCES FEATURES SHOWN ARE IN EXACT LOCATION INDICATED.



TO OBTAIN LOCATION OF PARTICIPANTS' UNDERGROUND FACILITIES BEFORE YOU DIG IN WISCONSIN

CALL DIGGERS HOTLINE
1-800-242-8511
TOLL FREE

WIS. STATUTE 182.0175 (1974) REQUIRES MIN. OF 3 WORK DAYS NOTICE BEFORE YOU EXCAVATE

CITY COMMENTS	09-05-24	BCA
SIP SUBMITTAL	07-25-24	BCA
REVISION	DATE	BY
Engineer: BCA	Checked By: MLC	Scale: 1" = ##
Technician: TECH	Date: 05-21-24	T-R-S: TTN-RRW-SS

Project No: 124,0465.30
Sheet C 100

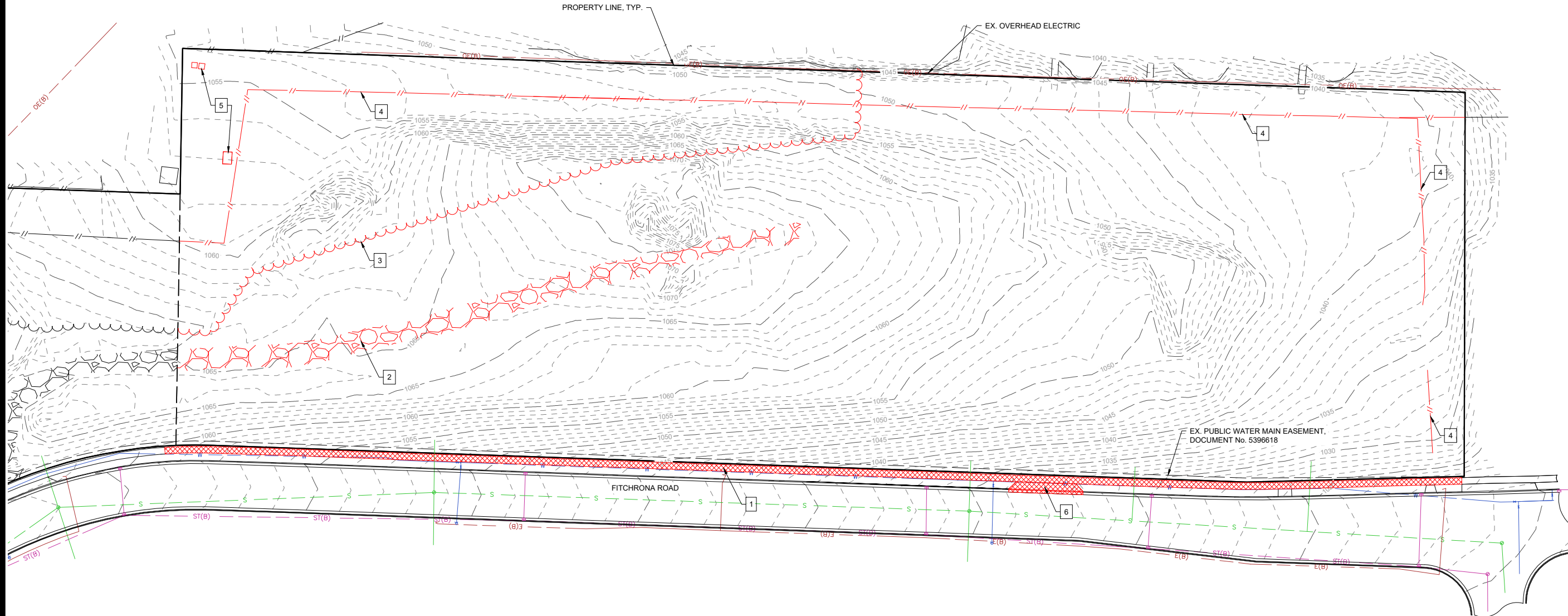
2975 KAPEC ROAD
TITLE SHEET
CITY OF FITCHBURG, DANE COUNTY, WI
SNYDER & ASSOCIATES, INC.
 5010 VOGES ROAD
 MADISON, WISCONSIN 53718
 608-838-0444 | www.snyder-associates.com



SNYDER & ASSOCIATES

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- DEMOLITION PLAN KEY NOTES**
1. REMOVE SIDEWALK
 2. REMOVE GRAVEL
 3. REMOVE TREES, SHRUBS, AND BRUSH
 4. REMOVE FENCE
 5. REMOVE CONCRETE
 6. REMOVE DRIVEWAY APRON AND DRIVEWAY CURB

CITY COMMENTS	09-05-24 BCA
SIP SUBMITTAL	07-25-24 BCA
MARK	REVISION
Engineer: BCA	Checked By: MLC
Technician: TECH	Date: 05-21-24
Scale: 1" = 40'	
T-R-S: TTN-RRW-SS	
Project No.: 124.0465.30	
Sheet C 200	

2975 KAPEC ROAD
EXISTING SITE & DEMOLITION PLAN
CITY OF FITCHBURG, DANE COUNTY, WI
SNYDER & ASSOCIATES, INC.
 5010 VOGES ROAD
 MADISON, WISCONSIN 53718
 608-835-0444 | www.snyder-associates.com



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Project No: 124.0465.30
 Sheet C 200

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SITE STATISTICS:

ZONING
PUD (PLANNED UNIT DEVELOPMENT)

PARCEL NUMBER
PART OF PARCEL NO. 0609-063-9920-2

GENERAL USE
MULTI-FAMILY

1-BEDROOM	152 UNITS
2-BEDROOM	101 UNITS
3-BEDROOM	20 UNITS
TOTAL	273 UNITS

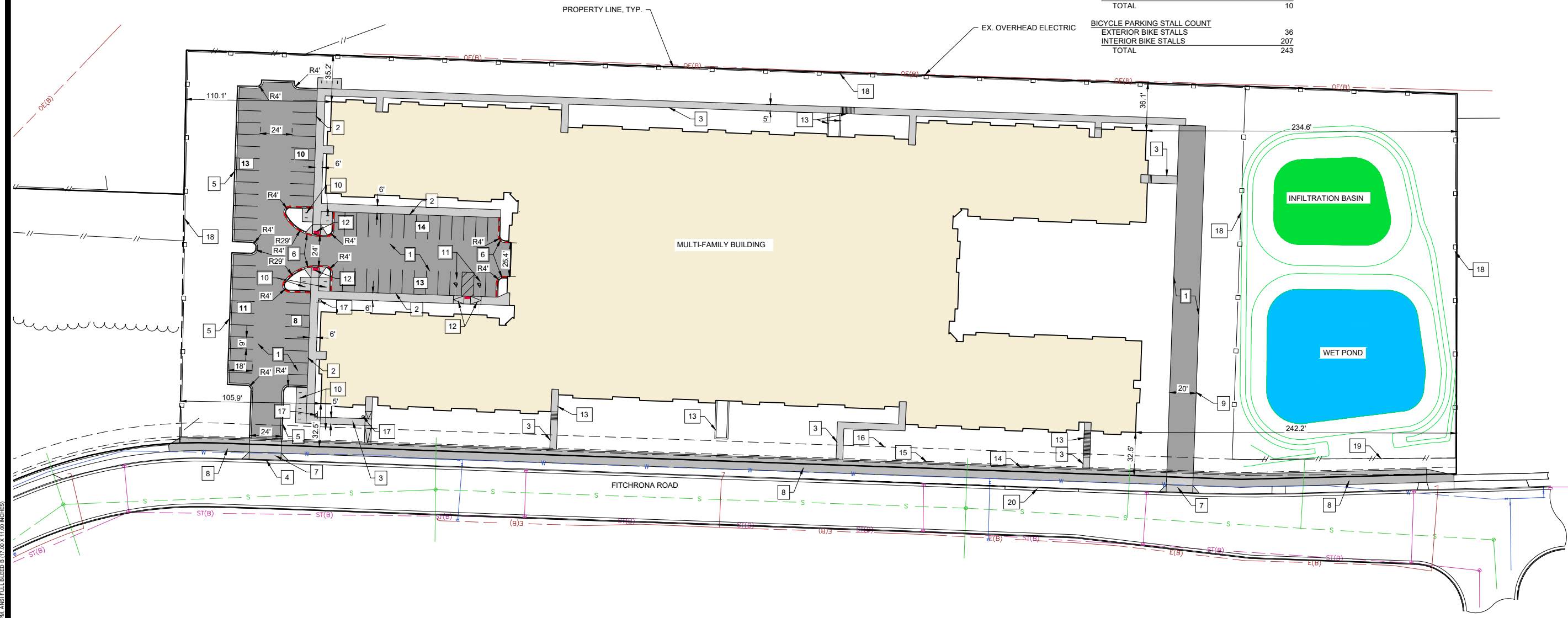
VEHICLE PARKING STALL COUNT	
EXTERIOR/OUTDOOR STALLS (NON-ADA)	67
INTERIOR/PARKING RAMP STALLS (NON-ADA)	376
TOTAL	443

EXTERIOR/OUTDOOR ADA STALLS	
EXTERIOR BIKE STALLS	2
INTERIOR/PARKING RAMP ADA STALLS	8
TOTAL	10

BICYCLE PARKING STALL COUNT	
EXTERIOR BIKE STALLS	36
INTERIOR BIKE STALLS	207
TOTAL	243

COVERAGE
BUILDING = 109,963 SQ. FT.
PARKING/DRIVE = 27,786 SQ. FT.
SIDEWALK/BICYCLE STALLS = 9,033 SQ. FT.
TOTAL IMPERVIOUS = 146,782 SQ. FT.

LOT AREA = 284,196 SQ. FT. (6.5242 ACRES)
LOT COVERAGE = 51.7%
DENSITY = 41.84 DWELLING UNITS/ACRE



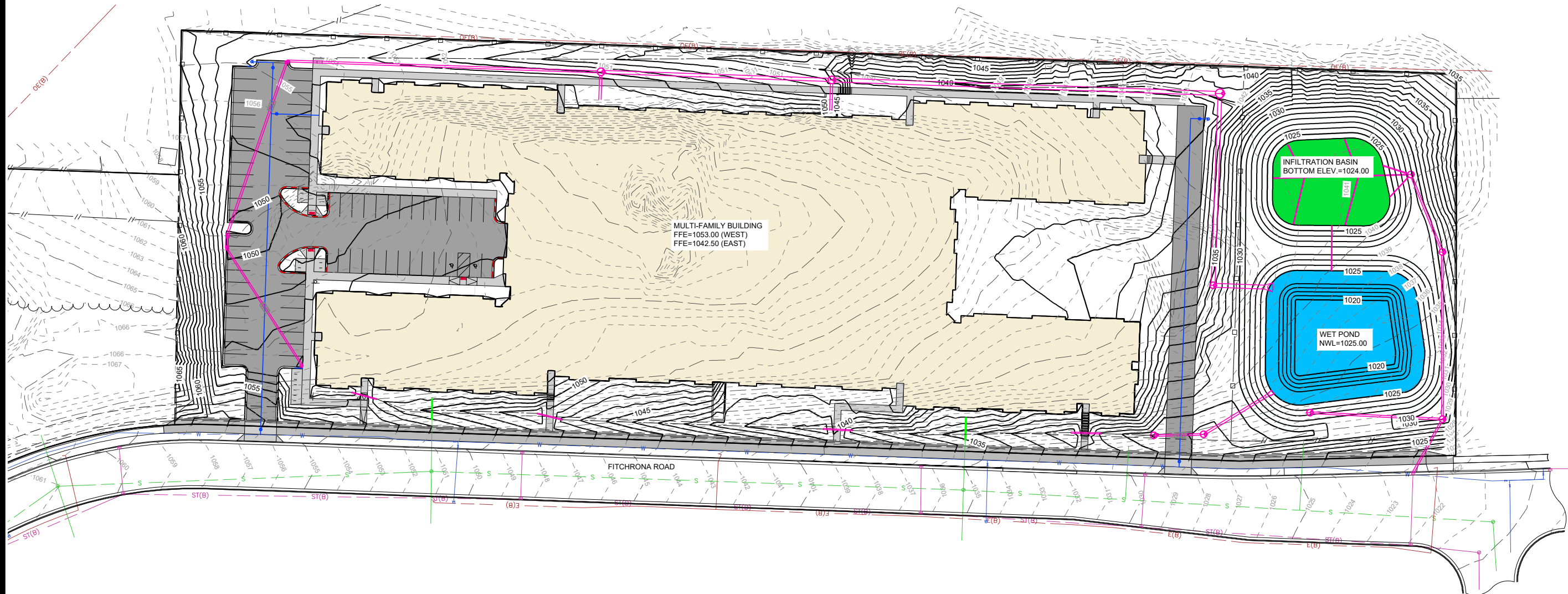
- SITE PLAN KEY NOTES**
1. ASPHALT PAVEMENT
 2. THICKENED EDGE SIDEWALK
 3. SIDEWALK
 4. CUT CURB FOR PROPOSED DRIVEWAY
 5. STANDARD 18" CURB & GUTTER
 6. REJECT 18" CURB & GUTTER
 7. CONCRETE DRIVEWAY APRON, 7" THICK CONCRETE THROUGH PATH
 8. PROPOSED 10' WIDE ASPHALT PATH
 9. FIRE ACCESS DRIVEWAY
 10. BIKE RACK
 11. ADA PARKING STALL
 12. ADA RAMP
 13. RETAINING WALL (DESIGNED BY OTHERS)
 14. 3' WIDE PUBLIC WATER MAIN EASEMENT, DOCUMENT NO. 5396618
 15. 5' PUBLIC BIKE AND PEDESTRIAN EASEMENT
 16. 12' PUBLIC UNDERGROUND UTILITY EASEMENT
 17. SIGNAGE DESIGNATING MAIN BUILDING ENTRANCE LOCATION
 18. PROPOSED WOOD FENCE
 19. PROPOSED METAL FENCE
 20. REPLACE CURB WITH 30" CONCRETE CURB & GUTTER AS SHOWN IN THE CITY OF FITCHBURG'S STANDARD DETAIL DRAWING 4.01

CITY COMMENTS	09-05-24	BCA
SIP SUBMITTAL	07-25-24	BCA
REVISION	DATE	BY
Checked By: MLC	Scale: 1" = 40'	
Engineer: BCA		
Technician: TECH	Date: 05-21-24	T-R-S: TTN+RRW-SS

2975 KAPEC ROAD
SITE PLAN
CITY OF FITCHBURG, DANE COUNTY, WI
SNYDER & ASSOCIATES, INC.
 5010 VOGES ROAD
 MADISON, WISCONSIN 53718
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CONSTRUCTION SEQUENCE
 (09-30-2024) - INSTALL EROSION CONTROL DEVICES
 (10-01-2024 - 10-15-2024) - STRIP AND STOCKPILE TOPSOIL
 (10-15-2024 - 05-16-2025) - GRADE SITE
 (05-16-2025 - 07-16-2025) - SEED AND MULCH AND ESTABLISH VEGETATION
 *REMOVE EROSION CONTROL MEASURES ONLY AFTER SOILS HAVE BEEN STABILIZED

CITY COMMENTS	09-05-24	BCA
SIP SUBMITTAL	07-25-24	BCA
MARK	REVISION	DATE
Engineer: BCA	Checked By: MLC	Scale: 1" = 40'
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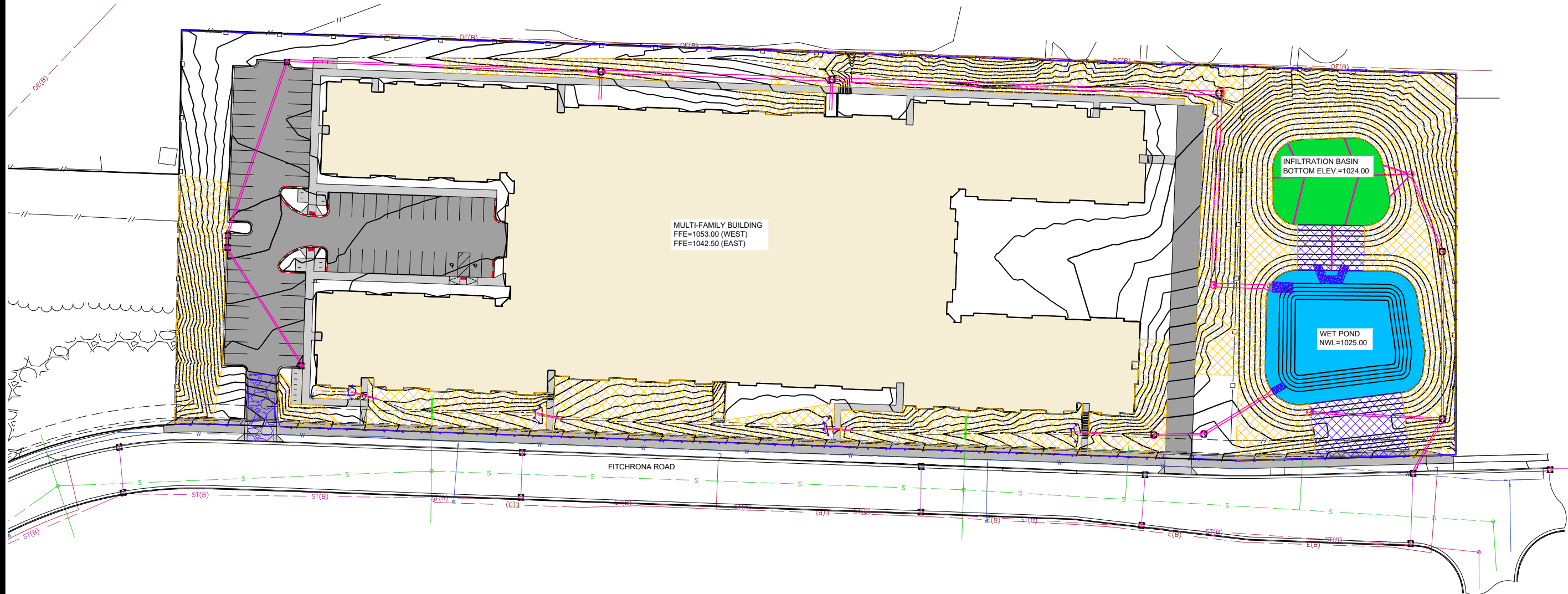
Project No: 124,0465.30
 Sheet C 400

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Project No: 124,0465.30
 Sheet C 400

LEGEND	
	CONSTRUCTION ENTRANCE
	SILT FENCE
	INLET PROTECTION
	EROSION MATTING
	TURF REINFORCEMENT MAT
	TEMPORARY STONE CULVERT PROTECTION
	RIP RAP



MULTI-FAMILY BUILDING
FFE=1053.00 (WEST)
FFE=1042.50 (EAST)

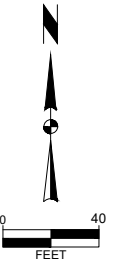
INFILTRATION BASIN
BOTTOM ELEV.=1024.00

WET POND
NWL=1025.00

FITCHRONA ROAD

KAPEC ROAD

CONSTRUCTION SEQUENCE
(09-30-2024) - INSTALL EROSION CONTROL DEVICES
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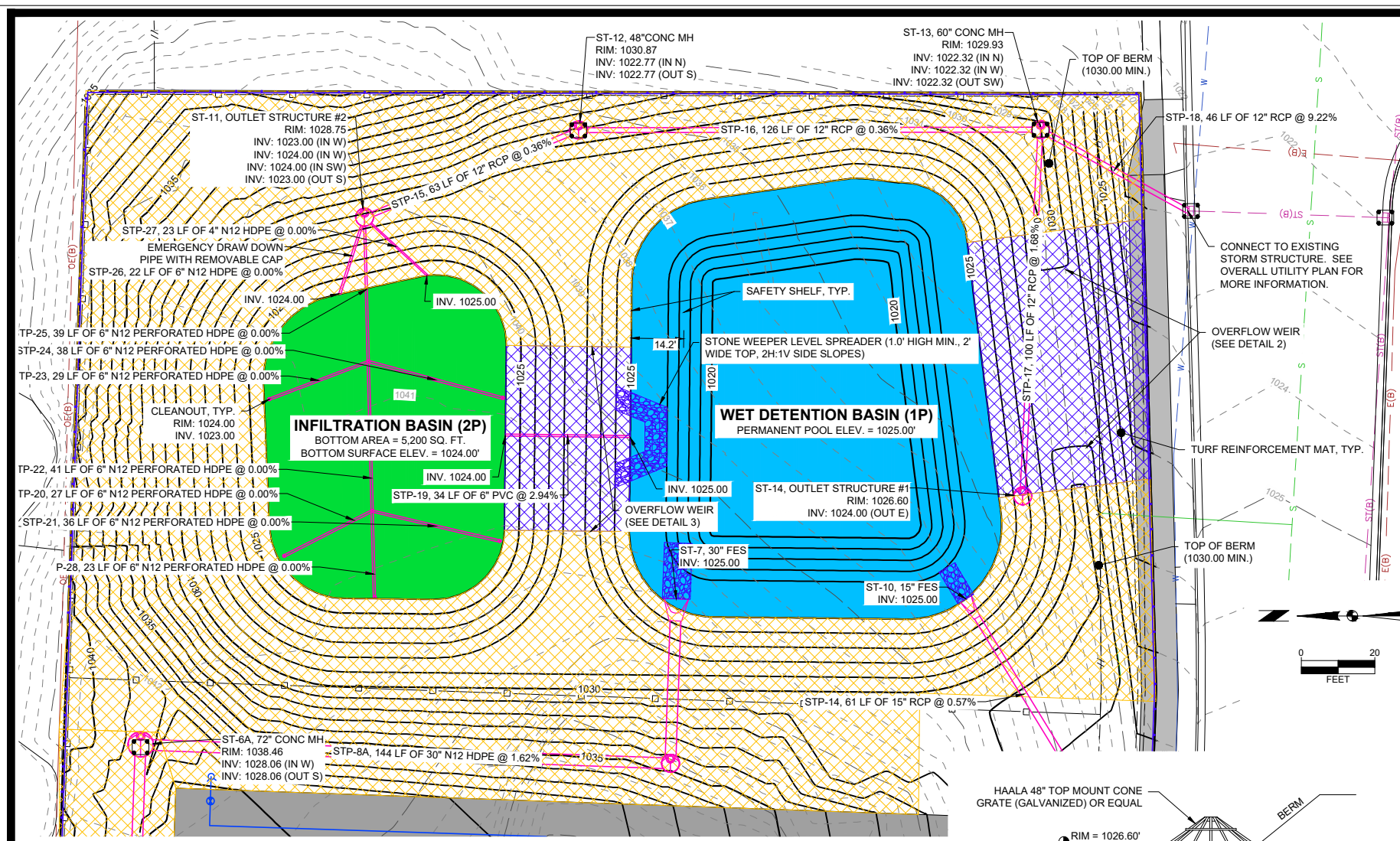
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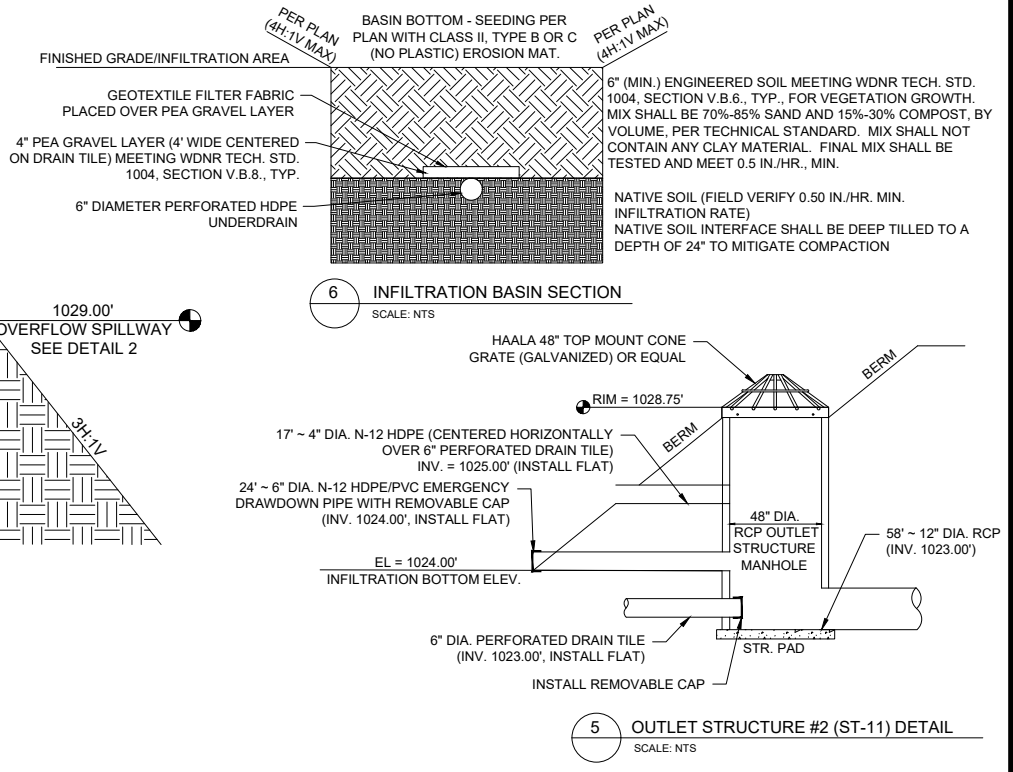
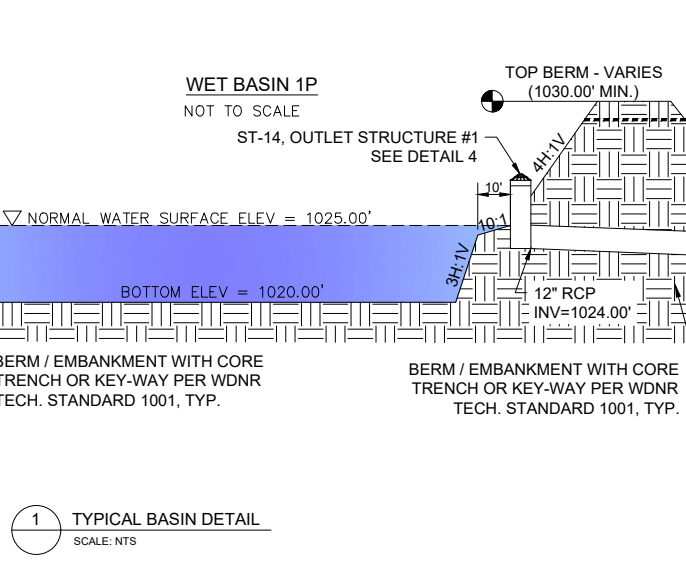
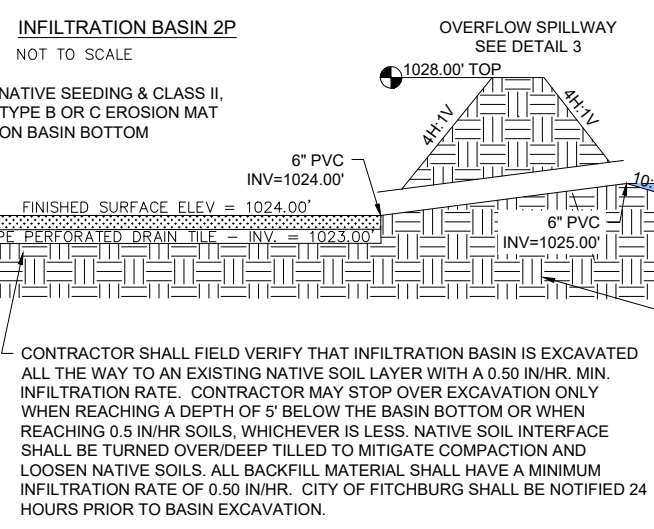
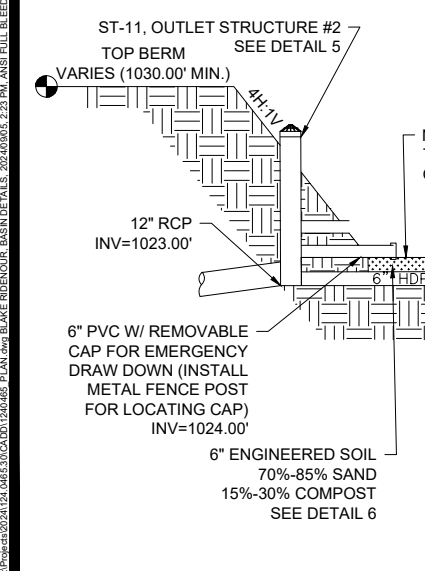
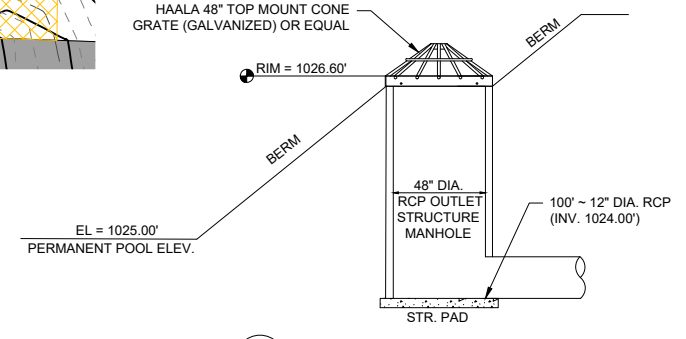
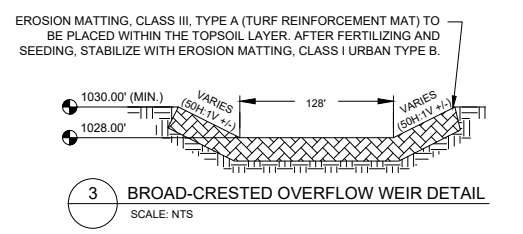
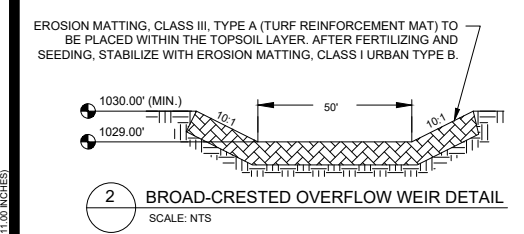
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Project No: 124,0465.30
Sheet C 401



- INFILTRATION BASIN CONSTRUCTION METHODS, MATERIALS, OPERATION, AND MAINTENANCE SHALL BE IN ACCORDANCE WITH WISCONSIN DEPARTMENT OF NATURAL RESOURCES (WDNR) TECHNICAL STANDARD 1003 & PROJECT SPECIFICATIONS. FOR TECH. STANDARD 1003, SEE WEBSITE http://dnr.wi.gov/topic/stormwater/documents/InfiltrationBasin_1003.pdf
- ROUGH GRADING & DRAINAGE - INFILTRATION AREA SHALL BE GRADED AND LEFT ONE FOOT ABOVE FINISHED GRADE DURING CONSTRUCTION. IF PONDING OR DRAINAGE ISSUES OCCUR WHILE LEAVING BASIN BOTTOM ONE FOOT ABOVE FINISHED GRADE, CONTRACTOR SHALL NOTIFY ENGINEER. FINAL GRADING AND INSTALLATION SHALL TAKE PLACE AFTER SITE DRAINING TO THE BASIN IS SEEDING AND VEGETATION IS ESTABLISHED. FOR BASINS WHERE MULTIPLE LOTS/PARCELS SUCH AS A RESIDENTIAL SUBDIVISION DRAIN TO THE BASIN, BRINGING THE BASIN ON-LINE SHALL BE IN ACCORDANCE WITH WDNR TECH. STANDARD 1003, SECTION V.C.2. SNOW SHALL NOT BE PLACED ON THE BASIN BOTTOM.
- EXCAVATION & BACKFILLING - CONTRACTOR MUST EXCAVATE BASINS UNTIL REACHING THE A NATIVE SOIL LAYER WITH A MINIMUM INFILTRATION RATE OF 0.5 IN./HR. BACKFILL TO THE 6" ENGINEERED SOIL LAYER SHALL CONSIST OF NATIVE SOIL OR SAND MEETING THE 0.5 IN./HR. (MIN.) INFILTRATION RATE.
- FIELD INFILTRATION TESTING - IMMEDIATELY AFTER ROUGH GRADING OF STORMWATER BIOINFILTRATION AND INFILTRATION DEVICES, PROVIDE FIELD INFILTRATION TESTING (COMMONLY TEST PITS) CONDUCTED BY A THIRD-PARTY TESTING AGENCY TO VERIFY INFILTRATION RATES FOR ALL STORMWATER BIOINFILTRATION AND INFILTRATION DEVICES. DETERMINE INFILTRATION RATES IN ACCORDANCE WITH WDNR "SITE EVALUATION FOR STORMWATER INFILTRATION", TECH. STANDARD 1002. FREQUENCY OF TESTING SHALL BE 1 TEST PER 5000 SQUARE FEET OF SURFACE AREA OF THE STORMWATER INFILTRATION DEVICE MEASURED AT THE DESIGN HIGH WATER LEVEL AND AT LEAST TWO TESTS PER DEVICE. FURNISH A REPORT OF THE TEST RESULTS TO ENGINEER.
- SLOPES - LONGITUDINAL SLOPE ON THE BASIN BOTTOM, IF APPLICABLE, SHALL NOT EXCEED 1 PERCENT. BASIN BOTTOM SHALL NOT HAVE LATERAL SLOPES. ALL SIDE SLOPES FOR INTERIOR AND EXTERIOR BERMS SHALL HAVE 4H:1V SLOPES OR FLATTER.
- BERM/EMBANKMENT CONSTRUCTION - EMBANKMENTS AND EMBANKMENT CORE TRENCH OR KEY-WAY SHALL CONFORM WITH WDNR TECHNICAL STANDARD "WET DETENTION BASIN" 1001. FOR TECH. STANDARD 1001, SEE WEBSITE <https://dnr.wisconsin.gov/sites/default/files/topic/Stormwater/1001WetDetentionPond.pdf>
- DRAW DOWN DEVICE - A MEANS SHALL BE PROVIDED TO QUICKLY REMOVE STANDING WATER FROM THE BASIN(S) FOR MAINTENANCE AND WINTER DIVERSION. SEE PLANS AND DETAILS.
- UNDERDRAIN / DRAIN TILE - IF A UNDERDRAIN IS PROPOSED (SEE PLAN), THE UNDERDRAIN SHALL BE IN ACCORDANCE WITH WDNR TECH. STANDARD "BIORETENTION FOR INFILTRATION" 1004, SECTION V.B.8., WHICH SHALL INCLUDE BUT NOT LIMITED TO PROTECTION FROM CLOGGING AND CLEANOUT PORTS INSTALLED. FOR TECH. STANDARD 1004, SEE WEBSITE <https://dnr.wisconsin.gov/sites/default/files/topic/Stormwater/1004Bioretention.pdf>
- WEATHER & SITE CONDITIONS - CONSTRUCTION SHALL BE SUSPENDED DURING PERIODS OF RAINFALL OR SNOW MELT. CONSTRUCTION SHALL REMAIN SUSPENDED IF PONDING WATER IS PRESENT OR IF RESIDUAL SOIL MOISTURE CONTRIBUTES SIGNIFICANTLY TO THE POTENTIAL FOR SOIL SMEARING, CLUMPING, OR OTHER FORMS OF COMPACTION.
- COMPACTION MITIGATION - COMPACTION MITIGATION SHALL BE PERFORMED IN ACCORDANCE WITH WDNR TECH. STANDARD 1003, SECTION V.C.3.b. IT IS RECOMMENDED THAT TRACKED VEHICLES BE USED IN CONSTRUCTION, THAT NO DISTURBANCE TAKE PLACE ON THE BASIN BOTTOM AREA, AND THAT THE BOTTOM AREA BE FENCED OFF TO PREVENT HEAVY EQUIPMENT FROM ACCESSING THE AREA DURING CONSTRUCTION. THE BASIN IS REQUIRED TO DRAW DOWN WITHIN 24 HOURS AFTER A RAINFALL EVENT IS COMPLETE. CONTRACTOR IS RESPONSIBLE FOR ANY CORRECTIVE ACTIONS REQUIRED DUE TO CONSTRUCTION METHODS, MATERIALS, AND MAINTENANCE, INCLUDING COMPACTION, THAT PREVENT THE BASIN FROM DRAWING DOWN IN THE REQUIRED AMOUNT OF TIME. IF THE ENGINEER OR REVIEWING AGENCY DETERMINES THE BASIN IS NOT FUNCTIONING OR DRAWING DOWN PER PLAN, A GEOTECHNICAL ENGINEER MAY BE REQUIRED TO INSPECT THE BASIN AND PROVIDE RECOMMENDATIONS FOR CORRECTIVE ACTIONS AND/OR CORRECTIVE ACTIONS SPECIFIED IN WDNR TECHNICAL STANDARD 1003 MAY BE REQUIRED AT THE CONTRACTOR'S EXPENSE.
- ENGINEERED SOIL - THE 6" ENGINEERED SOIL MIXTURE SHALL MEET THE REQUIREMENTS OF WDNR TECH. STANDARD 1004, SECTION V.B.6.d., HAVE A MINIMUM 0.5 IN./HR. INFILTRATION RATE, AND BE THOROUGHLY MIXED. SOILS BENEATH THE 6" ENGINEERED SOIL MIXTURE SHALL BE UNDERCUT AS NEEDED TO REACH A PERMEABLE LAYER MEETING REQUIREMENTS.
- VEGETATION - VEGETATIVE COVER SHALL BE ESTABLISHED IN ACCORDANCE WITH WDNR TECH. STANDARDS 1003, SECTION V.D. PERMANENT SEEDING SHALL BE PER PLAN, IF SPECIFIED. IF PERMANENT SEEDING IS NOT SPECIFIED IN PLANS/SPECIFICATIONS, SEEDING SHALL BE NATIVE SEEDING WITH A MIX, APPLICATION RATE, AND APPLICATION TIMING AS REQUIRED BY REVIEWING AUTHORITY OR PER RECOMMENDATION FROM A QUALIFIED NATIVE NURSERY IN THE PROJECT AREA IF NO LOCAL REQUIREMENTS EXIST. IT IS RECOMMENDED THAT PERMANENT SEEDING TAKE PLACE IN LATE FALL OR EARLY SPRING. TEMPORARY SEEDING OF INFILTRATION BASIN BOTTOM AND SIDE SLOPES SHALL TAKE PLACE IN LATE FALL IF NOT ALREADY PERMANENTLY SEEDING. TEMPORARY SEEDING SHALL BE WITH OATS TO HELP STABILIZE SOIL AND PREVENT EROSION. SEEDING, BOTH PERMANENT AND TEMPORARY, SHALL TAKE PLACE PRIOR TO ANY SNOW COVER.
- STABILIZATION - SIDE SLOPES SHALL BE STABILIZED PER THE EROSION CONTROL PLAN AND SIDE SLOPES 5H:1V OR STEEPER REQUIRE EROSION MATTING AS SPECIFIED ON THE PLAN. THE BASIN BOTTOM SHALL BE PROTECTED FROM EROSION AND WASHOUTS BY INSTALLING A CLASS II, TYPE B OR C, EROSION MAT THAT USES ONLY ORGANIC MATERIAL (NO PLASTIC), SUCH AS COCONUT MATTING, AND CONFORMS TO THE WISCONSIN DOT EROSION CONTROL PRODUCT ACCEPTABILITY LIST (PAL). MORE INFORMATION FOR WISDOT PAL CAN BE FOUND AT THE WEBSITE <https://wisconsindot.gov/Pages/doing-bus/eng-consultants/cnstl-srccs/tools/pal/default.aspx>. MULCHING SHALL CONFORM TO THE WDNR TECH. STANDARD "MULCHING FOR CONSTRUCTION SITES" 1058. FOR TECH. STANDARD 1058, SEE WEBSITE <https://dnr.wisconsin.gov/sites/default/files/topic/Stormwater/1058Mulching.pdf>
- AS-BUILT/RECORD DRAWINGS - THE BASIN SHALL BE CONSTRUCTED TO THE GRADES, ELEVATIONS, AND SPECIFICATION IN THE PLAN. AFTER GRADING AND TOP SOILING, THE ELEVATIONS OF THE BASIN SHALL BE SURVEYED FOR CONFORMANCE TO THE DESIGN SPECIFICATIONS. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY CORRECTIVE ACTIONS REQUIRED WHERE THE BASIN DEVIATES FROM THE PROPOSED PLAN.



MARK	REVISION	DATE	BY
09-05-24	BCA	07-25-24	BCA
CITY COMMENTS	SIP SUBMITTAL		
Engineer: BCA	Checked By: MLC	Date: 05-21-24	Scale: 1" = #'
Technician: TECH			T-R-S: TTN-RRV-SS

2975 KAPEC ROAD
BASIN DETAILS
CITY OF FITCHBURG, DANE COUNTY, WI
SNYDER & ASSOCIATES, INC.
5010 VOGES ROAD
MADISON, WISCONSIN 53718
608-838-0444 | www.snyder-associates.com

Project No: 124.0465.30
Sheet C 402



GRADING PLAN LEGEND:
 BS = BOTTOM SWALE
 BW = BOTTOM OF WALL
 PG = PROPOSED GROUND
 TP = TOP OF PAVEMENT
 TS = TOP OF SIDEWALK
 TW = TOP OF WALL
 XXXX.XX = PROPOSED SPOT GRADE
 (XXXX.XX) = EXISTING SPOT GRADE
 *ALL OTHER SPOT GRADES ARE EDGE OF PAVEMENT UNLESS OTHERWISE NOTED.

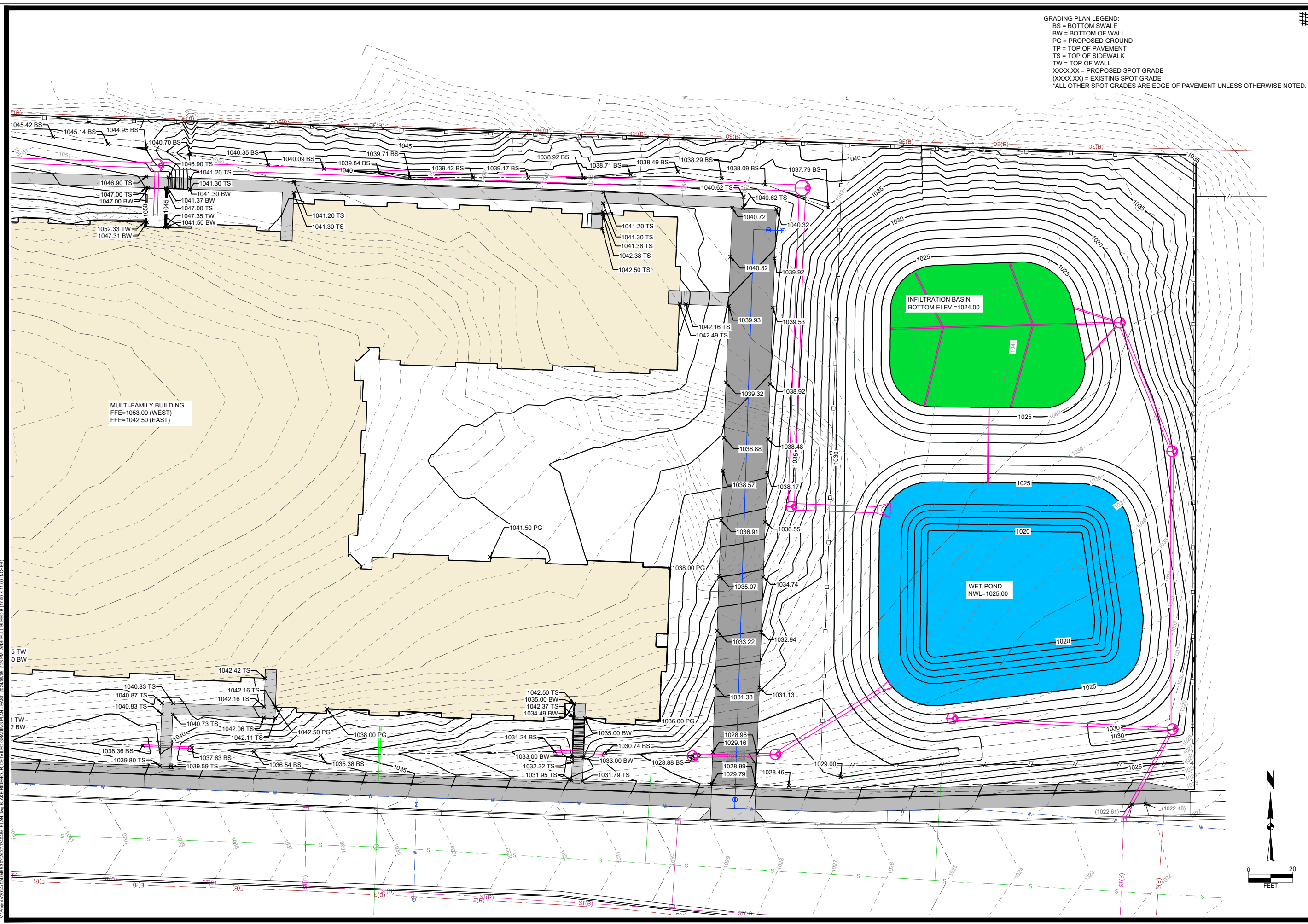
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REVISION		DATE	
Checked By: MLC		Date: 05-21-24	
Engineer: BCA			
Technician: TECH			
Project No.: 124.0465.30			
Sheet C 403			

2975 KAPEC ROAD
DETAILED GRADING PLAN - WEST
CITY OF FITCHBURG, DANE COUNTY, WI
SNYDER & ASSOCIATES, INC.
 5010 VOGES ROAD
 MADISON, WISCONSIN 53718
 608-838-0444 | www.snyder-associates.com

SNYDER & ASSOCIATES

Project No: 124.0465.30
 Sheet C 403

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GRADING PLAN LEGEND:
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 BW = BOTTOM OF WALL
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CITY COMMENTS	09-05-24	BCA
SIP SUBMITTAL	07-25-24	BCA
REVISION	DATE	BY
Checked By: MLC	Scale: 1" = 20'	
Engineer: BCA	Date: 05-21-24	T-R-S: TTN+RRW-SS
Technician: TECH		

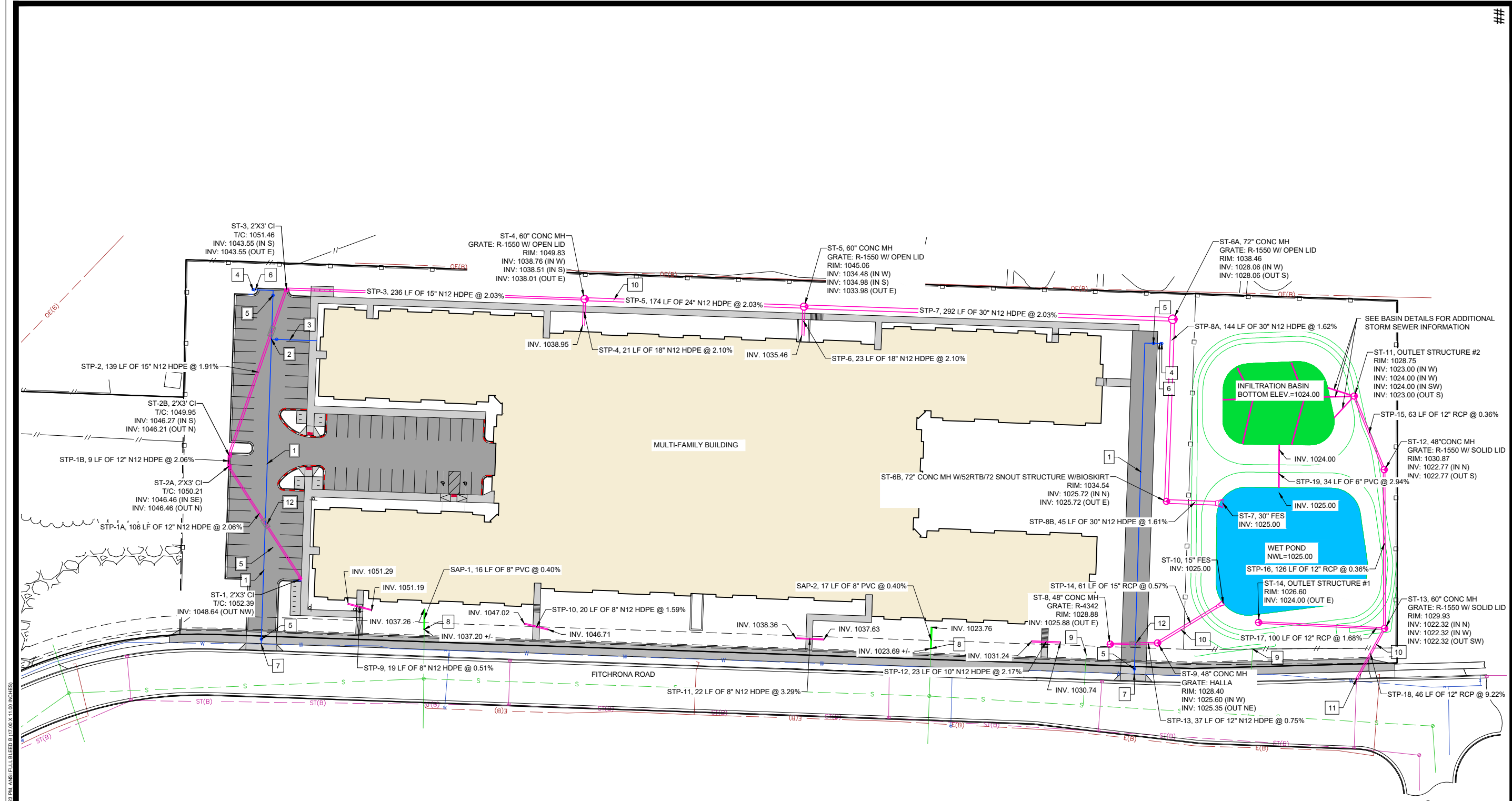
Sheet C 404

2975 KAPEC ROAD
Detailed Grading Plan - East
 CITY OF FITCHBURG, DANE COUNTY, WI
SNYDER & ASSOCIATES, INC.
 5010 VOEGES ROAD
 MADISON, WISCONSIN 53718
 608-835-0444 | www.snyder-associates.com



Project No: 124.0465.30
 Sheet C 404

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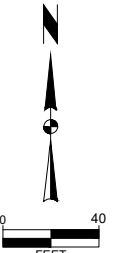


UTILITY PLAN NOTES

- PER CITY ORDINANCE, CONTRACTORS ARE NOT ALLOWED TO OPERATE CITY OWNED VALVES. THE CONTRACTOR SHALL CALL THE FITCHBURG UTILITY AT 608-270-4270 FOR OPERATION OF THESE VALVES.
- SAFE SAMPLE RESULTS NEED TO BE PROVIDED TO THE FITCHBURG UTILITY PRIOR TO PRESSURE TESTING THE PRIVATE WATER MAINS.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THAT THE EXISTING VALVES WILL HOLD THE PRESSURE TEST PRIOR TO CONNECTION. THE CITY IS NOT RESPONSIBLE FOR ANY COSTS INCURRED DUE TO THE CONTRACTOR NOT VERIFYING THAT THE EXISTING VALVE WILL HOLD THE PRESSURE TEST PRIOR TO CONNECTION. IF A NEW VALVE IS REQUIRED, THE APPLICANT WILL BE REQUIRED TO INSTALL ONE AT THEIR EXPENSE AT THE POINT OF CONNECTION.
- PRIVATE WATER MAIN BETWEEN THE MUNICIPAL SYSTEM UP TO AND INCLUDING PRIVATE HYDRANTS SHALL BE INSTALLED PER THE LATEST EDITION OF THE CITY OF FITCHBURG STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION. CORRECT NOTES IN REGARDS TO SPECIFICATIONS ACCORDINGLY.

UTILITY PLAN KEY NOTES

- 8" DUCTILE IRON PRIVATE WATER MAIN
- 8" WATER MAIN TEE
- 8" DUCTILE IRON PRIVATE WATER SERVICE
- PRIVATE FIRE HYDRANT
- 8" GATE VALVE
- 6"x8" REDUCER AT HYDRANT
- CONNECT TO EX. PUBLIC WATER MAIN 8"x12" CUT-IN TEE
- EXTEND EX. PRIVATE 8" SANITARY SEWER SERVICE
- ABANDON EX. 6" SANITARY LATERAL AT THE MAIN PER CITY OF FITCHBURG STANDARD SPECIFICATIONS. A 3" LINER SHALL BE INSTALLED TO SEAL THIS LATERAL TO AVOID DISTURBANCE OF THE ROAD.
- PRIVATE STORM SEWER
- CONNECT TO EX. STORM SEWER STRUCTURE:
EX. RIM = 1022.17
EX. INV. (12" RCP, SOUTH) = 1018.10
PR. INV. (12" RCP, NORTH) = 1018.10
- 4"x4"x8" INSULATION



MARK	REVISION	DATE	BY
Engineer: BCA	Checked By: MLC	Scale: 1" = 40'	
Technician: TECH	Date: 05-21-24	T-R-S: TTN-RRW-SS	

Project No: 124,0465.30
Sheet C 500

2975 KAPEC ROAD
UTILITY PLAN

CITY OF FITCHBURG, DANE COUNTY, WI

SNYDER & ASSOCIATES, INC.

5010 VOGES ROAD
MADISON, WISCONSIN 53718
608-835-0444 | www.snyder-associates.com

Project No: 124,0465.30
Sheet C 500

GENERAL CONDITIONS

- 1. THE CONTRACTOR SHALL NOTIFY THE OWNER AND THE MUNICIPALITY TWO WORKING DAYS (48 HOURS) PRIOR TO THE START OF CONSTRUCTION.
2. THE CONTRACTOR SHALL INDEMNIFY THE OWNER, THE ENGINEER, AND THE MUNICIPALITY, THEIR AGENTS, ETC, FROM ALL LIABILITY INVOLVED WITH THE CONSTRUCTION, INSTALLATION, AND TESTING OF THE WORK ON THIS PROJECT.
3. SITE SAFETY SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
4. THE BIDDER WILL BE SOLELY RESPONSIBLE FOR DETERMINING QUANTITIES AND SHALL STATE SUCH QUANTITIES IN HIS PROPOSAL. HE SHALL BASE HIS BID ON HIS OWN ESTIMATE OF THE WORK REQUIRED AND SHALL NOT RELY ON THE ENGINEER'S ESTIMATE.
5. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING SOIL CONDITIONS PRIOR TO COMMENCEMENT OF CONSTRUCTION. A GEOTECHNICAL REPORT IS AVAILABLE FROM THE OWNER. THE CONTRACTOR SHALL ABIDE BY THE RECOMMENDATIONS OF THE GEOTECHNICAL ENGINEER.
6. THE CONTRACTOR IS RESPONSIBLE FOR EXAMINING ALL SITE CONDITIONS PRIOR TO COMMENCEMENT OF CONSTRUCTION AND SHALL COMPARE FIELD CONDITIONS WITH DRAWINGS.
7. THE CONTRACTOR SHALL CONDUCT HIS WORK ACCORDING TO THE REQUIREMENTS OF THE PERMITS.
8. THE CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING ALL UTILITY INFORMATION SHOWN ON THE PLANS PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR SHALL CALL DIGGER'S HOTLINE AT 1-800-242-8511 TO NOTIFY THE UTILITIES OF HIS INTENTIONS, AND TO REQUEST FIELD STAKING OF EXISTING UTILITIES.
9. CONTRACTOR IS ADVISED THAT ALL MUD AND DEBRIS MUST NOT BE DEPOSITED ONTO THE ADJACENT ROADWAYS PER THE REQUIREMENT OF THE MUNICIPALITY OR OTHER APPROPRIATE GOVERNMENT AGENCIES.
10. ANY ADJACENT PROPERTIES OR ROAD RIGHT-OF-WAYS WHICH ARE DAMAGED DURING CONSTRUCTION MUST BE RESTORED BY THE CONTRACTOR. THE COST OF THE RESTORATION IS CONSIDERED INCIDENTAL, AND SHOULD BE INCLUDED IN THE BID PRICES.

CONCRETE SIDEWALK

- 1. SIDEWALK SHALL BE A MINIMUM OF 5" THICK ON A BASE OF 4" OF 3/4" DENSE AGGREGATE BASE COURSE. SIDEWALKS ACROSS DRIVEWAYS SHALL BE A MINIMUM OF 7" THICK ON A BASE OF 4" 3/4" DENSE AGGREGATE BASE COURSE.
2. SIDEWALKS SHALL MEET ADA REQUIREMENTS.
3. SIDEWALKS SHALL HAVE A MAXIMUM CROSS SLOPE OF 1.5%.
4. CURB RAMPS AND DETECTABLE WARNING FIELDS (TRUNCATED DOMES) WILL BE REQUIRED AT ALL ADA RAMPS. DETECTABLE WARNING FIELDS SHALL BE NEENAH #4898 OR METAPANEL BY METADOME, LLC, UNPAINTED OR APPROVED EQUAL.

MULTI-USE PATH

- 1. HMA PAVEMENT SHALL BE A MINIMUM OF 3.0" THICK ON 8" OF DENSE AGGREGATE BASE COURSE. SEE THE CITY OF FITCHBURG'S STANDARD DETAIL DRAWING 4.05 FOR MORE INFORMATION ABOUT THE MULTI-USE PATH.
2. MULTI-USE TRAILS SHALL MEET ADA REQUIREMENTS WHERE PRACTICAL.

STORM SEWER & STORM WATER MANAGEMENT NOTES

STORM SEWER AND STORMWATER MANAGEMENT SHALL BE AS FOLLOWS:

- 1. STORM SEWER PIPE BEDDING SHALL BE CLEAR STONE.
2. MINIMUM COVER FOR ALL STORM SEWER SHALL BE 2'.
3. EXCAVATED MATERIAL FROM THE TRENCH NOT SUITABLE FOR BACKFILL AS DEEMED BY THE PUBLIC SERVICES DIRECTOR SHALL BE HAULED OFF-SITE AND SELECT TRENCH BACKFILL WILL BE REQUIRED.
7. EXTREME CAUTION MUST BE FOLLOWED REGARDING THE COMPACTION OF ALL UTILITY TRENCHES. MECHANICALLY COMPACTED GRANULAR BACKFILL IS REQUIRED UNDER AND WITHIN 5 FEET OF ALL PAVEMENT INCLUDING SIDEWALKS AND FUTURE PARKING AREA AS SPECIFIED ON PLANS. FLOODING OF BACKFILL MATERIAL IS NOT ALLOWED. THE COST OF THIS GRANULAR MATERIAL AND ITS COMPACTION IS CONSIDERED INCIDENTAL AND SHALL BE INCLUDED IN THE COST OF THE PROPOSED UTILITY.
8. PRIOR TO FINAL PAVING OPERATIONS, THE UTILITY CONTRACTOR SHALL ADJUST ALL MANHOLE AND INLET RIMS AND VALVE BOXES TO FINISHED GRADE.
9. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING THE OWNER WITH A SET OF MARKED-UP PRINTS SHOWING ALL CHANGES MADE DURING THE CONSTRUCTION PROCESS. ANY CHANGES TO THE DRAWINGS OR ADDITIONAL ITEMS MUST BE REPORTED TO THE OWNER.
10. STORM SEWER WITHIN STREET RIGHT-OF-WAYS SHALL BE REINFORCED CONCRETE PIPE.
11. EXCAVATED MATERIAL FROM THE TRENCH NOT SUITABLE FOR BACKFILL AS DEEMED BY THE ENGINEER SHALL BE REMOVED AND REPLACED WITH SELECT TRENCH BACKFILL.
13. MANHOLES 3' DEEP AND GREATER SHALL BE CONSTRUCTED WITH STEPS.
14. INLETS AT LOW POINTS SHALL HAVE TYPE NEENAH TYPE R GRATES. INLETS ON GRADE SHALL BE DIRECTIONAL TYPE L. INLETS SHALL ALL BE STAMPED "DRAINS TO RIVER".
15. ALL INFILTRATION BASINS SHALL INCLUDE ENGINEERED SOILS OR PERMAMATRIX SOIL AMENDMENT APPLIED PER MANUFACTURER RECOMMENDATIONS.
16. ALL STORM WATER MANAGEMENT FACILITIES SHALL BE SEEDED WITH A NATIVE SEED MIXTURE WITHIN THE LIMITS OF THE OUTLOT OR EASEMENT. THE NATIVE SEED MIXTURE SHALL BE APPROVED BY THE ENGINEER.
17. ALL STORM WATER FACILITIES SHALL CONFORM TO WISDNR TECHNICAL STANDARDS FOR PRE AND POST CONSTRUCTION STORM WATER MANAGEMENT.
18. THE LAST TWO PIPES SHALL BE STRAPPED TOGETHER AT END SECTIONS ON ALL PIPES 18" AND GREATER.
19. TRASH GRATES SHALL BE PROVIDED ON ALL END SECTIONS ON ENCLOSED STORM SEWER NETWORKS.
20. EROSION MAT IS REQUIRED FOR ALL RESTORATION ON SLOPES AT OR GREATER THAN 4:1, AND IN AREAS THAT CHANNEL WATER.
21. BIODEGRADABLE EROSION MAT AND BIODEGRADABLE STAPLES ARE REQUIRED ON ALL SLOPES LESS THAN 3:1 OUTSIDE OF DRAINAGE CHANNELS WHERE EROSION MAT IS REQUIRED. EROSION MAT SHALL BE PROVIDED IN ALL STREET TERRACES.
22. SILT FENCE AND INLET PROTECTION REMOVAL IS REQUIRED AFTER VEGETATION HAS BEEN ESTABLISHED.
23. STORM SEWER SHALL BE HDPE UNLESS OTHERWISE SPECIFIED ON PLANS.
24. ADJUSTMENT RINGS SHALL HAVE A MINIMUM HEIGHT OF 4" AND A MAXIMUM HEIGHT OF 12". ADJUSTMENT RINGS FOR STORM MANHOLES SHALL BE POLYETHYLENE PLASTIC OR APPROVED EQUAL. CURB INLET ADJUSTMENT RINGS SHALL BE CONCRETE.

SANITARY SEWER

- 1. SANITARY SEWER SHALL BE PVC AND BEDDED WITH CLASS C BEDDING (CLEAR STONE). SEWER SHALL BE SDR-35 FOR DEPTHS UP TO 20' AND SDR-26 FOR DEPTHS GREATER THAN 20'.
2. TRACER WIRE SHALL BE INSTALLED WITH ALL NEW LATERALS IN ACCORDANCE TO THE STANDARD DETAIL DRAWINGS.
3. TRACER WIRE BOXES SHALL BE PROVIDED. "SEWER" SHALL BE STAMPED IN THE LID OF THE ACCESS BOX.
4. EXCAVATED MATERIAL FROM THE TRENCH NOT SUITABLE FOR BACKFILL AS DEEMED BY THE ENGINEER SHALL BE REMOVED AND REPLACED WITH SELECT TRENCH BACKFILL.
5. MANDREL TESTING IS REQUIRED ON ALL SANITARY SEWER. LOW PRESSURE AIR TESTS ARE REQUIRED ON ALL NEW SANITARY SEWER CONSTRUCTION.
6. LATERAL ENDS SHALL BE CAPPED WITH A GLUED ON CAP AND MARKED WITH A PAINTED 4X4 POST.
7. ALL SANITARY SEWER CONSTRUCTION SHALL MEET THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN.

WATER MAIN

- 1. WATER MAIN SHALL BE DUCTILE IRON AND BEDDED WITH TYPE 3 EMBEDMENT (SAND OR SAND SCREENINGS). BEDDING SHALL BE A MINIMUM OF 6" UNDER AND 12" OVER TOP OF THE PIPE.
2. WATER MAIN SHALL BE INSTALLED WITH TRACER WIRE. TRACER WIRE SHALL EXTEND TO THE SURFACE AT ALL HYDRANTS IN A TRACER WIRE ACCESS BOX.
3. MECHANICAL JOINT FITTINGS WITH MEGA LUGS ARE REQUIRED FOR ALL DIRECTIONAL CHANGE FITTINGS AND WATERMAIN ENDS. ALL BOLTS SHALL BE STAINLESS STEEL. ALL FITTINGS SHALL BE "MADE IN AMERICA" CERTIFIED.
4. LATERAL ENDS SHALL BE MARKED WITH A PAINTED 4X4 WOOD POST.
5. WATER MAINS SHALL UNDERGO A PRESSURE AND LEAKAGE TEST. SERVICES SHALL BE TESTED TO THE CURB STOP. SERVICES 4" AND LARGER WITH JOINTED PIPE SHALL BE TESTED AGAINST THE VALVE WITH A SECOND TEST OUT TO THE PLUG. THE SECOND TEST MAY BE OF SHORTER DURATION AS APPROVED BY THE PUBLIC SERVICES DIRECTOR.
6. EXCAVATED MATERIAL FROM THE TRENCH NOT SUITABLE FOR BACKFILL AS DEEMED BY THE ENGINEER SHALL BE REMOVED AND REPLACED WITH SELECT TRENCH BACKFILL.
7. ALL WATER MAIN CONSTRUCTION SHALL MEET THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN.
8. INSULATION SHALL BE PROVIDED AT ALL STORMS SEWER CROSSINGS OF MAINS AND LATERALS.

ADDITIONAL UTILITY NOTES

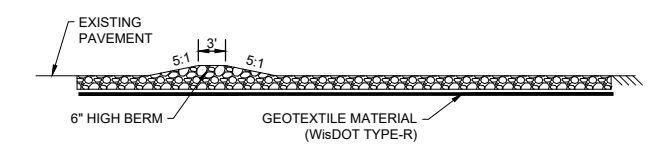
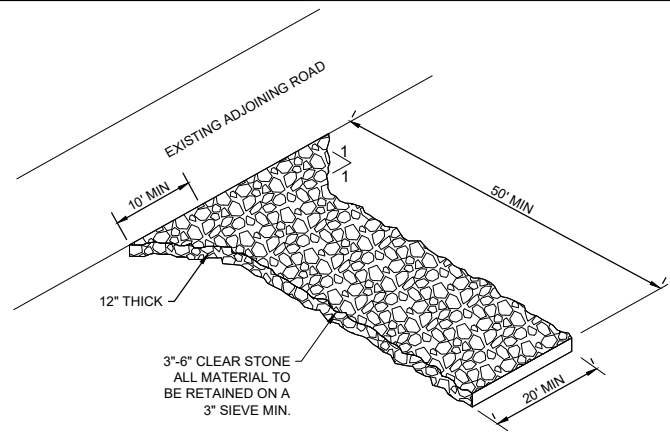
- 1. THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL EXISTING UTILITIES PRIOR TO THE START OF CONSTRUCTION.
2. BEFORE PROCEEDING WITH ANY UTILITY CONSTRUCTION, THE CONTRACTOR SHALL EXCAVATE EACH EXISTING LATERAL OR POINT OF CONNECTION AND VERIFY THE LOCATION AND ELEVATION OF ALL UTILITIES. IF ANY EXISTING UTILITIES ARE NOT AS SHOWN ON THE DRAWINGS, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY FOR POSSIBLE REDESIGN.
3. PRIOR TO FINAL PAVING OPERATIONS, THE UTILITY CONTRACTOR SHALL ADJUST ALL MANHOLE AND INLET RIMS AND VALVE BOXES TO FINISHED GRADE.
4. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING THE OWNER WITH A SET OF MARKED-UP PRINTS SHOWING ALL CHANGES MADE DURING THE CONSTRUCTION PROCESS. ANY CHANGES TO THE DRAWINGS OR ADDITIONAL ITEMS MUST BE REPORTED TO THE OWNER.
5. THE PROPOSED IMPROVEMENTS SHALL BE CONSTRUCTED ACCORDING TO WISCONSIN ADMINISTRATIVE CODE. SECTION SPS 382-384, LATEST EDITION, THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN, LATEST EDITION, AND THE LOCAL ORDINANCES AND SPECIFICATIONS.
6. ALL CONNECTIONS TO EXISTING PIPES AND MANHOLES SHALL BE CORED CONNECTIONS.
7. PROPOSED SANITARY SEWER, WATER MAIN, AND INTERNALLY CONNECTED STORM SEWER SHOWN ON THIS PLAN SHALL TERMINATE AT POINT FIVE (5) FEET FROM THE EXTERIOR BUILDING WALL. STORM SEWER CONNECTING TO EXTERIOR DOWN SPOUTS SHALL BE PER DETAILS ON THE ARCHITECTURAL PLANS. THE EXACT LOCATION OF ALL DOWN SPOUTS SHALL BE PER THE ARCHITECTURAL PLANS.
8. EXTREME CAUTION MUST BE FOLLOWED REGARDING THE COMPACTION OF ALL UTILITY TRENCHES. MECHANICALLY COMPACTED GRANULAR BACKFILL IS REQUIRED UNDER AND WITHIN 5 FEET OF ALL PAVEMENT INCLUDING SIDEWALKS. FLOODING OF BACKFILL MATERIAL IS NOT ALLOWED. THE COST OF THIS GRANULAR MATERIAL AND ITS COMPACTION IS CONSIDERED INCIDENTAL AND SHALL BE INCLUDED IN THE COST OF THE PROPOSED UTILITY.
9. TRACER WIRE SHALL BE INSTALLED ON ALL BURIED NON-METALLIC SANITARY SEWERS, PRIVATE SANITARY INTERCEPTOR MAIN SEWERS, STORM BUILDING SEWERS, AND PRIVATE STORM INTERCEPTOR MAIN SEWERS THAT DISCHARGE TO MUNICIPAL MAINS. TRACER WIRE SHALL BE A MINIMUM OF 12-GAUGE, INSULATED, SINGLE-CONDUCTOR COPPER WIRE OR EQUIVALENT. TRACER WIRE COLOR SHALL BE BLUE FOR POTABLE WATER, GREEN FOR SANITARY SEWER, AND BROWN FOR STORM SEWER.

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Table with columns: CITY COMMENTS, SIP SUBMITTAL, REVISION, MARK, Engineer: BCA, Checked By: MLC, Date: 05-21-24, T-R-S: TTN-RRW-SS, Scale: 1" =, Project No: 124.0465.30, Sheet

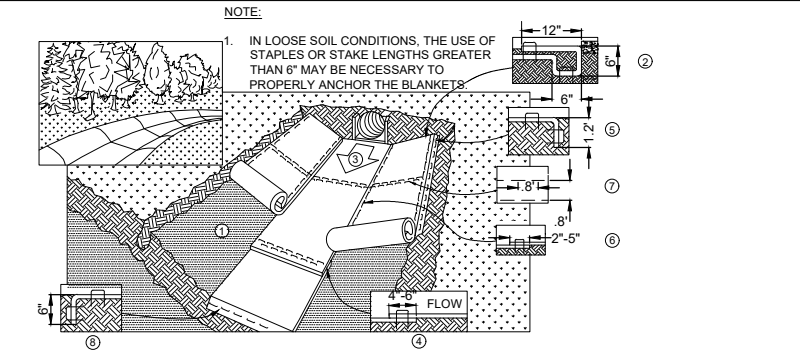
2975 KAPEC ROAD
CITY OF FITCHBURG, DANE COUNTY, WI
NOTES
SNYDER & ASSOCIATES, INC.
5010 VOGES ROAD
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SNYDER & ASSOCIATES logo
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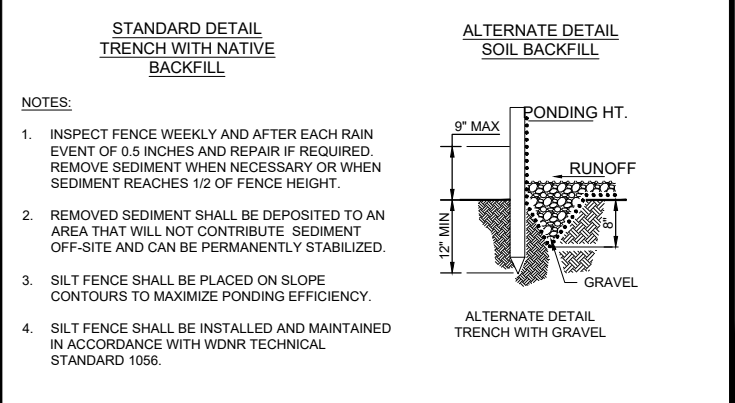
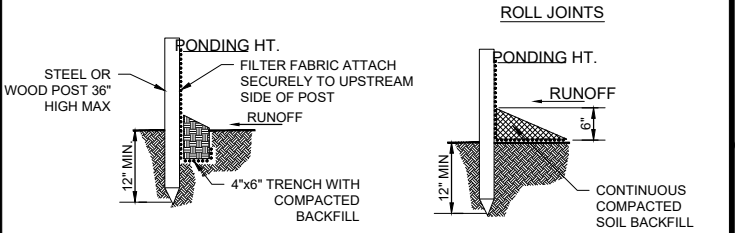
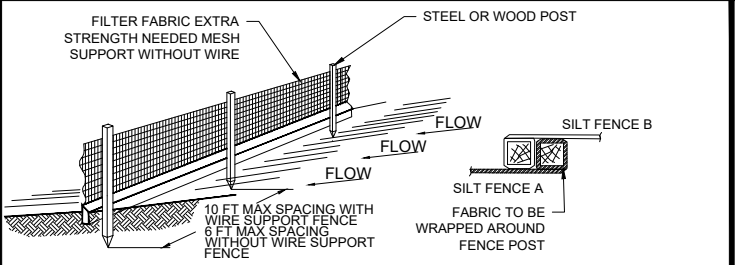
- NOTE:**
1. MAINTAIN THE ROCK ENTRANCE TO PREVENT TRACKING ONTO PAVEMENT

1 **STONE ENTRANCE DETAIL**
SCALE: 3"=1'



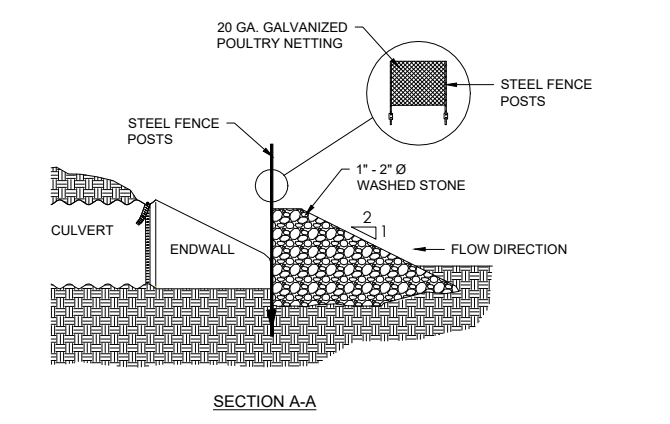
- NOTE:**
1. IN LOOSE SOIL CONDITIONS, THE USE OF STAPLES OR STAKE LENGTHS GREATER THAN 6" MAY BE NECESSARY TO PROPERLY ANCHOR THE BLANKETS
- INSTALLATION:**
1. PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING APPLICATION OF FERTILIZER AND SEED.
 2. BEGIN AT THE TOP OF THE CHANNEL BY ANCHORING THE BLANKET IN A 6" DEEP X 6" WIDE TRENCH WITH APPROXIMATELY 12" OF BLANKET EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE BLANKET WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" PORTION OF BLANKET BACK OVER SEED AND COMPACTED SOIL. SECURE BLANKET OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" APART ACROSS THE WIDTH OF THE BLANKET.
 3. ROLL CENTER BLANKET IN DIRECTION OF WATER FLOW IN BOTTOM OF CHANNEL. BLANKETS WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL BLANKETS MUST BE SECURELY FASTENED TO THE SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS RECOMMENDED BY THE MANUFACTURER.
 4. PLACE CONSECUTIVE BLANKETS END OVER END (SHINGLE STYLE) WITH A 4"-6" OVERLAP. USE A DOUBLE ROW OF STAPLES STAGGERED 4" APART AND 4" ON CENTER TO SECURE BLANKETS.
 5. FULL LENGTH EDGE OF BLANKETS AT TOP OF SIDE SLOPE MUST BE ANCHORED WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN A 6" DEEP X 6" WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
 6. A STAPLE CHECK SLOT IS RECOMMENDED AT 30 TO 40 FOOT INTERVALS. USE A DOUBLE ROW OF STAPLES STAGGERED 4" APART AND 4" ON CENTER OVER ENTIRE WIDTH OF THE CHANNEL.
 7. THE TERMINAL END OF THE BLANKETS MUST BE ANCHORED WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN A 6" DEEP X 6" WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
 8. EROSION MAT SHALL EXTEND FOR WHICHEVER IS GREATER: UPSLOPE ONE FOOT MIN. VERTICALLY FROM DITCH BOTTOM OR 6" HIGHER THAN DESIGN FLOW DEPTH.
 9. EROSION MAT SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH WDNR TECHNICAL STANDARDS 1053.

2 **EROSION CONTROL MAT - CHANNEL INSTALLATION**
SCALE: 3"=1'

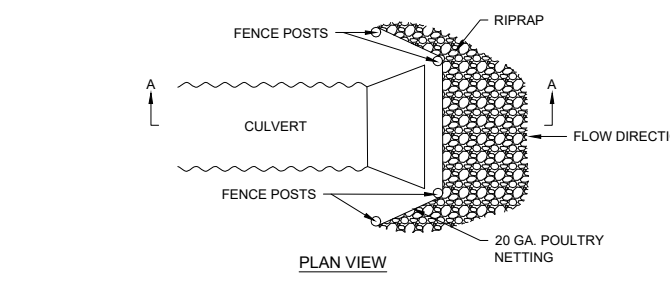


- NOTES:**
1. INSPECT FENCE WEEKLY AND AFTER EACH RAIN EVENT OF 0.5 INCHES AND REPAIR IF REQUIRED. REMOVE SEDIMENT WHEN NECESSARY OR WHEN SEDIMENT REACHES 1/2 OF FENCE HEIGHT.
 2. REMOVED SEDIMENT SHALL BE DEPOSITED TO AN AREA THAT WILL NOT CONTRIBUTE SEDIMENT OFF-SITE AND CAN BE PERMANENTLY STABILIZED.
 3. SILT FENCE SHALL BE PLACED ON SLOPE CONTOURS TO MAXIMIZE PONDING EFFICIENCY.
 4. SILT FENCE SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH WDNR TECHNICAL STANDARD 1056.

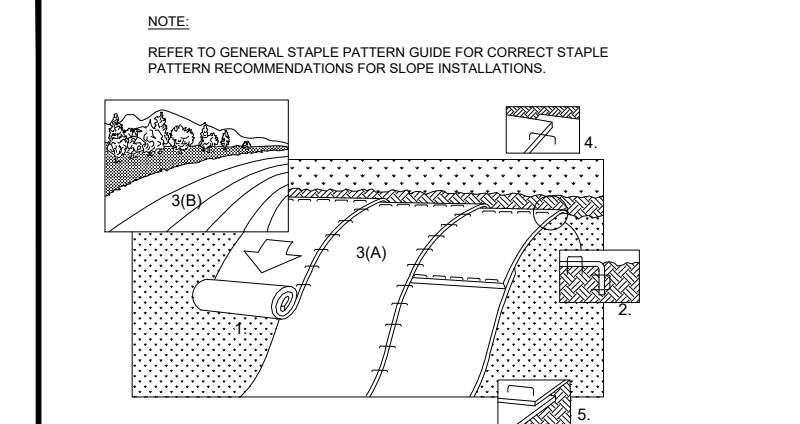
3 **SILT FENCE DETAIL**
SCALE: 3"=1'



- NOTES:**
1. STONE CULVERT PROTECTION SHOWN TO BE USED FOR CULVERTS UP TO 18" IN DIAMETER. CONSULT ENGINEER FOR MODIFICATIONS FOR >18" DIAMETER CULVERTS.



4 **STONE CULVERT PROTECTION**
SCALE: 3"=1'



- NOTE:**
- REFER TO GENERAL STAPLE PATTERN GUIDE FOR CORRECT STAPLE PATTERN RECOMMENDATIONS FOR SLOPE INSTALLATIONS.
- INSTALLATION:**
1. PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING APPLICATION OF FERTILIZER AND SEED. NOTE: WHEN USING CELL-O-SEED DO NOT SEED PREPARED AREA. CELL-O-SEED MUST BE INSTALLED WITH PAPER SIDE DOWN.
 2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE BLANKET IN 6" DEEP X 6" WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
 3. ROLL THE BLANKETS (A.) DOWN THE SLOPE (B.) HORIZONTALLY ACROSS THE SLOPE
 4. THE EDGES OF PARALLEL BLANKETS MUST BE STAPLED WITH APPROXIMATELY 2" OVERLAP.
 5. WHEN BLANKETS MUST BE SPLICED DOWN THE SLOPE, PLACE BLANKETS END OVER END (SHINGLE STYLE) WITH APPROXIMATELY 4" OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" APART.
 6. ALL BLANKETS MUST BE SECURELY FASTENED TO THE SLOPE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS RECOMMENDED BY THE MANUFACTURER.
 7. EROSION MAT SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH WDNR TECHNICAL STANDARD # 1052.

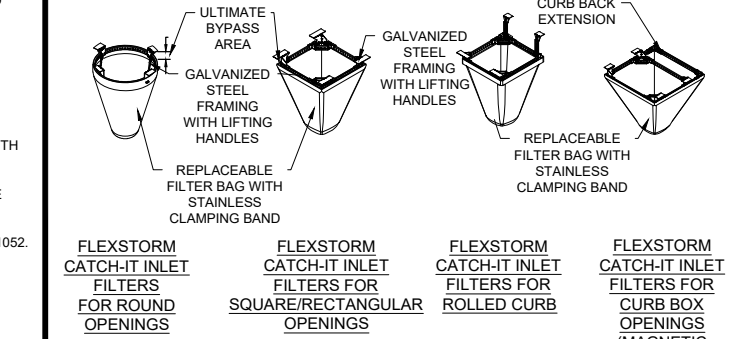
5 **EROSION CONTROL MAT - SLOPE INSTALLATION**
SCALE: 3"=1'

- NOTES:**
- *FLOW RATINGS SHOWN ARE 50% MAXIMUM
1. ALL FRAMING IS CONSTRUCTED OF CORROSION RESISTANT STEEL FRAMING FOR PROLONGED PRODUCT LIFE.
 2. TOTAL BYPASS CAPACITY WILL VARY WITH EACH SIZED DRAINAGE STRUCTURE. FLEXSTORM DESIGNS FRAMING BYPASS TO MEET OR EXCEED THE DESIGN FLOW OF THE PARTICULAR DRAINAGE STRUCTURE. CONCRETE STRUCTURES MAY REQUIRE ADDITIONAL REVIEW.
 3. UPON ORDERING THE ADS P/N CONFIRMATION OF THE DOT CALLOUT, FLEXSTORM ITEM CODE, CASTING MAKE AND MODEL, OR DETAILED DIMENSIONAL FORMS MUST BE PROVIDED.
 4. FOR WRITTEN SPECIFICATIONS AND MAINTENANCE GUIDELINES VISIT WWW.INLETFILTERS.COM

INSTALLATION:

1. REMOVE GRATE
2. DROP FLEXSTORM INLET FILTER ONTO LOAD BEARING LIP OF CASTING OR CONCRETE STRUCTURE
3. REPLACE GRATE

Product selection for FLEXSTORM CATCH-IT Filters (Temporary Inlet Protection)							
Neenah Casting	Inlet Type	Grate Size	Opening Size	Bag Cap (ft ²)	Flow Ratings (CFS)		ADS P/N
					FX	Bypass	
1040/1642/1733	Round	26	24	1.9	1.5	5.4	62MRDFX
3067 w/FLAP	Curb Box	35.25 x 17.75	33.0 x 15.0	3.8	1.9	5.6	62LCBEXTFX
3067 EXTENDED BACK	Curb Box	35.25 x 17.75	33.0 x 15.0	4.4	2.3	5.8	62LCBEXTFX
3246A	Curb Box	35.75 x 23.875	33.5 x 21.0	4.2	2.2	3.3	62LCBFX
3030	Square/Rect (SQ)	23 x 16	20.5 x 13.5	1.6	1.4	2.2	62MCBFX
3067-C	Square/Rect (SQ)	35.25 x 17.75	33 x 15	3.2	2.0	5.2	62LSOFX



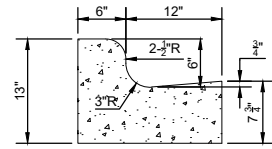
6 **INLET PROTECTION DETAIL**
SCALE: 3"=1'

CITY COMMENTS	09-05-24	BCA
SIP SUBMITTAL	07-25-24	BCA
REVISION	DATE	BY
Checked By: MLC	Scale: 1" = #ft	
Engineer: BCA	Date: 05-21-24	T-R-S: TTN-RRW-SS
Technician: TECH		

Project No: 124.0465.30
Sheet C 702

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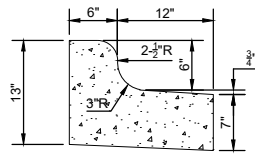




NOTES:

- LATERAL CONTRACTION JOINTS SHALL BE PLACED AT INTERVALS OF NOT MORE THAN 15' NOR LESS THAN 6' IN LENGTH. THE JOINTS SHALL BE A MINIMUM OF 3" IN DEPTH. EXPANSION JOINTS SHALL BE PLACED TRANSVERSELY AT RADIUS POINTS ON CURVES OF RADIUS 200' OR LESS AND AT ANGLE POINTS, OR AS DIRECTED BY THE ENGINEER.
- THE EXPANSION JOINT SHALL BE A ONE PIECE ASPHALTIC MATERIAL HAVING THE SAME DIMENSIONS AS CURB & GUTTER AT THAT STATION AND BE 1/2" THICK. IN ALL CASES, CONCRETE CURB & GUTTER SHALL BE PLACED ON THOROUGHLY COMPACTED CRUSHED STONE.

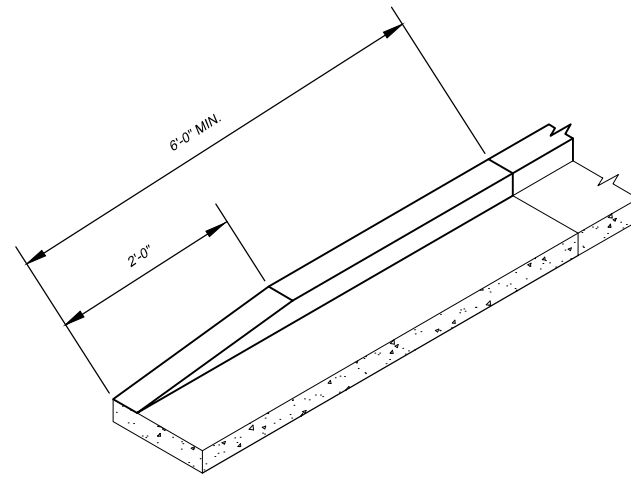
1 18" STANDARD CONCRETE CURB & GUTTER
SCALE: 1" = 1'



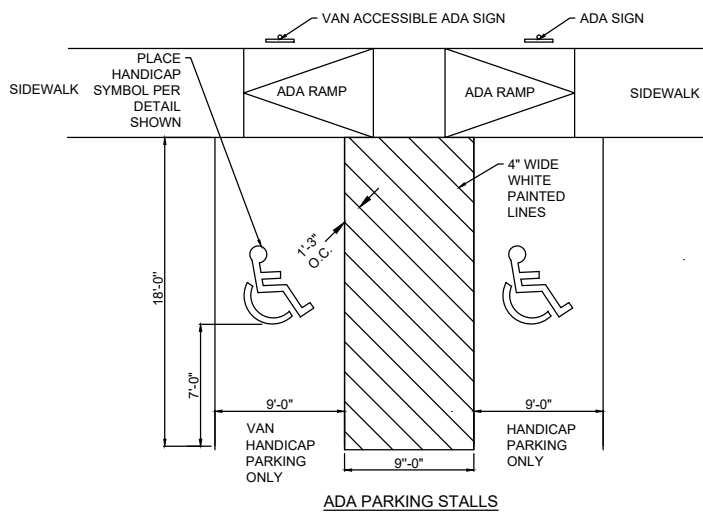
NOTES:

- LATERAL CONTRACTION JOINTS SHALL BE PLACED AT INTERVALS OF NOT MORE THAN 15' NOR LESS THAN 6' IN LENGTH. THE JOINTS SHALL BE A MINIMUM OF 3" IN DEPTH. EXPANSION JOINTS SHALL BE PLACED TRANSVERSELY AT RADIUS POINTS ON CURVES OF RADIUS 200' OR LESS AND AT ANGLE POINTS, OR AS DIRECTED BY THE ENGINEER.
- THE EXPANSION JOINT SHALL BE A ONE PIECE ASPHALTIC MATERIAL HAVING THE SAME DIMENSIONS AS CURB & GUTTER AT THAT STATION AND BE 1/2" THICK. IN ALL CASES, CONCRETE CURB & GUTTER SHALL BE PLACED ON THOROUGHLY COMPACTED CRUSHED STONE.

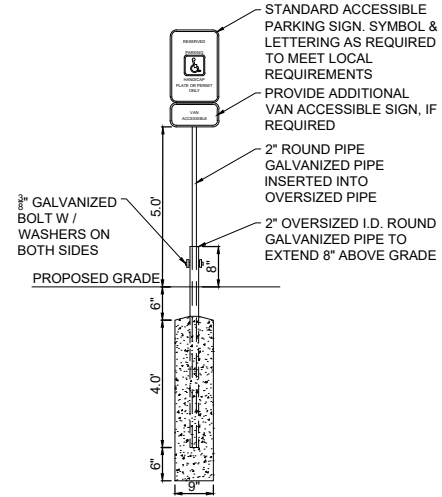
2 18" REJECT CONCRETE CURB & GUTTER
SCALE: 1" = 1'



3 TAPER END CURB & GUTTER
SCALE: N.T.S.

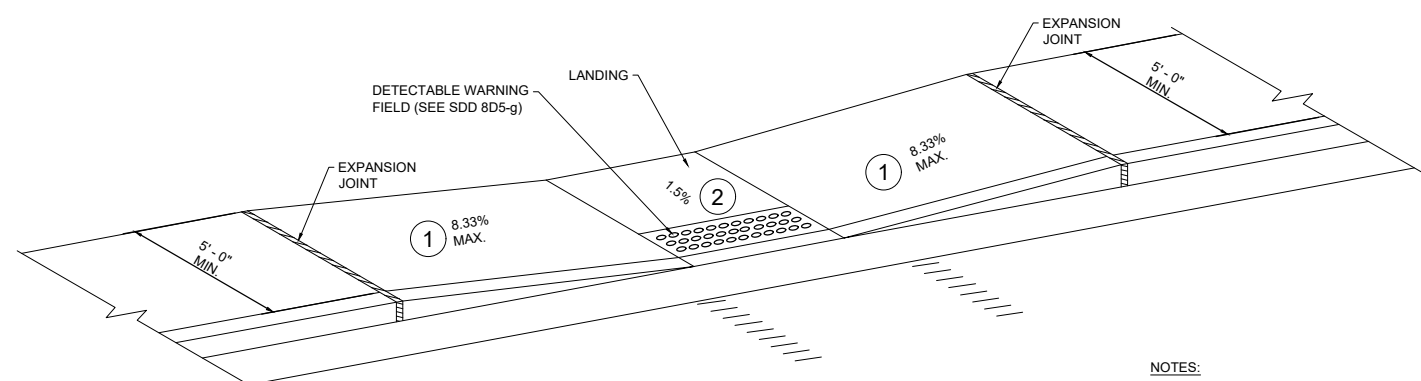
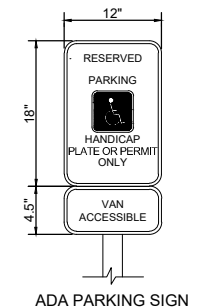


4 ADA PARKING DETAIL
SCALE: N.T.S.



NOTES:

- SIGNS SHALL BE LOCATED SO THAT THEY CANNOT BE OBSCURED BY A VEHICLE PARKED IN THE SPACE
- SIGNS TO BE PROVIDED AND INSTALLED BY SITE CONTRACTOR
- ADA ACCESSIBLE SIGN MUST COMPLY WITH WI ADMINISTRATIVE RULE (TRANSPORTATION 200.07)



5 CURB RAMP DETAIL
SCALE: N.T.S.

NOTES:

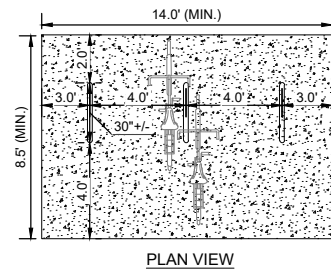
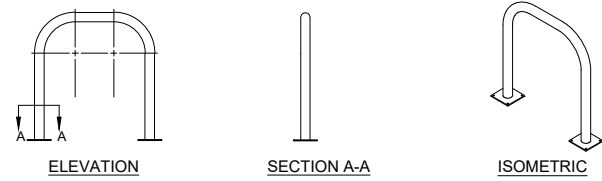
- SLOPE SIDEWALK TOWARD LANDING AS SHOWN WHERE THERE IS NOT TERRACE OR WHERE THE TERRACE WIDTH IS LESS THAN 6 FEET WIDE.
- PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LEVEL LANDING SIZE IS 5 FEET BY 5 FEET.

CITY COMMENTS	09-05-24 BCA
SIP SUBMITTAL	07-23-24 BCA
REVISION	DATE
MARK	BY
Engineer: BCA	Checked By: MLC
Technician: TECH	Date: 05-21-24
Scale: 1" =	T-R-S: TTN-RRW-SS
Project No: 124.0465.30	Sheet

2975 KAPEC ROAD
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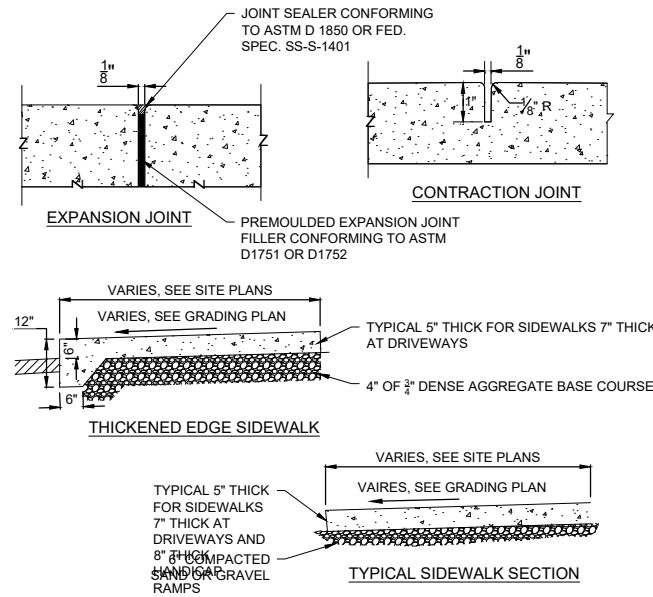
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(2) 6" X 6" X .25" SQUARE FLANGE MOUNTING PLATES WITH (4) 5/8" Ø MOUNTING HOLES

- NOTE:**
1. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS

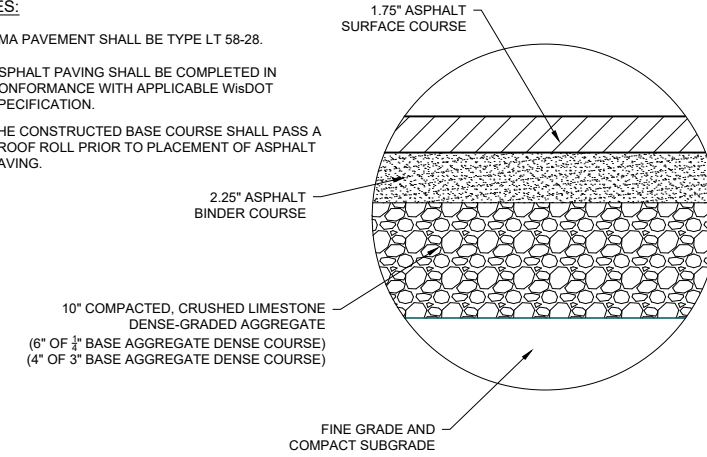
1 BIKE RACK DETAIL
SCALE: 3" = 1'



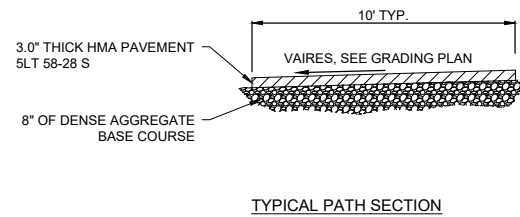
2 SIDEWALK DETAIL
SCALE: 6" = 1'

NOTES:

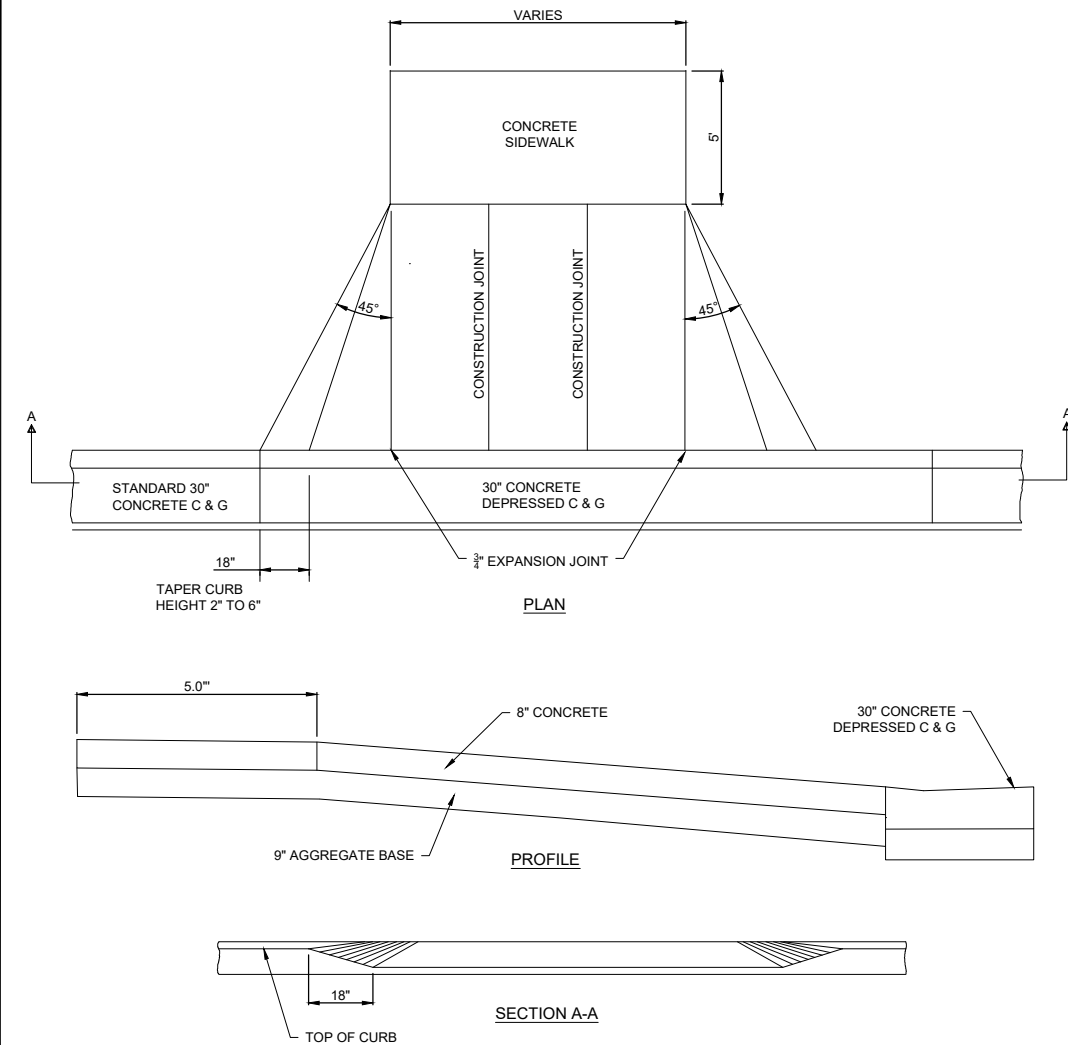
1. HMA PAVEMENT SHALL BE TYPE LT 58-28.
2. ASPHALT PAVING SHALL BE COMPLETED IN CONFORMANCE WITH APPLICABLE WisDOT SPECIFICATION.
3. THE CONSTRUCTED BASE COURSE SHALL PASS A PROOF ROLL PRIOR TO PLACEMENT OF ASPHALT PAVING.



3 MEDIUM DUTY ASPHALT PAVING DETAIL
SCALE: N.T.S.



4 PATH DETAIL
SCALE: 6" = 1'

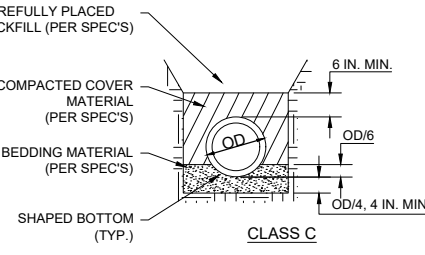
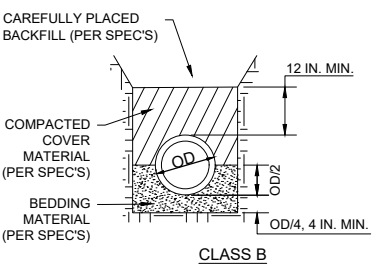
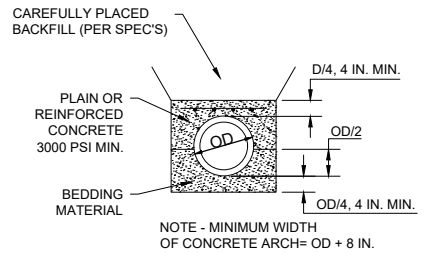
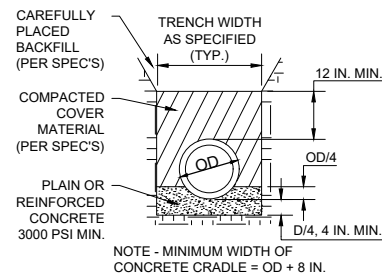


5 DRIVEWAY DETAIL
SCALE: N.T.S.

CITY COMMENTS	09-05-24 BCA	DATE	1" =	Scale: 1" =	TTN-RRW-SS
SIP SUBMITTAL	07-23-24 BCA	DATE	1" =	Scale: 1" =	TTN-RRW-SS
MARK	Engineer: BCA	Checked By: MLC	Date: 05-21-24	Technician: TECH	Project No: 124.0465.30
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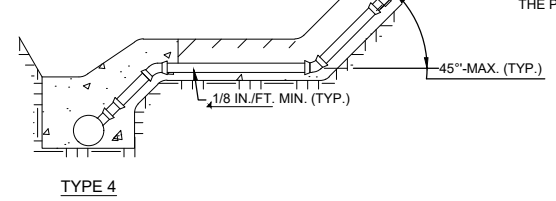
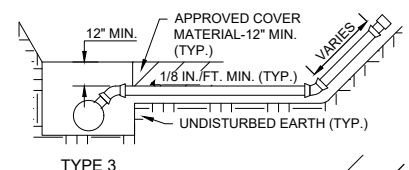
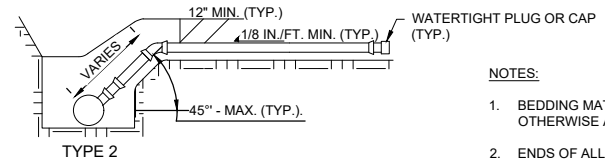
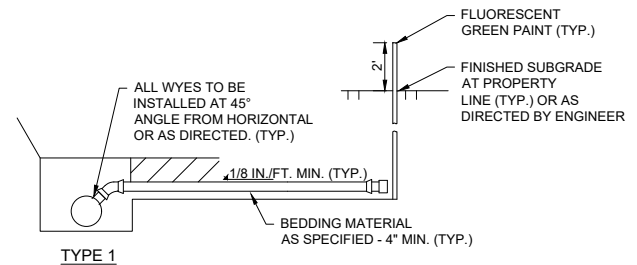




NOTES:

1. ALL PVC AND ABS SEWER MAINS AND LATERALS SHALL BE CLASS "B" MIN., OR AS CALLED FOR IN THE SPECIAL PROVISIONS.
2. ALL BEDDING AND COVER MATERIALS SHALL BE AS SPECIFIED AND SHALL BE SUBJECT TO THE APPROVAL OF THE ENGINEER.
3. UNDERCUT SHALL BE IN ACCORDANCE WITH SECTION 3 OF THE STORM AND SANITARY SEWER STANDARD SPECIFICATIONS.

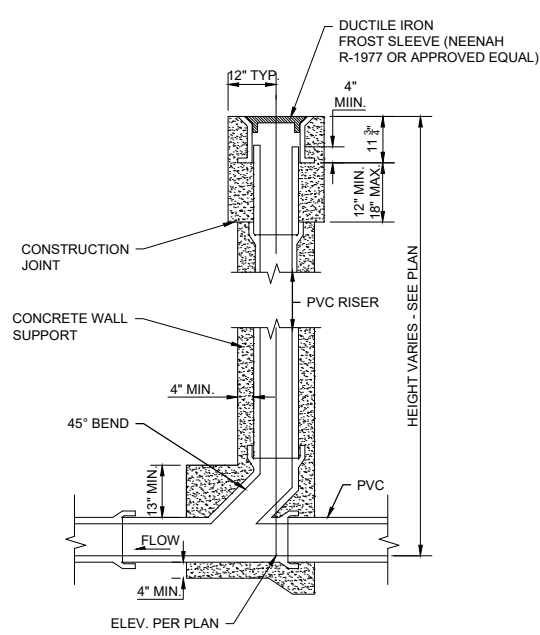
1 SANITARY SEWER BEDDING DETAIL
SCALE: 6" = 1'



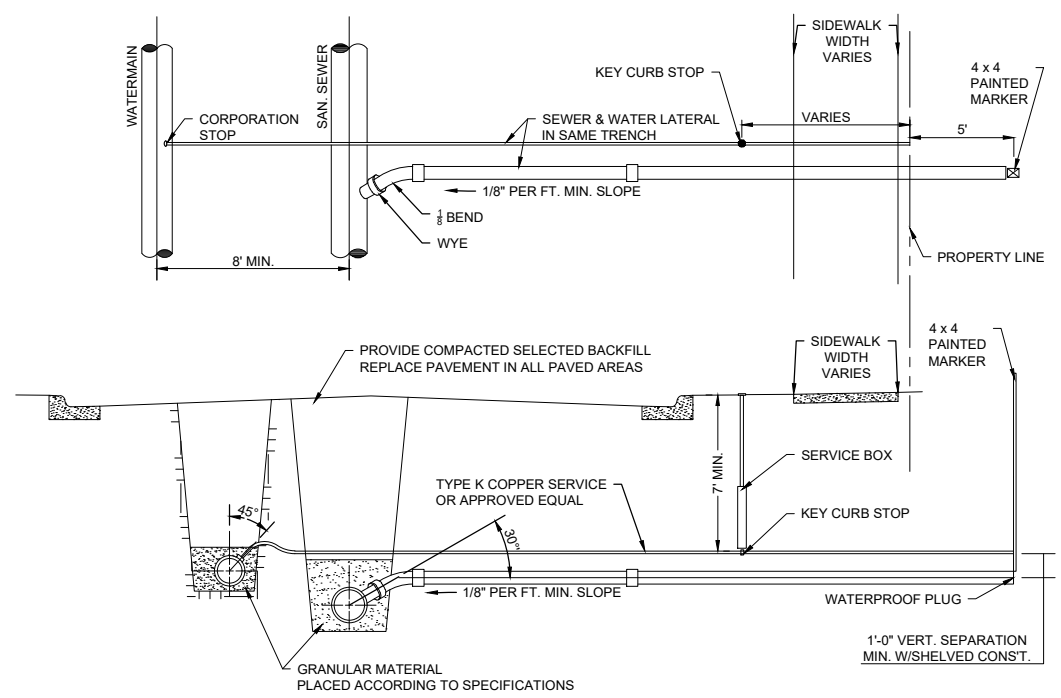
NOTES:

1. BEDDING MATERIAL SHALL BE 3/8" CLEAR STONE, UNLESS OTHERWISE APPROVED BY ENGINEER.
2. ENDS OF ALL LATERALS TO BE 10 FT. MIN. COVER AT END, AND BE MARKED BOTH BELOW AND ABOVE SURFACE WITH 4" LONG 4" x 4".
3. ALL NEW CONSTRUCTION TO BE PLACED ON UNDISTURBED GROUND OR SAND COMPACTED TO 95% MAXIMUM DENSITY.
4. LATERAL MATERIAL INCLUDING FITTINGS SHALL BE OF SAME MATERIAL AS THE SEWER MAIN, OR AS DIRECTED BY ENGINEER.
5. THE PIPE MUST EXTEND AT LEAST 5' Laterally BEYOND THE PROPERTY LINE

3 SANITARY LATERAL DETAIL
SCALE: 3" = 1'



2 CLEAN OUT DETAIL
SCALE: 6" = 1'



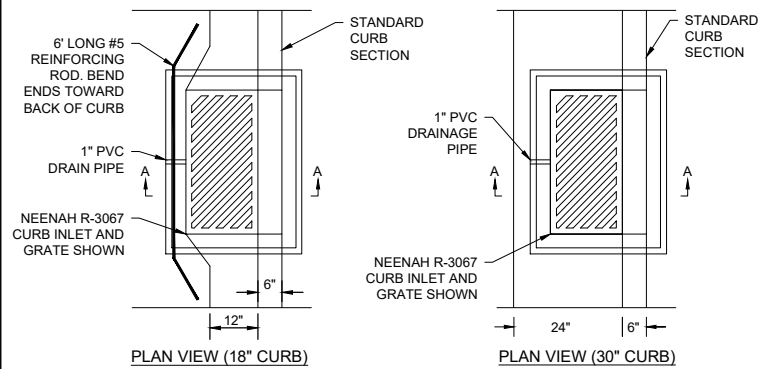
4 SEWER AND WATER CONNECTION DETAIL
SCALE: 3" = 1'

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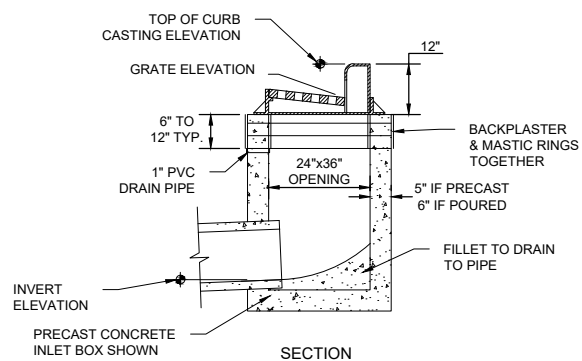
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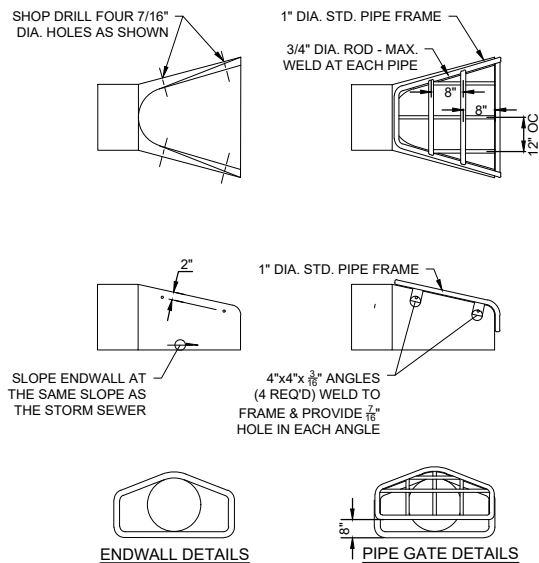


NOTES:

1. TOP OF CURB AND PIPE INVERT ELEVATIONS ARE SHOWN ON THE PLANS.
2. THE GRATE ELEVATION SHALL BE DEPRESSED 0.1' FROM STRAIGHT GUTTER GRADE STARTING 5' FROM THE INLET AND EXTENDING IN BOTH DIRECTIONS.
3. THE CASTING SHALL BE NEENAH FOUNDRY R-3067 CURB INLET WITH REVERSIBLE GRATES WHERE RUNOFF REACHES THE INLET FROM BOTH DIRECTIONS. WHERE RUNOFF REACHES THE INLET FROM ONE DIRECTION A NEENAH R-3067-L CASTING SHALL BE USED. DIRECTIONAL SLOTS TO BE LOCATED TO DIRECT THE FLOW INTO THE STREET INLET.
4. FRAME ADJUSTING RINGS SHALL BE AT LEAST TWO CONCRETE RINGS OF VARIABLE THICKNESS. MASTIC BETWEEN RINGS AND BACKPLASTER A SMOOTH LAYER OF GROUT OVER THE ENTIRE INNER AND OUTER SURFACES OF THE RINGS.



1 RECTANGULAR CURB INLET DETAIL
SCALE: 6" = 1'



NOTE:

1. THE CONTRACTOR SHALL BOLT THE PIPE GATE TO THE CONCRETE ENDWALL WITH FOUR 3/8"x6" MACHINE BOLTS WITH NUTS ON INSIDE WALL.

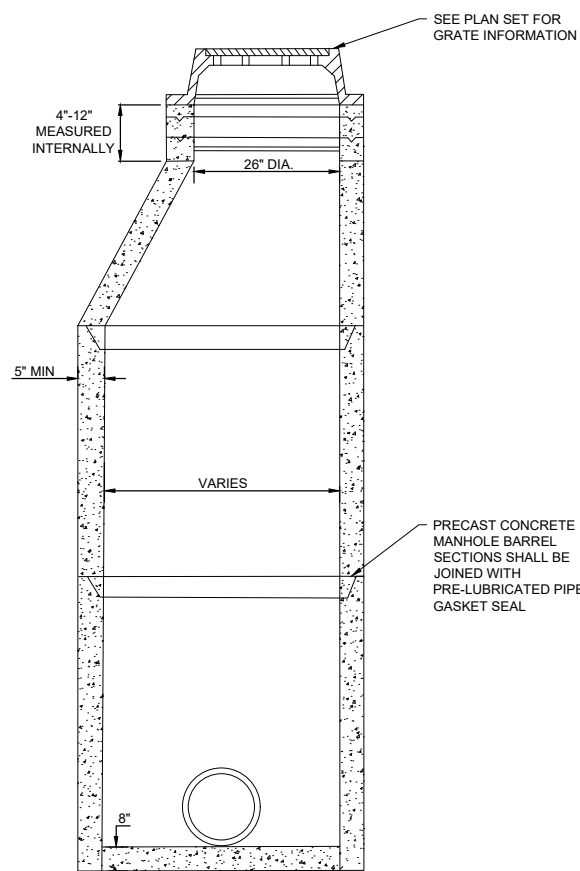
PAINTING SPECIFICATION:

1. THE PIPE GATE SHALL RECEIVE THE FOLLOWING PREPARATION & PAINTING. THE FIRST COAT SHALL BE RUS-OLEUM X-60 RED BARE METAL PRIMER OR APPROVED EQUAL. THE SECOND COAT SHALL BE RUS-OLEUM 960 ZINC CHROMATE PRIMER OR APPROVED EQUAL. THE THIRD COAT SHALL BE RUS-OLEUM 1282 HIGH GLOSS METAL FINISH OR APPROVED EQUAL.

PREPARATION STEPS:

1. BARE METAL SURFACES - TREAT WITH THE THREE-COAT PAINTING SYSTEM LISTED AFTER A THOROUGH SCRAPING, WIRE BRUSHING & CLEANING.
2. EACH COAT OF PAINT SHALL BE APPLIED OVER THE ENTIRE GATE SURFACE.
3. ALLOW 24-48 HOURS DRYING TIME AT 60° OR ABOVE BETWEEN COATS.

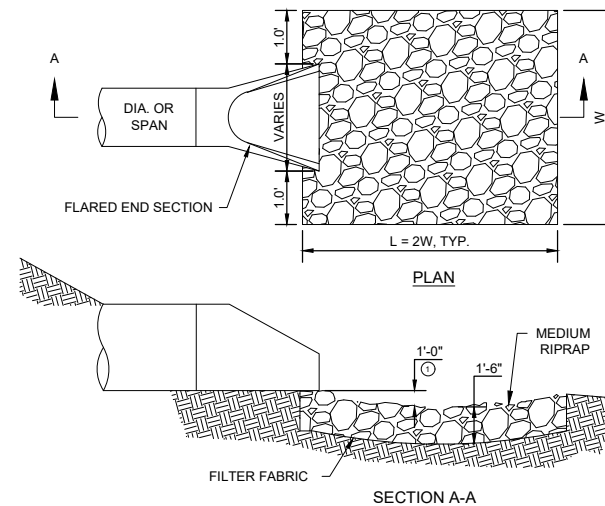
3 STANDARD ENDWALL DETAILS
SCALE: 6" = 1'



NOTES:

1. FOR STRUCTURES LESS THAN 5.0' DEEP A PRECAST REINFORCED CONCRETE FLATTOP IS REQUIRED.
2. WALL THICKNESS SHALL BE 5" FOR 48" MANHOLE AND 6" FOR 60" MANHOLE.
3. THE USE OF WOOD WEDGES OR SHIMS FOR FRAME OR RING ADJUSTMENT IS NOT ALLOWED.
4. MAXIMUM TOTAL CHIMNEY HEIGHT, EXCLUDING MANHOLE FRAME, SHALL NOT EXCEED 16 INCHES, WITH A MINIMUM OF 1 - 2 INCH PRECAST RING.
5. THE ANNULAR SPACE BETWEEN THE PIPE AND MANHOLE WALL SHALL BE FILLED WITH CONCRETE TO THE HEIGHT OF THE BENCH.
6. MANHOLES 3' DEEP AND GREATER SHALL BE CONSTRUCTED WITH STEPS.

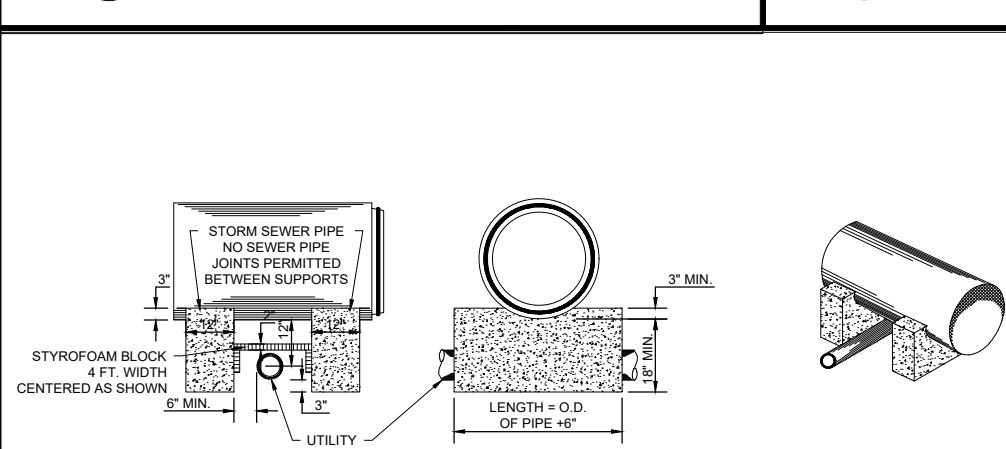
4 STORM SEWER MANHOLE DETAIL
SCALE: 6" = 1'



NOTES:

1. GEOTEXTILE FILTER FABRIC SHALL BE TYPE "HR" UNLESS OTHERWISE SPECIFIED. REFER TO SECTION 401.4.1.
- FOR PIPES GREATER THAN OR EQUAL TO 30" USE 1.5'

6 ENDWALL RIP-RAP DETAIL
SCALE: 6" = 1'

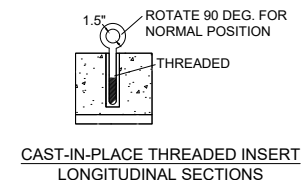
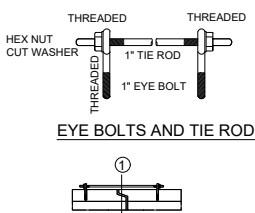


NOTE:

1. EACH PAIR OF SUPPORTS IN ANY SIZE IS ONE PAY ITEM.

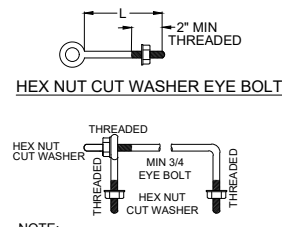
2 CONCRETE PIPE SUPPORT
SCALE: 6" = 1'

ALTERNATE 1
EYE BOLT AND TIE ROD ASSEMBLY
(JOINT TIES FOR 72" DIA. AND OVER CONCRETE PIPE)



5 CONCRETE PIPE JOINT TIES
SCALE: 6" = 1'

ALTERNATE 2
EYE BOLT AND TIE ROD ASSEMBLY
(JOINT TIES FOR 18" TO 66" DIA. CONCRETE PIPE)

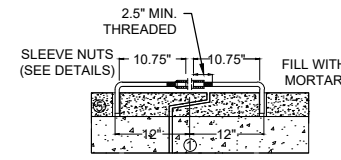


NOTE:
1. TWO EYE BOLTS MAY BE USED WITH A 30° LONG THREADED ROD IN LIEU OF THE 90° DEG BENT TIE ROD EYE BOLT AND TIE ROD

PIPE SIZE	TONGUE AND GROOVE PIPE	MODIFIED BELL PIPE
18" TO 24"	4 1/2"	6 1/4"
30"	5"	7"
36"	5 1/2"	7"
42"	6"	
48"	6 1/2"	
60"	7 1/2"	
66"	8"	

EYE BOLT DIMENSION TABLE

ALTERNATE 3
ADJUSTABLE TIE ROD
(JOINT TIES FOR 12" TO 108" DIA. CONCRETE PIPE)



LONGITUDINAL SECTION

1. > OF TONGUE AND GROOVE OR BELL AND SPIGOT JOINT
2. THE INSIDE OF THE THREADED INSERTS SHALL BE CLEAN TO ALLOW THE INSERTION OF THREADED EYE BOLTS
3. HOLES SHALL BE CAST-IN-PLACE OR DRILLED, 12" FROM > OF TONGUE AND GROOVE
4. BOLT PROJECTION INSIDE OF PIPE SHALL NOT EXCEED 2"
5. ROD DIAMETER = 1 INCH

PIPE DIAMETER	TIE ROD DIAMETER	D	L1	H	R
12" TO 30"	1/2"	1/2"	5"	1/2"	1 3/4"
36" TO 48"	3/4"	3/4"	5"	1/2"	5"
60" TO 104"	1"	1"	7"	1/2"	7 1/2"

ADJUSTABLE TIE ROD TABLE



GENERAL NOTES:

1. CONCRETE CULVERT PIPE SHALL BE TIED TOGETHER IN THE MANNER ILLUSTRATED BY THIS DETAIL AND PER STANDARD SPEC. 502.7 (D)
2. THE CONTRACTOR MAY USE EITHER ALTERNATE 1, 2, OR 3 FOR DRAINAGE STRUCTURES. UNLESS OTHERWISE STATED IN THE CONTRACT, THE MATERIALS, FABRICATION AND WORK NECESSARY TO THE CULVERT PIPE AS SHOWN ON THIS DETAIL WILL BE CONSIDERED INCIDENTAL TO THE CULVERT PIPE.

PLACEMENT OF (2) CAST-IN-PLACE INSERTS OR HOLES DURING FABRICATION FOR PIPE SECTIONS REQUIRING TIE RODS

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR JOINT TIES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.

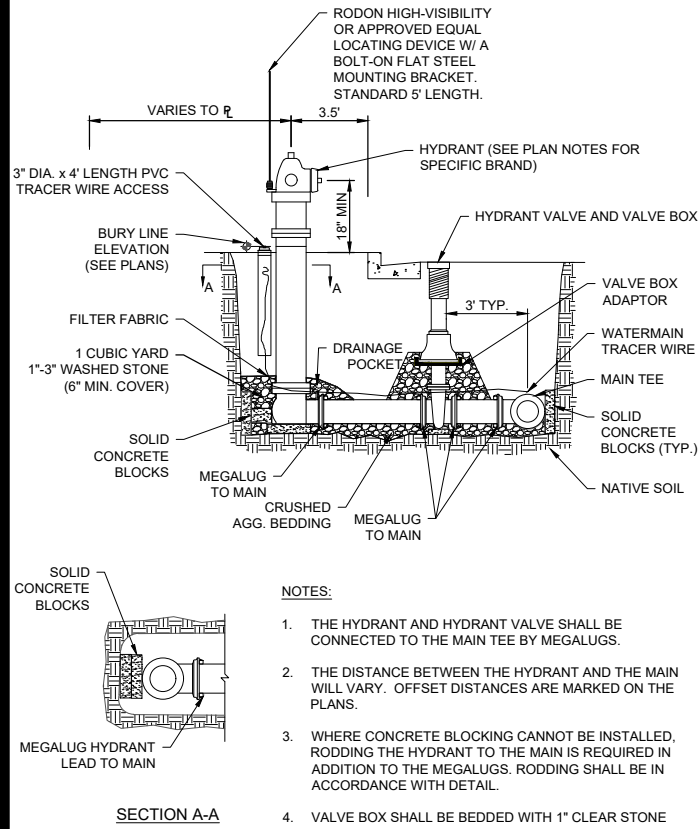


TRANSVERSE SECTION

CITY COMMENTS	09-05-24	BCA
SIP SUBMITTAL	07-23-24	BCA
REVISION	DATE	BY
Engineer: BCA	Checked By: MLC	Scale: 1" =
Technician: TECH	Date: 05-21-24	T-R-S:
Project No: 124.0465.30		
Sheet		

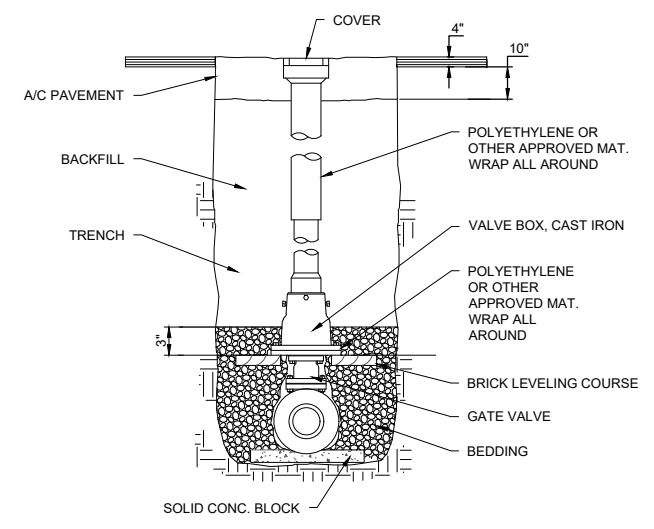
2975 KAPEC ROAD
STORM DETAILS
CITY OF FITCHBURG, DANE COUNTY, WI
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SNYDER & ASSOCIATES, INC.



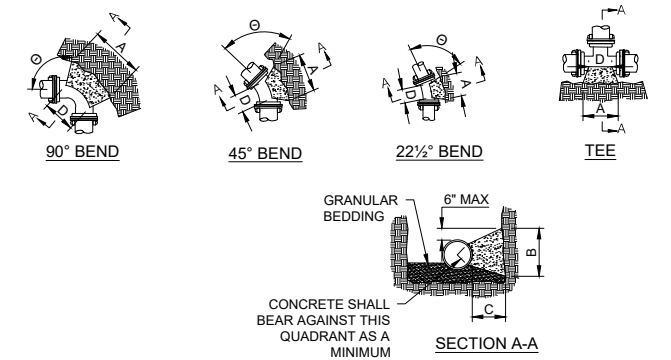


- NOTES:**
1. THE HYDRANT AND HYDRANT VALVE SHALL BE CONNECTED TO THE MAIN TEE BY MEGALUGS.
 2. THE DISTANCE BETWEEN THE HYDRANT AND THE MAIN WILL VARY. OFFSET DISTANCES ARE MARKED ON THE PLANS.
 3. WHERE CONCRETE BLOCKING CANNOT BE INSTALLED, RODDING THE HYDRANT TO THE MAIN IS REQUIRED IN ADDITION TO THE MEGALUGS. RODDING SHALL BE IN ACCORDANCE WITH DETAIL.
 4. VALVE BOX SHALL BE BEDDED WITH 1" CLEAR STONE

1 STANDARD HYDRANT DETAIL
SCALE: 6" = 1'



3 VALVE BOX DETAIL
SCALE: 3" = 1'



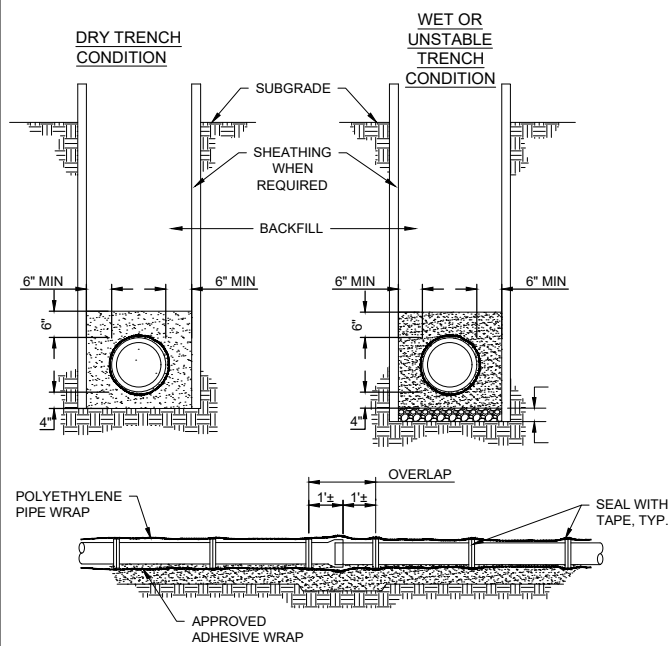
- NOTES:**
1. WOOD BLOCKING MAY NOT BE USED. ONLY SOLID CONCRETE BLOCKS ARE ALLOWED.
 2. DIMENSION "D" SHALL BE AS LARGE AS POSSIBLE, BUT THE CONCRETE SHALL NOT INTERFERE WITH THE MECHANICAL JOINTS.
 3. DIMENSION "C" SHALL BE AT LEAST 6 INCHES, AND LARGE ENOUGH TO MAKE THE "B" ANGLE EQUAL TO OR GREATER THAN 45 DEGREES WITH THE DIMENSION "A" AS SHOWN ON THE TABLE, OR GREATER, AND WITH DIMENSION "D" AS LARGE AS POSSIBLE.
 4. CONCRETE SHALL BE CLASS "CC".
 5. ALL BUTTRESSED JOINTS SHALL INCLUDE MEGALUGS AND CONCRETE BUTTRESSING.

PIPE SIZE	TEES				22 1/2° BEND		45° BEND		90° BEND	
	A	B	A	B	A	B	A	B	A	B
6	1'-3"	1'-0"	1'-0"	1'-0"	1'-0"	1'-4"	1'-2"	1'-4"	1'-2"	1'-6"
8	1'-6"	1'-4"	1'-0"	1'-0"	1'-4"	1'-2"	1'-10"	1'-10"	1'-6"	2'-3"
10/12	2'-3"	2'-0"	1'-4"	1'-4"	1'-10"	1'-10"	2'-8"	2'-8"	2'-3"	3'-0"
14/16	3'-2"	2'-8"	1'-10"	1'-8"	2'-8"	2'-4"	3'-10"	2'-10"	3'-4"	3'-10"
18/20	4'-0"	3'-0"	2'-4"	2'-0"	3'-3"	2'-10"	5'-0"	3'-4"	3'-4"	3'-4"
22/24	5'-3"	3'-4"	2'-10"	2'-4"	4'-0"	3'-3"	6'-4"	3'-10"	3'-10"	3'-10"
30	6'-3"	4'-3"	3'-6"	3'-0"	5'-4"	3'-10"	8'-0"	4'-8"	4'-8"	4'-8"

* = FOR TEE THIS WILL BE THE BRANCH PIPE

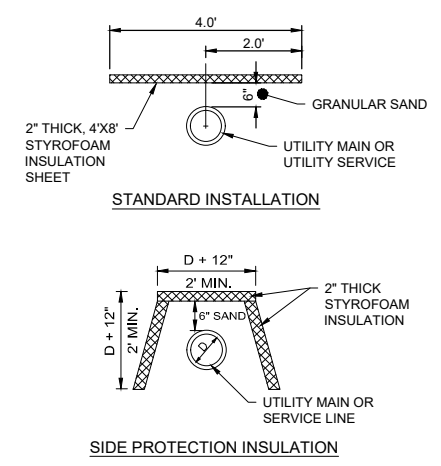
DIMENSIONS IN THE TABLE ARE BASED ON A WATER PRESSURE OF 150 PSI AND SOIL RESISTANCE OF 2000 LBS./SQ.FT.

2 BUTTRESS DETAIL
SCALE: 3" = 1'



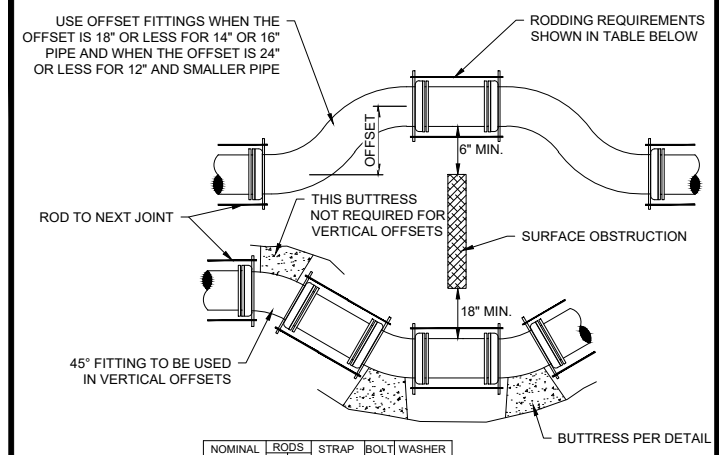
- INSTALLATION:**
1. PLACE 4" OF BEDDING MATERIAL BENEATH PIPE. PLACE BEDDING MATERIAL AROUND THE PIPE TO THE SPRING LINE. WORK THE MATERIAL IN AND AROUND THE PIPE BY HAND TO PROVIDE UNIFORM SUPPORT. PLACE COVER MATERIAL CAREFULLY TO A LEVEL 6" ABOVE THE PIPE.

4 WATER PIPE BEDDING DETAIL
SCALE: 6" = 1'



- GENERAL NOTES:**
1. THE SIDE PROTECTION INSTALLATION SHALL BE USED WHERE FROST WILL PENETRATE BELOW THE PIPE INVERT.

5 WATER PIPE INSULATION DETAIL
SCALE: 6" = 1'



NOMINAL PIPE SIZE	RODS NO. DIA.	STRAP SIZE	BOLT DIA.	WASHER SIZE
6	3	1/2 x 2	3/8	1/2 x 3 x 5
8	4	1/2 x 2	3/8	1/2 x 3 x 5
10	4	1/2 x 2 1/2	1	1/2 x 3 x 5
12	4	1/2 x 2 1/2	1	1/2 x 3 x 5
14	4	1/2 x 2 1/2	1	1/2 x 3 x 5

- NOTES:**
1. ALL OFFSETS SHALL BE RESTRAINED WITH MEGALUGS. WHERE CONCRETE BUTTRESSING CANNOT BE USED, RODDING MUST BE USED IN ADDITION TO THE MEGALUGS.
 2. RODS AND WASHERS TO BE ASTM A-575 MERCHANT QUALITY 0.17-0.24 CARBON. NUTS TO BE AMERICAN STANDARD HEAVY, NOT PRESSED.
 3. TIE RODS, BOLTS, NUTS, BANDS AND WASHERS TO BE FURNISHED AND ASSEMBLED BY THE CONTRACTOR.
 4. ALL STEEL MATERIAL TO BE GALVANIZED OR BE THOROUGHLY COATED WITH ENGINEER APPROVED COATING.
 5. OFFSET FITTINGS REQUIRE CONTINUOUS RODDING IN ALL POSITIONS.
 6. VERTICAL OFFSETS SHALL NOT CREATE A HIGH POINT IN THE WATER MAIN. VERTICAL OFFSETS REQUIRE THE SAME RODDING AND BUTTRESSING AS SHOWN ABOVE.

6 OFFSET & RODDING DETAIL
SCALE: 6" = 1'

CITY COMMENTS	09-05-24	BCA	BY
SIP SUBMITTAL	07-25-24	BCA	DATE
REVISION			Scale: 1" =
Checked By: MLC			T-R-S: TTN-RRW-SS
Engineer: BCA			Date: 05-21-24
Technician: TECH			

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GENERAL LANDSCAPE NOTES

- UTILITY WARNING: THE UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND/OR RECORDS OBTAINED. THE SURVEYOR MAKES NO GUARANTEE THAT THE UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEY FURTHER DOES NOT WARRANT THAT THE UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED.
- NOTIFY UTILITY OWNERS PRIOR TO BEGINNING ANY CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR DETERMINING EXISTENCE, EXACT LOCATION AND DEPTH OF ALL UTILITIES. AVOID DAMAGE TO UTILITIES AND SERVICES DURING CONSTRUCTION. ANY DAMAGE DUE TO THE CONTRACTOR'S CARELESSNESS SHALL BE CORRECTED AT THE CONTRACTOR'S EXPENSE. COORDINATE AND COOPERATE WITH UTILITY COMPANIES DURING CONSTRUCTION.
- THE CONTRACTOR SHALL FOLLOW THE LANDSCAPE PLANS AS CLOSELY AS POSSIBLE. ANY SUBSTITUTION OR ALTERATION SHALL NOT BE ALLOWED WITHOUT APPROVAL OF THE OWNER'S REPRESENTATIVE. OVERALL PLANT QUANTITY AND QUALITY SHALL BE CONSISTENT WITH THE PLANS.
- ALL PLANT MATERIAL SHALL AT LEAST MEET MINIMUM REQUIREMENTS SHOWN IN THE "AMERICAN STANDARDS FOR NURSERY STOCK" (ANSI Z60.1-LATEST EDITION).
- MULCH SHALL NOT BE PLACED AROUND THE COLLAR OF SHRUB OR TREE. PROVIDE A MINIMUM OF 2" BETWEEN MULCH AND COLLAR OF SHRUB OR TREE.
- ALL PLANT MATERIAL SHALL BE GROWN IN ZONE CAPABLE OF WITHSTANDING LOCAL CLIMATE AND GROWING CONDITIONS.
- TREE OR SHRUB SHALL STAND PLUMB. DO NOT ALLOW AIR POCKETS TO FORM WHEN BACK FILLING.
- LIVE PLANTS CAN BE PLANTED IN THE FIELD DURING THE GROWING SEASON FROM MAY 1 THROUGH OCTOBER 1. ANY SUGGESTED PLANTING TIMES NOT IN THIS WINDOW SHALL BE APPROVED BY LANDSCAPE ARCHITECT. IF PLANTING OCCURS OUTSIDE OF THIS WINDOW, ADDITIONAL MEASURES MAY NEED TO BE TAKEN (I.E. MULCH) TO ENSURE PLANT SURVIVAL. IN THESE INSTANCES, THE CONTRACT PRICE MAY NEED TO BE ADJUSTED ACCORDINGLY.
- PLANTS SHOULD BE WATERED IN AFTER INSTALLATION TO ENSURE THEIR SURVIVAL. THIS TYPICALLY INVOLVES WATERING AT TIME OF INSTALLATION AND 2 TIMES WEEKLY FOR A ONE MONTH PERIOD OR UNTIL GROUND FREEZE UP IF NATURAL RAINFALLS ARE INSUFFICIENT. A SINGLE WATERING EVENT INVOLVES WATERING THE SOIL IN THE PLANTED AREAS TO THE POINT OF SATURATION BUT STOPPING SHORT OF SOIL DISPLACEMENT. SHOULD VERY DRY CONDITIONS DEVELOP WITHIN ONE YEAR OF PLANTING, ADDITIONAL WATERINGS MAY BE NECESSARY. CONSULTANT OR LANDSCAPE ARCHITECT WILL DETERMINE THIS AND CONTRACT PRICES MAY BE ADJUSTED TO ACCOMMODATE THIS ACTION.
- ALL PLANT MATERIAL SHALL BE SPECIMEN QUALITY, HEALTHY, FREE OF DISEASE AND INSECTS AND SHALL HAVE HEALTHY, WELL-DEVELOPED ROOT SYSTEMS. PLANTS SHALL ALSO BE FREE FROM PHYSICAL DAMAGE OR OTHER CONDITIONS THAT WOULD PREVENT VIGOROUS GROWTH.
- ALL PROPOSED PLANTS SHALL BE LOCATED AS SHOWN ON PLANS. ALL TREES TO BE PLANTED A MINIMUM DISTANCE OF 5 FEET FROM PAVEMENTS AND 6 FEET FROM ALL HYDRANTS.
- CONTRACTOR IS RESPONSIBLE FOR PLANTS AWAITING INSTALLATION AND SHALL PROTECT THEM FROM INJURY AND THEFT.
- THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL PLANT QUANTITIES. GRAPHIC QUANTITIES TAKES PRECEDENCE OVER WRITTEN QUANTITIES.
- THE OWNER'S REPRESENTATIVE RESERVES THE RIGHT TO INSPECT AND TAG ALL PLANT MATERIAL PRIOR TO SHIPPING TO THE SITE. IN ALL CASES, THE OWNER'S REPRESENTATIVE MAY REJECT PLANT MATERIAL AT THE SITE IF MATERIAL IS DAMAGED, DISEASED, OR DECLINING IN HEALTH AT THE TIME OF ONSITE INSPECTIONS OR IF THE PLANT MATERIAL DOES NOT MEET THE MINIMUM SPECIFIED STANDARD IDENTIFIED ON THE PLANS. THE CONTRACTOR SHALL COORDINATE WITH THE OWNER'S REPRESENTATIVE FOR INSPECTION AND APPROVAL OF ALL MATERIALS AND PRODUCTS PRIOR TO INSTALLATION.
- THE OWNER'S REPRESENTATIVE MAY ELECT TO UPSIZE PLANT MATERIAL AT THEIR DISCRETION BASED ON SELECTION, AVAILABILITY, OR TO ENHANCE SPECIFIC AREAS OF THE PROJECT. THE CONTRACTOR SHALL VERIFY PLANT MATERIAL SIZES WITH OWNER'S REPRESENTATIVE PRIOR TO PURCHASING, SHIPPING OR STOCKING OF PLANT MATERIALS. SUBMIT CHANGE ORDER REQUEST TO OWNER'S REPRESENTATIVE FOR APPROVAL IF ADDITIONAL COST IS REQUESTED BY THE CONTRACTOR PRIOR TO INSTALLATION. RE-STOCKING CHARGES WILL NOT BE APPROVED IF THE CONTRACTOR FAILS TO SUBMIT A REQUEST FOR MATERIAL CHANGES.
- THE CONTRACTOR SHALL WARRANTY ALL CONTRACTED WORK AND MATERIALS FOR A PERIOD OF ONE YEAR AFTER SUBSTANTIAL COMPLETION HAS BEEN ISSUED BY THE OWNER'S REPRESENTATIVE FOR THE ENTIRE PROJECT UNLESS OTHERWISE SPECIFIED IN THE CONTRACT DOCUMENTS.
- LANDSCAPE MATERIAL LOCATIONS SHALL HAVE PRECEDENCE OVER IRRIGATION MAINLINE AND LATERAL LOCATIONS. IF IRRIGATION IS INCLUDED, COORDINATE INSTALLATION OF IRRIGATION EQUIPMENT SO THAT IT DOES NOT INTERFERE WITH THE PLANTING OF TREES OR OTHER LANDSCAPE MATERIAL.
- THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING POSITIVE DRAINAGE EXISTS IN ALL LANDSCAPE AREAS. SURFACE DRAINAGE ON LANDSCAPE AREAS SHALL NOT FLOW TOWARD STRUCTURES AND FOUNDATIONS. MAINTAIN SLOPE AWAY FROM FOUNDATIONS PER THE GEOTECHNICAL REPORT RECOMMENDATIONS. ALL LANDSCAPE AREAS BETWEEN WALKS AND CURBS SHALL DRAIN FREELY TO THE CURB UNLESS OTHERWISE IDENTIFIED ON THE GRADING PLAN. IN NO CASE SHALL THE GRADE, TURF THATCH, OR OTHER LANDSCAPE MATERIALS DAM WATER AGAINST WALKS. MINIMUM SLOPES ON LANDSCAPE AREAS SHALL BE 2%; MAXIMUM SLOPE SHALL BE 25% UNLESS SPECIFICALLY IDENTIFIED ON THE PLANS OR APPROVED BY THE OWNER'S REPRESENTATIVE.
- PRIOR TO INSTALLATION OF PLANT MATERIALS, AREAS THAT HAVE BEEN COMPACTED OR DISTURBED BY CONSTRUCTION ACTIVITY SHALL BE THOROUGHLY LOOSENEED TO A DEPTH OF 8" - 12".
- ALL LANDSCAPED AREAS ARE TO RECEIVE ORGANIC SOIL PREPARATION PER RATE IDENTIFIED BY A SOIL TEST.
- TREES SHALL NOT BE LOCATED IN DRAINAGE SWALES, DRAINAGE AREAS, OR UTILITY EASEMENTS. CONTACT OWNER'S REPRESENTATIVE FOR RELOCATION OF PLANTS IN QUESTIONABLE AREAS PRIOR TO INSTALLATION.
- THE CENTER OF EVERGREEN TREES SHALL NOT BE PLACED CLOSER THAN 8' AND THE CENTER OF ORNAMENTAL TREES CLOSER THAN 6' FROM A SIDEWALK, STREET OR DRIVE LANE. EVERGREEN TREES SHALL NOT BE LOCATED ANY CLOSER THAN 15' FROM IRRIGATION ROTOR HEADS. NOTIFY OWNER'S REPRESENTATIVE IF TREE LOCATIONS CONFLICT WITH THESE STANDARDS FOR FURTHER DIRECTION.
- ALL EVERGREEN TREES SHALL BE FULLY BRANCHED TO THE GROUND AND SHALL NOT EXHIBIT SIGNS OF ACCELERATED GROWTH AS DETERMINED BY THE OWNER'S REPRESENTATIVE.
- ALL TREES ARE TO BE STAKED AND GUYED PER DETAILS FOR A PERIOD OF 1 YEAR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING STAKES AT THE END OF 1 YEAR FROM ACCEPTANCE OF LANDSCAPE INSTALLATION BY THE OWNER'S REPRESENTATIVE. OBTAIN APPROVAL BY OWNER'S REPRESENTATIVE PRIOR TO REMOVAL.
- ALL TREES INSTALLED ABOVE RETAINING WALLS UTILIZING GEO-GRID MUST BE HAND DUG TO PROTECT GEO-GRID. IF GEO-GRID MUST BE CUT TO INSTALL TREES, APPROVAL MUST BE GIVEN BY OWNER'S REPRESENTATIVE PRIOR TO DOING WORK.
- ALL TREES IN SEED OR TURF AREAS SHALL RECEIVE MULCH RINGS. OBTAIN APPROVAL FROM OWNER'S REPRESENTATIVE FOR ANY TREES THAT WILL NOT BE MULCHED FOR EXCESSIVE MOISTURE REASONS.
- EXISTING TURF AREAS THAT ARE DISTURBED DURING CONSTRUCTION, ESTABLISHMENT AND THE MAINTENANCE PERIOD SHALL BE RESTORED WITH NEW SOD TO MATCH EXISTING TURF SPECIES. DISTURBED NATIVE AREAS WHICH ARE TO REMAIN SHALL BE OVER SEEDED AND RESTORED WITH SPECIFIED SEED MIX.
- WHEN COMPLETE, ALL GRADES SHALL BE WITHIN +/- 1/8" OF FINISHED GRADES AS SHOWN ON THE PLANS.
- WHEN PLANTER POTS ARE SHOWN ON PLANS, CONTRACTOR SHALL INCLUDE THE FOLLOWING: PLANTER MIX, ANNUAL FLOWER PLANTING PROGRAM (INCLUDES 2 PLANTINGS FOR THE 1ST YEAR (SPRING AND FALL) AND WINTER HAND-WATERING AS NEEDED. UNLESS OTHERWISE SPECIFIED, CONTRACTOR TO PROVIDE ANNUAL PLANTING SELECTION FOR REVIEW BY OWNER. IRRIGATION FOR PLANTERS TO BE ON SEPARATE ZONE(S). CONTRACTOR TO COORDINATE PLACEMENT OF NECESSARY SLEEVING PRIOR TO PLACEMENT OF PAVEMENT.
- PRIOR TO THE PLACEMENT OF MULCH AND WEED FABRIC, A GRANULAR, PRE-EMERGENT, WEED CONTROL AGENT SHALL BE ADDED TO ALL PLANTING BEDS IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTION, EXCEPT AROUND ORNAMENTAL GRASSES.
- THE CONTRACTOR IS EXPECTED TO KNOW AND UNDERSTAND THE CITY AND COUNTY SPECIFICATIONS FOR LANDSCAPE AND IRRIGATION. IN CASES OF DISCREPANCIES THE HIGHER OF THE TWO STANDARDS SHALL HAVE PRECEDENCE.
- ALL TREES PLANTED WITHIN RIGHT-OF-WAY WILL INCLUDE CITY APPROVED ROOT BARRIERS.

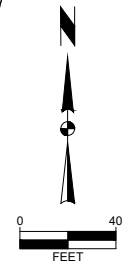
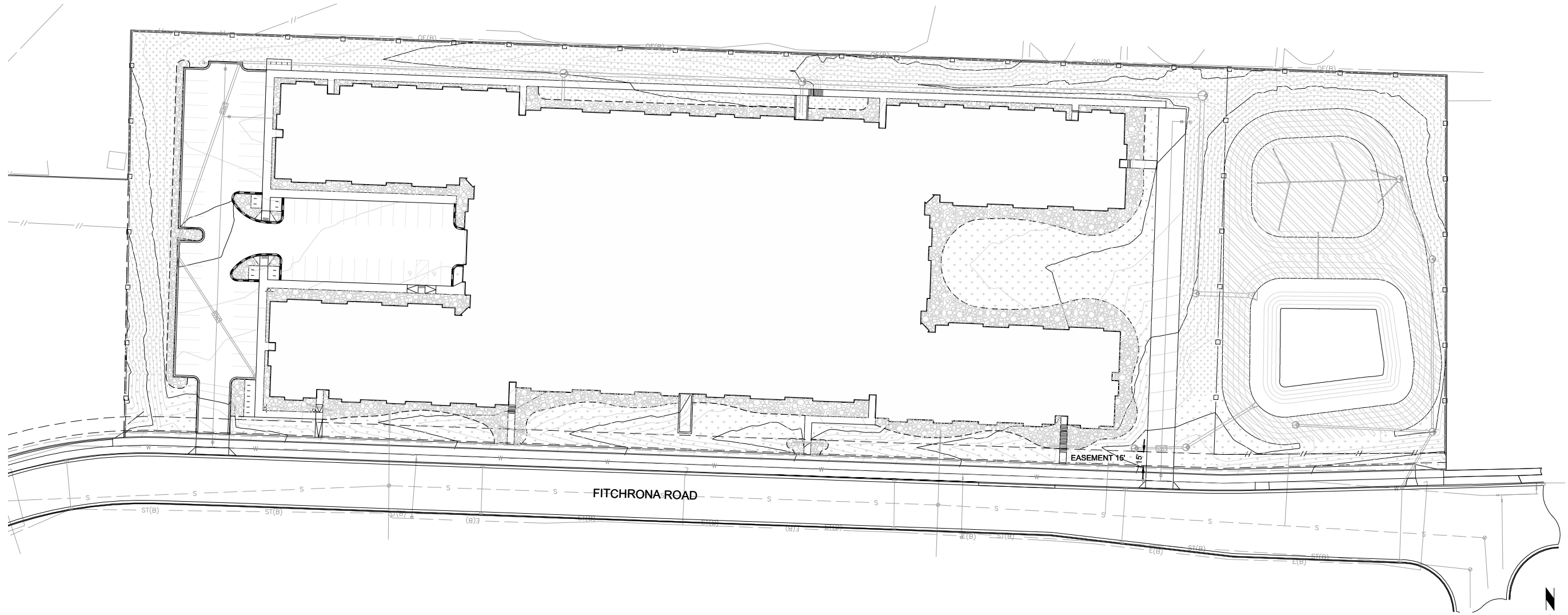
PLANT SCHEDULE						
SYMBOL	CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	TYPE
TREES						
	AO	3	Acer rubrum 'October Glory'	October Glory Red Maple	2" Cal.	B&B
	BB2	6	Betula nigra 'Cully'	Heritage River Birch Multi-trunk	2" Cal.	B&B
	GT	5	Gleditsia triacanthos inermis 'Skyline'	Skyline Honey Locust	2" Cal.	B&B
	LM	7	Liquidambar styraciflua 'Moraine'	Moraine Sweet Gum	2" Cal.	B&B
EVERGREEN TREES						
	JE	9	Juniperus virginiana	Eastern Redcedar	2" Cal.	
	PG2	10	Picea glauca	White Spruce	2" Cal.	B&B
	PW2	8	Pinus strobus	White Pine	2" Cal.	B&B
ORNAMENTAL TREES						
	AG2	11	Amelanchier x grandiflora 'Autumn Brilliance'	Autumn Brilliance Apple Serviceberry	2" Cal.	B&B
	PO2	20	Prunus maackii 'Jeffree'	Goldrush® Amur Chokecherry	2" Cal.	B&B
SHRUBS						
	BG2	64	Buxus x 'Green Mountain'	Green Mountain Boxwood	3 gal.	Pot
	CF	47	Cornus sericea 'Farrow'™	Arctic Fire Red Twig Dogwood	3 gal.	Pot
	HP2	35	Hydrangea paniculata	Panicle Hydrangea	3 gal.	Pot
	JK	60	Juniperus x pfitzeriana 'Kallay's Compact'	Kallay's Compact Pfitzer Juniper	3 gal.	Pot
	PC3	41	Physocarpus opulifolius 'Center Glow'	Center Glow Ninebark	3 gal.	Pot
	PP2	34	Pinus mugo 'Pumilio'	Dwarf Mugo Pine	3 gal.	Pot
	RA	51	Rhus aromatica 'Gro-Low'	Gro-Low Fragrant Sumac	3 gal.	Pot
	TD2	48	Taxus x media 'Densiformis'	Dense Anglo-Japanese Yew	3 gal.	Pot
	VJ	42	Viburnum x juddii	Judd Viburnum	3 gal.	Pot
GRASSES						
	CE2	83	Cenchrus alopecuroides 'Hamel'	Hamel Fountain Grass	1 gal.	Pot
	PH	59	Panicum virgatum 'Heavy Metal'	Heavy Metal Switch Grass	1 gal.	Pot
	SP2	59	Schizachyrium scoparium 'Prairie Blues'	Prairie Blues Little Bluestem	1 gal.	Pot
	SA	78	Sesleria autumnalis	Autumn Moor Grass	1 gal.	Pot
	SP	91	Sporobolus heterolepis	Prairie Dropseed	1 gal.	Pot

09-05-24	BCA	CITY COMMENTS	07-25-24	BCA	BY
		SIP SUBMITTAL			
		REVISION			
		Checked By: MLC			
		Engineer: BCA			
		Checked By: TECH			
		Date: 05-21-24			
		Technician: TTN+RRW-SS			
		Scale: 1" = ##'			
		T-R-S: TTN+RRW-SS			
		Project No: 124.0465.30			
		Sheet L 100			

2975 KAPEC ROAD
LANDSCAPE NOTES
CITY OF FITCHBURG, DANE COUNTY, WI
SNYDER & ASSOCIATES, INC.
 5010 VOGES ROAD
 MADISON, WISCONSIN 53718
 608-838-0444 | www.snyder-associates.com



U:\projects\2024\2975 KAPEC ROAD\LANDSCAPE NOTES\2024\09-05-24 BCA\LANDSCAPE NOTES.dwg JACK DAVIS LANDSCAPE NOTES 2024/09/05 2:23 PM ANDRILL BE EED B 17.00 X 11.00 INCHES



PLANT SCHEDULE				
SYMBOL	CODE	BOTANICAL NAME	COMMON NAME	SIZE
GROUND COVERS				
	NN	Native Seed Mix	See Construction Notes for Type	seed
	RM	Rock Mulch	See Construction Notes for Type	---
	TD	Turf Seed Drought Tolerant Dwarf Fescue Blend	See Construction Notes for Type	seed
	TS2	Turf Sod	See Construction Notes for Type	sod

- LANDSCAPE LEGEND**
- SPADE CUT EDGER, RE: DETAIL 3/L-300
 - //— 4' METAL FENCE
 - 6' WOOD FENCE

- LANDSCAPE CONSTRUCTION NOTES**
- NATIVE SEED SHALL BE LAND RESTORATION SEED MIX FOR MEDIUM SOILS PROVIDED BY PRAIRIE NURSERY (prairienursery.com) OR APPROVED EQUAL. HYDROMULCHING AND HYDROSEEDING NOT PERMITTED.
 - ROCK MULCH SHALL BE INSTALLED AT A 3" DEPTH OVER GEOTEXTILE WEED CONTROL FABRIC. MULCH BEDS SHALL HAVE A SPADE CUT EDGER WHEN PERIMETER IS NOT CONCRETE CURB, BUILDING OR HARDSAPCE SURFACE. NO WEED FABRIC AT GROUND COVER OR PERENNIAL PLANTS. ROCK MULCH SHALL BE AMERICAN 2" PROVIDED BY MADISON BLOCK AND STONE (<https://www.madisonblockandstone.com/>)
 - TURF SEED SHALL BE DROUGHT TOLERANT DWARF FESCUE BLEND
 - TURF SOD SHALL BE DROUGHT TOLERANT FESCUE BLEND

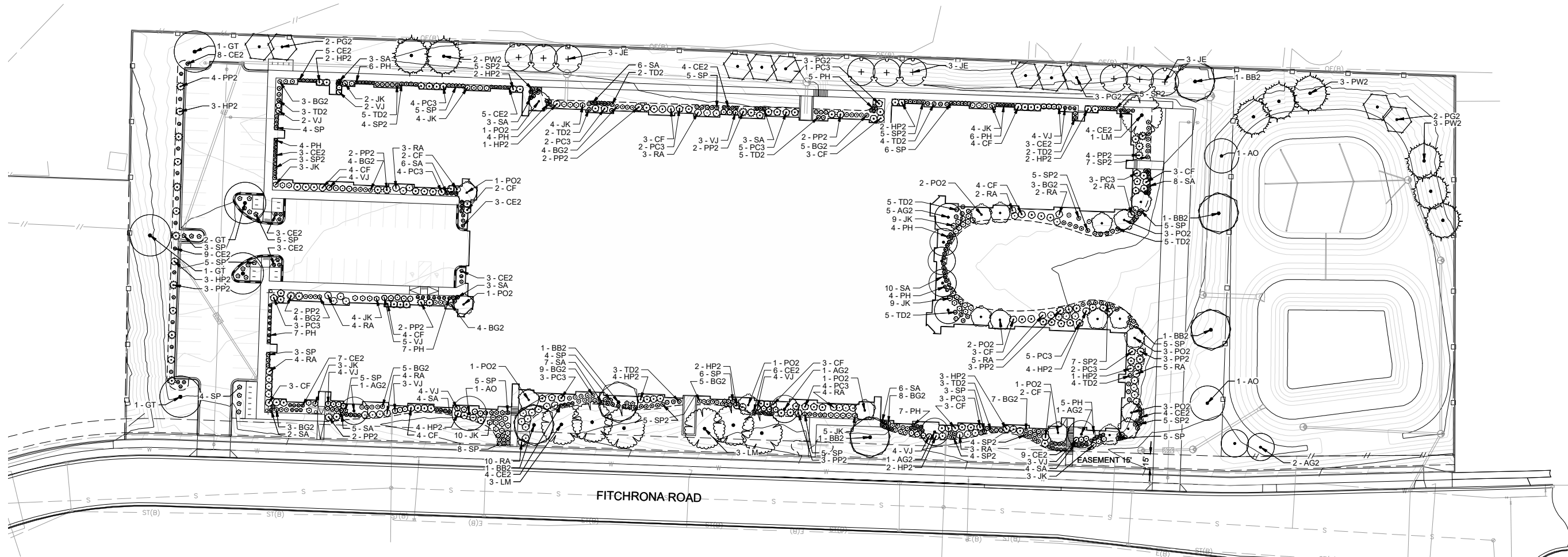
CITY COMMENTS	09-05-24	BCA	MARK	REVISION	DATE	BY
SIP SUBMITTAL	07-25-24	BCA	Engineer: BCA	Checked By: MLC	Scale: 1" = ##'	
Technician: TECH			Date: 05-21-24	T-R-S: TTN+RRW-SS		

2975 KAPEC ROAD
MULCHING, SEEDING, SODDING PLAN
CITY OF FITCHBURG, DANE COUNTY, WI
SNYDER & ASSOCIATES, INC.

5010 VOGES ROAD
MADISON, WISCONSIN 53718
608-838-0444 | www.snyder-associates.com

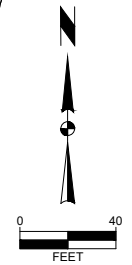


L:\Projects\1240465\1240465_01\DWG\1240465_LANDSCAPE_SEEDING_SODDING_PLAN_20240905.dwg JACOB DAVIS, M.L.C. DATE PLOTTED: 09/05/24 11:00 AM



PLANT SCHEDULE				
CODE	BOTANICAL NAME	COMMON NAME	SIZE	TYPE
TREES				
AO	<i>Acer rubrum</i> 'October Glory'	October Glory Red Maple	2" Cal.	B&B
BB2	<i>Betula nigra</i> 'Cully'	Heritage River Birch Multi-trunk	2" Cal.	B&B
GT	<i>Gleditsia triacanthos inermis</i> 'Skyline'	Skyline Honey Locust	2" Cal.	B&B
LM	<i>Liquidambar styraciflua</i> 'Moraine'	Moraine Sweet Gum	2" Cal.	B&B
EVERGREEN TREES				
JE	<i>Juniperus virginiana</i>	Eastern Redcedar	2" Cal.	
PG2	<i>Picea glauca</i>	White Spruce	2" Cal.	B&B
PW2	<i>Pinus strobus</i>	White Pine	2" Cal.	B&B
ORNAMENTAL TREES				
AG2	<i>Amelanchier x grandiflora</i> 'Autumn Brilliance'	Autumn Brilliance Apple Serviceberry	2" Cal.	B&B
PO2	<i>Prunus maackii</i> 'Jeffree'	Goldrush® Amur Chokecherry	2" Cal.	B&B
SHRUBS				
BG2	<i>Buxus x</i> 'Green Mountain'	Green Mountain Boxwood	3 gal.	Pot
CF	<i>Cornus sericea</i> 'Farrow' TM	Arctic Fire Red Twig Dogwood	3 gal.	Pot
HP2	<i>Hydrangea paniculata</i>	Panicle Hydrangea	3 gal.	Pot
JK	<i>Juniperus x pfitzeriana</i> 'Kallay's Compact'	Kallay's Compact Pfitzer Juniper	3 gal.	Pot
PC3	<i>Physocarpus opulifolius</i> 'Center Glow'	Center Glow Ninebark	3 gal.	Pot
PP2	<i>Pinus mugo</i> 'Pumilio'	Dwarf Mugo Pine	3 gal.	Pot
RA	<i>Rhus aromatica</i> 'Gro-Low'	Gro-Low Fragrant Sumac	3 gal.	Pot
TD2	<i>Taxus x media</i> 'Densiflormis'	Dense Anglo-Japanese Yew	3 gal.	Pot
VJ	<i>Viburnum x juddii</i>	Judd Viburnum	3 gal.	Pot
GRASSES				
CE2	<i>Cenchrus alopecuroides</i> 'Hameln'	Hameln Fountain Grass	1 gal.	Pot
PH	<i>Panicum virgatum</i> 'Heavy Metal'	Heavy Metal Switch Grass	1 gal.	Pot
SP2	<i>Schizachyrium scoparium</i> 'Prairie Blues'	Prairie Blues Little Bluestem	1 gal.	Pot
SA	<i>Sesleria autumnalis</i>	Autumn Moor Grass	1 gal.	Pot
SP	<i>Sporobolus heterolepis</i>	Prairie Dropseed	1 gal.	Pot

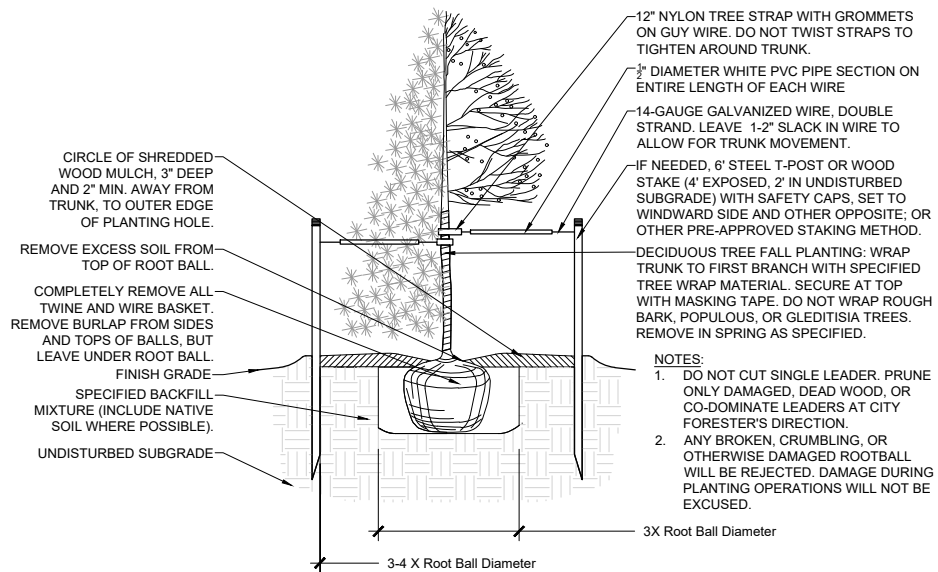
LANDSCAPE LEGEND	
---	SPADE CUT EDGER, RE: DETAIL 3/L-300
---	4' METAL FENCE
○	6' WOOD FENCE



CITY COMMENTS	09-05-24 BCA
SIP SUBMITTAL	07-25-24 BCA
REVISION	DATE
BY	BY
MARK	Scale: 1" = ##'
Engineer: BCA	Checked By: MLC
Technician: TECH	Date: 05-21-24
T-R-S: TTN+RRW-SS	
Project No: 124.0465.30	Sheet L201

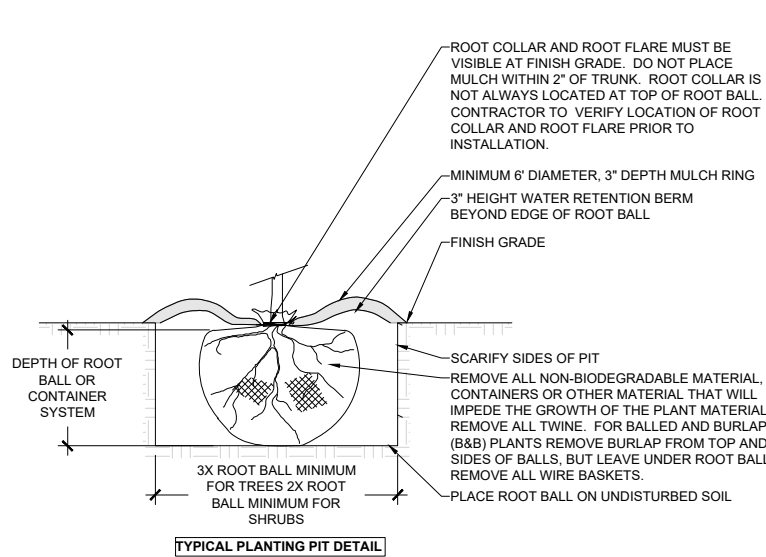
2975 KAPEC ROAD
 CITY OF FITCHBURG, DANE COUNTY, WI
 PLANTING PLAN
 SNYDER & ASSOCIATES, INC.
 5010 VOGES ROAD
 MADISON, WISCONSIN 53718
 608-835-0444 | www.snyder-associates.com





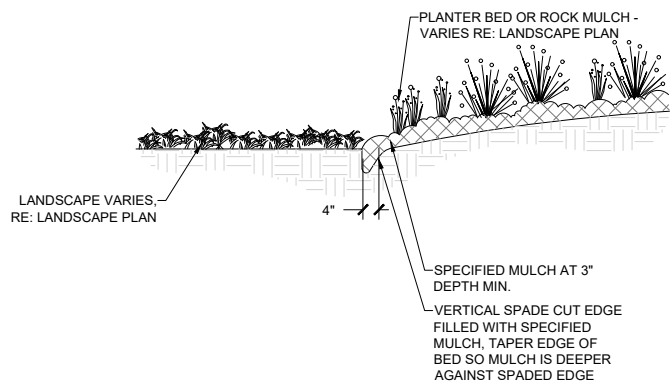
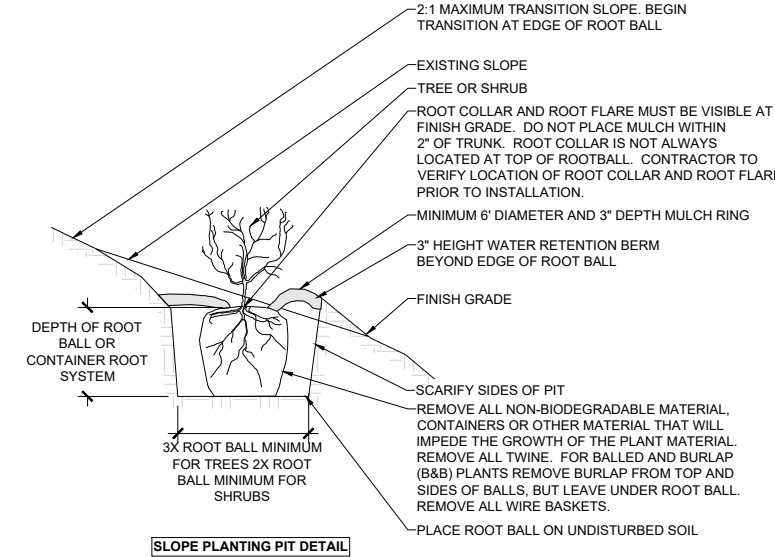
1 TREE PLANTING

SCALE: 1/2" = 1'-0"



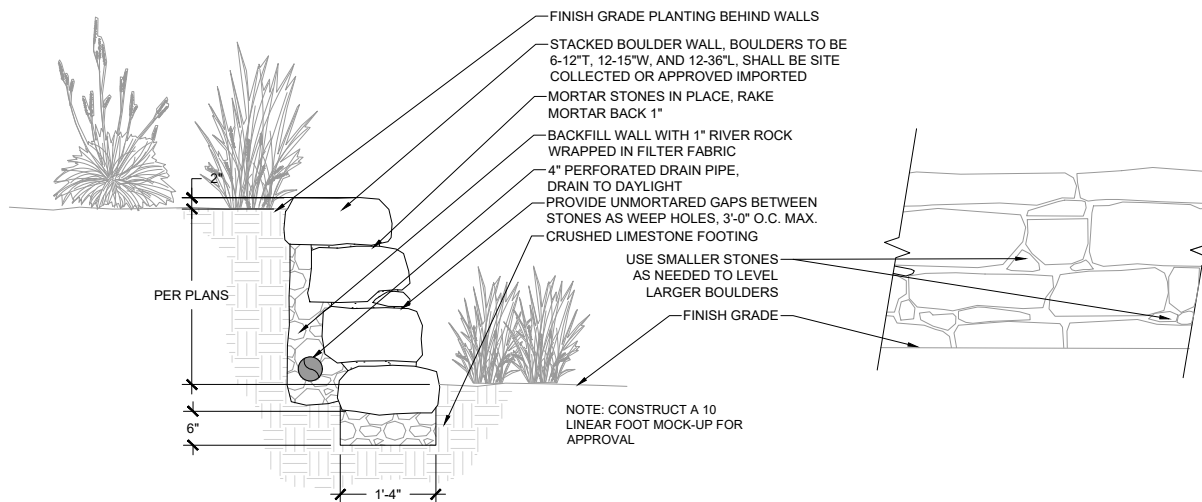
2 PLANTING PIT

NO SCALE



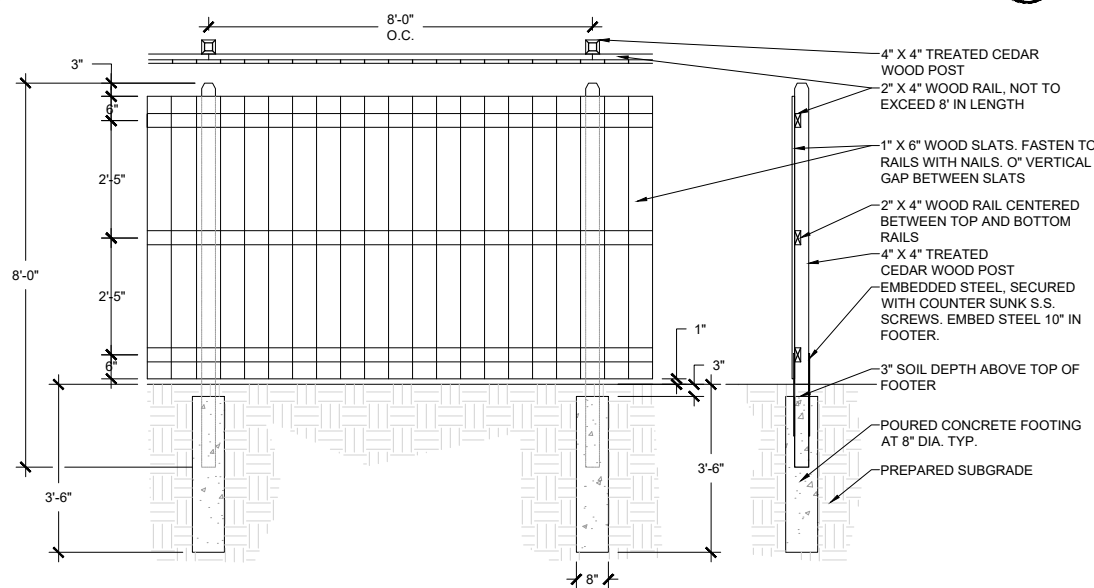
3 SPADE CUT EDGE

SCALE: 1/2" = 1'-0"



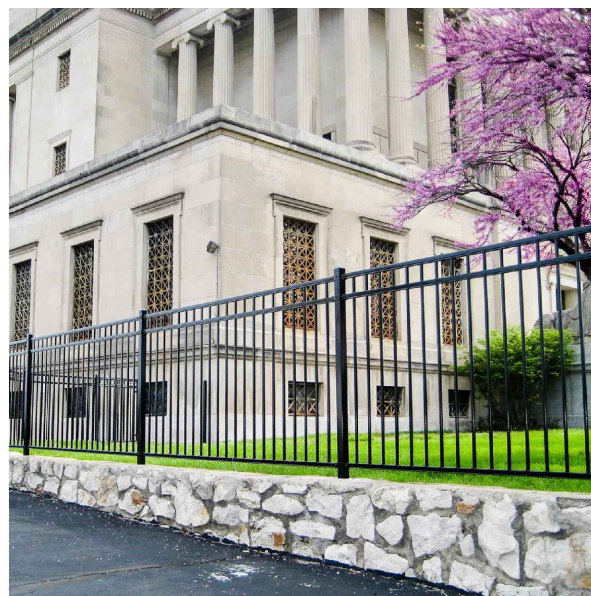
4 LIMESTONE BOULDER WALL

SCALE: 3/4" = 1'-0"



5 WOOD FENCE (6' HEIGHT)

SCALE: 1/2" = 1'-0"



4\"/>

CITY COMMENTS	09-05-24	BCA
SIP SUBMITTAL	07-25-24	BCA
REVISION	DATE	BY
Checked By: MLC	Scale: 1" = 1'-0"	
Engineer: BCA	Date: 05-21-24	T-R-S: TTN-RRW-SS
Technician: TECH		

Sheet L 300

CITY OF FITCHBURG, DANE COUNTY, WI

5010 VOGES ROAD
MADISON, WISCONSIN 53718
608-835-0444 | www.snyder-associates.com

SNYDER & ASSOCIATES, INC.

2975 KAPEC ROAD
LANDSCAPE DETAILS



Project No: 124.0465.30


Sheet L 300

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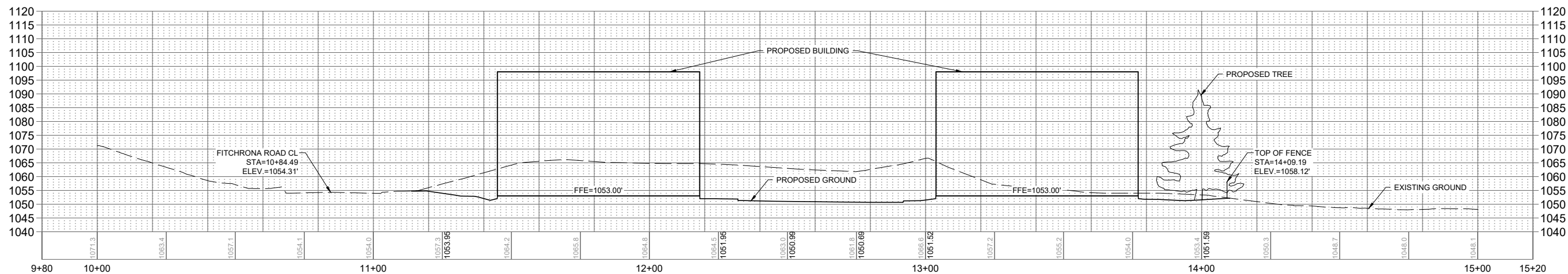
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SIP SUBMITTAL	07-25-24	BCA
MARK	REVISION	DATE
Engineer: BCA	Checked By: MLC	Scale: 1" = 40'
Technician: TECH	Date: 05-21-24	T-R-S: TTN+RRW-SS

2975 KAPEC ROAD
PLAN EXHIBIT FOR ELEVATIONS
 CITY OF FITCHBURG, DANE COUNTY, WI
SNYDER & ASSOCIATES, INC. |
 5010 VOGES ROAD
 MADISON, WISCONSIN 53718
 608-838-0444 | www.snyder-associates.com

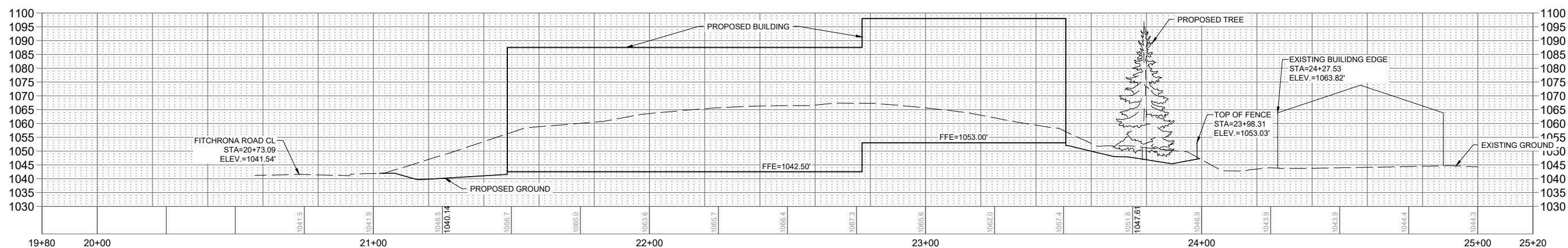


Project No: 124.0465.30
 Sheet EXBT

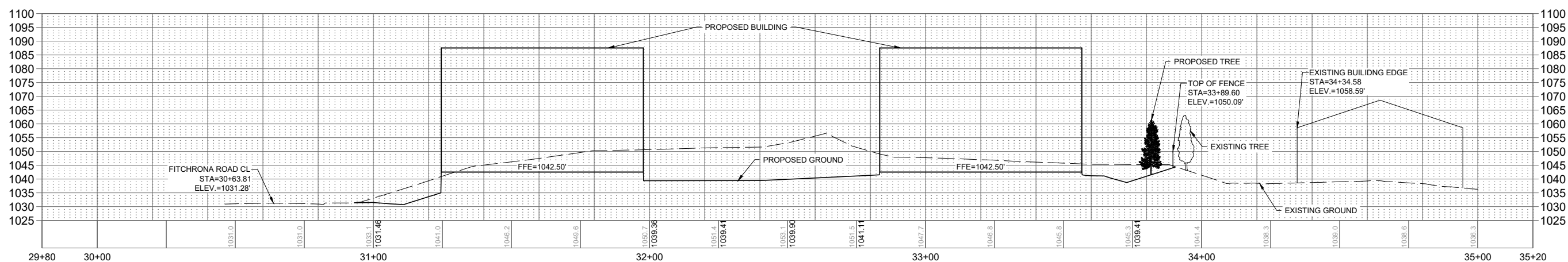
XSEC-1-WEST PROFILE



XSEC-2 PROFILE



XSEC-3-EAST PROFILE



CITY COMMENTS	09-05-24	BCA
SIP SUBMITTAL	07-25-24	BCA
REVISION	DATE	BY
Checked By: MLC	Scale: 1" = 20'	
Engineer: BCA	Date: 05-21-24	T-R-S: TTN+RRW-SS
Technician: TECH		

Project No: 124.0465.30
Sheet EXBT

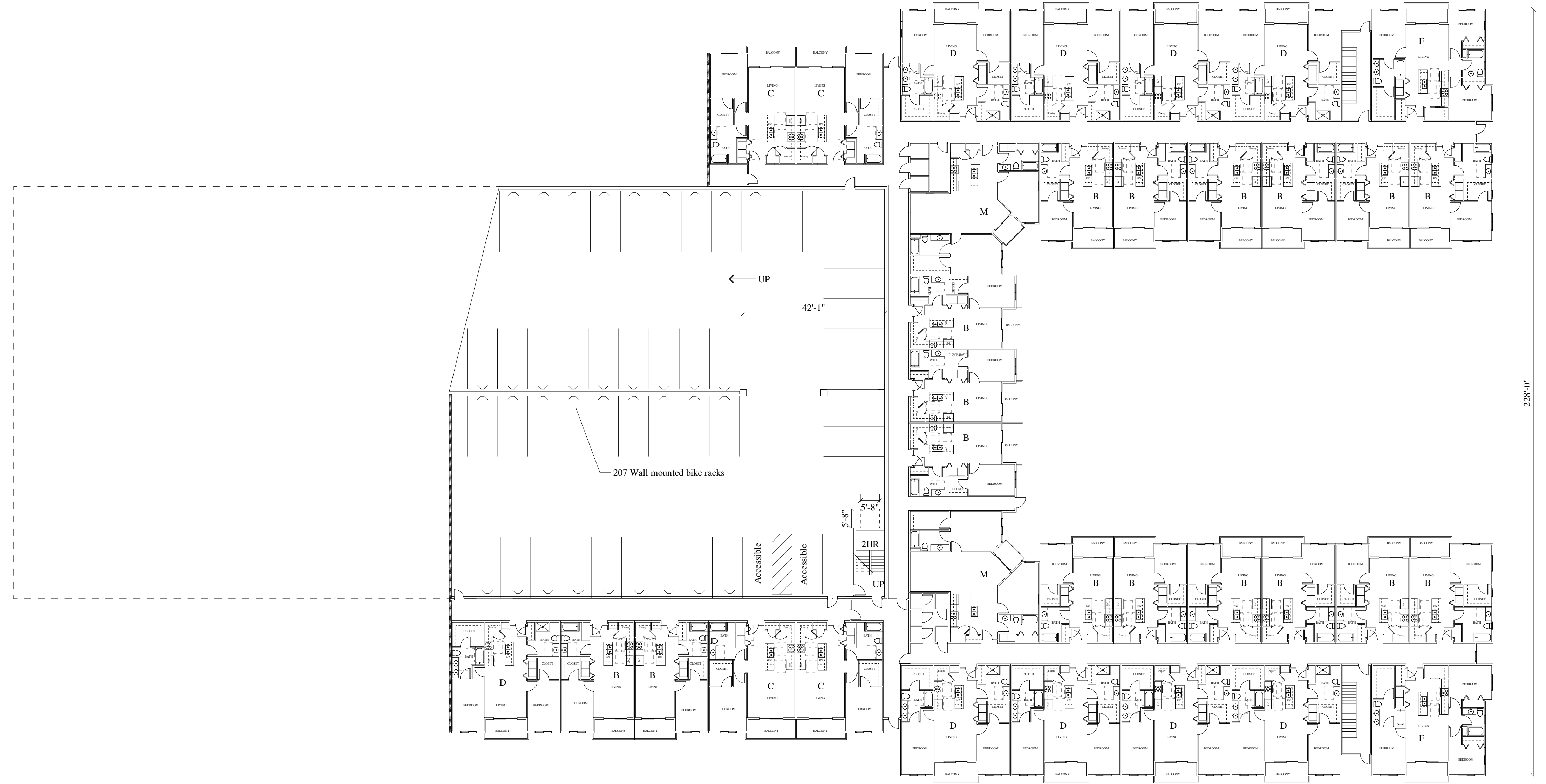
2975 KAPEC ROAD
ELEVATIONS
CITY OF FITCHBURG, DANE COUNTY, WI
SNYDER & ASSOCIATES, INC.
5010 VOGES ROAD
MADISON, WISCONSIN 53718
608-835-0444 | www.snyder-associates.com



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Lower Level Plan

Scale = 1"=20'-0"



Project: Apartment Building

Address: Fitchburg, WI

Sheet Title: Lower Level Plan

Date: 06-09-2024

Scale: As Noted

Job #: 13-01

SHEET
A1.0

Proposed for: CF Investments, LLC

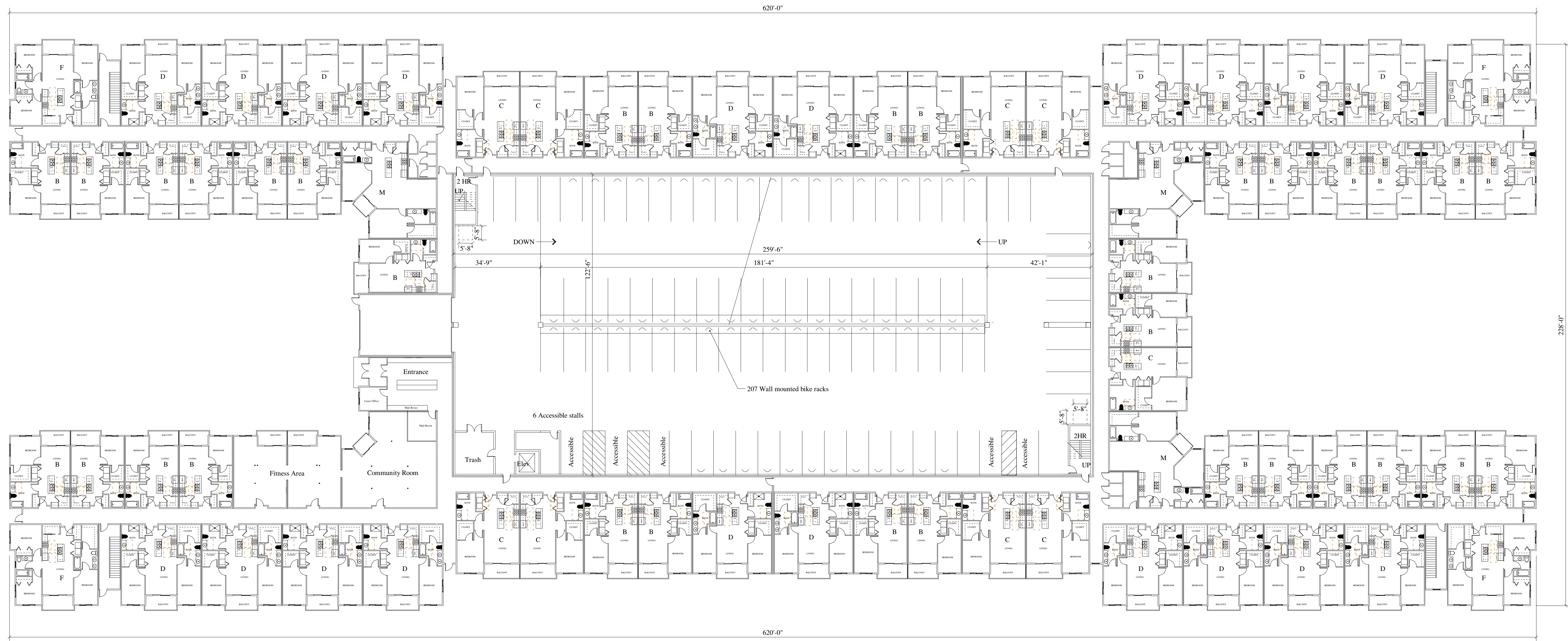
Craig Frank

3636 Skytop Road
McFarland, WI 53558
608-576-4309

Concepts
In
Architecture, LLC

Jeffery Greiner, Architect
W125 Amidon Road
Brooklyn, WI 53521
608-698-3196

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First Floor Plan
Scale = 1"=20'-0"

Building Notes

1. Construction types - Residential - Wood frame
Parking garage - Precast concrete
2. Foundation type - Frost wall
3. Number of Levels - 4 Residential - 71,834 sf
Parking garage - 31,788 sf
4. Roof pitch - Flat
5. Fire protection - Sprinklered per NFPA 13
6. Fire alarm system - Yes

Unit Type	Number of units
B - One Bedroom 602 sf	118
C - One Bedroom 802 sf	34
D - Two Bedroom 1,034 sf	64
F - Three Bedroom 1,475 sf	16
I - Two Bedroom town 1,352 sf	13
J - Two Bedroom town 1,803 sf	1
K - Three Bedroom town 2,058 sf	4
M - One Bedroom plus Den 1,158 sf	15
	273

Jeffery Greiner, Architect
W125 Amidon Road
Brooklyn, WI 53521
608-698-3196
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Concepts
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Architecture, LLC

Proposed for: **CF Investments, LLC**
Craig Frank
3636 Skytop Road
McFarland, WI 53558
Address: 608-576-4309

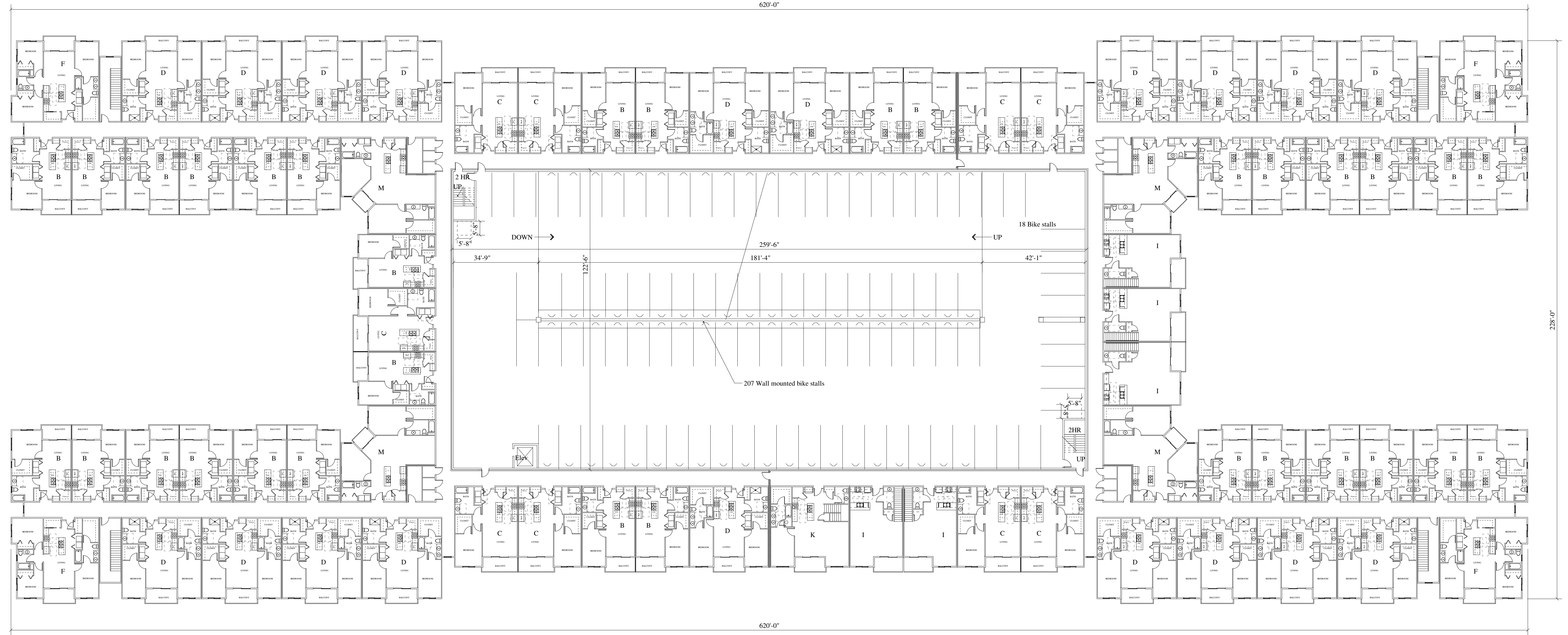
Project: **Apartment Building**
Address: **Fitchburg, WI**
Sheet Title: **First Floor Plan**

Date: 06-09-2024

Scale: As Noted

Job #: 13-01

SHEET
A1.1



Second Floor Plan
 Scale = 1"=20'-0"

Jeffery Greiner, Architect
 W125 Amidon Road
 Brooklyn, WI 53521
 608-698-3196
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Concepts
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Proposed for: CF Investments, LLC
 Craig Frank
 3636 Skytop Road
 McFarland, WI 53558
 Address: 608-576-4309

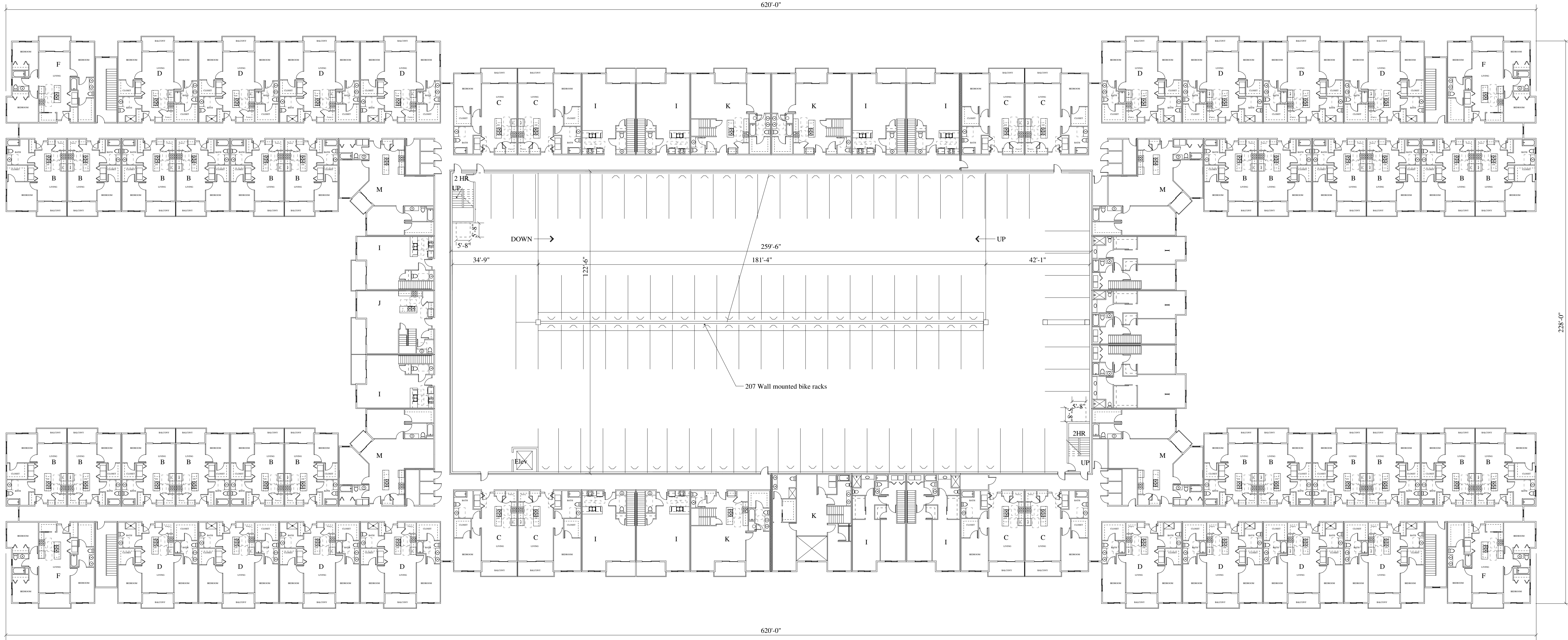
Project: Apartment Building
 Address: Fitchburg, WI
 Sheet Title: Second Floor Plan

Date: 06-09-2024

Scale: As Noted

Job #: 13-01

SHEET
A1.2



Third Floor Plan
Scale = 1"=20'-0"

Jeffery Greiner, Architect
W125 Amidon Road
Brooklyn, WI 53521
608-698-3196
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Proposed for: CF Investments, LLC
Craig Frank
3636 Skytop Road
McFarland, WI 53558
608-576-4309
Address:

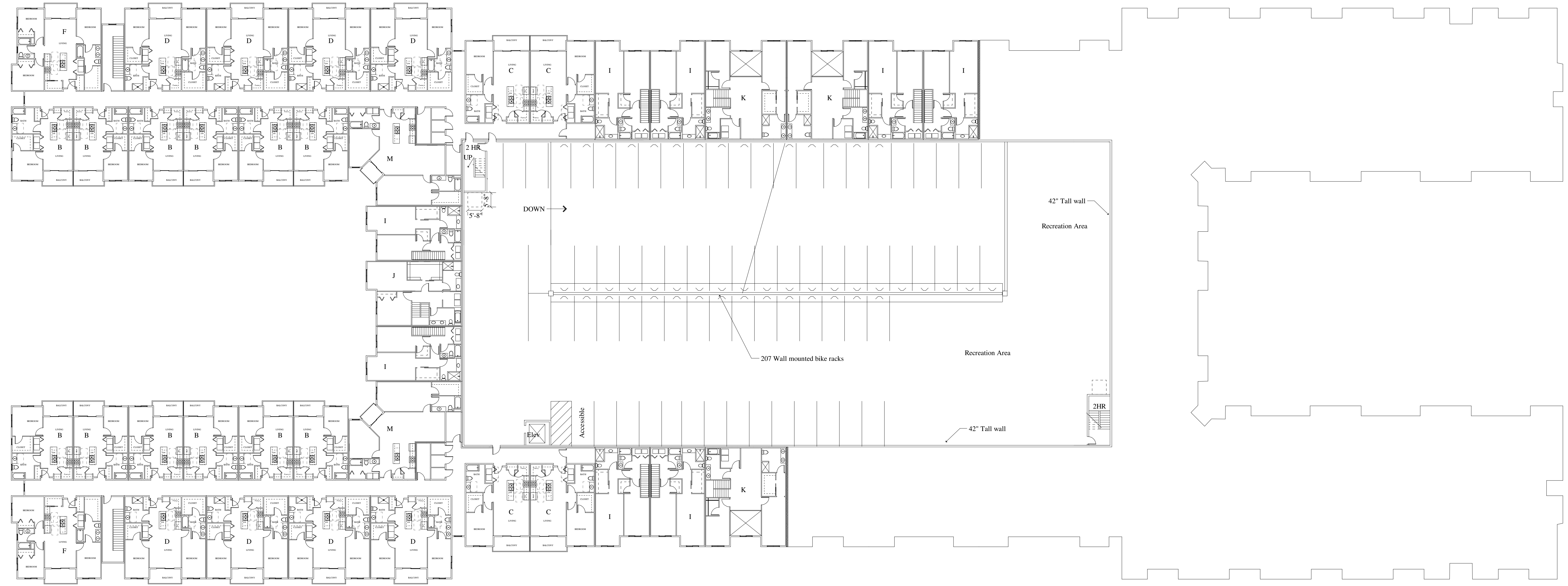
Project: Apartment Building
Address: Fitchburg, WI
Sheet Title: Third Floor Plan

Date: 06-09-2024

Scale: As Noted

Job #: 13-01

SHEET
A1.3



Fourth Floor Plan
 Scale = 1"=20'-0"

Jeffery Groenier, Architect
 W125 Amidon Road
 Brooklyn, WI 53521
 608-698-3196
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Concepts
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Architecture, LLC

Proposed for: CF Investments, LLC
 Address: Craig Frank
 3636 Skytop Road
 McFarland, WI 53558
 608-576-4309

Project: Apartment Building
 Address: Fitchburg, WI
 Sheet Title: Fourth Floor Plan

Date: 06-09-2024

Scale: As Noted

Job #: 13-01

SHEET
A1.4



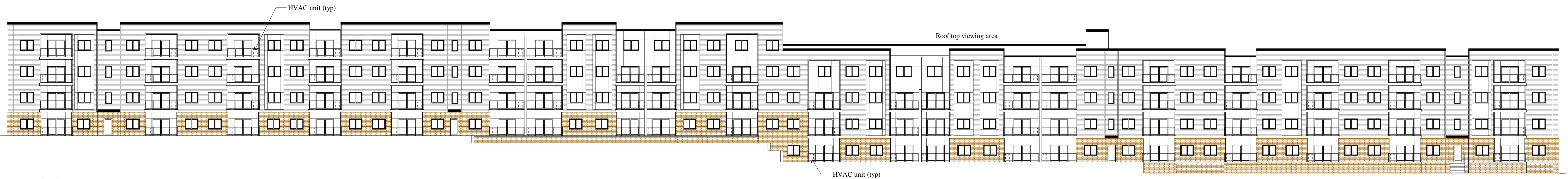
West Elevation

Scale = 1/8"=1'-0"



East Elevation

Scale = 1/8"=1'-0"



South Elevation

Scale = 1/8"=1'-0"



North Elevation

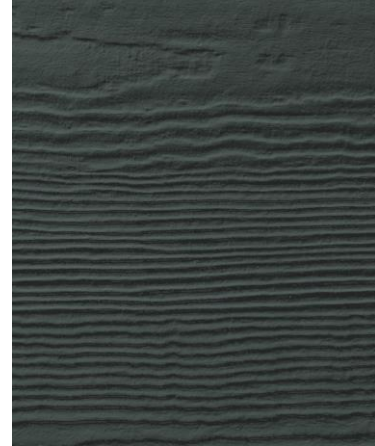
Scale = 1/8"=1'-0"

Exterior Colors

Brick: "Fawn"



Hardie Deck Accent: "Iron Gray"



Hardie Lap Siding: "Evening Blue"

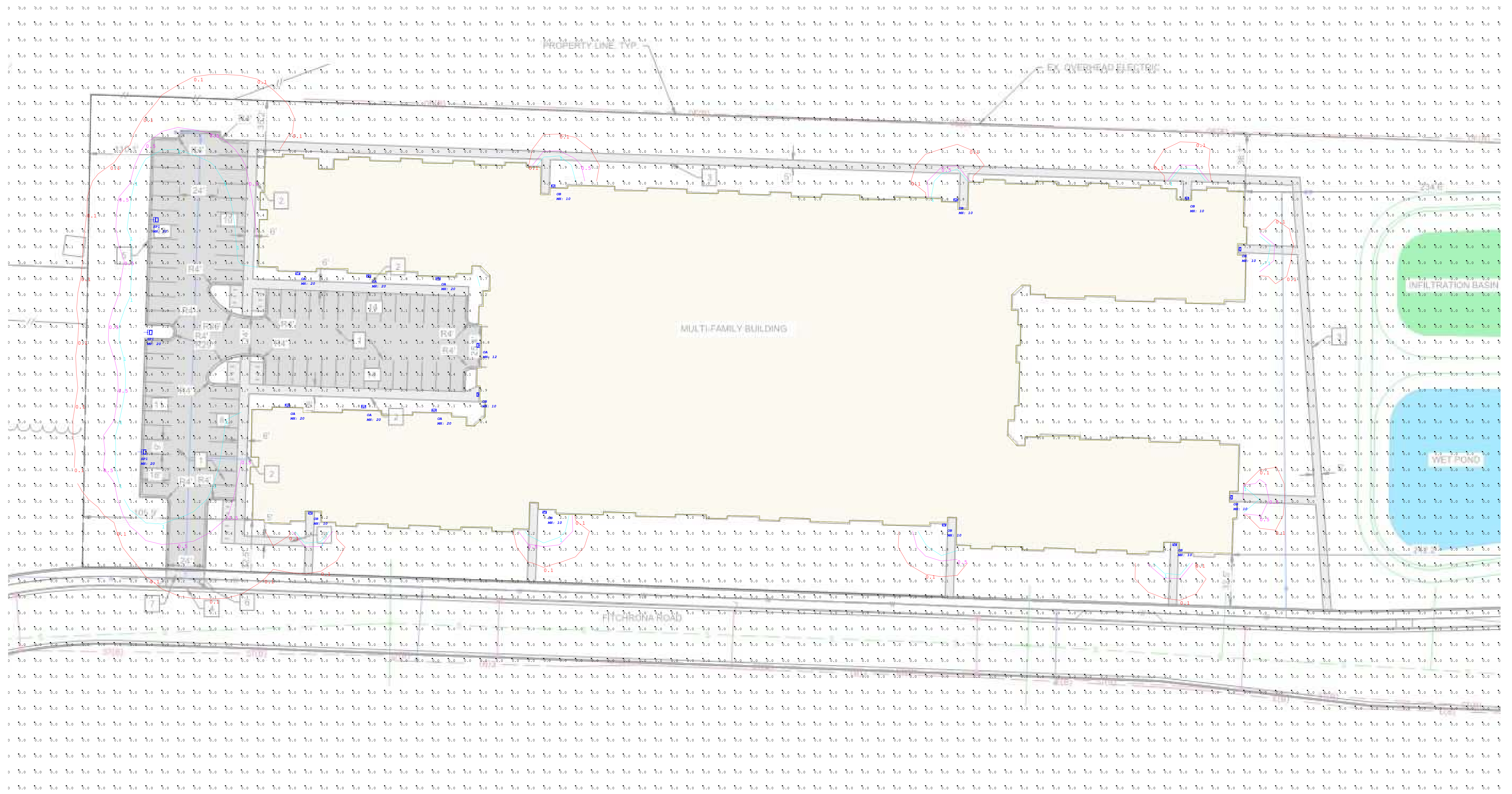


Hardie Flat Panel Siding: "Cobblestone"



COBBLESTONE





- SITE PLAN KEY NOTES**
1. ASPHALT PAVEMENT
 2. THICKENED EDGE SIDEWALK
 3. SIDEWALK
 4. CUT CURB FOR PROPOSED
 5. 1/2" CURB & GUTTER
 6. CONCRETE DRIVEWAY APP
 7. ASPHALT DRIVEWAY
 8. ASPHALT DRIVEWAY

1. Standard Reflectance of 80/50/20 unless noted otherwise
2. Not a Construction Document, for Design purposes only
3. Standard indoor calc points @ 30" A.F.F. unless noted otherwise
4. Standard outdoor calc points @ Grade unless noted otherwise
5. Egress calc points @ 0" A.F.F.
6. Mlazgar Associates assumes no responsibility for installed light levels due to field conditions, etc.

Calculation Summary								
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min	
OVERALL SITE	Illuminance	Fc	0.16	16.8	0.0	N.A.	N.A.	
PROPERTY LINE	Illuminance	Fc	0.04	0.2	0.0	N.A.	N.A.	

Luminaire Schedule								
Symbol	Qty	Label	Manufacturer	Description	Arrangement	Lum. Lumens	Lum. Watts	LLF
□	7	OA		AXCL8A	Single	9695	72	0.900
□	10	OB		AXCS2A	Single	2561	20.7	0.900
□	3	SP1		PRV-C40-D-UNV-T4-BZ	Single	17087	131	0.900



#	Date	Comments

Revisions

RLMA Project #: 161002
Drawn By: BS
Date: 9/16/2024
Scale: 1" = 25'

Project		Catalog #		Type	
Prepared by		Notes		Date	



Lumark

Axcent

Wall Mount Luminaire

Product Features



Product Certifications



Interactive Menu

- Ordering Information [page 2](#)
- Mounting Details [page 3](#)
- Product Specifications [page 4](#)
- Energy and Performance Data [page 4](#)
- Control Options [page 6](#)

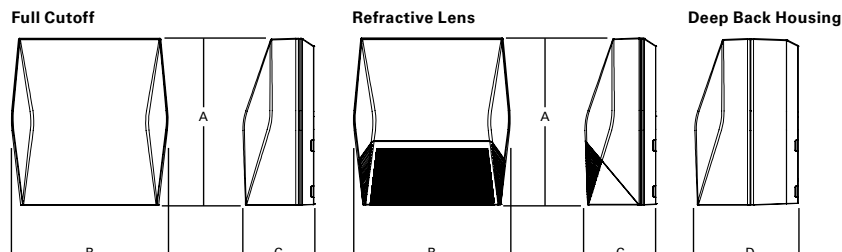
Quick Facts

- Available in 14W - 116W (1,800 - 16,000 lumens) models
- Full cutoff and refractive lens models available
- Energy and maintenance savings up to 95% compared to HID
- Energy efficient illumination results in up to 144 LPW
- Replaces 70W up to 450W HID equivalents

Connected Systems

- WaveLinx PRO Wireless
- WaveLinx LITE Wireless
- Enlighted

Dimensional Details



Dimensional Data

	AXCS Small	AXCL Large
A	8" [202mm]	11-1/2" [292mm]
B	7-1/2" [190mm]	10-3/4" [273mm]
C	3-5/8" [94mm]	4-7/8" [124mm]
D	6-1/8" [155mm]	7-1/8" [181mm]

Ordering Information

SAMPLE NUMBER: **AXCS1A-AP-347V**

Domestic Preferences ²⁷	Model Series ¹	LED Color Temperature	Color	Options (Add as Suffix)
[Blank] =Standard BAA =Buy American Act TAA =Trade Agreements Act	Full Cutoff AXCS1A =14W AXCS2A =21W AXCS3A =27W AXCS4A =44W AXCS5A =52W AXCL6A =50W AXCL8A =66W AXCL10A =89W AXCL12A =116W Refractive Lens AXCS1ARL =14W AXCS2ARL =21W AXCS3ARL =27W AXCS4ARL =44W AXCS5ARL =52W AXCL6ARL =50W AXCL8ARL =66W AXCL10ARL =89W AXCL12ARL =116W	[Blank] =4000K, Neutral C =5000K, Cool W =3000K, Warm	[Blank] =Carbon Bronze (Standard) WT =Summit White BK =Black AP =Grey GM =Graphite Metallic DP =Dark Platinum	347V =347V ² 480V =480V ² PC1 =Photocontrol 120V ^{3,4,5} PC2 =Photocontrol 208-277V, 347V, 480V ^{4,5,6} PC =Photocontrol 120-277V, 347V, 480V ^{4,7,8} KKIT =Knuckle Floodlight Mount ⁷ TRNKIT =Trunnion Floodlight Mount SFKIT =Slipfitter Floodlight Mount PMakit =Pole Mount Arm WPS2XX =Wavelinx Pro, SR Driver, Dimming Motion and Daylight, WAC Programmable, 7' - 15' Mounting Height ^{4,9,10,11} WPS4XX =Wavelinx Pro, SR Driver, Dimming Motion and Daylight, WAC Programmable, 15' - 40' Mounting Height ^{4,9,10,11} WLS2XX =WaveLinx Lite, SR Driver, Dimming Motion and Daylight, Bluetooth Programmable, 7' - 15' Mounting ^{4,9,10,11} WLS4XX =WaveLinx Lite, SR Driver, Dimming Motion and Daylight, Bluetooth Programmable, 15' - 40' Mounting ^{4,9,10,11} LWR-LW =Enlighted Wireless Sensor, Wide Lens for 8' - 16' Mounting Height ^{4,9,12} LWR-LN =Enlighted Wireless Sensor, Narrow Lens for 16' - 40' Mounting Height ^{4,9,12} MSP/DIM-L12 =Integrated Sensor for Dimming Operation, 8' - 12' Mounting Height ^{4,9,13} MSP/DIM-L30 =Integrated Sensor for Dimming Operation, 12' - 30' Mounting Height ^{4,9,13} MSP-L12 =Integrated Sensor for ON/OFF Operation, 8' - 12' Mounting Height ^{4,9,13} MSP-L30 =Integrated Sensor for ON/OFF Operation, 12' - 30' Mounting Height ^{4,9,13} CBP =Cold Weather Battery Pack ^{3,14,15,16,17,18} CBP-CEC =Cold Weather Battery Pack, CEC compliant ^{3,14,15,16,17,18} 10K =10kV/10kA Surge Protection HA =50°C High Ambient ^{15,19} GRF =Glare Reducing Lens ²⁰ AHD145 =After Hours Dim, 5 Hours ^{5,21} AHD245 =After Hours Dim, 6 Hours ^{5,21} AHD255 =After Hours Dim, 7 Hours ^{5,21} AHD355 =After Hours Dim, 8 Hours ^{5,21}
Accessories (Order Separately) ^{22,28}				
VS/AXCS-XX =Vandal Shield Axcent Small ^{7,23} VS/AXCS-MS =Vandal Shield Axcent Small (With Motion Sensor) ^{7,23} WG/AXCS =Wire Guard Axcent Small ⁷ WG/AXCS-MS =Wire Guard Axcent Small (With Motion Sensor) ⁷ VS/AXCL-XX =Vandal Shield Axcent Large ^{5,23} VS/AXCL-MS =Vandal Shield Axcent (With Motion Sensor) ^{5,23} WG/AXCL =Wire Guard Axcent Large ⁵ WG/AXCL-MS =Wire Guard Axcent (With Motion Sensor) ⁵ BB/AXC =Axcent Lumen Select Back Box, Carbon Bronze ²⁴ BB/AXC-PC =Axcent Lumen Select Back Box with PC, Carbon Bronze ^{24,25} BB/AXC-WT =Axcent Lumen Select Back Box, Summit White ²⁴ BB/AXC-WT-PC =Axcent Lumen Select Back Box with PC, Summit White ^{24,25}				
NOTES: 1. DesignLights Consortium® Qualified. Refer to www.designlights.org Qualified Products List under Family Models for details. 2. Transformer used only when ordered with motion sensor or AXCS1 through AXCS5 or AXCL6 fixture wattages. 3. Not available in 347 or 480 VAC. 4. Button photocontrol and any motion sensor (MSP or LWR) not offered together. 5. Only available on AXCL6-AXCL12 models. 6. Used with 277, 347, and 480 VAC options. 7. Only available on AXCS1-AXCS5 models. 8. This configuration may contain materials that are not RoHS compliant. Contact your lighting representative for more information. 9. Uses deep back housing. 10. Sensor passive infrared (PIR) may be overly sensitive when operating below -20°C (-4°F). For the device to be field-configurable, requires WAC Gateway components WAC-PoE and WPOE-120 in appropriate quantities. Only compatible with WaveLinx system and software and requires system components to be installed for operation. See website for more Wavelinx application information. 11. Replace XX with sensor color (WH, BZ, or BK). 12. Enlighted wireless sensors are factory installed and require network components LWP-EM-1, LWP-GW-1, and LWP-PoE8 in appropriate quantities. See website for application information. 13. The ISHH-01 accessory is required to adjust parameters. 14. Ambient operating temperature -20°C to 25°C for AXCL6 through AXCL10. Ambient operating temperature -20°C to 30°C on AXCS4 models. Ambient operating temperature -20°C to 40°C on AXCS1 through AXCS3 models. 15. Not available with AXCS5 or AXCL12 models. 16. Uses deep back housing for AXCS1, AXCL2, AXCS3, and AXCS4 models. 17. Not to be mounted in upwards / inverted orientation. Downlight wall mount only for AXCS1 through AXCS4. 18. CBP cannot be used with PC and motion sensor (MSP or LWR). CBP can be used with PC or motion sensor (MSP or LWR). 19. Can not be ordered with CBP or PC options. 20. Use dedicated IES files on product website for lumen values and distributions. 21. Requires the use of PC1 or PC2 button photocontrol. See After Hours Dim supplemental guide for additional information. 22. Replace XX with color designation. 23. For use with full cutoff lens configurations only. 24. Lumen Select functionality not available in conjunction with any motion sensor option (MSP or LWR). Photocontrol back box not available with any photocontrol or motion sensor options (PC, MSP or LWR). 25. Photocell only operates at 120-277V input voltages. Not for use with 347 or 480V systems. 26. This tool enables adjustment to parameters including high and low modes, sensitivity, time delay, cutoff and more. Consult your lighting representative for more information. 27. Only product configurations with these designated prefixes are built to be compliant with the Buy American Act of 1933 (BAA) or Trade Agreements Act of 1979 (TAA), respectively. Please refer to DOMESTIC PREFERENCES website for more information. Components shipped separately may be separately analyzed under domestic preference requirements. 28. Accessories sold separately will be separately analyzed under domestic preference requirements. Consult factory for further information.				

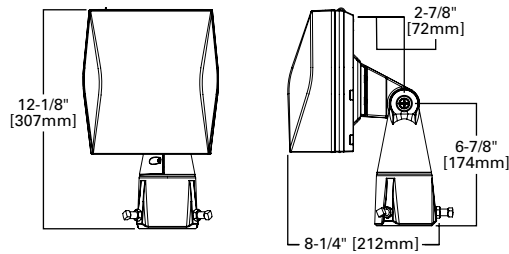
Stock Ordering Information

Model Series ¹			
Full Cutoff		Refractive Lens	
AXCS1A =14W	AXCL10A =102W	AXCS1ARL =14W	AXCL10ARL =89W
AXCS2A =21W	AXCL12A =123W	AXCS2ARL =21W	AXCL12ARL =116W
AXCS3A =27W	AXCL6A-347V =50W	AXCS3ARL =27W	AXCL6ARL-347V =50W
AXCS4A =44W	AXCL8A-347V =66W	AXCS4ARL =44W	AXCL8ARL-347V =66W
AXCS5A =52W	AXCL10A-347V =89W	AXCS5ARL =52W	AXCL10ARL-347V =89W
AXCL6A =56W	AXCL12A-347V =116W	AXCL6ARL =50W	AXCL12ARL-347V =116W
AXCL8A =72W		AXCL8ARL =66W	

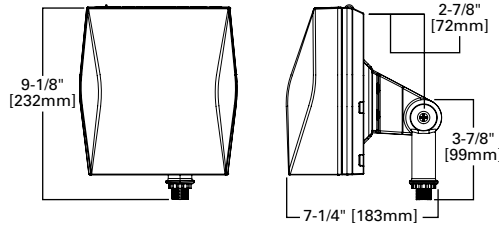
Note: All stock configurations are 4000K color temperatures, standard Carbon Bronze finish, and wall mount configuration.

Mounting Details

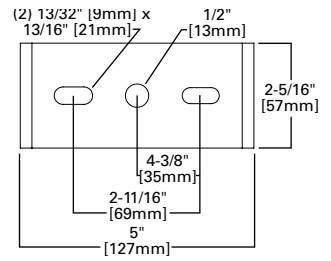
Slipfitter Mount (Small)
Tenon OD: 2-3/8" | EPA: 0.60



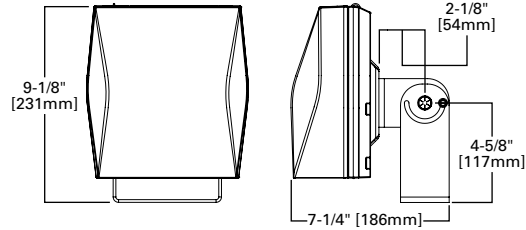
Knuckle Mount (Small)



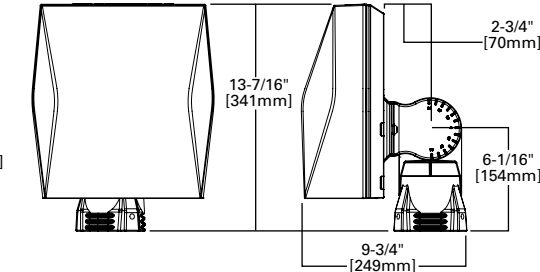
Trunnion Mount Detail



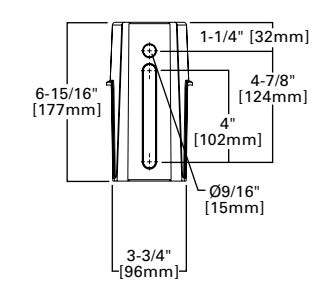
Trunnion Mount (Small)



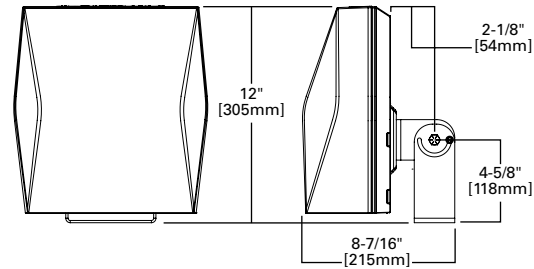
Slipfitter Mount (Large)
Tenon OD: 2-3/8" to 2-7/8" | EPA: 1.10



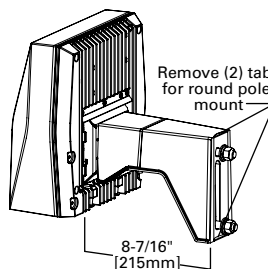
Pole Mount Arm Drill Pattern



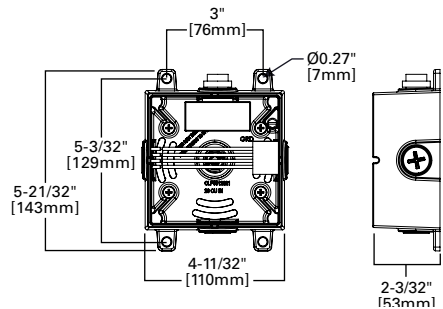
Trunnion Mount (Large)



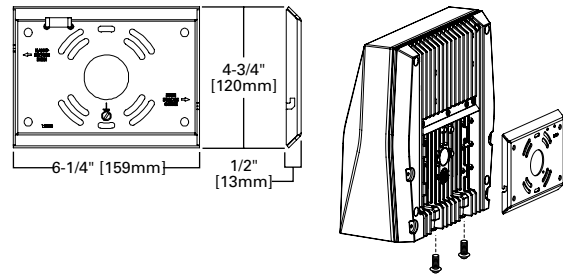
Pole Mount Arm (Large)
EPA: 1.10



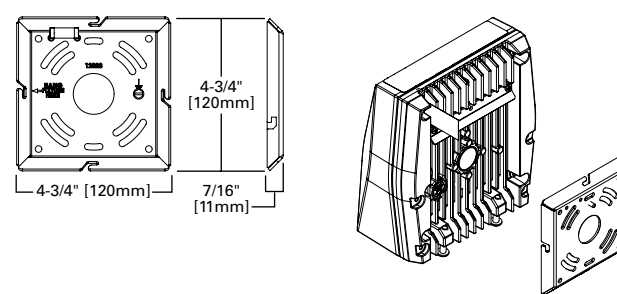
Lumen Select Back Box



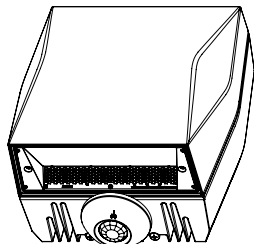
Wall Mount Plate Detail (Large)



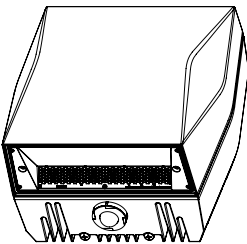
Wall Mount Plate Detail (Small)



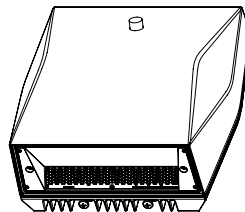
Enlighted Sensor



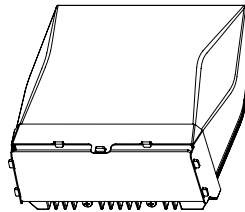
Occupancy Sensor



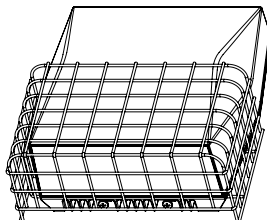
Button Photocontrol



Vandal Shield



Wire Guard



Product Specifications

Construction

- Die-cast aluminum housing
- External back fin design extracts heat from the surface to thermally optimize design for longer luminaire life

Optics

- Dark Sky Approved (Fixed mount, Full cutoff, and 3000K CCT only)
- Silicone-sealed optical LED chamber
- Acrylic refractive or full cutoff lens options for Type IV distributions

Electrical

- Standard universal voltage (120-277V, 50/60Hz)
- Driver incorporates 6kV surge protection
- 40°C minimum operating temperature
- 40°C maximum operating temperature
- <20% total harmonic distortion

- 0-10V dimming driver is standard with leads external to the fixture

Mounting

- Steel wedge mounting plate fits directly to 4" standard j-box or directly to wall with the "Hook-N-Lock" mechanism
- Stainless steel set screws
- Lumen Select Back Box accessory offers four 1/2" NPT conduit entry wire ways. Resistor Pack combinations allow field-dimming of 75% or 50% when connected to luminaire dimming leads
- Not suitable for indoor use when installed in inverted/uplight orientation

Emergency Egress

- Optional integral cold weather battery emergency egress includes emergency operation test switch, an AC-ON indicator light and a premium, maintenance-free battery pack

- The separate emergency lighting LEDs are wired to provide redundant emergency lighting. Listed to UL Standard 924, Emergency Lighting

Finish

- Five-stage super TGIC polyester powder coat paint, 2.5 mil nominal thickness

Shipping Data

- Small fixture=5 lbs. [2.36 kgs.]
- Small with sensor or CBP=10 lbs. [4.40 kgs.]
- Large fixture=12 lbs. [5.45 kgs.]
- Large with sensor or CBP=17 lbs. [7.73 kgs.]
- Large with sensor & CBP=21 lbs. [9.54 kgs.]

Warranty

Five year limited warranty, consult website for details. www.cooperlighting.com/legal

Energy and Performance Data

Power and Lumens (Axcent Small)

Light Engine		AXCS1A	AXCS2A	AXCS3A	AXCS4A	AXCS5A
Power (Watts)		14	21	27	44	52
Input Current @ 120V (A)		0.12	0.18	0.23	0.37	0.43
Input Current @ 240V (A)		0.06	0.09	0.11	0.18	0.22
Input Current @ 277V (A)		0.05	0.08	0.10	0.16	0.19
Input Current @ 347V (A)		0.04	0.06	0.08	0.13	0.15
Input Current @ 480V (A)		0.03	0.04	0.06	0.09	0.11
Configuration						
Full Cutoff	4000K/5000K Lumens	1,806	2,561	3,537	5,520	6,300
	3000K Lumens	1,526	2,164	2,989	4,665	5,324
	BUG Rating	B1-U0-G0	B1-U0-G0	B1-U0-G0	B2-U0-G1	B2-U0-G1
Refractive Lens	4000K/5000K Lumens	1,915	2,716	3,704	5,858	6,699
	3000K Lumens	1,618	2,295	3,130	4,950	5,661
	BUG Rating	B1-U3-G2	B1-U3-G2	B1-U3-G2	B1-U4-G3	B1-U4-G3

Power and Lumens (Axcent Large)

Light Engine		AXCL6A	AXCL8A	AXCL10A	AXCL12A
Power (Watts)		50	66	89	115
Input Current @ 120V (A)		0.41	0.54	0.74	0.96
Input Current @ 240V (A)		0.21	0.27	0.37	0.48
Input Current @ 277V (A)		0.18	0.24	0.32	0.42
Input Current @ 347V (A)		0.14	0.19	0.26	0.33
Input Current @ 480V (A)		0.10	0.14	0.19	0.24
Configuration					
Full Cutoff	4000K Lumens	7,594	9,716	12,719	16,302
	5000K Rating	7,501	9,598	12,564	16,103
	3000K Lumens	6,502	8,319	10,890	13,958
	BUG Rating	B2-U0-G1	B2-U0-G2	B3-U0-G2	B3-U0-G2
Refractive Lens	4000K Lumens	7,809	10,331	13,665	16,637
	5000K Rating	7,714	10,205	13,498	16,434
	3000K Lumens	6,686	8,845	11,700	14,244
	BUG Rating	B1-U4-G4	B2-U5-G5	B2-U5-G5	B2-U5-G5

Energy and Performance Data

Power and Lumens (Small + CBP)

Light Engine		AXCS1A	AXCS2A	AXCS3A	AXCS4A
Power (Watts)		18	25	31	48
Input Current @ 120V (A)		0.15	0.21	0.26	0.40
Input Current @ 240V (A)		0.08	0.11	0.13	0.20
Input Current @ 277V (A)		0.07	0.09	0.11	0.18
Configuration					
Full Cutoff	4000K/5000K Lumens	629	587	647	570
	3000K Lumens	531	496	547	482
Refractive Lens	4000K/5000K Lumens	667	623	686	605
	3000K Lumens	563	526	580	511

Note: Power and current based on full power consumption while CBP is charging. Lumen outputs are while operating in emergency mode only.

Power and Lumens (Large + CBP)

Light Engine		AXCL6A	AXCL8A	AXCL10A
Power (Watts)		54	70	93
Input Current @ 120V (A)		0.45	0.58	0.77
Input Current @ 240V (A)		0.22	0.29	0.38
Input Current @ 277V (A)		0.19	0.25	0.33
Configuration				
Full Cutoff	4000K/5000K Lumens	=141*10W=1410		
	3000K Lumens	122*10=1220		
Refractive Lens	4000K/5000K Lumens	151*10=1510		
	3000K Lumens	131*10=1310		

Note: Power and current based on full power consumption while CBP is charging. Lumen outputs are while operating in emergency mode only.

Power and Lumens Multipliers
(Lumen Select Back Box + Axcent Small)

Configuration		~75% Nominal Output	~50% Nominal Output
Catalog Number	Material Number	Connect per Installation Instructions	
AXCS1A*	13109741 or 13109939 or Other	74%	50%
AXCS2A*	13109698 or 13109938 or Other	74%	50%
AXCS3A*	13109697 or 13109937 or Other	74%	50%
AXCS4A*	13109695 or 13109936	75%	40%
AXCS4A*	13495299 or 13495470 or Other	72%	50%
AXCS5A*	13109652 or 13109935	75%	40%
AXCS5A*	13495471 or 13495472 or Other	72%	50%

Power and Lumens Multipliers
(Lumen Select Back Box + Axcent Large)

Configuration		~75% Nominal Output	~50% Nominal Output
Catalog Number	Material Number	Connect per Installation Instructions	
AXCL6A*	13645910 or 13645979	69%	47%
AXCL8A*	13645970 or 13645984	69%	47%
AXCL10A*	13645971 or 13645989	69%	47%
AXCL12A*	13645972 & 13645993	72%	49%

Lumen Maintenance (Axcent Small)

Ambient Temperature	TM-21 Lumen Maintenance (72,000 Hours)	Theoretical L70 (Hours)
Up to 3A		
25°C	90%	246,000
40°C	90%	225,000
50°C	89%	195,000
Up to 5A		
25°C	89%	240,000
40°C	88%	223,000
50°C	87%	186,000

Lumen Maintenance (Axcent Large)

Ambient Temperature	TM-21 Lumen Maintenance (72,000 Hours)	Theoretical L70 (Hours)
Up to 8A		
25°C	89%	216,000
40°C	87%	192,000
50°C	86%	179,000
Up to 10A		
25°C	88%	199,000
40°C	86%	179,000
50°C	85%	162,000
Up to 12A		
25°C	85%	162,000
40°C	82%	138,000

Lumen Multiplier

Ambient Temperature	Lumen Multiplier
10°C	1.02
15°C	1.01
25°C	1.00
40°C	0.97

Control Options

0-10V This fixture is offered standard with 0-10V dimming driver(s) for use with a lighting control panel or other control method.

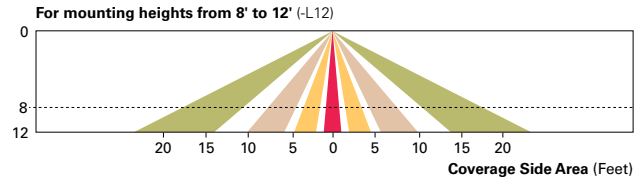
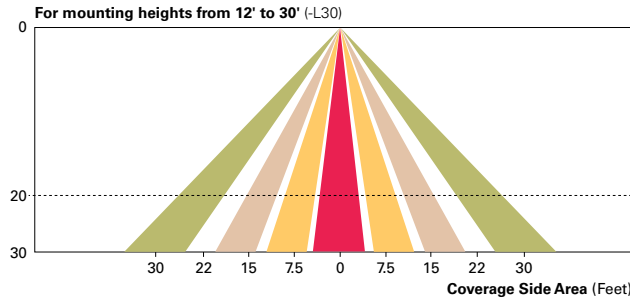
Photocontrol (PC1, PC2 and PC) Optional button-type photocontrol provides a flexible solution to enable "dusk-to-dawn" lighting by sensing light levels.

After Hours Dim (AHD) This feature allows photocontrol-enabled luminaires to achieve additional energy savings by dimming during scheduled portions of the night. The dimming profile will automatically take effect after a "dusk-to-dawn" period has been calculated from the photocontrol input. Specify the desired dimming profile for a simple, factory-shipped dimming solution requiring no external control wiring. Reference the After Hours Dim supplemental guide for additional information.

Dimming Occupancy Sensor (MSP/DIM-LXX and MSP-LXX) These sensors are factory installed in the luminaire housing. When the MSP/DIM-LXX sensor option is selected, the occupancy sensor is connected to a dimming driver and the entire luminaire dims when there is no activity detected. When activity is detected, the luminaire returns to full light output. The MSP/DIM sensor is factory preset to dim down to approximately 50 percent power with a time delay of ten minutes. The MSP-LXX sensor is factory preset to turn the luminaire off after five minutes of no activity.

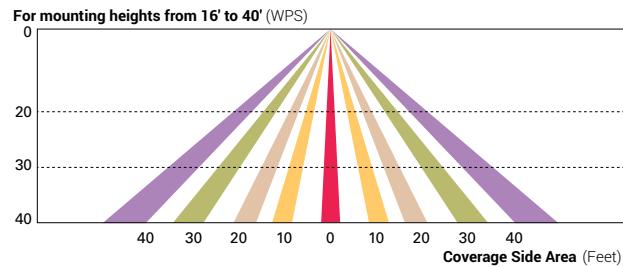
These occupancy sensors includes an integrated photocell that can be activated with the ISHH-01 accessory for "dusk-to-dawn" control or daylight harvesting - the factory preset is ON. The ISHH-01 is a wireless tool utilized for changing the dimming level, time delay, sensitivity and other parameters.

A variety of sensor lens are available to optimize the coverage pattern for mounting heights from 8'-30'.

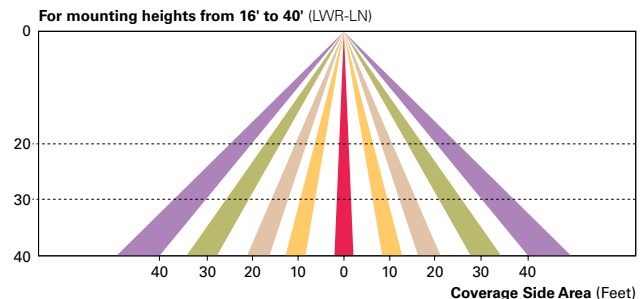
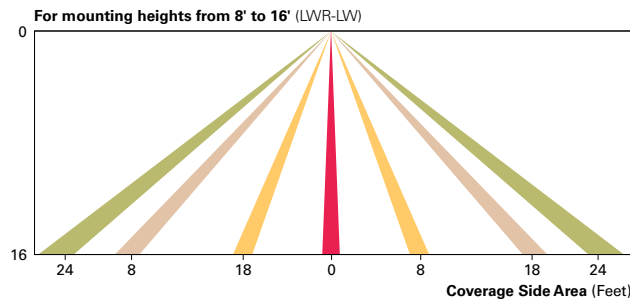


WaveLinx Wireless Control and Monitoring System The WaveLinx Outdoor control platform operates on a wireless mesh network based on IEEE 802.15.4 standards enabling wireless control of outdoor lighting. Use the WaveLinx Mobile application for set-up and configuration. At least one Wireless Area Controller (WAC) is required for full functionality and remote communication (including adjustment of any factory pre-sets).

WaveLinx Wireless Sensor (WPS2 and WPS4) These outdoor sensors offer passive infrared (PIR) occupancy and a photocell for closed loop daylight sensing. These sensors are factory preset to dim down to approximately 50 percent power after 15 minutes of no activity detected. These occupancy sensors include an integral photocell for "dusk-to-dawn" control or daylight harvesting that is factory-enabled. A variety of sensor lenses are available to optimize the coverage pattern for mounting heights from 7'-40'.



Enlighted Wireless Control and Monitoring System (LWR-LW and LWR-LN) The Enlighted System is a connected lighting solution that combines LED luminaires with an integrated wireless sensor system. The sensor controls the lighting system in compliance with the latest energy codes and collects valuable data about building performance and use. Software applications turn the granular data into information through energy dashboards and specialized apps that make it simple and help optimize the use of other resources beyond lighting.



Project		Catalog #		Type	
Prepared by		Notes		Date	



Lumark

Prevail LED

Area / Site Luminaire

Product Features



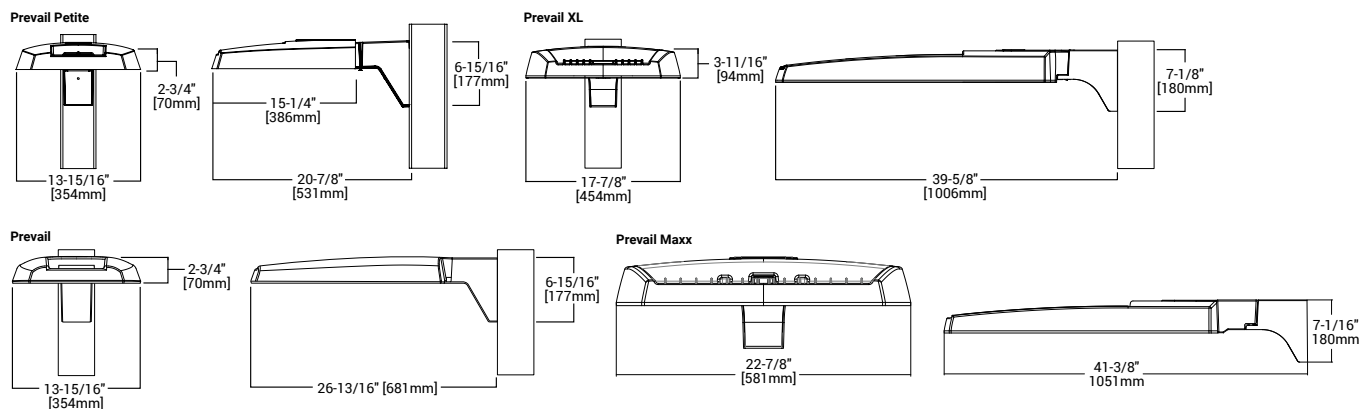
Interactive Menu

- Ordering Information [page 2](#)
- Mounting Details [page 3, 4](#)
- Optical Configurations [page 5](#)
- Product Specifications [page 5](#)
- Energy and Performance Data [page 6, 7](#)
- Control Options [page 8](#)

Quick Facts

- Lumen packages range from 4,800 - 84,000 lumens (35W - 588W)
- Replaces 70W up to 1,000W HID equivalents
- Efficacies up to 160 lumens per watt
- Energy and maintenance savings up to 85% versus HID solutions
- Standard universal quick mount arm with universal drill pattern

Dimensional Details



NOTES:
 1. Visit <https://www.designlights.org/search/> to confirm qualification. Not all product variations are DLC qualified.
 2. IDA Certified for 3000K CCT and warmer only.

Product Certifications



Connected Systems

- WaveLinx PRO Wireless
- WaveLinx LITE Wireless

Ordering Information


SAMPLE NUMBER: PRV-XL-C75-D-UNV-T4-SA-BZ

Product Family ^{1,2}	Light Engine ⁴	Color Temperature	Driver	Voltage	Distribution	Mounting	Color
PRV-P=Prevail Petite BAA-PRV-P=Prevail Petite BAA Compliant ³ TAA-PRV-P=Prevail Petite TAA Compliant ³	C10=(1 LED) 4,900 Nominal Lumens C15=(1 LED) 6,900 Nominal Lumens C20=(1 LED) 9,800 Nominal Lumens C25=(1 LED) 11,800 Nominal Lumens	740=70CRI, 4000K 727=70CRI, 2700K 730=70CRI, 3000K 750=70CRI, 5000K 8540=85CRI, 4000K	D=Dimming (0-10V)	UNV=Universal (120-277V) H=High Voltage, 347-480V 8=480V ⁵ 9=347V DV=DuraVolt (277-480V) ^{5,6}	T2=Type II T3=Type III T4=Type IV T5=Type V	SA=QM Standard Versatile Arm MA=QM Mast Arm FMA= Fixed Mast Arm ²⁷ WM=QM Wall Mount Arm ADJA-WM=Adjustable Arm-Wall Mount ²⁹ ADJA=Adjustable Arm-Pole Mount ²⁹ ADJS=Adjustable Arm-Slipfitter, 3" vertical tenon ²⁹ SP2=Adjustable Arm-Slipfitter, 2 3/8" vertical tenon ^{27,29}	BZ=Bronze AP=Grey BK=Black DP=Dark Platinum GM=Graphite Metallic WH=White
PRV=Prevail BAA-PRV=Prevail BAA Compliant ³ TAA-PRV=Prevail TAA Compliant ³	C15=(1 LED) 7,100 Nominal Lumens C25=(2 LEDs) 13,100 Nominal Lumens C40=(2 LEDs) 17,100 Nominal Lumens C60=(2 LEDs) 20,000 Nominal Lumens						
PRV-XL=Prevail XL BAA-PRV-XL=Prevail XL BAA Compliant ³ TAA-PRV-XL=Prevail XL TAA Compliant ³	C75=(4 LED) 26,100 Nominal Lumens C100=(4 LED) 31,000 Nominal Lumens C125=(4 LED) 36,000 Nominal Lumens C150=(6 LED) 41,100 Nominal Lumens C175=(6 LED) 48,600 Nominal Lumens						
PRV-M=Prevail Maxx BAA-PRV-M=Prevail Maxx BAA Compliant ³ TAA-PRV-M=Prevail MaxxTAA Compliant ³	C200=(9 LED) 48,000 Nominal Lumens C225=(9 LED) 56,000 Nominal Lumens C250=(9 LED) 65,000 Nominal Lumens C275=(9 LED) 73,000 Nominal Lumens						

Options (Add as Suffix)		Accessories (Order Separately) ^{20,21}	
7030=70 CRI / 3000K CCT ⁷ 7050=70 CRI / 5000K CCT ⁷ CC=Coastal Construction finish ¹⁰ HSS=House Side Shield ⁸ L90=Optics Rotated 90° Left R90=Optics Rotated 90° Right 10K=10kV/10kA UL 1449 Fused Surge Protective Device 20MSP=20kV MOV Surge Protective Device 20K=20kV UL 1449 Fused Surge Protective Device HA=50°C High Ambient Temperature ⁹ PR=NEMA 3-PIN Twistlock Photocontrol Receptacle ¹¹ PR7=NEMA 7-PIN Twistlock Photocontrol Receptacle ¹¹ FADC=Field Adjustable Dimming Controller ³⁰ MS/DIM-L08=Dimming Motion and Daylight Sensor, IR Remote Programmable, < 8' Mounting Height ^{12,13} MS/DIM-L20=Dimming Motion and Daylight Sensor, IR Remote Programmable, 8' - 20' Mounting Height ^{12,13} MS/DIM-L40=Dimming Motion and Daylight Sensor, IR Remote Programmable, 21' - 40' Mounting Height ^{12,13}	SPB1=Dimming Motion and Daylight Sensor, Bluetooth Programmable, < 8' Mounting Height ^{12,14} SPB2=Dimming Motion and Daylight Sensor, Bluetooth Programmable, 8' - 20' Mounting Height ^{12,14} SPB4=Dimming Motion and Daylight Sensor, Bluetooth Programmable, 21' - 40' Mounting Height ^{12,14,27,28} WPS2XX=WaveLinX Pro, SR Driver, Dimming Motion and Daylight, WAC Programmable, 7' - 15' Mounting ^{12,15,16,17} WPS4XX=WaveLinX Pro, SR Driver, Dimming Motion and Daylight, WAC Programmable, 15' - 40' Mounting ^{12,15,16,17} WLS2XX=WaveLinX Lite, SR Driver, Dimming Motion and Daylight, Bluetooth Programmable, 7' - 15' Mounting ^{12,15,16,17} WLS4XX=WaveLinX Lite, SR Driver, Dimming Motion and Daylight, Bluetooth Programmable, 15' - 40' Mounting ^{12,15,16,17} (See Table Below)=LumenSafe Integrated Network Security Camera ^{18,19}	PRVSA-XX=Standard Arm Mounting Kit ²² PRVMA-XX=Mast Arm Mounting Kit ²² PRVWM-XX=Wall Mount Kit ²² PRV-ADJA-XX=Adjustable Arm - Pole Mount Kit ²² PRV-ADJS-XX=Adjustable Arm - Slipfitter Kit ²² PRV-ADJA-WM-XX=Adjustable Arm - Wall Mount Kit ²² PRVXLSA-XX=Standard Arm Mounting Kit ²⁸ PRVXLMA-XX=Mast Arm Mounting Kit ²⁸ PRVXLWM-XX=Wall Mount Kit ²⁸ PRV-XL-ADJA-XX=Adjustable Arm - Pole Mount Kit ²⁸ PRV-XL-ADJS-XX=Adjustable Arm - Slipfitter Kit ²⁸ PRV-XL-ADJA-WM-XX=Adjustable Arm - Wall Mount Kit ²⁸ PRV-M-ADJA-XX=Adjustable Arm - Pole Mount Kit ²⁷ PRV-M-ADJS-XX=Adjustable Arm - Slipfitter Kit ²⁷ PRV-M-ADJA-WM-XX=Adjustable Arm - Wall Mount Kit ²⁷ MA1010-XX=Single Tenon Adapter for 3-1/2" O.D. Tenon MA1011-XX=2@180° Tenon Adapter for 3-1/2" O.D. Tenon	MA1017-XX=Single Tenon Adapter for 2-3/8" O.D. Tenon MA1018-XX=2@180° Tenon Adapter for 2-3/8" O.D. Tenon SRA238=Tenon Adapter from 3" to 2-3/8" PRV/COB-FDV=Full Drop Visor ²³ PRV/L/COB-FDV=Full Drop Visor ¹⁸ HS/VERD=House Side Shield Kit ^{8,24} VGS-F/B=Vertical Glare Shield Kit, Front/Back ²⁴ VGS-SIDE=Vertical Glare Shield Kit, Side ²⁴ OA/RA1013=Photocontrol Shorting Cap OA/RA1014=NEMA Photocontrol - 120V OA/RA1016=NEMA Photocontrol - Multi-Tap 105-285V OA/RA1201=NEMA Photocontrol - 347V OA/RA1027=NEMA Photocontrol - 480V FSIR-100=Wireless Configuration Tool for Occupancy Sensor ²⁵ WOLC-7P-10A=WaveLinX Outdoor Control Module (7-PIN) ²⁶

- NOTES:**
- DesignLights Consortium® Qualified. Refer to www.designlights.org Qualified Products List under Family Models for details.
 - Customer is responsible for engineering analysis to confirm pole and fixture compatibility for all applications. Refer to installation instructions IB500002EN and pole white paper WP513001EN for additional support information.
 - Only product configurations with these designated prefixes are built to be compliant with the Buy American Act of 1933 (BAA) or Trade Agreements Act of 1979 (TAA), respectively. Please refer to [DOMESTIC PREFERENCES](http://www.designlights.org) website for more information. Components shipped separately may be separately analyzed under domestic preference requirements.
 - Standard 4000K CCT and 70CRI.
 - 480V not to be used with ungrounded or impedance grounded systems.
 - DuraVolt drivers feature added protection from power quality issues such as loss of neutral, transients and voltage fluctuations. Visit www.signify.com/duravolt for more information.
 - Use dedicated IES files on product website for non-standard CCTs.
 - House Side Shield not suitable with T5 distribution. Not available with PRV-C60 lumen package.
 - Not available with PRV-C60 lumen package. Not available with PRV-P-C25 lumen package.
 - Coastal construction finish salt spray tested to over 5,000-hours per ASTM B117, with a scribe rating of 9 per ASTM D1654.
 - If DuraVolt (DV) is specified, use a photocontrol that matches the input voltage used.
 - Controls system is not available in combination with a photocontrol receptacle (PR & PER7) or another controls system (MS or SPB). Option not available with DuraVolt (DV) voltage option.
 - Utilizes the Wattstopper sensor FSP-211. Sensor color white unless specified otherwise via PDR. To field-configure, order FSIR-100 accessory separately.
 - Utilizes the Wattstopper sensor FSP-3XX series. Sensor color determined by product finish. See Sensor Color Reference Table. Field-configures via mobile application. See Controls section for details.
 - Sensor passive infrared (PIR) may be overly sensitive when operating below -20°C (-4°F).
 - For the device to be field-configurable, requires WAC Gateway components WAC-PoE and WPOE-120 in appropriate quantities. Only compatible with WaveLinX system and software and requires system components to be installed for operation. See website for more WaveLinX application information.
 - Replace XX with sensor color (WH, BZ, or BK).
 - Only available in PRV-XL configurations C75, C100, C125, C150, or C175.
 - Not available with 347V, 480V, DV, or HA options. Consult LumenSafe system product pages for additional details and compatibility information.
 - Replace XX with paint color.
 - For BAA or TAA requirements, Accessories sold separately will be separately analyzed under domestic preference requirements. Consult factory for further information.
 - Not for use with PRV-XL or PRV-M configurations.
 - Only for use with PRV. Not applicable to PRV-M, PRV-XL, or PRV-P.
 - Must order one per optic/LED when ordering as a field-installable accessory (1, 2, 4, 6 or 9).
 - This tool enables adjustment to Motion Sensor (MS) parameters including high and low modes, sensitivity, time delay, cutoff and more. Consult your lighting representative for more information.
 - Requires 7-PIN NEMA twistlock photocontrol receptacle (PR & PER7) option. The WOLC-7 cannot be used in conjunction with other controls systems (MS or LWR). Operates on 120-347V input voltages.
 - Only for use with PRV-M configurations.
 - Only for use with PRV-XL configurations.
 - Fixed for PRV-M.
 - Cannot be used with PR7 or other motion response control options

LumenSafe Integrated Network Security Camera Technology Options (Add as Suffix)

Product Family	Camera Type	Data Backhaul		
L=LumenSafe Technology 	H=Dome Camera, High Res Z=Dome Camera, Remote PTZ	C=Cellular, Customer Installed SIM Card A=Cellular, Factory Installed AT&T SIM Card	V=Cellular, Factory Installed Verizon SIM Card S=Cellular, Factory Installed Sprint SIM Card	E=Ethernet Networking

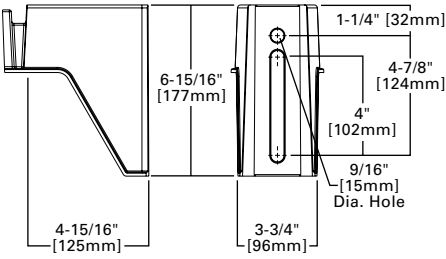
Stock Ordering Information

Product Family ¹	Light Engine	Voltage	Distribution
PRVS=Prevail	C15=(1 LED) 7,100 Nominal Lumens C25=(2 LEDs) 13,100 Nominal Lumens C40=(2 LEDs) 17,100 Nominal Lumens C60=(2 LEDs) 20,000 Nominal Lumens	UNV=Universal (120-277V) 347=347V ²	T3=Type III T4=Type IV
PRVS-XL=Prevail XL	C75=(4 LED) 26,100 Nominal Lumens C100=(4 LED) 31,000 Nominal Lumens C125=(4 LED) 36,000 Nominal Lumens C150=(6 LED) 41,100 Nominal Lumens C175=(6 LED) 48,600 Nominal Lumens		

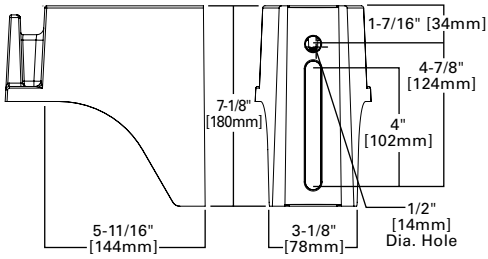
- NOTES:**
- All stock configurations are standard 4000K/70CRI, bronze finish, and include the standard versatile mounting arm.
 - Only available in PRVS configurations C15, C25, C40 or C60.

Mounting Details

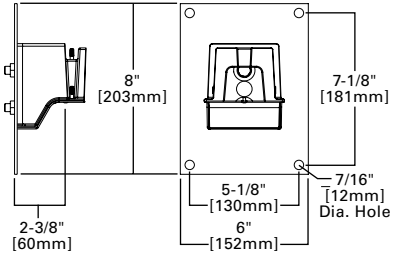
SA=QM Pole Mount Arm (PRV & PRV-P)



SA=QM Pole Mount Arm (PRV-XL)



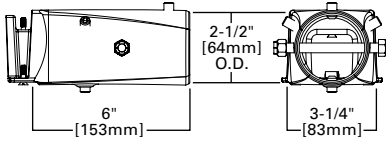
WM=QM Wall Mount Arm (PRV & PRV-P)



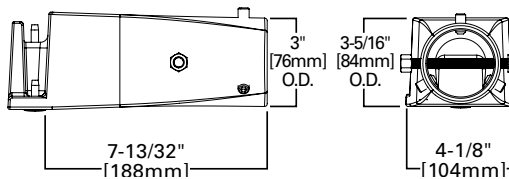
WM=QM Wall Mount Arm (PRV-XL)



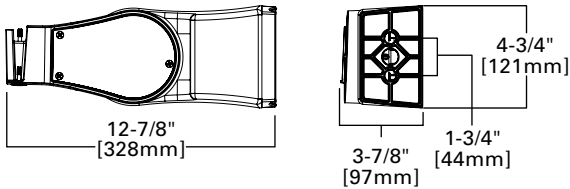
MA=QM Mast Arm (PRV & PRV-P)



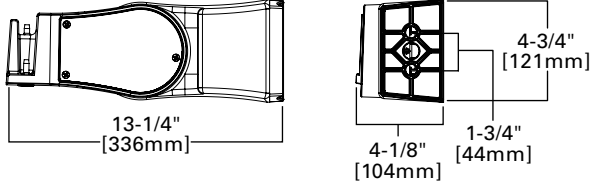
MA=QM Mast Arm (PRV-XL)



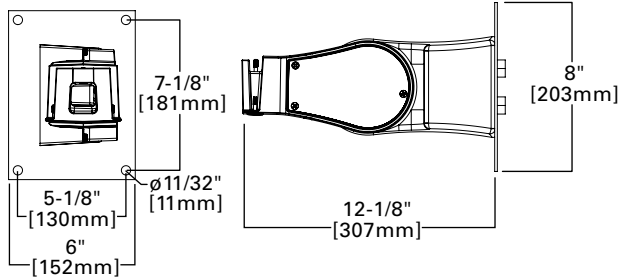
ADJA=Adjustable Arm Pole Mount (PRV & PRV-P)



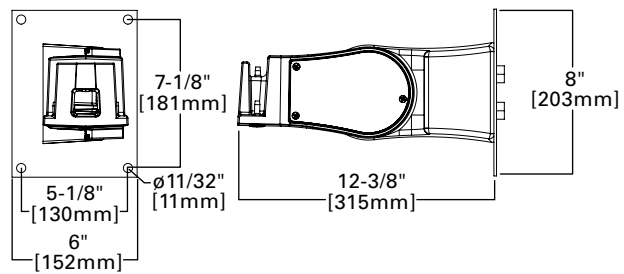
ADJA=Adjustable Arm Pole Mount (PRV-XL)



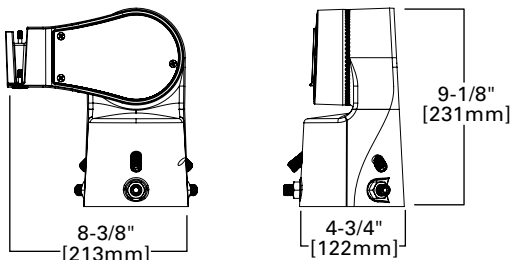
ADJA-WM=Adjustable Arm Wall Mount (PRV & PRV-P)



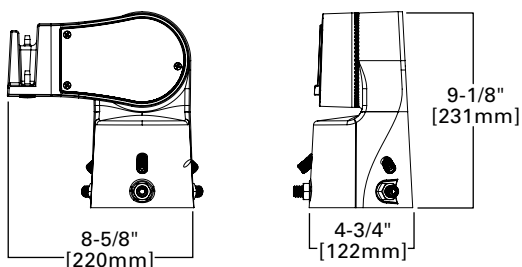
ADJA-WM=Adjustable Arm Wall Mount (PRV-XL)



ADJS=Adjustable Slipfitter 3 (PRV & PRV-P)

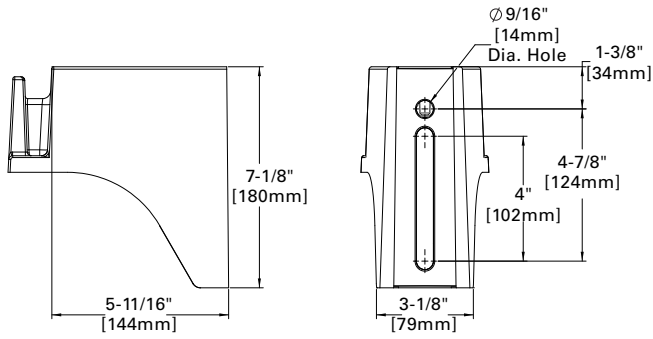


ADJS=Adjustable Slipfitter 3 (PRV-XL)

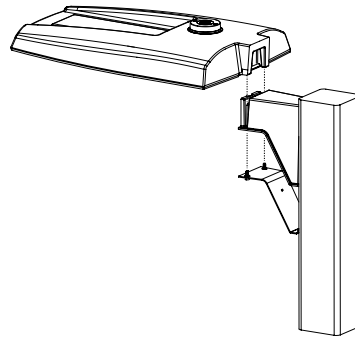


Mounting Details

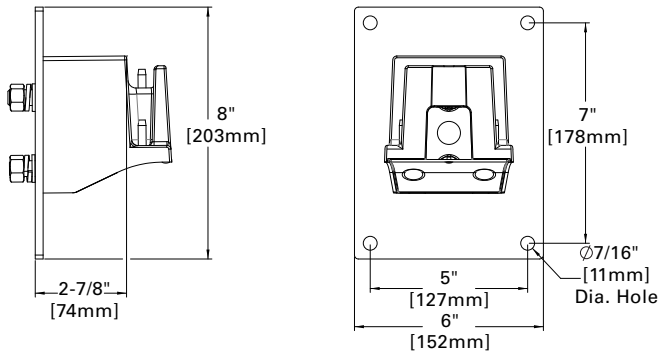
SA=QM Pole Mount Arm (PRV-M)



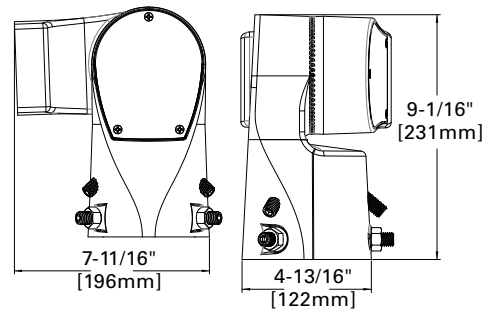
Versatile Mount System



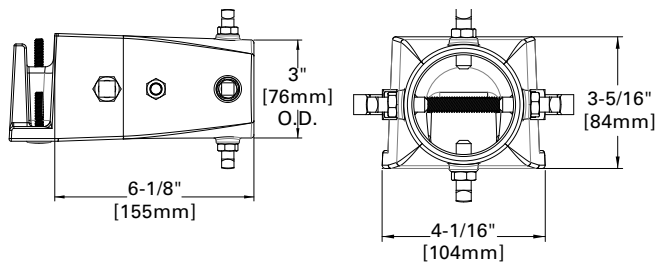
WM=QM Wall Mount Arm (PRV-M)



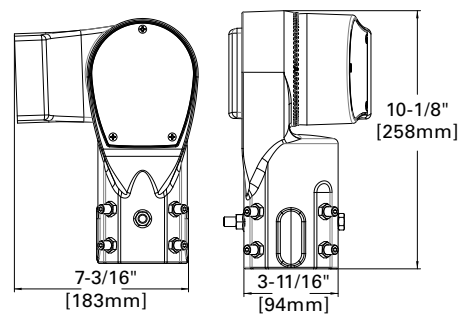
ADJS=Adjustable Slipfitter (PRV-M)



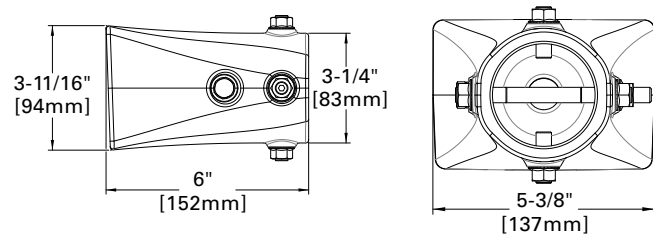
MA=QM Mast Arm (PRV-M)



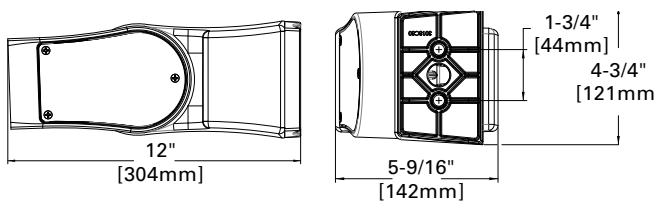
SP2=Adjustable Slipfitter 2-3/8" (PRV-M)



FMA=Fixed Mast Arm (PRV-M)



DM=Direct Pole Mount Arm (PRV-M)



Mounting Details

Mounting Configurations and EPAs

NOTE: For 2 PRV's mounted at 90°, requires minimum 3" square or 4" round pole for fixture clearance. For 2 PRV-XL's mounted at 90°, requires minimum 4" square or round pole for fixture clearance. Customer is responsible for engineering analysis to confirm pole and fixture compatibility for applications.

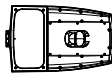
Housing Size	Tilt Angle (Degrees)	Arm Mount Single	Arm Mount 2 @ 180°	Arm Mount 2 @ 90°	Arm Mount 3 @ 90°	Arm Mount 4 @ 90°
Prevail Petite	0°	0.54	1.08	0.84	1.38	1.38
	60°	1.68	1.85	2.42	3.15	3.30
Prevail	0°	0.92	1.35	1.42	1.63	1.63
	60°	2.20	2.40	3.05	3.88	4.07
	60° + Full Drop Visor	2.20	2.40	3.25	4.28	4.47
Prevail XL	0°	1.12	2.25	2.13	2.52	2.52
	60°	3.99	4.30	5.26	6.51	6.79
	60° + Full Drop Visor	3.99	4.30	5.59	7.17	7.49
Prevail Maxx	0°	1.28	2.56	1.7	2.69	2.69
	60°	5.09	5.52	6.34	7.49	7.81

Optical Configurations

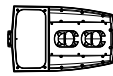
PRV-P-C10/C15/C20/C25
(4,900/6,900/9,800/11,800 Nominal Lumens)



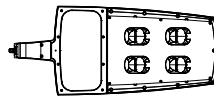
PRV-C15
(7,100 Nominal Lumens)



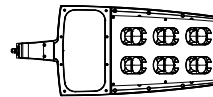
PRV-C25/C40/C60
(13,100/17,100/20,000 Nominal Lumens)



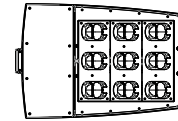
PRV-XL-C75/C100/C125
(26,100/31,000/36,300 Nominal Lumens)



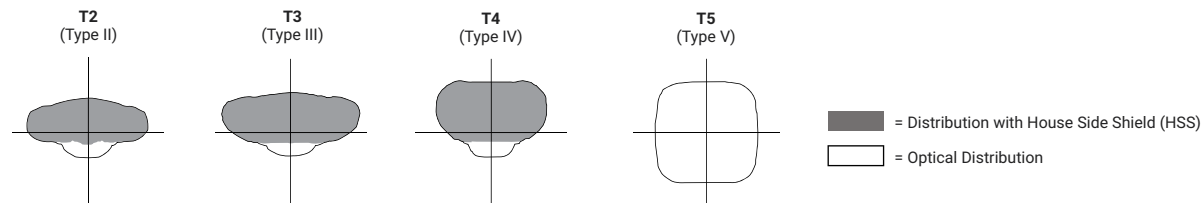
PRV-XL-C150/C175
(41,100/48,600 Nominal Lumens)



PRV-M-PA6X
(50,000/60,000/70,000/80,000 Nominal Lumens)



Optical Distributions



Product Specifications

Construction

- Single-piece die-cast aluminum housing
- Tethered die-cast aluminum door

Optics

- Dark Sky Approved (3000K CCT and warmer only)
- Precision molded polycarbonate optics

Electrical

- -40°C minimum operating temperature
- 40°C maximum operating temperature
- >.9 power factor
- <20% total harmonic distortion
- Class 1 electronic drivers have expected life of 100,000 hours with <1% failure rate
- 0-10V dimming driver is standard with leads external to the fixture
- Standard MOV surge protective device designed to withstand 10kV of transient line surge
- Luminaire available with the field adjustable dimming controller (FADC) to manually adjust wattage and reduce the total lumen output and light levels. Comes pre-set to the highest position at the lumen output selected.

Mounting

- Versatile, patented, standard mount arm accommodates multiple drill patterns ranging from 1-1/2" to 4-7/8" (Type M drilling recommended for new installations)
- A knock-out on the standard mounting arm enables round pole mounting
- Adjustable pole and wall mount arms adjust in 5° increments from 0° to 60°; Downward facing orientation only (Type N drilling required for ADJA mount)
- Adjustable slipfitter arm adjusts in 5° increments from -5° to 85°; Downward facing orientation only
- Adjustable Arms: 1.5G vibration rated
- Prevail and Prevail Petite: 3G vibration rated
- Prevail XL Mast Arm: 3G vibration rated
- Prevail XL Standard Arm: 1.5G vibration rated

Typical Applications

- Parking lots, Walkways, Roadways and Building Areas

Finish

- Five-stage super TGIC polyester powder coat paint, 2.5 mil nominal thickness
- Finish is compliant to 3,000 hour salt spray standard (per ASTM B117)

Shipping Data

- Prevail Petite: 18 lbs. (7.94 kgs.)
- Prevail: 20 lbs. (9.09 kgs.)
- Prevail XL: 45 lbs. (20.41 kgs.)
- Prevail Maxx: 49 lbs. (22.23 kgs.)

Warranty

- Five year limited warranty, consult website for details. www.cooperlighting.com/legal

Energy and Performance Data

[View PRV-P IES files](#)

[View PRV IES files](#)

[View PRV-XL IES files](#)

Power and Lumens

Product Family	Prevail Petite				Prevail				Prevail XL				Prevail Maxx					
Light Engine	C10	C15	C20	C25	C15	C25	C40	C60	C75	C100	C125	C150	C175	C200	C225	C250	C275	
Power (Watts)	35	49	73	94	52	96	131	153	176	217	264	285	346	346	418	487	588	
Input Current @ 120V (A)	0.29	0.41	0.61	0.79	0.43	0.80	1.09	1.32	1.50	1.84	2.21	2.38	2.92	2.89	3.49	4.06	4.90	
Input Current @ 277V (A)	0.13	0.18	0.27	0.35	0.19	0.35	0.48	0.57	0.66	0.82	0.97	1.04	1.25	1.26	1.51	1.72	2.06	
Input Current @ 347V (A)	0.11	0.16	0.23	0.29	0.17	0.30	0.41	0.48	0.54	0.66	0.79	0.84	1.02	1.00	1.21	1.40	1.70	
Input Current @ 480V (A)	0.08	0.12	0.17	0.22	0.12	0.22	0.30	0.35	0.40	0.48	0.57	0.62	0.74	0.73	0.88	1.00	1.21	
Distribution ¹																		
Type II	4000K Lumens	4,775	6,717	9,542	11,521	7,123	13,205	17,172	20,083	26,263	31,231	36,503	41,349	48,876	50,349	59,444	68,447	79,322
	BUG Rating	B1-U0-G1	B1-U0-G1	B2-U0-G2	B2-U0-G2	B2-U0-G2	B2-U0-G2	B3-U0-G3	B3-U0-G3	B3-U0-G3	B3-U0-G4	B4-U0-G4	B4-U0-G4	B4-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5	B5-U0-G5
	Lumens per Watt	138	137	131	122	137	138	131	131	149	144	138	145	141	146	142	141	135
	3000K Lumens ¹	4,869	6,595	9,369	11,312	6,994	12,965	16,860	19,718	25,786	30,664	35,840	40,598	47,989	49,437	58,368	67,208	77,886
Type III	4000K Lumens	4,782	6,727	9,556	11,538	7,111	13,183	17,144	20,050	26,120	31,061	36,304	41,124	48,610	50,162	59,223	68,193	79,027
	BUG Rating	B1-U0-G2	B1-U0-G2	B2-U0-G3	B2-U0-G3	B1-U0-G2	B2-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5	B3-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5	B5-U0-G5	B5-U0-G5
	Lumens per Watt	138	137	131	123	137	137	131	131	148	143	138	144	140	145	142	140	135
	3000K Lumens ¹	4,695	6,605	9,383	11,329	6,982	12,944	16,832	19,686	25,646	30,497	35,645	40,377	47,727	49,254	58,151	66,958	77,596
Type IV	4000K Lumens	4,880	6,865	9,752	11,774	7,088	13,140	17,087	19,984	26,098	31,035	36,274	41,089	48,569	50,575	59,711	68,754	79,678
	BUG Rating	B1-U0-G2	B1-U0-G2	B2-U0-G3	B2-U0-G3	B1-U0-G3	B2-U0-G4	B2-U0-G4	B3-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5	B5-U0-G5
	Lumens per Watt	141	140	134	125	136	137	130	131	148	143	137	144	140	146	143	141	136
	3000K Lumens ¹	4,792	6,740	9,575	11,561	6,959	12,901	16,777	19,621	25,624	30,471	35,615	40,343	47,687	49,659	58,630	67,510	78,235
Type V	4000K Lumens	5,067	7,128	10,126	12,226	7,576	14,045	18,264	21,360	28,129	33,450	39,097	44,287	52,349	53,531	63,201	72,773	84,335
	BUG Rating	B3-U0-G2	B3-U0-G2	B4-U0-G3	B4-U0-G3	B3-U0-G3	B4-U0-G3	B4-U0-G4	B5-U0-G4	B5-U0-G5	B5-U0-G5	B5-U0-G5	B5-U0-G5	B5-U0-G5	B5-U0-G5	B5-U0-G5	B5-U0-G5	B5-U0-G5
	Lumens per Watt	146	145	139	130	146	146	139	140	160	154	148	155	151	155	151	150	144
	3000K Lumens ¹	4,975	6,999	9,942	12,004	7,438	13,790	17,932	20,972	27,618	32,843	38,387	43,483	51,398	52,562	62,057	71,455	82,808

NOTES:
1. For 3000K, 5000K or HSS data, refer to published IES files.

Lumen Maintenance

Configuration	TM-21 Lumen Maintenance (50,000 Hours)	Theoretical L70 (Hours)
Prevail and Prevail Petite at 25°C	91.30%	> 194,000
Prevail and Prevail Petite at 40°C	87.59%	> 134,000
Prevail XL at 25°C	91.40%	> 204,000
Prevail XL at 40°C	89.41%	> 158,000
Prevail Maxx at 25°C	91.40%	> 204,000
Prevail Maxx at 40°C	89.41%	> 158,000

Lumen Multiplier

Ambient Temperature	Lumen Multiplier
10°C	1.02
15°C	1.01
25°C	1.00
40°C	0.99

FADC Settings

FADC Position	Lumen Multiplier
1	25%
2	46%
3	55%
4	62%
5	72%
6	77%
7	82%
8	85%
9	90%
10	100%

Note: +/-5% typical value

Sensor Color Reference Table (SPBx)

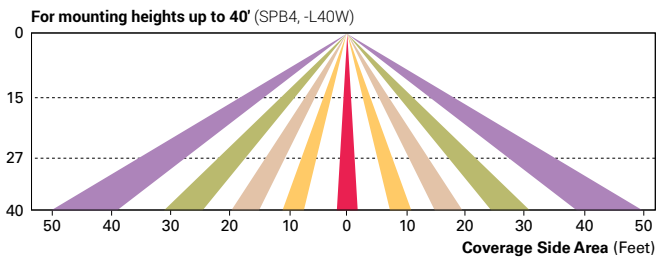
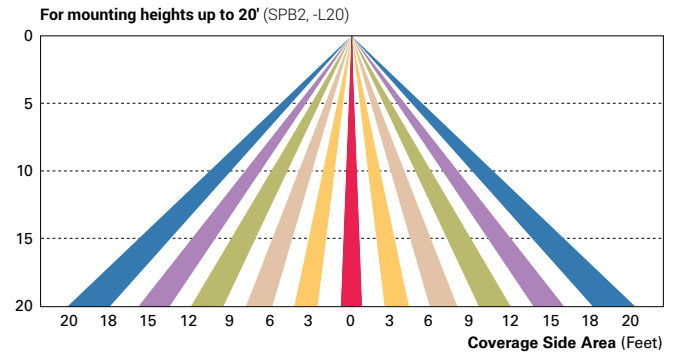
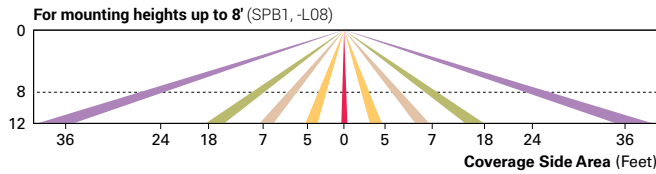
Housing Finish	Sensor Color
AP=Grey	Grey
BZ=Bronze	Bronze
BK=Black	Black
DP=Dark Platinum	Grey
GM=Graphite Metallic	Black
WH=White	White

Control Options

0-10V This fixture provides 0-10V dimming wire leads for use with a lighting control panel or other control method.

Photocontrol (PR and PR7) Photocontrol receptacles provide a flexible solution to enable “dusk-to-dawn” lighting by sensing light levels. Advanced control systems compatible with NEMA 7-PIN standards can be utilized with the PR7 receptacles.

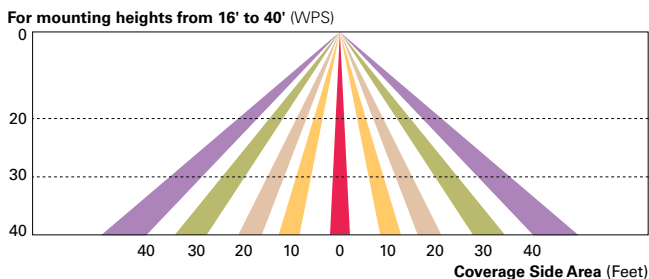
Dimming Occupancy Sensor (SPB, MS/DIM-LXX) These sensors are factory installed in the luminaire housing. When the SPB or MS/DIM sensor options are selected, the luminaire will dim down after five minutes of no activity detected. When activity is detected, the luminaire returns to full light output. These occupancy sensors include an integral photocell for “dusk-to-dawn” control or “daylight harvesting.” Factory default is enabled for the MS sensors and disabled for the SPB. SPB motion sensors require the Sensor Configuration mobile application by Wattstopper to change factory default dimming level, time delay, sensitivity and other parameters. Available for iOS and Android devices. The SPB sensor is factory preset to dim down to approximately 10% power with a time delay of five minutes.



WaveLinx Wireless Control and Monitoring System Available in 7-PIN or 4-PIN configurations, the WaveLinx Outdoor control platform operates on a wireless mesh network based on IEEE 802.15.4 standards enabling wireless control of outdoor lighting. At least one Wireless Area Controller (WAC) is required for full functionality and remote communication (including adjustment of any factory pre-sets).

WaveLinx Outdoor Control Module (WOLC-7P-10A) A photocontrol that enables astronomic or time-based schedules to provide ON, OFF and dimming control of fixtures utilizing a 7-PIN receptacle. The out-of-box functionality is ON at dusk and OFF at dawn.

WaveLinx Wireless Sensor (WPS2 and WPS4) These outdoor sensors offer passive infrared (PIR) occupancy sensing and a photocell for closed-loop daylight sensing. These sensors are factory preset to dim down to approximately 50 percent power after 15 minutes of no activity detected, and the photocell for “dusk-to-dawn” control is default enabled. A variety of sensor lenses are available to optimize the coverage pattern for mounting heights from 7'-40'.



LumenSafe (LD) The LumenSafe integrated network camera is a streamlined, outdoor-ready camera that provides high definition video surveillance. This IP camera solution is optimally designed to integrate into virtually any video management system or security software platform of choice. No additional wiring is needed beyond providing line power to the luminaire. LumenSafe features factory-installed power and networking gear in a variety of networking options allowing security integrators to design the optimal solution for active surveillance.

**STORMWATER MAGAGEMENT AND EROSION CONTROL
PLAN**
2975 Kapec Road

City of Fitchburg, WI | September 5, 2024

Prepared for:

CF INVESTMENTS LLC
3636 Skytop Road
McFarland, WI 53558

Snyder & Associates, Inc. Project No. 124.0465.30

Prepared by:

<u>Brian C. Arcand, P.E.</u>	<u>9/5/2024</u>
Name	Date

TABLE OF CONTENTS

1. INTRODUCTION.....	1
2. STORMWATER RUNOFF ANALYSIS.....	1
a. Pre-Developed and Post-Developed Conditions.....	1
b. Pre-Developed and Post-Developed Peak Discharge Rates	2
c. Total Suspended Solids Removal	2
d. Infiltration	3
e. Thermal Control.....	3
f. Oil and Grease Control	3
3. STORM SEWER DESIGN	3
4. EROSION CONTROL	3
a. Erosion Control Devices and Practices.....	3
b. Monitoring and Maintenance.....	4

LIST OF TABLES

Table 2-1: Pre-Development.....	2
Table 2-2: Post-Development	2
Table 2-3: Stormwater Management Systems	2
Table 2-4: Total Suspended Solid Calculations.....	3
Table 2-5: Total Infiltration	3

APPENDICES

Site Maps	Appendix A
Grading & Erosion Control Plan.....	Appendix B
Pre-Development Drainage Area Map	Appendix C
Post-Development Drainage Area Map	Appendix D
Pre-Development Hydrology	Appendix E
Post-Development Hydrology	Appendix F
Water Quality and Infiltration.....	Appendix G
Storm Sewer Catchment Area Map and Calculations.....	Appendix H
Universal Soil Loss Equation for Construction Sites	Appendix I
Draft Maintenance Agreement.....	Appendix J
Soil Test Pits	Appendix K



IOWA | MISSOURI | NEBRASKA | SOUTH DAKOTA | WISCONSIN

1. INTRODUCTION

The purpose of this stormwater management and erosion control plan is to evaluate the impacts of the proposed development on stormwater runoff leaving the site. To protect receiving waters and lands, runoff caused by development generally must be treated, detained and, if appropriate, infiltrated per Municipal, County, CARPC, and State regulations.

The proposed site is located at 2975 Kapec Road in the City of Fitchburg, Section 06, T 6 N, R 9 E.

The project area is approximately 6.5 acres and will consist of a multi-family building, parking lot, fire access drive, and stormwater management area.

The stormwater system requirements include:

- ◆ Comply with NR-151 requirements.
- ◆ Maintain the pre-developed peak flow runoff rates for the 1, 2, 10, 100, and 200-year storm events.
- ◆ Safely pass the 500-year storm event.
- ◆ Infiltrate 90% of the pre-development infiltration volume, based on average annual rainfall.
- ◆ 80% of total suspended solids removal for water quality.
- ◆ Thermal control.
- ◆ Effectively treat oil and grease for the first 0.5 inches of runoff during rainfall events.
- ◆ Provide sediment control during construction, limiting construction sediment loss to 5 tons per acre per year.

2. STORMWATER RUNOFF ANALYSIS

a. Pre-Developed and Post-Developed Conditions

The existing site is currently two existing multi-family buildings and a shared parking lot. The soil survey map referenced in Appendix A indicates the soils in the vicinity of the site consist mainly of Quarry and Ringwood silt loam (Rn). These soils have a Hydrologic Soil Group Rating of primarily “B” type soils (Appendix A).

The project will consist of a multi-family building, parking lot, fire access drive, and stormwater management area. See the Grading and Erosion Control Plan in Appendix B.

There is a regional basin downstream that was intended to include this parcel but the infrastructure cannot convey the proper flows and there is not an ideal overland flow route. Due to those restrictions, the existing stormwater report (Final Design Report Stage 2 US 18/151 (Verona Road), County PD to Raymond Road completed by Strand Associates, Inc. in November 2015) states that this parcel will need to handle its own stormwater management. Additionally, the City of Fitchburg has requested the runoff for the 100-year storm event be held to approximately 1 cfs per acre (6.5 acres for this development, hence approximately 6.5 cfs in the 100-year storm event).

Several time of concentration routes were analyzed for the pre-development 2-SX area and due to steep slopes, all of them came out to below the 6 minute minimum so direct entry was utilized for this area.

b. Pre-Developed and Post-Developed Peak Discharge Rates

The site is designed to maintain peak discharge rates as required by the City of Fitchburg and Dane County for the 1, 2, 10, 100, and 200-year storms and safely pass the 500-year storm, in addition to a 1 cfs maximum per acre as described above (Appendices E and F). Some of the project site will run directly offsite. Runoff from these uncaptured areas is intended to be from mainly grassed areas.

Table 2-1: Pre-Development

Storm Event (Yr.)	Total Flow (cfs)
1	0.70
2	1.76
10	7.60
100	24.15
200	30.54
500	41.39

Table 2-2: Post-Development

Storm Event (Yr.)	Total Flow (cfs)	Total Flow With No Controls (cfs)
1	0.35	14.64
2	0.60	17.65
10	5.13	28.59
100	6.12	51.22
200	6.39	58.86
500	8.24	71.19

Table 2-3: Stormwater Management Systems

Storm Event (Yr.)	High Water Level – 1P	High Water Level – 2P
1	1026.45	1025.84
2	1026.66	1025.99
10	1027.15	1026.21
100	1028.16	1027.91
200	1028.37	1028.46
500	1029.00	1029.02

c. Total Suspended Solids Removal

As runoff flows through a site it picks up and carries sediment. This sediment will flow off site if it does not settle out prior to discharging. WinSLAMM modeling was used to determine the extent of TSS removal that will be met for the proposed development. Appendix G includes the WinSLAMM calculations for water quality.

Table 2-4: Total Suspended Solid Calculations

	Particulate Solids Yield (lbs.)	Percent Particulate Solids Reduction
Total of All Land Uses without Controls	1259	
Outfall Total with Controls	185.4	85.27
Annualized Total After Outfall Controls	185.9	

d. Infiltration

Per the City of Madison Ordinance, the site is required to infiltrate 90% of the pre-developed infiltration volume for the proposed development. Infiltration calculations can be found in Appendix G.

Table 2-5: Total Infiltration

Condition	Runoff Volume (cu. ft.)	Percent Infiltrated
Pre-Development	40,945	
Post-Development	101,795	90.5

e. Thermal Control

The proposed project area is located within a thermally sensitive area (Appendix A). Runoff from the site will be infiltrated to pre-development conditions and the “first flush” of stormwater will mitigate the thermal impacts of runoff when the water leaves the site.

f. Oil and Grease Control

The first 0.5 inch of rainfall across the parking lot must be treated for oil and grease. This requirement will be met by a SNOUT structure with a bioskirt placed in the downstream storm sewer manhole ST-6 prior to outletting to the wet pond.

3. STORM SEWER DESIGN

Storm sewer will be sized to handle the 200-year storm event without surcharging in order to properly direct flow to the given stormwater management systems for the 200-year storm event. Additionally, the 500-year event for the site will be safely routed to the public right-of-way. Storm sewer calculations and drainage exhibit can be found in Appendix H.

4. EROSION CONTROL**a. Erosion Control Devices and Practices**

Sediment discharge from construction sites must be limited to 5.0 tons/acre/year. The Universal Soil Loss Equation Worksheet for Construction Sites will be used to calculate the soil loss for the proposed development. Silt fence, stone construction entrances/tracking pads, erosion matting, and inlet protection will be utilized to reduce soil loss before and during construction. Upon completion of construction these areas will be re-graded and restored. The contractor will minimize areas of exposed soil and will temporarily seed as necessary. These measures will keep sediment discharge below 5.0 tons/acre/year. USLE worksheets and an exhibit of flow paths can be found in Appendix I.

b. Monitoring and Maintenance

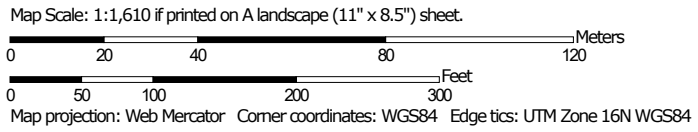
A draft maintenance agreement for all private portions of the stormwater management can be found in Appendix J.

APPENDIX A
SITE MAPS

Hydrologic Soil Group—Dane County, Wisconsin




Soil Map may not be valid at this scale.



MAP LEGEND

Area of Interest (AOI)









 Area of Interest (AOI)

Soils

Soil Rating Polygons





 A
 A/D
 B
 B/D
 C
 C/D
 D
 Not rated or not available

Soil Rating Lines


 A
 A/D
 B
 B/D
 C
 C/D
 D
 Not rated or not available

Soil Rating Points






 A
 A/D
 B
 B/D

 C
 C/D
 D
 Not rated or not available

Water Features

 Streams and Canals

Transportation

 Rails
 Interstate Highways
 US Routes
 Major Roads
 Local Roads

Background

 Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
 Web Soil Survey URL:
 Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Dane County, Wisconsin
 Survey Area Data: Version 22, Sep 8, 2023

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jun 13, 2020—Jul 31, 2020

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
QUA	Quarry		0.1	1.2%
RnB	Ringwood silt loam, 2 to 6 percent slopes	B	4.5	71.0%
RnC2	Ringwood silt loam, 6 to 12 percent slopes, eroded	B	1.8	27.9%
Totals for Area of Interest			6.3	100.0%

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

Aggregation Method: Dominant Condition

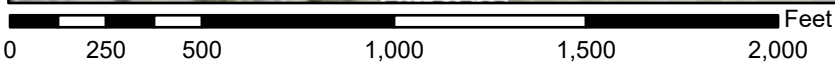
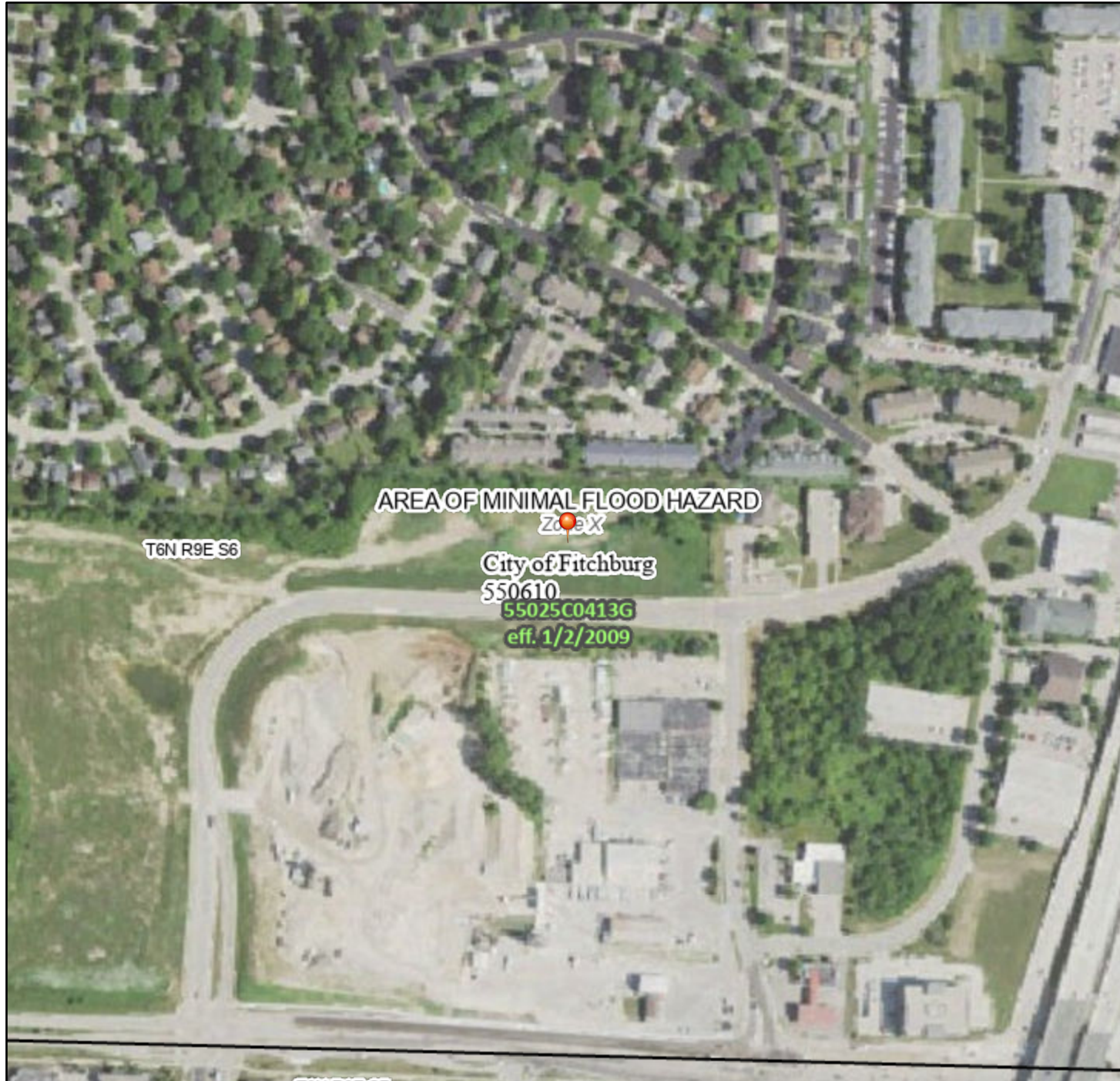
Component Percent Cutoff: None Specified

Tie-break Rule: Higher

National Flood Hazard Layer FIRMMette



89°28'57"W 43°1'22"N



1:6,000

89°28'20"W 43°0'56"N

Basemap Imagery Source: USGS National Map 2023

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS		Without Base Flood Elevation (BFE) <i>Zone A, V, A99</i>
		With BFE or Depth <i>Zone AE, AO, AH, VE, AR</i>
		Regulatory Floodway
OTHER AREAS OF FLOOD HAZARD		0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile <i>Zone X</i>
		Future Conditions 1% Annual Chance Flood Hazard <i>Zone X</i>
		Area with Reduced Flood Risk due to Levee. See Notes. <i>Zone X</i>
		Area with Flood Risk due to Levee <i>Zone D</i>
OTHER AREAS		NO SCREEN Area of Minimal Flood Hazard <i>Zone X</i>
		Effective LOMRs
GENERAL STRUCTURES		Area of Undetermined Flood Hazard <i>Zone D</i>
		Channel, Culvert, or Storm Sewer
		Levee, Dike, or Floodwall
OTHER FEATURES		20.2 Cross Sections with 1% Annual Chance
		17.5 Water Surface Elevation
		Coastal Transect
		Base Flood Elevation Line (BFE)
		Limit of Study
MAP PANELS		Jurisdiction Boundary
		Coastal Transect Baseline
		Profile Baseline
		Hydrographic Feature
		Digital Data Available
		No Digital Data Available
		Unmapped
		The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.



This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 7/19/2024 at 1:44 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

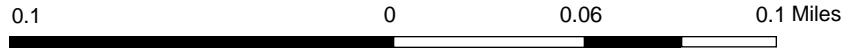


Surface Water Data Viewer Map



- Legend**
- Wetland Indicators
 - NRCS Wetspots
 - Municipality
 - State Boundaries
 - County Boundaries
 - Major Roads**
 - Interstate Highway
 - State Highway
 - US Highway
 - County and Local Roads**
 - County HWY
 - Local Road
 - Railroads
 - Tribal Lands
 - Rivers and Streams
 - Intermittent Streams
 - Lakes and Open water

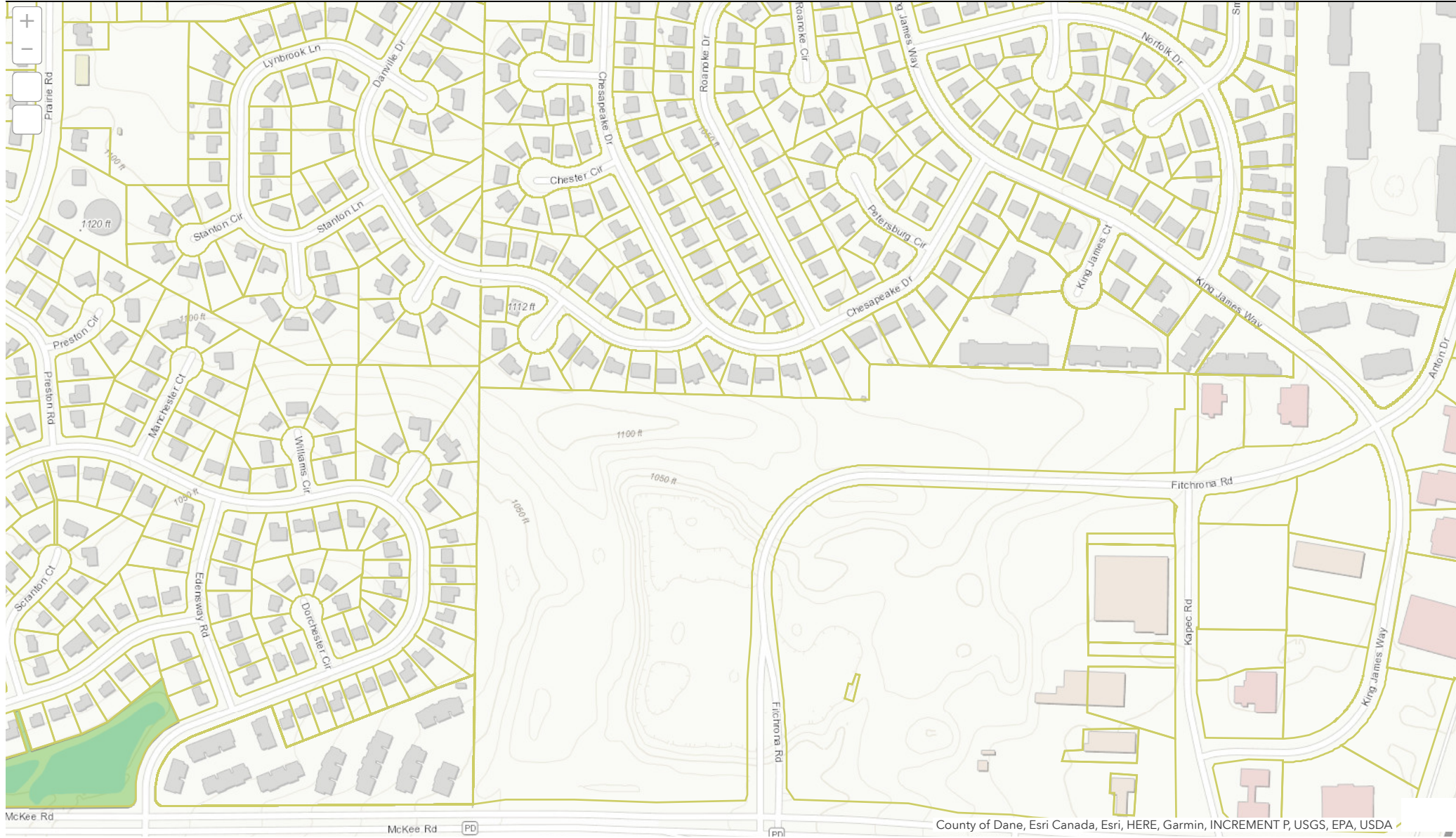
Notes



NAD_1983_HARN_Wisconsin_TM

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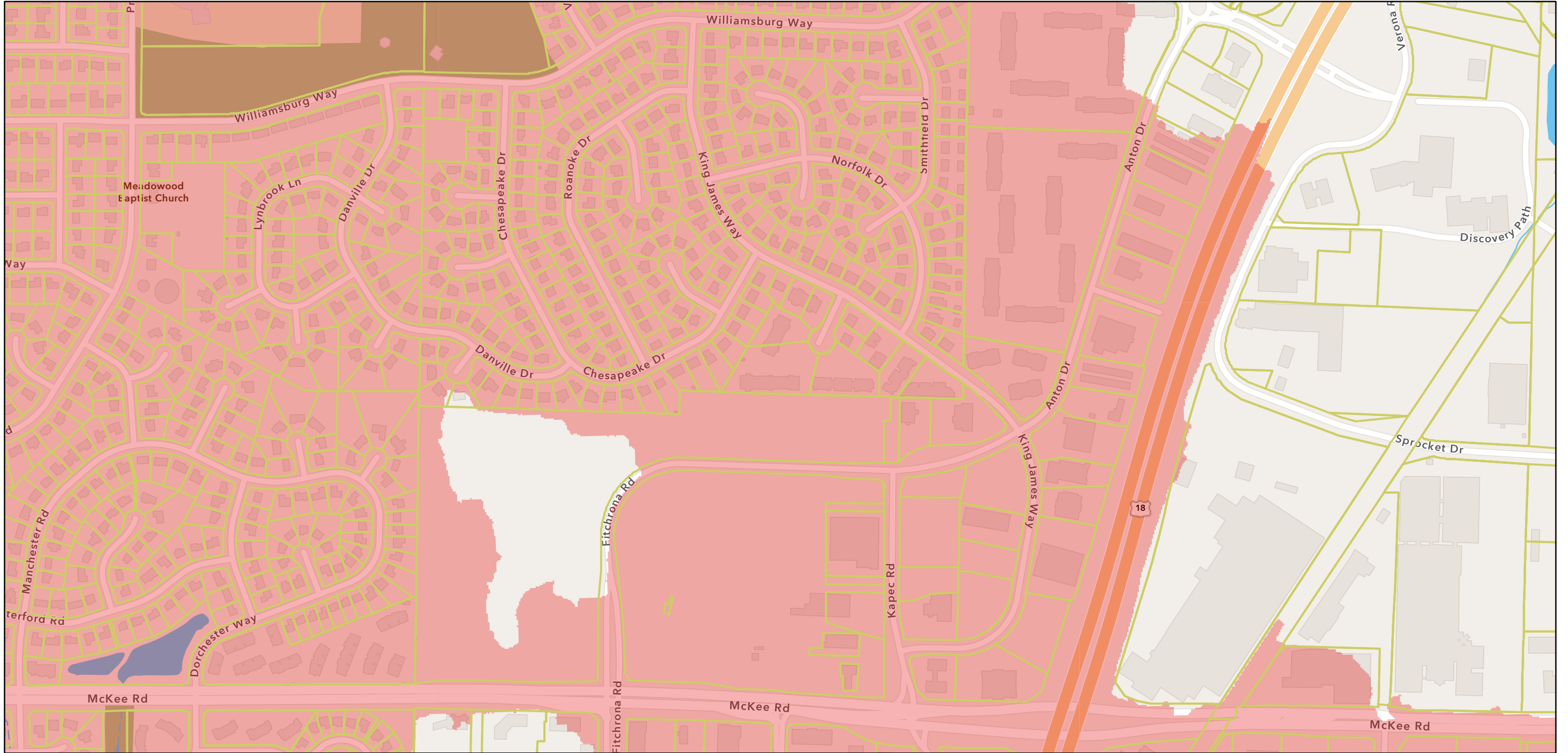
DISCLAIMER: The information shown on these maps has been obtained from various sources, and are of varying age, reliability and resolution. These maps are not intended to be used for navigation, nor are these maps an authoritative source of information about legal land ownership or public access. No warranty, expressed or implied, is made regarding accuracy, applicability for a particular use, completeness, or legality of the information depicted on this map. For more information, see the DNR Legal Notices web page: <http://dnr.wi.gov/legal/>





Legend

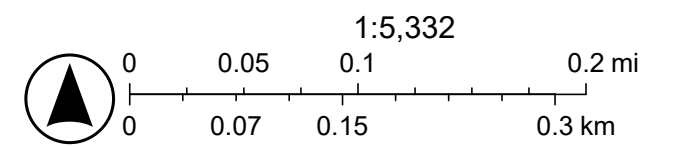
- Parcels
- Sewer Service Area Boundaries: 02162022
- Environmental Corridor

Dane County



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-  Parcels
-  Thermally Sensitive Areas

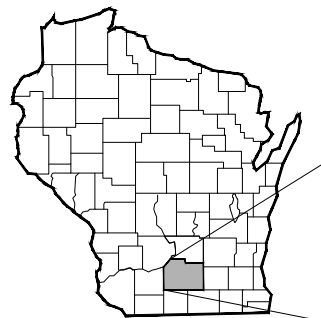


Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

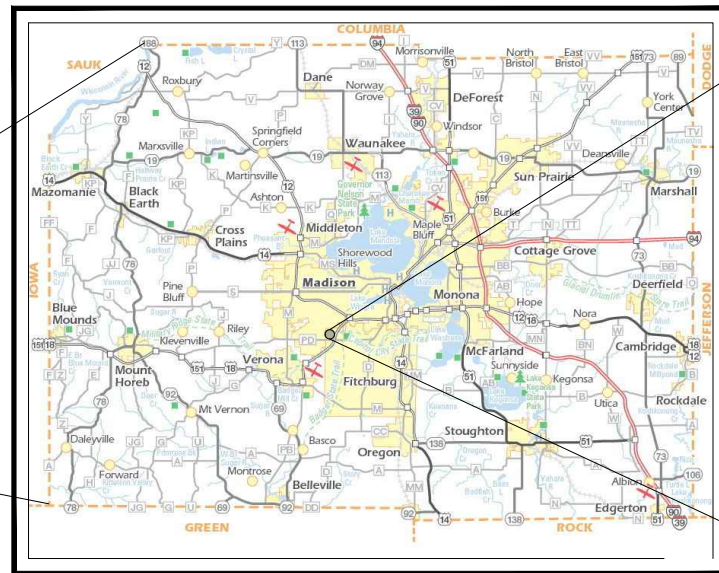
APPENDIX B
GRADING & EROSION CONTROL PLAN

2975 KAPEC ROAD CITY OF FITCHBURG

SECTION 06, TOWNSHIP 6N, RANGE 9E



REGIONAL MAP



DANE COUNTY
DANE COUNTY, WISCONSIN



SITE LOCATION MAP
CITY OF FITCHBURG,
DANE COUNTY, WISCONSIN



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608-252-7224

MG&E - GAS
CONTACT : JANE ROSSING
133 BLAIR STREET
MADISON WI 53703
608-252-7233

Sheet List Table

Sheet Number	Sheet Title
C 100	TITLE SHEET
C 200	DEMO PLAN
C 300	SITE PLAN
C 400	GRADING PLAN
C 401	EROSION CONTROL PLAN
C 402	BASIN DETAILS
C 403	DETAILED GRADING PLAN - WEST
C 404	DETAILED GRADING PLAN - EAST
C 500	UTILITY PLAN
C 700	NOTES
C 701	EROSION CONTROL NOTES
C 702	EROSION CONTROL DETAILS
C 703	SITE & PAVEMENT DETAILS
C 704	SITE AND PAVEMENT DETAILS CONTINUED
C 705	SANITARY DETAILS
C 706	STORM DETAILS
C 707	WATER MAIN DETAILS
L 100	LANDSCAPE NOTES
L 200	LANDSCAPE PLAN
L 300	LANDSCAPE DETAILS

UTILITY WARNING

THE UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND/OR RECORDS OBTAINED. THE SURVEYOR MAKES NO GUARANTEE THAT THE UTILITIES OR SUBSURFACE FEATURES SHOWN COMPRISE ALL SUCH ITEMS IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UTILITIES OR SUBSTANCES FEATURES SHOWN ARE IN EXACT LOCATION INDICATED.



TO OBTAIN LOCATION OF PARTICIPANTS' UNDERGROUND FACILITIES BEFORE YOU DIG IN WISCONSIN

CALL DIGGERS HOTLINE
1-800-242-8511
TOLL FREE

WIS. STATUTE 182.0175 (1974) REQUIRES MIN. OF 3 WORK DAYS NOTICE BEFORE YOU EXCAVATE

MARK	CITY COMMENTS	09-05-24	BCA
Engineer: BCA	SIP SUBMITTAL	07-25-24	BCA
Checked By: MLC	REVISION	DATE	BY
Technician: TECH	Scale: 1" = ##		
Date: 05-21-24	T-R-S: TTN-RRW-SS		
Project No: 124,0465.30			Sheet C 100

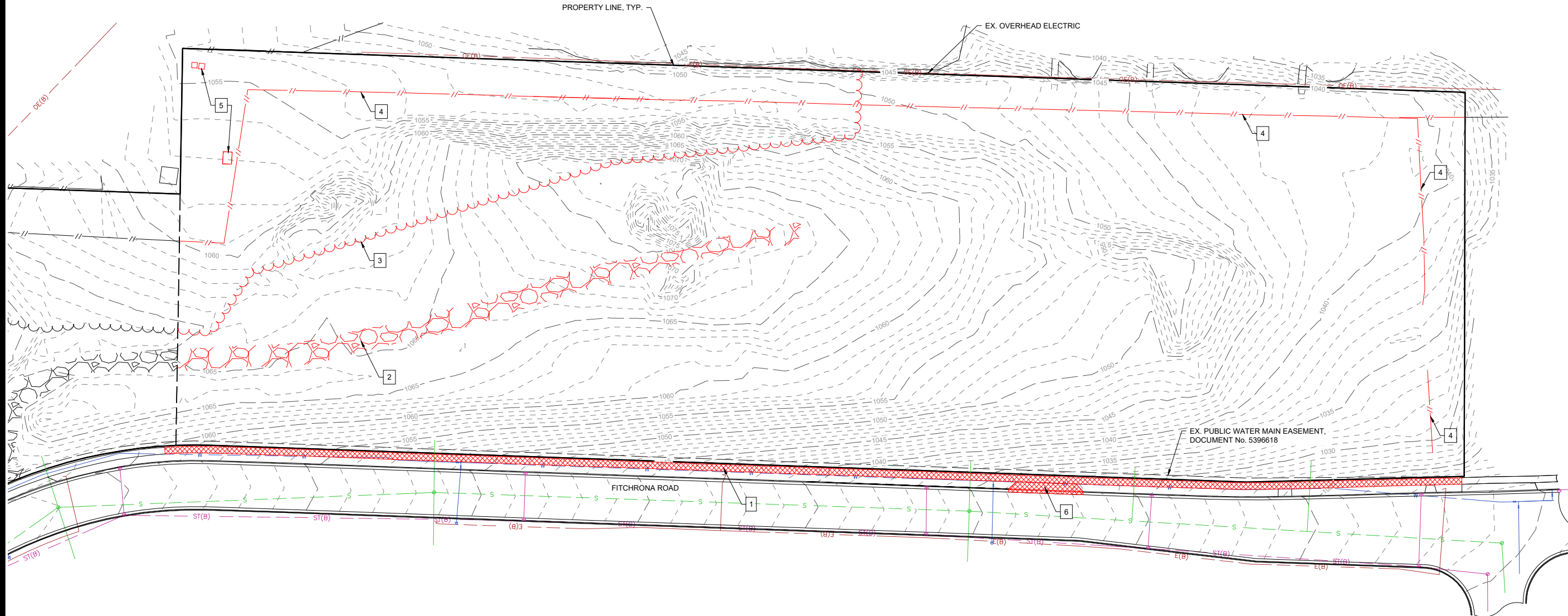
2975 KAPEC ROAD
TITLE SHEET
CITY OF FITCHBURG, DANE COUNTY, WI
SNYDER & ASSOCIATES, INC.
 5010 VOGES ROAD
 MADISON, WISCONSIN 53718
 608-838-0444 | www.snyder-associates.com



SNYDER & ASSOCIATES

I:\Projects\1240465\1240465_1240465_Plan.dwg, BLAKE ROSENQUIR, TITLE SHEET, 2024/05/23 2:23 PM, ANSIFULL, BLEED, 8 (7.25X 11) (INCHES)

I:\Projects\124.0465.30\124.0465.30\CAD\124.0465.30\DEMOLITION PLAN.dwg, BLAKE ROSENTHAL, EXISTING SITE & DEMOLITION PLAN, 2020.09.05, 2:21 PM, ANSI FULL BLEED, 17.25 X 11.00 INCHES



- DEMO PLAN KEY NOTES**
1. REMOVE SIDEWALK
 2. REMOVE GRAVEL
 3. REMOVE TREES, SHRUBS, AND BRUSH
 4. REMOVE FENCE
 5. REMOVE CONCRETE
 6. REMOVE DRIVEWAY APRON AND DRIVEWAY CURB

CITY COMMENTS	09-05-24	BCA
SIP SUBMITTAL	07-25-24	BCA
MARK	REVISION	DATE
Engineer: BCA	Checked By: MLC	Scale: 1" = 40'
Technician: TECH	Date: 05-21-24	T-R-S: TTN-RRW-SS

2975 KAPEC ROAD
EXISTING SITE & DEMOLITION PLAN
CITY OF FITCHBURG, DANE COUNTY, WI

SNYDER & ASSOCIATES, INC.

5010 VOGES ROAD
MADISON, WISCONSIN 53718
608-835-0444 | www.snyder-associates.com

SNYDER & ASSOCIATES

Project No: 124.0465.30
Sheet C 200

Sheet C 200

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SITE STATISTICS:

ZONING
PUD (PLANNED UNIT DEVELOPMENT)

PARCEL NUMBER
PART OF PARCEL NO. 0609-063-9920-2

GENERAL USE
MULTI-FAMILY

COVERAGE
BUILDING = 109,963 SQ. FT.
PARKING/DRIVE = 27,786 SQ. FT.
SIDEWALK/BICYCLE STALLS = 9,033 SQ. FT.
TOTAL IMPERVIOUS = 146,782 SQ. FT.

LOT AREA = 284,196 SQ. FT. (6.5242 ACRES)
LOT COVERAGE = 51.7%
DENSITY = 41.84 DWELLING UNITS/ACRE

GENERAL USE
MULTI-FAMILY

1-BEDROOM	152 UNITS
2-BEDROOM	101 UNITS
3-BEDROOM	20 UNITS
TOTAL	273 UNITS

VEHICLE PARKING STALL COUNT

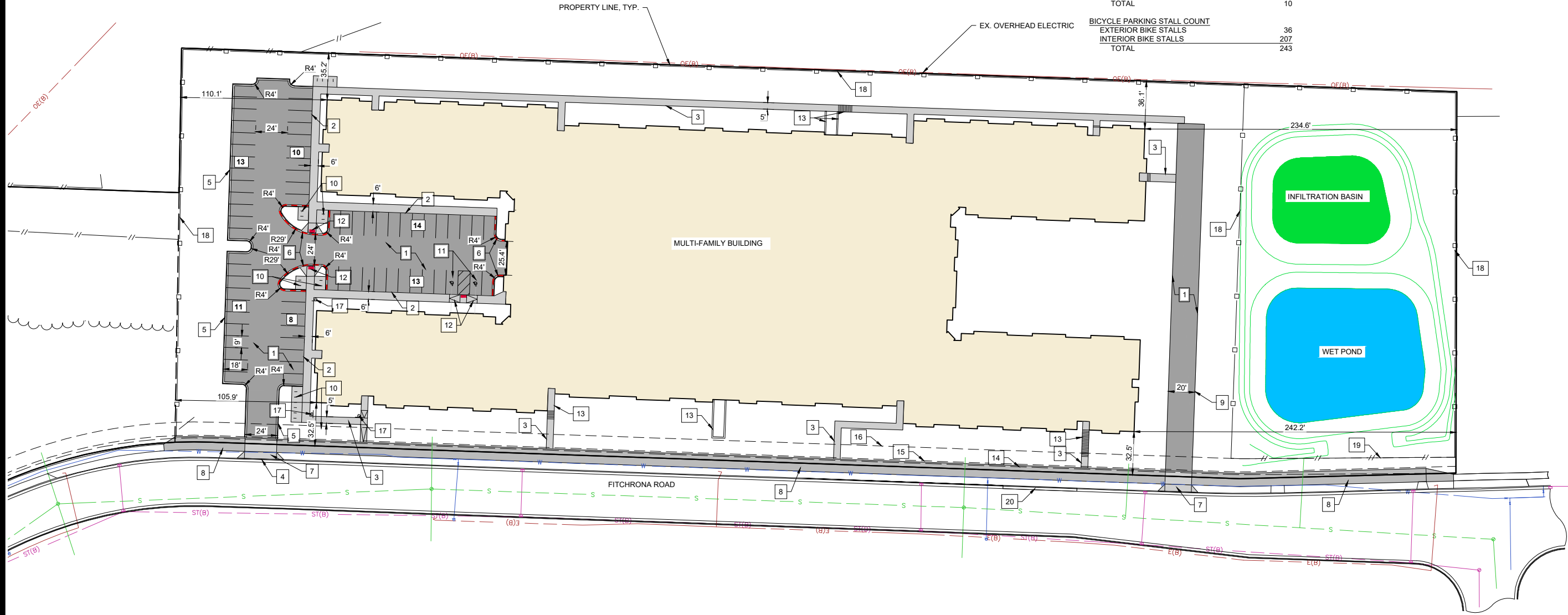
EXTERIOR/OUTDOOR STALLS (NON-ADA)	67
INTERIOR/PARKING RAMP STALLS (NON-ADA)	376
TOTAL	443

EXTERIOR/OUTDOOR ADA STALLS

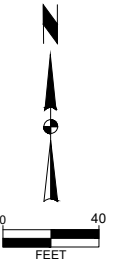
EXTERIOR/OUTDOOR ADA STALLS	2
INTERIOR/PARKING RAMP ADA STALLS	8
TOTAL	10

BICYCLE PARKING STALL COUNT

EXTERIOR BIKE STALLS	36
INTERIOR BIKE STALLS	207
TOTAL	243



- SITE PLAN KEY NOTES**
1. ASPHALT PAVEMENT
 2. THICKENED EDGE SIDEWALK
 3. SIDEWALK
 4. CUT CURB FOR PROPOSED DRIVEWAY
 5. STANDARD 18" CURB & GUTTER
 6. REJECT 18" CURB & GUTTER
 7. CONCRETE DRIVEWAY APRON, 7" THICK CONCRETE THROUGH PATH
 8. PROPOSED 10' WIDE ASPHALT PATH
 9. FIRE ACCESS DRIVEWAY
 10. BIKE RACK
 11. ADA PARKING STALL
 12. ADA RAMP
 13. RETAINING WALL (DESIGNED BY OTHERS)
 14. 3' WIDE PUBLIC WATER MAIN EASEMENT, DOCUMENT NO. 5396618
 15. 5' PUBLIC BIKE AND PEDESTRIAN EASEMENT
 16. 12' PUBLIC UNDERGROUND UTILITY EASEMENT
 17. SIGNAGE DESIGNATING MAIN BUILDING ENTRANCE LOCATION
 18. PROPOSED WOOD FENCE
 19. PROPOSED METAL FENCE
 20. REPLACE CURB WITH 30" CONCRETE CURB & GUTTER AS SHOWN IN THE CITY OF FITCHBURG'S STANDARD DETAIL DRAWING 4.01



CITY COMMENTS	09-05-24 BCA	DATE	BY
SIP SUBMITTAL	07-25-24 BCA	REVISION	
MARK	Engineer: BCA	Checked By: MLC	Scale: 1" = 40'
TECH	Technician: TECH	Date: 05-21-24	T-R-S: TTN+RRW-SS

2975 KAPEC ROAD

SITE PLAN

CITY OF FITCHBURG, DANE COUNTY, WI

SNYDER & ASSOCIATES, INC.

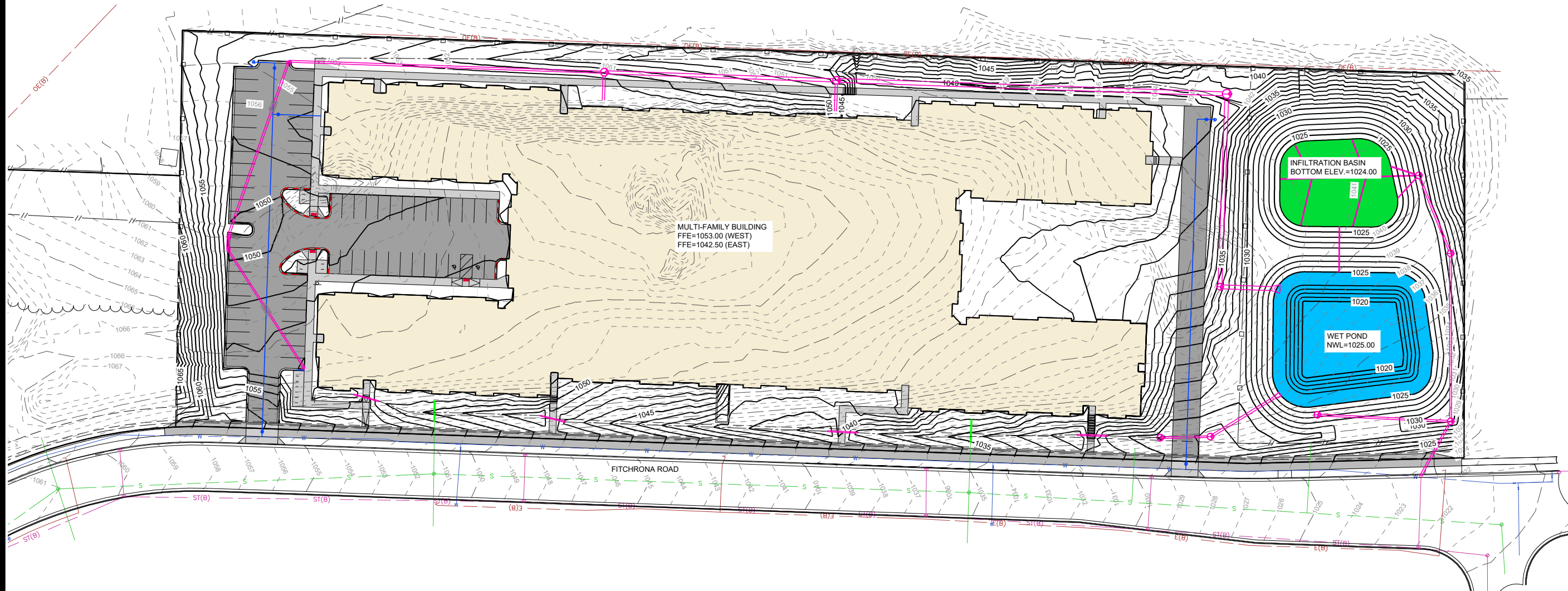
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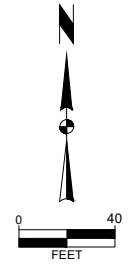
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CONSTRUCTION SEQUENCE
 (09-30-2024) - INSTALL EROSION CONTROL DEVICES
 (10-01-2024 - 10-15-2024) - STRIP AND STOCKPILE TOPSOIL
 (10-15-2024 - 05-16-2025) - GRADE SITE
 (05-16-2025 - 07-16-2025) - SEED AND MULCH AND ESTABLISH VEGETATION
 *REMOVE EROSION CONTROL MEASURES ONLY AFTER SOILS HAVE BEEN STABILIZED



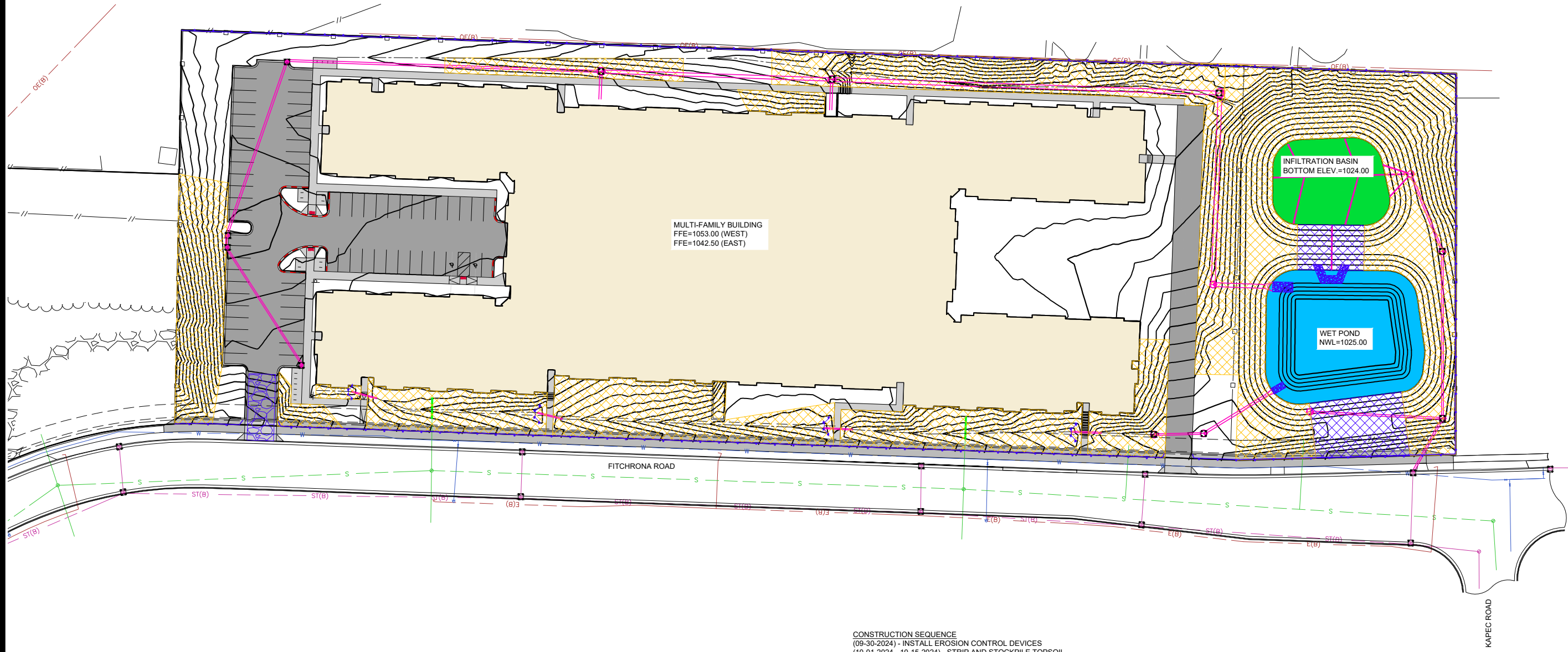
CITY COMMENTS	09-05-24	BCA
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MARK	REVISION	DATE
Engineer: BCA	Checked By: MLC	Scale: 1" = 40'
Technician: TECH	Date: 05-21-24	T-R-S: TTN+RRW-SS

Project No: 124,0465.30
 Sheet C 400

2975 KAPEC ROAD
GRADING PLAN
 CITY OF FITCHBURG, DANE COUNTY, WI
SNYDER & ASSOCIATES, INC.
 5010 VOGES ROAD
 MADISON, WISCONSIN 53718
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Project No: 124,0465.30
 Sheet C 400

LEGEND	
	CONSTRUCTION ENTRANCE
	SILT FENCE
	INLET PROTECTION
	EROSION MATTING
	TURF REINFORCEMENT MAT
	TEMPORARY STONE CULVERT PROTECTION
	RIP RAP



MULTI-FAMILY BUILDING
FFE=1053.00 (WEST)
FFE=1042.50 (EAST)

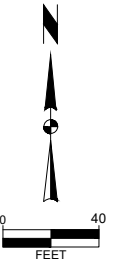
INFILTRATION BASIN
BOTTOM ELEV.=1024.00

WET POND
NWL=1025.00

FITCHRONA ROAD

KAPEC ROAD

CONSTRUCTION SEQUENCE
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*REMOVE EROSION CONTROL MEASURES ONLY AFTER SOILS HAVE BEEN STABILIZED



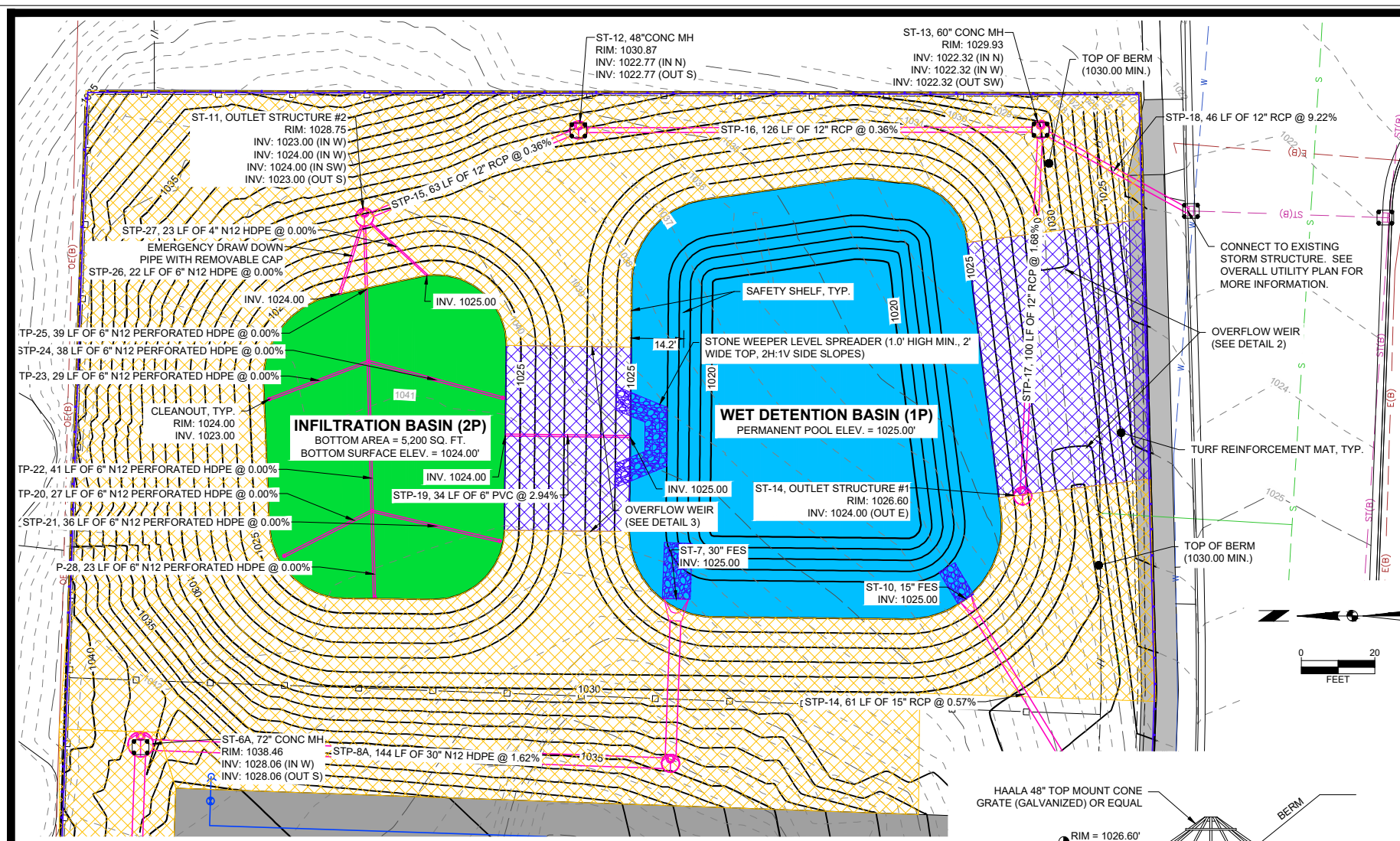
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CITY COMMENTS	09-05-24	BCA
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Engineer: BCA	Checked By: MLC	Scale: 1" = 40'
Technician: TECH	Date: 05-21-24	T-R-S: TTN-RRW-SS

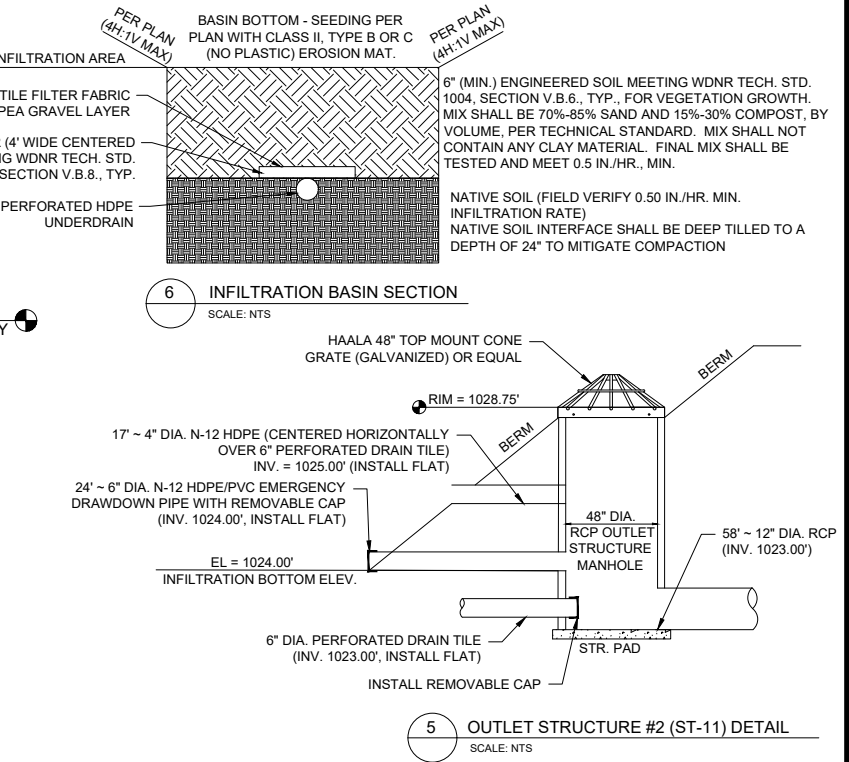
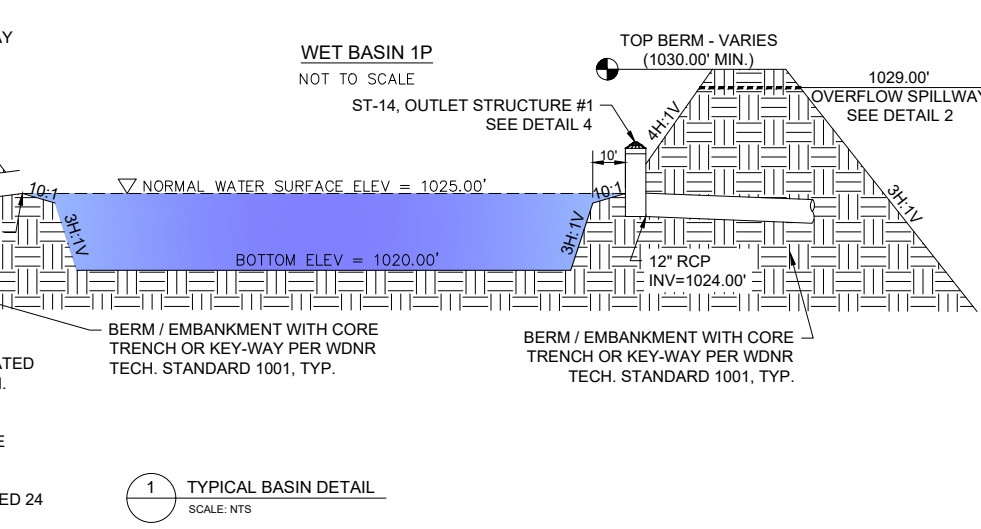
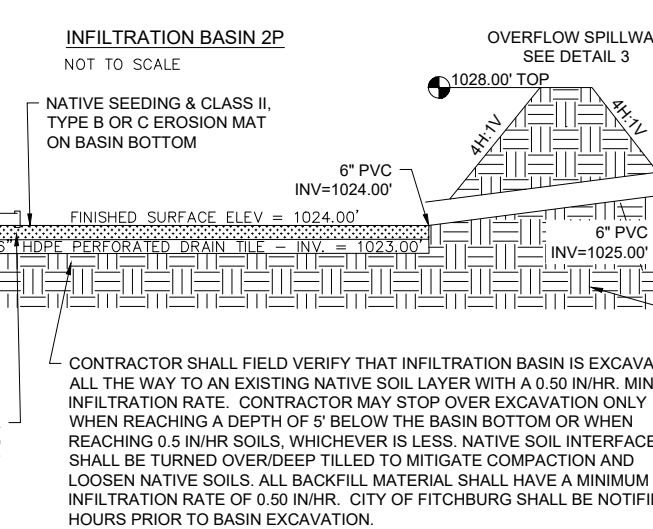
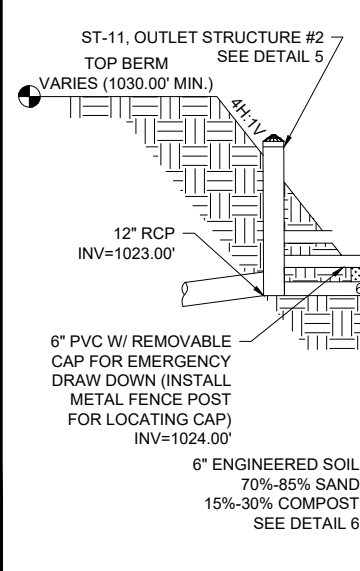
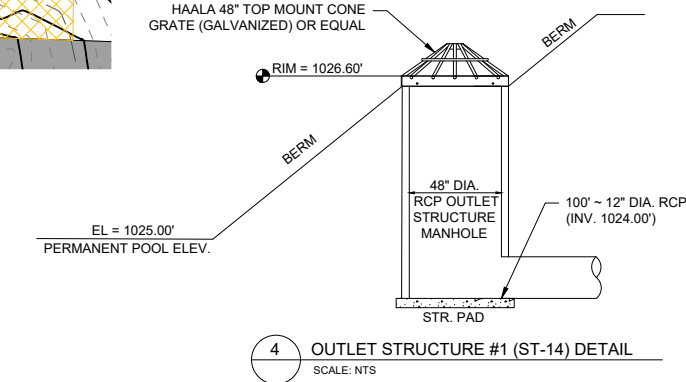
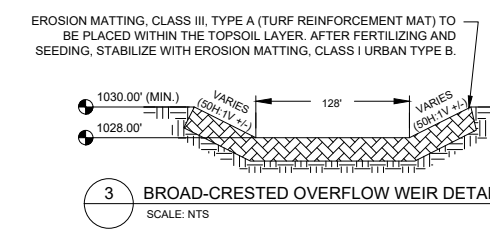
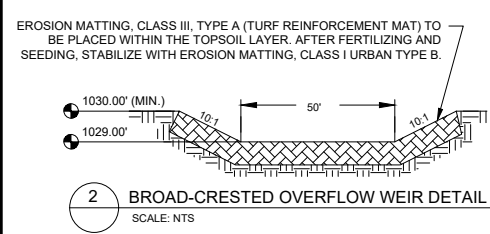
Project No: 124,0465.30
Sheet C 401

2975 KAPEC ROAD
EROSION CONTROL PLAN
CITY OF FITCHBURG, DANE COUNTY, WI
SNYDER & ASSOCIATES, INC.
5010 VOGES ROAD
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Sheet C 401



- INFILTRATION BASIN CONSTRUCTION METHODS, MATERIALS, OPERATION, AND MAINTENANCE SHALL BE IN ACCORDANCE WITH WISCONSIN DEPARTMENT OF NATURAL RESOURCES (WDNR) TECHNICAL STANDARD 1003 & PROJECT SPECIFICATIONS. FOR TECH. STANDARD 1003, SEE WEBSITE http://dnr.wi.gov/topic/stormwater/documents/InfiltrationBasin_1003.pdf
- ROUGH GRADING & DRAINAGE - INFILTRATION AREA SHALL BE GRADED AND LEFT ONE FOOT ABOVE FINISHED GRADE DURING CONSTRUCTION. IF PONDING OR DRAINAGE ISSUES OCCUR WHILE LEAVING BASIN BOTTOM ONE FOOT ABOVE FINISHED GRADE, CONTRACTOR SHALL NOTIFY ENGINEER. FINAL GRADING AND INSTALLATION SHALL TAKE PLACE AFTER SITE DRAINING TO THE BASIN IS SEEDING AND VEGETATION IS ESTABLISHED. FOR BASINS WHERE MULTIPLE LOTS/PARCELS SUCH AS A RESIDENTIAL SUBDIVISION DRAIN TO THE BASIN, BRINGING THE BASIN ON-LINE SHALL BE IN ACCORDANCE WITH WDNR TECH. STANDARD 1003, SECTION V.C.2. SNOW SHALL NOT BE PLACED ON THE BASIN BOTTOM.
- EXCAVATION & BACKFILLING - CONTRACTOR MUST EXCAVATE BASINS UNTIL REACHING THE A NATIVE SOIL LAYER WITH A MINIMUM INFILTRATION RATE OF 0.5 IN./HR. BACKFILL TO THE 6" ENGINEERED SOIL LAYER SHALL CONSIST OF NATIVE SOIL OR SAND MEETING THE 0.5 IN./HR. (MIN.) INFILTRATION RATE.
- FIELD INFILTRATION TESTING - IMMEDIATELY AFTER ROUGH GRADING OF STORMWATER BIOINFILTRATION AND INFILTRATION DEVICES, PROVIDE FIELD INFILTRATION TESTING (COMMONLY TEST PITS) CONDUCTED BY A THIRD-PARTY TESTING AGENCY TO VERIFY INFILTRATION RATES FOR ALL STORMWATER BIOINFILTRATION AND INFILTRATION DEVICES. DETERMINE INFILTRATION RATES IN ACCORDANCE WITH WDNR "SITE EVALUATION FOR STORMWATER INFILTRATION", TECH. STANDARD 1002. FREQUENCY OF TESTING SHALL BE 1 TEST PER 5000 SQUARE FEET OF SURFACE AREA OF THE STORMWATER INFILTRATION DEVICE MEASURED AT THE DESIGN HIGH WATER LEVEL AND AT LEAST TWO TESTS PER DEVICE. FURNISH A REPORT OF THE TEST RESULTS TO ENGINEER.
- SLOPES - LONGITUDINAL SLOPE ON THE BASIN BOTTOM, IF APPLICABLE, SHALL NOT EXCEED 1 PERCENT. BASIN BOTTOM SHALL NOT HAVE LATERAL SLOPES. ALL SIDE SLOPES FOR INTERIOR AND EXTERIOR BERMS SHALL HAVE 4H:1V SLOPES OR FLATTER.
- BERM/EMBANKMENT CONSTRUCTION - EMBANKMENTS AND EMBANKMENT CORE TRENCH OR KEY-WAY SHALL CONFORM WITH WDNR TECHNICAL STANDARD "WET DETENTION BASIN" 1001. FOR TECH. STANDARD 1001, SEE WEBSITE <https://dnr.wisconsin.gov/sites/default/files/topic/Stormwater/1001WetDetentionPond.pdf>
- DRAW DOWN DEVICE - A MEANS SHALL BE PROVIDED TO QUICKLY REMOVE STANDING WATER FROM THE BASIN(S) FOR MAINTENANCE AND WINTER DIVERSION. SEE PLANS AND DETAILS.
- UNDERDRAIN / DRAIN TILE - IF A UNDERDRAIN IS PROPOSED (SEE PLAN), THE UNDERDRAIN SHALL BE IN ACCORDANCE WITH WDNR TECH. STANDARD "BIORETENTION FOR INFILTRATION" 1004, SECTION V.B.8., WHICH SHALL INCLUDE BUT NOT LIMITED TO PROTECTION FROM CLOGGING AND CLEANOUT PORTS INSTALLED. FOR TECH. STANDARD 1004, SEE WEBSITE <https://dnr.wisconsin.gov/sites/default/files/topic/Stormwater/1004Bioretention.pdf>
- WEATHER & SITE CONDITIONS - CONSTRUCTION SHALL BE SUSPENDED DURING PERIODS OF RAINFALL OR SNOW MELT. CONSTRUCTION SHALL REMAIN SUSPENDED IF PONDING WATER IS PRESENT OR IF RESIDUAL SOIL MOISTURE CONTRIBUTES SIGNIFICANTLY TO THE POTENTIAL FOR SOIL SMEARING, CLUMPING, OR OTHER FORMS OF COMPACTION.
- COMPACTION MITIGATION - COMPACTION MITIGATION SHALL BE PERFORMED IN ACCORDANCE WITH WDNR TECH. STANDARD 1003, SECTION V.C.3.b. IT IS RECOMMENDED THAT TRACKED VEHICLES BE USED IN CONSTRUCTION, THAT NO DISTURBANCE TAKE PLACE ON THE BASIN BOTTOM AREA, AND THAT THE BOTTOM AREA BE FENCED OFF TO PREVENT HEAVY EQUIPMENT FROM ACCESSING THE AREA DURING CONSTRUCTION. THE BASIN IS REQUIRED TO DRAW DOWN WITHIN 24 HOURS AFTER A RAINFALL EVENT IS COMPLETE. CONTRACTOR IS RESPONSIBLE FOR ANY CORRECTIVE ACTIONS REQUIRED DUE TO CONSTRUCTION METHODS, MATERIALS, AND MAINTENANCE, INCLUDING COMPACTION, THAT PREVENT THE BASIN FROM DRAWING DOWN IN THE REQUIRED AMOUNT OF TIME. IF THE ENGINEER OR REVIEWING AGENCY DETERMINES THE BASIN IS NOT FUNCTIONING OR DRAWING DOWN PER PLAN, A GEOTECHNICAL ENGINEER MAY BE REQUIRED TO INSPECT THE BASIN AND PROVIDE RECOMMENDATIONS FOR CORRECTIVE ACTIONS AND/OR CORRECTIVE ACTIONS SPECIFIED IN WDNR TECHNICAL STANDARD 1003 MAY BE REQUIRED AT THE CONTRACTOR'S EXPENSE.
- ENGINEERED SOIL - THE 6" ENGINEERED SOIL MIXTURE SHALL MEET THE REQUIREMENTS OF WDNR TECH. STANDARD 1004, SECTION V.B.6.d., HAVE A MINIMUM 0.5 IN./HR. INFILTRATION RATE, AND BE THOROUGHLY MIXED. SOILS BENEATH THE 6" ENGINEERED SOIL MIXTURE SHALL BE UNDERCUT AS NEEDED TO REACH A PERMEABLE LAYER MEETING REQUIREMENTS.
- VEGETATION - VEGETATIVE COVER SHALL BE ESTABLISHED IN ACCORDANCE WITH WDNR TECH. STANDARDS 1003, SECTION V.D. PERMANENT SEEDING SHALL BE PER PLAN, IF SPECIFIED. IF PERMANENT SEEDING IS NOT SPECIFIED IN PLANS/SPECIFICATIONS, SEEDING SHALL BE NATIVE SEEDING WITH A MIX, APPLICATION RATE, AND APPLICATION TIMING AS REQUIRED BY REVIEWING AUTHORITY OR PER RECOMMENDATION FROM A QUALIFIED NATIVE NURSERY IN THE PROJECT AREA IF NO LOCAL REQUIREMENTS EXIST. IT IS RECOMMENDED THAT PERMANENT SEEDING TAKE PLACE IN LATE FALL OR EARLY SPRING. TEMPORARY SEEDING OF INFILTRATION BASIN BOTTOM AND SIDE SLOPES SHALL TAKE PLACE IN LATE FALL IF NOT ALREADY PERMANENTLY SEEDING. TEMPORARY SEEDING SHALL BE WITH OATS TO HELP STABILIZE SOIL AND PREVENT EROSION. SEEDING, BOTH PERMANENT AND TEMPORARY, SHALL TAKE PLACE PRIOR TO ANY SNOW COVER.
- STABILIZATION - SIDE SLOPES SHALL BE STABILIZED PER THE EROSION CONTROL PLAN AND SIDE SLOPES 5H:1V OR STEEPER REQUIRE EROSION MATTING AS SPECIFIED ON THE PLAN. THE BASIN BOTTOM SHALL BE PROTECTED FROM EROSION AND WASHOUTS BY INSTALLING A CLASS II, TYPE B OR C, EROSION MAT THAT USES ONLY ORGANIC MATERIAL (NO PLASTIC), SUCH AS COCONUT MATTING, AND CONFORMS TO THE WISCONSIN DOT EROSION CONTROL PRODUCT ACCEPTABILITY LIST (PAL). MORE INFORMATION FOR WISDOT PAL CAN BE FOUND AT THE WEBSITE <https://wisconsin.gov/Pages/doing-business/consultants/cnsl-trcecs/tools/pal/default.aspx>. MULCHING SHALL CONFORM TO THE WDNR TECH. STANDARD "MULCHING FOR CONSTRUCTION SITES" 1058. FOR TECH. STANDARD 1058, SEE WEBSITE <https://dnr.wisconsin.gov/sites/default/files/topic/Stormwater/1058Mulching.pdf>
- AS-BUILT/RECORD DRAWINGS - THE BASIN SHALL BE CONSTRUCTED TO THE GRADES, ELEVATIONS, AND SPECIFICATION IN THE PLAN. AFTER GRADING AND TOP SOILING, THE ELEVATIONS OF THE BASIN SHALL BE SURVEYED FOR CONFORMANCE TO THE DESIGN SPECIFICATIONS. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY CORRECTIVE ACTIONS REQUIRED WHERE THE BASIN DEVIATES FROM THE PROPOSED PLAN.



MARK	REVISION	DATE	BY
09-05-24	BCA	07-25-24	BCA
CITY COMMENTS	SIP SUBMITTAL	DATE	BY
Engineer: BCA	Checked By: MLC	Scale: 1" = #'	T-R-S: TTN-RRV-SS
Technician: TECH	Date: 05-21-24		

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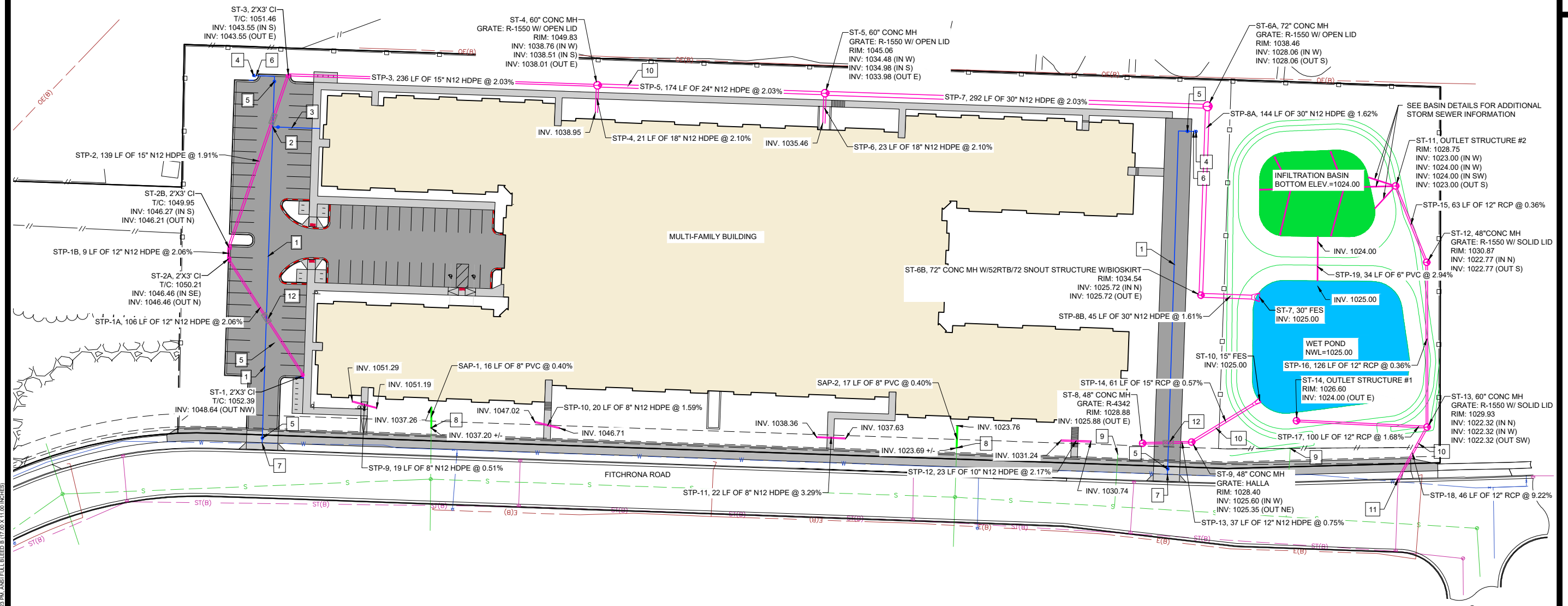
2975 KAPEC ROAD
BASIN DETAILS
CITY OF FITCHBURG, DANE COUNTY, WI
SNYDER & ASSOCIATES, INC.



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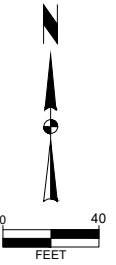
CITY COMMENTS	09-05-24	BCA
SIP SUBMITTAL	07-25-24	BCA
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Engineer: BCA	Date: 05-21-24	T-R-S: TTN-RRW-SS
Technician: TECH		

Project No: 124.0465.30
Sheet C 500



- UTILITY PLAN NOTES**
- PER CITY ORDINANCE, CONTRACTORS ARE NOT ALLOWED TO OPERATE CITY OWNED VALVES. THE CONTRACTOR SHALL CALL THE FITCHBURG UTILITY AT 608-270-4270 FOR OPERATION OF THESE VALVES.
 - SAFE SAMPLE RESULTS NEED TO BE PROVIDED TO THE FITCHBURG UTILITY PRIOR TO PRESSURE TESTING THE PRIVATE WATER MAINS.
 - IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THAT THE EXISTING VALVES WILL HOLD THE PRESSURE TEST PRIOR TO CONNECTION. THE CITY IS NOT RESPONSIBLE FOR ANY COSTS INCURRED DUE TO THE CONTRACTOR NOT VERIFYING THAT THE EXISTING VALVE WILL HOLD THE PRESSURE TEST PRIOR TO CONNECTION. IF A NEW VALVE IS REQUIRED, THE APPLICANT WILL BE REQUIRED TO INSTALL ONE AT THEIR EXPENSE AT THE POINT OF CONNECTION.
 - PRIVATE WATER MAIN BETWEEN THE MUNICIPAL SYSTEM UP TO AND INCLUDING PRIVATE HYDRANTS SHALL BE INSTALLED PER THE LATEST EDITION OF THE CITY OF FITCHBURG STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION. CORRECT NOTES IN REGARDS TO SPECIFICATIONS ACCORDINGLY.

- UTILITY PLAN KEY NOTES**
- 8" DUCTILE IRON PRIVATE WATER MAIN
 - 8" WATER MAIN TEE
 - 8" DUCTILE IRON PRIVATE WATER SERVICE
 - PRIVATE FIRE HYDRANT
 - 8" GATE VALVE
 - 6"x8" REDUCER AT HYDRANT
 - CONNECT TO EX. PUBLIC WATER MAIN
8"x12" CUT-IN TEE
 - EXTEND EX. PRIVATE 8" SANITARY SEWER SERVICE
 - ABANDON EX. 6" SANITARY LATERAL AT THE MAIN PER CITY OF FITCHBURG STANDARD SPECIFICATIONS. A 3" LINER SHALL BE INSTALLED TO SEAL THIS LATERAL TO AVOID DISTURBANCE OF THE ROAD.
 - PRIVATE STORM SEWER
 - CONNECT TO EX. STORM SEWER STRUCTURE:
EX. RIM = 1022.17
EX. INV. (12" RCP, SOUTH) = 1018.10
PR. INV. (12" RCP, NORTH) = 1018.10
 - 4"x4"x8' INSULATION



2975 KAPEC ROAD
UTILITY PLAN
 CITY OF FITCHBURG, DANE COUNTY, WI
SNYDER & ASSOCIATES, INC.



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GENERAL CONDITIONS

1. THE CONTRACTOR SHALL NOTIFY THE OWNER AND THE MUNICIPALITY TWO WORKING DAYS (48 HOURS) PRIOR TO THE START OF CONSTRUCTION.
2. THE CONTRACTOR SHALL INDEMNIFY THE OWNER, THE ENGINEER, AND THE MUNICIPALITY, THEIR AGENTS, ETC, FROM ALL LIABILITY INVOLVED WITH THE CONSTRUCTION, INSTALLATION, AND TESTING OF THE WORK ON THIS PROJECT.
3. SITE SAFETY SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
4. THE BIDDER WILL BE SOLELY RESPONSIBLE FOR DETERMINING QUANTITIES AND SHALL STATE SUCH QUANTITIES IN HIS PROPOSAL. HE SHALL BASE HIS BID ON HIS OWN ESTIMATE OF THE WORK REQUIRED AND SHALL NOT RELY ON THE ENGINEER'S ESTIMATE.
5. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING SOIL CONDITIONS PRIOR TO COMMENCEMENT OF CONSTRUCTION. A GEOTECHNICAL REPORT IS AVAILABLE FROM THE OWNER. THE CONTRACTOR SHALL ABIDE BY THE RECOMMENDATIONS OF THE GEOTECHNICAL ENGINEER.
6. THE CONTRACTOR IS RESPONSIBLE FOR EXAMINING ALL SITE CONDITIONS PRIOR TO COMMENCEMENT OF CONSTRUCTION AND SHALL COMPARE FIELD CONDITIONS WITH DRAWINGS.
7. THE CONTRACTOR SHALL CONDUCT HIS WORK ACCORDING TO THE REQUIREMENTS OF THE PERMITS.
8. THE CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING ALL UTILITY INFORMATION SHOWN ON THE PLANS PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR SHALL CALL DIGGER'S HOTLINE AT 1-800-242-8511 TO NOTIFY THE UTILITIES OF HIS INTENTIONS, AND TO REQUEST FIELD STAKING OF EXISTING UTILITIES.
9. CONTRACTOR IS ADVISED THAT ALL MUD AND DEBRIS MUST NOT BE DEPOSITED ONTO THE ADJACENT ROADWAYS PER THE REQUIREMENT OF THE MUNICIPALITY OR OTHER APPROPRIATE GOVERNMENT AGENCIES.
10. ANY ADJACENT PROPERTIES OR ROAD RIGHT-OF-WAYS WHICH ARE DAMAGED DURING CONSTRUCTION MUST BE RESTORED BY THE CONTRACTOR. THE COST OF THE RESTORATION IS CONSIDERED INCIDENTAL, AND SHOULD BE INCLUDED IN THE BID PRICES.

CONCRETE SIDEWALK

1. SIDEWALK SHALL BE A MINIMUM OF 5" THICK ON A BASE OF 4" OF 3/4" DENSE AGGREGATE BASE COURSE. SIDEWALKS ACROSS DRIVEWAYS SHALL BE A MINIMUM OF 7" THICK ON A BASE OF 4" 3/4" DENSE AGGREGATE BASE COURSE.
2. SIDEWALKS SHALL MEET ADA REQUIREMENTS.
3. SIDEWALKS SHALL HAVE A MAXIMUM CROSS SLOPE OF 1.5%.
4. CURB RAMPS AND DETECTABLE WARNING FIELDS (TRUNCATED DOMES) WILL BE REQUIRED AT ALL ADA RAMPS. DETECTABLE WARNING FIELDS SHALL BE NEENAH #4898 OR METAPANEL BY METADOME, LLC, UNPAINTED OR APPROVED EQUAL.

MULTI-USE PATH

1. HMA PAVEMENT SHALL BE A MINIMUM OF 3.0" THICK ON 8" OF DENSE AGGREGATE BASE COURSE. SEE THE CITY OF FITCHBURG'S STANDARD DETAIL DRAWING 4.05 FOR MORE INFORMATION ABOUT THE MULTI-USE PATH.
2. MULTI-USE TRAILS SHALL MEET ADA REQUIREMENTS WHERE PRACTICAL.

STORM SEWER & STORM WATER MANAGEMENT NOTES

STORM SEWER AND STORMWATER MANAGEMENT SHALL BE AS FOLLOWS:

1. STORM SEWER PIPE BEDDING SHALL BE CLEAR STONE.
2. MINIMUM COVER FOR ALL STORM SEWER SHALL BE 2'.
3. EXCAVATED MATERIAL FROM THE TRENCH NOT SUITABLE FOR BACKFILL AS DEEMED BY THE PUBLIC SERVICES DIRECTOR SHALL BE HAULED OFF-SITE AND SELECT TRENCH BACKFILL WILL BE REQUIRED.
7. EXTREME CAUTION MUST BE FOLLOWED REGARDING THE COMPACTION OF ALL UTILITY TRENCHES. MECHANICALLY COMPACTED GRANULAR BACKFILL IS REQUIRED UNDER AND WITHIN 5 FEET OF ALL PAVEMENT INCLUDING SIDEWALKS AND FUTURE PARKING AREA AS SPECIFIED ON PLANS. FLOODING OF BACKFILL MATERIAL IS NOT ALLOWED. THE COST OF THIS GRANULAR MATERIAL AND ITS COMPACTION IS CONSIDERED INCIDENTAL AND SHALL BE INCLUDED IN THE COST OF THE PROPOSED UTILITY.
8. PRIOR TO FINAL PAVING OPERATIONS, THE UTILITY CONTRACTOR SHALL ADJUST ALL MANHOLE AND INLET RIMS AND VALVE BOXES TO FINISHED GRADE.
9. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING THE OWNER WITH A SET OF MARKED-UP PRINTS SHOWING ALL CHANGES MADE DURING THE CONSTRUCTION PROCESS. ANY CHANGES TO THE DRAWINGS OR ADDITIONAL ITEMS MUST BE REPORTED TO THE OWNER.
10. STORM SEWER WITHIN STREET RIGHT-OF-WAYS SHALL BE REINFORCED CONCRETE PIPE.
11. EXCAVATED MATERIAL FROM THE TRENCH NOT SUITABLE FOR BACKFILL AS DEEMED BY THE ENGINEER SHALL BE REMOVED AND REPLACED WITH SELECT TRENCH BACKFILL.
13. MANHOLES 3' DEEP AND GREATER SHALL BE CONSTRUCTED WITH STEPS.
14. INLETS AT LOW POINTS SHALL HAVE TYPE NEENAH TYPE R GRATES. INLETS ON GRADE SHALL BE DIRECTIONAL TYPE L. INLETS SHALL ALL BE STAMPED "DRAINS TO RIVER".
15. ALL INFILTRATION BASINS SHALL INCLUDE ENGINEERED SOILS OR PERMAMATRIX SOIL AMENDMENT APPLIED PER MANUFACTURER RECOMMENDATIONS.
16. ALL STORM WATER MANAGEMENT FACILITIES SHALL BE SEEDED WITH A NATIVE SEED MIXTURE WITHIN THE LIMITS OF THE OUTLOT OR EASEMENT. THE NATIVE SEED MIXTURE SHALL BE APPROVED BY THE ENGINEER.
17. ALL STORM WATER FACILITIES SHALL CONFORM TO WisDNR TECHNICAL STANDARDS FOR PRE AND POST CONSTRUCTION STORM WATER MANAGEMENT.
18. THE LAST TWO PIPES SHALL BE STRAPPED TOGETHER AT END SECTIONS ON ALL PIPES 18" AND GREATER.
19. TRASH GRATES SHALL BE PROVIDED ON ALL END SECTIONS ON ENCLOSED STORM SEWER NETWORKS.
20. EROSION MAT IS REQUIRED FOR ALL RESTORATION ON SLOPES AT OR GREATER THAN 4:1, AND IN AREAS THAT CHANNEL WATER.
21. BIODEGRADABLE EROSION MAT AND BIODEGRADABLE STAPLES ARE REQUIRED ON ALL SLOPES LESS THAN 3:1 OUTSIDE OF DRAINAGE CHANNELS WHERE EROSION MAT IS REQUIRED. EROSION MAT SHALL BE PROVIDED IN ALL STREET TERRACES.
22. SILT FENCE AND INLET PROTECTION REMOVAL IS REQUIRED AFTER VEGETATION HAS BEEN ESTABLISHED.
23. STORM SEWER SHALL BE HDPE UNLESS OTHERWISE SPECIFIED ON PLANS.
24. ADJUSTMENT RINGS SHALL HAVE A MINIMUM HEIGHT OF 4" AND A MAXIMUM HEIGHT OF 12". ADJUSTMENT RINGS FOR STORM MANHOLES SHALL BE POLYETHYLENE PLASTIC OR APPROVED EQUAL. CURB INLET ADJUSTMENT RINGS SHALL BE CONCRETE.

SANITARY SEWER

1. SANITARY SEWER SHALL BE PVC AND BEDDED WITH CLASS C BEDDING (CLEAR STONE). SEWER SHALL BE SDR-35 FOR DEPTHS UP TO 20' AND SDR-26 FOR DEPTHS GREATER THAN 20'.
2. TRACER WIRE SHALL BE INSTALLED WITH ALL NEW LATERALS IN ACCORDANCE TO THE STANDARD DETAIL DRAWINGS.
3. TRACER WIRE BOXES SHALL BE PROVIDED. "SEWER" SHALL BE STAMPED IN THE LID OF THE ACCESS BOX.
4. EXCAVATED MATERIAL FROM THE TRENCH NOT SUITABLE FOR BACKFILL AS DEEMED BY THE ENGINEER SHALL BE REMOVED AND REPLACED WITH SELECT TRENCH BACKFILL.
5. MANDREL TESTING IS REQUIRED ON ALL SANITARY SEWER. LOW PRESSURE AIR TESTS ARE REQUIRED ON ALL NEW SANITARY SEWER CONSTRUCTION.
6. LATERAL ENDS SHALL BE CAPPED WITH A GLUED ON CAP AND MARKED WITH A PAINTED 4X4 POST.
7. ALL SANITARY SEWER CONSTRUCTION SHALL MEET THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN.

WATER MAIN

1. WATER MAIN SHALL BE DUCTILE IRON AND BEDDED WITH TYPE 3 EMBEDMENT (SAND OR SAND SCREENINGS). BEDDING SHALL BE A MINIMUM OF 6" UNDER AND 12" OVER TOP OF THE PIPE.
2. WATER MAIN SHALL BE INSTALLED WITH TRACER WIRE. TRACER WIRE SHALL EXTEND TO THE SURFACE AT ALL HYDRANTS IN A TRACER WIRE ACCESS BOX.
3. MECHANICAL JOINT FITTINGS WITH MEGA LUGS ARE REQUIRED FOR ALL DIRECTIONAL CHANGE FITTINGS AND WATERMAIN ENDS. ALL BOLTS SHALL BE STAINLESS STEEL. ALL FITTINGS SHALL BE "MADE IN AMERICA" CERTIFIED.
4. LATERAL ENDS SHALL BE MARKED WITH A PAINTED 4X4 WOOD POST.
5. WATER MAINS SHALL UNDERGO A PRESSURE AND LEAKAGE TEST. SERVICES SHALL BE TESTED TO THE CURB STOP. SERVICES 4" AND LARGER WITH JOINTED PIPE SHALL BE TESTED AGAINST THE VALVE WITH A SECOND TEST OUT TO THE PLUG. THE SECOND TEST MAY BE OF SHORTER DURATION AS APPROVED BY THE PUBLIC SERVICES DIRECTOR.
6. EXCAVATED MATERIAL FROM THE TRENCH NOT SUITABLE FOR BACKFILL AS DEEMED BY THE ENGINEER SHALL BE REMOVED AND REPLACED WITH SELECT TRENCH BACKFILL.
7. ALL WATER MAIN CONSTRUCTION SHALL MEET THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN.
8. INSULATION SHALL BE PROVIDED AT ALL STORMS SEWER CROSSINGS OF MAINS AND LATERALS.

ADDITIONAL UTILITY NOTES

1. THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL EXISTING UTILITIES PRIOR TO THE START OF CONSTRUCTION.
2. BEFORE PROCEEDING WITH ANY UTILITY CONSTRUCTION, THE CONTRACTOR SHALL EXCAVATE EACH EXISTING LATERAL OR POINT OF CONNECTION AND VERIFY THE LOCATION AND ELEVATION OF ALL UTILITIES. IF ANY EXISTING UTILITIES ARE NOT AS SHOWN ON THE DRAWINGS, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY FOR POSSIBLE REDESIGN.
3. PRIOR TO FINAL PAVING OPERATIONS, THE UTILITY CONTRACTOR SHALL ADJUST ALL MANHOLE AND INLET RIMS AND VALVE BOXES TO FINISHED GRADE.
4. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING THE OWNER WITH A SET OF MARKED-UP PRINTS SHOWING ALL CHANGES MADE DURING THE CONSTRUCTION PROCESS. ANY CHANGES TO THE DRAWINGS OR ADDITIONAL ITEMS MUST BE REPORTED TO THE OWNER.
5. THE PROPOSED IMPROVEMENTS SHALL BE CONSTRUCTED ACCORDING TO WISCONSIN ADMINISTRATIVE CODE. SECTION SPS 382-384, LATEST EDITION, THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN, LATEST EDITION, AND THE LOCAL ORDINANCES AND SPECIFICATIONS.
6. ALL CONNECTIONS TO EXISTING PIPES AND MANHOLES SHALL BE CORED CONNECTIONS.
7. PROPOSED SANITARY SEWER, WATER MAIN, AND INTERNALLY CONNECTED STORM SEWER SHOWN ON THIS PLAN SHALL TERMINATE AT POINT FIVE (5) FEET FROM THE EXTERIOR BUILDING WALL. STORM SEWER CONNECTING TO EXTERIOR DOWN SPOUTS SHALL BE PER DETAILS ON THE ARCHITECTURAL PLANS. THE EXACT LOCATION OF ALL DOWN SPOUTS SHALL BE PER THE ARCHITECTURAL PLANS.
8. EXTREME CAUTION MUST BE FOLLOWED REGARDING THE COMPACTION OF ALL UTILITY TRENCHES. MECHANICALLY COMPACTED GRANULAR BACKFILL IS REQUIRED UNDER AND WITHIN 5 FEET OF ALL PAVEMENT INCLUDING SIDEWALKS. FLOODING OF BACKFILL MATERIAL IS NOT ALLOWED. THE COST OF THIS GRANULAR MATERIAL AND ITS COMPACTION IS CONSIDERED INCIDENTAL AND SHALL BE INCLUDED IN THE COST OF THE PROPOSED UTILITY.
9. TRACER WIRE SHALL BE INSTALLED ON ALL BURIED NON-METALLIC SANITARY SEWERS, PRIVATE SANITARY INTERCEPTOR MAIN SEWERS, STORM BUILDING SEWERS, AND PRIVATE STORM INTERCEPTOR MAIN SEWERS THAT DISCHARGE TO MUNICIPAL MAINS. TRACER WIRE SHALL BE A MINIMUM OF 12-GAUGE, INSULATED, SINGLE-CONDUCTOR COPPER WIRE OR EQUIVALENT. TRACER WIRE COLOR SHALL BE BLUE FOR POTABLE WATER, GREEN FOR SANITARY SEWER, AND BROWN FOR STORM SEWER.

V:\proj\10221120_0465.30\CAD\120465.30.dwg BLAKE RIVER HOUR NOTES: 2024.06.05, 2:28 PM ANSI FULL BLEED B (17.00 X 11.00 INCHES)

CITY COMMENTS	09-05-24 BCA	DATE	BY
SIP SUBMITTAL	07-23-24 BCA	DATE	BY
REVISION		DATE	BY
MARK	Engineer: BCA	Checked By: MLC	Scale: 1" =
	Technician: TECH	Date: 05-21-24	T-R-S: TTN-RRW-SS
			Sheet
			Project No: 124.0465.30

2975 KAPEC ROAD

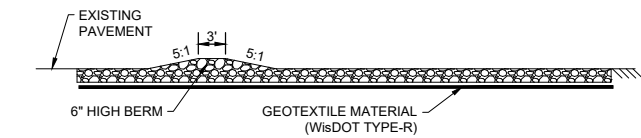
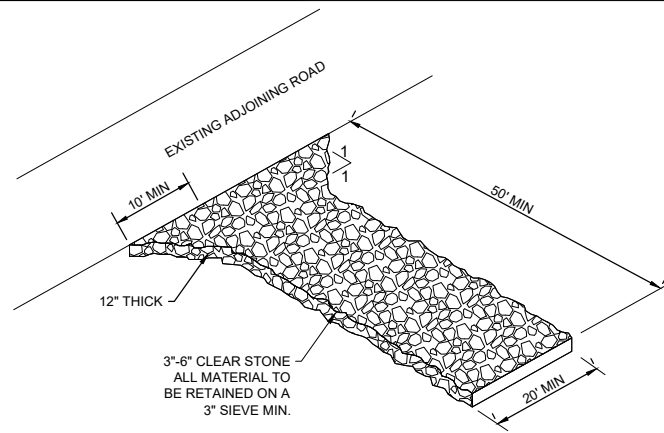
NOTES

CITY OF FITCHBURG, DANE COUNTY, WI

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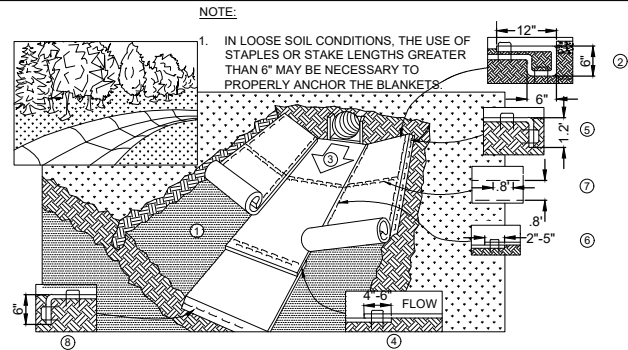




NOTE:

1. MAINTAIN THE ROCK ENTRANCE TO PREVENT TRACKING ONTO PAVEMENT

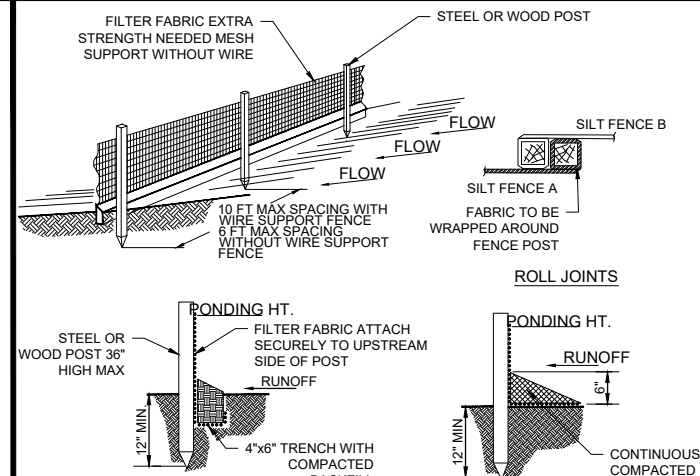
1 STONE ENTRANCE DETAIL
SCALE: 3"=1'



INSTALLATION:

1. PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING APPLICATION OF FERTILIZER AND SEED.
2. BEGIN AT THE TOP OF THE CHANNEL BY ANCHORING THE BLANKET IN A 6" DEEP X 6" WIDE TRENCH WITH APPROXIMATELY 12" OF BLANKET EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE BLANKET WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" PORTION OF BLANKET BACK OVER SEED AND COMPACTED SOIL. SECURE BLANKET OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" APART ACROSS THE WIDTH OF THE BLANKET.
3. ROLL CENTER BLANKET IN DIRECTION OF WATER FLOW IN BOTTOM OF CHANNEL. BLANKETS WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL BLANKETS MUST BE SECURELY FASTENED TO THE SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS RECOMMENDED BY THE MANUFACTURER.
4. PLACE CONSECUTIVE BLANKETS END OVER END (SHINGLE STYLE) WITH A 4"-6" OVERLAP. USE A DOUBLE ROW OF STAPLES STAGGERED 4" APART AND 4" ON CENTER TO SECURE BLANKETS.
5. FULL LENGTH EDGE OF BLANKETS AT TOP OF SIDE SLOPE MUST BE ANCHORED WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN A 6" DEEP X 6" WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
6. A STAPLE CHECK SLOT IS RECOMMENDED AT 30 TO 40 FOOT INTERVALS. USE A DOUBLE ROW OF STAPLES STAGGERED 4" APART AND 4" ON CENTER OVER ENTIRE WIDTH OF THE CHANNEL.
7. THE TERMINAL END OF THE BLANKETS MUST BE ANCHORED WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN A 6" DEEP X 6" WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
8. EROSION MAT SHALL EXTEND FOR WHICHEVER IS GREATER: UPSLOPE ONE FOOT MIN. VERTICALLY FROM DITCH BOTTOM OR 6" HIGHER THAN DESIGN FLOW DEPTH.
9. EROSION MAT SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH WDNR TECHNICAL STANDARDS 1053.

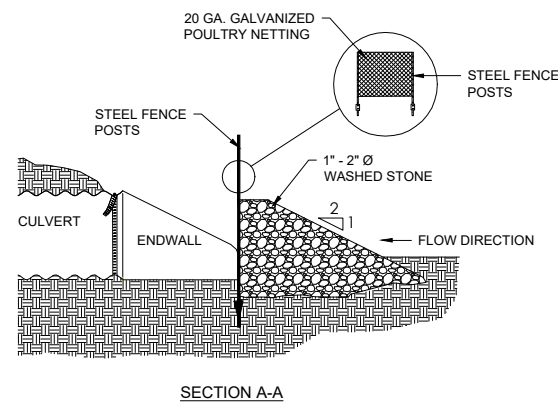
2 EROSION CONTROL MAT - CHANNEL INSTALLATION
SCALE: 3"=1'



NOTES:

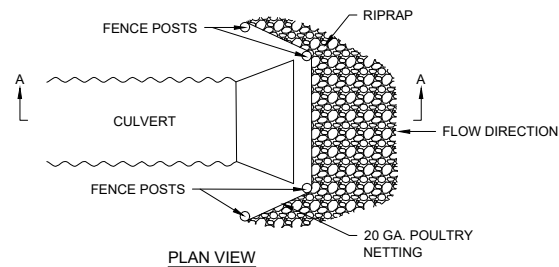
1. INSPECT FENCE WEEKLY AND AFTER EACH RAIN EVENT OF 0.5 INCHES AND REPAIR IF REQUIRED. REMOVE SEDIMENT WHEN NECESSARY OR WHEN SEDIMENT REACHES 1/2 OF FENCE HEIGHT.
2. REMOVED SEDIMENT SHALL BE DEPOSITED TO AN AREA THAT WILL NOT CONTRIBUTE SEDIMENT OFF-SITE AND CAN BE PERMANENTLY STABILIZED.
3. SILT FENCE SHALL BE PLACED ON SLOPE CONTOURS TO MAXIMIZE PONDING EFFICIENCY.
4. SILT FENCE SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH WDNR TECHNICAL STANDARD 1056.

3 SILT FENCE DETAIL
SCALE: 3"=1'

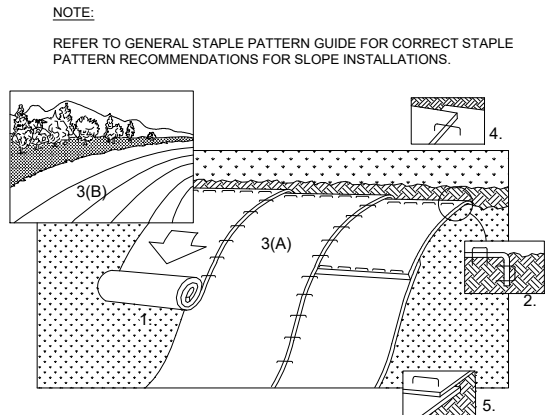


NOTES:

1. STONE CULVERT PROTECTION SHOWN TO BE USED FOR CULVERTS UP TO 18" IN DIAMETER. CONSULT ENGINEER FOR MODIFICATIONS FOR >18" DIAMETER CULVERTS.



4 STONE CULVERT PROTECTION
SCALE: 3"=1'



INSTALLATION:

1. PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING APPLICATION OF FERTILIZER AND SEED. NOTE: WHEN USING CELL-O-SEED DO NOT SEED PREPARED AREA. CELL-O-SEED MUST BE INSTALLED WITH PAPER SIDE DOWN.
2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE BLANKET IN 6" DEEP X 6" WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
3. ROLL THE BLANKETS (A.) DOWN THE SLOPE (B.) HORIZONTALLY ACROSS THE SLOPE
4. THE EDGES OF PARALLEL BLANKETS MUST BE STAPLED WITH APPROXIMATELY 2" OVERLAP.
5. WHEN BLANKETS MUST BE SPLICED DOWN THE SLOPE, PLACE BLANKETS END OVER END (SHINGLE STYLE) WITH APPROXIMATELY 4" OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" APART.
6. ALL BLANKETS MUST BE SECURELY FASTENED TO THE SLOPE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS RECOMMENDED BY THE MANUFACTURER.
7. EROSION MAT SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH WDNR TECHNICAL STANDARD # 1052.

5 EROSION CONTROL MAT - SLOPE INSTALLATION
SCALE: 3"=1'

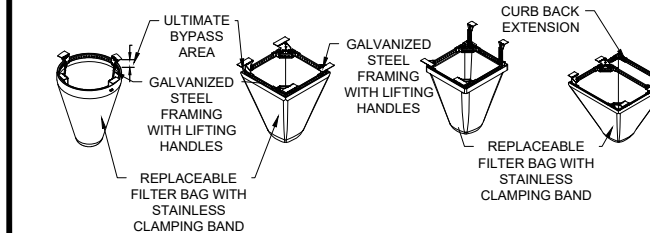
NOTES: *FLOW RATINGS SHOWN ARE 50% MAXIMUM

1. ALL FRAMING IS CONSTRUCTED OF CORROSION RESISTANT STEEL FRAMING FOR PROLONGED PRODUCT LIFE.
2. TOTAL BYPASS CAPACITY WILL VARY WITH EACH SIZED DRAINAGE STRUCTURE. FLEXSTORM DESIGNS FRAMING BYPASS TO MEET OR EXCEED THE DESIGN FLOW OF THE PARTICULAR DRAINAGE STRUCTURE. CONCRETE STRUCTURES MAY REQUIRE ADDITIONAL REVIEW.
3. UPON ORDERING THE ADS P/N CONFIRMATION OF THE DOT CALLOUT, FLEXSTORM ITEM CODE, CASTING MAKE AND MODEL, OR DETAILED DIMENSIONAL FORMS MUST BE PROVIDED.
4. FOR WRITTEN SPECIFICATIONS AND MAINTENANCE GUIDELINES VISIT WWW.INLETFILTERS.COM

INSTALLATION:

1. REMOVE GRATE
2. DROP FLEXSTORM INLET FILTER ONTO LOAD BEARING LIP OF CASTING OR CONCRETE STRUCTURE
3. REPLACE GRATE

Product selection for FLEXSTORM CATCH-IT Filters (Temporary Inlet Protection)							
Neenah Casting	Inlet Type	Grate Size	Opening Size	Bag Cap (ft ²)	Flow Ratings (CFS)		ADS P/N
					FX	Bypass	
1040/1642/1733	Round	26	24	1.9	1.5	5.4	62MRDFX
3067 w/FLAP	Curb Box	35.25 x 17.75	33.0 x 15.0	3.8	1.9	5.6	62LCBEXTFX
3067 EXTENDED BACK	Curb Box	35.25 x 17.75	33.0 x 15.0	4.4	2.3	5.8	62LCBEXTFX
3246A	Curb Box	35.75 x 23.875	33.5 x 21.0	4.2	2.2	3.3	62LCBFX
3030	Square/Rect (SQ)	23 x 16	20.5 x 13.5	1.6	1.4	2.2	62MCBFX
3067-C	Square/Rect (SQ)	35.25 x 17.75	33 x 15	3.2	2.0	5.2	62LSOFX



- FLEXSTORM CATCH-IT INLET FILTERS FOR ROUND OPENINGS
- FLEXSTORM CATCH-IT INLET FILTERS FOR SQUARE/RECTANGULAR OPENINGS
- FLEXSTORM CATCH-IT INLET FILTERS FOR ROLLED CURB
- FLEXSTORM CATCH-IT INLET FILTERS FOR CURB BOX OPENINGS (MAGNETIC CURB FLAP)

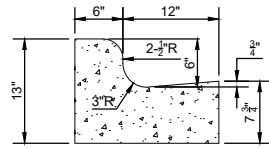
6 INLET PROTECTION DETAIL
SCALE: 3"=1'

CITY COMMENTS	09-05-24	BCA	DATE	BY
SIP SUBMITTAL	07-25-24	BCA	REVISION	
MARK	Checked By:	MLC	Scale:	1" = #ft
Engineer:	BCA	Date:	05-21-24	T-R-S: TTN-RRW-SS
Technician:	TECH			

2975 KAPEC ROAD
EROSION CONTROL DETAILS
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Sheet C 702

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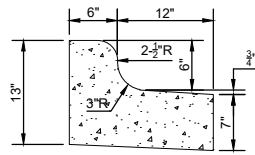




NOTES:

- LATERAL CONTRACTION JOINTS SHALL BE PLACED AT INTERVALS OF NOT MORE THAN 15' NOR LESS THAN 6' IN LENGTH. THE JOINTS SHALL BE A MINIMUM OF 3" IN DEPTH. EXPANSION JOINTS SHALL BE PLACED TRANSVERSELY AT RADIUS POINTS ON CURVES OF RADIUS 200' OR LESS AND AT ANGLE POINTS, OR AS DIRECTED BY THE ENGINEER.
- THE EXPANSION JOINT SHALL BE A ONE PIECE ASPHALTIC MATERIAL HAVING THE SAME DIMENSIONS AS CURB & GUTTER AT THAT STATION AND BE 1/2" THICK. IN ALL CASES, CONCRETE CURB & GUTTER SHALL BE PLACED ON THOROUGHLY COMPACTED CRUSHED STONE.

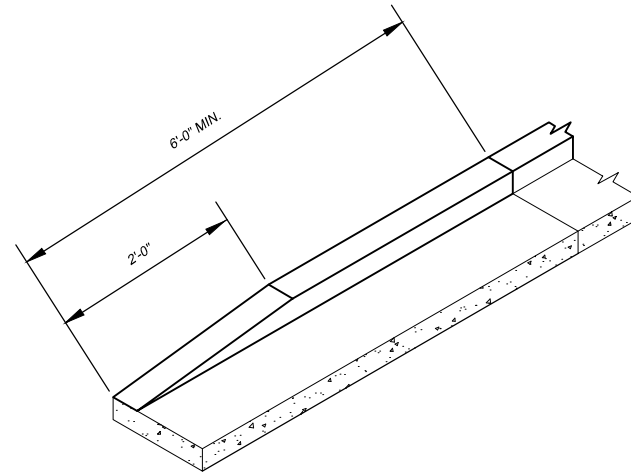
1 18" STANDARD CONCRETE CURB & GUTTER
SCALE: 1" = 1'



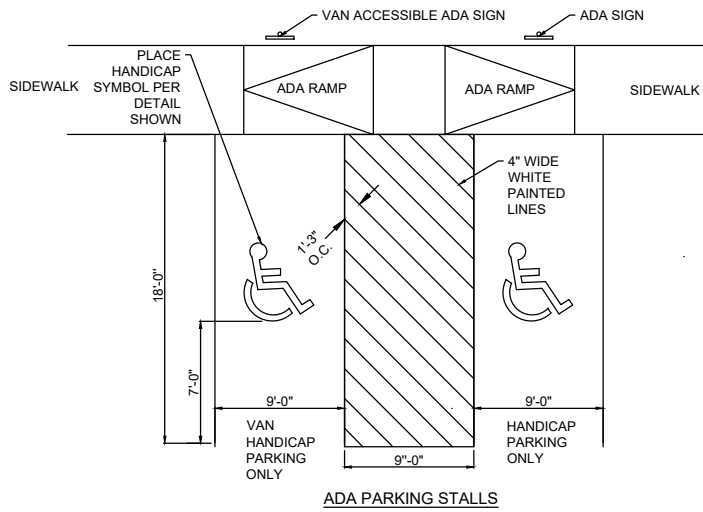
NOTES:

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- THE EXPANSION JOINT SHALL BE A ONE PIECE ASPHALTIC MATERIAL HAVING THE SAME DIMENSIONS AS CURB & GUTTER AT THAT STATION AND BE 1/2" THICK. IN ALL CASES, CONCRETE CURB & GUTTER SHALL BE PLACED ON THOROUGHLY COMPACTED CRUSHED STONE.

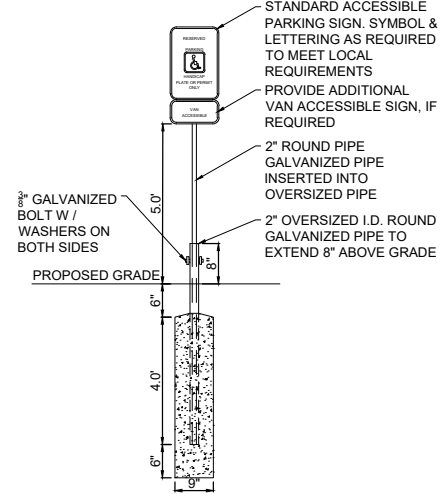
2 18" REJECT CONCRETE CURB & GUTTER
SCALE: 1" = 1'



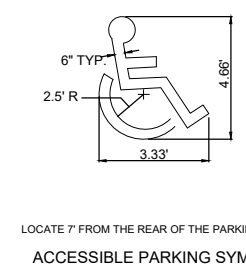
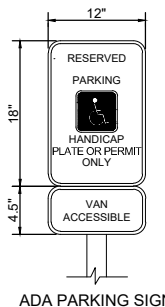
3 TAPER END CURB & GUTTER
SCALE: N.T.S.



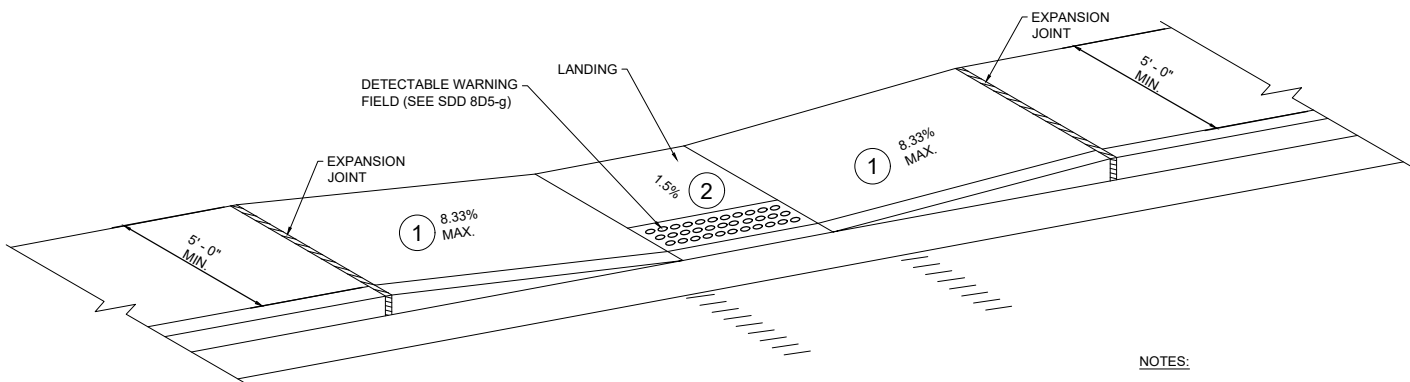
4 ADA PARKING DETAIL
SCALE: N.T.S.



- NOTES:
- SIGNS SHALL BE LOCATED SO THAT THEY CANNOT BE OBSCURED BY A VEHICLE PARKED IN THE SPACE
 - SIGNS TO BE PROVIDED AND INSTALLED BY SITE CONTRACTOR
 - ADA ACCESSIBLE SIGN MUST COMPLY WITH WI ADMINISTRATIVE RULE (TRANSPORTATION 200.07)



LOCATE 7' FROM THE REAR OF THE PARKING STALL



5 CURB RAMP DETAIL
SCALE: N.T.S.

- NOTES:
- SLOPE SIDEWALK TOWARD LANDING AS SHOWN WHERE THERE IS NOT TERRACE OR WHERE THE TERRACE WIDTH IS LESS THAN 6 FEET WIDE.
 - PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LEVEL LANDING SIZE IS 5 FEET BY 5 FEET.

CITY COMMENTS	09-05-24	BCA
SIP SUBMITTAL	07-23-24	BCA
MARK	REVISION	DATE
Engineer: BCA	Checked By: MLC	Scale: 1" =
Technician: TECH	Date: 05-21-24	T-R-S: TTN-RRW-SS
Project No: 124.0465.30		
Sheet		

2975 KAPEC ROAD
SITE & PAVEMENT DETAILS
CITY OF FITCHBURG, DANE COUNTY, WI

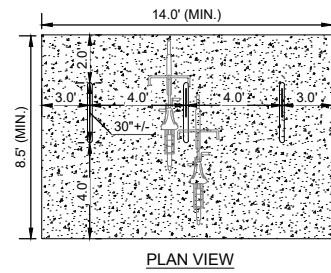
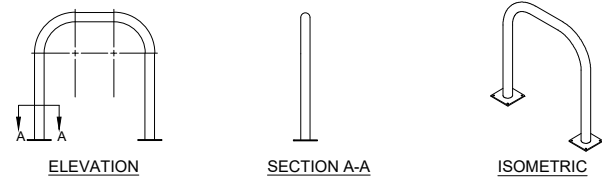
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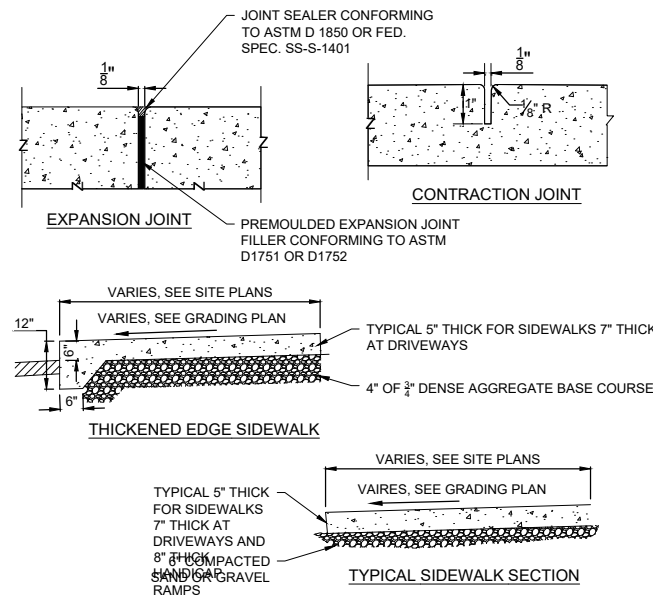
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(2) 6" X 6" X .25" SQUARE FLANGE MOUNTING PLATES WITH (4) 5/8" Ø MOUNTING HOLES

- NOTE:**
1. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS

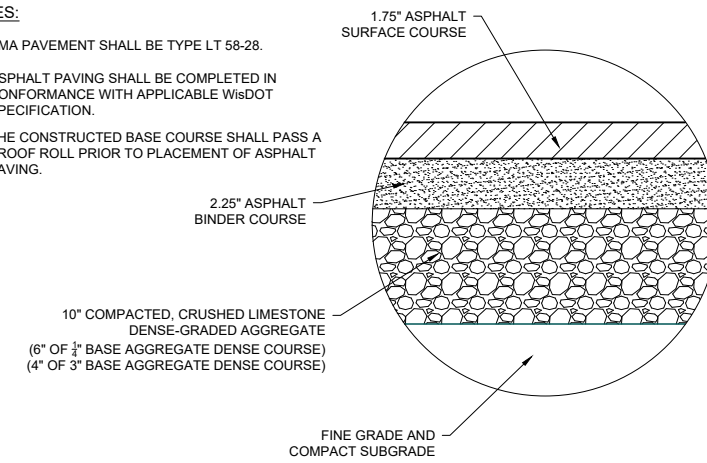
1 BIKE RACK DETAIL
SCALE: 3" = 1'



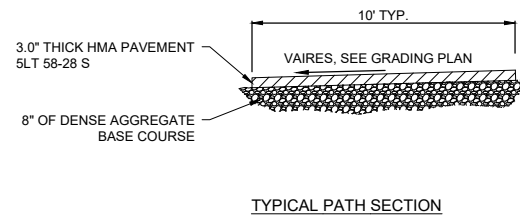
2 SIDEWALK DETAIL
SCALE: 6" = 1'

NOTES:

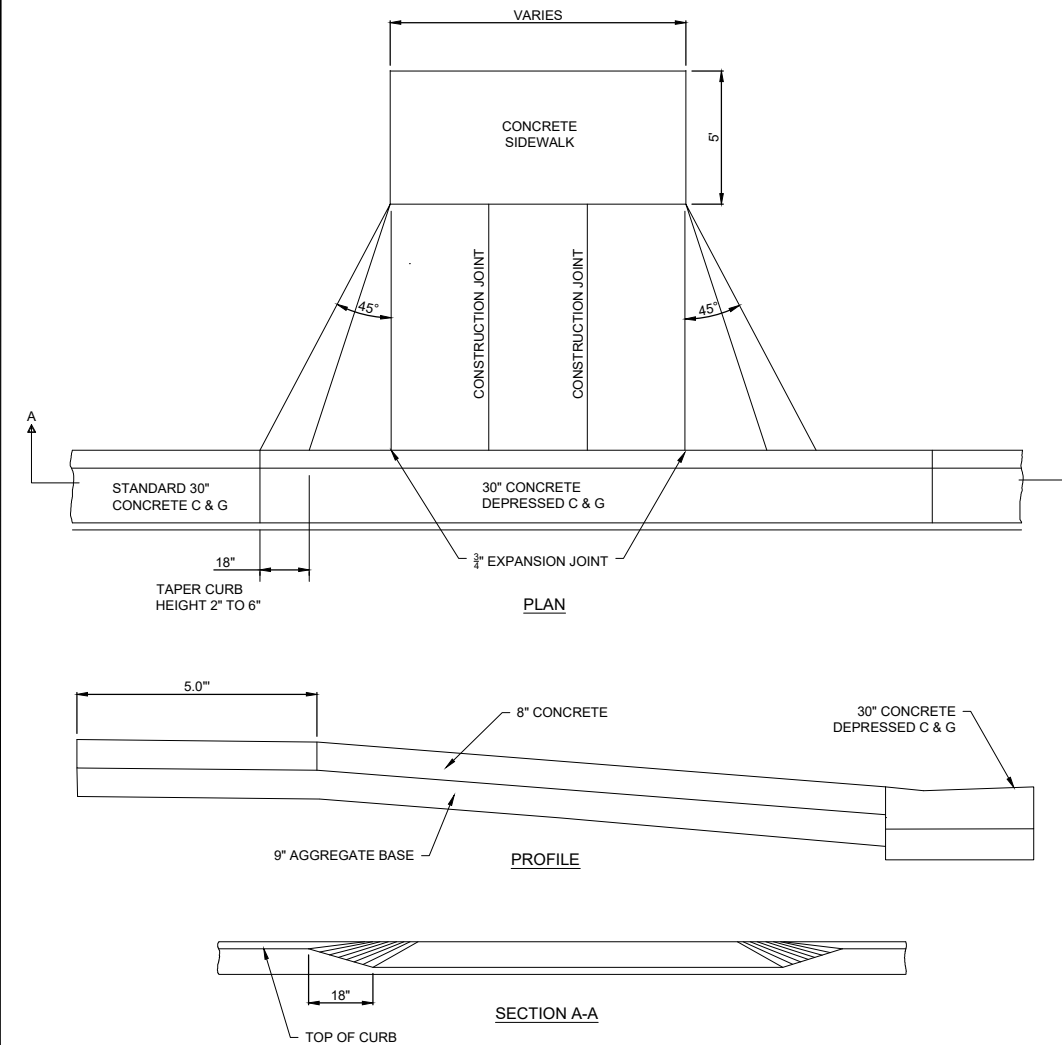
1. HMA PAVEMENT SHALL BE TYPE LT 58-28.
2. ASPHALT PAVING SHALL BE COMPLETED IN CONFORMANCE WITH APPLICABLE WisDOT SPECIFICATION.
3. THE CONSTRUCTED BASE COURSE SHALL PASS A PROOF ROLL PRIOR TO PLACEMENT OF ASPHALT PAVING.



3 MEDIUM DUTY ASPHALT PAVING DETAIL
SCALE: N.T.S.



4 PATH DETAIL
SCALE: 6" = 1'



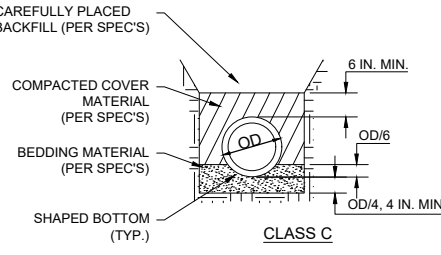
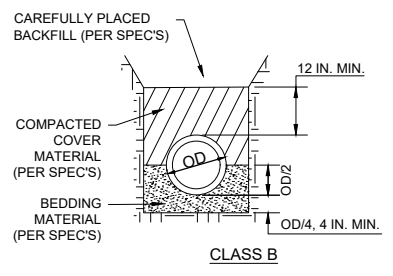
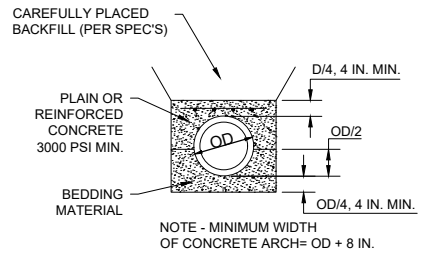
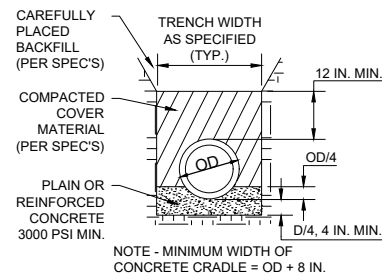
5 DRIVEWAY DETAIL
SCALE: N.T.S.

CITY COMMENTS	09-05-24 BCA	DATE	1" =	Scale: 1" =	TTN-RRW-SS
SIP SUBMITTAL	07-23-24 BCA	DATE	1" =	Scale: 1" =	TTN-RRW-SS
MARK	Engineer: BCA	Checked By: MLC	Date: 05-21-24	Technician: TECH	Project No: 124.0465.30
					Sheet

2975 KAPEC ROAD
SITE AND PAVEMENT DETAILS CONTINUED CITY OF FITCHBURG, DANE COUNTY, WI
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MADISON, WISCONSIN 53718
608-838-0444 | www.snyder-associates.com



T:\Projects\2024\2975 KAPEC ROAD\2975 KAPEC ROAD SITE AND PAVEMENT DETAILS CONTINUED 20240926 2:23 PM (ANSI FULL BLEED) (7.00 X 11.00 INCHES)



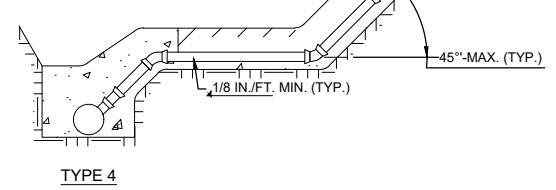
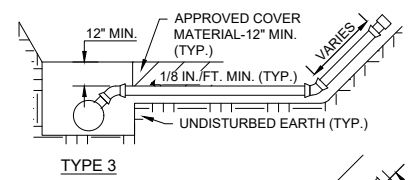
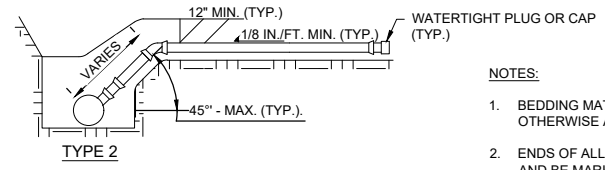
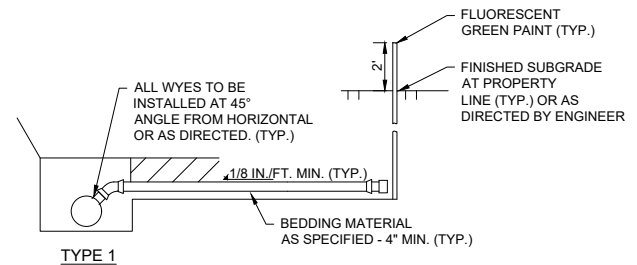
**CLASS A
CONCRETE CRADLE**

**CLASS A-1
CONCRETE ARCH**

NOTES:

1. ALL PVC AND ABS SEWER MAINS AND LATERALS SHALL BE CLASS "B" MIN., OR AS CALLED FOR IN THE SPECIAL PROVISIONS.
2. ALL BEDDING AND COVER MATERIALS SHALL BE AS SPECIFIED AND SHALL BE SUBJECT TO THE APPROVAL OF THE ENGINEER.
3. UNDERCUT SHALL BE IN ACCORDANCE WITH SECTION 3 OF THE STORM AND SANITARY SEWER STANDARD SPECIFICATIONS.

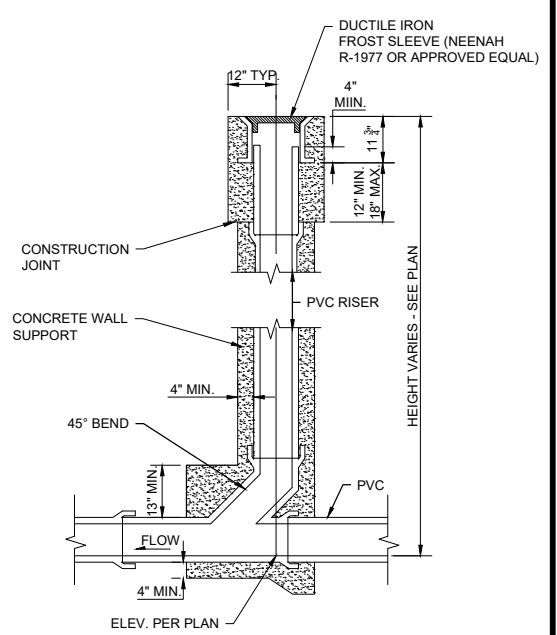
1 SANITARY SEWER BEDDING DETAIL
SCALE: 6" = 1'



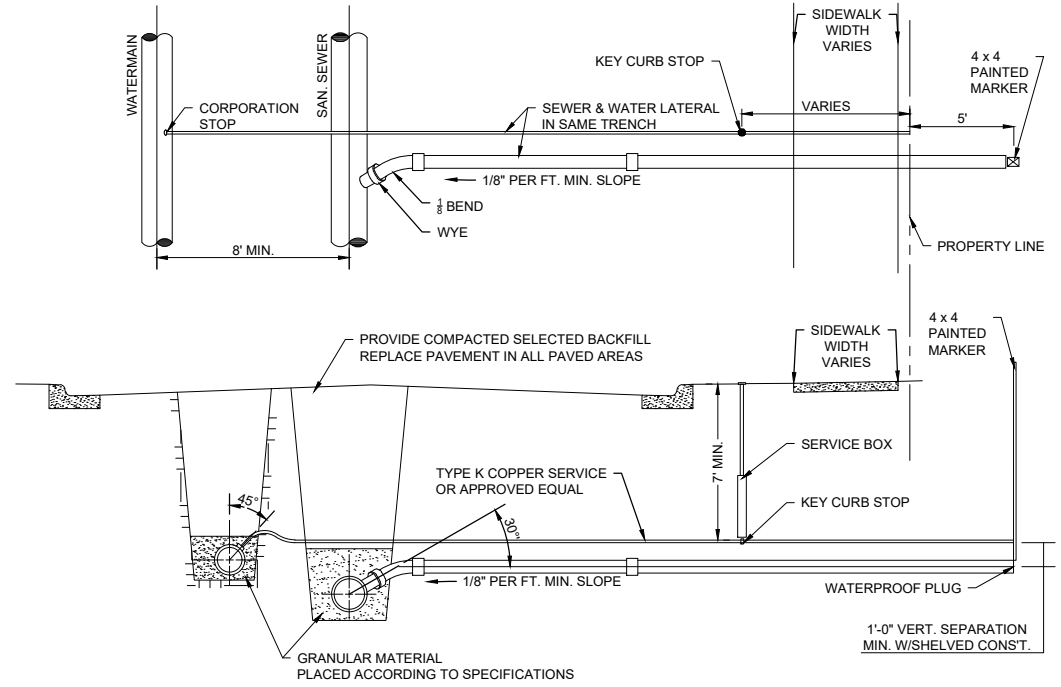
NOTES:

1. BEDDING MATERIAL SHALL BE 3/8" CLEAR STONE, UNLESS OTHERWISE APPROVED BY ENGINEER.
2. ENDS OF ALL LATERALS TO BE 10 FT. MIN. COVER AT END, AND BE MARKED BOTH BELOW AND ABOVE SURFACE WITH 4" LONG 4" x 4".
3. ALL NEW CONSTRUCTION TO BE PLACED ON UNDISTURBED GROUND OR SAND COMPACTED TO 95% MAXIMUM DENSITY.
4. LATERAL MATERIAL INCLUDING FITTINGS SHALL BE OF SAME MATERIAL AS THE SEWER MAIN, OR AS DIRECTED BY ENGINEER.
5. THE PIPE MUST EXTEND AT LEAST 5' Laterally BEYOND THE PROPERTY LINE

3 SANITARY LATERAL DETAIL
SCALE: 3" = 1'



2 CLEAN OUT DETAIL
SCALE: 6" = 1'



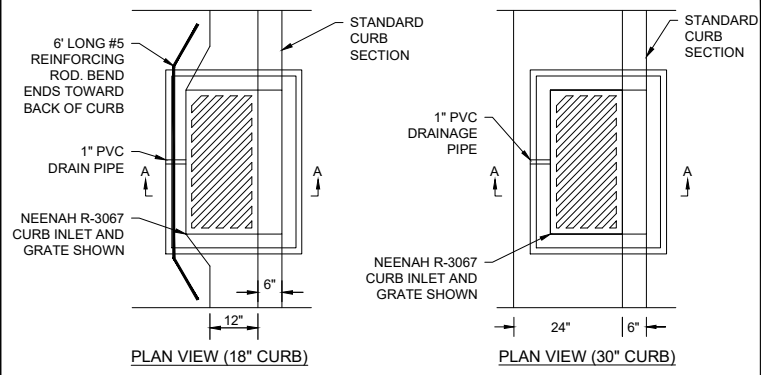
4 SEWER AND WATER CONNECTION DETAIL
SCALE: 3" = 1'

CITY COMMENTS	09-05-24 BCA
SIP SUBMITTAL	07-23-24 BCA
REVISION	DATE
Engineer: BCA	Checked By: MLC
Technician: TECH	Date: 05-21-24
Scale: 1" =	T-R-S: TTN-RRW-SS
Project No: 124.0465.30	
Sheet	

2975 KAPEC ROAD
SANITARY DETAILS
CITY OF FITCHBURG, DANE COUNTY, WI
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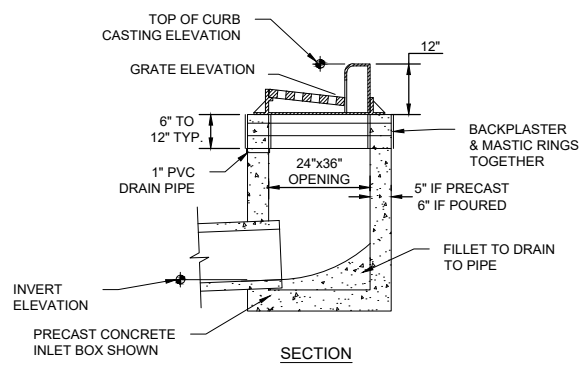
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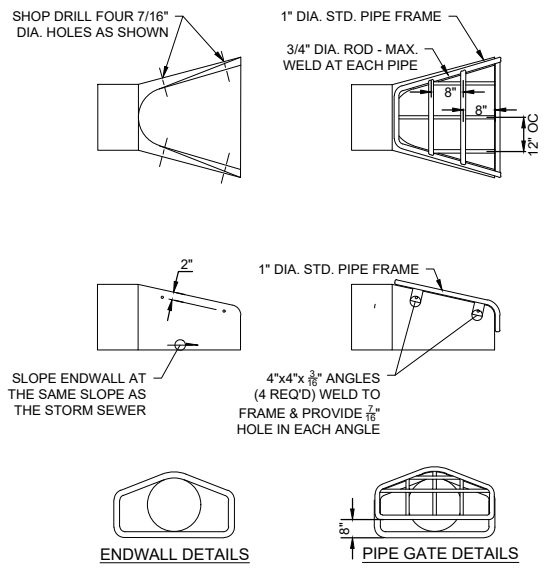


NOTES:

1. TOP OF CURB AND PIPE INVERT ELEVATIONS ARE SHOWN ON THE PLANS.
2. THE GRATE ELEVATION SHALL BE DEPRESSED 0.1' FROM STRAIGHT GUTTER GRADE STARTING 5' FROM THE INLET AND EXTENDING IN BOTH DIRECTIONS.
3. THE CASTING SHALL BE NEENAH FOUNDRY R-3067 CURB INLET WITH REVERSIBLE GRATES WHERE RUNOFF REACHES THE INLET FROM BOTH DIRECTIONS. WHERE RUNOFF REACHES THE INLET FROM ONE DIRECTION A NEENAH R-3067-L CASTING SHALL BE USED. DIRECTIONAL SLOTS TO BE LOCATED TO DIRECT THE FLOW INTO THE STREET INLET.
4. FRAME ADJUSTING RINGS SHALL BE AT LEAST TWO CONCRETE RINGS OF VARIABLE THICKNESS. MASTIC BETWEEN RINGS AND BACKPLASTER A SMOOTH LAYER OF GROUT OVER THE ENTIRE INNER AND OUTER SURFACES OF THE RINGS.



1 RECTANGULAR CURB INLET DETAIL
SCALE: 6" = 1'



NOTE:

1. THE CONTRACTOR SHALL BOLT THE PIPE GATE TO THE CONCRETE ENDWALL WITH FOUR 3/8"x6" MACHINE BOLTS WITH NUTS ON INSIDE WALL.

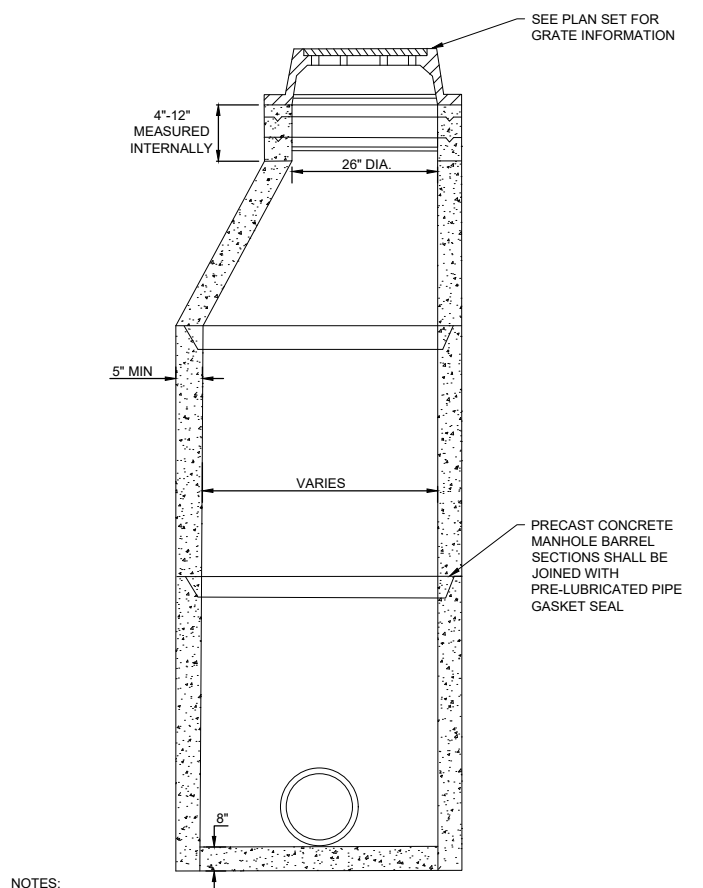
PAINTING SPECIFICATION:

1. THE PIPE GATE SHALL RECEIVE THE FOLLOWING PREPARATION & PAINTING. THE FIRST COAT SHALL BE RUS-OLEUM X-60 RED BARE METAL PRIMER OR APPROVED EQUAL. THE SECOND COAT SHALL BE RUS-OLEUM 960 ZINC CHROMATE PRIMER OR APPROVED EQUAL. THE THIRD COAT SHALL BE RUS-OLEUM 1282 HIGH GLOSS METAL FINISH OR APPROVED EQUAL.

PREPARATION STEPS:

1. BARE METAL SURFACES - TREAT WITH THE THREE-COAT PAINTING SYSTEM LISTED AFTER A THOROUGH SCRAPING, WIRE BRUSHING & CLEANING.
2. EACH COAT OF PAINT SHALL BE APPLIED OVER THE ENTIRE GATE SURFACE.
3. ALLOW 24-48 HOURS DRYING TIME AT 60° OR ABOVE BETWEEN COATS.

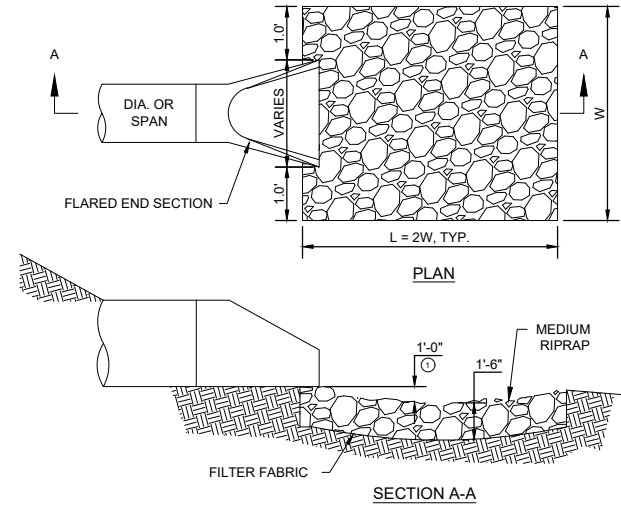
3 STANDARD ENDWALL DETAILS
SCALE: 6" = 1'



NOTES:

1. FOR STRUCTURES LESS THAN 5.0' DEEP A PRECAST REINFORCED CONCRETE FLATTOP IS REQUIRED.
2. WALL THICKNESS SHALL BE 5" FOR 48" MANHOLE AND 6" FOR 60" MANHOLE.
3. THE USE OF WOOD WEDGES OR SHIMS FOR FRAME OR RING ADJUSTMENT IS NOT ALLOWED.
4. MAXIMUM TOTAL CHIMNEY HEIGHT, EXCLUDING MANHOLE FRAME, SHALL NOT EXCEED 16 INCHES, WITH A MINIMUM OF 1 - 2 INCH PRECAST RING.
5. THE ANNULAR SPACE BETWEEN THE PIPE AND MANHOLE WALL SHALL BE FILLED WITH CONCRETE TO THE HEIGHT OF THE BENCH.
6. MANHOLES 3' DEEP AND GREATER SHALL BE CONSTRUCTED WITH STEPS.

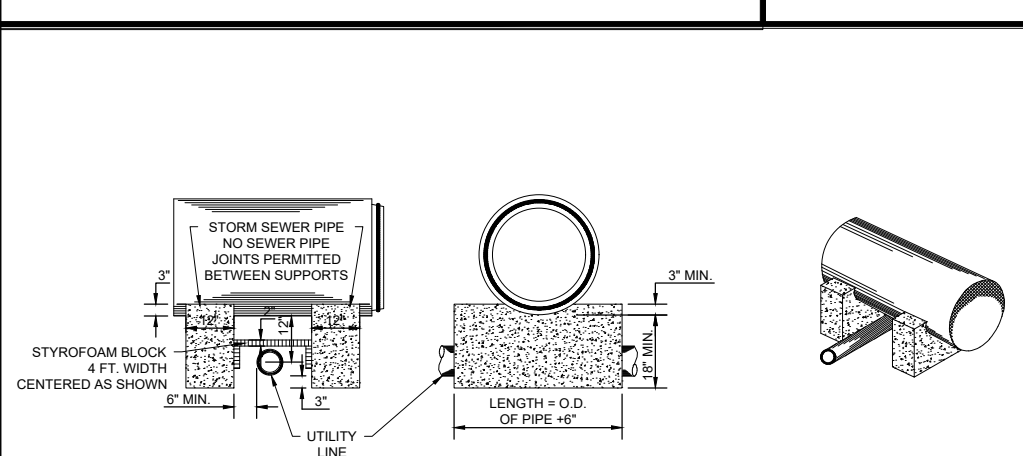
4 STORM SEWER MANHOLE DETAIL
SCALE: 6" = 1'



NOTES:

1. GEOTEXTILE FILTER FABRIC SHALL BE TYPE "HR" UNLESS OTHERWISE SPECIFIED. REFER TO SECTION 401.4.1.
- FOR PIPES GREATER THAN OR EQUAL TO 30" USE 1.5'.

6 ENDWALL RIP-RAP DETAIL
SCALE: 6" = 1'

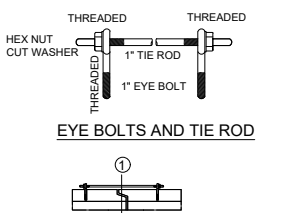


NOTE:

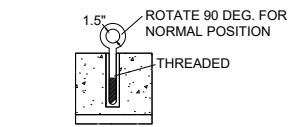
1. EACH PAIR OF SUPPORTS IN ANY SIZE IS ONE PAY ITEM.

2 CONCRETE PIPE SUPPORT
SCALE: 6" = 1'

ALTERNATE 1 EYE BOLT AND TIE ROD ASSEMBLY (JOINT TIES FOR 72" DIA. AND OVER CONCRETE PIPE)



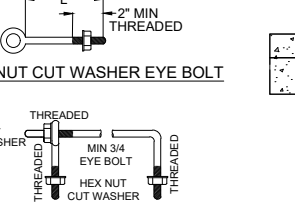
- ② INSERT. CAST-IN-PLACE WELDED EYE BOLT OR APPROVED EQUAL DURING FABRICATION FOR 1" DIA. EYE BOLT



CAST-IN-PLACE THREADED INSERT LONGITUDINAL SECTIONS

5 CONCRETE PIPE JOINT TIES
SCALE: 6" = 1'

ALTERNATE 2 EYE BOLT AND TIE ROD ASSEMBLY (JOINT TIES FOR 18" TO 66" DIA. CONCRETE PIPE)

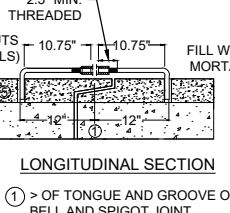


- NOTE:**
1. TWO EYE BOLTS MAY BE USED WITH A 30° LONG THREADED ROD IN LIEU OF THE 90° DEG BENT TIE ROD EYE BOLT AND TIE ROD

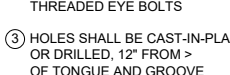
PIPE SIZE	TONGUE AND GROOVE PIPE	MODIFIED BELL PIPE
18" TO 24"	4 1/2"	6 1/4"
30"	5"	7"
36"	5 1/2"	7"
42"	6"	
48"	6 1/2"	
60"	7 1/2"	
66"	8"	

EYE BOLT DIMENSION TABLE

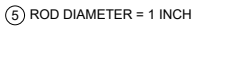
ALTERNATE 3 ADJUSTABLE TIE ROD (JOINT TIES FOR 12" TO 108" DIA. CONCRETE PIPE)



- ① > OF TONGUE AND GROOVE OR BELL AND SPIGOT JOINT
- ② THE INSIDE OF THE THREADED INSERTS SHALL BE CLEAN TO ALLOW THE INSERTION OF THREADED EYE BOLTS
- ③ HOLES SHALL BE CAST-IN-PLACE OR DRILLED, 12" FROM > OF TONGUE AND GROOVE
- ④ BOLT PROJECTION INSIDE OF PIPE SHALL NOT EXCEED 2"
- ⑤ ROD DIAMETER = 1 INCH



TONGUE AND GROOVE PIPE LONGITUDINAL SECTION



MODIFIED BELL PIPE LONGITUDINAL SECTION

PIPE DIAMETER	TIE ROD DIAMETER	D	L1	H	R
12" TO 30"	1/2"	1/2"	5"	1/2"	1 3/4"
36" TO 48"	3/4"	3/4"	5"	1/2"	5"
60" TO 104"	1"	1"	7"	1/2"	7 1/2"

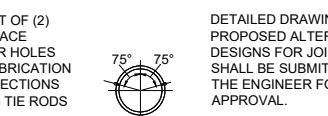
ADJUSTABLE TIE ROD TABLE



RIGHT AND LEFT THREADS SLEEVE NUT

GENERAL NOTES:

1. CONCRETE CULVERT PIPE SHALL BE TIED TOGETHER IN THE MANNER ILLUSTRATED BY THIS DETAIL AND PER STANDARD SPEC. 502.7 (D)
2. THE CONTRACTOR MAY USE EITHER ALTERNATE 1, 2, OR 3 FOR DRAINAGE STRUCTURES. UNLESS OTHERWISE STATED IN THE CONTRACT, THE MATERIALS, FABRICATION AND WORK NECESSARY TO THE CULVERT PIPE AS SHOWN ON THIS DETAIL WILL BE CONSIDERED INCIDENTAL TO THE CULVERT PIPE.



TRANSVERSE SECTION

PLACEMENT OF (2) CAST-IN-PLACE INSERTS OR HOLES DURING FABRICATION FOR PIPE SECTIONS REQUIRING TIE RODS

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR JOINT TIES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.

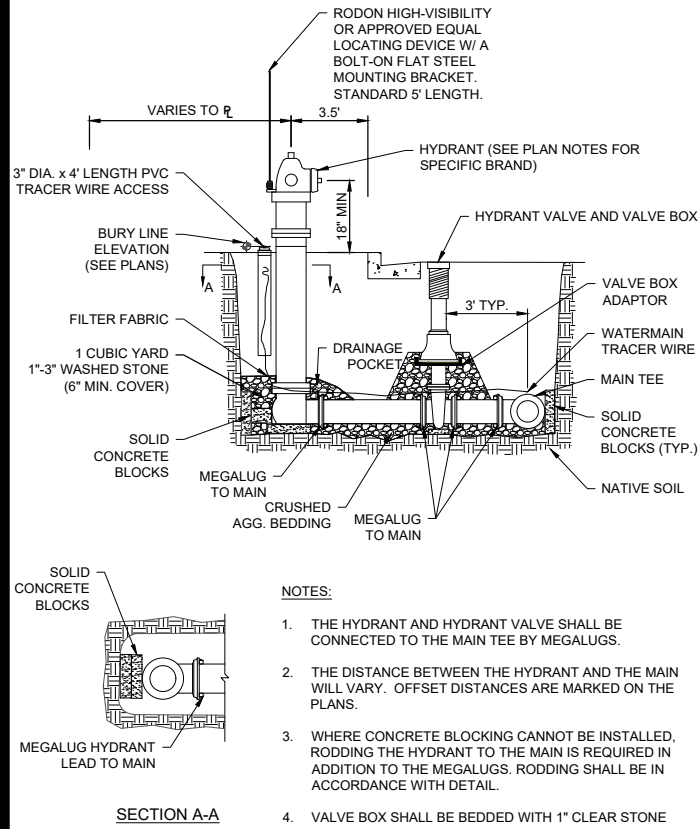
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SIP SUBMITTAL	07-23-24	BCA
REVISION	DATE	BY
Engineer: BCA	Checked By: MLC	Scale: 1" =
Technician: TECH	Date: 05-21-24	T-R-S:
Project No: 124.0465.30		
Sheet		

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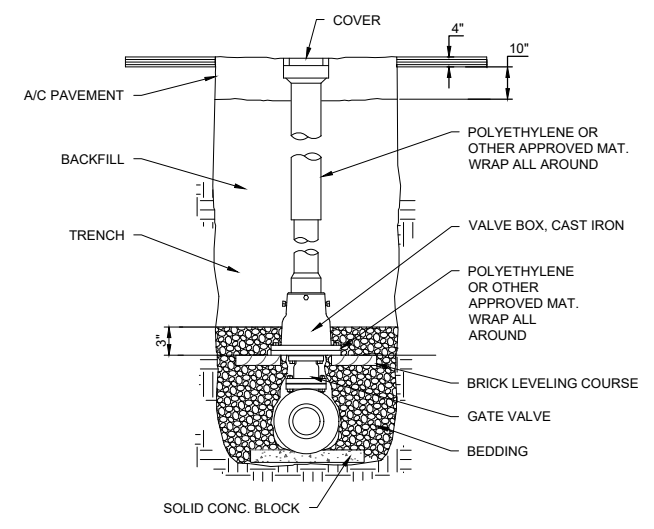
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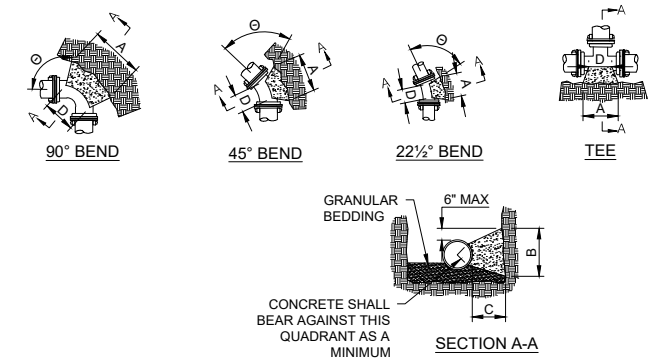


- NOTES:**
1. THE HYDRANT AND HYDRANT VALVE SHALL BE CONNECTED TO THE MAIN TEE BY MEGALUGS.
 2. THE DISTANCE BETWEEN THE HYDRANT AND THE MAIN WILL VARY. OFFSET DISTANCES ARE MARKED ON THE PLANS.
 3. WHERE CONCRETE BLOCKING CANNOT BE INSTALLED, RODDING THE HYDRANT TO THE MAIN IS REQUIRED IN ADDITION TO THE MEGALUGS. RODDING SHALL BE IN ACCORDANCE WITH DETAIL.
 4. VALVE BOX SHALL BE BEDDED WITH 1" CLEAR STONE

1 STANDARD HYDRANT DETAIL
SCALE: 6" = 1'



3 VALVE BOX DETAIL
SCALE: 3" = 1'



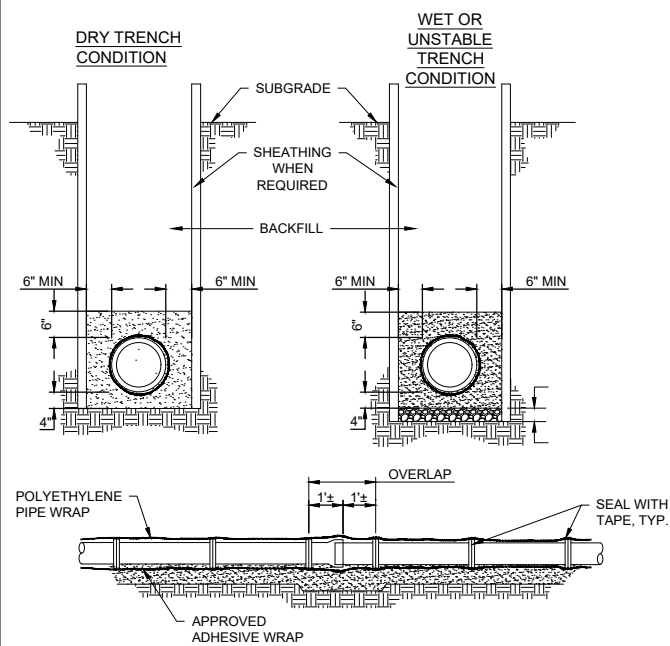
- NOTES:**
1. WOOD BLOCKING MAY NOT BE USED. ONLY SOLID CONCRETE BLOCKS ARE ALLOWED.
 2. DIMENSION "D" SHALL BE AS LARGE AS POSSIBLE, BUT THE CONCRETE SHALL NOT INTERFERE WITH THE MECHANICAL JOINTS.
 3. DIMENSION "C" SHALL BE AT LEAST 6 INCHES, AND LARGE ENOUGH TO MAKE THE "B" ANGLE EQUAL TO OR GREATER THAN 45 DEGREES WITH THE DIMENSION "A" AS SHOWN ON THE TABLE, OR GREATER, AND WITH DIMENSION "D" AS LARGE AS POSSIBLE.
 4. CONCRETE SHALL BE CLASS "CC".
 5. ALL BUTTRESSED JOINTS SHALL INCLUDE MEGALUGS AND CONCRETE BUTTRESSING.

PIPE SIZE	TEES				22 1/2° BEND		45° BEND		90° BEND	
	A	B	A	B	A	B	A	B	A	B
6	1'-3"	1'-0"	1'-0"	1'-0"	1'-0"	1'-4"	1'-2"	1'-10"	1'-6"	1'-2"
8	1'-6"	1'-4"	1'-0"	1'-0"	1'-4"	1'-2"	1'-10"	1'-6"	1'-2"	1'-6"
10/12	2'-3"	2'-0"	1'-4"	1'-4"	1'-10"	1'-10"	2'-8"	2'-3"	2'-3"	2'-3"
14/16	3'-2"	2'-8"	1'-10"	1'-8"	2'-8"	2'-4"	3'-10"	2'-10"	2'-10"	2'-10"
18/20	4'-0"	3'-0"	2'-4"	2'-0"	3'-3"	2'-10"	5'-0"	3'-4"	3'-4"	3'-4"
22/24	5'-3"	3'-4"	2'-10"	2'-4"	4'-0"	3'-3"	6'-4"	3'-10"	3'-10"	3'-10"
30	6'-3"	4'-3"	3'-6"	3'-0"	5'-4"	3'-10"	8'-0"	4'-8"	4'-8"	4'-8"

* = FOR TEE THIS WILL BE THE BRANCH PIPE

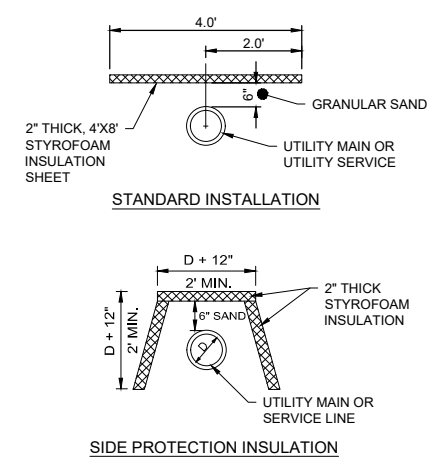
DIMENSIONS IN THE TABLE ARE BASED ON A WATER PRESSURE OF 150 PSI AND SOIL RESISTANCE OF 2000 LBS./SQ.FT.

2 BUTTRESS DETAIL
SCALE: 3" = 1'



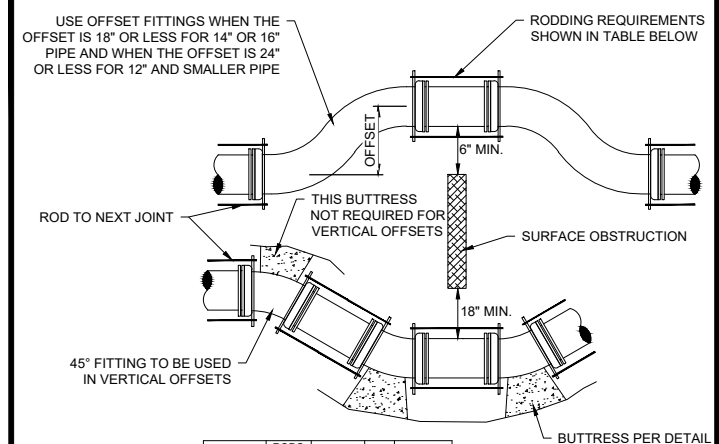
- INSTALLATION:**
1. PLACE 4" OF BEDDING MATERIAL BENEATH PIPE. PLACE BEDDING MATERIAL AROUND THE PIPE TO THE SPRING LINE. WORK THE MATERIAL IN AND AROUND THE PIPE BY HAND TO PROVIDE UNIFORM SUPPORT. PLACE COVER MATERIAL CAREFULLY TO A LEVEL 6" ABOVE THE PIPE.

4 WATER PIPE BEDDING DETAIL
SCALE: 6" = 1'



- GENERAL NOTES:**
1. THE SIDE PROTECTION INSTALLATION SHALL BE USED WHERE FROST WILL PENETRATE BELOW THE PIPE INVERT.

5 WATER PIPE INSULATION DETAIL
SCALE: 6" = 1'



NOMINAL PIPE SIZE	RODS NO. DIA.	STRAP SIZE	BOLT DIA.	WASHER SIZE
6	3	1/2 x 2	3/8	1/2 x 3 x 5
8	4	1/2 x 2	3/8	1/2 x 3 x 5
10	4	1/2 x 2 1/2	1/2	1/2 x 3 x 5
12	4	1/2 x 2 1/2	1/2	1/2 x 3 x 5
14	4	1/2 x 2 1/2	1/2	1/2 x 3 x 5

- NOTES:**
1. ALL OFFSETS SHALL BE RESTRAINED WITH MEGALUGS. WHERE CONCRETE BUTTRESSING CANNOT BE USED, RODDING MUST BE USED IN ADDITION TO THE MEGALUGS.
 2. RODS AND WASHERS TO BE ASTM A-575 MERCHANT QUALITY 0.17-0.24 CARBON. NUTS TO BE AMERICAN STANDARD HEAVY, NOT PRESSED.
 3. TIE RODS, BOLTS, NUTS, BANDS AND WASHERS TO BE FURNISHED AND ASSEMBLED BY THE CONTRACTOR.
 4. ALL STEEL MATERIAL TO BE GALVANIZED OR BE THOROUGHLY COATED WITH ENGINEER APPROVED COATING.
 5. OFFSET FITTINGS REQUIRE CONTINUOUS RODDING IN ALL POSITIONS.
 6. VERTICAL OFFSETS SHALL NOT CREATE A HIGH POINT IN THE WATER MAIN. VERTICAL OFFSETS REQUIRE THE SAME RODDING AND BUTTRESSING AS SHOWN ABOVE.

6 OFFSET & RODDING DETAIL
SCALE: 6" = 1'

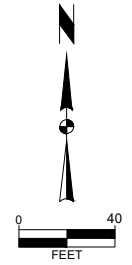
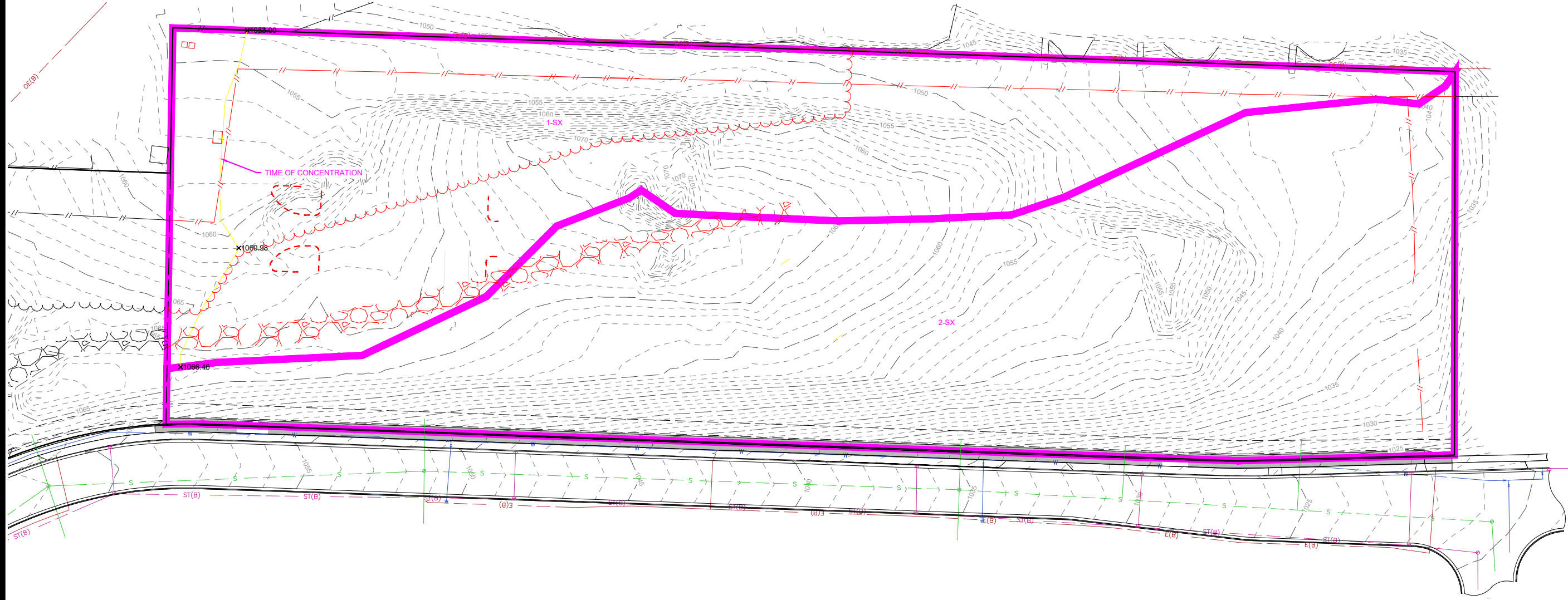
CITY COMMENTS	09-05-24	BCA	DATE	BY
SIP SUBMITTAL	07-25-24	BCA	REVISION	
MARK	Engineer: BCA	Checked By: MLC	Scale: 1" =	
TECH	Technician: TECH	Date: 05-21-24	T-R-S: TTN-RRW-SS	

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APPENDIX C
PRE-DEVELOPMENT DRIANAGE AREA MAP

V:\pww\1102121\065.30\CD\12465.30\DRN\465.30\DRN\ARC\AND_PRE-DEV_DRAINAGE AREA MAP 2024\09\04 2:32 PM. ANS FILL BLEED 0.17 X 1.00 INCHES



CITY COMMENTS	09-05-24	BCA
SIP SUBMITTAL	07-25-24	BCA
MARK	REVISION	DATE
Engineer: BCA	Checked By: MLC	Scale: 1" = 40'
Technician: TECH	Date: 05-21-24	T-R-S: TTN+RRW-SS

2975 KAPEC ROAD
PRE-DEV. DRAINAGE AREA MAP
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Project No: 124.0465.30
 Sheet APP C

##

Sheet APP C

APPENDIX D
POST-DEVELOPMENT DRIANAGE AREA MAP

APPENDIX E
PRE-DEVELOPMENT HYDROLOGY

Model_2024-09-05_Preview

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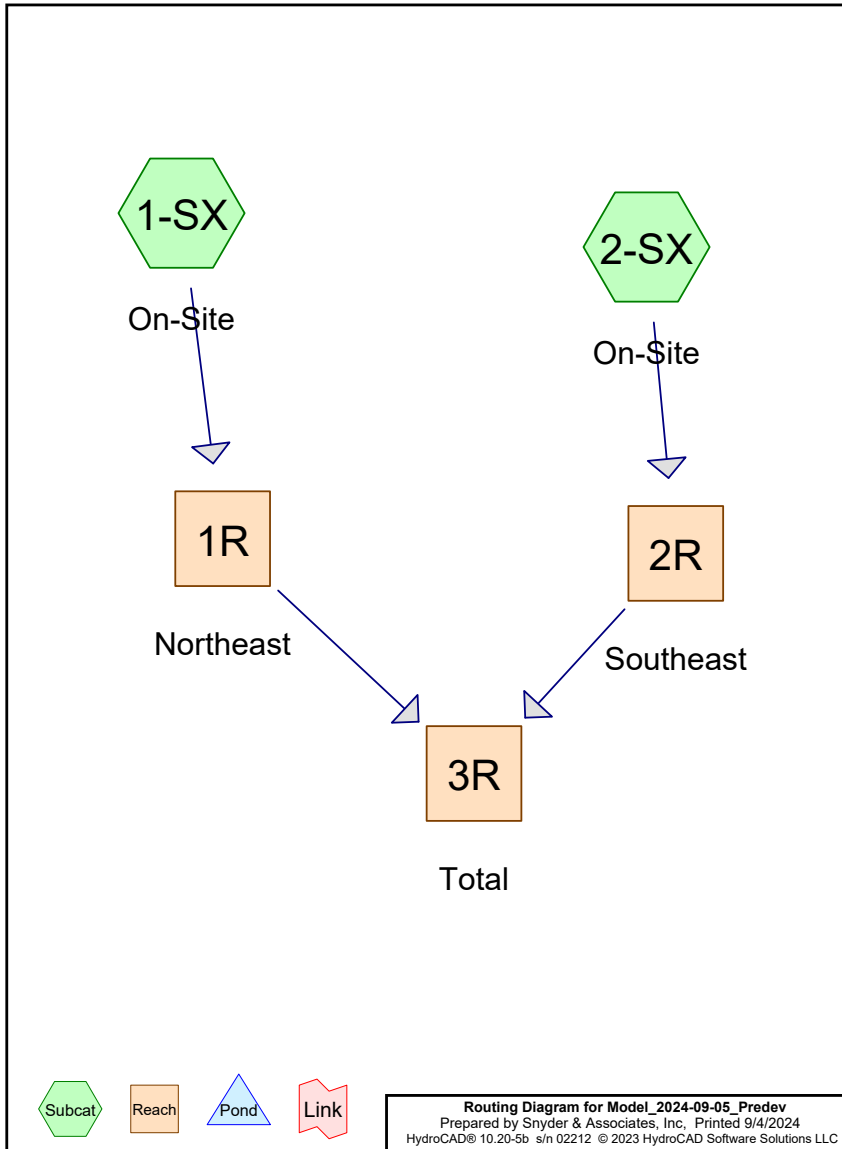
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Page 2

Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	1-yr. Dane	MSE 24-hr	4	Default	24.00	1	2.49	2
2	2-yr. Dane	MSE 24-hr	4	Default	24.00	1	2.84	2
3	10-yr. Dane	MSE 24-hr	4	Default	24.00	1	4.09	2
4	100-yr. Dane	MSE 24-hr	4	Default	24.00	1	6.66	2
5	200-yr. Dane	MSE 24-hr	4	Default	24.00	1	7.53	2
6	500-yr. Dane	MSE 24-hr	4	Default	24.00	1	8.94	2



Model_2024-09-05_Predev

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Page 3

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
6.523	61	>75% Grass cover, Good, HSG B (1-SX, 2-SX)
6.523	61	TOTAL AREA

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Page 4

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
6.523	HSG B	1-SX, 2-SX
0.000	HSG C	
0.000	HSG D	
0.000	Other	
6.523		TOTAL AREA

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Page 5

Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	6.523	0.000	0.000	0.000	6.523	>75% Grass cover, Good	1-SX, 2-SX
0.000	6.523	0.000	0.000	0.000	6.523	TOTAL AREA	

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MSE 24-hr 4 1-yr. Dane Rainfall=2.49"

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Page 6

Time span=0.00-96.00 hrs, dt=0.05 hrs, 1921 points

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN

Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment1-SX: On-Site

Runoff Area=2.862 ac 0.00% Impervious Runoff Depth=0.19"
Flow Length=270' Tc=7.8 min CN=61 Runoff=0.29 cfs 0.046 af

Subcatchment2-SX: On-Site

Runoff Area=3.661 ac 0.00% Impervious Runoff Depth=0.19"
Tc=6.0 min CN=61 Runoff=0.40 cfs 0.059 af

Reach 1R: Northeast

Inflow=0.29 cfs 0.046 af
Outflow=0.29 cfs 0.046 af

Reach 2R: Southeast

Inflow=0.40 cfs 0.059 af
Outflow=0.40 cfs 0.059 af

Reach 3R: Total

Inflow=0.70 cfs 0.105 af
Outflow=0.70 cfs 0.105 af

Total Runoff Area = 6.523 ac Runoff Volume = 0.105 af Average Runoff Depth = 0.19"
100.00% Pervious = 6.523 ac 0.00% Impervious = 0.000 ac

Model_2024-09-05_Predev

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MSE 24-hr 4 1-yr. Dane Rainfall=2.49"

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Page 7

Summary for Subcatchment 1-SX: On-Site

Runoff = 0.29 cfs @ 12.23 hrs, Volume= 0.046 af, Depth= 0.19"
 Routed to Reach 1R : Northeast

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 1-yr. Dane Rainfall=2.49"

Area (ac)	CN	Description
2.862	61	>75% Grass cover, Good, HSG B
2.862		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.0	100	0.0548	0.24		Sheet Flow, Grass: Short n= 0.150 P2= 2.81"
0.8	170	0.0469	3.49		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
7.8	270	Total			

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MSE 24-hr 4 1-yr. Dane Rainfall=2.49"

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Page 8

Summary for Subcatchment 2-SX: On-Site

Runoff = 0.40 cfs @ 12.20 hrs, Volume= 0.059 af, Depth= 0.19"
 Routed to Reach 2R : Southeast

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 1-yr. Dane Rainfall=2.49"

Area (ac)	CN	Description
3.661	61	>75% Grass cover, Good, HSG B
3.661		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Model_2024-09-05_Predev

MSE 24-hr 4 1-yr. Dane Rainfall=2.49"

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Page 9

Summary for Reach 1R: Northeast

Inflow Area = 2.862 ac, 0.00% Impervious, Inflow Depth = 0.19" for 1-yr. Dane event
Inflow = 0.29 cfs @ 12.23 hrs, Volume= 0.046 af
Outflow = 0.29 cfs @ 12.23 hrs, Volume= 0.046 af, Atten= 0%, Lag= 0.0 min
Routed to Reach 3R : Total

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs

Model_2024-09-05_Predev

MSE 24-hr 4 1-yr. Dane Rainfall=2.49"

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Page 10

Summary for Reach 2R: Southeast

Inflow Area = 3.661 ac, 0.00% Impervious, Inflow Depth = 0.19" for 1-yr. Dane event
Inflow = 0.40 cfs @ 12.20 hrs, Volume= 0.059 af
Outflow = 0.40 cfs @ 12.20 hrs, Volume= 0.059 af, Atten= 0%, Lag= 0.0 min
Routed to Reach 3R : Total

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs

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MSE 24-hr 4 1-yr. Dane Rainfall=2.49"

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Page 11

Summary for Reach 3R: Total

Inflow Area = 6.523 ac, 0.00% Impervious, Inflow Depth = 0.19" for 1-yr. Dane event
Inflow = 0.70 cfs @ 12.22 hrs, Volume= 0.105 af
Outflow = 0.70 cfs @ 12.22 hrs, Volume= 0.105 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs

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MSE 24-hr 4 2-yr. Dane Rainfall=2.84"

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Page 12

Time span=0.00-96.00 hrs, dt=0.05 hrs, 1921 points

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN

Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment1-SX: On-Site

Runoff Area=2.862 ac 0.00% Impervious Runoff Depth=0.31"
Flow Length=270' Tc=7.8 min CN=61 Runoff=0.72 cfs 0.073 af

Subcatchment2-SX: On-Site

Runoff Area=3.661 ac 0.00% Impervious Runoff Depth=0.31"
Tc=6.0 min CN=61 Runoff=1.06 cfs 0.093 af

Reach 1R: Northeast

Inflow=0.72 cfs 0.073 af
Outflow=0.72 cfs 0.073 af

Reach 2R: Southeast

Inflow=1.06 cfs 0.093 af
Outflow=1.06 cfs 0.093 af

Reach 3R: Total

Inflow=1.76 cfs 0.167 af
Outflow=1.76 cfs 0.167 af

Total Runoff Area = 6.523 ac Runoff Volume = 0.167 af Average Runoff Depth = 0.31"
100.00% Pervious = 6.523 ac 0.00% Impervious = 0.000 ac

Model_2024-09-05_Predev

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MSE 24-hr 4 2-yr. Dane Rainfall=2.84"

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Page 13

Summary for Subcatchment 1-SX: On-Site

Runoff = 0.72 cfs @ 12.20 hrs, Volume= 0.073 af, Depth= 0.31"
 Routed to Reach 1R : Northeast

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 2-yr. Dane Rainfall=2.84"

Area (ac)	CN	Description
2.862	61	>75% Grass cover, Good, HSG B
2.862		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.0	100	0.0548	0.24		Sheet Flow, Grass: Short n= 0.150 P2= 2.81"
0.8	170	0.0469	3.49		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
7.8	270	Total			

Model_2024-09-05_Predev

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MSE 24-hr 4 2-yr. Dane Rainfall=2.84"

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Page 14

Summary for Subcatchment 2-SX: On-Site

Runoff = 1.06 cfs @ 12.16 hrs, Volume= 0.093 af, Depth= 0.31"
 Routed to Reach 2R : Southeast

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 2-yr. Dane Rainfall=2.84"

Area (ac)	CN	Description
3.661	61	>75% Grass cover, Good, HSG B
3.661		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Model_2024-09-05_Predev

MSE 24-hr 4 2-yr. Dane Rainfall=2.84"

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Page 15

Summary for Reach 1R: Northeast

Inflow Area = 2.862 ac, 0.00% Impervious, Inflow Depth = 0.31" for 2-yr. Dane event
Inflow = 0.72 cfs @ 12.20 hrs, Volume= 0.073 af
Outflow = 0.72 cfs @ 12.20 hrs, Volume= 0.073 af, Atten= 0%, Lag= 0.0 min
Routed to Reach 3R : Total

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs

Model_2024-09-05_Predev

MSE 24-hr 4 2-yr. Dane Rainfall=2.84"

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Page 16

Summary for Reach 2R: Southeast

Inflow Area = 3.661 ac, 0.00% Impervious, Inflow Depth = 0.31" for 2-yr. Dane event
Inflow = 1.06 cfs @ 12.16 hrs, Volume= 0.093 af
Outflow = 1.06 cfs @ 12.16 hrs, Volume= 0.093 af, Atten= 0%, Lag= 0.0 min
Routed to Reach 3R : Total

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs

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MSE 24-hr 4 2-yr. Dane Rainfall=2.84"

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Page 17

Summary for Reach 3R: Total

Inflow Area = 6.523 ac, 0.00% Impervious, Inflow Depth = 0.31" for 2-yr. Dane event
Inflow = 1.76 cfs @ 12.17 hrs, Volume= 0.167 af
Outflow = 1.76 cfs @ 12.17 hrs, Volume= 0.167 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs

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MSE 24-hr 4 10-yr. Dane Rainfall=4.09"

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Page 18

Time span=0.00-96.00 hrs, dt=0.05 hrs, 1921 points

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN

Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment1-SX: On-Site

Runoff Area=2.862 ac 0.00% Impervious Runoff Depth=0.86"
Flow Length=270' Tc=7.8 min CN=61 Runoff=3.20 cfs 0.205 af

Subcatchment2-SX: On-Site

Runoff Area=3.661 ac 0.00% Impervious Runoff Depth=0.86"
Tc=6.0 min CN=61 Runoff=4.45 cfs 0.262 af

Reach 1R: Northeast

Inflow=3.20 cfs 0.205 af
Outflow=3.20 cfs 0.205 af

Reach 2R: Southeast

Inflow=4.45 cfs 0.262 af
Outflow=4.45 cfs 0.262 af

Reach 3R: Total

Inflow=7.60 cfs 0.467 af
Outflow=7.60 cfs 0.467 af

Total Runoff Area = 6.523 ac Runoff Volume = 0.467 af Average Runoff Depth = 0.86"
100.00% Pervious = 6.523 ac 0.00% Impervious = 0.000 ac

Model_2024-09-05_Predev

MSE 24-hr 4 10-yr. Dane Rainfall=4.09"

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Page 19

Summary for Subcatchment 1-SX: On-Site

Runoff = 3.20 cfs @ 12.16 hrs, Volume= 0.205 af, Depth= 0.86"
Routed to Reach 1R : Northeast

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 10-yr. Dane Rainfall=4.09"

Area (ac)	CN	Description
2.862	61	>75% Grass cover, Good, HSG B
2.862		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.0	100	0.0548	0.24		Sheet Flow, Grass: Short n= 0.150 P2= 2.81"
0.8	170	0.0469	3.49		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
7.8	270	Total			

Model_2024-09-05_Predev

MSE 24-hr 4 10-yr. Dane Rainfall=4.09"

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Page 20

Summary for Subcatchment 2-SX: On-Site

Runoff = 4.45 cfs @ 12.15 hrs, Volume= 0.262 af, Depth= 0.86"
Routed to Reach 2R : Southeast

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 10-yr. Dane Rainfall=4.09"

Area (ac)	CN	Description
3.661	61	>75% Grass cover, Good, HSG B
3.661		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Model_2024-09-05_Preview

MSE 24-hr 4 10-yr. Dane Rainfall=4.09"

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Page 21

Summary for Reach 1R: Northeast

Inflow Area = 2.862 ac, 0.00% Impervious, Inflow Depth = 0.86" for 10-yr. Dane event
Inflow = 3.20 cfs @ 12.16 hrs, Volume= 0.205 af
Outflow = 3.20 cfs @ 12.16 hrs, Volume= 0.205 af, Atten= 0%, Lag= 0.0 min
Routed to Reach 3R : Total

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs

Model_2024-09-05_Preview

MSE 24-hr 4 10-yr. Dane Rainfall=4.09"

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Page 22

Summary for Reach 2R: Southeast

Inflow Area = 3.661 ac, 0.00% Impervious, Inflow Depth = 0.86" for 10-yr. Dane event
Inflow = 4.45 cfs @ 12.15 hrs, Volume= 0.262 af
Outflow = 4.45 cfs @ 12.15 hrs, Volume= 0.262 af, Atten= 0%, Lag= 0.0 min
Routed to Reach 3R : Total

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs

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MSE 24-hr 4 10-yr. Dane Rainfall=4.09"

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Page 23

Summary for Reach 3R: Total

Inflow Area = 6.523 ac, 0.00% Impervious, Inflow Depth = 0.86" for 10-yr. Dane event
Inflow = 7.60 cfs @ 12.15 hrs, Volume= 0.467 af
Outflow = 7.60 cfs @ 12.15 hrs, Volume= 0.467 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs

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MSE 24-hr 4 100-yr. Dane Rainfall=6.66"

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Page 24

Time span=0.00-96.00 hrs, dt=0.05 hrs, 1921 points

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN

Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment1-SX: On-Site

Runoff Area=2.862 ac 0.00% Impervious Runoff Depth=2.46"
Flow Length=270' Tc=7.8 min CN=61 Runoff=10.27 cfs 0.587 af

Subcatchment2-SX: On-Site

Runoff Area=3.661 ac 0.00% Impervious Runoff Depth=2.46"
Tc=6.0 min CN=61 Runoff=14.03 cfs 0.750 af

Reach 1R: Northeast

Inflow=10.27 cfs 0.587 af
Outflow=10.27 cfs 0.587 af

Reach 2R: Southeast

Inflow=14.03 cfs 0.750 af
Outflow=14.03 cfs 0.750 af

Reach 3R: Total

Inflow=24.15 cfs 1.337 af
Outflow=24.15 cfs 1.337 af

Total Runoff Area = 6.523 ac Runoff Volume = 1.337 af Average Runoff Depth = 2.46"
100.00% Pervious = 6.523 ac 0.00% Impervious = 0.000 ac

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MSE 24-hr 4 100-yr. Dane Rainfall=6.66"

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Page 25

Summary for Subcatchment 1-SX: On-Site

Runoff = 10.27 cfs @ 12.16 hrs, Volume= 0.587 af, Depth= 2.46"
 Routed to Reach 1R : Northeast

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 100-yr. Dane Rainfall=6.66"

Area (ac)	CN	Description
2.862	61	>75% Grass cover, Good, HSG B
2.862		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.0	100	0.0548	0.24		Sheet Flow, Grass: Short n= 0.150 P2= 2.81"
0.8	170	0.0469	3.49		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
7.8	270	Total			

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MSE 24-hr 4 100-yr. Dane Rainfall=6.66"

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Page 26

Summary for Subcatchment 2-SX: On-Site

Runoff = 14.03 cfs @ 12.14 hrs, Volume= 0.750 af, Depth= 2.46"
 Routed to Reach 2R : Southeast

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 100-yr. Dane Rainfall=6.66"

Area (ac)	CN	Description
3.661	61	>75% Grass cover, Good, HSG B
3.661		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

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MSE 24-hr 4 100-yr. Dane Rainfall=6.66"

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Page 27

Summary for Reach 1R: Northeast

Inflow Area = 2.862 ac, 0.00% Impervious, Inflow Depth = 2.46" for 100-yr. Dane event
Inflow = 10.27 cfs @ 12.16 hrs, Volume= 0.587 af
Outflow = 10.27 cfs @ 12.16 hrs, Volume= 0.587 af, Atten= 0%, Lag= 0.0 min
Routed to Reach 3R : Total

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs

Model_2024-09-05_Predev

MSE 24-hr 4 100-yr. Dane Rainfall=6.66"

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Page 28

Summary for Reach 2R: Southeast

Inflow Area = 3.661 ac, 0.00% Impervious, Inflow Depth = 2.46" for 100-yr. Dane event
Inflow = 14.03 cfs @ 12.14 hrs, Volume= 0.750 af
Outflow = 14.03 cfs @ 12.14 hrs, Volume= 0.750 af, Atten= 0%, Lag= 0.0 min
Routed to Reach 3R : Total

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs

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MSE 24-hr 4 100-yr. Dane Rainfall=6.66"

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Page 29

Summary for Reach 3R: Total

Inflow Area = 6.523 ac, 0.00% Impervious, Inflow Depth = 2.46" for 100-yr. Dane event
Inflow = 24.15 cfs @ 12.14 hrs, Volume= 1.337 af
Outflow = 24.15 cfs @ 12.14 hrs, Volume= 1.337 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs

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MSE 24-hr 4 200-yr. Dane Rainfall=7.53"

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Page 30

Time span=0.00-96.00 hrs, dt=0.05 hrs, 1921 points

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN

Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment1-SX: On-Site

Runoff Area=2.862 ac 0.00% Impervious Runoff Depth=3.09"
Flow Length=270' Tc=7.8 min CN=61 Runoff=13.01 cfs 0.737 af

Subcatchment2-SX: On-Site

Runoff Area=3.661 ac 0.00% Impervious Runoff Depth=3.09"
Tc=6.0 min CN=61 Runoff=17.72 cfs 0.943 af

Reach 1R: Northeast

Inflow=13.01 cfs 0.737 af
Outflow=13.01 cfs 0.737 af

Reach 2R: Southeast

Inflow=17.72 cfs 0.943 af
Outflow=17.72 cfs 0.943 af

Reach 3R: Total

Inflow=30.54 cfs 1.680 af
Outflow=30.54 cfs 1.680 af

Total Runoff Area = 6.523 ac Runoff Volume = 1.680 af Average Runoff Depth = 3.09"
100.00% Pervious = 6.523 ac 0.00% Impervious = 0.000 ac

Model_2024-09-05_Predev

MSE 24-hr 4 200-yr. Dane Rainfall=7.53"

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Page 31

Summary for Subcatchment 1-SX: On-Site

Runoff = 13.01 cfs @ 12.15 hrs, Volume= 0.737 af, Depth= 3.09"
 Routed to Reach 1R : Northeast

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 200-yr. Dane Rainfall=7.53"

Area (ac)	CN	Description
2.862	61	>75% Grass cover, Good, HSG B
2.862		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.0	100	0.0548	0.24		Sheet Flow, Grass: Short n= 0.150 P2= 2.81"
0.8	170	0.0469	3.49		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
7.8	270	Total			

Model_2024-09-05_Predev

MSE 24-hr 4 200-yr. Dane Rainfall=7.53"

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Page 32

Summary for Subcatchment 2-SX: On-Site

Runoff = 17.72 cfs @ 12.14 hrs, Volume= 0.943 af, Depth= 3.09"
 Routed to Reach 2R : Southeast

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 200-yr. Dane Rainfall=7.53"

Area (ac)	CN	Description
3.661	61	>75% Grass cover, Good, HSG B
3.661		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Model_2024-09-05_Predev

MSE 24-hr 4 200-yr. Dane Rainfall=7.53"

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Page 33

Summary for Reach 1R: Northeast

Inflow Area = 2.862 ac, 0.00% Impervious, Inflow Depth = 3.09" for 200-yr. Dane event
Inflow = 13.01 cfs @ 12.15 hrs, Volume= 0.737 af
Outflow = 13.01 cfs @ 12.15 hrs, Volume= 0.737 af, Atten= 0%, Lag= 0.0 min
Routed to Reach 3R : Total

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs

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MSE 24-hr 4 200-yr. Dane Rainfall=7.53"

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Page 34

Summary for Reach 2R: Southeast

Inflow Area = 3.661 ac, 0.00% Impervious, Inflow Depth = 3.09" for 200-yr. Dane event
Inflow = 17.72 cfs @ 12.14 hrs, Volume= 0.943 af
Outflow = 17.72 cfs @ 12.14 hrs, Volume= 0.943 af, Atten= 0%, Lag= 0.0 min
Routed to Reach 3R : Total

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs

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MSE 24-hr 4 200-yr. Dane Rainfall=7.53"

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Page 35

Summary for Reach 3R: Total

Inflow Area = 6.523 ac, 0.00% Impervious, Inflow Depth = 3.09" for 200-yr. Dane event
Inflow = 30.54 cfs @ 12.14 hrs, Volume= 1.680 af
Outflow = 30.54 cfs @ 12.14 hrs, Volume= 1.680 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs

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MSE 24-hr 4 500-yr. Dane Rainfall=8.94"

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Page 36

Time span=0.00-96.00 hrs, dt=0.05 hrs, 1921 points

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN

Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment1-SX: On-Site

Runoff Area=2.862 ac 0.00% Impervious Runoff Depth=4.18"
Flow Length=270' Tc=7.8 min CN=61 Runoff=17.65 cfs 0.996 af

Subcatchment2-SX: On-Site

Runoff Area=3.661 ac 0.00% Impervious Runoff Depth=4.18"
Tc=6.0 min CN=61 Runoff=23.98 cfs 1.274 af

Reach 1R: Northeast

Inflow=17.65 cfs 0.996 af
Outflow=17.65 cfs 0.996 af

Reach 2R: Southeast

Inflow=23.98 cfs 1.274 af
Outflow=23.98 cfs 1.274 af

Reach 3R: Total

Inflow=41.39 cfs 2.270 af
Outflow=41.39 cfs 2.270 af

Total Runoff Area = 6.523 ac Runoff Volume = 2.270 af Average Runoff Depth = 4.18"
100.00% Pervious = 6.523 ac 0.00% Impervious = 0.000 ac

Model_2024-09-05_Predev

MSE 24-hr 4 500-yr. Dane Rainfall=8.94"

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Page 37

Summary for Subcatchment 1-SX: On-Site

Runoff = 17.65 cfs @ 12.15 hrs, Volume= 0.996 af, Depth= 4.18"
 Routed to Reach 1R : Northeast

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 500-yr. Dane Rainfall=8.94"

Area (ac)	CN	Description
2.862	61	>75% Grass cover, Good, HSG B
2.862		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.0	100	0.0548	0.24		Sheet Flow, Grass: Short n= 0.150 P2= 2.81"
0.8	170	0.0469	3.49		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
7.8	270	Total			

Model_2024-09-05_Predev

MSE 24-hr 4 500-yr. Dane Rainfall=8.94"

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Page 38

Summary for Subcatchment 2-SX: On-Site

Runoff = 23.98 cfs @ 12.13 hrs, Volume= 1.274 af, Depth= 4.18"
 Routed to Reach 2R : Southeast

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 500-yr. Dane Rainfall=8.94"

Area (ac)	CN	Description
3.661	61	>75% Grass cover, Good, HSG B
3.661		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Model_2024-09-05_Predev

MSE 24-hr 4 500-yr. Dane Rainfall=8.94"

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Page 39

Summary for Reach 1R: Northeast

Inflow Area = 2.862 ac, 0.00% Impervious, Inflow Depth = 4.18" for 500-yr. Dane event
Inflow = 17.65 cfs @ 12.15 hrs, Volume= 0.996 af
Outflow = 17.65 cfs @ 12.15 hrs, Volume= 0.996 af, Atten= 0%, Lag= 0.0 min
Routed to Reach 3R : Total

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs

Model_2024-09-05_Predev

MSE 24-hr 4 500-yr. Dane Rainfall=8.94"

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Page 40

Summary for Reach 2R: Southeast

Inflow Area = 3.661 ac, 0.00% Impervious, Inflow Depth = 4.18" for 500-yr. Dane event
Inflow = 23.98 cfs @ 12.13 hrs, Volume= 1.274 af
Outflow = 23.98 cfs @ 12.13 hrs, Volume= 1.274 af, Atten= 0%, Lag= 0.0 min
Routed to Reach 3R : Total

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs

Summary for Reach 3R: Total

Inflow Area = 6.523 ac, 0.00% Impervious, Inflow Depth = 4.18" for 500-yr. Dane event
Inflow = 41.39 cfs @ 12.14 hrs, Volume= 2.270 af
Outflow = 41.39 cfs @ 12.14 hrs, Volume= 2.270 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs

APPENDIX F
POST-DEVELOPMENT HYDROLOGY

Model_2024-09-05_Postdev

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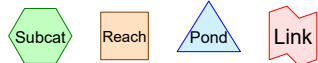
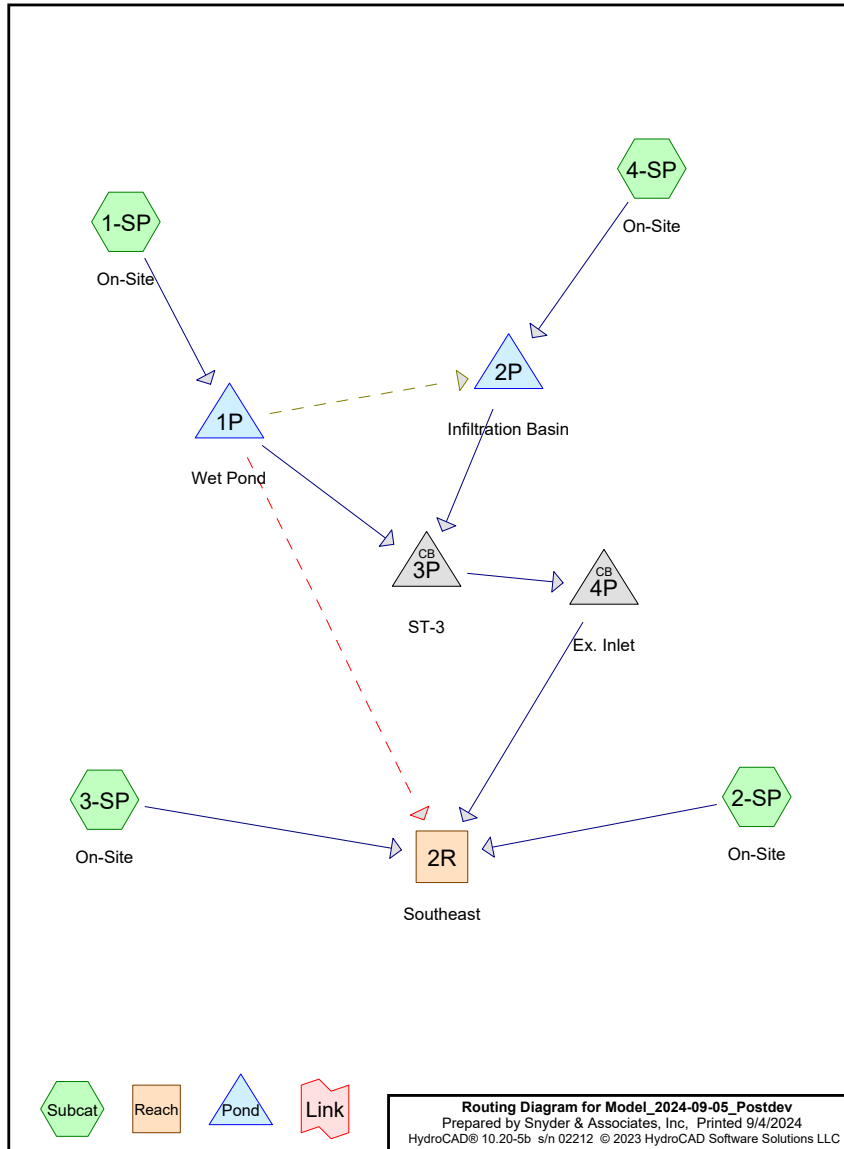
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Page 2

Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	1-yr. Dane	MSE 24-hr	4	Default	24.00	1	2.49	2
2	2-yr. Dane	MSE 24-hr	4	Default	24.00	1	2.84	2
3	10-yr. Dane	MSE 24-hr	4	Default	24.00	1	4.09	2
4	100-yr. Dane	MSE 24-hr	4	Default	24.00	1	6.66	2
5	200-yr. Dane	MSE 24-hr	4	Default	24.00	1	7.53	2
6	500-yr. Dane	MSE 24-hr	4	Default	24.00	1	8.94	2



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Page 3

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
2.782	74	>75% Grass cover, Good, HSG C (1-SP, 2-SP, 3-SP, 4-SP)
0.122	98	Driveway (1-SP, 4-SP)
0.119	100	Infiltration Basin Bottom (4-SP)
0.516	98	Parking Lot (1-SP)
2.524	98	Roof (1-SP)
0.210	98	Sidewalk (1-SP, 4-SP)
0.250	100	Wet Pond NWL (1-SP)
6.523	88	TOTAL AREA

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Page 4

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
0.000	HSG B	
2.782	HSG C	1-SP, 2-SP, 3-SP, 4-SP
0.000	HSG D	
3.741	Other	1-SP, 4-SP
6.523		TOTAL AREA

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Page 5

Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	0.000	2.782	0.000	0.000	2.782	>75% Grass cover, Good	1-SP, 2-SP, 3-SP, 4-SP
0.000	0.000	0.000	0.000	0.122	0.122	Driveway	1-SP, 4-SP
0.000	0.000	0.000	0.000	0.119	0.119	Infiltration Basin Bottom	4-SP
0.000	0.000	0.000	0.000	0.516	0.516	Parking Lot	1-SP
0.000	0.000	0.000	0.000	2.524	2.524	Roof	1-SP
0.000	0.000	0.000	0.000	0.210	0.210	Sidewalk	1-SP, 4-SP
0.000	0.000	0.000	0.000	0.250	0.250	Wet Pond NWL	1-SP
0.000	0.000	2.782	0.000	3.741	6.523	TOTAL AREA	

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Page 6

Pipe Listing (all nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Width (inches)	Diam/Height (inches)	Inside-Fill (inches)	Node Name
1	1P	1,024.00	1,022.32	99.9	0.0168	0.013	0.0	12.0	0.0	
2	1P	1,025.00	1,024.00	34.0	0.0294	0.013	0.0	6.0	0.0	
3	2P	1,023.00	1,022.32	188.6	0.0036	0.013	0.0	12.0	0.0	
4	3P	1,022.32	1,018.10	45.7	0.0923	0.013	0.0	12.0	0.0	
5	4P	1,018.10	1,017.39	50.0	0.0142	0.013	0.0	12.0	0.0	

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MSE 24-hr 4 1-yr. Dane Rainfall=2.49"

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Page 7

Time span=0.00-96.00 hrs, dt=0.030 hrs, 3201 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN

Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment1-SP: On-Site Runoff Area=5.105 ac 68.44% Impervious Runoff Depth=1.60"
Tc=6.0 min CN=91 Runoff=12.84 cfs 0.681 af

Subcatchment2-SP: On-Site Runoff Area=0.087 ac 0.00% Impervious Runoff Depth=0.60"
Tc=6.0 min CN=74 Runoff=0.08 cfs 0.004 af

Subcatchment3-SP: On-Site Runoff Area=0.009 ac 0.00% Impervious Runoff Depth=0.60"
Tc=6.0 min CN=74 Runoff=0.01 cfs 0.000 af

Subcatchment4-SP: On-Site Runoff Area=1.322 ac 18.68% Impervious Runoff Depth=0.83"
Tc=6.0 min CN=79 Runoff=1.74 cfs 0.092 af

Reach 2R: Southeast Inflow=0.35 cfs 0.450 af
Outflow=0.35 cfs 0.450 af

Pond 1P: Wet Pond Peak Elev=1,026.45' Storage=17,392 cf Inflow=12.84 cfs 0.681 af
Primary=0.00 cfs 0.000 af Secondary=0.00 cfs 0.000 af Tertiary=0.82 cfs 0.676 af Outflow=0.82 cfs 0.676 af

Pond 2P: Infiltration Basin Peak Elev=1,025.84' Storage=11,417 cf Inflow=2.35 cfs 0.768 af
Discarded=0.06 cfs 0.322 af Primary=0.34 cfs 0.446 af Outflow=0.40 cfs 0.768 af

Pond 3P: ST-3 Peak Elev=1,022.61' Inflow=0.34 cfs 0.446 af
12.0" Round Culvert n=0.013 L=45.7' S=0.0923 '/' Outflow=0.34 cfs 0.446 af

Pond 4P: Ex. Inlet Peak Elev=1,018.39' Inflow=0.34 cfs 0.446 af
12.0" Round Culvert n=0.013 L=50.0' S=0.0142 '/' Outflow=0.34 cfs 0.446 af

Total Runoff Area = 6.523 ac Runoff Volume = 0.778 af Average Runoff Depth = 1.43"
42.65% Pervious = 2.782 ac 57.35% Impervious = 3.741 ac

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MSE 24-hr 4 1-yr. Dane Rainfall=2.49"

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Page 8

Summary for Subcatchment 1-SP: On-Site

Runoff = 12.84 cfs @ 12.13 hrs, Volume= 0.681 af, Depth= 1.60"
Routed to Pond 1P : Wet Pond

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.030 hrs
MSE 24-hr 4 1-yr. Dane Rainfall=2.49"

Area (ac)	CN	Description
* 2.524	98	Roof
* 0.516	98	Parking Lot
* 0.080	98	Driveway
* 0.124	98	Sidewalk
* 0.250	100	Wet Pond NWL
1.611	74	>75% Grass cover, Good, HSG C
5.105	91	Weighted Average
1.611		31.56% Pervious Area
3.494		68.44% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

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MSE 24-hr 4 1-yr. Dane Rainfall=2.49"

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Page 9

Summary for Subcatchment 2-SP: On-Site

Runoff = 0.08 cfs @ 12.14 hrs, Volume= 0.004 af, Depth= 0.60"
 Routed to Reach 2R : Southeast

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.030 hrs
 MSE 24-hr 4 1-yr. Dane Rainfall=2.49"

Area (ac)	CN	Description
0.087	74	>75% Grass cover, Good, HSG C
0.087		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

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MSE 24-hr 4 1-yr. Dane Rainfall=2.49"

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Page 10

Summary for Subcatchment 3-SP: On-Site

Runoff = 0.01 cfs @ 12.14 hrs, Volume= 0.000 af, Depth= 0.60"
 Routed to Reach 2R : Southeast

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.030 hrs
 MSE 24-hr 4 1-yr. Dane Rainfall=2.49"

Area (ac)	CN	Description
0.009	74	>75% Grass cover, Good, HSG C
0.009		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

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MSE 24-hr 4 1-yr. Dane Rainfall=2.49"

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Page 11

Summary for Subcatchment 4-SP: On-Site

Runoff = 1.74 cfs @ 12.14 hrs, Volume= 0.092 af, Depth= 0.83"
 Routed to Pond 2P : Infiltration Basin

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.030 hrs
 MSE 24-hr 4 1-yr. Dane Rainfall=2.49"

Area (ac)	CN	Description
* 0.042	98	Driveway
* 0.086	98	Sidewalk
* 0.119	100	Infiltration Basin Bottom
1.075	74	>75% Grass cover, Good, HSG C
1.322	79	Weighted Average
1.075		81.32% Pervious Area
0.247		18.68% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

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MSE 24-hr 4 1-yr. Dane Rainfall=2.49"

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Page 12

Summary for Reach 2R: Southeast

Inflow Area = 6.523 ac, 57.35% Impervious, Inflow Depth = 0.83" for 1-yr. Dane event
 Inflow = 0.35 cfs @ 18.45 hrs, Volume= 0.450 af
 Outflow = 0.35 cfs @ 18.45 hrs, Volume= 0.450 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.030 hrs

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MSE 24-hr 4 1-yr. Dane Rainfall=2.49"

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Page 13

Summary for Pond 1P: Wet Pond

Inflow Area = 5.105 ac, 68.44% Impervious, Inflow Depth = 1.60" for 1-yr. Dane event
 Inflow = 12.84 cfs @ 12.13 hrs, Volume= 0.681 af
 Outflow = 0.82 cfs @ 13.37 hrs, Volume= 0.676 af, Atten= 94%, Lag= 74.4 min
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Pond 3P : ST-3
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Reach 2R : Southeast
 Tertiary = 0.82 cfs @ 13.37 hrs, Volume= 0.676 af
 Routed to Pond 2P : Infiltration Basin

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.030 hrs
 Peak Elev= 1,026.45' @ 13.37 hrs Surf.Area= 13,158 sf Storage= 17,392 cf

Plug-Flow detention time= 503.9 min calculated for 0.676 af (99% of inflow)
 Center-of-Mass det. time= 500.6 min (1,302.1 - 801.5)

Volume	Invert	Avail.Storage	Storage Description		
#1	1,025.00'	75,504 cf	Custom Stage Data (Irregular) Listed below (Recalc)		
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
1,025.00	10,800	380.0	0	0	10,800
1,026.00	12,400	410.0	11,591	11,591	12,727
1,027.00	14,100	430.0	13,241	24,832	14,128
1,028.00	15,900	460.0	14,991	39,823	16,299
1,029.00	17,800	480.0	16,841	56,664	17,867
1,030.00	19,900	510.0	18,840	75,504	20,282

Device	Routing	Invert	Outlet Devices
#1	Primary	1,024.00'	12.0" Round 12" RCP (STP-17) L= 99.9' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 1,024.00' / 1,022.32' S= 0.0168 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#2	Tertiary	1,025.00'	6.0" Round 6" PVC (STP-19) L= 34.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 1,025.00' / 1,024.00' S= 0.0294 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf
#3	Device 1	1,026.60'	48.0" Horiz. 48" Standpipe C= 0.600 Limited to weir flow at low heads
#4	Tertiary	1,028.00'	128.0' long x 6.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65 2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83
#5	Secondary	1,029.00'	50.0' long x 15.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

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MSE 24-hr 4 1-yr. Dane Rainfall=2.49"

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Page 14

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=1,025.00' TW=1,022.32' (Dynamic Tailwater)
 ↳ **1=12" RCP (STP-17)** (Passes 0.00 cfs of 2.67 cfs potential flow)
 ↳ **3=48" Standpipe** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=1,025.00' TW=0.00' (Dynamic Tailwater)
 ↳ **5=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Tertiary OutFlow Max=0.82 cfs @ 13.37 hrs HW=1,026.45' TW=1,025.09' (Dynamic Tailwater)
 ↳ **2=6" PVC (STP-19)** (Inlet Controls 0.82 cfs @ 4.17 fps)
 ↳ **4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

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MSE 24-hr 4 1-yr. Dane Rainfall=2.49"

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Page 15

Summary for Pond 2P: Infiltration Basin

Inflow Area = 1.322 ac, 18.68% Impervious, Inflow Depth > 6.97" for 1-yr. Dane event
Inflow = 2.35 cfs @ 12.14 hrs, Volume= 0.768 af
Outflow = 0.40 cfs @ 18.50 hrs, Volume= 0.768 af, Atten= 83%, Lag= 381.7 min
Discarded = 0.06 cfs @ 11.85 hrs, Volume= 0.322 af
Primary = 0.34 cfs @ 18.50 hrs, Volume= 0.446 af
Routed to Pond 3P : ST-3

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.030 hrs
Peak Elev= 1,025.84' @ 18.50 hrs Surf.Area= 7,296 sf Storage= 11,417 cf

Plug-Flow detention time= 642.1 min calculated for 0.767 af (100% of inflow)
Center-of-Mass det. time= 641.7 min (1,888.9 - 1,247.2)

Volume	Invert	Avail.Storage	Storage Description		
#1	1,024.00'	53,747 cf	Custom Stage Data (Irregular) Listed below (Recalc)		
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
1,024.00	5,200	260.0	0	0	5,200
1,025.00	6,300	290.0	5,741	5,741	6,542
1,026.00	7,500	310.0	6,891	12,632	7,542
1,027.00	8,800	340.0	8,141	20,774	9,128
1,028.00	10,200	360.0	9,491	30,265	10,296
1,029.00	11,700	390.0	10,941	41,207	12,125
1,030.00	13,400	410.0	12,540	53,747	13,460

Device	Routing	Invert	Outlet Devices
#1	Discarded	1,024.00'	0.500 in/hr Exfiltration over Surface area from 1,023.99' - 1,024.01' Excluded Surface area = 0 sf Phase-In= 0.01'
#2	Primary	1,023.00'	12.0" Round 12" RCP (STP-15&16) L= 188.6' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 1,023.00' / 1,022.32' S= 0.0036 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#3	Device 2	1,025.00'	4.0" Vert. 4" Orifice C= 0.600 Limited to weir flow at low heads
#4	Device 2	1,028.75'	48.0" Horiz. 48" Standpipe C= 0.600 Limited to weir flow at low heads

Discarded OutFlow Max=0.06 cfs @ 11.85 hrs HW=1,024.06' (Free Discharge)
↳ **1=Exfiltration** (Exfiltration Controls 0.06 cfs)

Primary OutFlow Max=0.34 cfs @ 18.50 hrs HW=1,025.84' TW=1,022.61' (Dynamic Tailwater)
↳ **2=12" RCP (STP-15&16)** (Passes 0.34 cfs of 3.67 cfs potential flow)
↳ **3=4" Orifice** (Orifice Controls 0.34 cfs @ 3.94 fps)
↳ **4=48" Standpipe** (Controls 0.00 cfs)

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MSE 24-hr 4 1-yr. Dane Rainfall=2.49"

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Page 16

Summary for Pond 3P: ST-3

Inflow Area = 6.427 ac, 58.21% Impervious, Inflow Depth = 0.83" for 1-yr. Dane event
Inflow = 0.34 cfs @ 18.50 hrs, Volume= 0.446 af
Outflow = 0.34 cfs @ 18.50 hrs, Volume= 0.446 af, Atten= 0%, Lag= 0.0 min
Primary = 0.34 cfs @ 18.50 hrs, Volume= 0.446 af
Routed to Pond 4P : Ex. Inlet

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.030 hrs
Peak Elev= 1,022.61' @ 18.50 hrs
Flood Elev= 1,030.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	1,022.32'	12.0" Round 12" RCP (STP-18) L= 45.7' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 1,022.32' / 1,018.10' S= 0.0923 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 0.79 sf

Primary OutFlow Max=0.34 cfs @ 18.50 hrs HW=1,022.61' TW=1,018.39' (Dynamic Tailwater)
↳ **1=12" RCP (STP-18)** (Inlet Controls 0.34 cfs @ 1.83 fps)

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MSE 24-hr 4 1-yr. Dane Rainfall=2.49"

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Page 17

Summary for Pond 4P: Ex. Inlet

Inflow Area = 6.427 ac, 58.21% Impervious, Inflow Depth = 0.83" for 1-yr. Dane event
Inflow = 0.34 cfs @ 18.50 hrs, Volume= 0.446 af
Outflow = 0.34 cfs @ 18.50 hrs, Volume= 0.446 af, Atten= 0%, Lag= 0.0 min
Primary = 0.34 cfs @ 18.50 hrs, Volume= 0.446 af
Routed to Reach 2R : Southeast

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.030 hrs
Peak Elev= 1,018.39' @ 18.50 hrs
Flood Elev= 1,021.81'

Device	Routing	Invert	Outlet Devices
#1	Primary	1,018.10'	12.0" Round 12" RCP L= 50.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 1,018.10' / 1,017.39' S= 0.0142 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 0.79 sf

Primary OutFlow Max=0.34 cfs @ 18.50 hrs HW=1,018.39' TW=0.00' (Dynamic Tailwater)
↑**1=12" RCP** (Inlet Controls 0.34 cfs @ 1.83 fps)

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MSE 24-hr 4 2-yr. Dane Rainfall=2.84"

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Page 18

Time span=0.00-96.00 hrs, dt=0.030 hrs, 3201 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment1-SP: On-Site Runoff Area=5.105 ac 68.44% Impervious Runoff Depth=1.92"
Tc=6.0 min CN=91 Runoff=15.28 cfs 0.818 af

Subcatchment2-SP: On-Site Runoff Area=0.087 ac 0.00% Impervious Runoff Depth=0.81"
Tc=6.0 min CN=74 Runoff=0.11 cfs 0.006 af

Subcatchment3-SP: On-Site Runoff Area=0.009 ac 0.00% Impervious Runoff Depth=0.81"
Tc=6.0 min CN=74 Runoff=0.01 cfs 0.001 af

Subcatchment4-SP: On-Site Runoff Area=1.322 ac 18.68% Impervious Runoff Depth=1.07"
Tc=6.0 min CN=79 Runoff=2.27 cfs 0.118 af

Reach 2R: Southeast Inflow=0.60 cfs 0.601 af
Outflow=0.60 cfs 0.601 af

Pond 1P: Wet Pond Peak Elev=1,026.66' Storage=20,123 cf Inflow=15.28 cfs 0.818 af
Primary=0.59 cfs 0.040 af Secondary=0.00 cfs 0.000 af Tertiary=0.89 cfs 0.773 af Outflow=1.47 cfs 0.813 af

Pond 2P: Infiltration Basin Peak Elev=1,025.99' Storage=12,551 cf Inflow=2.96 cfs 0.891 af
Discarded=0.06 cfs 0.336 af Primary=0.38 cfs 0.555 af Outflow=0.44 cfs 0.891 af

Pond 3P: ST-3 Peak Elev=1,022.70' Inflow=0.59 cfs 0.594 af
12.0" Round Culvert n=0.013 L=45.7' S=0.0923 '/' Outflow=0.59 cfs 0.594 af

Pond 4P: Ex. Inlet Peak Elev=1,018.48' Inflow=0.59 cfs 0.594 af
12.0" Round Culvert n=0.013 L=50.0' S=0.0142 '/' Outflow=0.59 cfs 0.594 af

Total Runoff Area = 6.523 ac Runoff Volume = 0.943 af Average Runoff Depth = 1.73"
42.65% Pervious = 2.782 ac 57.35% Impervious = 3.741 ac

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MSE 24-hr 4 2-yr. Dane Rainfall=2.84"

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Page 19

Summary for Subcatchment 1-SP: On-Site

Runoff = 15.28 cfs @ 12.13 hrs, Volume= 0.818 af, Depth= 1.92"
 Routed to Pond 1P : Wet Pond

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.030 hrs
 MSE 24-hr 4 2-yr. Dane Rainfall=2.84"

Area (ac)	CN	Description
* 2.524	98	Roof
* 0.516	98	Parking Lot
* 0.080	98	Driveway
* 0.124	98	Sidewalk
* 0.250	100	Wet Pond NWL
1.611	74	>75% Grass cover, Good, HSG C
5.105	91	Weighted Average
1.611		31.56% Pervious Area
3.494		68.44% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

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Page 20

Summary for Subcatchment 2-SP: On-Site

Runoff = 0.11 cfs @ 12.14 hrs, Volume= 0.006 af, Depth= 0.81"
 Routed to Reach 2R : Southeast

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.030 hrs
 MSE 24-hr 4 2-yr. Dane Rainfall=2.84"

Area (ac)	CN	Description
0.087	74	>75% Grass cover, Good, HSG C
0.087		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

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Page 21

Summary for Subcatchment 3-SP: On-Site

Runoff = 0.01 cfs @ 12.14 hrs, Volume= 0.001 af, Depth= 0.81"
 Routed to Reach 2R : Southeast

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.030 hrs
 MSE 24-hr 4 2-yr. Dane Rainfall=2.84"

Area (ac)	CN	Description
0.009	74	>75% Grass cover, Good, HSG C
0.009		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

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Page 22

Summary for Subcatchment 4-SP: On-Site

Runoff = 2.27 cfs @ 12.14 hrs, Volume= 0.118 af, Depth= 1.07"
 Routed to Pond 2P : Infiltration Basin

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.030 hrs
 MSE 24-hr 4 2-yr. Dane Rainfall=2.84"

Area (ac)	CN	Description
* 0.042	98	Driveway
* 0.086	98	Sidewalk
* 0.119	100	Infiltration Basin Bottom
1.075	74	>75% Grass cover, Good, HSG C
1.322	79	Weighted Average
1.075		81.32% Pervious Area
0.247		18.68% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

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MSE 24-hr 4 2-yr. Dane Rainfall=2.84"

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Page 23

Summary for Reach 2R: Southeast

Inflow Area = 6.523 ac, 57.35% Impervious, Inflow Depth = 1.11" for 2-yr. Dane event
Inflow = 0.60 cfs @ 12.79 hrs, Volume= 0.601 af
Outflow = 0.60 cfs @ 12.79 hrs, Volume= 0.601 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.030 hrs

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MSE 24-hr 4 2-yr. Dane Rainfall=2.84"

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Page 24

Summary for Pond 1P: Wet Pond

Inflow Area = 5.105 ac, 68.44% Impervious, Inflow Depth = 1.92" for 2-yr. Dane event
Inflow = 15.28 cfs @ 12.13 hrs, Volume= 0.818 af
Outflow = 1.47 cfs @ 12.80 hrs, Volume= 0.813 af, Atten= 90%, Lag= 40.0 min
Primary = 0.59 cfs @ 12.80 hrs, Volume= 0.040 af
Routed to Pond 3P : ST-3
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to Reach 2R : Southeast
Tertiary = 0.89 cfs @ 12.80 hrs, Volume= 0.773 af
Routed to Pond 2P : Infiltration Basin

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.030 hrs
Peak Elev= 1,026.66' @ 12.80 hrs Surf.Area= 13,508 sf Storage= 20,123 cf

Plug-Flow detention time= 516.8 min calculated for 0.813 af (99% of inflow)
Center-of-Mass det. time= 512.8 min (1,310.0 - 797.2)

Volume	Invert	Avail.Storage	Storage Description
#1	1,025.00'	75,504 cf	Custom Stage Data (Irregular) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
1,025.00	10,800	380.0	0	0	10,800
1,026.00	12,400	410.0	11,591	11,591	12,727
1,027.00	14,100	430.0	13,241	24,832	14,128
1,028.00	15,900	460.0	14,991	39,823	16,299
1,029.00	17,800	480.0	16,841	56,664	17,867
1,030.00	19,900	510.0	18,840	75,504	20,282

Device	Routing	Invert	Outlet Devices
#1	Primary	1,024.00'	12.0" Round 12" RCP (STP-17) L= 99.9' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 1,024.00' / 1,022.32' S= 0.0168 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#2	Tertiary	1,025.00'	6.0" Round 6" PVC (STP-19) L= 34.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 1,025.00' / 1,024.00' S= 0.0294 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf
#3	Device 1	1,026.60'	48.0" Horiz. 48" Standpipe C= 0.600 Limited to weir flow at low heads
#4	Tertiary	1,028.00'	128.0' long x 6.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65 2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83
#5	Secondary	1,029.00'	50.0' long x 15.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

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Page 25

Primary OutFlow Max=0.59 cfs @ 12.80 hrs HW=1,026.66' TW=1,022.70' (Dynamic Tailwater)

↳ **1=12" RCP (STP-17)** (Passes 0.59 cfs of 5.35 cfs potential flow)

↳ **3=48" Standpipe** (Weir Controls 0.59 cfs @ 0.79 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=1,025.00' TW=0.00' (Dynamic Tailwater)

↳ **5=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Tertiary OutFlow Max=0.89 cfs @ 12.80 hrs HW=1,026.66' TW=1,024.98' (Dynamic Tailwater)

↳ **2=6" PVC (STP-19)** (Inlet Controls 0.89 cfs @ 4.51 fps)

↳ **4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

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MSE 24-hr 4 2-yr. Dane Rainfall=2.84"

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Page 26

Summary for Pond 2P: Infiltration Basin

Inflow Area = 1.322 ac, 18.68% Impervious, Inflow Depth > 8.09" for 2-yr. Dane event
Inflow = 2.96 cfs @ 12.14 hrs, Volume= 0.891 af
Outflow = 0.44 cfs @ 18.72 hrs, Volume= 0.891 af, Atten= 85%, Lag= 394.8 min
Discarded = 0.06 cfs @ 11.64 hrs, Volume= 0.336 af
Primary = 0.38 cfs @ 18.72 hrs, Volume= 0.555 af
Routed to Pond 3P : ST-3

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.030 hrs
Peak Elev= 1,025.99' @ 18.72 hrs Surf.Area= 7,486 sf Storage= 12,551 cf

Plug-Flow detention time= 616.6 min calculated for 0.891 af (100% of inflow)
Center-of-Mass det. time= 616.3 min (1,887.1 - 1,270.7)

Volume	Invert	Avail.Storage	Storage Description		
#1	1,024.00'	53,747 cf	Custom Stage Data (Irregular) Listed below (Recalc)		
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
1,024.00	5,200	260.0	0	0	5,200
1,025.00	6,300	290.0	5,741	5,741	6,542
1,026.00	7,500	310.0	6,891	12,632	7,542
1,027.00	8,800	340.0	8,141	20,774	9,128
1,028.00	10,200	360.0	9,491	30,265	10,296
1,029.00	11,700	390.0	10,941	41,207	12,125
1,030.00	13,400	410.0	12,540	53,747	13,460

Device	Routing	Invert	Outlet Devices
#1	Discarded	1,024.00'	0.500 in/hr Exfiltration over Surface area from 1,023.99' - 1,024.01' Excluded Surface area = 0 sf Phase-In= 0.01'
#2	Primary	1,023.00'	12.0" Round 12" RCP (STP-15&16) L= 188.6' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 1,023.00' / 1,022.32' S= 0.0036 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#3	Device 2	1,025.00'	4.0" Vert. 4" Orifice C= 0.600 Limited to weir flow at low heads
#4	Device 2	1,028.75'	48.0" Horiz. 48" Standpipe C= 0.600 Limited to weir flow at low heads

Discarded OutFlow Max=0.06 cfs @ 11.64 hrs HW=1,024.06' (Free Discharge)

↳ **1=Exfiltration** (Exfiltration Controls 0.06 cfs)

Primary OutFlow Max=0.38 cfs @ 18.72 hrs HW=1,025.99' TW=1,022.62' (Dynamic Tailwater)

↳ **2=12" RCP (STP-15&16)** (Passes 0.38 cfs of 3.78 cfs potential flow)

↳ **3=4" Orifice** (Orifice Controls 0.38 cfs @ 4.37 fps)

↳ **4=48" Standpipe** (Controls 0.00 cfs)

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Page 27

Summary for Pond 3P: ST-3

Inflow Area = 6.427 ac, 58.21% Impervious, Inflow Depth = 1.11" for 2-yr. Dane event
Inflow = 0.59 cfs @ 12.80 hrs, Volume= 0.594 af
Outflow = 0.59 cfs @ 12.80 hrs, Volume= 0.594 af, Atten= 0%, Lag= 0.0 min
Primary = 0.59 cfs @ 12.80 hrs, Volume= 0.594 af
Routed to Pond 4P : Ex. Inlet

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.030 hrs
Peak Elev= 1,022.70' @ 12.80 hrs
Flood Elev= 1,030.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	1,022.32'	12.0" Round 12" RCP (STP-18) L= 45.7' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 1,022.32' / 1,018.10' S= 0.0923 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 0.79 sf

Primary OutFlow Max=0.59 cfs @ 12.80 hrs HW=1,022.70' TW=1,018.48' (Dynamic Tailwater)
↑1=12" RCP (STP-18) (Inlet Controls 0.59 cfs @ 2.11 fps)

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MSE 24-hr 4 2-yr. Dane Rainfall=2.84"

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Page 28

Summary for Pond 4P: Ex. Inlet

Inflow Area = 6.427 ac, 58.21% Impervious, Inflow Depth = 1.11" for 2-yr. Dane event
Inflow = 0.59 cfs @ 12.80 hrs, Volume= 0.594 af
Outflow = 0.59 cfs @ 12.80 hrs, Volume= 0.594 af, Atten= 0%, Lag= 0.0 min
Primary = 0.59 cfs @ 12.80 hrs, Volume= 0.594 af
Routed to Reach 2R : Southeast

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.030 hrs
Peak Elev= 1,018.48' @ 12.80 hrs
Flood Elev= 1,021.81'

Device	Routing	Invert	Outlet Devices
#1	Primary	1,018.10'	12.0" Round 12" RCP L= 50.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 1,018.10' / 1,017.39' S= 0.0142 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 0.79 sf

Primary OutFlow Max=0.59 cfs @ 12.80 hrs HW=1,018.48' TW=0.00' (Dynamic Tailwater)
↑1=12" RCP (Inlet Controls 0.59 cfs @ 2.11 fps)

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MSE 24-hr 4 10-yr. Dane Rainfall=4.09"

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Page 29

Time span=0.00-96.00 hrs, dt=0.030 hrs, 3201 points

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN

Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment1-SP: On-Site

Runoff Area=5.105 ac 68.44% Impervious Runoff Depth=3.10"
Tc=6.0 min CN=91 Runoff=24.02 cfs 1.320 af

Subcatchment2-SP: On-Site

Runoff Area=0.087 ac 0.00% Impervious Runoff Depth=1.66"
Tc=6.0 min CN=74 Runoff=0.23 cfs 0.012 af

Subcatchment3-SP: On-Site

Runoff Area=0.009 ac 0.00% Impervious Runoff Depth=1.66"
Tc=6.0 min CN=74 Runoff=0.02 cfs 0.001 af

Subcatchment4-SP: On-Site

Runoff Area=1.322 ac 18.68% Impervious Runoff Depth=2.04"
Tc=6.0 min CN=79 Runoff=4.31 cfs 0.224 af

Reach 2R: Southeast

Inflow=5.13 cfs 1.192 af
Outflow=5.13 cfs 1.192 af

Pond 1P: Wet Pond

Peak Elev=1,027.15' Storage=26,897 cf Inflow=24.02 cfs 1.320 af

Primary=4.88 cfs 0.436 af Secondary=0.00 cfs 0.000 af Tertiary=1.02 cfs 0.879 af Outflow=5.84 cfs 1.315 af

Pond 2P: Infiltration Basin

Peak Elev=1,026.21' Storage=14,249 cf Inflow=5.23 cfs 1.103 af

Discarded=0.06 cfs 0.361 af Primary=0.43 cfs 0.743 af Outflow=0.49 cfs 1.103 af

Pond 3P: ST-3

Peak Elev=1,024.52' Inflow=4.93 cfs 1.178 af

12.0" Round Culvert n=0.013 L=45.7' S=0.0923 '/' Outflow=4.93 cfs 1.178 af

Pond 4P: Ex. Inlet

Peak Elev=1,020.30' Inflow=4.93 cfs 1.178 af

12.0" Round Culvert n=0.013 L=50.0' S=0.0142 '/' Outflow=4.93 cfs 1.178 af

Total Runoff Area = 6.523 ac Runoff Volume = 1.558 af Average Runoff Depth = 2.87"
42.65% Pervious = 2.782 ac 57.35% Impervious = 3.741 ac

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MSE 24-hr 4 10-yr. Dane Rainfall=4.09"

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Page 30

Summary for Subcatchment 1-SP: On-Site

Runoff = 24.02 cfs @ 12.13 hrs, Volume= 1.320 af, Depth= 3.10"
Routed to Pond 1P : Wet Pond

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.030 hrs
MSE 24-hr 4 10-yr. Dane Rainfall=4.09"

Area (ac)	CN	Description
* 2.524	98	Roof
* 0.516	98	Parking Lot
* 0.080	98	Driveway
* 0.124	98	Sidewalk
* 0.250	100	Wet Pond NWL
1.611	74	>75% Grass cover, Good, HSG C
5.105	91	Weighted Average
1.611		31.56% Pervious Area
3.494		68.44% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Model_2024-09-05_Postdev

MSE 24-hr 4 10-yr. Dane Rainfall=4.09"

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Page 31

Summary for Subcatchment 2-SP: On-Site

Runoff = 0.23 cfs @ 12.13 hrs, Volume= 0.012 af, Depth= 1.66"
 Routed to Reach 2R : Southeast

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.030 hrs
 MSE 24-hr 4 10-yr. Dane Rainfall=4.09"

Area (ac)	CN	Description
0.087	74	>75% Grass cover, Good, HSG C
0.087		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

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MSE 24-hr 4 10-yr. Dane Rainfall=4.09"

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Page 32

Summary for Subcatchment 3-SP: On-Site

Runoff = 0.02 cfs @ 12.13 hrs, Volume= 0.001 af, Depth= 1.66"
 Routed to Reach 2R : Southeast

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.030 hrs
 MSE 24-hr 4 10-yr. Dane Rainfall=4.09"

Area (ac)	CN	Description
0.009	74	>75% Grass cover, Good, HSG C
0.009		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

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MSE 24-hr 4 10-yr. Dane Rainfall=4.09"

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Page 33

Summary for Subcatchment 4-SP: On-Site

Runoff = 4.31 cfs @ 12.13 hrs, Volume= 0.224 af, Depth= 2.04"
 Routed to Pond 2P : Infiltration Basin

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.030 hrs
 MSE 24-hr 4 10-yr. Dane Rainfall=4.09"

Area (ac)	CN	Description
* 0.042	98	Driveway
* 0.086	98	Sidewalk
* 0.119	100	Infiltration Basin Bottom
1.075	74	>75% Grass cover, Good, HSG C
1.322	79	Weighted Average
1.075		81.32% Pervious Area
0.247		18.68% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

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MSE 24-hr 4 10-yr. Dane Rainfall=4.09"

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Page 34

Summary for Reach 2R: Southeast

Inflow Area = 6.523 ac, 57.35% Impervious, Inflow Depth = 2.19" for 10-yr. Dane event
 Inflow = 5.13 cfs @ 12.15 hrs, Volume= 1.192 af
 Outflow = 5.13 cfs @ 12.15 hrs, Volume= 1.192 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.030 hrs

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MSE 24-hr 4 10-yr. Dane Rainfall=4.09"

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Page 35

Summary for Pond 1P: Wet Pond

Inflow Area = 5.105 ac, 68.44% Impervious, Inflow Depth = 3.10" for 10-yr. Dane event
 Inflow = 24.02 cfs @ 12.13 hrs, Volume= 1.320 af
 Outflow = 5.84 cfs @ 12.22 hrs, Volume= 1.315 af, Atten= 76%, Lag= 5.3 min
 Primary = 4.88 cfs @ 12.15 hrs, Volume= 0.436 af
 Routed to Pond 3P : ST-3
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Reach 2R : Southeast
 Tertiary = 1.02 cfs @ 12.30 hrs, Volume= 0.879 af
 Routed to Pond 2P : Infiltration Basin

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.030 hrs
 Peak Elev= 1,027.15' @ 12.37 hrs Surf.Area= 14,355 sf Storage= 26,897 cf

Plug-Flow detention time= 411.0 min calculated for 1.315 af (100% of inflow)
 Center-of-Mass det. time= 408.3 min (1,194.2 - 786.0)

Volume	Invert	Avail.Storage	Storage Description		
#1	1,025.00'	75,504 cf	Custom Stage Data (Irregular) Listed below (Recalc)		
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
1,025.00	10,800	380.0	0	0	10,800
1,026.00	12,400	410.0	11,591	11,591	12,727
1,027.00	14,100	430.0	13,241	24,832	14,128
1,028.00	15,900	460.0	14,991	39,823	16,299
1,029.00	17,800	480.0	16,841	56,664	17,867
1,030.00	19,900	510.0	18,840	75,504	20,282

Device	Routing	Invert	Outlet Devices
#1	Primary	1,024.00'	12.0" Round 12" RCP (STP-17) L= 99.9' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 1,024.00' / 1,022.32' S= 0.0168 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#2	Tertiary	1,025.00'	6.0" Round 6" PVC (STP-19) L= 34.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 1,025.00' / 1,024.00' S= 0.0294 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf
#3	Device 1	1,026.60'	48.0" Horiz. 48" Standpipe C= 0.600 Limited to weir flow at low heads
#4	Tertiary	1,028.00'	128.0' long x 6.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65 2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83
#5	Secondary	1,029.00'	50.0' long x 15.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

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MSE 24-hr 4 10-yr. Dane Rainfall=4.09"

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Page 36

Primary OutFlow Max=4.50 cfs @ 12.15 hrs HW=1,026.84' TW=1,024.48' (Dynamic Tailwater)
 ↳ **1=12" RCP (STP-17)** (Outlet Controls 4.50 cfs @ 5.72 fps)
 ↳ **3=48" Standpipe** (Passes 4.50 cfs of 4.88 cfs potential flow)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=1,025.00' TW=0.00' (Dynamic Tailwater)
 ↳ **5=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Tertiary OutFlow Max=1.01 cfs @ 12.30 hrs HW=1,027.13' TW=1,025.23' (Dynamic Tailwater)
 ↳ **2=6" PVC (STP-19)** (Outlet Controls 1.01 cfs @ 5.17 fps)
 ↳ **4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

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MSE 24-hr 4 10-yr. Dane Rainfall=4.09"

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Page 37

Summary for Pond 2P: Infiltration Basin

Inflow Area = 1.322 ac, 18.68% Impervious, Inflow Depth > 10.02" for 10-yr. Dane event
 Inflow = 5.23 cfs @ 12.13 hrs, Volume= 1.103 af
 Outflow = 0.49 cfs @ 18.59 hrs, Volume= 1.103 af, Atten= 91%, Lag= 387.1 min
 Discarded = 0.06 cfs @ 10.74 hrs, Volume= 0.361 af
 Primary = 0.43 cfs @ 18.59 hrs, Volume= 0.743 af
 Routed to Pond 3P : ST-3

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.030 hrs
 Peak Elev= 1,026.21' @ 18.59 hrs Surf.Area= 7,767 sf Storage= 14,249 cf

Plug-Flow detention time= 587.5 min calculated for 1.103 af (100% of inflow)
 Center-of-Mass det. time= 587.3 min (1,873.2 - 1,285.9)

Volume	Invert	Avail.Storage	Storage Description		
#1	1,024.00'	53,747 cf	Custom Stage Data (Irregular) Listed below (Recalc)		
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
1,024.00	5,200	260.0	0	0	5,200
1,025.00	6,300	290.0	5,741	5,741	6,542
1,026.00	7,500	310.0	6,891	12,632	7,542
1,027.00	8,800	340.0	8,141	20,774	9,128
1,028.00	10,200	360.0	9,491	30,265	10,296
1,029.00	11,700	390.0	10,941	41,207	12,125
1,030.00	13,400	410.0	12,540	53,747	13,460

Device	Routing	Invert	Outlet Devices
#1	Discarded	1,024.00'	0.500 in/hr Exfiltration over Surface area from 1,023.99' - 1,024.01' Excluded Surface area = 0 sf Phase-In= 0.01'
#2	Primary	1,023.00'	12.0" Round 12" RCP (STP-15&16) L= 188.6' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 1,023.00' / 1,022.32' S= 0.0036 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#3	Device 2	1,025.00'	4.0" Vert. 4" Orifice C= 0.600 Limited to weir flow at low heads
#4	Device 2	1,028.75'	48.0" Horiz. 48" Standpipe C= 0.600 Limited to weir flow at low heads

Discarded OutFlow Max=0.06 cfs @ 10.74 hrs HW=1,024.06' (Free Discharge)
 ↳1=Exfiltration (Exfiltration Controls 0.06 cfs)

Primary OutFlow Max=0.43 cfs @ 18.59 hrs HW=1,026.21' TW=1,022.64' (Dynamic Tailwater)
 ↳2=12" RCP (STP-15&16) (Passes 0.43 cfs of 3.93 cfs potential flow)
 ↳3=4" Orifice (Orifice Controls 0.43 cfs @ 4.92 fps)
 ↳4=48" Standpipe (Controls 0.00 cfs)

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MSE 24-hr 4 10-yr. Dane Rainfall=4.09"

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Page 38

Summary for Pond 3P: ST-3

Inflow Area = 6.427 ac, 58.21% Impervious, Inflow Depth = 2.20" for 10-yr. Dane event
 Inflow = 4.93 cfs @ 12.46 hrs, Volume= 1.178 af
 Outflow = 4.93 cfs @ 12.46 hrs, Volume= 1.178 af, Atten= 0%, Lag= 0.0 min
 Primary = 4.93 cfs @ 12.46 hrs, Volume= 1.178 af
 Routed to Pond 4P : Ex. Inlet

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.030 hrs
 Peak Elev= 1,024.52' @ 12.46 hrs
 Flood Elev= 1,030.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	1,022.32'	12.0" Round 12" RCP (STP-18) L= 45.7' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 1,022.32' / 1,018.10' S= 0.0923 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 0.79 sf

Primary OutFlow Max=4.93 cfs @ 12.46 hrs HW=1,024.52' TW=1,020.30' (Dynamic Tailwater)
 ↳1=12" RCP (STP-18) (Inlet Controls 4.93 cfs @ 6.28 fps)

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MSE 24-hr 4 10-yr. Dane Rainfall=4.09"

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Page 39

Summary for Pond 4P: Ex. Inlet

Inflow Area = 6.427 ac, 58.21% Impervious, Inflow Depth = 2.20" for 10-yr. Dane event
 Inflow = 4.93 cfs @ 12.46 hrs, Volume= 1.178 af
 Outflow = 4.93 cfs @ 12.46 hrs, Volume= 1.178 af, Atten= 0%, Lag= 0.0 min
 Primary = 4.93 cfs @ 12.46 hrs, Volume= 1.178 af
 Routed to Reach 2R : Southeast

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.030 hrs
 Peak Elev= 1,020.30' @ 12.46 hrs
 Flood Elev= 1,021.81'

Device	Routing	Invert	Outlet Devices
#1	Primary	1,018.10'	12.0" Round 12" RCP L= 50.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 1,018.10' / 1,017.39' S= 0.0142 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 0.79 sf

Primary OutFlow Max=4.93 cfs @ 12.46 hrs HW=1,020.30' TW=0.00' (Dynamic Tailwater)
 ↳ **12" RCP** (Inlet Controls 4.93 cfs @ 6.28 fps)

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MSE 24-hr 4 100-yr. Dane Rainfall=6.66"

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Page 40

Time span=0.00-96.00 hrs, dt=0.030 hrs, 3201 points
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
 Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment1-SP: On-Site Runoff Area=5.105 ac 68.44% Impervious Runoff Depth=5.60"
 Tc=6.0 min CN=91 Runoff=41.78 cfs 2.384 af

Subcatchment2-SP: On-Site Runoff Area=0.087 ac 0.00% Impervious Runoff Depth=3.75"
 Tc=6.0 min CN=74 Runoff=0.52 cfs 0.027 af

Subcatchment3-SP: On-Site Runoff Area=0.009 ac 0.00% Impervious Runoff Depth=3.75"
 Tc=6.0 min CN=74 Runoff=0.05 cfs 0.003 af

Subcatchment4-SP: On-Site Runoff Area=1.322 ac 18.68% Impervious Runoff Depth=4.27"
 Tc=6.0 min CN=79 Runoff=8.88 cfs 0.471 af

Reach 2R: Southeast Inflow=6.12 cfs 2.493 af
 Outflow=6.12 cfs 2.493 af

Pond 1P: Wet Pond Peak Elev=1,028.16' Storage=42,369 cf Inflow=41.78 cfs 2.384 af
 Primary=5.19 cfs 1.432 af Secondary=0.00 cfs 0.000 af Tertiary=20.17 cfs 0.946 af Outflow=25.34 cfs 2.378 af

Pond 2P: Infiltration Basin Peak Elev=1,027.91' Storage=29,359 cf Inflow=25.20 cfs 1.417 af
 Discarded=0.06 cfs 0.386 af Primary=0.70 cfs 1.030 af Outflow=0.76 cfs 1.417 af

Pond 3P: ST-3 Peak Elev=1,025.09' Inflow=5.70 cfs 2.463 af
 12.0" Round Culvert n=0.013 L=45.7' S=0.0923 '/' Outflow=5.70 cfs 2.463 af

Pond 4P: Ex. Inlet Peak Elev=1,020.90' Inflow=5.70 cfs 2.463 af
 12.0" Round Culvert n=0.013 L=50.0' S=0.0142 '/' Outflow=5.70 cfs 2.463 af

Total Runoff Area = 6.523 ac Runoff Volume = 2.885 af Average Runoff Depth = 5.31"
42.65% Pervious = 2.782 ac 57.35% Impervious = 3.741 ac

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MSE 24-hr 4 100-yr. Dane Rainfall=6.66"

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Page 41

Summary for Subcatchment 1-SP: On-Site

Runoff = 41.78 cfs @ 12.13 hrs, Volume= 2.384 af, Depth= 5.60"
 Routed to Pond 1P : Wet Pond

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.030 hrs
 MSE 24-hr 4 100-yr. Dane Rainfall=6.66"

Area (ac)	CN	Description
* 2.524	98	Roof
* 0.516	98	Parking Lot
* 0.080	98	Driveway
* 0.124	98	Sidewalk
* 0.250	100	Wet Pond NWL
1.611	74	>75% Grass cover, Good, HSG C
5.105	91	Weighted Average
1.611		31.56% Pervious Area
3.494		68.44% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

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MSE 24-hr 4 100-yr. Dane Rainfall=6.66"

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Page 42

Summary for Subcatchment 2-SP: On-Site

Runoff = 0.52 cfs @ 12.13 hrs, Volume= 0.027 af, Depth= 3.75"
 Routed to Reach 2R : Southeast

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.030 hrs
 MSE 24-hr 4 100-yr. Dane Rainfall=6.66"

Area (ac)	CN	Description
0.087	74	>75% Grass cover, Good, HSG C
0.087		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

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MSE 24-hr 4 100-yr. Dane Rainfall=6.66"

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Page 43

Summary for Subcatchment 3-SP: On-Site

Runoff = 0.05 cfs @ 12.13 hrs, Volume= 0.003 af, Depth= 3.75"
 Routed to Reach 2R : Southeast

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.030 hrs
 MSE 24-hr 4 100-yr. Dane Rainfall=6.66"

Area (ac)	CN	Description
0.009	74	>75% Grass cover, Good, HSG C
0.009		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

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MSE 24-hr 4 100-yr. Dane Rainfall=6.66"

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Page 44

Summary for Subcatchment 4-SP: On-Site

Runoff = 8.88 cfs @ 12.13 hrs, Volume= 0.471 af, Depth= 4.27"
 Routed to Pond 2P : Infiltration Basin

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.030 hrs
 MSE 24-hr 4 100-yr. Dane Rainfall=6.66"

Area (ac)	CN	Description
* 0.042	98	Driveway
* 0.086	98	Sidewalk
* 0.119	100	Infiltration Basin Bottom
1.075	74	>75% Grass cover, Good, HSG C

1.322	79	Weighted Average
1.075		81.32% Pervious Area
0.247		18.68% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

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MSE 24-hr 4 100-yr. Dane Rainfall=6.66"

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Page 45

Summary for Reach 2R: Southeast

Inflow Area = 6.523 ac, 57.35% Impervious, Inflow Depth = 4.59" for 100-yr. Dane event
Inflow = 6.12 cfs @ 12.16 hrs, Volume= 2.493 af
Outflow = 6.12 cfs @ 12.16 hrs, Volume= 2.493 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.030 hrs

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MSE 24-hr 4 100-yr. Dane Rainfall=6.66"

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Page 46

Summary for Pond 1P: Wet Pond

Inflow Area = 5.105 ac, 68.44% Impervious, Inflow Depth = 5.60" for 100-yr. Dane event
Inflow = 41.78 cfs @ 12.13 hrs, Volume= 2.384 af
Outflow = 25.34 cfs @ 12.21 hrs, Volume= 2.378 af, Atten= 39%, Lag= 5.2 min
Primary = 5.19 cfs @ 12.18 hrs, Volume= 1.432 af
Routed to Pond 3P : ST-3
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to Reach 2R : Southeast
Tertiary = 20.17 cfs @ 12.21 hrs, Volume= 0.946 af
Routed to Pond 2P : Infiltration Basin

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.030 hrs
Peak Elev= 1,028.16' @ 12.21 hrs Surf.Area= 16,194 sf Storage= 42,369 cf

Plug-Flow detention time= 293.9 min calculated for 2.377 af (100% of inflow)
Center-of-Mass det. time= 293.4 min (1,066.0 - 772.6)

Volume	Invert	Avail.Storage	Storage	Description	
#1	1,025.00'	75,504 cf		Custom Stage Data (Irregular) Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
1,025.00	10,800	380.0	0	0	10,800
1,026.00	12,400	410.0	11,591	11,591	12,727
1,027.00	14,100	430.0	13,241	24,832	14,128
1,028.00	15,900	460.0	14,991	39,823	16,299
1,029.00	17,800	480.0	16,841	56,664	17,867
1,030.00	19,900	510.0	18,840	75,504	20,282

Device	Routing	Invert	Outlet Devices
#1	Primary	1,024.00'	12.0" Round 12" RCP (STP-17) L= 99.9' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 1,024.00' / 1,022.32' S= 0.0168 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#2	Tertiary	1,025.00'	6.0" Round 6" PVC (STP-19) L= 34.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 1,025.00' / 1,024.00' S= 0.0294 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf
#3	Device 1	1,026.60'	48.0" Horiz. 48" Standpipe C= 0.600 Limited to weir flow at low heads
#4	Tertiary	1,028.00'	128.0' long x 6.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65 2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83
#5	Secondary	1,029.00'	50.0' long x 15.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

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MSE 24-hr 4 100-yr. Dane Rainfall=6.66"

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Page 47

Primary OutFlow Max=5.14 cfs @ 12.18 hrs HW=1,028.13' TW=1,025.04' (Dynamic Tailwater)

↳ **1=12" RCP (STP-17)** (Outlet Controls 5.14 cfs @ 6.55 fps)

↳ **3=48" Standpipe** (Passes 5.14 cfs of 74.84 cfs potential flow)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=1,025.00' TW=0.00' (Dynamic Tailwater)

↳ **5=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Tertiary OutFlow Max=19.68 cfs @ 12.21 hrs HW=1,028.16' TW=1,026.62' (Dynamic Tailwater)

↳ **2=6" PVC (STP-19)** (Outlet Controls 0.91 cfs @ 4.65 fps)

↳ **4=Broad-Crested Rectangular Weir** (Weir Controls 18.76 cfs @ 0.94 fps)

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MSE 24-hr 4 100-yr. Dane Rainfall=6.66"

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Page 48

Summary for Pond 2P: Infiltration Basin

Inflow Area = 1.322 ac, 18.68% Impervious, Inflow Depth = 12.86" for 100-yr. Dane event
Inflow = 25.20 cfs @ 12.21 hrs, Volume= 1.417 af
Outflow = 0.76 cfs @ 13.01 hrs, Volume= 1.417 af, Atten= 97%, Lag= 48.3 min
Discarded = 0.06 cfs @ 8.73 hrs, Volume= 0.386 af
Primary = 0.70 cfs @ 13.01 hrs, Volume= 1.030 af
Routed to Pond 3P : ST-3

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.030 hrs
Peak Elev= 1,027.91' @ 13.01 hrs Surf.Area= 10,071 sf Storage= 29,359 cf

Plug-Flow detention time= 602.9 min calculated for 1.417 af (100% of inflow)
Center-of-Mass det. time= 602.8 min (1,797.1 - 1,194.3)

Volume	Invert	Avail.Storage	Storage Description		
#1	1,024.00'	53,747 cf	Custom Stage Data (Irregular) Listed below (Recalc)		
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
1,024.00	5,200	260.0	0	0	5,200
1,025.00	6,300	290.0	5,741	5,741	6,542
1,026.00	7,500	310.0	6,891	12,632	7,542
1,027.00	8,800	340.0	8,141	20,774	9,128
1,028.00	10,200	360.0	9,491	30,265	10,296
1,029.00	11,700	390.0	10,941	41,207	12,125
1,030.00	13,400	410.0	12,540	53,747	13,460

Device	Routing	Invert	Outlet Devices
#1	Discarded	1,024.00'	0.500 in/hr Exfiltration over Surface area from 1,023.99' - 1,024.01' Excluded Surface area = 0 sf Phase-In= 0.01'
#2	Primary	1,023.00'	12.0" Round 12" RCP (STP-15&16) L= 188.6' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 1,023.00' / 1,022.32' S= 0.0036 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#3	Device 2	1,025.00'	4.0" Vert. 4" Orifice C= 0.600 Limited to weir flow at low heads
#4	Device 2	1,028.75'	48.0" Horiz. 48" Standpipe C= 0.600 Limited to weir flow at low heads

Discarded OutFlow Max=0.06 cfs @ 8.73 hrs HW=1,024.06' (Free Discharge)

↳ **1=Exfiltration** (Exfiltration Controls 0.06 cfs)

Primary OutFlow Max=0.70 cfs @ 13.01 hrs HW=1,027.91' TW=1,025.04' (Dynamic Tailwater)

↳ **2=12" RCP (STP-15&16)** (Passes 0.70 cfs of 3.92 cfs potential flow)

↳ **3=4" Orifice** (Orifice Controls 0.70 cfs @ 7.98 fps)

↳ **4=48" Standpipe** (Controls 0.00 cfs)

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MSE 24-hr 4 100-yr. Dane Rainfall=6.66"

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Page 49

Summary for Pond 3P: ST-3

Inflow Area = 6.427 ac, 58.21% Impervious, Inflow Depth = 4.60" for 100-yr. Dane event
Inflow = 5.70 cfs @ 12.46 hrs, Volume= 2.463 af
Outflow = 5.70 cfs @ 12.46 hrs, Volume= 2.463 af, Atten= 0%, Lag= 0.0 min
Primary = 5.70 cfs @ 12.46 hrs, Volume= 2.463 af
Routed to Pond 4P : Ex. Inlet

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.030 hrs
Peak Elev= 1,025.09' @ 12.46 hrs
Flood Elev= 1,030.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	1,022.32'	12.0" Round 12" RCP (STP-18) L= 45.7' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 1,022.32' / 1,018.10' S= 0.0923 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 0.79 sf

Primary OutFlow Max=5.70 cfs @ 12.46 hrs HW=1,025.09' TW=1,020.90' (Dynamic Tailwater)
↑=12" RCP (STP-18) (Inlet Controls 5.70 cfs @ 7.26 fps)

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MSE 24-hr 4 100-yr. Dane Rainfall=6.66"

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Page 50

Summary for Pond 4P: Ex. Inlet

Inflow Area = 6.427 ac, 58.21% Impervious, Inflow Depth = 4.60" for 100-yr. Dane event
Inflow = 5.70 cfs @ 12.46 hrs, Volume= 2.463 af
Outflow = 5.70 cfs @ 12.46 hrs, Volume= 2.463 af, Atten= 0%, Lag= 0.0 min
Primary = 5.70 cfs @ 12.46 hrs, Volume= 2.463 af
Routed to Reach 2R : Southeast

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.030 hrs
Peak Elev= 1,020.90' @ 12.46 hrs
Flood Elev= 1,021.81'

Device	Routing	Invert	Outlet Devices
#1	Primary	1,018.10'	12.0" Round 12" RCP L= 50.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 1,018.10' / 1,017.39' S= 0.0142 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 0.79 sf

Primary OutFlow Max=5.70 cfs @ 12.46 hrs HW=1,020.90' TW=0.00' (Dynamic Tailwater)
↑=12" RCP (Barrel Controls 5.70 cfs @ 7.26 fps)

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MSE 24-hr 4 200-yr. Dane Rainfall=7.53"

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Page 51

Time span=0.00-96.00 hrs, dt=0.030 hrs, 3201 points

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN

Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment1-SP: On-Site

Runoff Area=5.105 ac 68.44% Impervious Runoff Depth=6.46"
Tc=6.0 min CN=91 Runoff=47.73 cfs 2.749 af

Subcatchment2-SP: On-Site

Runoff Area=0.087 ac 0.00% Impervious Runoff Depth=4.51"
Tc=6.0 min CN=74 Runoff=0.62 cfs 0.033 af

Subcatchment3-SP: On-Site

Runoff Area=0.009 ac 0.00% Impervious Runoff Depth=4.51"
Tc=6.0 min CN=74 Runoff=0.06 cfs 0.003 af

Subcatchment4-SP: On-Site

Runoff Area=1.322 ac 18.68% Impervious Runoff Depth=5.07"
Tc=6.0 min CN=79 Runoff=10.45 cfs 0.559 af

Reach 2R: Southeast

Inflow=6.39 cfs 2.944 af
Outflow=6.39 cfs 2.944 af

Pond 1P: Wet Pond

Peak Elev=1,028.37' Storage=45,854 cf Inflow=47.73 cfs 2.749 af
Primary=5.22 cfs 1.765 af Secondary=0.00 cfs 0.000 af Tertiary=34.71 cfs 0.977 af Outflow=39.88 cfs 2.742 af

Pond 2P: Infiltration Basin

Peak Elev=1,028.46' Storage=35,132 cf Inflow=43.12 cfs 1.536 af
Discarded=0.06 cfs 0.394 af Primary=0.76 cfs 1.143 af Outflow=0.82 cfs 1.536 af

Pond 3P: ST-3

Peak Elev=1,025.26' Inflow=5.91 cfs 2.908 af
12.0" Round Culvert n=0.013 L=45.7' S=0.0923 '/' Outflow=5.91 cfs 2.908 af

Pond 4P: Ex. Inlet

Peak Elev=1,021.09' Inflow=5.91 cfs 2.908 af
12.0" Round Culvert n=0.013 L=50.0' S=0.0142 '/' Outflow=5.91 cfs 2.908 af

Total Runoff Area = 6.523 ac Runoff Volume = 3.343 af Average Runoff Depth = 6.15"
42.65% Pervious = 2.782 ac 57.35% Impervious = 3.741 ac

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MSE 24-hr 4 200-yr. Dane Rainfall=7.53"

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Page 52

Summary for Subcatchment 1-SP: On-Site

Runoff = 47.73 cfs @ 12.13 hrs, Volume= 2.749 af, Depth= 6.46"
Routed to Pond 1P : Wet Pond

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.030 hrs
MSE 24-hr 4 200-yr. Dane Rainfall=7.53"

Area (ac)	CN	Description
* 2.524	98	Roof
* 0.516	98	Parking Lot
* 0.080	98	Driveway
* 0.124	98	Sidewalk
* 0.250	100	Wet Pond NWL
1.611	74	>75% Grass cover, Good, HSG C
5.105	91	Weighted Average
1.611		31.56% Pervious Area
3.494		68.44% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

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MSE 24-hr 4 200-yr. Dane Rainfall=7.53"

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Page 53

Summary for Subcatchment 2-SP: On-Site

Runoff = 0.62 cfs @ 12.13 hrs, Volume= 0.033 af, Depth= 4.51"
 Routed to Reach 2R : Southeast

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.030 hrs
 MSE 24-hr 4 200-yr. Dane Rainfall=7.53"

Area (ac)	CN	Description
0.087	74	>75% Grass cover, Good, HSG C
0.087		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

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MSE 24-hr 4 200-yr. Dane Rainfall=7.53"

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Page 54

Summary for Subcatchment 3-SP: On-Site

Runoff = 0.06 cfs @ 12.13 hrs, Volume= 0.003 af, Depth= 4.51"
 Routed to Reach 2R : Southeast

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.030 hrs
 MSE 24-hr 4 200-yr. Dane Rainfall=7.53"

Area (ac)	CN	Description
0.009	74	>75% Grass cover, Good, HSG C
0.009		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

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MSE 24-hr 4 200-yr. Dane Rainfall=7.53"

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Page 55

Summary for Subcatchment 4-SP: On-Site

Runoff = 10.45 cfs @ 12.13 hrs, Volume= 0.559 af, Depth= 5.07"
 Routed to Pond 2P : Infiltration Basin

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.030 hrs
 MSE 24-hr 4 200-yr. Dane Rainfall=7.53"

Area (ac)	CN	Description
* 0.042	98	Driveway
* 0.086	98	Sidewalk
* 0.119	100	Infiltration Basin Bottom
1.075	74	>75% Grass cover, Good, HSG C
1.322	79	Weighted Average
1.075		81.32% Pervious Area
0.247		18.68% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

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MSE 24-hr 4 200-yr. Dane Rainfall=7.53"

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Page 56

Summary for Reach 2R: Southeast

Inflow Area = 6.523 ac, 57.35% Impervious, Inflow Depth = 5.42" for 200-yr. Dane event
 Inflow = 6.39 cfs @ 12.15 hrs, Volume= 2.944 af
 Outflow = 6.39 cfs @ 12.15 hrs, Volume= 2.944 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.030 hrs

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MSE 24-hr 4 200-yr. Dane Rainfall=7.53"

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Page 57

Summary for Pond 1P: Wet Pond

Inflow Area = 5.105 ac, 68.44% Impervious, Inflow Depth = 6.46" for 200-yr. Dane event
 Inflow = 47.73 cfs @ 12.13 hrs, Volume= 2.749 af
 Outflow = 39.88 cfs @ 12.18 hrs, Volume= 2.742 af, Atten= 16%, Lag= 3.0 min
 Primary = 5.22 cfs @ 12.15 hrs, Volume= 1.765 af
 Routed to Pond 3P : ST-3
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Reach 2R : Southeast
 Tertiary = 34.71 cfs @ 12.18 hrs, Volume= 0.977 af
 Routed to Pond 2P : Infiltration Basin

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.030 hrs
 Peak Elev= 1,028.37' @ 12.62 hrs Surf.Area= 16,593 sf Storage= 45,854 cf

Plug-Flow detention time= 276.8 min calculated for 2.742 af (100% of inflow)
 Center-of-Mass det. time= 276.5 min (1,046.0 - 769.5)

Volume	Invert	Avail.Storage	Storage Description		
#1	1,025.00'	75,504 cf	Custom Stage Data (Irregular) Listed below (Recalc)		
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
1,025.00	10,800	380.0	0	0	10,800
1,026.00	12,400	410.0	11,591	11,591	12,727
1,027.00	14,100	430.0	13,241	24,832	14,128
1,028.00	15,900	460.0	14,991	39,823	16,299
1,029.00	17,800	480.0	16,841	56,664	17,867
1,030.00	19,900	510.0	18,840	75,504	20,282

Device	Routing	Invert	Outlet Devices
#1	Primary	1,024.00'	12.0" Round 12" RCP (STP-17) L= 99.9' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 1,024.00' / 1,022.32' S= 0.0168 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#2	Tertiary	1,025.00'	6.0" Round 6" PVC (STP-19) L= 34.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 1,025.00' / 1,024.00' S= 0.0294 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf
#3	Device 1	1,026.60'	48.0" Horiz. 48" Standpipe C= 0.600 Limited to weir flow at low heads
#4	Tertiary	1,028.00'	128.0' long x 6.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65 2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83
#5	Secondary	1,029.00'	50.0' long x 15.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

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MSE 24-hr 4 200-yr. Dane Rainfall=7.53"

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Page 58

Primary OutFlow Max=5.14 cfs @ 12.15 hrs HW=1,028.19' TW=1,025.10' (Dynamic Tailwater)
 ↳ **1=12" RCP (STP-17)** (Outlet Controls 5.14 cfs @ 6.55 fps)
 ↳ **3=48" Standpipe** (Passes 5.14 cfs of 76.32 cfs potential flow)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=1,025.00' TW=0.00' (Dynamic Tailwater)
 ↳ **5=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Tertiary OutFlow Max=33.92 cfs @ 12.18 hrs HW=1,028.23' TW=1,027.08' (Dynamic Tailwater)
 ↳ **2=6" PVC (STP-19)** (Outlet Controls 0.79 cfs @ 4.01 fps)
 ↳ **4=Broad-Crested Rectangular Weir**(Weir Controls 33.13 cfs @ 1.14 fps)

Model_2024-09-05_Postdev

MSE 24-hr 4 200-yr. Dane Rainfall=7.53"

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Page 59

Summary for Pond 2P: Infiltration Basin

Inflow Area = 1.322 ac, 18.68% Impervious, Inflow Depth = 13.94" for 200-yr. Dane event
 Inflow = 43.12 cfs @ 12.17 hrs, Volume= 1.536 af
 Outflow = 0.82 cfs @ 13.45 hrs, Volume= 1.536 af, Atten= 98%, Lag= 76.8 min
 Discarded = 0.06 cfs @ 8.13 hrs, Volume= 0.394 af
 Primary = 0.76 cfs @ 13.45 hrs, Volume= 1.143 af
 Routed to Pond 3P : ST-3

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.030 hrs
 Peak Elev= 1,028.46' @ 13.11 hrs Surf.Area= 10,880 sf Storage= 35,132 cf

Plug-Flow detention time= 622.5 min calculated for 1.536 af (100% of inflow)
 Center-of-Mass det. time= 622.4 min (1,777.3 - 1,154.9)

Volume	Invert	Avail.Storage	Storage Description		
#1	1,024.00'	53,747 cf	Custom Stage Data (Irregular) Listed below (Recalc)		
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
1,024.00	5,200	260.0	0	0	5,200
1,025.00	6,300	290.0	5,741	5,741	6,542
1,026.00	7,500	310.0	6,891	12,632	7,542
1,027.00	8,800	340.0	8,141	20,774	9,128
1,028.00	10,200	360.0	9,491	30,265	10,296
1,029.00	11,700	390.0	10,941	41,207	12,125
1,030.00	13,400	410.0	12,540	53,747	13,460

Device	Routing	Invert	Outlet Devices
#1	Discarded	1,024.00'	0.500 in/hr Exfiltration over Surface area from 1,023.99' - 1,024.01' Excluded Surface area = 0 sf Phase-In= 0.01'
#2	Primary	1,023.00'	12.0" Round 12" RCP (STP-15&16) L= 188.6' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 1,023.00' / 1,022.32' S= 0.0036 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#3	Device 2	1,025.00'	4.0" Vert. 4" Orifice C= 0.600 Limited to weir flow at low heads
#4	Device 2	1,028.75'	48.0" Horiz. 48" Standpipe C= 0.600 Limited to weir flow at low heads

Discarded OutFlow Max=0.06 cfs @ 8.13 hrs HW=1,024.06' (Free Discharge)
 ↳ **1=Exfiltration** (Exfiltration Controls 0.06 cfs)

Primary OutFlow Max=0.76 cfs @ 13.45 hrs HW=1,028.45' TW=1,025.16' (Dynamic Tailwater)
 ↳ **2=12" RCP (STP-15&16)** (Passes 0.76 cfs of 4.20 cfs potential flow)
 ↳ **3=4" Orifice** (Orifice Controls 0.76 cfs @ 8.72 fps)
 ↳ **4=48" Standpipe** (Controls 0.00 cfs)

Model_2024-09-05_Postdev

MSE 24-hr 4 200-yr. Dane Rainfall=7.53"

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Page 60

Summary for Pond 3P: ST-3

Inflow Area = 6.427 ac, 58.21% Impervious, Inflow Depth = 5.43" for 200-yr. Dane event
 Inflow = 5.91 cfs @ 12.61 hrs, Volume= 2.908 af
 Outflow = 5.91 cfs @ 12.61 hrs, Volume= 2.908 af, Atten= 0%, Lag= 0.0 min
 Primary = 5.91 cfs @ 12.61 hrs, Volume= 2.908 af
 Routed to Pond 4P : Ex. Inlet

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.030 hrs
 Peak Elev= 1,025.26' @ 12.61 hrs
 Flood Elev= 1,030.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	1,022.32'	12.0" Round 12" RCP (STP-18) L= 45.7' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 1,022.32' / 1,018.10' S= 0.0923 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 0.79 sf

Primary OutFlow Max=5.91 cfs @ 12.61 hrs HW=1,025.26' TW=1,021.09' (Dynamic Tailwater)
 ↳ **1=12" RCP (STP-18)** (Inlet Controls 5.91 cfs @ 7.52 fps)

Model_2024-09-05_Postdev

MSE 24-hr 4 200-yr. Dane Rainfall=7.53"

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Page 61

Summary for Pond 4P: Ex. Inlet

Inflow Area = 6.427 ac, 58.21% Impervious, Inflow Depth = 5.43" for 200-yr. Dane event
Inflow = 5.91 cfs @ 12.61 hrs, Volume= 2.908 af
Outflow = 5.91 cfs @ 12.61 hrs, Volume= 2.908 af, Atten= 0%, Lag= 0.0 min
Primary = 5.91 cfs @ 12.61 hrs, Volume= 2.908 af
Routed to Reach 2R : Southeast

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.030 hrs
Peak Elev= 1,021.09' @ 12.61 hrs
Flood Elev= 1,021.81'

Device	Routing	Invert	Outlet Devices
#1	Primary	1,018.10'	12.0" Round 12" RCP L= 50.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 1,018.10' / 1,017.39' S= 0.0142 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 0.79 sf

Primary OutFlow Max=5.91 cfs @ 12.61 hrs HW=1,021.09' TW=0.00' (Dynamic Tailwater)
↑**1=12" RCP** (Barrel Controls 5.91 cfs @ 7.52 fps)

Model_2024-09-05_Postdev

MSE 24-hr 4 500-yr. Dane Rainfall=8.94"

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Page 62

Time span=0.00-96.00 hrs, dt=0.030 hrs, 3201 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment1-SP: On-Site Runoff Area=5.105 ac 68.44% Impervious Runoff Depth=7.85"
Tc=6.0 min CN=91 Runoff=57.32 cfs 3.341 af

Subcatchment2-SP: On-Site Runoff Area=0.087 ac 0.00% Impervious Runoff Depth=5.77"
Tc=6.0 min CN=74 Runoff=0.79 cfs 0.042 af

Subcatchment3-SP: On-Site Runoff Area=0.009 ac 0.00% Impervious Runoff Depth=5.77"
Tc=6.0 min CN=74 Runoff=0.08 cfs 0.004 af

Subcatchment4-SP: On-Site Runoff Area=1.322 ac 18.68% Impervious Runoff Depth=6.39"
Tc=6.0 min CN=79 Runoff=13.01 cfs 0.704 af

Reach 2R: Southeast Inflow=8.24 cfs 3.683 af
Outflow=8.24 cfs 3.683 af

Pond 1P: Wet Pond Peak Elev=1,029.00' Storage=56,592 cf Inflow=57.32 cfs 3.341 af
Primary=5.25 cfs 2.165 af Secondary=0.00 cfs 0.000 af Tertiary=50.09 cfs 1.170 af Outflow=55.25 cfs 3.335 af

Pond 2P: Infiltration Basin Peak Elev=1,029.02' Storage=41,467 cf Inflow=62.68 cfs 1.874 af
Discarded=0.06 cfs 0.402 af Primary=3.59 cfs 1.472 af Outflow=3.65 cfs 1.874 af

Pond 3P: ST-3 Peak Elev=1,027.44' Inflow=8.14 cfs 3.637 af
12.0" Round Culvert n=0.013 L=45.7' S=0.0923 '/' Outflow=8.14 cfs 3.637 af

Pond 4P: Ex. Inlet Peak Elev=1,023.51' Inflow=8.14 cfs 3.637 af
12.0" Round Culvert n=0.013 L=50.0' S=0.0142 '/' Outflow=8.14 cfs 3.637 af

Total Runoff Area = 6.523 ac Runoff Volume = 4.091 af Average Runoff Depth = 7.53"
42.65% Pervious = 2.782 ac 57.35% Impervious = 3.741 ac

Model_2024-09-05_Postdev

MSE 24-hr 4 500-yr. Dane Rainfall=8.94"

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Page 63

Summary for Subcatchment 1-SP: On-Site

Runoff = 57.32 cfs @ 12.13 hrs, Volume= 3.341 af, Depth= 7.85"
 Routed to Pond 1P : Wet Pond

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.030 hrs
 MSE 24-hr 4 500-yr. Dane Rainfall=8.94"

Area (ac)	CN	Description
* 2.524	98	Roof
* 0.516	98	Parking Lot
* 0.080	98	Driveway
* 0.124	98	Sidewalk
* 0.250	100	Wet Pond NWL
1.611	74	>75% Grass cover, Good, HSG C
5.105	91	Weighted Average
1.611		31.56% Pervious Area
3.494		68.44% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Model_2024-09-05_Postdev

MSE 24-hr 4 500-yr. Dane Rainfall=8.94"

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Page 64

Summary for Subcatchment 2-SP: On-Site

Runoff = 0.79 cfs @ 12.13 hrs, Volume= 0.042 af, Depth= 5.77"
 Routed to Reach 2R : Southeast

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.030 hrs
 MSE 24-hr 4 500-yr. Dane Rainfall=8.94"

Area (ac)	CN	Description
0.087	74	>75% Grass cover, Good, HSG C
0.087		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

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MSE 24-hr 4 500-yr. Dane Rainfall=8.94"

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Page 65

Summary for Subcatchment 3-SP: On-Site

Runoff = 0.08 cfs @ 12.13 hrs, Volume= 0.004 af, Depth= 5.77"
 Routed to Reach 2R : Southeast

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.030 hrs
 MSE 24-hr 4 500-yr. Dane Rainfall=8.94"

Area (ac)	CN	Description
0.009	74	>75% Grass cover, Good, HSG C
0.009		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

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MSE 24-hr 4 500-yr. Dane Rainfall=8.94"

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Page 66

Summary for Subcatchment 4-SP: On-Site

Runoff = 13.01 cfs @ 12.13 hrs, Volume= 0.704 af, Depth= 6.39"
 Routed to Pond 2P : Infiltration Basin

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.030 hrs
 MSE 24-hr 4 500-yr. Dane Rainfall=8.94"

Area (ac)	CN	Description
* 0.042	98	Driveway
* 0.086	98	Sidewalk
* 0.119	100	Infiltration Basin Bottom
1.075	74	>75% Grass cover, Good, HSG C

1.322	79	Weighted Average
1.075		81.32% Pervious Area
0.247		18.68% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

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MSE 24-hr 4 500-yr. Dane Rainfall=8.94"

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Page 67

Summary for Reach 2R: Southeast

Inflow Area = 6.523 ac, 57.35% Impervious, Inflow Depth = 6.78" for 500-yr. Dane event
Inflow = 8.24 cfs @ 12.63 hrs, Volume= 3.683 af
Outflow = 8.24 cfs @ 12.63 hrs, Volume= 3.683 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.030 hrs

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MSE 24-hr 4 500-yr. Dane Rainfall=8.94"

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Page 68

Summary for Pond 1P: Wet Pond

Inflow Area = 5.105 ac, 68.44% Impervious, Inflow Depth = 7.85" for 500-yr. Dane event
Inflow = 57.32 cfs @ 12.13 hrs, Volume= 3.341 af
Outflow = 55.25 cfs @ 12.15 hrs, Volume= 3.335 af, Atten= 4%, Lag= 1.4 min
Primary = 5.25 cfs @ 13.77 hrs, Volume= 2.165 af
Routed to Pond 3P : ST-3
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to Reach 2R : Southeast
Tertiary = 50.09 cfs @ 12.15 hrs, Volume= 1.170 af
Routed to Pond 2P : Infiltration Basin

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.030 hrs
Peak Elev= 1,029.00' @ 12.63 hrs Surf.Area= 17,792 sf Storage= 56,592 cf

Plug-Flow detention time= 257.3 min calculated for 3.334 af (100% of inflow)
Center-of-Mass det. time= 257.3 min (1,022.7 - 765.4)

Volume	Invert	Avail.Storage	Storage Description		
#1	1,025.00'	75,504 cf	Custom Stage Data (Irregular) Listed below (Recalc)		
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
1,025.00	10,800	380.0	0	0	10,800
1,026.00	12,400	410.0	11,591	11,591	12,727
1,027.00	14,100	430.0	13,241	24,832	14,128
1,028.00	15,900	460.0	14,991	39,823	16,299
1,029.00	17,800	480.0	16,841	56,664	17,867
1,030.00	19,900	510.0	18,840	75,504	20,282

Device	Routing	Invert	Outlet Devices
#1	Primary	1,024.00'	12.0" Round 12" RCP (STP-17) L= 99.9' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 1,024.00' / 1,022.32' S= 0.0168 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#2	Tertiary	1,025.00'	6.0" Round 6" PVC (STP-19) L= 34.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 1,025.00' / 1,024.00' S= 0.0294 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf
#3	Device 1	1,026.60'	48.0" Horiz. 48" Standpipe C= 0.600 Limited to weir flow at low heads
#4	Tertiary	1,028.00'	128.0' long x 6.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65 2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83
#5	Secondary	1,029.00'	50.0' long x 15.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Model_2024-09-05_Postdev

MSE 24-hr 4 500-yr. Dane Rainfall=8.94"

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Page 69

Primary OutFlow Max=5.26 cfs @ 13.77 hrs HW=1,028.61' TW=1,025.38' (Dynamic Tailwater)

↳ **1=12" RCP (STP-17)** (Outlet Controls 5.26 cfs @ 6.69 fps)

↳ **3=48" Standpipe** (Passes 5.26 cfs of 85.81 cfs potential flow)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=1,025.00' TW=0.00' (Dynamic Tailwater)

↳ **5=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Tertiary OutFlow Max=49.73 cfs @ 12.15 hrs HW=1,028.29' TW=1,027.90' (Dynamic Tailwater)

↳ **2=6" PVC (STP-19)** (Outlet Controls 0.46 cfs @ 2.36 fps)

↳ **4=Broad-Crested Rectangular Weir** (Weir Controls 49.26 cfs @ 1.32 fps)

Model_2024-09-05_Postdev

MSE 24-hr 4 500-yr. Dane Rainfall=8.94"

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Page 70

Summary for Pond 2P: Infiltration Basin

Inflow Area = 1.322 ac, 18.68% Impervious, Inflow Depth = 17.01" for 500-yr. Dane event
Inflow = 62.68 cfs @ 12.15 hrs, Volume= 1.874 af
Outflow = 3.65 cfs @ 12.63 hrs, Volume= 1.874 af, Atten= 94%, Lag= 28.8 min
Discarded = 0.06 cfs @ 7.38 hrs, Volume= 0.402 af
Primary = 3.59 cfs @ 12.63 hrs, Volume= 1.472 af
Routed to Pond 3P : ST-3

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.030 hrs
Peak Elev= 1,029.02' @ 12.57 hrs Surf.Area= 11,737 sf Storage= 41,467 cf

Plug-Flow detention time= 564.5 min calculated for 1.874 af (100% of inflow)
Center-of-Mass det. time= 564.4 min (1,651.0 - 1,086.6)

Volume	Invert	Avail.Storage	Storage Description		
#1	1,024.00'	53,747 cf	Custom Stage Data (Irregular) Listed below (Recalc)		
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
1,024.00	5,200	260.0	0	0	5,200
1,025.00	6,300	290.0	5,741	5,741	6,542
1,026.00	7,500	310.0	6,891	12,632	7,542
1,027.00	8,800	340.0	8,141	20,774	9,128
1,028.00	10,200	360.0	9,491	30,265	10,296
1,029.00	11,700	390.0	10,941	41,207	12,125
1,030.00	13,400	410.0	12,540	53,747	13,460

Device	Routing	Invert	Outlet Devices
#1	Discarded	1,024.00'	0.500 in/hr Exfiltration over Surface area from 1,023.99' - 1,024.01' Excluded Surface area = 0 sf Phase-In= 0.01'
#2	Primary	1,023.00'	12.0" Round 12" RCP (STP-15&16) L= 188.6' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 1,023.00' / 1,022.32' S= 0.0036 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#3	Device 2	1,025.00'	4.0" Vert. 4" Orifice C= 0.600 Limited to weir flow at low heads
#4	Device 2	1,028.75'	48.0" Horiz. 48" Standpipe C= 0.600 Limited to weir flow at low heads

Discarded OutFlow Max=0.06 cfs @ 7.38 hrs HW=1,024.06' (Free Discharge)

↳ **1=Exfiltration** (Exfiltration Controls 0.06 cfs)

Primary OutFlow Max=2.97 cfs @ 12.63 hrs HW=1,028.99' TW=1,027.34' (Dynamic Tailwater)

↳ **2=12" RCP (STP-15&16)** (Outlet Controls 2.97 cfs @ 3.79 fps)

↳ **3=4" Orifice** (Passes < 0.54 cfs potential flow)

↳ **4=48" Standpipe** (Passes < 4.85 cfs potential flow)

Model_2024-09-05_Postdev

MSE 24-hr 4 500-yr. Dane Rainfall=8.94"

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Page 71

Summary for Pond 3P: ST-3

Inflow Area = 6.427 ac, 58.21% Impervious, Inflow Depth = 6.79" for 500-yr. Dane event
Inflow = 8.14 cfs @ 12.63 hrs, Volume= 3.637 af
Outflow = 8.14 cfs @ 12.63 hrs, Volume= 3.637 af, Atten= 0%, Lag= 0.0 min
Primary = 8.14 cfs @ 12.63 hrs, Volume= 3.637 af
Routed to Pond 4P : Ex. Inlet

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.030 hrs
Peak Elev= 1,027.44' @ 12.63 hrs
Flood Elev= 1,030.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	1,022.32'	12.0" Round 12" RCP (STP-18) L= 45.7' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 1,022.32' / 1,018.10' S= 0.0923 ' / Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 0.79 sf

Primary OutFlow Max=7.34 cfs @ 12.63 hrs HW=1,027.34' TW=1,023.36' (Dynamic Tailwater)
↑=12" RCP (STP-18) (Outlet Controls 7.34 cfs @ 9.35 fps)

Model_2024-09-05_Postdev

MSE 24-hr 4 500-yr. Dane Rainfall=8.94"

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Page 72

Summary for Pond 4P: Ex. Inlet

Inflow Area = 6.427 ac, 58.21% Impervious, Inflow Depth = 6.79" for 500-yr. Dane event
Inflow = 8.14 cfs @ 12.63 hrs, Volume= 3.637 af
Outflow = 8.14 cfs @ 12.63 hrs, Volume= 3.637 af, Atten= 0%, Lag= 0.0 min
Primary = 8.14 cfs @ 12.63 hrs, Volume= 3.637 af
Routed to Reach 2R : Southeast

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.030 hrs
Peak Elev= 1,023.51' @ 12.63 hrs
Flood Elev= 1,021.81'

Device	Routing	Invert	Outlet Devices
#1	Primary	1,018.10'	12.0" Round 12" RCP L= 50.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 1,018.10' / 1,017.39' S= 0.0142 ' / Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 0.79 sf

Primary OutFlow Max=8.02 cfs @ 12.63 hrs HW=1,023.36' TW=0.00' (Dynamic Tailwater)
↑=12" RCP (Barrel Controls 8.02 cfs @ 10.21 fps)

APPENDIX G
WATER QUALITY AND INFILTRATION

Model Assumptions

Notes:

1. WinSLAMM model is based on the post-development HydroCAD model for the proposed project site along with the assumptions stated below.

Assumptions:

1. Post-development WinSLAMM model assumes normal clayey soil for any disturbed areas to account for compaction during construction.
2. Post-development HydroCAD model lowers permeable areas by one permeability class to account for compaction during construction.



Data file name: V:\Projects\2024\124.0465.30\Design\StormwaterModels\WinSLAMM\Model_2024-09-05_Predev.mdb
WinSLAMM Version 10.5.0

Rain file name: C:\WinSLAMM Files\Rain Files\WisReg - Madison WI 1981.RAN

Particulate Solids Concentration file name: C:\WinSLAMM Files\v10.1 WI_AVG01.pscx

Runoff Coefficient file name: C:\WinSLAMM Files\WI_SL06 Dec06.rsvx

Residential Street Delivery file name: C:\WinSLAMM Files\WI_Res and Other Urban Dec06.std

Institutional Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std

Commercial Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std

Industrial Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std

Other Urban Street Delivery file name: C:\WinSLAMM Files\WI_Res and Other Urban Dec06.std

Freeway Street Delivery file name: C:\WinSLAMM Files\Freeway Dec06.std

Apply Street Delivery Files to Adjust the After Event Load Street Dirt Mass Balance: False

Pollutant Relative Concentration file name: C:\WinSLAMM Files\WI_GEO03.ppdx

Source Area PSD and Peak to Average Flow Ratio File: C:\WinSLAMM Files\NURP Source Area PSD Files.csv

Cost Data file name:

If Other Device Pollutant Load Reduction Values = 1, Off-site Pollutant Loads are Removed from Pollutant Load % Reduction calculations

Seed for random number generator: -42

Study period starting date: 01/01/81

Study period ending date: 12/31/81

Start of Winter Season: 12/02

End of Winter Season: 03/12

Date: 09-04-2024

Time: 12:29:47

Site information:

LU# 1 - Residential: 1-SX (On-Site) Total area (ac): 2.862

57 - Undeveloped Areas 1: 2.862 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

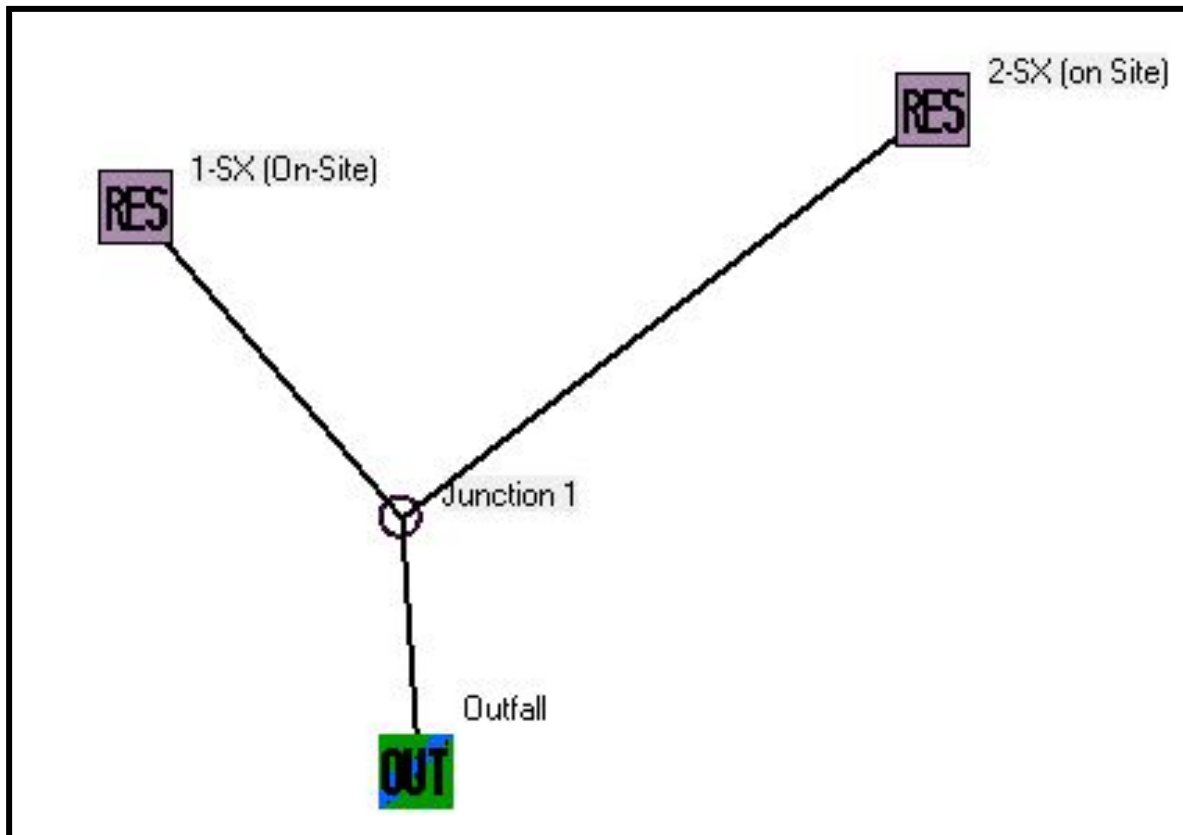
LU# 2 - Residential: 2-SX (on Site) Total area (ac): 3.661

57 - Undeveloped Areas 1: 3.661 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

WinSLAMM Model Input Data - Screen Captures

WinSLAMM Model (Pre-Development):

Routing Diagram:



File Data:

Current File Data

SLAMM Data File Name:
V:\Projects\2024\124.0465.30\Design\StormwaterModels\WinSLAMM\Model_2024-09-05_Predev.mdk

Site Descript.:

Edit Seed:

Edit Rain File: C:\WinSLAMM Files\Rain Files\WisReg - Madison\WI 1981.RAN

Edit Start Date: Winter Season Range
Edit End Date: Start of Winter (mm/dd) End of Winter (mm/dd)

Edit Pollutant Probability Distribution File: C:\WinSLAMM Files\WI_GEO03.ppdX

Edit Runoff Coefficient File: C:\WinSLAMM Files\WI_SL06 Dec06.rsvX

Edit Particulate Solids Concentration File: C:\WinSLAMM Files\10.1 WI_AVG01.pscX

Edit Street Delivery File (Select LU)
 Residential LU Other Urban LU
 Institutional LU Freeways
 Commercial LU
 Industrial LU

Edit Source Area PSD and Peak to Average Flow Ratio File: C:\WinSLAMM Files\NURP Source Area PSD Files.csv

Use Cost Estimation Option

Overall Land Uses:

Land Use #	Land Use Type	Land Use Label	Land Use Area (acres)
1	Residential	1-SX (On-Site)	2.862
2	Residential	2-SX (on Site)	3.661

Individual Land Uses:

Land Use #1 1-SX (On-Site):

Land Use:					
1-SX (On-Site)					
Source Area #	Source Area	Area (acres)	Source Area Parameters	First Control Practice	Second Control Practice
	Roofs	0.000			
	Parking	0.000			
	Driveways/Sidewalks	0.000			
	Streets	0.000			
	Landscaped Areas	2.862			
57	Undeveloped Areas 1	2.862	Entered	-- ▾	-- ▾
	Other Areas	0.000			

Land Use #2 2-SX (On-Site):

Land Use:					
2-SX (on Site)					
Source Area #	Source Area	Area (acres)	Source Area Parameters	First Control Practice	Second Control Practice
	Roofs	0.000			
	Parking	0.000			
	Driveways/Sidewalks	0.000			
	Streets	0.000			
	Landscaped Areas	3.661			
57	Undeveloped Areas 1	3.661	Entered	-- ▾	-- ▾
	Other Areas	0.000			

Runoff Volume:

Data File: V:\Projects\2024\124.0465.30\Design\StormwaterModels\WinSLAMM\Model_2024-09-05_Predev.mdb							
Rain File: WisReg - Madison WI 1981.RAN							
Date: 09-04-24 Time: 12:27:46 PM							
Site Description:							
Runoff Volume Total (cf) at the Outfall							
Rain Number	Start Date	Rain Total (in)	Outfall Total (cf)	Rv	Total Losses (in.)	Calculated CN*	Event Peak Flow (cfs)
86	10/04/81	0.15	0	0.000	0.15	n/a	0.000
87	10/05/81	0.04	0	0.000	0.04	n/a	0.000
88	10/05/81	0.02	0	0.000	0.02	n/a	0.000
89	10/09/81	0.14	0	0.000	0.14	n/a	0.000
90	10/13/81	1.20	1480	0.052	1.14	74.1	0.100
91	10/15/81	0.02	0	0.000	0.02	n/a	0.000
92	10/17/81	0.95	981.9	0.044	0.91	77.5	0.108
93	10/18/81	0.06	0	0.000	0.06	n/a	0.000
94	10/21/81	0.06	0	0.000	0.06	n/a	0.000
95	10/21/81	0.01	0	0.000	0.01	n/a	0.000
96	10/24/81	0.01	0	0.000	0.01	n/a	0.000
97	10/31/81	0.01	0	0.000	0.01	n/a	0.000
98	11/05/81	0.04	0	0.000	0.04	n/a	0.000
99	11/15/81	0.07	0	0.000	0.07	n/a	0.000
100	11/18/81	0.05	0	0.000	0.05	n/a	0.000
101	11/19/81	0.26	41.47	0.007	0.26	90.3	0.001
102	11/23/81	0.18	0	0.000	0.18	n/a	0.000
103	11/25/81	0.89	907.1	0.043	0.85	78.5	0.038
104	11/30/81	0.37	161.8	0.018	0.36	88.1	0.006
105	12/03/81	-	-	-	-	-	-
106	12/14/81	-	-	-	-	-	-
107	12/20/81	-	-	-	-	-	-
108	12/26/81	-	-	-	-	-	-
109	12/31/81	-	-	-	-	-	-
Minimum:		0.00	0	0.000	0.01	69.5	0.000
Maximum:		2.59	12265	0.200	2.07	90.7	1.199
Average:		0.26	375.6	0.012	0.25	74.5	0.577
Total:		28.81	40945		27.09		
* Note: NRCS does not recommend using CN method for rains < 0.5 in.							
See 'PreDevelopment Areas and CN' Help for more info.							

Data file name: V:\Projects\2024\124.0465.30\Design\StormwaterModels\WinSLAMM\Model_2024-09-05_Postdev.mdb
WinSLAMM Version 10.5.0

Rain file name: C:\WinSLAMM Files\Rain Files\WisReg - Madison WI 1981.RAN

Particulate Solids Concentration file name: C:\WinSLAMM Files\v10.1 WI_AVG01.pscx

Runoff Coefficient file name: C:\WinSLAMM Files\WI_SL06 Dec06.rsvx

Residential Street Delivery file name: C:\WinSLAMM Files\WI_Res and Other Urban Dec06.std

Institutional Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std

Commercial Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std

Industrial Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std

Other Urban Street Delivery file name: C:\WinSLAMM Files\WI_Res and Other Urban Dec06.std

Freeway Street Delivery file name: C:\WinSLAMM Files\Freeway Dec06.std

Apply Street Delivery Files to Adjust the After Event Load Street Dirt Mass Balance: False

Pollutant Relative Concentration file name: C:\WinSLAMM Files\WI_GEO03.ppdx

Source Area PSD and Peak to Average Flow Ratio File: C:\WinSLAMM Files\NURP Source Area PSD Files.csv

Cost Data file name:

If Other Device Pollutant Load Reduction Values = 1, Off-site Pollutant Loads are Removed from Pollutant Load % Reduction calculations

Seed for random number generator: -42

Study period starting date: 01/01/81 Study period ending date: 12/31/81

Start of Winter Season: 12/02 End of Winter Season: 03/12

Date: 09-04-2024 Time: 12:39:14

Site information:

LU# 1 - Residential: 1-SP (On-Site) Total area (ac): 5.105

1 - Roofs 1: 2.524 ac. Flat Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

13 - Paved Parking 1: 0.516 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

25 - Driveways 1: 0.080 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

31 - Sidewalks 1: 0.124 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

45 - Large Landscaped Areas 1: 1.611 ac. Normal Clayey Source Area PSD File: C:\WinSLAMM

Files\NURP.cpz

70 - Water Body Areas: 0.250 ac. Source Area PSD File:

LU# 2 - Residential: 2-SP (On-Site) Total area (ac): 0.087

45 - Large Landscaped Areas 1: 0.087 ac. Normal Clayey Source Area PSD File: C:\WinSLAMM
Files\NURP.cpz

LU# 3 - Residential: 3-SP (On-Site) Total area (ac): 0.009
 45 - Large Landscaped Areas 1: 0.009 ac. Normal Clayey Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

LU# 4 - Residential: 4-SP (On-Site) Total area (ac): 1.322
 25 - Driveways 1: 0.042 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 31 - Sidewalks 1: 0.086 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 45 - Large Landscaped Areas 1: 1.075 ac. Normal Clayey Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 70 - Water Body Areas: 0.119 ac. Source Area PSD File:

Control Practice 1: Wet Detention Pond CP# 1 (DS) - 1P (DS Wet Pond # 1)
 Particle Size Distribution file name: Not needed - calculated by program
 Initial stage elevation (ft): 5
 Peak to Average Flow Ratio: 3.8
 Maximum flow allowed into pond (cfs): No maximum value entered
 Outlet Characteristics:

- Outlet type: Orifice 1
 - 1. Orifice diameter (ft): 0.5
 - 2. Number of orifices: 1
 - 3. Invert elevation above datum (ft): 5
- Outlet type: Broad Crested Weir
 - 1. Weir crest length (ft): 128
 - 2. Weir crest width (ft): 6
 - 3. Height from datum to bottom of weir opening: 8
- Outlet type: Vertical Stand Pipe
 - 1. Stand pipe diameter (ft): 4
 - 2. Stand pipe height above datum (ft): 6.6

Pond stage and surface area

Entry Number	Stage (ft)	Pond Area (acres)	Natural Seepage (in/hr)	Other Outflow (cfs)
0	0.00	0.0000	0.00	0.00
1	0.01	0.0872	0.00	0.00
2	1.00	0.1056	0.00	0.00

3	2.00	0.1240	0.00	0.00
4	3.00	0.1446	0.00	0.00
5	4.00	0.1676	0.00	0.00
6	5.00	0.2479	0.00	0.00
7	6.00	0.2847	0.00	0.00
8	7.00	0.3237	0.00	0.00
9	8.00	0.3650	0.00	0.00
10	9.00	0.4086	0.00	0.00
11	10.00	0.4568	0.00	0.00

Control Practice 2: Biofilter CP# 1 (DS) - 2P (DS Biofilters # 1)

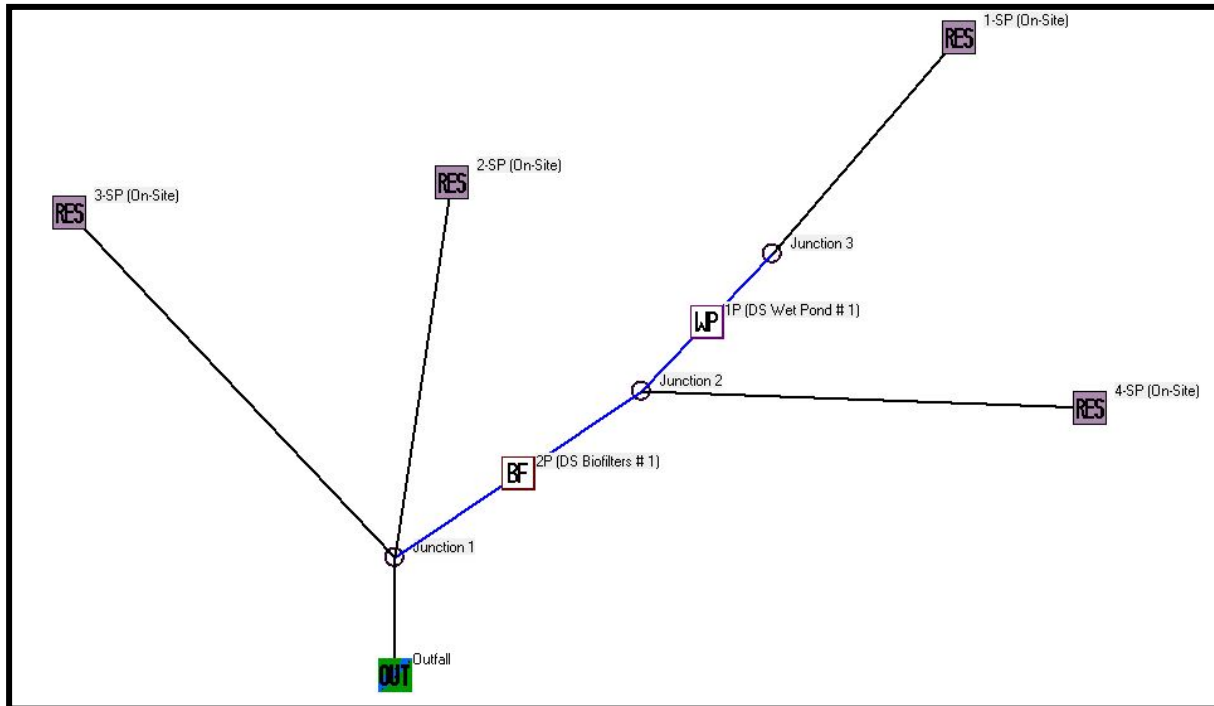
1. Top area (square feet) = 13400
2. Bottom area (square feet) = 5200
3. Depth (ft): 6
4. Biofilter width (ft) - for Cost Purposes Only: 10
5. Infiltration rate (in/hr) = 0.5
6. Random infiltration rate generation? No
7. Infiltration rate fraction (side): 0.01
8. Infiltration rate fraction (bottom): 1
9. Depth of biofilter that is rock filled (ft) 0
10. Porosity of rock filled volume = 0
11. Engineered soil infiltration rate: 0
12. Engineered soil depth (ft) = 0
13. Engineered soil porosity = 0
14. Percent solids reduction due to flow through engineered soil = 0
15. Biofilter peak to average flow ratio = 3.8
16. Number of biofiltration control devices = 1
17. Particle size distribution file: Not needed - calculated by program
18. Initial water surface elevation (ft): 0
 - Soil Data
 - Soil Type Fraction in Eng. Soil
 - Biofilter Outlet/Discharge Characteristics:
 - Outlet type: Broad Crested Weir
 1. Weir crest length (ft): 50
 2. Weir crest width (ft): 20
 3. Height of datum to bottom of weir opening: 5.99
 - Outlet type: Vertical Stand Pipe
 1. Stand pipe diameter (ft): 4

2. Stand pipe height above datum (ft): 4.75
Outlet type: Surface Discharge Pipe
1. Surface discharge pipe outlet diameter (ft): 0.33
2. Pipe invert elevation above datum (ft): 1
3. Number of surface pipe outlets: 1

WinSLAMM Model Input Data - Screen Captures

WinSLAMM Model (Post-Development):

Routing Diagram:



File Data:

Current File Data

SLAMM Data File Name:
V:\Projects\2024\124.0465.30\Design\StormwaterModels\WinSLAMM\Model_2024-09-05_Postdev.mc

Site Descript.:

Edit Seed:

Edit Rain File:

Edit Start Date: Winter Season Range
Edit End Date: Start of Winter (mm/dd) End of Winter (mm/dd)

Edit Pollutant Probability Distribution File:

Edit Runoff Coefficient File:

Edit Particulate Solids Concentration File:

Edit Street Delivery File (Select LU)
 Residential LU Other Urban LU
 Institutional LU Freeways
 Commercial LU
 Industrial LU

Edit Source Area PSD and Peak to Average Flow Ratio File:

Use Cost Estimation Option

Overall Land Uses:

Land Use #	Land Use Type	Land Use Label	Land Use Area (acres)
1	Residential	1-SP (On-Site)	5.105
2	Residential	2-SP (On-Site)	0.087
3	Residential	3-SP (On-Site)	0.009
4	Residential	4-SP (On-Site)	1.322

Individual Land Uses:

Land Use #1 1-SP (on-Site):

Land Use:					
1-SP (On-Site)					
Source Area #	Source Area	Area (acres)	Source Area Parameters	First Control Practice	Second Control Practice
	Roofs	2.524			
1	Roofs 1	2.524	Entered	-- ▾	-- ▾
	Parking	0.516			
13	Paved Parking 1	0.516	Entered	-- ▾	-- ▾
	Driveways/Sidewalks	0.204			
25	Driveways 1	0.080	Entered	-- ▾	-- ▾
31	Sidewalks 1	0.124	Entered	-- ▾	-- ▾
	Streets	0.000			
	Landscaped Areas	1.611			
45	Large Landscaped Areas 1	1.611	Entered	-- ▾	-- ▾
	Other Areas	0.250			
70	Water Body Areas	0.250	Entered	--	--

Land Use #2 2-SP (On-Site):

Land Use:					
2-SP (On-Site)					
Source Area #	Source Area	Area (acres)	Source Area Parameters	First Control Practice	Second Control Practice
	Roofs	0.000			
	Parking	0.000			
	Driveways/Sidewalks	0.000			
	Streets	0.000			
	Landscaped Areas	0.087			
45	Large Landscaped Areas 1	0.087	Entered	-- ▾	-- ▾
	Other Areas	0.000			

Land Use #3 3-SP (On-Site):

Land Use:					
3-SP (On-Site)					
Source Area #	Source Area	Area (acres)	Source Area Parameters	First Control Practice	Second Control Practice
	Roofs	0.000			
	Parking	0.000			
	Driveways/Sidewalks	0.000			
	Streets	0.000			
	Landscaped Areas	0.009			
45	Large Landscaped Areas 1	0.009	Entered	-- ▾	-- ▾
	Other Areas	0.000			

Land Use #4 4-SP (On-Site):

Land Use:					
4-SP (On-Site)					
Source Area #	Source Area	Area (acres)	Source Area Parameters	First Control Practice	Second Control Practice
	Roofs	0.000			
	Parking	0.000			
	Driveways/Sidewalks	0.128			
25	Driveways 1	0.042	Entered	-- ▾	-- ▾
31	Sidewalks 1	0.086	Entered	-- ▾	-- ▾
	Streets	0.000			
	Landscaped Areas	1.075			
45	Large Landscaped Areas 1	1.075	Entered	-- ▾	-- ▾
	Other Areas	0.119			
70	Water Body Areas	0.119	Entered	--	--

Overall Control Practices:

CP #	Control Practice Type	Control Practice Name or Location
1	Wet Detention Pond	1P (DS Wet Pond # 1)
2	Biofilter	2P (DS Biofilters # 1)

Individual Control Practices:

Control Practice #1 – 1P (DS Wet Pond # 1):

Wet Detention Control Device

Pond Number 1
Drainage System Control Practice

Initial Stage Elevation (ft):

Maximum Inflow into Pond (cfs)
Enter 0 or leave blank for no limit:

Enter Two Stage-Area Values in Rows 1 and 2, and Press to Interpolate

Create Pond Stage-Area Values

Enter fraction (greater than 0) that you want to modify all pond areas by and then select 'Modify Pond Areas' button

Refresh Schematic

Modify Pond Areas

Copy Pond Data

Paste Pond Data

Recalculate Cumulative Volume

Save or Delete Pond Data to Database File

Get Pond Data From Database File

Stage (ft)	Area (acres)	Cumulative Volume (ac-ft)
0	0.0000	0.0000
1	0.01	0.0872
2	1.00	0.1056
3	2.00	0.1240
4	3.00	0.1446
5	4.00	0.1676
6	5.00	0.2479
7	6.00	0.2847
8	7.00	0.3237
9	8.00	0.3650
10	9.00	0.4096
11	10.00	0.4558
12		
13		
14		
15		
16		
17		

Sharp Crested Weir

Weir Length (ft)
Height from datum to bottom of weir opening (ft)

Add **V-Notch Weir**

Weir Angle (180 degrees)
Height from datum to bottom of weir opening (ft)
Number of V-Notch weirs

Remove **Orifice Set 1**

Orifice Diameter (ft)
Invert elevation above datum (ft)
Number of orifices in set

Add **Orifice Set 2**

Orifice Diameter (ft)
Invert elevation above datum (ft)
Number of orifices in set

Add **Orifice Set 3**

Orifice Diameter (ft)
Invert elevation above datum (ft)
Number of orifices in set

Add **Stone Weeper**

Width at bottom of weeper (ft)
Weeper side slope [H:1V]
Upstream side slope [H:1V]
Downstream side slope [H:1V]
Horizontal flow path length at top of weeper (ft)
Average rock diameter (ft)
Distance from bottom to top of weeper (ft)
Height from datum to bottom of weeper (ft)

Remove **Vertical Stand Pipe**

Pipe diameter (ft)
Height above datum (ft)

Month	Evaporation (in./day)	Add	Water Withdrawal Rate (ac-ft/day)
Jan	0.00		0.000
Feb	0.00		0.000
Mar	0.00		0.000
Apr	0.00		0.000
May	0.00		0.000
Jun	0.00		0.000
Jul	0.00		0.000
Aug	0.00		0.000
Sep	0.00		0.000
Oct	0.00		0.000
Nov	0.00		0.000
Dec	0.00		0.000

Stage (ft)	Naval Seepage Rate (in/hr)	Add	Other Outflow Rate (cfs)
0.00	0.00		0.000
0.01	0.00		0.000
1.00	0.00		0.000
2.00	0.00		0.000
3.00	0.00		0.000
4.00	0.00		0.000
5.00	0.00		0.000

Remove **Broad Crested Weir**

Weir crest length (ft)
Weir crest width (ft)
Height from datum to bottom of weir opening (ft)

Add **Seepage Basins**

Infiltration rate (in/hr)
Width of device (ft)
Length of device (ft)
Invert elevation of seepage basin inlet above datum (ft)

Only Vertical Dimension to Relative Scale

Continue

Cancel

Press 'F1' for Help

To Delete This Practice, Right Mouse Click on Icon and Select Delete

Control Practice #: 1 | CP Index #: 1

Control Practice #2 – 2P (DS Biofilters # 1):

Biofiltration Control Device

Drainage System Control Practice

Device Properties Biofilter Number 1

Top Area (sf) 13400

Bottom Area (sf) 5200

Total Depth (ft) 6.00

Typical Width (ft) (Cost est. only) 10.00

Native Soil Infiltration Rate (in/hr) 0.500

Native Soil Infiltration Rate COV N/A

Infiltr. Rate Fraction-Bottom (0.001-1) 1.000

Infiltr. Rate Fraction-Sides (0.001-1) 0.010

Rock Filled Depth (ft) 0.00

Rock Fill Porosity (0-1) 0.00

Engineered Media Type Media Data

Engineered Media Infiltration Rate 0.00

Engineered Media Infiltration Rate COV N/A

Engineered Media Depth (ft) 0.00

Engineered Media Porosity (0-1) 0.00

Percent solids reduction due to 0.00

Engineered Media (0-1.00) N/A

Inflow Hydrograph Peak to Average 3.80

Flow Ratio

Number of Devices in Source Area or 1

Upstream Drainage System

Sharp Crested Weir

Weir Length (ft)

Height from datum to bottom of weir opening (ft)

Remove Broad Crested Weir-Reqd

Weir crest length (ft) 50.00

Weir crest width (ft) 20.00

Height from datum to bottom of weir opening (ft) 5.99

Vertical Stand Pipe

Pipe diameter (ft) 4.00

Height above datum (ft) 4.75

Surface Discharge Pipe

Pipe Diameter (ft) 0.33

Invert elevation above datum (ft) 1.00

Number of pipes at invert elev. 1

Drain Tile/Underdrain

Pipe Diameter (ft)

Invert elevation above datum (ft)

Number of pipes at invert elev.

Other Outlet

Stage Number	Stage (ft)	Other Outflow Rate (cfs)
1		
2		
3		
4		
5		

Evapotranspiration

Soil porosity (saturation moisture content, 0-1)	Soil field moisture capacity (0-1)	Permanent wilting point (0-1)	Supplemental irrigation used?	Fraction of available capacity when irrigation starts (0-1)	Fraction of available capacity when irrigation slope (0-1)	Plant type	Root depth (ft)	E.T. Crop Adjustment Factor

Evaporation

Month	Evapotranspiration (in/day)
Jan	
Feb	
Mar	
Apr	
May	
Jun	
Jul	
Aug	
Sep	
Oct	
Nov	
Dec	

Plant Types

1	2	3	4

Biofilter Geometry Schematic

Estimated Surface Drain Time = 24.00 hrs.

Use Random Number Generation to Account for Infiltration Rate Uncertainty

Copy Biofilter Data

Paste Biofilter Data

Save or Delete Biofilter Data to Database File

Get Biofilter Data From Database File

Estimated Surface Drain Time = 24.00 hrs.

Control Practice #: 2 CP Index #: 2

To Delete This Practice, Right Mouse Click on Icon and Select Delete

Press 'F1' for Help

Cancel Continue

Runoff Volume:

Data File: V:\Projects\2024\124.0465.30\Design\StormwaterModels\WinSLAMM\Model_2024-09-05_Postdev.mdb							
Rain File: WisReg - Madison WI 1981.RAN							
Date: 09-04-24 Time: 12:34:57 PM							
Site Description:							
Runoff Volume Total (cf) at the Outfall							
Rain Number	Start Date	Rain Total (in)	Outfall Total (cf)	Rv	Total Losses (in.)	Calculated CN*	Event Peak Flow (cfs)
86	10/04/81	0.15	0	0.000	0.15	n/a	0.000
87	10/05/81	0.04	0	0.000	0.04	n/a	0.000
88	10/05/81	0.02	0	0.000	0.02	n/a	0.000
89	10/09/81	0.14	0	0.000	0.14	n/a	0.000
90	10/13/81	1.20	5062	0.178	0.99	82.7	0.180
91	10/15/81	0.02	0	0.000	0.02	n/a	0.000
92	10/17/81	0.95	2636	0.117	0.84	82.9	0.136
93	10/18/81	0.06	0	0.000	0.06	n/a	0.000
94	10/21/81	0.06	0	0.000	0.06	n/a	0.000
95	10/21/81	0.01	0	0.000	0.01	n/a	0.000
96	10/24/81	0.01	0	0.000	0.01	n/a	0.000
97	10/31/81	0.01	0	0.000	0.01	n/a	0.000
98	11/05/81	0.04	0	0.000	0.04	n/a	0.000
99	11/15/81	0.07	0	0.000	0.07	n/a	0.000
100	11/18/81	0.05	0	0.000	0.05	n/a	0.000
101	11/19/81	0.26	0.6685	0.000	0.26	88.7	0.000
102	11/23/81	0.18	0	0.000	0.18	n/a	0.000
103	11/25/81	0.89	19.77	0.001	0.89	70.7	0.001
104	11/30/81	0.37	2.609	0.000	0.37	84.9	0.000
105	12/03/81	-	-	-	-	-	-
106	12/14/81	-	-	-	-	-	-
107	12/20/81	-	-	-	-	-	-
108	12/26/81	-	-	-	-	-	-
109	12/31/81	-	-	-	-	-	-
Minimum:		0.00	0	0.000	0.01	70.4	0.000
Maximum:		2.59	26488	0.451	1.47	91.1	0.510
Average:		0.26	933.9	0.026	0.22	84.8	0.341
Total:		28.81	101795		24.51		
* Note: NRCS does not recommend using CN method for rains < 0.5 in.							
See 'PreDevelopment Areas and CN' Help for more info.							

Output Summary:

File Name:

Outfall Output Summary

	Runoff Volume (cu. ft.)	Percent Runoff Reduction	Runoff Coefficient (Rv)	Particulate Solids Conc. (mg/L)	Particulate Solids Yield (lbs)	Percent Particulate Solids Reduction
Total of All Land Uses without Controls	327275		0.43	61.61	1259	
Outfall Total with Controls	101795	68.90 %	0.13	29.18	185.4	85.27 %
Current File Output: Annualized Total After Outfall Controls	102074		Years in Model Run: <input style="width: 50px;" type="text" value="1.00"/>		185.9	

Total Area Modeled (ac)

Receiving Water Impacts Due To Stormwater Runoff

(CWP Impervious Cover Model)

	Calculated Rv	Approximate Urban Stream Classification
Without Controls	0.43	Poor
With Controls	0.13	Good

Total Control Practice Costs

Capital Cost	<input type="text" value="N/A"/>
Land Cost	<input type="text" value="N/A"/>
Annual Maintenance Cost	<input type="text" value="N/A"/>
Present Value of All Costs	<input type="text" value="N/A"/>
Annualized Value of All Costs	<input type="text" value="N/A"/>

WET POND 1P

ELEVATION (FT)	AREA (FT SQ)	AVERAGE AREA (FT SQ)	DEPTH (FT)	VOLUME (CU FT)	VOLUME (AC-FT)	AREA (ACRES)
1020.00	3800.00	0	0.0	0	0.000	0.0872
1021.00	4600.00	4200	1.0	4200	0.096	0.1056
1022.00	5400.00	5000	1.0	5000	0.115	0.1240
1023.00	6300.00	5850	1.0	5850	0.134	0.1446
1024.00	7300.00	6800	1.0	6800	0.156	0.1676
1025.00	10800.00	9050	1.0	9050	0.208	0.2479
1026.00	12400.00	11600	1.0	11600	0.266	0.2847
1027.00	14100.00	13250	1.0	13250	0.304	0.3237
1028.00	15900.00	15000	1.0	15000	0.344	0.3650
1029.00	17800.00	16850	1.0	16850	0.387	0.4086
1030.00	19900.00	18850	1.0	18850	0.433	0.4568

VOLUME 2.44



Infiltration Calculations

2975 Kapec Road
9/5/24

Average Annual Rainfall = 28.81 inches

Notes:

- 1.) Infiltration calculations are based on runoff volume outputs from WinSLAMM v10.2.1
- 2.) [Redacted] = Cells That Require Data Input.

Pre-Development Infiltration Calculations:

1.) Pre-development Project Site Area = [Redacted] 6.523 acres

$$6.523 \text{ acres} * (43,560 \text{ sq. ft./1 acre}) = 284,142 \text{ sq. ft.}$$

2.) Pre-development runoff volume = [Redacted] 40,945 cu. ft.

3.) Pre-development runoff depth = (40,945 cu. ft. / 284,142 sq. ft.)

$$= 0.14 \text{ ft.}$$
$$= 1.73 \text{ in.}$$

4.) Pre-development stay-on depth = (28.81 in. - 1.73 in.)

$$= 27.08 \text{ in}$$

Target Post-Development Stay-On Depth = [Redacted] 90.0% of Pre-Development Stay-On Depth

5.) Target Post-development stay-on = (27.08 in. * 0.9)

$$= 24.37 \text{ in.}$$

Post-Development Infiltration Calculations:

1.) Post-development Project Site Area = 6.523 acres

$$6.523 \text{ acres} * (43,560 \text{ sq. ft./1 acre}) = 284,142 \text{ sq. ft.}$$

2.) Post-development runoff volume = [Redacted] 101,795 cu. ft.

3.) Post-development runoff depth = (101,795 cu. ft. / 284,142 sq. ft.)

$$= 0.36 \text{ ft.}$$
$$= 4.30 \text{ in.}$$

Post-Development Infiltration Calculations (Continued):

4.) Post-development stay-on depth = (28.81 in. - 4.3 in.)

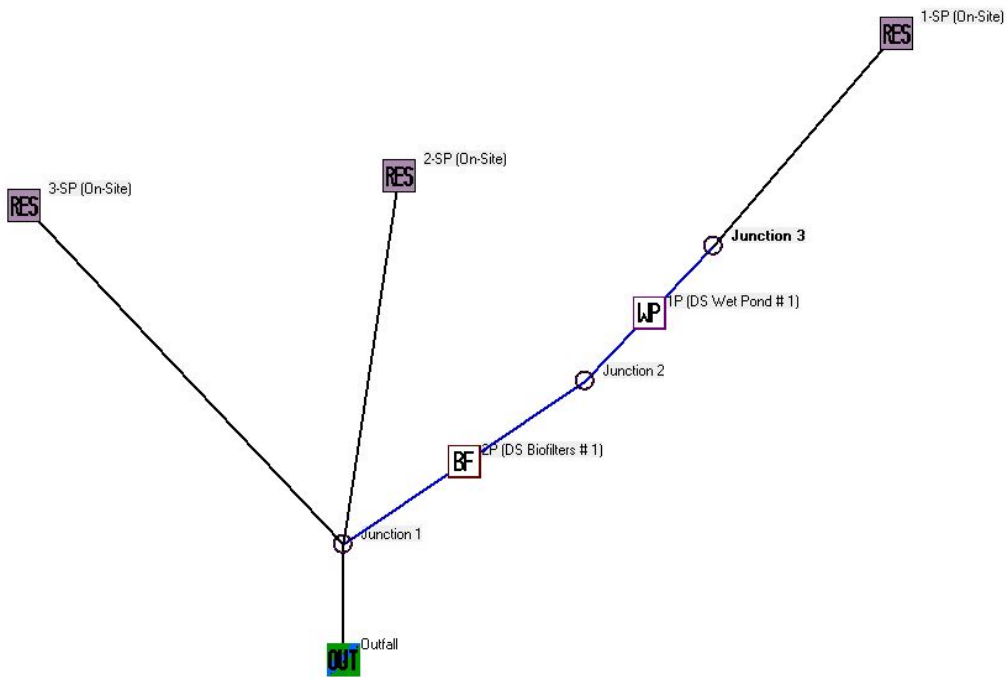
$$= \quad \mathbf{24.51 \text{ in}}$$

5.) Post-development stay-on percentage as compared to pre-development stay-on:

$$= (24.51 \text{ in.} / 27.08 \text{ in.})$$

$$= \quad \mathbf{90.5\%}$$

The post-development project site infiltrates approximately **90.5%** of the pre-development infiltration volume.

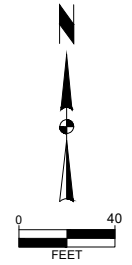


APPENDIX H

STORM SEWER CATCHMENT AREA MAP AND CALCULATIONS



I:\Projects\124.0465.30\124.0465.30\Drawings\BRAN.ARC\AND. STORM SEWER CATCHMENT AREAS. 2024.09.04. 3:18 PM. ANSI FULL BLEED B (17.00 X 11.00 INCHES)



CITY COMMENTS	09-05-24	BCA
SIP SUBMITTAL	07-25-24	BCA
MARK	REVISION	DATE
Engineer: BCA	Checked By: MLC	Scale: 1" = 40'
Technician: TECH	Date: 05-21-24	T-R-S: TTN+RRW-SS
Project No: 124.0465.30		
Sheet APP H		

2975 KAPEC ROAD
STORM SEWER CATCHMENT AREAS
CITY OF FITCHBURG, DANE COUNTY, WI
SNYDER & ASSOCIATES, INC. |
 5010 VOGES ROAD
 MADISON, WISCONSIN 53718
 608-838-0444 | www.snyder-associates.com

Project No: 124.0465.30
 Sheet APP H

PROJECT: 2975 KAPEC ROAD
 SUBJECT: STORM SEWER DESIGN

No: 124.0465.30
 DATE: September 5, 2024
 BY: BCA CK: MLC
 PAGE: 2 OF: 2



Storm Recurrence Interval: 200-year

SECTION	Pipe Name	Drainage Area (acres) A	Runoff Coeff. C	Equiv. Area (acres) CA	Accum. Area (acres) Σ CA	Time of Concn. (min) T	Rainfall Intensity (in/hr) I	Other Flow (cfs)	TOTAL RUNOFF (cfs) Q=(ΣCA)I	TOTAL RUNOFF (gpm) Q=(ΣA)I	Pipe Length (ft) L	Pipe Slope (ft/ft) S	Req'd Pipe Size (in) in	PIPE SIZE (in) D	Full Flow Velocity (fps) V _{full}	Full Flow Capacity (cfs) Q _{full}	Full Flow Capacity (gpm) Q _{full}	Time in Section (min) t	Type of Pipe	Comment
1	STP-1A&B	0.021	0.97	0.02	0.02	5	12.30	-	0.25	112	115	0.0206	3.9	12	6.53	5.13	2,301	0.29	HDPE	
2	STP-2	0.806	0.73	0.59	0.59	5	12.30	0.25	7.52	3,374	139	0.0191	14.0	15	7.29	8.95	4,018	0.32	HDPE	
3	STP-3	0.088	0.76	0.07	0.07	5	12.30	7.52	8.34	3,745	236	0.0203	14.4	15	7.52	9.23	4,142	0.52	HDPE	
4	STP-4	1.263	0.97	1.23	1.23	5	12.30	-	15.07	6,764	21	0.0210	17.9	18	8.64	15.26	6,851	0.04	HDPE	
5	STP-5	-	-	-	-	-	-	23.41	23.41	10,508	174	0.0203	21.3	24	10.29	32.32	14,507	0.28	HDPE	
5	STP-6	1.263	0.97	1.23	1.23	5	12.30	-	15.07	6,764	23	0.0210	17.9	18	8.64	15.26	6,851	0.04	HDPE	
5	STP-7	-	-	-	-	-	-	38.48	38.48	17,272	292	0.0203	25.6	30	11.94	58.60	26,302	0.41	HDPE	
5	STP-8A	-	-	-	-	-	-	38.48	38.48	17,272	144	0.0162	26.7	30	10.66	52.35	23,496	0.23	HDPE	
5	STP-8B	-	-	-	-	-	-	38.48	38.48	17,272	45	0.0161	26.8	30	10.63	52.19	23,424	0.07	HDPE	
6	STP-9	0.055	0.49	0.03	0.03	5	12.30	-	0.33	147	20	0.0051	5.6	8	2.48	0.87	388	0.13	HDPE	
7	STP-10	0.103	0.35	0.04	0.04	5	12.30	0.33	0.77	344	19	0.0159	6.2	8	4.38	1.53	686	0.07	HDPE	
8	STP-11	0.237	0.34	0.08	0.08	5	12.30	0.77	1.77	795	22	0.0329	7.4	8	6.30	2.20	986	0.06	HDPE	
9	STP-12	0.136	0.36	0.05	0.05	5	12.30	1.77	2.37	1,064	23	0.0217	8.9	10	5.93	3.24	1,453	0.06	HDPE	
10	STP-13	0.042	0.95	0.04	0.04	5	12.30	2.37	2.86	1,284	37	0.0075	11.7	12	3.94	3.09	1,389	0.16	HDPE	
11	STP-14	0.425	0.38	0.16	0.16	5	12.30	2.86	4.85	2,175	61	0.0057	14.9	15	3.98	4.89	2,195	0.26	HDPE	
										#VALUE!							#VALUE!			
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										#VALUE!							#VALUE!			

Comments:
 1. Design calculations based on Rational Method peak runoff flows and Manning's full flow pipe capacity.

Inlet Capacity in Sump Condition

INPUT (per Neenah Manual):

ST-1

Inlet Grate Type: R-3067-R, Type R Grate 0.25 CFS in 200-Year Event

Perimeter of Grate: 5.8

Area of Grate: 2

C value for orifice: 0.6 (C is always 0.6 unless told otherwise)

Reduction Factor 0.65 For Sump Conditions: 0.8 for Curb Openings
 (per FDM 13-25-30, 0.5 for Grates
 Figure 1) 0.65 for Combination (C&G Inlets)

Head (ft)	Weir Flow (cfs)	Orifice Flow (cfs)	Controlling Flow (cfs)	Actual Flow (cfs)
0.05	0.21	2.15	0.21	0.14
0.073	0.38	2.60	0.38	0.25
0.10	0.61	3.05	0.61	0.39
0.15	1.11	3.73	1.11	0.72
0.20	1.71	4.31	1.71	1.11
0.25	2.39	4.81	2.39	1.56
0.30	3.15	5.27	3.15	2.04
0.35	3.96	5.70	3.96	2.58
0.40	4.84	6.09	4.84	3.15
0.45	5.78	6.46	5.78	3.76
0.50	6.77	6.81	6.77	4.40
0.55	7.81	7.14	7.14	4.64
0.60	8.90	7.46	7.46	4.85
0.65	10.03	7.76	7.76	5.05
0.70	11.21	8.06	8.06	5.24
0.75	12.43	8.34	8.34	5.42
0.80	13.70	8.61	8.61	5.60
0.85	15.00	8.88	8.88	5.77
0.90	16.34	9.14	9.14	5.94
0.95	17.72	9.39	9.39	6.10
1.00	19.14	9.63	9.63	6.26
1.05	20.59	9.87	9.87	6.41
1.10	22.08	10.10	10.10	6.56
1.15	23.60	10.33	10.33	6.71
1.20	25.16	10.55	10.55	6.86
1.25	26.75	10.77	10.77	7.00
1.30	28.37	10.98	10.98	7.14
1.35	30.02	11.19	11.19	7.27
1.40	31.71	11.39	11.39	7.41
1.45	33.42	11.60	11.60	7.54
1.50	35.16	11.79	11.79	7.67
1.55	36.94	11.99	11.99	7.79
1.60	38.74	12.18	12.18	7.92
1.65	40.57	12.37	12.37	8.04
1.70	42.42	12.56	12.56	8.16
1.75	44.31	12.74	12.74	8.28
1.80	46.22	12.92	12.92	8.40
1.85	48.16	13.10	13.10	8.51
1.90	50.13	13.27	13.27	8.63
1.95	52.12	13.45	13.45	8.74
2.00	54.14	13.62	13.62	8.85

Inlet Capacity in Sump Condition

INPUT (per Neenah Manual):

ST-2A&2B

Inlet Grate Type: R-3067-R, Type R Grate 7.27 CFS in 200-Year Event

Perimeter of Grate: 11.6 2 Inlets

Area of Grate: 4

C value for orifice: 0.6 (C is always 0.6 unless told otherwise)

Reduction Factor 0.65 For Sump Conditions: 0.8 for Curb Openings
 (per FDM 13-25-30, 0.5 for Grates
 Figure 1) 0.65 for Combination (C&G Inlets)

Head (ft)	Weir Flow (cfs)	Orifice Flow (cfs)	Controlling Flow (cfs)	Actual Flow (cfs)
0.05	0.43	4.31	0.43	0.28
0.10	1.21	6.09	1.21	0.79
0.15	2.22	7.46	2.22	1.45
0.20	3.42	8.61	3.42	2.23
0.25	4.79	9.63	4.79	3.11
0.30	6.29	10.55	6.29	4.09
0.35	7.93	11.39	7.93	5.15
0.40	9.68	12.18	9.68	6.29
0.4402	11.18	12.78	11.18	7.27
0.45	11.56	12.92	11.56	7.51
0.50	13.53	13.62	13.53	8.80
0.55	15.61	14.28	14.28	9.28
0.60	17.79	14.92	14.92	9.70
0.65	20.06	15.53	15.53	10.09
0.70	22.42	16.11	16.11	10.47
0.75	24.86	16.68	16.68	10.84
0.80	27.39	17.23	17.23	11.20
0.85	30.00	17.76	17.76	11.54
0.90	32.68	18.27	18.27	11.88
0.95	35.45	18.77	18.77	12.20
1.00	38.28	19.26	19.26	12.52
1.05	41.19	19.74	19.74	12.83
1.10	44.16	20.20	20.20	13.13
1.15	47.21	20.65	20.65	13.43
1.20	50.32	21.10	21.10	13.71
1.25	53.50	21.53	21.53	14.00
1.30	56.74	21.96	21.96	14.27
1.35	60.04	22.38	22.38	14.55
1.40	63.41	22.79	22.79	14.81
1.45	66.84	23.19	23.19	15.07
1.50	70.32	23.59	23.59	15.33
1.55	73.87	23.98	23.98	15.59
1.60	77.47	24.36	24.36	15.84
1.65	81.13	24.74	24.74	16.08
1.70	84.85	25.11	25.11	16.32
1.75	88.62	25.48	25.48	16.56
1.80	92.44	25.84	25.84	16.80
1.85	96.32	26.20	26.20	17.03
1.90	100.25	26.55	26.55	17.26
1.95	104.24	26.89	26.89	17.48
2.00	108.27	27.24	27.24	17.70

Inlet Capacity in Sump Condition

INPUT (per Neenah Manual):

ST-3

Inlet Grate Type: R-3067-R, Type R Grate 0.82 CFS in 200-Year Event

Perimeter of Grate: 5.8

Area of Grate: 2

C value for orifice: 0.6 (C is always 0.6 unless told otherwise)

Reduction Factor 0.65 For Sump Conditions: 0.8 for Curb Openings
 (per FDM 13-25-30, 0.5 for Grates
 Figure 1) 0.65 for Combination (C&G Inlets)

Head (ft)	Weir Flow (cfs)	Orifice Flow (cfs)	Controlling Flow (cfs)	Actual Flow (cfs)
0.05	0.21	2.15	0.21	0.14
0.10	0.61	3.05	0.61	0.39
0.15	1.11	3.73	1.11	0.72
0.163	1.26	3.89	1.26	0.82
0.20	1.71	4.31	1.71	1.11
0.25	2.39	4.81	2.39	1.56
0.30	3.15	5.27	3.15	2.04
0.35	3.96	5.70	3.96	2.58
0.40	4.84	6.09	4.84	3.15
0.45	5.78	6.46	5.78	3.76
0.50	6.77	6.81	6.77	4.40
0.55	7.81	7.14	7.14	4.64
0.60	8.90	7.46	7.46	4.85
0.65	10.03	7.76	7.76	5.05
0.70	11.21	8.06	8.06	5.24
0.75	12.43	8.34	8.34	5.42
0.80	13.70	8.61	8.61	5.60
0.85	15.00	8.88	8.88	5.77
0.90	16.34	9.14	9.14	5.94
0.95	17.72	9.39	9.39	6.10
1.00	19.14	9.63	9.63	6.26
1.05	20.59	9.87	9.87	6.41
1.10	22.08	10.10	10.10	6.56
1.15	23.60	10.33	10.33	6.71
1.20	25.16	10.55	10.55	6.86
1.25	26.75	10.77	10.77	7.00
1.30	28.37	10.98	10.98	7.14
1.35	30.02	11.19	11.19	7.27
1.40	31.71	11.39	11.39	7.41
1.45	33.42	11.60	11.60	7.54
1.50	35.16	11.79	11.79	7.67
1.55	36.94	11.99	11.99	7.79
1.60	38.74	12.18	12.18	7.92
1.65	40.57	12.37	12.37	8.04
1.70	42.42	12.56	12.56	8.16
1.75	44.31	12.74	12.74	8.28
1.80	46.22	12.92	12.92	8.40
1.85	48.16	13.10	13.10	8.51
1.90	50.13	13.27	13.27	8.63
1.95	52.12	13.45	13.45	8.74
2.00	54.14	13.62	13.62	8.85

Inlet Capacity in Sump Condition

INPUT (per Neenah Manual):

Inlet Grate Type:	ST-8	2.86 CFS in 200-Year Event
Perimeter of Grate:	R-4342	
Area of Grate:	6	
	2	

C value for orifice: 0.6 (C is always 0.6 unless told otherwise)

Reduction Factor 1 For Sump Conditions: 0.8 for Curb Openings
 (per FDM 13-25-30, 0.5 for Grates
 Figure 1) 0.65 for Combination (C&G Inlets)

Head (ft)	Weir Flow (cfs)	Orifice Flow (cfs)	Controlling Flow (cfs)	Actual Flow (cfs)
0.05	0.22	2.15	0.22	0.22
0.10	0.63	3.05	0.63	0.63
0.15	1.15	3.73	1.15	1.15
0.20	1.77	4.31	1.77	1.77
0.25	2.48	4.81	2.48	2.48
0.275	2.86	5.05	2.86	2.86
0.30	3.25	5.27	3.25	3.25
0.35	4.10	5.70	4.10	4.10
0.40	5.01	6.09	5.01	5.01
0.45	5.98	6.46	5.98	5.98
0.50	7.00	6.81	6.81	6.81
0.55	8.08	7.14	7.14	7.14
0.60	9.20	7.46	7.46	7.46
0.65	10.38	7.76	7.76	7.76
0.70	11.60	8.06	8.06	8.06
0.75	12.86	8.34	8.34	8.34
0.80	14.17	8.61	8.61	8.61
0.85	15.52	8.88	8.88	8.88
0.90	16.91	9.14	9.14	9.14
0.95	18.33	9.39	9.39	9.39
1.00	19.80	9.63	9.63	9.63
1.05	21.30	9.87	9.87	9.87
1.10	22.84	10.10	10.10	10.10
1.15	24.42	10.33	10.33	10.33
1.20	26.03	10.55	10.55	10.55
1.25	27.67	10.77	10.77	10.77
1.30	29.35	10.98	10.98	10.98
1.35	31.06	11.19	11.19	11.19
1.40	32.80	11.39	11.39	11.39
1.45	34.57	11.60	11.60	11.60
1.50	36.37	11.79	11.79	11.79
1.55	38.21	11.99	11.99	11.99
1.60	40.07	12.18	12.18	12.18
1.65	41.97	12.37	12.37	12.37
1.70	43.89	12.56	12.56	12.56
1.75	45.84	12.74	12.74	12.74
1.80	47.82	12.92	12.92	12.92
1.85	49.82	13.10	13.10	13.10
1.90	51.86	13.27	13.27	13.27
1.95	53.92	13.45	13.45	13.45
2.00	56.00	13.62	13.62	13.62

Inlet Capacity in Sump Condition

INPUT (per Neenah Manual):

	ST-9	
Inlet Grate Type:	HAALA	1.99 CFS in 200-Year Event
Perimeter of Grate:	12.6	
Area of Grate:	12.6	
C value for orifice:	0.6	(C is always 0.6 unless told otherwise)
Reduction Factor	1	For Sump Conditions: 0.8 for Curb Openings (per FDM 13-25-30, 0.5 for Grates Figure 1) 0.65 for Combination (C&G Inlets)

Head (ft)	Weir Flow (cfs)	Orifice Flow (cfs)	Controlling Flow (cfs)	Actual Flow (cfs)
0.05	0.46	13.57	0.46	0.46
0.10	1.31	19.19	1.31	1.31
0.132	1.99	22.04	1.99	1.99
0.15	2.42	23.50	2.42	2.42
0.20	3.72	27.13	3.72	3.72
0.25	5.20	30.33	5.20	5.20
0.30	6.83	33.23	6.83	6.83
0.35	8.61	35.89	8.61	8.61
0.40	10.52	38.37	10.52	10.52
0.45	12.55	40.70	12.55	12.55
0.50	14.70	42.90	14.70	14.70
0.55	16.96	44.99	16.96	16.96
0.60	19.32	46.99	19.32	19.32
0.65	21.79	48.91	21.79	21.79
0.70	24.35	50.76	24.35	24.35
0.75	27.01	52.54	27.01	27.01
0.80	29.75	54.26	29.75	29.75
0.85	32.58	55.93	32.58	32.58
0.90	35.50	57.56	35.50	35.50
0.95	38.50	59.13	38.50	38.50
1.00	41.58	60.67	41.58	41.58
1.05	44.74	62.17	44.74	44.74
1.10	47.97	63.63	47.97	47.97
1.15	51.28	65.06	51.28	51.28
1.20	54.66	66.46	54.66	54.66
1.25	58.11	67.83	58.11	58.11
1.30	61.63	69.17	61.63	61.63
1.35	65.22	70.49	65.22	65.22
1.40	68.88	71.78	68.88	68.88
1.45	72.60	73.05	72.60	72.60
1.50	76.39	74.30	74.30	74.30
1.55	80.24	75.53	75.53	75.53
1.60	84.15	76.74	76.74	76.74
1.65	88.13	77.93	77.93	77.93
1.70	92.16	79.10	79.10	79.10
1.75	96.26	80.26	80.26	80.26
1.80	100.41	81.40	81.40	81.40
1.85	104.63	82.52	82.52	82.52
1.90	108.90	83.63	83.63	83.63
1.95	113.22	84.72	84.72	84.72
2.00	117.61	85.80	85.80	85.80



NOAA Atlas 14, Volume 8, Version 2
Location name: Madison, Wisconsin, USA*
Latitude: 43.0194°, Longitude: -89.4777°
Elevation: m/ft**
 * source: ESRI Maps
 ** source: USGS



POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Deborah Martin, Sandra Pavlovic, Ishani Roy, Michael St. Laurent, Carl Trypaluk, Dale Unruh, Michael Yekta, Geoffery Bonnin

NOAA, National Weather Service, Silver Spring, Maryland

[PF_tabular](#) | [PF_graphical](#) | [Maps_&_aerials](#)

PF tabular

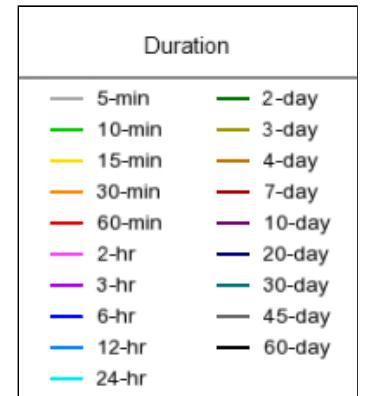
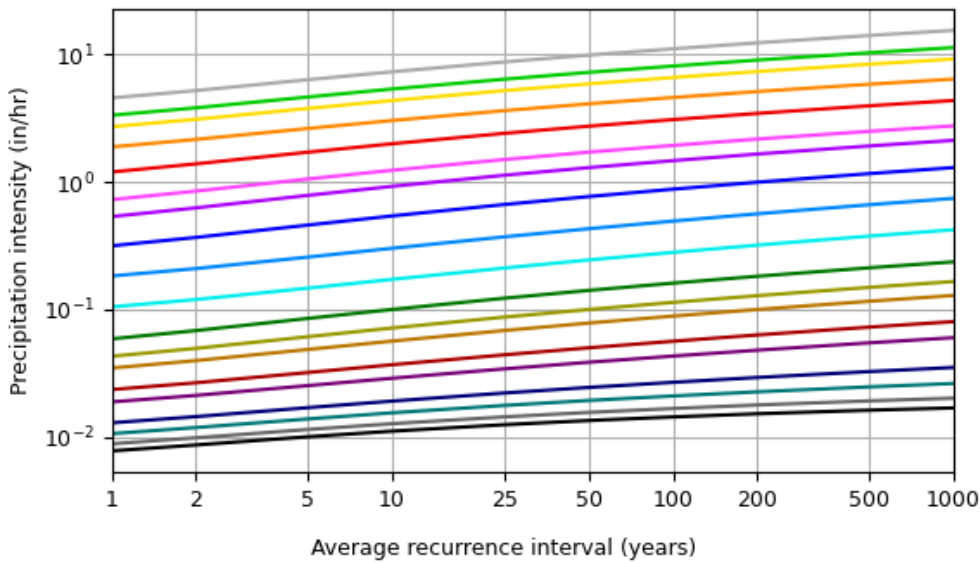
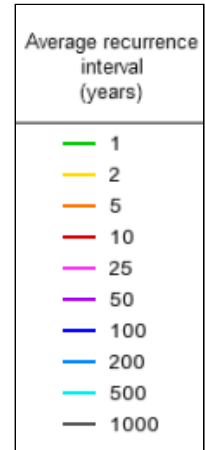
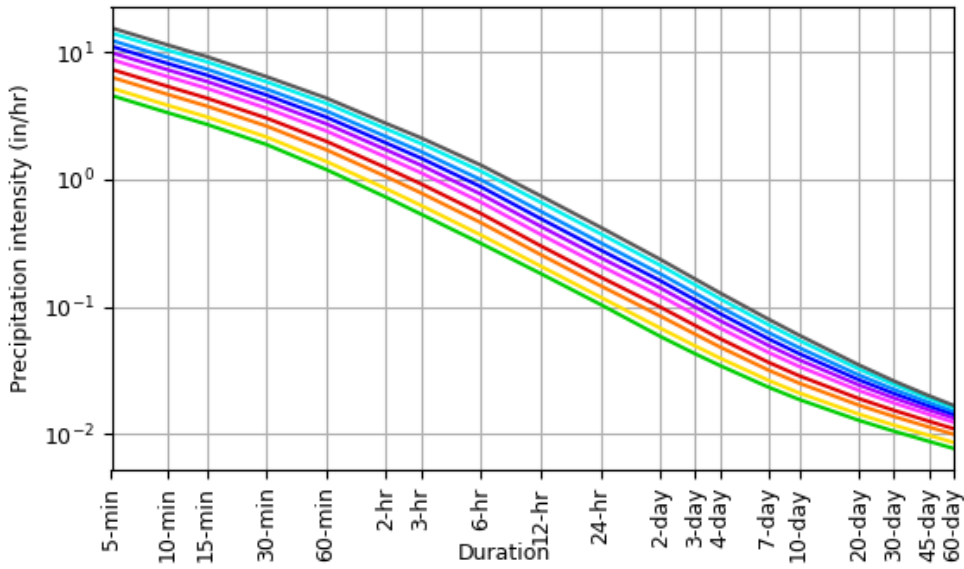
PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches/hour)¹										
Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	4.55 (3.79-5.42)	5.20 (4.34-6.20)	6.32 (5.27-7.56)	7.30 (6.05-8.75)	8.71 (7.04-10.7)	9.86 (7.80-12.2)	11.1 (8.50-13.9)	12.3 (9.12-15.8)	14.1 (10.1-18.4)	15.4 (10.8-20.3)
10-min	3.32 (2.78-3.97)	3.80 (3.18-4.54)	4.63 (3.85-5.53)	5.35 (4.43-6.41)	6.38 (5.16-7.86)	7.22 (5.71-8.96)	8.09 (6.22-10.2)	9.02 (6.68-11.6)	10.3 (7.37-13.5)	11.3 (7.89-14.9)
15-min	2.70 (2.26-3.23)	3.09 (2.58-3.70)	3.76 (3.13-4.50)	4.34 (3.60-5.21)	5.19 (4.20-6.39)	5.87 (4.64-7.29)	6.58 (5.06-8.30)	7.33 (5.43-9.41)	8.37 (5.99-10.9)	9.19 (6.42-12.1)
30-min	1.88 (1.57-2.24)	2.15 (1.80-2.57)	2.62 (2.18-3.13)	3.03 (2.51-3.63)	3.61 (2.92-4.45)	4.09 (3.24-5.08)	4.59 (3.52-5.78)	5.11 (3.78-6.56)	5.83 (4.17-7.61)	6.39 (4.46-8.42)
60-min	1.19 (0.997-1.42)	1.38 (1.15-1.65)	1.71 (1.42-2.04)	1.99 (1.65-2.38)	2.40 (1.94-2.96)	2.73 (2.16-3.39)	3.08 (2.36-3.88)	3.44 (2.55-4.42)	3.95 (2.82-5.16)	4.34 (3.03-5.72)
2-hr	0.724 (0.609-0.858)	0.844 (0.710-1.00)	1.05 (0.881-1.25)	1.23 (1.03-1.47)	1.49 (1.22-1.83)	1.71 (1.36-2.11)	1.93 (1.49-2.42)	2.16 (1.61-2.76)	2.49 (1.79-3.23)	2.75 (1.93-3.59)
3-hr	0.532 (0.450-0.628)	0.624 (0.526-0.736)	0.781 (0.658-0.924)	0.920 (0.771-1.09)	1.12 (0.920-1.37)	1.29 (1.03-1.59)	1.46 (1.14-1.83)	1.65 (1.24-2.10)	1.91 (1.38-2.47)	2.11 (1.49-2.75)
6-hr	0.314 (0.267-0.368)	0.365 (0.310-0.428)	0.457 (0.387-0.536)	0.539 (0.455-0.635)	0.662 (0.547-0.807)	0.765 (0.618-0.937)	0.874 (0.685-1.09)	0.992 (0.749-1.26)	1.16 (0.845-1.49)	1.29 (0.918-1.67)
12-hr	0.182 (0.156-0.211)	0.208 (0.178-0.242)	0.256 (0.218-0.298)	0.300 (0.255-0.351)	0.369 (0.308-0.448)	0.427 (0.348-0.522)	0.491 (0.388-0.609)	0.560 (0.427-0.707)	0.660 (0.486-0.847)	0.741 (0.530-0.953)
24-hr	0.104 (0.089-0.120)	0.119 (0.102-0.137)	0.146 (0.125-0.169)	0.171 (0.146-0.198)	0.210 (0.176-0.253)	0.243 (0.199-0.294)	0.279 (0.222-0.343)	0.318 (0.244-0.398)	0.374 (0.277-0.477)	0.420 (0.302-0.536)
2-day	0.058 (0.050-0.067)	0.067 (0.058-0.077)	0.084 (0.073-0.097)	0.099 (0.085-0.114)	0.121 (0.102-0.145)	0.140 (0.115-0.168)	0.160 (0.128-0.195)	0.181 (0.139-0.224)	0.211 (0.157-0.266)	0.235 (0.170-0.298)
3-day	0.042 (0.037-0.048)	0.049 (0.042-0.056)	0.060 (0.052-0.069)	0.071 (0.061-0.081)	0.086 (0.073-0.102)	0.099 (0.082-0.118)	0.113 (0.090-0.137)	0.127 (0.098-0.157)	0.148 (0.110-0.186)	0.164 (0.120-0.208)
4-day	0.034 (0.030-0.039)	0.039 (0.034-0.044)	0.048 (0.042-0.055)	0.056 (0.048-0.064)	0.067 (0.057-0.080)	0.077 (0.064-0.092)	0.088 (0.071-0.106)	0.099 (0.077-0.122)	0.115 (0.086-0.144)	0.128 (0.093-0.161)
7-day	0.023 (0.020-0.026)	0.026 (0.023-0.029)	0.031 (0.027-0.036)	0.036 (0.031-0.041)	0.043 (0.037-0.051)	0.049 (0.041-0.058)	0.056 (0.045-0.067)	0.062 (0.049-0.076)	0.072 (0.054-0.090)	0.079 (0.058-0.100)
10-day	0.018 (0.016-0.021)	0.021 (0.018-0.023)	0.025 (0.022-0.028)	0.028 (0.025-0.032)	0.033 (0.029-0.039)	0.038 (0.032-0.045)	0.042 (0.034-0.051)	0.047 (0.037-0.058)	0.054 (0.041-0.067)	0.059 (0.044-0.074)
20-day	0.012 (0.011-0.014)	0.014 (0.012-0.016)	0.016 (0.014-0.018)	0.019 (0.016-0.021)	0.021 (0.018-0.025)	0.024 (0.020-0.028)	0.026 (0.021-0.031)	0.029 (0.022-0.035)	0.032 (0.024-0.039)	0.034 (0.025-0.043)
30-day	0.010 (0.009-0.011)	0.011 (0.010-0.013)	0.013 (0.012-0.015)	0.015 (0.013-0.017)	0.017 (0.015-0.019)	0.019 (0.016-0.022)	0.020 (0.017-0.024)	0.022 (0.017-0.026)	0.024 (0.018-0.029)	0.026 (0.019-0.032)
45-day	0.008 (0.007-0.009)	0.009 (0.008-0.010)	0.011 (0.010-0.012)	0.012 (0.011-0.014)	0.014 (0.012-0.016)	0.015 (0.013-0.017)	0.016 (0.013-0.019)	0.017 (0.014-0.020)	0.019 (0.014-0.023)	0.020 (0.014-0.024)
60-day	0.007 (0.006-0.008)	0.008 (0.007-0.009)	0.009 (0.008-0.011)	0.011 (0.009-0.012)	0.012 (0.010-0.013)	0.013 (0.011-0.015)	0.014 (0.011-0.016)	0.015 (0.011-0.017)	0.016 (0.012-0.019)	0.016 (0.012-0.020)

¹ Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS). Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values. Please refer to NOAA Atlas 14 document for more information.

[Back to Top](#)

PF graphical

PDS-based intensity-duration-frequency (IDF) curves Latitude: 43.0194°, Longitude: -89.4777°



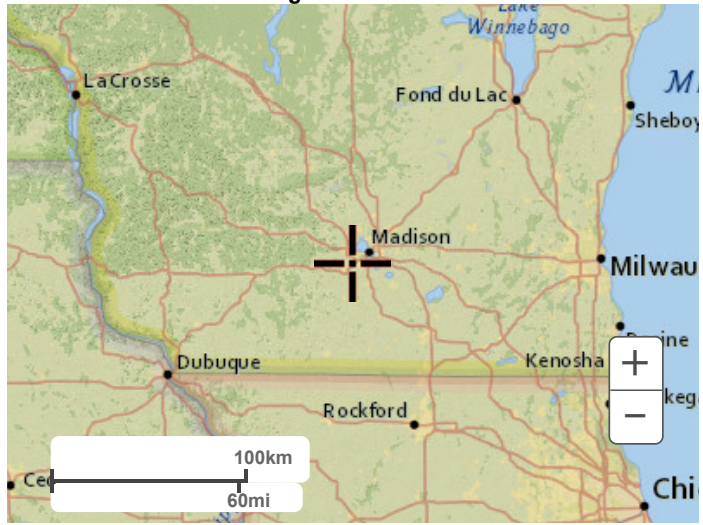
[Back to Top](#)

Maps & aerials

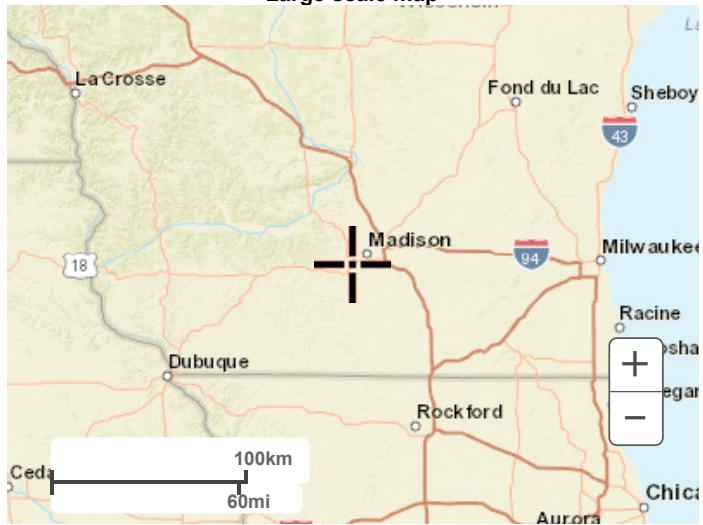
Small scale terrain



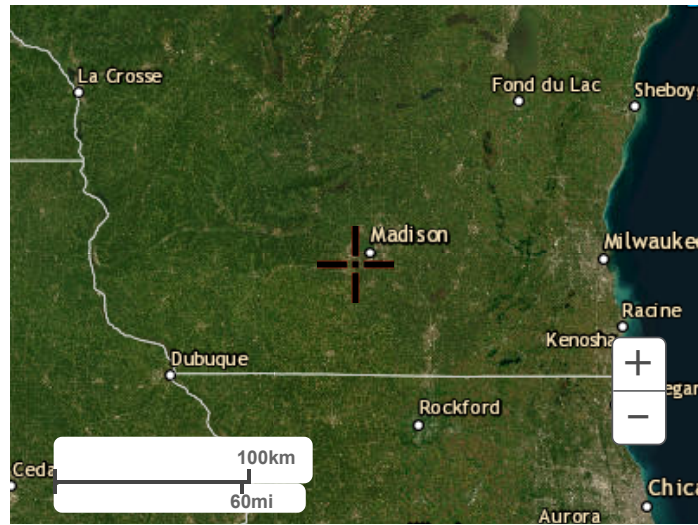
Large scale terrain



Large scale map



Large scale aerial



[Back to Top](#)

Could not retrieve elevation data due to Cross-Origin permissions.

[US Department of Commerce](#)
[National Oceanic and Atmospheric Administration](#)
[National Weather Service](#)
[National Water Center](#)
1325 East West Highway
Silver Spring, MD 20910
Questions?: HDSC.Questions@noaa.gov

[Disclaimer](#)

APPENDIX I

UNIVERSAL SOIL LOSS EQUATION FOR CONSTRUCTION SITES



Soil Loss & Sediment Discharge Calculation Tool

for use on Construction Sites in the State of Wisconsin



WDRN Version 2.0 (06-29-2017)

YEAR 1

Developer: CF Investments LLC
 Project: 2975 Kapec Road
 Date: 09/04/24
 County: Dane

Version 1.0

Activity (1)	Begin Date (2)	End Date (3)	Period % R (4)	Annual R Factor (5)	Sub Soil Texture (6)	Soil Erodibility K Factor (7)	Slope (%) (8)	Slope Length (ft) (9)	LS Factor (10)	Land Cover C Factor (11)	Soil loss A (tons/acre) (12)	SDF (13)	Sediment Control Practice (14)	Sediment Discharge (t/ac) (15)
Bare Ground	10/01/24	10/15/24	3.0%	150	Silty Clay	0.28	5.0%	270	0.88	1.00	1.1	0.752	Silt Fence	0.5
Bare Ground	10/15/24	05/16/25	20.5%	150	Silty Clay	0.28	4.7%	266	0.81	1.00	7.0	0.771	Inlet Protection	3.8
Seed with Mulch or Eri	05/16/25	07/16/25	38.6%	150	Silty Clay	0.28	4.7%	266	0.81	0.10	1.3	0.771	Inlet Protection	0.7
End	07/16/25	-----	-----	-----	-----	-----	4.7%	266	0.81	-----	-----	0.000	Inlet Protection	0.0
		-----	-----	-----	-----	-----	4.7%	0	-----	-----	-----	0.000		0.0
		-----	-----	-----	-----	-----	0.0%	0	-----	-----	-----	0.000		0.0
TOTAL											9.4		TOTAL	5.0
													% Reduction Required	NONE

Notes:

See Help Page for further descriptions of variables and items in drop-down boxes.
 The last land disturbing activity on each sheet must be 'End'. This is either 12 months from the start of construction or final stabilization.
 For periods of construction that exceed 12 months, please demonstrate that 5 tons/acre/year is not exceeded in any given 12 month period.

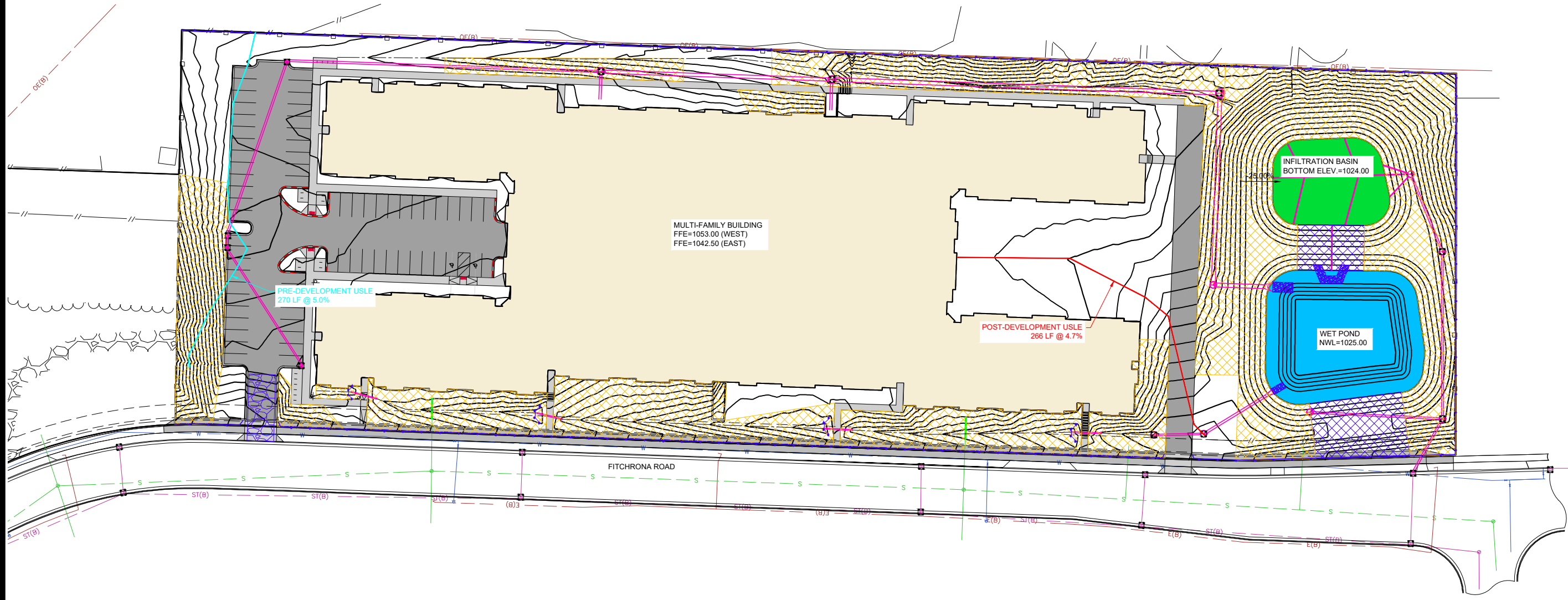
NOTE: THIS TOOL ONLY ADDRESSED SOIL EROSION DUE TO SHEET FLOW. MEASURES TO CONTROL CHANNEL EROSION MAY ALSO BE REQUIRED TO MEET SEDIMENT DISCHARGE REQUIREMENTS.

Recommended Permanent Seeding Dates:

4/1-5/15 and 8/7-8/29 Turf, introduced grasses and legumes
 Thaw-6/30 Native Grasses, forbs, and legumes

Designed By:	
Date	

LEGEND	
	CONSTRUCTION ENTRANCE
	SILT FENCE
	INLET PROTECTION
	EROSION MATTING
	TURF REINFORCEMENT MAT
	TEMPORARY STONE CULVERT PROTECTION
	RIP RAP



MULTI-FAMILY BUILDING
FFE=1053.00 (WEST)
FFE=1042.50 (EAST)

PRE-DEVELOPMENT USLE
270 LF @ 5.0%

POST-DEVELOPMENT USLE
266 LF @ 4.7%

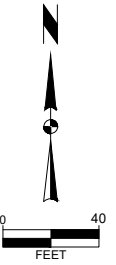
INFILTRATION BASIN
BOTTOM ELEV.=1024.00

WET POND
NWL=1025.00

FITCHRONA ROAD

KAPEC ROAD

CONSTRUCTION SEQUENCE
(09-30-2024) - INSTALL EROSION CONTROL DEVICES
(10-01-2024 - 10-15-2024) - STRIP AND STOCKPILE TOPSOIL
(10-15-2024 - 05-16-2025) - GRADE SITE
(05-16-2025 - 07-16-2025) - SEED AND MULCH AND ESTABLISH VEGETATION
*REMOVE EROSION CONTROL MEASURES ONLY AFTER SOILS HAVE BEEN STABILIZED



CITY COMMENTS	09-05-24	BCA
SIP SUBMITTAL	07-25-24	BCA
REVISION	DATE	BY
Engineer: BCA	Checked By: MLC	Scale: 1" = 40'
Technician: TECH	Date: 05-21-24	T-R-S: TTN+RRW-SS

Project No: 124,0465.30
Sheet APP I

2975 KAPEC ROAD
USLE
CITY OF FITCHBURG, DANE COUNTY, WI
SNYDER & ASSOCIATES, INC. |
5010 VOGES ROAD
MADISON, WISCONSIN 53718
608-838-0444 | www.snyder-associates.com

Project No: 124,0465.30
Sheet APP I

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APPENDIX J

DRAFT MAINTENANCE AGREEMENT

DECLARATION OF CONDITIONS AND RESTRICTIONS FOR
MAINTENANCE OF STORMWATER MANAGEMENT MEASURES

RECITALS:

- A. _____ (“Owner”) is the owner of _____ more particularly described on Exhibit A attached hereto (the “Property”).
- B. Owner desires to construct stormwater management measures on the Property in accordance with certain plans and specifications approved by the City of Fitchburg (the “City”).
- C. The City requires Owner to record this Declaration of Conditions and Restrictions for Maintenance of Stormwater Management Measures (this “Declaration”) regarding maintenance of certain stormwater management measures (“Stormwater Management Measures”) to be located on the Property all as more particularly described in Exhibit A and shown on Exhibit B. Owner agrees to maintain the Stormwater Management Measures and to grant to the City the rights set forth below.

NOW, THEREFORE, in consideration of the declarations herein and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the owner agrees as follows:

- 1. Maintenance. Owner and its successors and assigns shall be responsible to repair and maintain the Stormwater Management Measures located on the Property in good condition and in working order and such that the measures comply with approved plans on file with the City. Said maintenance shall be at the Owner’s sole cost and expense. Owner will conduct such maintenance or repair work in accordance with all applicable laws, codes, regulations, and similar requirements. *Specific maintenance tasks and their schedules shall be conducted in accordance with Exhibit A.*
- 2. Easement to City. In the event that the Owner fails to maintain the Stormwater Management Measures as required by Section 1, and such failure continues for a period of 30 days following the delivery of written notice to the Owner, then the City and its agents, employees, and contractors, shall have the right, but not the obligation, to enter the Property at any time for purposes of inspection, maintenance, and repairs. The City is hereby granted a permanent, non-exclusive easement over Property to conduct such inspections, maintenance, and repairs. These rights and remedies include, but are not limited to, ultimately contracting to perform such maintenance or repairs as it shall deem necessary and charging the costs incurred by the City as a special assessment or a special charge upon the next tax roll equally against Property. In accordance with Wisconsin Statutes Section 66.0703(7)(b), Owner or any subsequent owner of the Property hereby waive all special assessment notices and hearings required by Wisconsin Section 66.0703, and further agree and admit that the assessed property receives a benefit from the work, which is equal to or greater than the total cost of the work.
- 3. Term/Termination. The term of this Declaration shall commence on the date that this Declaration is filed of record with the Register of Deeds Office for Dane County, Wisconsin, and except as otherwise herein specifically provided, shall continue in perpetuity. Notwithstanding the foregoing, this Declaration may be terminated by recording with the Register of Deeds Office for Dane County, Wisconsin, a written instrument of termination signed by the City and all of the then-owners of the Property.
- 4. Miscellaneous.
 - (a) Notices. Any notice, request or demand required or permitted under this Declaration shall be in writing and shall be deemed given when personally served or three (3) days after the same has been deposited with the United States Post Office, registered or certified mail, return receipt requested, postage prepaid and addressed as follows:

If to Owner:

If to the City: City Engineering Division
5520 Lacy Road

This space reserved for recording data

Return to:
City of Fitchburg
5520 Lacy Road
Fitchburg, WI 53711

PIN#:

EXHIBIT A
Stormwater Management Maintenance Measures

Legal Description of Property:

Tax Parcel Numbers: _____

Stormwater Management Measures Included in this Agreement (as shown on the attached Erosion Control Plan, Grading Plan, and Utility Plan, hereby made a part of Exhibit B):

- All site storm sewer pipes and structures
- Infiltration Trenches/Ponds
- Stormwater Conveyance Channel
- 1 SNOOT structure with bioskirt

Specific Maintenance Requirements:

Short Term Maintenance (during construction and/or restoration):

- The building construction contractor at the owner's expense or as agreed to by the owner and contractor shall perform inspection of all facilities during construction and until site stabilization.
- Inspections during construction shall be weekly and/or after a rainfall event of 0.5" or more.
- Repairs necessary to restore the facility to design performance will be made within 48 hours of the inspection.
- Deficiencies include, but are not limited to, rill erosion, sediment deposition in the infiltration pond or behind perimeter control, and deposition of sediment on the tracking pad.
- Tracking on the public right-of-way shall be inspected regularly during days that construction traffic is leaving the construction site. Any excessive sediment tracked onto the public right-of-way shall be scraped immediately. Thorough sweeping, with appropriate equipment that physically picks up and removes the sediment (vs. pushing it to other locations within the public right-of-way) shall be conducted at the end of each working day during construction activities.

Long Term Maintenance:

- Inspector qualifications for Long Term Maintenance: Inspectors under this item shall maintain a current Registered Professional Engineer License in the State of Wisconsin or possess an alternate certification approved by the **City of Fitchburg's** Public Works Department.
- All stormwater provisions constructed as part of this project are permanent in location and function over time. The constructed stormwater provisions such as infiltration ponds, inlet filters, and storm structures shall not be removed or significantly altered without written permission from the **City of Fitchburg's** Public Works Department. Owner shall maintain records of inspections and maintenance as described below in accordance with Chapter 30 – Article II of the **City of Fitchburg** Municipal Code of Ordinances. Inspections and maintenance reports shall be submitted to the **City of Fitchburg's** Public Works Department on an annual basis.
- An operation and maintenance plan shall be developed that is consistent with the purposes of the infiltration device, its intended life, safety requirements and the criteria for its design. The plan shall be developed for inspection, operation and maintenance of the device. The plan shall assign responsibility for activities and the qualifications of the personnel performing the work.

STORM SEWER

- Proprietary sedimentation devices shall be installed and maintained in a manner consistent with laboratory testing and modeling assumptions used to predict effectiveness. This includes the following requirements: the device shall be installed in accordance with manufacturer recommendations; the installed device shall be equipped with an internal or external bypass to divert flows in excess of the design treatment flow rate.
- Storm structures outfitted with devices to capture total suspended solids (TSS) shall be inspected semi-annually in early spring and early fall. Cleaning of TSS and other debris shall be performed anytime the sediment in the unit reaches 8 inches in depth or the volume exceeds 15% of the total storage volume.
- Visual inspection of components shall be performed, and debris removed from inlets and storm sewer manholes.
- Repair inlet/outlet areas that are damaged or show signs of erosion.
- Rip-rap shall be replaced as necessary.
- Repairs must restore the component to the specifications of the original plan.

SNOUT STRUCTURE WITH BIOSKIRT

- The Owner shall install and maintain a SNOUT structure with bioskirt or equal. Said insert is installed for mitigation and control of sediment and/or oil and grease in the stormwater runoff.
- SNOUT and bioskirt shall be maintained per manufacturer guidelines.
- Oil & grease management devices shall be inspected quarterly. Repair work needs to be done whenever the performance of a stormwater structure is compromised. Bioskirt shall be replaced once a year or more frequently if the bioskirt is damaged.
- Owner shall maintain records of inspections, cleaning and replacement of the device or components of the device.

WET POND

- At a minimum, all components of the wet pond, including inlets, outlets, riprap, and safety shelf, and sediment depth, shall be inspected annually. Structures can be accessed via Fitchrona Road or the fire access drive.
- Embankments shall be kept clear of woody vegetation.
- To maximize filtration, mowing in buffer areas around stormwater ponds should be minimized. If occasional mowing is necessary, the mowing height is recommended to be no shorter than 6 inches. Applications of fertilizer, herbicide, pesticide or other chemicals are discouraged unless an approved chemical application plan is on file with the **City of Fitchburg's** Public Works Department.
- Sediment removal shall be required once the average depth of the permanent pool is 3.5 ft.
- Excavation is prohibited below the original design depth unless geotechnical analysis is completed in accordance with DNR's guidance document "Wet Detention Pond (1001)."
- Repairs must restore the component to the specifications of the original plan.

TURF DITCH

- Inspect turf ditches annually to detect signs of bare ground / soil erosion. Turf ditches that show signs of erosion shall be restored. If erosion is persistent, erosion control matting may be helpful in establishing vegetation.

- Inspect turn ditches for signs of standing water or sediment buildup. Regrade the ditch as necessary to maintain proper stormwater conveyance.
- Repairs must restore the component to the specifications of the original plan.

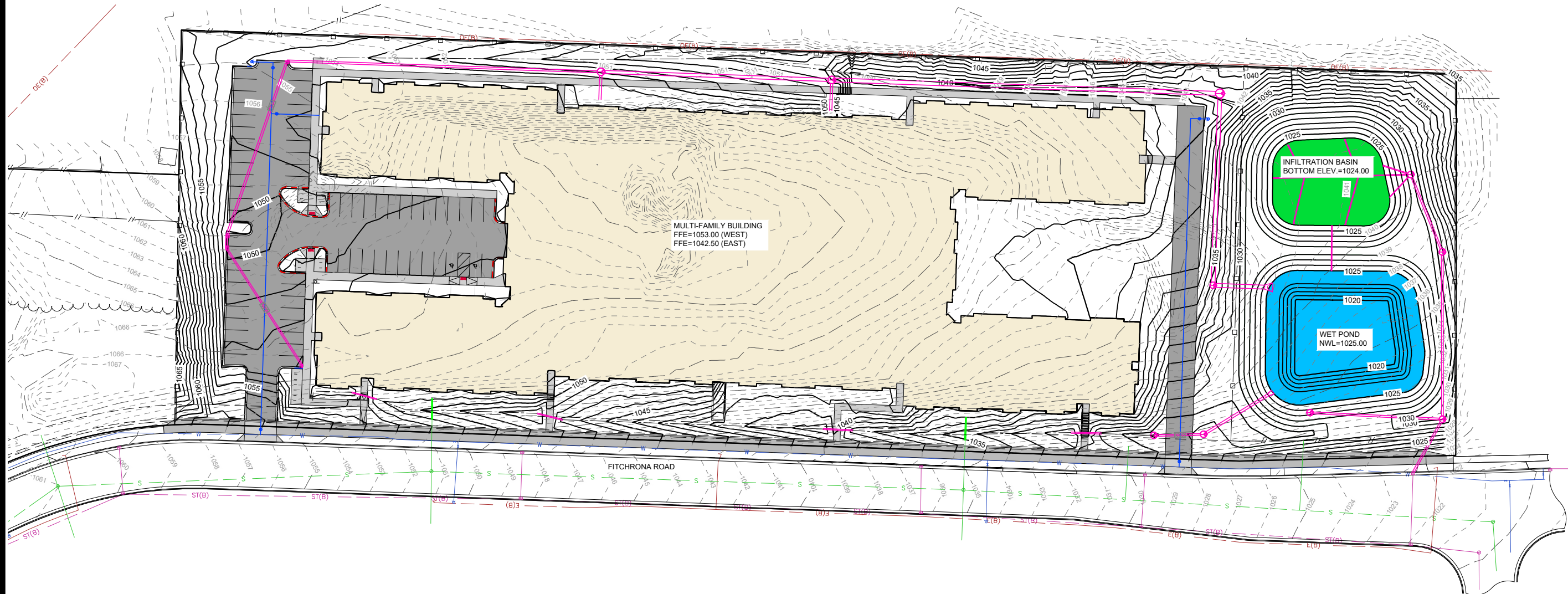
INFILTRATION BASIN

- At minimum, quarterly inspections shall occur. Inspection shall include spreader and overflow spillway for indication of failure. Note the condition of vegetation as part of inspection. If standing water is observed over 50% of the basin floor 3 days after rainfall, the basin is clogged and measures should be undertaken to unclog it.
- Native Vegetation - Mowing (cutting) or burning shall be used to maintain the vegetation.
 - Establishment - The first mowing of newly planted seed shall occur once it reaches a height of 10 to 12 inches.
 - Mowing
 - Mowing shall reduce the height of plants to 5 to 6 inches.
 - After establishment, if burning cannot be accommodated, mowing shall occur once in the fall (after November 1). The area shall be mowed to a height of 5 to 6 inches.
 - Burning
 - Routine Maintenance - Beginning the second year, burning shall occur in the early spring (prior to May 1st) or in the late fall (after November 1st)
 - Burning shall be done two consecutive years and then up to three years can pass before the next burning.
 - Under no circumstances shall burning occur every other year.
- Restoration Procedures – these include removing the top 2 to 3 inches, chisel plowing and adding topsoil and compost. If deep tilling is used, the basin shall be drained, and the soils dried to a depth of 8 inches. If the basin was planted in turf grass and clogging again occurs after these restoration procedures have been used, the owner /operator shall replant with prairie style vegetation using the soil preparation method recommended by the native nursery in the area.
- Trash shall be removed as quickly as possible once observed.
- Pretreatment - If wet detention is used, see WDNR Conservation Practice Technical Standard Wet Detention Basin (1001) for operations and maintenance requirements.
- Winter Maintenance - All draw down devices in the pond shall be opened during winter months to discourage infiltration of runoff water containing high levels of chlorides. If this practice is an enclosed basin, the use of chloride deicers shall be limited in the area draining to the basin to reduce the chance of exceeding the limits in Ch. NR 140.
- Repairs must restore the component to the specifications of the original plan.

EXHIBIT B

Figure(s) of Stormwater Management Maintenance Measures

V:\proj\24\24121\0465.30\CD\12\0465.30\GRADING PLAN.dwg, BLAKE REDENOUR, GRADING PLAN, 2024/09/03, 2:23 PM, ANSI/EIA LEED 0 (17.00 X 11.00 INCHES)

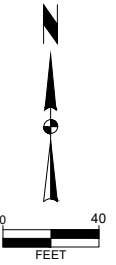


MULTI-FAMILY BUILDING
 FFE=1053.00 (WEST)
 FFE=1042.50 (EAST)

INFILTRATION BASIN
 BOTTOM ELEV.=1024.00

WET POND
 NWL=1025.00

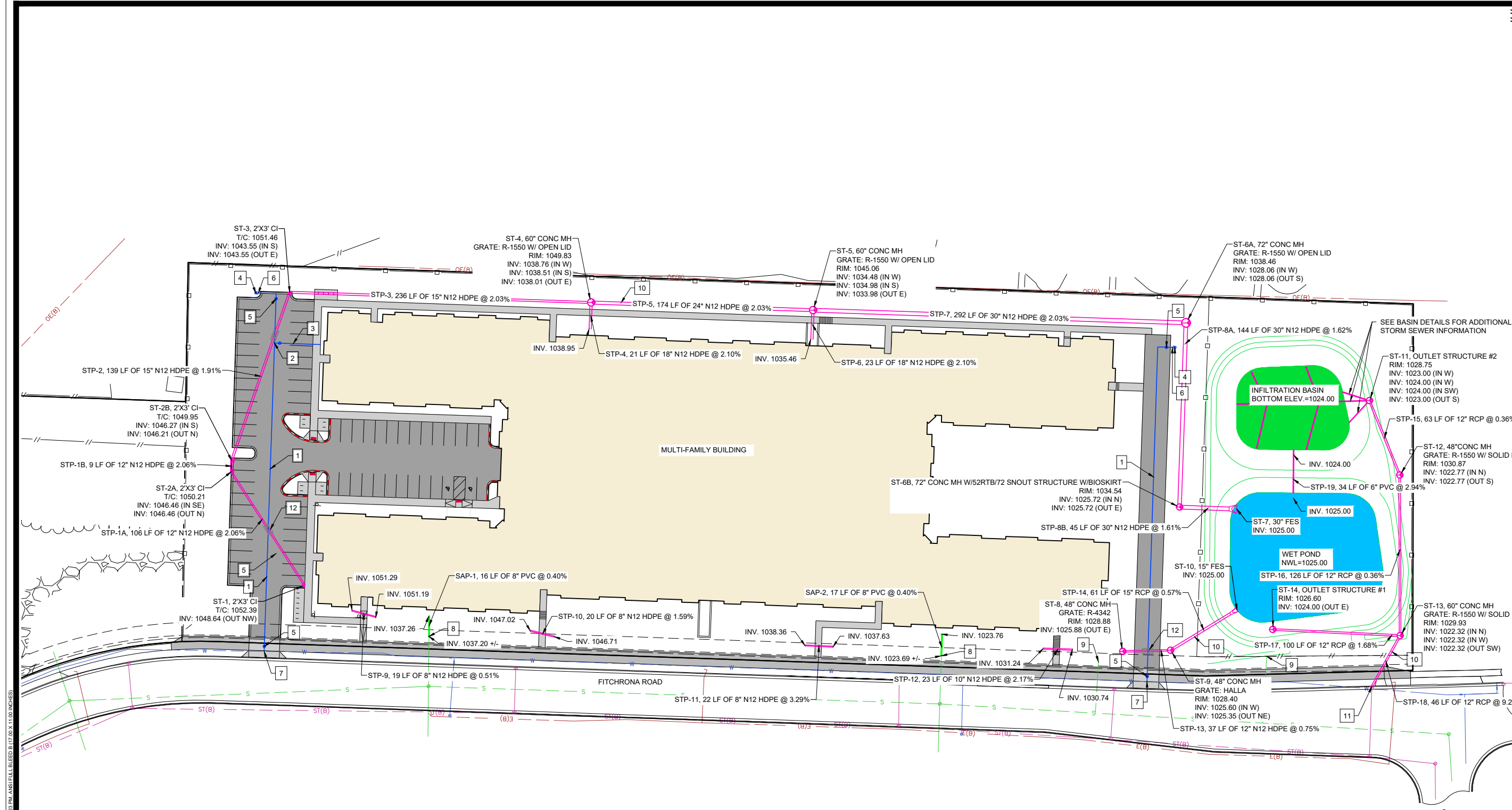
CONSTRUCTION SEQUENCE
 (09-30-2024) - INSTALL EROSION CONTROL DEVICES
 (10-01-2024 - 10-15-2024) - STRIP AND STOCKPILE TOPSOIL
 (10-15-2024 - 05-16-2025) - GRADE SITE
 (05-16-2025 - 07-16-2025) - SEED AND MULCH AND ESTABLISH VEGETATION
 *REMOVE EROSION CONTROL MEASURES ONLY AFTER SOILS HAVE BEEN STABILIZED



CITY COMMENTS	09-05-24	BCA
SIP SUBMITTAL	07-25-24	BCA
MARK	REVISION	DATE
Engineer: BCA	Checked By: MLC	Scale: 1" = 40'
Technician: TECH	Date: 05-21-24	T-R-S: TTN+RRW-SS
Project No: 124,0465.30		Sheet C 400

2975 KAPEC ROAD
GRADING PLAN
 CITY OF FITCHBURG, DANE COUNTY, WI
SNYDER & ASSOCIATES, INC.
 5010 VOGES ROAD
 MADISON, WISCONSIN 53718
 608-838-0444 | www.snyder-associates.com

Project No: 124,0465.30
 Sheet C 400

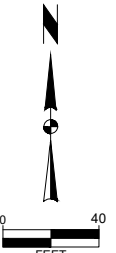


UTILITY PLAN NOTES

- PER CITY ORDINANCE, CONTRACTORS ARE NOT ALLOWED TO OPERATE CITY OWNED VALVES. THE CONTRACTOR SHALL CALL THE FITCHBURG UTILITY AT 608-270-4270 FOR OPERATION OF THESE VALVES.
- SAFE SAMPLE RESULTS NEED TO BE PROVIDED TO THE FITCHBURG UTILITY PRIOR TO PRESSURE TESTING THE PRIVATE WATER MAINS.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THAT THE EXISTING VALVES WILL HOLD THE PRESSURE TEST PRIOR TO CONNECTION. THE CITY IS NOT RESPONSIBLE FOR ANY COSTS INCURRED DUE TO THE CONTRACTOR NOT VERIFYING THAT THE EXISTING VALVE WILL HOLD THE PRESSURE TEST PRIOR TO CONNECTION. IF A NEW VALVE IS REQUIRED, THE APPLICANT WILL BE REQUIRED TO INSTALL ONE AT THEIR EXPENSE AT THE POINT OF CONNECTION.
- PRIVATE WATER MAIN BETWEEN THE MUNICIPAL SYSTEM UP TO AND INCLUDING PRIVATE HYDRANTS SHALL BE INSTALLED PER THE LATEST EDITION OF THE CITY OF FITCHBURG STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION. CORRECT NOTES IN REGARDS TO SPECIFICATIONS ACCORDINGLY.

UTILITY PLAN KEY NOTES

- 8" DUCTILE IRON PRIVATE WATER MAIN
- 8" WATER MAIN TEE
- 8" DUCTILE IRON PRIVATE WATER SERVICE
- PRIVATE FIRE HYDRANT
- 8" GATE VALVE
- 6"x8" REDUCER AT HYDRANT
- CONNECT TO EX. PUBLIC WATER MAIN 8"x12" CUT-IN TEE
- EXTEND EX. PRIVATE 8" SANITARY SEWER SERVICE
- ABANDON EX. 6" SANITARY LATERAL AT THE MAIN PER CITY OF FITCHBURG STANDARD SPECIFICATIONS. A 3" LINER SHALL BE INSTALLED TO SEAL THIS LATERAL TO AVOID DISTURBANCE OF THE ROAD.
- PRIVATE STORM SEWER
- CONNECT TO EX. STORM SEWER STRUCTURE:
EX. RIM = 1022.17
EX. INV. (12" RCP, SOUTH) = 1018.10
PR. INV. (12" RCP, NORTH) = 1018.10
- 4"x4"x8" INSULATION



MARK	REVISION	DATE	BY
09-05-24	BCA	07-25-24	BCA
07-25-24	BCA		
05-21-24	MLC		
05-21-24	TECH		
Checked By: MLC			Scale: 1" = 40'
Date: 05-21-24			T-R-S: TTN-RRW-SS
Project No: 124,0465.30			Sheet C 500

2975 KAPEC ROAD
UTILITY PLAN
 CITY OF FITCHBURG, DANE COUNTY, WI
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APPENDIX K

SOIL TEST PITS



Attachment 2:

SOIL AND SITE EVALUATION - STORM

In accordance with SPS 382.365, 385, Wis. Adm. Code, and WDNR Standard 1002

Attach a complete site plan on paper not less than 8 1/2 x 11 inches in size. Plan must include, but not limited to: vertical and horizontal reference point (BM), direction and percent of slope, scale or dimensions, north arrow, and BM referenced to nearest road <p style="text-align: center;">Please print all information</p> Personal information you provide may be used for secondary purposes [Privacy Law, s. 15.04(1)(m)]	County <u>Dane</u> Parcel I.D. <u>225/060906399202</u> Reviewed by: Date:
--	--

Property Owner <u>Wingra Real Estate LLC</u>	Property Location Govt. Lot <u>SE 1/4 SW 1/4 S 6 T 6 N R 9 E</u>		
Property Owner's Mail Address <u>PO Box 44284</u>	Lot #	Block#	Subd. Name or CSM #
City <u>Madison</u> State <u>WI</u> Zip Code <u>53744-4284</u> Phone Number	<input checked="" type="checkbox"/> City <input type="checkbox"/> Village <input checked="" type="checkbox"/> Town <u>Fitchburg</u>		Nearest Road <u>2975 Kapec Road</u>
Drainage area _____ <input type="checkbox"/> sq ft <input type="checkbox"/> acres Test site suitable for (check all that apply): <input type="checkbox"/> Site not suitable;	Hydraulic Application Test Method <input checked="" type="checkbox"/> Morphological Evaluation <input type="checkbox"/> Double Ring Infiltrometer <input type="checkbox"/> Other: (specify) _____		Soil Moisture Date of soil borings: <u>7/16/2024</u> USDA-NRCS WETS Value: <input type="checkbox"/> Dry = 1; <input type="checkbox"/> Normal = 2; <input type="checkbox"/> Wet = 3.
<input type="checkbox"/> Bioretention; <input type="checkbox"/> Subsurface Dispersal System; <input type="checkbox"/> Reuse; <input type="checkbox"/> Irrigation; <input type="checkbox"/> Other _____			

TP-1	#OBS. <input checked="" type="checkbox"/> Pit <input type="checkbox"/> Boring	Ground surface elevation <u>1041.4</u> ft.	Elevation of limiting factor <u>1022.4</u> ft. (Bedrock)							
Horizon	Depth in.	Dominant Color Munsell	Redox Description Qu. Sz. Cont. Color	Texture	Structure Gr. Sz. Sh.	Consistence	Boundary	% Rock Frags.	% Fines	Hydraulic App Rate Inches/Hr
1	0-14	10YR 2/2	None	SIL	1fsbk	mfr	gw	< 5		0.13
2	-72	10YR 4/4	None	SICL	1fsbk	mvfi	gw	< 5		0.04
3	-156	10YR 6/4	None	GRSL	1fsbk	mfr	gw	15-25		0.5
4	-228	10YR 8/1; 2.5YR 7/4	None	GRLFS	1fsbk	mfr	cs	15-25		0.5
5	>228			BR						
Comments: No apparent groundwater encountered during excavation. Excavator refusal experienced upon bedrock at about 19 ft. Horizon 4 characterized as weathered sandstone, which could be easily excavated.										

TP-2	#OBS. <input checked="" type="checkbox"/> Pit <input type="checkbox"/> Boring	Ground surface elevation <u>1041.0</u> ft.	Elevation of limiting factor <u>1022.0</u> ft. (Bedrock)							
Horizon	Depth in.	Dominant Color Munsell	Redox Description Qu. Sz. Cont. Color	Texture	Structure Gr. Sz. Sh.	Consistence	Boundary	% Rock Frags.	% Fines	Hydraulic App Rate Inches/Hr
1	0-15	10YR 2/2	None	SIL	1fsbk	mfr	gw	< 5		0.13
2	-48	10YR 4/4	None	SICL	1fsbk	mvfi	gw	< 5		0.04
3	-120	10YR 6/4	None	GRSL	1fsbk	mfr	gw	15-25		0.5
4	-228	10YR 8/1; 2.5YR 7/4	None	GRLFS	1fsbk	mfr	cs	15-25		0.5
5	>228			BR						
Comments: No apparent groundwater encountered during excavation. Excavator refusal experienced upon bedrock at about 19 ft. Horizon 4 characterized as weathered sandstone, which could be easily excavated.										

Name (Please Print) <u>Ryan J. Portman</u>	Signature	Credential Number <u>1201636</u>
Address <u>201 N. Mallard Dr., Sun Prairie, WI 53590</u>	Date Evaluation Conducted <u>7/16/2024</u>	Telephone Number <u>608-288-4100</u>



Colburn Hundley, Inc.
80 Ottawa Avenue, NW Ste 410
Grand Rapids, MI 49503

REZONING DESCRIPTION

Legal Description

Part of the SW $\frac{1}{4}$ - SW $\frac{1}{4}$, the SE $\frac{1}{4}$ - SW $\frac{1}{4}$, the NE $\frac{1}{4}$ - SW $\frac{1}{4}$, and the NW $\frac{1}{4}$ - SW $\frac{1}{4}$ of Section 06, Township 06 North, Range 09 East, in the City of Fitchburg, Dane County, Wisconsin, being more fully described as follows:

Commencing at the Southwest corner of said Section 06; thence N00°54'30"E along the West line of the SW $\frac{1}{4}$ of said Section 06, 1326.73 feet to a point on the South line of Fourth Addition to Jamestown, as recorded in Volume 47 of Plats, on Pages 20-22, as Document Number 1537665 Dane County Registry; thence along the Southerly line of said Fourth Addition to Jamestown for the next three (3) courses; 1- thence S87°57'46"E, 1185.25 feet to the point of beginning; 2-thence N00°59'08"E, 108.79 feet; 3-thence S88°02'32"E, 959.76 feet; thence S00°07'28"W, 287.03 feet to the Northerly right-of-way line of Fitchrona Road; thence along said Northerly right-of-way line for the next three (3) courses; 1-thence S88°29'33"W, 162.53 feet; 2-thence N87°57'47"W, 773.45 feet to a point of curvature; 3-thence 28.25 feet along the arc of a curve to the left, having a radius of 363.00 feet, a central angle of 04°27'34", and a chord bearing S89°48'28"W, 28.25 feet; thence N00°59'08"E, 187.95 feet to the point of beginning. Said description contains 284,197 square feet or 6.524 acres more or less.



Conditional Use - Owner or Authorized Agent Acknowledgement

** It is highly recommended that an applicant hold at least one neighborhood meeting prior to submitting a CUP application to identify any concerns or issues of surrounding residents.

PLEASE NOTE - Applicants shall be responsible for legal or outside consultant costs incurred by the City. Submissions shall be made at least four (4) weeks prior to desired plan commission meeting.

By signing below, I certify that the information included with this Conditional Use application is true and correct, to the best of my knowledge. Any agent signing below verifies that he/she has the consent of the owner to file the application.

Cory Frank

Owner's or Authorized Agent's Signature

08/20/2024

Date (DD/MM/YYYY)