

AGENDA
BOARD OF PUBLIC WORKS MEETING
Tuesday, September 28, 2021 at 7:00 p.m.
Jackson Village Hall
N168 W20733 Main Street
Jackson, WI 53037

1. Call to Order and Roll Call
2. Approval of the Board of Public Works Minutes of August 31, 2021
3. Review of Extension of Sewer and Water for Lamm's Corner
4. Pay Request #2 - Willow Ridge Reconstruction Project – Soper Companies
5. Pay Request #1 – Coffee Connection Trail Project – Poblocki Paving
6. Review of Replace Jackson Sewer Utility Vac-Truck
7. 2022 - Five (5) year Capital Improvements Program
8. 2022 – Public Works Equipment Program
9. 2022 Budget Presentation – Public Works, Water & Wastewater Utilities
10. Director of Public Works Report
11. Citizens/Village Staff to address the Board
12. Adjourn

Persons with disabilities requiring special accommodations for attendance at the meeting should contact the Village Hall at least one (1) business day prior to the meeting.

It is possible that members of the Village Board may attend the above meeting. No action will be taken by any governmental body at this meeting other than the governmental body specifically referred to in this meeting notice. This notice is given so that members of the Village Board may attend the meeting without violating the open meeting law.

DRAFT Minutes
Board of Public Works Meeting
Tuesday, August 31, 2021 at 7:00 p.m.
Jackson Village Hall
N168 W20733 Main Street
Jackson, WI 53037

1. Call to Order and Roll Call

Chair Heckendorf called the meeting to order at 7:00 p.m.

Members Present: Tr. Engelhardt, Tr. Matter, Tim Meffert, Steve Schoen and Gloria Teifke

Member Excused: Sarah Malchow

Staff Present: Director of Public Works Brian Kober and Clerk Jilline Dobratz

2. Approval of the Board of Public Works Minutes of July 27, 2021

Motion by Tr. Matter, second by Gloria Teifke to approve the Board of Public Works minutes of July 27, 2021.

Vote: 6 ayes, 0 nays. Motion carried.

3. Review of Water Connection Application - Feilbach

Director Kober explained the application is for a new water service located in the Town of Jackson Water Expansion Area. The request is for a proposed new single-family residence located on Maple Road with no construction start date. A capacity study was completed and identified a maximum number of connections for the system. Ten connections are remaining until the system would have to be upgraded. The applicant could also petition for annexation into the Village.

Motion by Tim Meffert, second by Tr. Heckendorf to recommend Village Board approve the Water Connection Application – Feilbach for a one-year period.

Vote: 5 ayes, 0, 1 abstain (Chair Heckendorf). Motion carried.

4. Pay Request #4 (Final) – Village of Jackson Improvements – Payne & Dolan

Director Kober stated the punch list work was not completed. Only the Sherman Road Drainage Project is recommended to be paid. The Jackson Park Parking Lot and Jackson Park Cul-de-Sac retainages will be held. This will close out all three of the 2019 projects. Motion by Chair Heckendorf, second by Tr. Engelhardt to recommend Budget & Finance and Village Board approve Pay Request #4 (Final) – Village of Jackson Improvements – Payne & Dolan in the amount of \$3,558.30.

Vote: 6 ayes, 0 nays. Motion carried.

5. Pay Request #1 – Willow Ridge Reconstruction Project – Soper Companies

Director Kober explained the progress of the project. Two crews are working, with three to four laterals being completed per day. The goal is to finish the project in October.

Motion by Chair Heckendorf, second by Tr. Matter to recommend Budget & Finance and Village Board approve Pay Request #1 – Willow Ridge Reconstruction Project – Soper Companies in the amount of \$89,091.00.

Vote: 6 ayes, 0 nays. Motion carried.

6. Director of Public Works Report

Director Kober gave information on current projects.

Motion by Tr. Engelhardt, second by Tr. Matter to place the Director of Public Works Report on file.

Vote: 6 ayes, 0 nays. Motion carried.

7. Citizens/Village Staff to Address the Board

None.

8. Adjourn.

Motion by Tim Meffert, second by Tr. Engelhardt to adjourn.

Vote: 6 ayes, 0 nays. Meeting was adjourned at 7:34 p.m.

Respectfully submitted,

Jilline Dobratz, *CMC/WCMC*
Village Clerk

Village of Jackson
PLAN COMMISSION APPLICATION

Application/Permit #: _____ - _____

PROPERTY INFORMATION

- ☐ COMMERCIAL ☐ INDUSTRIAL ☒ RESIDENTIAL ☐ OTHER _____
- ☐ CONDITIONAL USE ☒ PLANNED UNIT DEVELOPMENT ☐ CERTIFIED SURVEY MAP
- ☐ New ☐ New ☒ CONCEPT PLAN
- ☐ Special Use ☐ Special Use ☐ OTHER _____
- (For existing CU ONLY) (For existing PUD ONLY)

Property Address: Glen Brooke Drive Unit: _____ Jackson, WI

Parcel #: To be Determined Lot Size: TBD sq. ft. Building Area: TBD sq. ft.

Current Zoning: ☐ B-1 ☐ B-2 ☐ M-1 ☐ M-2 ☐ I-1 ☐ PUD ☒ Other MINOR SUBDIVISION ☐ Floodplain

APPLICANT INFORMATION

Name(s): John Lamm

Mailing Address: 2708 Sherman Rd. Jackson State WI Zip 53037

Office: (262) 677-3010 Cell: (262) 208-0032 Fax: (262) 677-0505

Email: j1amm@lammscape.com

BUSINESS INFORMATION (If New Business)

Legal Business Name: John Lamm of Jackson, Inc.

D/B/A: LAMMSCAPES! FEIN #: _____

Mailing Address: 2708 Sherman Rd. Jackson State WI Zip 53037

Office: (262) 677-3010 Cell: (262) 208-0032 Fax: (262) 677-0505

Email: _____

Website: WWW.lammscape.com

PROPERTY OWNER INFORMATION

Name(s): John Lamm

Address: 2708 Sherman Rd. Jackson State _____ Zip _____

Office: (262) 677-3010 Cell: () same Fax: () same

Email: j1amm@lammscape.com

ARCHITECT (ENGINEER) CONTRACTOR INFORMATION (Circle One)

Firm Name: M Squared Engineering, LLC

Primary Contact: Matthew Hahn

Address: N19W6719 Commerce Ct, Cedarburg State WI Zip 53012

Office: (262) 376-4246 Cell: (262) 385-6031 Fax: () _____

Email: matt@mquaredengineering.com

Please provide as much detailed information as possible. (Add additional pages if needed.)

Briefly explain what you are requesting to be reviewed and/or approved: _____

A Beautiful Development
of a 2.9 Acre Triangle of land
in the Village of Jackson

Provide a brief overview of proposed use(s) of entire property and/or lease space: _____

Residential lots for fine houses
and living spaces "Little Lambs Corner"

Hours of Operation: 24 hour living

Provide a brief overview of proposed daily on-site operations: _____

A quiet Residential area of homes

Describe any potential environmental impacts from the proposed use including but not limited to exterior storage, noise, smoke, dust, odors, hazardous materials, vibration, horns, speakers, vehicles and equipment operation and exterior generators, HVAC, or other stationary mechanical equipment, etc.: _____

A quiet living area, as homes North
and East with little impact

Describe all businesses, properties and other entities located adjacent to the proposed use: _____

All Residential homes North
and homes and lots East.

Proposed, development, on-site improvements or other construction/remodeling activities: _____

Future quality homes to be built
Landscape Improvements to Common Areas
by us of LANDSCAPES!

Proposed grading and/or stormwater management plan: _____

Area all left graded and cleaned up

Proposed landscape plan/improvements including driveways, sidewalks, vegetative plantings, etc.: _____

Landscape Plantings to Beautify Entrance area
and center Island - A shade tree for every lot
a "little lamb" Hydrangea for

Proposed on-site security measures including site lighting: _____

None expected

every home

Life Safety Systems - Existing or Proposed (Includes fire hydrants, fire suppression & fire alarm systems): _____

Fire hydrants & water in place

Projected traffic circulation and impacts: Normal traffic on Glen Brooke Dr.
Each home drive to central circle & Entrance
roadway with 2 lots entered on Glen Brooke

Setbacks from rights-of-way and property lines and height limitations: _____
to be determined on engineered plan

Status of State/Federal license(s) or Certificate(s) required for operation: _____
None required or applicable

Does this project require other Jurisdictional Approvals from other Governmental or Regulatory entities?

☒ No ☐ Yes If yes, explain: Not to my knowledge

Describe any proposed signage including type and location: _____
A Nice Entry Sign, or in the
landscaped circle island

Exterior Building Materials (type, color, etc.): _____
Unknown but tasteful

Site Specific Features/Constraints: _____
Existing Tree lines North & East borders
with loaded shade trees, front areas

Parking (Total No. of spaces plus number of dedicated handicapped parking and type): _____
Adequate for each home drive & street

Proposed screening/buffering from adjacent properties: _____
Evergreens planted in Northwest & Southeast
corners. Big existing tree buffer existing.

Proposed provisions for refuse and recycling collection/storage: _____
up to private property owners for disposal.

Projected Sewer/Wastewater Usage: 2 gal/year

Projected Water Usage: 2 gal/year

ACKNOWLEDGEMENT & SIGNATURES

I/We hereby certify that I/We have reviewed the above Village of Jackson Plan Commission application and requirements, and hereby certify that the above information, attachments, and exhibits are complete, true and correct. I/We further understand that any missing or incomplete information may result in a delay of the review of this application. The Village reserves the right to request additional information as deemed necessary.

Applicant Name (Print):

John Lamm

Applicant Signature:

John Lamm

Co-Applcant Name (Print):

CO-Applicant Signature:

Date of Application:

September 9, 2021

You MUST sign and date this Application!

SUBMIT TO:

Village of Jackson – Village Hall (Checks shall be made payable to Village of Jackson)
N168 W20733 Main Street
PO BOX 637
Jackson, WI 53037

QUESTIONS?

Village Clerk: For all **general questions** related to completing form or questions related to Village meetings.
Phone: (262) 677-9001 x11
Email: jilline.dobratz@villageofjackson.com

Building Inspector: For questions concerning **building codes, zoning, or technical questions.**
Phone: (262) 677-9696
Email: collin.johnson@villageofjackson.com

TERMS OF THIS PERMIT

1. This permit shall become effective upon Village approval and where required, the execution and recording by the owners of the premises of an acceptance hereof in such form as to constitute an effective covenant running with the land.
2. The permit shall be void unless: (a) pursuant to the Building and Zoning Codes of the Village, the approved use is commenced or (b) the building permit is obtained within 12 months of the date of Village Board approval.
3. This approval is subject to amendment and termination in accordance with the provisions of the Zoning Code of the Village of Jackson.
4. Construction and operation of this permit shall be in strict conformity to the approved building, site, and operational plans which were filed in connection with the application for this approval (as attached and/or referenced).
5. Any of the conditions of this permit which would normally be the responsibility of the tenants of the premises, shall be made a part of their lease by the owner.

VILLAGE APPROVAL:

☐ TEMPORARY Expiration Date: _____, 20____

Plan Commission Approval: Meeting Date: _____, 20____

Village Board Approval: Meeting Date: _____, 20____

In-House Approval (O-T-C): Date: _____, 20____

Approved by: Village Administrator

Conditions and Duration of Approval:

Depending on the request, approvals shall generally be continual or temporary in nature. ALL approvals are subject to

the Conditions of Approval outlined below. All conditional or special uses/approvals shall, upon complaint, be subject to

review, amendment, or revocation by the Village. Where temporary approvals are issued, such approvals shall be subject to the time limitations specified.

Conditions of Approval: _____

APPLICATION DENIED: Date: _____, 20____

Staff Initials: _____

Reason for Denial: _____

FOR OFFICE USE ONLY
Acct. #: 100-00-45730-000-00

Date Received: 9-9-21

Amount: \$ 175.00

Payment Type: CH / CC / CASH

Check/Rcpt. #: 25438

Received By: [Signature]

LITTLE LAMB'S CORNER DEVELOPMENT

PROJECT NO. 21-716-233

JACKSON, WI



SOURCE: WASHINGTON COUNTY GIS
VICINITY MAP
1"=2,000'

SITE INFORMATION:

TAX KEY ID: 052600Z

LOCATION: PART OF THE NORTHWEST 1/4 OF THE SOUTHEAST 1/4 OF SECTION 19, TOWNSHIP 10 NORTH, RANGE 20 EAST, IN THE VILLAGE OF JACKSON, WASHINGTON COUNTY, WISCONSIN

PREPARED FOR:

MR. JOHN LAMM
2708 SHERMAN ROAD
JACKSON, WI 53037
(262) 677-3010
JLAMM@LAMMSCAPE.COM

INDEX:

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- 2: GENERAL NOTES & LEGEND
- 3: EXISTING CONDITIONS MAP
- 4: OVERALL LAYOUT PLAN
- 5: SITE PREP & EROSION CONTROL PLAN
- 6: GRADING/PAVING PLAN
- 7: UTILITY PLAN
- 8: ROADWAY & UTILITY PLAN & PROFILE
- 9-11: DETAILS
- 12: CROSS SECTIONS

PROJECT CONTACTS:

CONSULTING ENGINEER
M SQUARED ENGINEERING, LLC.
N19 W6719 COMMERCE COURT
CEDARBURG, WI 53012
CONTACT: MR. MATT HAHM
(262) 376-4246
MATT@MSQUAREDENGINEERING.COM

APPROVAL AGENCY
VILLAGE OF JACKSON'S PUBLIC WORKS
W194N16660 EAGLE DRIVE
JACKSON, WI 53037
CONTACT: MR. BRIAN KOBER
(262) 677-7609
BRIAN.KOBER@VILLAGEOFJACKSON.COM

M Squared Engineering, LLC

...where engineering solutions meet water quality...
N19 W6719 COMMERCE CT
Cedarburg, WI 53012

Phone: (262)376-4246 www.msquaredengineering.com Fax: (262)375-2274



LITTLE LAMB'S CORNER
JACKSON, WI

TITLE SHEET

DRAWN BY: LKJ
DATE: 09/07/2021
CHECKED BY:
HORIZ. SCALE:
VERT. SCALE:
PROJECT NO. 21-716-233

REVISIONS
DATE: REVISED BY:

SHEET
1 OF 12

LEGEND

	EXISTING PROPERTY BOUNDARY
	EXISTING RIGHT-OF-WAY
	EXISTING CONTOURS (MAJOR)
	EXISTING CONTOURS (MINOR)
	EXISTING PAVEMENT LINE
	EXISTING EDGE OF GRAVEL
	EXISTING TELEPHONE LINE
	EXISTING OVERHEAD LINE
	EXISTING STORM SEWER LINE
	EXISTING SANITARY SEWER LINE
	EXISTING GAS LINE
	EXISTING FENCE LINE
	EXISTING TREE LINE
	EXISTING ASPHALT PAVEMENT
	EXISTING CONCRETE PAVEMENT
	EXISTING MANHOLE
	EXISTING HYDRANT
	EXISTING UTILITY POLE
	EXISTING PROPERTY IRON PIPE
	EXISTING SIGN
	PROPOSED PAVEMENT EDGE
	PROPOSED 2' GRAVEL SHOULDER EDGE
	PROPOSED STORM SEWER
	PROPOSED SANITARY SEWER
	PROPOSED WATER LINE
	PROPOSED BUILDING SETBACK
	PROPOSED CONTOURS (MAJOR)
	PROPOSED CONTOURS (MINOR)
	PROPOSED GRADE BREAKLINE
	PROPOSED GRADE BREAKLINE
	PROPOSED SILT FENCE
	PROPOSED RIP RAP
	PROPOSED TRACKING PAD
	PROPOSED EROSION CONTROL MAT
	PROPOSED DITCH CHECK
	PROPOSED INLET
	PROPOSED SANITARY MANHOLE
	PROPOSED STORM MANHOLE
	PROPOSED CULVERT ENDWALL
	PROPOSED HYDRANT
	PROPOSED VALVE

SURVEY INFORMATION:

- M SQUARED ENGINEERING, LLC. PERFORMED THE SITE SURVEY IN JUNE/JULY 2021
- VERTICAL DATUM IS BASED OF NGVD "29".
- BEARINGS ARE REFERENCED TO WISCONSIN STATE PLANE COORDINATES NAD 83 SOUTH ZONE, NORTH LINE OF SE ¼ 19-10-20, MEASURED AS N89°16'53"W.
- BENCHMARKS:
BENCHMARK 1 - NORTHWEST FLANGE BOLT ON HYDRANT EAST SIDE OF GLEN BROOKE DRIVE, 290 FEET NORTH OF VICTOR LANE (EL=863.85)
BENCHMARK 2 - NORTHWEST FLANGE BOLT ON HYDRANT, EAST SIDE OF GLEN BROOKE DRIVE, 140 FEET SOUTH OF GLEN HILL DRIVE (EL=864.51)
- THE LOCATIONS OF UNDERGROUND UTILITIES AS SHOWN ON THIS MAP ARE BASED ON AVAILABLE DOCUMENTATION AND MARKS PLACED ON THE GROUND BY DIGGERS HOTLINE (TICKET NO. 20212305361). THESE LOCATIONS MAY OR MAY NOT REFLECT THE ACTUAL LOCATION OF THESE UTILITIES. DIGGERS HOTLINE SHOULD BE NOTIFIED BEFORE ANY SUBSURFACE WORK IS CONDUCTED.

LEGAL DESCRIPTION

PART OF THE NORTHWEST 1/4 OF THE SOUTHEAST 1/4 OF SECTION 19, TOWNSHIP 10 NORTH, RANGE 20 EAST, IN THE VILLAGE OF JACKSON, WASHINGTON COUNTY, WISCONSIN, DESCRIBED AS FOLLOWS:

COMMENCING AT THE NORTHEAST CORNER OF THE SOUTHEAST 1/4 SAID SECTION 19; THENCE N89°16'53"W ALONG THE NORTH LINE OF THE SOUTHEAST 1/4 OF SAID SECTION 19, 1315.63 TO THE POINT OF BEGINNING; THENCE S01°12'28"E ALONG THE WEST LINE OF COBBLESTONE MEADOWS BEING A SUBDIVISION RECORDED IN THE WASHINGTON COUNTY COURTHOUSE AS MAP BOOK 53 PAGE DOCUMENT NUMBER 1468252 OF SUBDIVISION MAPS, 480.52 FEET TO THE NORTHERLY RIGHT OF WAY LINE OF GLEN BROOKE DRIVE AND BEING THE POINT OF THE CURVE TO THE LEFT AND HAVING A RADIUS OF 136.00 FEET CHORD OF 8.10 FEET BEARING N45°34'37"W; THENCE ALONG THE ARC OF SAID CURVE AND CONTINUING ALONG THE NORTHERLY RIGHT OF WAY LINE OF GLEN BROOKE DRIVE 8.10 FEET; THENCE CONTINUING ALONG SAID NORTH LINE N47°17'35"W 505.93 FEET TO A POINT OF ON A CURVE TO THE RIGHT AND HAVING A RADIUS OF 183.24 FEET CHORD OF 149.11 FEET BEARING N23°17'06"W; THENCE ALONG THE ARC OF SAID CURVE AND CONTINUING ALONG THE NORTHERLY RIGHT OF WAY LINE OF GLEN BROOKE DRIVE 153.57 FEET TO THE NORTH LINE OF THE SOUTHEAST 1/4 OF SECTION 19, TOWNSHIP 10 NORTH, RANGE 20 EAST; THENCE S89°16'53"E ALONG SAID NORTH LINE 426.41 FEET TO THE POINT OF BEGINNING;

SAID PARCEL CONTAINS 2.74 AC.

GENERAL DESIGN INFORMATION:

- YARD SETBACKS (MINIMUMS):
STREET/REAR: 20 FEET
SIDE: 10 FEET

GENERAL NOTES:

- ALL CONSTRUCTION SHALL MEET STANDARDS IN THE CONTRACT DOCUMENTS, "WISCONSIN STANDARD SPECIFICATIONS FOR SEWER AND WATER", "VILLAGE OF JACKSON" STANDARD SPECIFICATIONS", AND "DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION", LATEST EDITIONS AND AMENDMENTS. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH ALL FEDERAL, STATE AND LOCAL CODES/ORDINANCES/LAWS/REQUIREMENTS.
- SUMMARY OF WORK: PROJECT WORK SHALL INCLUDE INSTALLATION/MAINTAINING/REMOVAL OF EROSION CONTROLS, GRADING, INSTALL STORM/WATER/SANITARY SYSTEM, PAVEMENT (WITH ASSOCIATED PAVEMENT STRIPING) AS SHOWN ON PROJECT DRAWINGS. CONSTRUCTION DETAILS ARE INCLUDED IN THE PLAN SET.
- ALL WORK SHALL BE CONSTRUCTED TO THE SATISFACTION OF OWNER AND ENGINEER.
- THE CONTRACTOR SHALL INDEMNIFY THE OWNER, M SQUARED ENGINEERING AND THEIR AGENTS FROM ALL LIABILITY INVOLVED WITH THE CONSTRUCTION, INSTALLATION AND TESTING OF THE CIVIL WORK INCLUDED ON THESE CIVIL PLANS.
- M SQUARED ENGINEERING AND ITS AGENTS ASSUMES NO RESPONSIBILITY FOR DAMAGES, LIABILITY OR COSTS RESULTING FROM CHANGES OR ALTERATIONS MADE TO THESE PLANS WITHOUT THE EXPRESSED WRITTEN CONSENT OF M SQUARED ENGINEERING.
- CONTRACTOR SHALL OBTAIN AND PAY FOR ALL NECESSARY WORK, PERMITS AND INSPECTIONS FOR THE CONSTRUCTION OF THESE CIVIL PLANS INCLUDING, BUT NOT LIMITED TO, TRAFFIC CONTROL, DEMOLITION, DISPOSAL, UTILITY REMOVAL/RELOCATION/CONSTRUCTION, GRADING/PAVING, ETC.
- CIVIL PROJECT DRAWING VERIFICATION: THE INFORMATION IN THE PLAN SET REPRESENTS THE INFORMATION AVAILABLE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION OF ALL INFORMATION IN THE FIELD. CONTRACTOR SHALL REVIEW SITE PLANS PRIOR TO CONSTRUCTION. ANY DISCREPANCIES NOTED BETWEEN EXISTING SITE CONDITIONS AND PROJECT DRAWINGS, AND BETWEEN PROJECT DRAWINGS (FOR UTILITY CONFLICTS, DRAINAGE/GRADING CONFLICTS, ETC.) SHALL BE NOTED TO THE M SQUARED IN WRITING PRIOR TO CONSTRUCTION COMMENCEMENT. CHANGES IN WORK SCOPE SHALL BE MADE ACCORDINGLY. IF CONTRACTOR (OR ITS' SUBCONTRACTORS) COMMENCES WORK (I.E., EQUIPMENT MOBILIZATION TO SITE), CONTRACTOR ACCEPTS RESPONSIBILITY/EXPENSES FOR ANY CHANGES TO BE PERFORMED AS A RESULT OF PROJECT DRAWING INCONSISTENCIES AT NO ADDITIONAL COST TO THE OWNER/ENGINEER.
- UNDERGROUND UTILITIES ARE SHOWN FOR INFORMATIONAL PURPOSES ONLY, AND ARE NOT GUARANTEED TO BE ACCURATE OR ALL INCLUSIVE. THE CONTRACTOR IS RESPONSIBLE FOR MAKING HIS OWN DETERMINATION AS TO THE TYPE AND LOCATION OF UNDERGROUND UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE THERETO. CONTRACTOR SHALL CALL DIGGERS HOTLINE A MINIMUM OF THREE DAYS PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITIES. IN ADDITION, CONTRACTOR SHALL NOTIFY UTILITY COMPANIES FOR ONSITE LOCATIONS OF EXISTING UTILITY PRIOR TO CONSTRUCTION COMMENCEMENT.
- ALL EXISTING UTILITIES SHOWN ARE NOT TO BE INTERPRETED AS THE EXACT LOCATION OR AS THE ONLY OBSTACLES THAT MAY OCCUR ON THE SITE. CONTRACTOR SHALL VERIFY EXISTING CONDITIONS AND PROCEED WITH CAUTION AROUND ALL FEATURES. GIVE NOTICE TO UTILITY COMPANIES REGARDING DESTRUCTION AND REMOVAL OF THEIR SERVICE LINES AND CAP ALL LINES BEFORE PROCEEDING WITH WORK. DAMAGE TO UTILITIES THAT ARE TO REMAIN SHALL BE REPAIRED AT CONTRACTOR'S COST AT NO ADDITIONAL COST TO THE OWNER/ENGINEER.
- PRIOR TO ANY CONSTRUCTION ACTIVITIES, CONTRACTOR SHALL REFER TO, AND ADHERE TO THE RECOMMENDATIONS OF THE SITE GEOTECHNICAL REPORT AND ANY RELEVANT ENVIRONMENTAL ASSESSMENT REPORTS. IF PREVIOUSLY UNIDENTIFIED HAZARDOUS, CONTAMINATED MATERIALS, ENVIRONMENTAL-RELATED CONDITIONS, OR UNEXPECTED SUBGRADE CONDITIONS ARE DISCOVERED, STOP WORK IMMEDIATELY AND NOTIFY THE OWNER/ENGINEER FOR ACTION TO BE TAKEN. DO NOT RESUME WORK UNTIL SPECIFICALLY AUTHORIZED BY THE OWNER/ENGINEER.
- THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING SOIL CONDITIONS PRIOR TO COMMENCEMENT OF CONSTRUCTION. A SITE GEOTECHNICAL REPORT MAY BE AVAILABLE FROM THE OWNER. CONTRACTOR SHALL PERFORM ALL EXCAVATIONS, DEWATERING, BACKFILLING (MATERIALS AND PLACEMENT/COMPACTION), SUBGRADE CONSTRUCTION, ETC. IN ACCORDANCE WITH THE SITE GEOTECHNICAL REPORT. IF NO SITE GEOTECHNICAL REPORT IS AVAILABLE, SUBGRADE SHALL BE PREPARED IN ACCORDANCE WITH WISDOT STANDARDS.
- CONTRACTOR IS RESPONSIBLE FOR SITE SECURITY AND SAFETY. OWNER AND ENGINEER ASSUMES NO RESPONSIBILITY FOR EITHER SITE SECURITY OR SAFETY.
- THE MUNICIPALITY, OWNER AND ENGINEER SHALL HAVE THE RIGHT TO INSPECT, APPROVE, AND REJECT THE CONSTRUCTION OF THE IMPROVEMENTS DETAILED IN THESE CIVIL PLANS. CONTRACTOR TO PAY/COORDINATE ALL INSPECTIONS. REJECTED CONSTRUCTION SHALL BE RECONSTRUCTED AT CONTRACTOR'S EXPENSE AT NO ADDITIONAL COST TO THE OWNER/ARCHITECT/ENGINEER.
- ANY ADJACENT PROPERTIES OR ROAD RIGHT-OF-WAYS WHICH ARE DAMAGED DURING CONSTRUCTION MUST BE RESTORED BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSES TO THE SATISFACTION TO THE OWNER/ENGINEER AT NO ADDITIONAL COST TO THE OWNER/ENGINEER.
- EXISTING ITEMS TO REMAIN SHALL BE CAREFULLY PROTECTED DURING CONSTRUCTION. ANY DAMAGE TO THESE ITEMS WILL BE REPAIRED OR REPLACED AT CONTRACTOR'S EXPENSE AT NO ADDITIONAL COST TO THE OWNER/ENGINEER.

CONSTRUCTION SEQUENCE:

- INSTALL EROSION CONTROLS PRIOR TO OTHER CONSTRUCTION ACTIVITIES. INSTALL IN THE FOLLOWING ORDER: TRACKING PAD AND THEN SILT FENCE.
- ROUGH GRADE STORMWATER MANAGEMENT PONDS FOR USE AS SETTLING PONDS DURING CONSTRUCTION. THE ROUGH GRADING SHALL BE PERFORMED PRIOR TO BEGINNING OTHER SITE GRADING AND UTILITY CONSTRUCTION. UPON GRADING COMPLETION AND BEFORE VEGETATING POND, REMOVE AND DISPOSE OF SILT BUILDUP.
- GRADING/PAVING/UTILITY CONSTRUCTION.
- ALL DISTURBED AREAS OUTSIDE PAVEMENT AREAS MUST BE STABILIZED WITHIN 14 DAYS OF INITIAL GROUNDBREAKING OR WITHIN 7 DAYS OF ACHIEVING FINAL GRADE, WHICHEVER OCCURS FIRST.
- REMOVE TEMPORARY SOIL EROSION AND SEDIMENT CONTROLS.

GENERAL EROSION CONTROL REQUIREMENTS:

- ALL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE WISCONSIN DEPARTMENT OF NATURAL RESOURCES TECHNICAL STANDARDS.
- INSTALL EROSION CONTROL MEASURES PRIOR TO ANY SITE WORK, INCLUDING GRADING OR DISTURBANCE OF EXISTING SURFACE MATERIALS AS SHOWN ON PLAN.
- EROSION CONTROLS
 - ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH THE WDNR TECHNICAL GUIDANCE PRIOR TO OTHER CONSTRUCTION ACTIVITIES.
 - INSTALL A GRAVEL TRACKING PAD AT EACH NON-PAVED. CONSTRUCTION ENTRANCE TO THE SITE BEFORE ANY EARTH DISTURBING ACTIVITIES OCCUR. PAVED SURFACES ADJACENT TO CONSTRUCTION SITE VEHICLE ACCESS SHALL BE SWEEP AND/OR SCRAPED DAILY TO REMOVE SOIL, DIRT AND/OR DUST.
 - INSTALL INLET PROTECTION IN ALL STORM SEWER INLETS AND CATCH BASINS IN AND ADJACENT TO PROJECT SITE.
 - INSTALL EROSION MAT ON ALL SLOPES EQUAL TO OR GREATER THAN 4:1.
 - INSTALL CHECK DAMS WITHIN DRAINAGE DITCHES IN ACCORDANCE WITH BMPs.
 - INSPECT AND MAINTAIN ALL EROSION CONTROLS DAILY.
 - MAINTENANCE OF ALL SEDIMENT CONTROL STRUCTURES SHALL BE PROVIDED WITH THE MEASURES IN WORKING CONDITION AT THE END OF EACH WORKING DAY.
 - AFTER ANY SIGNIFICANT RAINFALL, SEDIMENT CONTROL STRUCTURES SHALL BE INSPECTED FOR INTEGRITY. ANY DAMAGED STRUCTURES SHALL BE CORRECTED FOR INTEGRITY.
 - OVERLAND FLOW SHALL BE PREVENTED FROM LEAVING THE WORK SITE BY INSTALLING STRAW BALES OR FABRIC FILTER FENCING PARALLEL TO THE CONTOURS LOCATED DOWNHILL FROM THE WORK AREA.
 - NATURAL PLANT COVERING SHALL BE PRESERVED AND PROTECTED.
 - THE SMALLEST PRACTICAL AREA OF LAND SHALL BE EXPOSED DURING DEVELOPMENT AND KEPT TO AS SHORT A DURATION OF TIME AS IS PRACTICAL.
 - ALL DISTURBED GROUND LEFT INACTIVE FOR TWO WEEKS DURING THE EXCAVATION OR CONSTRUCTION PROCESS SHALL BE STABILIZED BY MULCHING OR COVERING.
 - ALL SOIL OR DIRT STORAGE PILES CONTAINING MORE THAN 10 CUBIC YARDS OF MATERIAL SHALL BE PROTECTED FROM THE FORCES OF EROSION. INSTALL EROSION CONTROLS ON THE DOWNSTREAM SIDE OF STOCKPILES.
 - TEMPORARY SEDIMENT BASINS SHALL BE CONSTRUCTED AND MAINTAINED ON ALL DRAINAGE WAYS TO TRAP AND REMOVE AND PREVENT SEDIMENT AND DEBRIS FROM OCCURRING.
 - WATER PUMPED FROM THE SITE SHALL BE TREATED BY TEMPORARY SEDIMENT BASINS, GRIT CHAMBERS OR OTHER APPROPRIATE MEASURES.
 - ALL WASTE AND UNUSED CONSTRUCTION MATERIALS SHALL BE PROPERLY DISPOSED OF IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL REGULATIONS.
 - PROVIDE ACCESS DRIVES AND PARKING AREAS OF SUFFICIENT WIDTH AND LENGTH TO PREVENT SEDIMENT FROM BEING TRACKED ONTO PUBLIC ROADWAYS. ANY SEDIMENT REACHING A PUBLIC ROADWAY SHALL BE REMOVED (NOT FLUSHING) BEFORE THE END OF EACH WORK DAY.
 - ALL STORM DRAIN INLETS SHALL BE PROTECTED WITH A STRAW BALE, FILTER FABRIC OR EQUIVALENT BARRIER.
- STORM POND SHALL BE USED AS SEDIMENT BASINS DURING CONSTRUCTION. SEDIMENT SHALL BE REMOVED PRIOR TO OWNER ACCEPTANCE OF SITEWORK.
- ALL DISTURBED AREAS MUST BE STABILIZED WITHIN 14 DAYS OF INITIAL GROUNDBREAKING OR WITHIN 7 DAYS OF ACHIEVING FINAL GRADE, WHICHEVER OCCURS FIRST.
- EROSION CONTROL MEASURES SHALL BE REMOVED ONLY AFTER SITE CONSTRUCTION IS COMPLETE WITH ALL SOIL SURFACES HAVING AN ESTABLISHED VEGETATIVE COVER.



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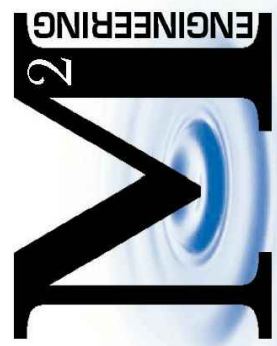
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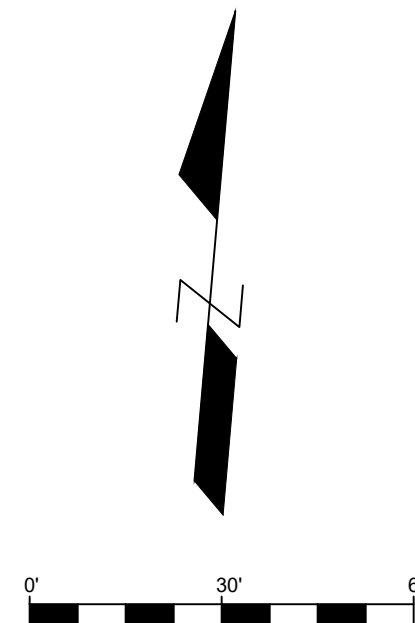
LITTLE LAMB'S CORNER
JACKSON, WI

GENERAL NOTES & LEGEND
SHEET

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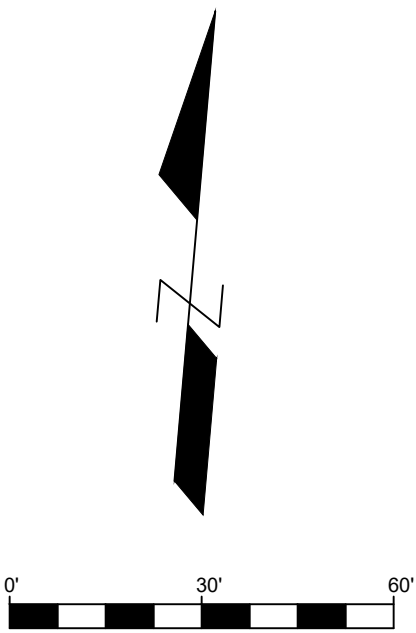
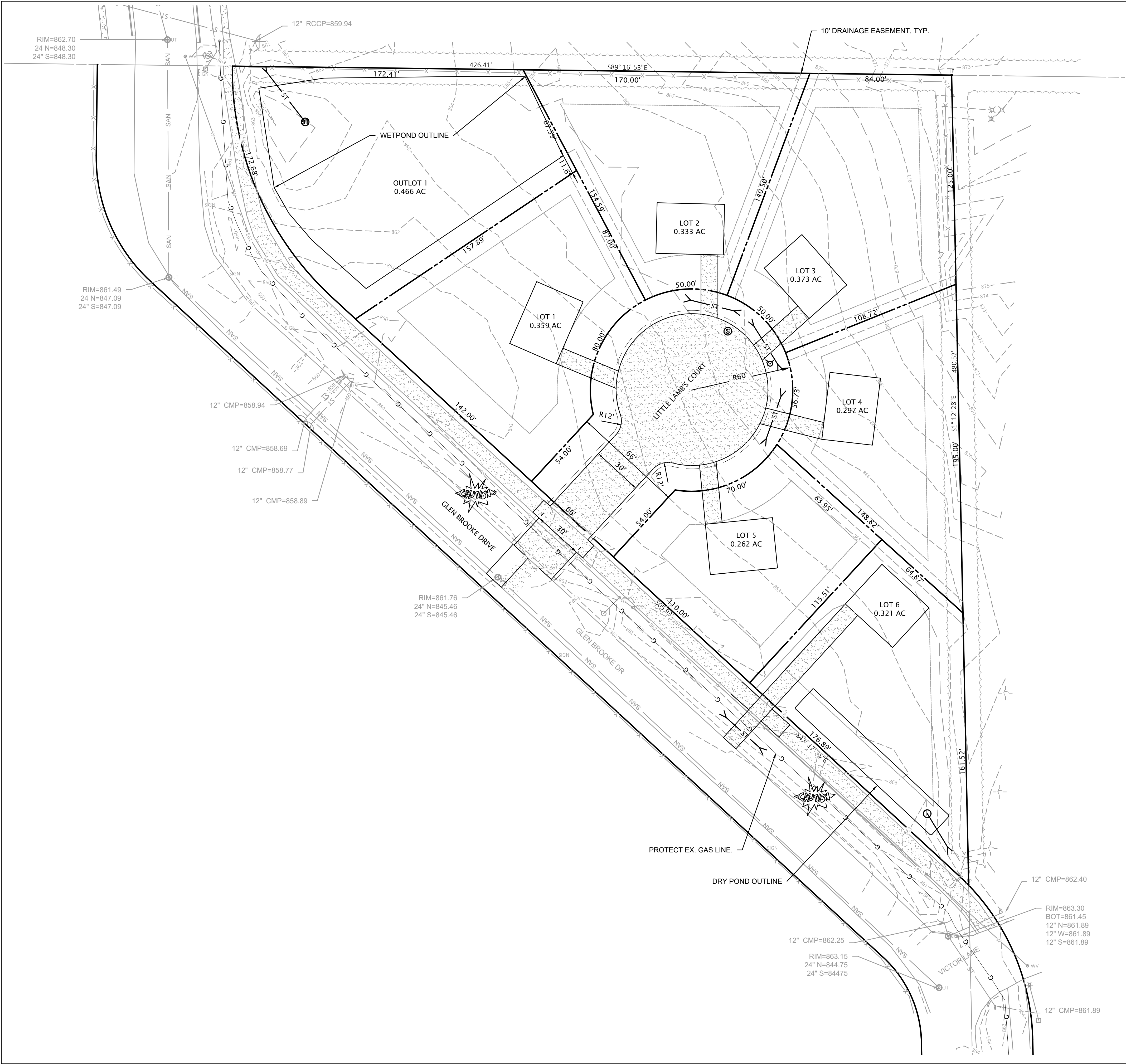
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GENERAL NOTES
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**LITTLE LAMB'S CORNER
JACKSON, WI**

OVERALL LAYOUT PLAN

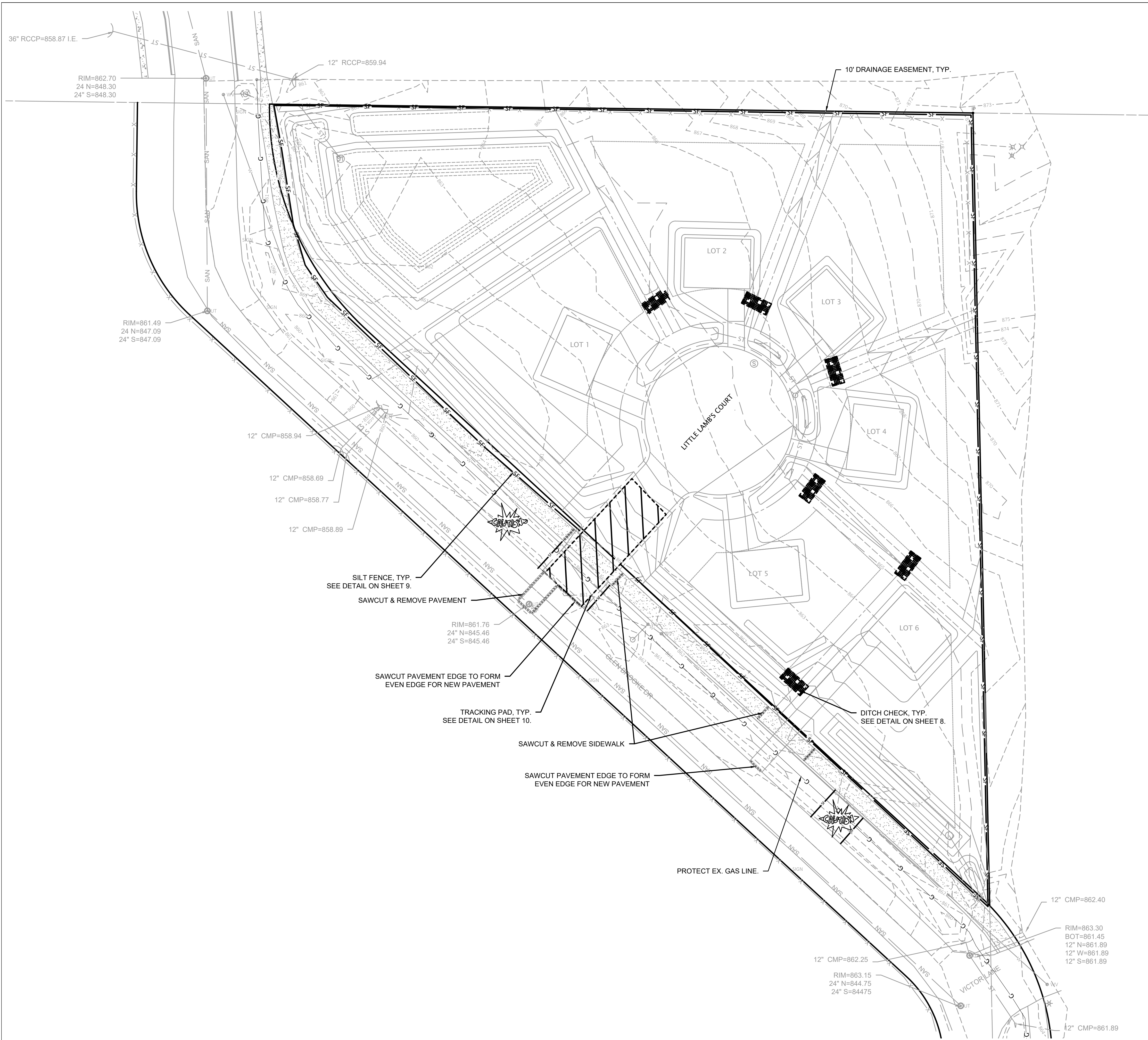
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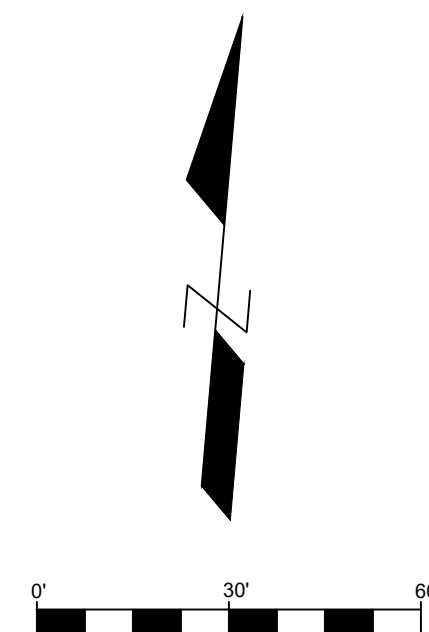
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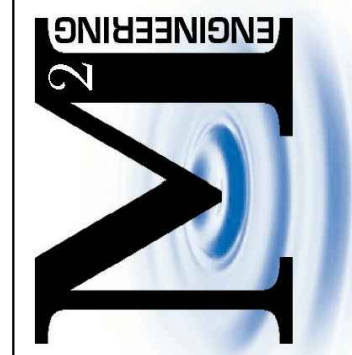


GENERAL NOTES

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**LITTLE LAMB'S CORNER
JACKSON, WI**

**SITE PREPARATION &
EROSION CONTROL PLAN**

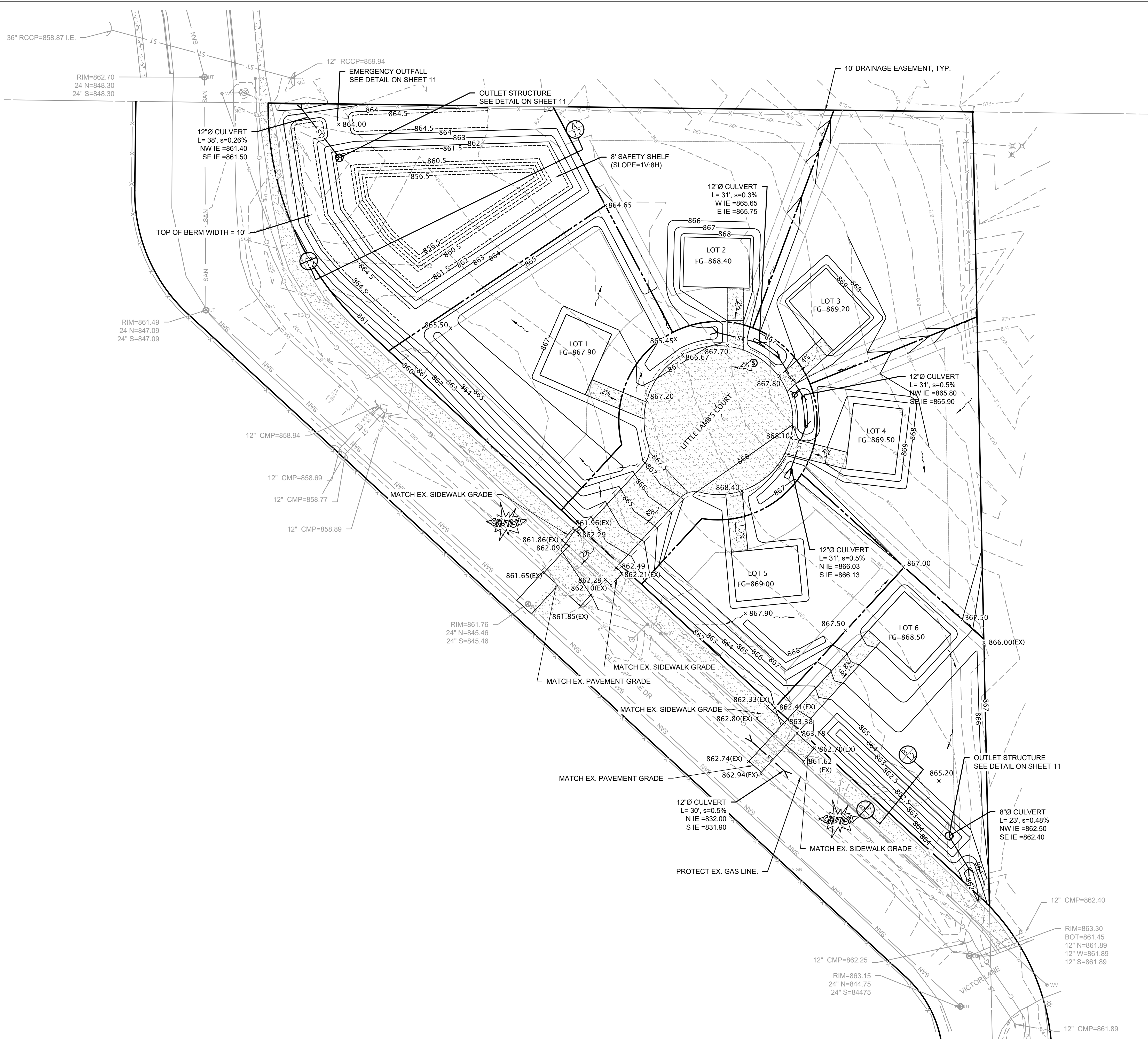
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GENERAL NOTES

1. SEE SHEET 2 FOR EXISTING AND PROPOSED LEGEND & NOTES.

GENERAL GRADING/PAVING NOTES

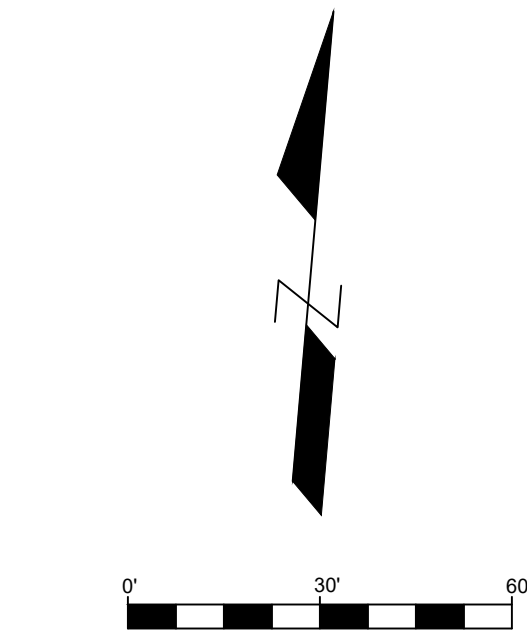
1. ALL PROPOSED GRADES SHOWN ARE FINISHED GRADES. ROADWAY AND DRIVEWAY ELEVATIONS ARE PAVEMENT GRADES UNLESS OTHERWISE NOTED.
2. CONTRACTOR SHALL VERIFY ALL GRADES, MAKE SURE ALL AREAS DRAIN PROPERLY AND SHALL REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO CONSTRUCTION. DISCREPANCIES OR OTHER MODIFICATIONS REPORTED/MADE AFTER CONSTRUCTION COMMENCEMENT SHALL BE AT CONTRACTOR'S COST.
3. SUBGRADE TO BE CONSTRUCTED/PREPARED AS SPECIFIED BY PROOFROLLING AREAS TO BE FILLED/PAVED IN ACCORDANCE WITH WISDOT STANDARDS. SOFT AREAS SHALL BE REPAIRED IN ACCORDANCE WITH WISDOT STANDARDS AND AS APPROVED BY ENGINEER.
4. GRADING AND PAVEMENT SHALL BE CONSTRUCTED IN ACCORDANCE WITH MUNICIPAL AND WISDOT SPECIFICATIONS.
5. CONTRACTOR SHALL VERIFY ALL GRADES, MAKE SURE ALL AREAS DRAIN PROPERLY AND SHALL REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO CONSTRUCTION. DISCREPANCIES OR OTHER MODIFICATIONS REPORTED/MADE AFTER CONSTRUCTION COMMENCEMENT SHALL BE AT CONTRACTOR'S COST.
6. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LOCAL/STATE/FEDERAL REQUIREMENTS.
7. SIDEWALKS:

SIDEWALK SHALL BE CONSTRUCTED WITH ALL PORTLAND CEMENT CONCRETE. SIDEWALKS SHALL BE A MINIMUM OF 5" IN THICKNESS, EXCEPT IN AREAS OF DRIVE APPROACHES WHERE THE SIDEWALKS SHALL BE A MINIMUM OF 6" IN THICKNESS.

CONSTRUCT 1/2" EXPANSION JOINTS EVERY 50' AND AT EACH END OF ANY NEW SIDEWALK CONSTRUCTED BETWEEN TWO EXISTING WALKS; AND IF SUCH NEW SIDEWALK EXCEEDS 50' IN LENGTH.

SITE RESTORATION

1. RESTORATION: 4" THICK MIN. TOPSOIL (NOTE: ALL STRIPPED TOPSOIL SHALL BE USED TO TOPSOIL THE SITE - THICKNESS LAYER SHALL BE INCREASED AS NECESSARY), SEED, FERTILIZE AND MULCH ALL AREAS DISTURBED BY CONSTRUCTION. CONTRACTOR TO WATER AND MAINTAIN UNTIL AFTER 80% COVER ESTABLISHED.



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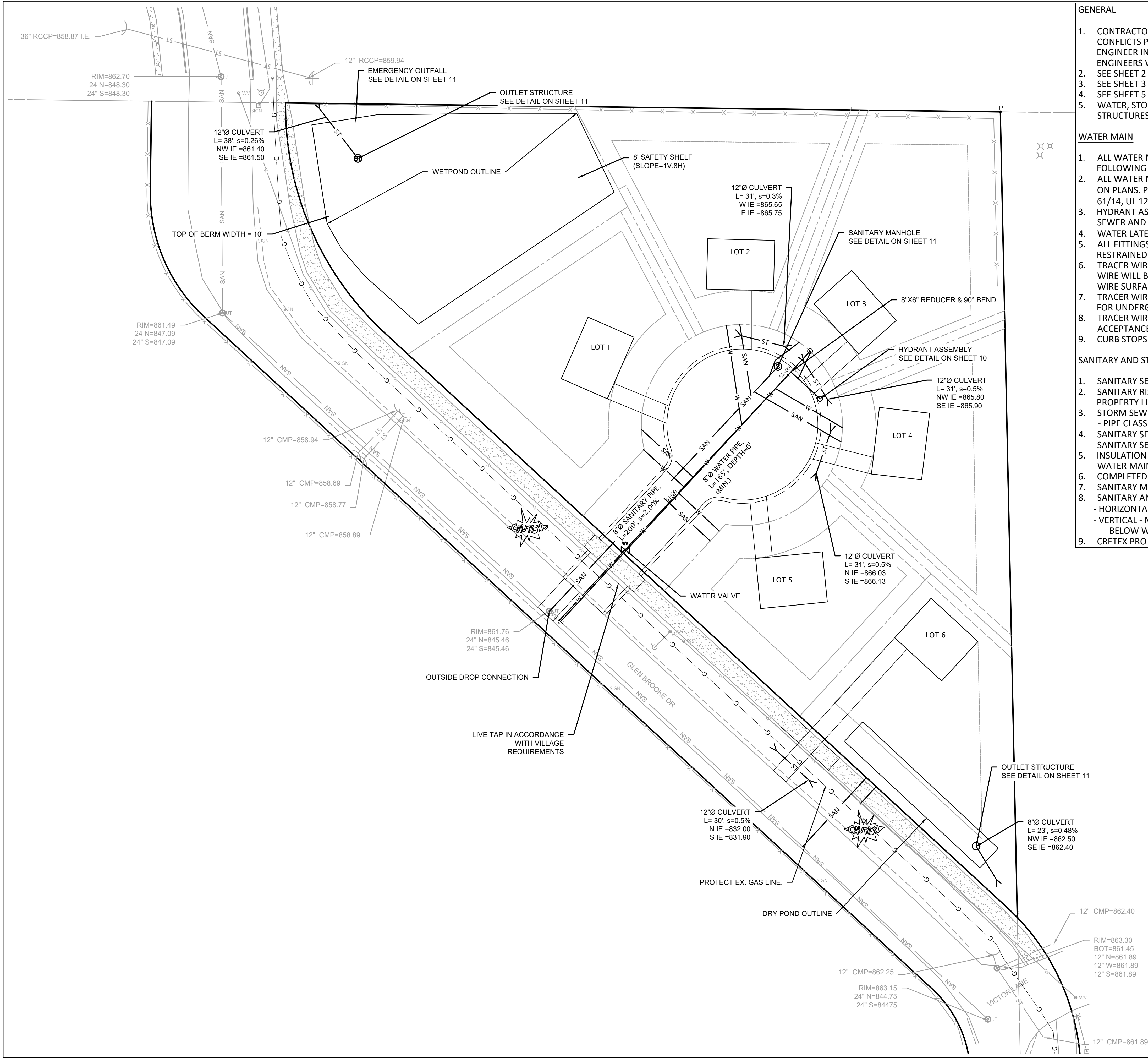


LITTLE LAMB'S CORNER
JACKSON, WI

GRADING/PAVING PLAN

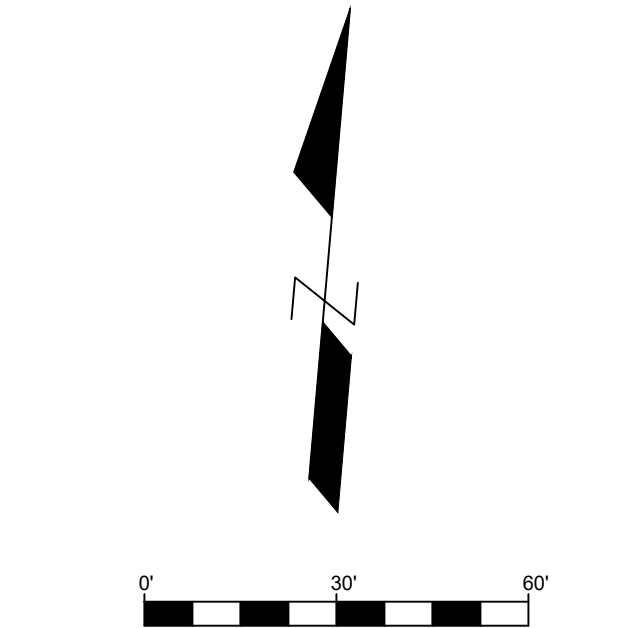
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- GENERAL**
- CONTRACTOR TO CONFIRM EXISTING UTILITY ELEVATIONS/INLETS/SIZES FOR ACCURACY AND CONFLICTS PRIOR TO CONSTRUCTION COMMENCEMENT. ANY DISCREPANCIES SHALL BE NOTIFIED TO ENGINEER IN WRITING. CONTRACTOR SHALL NOT COMMENCE UTILITY WORK UNTIL RECEIVE ENGINEERS WRITTEN DESIGN MODIFICATIONS.
 - SEE SHEET 2 FOR GENERAL NOTES AND LEGEND.
 - SEE SHEET 3 FOR EXISTING CONDITIONS.
 - SEE SHEET 5 FOR PROPOSED GRADING AND SHEET 2 FOR PROPOSED LEGEND.
 - WATER, STORM AND SANITARY SHALL NOT EXTEND BELOW MANHOLE OR CATCH BASIN STRUCTURES.
- WATER MAIN**
- ALL WATER MAIN VALVES SHALL BE RESILIENT SEATED GATE VALVES FOLLOWING AWWA C509 FOLLOWING THE MUNICIPAL STANDARD SPECIFICATIONS
 - ALL WATER MAIN MATERIALS SHALL BE AWWA C900 PRESSURE RATED PVC PIPE, SIZES AS SHOWN ON PLANS. PIPE MUST MEET THE FOLLOWING STANDARDS: ASTM D1784, DR18 235 PSI, ANSI/NSF 61/14, UL 1285 GASKET: ASTM F477, JOINT: ASTM D313
 - HYDRANT ASSEMBLY WILL FOLLOW AWWA C502, THE MUNICIPAL SPECIFICATIONS, AND WISCONSIN SEWER AND WATER SPECIFICATION 8.26.0.
 - WATER LATERALS SHALL BE 1-1/4-INCH DIAMETER.
 - ALL FITTINGS SHALL BE DUCTILE IRON CONFORMING TO AWWA 153. BENDS AND TEES SHALL BE RESTRAINED WITH MEGALUG 2000 PV JOINT RESTRAINTS AND CORE BLUE MJ T-BOLT AND NUT.
 - TRACER WIRE IS REQUIRED ON WATERMAIN, SANITARY AND STORM SEWER MAIN AND LATERALS. WIRE WILL BE BROUGHT UP TO THE SURFACE AT HYDRANTS AND CURB STOPS, AND WHERE THE WIRE SURFACES AT LATERAL ENDS, A WIRE LOCATION BOX SHALL BE USED.
 - TRACER WIRE SHALL BE A MINIMUM 10-GAUGE SOLID WIRE WITH SOLID PVC INSULATION RATED FOR UNDERGROUND AND WET CONDITIONS.
 - TRACER WIRE CONTINUITY TESTING SHALL BE COMPLETED AFTER PIPE INSTALLATION AND BEFORE ACCEPTANCE.
 - CURB STOPS AND CORPORATION VALVES SHALL BE INSTALLED FOR EACH LATERAL.
- SANITARY AND STORM SEWER**
- SANITARY SEWER PIPE SHALL BE ASTM 3034 SDR 35 PVC SEWER PIPE FOR MAINS AND LATERALS.
 - SANITARY RISERS SHALL BE INCLUDED WHERE THE LATERAL DEPTH IS 12' OR GREATER AT THE PROPERTY LINE.
 - STORM SEWER CONCRETE PIPE CLASSES:
 - PIPE CLASS SHALL BE BASED ON PIPE COVER AND MANUFACTURER' RECOMMENDATIONS.
 - SANITARY SEWER LATERALS SHALL BE 6-INCH DIAMETER WITH 2% SLOPE (MIN). SANITARY SEWER LATERALS SHALL CONNECT TO THE MAIN WITH "WYE" OR "TEE" FITTINGS.
 - INSULATION IS REQUIRED WHEN THE DEPTH OF COVER IS LESS THAN 5-FEET OVER SANITARY SEWER, WATER MAIN OR WHERE STORM SEWERS CROSS OVER WATERMAIN OR LATERALS.
 - COMPLETED SANITARY SEWER MAIN MUST PASS AIR TEST AND NO-GO TEST.
 - SANITARY MAINS SHALL BE TELEVIEWED BEFORE ACCEPTANCE BY THE MUNICIPALITY.
 - SANITARY AND STORM SEWER SPACING
 - HORIZONTAL - MIN SPACING BETWEEN SANITARY/STORM SEWER AND WATER IS 8'
 - VERTICAL - MIN SPACING BETWEEN SANITARY/STORM SEWER AND WATER IS 18" ABOVE AND 6" BELOW WATER.
 - CRETEX PRO RING ADJUSTING RINGS SHALL BE USED ON ALL STORM AND SANITARY STRUCTURES.

- GENERAL NOTES**
- SEE SHEET 2 FOR EXISTING AND PROPOSED LEGEND & NOTES.

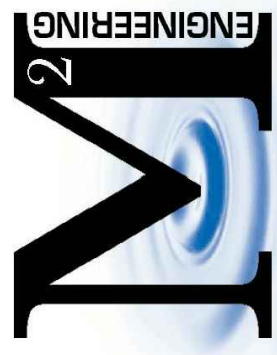


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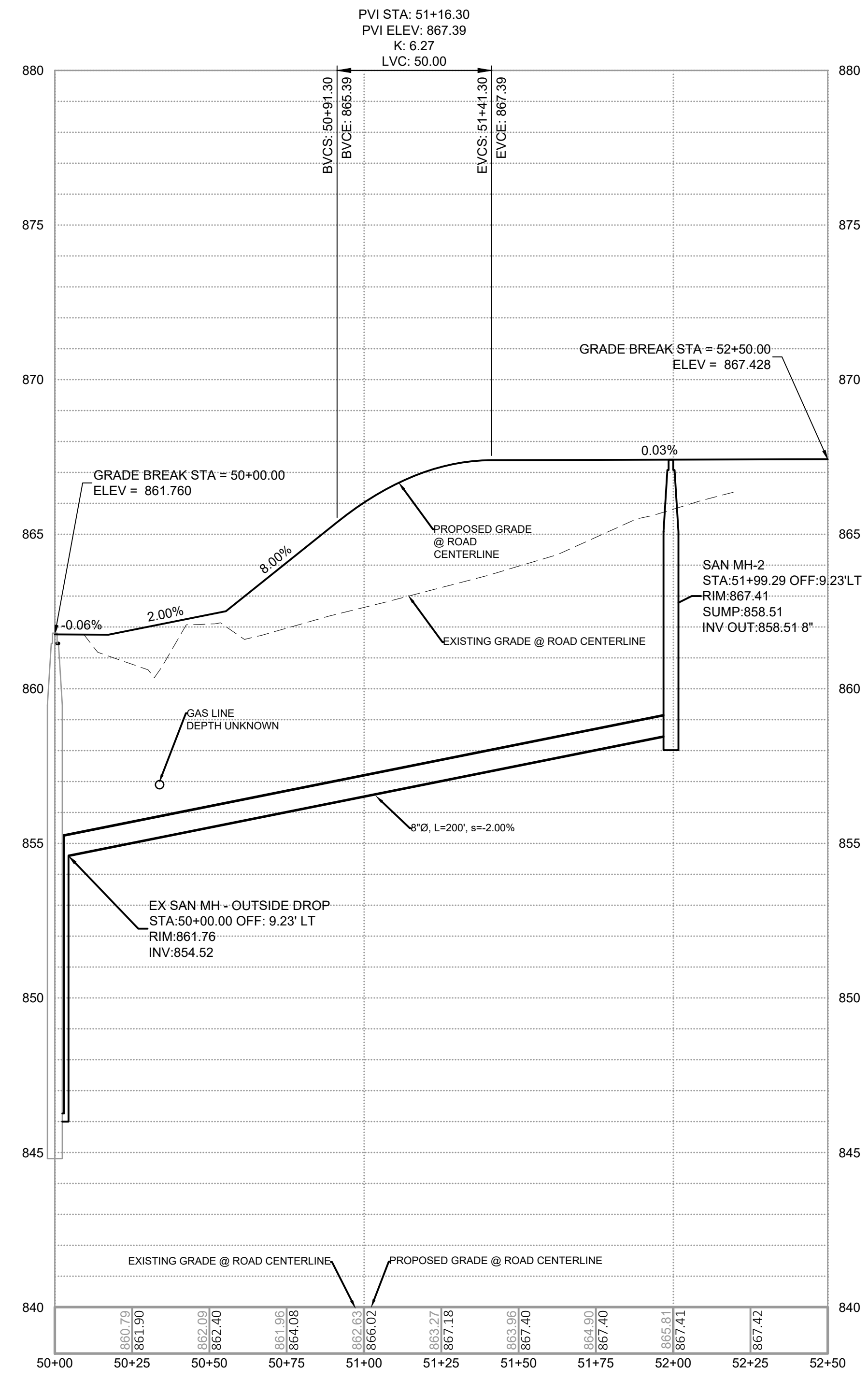
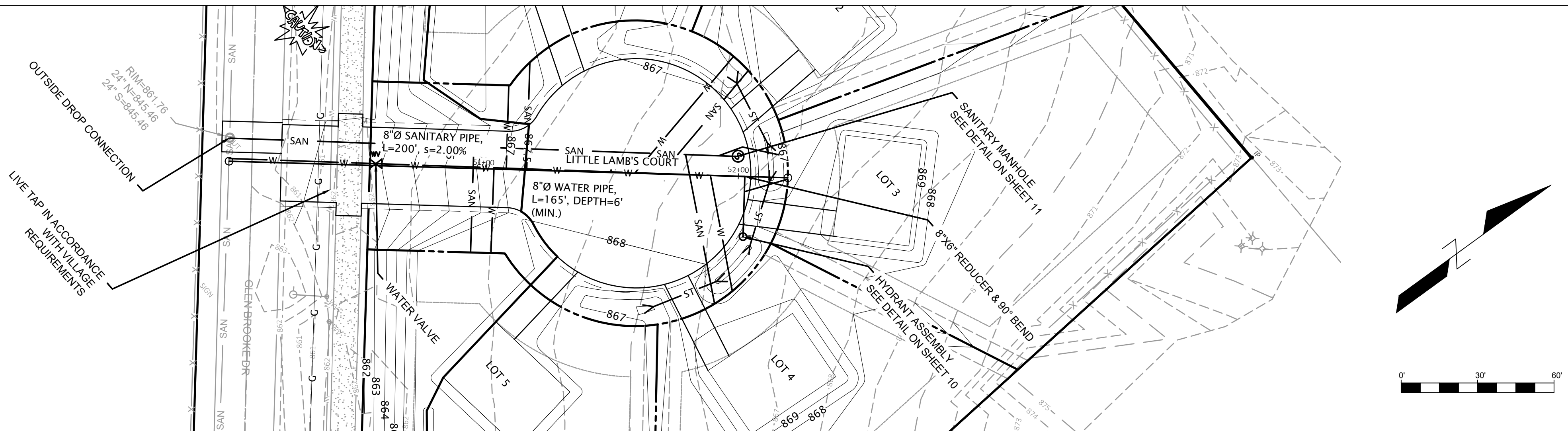
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**LITTLE LAMB'S CORNER
JACKSON, WI**

UTILIYT PLAN

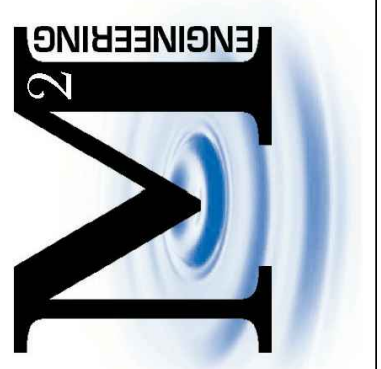
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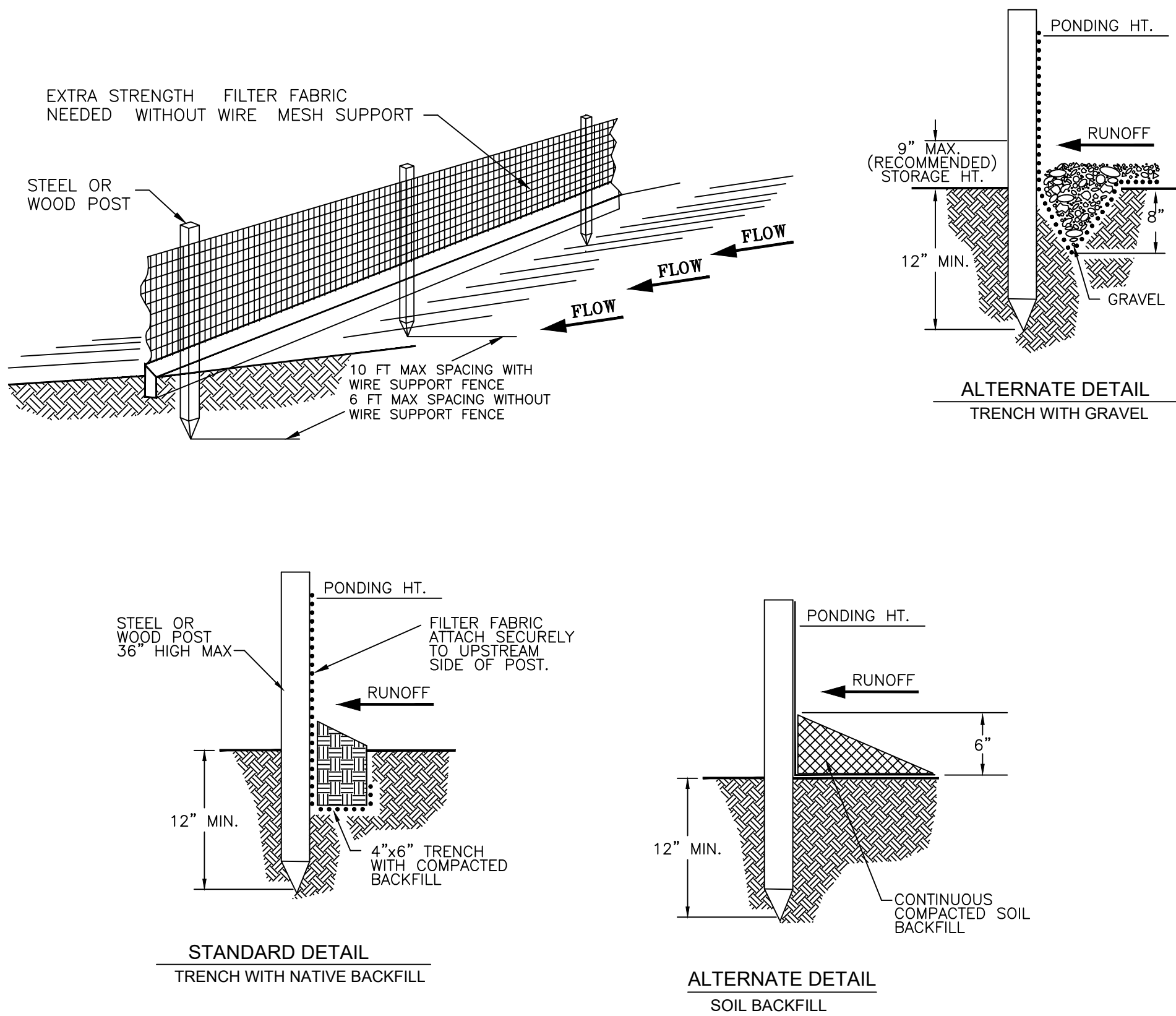
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**LITTLE LAMB'S CORNER
JACKSON, WI
ROADWAY/UTILITY
PLAN & PROFILE**

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SILT FENCE
N.T.S.

SILT FENCE:

1. THE HEIGHT OF A SILT FENCE SHALL NOT EXCEED 36 INCHES. STORAGE HEIGHT SHALL NEVER EXCEED 18".
2. THE FENCE LINE SHALL FOLLOW THE CONTOUR AS CLOSELY AS POSSIBLE.
3. IF POSSIBLE, THE GEOTEXTILE FABRIC SHALL BE CUT FROM A CONTINUOUS ROLL TO AVOID THE USE OF JOINTS, WHEN JOINTS ARE NECESSARY, FILTER CLOTH SHALL BE SPLICED ONLY AT A SUPPORT POST, WITH A MINIMUM 6-INCH OVERLAP AND BOTH ENDS SECURELY FASTENED TO THE POST.
4. POSTS SHALL BE SPACED A MAXIMUM OF 10 FEET APART AND DRIVEN SECURELY INTO THE GROUND (MINIMUM OF 12 INCHES), WHEN EXTRA STRENGTH FABRIC IS USED WITHOUT THE WIRE SUPPORT FENCE, POST SPACING SHALL NOT EXCEED 6 FEET.
5. THE ENDS OF THE FENCE SHALL BE TURNED UP HILL.
6. A TRENCH SHALL BE EXCAVATED APPROXIMATELY 4 INCHES WIDE AND 6 INCHES DEEP ALONG THE LINE OF POSTS AND UP SLOPE FROM THE BARRIER.
7. WHEN STANDARD-STRENGTH GEOTEXTILE FABRIC IS USED, A WIRE MESH SUPPORT FENCE SHALL BE FASTENED SECURELY TO THE UPSLOPE SIDE OF THE POSTS USING HEAVY DUTY WIRE STAPLES AT LEAST 1 INCH LONG, TIE WIRES OR HOG RINGS. THE WIRE SHALL EXTEND INTO THE TRENCH A MINIMUM OF 2 INCHES AND SHALL NOT EXTEND MORE THAN 36 INCHES ABOVE THE ORIGINAL GROUND SURFACE.
8. THE STANDARD-STRENGTH GEOTEXTILE FABRIC SHALL BE STAPLED OR WIRED TO THE FENCE, AND 6 INCHES OF THE FABRIC SHALL EXTEND INTO THE TRENCH. THE FABRIC SHALL NOT EXTEND MORE THAN 36 INCHES ABOVE THE ORIGINAL GROUND SURFACE. FABRIC SHALL NOT BE STAPLED TO EXISTING TREES.
9. THE TRENCH SHALL BE BACKFILLED AND/OR T ANY REQUIRED REPAIRS SHALL BE MADE IMMEDIATELY.

INSPECTION AND MAINTENANCE:

10. SILT FENCE AND FILTER BARRIERS SHALL BE INSPECTED WEEKLY AND AFTER EACH SIGNIFICANT RAINFALL 0.5-INCHES OR GREATER. REPAIRS SHALL BE MADE IMMEDIATELY.
11. SEDIMENT SHALL BE REMOVED WHEN IT REACHES 1/3 HEIGHT OF THE FENCE OR 9 INCHES MAXIMUM.
12. THE REMOVED SEDIMENT SHALL BE VEGETATED OR OTHERWISE STABILIZED.
13. REMOVE SILT FENCE AFTER THE SITE HAS BEEN STABILIZED.

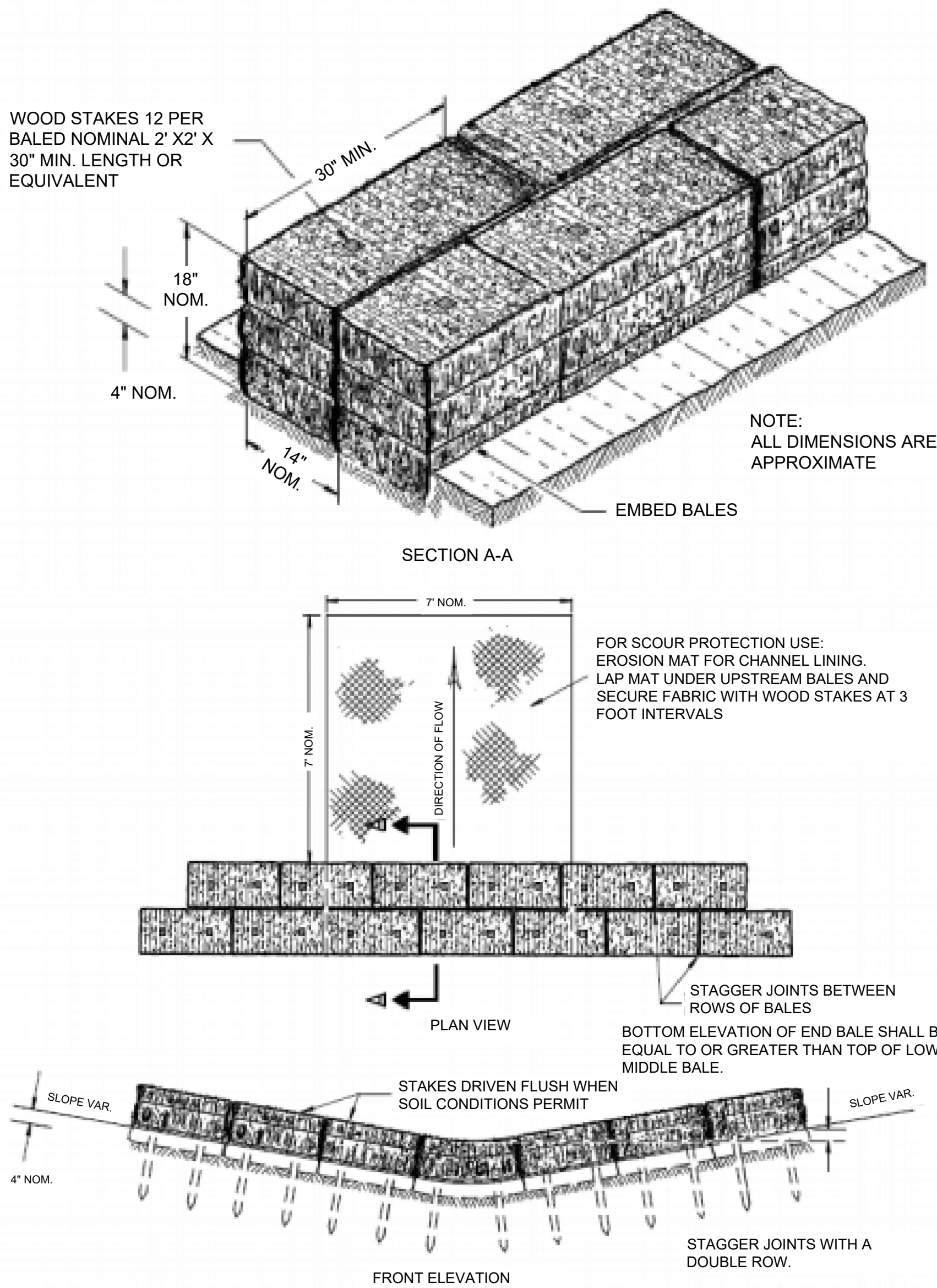
CONSTRUCTION SITE EROSION CONTROL REQUIREMENTS

1. ALL EROSION CONTROL MEASURES SHALL BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH THE WISCONSIN DNR TECHNICAL STANDARDS. PROTECT INLETS, CULVERTS, AND ADJACENT PROPERTIES WITH SILT FENCING UNTIL CONSTRUCTION IS COMPLETE.
2. INSTALL EROSION CONTROL MEASURES PRIOR TO ANY SITE WORK, INCLUDING GRADING OR DISTURBANCE OF EXISTING SURFACE MATERIALS AS SHOWN ON PLANS.
3. INSPECTIONS AND MAINTENANCE OF ALL EROSION CONTROL MEASURES SHALL BE ROUTINE (ONCE PER WEEK MINIMUM) TO ENSURE PROPER FUNCTION OF EROSION CONTROLS AT ALL TIMES. EROSION CONTROL MEASURES ARE TO BE IN WORKING ORDER AT THE END OF EACH WORKDAY.
4. INSPECT EROSION CONTROL MEASURES WITHIN 24 HOURS AFTER EACH SIGNIFICANT RAINFALL. REPAIR ANY DAMAGE OBSERVED DURING THE INSPECTION.
5. EROSION CONTROL MEASURES SHALL BE REMOVED ONLY AFTER SITE CONSTRUCTION IS COMPLETE WITH ALL SOIL SURFACES HAVING AN ESTABLISHED VEGETATIVE COVER.
6. INSTALL A GRAVEL TRACKING PAD AT EACH NON-PAVED CONSTRUCTION ENTRANCE TO THE SITE BEFORE ANY EARTH DISTURBING ACTIVITIES OCCUR. PAVED SURFACES ADJACENT TO CONSTRUCTION SITE VEHICLE ACCESS SHALL BE SWEEPED AND / OR SCRAPED DAILY TO REMOVE SOIL, DIRT AND / OR DUST.
7. APPLY WATER TO DRY AREAS TO MAINTAIN DUST CONTROL DURING CONTRUCTION. IF WATER APPLICATION IS INSUFFICIENT APPLY SOIL STABILIZING CONTROLS.
8. INSTALL CHECK DAMS WITHIN DRAINAGE DITCHES IN ACCORDANCE WITH BMP'S.
9. CONTRACTOR SHALL PERMANENTLY STABILIZE SITE, INSTALLING TOPSOIL, SEED, FERTILIZER AND MULCH IMMEDIATELY UPON COMPLETION OF CONSTRUCTION TO ESTABLISH VEGETATIVE COVER.

EROSION CONTROL FOR UTILITY CONSTRUCTION (STORM SEWER, SANITARY SEWER, WATER MAIN, ETC.):

10. PLACE EXCAVATED TRENCH MATERIAL ON THE HIGH SIDE OF THE TRENCH.
11. BACKFILL, COMPACT, AND STABILIZE THE TRENCH IMMEDIATELY AFTER PIPE CONSTRUCTION.
12. DISCHARGE TRENCH WATER INTO A SEDIMENTATION BASIN OR FILTERING TANK IN ACCORDANCE WITH BMP'S PRIOR TO RELEASE INTO THE STORM SEWER, RECEIVING STREAM, OR DRAINAGE DITCH.
13. CONTRACTOR TO SUPPLY AND MAINTAIN ALL PUMPS USED FOR DEWATERING AND BY-PASS PUMPING. CONTRACTOR IS REQUIRED TO HAVE EXTRA PUMPS ON SITE AND DUAL PUMPS ARE TO BE USED FOR OVERNIGHT PUMPING.
14. ALL CONCRETE WASH WATER SHOULD BE CONTAINED IN A DESIGNATED WASHOUT AREA DETERMINED BY THE FIELD ENGINEER.
15. ALL CONSTRUCTION TRAFFIC SHALL ENTER/LEAVE VIA SHASTA AVE TO THE SOUTH THROUGH PHASE I OF THE DEVELOPMENT AND VIA PORT WASHINGTON ROAD, UNLESS OTHERWISE SPECIFIED BY THE FIELD ENGINEER.
16. ALL PROPOSED WORK SHALL BE CONSTRUCTED WITH THE RIVER BEND MEADOWS- PHASE II DEVELOPMENT. WORK DONE BY OTHERS WILL BE CONSTRUCTED UNDER A SEPARATE CONTRACT.

FIGURE 3:
STRAW BALE DITCH CHECK



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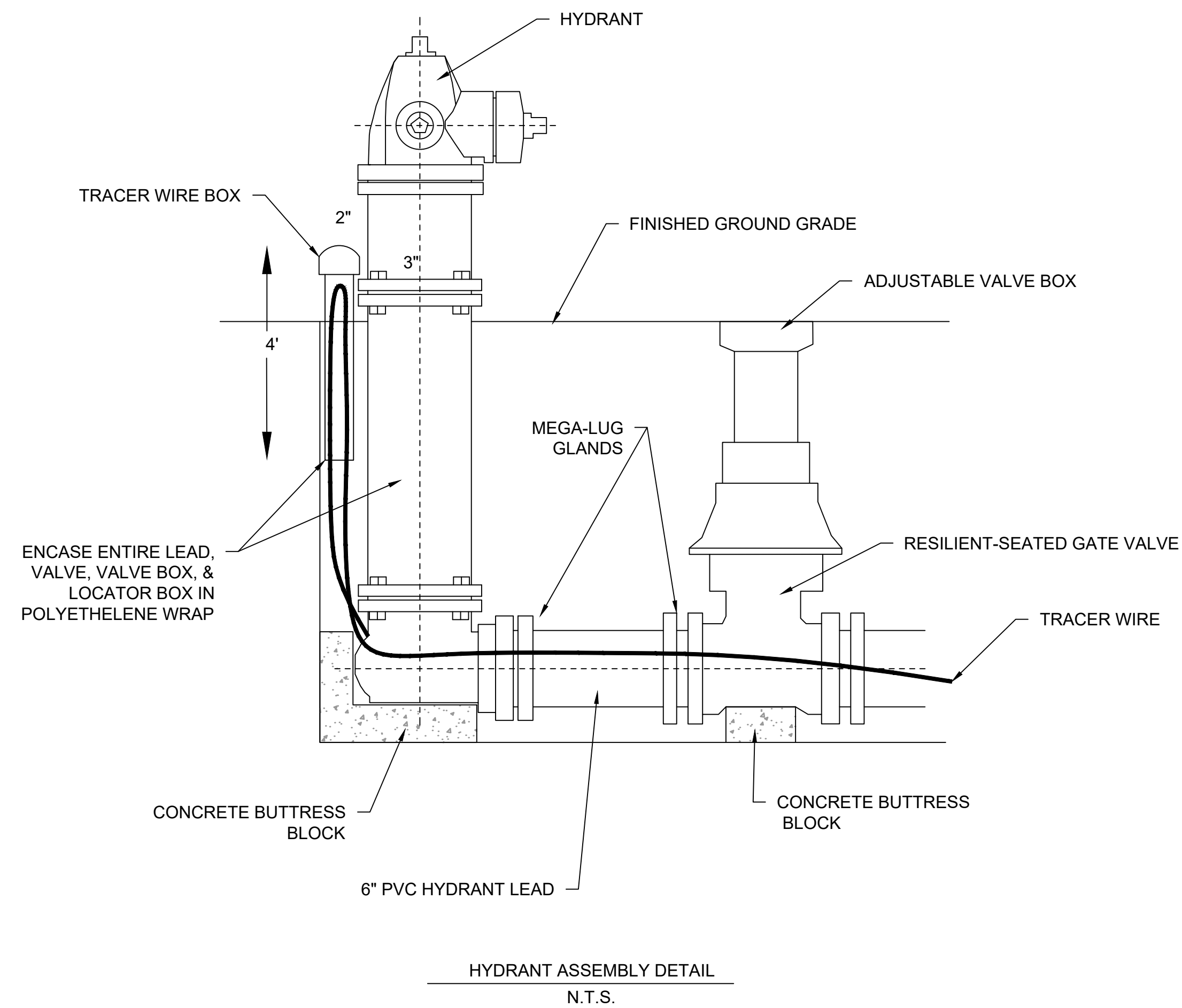
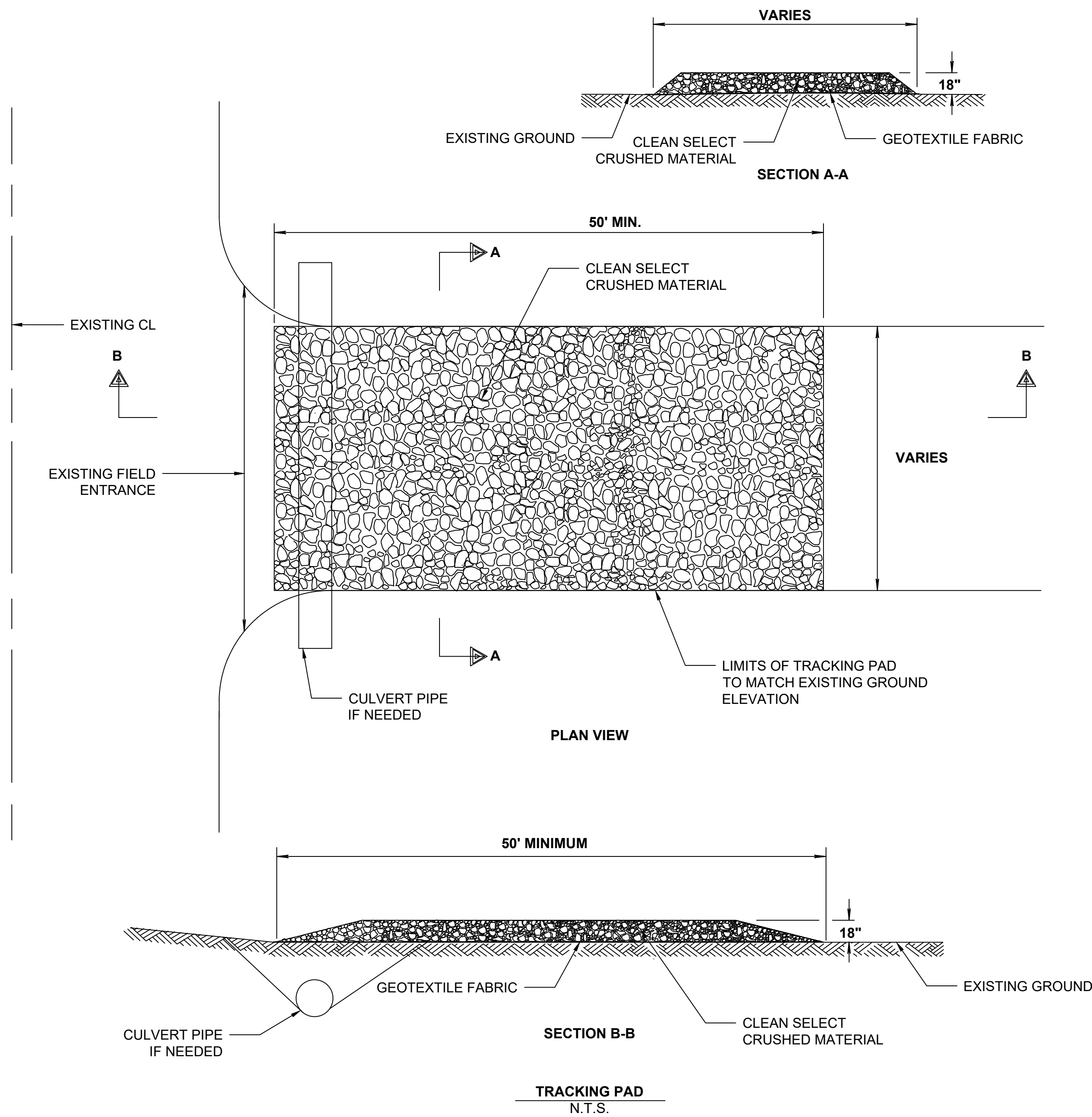
CONSTRUCTION DETAILS

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**SHEET
9 OF 12**

- TRACKING PAD SPECIFICATIONS:
1. DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE WISDOT STANDARD SPECIFICATIONS.
 2. TRACKING PAD SHALL BE INSPECTED DAILY. DEFICIENT AREAS SHALL BE REPAIRED OR REPLACED IMMEDIATELY.
 3. TRACKING PAD SHALL BE THE FULL WIDTH OF THE EGRESS POINT.
 4. SURFACE WATER MUST BE PREVENTED FROM PASSING THROUGH THE TRACKING PAD. FLOW SHALL BE DIVERTED AWAY, AROUND OR CONVEYED UNDER THE TRACKING PAD.
 5. CULVERT PIPE OR OTHER BMP USED TO DIVERT WATER AWAY, AROUND OR UNDER THE TRACKING PAD SHALL BE DESIGNED TO CONVEY THE 2 YEAR - 24 HOUR EVENT.
 6. THE COST OF ADDITIONAL BMP'S TO DIVERT WATER ARE INCIDENTAL TO THE TRACKING PAD BID ITEM.
 7. TRACKING PAD SHALL BE REMOVED AFTER CONSTRUCTION IS COMPLETED.



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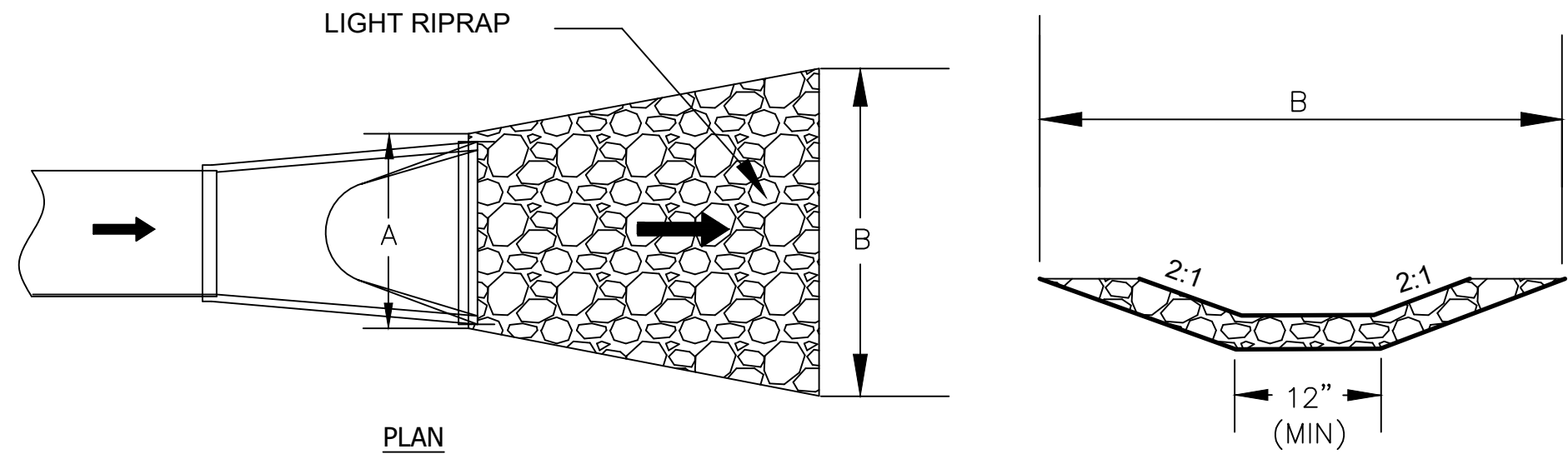
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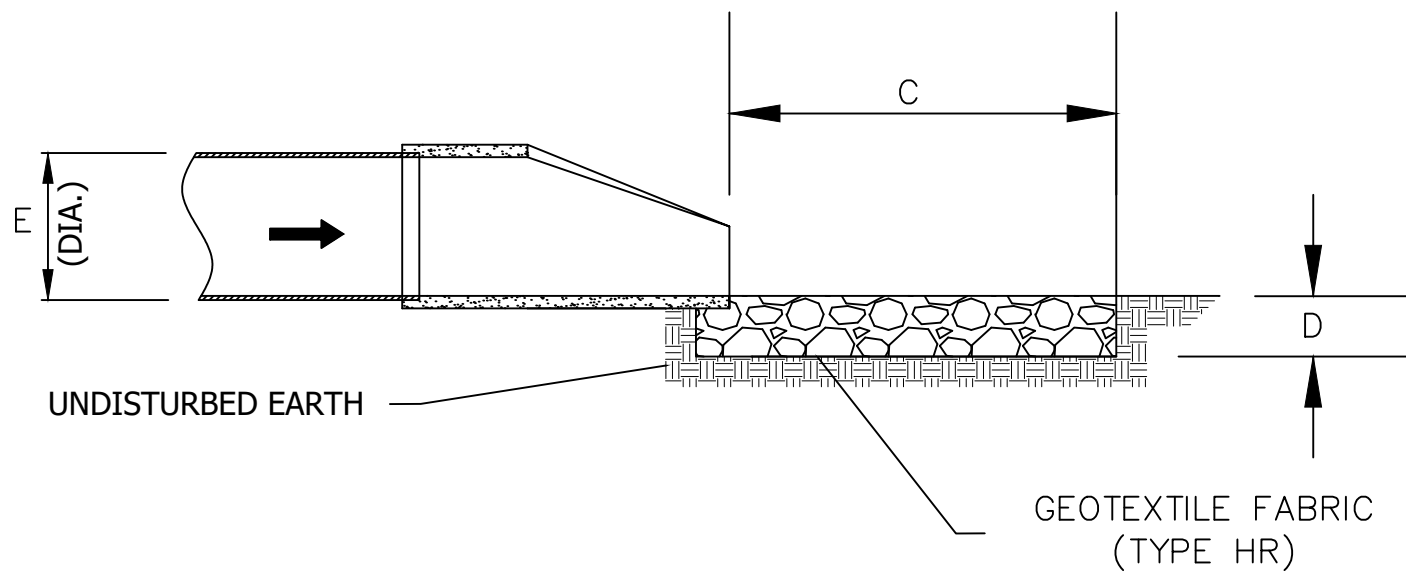
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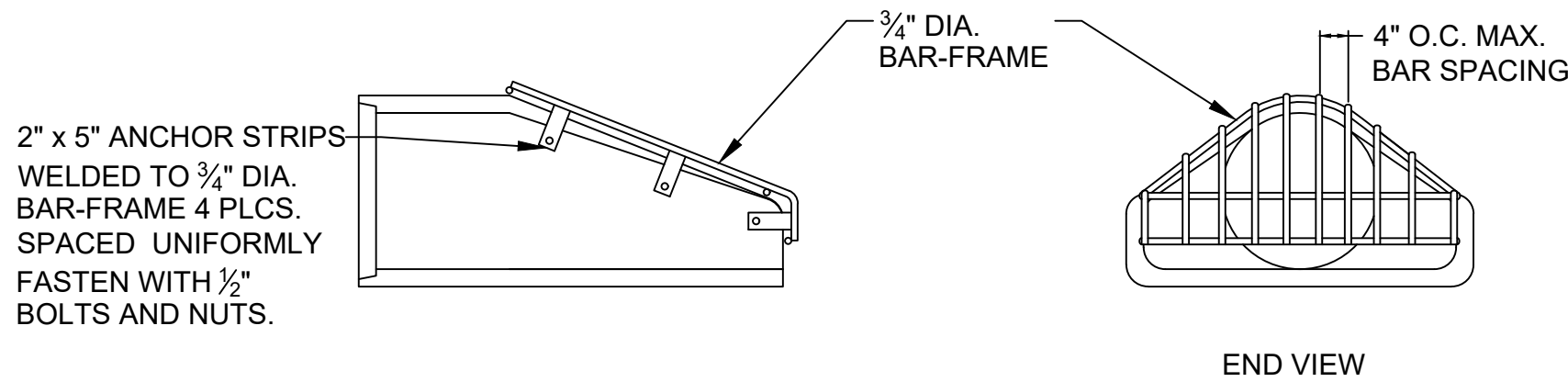
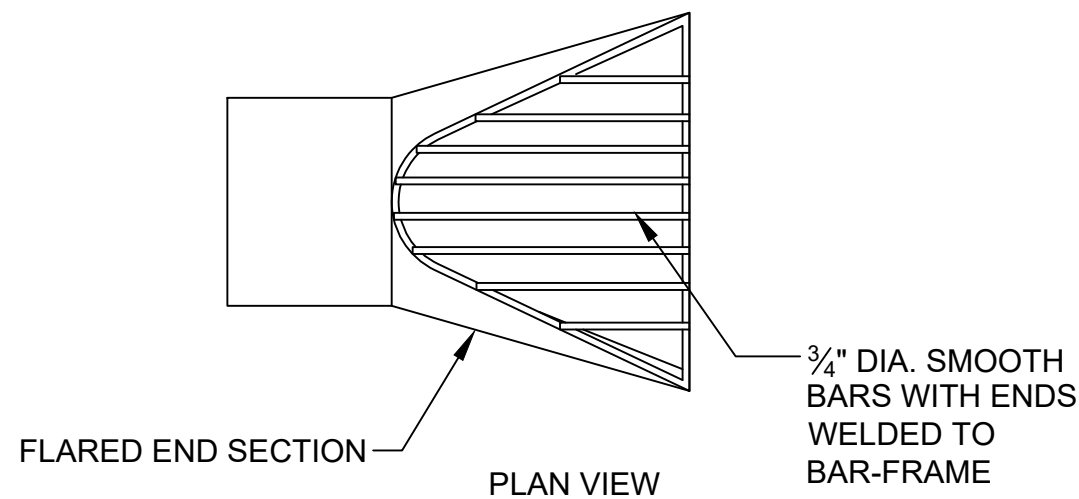
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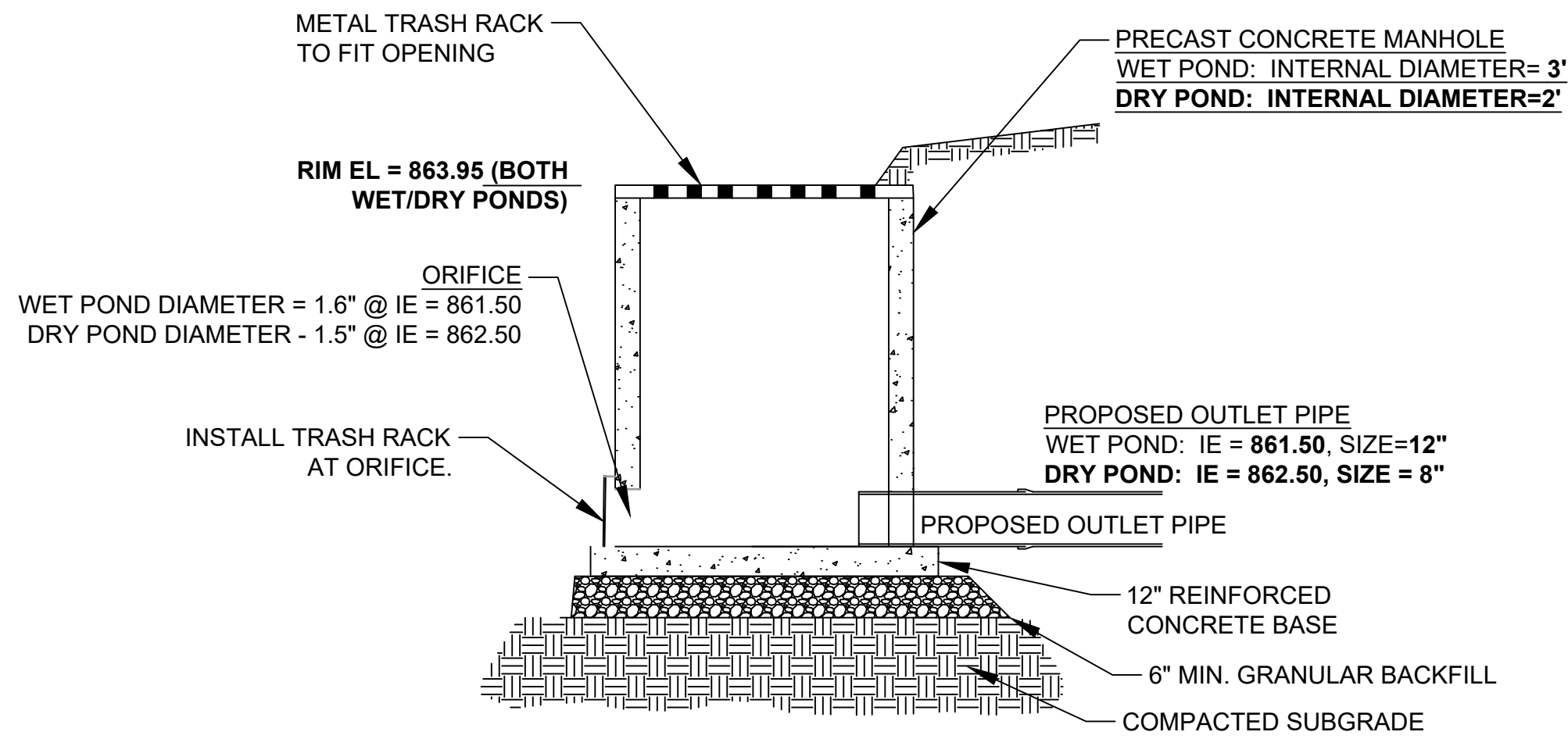
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12" DIA.	4'	6'	12'	12"	12"
15" DIA.	4'	7'	14'	12"	15"
CURB CUT	3'	5'	8'	12"	N/A



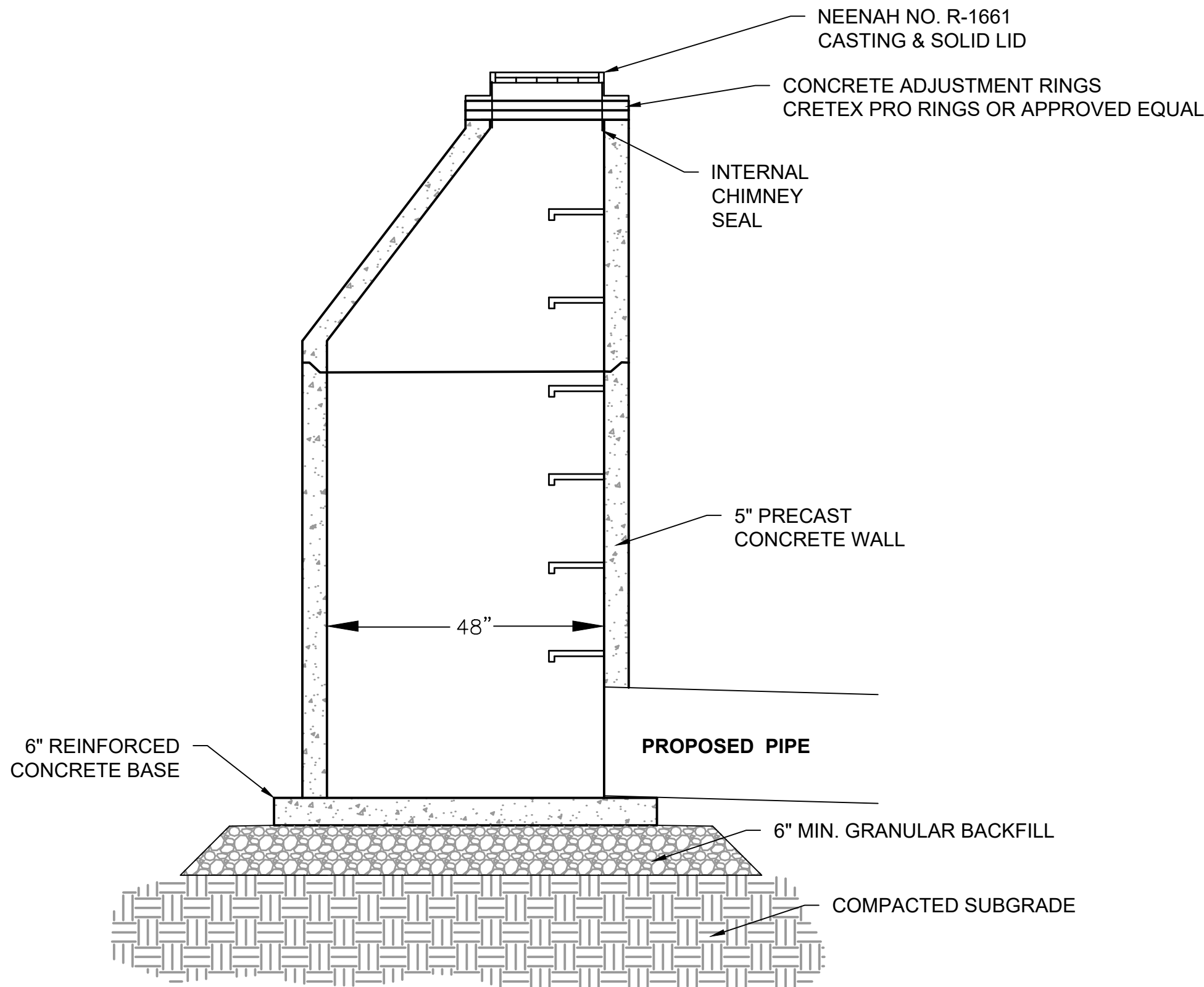
RIP-RAP DETAIL FOR STORM SEWER INLET/OUTLET
N.T.S.



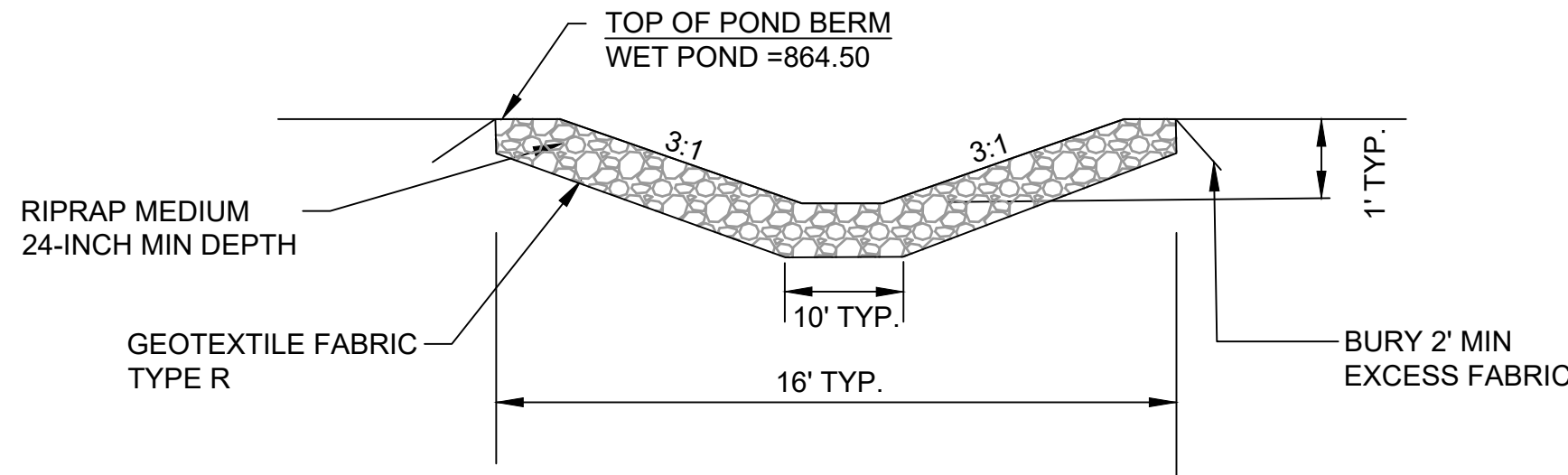
TRASH RACK DETAIL FOR FLARED END SECTION
N.T.S.



POND / OUTLET STRUCTURE DETAIL
N.T.S.



SANITARY MANHOLE STRUCTURE DETAIL
N.T.S.



EMERGENCY SPILLWAY
N.T.S.

M Squared Engineering, LLC

...where engineering solutions meet water quality...

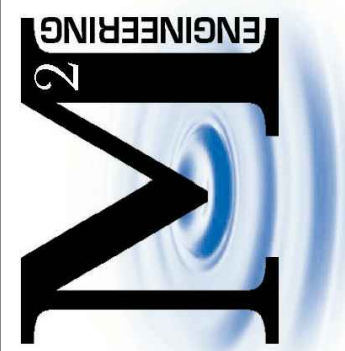
N19 W6719 COMMERCE CT

Cedarburg, WI 53012

Phone: (262)376-4246

www.msquaredengineering.com

Fax: (262)375-2274



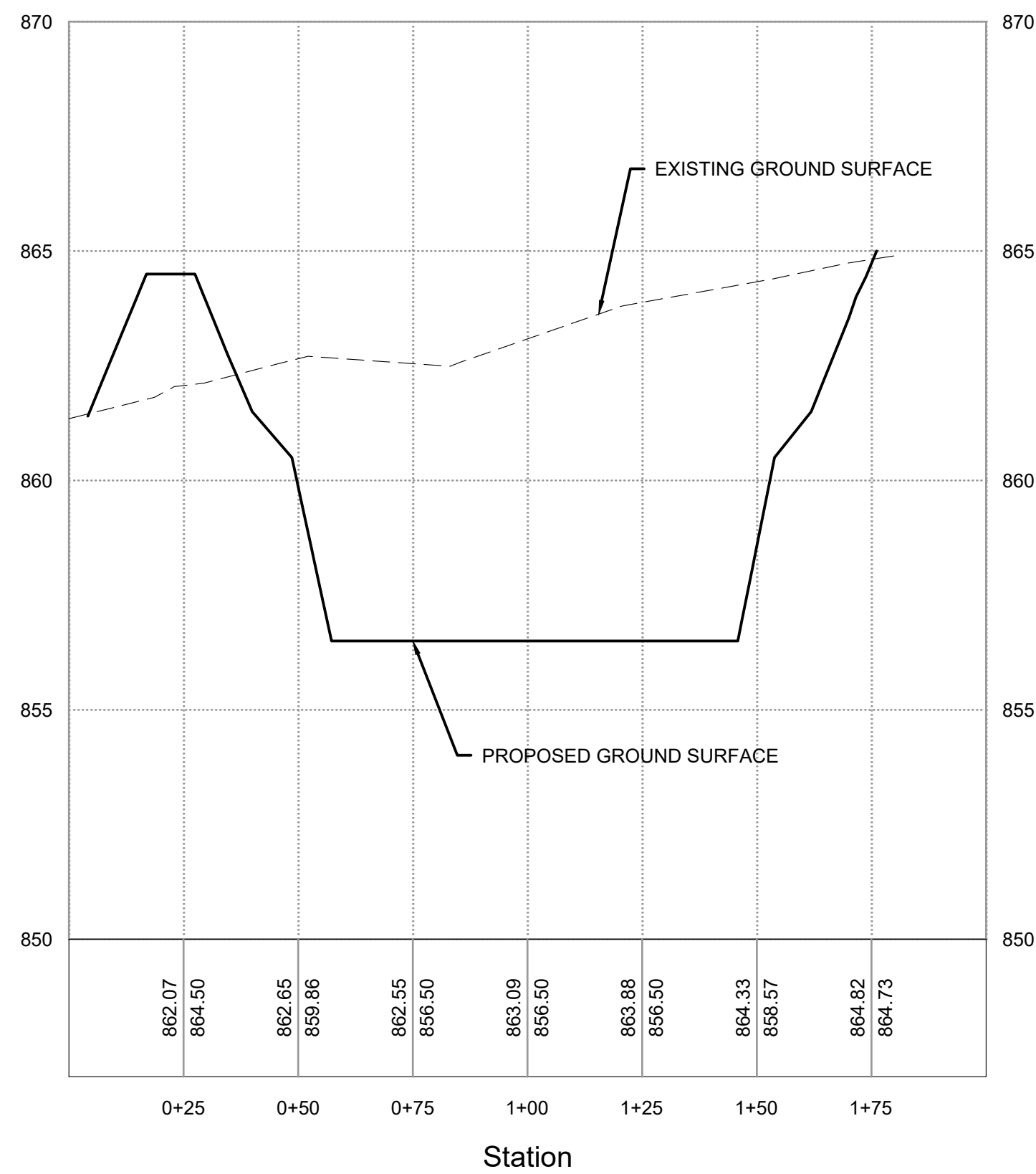
LITTLE LAMB'S CORNER
JACKSON, WI

CONSTRUCTION DETAILS

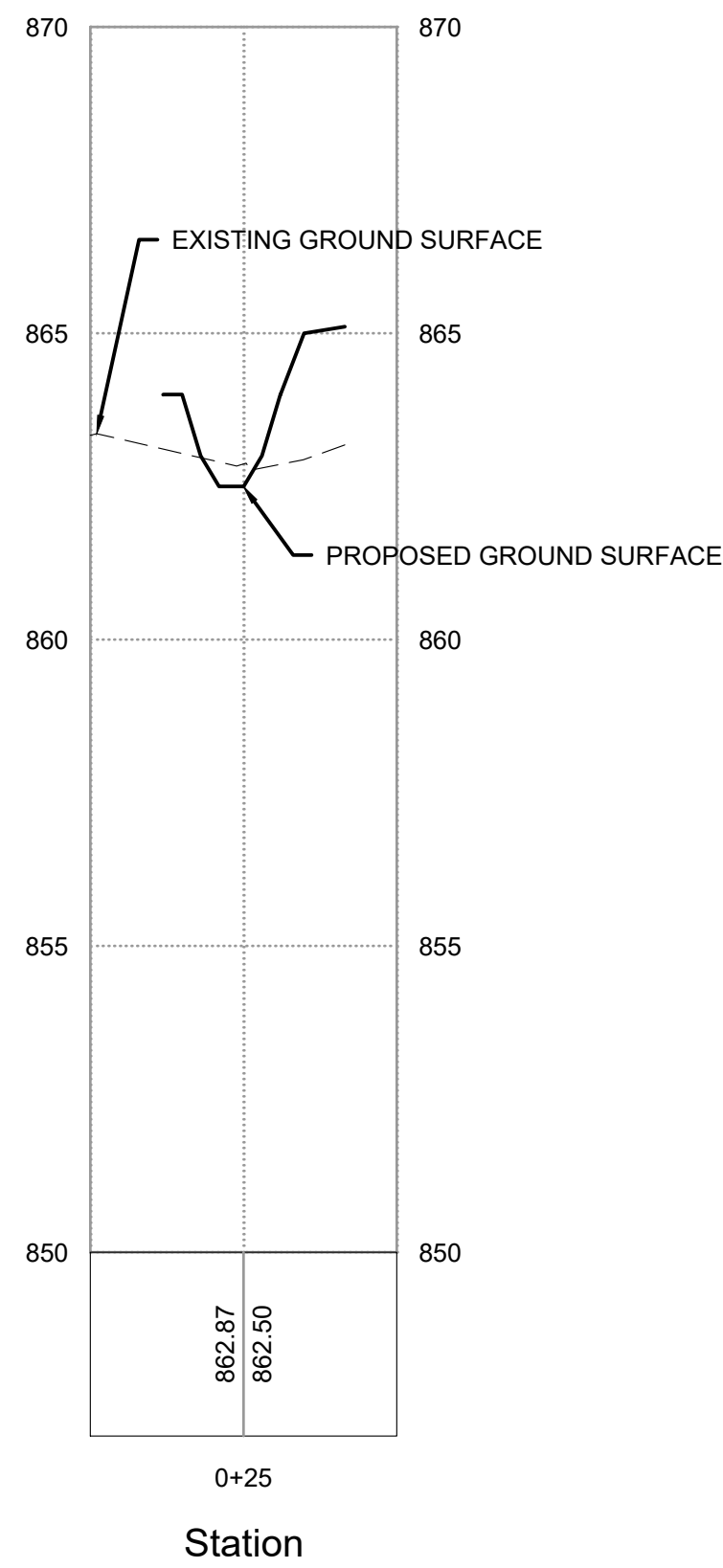
DRAWN BY: LKJ
DATE: 09/07/2021
CHECKED BY:
HORIZ. SCALE:
VERT. SCALE:
PROJECT NO. 21-716-233

REVISIONS
DATE: REVISED BY:

SHEET
11 OF 12



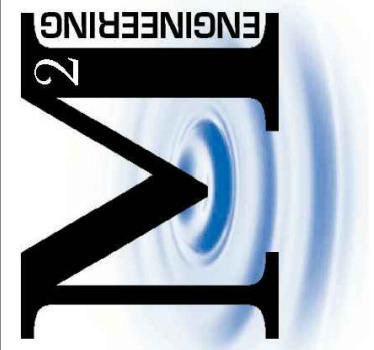
SECTION A-A'
H: 1"=30'
V: 1"=5'



SECTION B-B'
H: 1"=30'
V: 1"=5'



DIGGERS HOTLINE
Toll Free (800) 242-8511
Milwaukee Area (414) 259-1181
Hearing Impaired TDD (800) 542-2289
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**LITTLE LAMB'S CORNER
JACKSON, WI
ROADWAY/UTILITY
PLAN & PROFILE**

DRAWN BY: LKJ
DATE: 09/07/2021
CHECKED BY:
HORIZ. SCALE:
VERT. SCALE:
PROJECT NO. 21-716-233

REVISIONS	
DATE	REVISED BY:

SHEET
12 OF 12

STORMWATER REPORT
PROPOSED LITTLE LAMB'S CORNER DEVELOPMENT
Glen Brooke Drive
VILLAGE OF JACKSON, WI

Project I.D. 21-716-233
Washington County, Wisconsin

September 8, 2021

Prepared by:



M Squared Engineering, LLC

W19 N6719 Commerce Ct
Cedarburg, Wisconsin 53012

P: (262) 376-4246 / **F:** (262) 375-2274
msquared@msquaredengineering.com

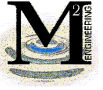


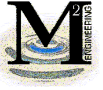
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- Appendix 3 - WDNR Wetland Viewer Map
- Appendix 4 – Hydrology Exhibits (Existing Conditions and Proposed Conditions)
- Appendix 5 - NOAA ATLAS 14 Precipitation Table
- Appendix 6 – HydroCad Calculations - Existing Site (1-year, 2-year, 5-year and 100-year storm events);
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- Appendix 9 – Stormwater Maintenance Plan Checklist





INTRODUCTION

M Squared Engineering LLC. has been retained by Mr. John Lamm to develop a site plan and stormwater report for the proposed construction of the Little Lamb's Corner development located on Glen Brooke Drive in the Village of Jackson, Washington County, Wisconsin. The site location is shown on the Title Sheet of the design plans included in **Appendix 1**.

The site currently a green space with 250 square feet of sidewalk in the upper northwest corner where the municipal sidewalk clips the property. There is a drainage easement located immediately to the north of the subject property. This drainage easement collects water and conveys the water below Glen Brooke Drive to an existing pond. The Existing Conditions Map is included in the design plans in **Appendix 1**.

The proposed project will be a PUD with six residential lots and an out lot for the stormwater pond. Five of the residential lots will have driveways off a cul-de-sac (Little Lamb's Court). Lot 6 is located in the southeast corner of the development and will have its driveway off of Glen Brook Drive.

SITE CONTACT INFORMATION

The site contact information for this Stormwater Management Plan is as follows:

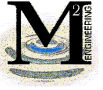
Land Owner & Developer:

Mr. John Lamm
2708 Sherman Road
Jackson, WI 53037
(262)677-3010
jlamm@lammscape.com

Consulting Engineer:

M Squared Engineering, LLC.
N19 W6719 Commerce Court
Cedarburg, WI 53012
Contact: Matt Hahm
(262) 376-4246
MATT@MSQUAREDENGINEERING.COM





SITE INFORMATION

The site is owned by Mr. John Lamm. The subject parcel is located on Glen Brooke Drive (Tax Key No. 052600Z) in the Village of Jackson, Washington County, Wisconsin. The legal description for the subject property is presented on Sheet 2 of the design plans included in Attachment A.

Based on the NRCS Soils Map (attached in **Appendix 2**), the site soils range from Mequon silt loam (the majority of the subject site) to Ashkum silty clay loam and Fabius loam (in the northwest corner of the subject site). Based on the WDNR Wetland Viewer, there are no wetlands (attached in **Appendix 3**).

The existing topography slopes from the northeast corner of the site southwest to Glen Brooke Drive. The Existing Conditions Hydrology Exhibit is attached in **Appendix 4**.

The proposed topography slopes the majority of the site to the upper northeast corner where the stormwater management pond is located. The remainder of the site slopes to the perimeter of the subject property. The Proposed Conditions Hydrology Exhibit is attached in **Appendix 4**.

APPLICABLE REGULATIONS

The subject site's stormwater management is regulated by the Village of Jackson's Ordinance Chapter 35 and Wisconsin Department of Natural Resources (WDNR) Chapter NR151, Subchapter III.

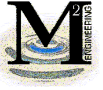
Stormwater Quality - On site management practices shall be used to meet the minimum performance standards:

- Per WDNR NR151, for new development, by design, reduce to the maximum extent practicable, the total suspended solids load by 80%, based on an average annual rainfall, as compared to no runoff management controls.
- Per the Village's Chapter 35-62(d)(1), total suspended solids shall be reduced by 80% for new development sites or to the maximum extent practicable.

Stormwater Quantity - On site management practices shall be used to meet the minimum performance standards:

- Per NR151, by design, BMPs shall be employed to maintain or reduce the 1-year, 24-hour and the 2-year, 24-hour post-construction peak runoff discharge rates to the 1-year, 24-hour and the 2-year, 24-hour pre-development peak runoff





discharge rates respectively, or to the maximum extent practicable.

- Per the Village's Chapter 35-62(d)(2), "BMPs shall be employed to maintain or reduce the one-year, 24-hour, five-year, 24-hour; and the 100-year, 24-hour post-construction peak runoff discharge rates to the one-year, 24-hour, two-year, 24-hour; and the five-year, 24-hour pre-development peak runoff discharge rates respectively, or to the maximum extent practicable".

Stormwater Infiltration - The subject site is exempt from the stormwater infiltration requirement because of the silty clay soils.

Piping Capacity Requirements - The Wisconsin State Statute requires that the storm sewer piping be able to handle the 10 year, 24 hour event.

METHODOLOGY

The methodology used in developing this stormwater management plan is as follows:

1. Define existing outfall locations for the project corridor.
2. Delineate/confirm drainage and watershed boundaries.
3. Identify requirements to comply with the Village of Jackson and Wisconsin Department of Natural Resources standards.
4. Perform stormwater quantity/peak flow calculations.
5. Perform stormwater quality calculations
6. Summarize the calculations for approval from the Village of Jackson and the Wisconsin Department of Natural Resources.

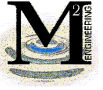
Data utilized in this project are noted below.

1. Field survey data provided by M Squared Engineering.
2. NRCS Soil Survey for Ozaukee County.
3. HydroCad Software (Version 10).
4. WINSLamm Water Quality Analysis Software

The hydrologic analysis was performed in HydroCad software using SCS TR-55 methodology (curve number and time of concentration). This was done for each individual drainage basin within the project limits for both the existing and proposed conditions

The rainfall was determined using NOAA Atlas 14 precipitation depths with MSE3 precipitation distribution (attached in **Appendix 5**). The depths for the rainfall events are





as follows: 1-yr, 24-hr = 2.35 inches; 2-yr, 24-hr = 2.67 inches; 5-yr, 24-hr = 3.26 inches; 10-yr, 24-hr = 3.83 inches; and the 100-year, 24-hour = 6.43 inches.

The hydrologic soil group is typically C throughout the project corridor based on the NRCS Web Soil Survey. In accordance with Village's Chapter 35-62(d)(2), the runoff curve number for grassland (71) was utilized for pre-existing conditions.

HYDROLOGIC ANALYSIS

A Hydrologic Analysis was performed to model both the existing and proposed conditions. The limits of the individual subcatchments are shown on the figures attached in **Appendix 4**. The limit of the disturbed area is 119,232 square feet (2.74 acres). In the existing condition, there are 0% impervious surfaces. In the proposed conditions, there will be 22% impervious surfaces.

HydroCad was utilized to calculate the 1-, 2-, 5-and 100-year flows for each subbasin for existing and proposed conditions. These calculations are included in **Appendices 6 and 7**.

Table 1 below shows the peak flows that were calculated for both the existing and proposed conditions, along with the percent change from existing to proposed. There is a net increase in peak flows for this project, which is a result of the added impervious area.

Table 1 – Summary of Pre and Post Construction Flows

Storm Event (24-hour)	Pre Development Conditions Runoff (cfs)	Proposed Post Development Conditions Runoff (cfs)	WDNR Requirements (cfs)	Village Requirements (cfs)	Does the proposed Stormwater Plan achieve WDNR & Village Requirements?
1-year	1.00	0.33	1.00	1.00	Yes
2-year	1.50	0.46	1.50	1.00	Yes
5-year	2.55	0.74	--	1.50	Yes
100-year	9.78	2.49	--	2.55	Yes

In addition, in accordance with State Statutes, the post development model was run at the 10-year, 24-hour event to ensure that the piping for the storm systems is adequate. These calculations are also shown in **Appendix 7**.



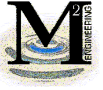


Table 2 below shows the stormwater elevations within the stormwater management ponds for the 100-year storm event.

Table 2 – Summary of Pond Elevations

Storm Event (24 hr)	Wet Pond (Emergency spillway = 864.00)	Pond 2 (Emergency spillway = 864.00)
100-yr	863.98	863.94

WATER QUALITY TREATMENT ANALYSIS

In order to meet the post construction performance standards for total suspended solids load, the stormwater ponds are designed to be shallow settling basins with spillways.

To perform the water quality analysis, WinSLAMM Version 10.2.1 was utilized. This program is designed to evaluate the water quality impacts of developments for a series of rainfall events. The following input was utilized:

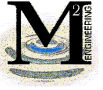
- Rainfall file = WisReg-Milwaukee WI Dec 1969.RAN
- Type of Rainfall data = Series
- Pollution Probability Distribution File: WI_GE003.ppd
- Runoff Coefficient File: WI_SL06 Dec06.rsv
- Particulate Solids Concentration File: WI_AVG01.psc
- Particulate Residual Delivery File: WI_DLV01.prr
- Street Delivery File: WI_Res and Other Urban Dec06.std

The total suspended solids load is expected to be reduced by 80.7% by our proposed stormwater quality measures. The detailed water quality inputs and results can be found in **Appendix 8**.

LONG TERM MAINTENANCE PLAN

To ensure the proper function of the storm water management facilities described above, the following activities must be completed:





Ponds:

1. Emergency spillways and outlet pipes shall be kept clear of debris. All grassed areas, embankments and flowcontrol devices showing signs of erosion shall be repaired to the original plan requirements.
2. The pond inlets and outlets shall be checked after heavy rains (minimum of annually) for signs of erosion. Any eroding areas shall be repaired immediately.
3. When sediment has accumulated to one foot, the pond(s) shall be dredged and disposed of offsite in accordance with NR 347.
4. The ponds shall be mowed a minimum of twice per year. Mowing shall maintain a minimum grass height of 6 to 8 inches. All undesirable vegetation and volunteer tree growth shall be removed
5. Any other repair or maintenance needed to ensure the continued function of the storm water practices areas ordered by the Village.

An inspection form is provided in **Appendix 9**. Completed forms shall be stored onsite in a secure location and be available upon request of the WDNR.

CONCLUSIONS

This report presents the Stormwater Management Plan for the proposed improvements planned in the Village of Jackson. This report is prepared in accordance with local, state, and federal engineering guidelines. This project meets or exceeds the requirements of the Village of Jackson with respect to stormwater management and the Wisconsin State Legislature requirements to the maximum extent practical. ***At this time, we are seeking approval of the Stormwater Management Plan, as presented in this report.***



APPENDIX 1
Construction Plans

LITTLE LAMB'S CORNER DEVELOPMENT

PROJECT NO. 21-716-233

JACKSON, WI



SOURCE: WASHINGTON COUNTY GIS
VICINITY MAP
1"=2,000'

SITE INFORMATION:

TAX KEY ID: 052600Z

LOCATION: PART OF THE NORTHWEST 1/4 OF THE SOUTHEAST 1/4 OF SECTION 19, TOWNSHIP 10 NORTH, RANGE 20 EAST, IN THE VILLAGE OF JACKSON, WASHINGTON COUNTY, WISCONSIN

PREPARED FOR:

MR. JOHN LAMM
2708 SHERMAN ROAD
JACKSON, WI 53037
(262) 677-3010
JLAMM@LAMMSCAPE.COM

INDEX:

- 1: TITLE SHEET
- 2: GENERAL NOTES & LEGEND
- 3: EXISTING CONDITIONS MAP
- 4: OVERALL LAYOUT PLAN
- 5: SITE PREP & EROSION CONTROL PLAN
- 6: GRADING/PAVING PLAN
- 7: UTILITY PLAN
- 8: ROADWAY & UTILITY PLAN & PROFILE
- 9-11: DETAILS
- 12: CROSS SECTIONS

PROJECT CONTACTS:

CONSULTING ENGINEER
M SQUARED ENGINEERING, LLC.
N19 W6719 COMMERCE COURT
CEDARBURG, WI 53012
CONTACT: MR. MATT HAHM
(262) 376-4246
MATT@MSQUAREDENGINEERING.COM

APPROVAL AGENCY
VILLAGE OF JACKSON'S PUBLIC WORKS
W194N16660 EAGLE DRIVE
JACKSON, WI 53037
CONTACT: MR. BRIAN KOBER
(262) 677-7609
BRIAN.KOBER@VILLAGEOFJACKSON.COM

M Squared Engineering, LLC

...where engineering solutions meet water quality...
N19 W6719 COMMERCE CT
Cedarburg, WI 53012

Phone: (262)376-4246 www.msquaredengineering.com Fax: (262)375-2274



LITTLE LAMB'S CORNER
JACKSON, WI

TITLE SHEET

DRAWN BY: LKJ
DATE: 09/07/2021
CHECKED BY:
HORIZ. SCALE:
VERT. SCALE:
PROJECT NO. 21-716-233

REVISIONS
DATE: REVISED BY:

SHEET
1 OF 12

LEGEND

	EXISTING PROPERTY BOUNDARY
	EXISTING RIGHT-OF-WAY
	EXISTING CONTOURS (MAJOR)
	EXISTING CONTOURS (MINOR)
	EXISTING PAVEMENT LINE
	EXISTING EDGE OF GRAVEL
	EXISTING TELEPHONE LINE
	EXISTING OVERHEAD LINE
	EXISTING STORM SEWER LINE
	EXISTING SANITARY SEWER LINE
	EXISTING GAS LINE
	EXISTING FENCE LINE
	EXISTING TREE LINE
	EXISTING ASPHALT PAVEMENT
	EXISTING CONCRETE PAVEMENT
	EXISTING MANHOLE
	EXISTING HYDRANT
	EXISTING UTILITY POLE
	EXISTING PROPERTY IRON PIPE
	EXISTING SIGN
	PROPOSED PAVEMENT EDGE
	PROPOSED 2' GRAVEL SHOULDER EDGE
	PROPOSED STORM SEWER
	PROPOSED SANITARY SEWER
	PROPOSED WATER LINE
	PROPOSED BUILDING SETBACK
	PROPOSED CONTOURS (MAJOR)
	PROPOSED CONTOURS (MINOR)
	PROPOSED GRADE BREAKLINE
	PROPOSED GRADE BREAKLINE
	PROPOSED SILT FENCE
	PROPOSED RIP RAP
	PROPOSED TRACKING PAD
	PROPOSED EROSION CONTROL MAT
	PROPOSED DITCH CHECK
	PROPOSED INLET
	PROPOSED SANITARY MANHOLE
	PROPOSED STORM MANHOLE
	PROPOSED CULVERT ENDWALL
	PROPOSED HYDRANT
	PROPOSED VALVE

SURVEY INFORMATION:

- M SQUARED ENGINEERING, LLC. PERFORMED THE SITE SURVEY IN JUNE/JULY 2021
- VERTICAL DATUM IS BASED OF NGVD "29".
- BEARINGS ARE REFERENCED TO WISCONSIN STATE PLANE COORDINATES NAD 83 SOUTH ZONE, NORTH LINE OF SE ¼ 19-10-20, MEASURED AS N89°16'53"W.
- BENCHMARKS:
BENCHMARK 1 - NORTHWEST FLANGE BOLT ON HYDRANT EAST SIDE OF GLEN BROOKE DRIVE, 290 FEET NORTH OF VICTOR LANE (EL=863.85)
BENCHMARK 2 - NORTHWEST FLANGE BOLT ON HYDRANT, EAST SIDE OF GLEN BROOKE DRIVE, 140 FEET SOUTH OF GLEN HILL DRIVE (EL=864.51)
- THE LOCATIONS OF UNDERGROUND UTILITIES AS SHOWN ON THIS MAP ARE BASED ON AVAILABLE DOCUMENTATION AND MARKS PLACED ON THE GROUND BY DIGGERS HOTLINE (TICKET NO. 20212305361). THESE LOCATIONS MAY OR MAY NOT REFLECT THE ACTUAL LOCATION OF THESE UTILITIES. DIGGERS HOTLINE SHOULD BE NOTIFIED BEFORE ANY SUBSURFACE WORK IS CONDUCTED.

LEGAL DESCRIPTION

PART OF THE NORTHWEST 1/4 OF THE SOUTHEAST 1/4 OF SECTION 19, TOWNSHIP 10 NORTH, RANGE 20 EAST, IN THE VILLAGE OF JACKSON, WASHINGTON COUNTY, WISCONSIN, DESCRIBED AS FOLLOWS:

COMMENCING AT THE NORTHEAST CORNER OF THE SOUTHEAST 1/4 SAID SECTION 19; THENCE N89°16'53"W ALONG THE NORTH LINE OF THE SOUTHEAST 1/4 OF SAID SECTION 19, 1315.63 TO THE POINT OF BEGINNING; THENCE S01°12'28"E ALONG THE WEST LINE OF COBBLESTONE MEADOWS BEING A SUBDIVISION RECORDED IN THE WASHINGTON COUNTY COURTHOUSE AS MAP BOOK 53 PAGE DOCUMENT NUMBER 1468252 OF SUBDIVISION MAPS, 480.52 FEET TO THE NORTHERLY RIGHT OF WAY LINE OF GLEN BROOKE DRIVE AND BEING THE POINT OF THE CURVE TO THE LEFT AND HAVING A RADIUS OF 136.00 FEET CHORD OF 8.10 FEET BEARING N45°34'37"W; THENCE ALONG THE ARC OF SAID CURVE AND CONTINUING ALONG THE NORTHERLY RIGHT OF WAY LINE OF GLEN BROOKE DRIVE 8.10 FEET; THENCE CONTINUING ALONG SAID NORTH LINE N47°17'35"W 505.93 FEET TO A POINT OF ON A CURVE TO THE RIGHT AND HAVING A RADIUS OF 183.24 FEET CHORD OF 149.11 FEET BEARING N23°17'06"W; THENCE ALONG THE ARC OF SAID CURVE AND CONTINUING ALONG THE NORTHERLY RIGHT OF WAY LINE OF GLEN BROOKE DRIVE 153.57 FEET TO THE NORTH LINE OF THE SOUTHEAST 1/4 OF SECTION 19, TOWNSHIP 10 NORTH, RANGE 20 EAST; THENCE S89°16'53"E ALONG SAID NORTH LINE 426.41 FEET TO THE POINT OF BEGINNING;

SAID PARCEL CONTAINS 2.74 AC.

GENERAL DESIGN INFORMATION:

- YARD SETBACKS (MINIMUMS):
STREET/REAR: 20 FEET
SIDE: 10 FEET

GENERAL NOTES:

- ALL CONSTRUCTION SHALL MEET STANDARDS IN THE CONTRACT DOCUMENTS, "WISCONSIN STANDARD SPECIFICATIONS FOR SEWER AND WATER", "VILLAGE OF JACKSON" STANDARD SPECIFICATIONS", AND "DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION", LATEST EDITIONS AND AMENDMENTS. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH ALL FEDERAL, STATE AND LOCAL CODES/ORDINANCES/LAWS/REQUIREMENTS.
- SUMMARY OF WORK: PROJECT WORK SHALL INCLUDE INSTALLATION/MAINTAINING/REMOVAL OF EROSION CONTROLS, GRADING, INSTALL STORM/WATER/SANITARY SYSTEM, PAVEMENT (WITH ASSOCIATED PAVEMENT STRIPING) AS SHOWN ON PROJECT DRAWINGS. CONSTRUCTION DETAILS ARE INCLUDED IN THE PLAN SET.
- ALL WORK SHALL BE CONSTRUCTED TO THE SATISFACTION OF OWNER AND ENGINEER.
- THE CONTRACTOR SHALL INDEMNIFY THE OWNER, M SQUARED ENGINEERING AND THEIR AGENTS FROM ALL LIABILITY INVOLVED WITH THE CONSTRUCTION, INSTALLATION AND TESTING OF THE CIVIL WORK INCLUDED ON THESE CIVIL PLANS.
- M SQUARED ENGINEERING AND ITS AGENTS ASSUMES NO RESPONSIBILITY FOR DAMAGES, LIABILITY OR COSTS RESULTING FROM CHANGES OR ALTERATIONS MADE TO THESE PLANS WITHOUT THE EXPRESSED WRITTEN CONSENT OF M SQUARED ENGINEERING.
- CONTRACTOR SHALL OBTAIN AND PAY FOR ALL NECESSARY WORK, PERMITS AND INSPECTIONS FOR THE CONSTRUCTION OF THESE CIVIL PLANS INCLUDING, BUT NOT LIMITED TO, TRAFFIC CONTROL, DEMOLITION, DISPOSAL, UTILITY REMOVAL/RELOCATION/CONSTRUCTION, GRADING/PAVING, ETC.
- CIVIL PROJECT DRAWING VERIFICATION: THE INFORMATION IN THE PLAN SET REPRESENTS THE INFORMATION AVAILABLE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION OF ALL INFORMATION IN THE FIELD. CONTRACTOR SHALL REVIEW SITE PLANS PRIOR TO CONSTRUCTION. ANY DISCREPANCIES NOTED BETWEEN EXISTING SITE CONDITIONS AND PROJECT DRAWINGS, AND BETWEEN PROJECT DRAWINGS (FOR UTILITY CONFLICTS, DRAINAGE/GRADING CONFLICTS, ETC.) SHALL BE NOTED TO THE M SQUARED IN WRITING PRIOR TO CONSTRUCTION COMMENCEMENT. CHANGES IN WORK SCOPE SHALL BE MADE ACCORDINGLY. IF CONTRACTOR (OR ITS' SUBCONTRACTORS) COMMENCES WORK (I.E., EQUIPMENT MOBILIZATION TO SITE), CONTRACTOR ACCEPTS RESPONSIBILITY/EXPENSES FOR ANY CHANGES TO BE PERFORMED AS A RESULT OF PROJECT DRAWING INCONSISTENCIES AT NO ADDITIONAL COST TO THE OWNER/ENGINEER.
- UNDERGROUND UTILITIES ARE SHOWN FOR INFORMATIONAL PURPOSES ONLY, AND ARE NOT GUARANTEED TO BE ACCURATE OR ALL INCLUSIVE. THE CONTRACTOR IS RESPONSIBLE FOR MAKING HIS OWN DETERMINATION AS TO THE TYPE AND LOCATION OF UNDERGROUND UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE THERETO. CONTRACTOR SHALL CALL DIGGERS HOTLINE A MINIMUM OF THREE DAYS PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITIES. IN ADDITION, CONTRACTOR SHALL NOTIFY UTILITY COMPANIES FOR ONSITE LOCATIONS OF EXISTING UTILITY PRIOR TO CONSTRUCTION COMMENCEMENT.
- ALL EXISTING UTILITIES SHOWN ARE NOT TO BE INTERPRETED AS THE EXACT LOCATION OR AS THE ONLY OBSTACLES THAT MAY OCCUR ON THE SITE. CONTRACTOR SHALL VERIFY EXISTING CONDITIONS AND PROCEED WITH CAUTION AROUND ALL FEATURES. GIVE NOTICE TO UTILITY COMPANIES REGARDING DESTRUCTION AND REMOVAL OF THEIR SERVICE LINES AND CAP ALL LINES BEFORE PROCEEDING WITH WORK. DAMAGE TO UTILITIES THAT ARE TO REMAIN SHALL BE REPAIRED AT CONTRACTOR'S COST AT NO ADDITIONAL COST TO THE OWNER/ENGINEER.
- PRIOR TO ANY CONSTRUCTION ACTIVITIES, CONTRACTOR SHALL REFER TO, AND ADHERE TO THE RECOMMENDATIONS OF THE SITE GEOTECHNICAL REPORT AND ANY RELEVANT ENVIRONMENTAL ASSESSMENT REPORTS. IF PREVIOUSLY UNIDENTIFIED HAZARDOUS, CONTAMINATED MATERIALS, ENVIRONMENTAL-RELATED CONDITIONS, OR UNEXPECTED SUBGRADE CONDITIONS ARE DISCOVERED, STOP WORK IMMEDIATELY AND NOTIFY THE OWNER/ENGINEER FOR ACTION TO BE TAKEN. DO NOT RESUME WORK UNTIL SPECIFICALLY AUTHORIZED BY THE OWNER/ENGINEER.
- THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING SOIL CONDITIONS PRIOR TO COMMENCEMENT OF CONSTRUCTION. A SITE GEOTECHNICAL REPORT MAY BE AVAILABLE FROM THE OWNER. CONTRACTOR SHALL PERFORM ALL EXCAVATIONS, DEWATERING, BACKFILLING (MATERIALS AND PLACEMENT/COMPACTION), SUBGRADE CONSTRUCTION, ETC. IN ACCORDANCE WITH THE SITE GEOTECHNICAL REPORT. IF NO SITE GEOTECHNICAL REPORT IS AVAILABLE, SUBGRADE SHALL BE PREPARED IN ACCORDANCE WITH WISDOT STANDARDS.
- CONTRACTOR IS RESPONSIBLE FOR SITE SECURITY AND SAFETY. OWNER AND ENGINEER ASSUMES NO RESPONSIBILITY FOR EITHER SITE SECURITY OR SAFETY.
- THE MUNICIPALITY, OWNER AND ENGINEER SHALL HAVE THE RIGHT TO INSPECT, APPROVE, AND REJECT THE CONSTRUCTION OF THE IMPROVEMENTS DETAILED IN THESE CIVIL PLANS. CONTRACTOR TO PAY/COORDINATE ALL INSPECTIONS. REJECTED CONSTRUCTION SHALL BE RECONSTRUCTED AT CONTRACTOR'S EXPENSE AT NO ADDITIONAL COST TO THE OWNER/ARCHITECT/ENGINEER.
- ANY ADJACENT PROPERTIES OR ROAD RIGHT-OF-WAYS WHICH ARE DAMAGED DURING CONSTRUCTION MUST BE RESTORED BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSES TO THE SATISFACTION TO THE OWNER/ENGINEER AT NO ADDITIONAL COST TO THE OWNER/ENGINEER.
- EXISTING ITEMS TO REMAIN SHALL BE CAREFULLY PROTECTED DURING CONSTRUCTION. ANY DAMAGE TO THESE ITEMS WILL BE REPAIRED OR REPLACED AT CONTRACTOR'S EXPENSE AT NO ADDITIONAL COST TO THE OWNER/ENGINEER.

CONSTRUCTION SEQUENCE:

- INSTALL EROSION CONTROLS PRIOR TO OTHER CONSTRUCTION ACTIVITIES. INSTALL IN THE FOLLOWING ORDER: TRACKING PAD AND THEN SILT FENCE.
- ROUGH GRADE STORMWATER MANAGEMENT PONDS FOR USE AS SETTLING PONDS DURING CONSTRUCTION. THE ROUGH GRADING SHALL BE PERFORMED PRIOR TO BEGINNING OTHER SITE GRADING AND UTILITY CONSTRUCTION. UPON GRADING COMPLETION AND BEFORE VEGETATING POND, REMOVE AND DISPOSE OF SILT BUILDUP.
- GRADING/PAVING/UTILITY CONSTRUCTION.
- ALL DISTURBED AREAS OUTSIDE PAVEMENT AREAS MUST BE STABILIZED WITHIN 14 DAYS OF INITIAL GROUNDBREAKING OR WITHIN 7 DAYS OF ACHIEVING FINAL GRADE, WHICHEVER OCCURS FIRST.
- REMOVE TEMPORARY SOIL EROSION AND SEDIMENT CONTROLS.

GENERAL EROSION CONTROL REQUIREMENTS:

- ALL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE WISCONSIN DEPARTMENT OF NATURAL RESOURCES TECHNICAL STANDARDS.
- INSTALL EROSION CONTROL MEASURES PRIOR TO ANY SITE WORK, INCLUDING GRADING OR DISTURBANCE OF EXISTING SURFACE MATERIALS AS SHOWN ON PLAN.
- EROSION CONTROLS
 - ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH THE WDNR TECHNICAL GUIDANCE PRIOR TO OTHER CONSTRUCTION ACTIVITIES.
 - INSTALL A GRAVEL TRACKING PAD AT EACH NON-PAVED. CONSTRUCTION ENTRANCE TO THE SITE BEFORE ANY EARTH DISTURBING ACTIVITIES OCCUR. PAVED SURFACES ADJACENT TO CONSTRUCTION SITE VEHICLE ACCESS SHALL BE SWEEP AND/OR SCRAPED DAILY TO REMOVE SOIL, DIRT AND/OR DUST.
 - INSTALL INLET PROTECTION IN ALL STORM SEWER INLETS AND CATCH BASINS IN AND ADJACENT TO PROJECT SITE.
 - INSTALL EROSION MAT ON ALL SLOPES EQUAL TO OR GREATER THAN 4:1.
 - INSTALL CHECK DAMS WITHIN DRAINAGE DITCHES IN ACCORDANCE WITH BMPs.
 - INSPECT AND MAINTAIN ALL EROSION CONTROLS DAILY.
 - MAINTENANCE OF ALL SEDIMENT CONTROL STRUCTURES SHALL BE PROVIDED WITH THE MEASURES IN WORKING CONDITION AT THE END OF EACH WORKING DAY.
 - AFTER ANY SIGNIFICANT RAINFALL, SEDIMENT CONTROL STRUCTURES SHALL BE INSPECTED FOR INTEGRITY. ANY DAMAGED STRUCTURES SHALL BE CORRECTED FOR INTEGRITY.
 - OVERLAND FLOW SHALL BE PREVENTED FROM LEAVING THE WORK SITE BY INSTALLING STRAW BALES OR FABRIC FILTER FENCING PARALLEL TO THE CONTOURS LOCATED DOWNHILL FROM THE WORK AREA.
 - NATURAL PLANT COVERING SHALL BE PRESERVED AND PROTECTED.
 - THE SMALLEST PRACTICAL AREA OF LAND SHALL BE EXPOSED DURING DEVELOPMENT AND KEPT TO AS SHORT A DURATION OF TIME AS IS PRACTICAL.
 - ALL DISTURBED GROUND LEFT INACTIVE FOR TWO WEEKS DURING THE EXCAVATION OR CONSTRUCTION PROCESS SHALL BE STABILIZED BY MULCHING OR COVERING.
 - ALL SOIL OR DIRT STORAGE PILES CONTAINING MORE THAN 10 CUBIC YARDS OF MATERIAL SHALL BE PROTECTED FROM THE FORCES OF EROSION. INSTALL EROSION CONTROLS ON THE DOWNSTREAM SIDE OF STOCKPILES.
 - TEMPORARY SEDIMENT BASINS SHALL BE CONSTRUCTED AND MAINTAINED ON ALL DRAINAGE WAYS TO TRAP AND REMOVE AND PREVENT SEDIMENT AND DEBRIS FROM OCCURRING.
 - WATER PUMPED FROM THE SITE SHALL BE TREATED BY TEMPORARY SEDIMENT BASINS, GRIT CHAMBERS OR OTHER APPROPRIATE MEASURES.
 - ALL WASTE AND UNUSED CONSTRUCTION MATERIALS SHALL BE PROPERLY DISPOSED OF IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL REGULATIONS.
 - PROVIDE ACCESS DRIVES AND PARKING AREAS OF SUFFICIENT WIDTH AND LENGTH TO PREVENT SEDIMENT FROM BEING TRACKED ONTO PUBLIC ROADWAYS. ANY SEDIMENT REACHING A PUBLIC ROADWAY SHALL BE REMOVED (NOT FLUSHING) BEFORE THE END OF EACH WORK DAY.
 - ALL STORM DRAIN INLETS SHALL BE PROTECTED WITH A STRAW BALE, FILTER FABRIC OR EQUIVALENT BARRIER.
- STORM POND SHALL BE USED AS SEDIMENT BASINS DURING CONSTRUCTION. SEDIMENT SHALL BE REMOVED PRIOR TO OWNER ACCEPTANCE OF SITEWORK.
- ALL DISTURBED AREAS MUST BE STABILIZED WITHIN 14 DAYS OF INITIAL GROUNDBREAKING OR WITHIN 7 DAYS OF ACHIEVING FINAL GRADE, WHICHEVER OCCURS FIRST.
- EROSION CONTROL MEASURES SHALL BE REMOVED ONLY AFTER SITE CONSTRUCTION IS COMPLETE WITH ALL SOIL SURFACES HAVING AN ESTABLISHED VEGETATIVE COVER.



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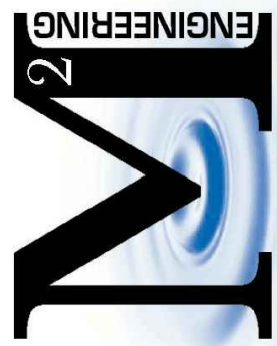
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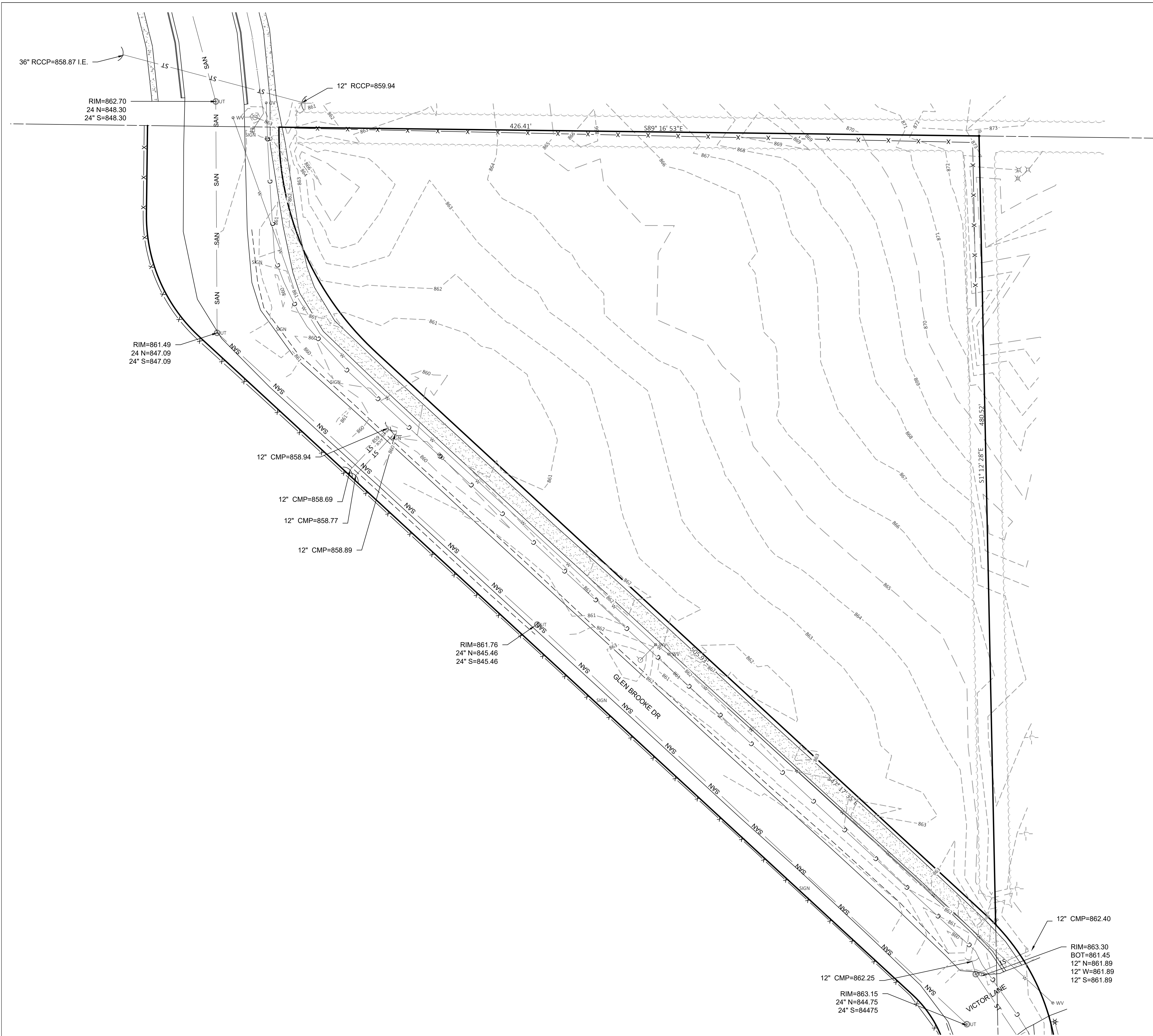
LITTLE LAMB'S CORNER
JACKSON, WI

GENERAL NOTES & LEGEND
SHEET

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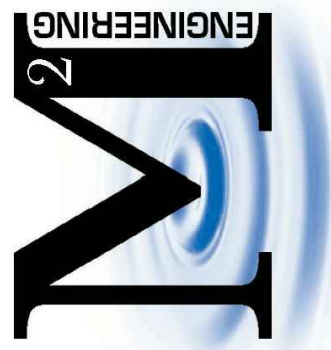
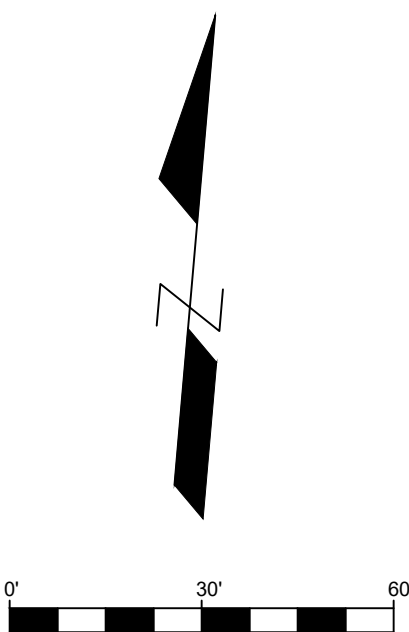


GENERAL NOTES

- SEE SHEET 2 FOR EXISTING AND PROPOSED LEGEND & NOTES.



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**LITTLE LAMB'S CORNER
JACKSON, WI**

EXISTING CONDITIONS MAP

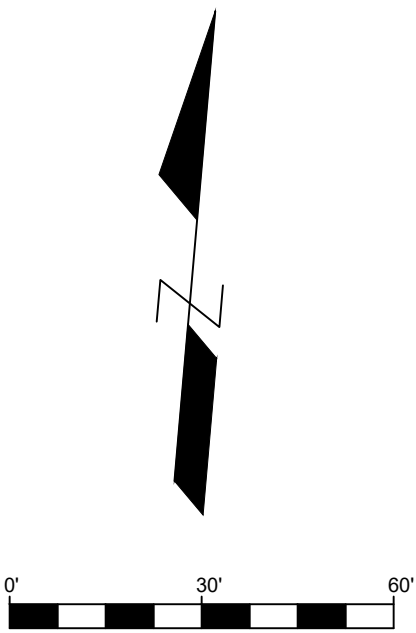
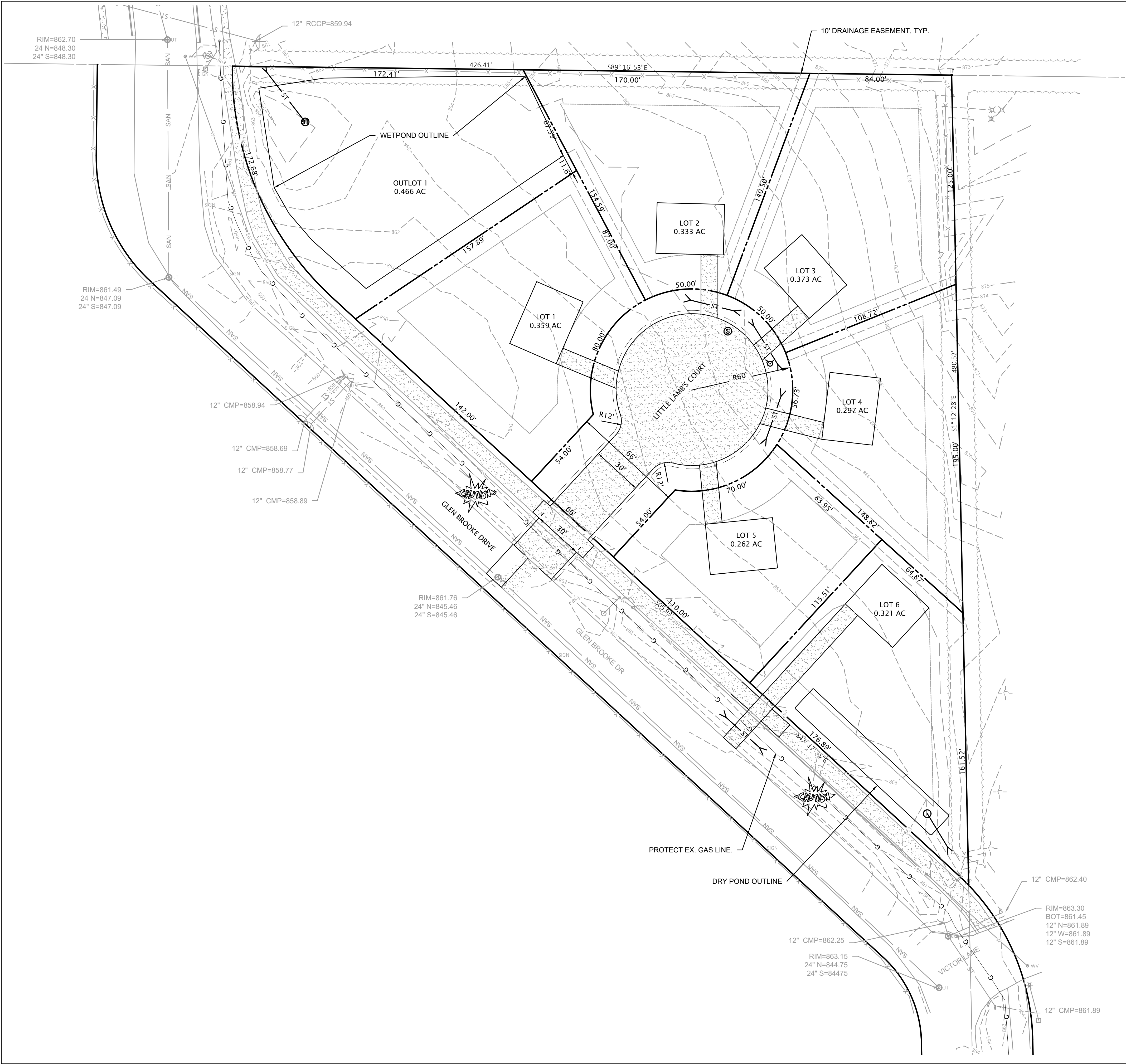
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GENERAL NOTES
1. SEE SHEET 2 FOR EXISTING AND PROPOSED LEGEND & NOTES.



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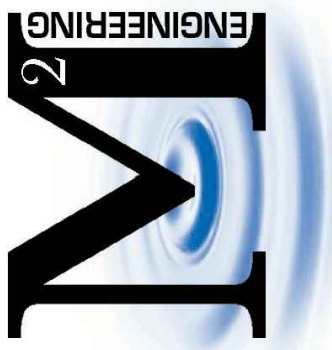
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LITTLE LAMB'S CORNER
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OVERALL LAYOUT PLAN

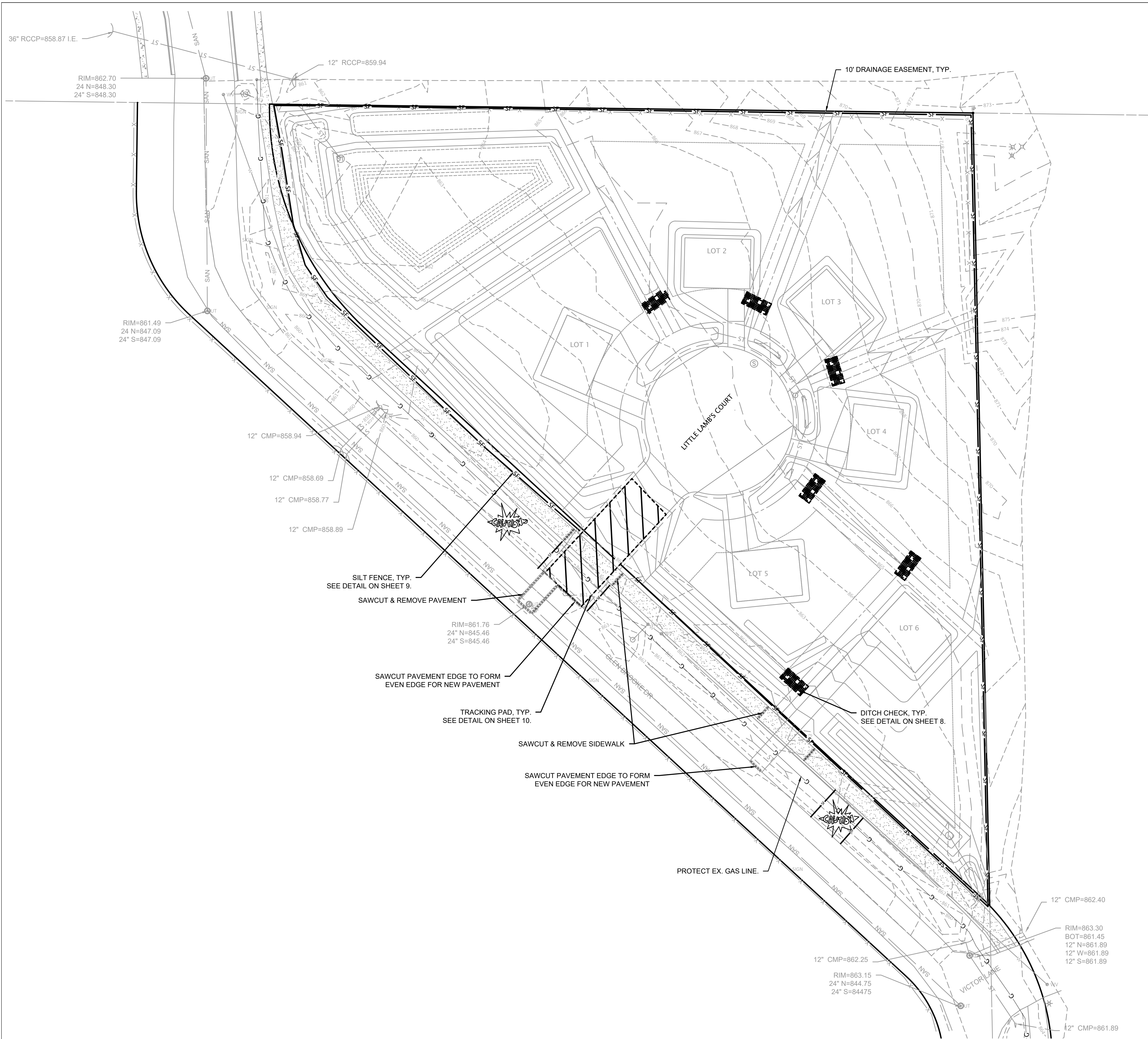
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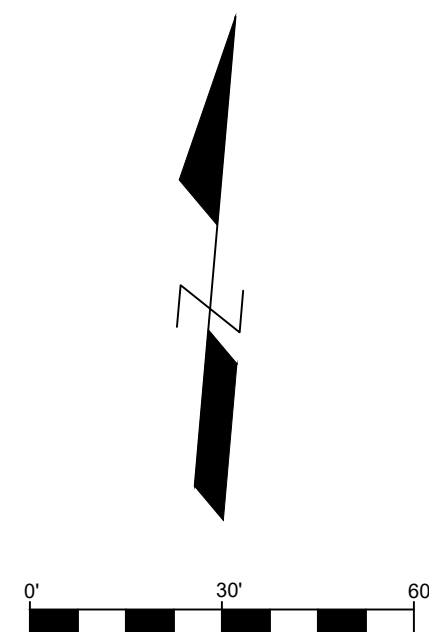
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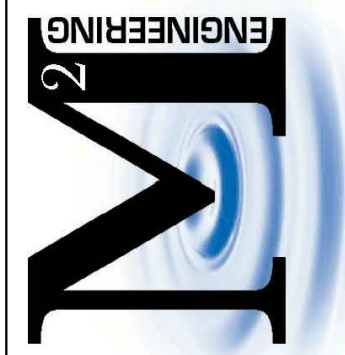


GENERAL NOTES

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**LITTLE LAMB'S CORNER
JACKSON, WI**

**SITE PREPARATION &
EROSION CONTROL PLAN**

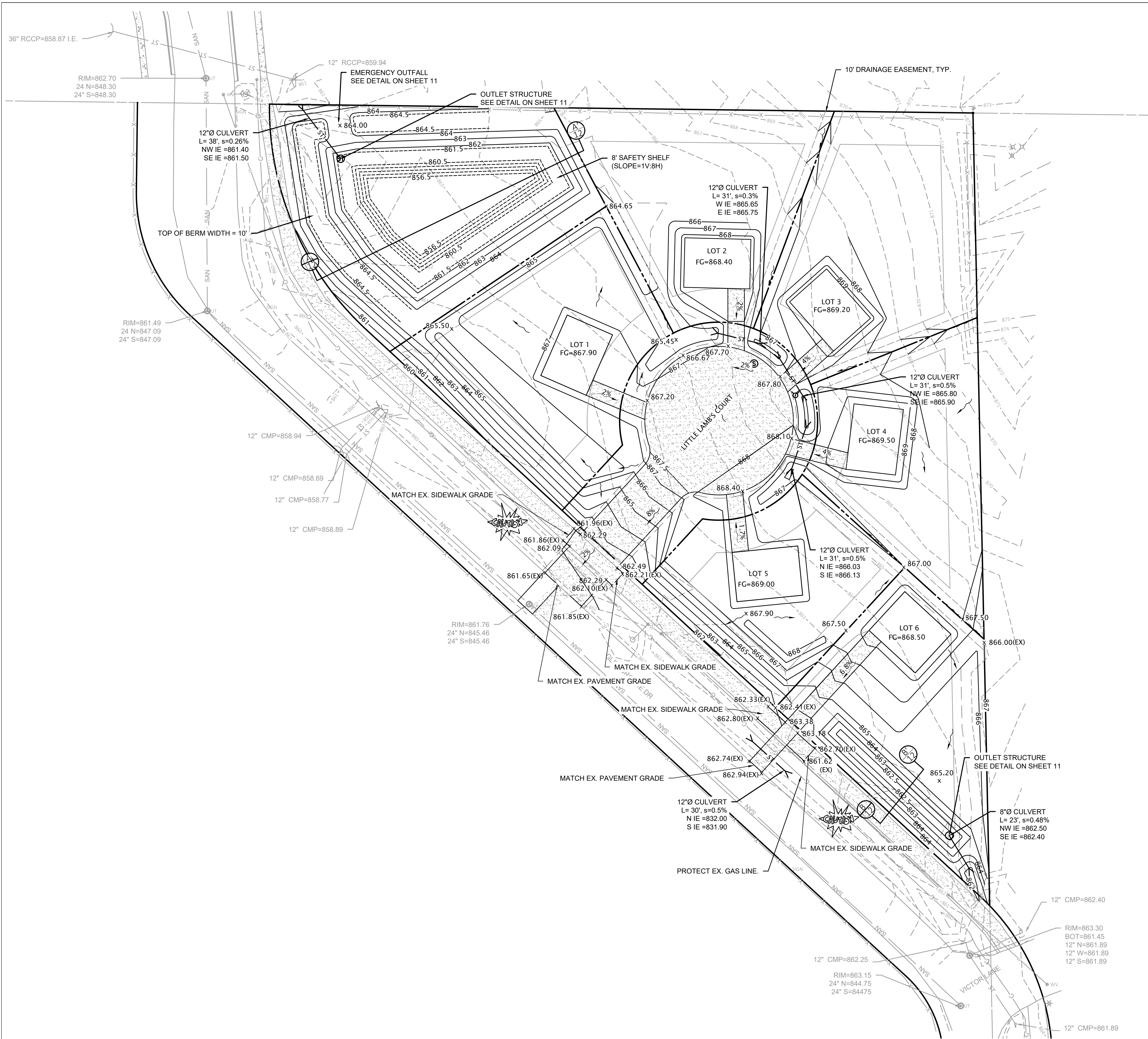
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GENERAL NOTES

1. SEE SHEET 2 FOR EXISTING AND PROPOSED LEGEND & NOTES.

GENERAL GRADING/PAVING NOTES

1. ALL PROPOSED GRADES SHOWN ARE FINISHED GRADES. ROADWAY AND DRIVEWAY ELEVATIONS ARE PAVEMENT GRADES UNLESS OTHERWISE NOTED.
2. CONTRACTOR SHALL VERIFY ALL GRADES, MAKE SURE ALL AREAS DRAIN PROPERLY AND SHALL REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO CONSTRUCTION. DISCREPANCIES OR OTHER MODIFICATIONS REPORTED/MADE AFTER CONSTRUCTION COMMENCEMENT SHALL BE AT CONTRACTOR'S COST.
3. SUBGRADE TO BE CONSTRUCTED/PREPARED AS SPECIFIED BY PROOFROLLING AREAS TO BE FILLED/PAVED IN ACCORDANCE WITH WISDOT STANDARDS. SOFT AREAS SHALL BE REPAIRED IN ACCORDANCE WITH WISDOT STANDARDS AND AS APPROVED BY ENGINEER.
4. GRADING AND PAVEMENT SHALL BE CONSTRUCTED IN ACCORDANCE WITH MUNICIPAL AND WISDOT SPECIFICATIONS.
5. CONTRACTOR SHALL VERIFY ALL GRADES, MAKE SURE ALL AREAS DRAIN PROPERLY AND SHALL REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO CONSTRUCTION. DISCREPANCIES OR OTHER MODIFICATIONS REPORTED/MADE AFTER CONSTRUCTION COMMENCEMENT SHALL BE AT CONTRACTOR'S COST.
6. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LOCAL/STATE/FEDERAL REQUIREMENTS.
7. SIDEWALKS:

SIDEWALK SHALL BE CONSTRUCTED WITH ALL PORTLAND CEMENT CONCRETE. SIDEWALKS SHALL BE A MINIMUM OF 5" IN THICKNESS, EXCEPT IN AREAS OF DRIVE APPROACHES WHERE THE SIDEWALKS SHALL BE A MINIMUM OF 6" IN THICKNESS.

CONSTRUCT 1/2" EXPANSION JOINTS EVERY 50' AND AT EACH END OF ANY NEW SIDEWALK CONSTRUCTED BETWEEN TWO EXISTING WALKS; AND IF SUCH NEW SIDEWALK EXCEEDS 50' IN LENGTH.

SITE RESTORATION

1. RESTORATION: 4" THICK MIN. TOPSOIL (NOTE: ALL STRIPPED TOPSOIL SHALL BE USED TO TOPSOIL THE SITE - THICKNESS LAYER SHALL BE INCREASED AS NECESSARY), SEED, FERTILIZE AND MULCH ALL AREAS DISTURBED BY CONSTRUCTION. CONTRACTOR TO WATER AND MAINTAIN UNTIL AFTER 80% COVER ESTABLISHED.

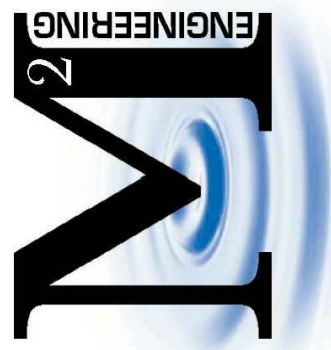
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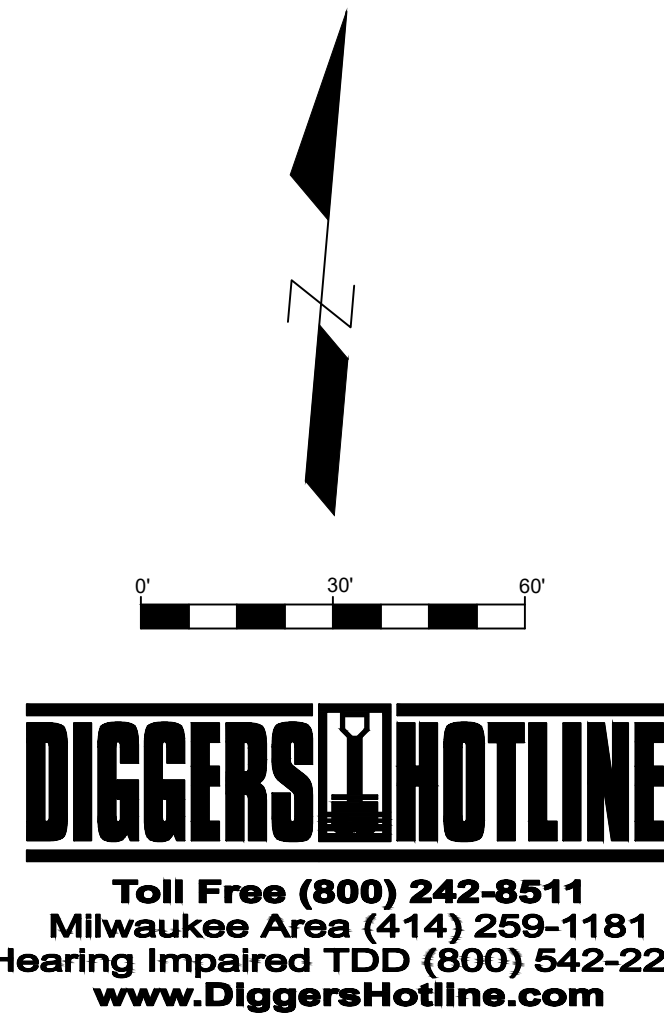


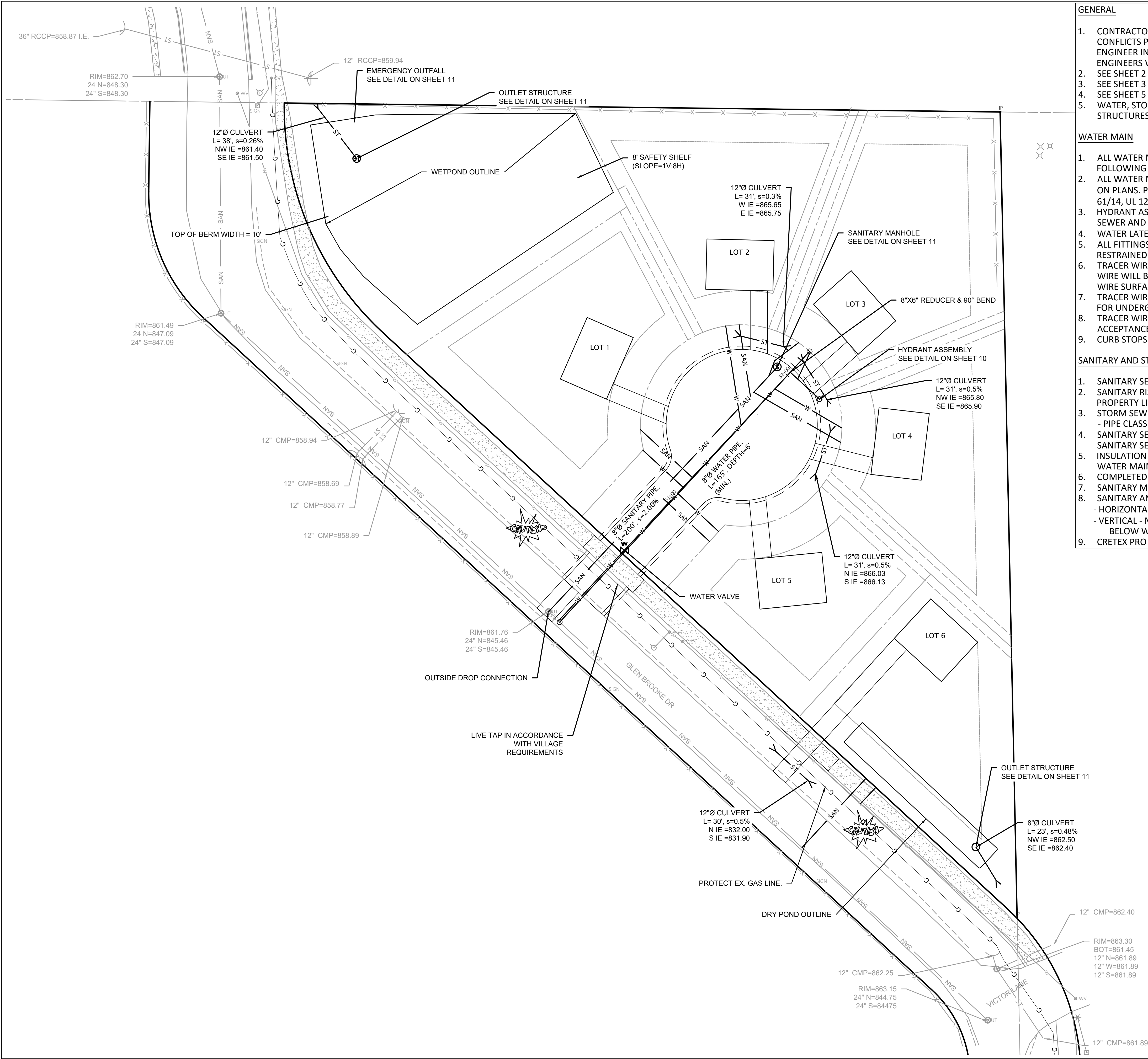
**LITTLE LAMB'S CORNER
JACKSON, WI**

GRADING/PAVING PLAN

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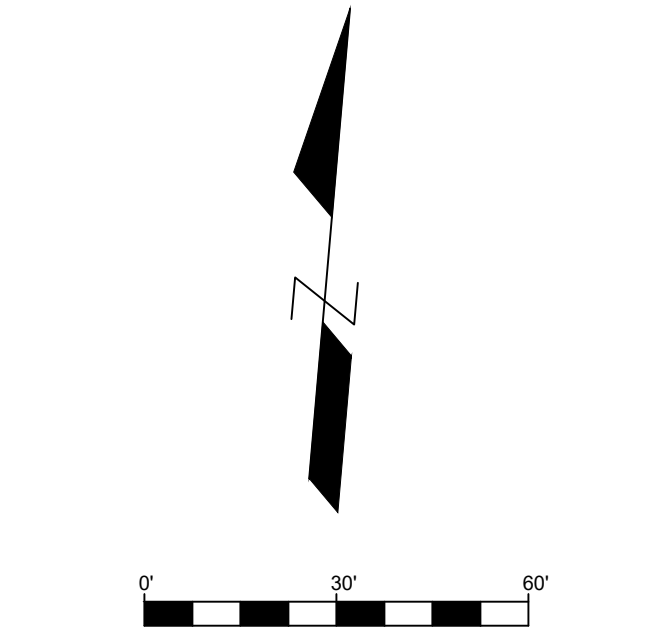
**SHEET
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- GENERAL**
- CONTRACTOR TO CONFIRM EXISTING UTILITY ELEVATIONS/INLETS/SIZES FOR ACCURACY AND CONFLICTS PRIOR TO CONSTRUCTION COMMENCEMENT. ANY DISCREPANCIES SHALL BE NOTIFIED TO ENGINEER IN WRITING. CONTRACTOR SHALL NOT COMMENCE UTILITY WORK UNTIL RECEIVE ENGINEERS WRITTEN DESIGN MODIFICATIONS.
 - SEE SHEET 2 FOR GENERAL NOTES AND LEGEND.
 - SEE SHEET 3 FOR EXISTING CONDITIONS.
 - SEE SHEET 5 FOR PROPOSED GRADING AND SHEET 2 FOR PROPOSED LEGEND.
 - WATER, STORM AND SANITARY SHALL NOT EXTEND BELOW MANHOLE OR CATCH BASIN STRUCTURES.
- WATER MAIN**
- ALL WATER MAIN VALVES SHALL BE RESILIENT SEATED GATE VALVES FOLLOWING AWWA C509 FOLLOWING THE MUNICIPAL STANDARD SPECIFICATIONS
 - ALL WATER MAIN MATERIALS SHALL BE AWWA C900 PRESSURE RATED PVC PIPE, SIZES AS SHOWN ON PLANS. PIPE MUST MEET THE FOLLOWING STANDARDS: ASTM D1784, DR18 235 PSI, ANSI/NSF 61/14, UL 1285 GASKET: ASTM F477, JOINT: ASTM D313
 - HYDRANT ASSEMBLY WILL FOLLOW AWWA C502, THE MUNICIPAL SPECIFICATIONS, AND WISCONSIN SEWER AND WATER SPECIFICATION 8.26.0.
 - WATER LATERALS SHALL BE 1-1/4-INCH DIAMETER.
 - ALL FITTINGS SHALL BE DUCTILE IRON CONFORMING TO AWWA 153. BENDS AND TEES SHALL BE RESTRAINED WITH MEGALUG 2000 PV JOINT RESTRAINTS AND CORE BLUE MJ T-BOLT AND NUT.
 - TRACER WIRE IS REQUIRED ON WATERMAIN, SANITARY AND STORM SEWER MAIN AND LATERALS. WIRE WILL BE BROUGHT UP TO THE SURFACE AT HYDRANTS AND CURB STOPS, AND WHERE THE WIRE SURFACES AT LATERAL ENDS, A WIRE LOCATION BOX SHALL BE USED.
 - TRACER WIRE SHALL BE A MINIMUM 10-GAUGE SOLID WIRE WITH SOLID PVC INSULATION RATED FOR UNDERGROUND AND WET CONDITIONS.
 - TRACER WIRE CONTINUITY TESTING SHALL BE COMPLETED AFTER PIPE INSTALLATION AND BEFORE ACCEPTANCE.
 - CURB STOPS AND CORPORATION VALVES SHALL BE INSTALLED FOR EACH LATERAL.
- SANITARY AND STORM SEWER**
- SANITARY SEWER PIPE SHALL BE ASTM 3034 SDR 35 PVC SEWER PIPE FOR MAINS AND LATERALS.
 - SANITARY RISERS SHALL BE INCLUDED WHERE THE LATERAL DEPTH IS 12' OR GREATER AT THE PROPERTY LINE.
 - STORM SEWER CONCRETE PIPE CLASSES:
 - PIPE CLASS SHALL BE BASED ON PIPE COVER AND MANUFACTURER' RECOMMENDATIONS.
 - SANITARY SEWER LATERALS SHALL BE 6-INCH DIAMETER WITH 2% SLOPE (MIN). SANITARY SEWER LATERALS SHALL CONNECT TO THE MAIN WITH "WYE" OR "TEE" FITTINGS.
 - INSULATION IS REQUIRED WHEN THE DEPTH OF COVER IS LESS THAN 5-FEET OVER SANITARY SEWER, WATER MAIN OR WHERE STORM SEWERS CROSS OVER WATERMAIN OR LATERALS.
 - COMPLETED SANITARY SEWER MAIN MUST PASS AIR TEST AND NO-GO TEST.
 - SANITARY MAINS SHALL BE TELEVIEWED BEFORE ACCEPTANCE BY THE MUNICIPALITY.
 - SANITARY AND STORM SEWER SPACING
 - HORIZONTAL - MIN SPACING BETWEEN SANITARY/STORM SEWER AND WATER IS 8'
 - VERTICAL - MIN SPACING BETWEEN SANITARY/STORM SEWER AND WATER IS 18" ABOVE AND 6" BELOW WATER.
 - CRETEX PRO RING ADJUSTING RINGS SHALL BE USED ON ALL STORM AND SANITARY STRUCTURES.

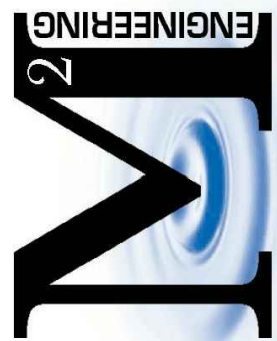
- GENERAL NOTES**
- SEE SHEET 2 FOR EXISTING AND PROPOSED LEGEND & NOTES.



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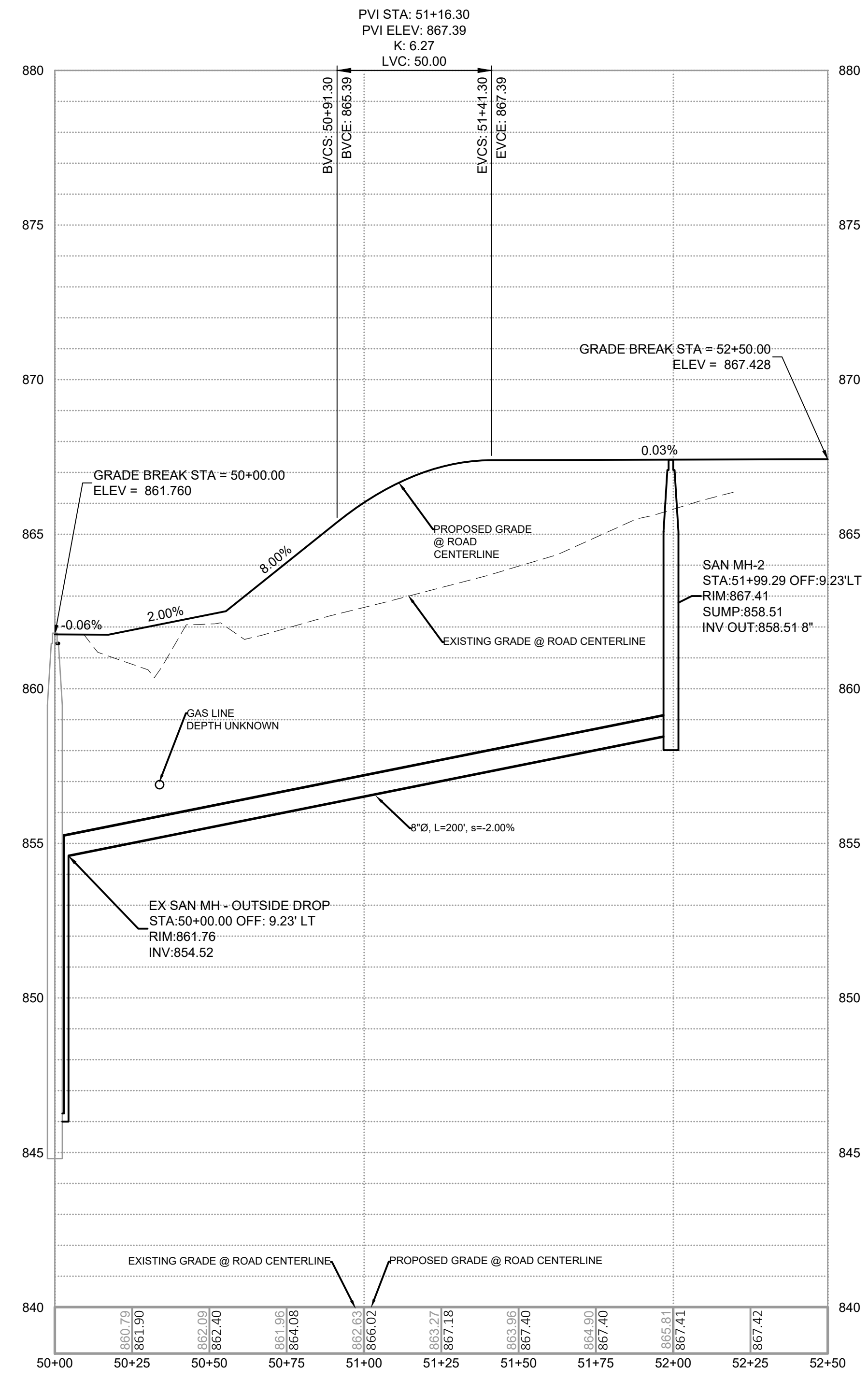
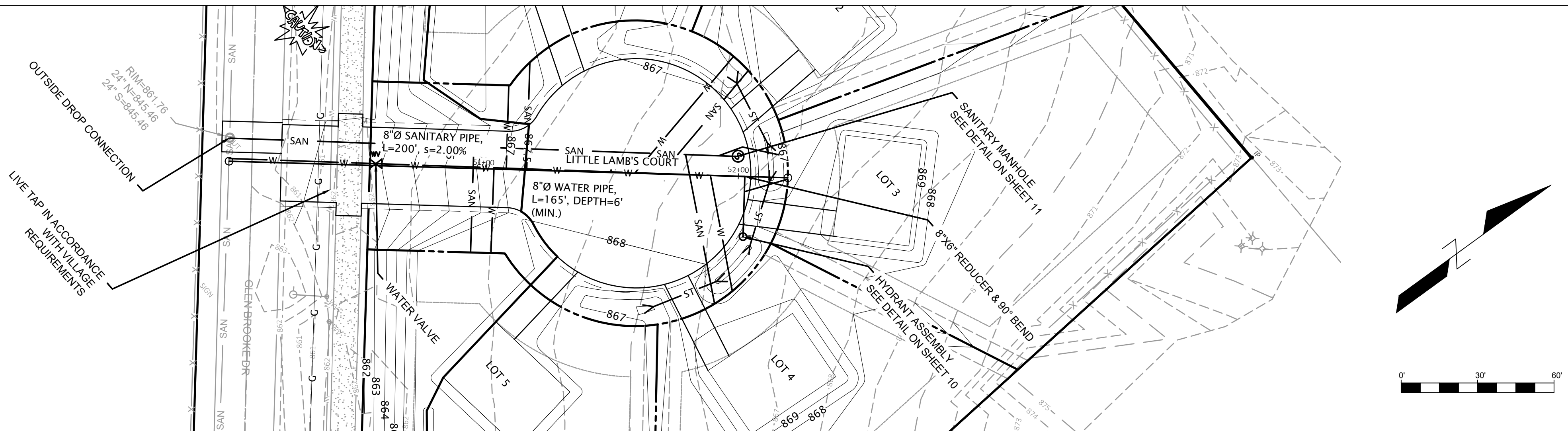
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**LITTLE LAMB'S CORNER
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UTILIYT PLAN

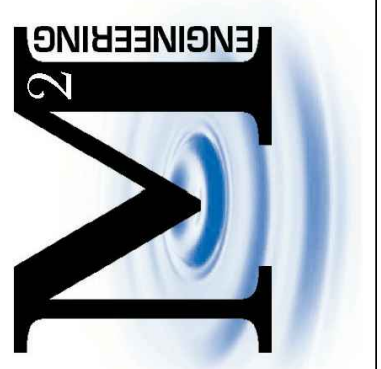
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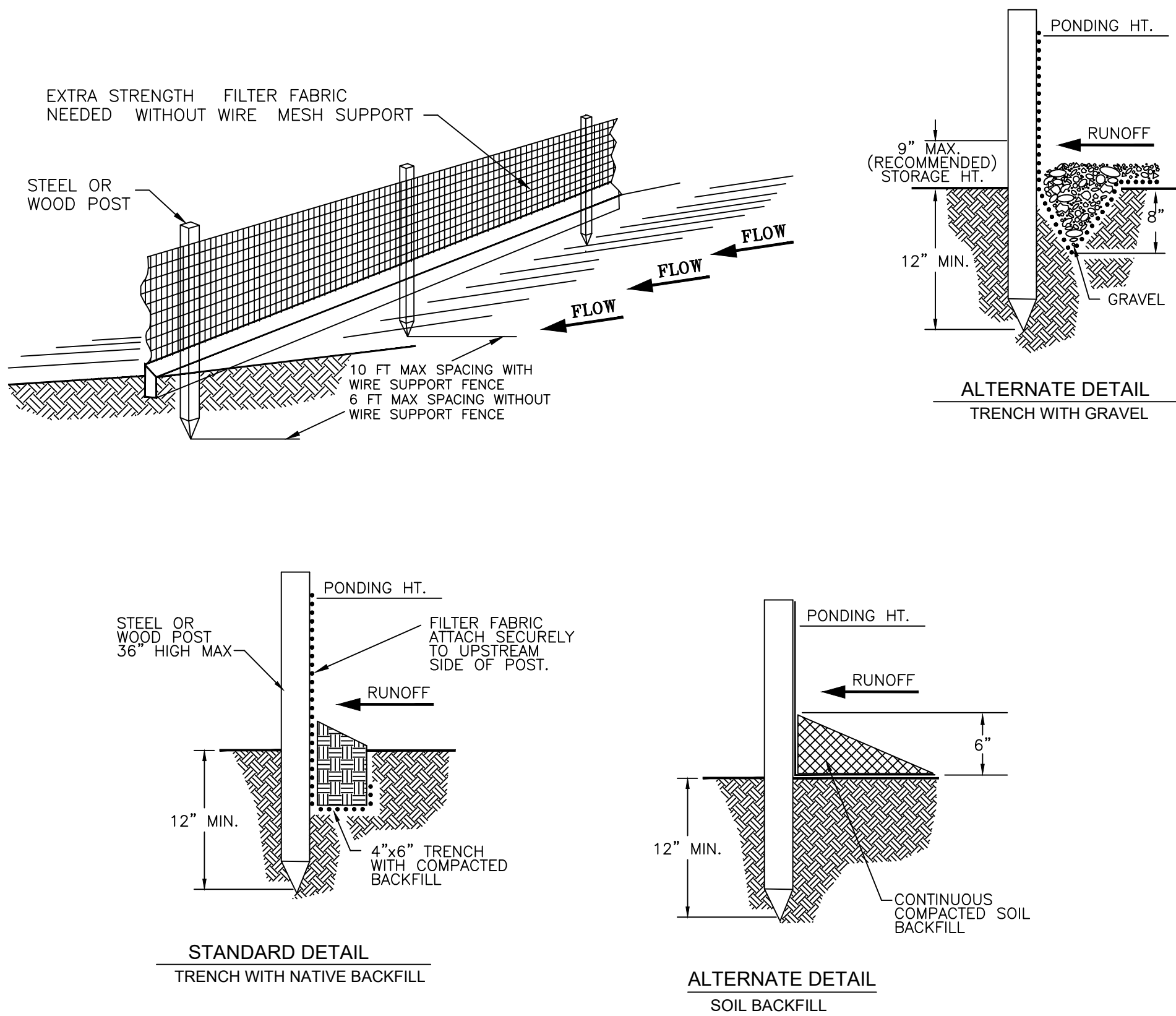
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**LITTLE LAMB'S CORNER
JACKSON, WI
ROADWAY/UTILITY
PLAN & PROFILE**

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SILT FENCE
N.T.S.

SILT FENCE:

1. THE HEIGHT OF A SILT FENCE SHALL NOT EXCEED 36 INCHES. STORAGE HEIGHT SHALL NEVER EXCEED 18".
2. THE FENCE LINE SHALL FOLLOW THE CONTOUR AS CLOSELY AS POSSIBLE.
3. IF POSSIBLE, THE GEOTEXTILE FABRIC SHALL BE CUT FROM A CONTINUOUS ROLL TO AVOID THE USE OF JOINTS, WHEN JOINTS ARE NECESSARY, FILTER CLOTH SHALL BE SPLICED ONLY AT A SUPPORT POST, WITH A MINIMUM 6-INCH OVERLAP AND BOTH ENDS SECURELY FASTENED TO THE POST.
4. POSTS SHALL BE SPACED A MAXIMUM OF 10 FEET APART AND DRIVEN SECURELY INTO THE GROUND (MINIMUM OF 12 INCHES); WHEN EXTRA STRENGTH FABRIC IS USED WITHOUT THE WIRE SUPPORT FENCE, POST SPACING SHALL NOT EXCEED 6 FEET.
5. THE ENDS OF THE FENCE SHALL BE TURNED UP HILL.
6. A TRENCH SHALL BE EXCAVATED APPROXIMATELY 4 INCHES WIDE AND 6 INCHES DEEP ALONG THE LINE OF POSTS AND UP SLOPE FROM THE BARRIER.
7. WHEN STANDARD-STRENGTH GEOTEXTILE FABRIC IS USED, A WIRE MESH SUPPORT FENCE SHALL BE FASTENED SECURELY TO THE UPSLOPE SIDE OF THE POSTS USING HEAVY DUTY WIRE STAPLES AT LEAST 1 INCH LONG, TIE WIRES OR HOG RINGS. THE WIRE SHALL EXTEND INTO THE TRENCH A MINIMUM OF 2 INCHES AND SHALL NOT EXTEND MORE THAN 36 INCHES ABOVE THE ORIGINAL GROUND SURFACE.
8. THE STANDARD-STRENGTH GEOTEXTILE FABRIC SHALL BE STAPLED OR WIRED TO THE FENCE, AND 6 INCHES OF THE FABRIC SHALL EXTEND INTO THE TRENCH. THE FABRIC SHALL NOT EXTEND MORE THAN 36 INCHES ABOVE THE ORIGINAL GROUND SURFACE. FABRIC SHALL NOT BE STAPLED TO EXISTING TREES.
9. THE TRENCH SHALL BE BACKFILLED AND/OR T ANY REQUIRED REPAIRS SHALL BE MADE IMMEDIATELY.

INSPECTION AND MAINTENANCE:

10. SILT FENCE AND FILTER BARRIERS SHALL BE INSPECTED WEEKLY AND AFTER EACH SIGNIFICANT RAINFALL 0.5-INCHES OR GREATER. REPAIRS SHALL BE MADE IMMEDIATELY.
11. SEDIMENT SHALL BE REMOVED WHEN IT REACHES 1/3 HEIGHT OF THE FENCE OR 9 INCHES MAXIMUM.
12. THE REMOVED SEDIMENT SHALL BE VEGETATED OR OTHERWISE STABILIZED.
13. REMOVE SILT FENCE AFTER THE SITE HAS BEEN STABILIZED.

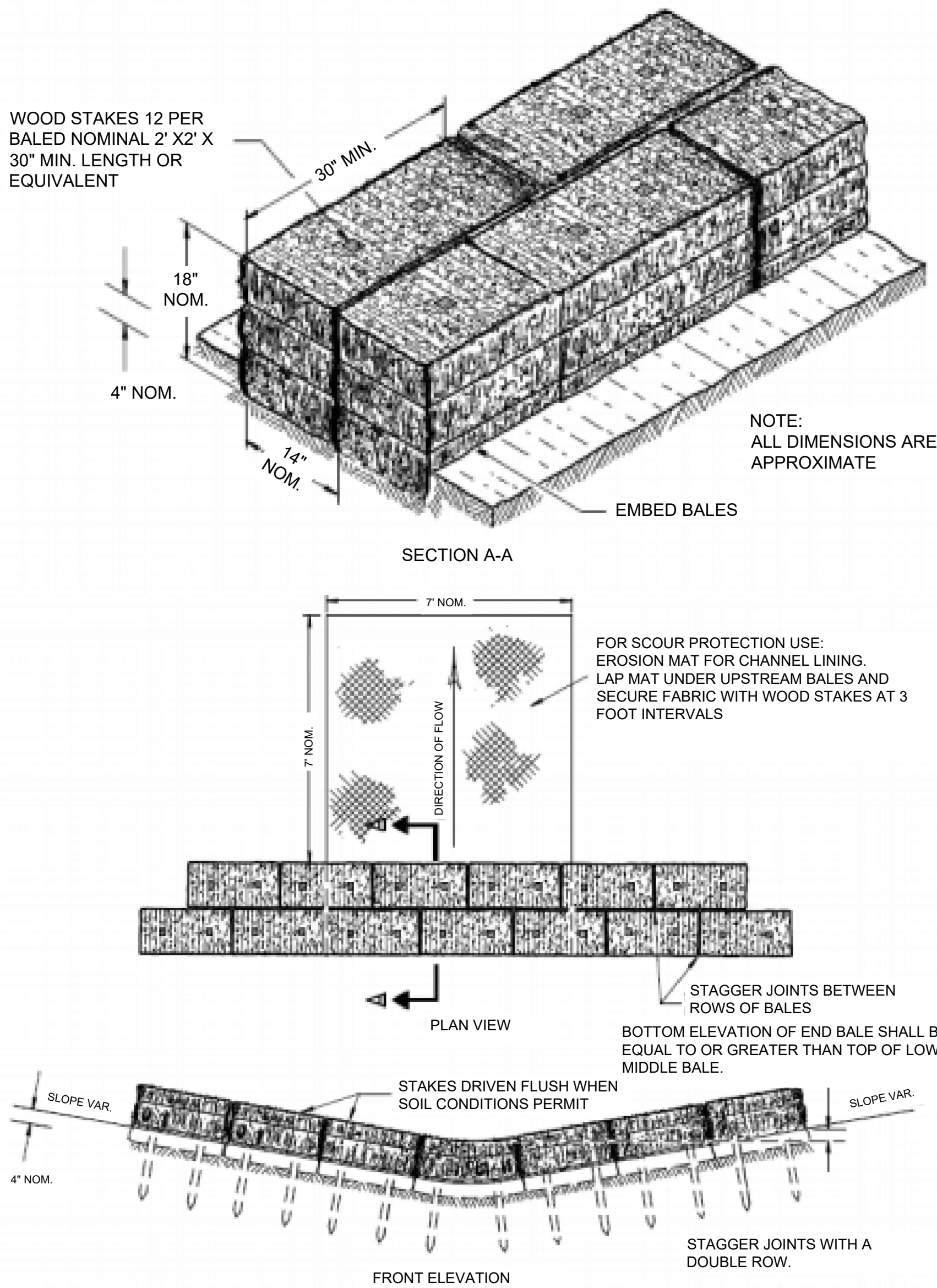
CONSTRUCTION SITE EROSION CONTROL REQUIREMENTS

1. ALL EROSION CONTROL MEASURES SHALL BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH THE WISCONSIN DNR TECHNICAL STANDARDS. PROTECT INLETS, CULVERTS, AND ADJACENT PROPERTIES WITH SILT FENCING UNTIL CONSTRUCTION IS COMPLETE.
2. INSTALL EROSION CONTROL MEASURES PRIOR TO ANY SITE WORK, INCLUDING GRADING OR DISTURBANCE OF EXISTING SURFACE MATERIALS AS SHOWN ON PLANS.
3. INSPECTIONS AND MAINTENANCE OF ALL EROSION CONTROL MEASURES SHALL BE ROUTINE (ONCE PER WEEK MINIMUM) TO ENSURE PROPER FUNCTION OF EROSION CONTROLS AT ALL TIMES. EROSION CONTROL MEASURES ARE TO BE IN WORKING ORDER AT THE END OF EACH WORKDAY.
4. INSPECT EROSION CONTROL MEASURES WITHIN 24 HOURS AFTER EACH SIGNIFICANT RAINFALL. REPAIR ANY DAMAGE OBSERVED DURING THE INSPECTION.
5. EROSION CONTROL MEASURES SHALL BE REMOVED ONLY AFTER SITE CONSTRUCTION IS COMPLETE WITH ALL SOIL SURFACES HAVING AN ESTABLISHED VEGETATIVE COVER.
6. INSTALL A GRAVEL TRACKING PAD AT EACH NON-PAVED CONSTRUCTION ENTRANCE TO THE SITE BEFORE ANY EARTH DISTURBING ACTIVITIES OCCUR. PAVED SURFACES ADJACENT TO CONSTRUCTION SITE VEHICLE ACCESS SHALL BE SWEEPED AND / OR SCRAPED DAILY TO REMOVE SOIL, DIRT AND / OR DUST.
7. APPLY WATER TO DRY AREAS TO MAINTAIN DUST CONTROL DURING CONTRUCTION. IF WATER APPLICATION IS INSUFFICIENT APPLY SOIL STABILIZING CONTROLS.
8. INSTALL CHECK DAMS WITHIN DRAINAGE DITCHES IN ACCORDANCE WITH BMP'S.
9. CONTRACTOR SHALL PERMANENTLY STABILIZE SITE, INSTALLING TOPSOIL, SEED, FERTILIZER AND MULCH IMMEDIATELY UPON COMPLETION OF CONSTRUCTION TO ESTABLISH VEGETATIVE COVER.

EROSION CONTROL FOR UTILITY CONSTRUCTION (STORM SEWER, SANITARY SEWER, WATER MAIN, ETC.):

10. PLACE EXCAVATED TRENCH MATERIAL ON THE HIGH SIDE OF THE TRENCH.
11. BACKFILL, COMPACT, AND STABILIZE THE TRENCH IMMEDIATELY AFTER PIPE CONSTRUCTION.
12. DISCHARGE TRENCH WATER INTO A SEDIMENTATION BASIN OR FILTERING TANK IN ACCORDANCE WITH BMP'S PRIOR TO RELEASE INTO THE STORM SEWER, RECEIVING STREAM, OR DRAINAGE DITCH.
13. CONTRACTOR TO SUPPLY AND MAINTAIN ALL PUMPS USED FOR DEWATERING AND BY-PASS PUMPING. CONTRACTOR IS REQUIRED TO HAVE EXTRA PUMPS ON SITE AND DUAL PUMPS ARE TO BE USED FOR OVERNIGHT PUMPING.
14. ALL CONCRETE WASH WATER SHOULD BE CONTAINED IN A DESIGNATED WASHOUT AREA DETERMINED BY THE FIELD ENGINEER.
15. ALL CONSTRUCTION TRAFFIC SHALL ENTER/LEAVE VIA SHASTA AVE TO THE SOUTH THROUGH PHASE I OF THE DEVELOPMENT AND VIA PORT WASHINGTON ROAD, UNLESS OTHERWISE SPECIFIED BY THE FIELD ENGINEER.
16. ALL PROPOSED WORK SHALL BE CONSTRUCTED WITH THE RIVER BEND MEADOWS- PHASE II DEVELOPMENT. WORK DONE BY OTHERS WILL BE CONSTRUCTED UNDER A SEPARATE CONTRACT.

FIGURE 3:
STRAW BALE DITCH CHECK



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**LITTLE LAMB'S CORNER
JACKSON, WI**

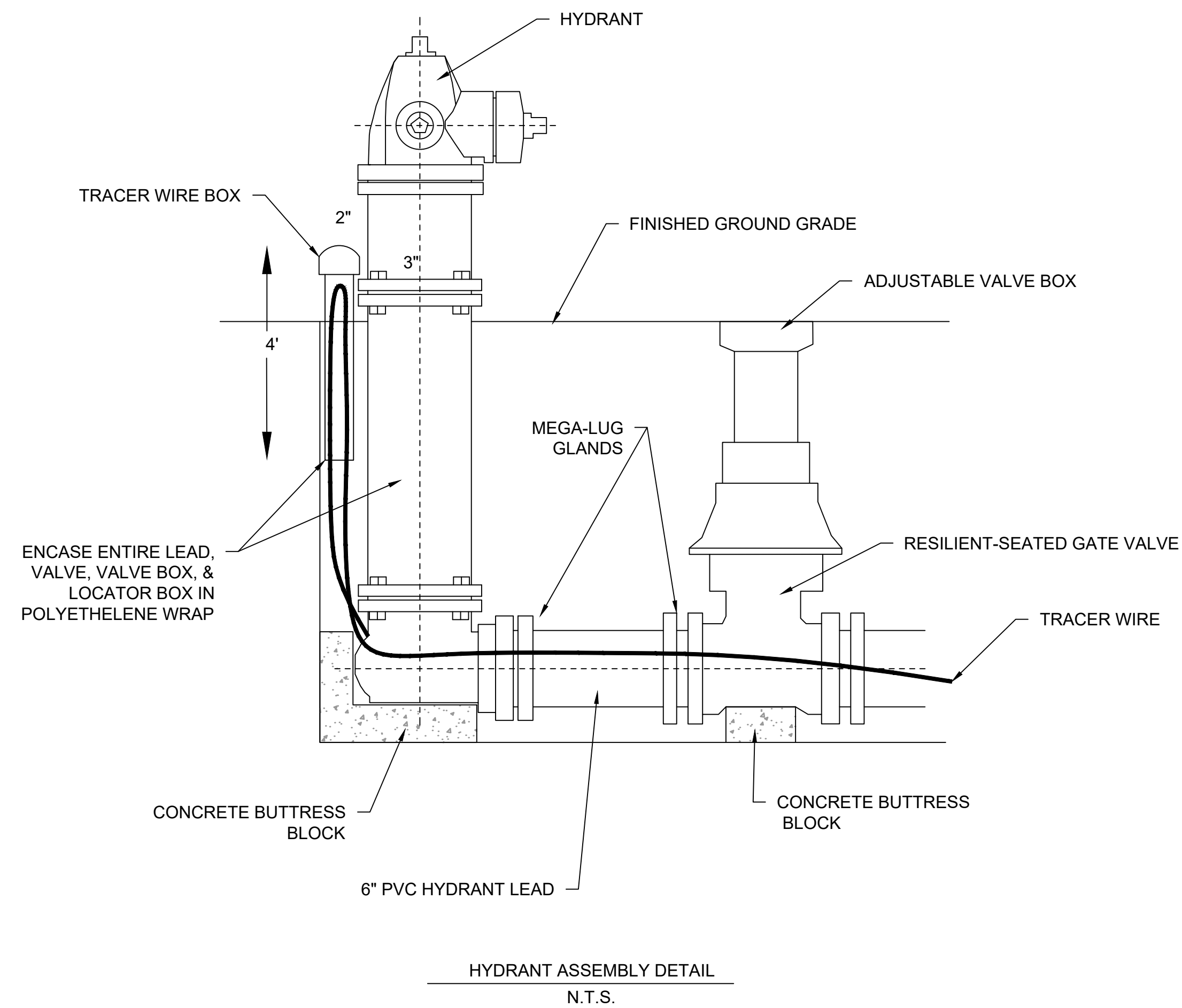
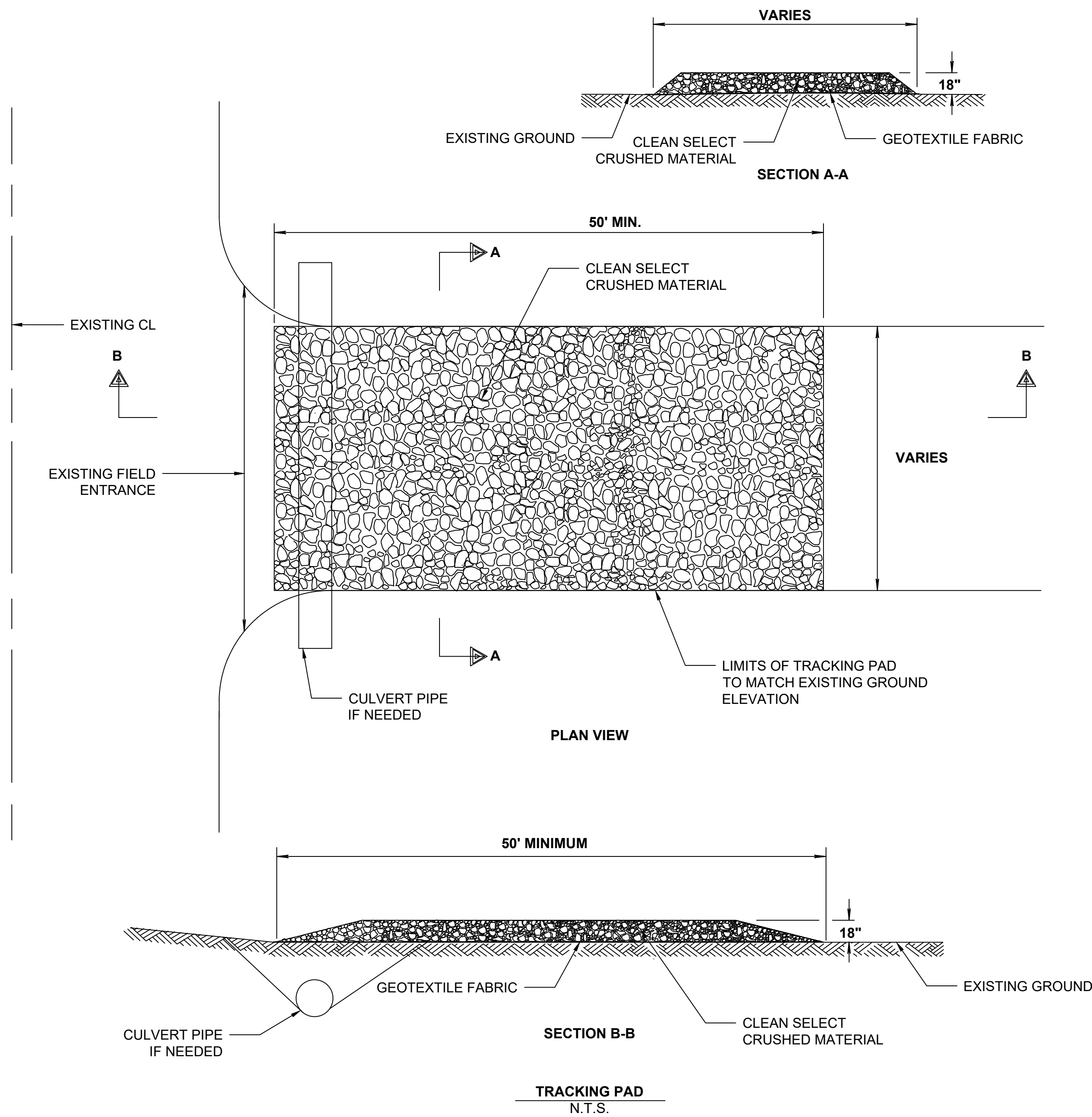
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VERT. SCALE:
PROJECT NO. 21-716-233

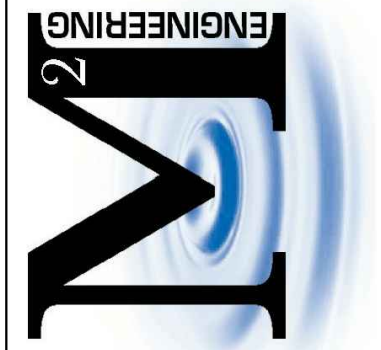
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DATE: REVISED BY:

SHEET
9 OF 12

- TRACKING PAD SPECIFICATIONS:
1. DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE WISDOT STANDARD SPECIFICATIONS.
 2. TRACKING PAD SHALL BE INSPECTED DAILY. DEFICIENT AREAS SHALL BE REPAIRED OR REPLACED IMMEDIATELY.
 3. TRACKING PAD SHALL BE THE FULL WIDTH OF THE EGRESS POINT.
 4. SURFACE WATER MUST BE PREVENTED FROM PASSING THROUGH THE TRACKING PAD. FLOW SHALL BE DIVERTED AWAY, AROUND OR CONVEYED UNDER THE TRACKING PAD.
 5. CULVERT PIPE OR OTHER BMP USED TO DIVERT WATER AWAY, AROUND OR UNDER THE TRACKING PAD SHALL BE DESIGNED TO CONVEY THE 2 YEAR - 24 HOUR EVENT.
 6. THE COST OF ADDITIONAL BMP'S TO DIVERT WATER ARE INCIDENTAL TO THE TRACKING PAD BID ITEM.
 7. TRACKING PAD SHALL BE REMOVED AFTER CONSTRUCTION IS COMPLETED.



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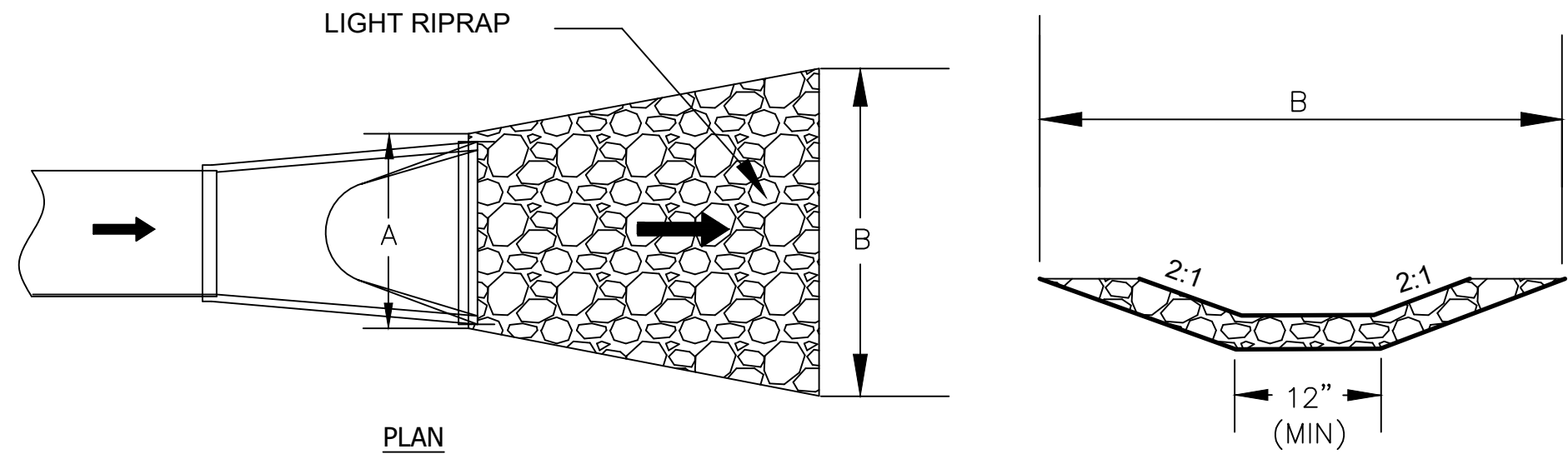
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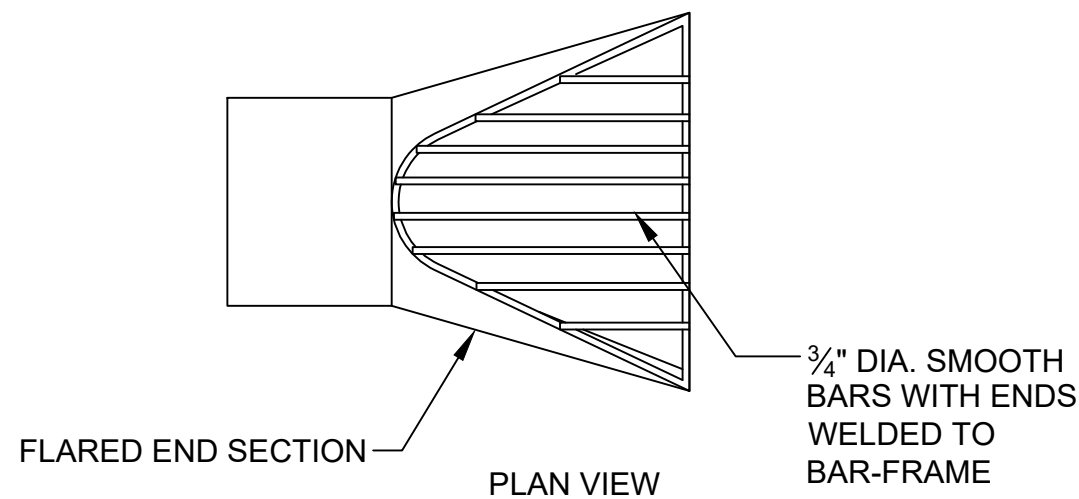
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10 OF 12



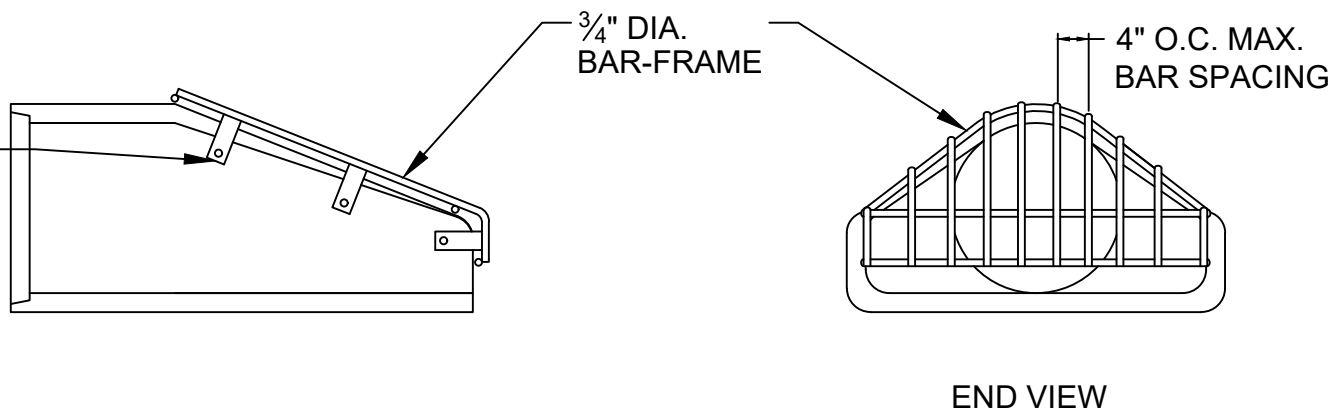
OUTLET	A	B	C	D	E
8" DIA.	3'	5'	8'	12"	8"
12" DIA.	4'	6'	12'	12"	12"
15" DIA.	4'	7'	14'	12"	15"
CURB CUT	3'	5'	8'	12"	N/A

LONGITUDINAL SECTION

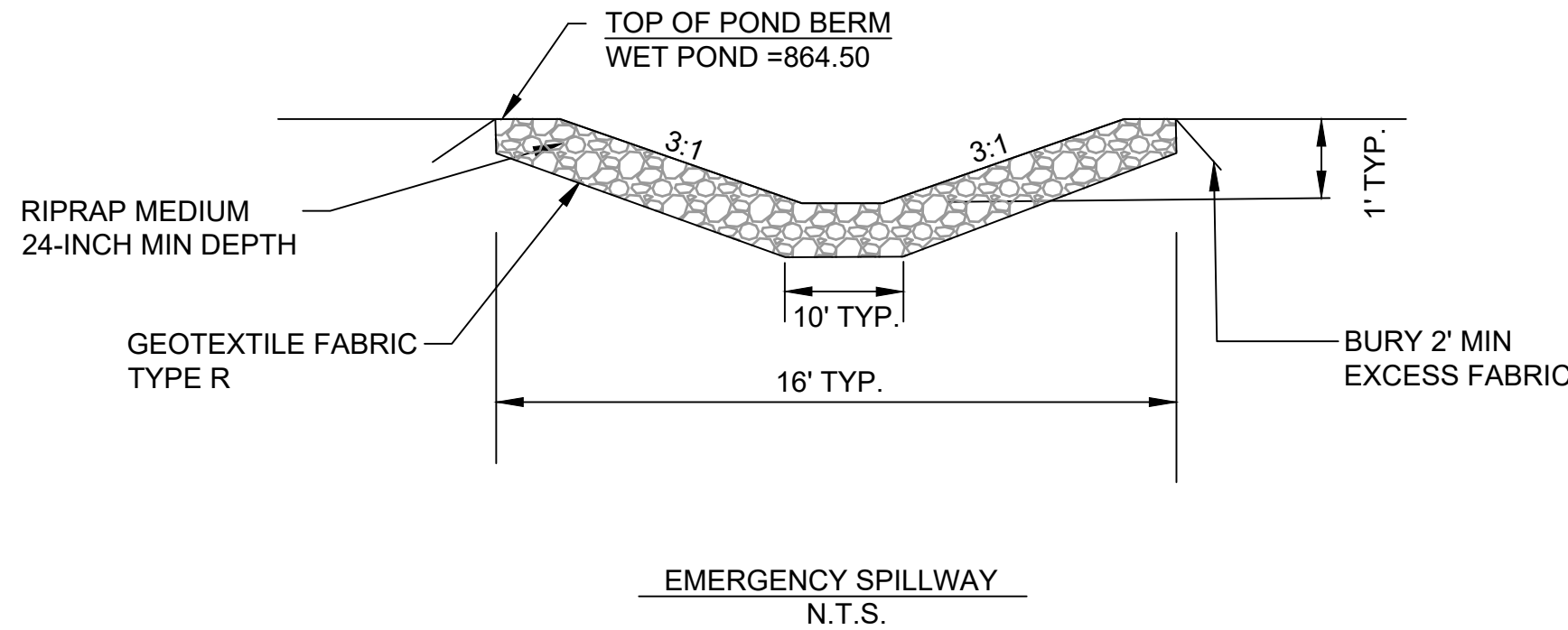
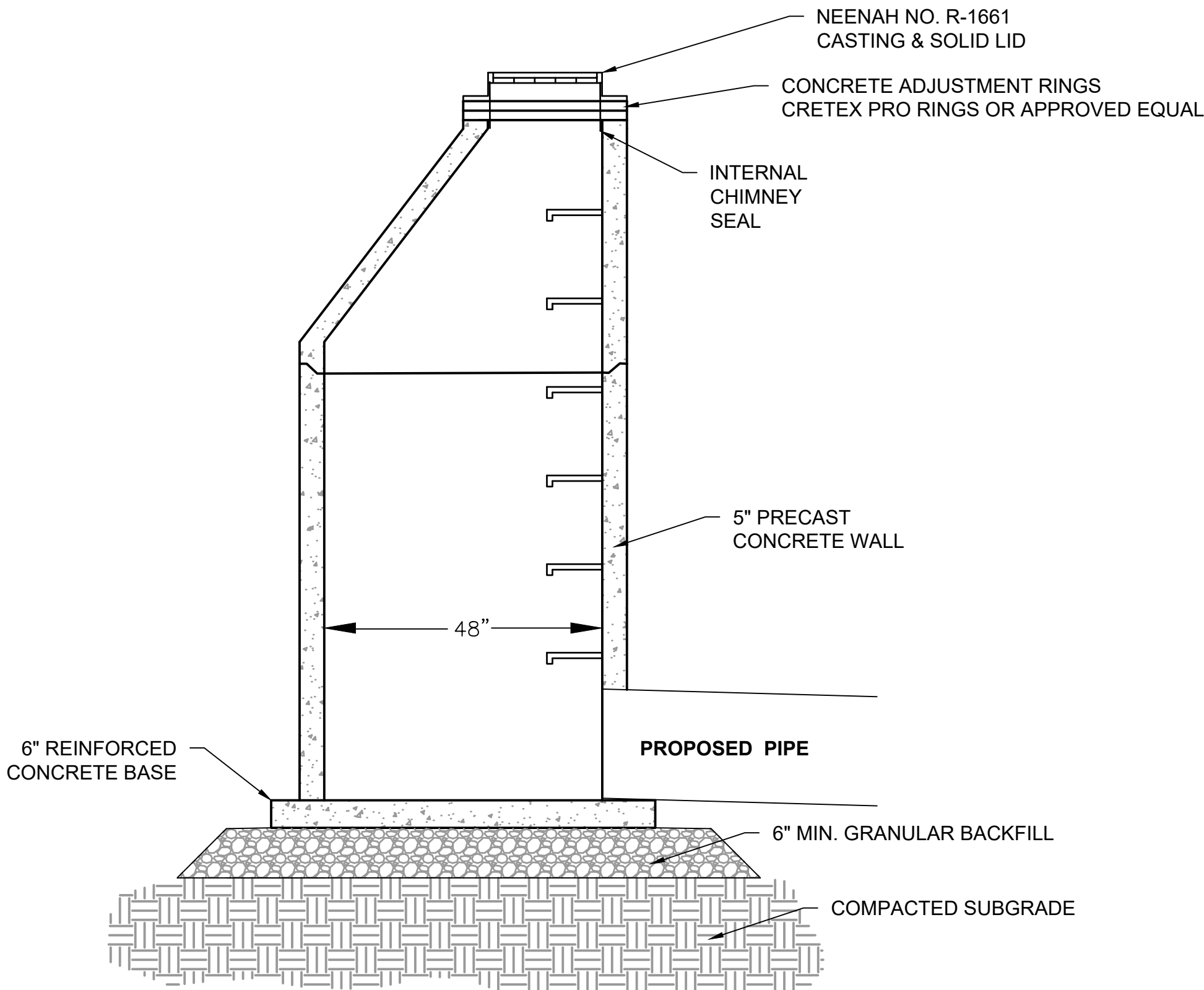
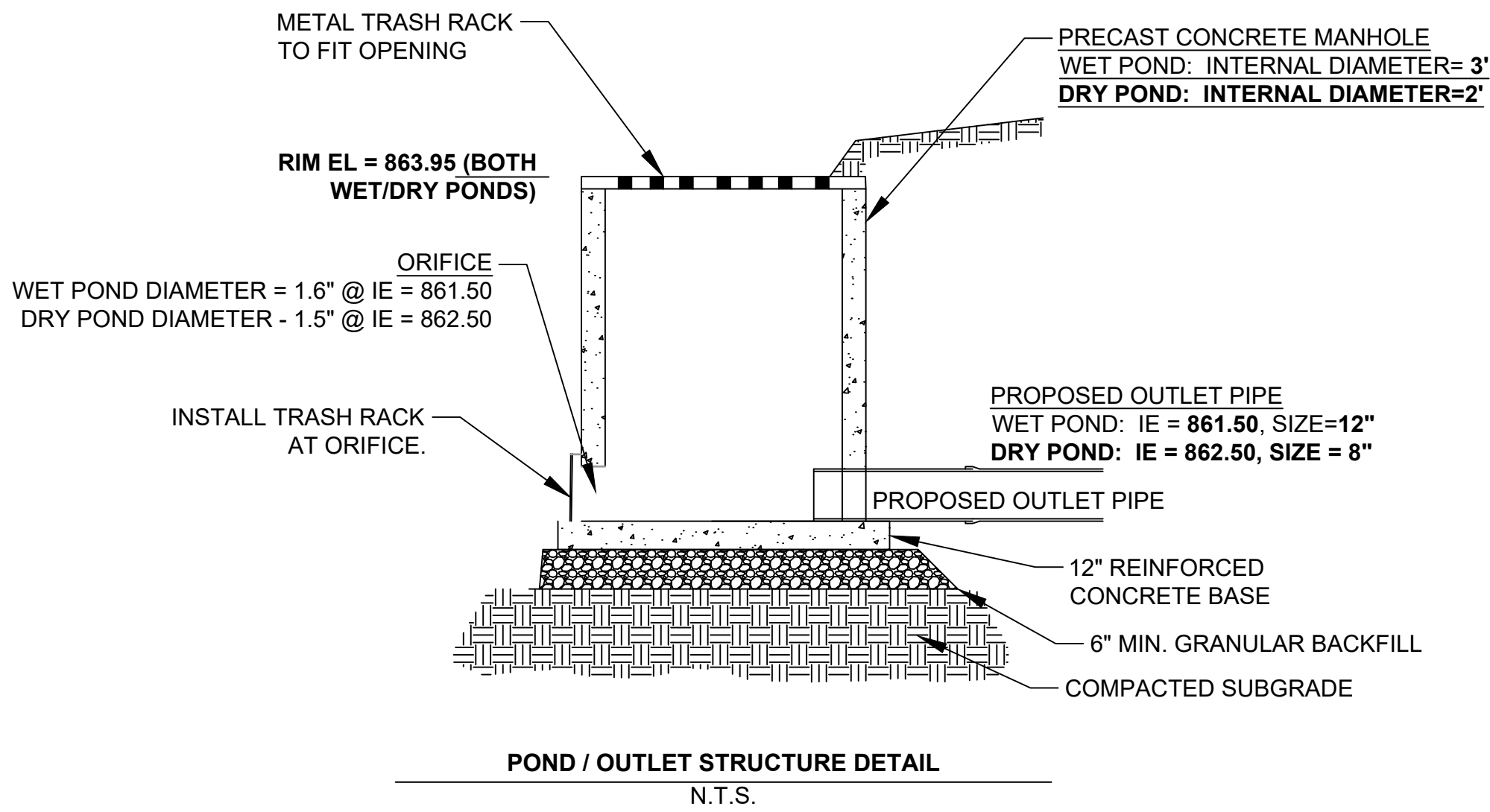
RIP-RAP DETAIL FOR STORM SEWER INLET/OUTLET
N.T.S.



2" x 5" ANCHOR STRIPS
WELDED TO 3/4" DIA.
BAR-FRAME 4 PLCS.
SPACED UNIFORMLY
FASTEN WITH 1/2" BOLT
AND NUTS.



TRASH RACK DETAIL FOR FLARED END SECTION
N.T.S.



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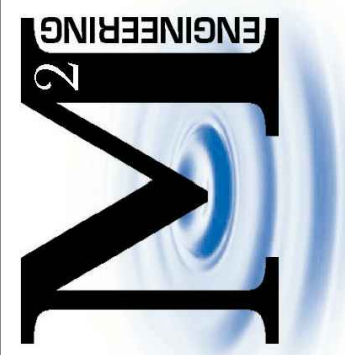
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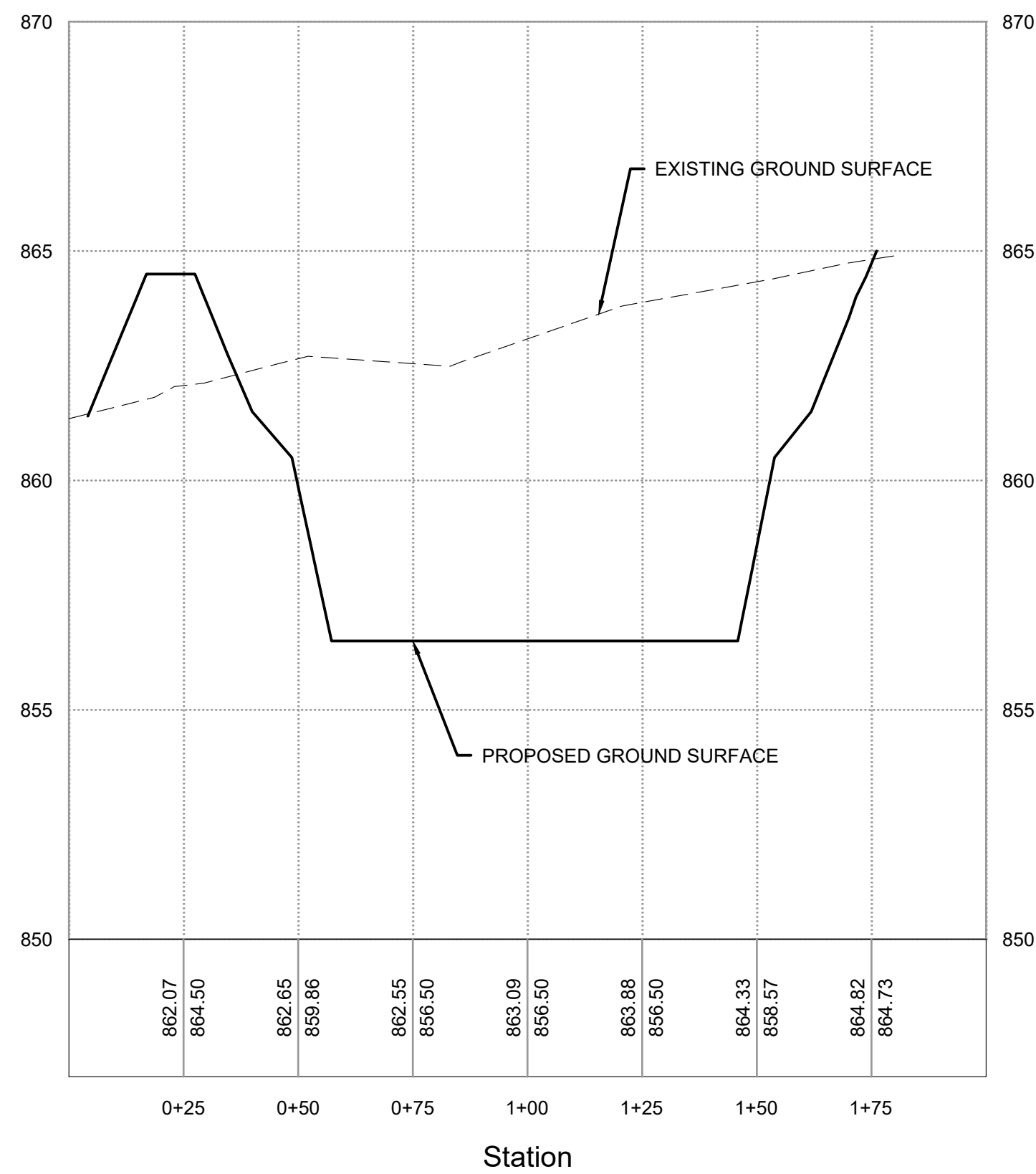
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CONSTRUCTION DETAILS

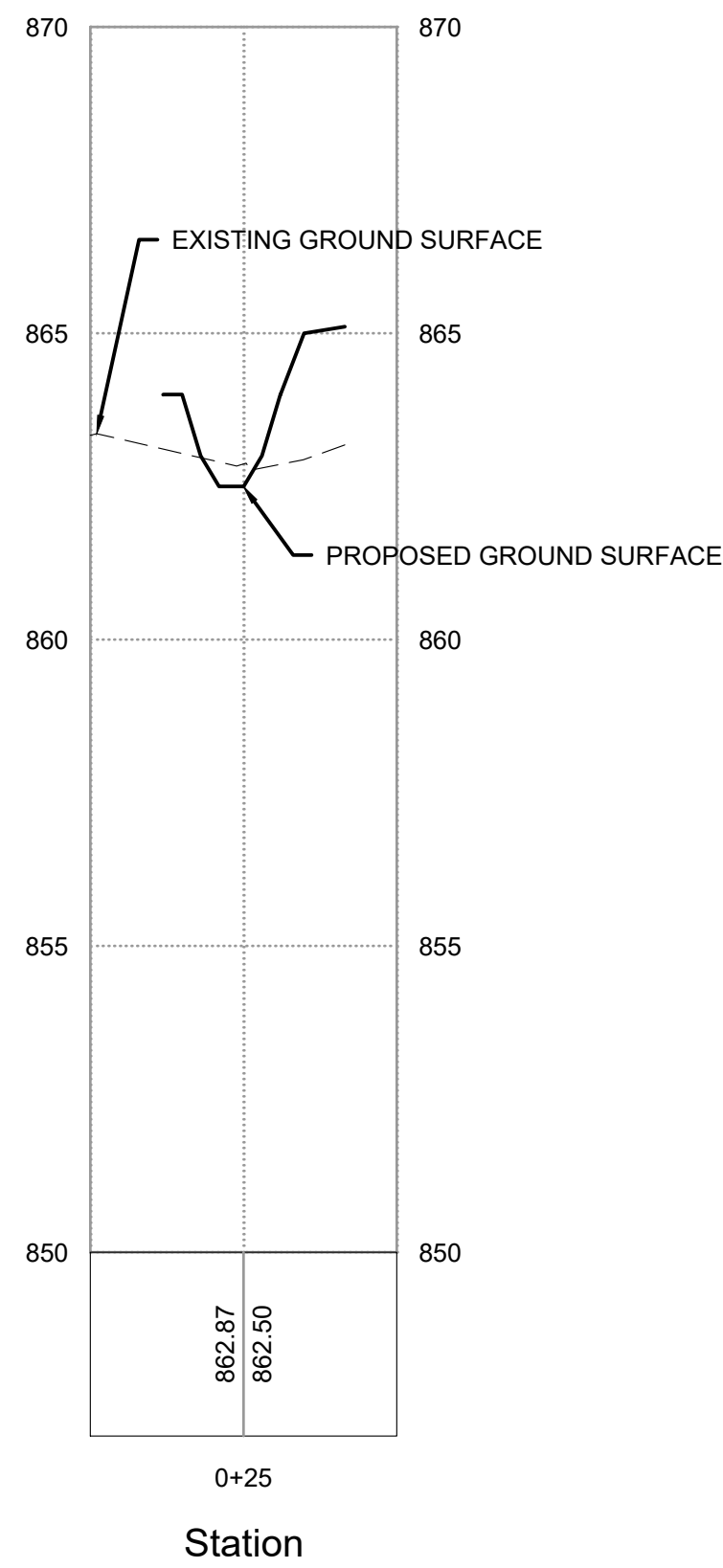
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SECTION A-A'
H: 1"=30'
V: 1"=5'



SECTION B-B'
H: 1"=30'
V: 1"=5'



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**LITTLE LAMB'S CORNER
JACKSON, WI
ROADWAY/UTILITY
PLAN & PROFILE**

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12 OF 12

APPENDIX 2
NRCS Soils Map

Custom Soil Resource Report Soil Map



Custom Soil Resource Report

MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

Special Point Features

 Blowout

 Borrow Pit

 Clay Spot

 Closed Depression

 Gravel Pit

 Gravelly Spot

 Landfill

 Lava Flow

 Marsh or swamp

 Mine or Quarry

 Miscellaneous Water

 Perennial Water

 Rock Outcrop

 Saline Spot

 Sandy Spot

 Severely Eroded Spot

 Sinkhole

 Slide or Slip

 Sodic Spot

 Spoil Area

 Stony Spot

 Very Stony Spot

 Wet Spot

 Other

 Special Line Features

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: Washington County, Wisconsin
Survey Area Data: Version 20, Jun 8, 2020

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

Date(s) aerial images were photographed: Apr 29, 2011—Sep 6, 2011

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.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
AtA	Ashkum silty clay loam, 0 to 2 percent slopes	0.2	7.0%
FaA	Fabius loam, 1 to 3 percent slopes	0.0	1.6%
MtA	Mequon silt loam, 1 to 3 percent slopes	2.6	90.9%
Mzb	Montgomery silty clay loam	0.0	0.5%
Totals for Area of Interest		2.9	100.0%

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

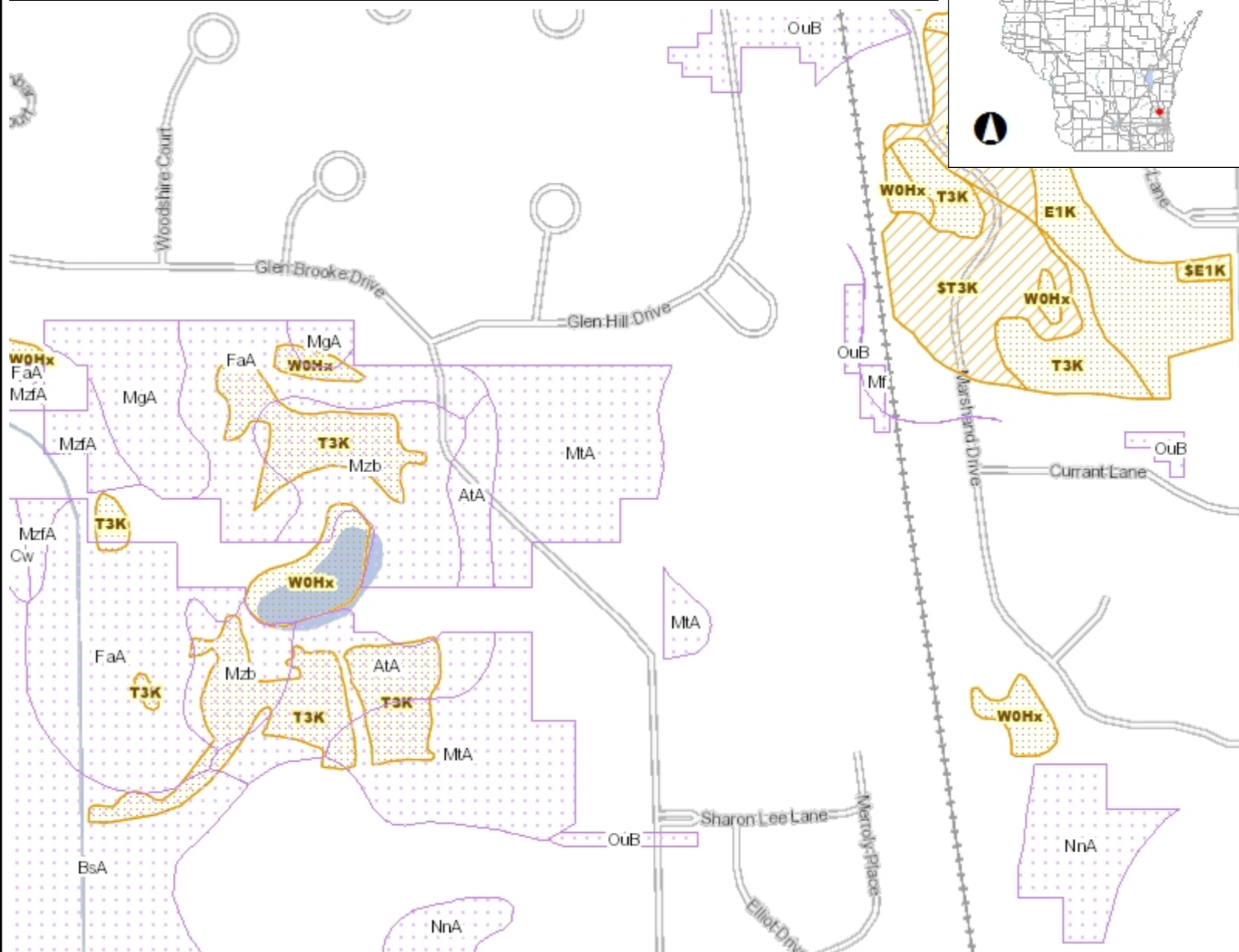
Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate

APPENDIX 3
WDNR Wetland Viewer Map



Surface Water Data Viewer Map



Legend

- Wetland Indicators
- Wetland Class Areas
- Wetland Class Points
 - Dammed pond
 - Excavated pond
 - Filled/draind wetland
 - Wetland too small to delineate
 - Filled excavated pond
- Filled Points
- Wetland Class Areas
- Filled Areas
- Wetland Class Areas
- Wetland Class Points
 - Dammed pond
 - Excavated pond
 - Filled/draind wetland
 - Wetland too small to delineate
 - Filled excavated pond
- Filled Points
- Wetland Class Areas
- Filled Areas
- Wetland Identifications and Confirmations
- NRCS Wetspots
- Municipality
- State Boundaries
- County Boundaries
- Major Roads
 - Interstate Highway
 - State Highway
 - US Highway
- County and Local Roads
 - County HWY
 - Local Road
- Railroads

0.1 0 0.06 0.1 Miles

NAD_1983_HARN_Wisconsin_TM

1: 3,960

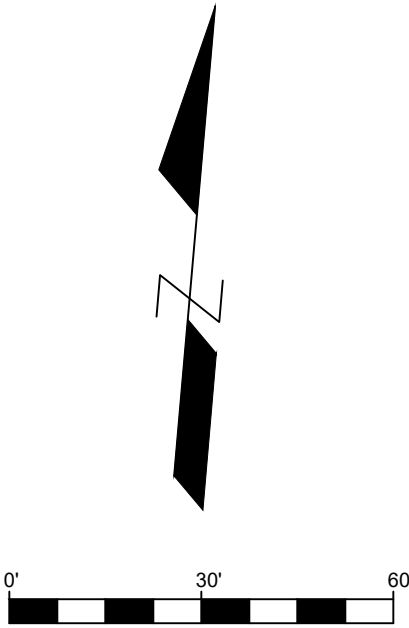
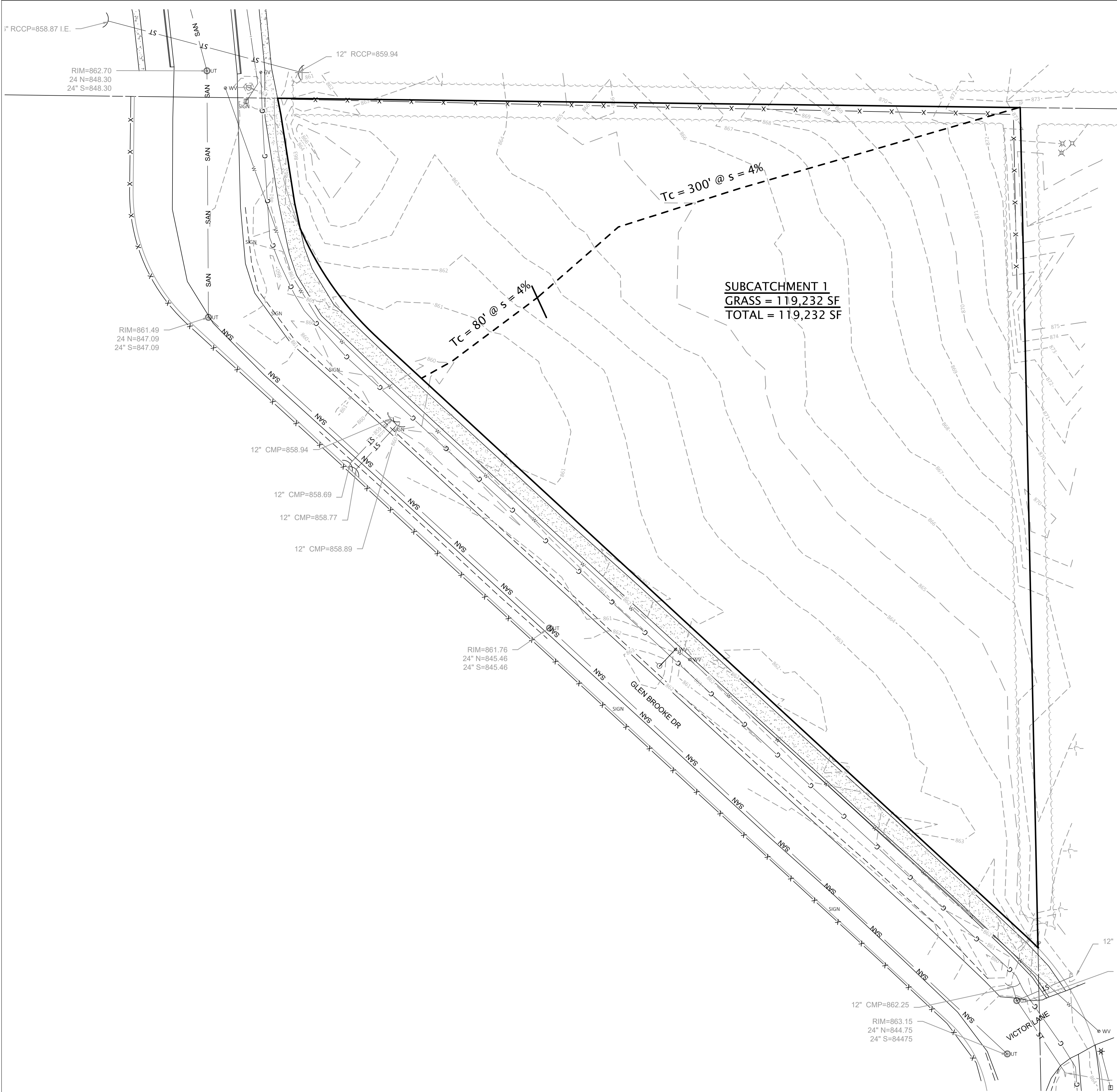
DISCLAIMER: The information shown on these maps has been obtained from various sources, and are of varying age, reliability and resolution. These maps are not intended to be used for navigation, nor are these maps an authoritative source of information about legal land ownership or public access. No 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/>

Notes

APPENDIX 4

Hydrology Plan Exhibits

- Existing Conditions
- Proposed Conditions



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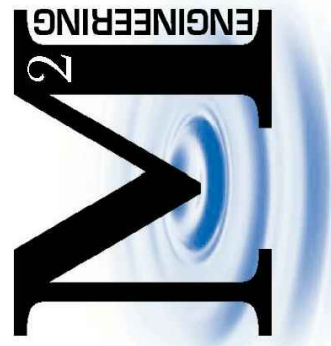
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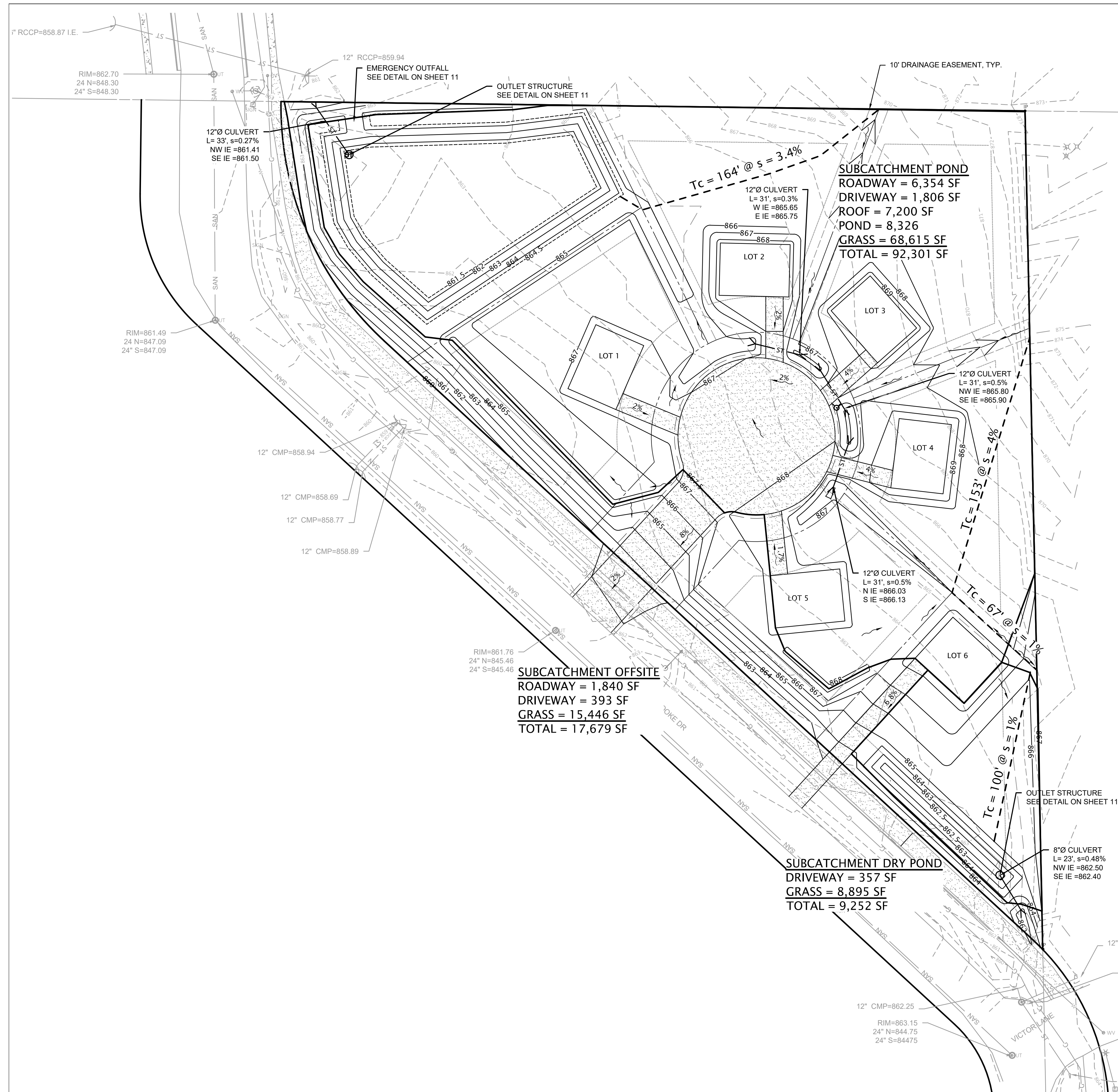
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JACKSON, WI

EXISTING CONDITIONS
HYDROLOGY EXHIBIT

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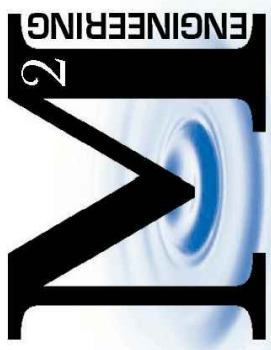
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PROPOSED CONDITIONS HYDROLOGY EXHIBIT

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H2^{OF} 2

APPENDIX 5
NOAA, Atlas 14 Precipitation Table

NOAA Atlas 14, Volume 8, Version 2

Location name: Jackson, Wisconsin, USA*



Latitude: 43.3162°, Longitude:
-88.1672°

Elevation: 866.13 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 & aeriels](#)

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches) ¹										
Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	0.336 (0.268-0.414)	0.406 (0.324-0.501)	0.518 (0.411-0.639)	0.607 (0.479-0.751)	0.725 (0.551-0.909)	0.812 (0.606-1.03)	0.896 (0.681-1.15)	0.977 (0.681-1.28)	1.08 (0.726-1.44)	1.15 (0.760-1.56)
10-min	0.492 (0.392-0.606)	0.595 (0.474-0.733)	0.758 (0.602-0.936)	0.889 (0.702-1.10)	1.06 (0.808-1.33)	1.19 (0.887-1.51)	1.31 (0.949-1.69)	1.43 (0.997-1.87)	1.58 (1.06-2.11)	1.69 (1.11-2.28)
15-min	0.600 (0.478-0.739)	0.726 (0.578-0.894)	0.925 (0.734-1.14)	1.08 (0.856-1.34)	1.30 (0.985-1.62)	1.45 (1.08-1.84)	1.60 (1.16-2.06)	1.75 (1.22-2.28)	1.93 (1.30-2.57)	2.06 (1.36-2.79)
30-min	0.810 (0.646-0.998)	0.986 (0.785-1.22)	1.27 (1.00-1.56)	1.49 (1.18-1.84)	1.79 (1.36-2.24)	2.00 (1.49-2.54)	2.21 (1.60-2.85)	2.42 (1.68-3.16)	2.67 (1.80-3.56)	2.86 (1.88-3.86)
60-min	1.04 (0.829-1.28)	1.26 (1.00-1.55)	1.62 (1.28-2.00)	1.92 (1.51-2.37)	2.34 (1.79-2.95)	2.66 (1.99-3.39)	2.99 (2.17-3.87)	3.32 (2.32-4.37)	3.77 (2.54-5.05)	4.11 (2.71-5.56)
2-hr	1.27 (1.02-1.55)	1.53 (1.23-1.87)	1.97 (1.58-2.41)	2.35 (1.87-2.88)	2.89 (2.24-3.63)	3.32 (2.52-4.21)	3.76 (2.76-4.84)	4.23 (2.99-5.54)	4.86 (3.32-6.48)	5.36 (3.56-7.20)
3-hr	1.43 (1.16-1.73)	1.70 (1.38-2.07)	2.18 (1.76-2.65)	2.61 (2.09-3.18)	3.24 (2.54-4.08)	3.76 (2.88-4.76)	4.31 (3.20-5.55)	4.90 (3.50-6.42)	5.73 (3.94-7.64)	6.40 (4.28-8.56)
6-hr	1.73 (1.42-2.08)	2.01 (1.64-2.41)	2.52 (2.06-3.04)	3.01 (2.44-3.63)	3.76 (3.00-4.74)	4.41 (3.43-5.58)	5.12 (3.85-6.57)	5.90 (4.26-7.70)	7.02 (4.89-9.32)	7.94 (5.36-10.6)
12-hr	2.06 (1.70-2.44)	2.33 (1.93-2.77)	2.86 (2.36-3.41)	3.37 (2.77-4.03)	4.19 (3.40-5.25)	4.92 (3.87-6.18)	5.72 (4.35-7.30)	6.61 (4.83-8.59)	7.92 (5.57-10.5)	9.00 (6.13-11.9)
24-hr	2.35 (1.98-2.77)	2.67 (2.23-3.14)	3.26 (2.72-3.85)	3.83 (3.18-4.54)	4.75 (3.88-5.88)	5.54 (4.41-6.90)	6.43 (4.94-8.13)	7.41 (5.47-9.53)	8.83 (6.27-11.6)	10.0 (6.88-13.1)
2-day	2.64 (2.24-3.08)	3.04 (2.58-3.55)	3.77 (3.19-4.41)	4.46 (3.74-5.23)	5.51 (4.54-6.74)	6.41 (5.14-7.88)	7.39 (5.73-9.24)	8.46 (6.29-10.8)	10.00 (7.16-13.0)	11.3 (7.81-14.6)
3-day	2.90 (2.48-3.37)	3.31 (2.83-3.84)	4.06 (3.46-4.72)	4.77 (4.03-5.56)	5.85 (4.85-7.11)	6.78 (5.47-8.29)	7.79 (6.08-9.69)	8.90 (6.66-11.3)	10.5 (7.55-13.6)	11.8 (8.23-15.3)
4-day	3.13 (2.69-3.61)	3.55 (3.04-4.10)	4.31 (3.69-4.99)	5.03 (4.27-5.84)	6.13 (5.11-7.42)	7.08 (5.74-8.61)	8.10 (6.35-10.0)	9.23 (6.94-11.7)	10.8 (7.84-14.0)	12.2 (8.52-15.7)
7-day	3.67 (3.18-4.20)	4.16 (3.60-4.77)	5.04 (4.35-5.78)	5.83 (5.00-6.71)	7.01 (5.87-8.38)	8.00 (6.53-9.63)	9.06 (7.15-11.1)	10.2 (7.72-12.8)	11.8 (8.61-15.1)	13.1 (9.27-16.9)
10-day	4.16 (3.63-4.74)	4.72 (4.11-5.38)	5.68 (4.93-6.49)	6.54 (5.64-7.49)	7.79 (6.54-9.22)	8.81 (7.22-10.5)	9.89 (7.83-12.0)	11.0 (8.38-13.7)	12.6 (9.22-16.0)	13.9 (9.86-17.8)
20-day	5.67 (5.01-6.40)	6.36 (5.61-7.18)	7.51 (6.60-8.49)	8.48 (7.41-9.62)	9.84 (8.32-11.5)	10.9 (9.02-12.8)	12.0 (9.58-14.4)	13.1 (10.0-16.1)	14.6 (10.8-18.4)	15.8 (11.3-20.1)
30-day	7.01 (6.23-7.85)	7.82 (6.95-8.77)	9.13 (8.08-10.3)	10.2 (8.98-11.5)	11.7 (9.91-13.4)	12.8 (10.6-14.9)	13.9 (11.1-16.5)	15.0 (11.5-18.2)	16.4 (12.1-20.4)	17.5 (12.6-22.1)
45-day	8.76 (7.84-9.75)	9.76 (8.73-10.9)	11.3 (10.1-12.7)	12.6 (11.1-14.1)	14.2 (12.1-16.2)	15.4 (12.8-17.8)	16.5 (13.3-19.5)	17.6 (13.6-21.2)	18.9 (14.0-23.3)	19.8 (14.4-25.0)
60-day	10.3 (9.25-11.4)	11.5 (10.3-12.7)	13.3 (11.9-14.8)	14.7 (13.1-16.4)	16.5 (14.1-18.7)	17.8 (14.9-20.4)	19.0 (15.3-22.2)	20.0 (15.5-24.0)	21.2 (15.8-26.1)	22.0 (16.0-27.7)

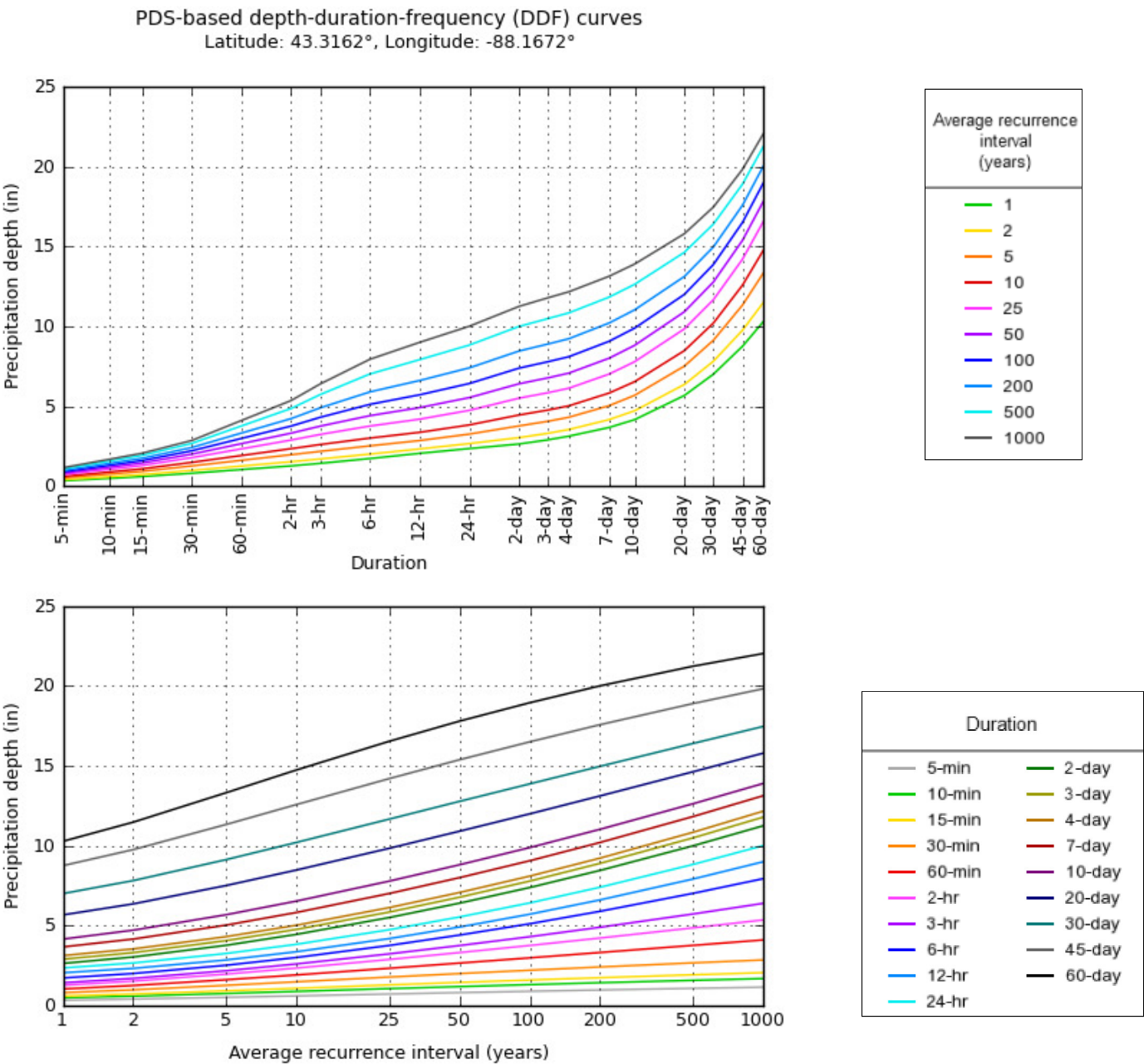
¹ Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

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.

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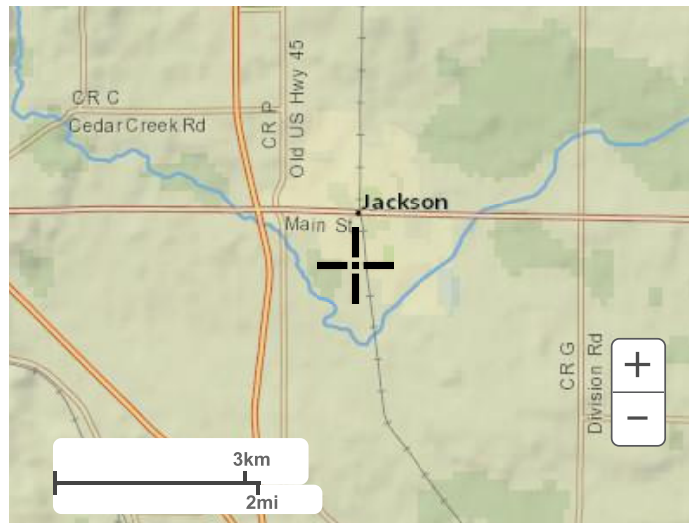
PF graphical

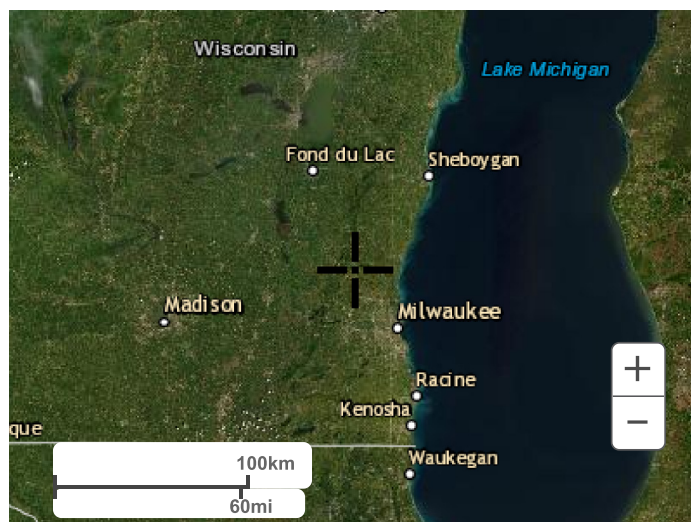


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Maps & aerials

Small scale terrain

**Large scale terrain****Large scale map****Large scale aerial**

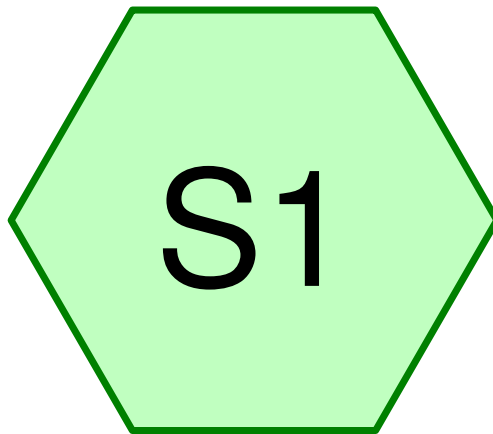


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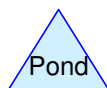
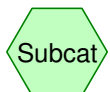
[US Department of Commerce](#)
[National Oceanic and Atmospheric Administration](#)
[National Weather Service](#)
[National Water Center](#)
1325 East West Highway
Silver Spring, MD 20910
Questions?: HDSC.Questions@noaa.gov

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APPENDIX 6 – HYDROCAD CALCULATIONS
Existing Site (1-year, 2-year, 5 year, 100 year)



S1



Routing Diagram for 21-08 existing Litte Lamb's Corner 002
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21-08 existing Litte Lamb's Corner 002

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Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
2.737	71	GRASS (S1)
2.737	71	TOTAL AREA

21-08 existing Litte Lamb's Corner 002

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Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
0.000	HSG B	
0.000	HSG C	
0.000	HSG D	
2.737	Other	S1
2.737		TOTAL AREA

21-08 existing Litte Lamb's Corner 002

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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	0.000	0.000	2.737	2.737	GRASS	S1
0.000	0.000	0.000	0.000	2.737	2.737	TOTAL AREA	

21-08 existing Litte Lamb's Corner 002*MSE 24-hr 3 1 yr - Jackson Rainfall=2.35"*

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Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points x 6

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

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

Subcatchment S1: S1

Runoff Area=119,232 sf 0.00% Impervious Runoff Depth>0.42"

Flow Length=380' Slope=0.0400 '/' Tc=20.5 min CN=71 Runoff=1.00 cfs 0.095 af

Total Runoff Area = 2.737 ac Runoff Volume = 0.095 af Average Runoff Depth = 0.42"**100.00% Pervious = 2.737 ac 0.00% Impervious = 0.000 ac**

21-08 existing Litte Lamb's Corner 002

MSE 24-hr 3 1 yr - Jackson Rainfall=2.35"

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Summary for Subcatchment S1: S1

Runoff = 1.00 cfs @ 12.36 hrs, Volume= 0.095 af, Depth> 0.42"

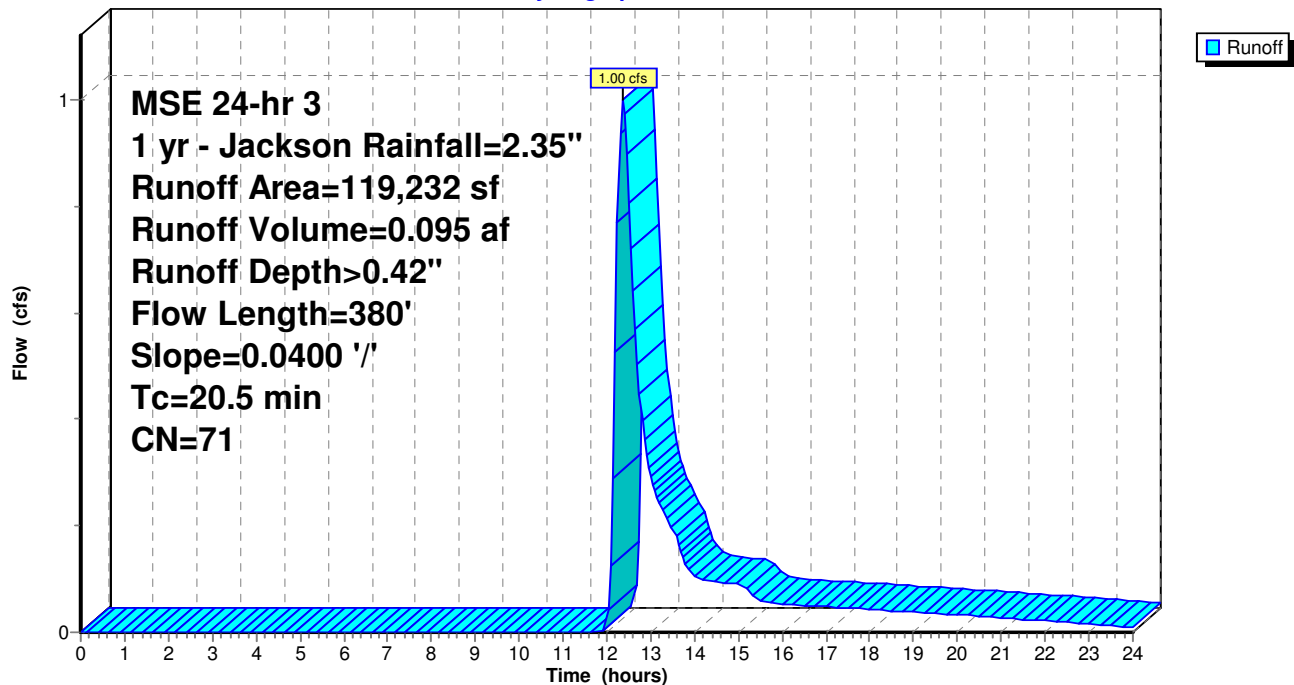
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 1 yr - Jackson Rainfall=2.35"

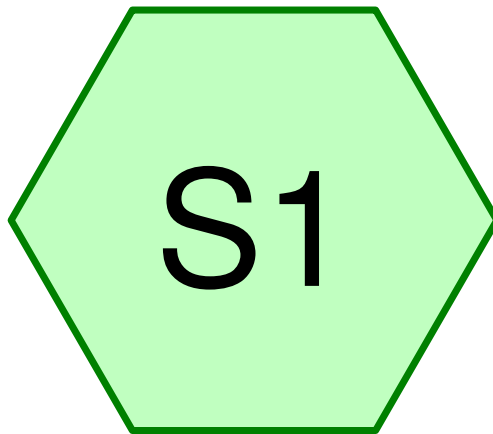
	Area (sf)	CN	Description
*	119,232	71	GRASS
	119,232		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.1	300	0.0400	0.25		Sheet Flow,
					Grass: Short n= 0.150 P2= 2.54"
0.4	80	0.0400	3.00		Shallow Concentrated Flow,
					Grassed Waterway Kv= 15.0 fps
20.5	380	Total			

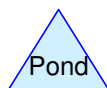
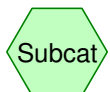
Subcatchment S1: S1

Hydrograph





S1



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21-08 existing Litte Lamb's Corner 002

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Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
2.737	71	GRASS (S1)
2.737	71	TOTAL AREA

21-08 existing Litte Lamb's Corner 002

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Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
0.000	HSG B	
0.000	HSG C	
0.000	HSG D	
2.737	Other	S1
2.737		TOTAL AREA

21-08 existing Litte Lamb's Corner 002

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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	0.000	0.000	2.737	2.737	GRASS	S1
0.000	0.000	0.000	0.000	2.737	2.737	TOTAL AREA	

21-08 existing Litte Lamb's Corner 002*MSE 24-hr 3 2 yr - Jackson Rainfall=2.67"*

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Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points x 6

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

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

Subcatchment S1: S1

Runoff Area=119,232 sf 0.00% Impervious Runoff Depth>0.58"

Flow Length=380' Slope=0.0400 '/' Tc=20.5 min CN=71 Runoff=1.50 cfs 0.132 af

Total Runoff Area = 2.737 ac Runoff Volume = 0.132 af Average Runoff Depth = 0.58"**100.00% Pervious = 2.737 ac 0.00% Impervious = 0.000 ac**

21-08 existing Litte Lamb's Corner 002

MSE 24-hr 3 2 yr - Jackson Rainfall=2.67"

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Summary for Subcatchment S1: S1

Runoff = 1.50 cfs @ 12.35 hrs, Volume= 0.132 af, Depth> 0.58"

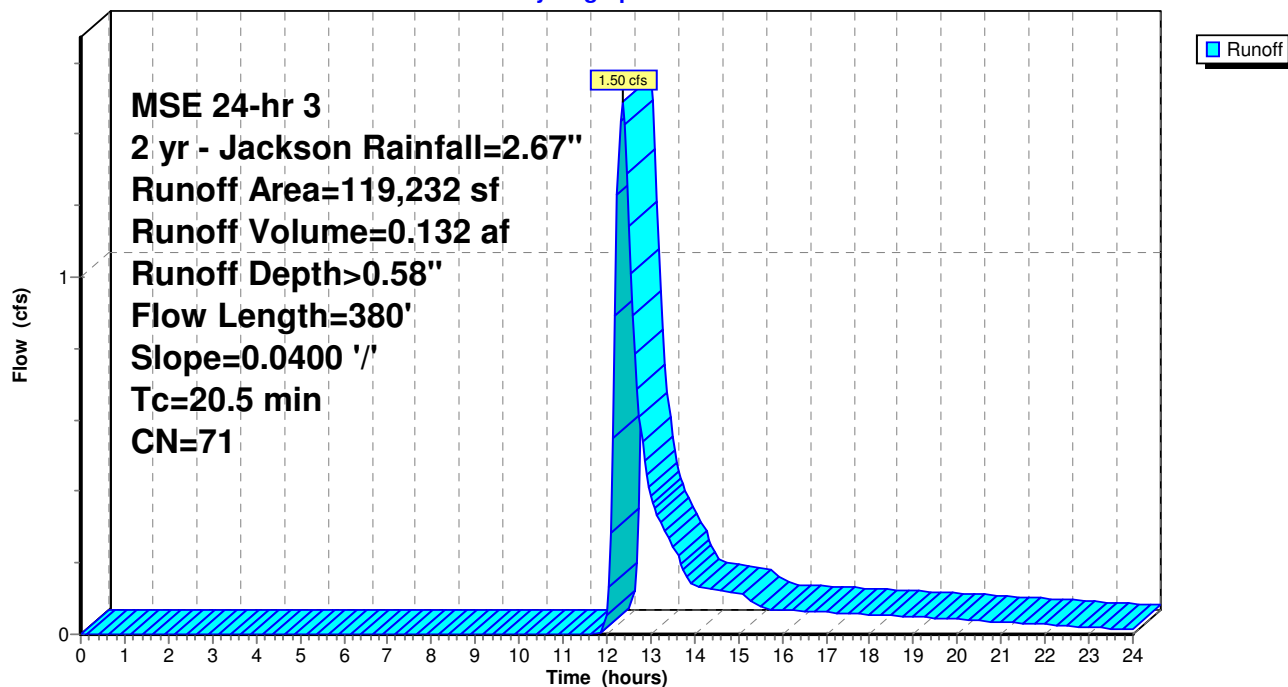
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 2 yr - Jackson Rainfall=2.67"

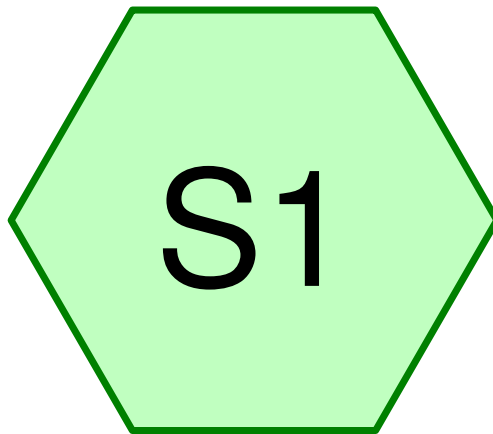
	Area (sf)	CN	Description
*	119,232	71	GRASS
	119,232		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.1	300	0.0400	0.25		Sheet Flow,
					Grass: Short n= 0.150 P2= 2.54"
0.4	80	0.0400	3.00		Shallow Concentrated Flow,
					Grassed Waterway Kv= 15.0 fps
20.5	380	Total			

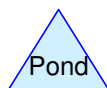
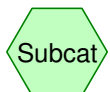
Subcatchment S1: S1

Hydrograph





S1



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21-08 existing Litte Lamb's Corner 002

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Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
2.737	71	GRASS (S1)
2.737	71	TOTAL AREA

21-08 existing Litte Lamb's Corner 002

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Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
0.000	HSG B	
0.000	HSG C	
0.000	HSG D	
2.737	Other	S1
2.737		TOTAL AREA

21-08 existing Litte Lamb's Corner 002

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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	0.000	0.000	2.737	2.737	GRASS	S1
0.000	0.000	0.000	0.000	2.737	2.737	TOTAL AREA	

21-08 existing Litte Lamb's Corner 002*MSE 24-hr 3 5 yr - Jackson Rainfall=3.26"*

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Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points x 6

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

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

Subcatchment S1: S1

Runoff Area=119,232 sf 0.00% Impervious Runoff Depth>0.91"

Flow Length=380' Slope=0.0400 '/' Tc=20.5 min CN=71 Runoff=2.55 cfs 0.208 af

Total Runoff Area = 2.737 ac Runoff Volume = 0.208 af Average Runoff Depth = 0.91"**100.00% Pervious = 2.737 ac 0.00% Impervious = 0.000 ac**

21-08 existing Litte Lamb's Corner 002

MSE 24-hr 3 5 yr - Jackson Rainfall=3.26"

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Summary for Subcatchment S1: S1

Runoff = 2.55 cfs @ 12.33 hrs, Volume= 0.208 af, Depth> 0.91"

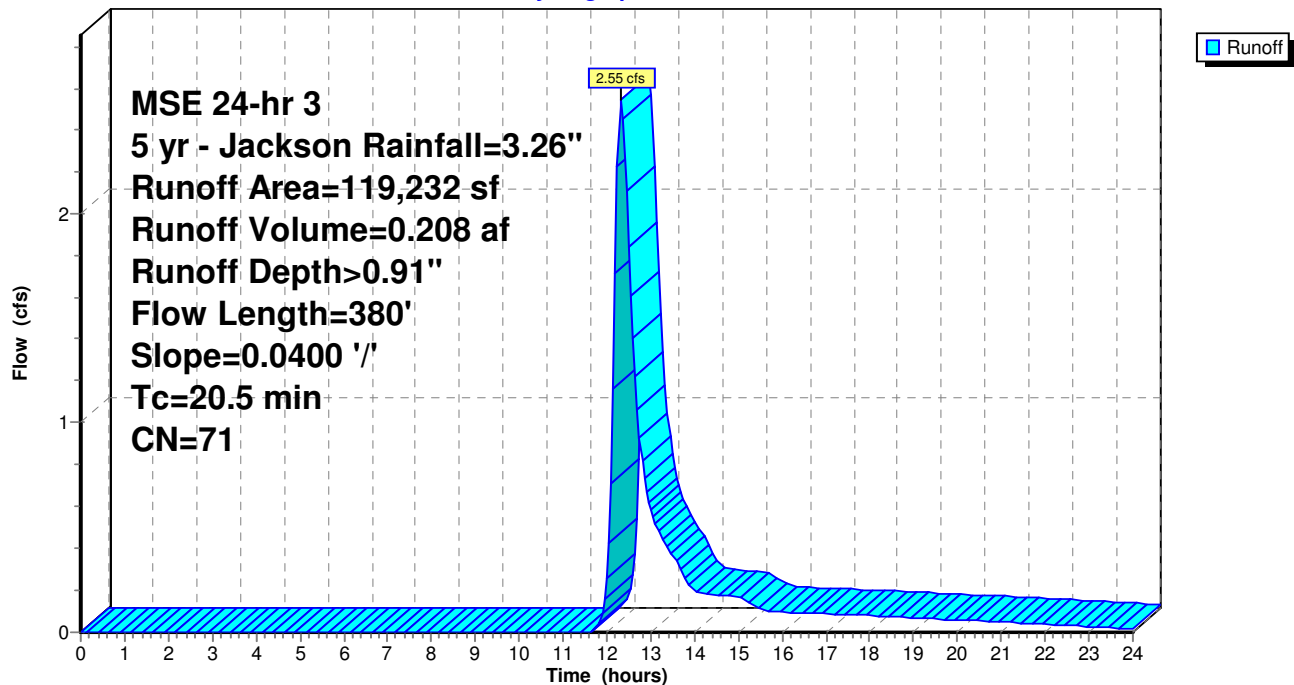
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 5 yr - Jackson Rainfall=3.26"

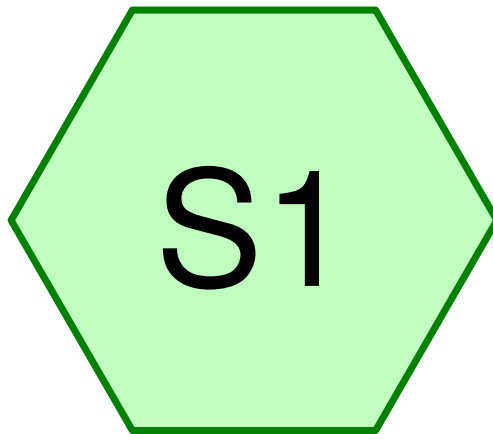
Area (sf)	CN	Description
* 119,232	71	GRASS
119,232		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.1	300	0.0400	0.25		Sheet Flow,
					Grass: Short n= 0.150 P2= 2.54"
0.4	80	0.0400	3.00		Shallow Concentrated Flow,
					Grassed Waterway Kv= 15.0 fps
20.5	380	Total			

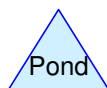
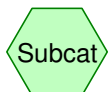
Subcatchment S1: S1

Hydrograph





S1



Routing Diagram for 21-08 existing Litte Lamb's Corner 002
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21-08 existing Litte Lamb's Corner 002

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Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
2.737	71	GRASS (S1)
2.737	71	TOTAL AREA

21-08 existing Litte Lamb's Corner 002

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Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
0.000	HSG B	
0.000	HSG C	
0.000	HSG D	
2.737	Other	S1
2.737		TOTAL AREA

21-08 existing Litte Lamb's Corner 002

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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	0.000	0.000	2.737	2.737	GRASS	S1
0.000	0.000	0.000	0.000	2.737	2.737	TOTAL AREA	

21-08 existing Litte Lamb's Corner 002*MSE 24-hr 3 100 yr - Jackson Rainfall=6.43"*

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Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points x 6

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

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

Subcatchment S1: S1

Runoff Area=119,232 sf 0.00% Impervious Runoff Depth>3.24"

Flow Length=380' Slope=0.0400 '/' Tc=20.5 min CN=71 Runoff=9.78 cfs 0.740 af

Total Runoff Area = 2.737 ac Runoff Volume = 0.740 af Average Runoff Depth = 3.24"**100.00% Pervious = 2.737 ac 0.00% Impervious = 0.000 ac**

21-08 existing Litte Lamb's Corner 002

MSE 24-hr 3 100 yr - Jackson Rainfall=6.43"

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Summary for Subcatchment S1: S1

Runoff = 9.78 cfs @ 12.31 hrs, Volume= 0.740 af, Depth> 3.24"

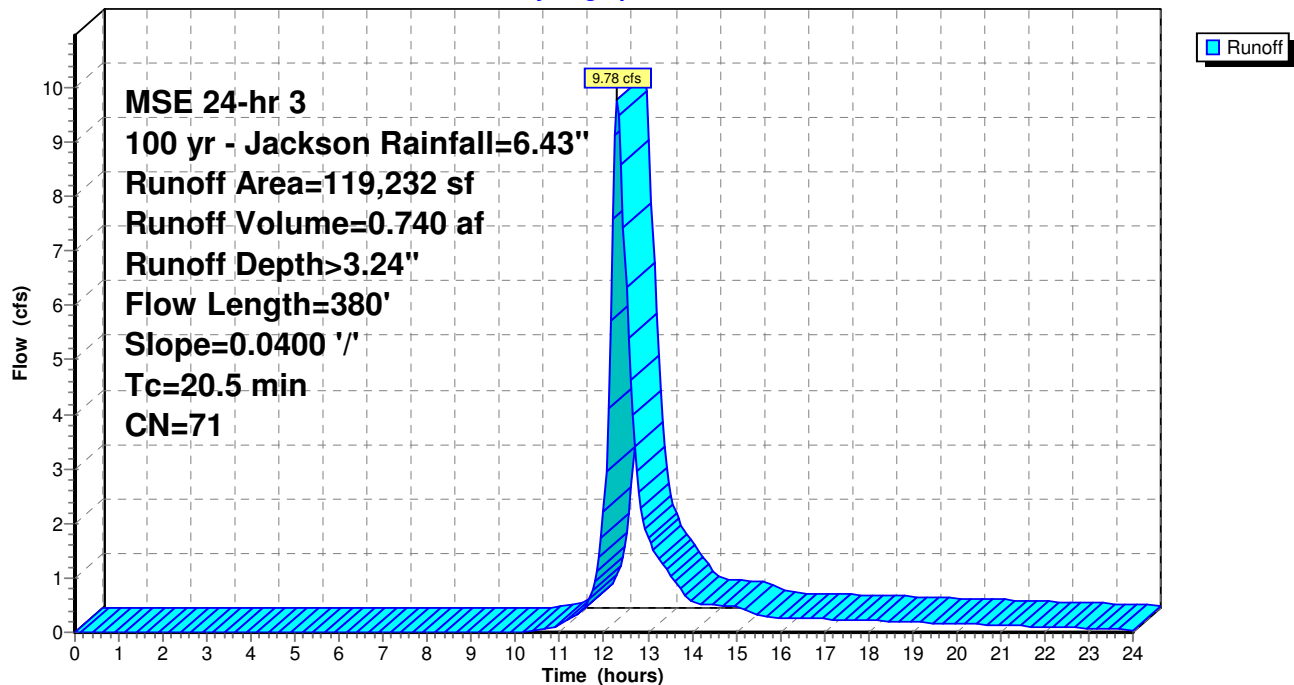
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 100 yr - Jackson Rainfall=6.43"

Area (sf)	CN	Description
* 119,232	71	GRASS
119,232		100.00% Pervious Area

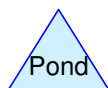
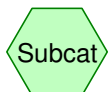
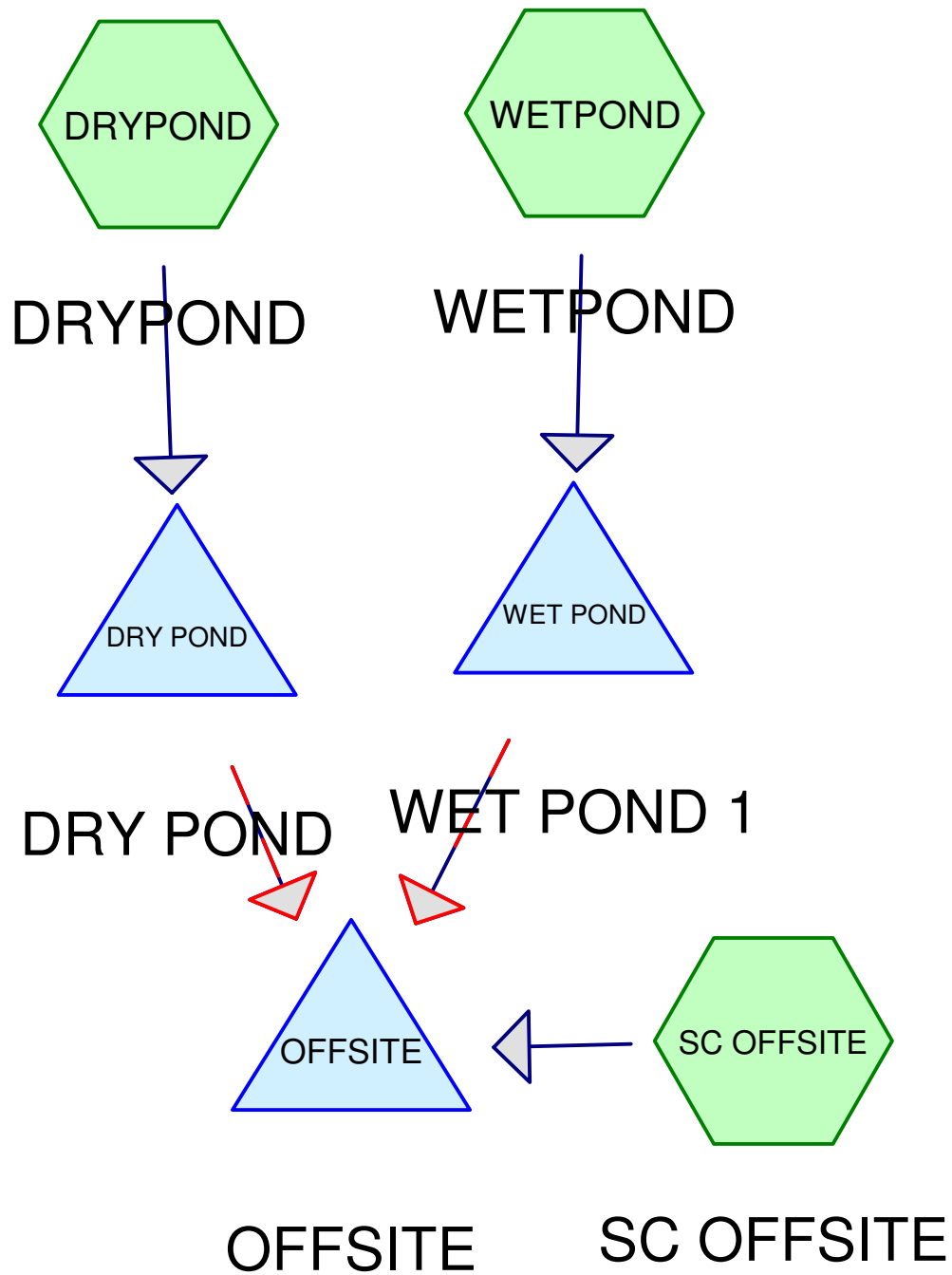
Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.1	300	0.0400	0.25		Sheet Flow,
					Grass: Short n= 0.150 P2= 2.54"
0.4	80	0.0400	3.00		Shallow Concentrated Flow,
					Grassed Waterway Kv= 15.0 fps
20.5	380	Total			

Subcatchment S1: S1

Hydrograph



APPENDIX 7 – HYDROCAD CALCULATIONS
Proposed Site (1-year, 2-year, 5 year, 10 year, and 100 year)



21-08 PROPOSED Litte Lamb's Corner 003

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Page 2

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.059	98	DRIVEWAY (DRYPOND, SC OFFSITE, WETPOND)
0.355	71	GRAA (SC OFFSITE)
1.779	71	GRASS (DRYPOND, WETPOND)
0.191	98	POND (WETPOND)
0.146	98	ROAD (WETPOND)
0.042	98	ROADWAY (SC OFFSITE)
0.165	98	ROOF (WETPOND)
2.737	77	TOTAL AREA

21-08 PROPOSED Litte Lamb's Corner 003

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Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
0.000	HSG B	
0.000	HSG C	
0.000	HSG D	
2.737	Other	DRYPOND, SC OFFSITE, WETPOND
2.737		TOTAL AREA

21-08 PROPOSED Litte Lamb's Corner 003

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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	0.000	0.000	0.059	0.059	DRIVEWAY	DRYPOND, SC OFFSITE, WETPOND
0.000	0.000	0.000	0.000	0.355	0.355	GRAA	SC OFFSITE
0.000	0.000	0.000	0.000	1.779	1.779	GRASS	DRYPOND, WETPOND
0.000	0.000	0.000	0.000	0.191	0.191	POND	WETPOND
0.000	0.000	0.000	0.000	0.146	0.146	ROAD	WETPOND
0.000	0.000	0.000	0.000	0.042	0.042	ROADWAY	SC OFFSITE
0.000	0.000	0.000	0.000	0.165	0.165	ROOF	WETPOND
0.000	0.000	0.000	0.000	2.737	2.737	TOTAL AREA	

21-08 PROPOSED Litte Lamb's Corner 003

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Pipe Listing (all nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Diam/Width (inches)	Height (inches)	Inside-Fill (inches)
1	DRY POND	862.50	861.40	23.0	0.0478	0.011	8.0	0.0	0.0
2	WET POND	861.50	861.40	38.0	0.0026	0.011	12.0	0.0	0.0

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points x 6
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment DRYPOND: DRYPOND Runoff Area=9,252 sf 3.86% Impervious Runoff Depth>0.45"
Flow Length=100' Slope=0.0100 '/' Tc=14.5 min CN=72 Runoff=0.10 cfs 0.008 af

Subcatchment SC OFFSITE: SC OFFSITE Runoff Area=17,679 sf 12.63% Impervious Runoff Depth>0.53"
Flow Length=76' Tc=8.0 min CN=74 Runoff=0.32 cfs 0.018 af

Subcatchment WETPOND: WETPOND Runoff Area=92,301 sf 25.66% Impervious Runoff Depth>0.69"
Flow Length=164' Slope=0.0340 '/' Tc=13.2 min CN=78 Runoff=1.88 cfs 0.122 af

Pond DRY POND: DRY POND Peak Elev=862.64' Storage=147 cf Inflow=0.10 cfs 0.008 af
Primary=0.02 cfs 0.007 af Secondary=0.00 cfs 0.000 af Outflow=0.02 cfs 0.007 af

Pond OFFSITE: OFFSITE Inflow=0.33 cfs 0.061 af
Primary=0.33 cfs 0.061 af

Pond WET POND: WET POND 1 Peak Elev=861.90' Storage=3,986 cf Inflow=1.88 cfs 0.122 af
Primary=0.04 cfs 0.036 af Secondary=0.00 cfs 0.000 af Outflow=0.04 cfs 0.036 af

Total Runoff Area = 2.737 ac Runoff Volume = 0.148 af Average Runoff Depth = 0.65"
77.96% Pervious = 2.134 ac 22.04% Impervious = 0.603 ac

21-08 PROPOSED Litte Lamb's Corner 003

MSE 24-hr 3 1 yr - Jackson Rainfall=2.35"

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Summary for Subcatchment DRYPOND: DRYPOND

Runoff = 0.10 cfs @ 12.26 hrs, Volume= 0.008 af, Depth> 0.45"

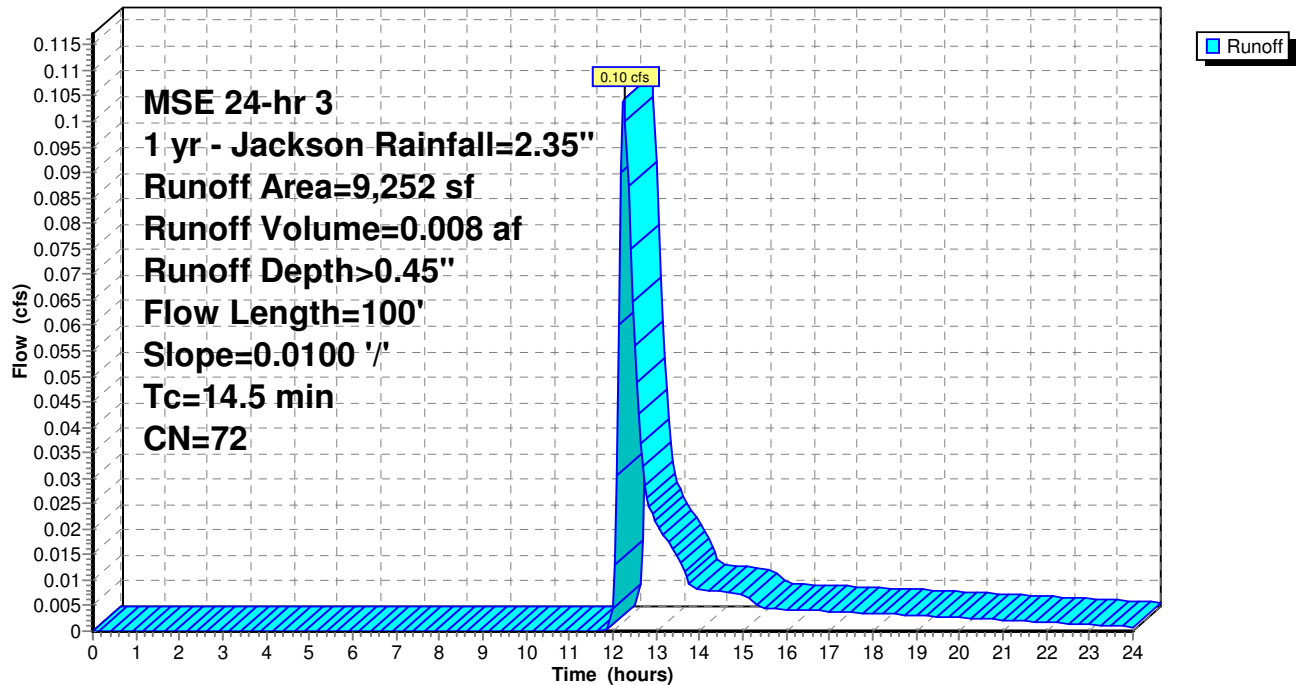
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 1 yr - Jackson Rainfall=2.35"

	Area (sf)	CN	Description
*	357	98	DRIVEWAY
*	8,895	71	GRASS
	9,252	72	Weighted Average
	8,895		96.14% Pervious Area
	357		3.86% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.5	100	0.0100	0.11		Sheet Flow, Grass: Short n= 0.150 P2= 2.54"

Subcatchment DRYPOND: DRYPOND

Hydrograph



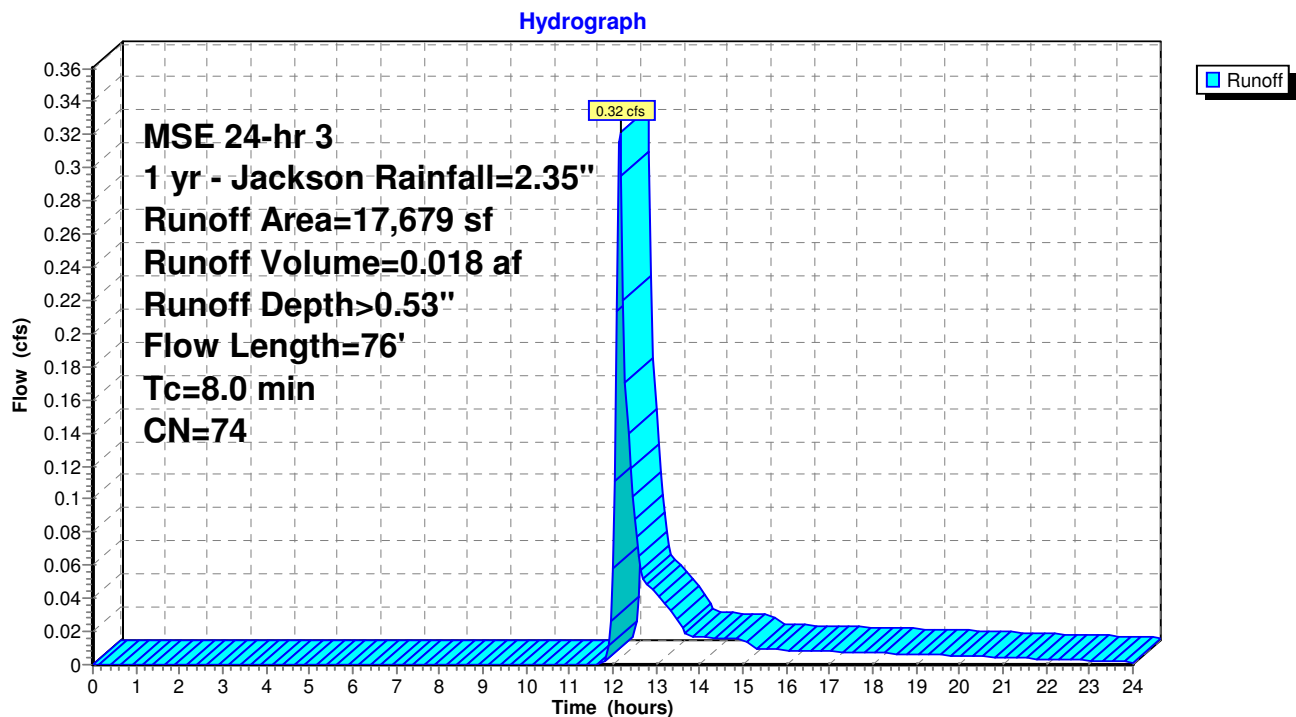
Summary for Subcatchment SC OFFSITE: SC OFFSITE

Runoff = 0.32 cfs @ 12.17 hrs, Volume= 0.018 af, Depth> 0.53"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 1 yr - Jackson Rainfall=2.35"

Area (sf)	CN	Description
* 1,840	98	ROADWAY
* 393	98	DRIVEWAY
* 0	98	ROOF
* 15,446	71	GRAA
17,679	74	Weighted Average
15,446		87.37% Pervious Area
2,233		12.63% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.8	56	0.0210	0.14		Sheet Flow, Grass: Short n= 0.150 P2= 2.54"
1.2	20	0.2250	0.29		Sheet Flow, Grass: Short n= 0.150 P2= 2.54"
8.0	76	Total			

Subcatchment SC OFFSITE: SC OFFSITE

21-08 PROPOSED Litte Lamb's Corner 003

MSE 24-hr 3 1 yr - Jackson Rainfall=2.35"

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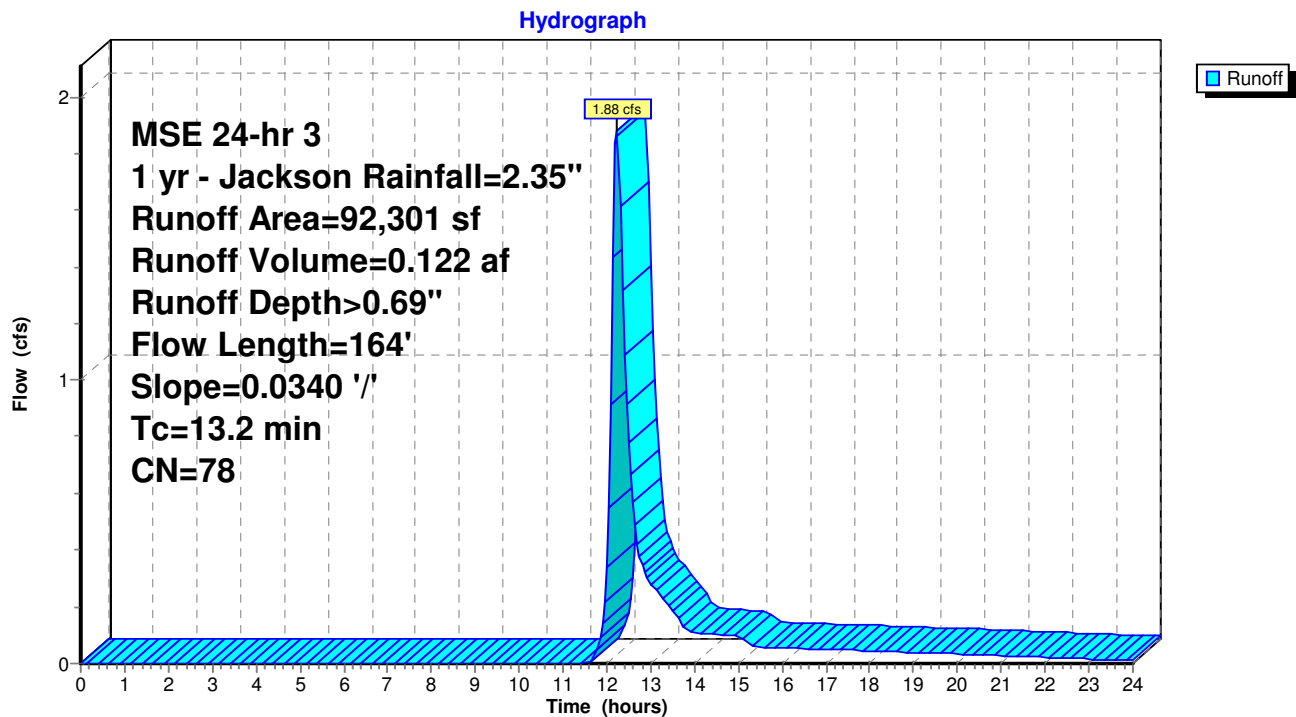
Summary for Subcatchment WETPOND: WETPOND

Runoff = 1.88 cfs @ 12.23 hrs, Volume= 0.122 af, Depth> 0.69"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 1 yr - Jackson Rainfall=2.35"

	Area (sf)	CN	Description
*	6,354	98	ROAD
*	1,806	98	DRIVEWAY
*	7,200	98	ROOF
*	8,326	98	POND
*	68,615	71	GRASS
	92,301	78	Weighted Average
	68,615		74.34% Pervious Area
	23,686		25.66% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.2	164	0.0340	0.21		Sheet Flow, Grass: Short n= 0.150 P2= 2.54"

Subcatchment WETPOND: WETPOND

Summary for Pond DRY POND: DRY POND

[92] Warning: Device #4 is above defined storage

Inflow Area = 0.212 ac, 3.86% Impervious, Inflow Depth > 0.45" for 1 yr - Jackson event
 Inflow = 0.10 cfs @ 12.26 hrs, Volume= 0.008 af
 Outflow = 0.02 cfs @ 13.39 hrs, Volume= 0.007 af, Atten= 85%, Lag= 67.5 min
 Primary = 0.02 cfs @ 13.39 hrs, Volume= 0.007 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs / 6
 Peak Elev= 862.64' @ 13.39 hrs Surf.Area= 505 sf Storage= 147 cf
 Flood Elev= 864.00' Surf.Area= 1,769 sf Storage= 1,610 cf

Plug-Flow detention time= 159.2 min calculated for 0.007 af (89% of inflow)
 Center-of-Mass det. time= 109.6 min (969.0 - 859.5)

Volume	Invert	Avail.Storage	Storage Description
#1	862.50'	1,610 cf	Custom Stage Data (Prismatic) Listed below
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
862.50	378	0	0
864.00	1,769	1,610	1,610

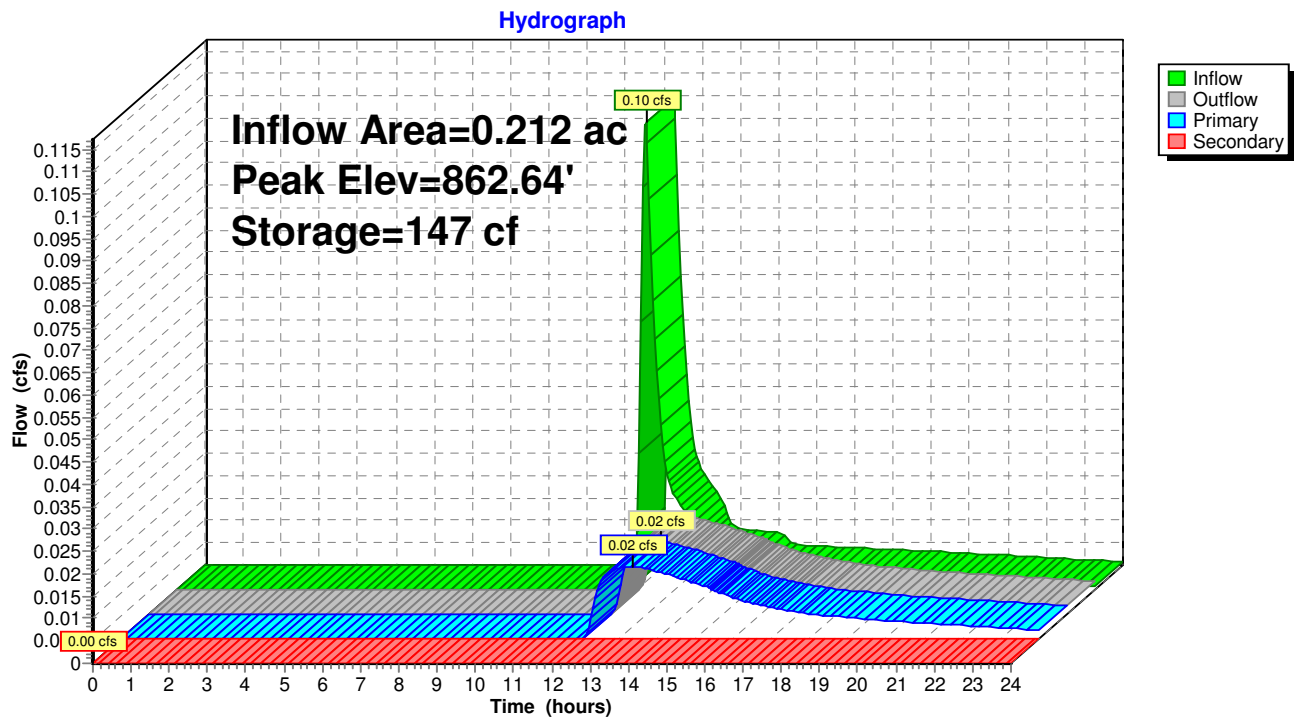
Device	Routing	Invert	Outlet Devices
#1	Primary	862.50'	8.0" Round Culvert L= 23.0' Ke= 0.700 Inlet / Outlet Invert= 862.50' / 861.40' S= 0.0478 '/' Cc= 0.900 n= 0.011, Flow Area= 0.35 sf
#2	Device 1	862.50'	1.5" Vert. Orifice/Grate C= 0.600
#3	Device 1	863.95'	2.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#4	Secondary	864.00'	30.0' long x 12.0' 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) 2.57 2.62 2.70 2.67 2.66 2.67 2.66 2.64

Primary OutFlow Max=0.02 cfs @ 13.39 hrs HW=862.64' TW=0.00' (Dynamic Tailwater)

↑ **1=Culvert** (Passes 0.02 cfs of 0.06 cfs potential flow)
 ↑ **2=Orifice/Grate** (Orifice Controls 0.02 cfs @ 1.31 fps)
 ↑ **3=Orifice/Grate** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=862.50' TW=0.00' (Dynamic Tailwater)

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

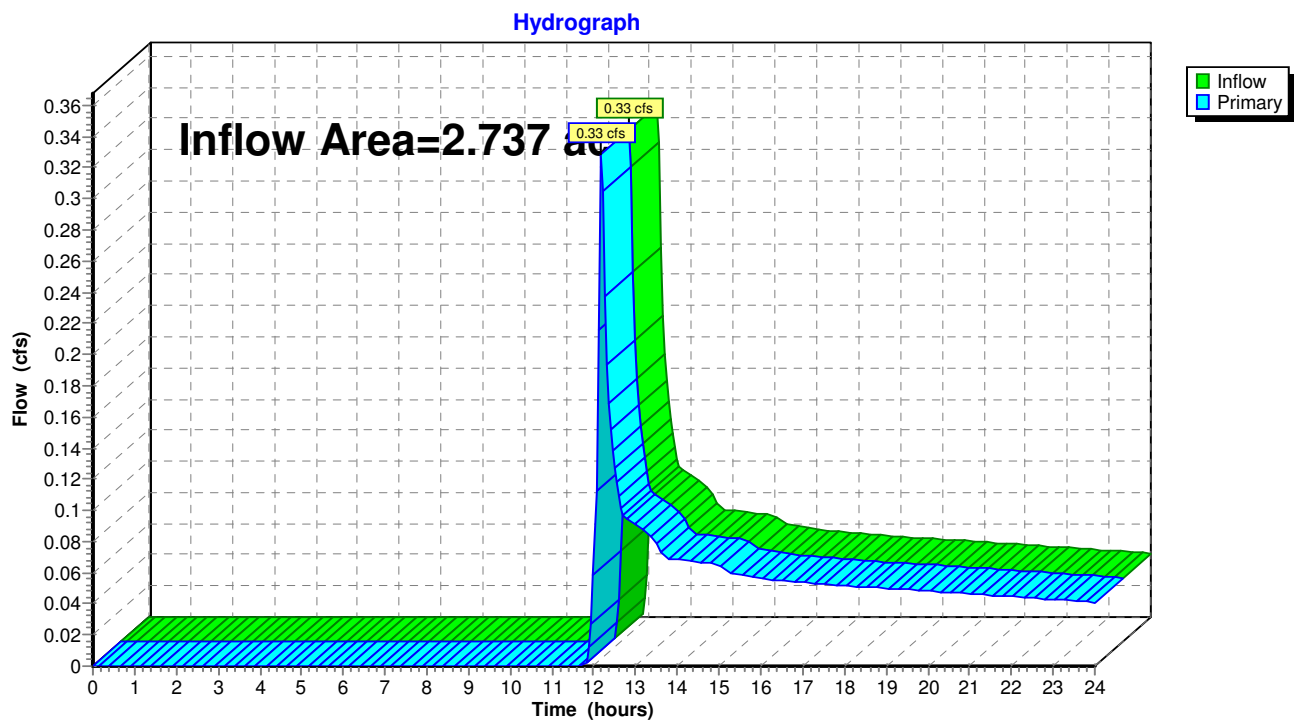
Pond DRY POND: DRY POND

Summary for Pond OFFSITE: OFFSITE

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 2.737 ac, 22.04% Impervious, Inflow Depth > 0.27" for 1 yr - Jackson event
Inflow = 0.33 cfs @ 12.17 hrs, Volume= 0.061 af
Primary = 0.33 cfs @ 12.17 hrs, Volume= 0.061 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs / 6

Pond OFFSITE: OFFSITE

Summary for Pond WET POND: WET POND 1

Inflow Area = 2.119 ac, 25.66% Impervious, Inflow Depth > 0.69" for 1 yr - Jackson event
 Inflow = 1.88 cfs @ 12.23 hrs, Volume= 0.122 af
 Outflow = 0.04 cfs @ 19.08 hrs, Volume= 0.036 af, Atten= 98%, Lag= 411.1 min
 Primary = 0.04 cfs @ 19.08 hrs, Volume= 0.036 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs / 6

Peak Elev= 861.90' @ 19.08 hrs Surf.Area= 8,276 sf Storage= 3,986 cf

Flood Elev= 864.00' Surf.Area= 11,491 sf Storage= 24,899 cf

Plug-Flow detention time= 365.7 min calculated for 0.036 af (30% of inflow)

Center-of-Mass det. time= 257.1 min (1,095.8 - 838.8)

Volume	Invert	Avail.Storage	Storage Description
#1	861.50'	29,879 cf	Custom Stage Data (Prismatic) Listed below

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
861.50	7,663	0	0
864.50	12,256	29,879	29,879

Device	Routing	Invert	Outlet Devices
#1	Primary	861.50'	12.0" Round Culvert L= 38.0' Ke= 0.700 Inlet / Outlet Invert= 861.50' / 861.40' S= 0.0026 '/' Cc= 0.900 n= 0.011, Flow Area= 0.79 sf
#2	Device 1	861.50'	1.6" Vert. Orifice/Grate C= 0.600
#3	Device 1	863.95'	36.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#4	Secondary	864.00'	30.0' long x 12.0' 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) 2.57 2.62 2.70 2.67 2.66 2.67 2.66 2.64

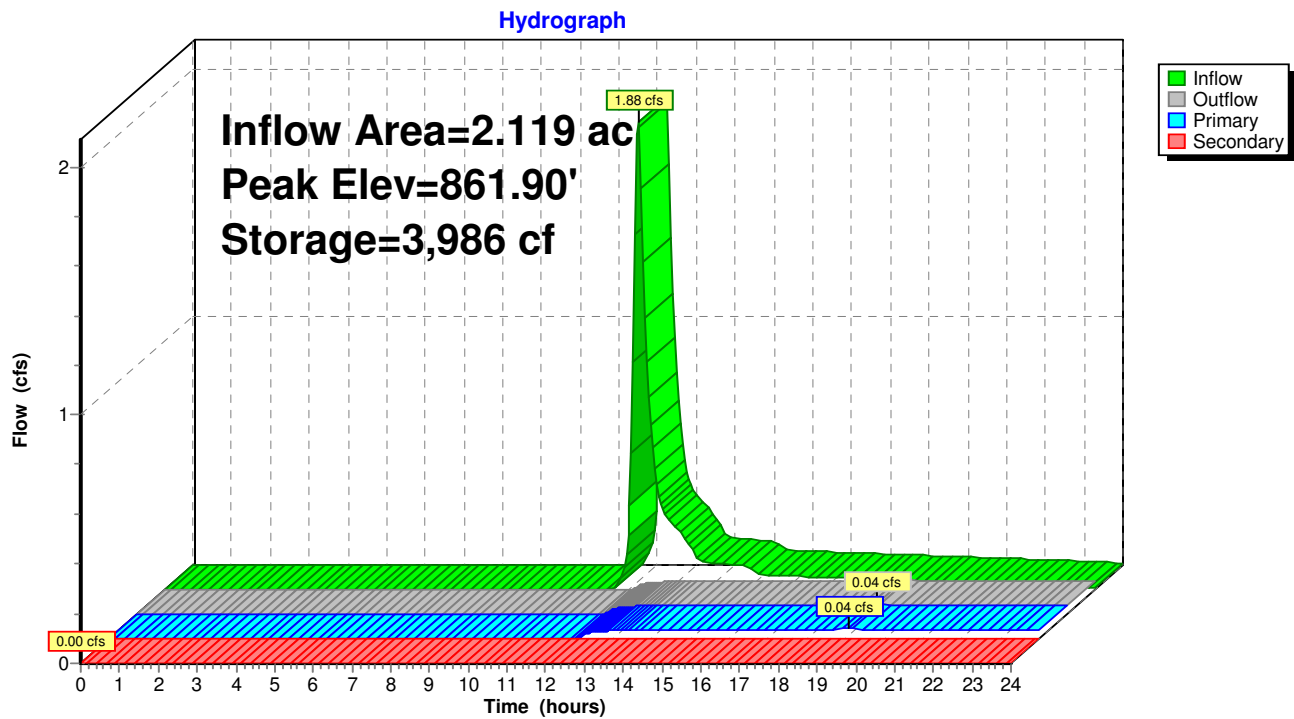
Primary OutFlow Max=0.04 cfs @ 19.08 hrs HW=861.90' TW=0.00' (Dynamic Tailwater)

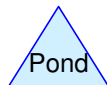
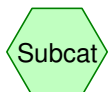
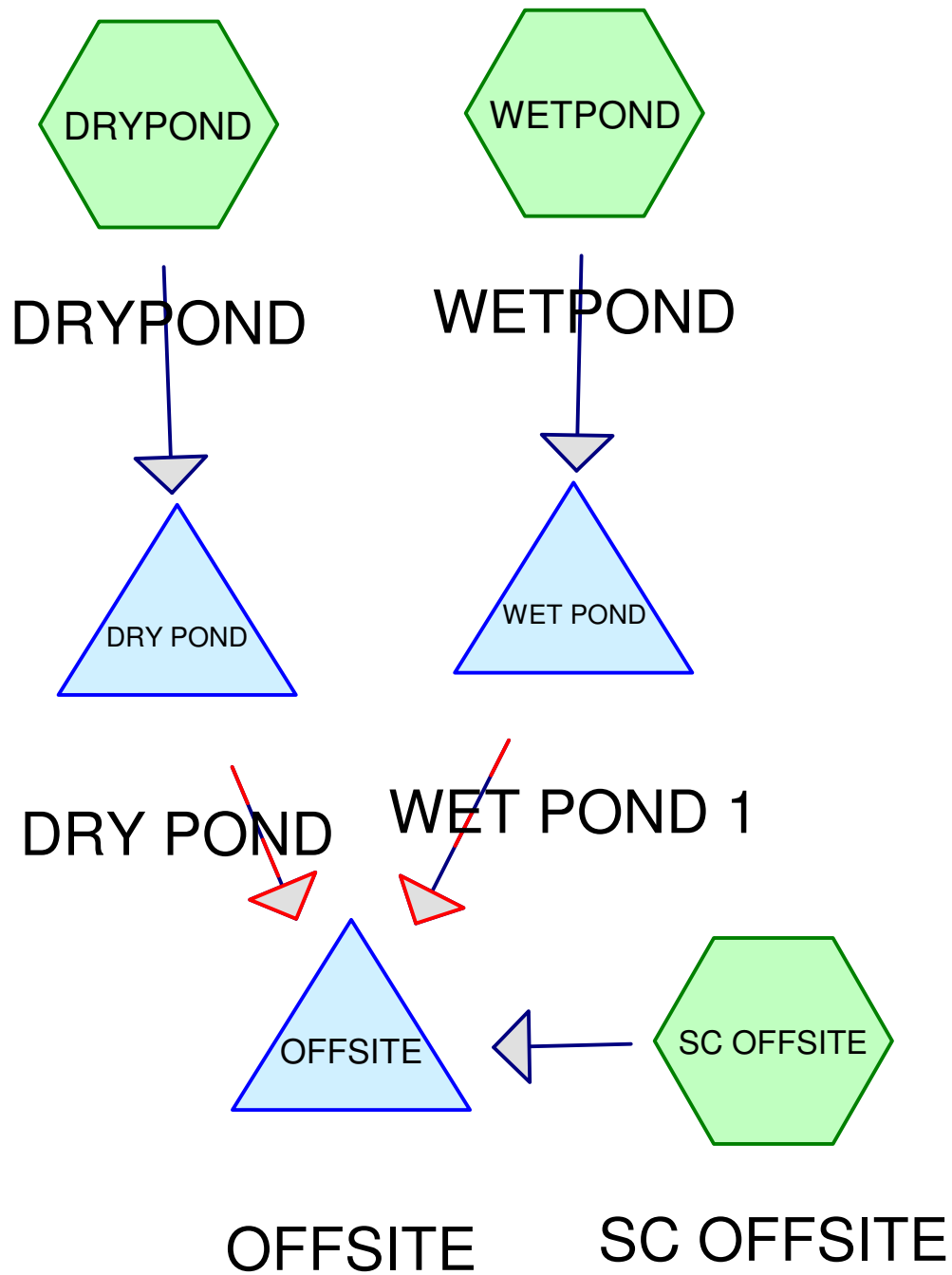
↑ **1=Culvert** (Passes 0.04 cfs of 0.40 cfs potential flow)
 ↑ **2=Orifice/Grate** (Orifice Controls 0.04 cfs @ 2.78 fps)
 ↑ **3=Orifice/Grate** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=861.50' TW=0.00' (Dynamic Tailwater)

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

Pond WET POND: WET POND 1





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Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.059	98	DRIVEWAY (DRYPOND, SC OFFSITE, WETPOND)
0.355	71	GRAA (SC OFFSITE)
1.779	71	GRASS (DRYPOND, WETPOND)
0.191	98	POND (WETPOND)
0.146	98	ROAD (WETPOND)
0.042	98	ROADWAY (SC OFFSITE)
0.165	98	ROOF (WETPOND)
2.737	77	TOTAL AREA

21-08 PROPOSED Litte Lamb's Corner 003

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Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
0.000	HSG B	
0.000	HSG C	
0.000	HSG D	
2.737	Other	DRYPOND, SC OFFSITE, WETPOND
2.737		TOTAL AREA

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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	0.000	0.000	0.059	0.059	DRIVEWAY	DRYPOND, SC OFFSITE, WETPOND
0.000	0.000	0.000	0.000	0.355	0.355	GRAA	SC OFFSITE
0.000	0.000	0.000	0.000	1.779	1.779	GRASS	DRYPOND, WETPOND
0.000	0.000	0.000	0.000	0.191	0.191	POND	WETPOND
0.000	0.000	0.000	0.000	0.146	0.146	ROAD	WETPOND
0.000	0.000	0.000	0.000	0.042	0.042	ROADWAY	SC OFFSITE
0.000	0.000	0.000	0.000	0.165	0.165	ROOF	WETPOND
0.000	0.000	0.000	0.000	2.737	2.737	TOTAL AREA	

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Pipe Listing (all nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Diam/Width (inches)	Height (inches)	Inside-Fill (inches)
1	DRY POND	862.50	861.40	23.0	0.0478	0.011	8.0	0.0	0.0
2	WET POND	861.50	861.40	38.0	0.0026	0.011	12.0	0.0	0.0

21-08 PROPOSED Litte Lamb's Corner 003*MSE 24-hr 3 2 yr - Jackson Rainfall=2.67"*

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Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points x 6
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment DRYPOND: DRYPOND Runoff Area=9,252 sf 3.86% Impervious Runoff Depth>0.62"
Flow Length=100' Slope=0.0100 '/' Tc=14.5 min CN=72 Runoff=0.15 cfs 0.011 af

Subcatchment SC OFFSITE: SC OFFSITE Runoff Area=17,679 sf 12.63% Impervious Runoff Depth>0.71"
Flow Length=76' Tc=8.0 min CN=74 Runoff=0.45 cfs 0.024 af

Subcatchment WETPOND: WETPOND Runoff Area=92,301 sf 25.66% Impervious Runoff Depth>0.90"
Flow Length=164' Slope=0.0340 '/' Tc=13.2 min CN=78 Runoff=2.50 cfs 0.159 af

Pond DRY POND: DRY POND Peak Elev=862.70' Storage=211 cf Inflow=0.15 cfs 0.011 af
Primary=0.02 cfs 0.010 af Secondary=0.00 cfs 0.000 af Outflow=0.02 cfs 0.010 af

Pond OFFSITE: OFFSITE Inflow=0.46 cfs 0.077 af
Primary=0.46 cfs 0.077 af

Pond WET POND: WET POND 1 Peak Elev=862.03' Storage=5,313 cf Inflow=2.50 cfs 0.159 af
Primary=0.05 cfs 0.043 af Secondary=0.00 cfs 0.000 af Outflow=0.05 cfs 0.043 af

Total Runoff Area = 2.737 ac Runoff Volume = 0.194 af Average Runoff Depth = 0.85"
77.96% Pervious = 2.134 ac 22.04% Impervious = 0.603 ac

21-08 PROPOSED Litte Lamb's Corner 003

MSE 24-hr 3 2 yr - Jackson Rainfall=2.67"

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Summary for Subcatchment DRYPOND: DRYPOND

Runoff = 0.15 cfs @ 12.26 hrs, Volume= 0.011 af, Depth> 0.62"

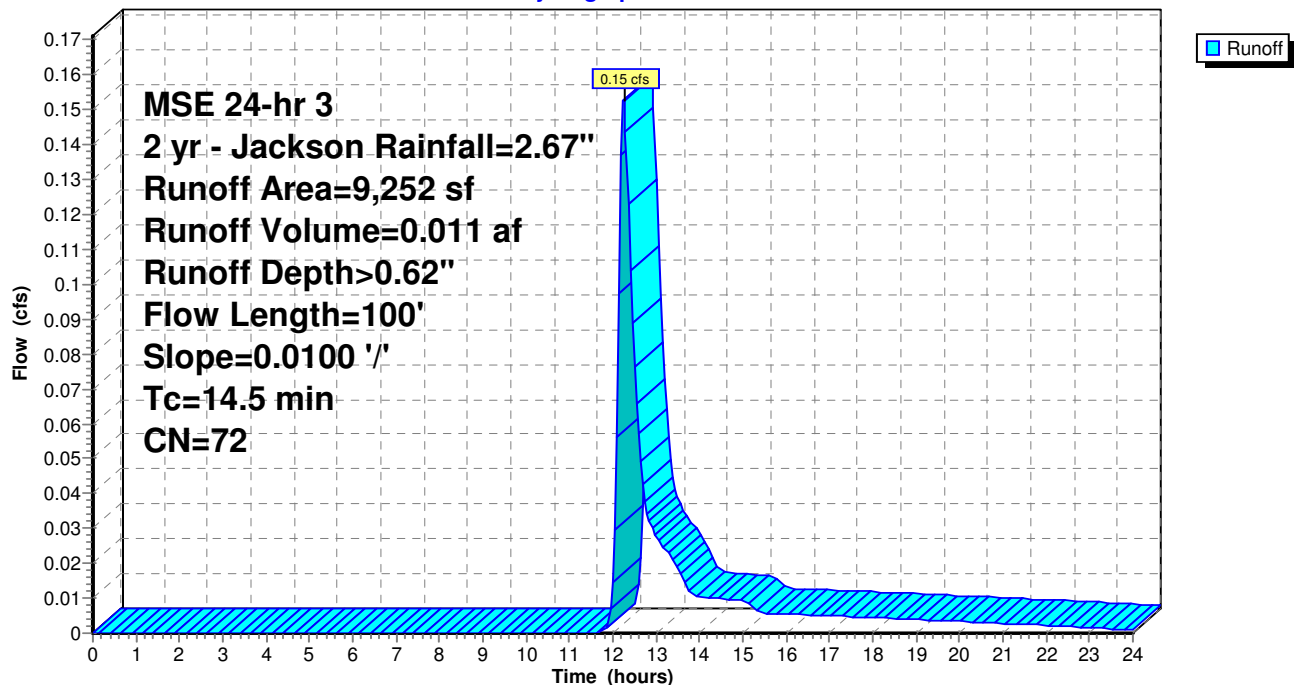
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 2 yr - Jackson Rainfall=2.67"

	Area (sf)	CN	Description
*	357	98	DRIVEWAY
*	8,895	71	GRASS
	9,252	72	Weighted Average
	8,895		96.14% Pervious Area
	357		3.86% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.5	100	0.0100	0.11		Sheet Flow, Grass: Short n= 0.150 P2= 2.54"

Subcatchment DRYPOND: DRYPOND

Hydrograph



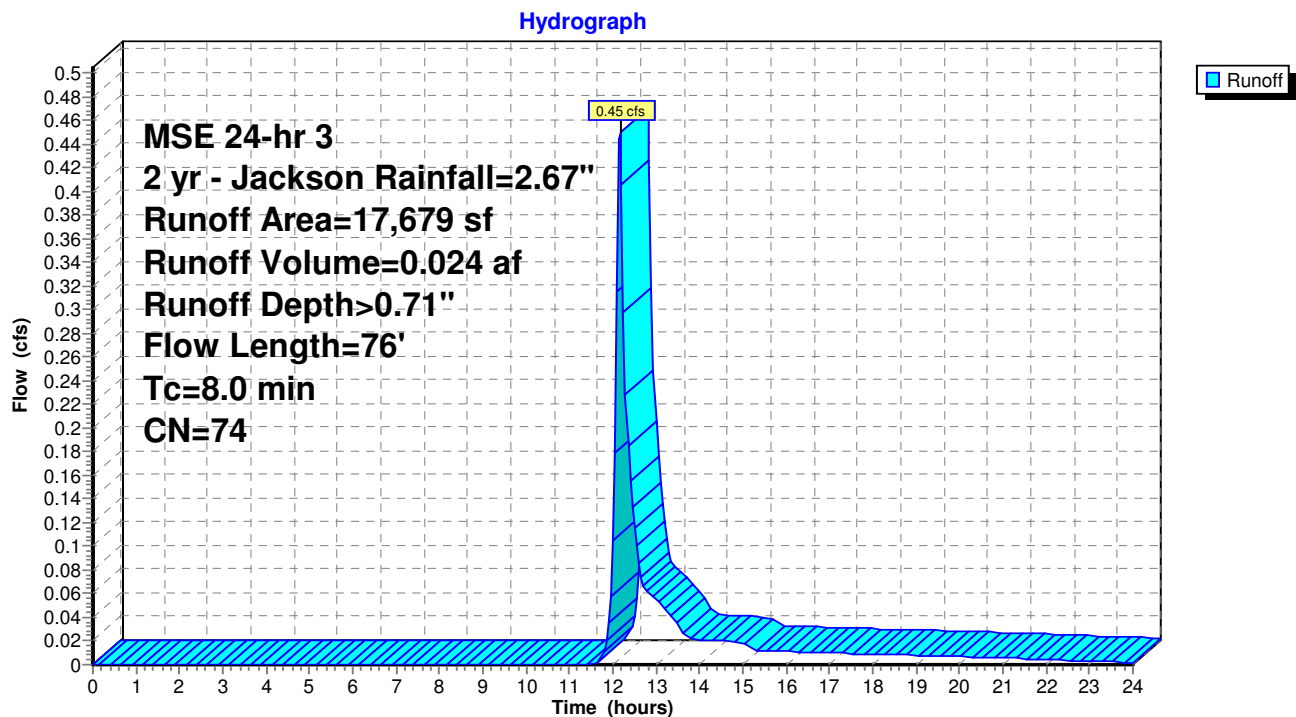
Summary for Subcatchment SC OFFSITE: SC OFFSITE

Runoff = 0.45 cfs @ 12.16 hrs, Volume= 0.024 af, Depth> 0.71"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 2 yr - Jackson Rainfall=2.67"

	Area (sf)	CN	Description
*	1,840	98	ROADWAY
*	393	98	DRIVEWAY
*	0	98	ROOF
*	15,446	71	GRAA
	17,679	74	Weighted Average
	15,446		87.37% Pervious Area
	2,233		12.63% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.8	56	0.0210	0.14		Sheet Flow, Grass: Short n= 0.150 P2= 2.54"
1.2	20	0.2250	0.29		Sheet Flow, Grass: Short n= 0.150 P2= 2.54"
8.0	76	Total			

Subcatchment SC OFFSITE: SC OFFSITE

21-08 PROPOSED Litte Lamb's Corner 003

MSE 24-hr 3 2 yr - Jackson Rainfall=2.67"

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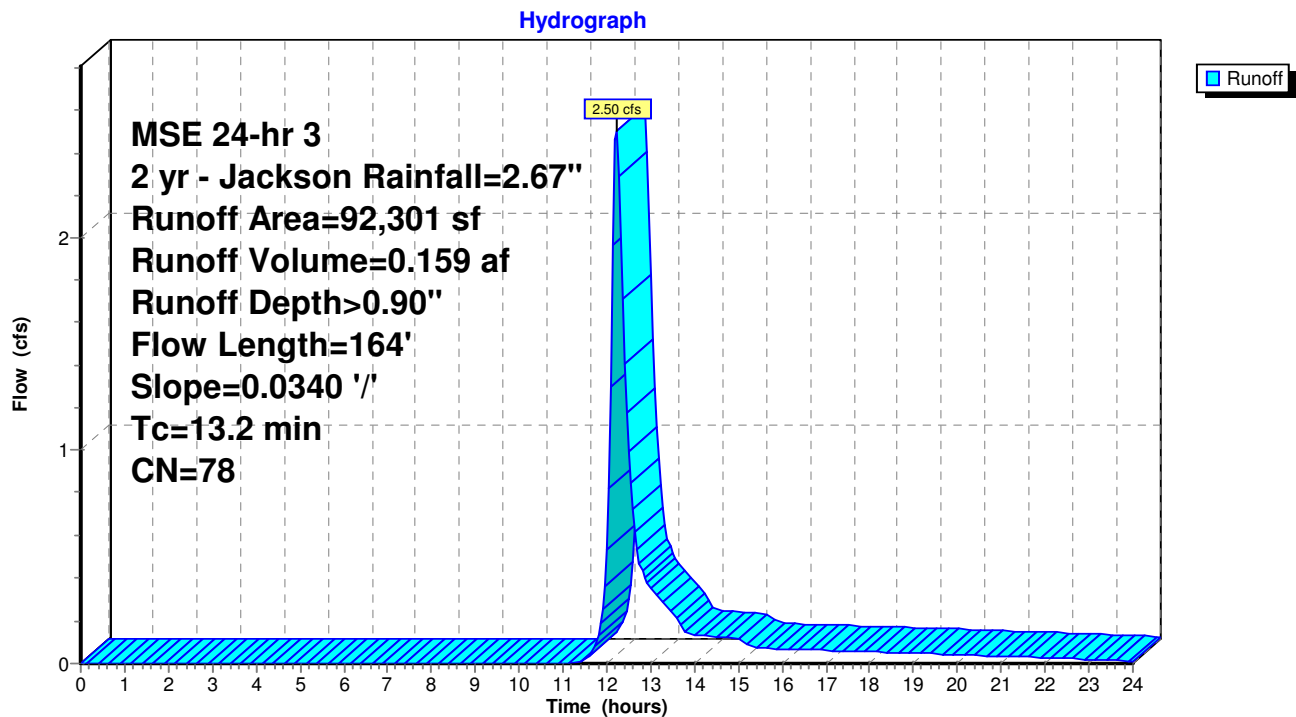
Summary for Subcatchment WETPOND: WETPOND

Runoff = 2.50 cfs @ 12.23 hrs, Volume= 0.159 af, Depth> 0.90"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 2 yr - Jackson Rainfall=2.67"

	Area (sf)	CN	Description
*	6,354	98	ROAD
*	1,806	98	DRIVEWAY
*	7,200	98	ROOF
*	8,326	98	POND
*	68,615	71	GRASS
	92,301	78	Weighted Average
	68,615		74.34% Pervious Area
	23,686		25.66% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.2	164	0.0340	0.21		Sheet Flow, Grass: Short n= 0.150 P2= 2.54"

Subcatchment WETPOND: WETPOND

Summary for Pond DRY POND: DRY POND

[92] Warning: Device #4 is above defined storage

Inflow Area = 0.212 ac, 3.86% Impervious, Inflow Depth > 0.62" for 2 yr - Jackson event
 Inflow = 0.15 cfs @ 12.26 hrs, Volume= 0.011 af
 Outflow = 0.02 cfs @ 13.35 hrs, Volume= 0.010 af, Atten= 86%, Lag= 65.6 min
 Primary = 0.02 cfs @ 13.35 hrs, Volume= 0.010 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs / 6
 Peak Elev= 862.70' @ 13.35 hrs Surf.Area= 560 sf Storage= 211 cf
 Flood Elev= 864.00' Surf.Area= 1,769 sf Storage= 1,610 cf

Plug-Flow detention time= 155.1 min calculated for 0.010 af (91% of inflow)
 Center-of-Mass det. time= 113.1 min (963.9 - 850.8)

Volume	Invert	Avail.Storage	Storage Description
#1	862.50'	1,610 cf	Custom Stage Data (Prismatic) Listed below

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
862.50	378	0	0
864.00	1,769	1,610	1,610

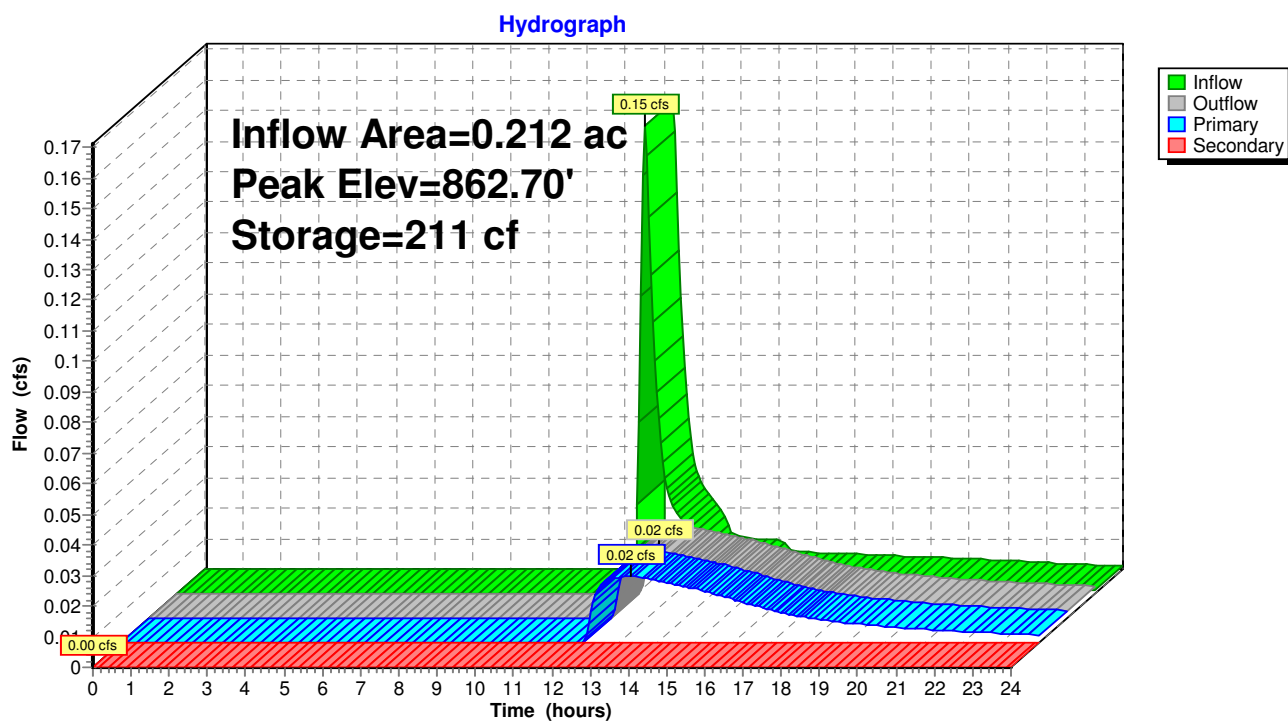
Device	Routing	Invert	Outlet Devices
#1	Primary	862.50'	8.0" Round Culvert L= 23.0' Ke= 0.700 Inlet / Outlet Invert= 862.50' / 861.40' S= 0.0478 '/' Cc= 0.900 n= 0.011, Flow Area= 0.35 sf
#2	Device 1	862.50'	1.5" Vert. Orifice/Grate C= 0.600
#3	Device 1	863.95'	2.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#4	Secondary	864.00'	30.0' long x 12.0' 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) 2.57 2.62 2.70 2.67 2.66 2.67 2.66 2.64

Primary OutFlow Max=0.02 cfs @ 13.35 hrs HW=862.70' TW=0.00' (Dynamic Tailwater)

↑ **1=Culvert** (Passes 0.02 cfs of 0.11 cfs potential flow)
 ↑ **2=Orifice/Grate** (Orifice Controls 0.02 cfs @ 1.76 fps)
 ↑ **3=Orifice/Grate** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=862.50' TW=0.00' (Dynamic Tailwater)

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

Pond DRY POND: DRY POND

Summary for Pond OFFSITE: OFFSITE

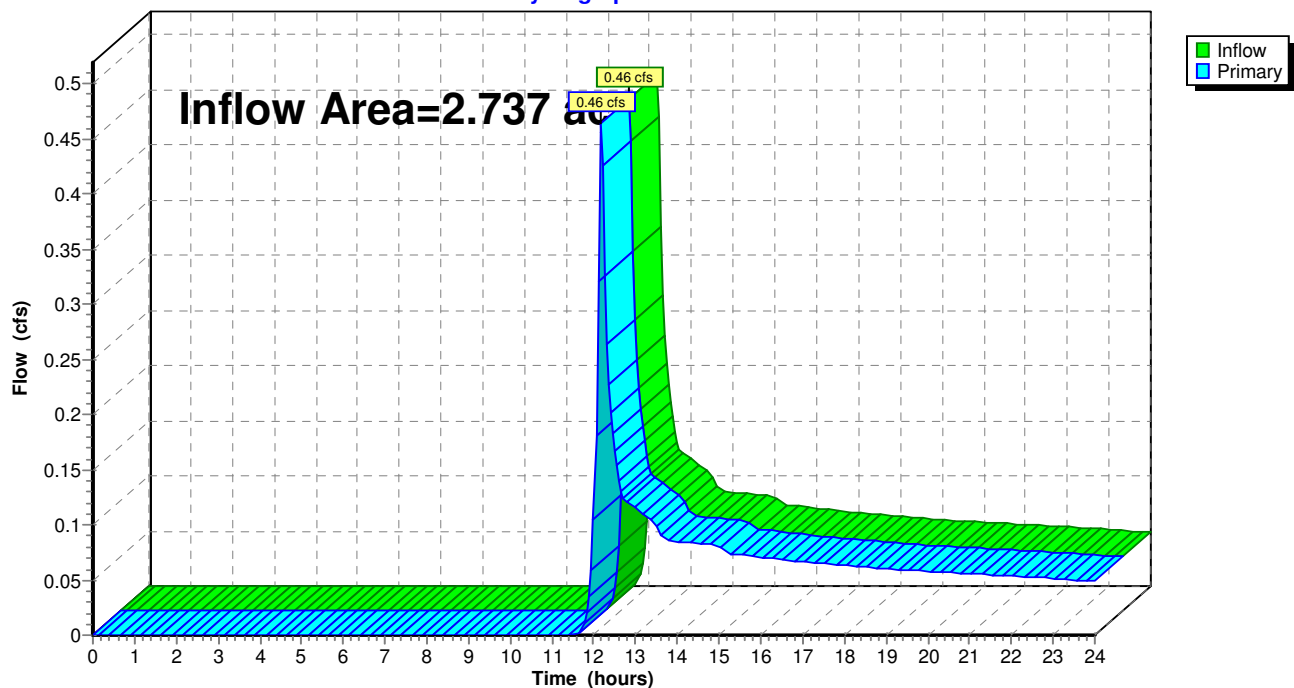
[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 2.737 ac, 22.04% Impervious, Inflow Depth > 0.34" for 2 yr - Jackson event
Inflow = 0.46 cfs @ 12.17 hrs, Volume= 0.077 af
Primary = 0.46 cfs @ 12.17 hrs, Volume= 0.077 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs / 6

Pond OFFSITE: OFFSITE

Hydrograph



Summary for Pond WET POND: WET POND 1

Inflow Area = 2.119 ac, 25.66% Impervious, Inflow Depth > 0.90" for 2 yr - Jackson event
 Inflow = 2.50 cfs @ 12.23 hrs, Volume= 0.159 af
 Outflow = 0.05 cfs @ 19.32 hrs, Volume= 0.043 af, Atten= 98%, Lag= 425.6 min
 Primary = 0.05 cfs @ 19.32 hrs, Volume= 0.043 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs / 6

Peak Elev= 862.03' @ 19.32 hrs Surf.Area= 8,480 sf Storage= 5,313 cf

Flood Elev= 864.00' Surf.Area= 11,491 sf Storage= 24,899 cf

Plug-Flow detention time= 366.5 min calculated for 0.043 af (27% of inflow)

Center-of-Mass det. time= 261.9 min (1,094.6 - 832.7)

Volume	Invert	Avail.Storage	Storage Description
#1	861.50'	29,879 cf	Custom Stage Data (Prismatic) Listed below
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
861.50	7,663	0	0
864.50	12,256	29,879	29,879

Device	Routing	Invert	Outlet Devices
#1	Primary	861.50'	12.0" Round Culvert L= 38.0' Ke= 0.700 Inlet / Outlet Invert= 861.50' / 861.40' S= 0.0026 '/' Cc= 0.900 n= 0.011, Flow Area= 0.79 sf
#2	Device 1	861.50'	1.6" Vert. Orifice/Grate C= 0.600
#3	Device 1	863.95'	36.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#4	Secondary	864.00'	30.0' long x 12.0' 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) 2.57 2.62 2.70 2.67 2.66 2.67 2.66 2.64

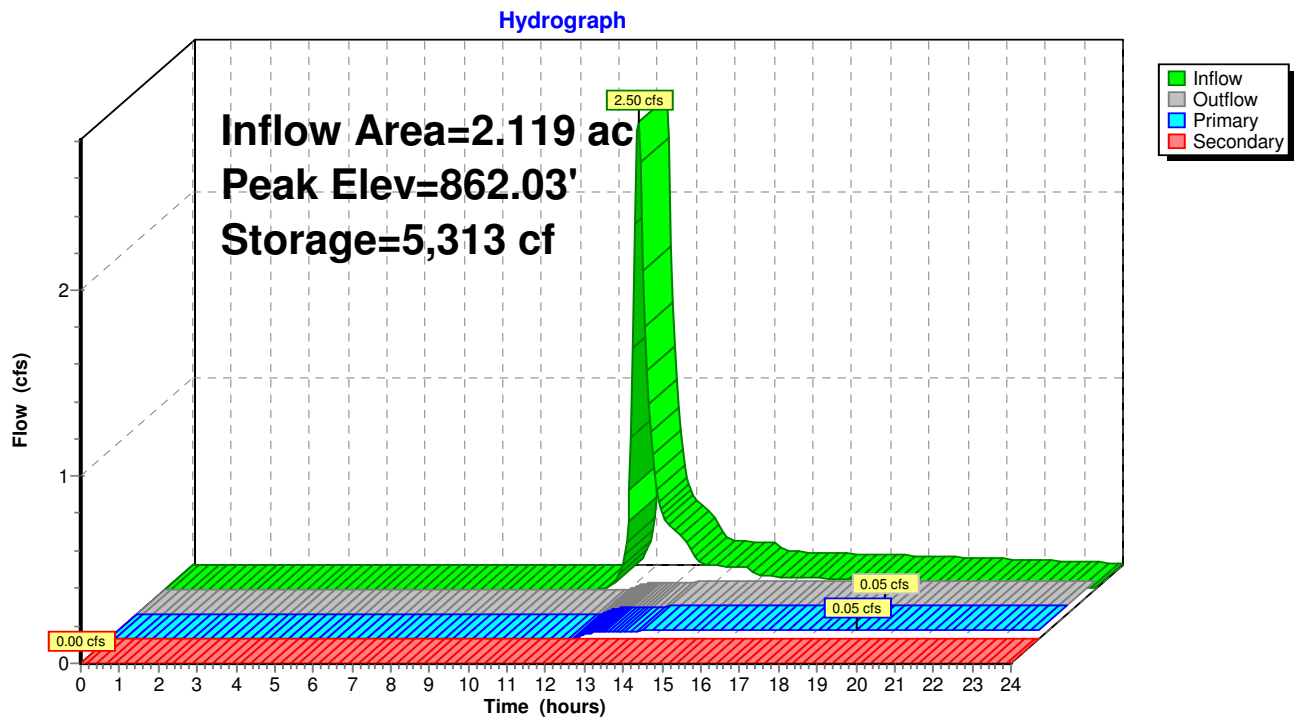
Primary OutFlow Max=0.05 cfs @ 19.32 hrs HW=862.03' TW=0.00' (Dynamic Tailwater)

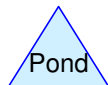
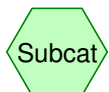
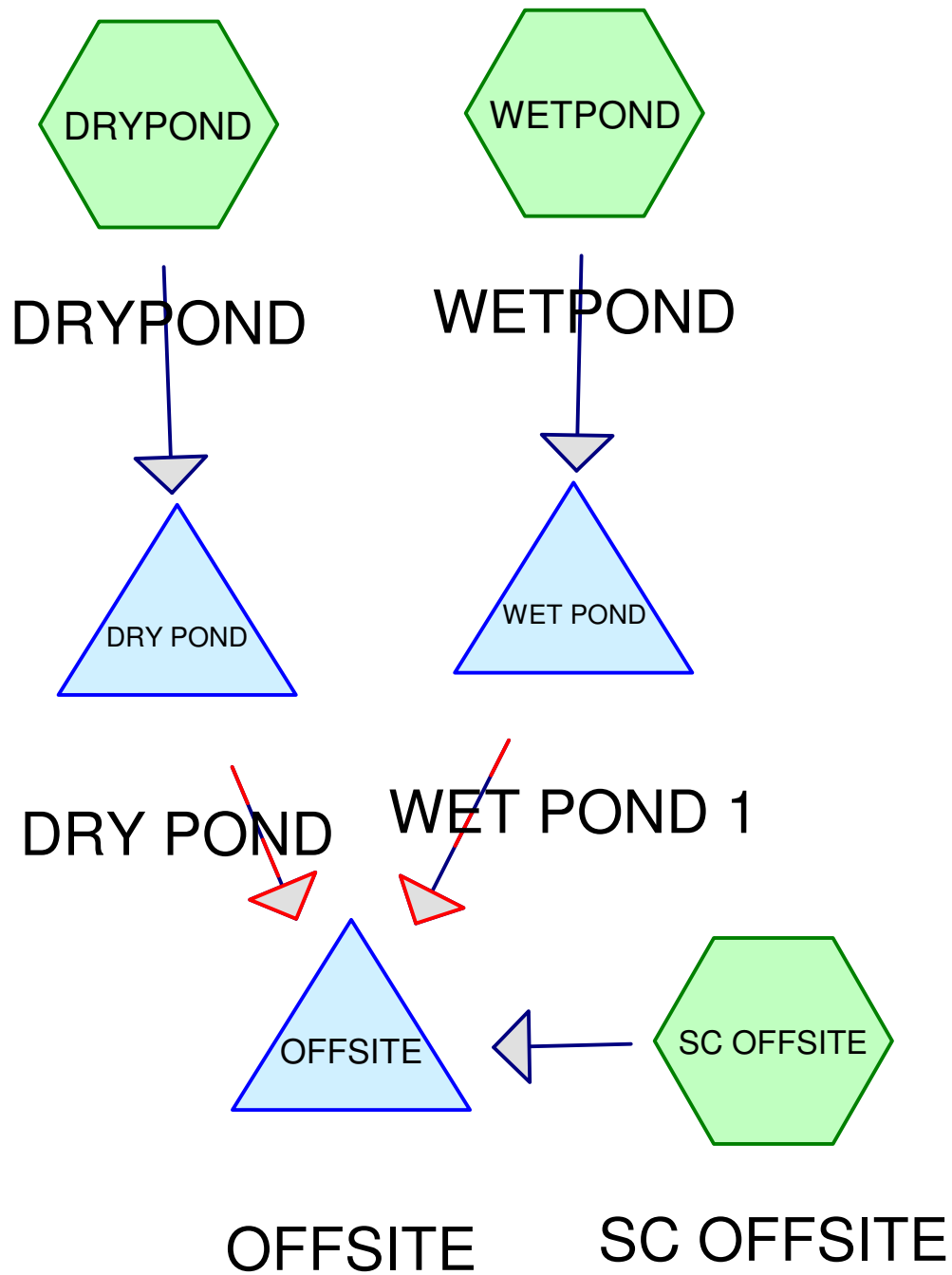
↑ **1=Culvert** (Passes 0.05 cfs of 0.69 cfs potential flow)
 ↑ **2=Orifice/Grate** (Orifice Controls 0.05 cfs @ 3.29 fps)
 ↑ **3=Orifice/Grate** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=861.50' TW=0.00' (Dynamic Tailwater)

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

Pond WET POND: WET POND 1





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Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.059	98	DRIVEWAY (DRYPOND, SC OFFSITE, WETPOND)
0.355	71	GRAA (SC OFFSITE)
1.779	71	GRASS (DRYPOND, WETPOND)
0.191	98	POND (WETPOND)
0.146	98	ROAD (WETPOND)
0.042	98	ROADWAY (SC OFFSITE)
0.165	98	ROOF (WETPOND)
2.737	77	TOTAL AREA

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Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
0.000	HSG B	
0.000	HSG C	
0.000	HSG D	
2.737	Other	DRYPOND, SC OFFSITE, WETPOND
2.737		TOTAL AREA

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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	0.000	0.000	0.059	0.059	DRIVEWAY	DRYPOND, SC OFFSITE, WETPOND
0.000	0.000	0.000	0.000	0.355	0.355	GRAA	SC OFFSITE
0.000	0.000	0.000	0.000	1.779	1.779	GRASS	DRYPOND, WETPOND
0.000	0.000	0.000	0.000	0.191	0.191	POND	WETPOND
0.000	0.000	0.000	0.000	0.146	0.146	ROAD	WETPOND
0.000	0.000	0.000	0.000	0.042	0.042	ROADWAY	SC OFFSITE
0.000	0.000	0.000	0.000	0.165	0.165	ROOF	WETPOND
0.000	0.000	0.000	0.000	2.737	2.737	TOTAL AREA	

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Pipe Listing (all nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Diam/Width (inches)	Height (inches)	Inside-Fill (inches)
1	DRY POND	862.50	861.40	23.0	0.0478	0.011	8.0	0.0	0.0
2	WET POND	861.50	861.40	38.0	0.0026	0.011	12.0	0.0	0.0

21-08 PROPOSED Litte Lamb's Corner 003*MSE 24-hr 3 5 yr - Jackson Rainfall=3.26"*

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Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points x 6
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment DRYPOND: DRYPOND Runoff Area=9,252 sf 3.86% Impervious Runoff Depth>0.97"
Flow Length=100' Slope=0.0100 '/' Tc=14.5 min CN=72 Runoff=0.25 cfs 0.017 af

Subcatchment SC OFFSITE: SC OFFSITE Runoff Area=17,679 sf 12.63% Impervious Runoff Depth>1.08"
Flow Length=76' Tc=8.0 min CN=74 Runoff=0.71 cfs 0.036 af

Subcatchment WETPOND: WETPOND Runoff Area=92,301 sf 25.66% Impervious Runoff Depth>1.32"
Flow Length=164' Slope=0.0340 '/' Tc=13.2 min CN=78 Runoff=3.77 cfs 0.232 af

Pond DRY POND: DRY POND Peak Elev=862.83' Storage=359 cf Inflow=0.25 cfs 0.017 af
Primary=0.03 cfs 0.016 af Secondary=0.00 cfs 0.000 af Outflow=0.03 cfs 0.016 af

Pond OFFSITE: OFFSITE Inflow=0.74 cfs 0.107 af
Primary=0.74 cfs 0.107 af

Pond WET POND: WET POND 1 Peak Elev=862.31' Storage=8,052 cf Inflow=3.77 cfs 0.232 af
Primary=0.06 cfs 0.055 af Secondary=0.00 cfs 0.000 af Outflow=0.06 cfs 0.055 af

Total Runoff Area = 2.737 ac Runoff Volume = 0.286 af Average Runoff Depth = 1.25"
77.96% Pervious = 2.134 ac 22.04% Impervious = 0.603 ac

21-08 PROPOSED Litte Lamb's Corner 003

MSE 24-hr 3 5 yr - Jackson Rainfall=3.26"

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Summary for Subcatchment DRYPOND: DRYPOND

Runoff = 0.25 cfs @ 12.25 hrs, Volume= 0.017 af, Depth> 0.97"

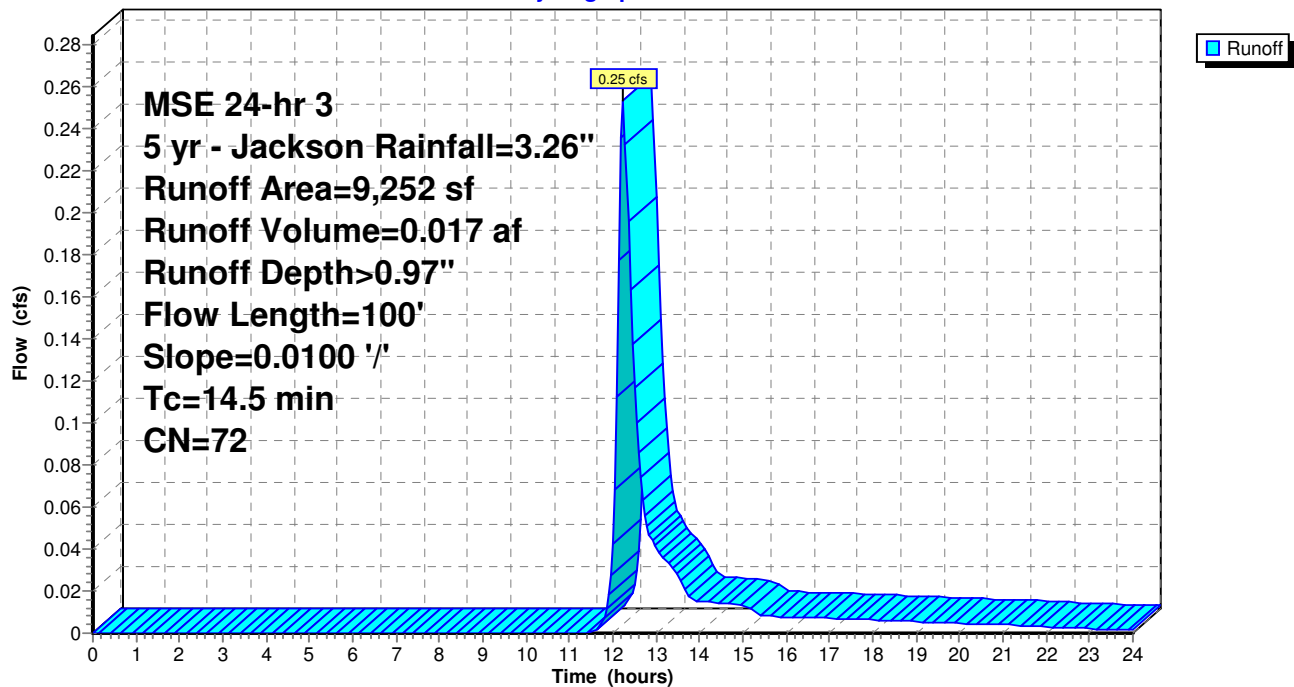
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 5 yr - Jackson Rainfall=3.26"

	Area (sf)	CN	Description
*	357	98	DRIVEWAY
*	8,895	71	GRASS
	9,252	72	Weighted Average
	8,895		96.14% Pervious Area
	357		3.86% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.5	100	0.0100	0.11		Sheet Flow, Grass: Short n= 0.150 P2= 2.54"

Subcatchment DRYPOND: DRYPOND

Hydrograph



21-08 PROPOSED Litte Lamb's Corner 003

MSE 24-hr 3 5 yr - Jackson Rainfall=3.26"

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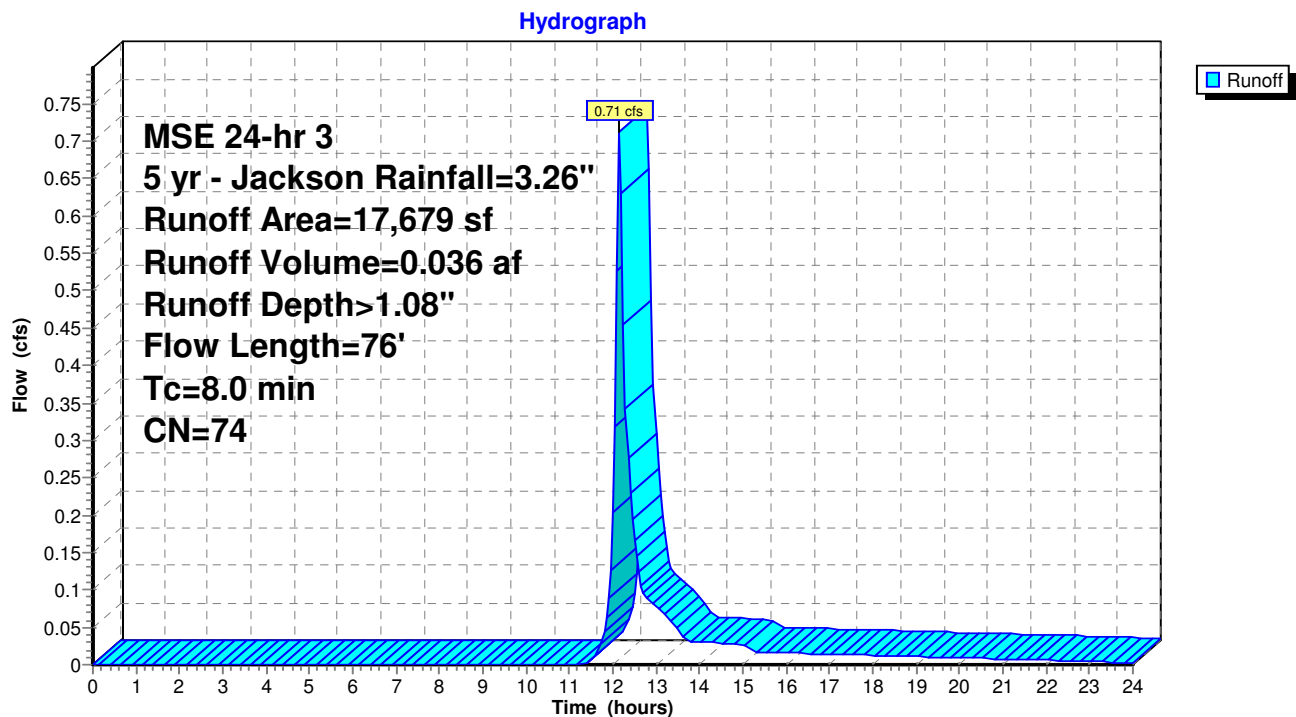
Summary for Subcatchment SC OFFSITE: SC OFFSITE

Runoff = 0.71 cfs @ 12.16 hrs, Volume= 0.036 af, Depth> 1.08"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 5 yr - Jackson Rainfall=3.26"

	Area (sf)	CN	Description
*	1,840	98	ROADWAY
*	393	98	DRIVEWAY
*	0	98	ROOF
*	15,446	71	GRAA
	17,679	74	Weighted Average
	15,446		87.37% Pervious Area
	2,233		12.63% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.8	56	0.0210	0.14		Sheet Flow, Grass: Short n= 0.150 P2= 2.54"
1.2	20	0.2250	0.29		Sheet Flow, Grass: Short n= 0.150 P2= 2.54"
8.0	76	Total			

Subcatchment SC OFFSITE: SC OFFSITE

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MSE 24-hr 3 5 yr - Jackson Rainfall=3.26"

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Summary for Subcatchment WETPOND: WETPOND

Runoff = 3.77 cfs @ 12.22 hrs, Volume= 0.232 af, Depth> 1.32"

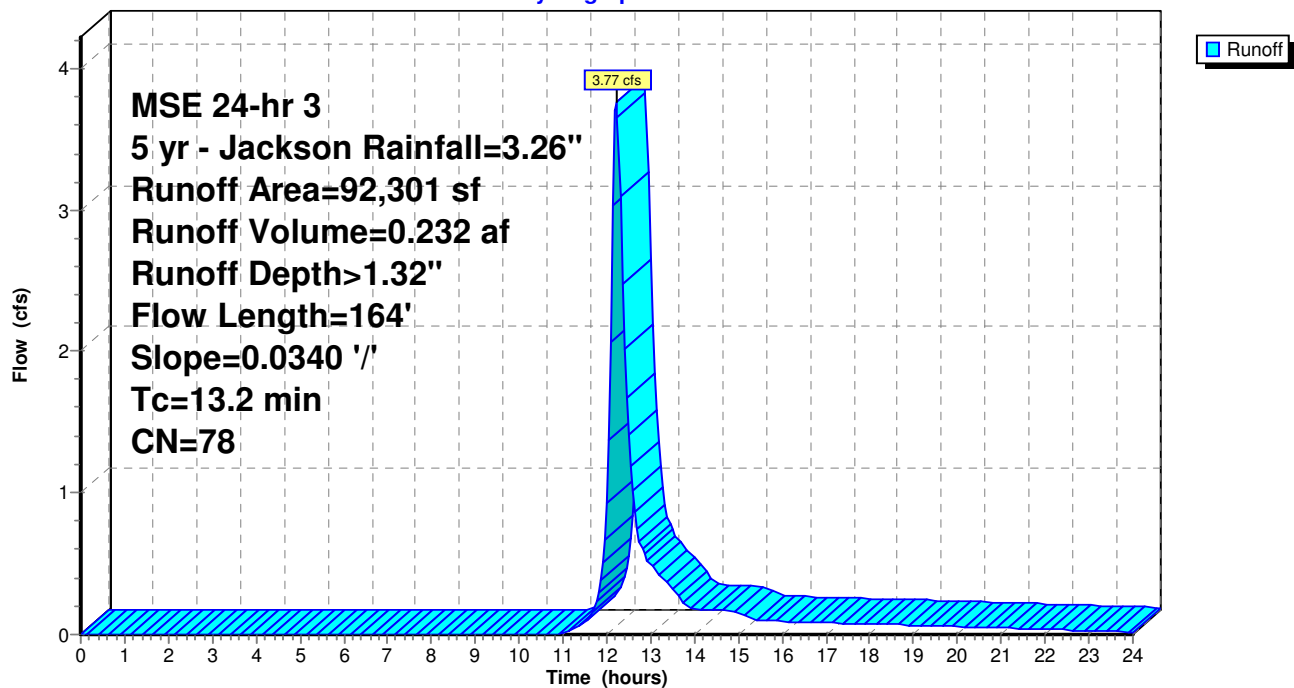
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 5 yr - Jackson Rainfall=3.26"

	Area (sf)	CN	Description
*	6,354	98	ROAD
*	1,806	98	DRIVEWAY
*	7,200	98	ROOF
*	8,326	98	POND
*	68,615	71	GRASS
	92,301	78	Weighted Average
	68,615		74.34% Pervious Area
	23,686		25.66% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.2	164	0.0340	0.21		Sheet Flow, Grass: Short n= 0.150 P2= 2.54"

Subcatchment WETPOND: WETPOND

Hydrograph



Summary for Pond DRY POND: DRY POND

[92] Warning: Device #4 is above defined storage

Inflow Area = 0.212 ac, 3.86% Impervious, Inflow Depth > 0.97" for 5 yr - Jackson event
 Inflow = 0.25 cfs @ 12.25 hrs, Volume= 0.017 af
 Outflow = 0.03 cfs @ 13.37 hrs, Volume= 0.016 af, Atten= 88%, Lag= 67.3 min
 Primary = 0.03 cfs @ 13.37 hrs, Volume= 0.016 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs / 6
 Peak Elev= 862.83' @ 13.37 hrs Surf.Area= 688 sf Storage= 359 cf
 Flood Elev= 864.00' Surf.Area= 1,769 sf Storage= 1,610 cf

Plug-Flow detention time= 165.1 min calculated for 0.016 af (93% of inflow)
 Center-of-Mass det. time= 131.5 min (971.0 - 839.6)

Volume	Invert	Avail.Storage	Storage Description
#1	862.50'	1,610 cf	Custom Stage Data (Prismatic) Listed below

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
862.50	378	0	0
864.00	1,769	1,610	1,610

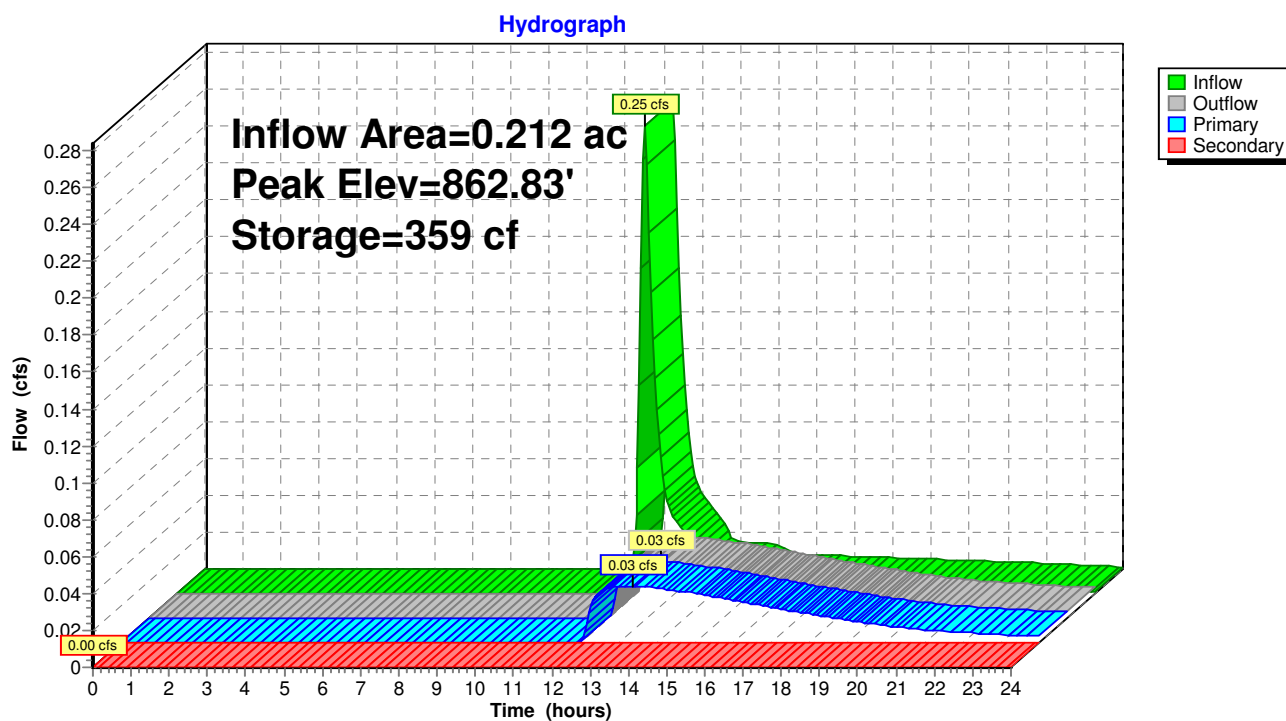
Device	Routing	Invert	Outlet Devices
#1	Primary	862.50'	8.0" Round Culvert L= 23.0' Ke= 0.700 Inlet / Outlet Invert= 862.50' / 861.40' S= 0.0478 '/' Cc= 0.900 n= 0.011, Flow Area= 0.35 sf
#2	Device 1	862.50'	1.5" Vert. Orifice/Grate C= 0.600
#3	Device 1	863.95'	2.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#4	Secondary	864.00'	30.0' long x 12.0' 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) 2.57 2.62 2.70 2.67 2.66 2.67 2.66 2.64

Primary OutFlow Max=0.03 cfs @ 13.37 hrs HW=862.83' TW=0.00' (Dynamic Tailwater)

↑ **1=Culvert** (Passes 0.03 cfs of 0.30 cfs potential flow)
 ↑ **2=Orifice/Grate** (Orifice Controls 0.03 cfs @ 2.51 fps)
 ↑ **3=Orifice/Grate** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=862.50' TW=0.00' (Dynamic Tailwater)

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

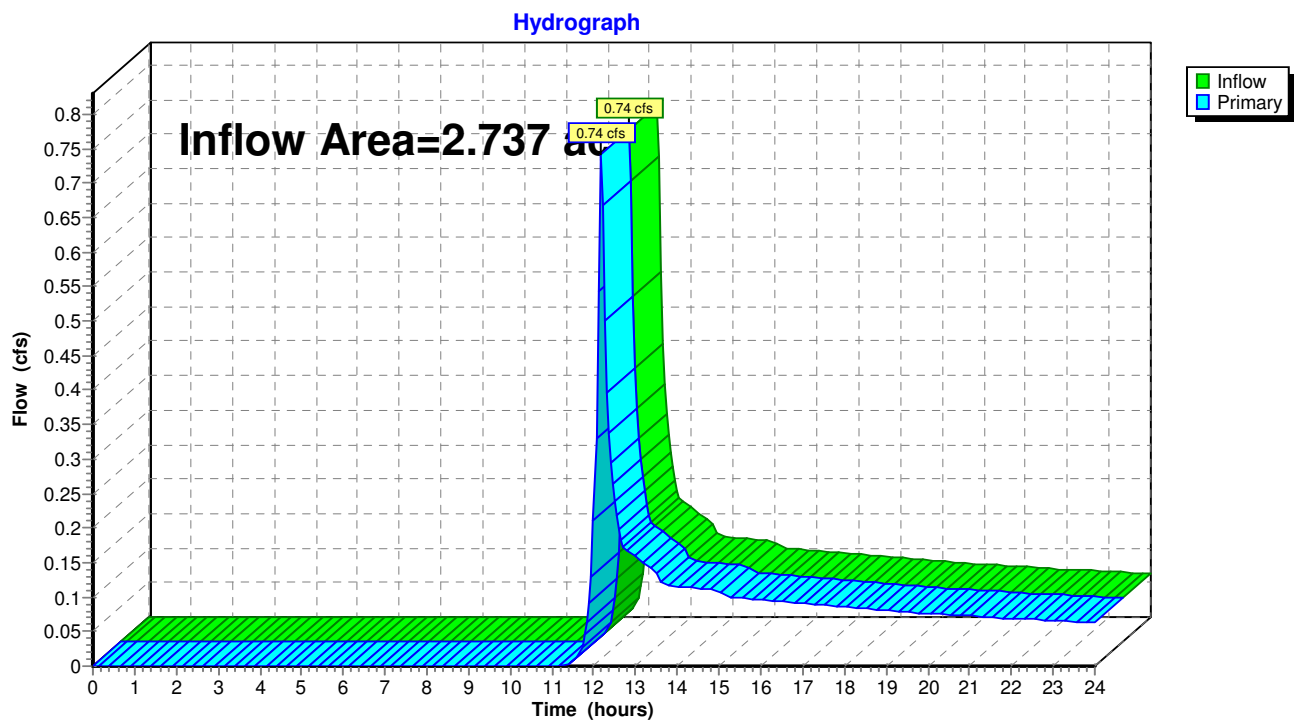
Pond DRY POND: DRY POND

Summary for Pond OFFSITE: OFFSITE

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 2.737 ac, 22.04% Impervious, Inflow Depth > 0.47" for 5 yr - Jackson event
Inflow = 0.74 cfs @ 12.16 hrs, Volume= 0.107 af
Primary = 0.74 cfs @ 12.16 hrs, Volume= 0.107 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs / 6

Pond OFFSITE: OFFSITE

Summary for Pond WET POND: WET POND 1

Inflow Area = 2.119 ac, 25.66% Impervious, Inflow Depth > 1.32" for 5 yr - Jackson event
 Inflow = 3.77 cfs @ 12.22 hrs, Volume= 0.232 af
 Outflow = 0.06 cfs @ 19.73 hrs, Volume= 0.055 af, Atten= 98%, Lag= 450.3 min
 Primary = 0.06 cfs @ 19.73 hrs, Volume= 0.055 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs / 6

Peak Elev= 862.31' @ 19.73 hrs Surf.Area= 8,901 sf Storage= 8,052 cf

Flood Elev= 864.00' Surf.Area= 11,491 sf Storage= 24,899 cf

Plug-Flow detention time= 369.8 min calculated for 0.055 af (24% of inflow)

Center-of-Mass det. time= 268.7 min (1,093.0 - 824.3)

Volume	Invert	Avail.Storage	Storage Description
#1	861.50'	29,879 cf	Custom Stage Data (Prismatic) Listed below
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
861.50	7,663	0	0
864.50	12,256	29,879	29,879

Device	Routing	Invert	Outlet Devices
#1	Primary	861.50'	12.0" Round Culvert L= 38.0' Ke= 0.700 Inlet / Outlet Invert= 861.50' / 861.40' S= 0.0026 '/' Cc= 0.900 n= 0.011, Flow Area= 0.79 sf
#2	Device 1	861.50'	1.6" Vert. Orifice/Grate C= 0.600
#3	Device 1	863.95'	36.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#4	Secondary	864.00'	30.0' long x 12.0' 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) 2.57 2.62 2.70 2.67 2.66 2.67 2.66 2.64

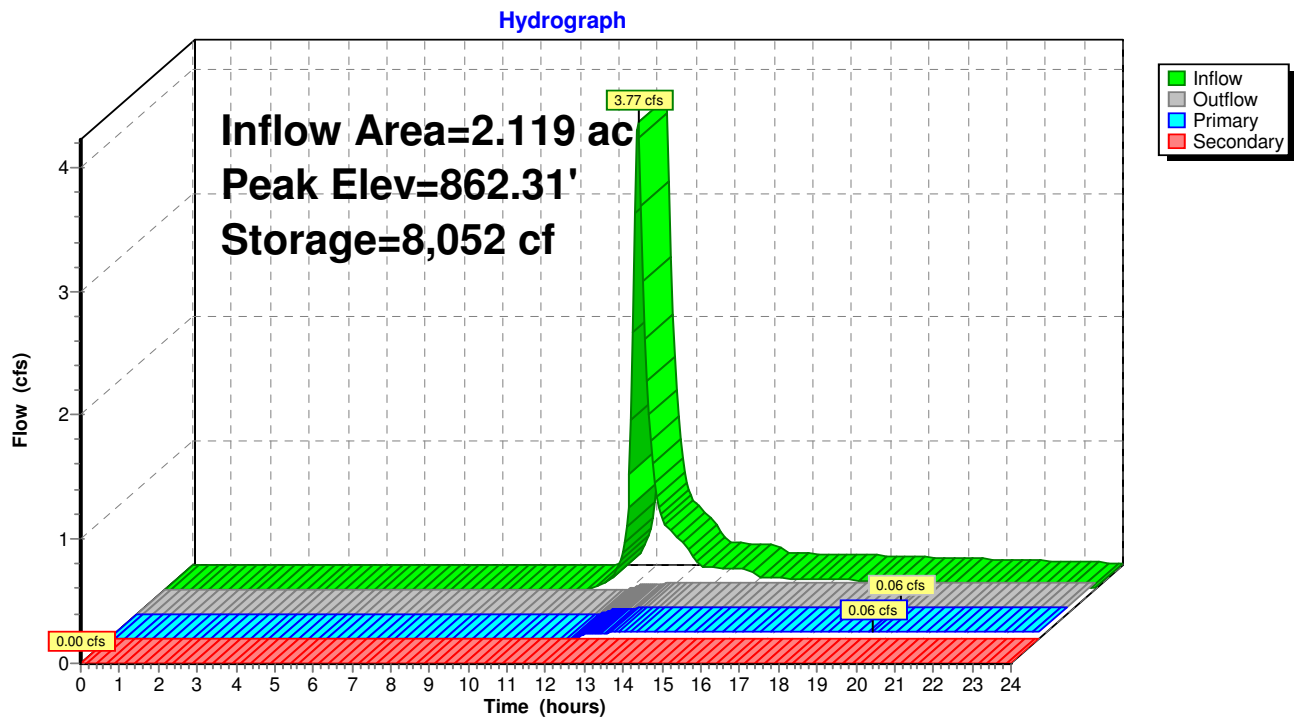
Primary OutFlow Max=0.06 cfs @ 19.73 hrs HW=862.31' TW=0.00' (Dynamic Tailwater)

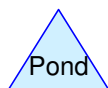
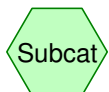
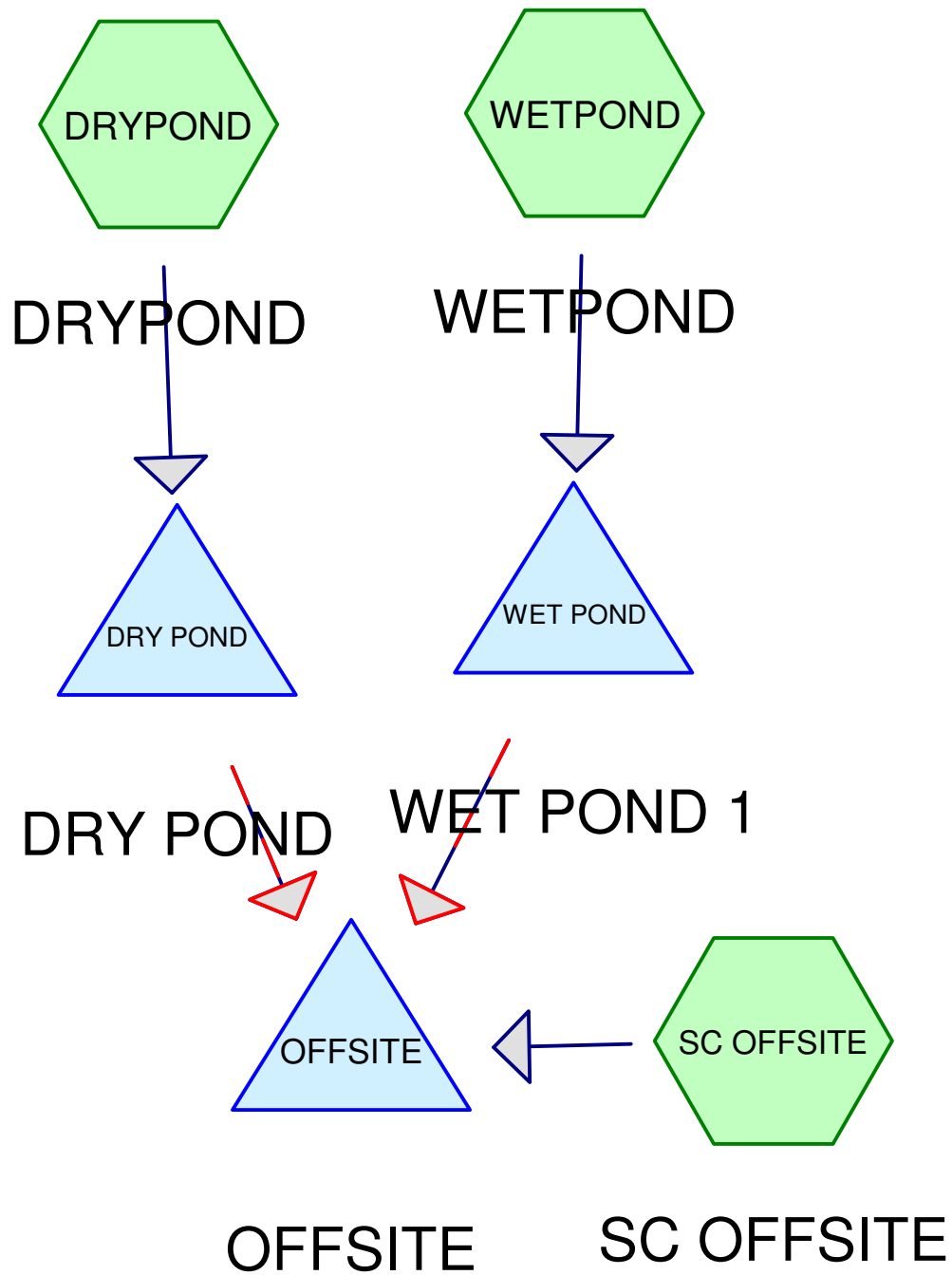
↑ **1=Culvert** (Passes 0.06 cfs of 1.41 cfs potential flow)
 ↑ **2=Orifice/Grate** (Orifice Controls 0.06 cfs @ 4.15 fps)
 ↑ **3=Orifice/Grate** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=861.50' TW=0.00' (Dynamic Tailwater)

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

Pond WET POND: WET POND 1





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Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.059	98	DRIVEWAY (DRYPOND, SC OFFSITE, WETPOND)
0.355	71	GRAA (SC OFFSITE)
1.779	71	GRASS (DRYPOND, WETPOND)
0.191	98	POND (WETPOND)
0.146	98	ROAD (WETPOND)
0.042	98	ROADWAY (SC OFFSITE)
0.165	98	ROOF (WETPOND)
2.737	77	TOTAL AREA

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Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
0.000	HSG B	
0.000	HSG C	
0.000	HSG D	
2.737	Other	DRYPOND, SC OFFSITE, WETPOND
2.737		TOTAL AREA

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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	0.000	0.000	0.059	0.059	DRIVEWAY	DRYPOND, SC OFFSITE, WETPOND
0.000	0.000	0.000	0.000	0.355	0.355	GRAA	SC OFFSITE
0.000	0.000	0.000	0.000	1.779	1.779	GRASS	DRYPOND, WETPOND
0.000	0.000	0.000	0.000	0.191	0.191	POND	WETPOND
0.000	0.000	0.000	0.000	0.146	0.146	ROAD	WETPOND
0.000	0.000	0.000	0.000	0.042	0.042	ROADWAY	SC OFFSITE
0.000	0.000	0.000	0.000	0.165	0.165	ROOF	WETPOND
0.000	0.000	0.000	0.000	2.737	2.737	TOTAL AREA	

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Pipe Listing (all nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Diam/Width (inches)	Height (inches)	Inside-Fill (inches)
1	DRY POND	862.50	861.40	23.0	0.0478	0.011	8.0	0.0	0.0
2	WET POND	861.50	861.40	38.0	0.0026	0.011	12.0	0.0	0.0

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points x 6
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment DRYPOND: DRYPOND Runoff Area=9,252 sf 3.86% Impervious Runoff Depth>0.45"
Flow Length=100' Slope=0.0100 '/' Tc=14.5 min CN=72 Runoff=0.10 cfs 0.008 af

Subcatchment SC OFFSITE: SC OFFSITE Runoff Area=17,679 sf 12.63% Impervious Runoff Depth>0.53"
Flow Length=76' Tc=8.0 min CN=74 Runoff=0.32 cfs 0.018 af

Subcatchment WETPOND: WETPOND Runoff Area=92,301 sf 25.66% Impervious Runoff Depth>0.69"
Flow Length=164' Slope=0.0340 '/' Tc=13.2 min CN=78 Runoff=1.88 cfs 0.122 af

Pond DRY POND: DRY POND Peak Elev=862.64' Storage=147 cf Inflow=0.10 cfs 0.008 af
Primary=0.02 cfs 0.007 af Secondary=0.00 cfs 0.000 af Outflow=0.02 cfs 0.007 af

Pond OFFSITE: OFFSITE Inflow=0.33 cfs 0.061 af
Primary=0.33 cfs 0.061 af

Pond WET POND: WET POND 1 Peak Elev=861.90' Storage=3,986 cf Inflow=1.88 cfs 0.122 af
Primary=0.04 cfs 0.036 af Secondary=0.00 cfs 0.000 af Outflow=0.04 cfs 0.036 af

Total Runoff Area = 2.737 ac Runoff Volume = 0.148 af Average Runoff Depth = 0.65"
77.96% Pervious = 2.134 ac 22.04% Impervious = 0.603 ac

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MSE 24-hr 3 10 yr - Jackson Rainfall=2.35"

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Summary for Subcatchment DRYPOND: DRYPOND

Runoff = 0.10 cfs @ 12.26 hrs, Volume= 0.008 af, Depth> 0.45"

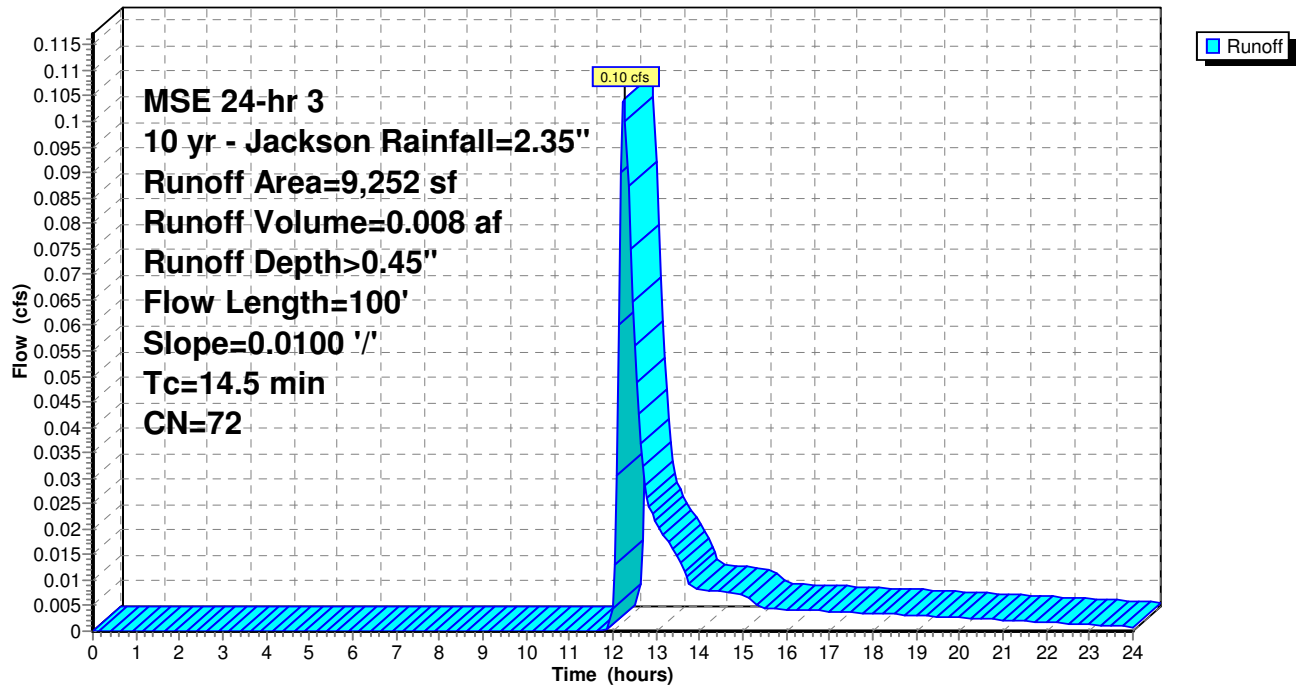
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 10 yr - Jackson Rainfall=2.35"

	Area (sf)	CN	Description
*	357	98	DRIVEWAY
*	8,895	71	GRASS
	9,252	72	Weighted Average
	8,895		96.14% Pervious Area
	357		3.86% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.5	100	0.0100	0.11		Sheet Flow, Grass: Short n= 0.150 P2= 2.54"

Subcatchment DRYPOND: DRYPOND

Hydrograph



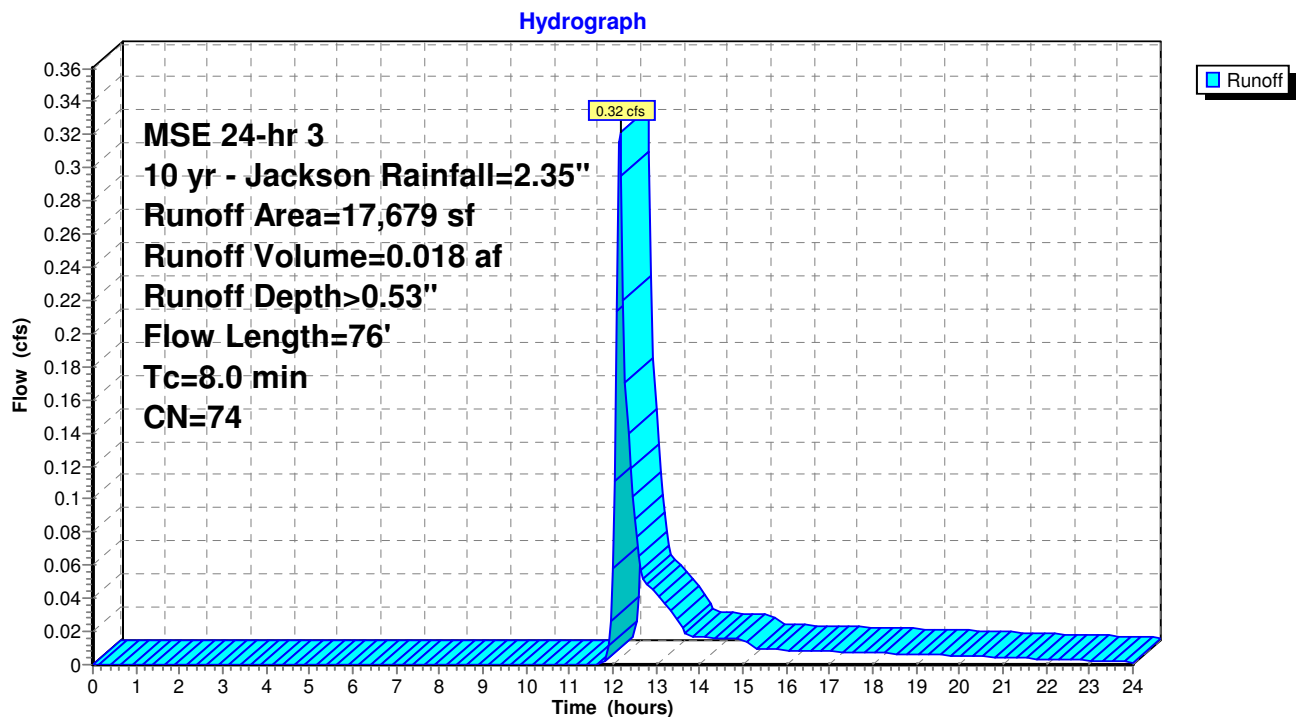
Summary for Subcatchment SC OFFSITE: SC OFFSITE

Runoff = 0.32 cfs @ 12.17 hrs, Volume= 0.018 af, Depth> 0.53"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 10 yr - Jackson Rainfall=2.35"

Area (sf)	CN	Description
* 1,840	98	ROADWAY
* 393	98	DRIVEWAY
* 0	98	ROOF
* 15,446	71	GRAA
17,679	74	Weighted Average
15,446		87.37% Pervious Area
2,233		12.63% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.8	56	0.0210	0.14		Sheet Flow, Grass: Short n= 0.150 P2= 2.54"
1.2	20	0.2250	0.29		Sheet Flow, Grass: Short n= 0.150 P2= 2.54"
8.0	76	Total			

Subcatchment SC OFFSITE: SC OFFSITE

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MSE 24-hr 3 10 yr - Jackson Rainfall=2.35"

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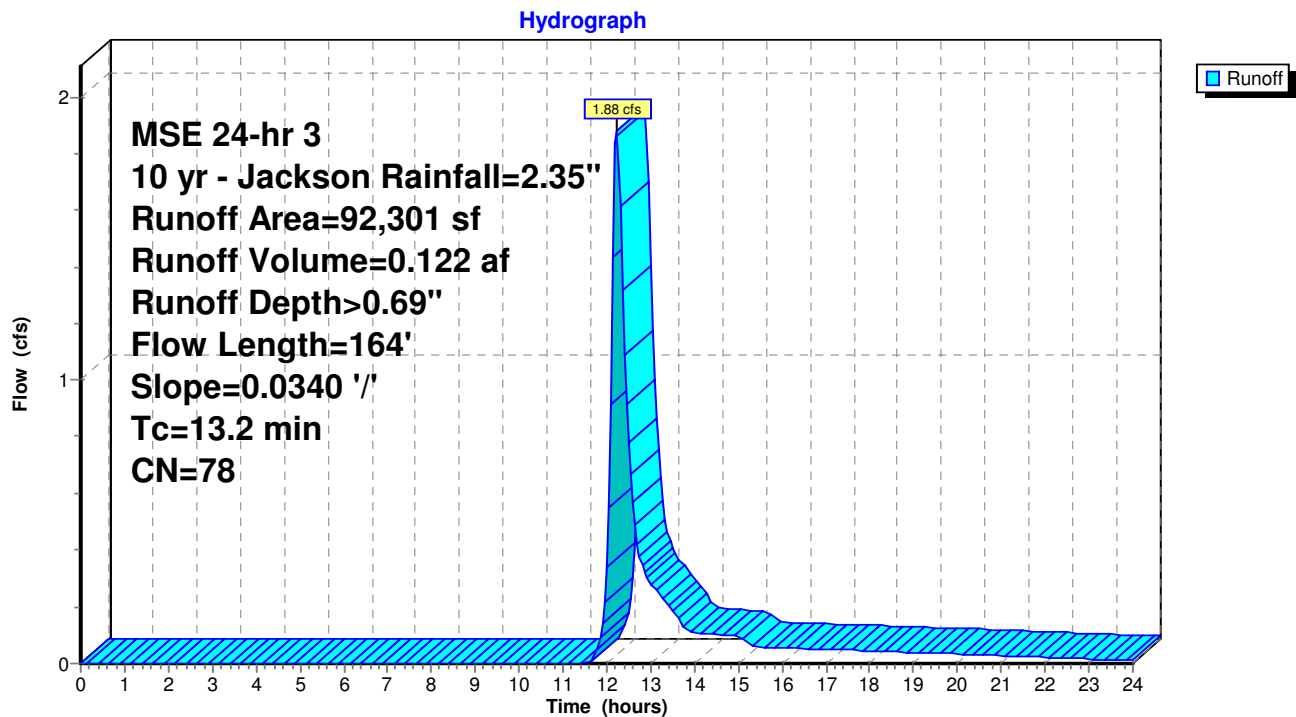
Summary for Subcatchment WETPOND: WETPOND

Runoff = 1.88 cfs @ 12.23 hrs, Volume= 0.122 af, Depth> 0.69"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 10 yr - Jackson Rainfall=2.35"

	Area (sf)	CN	Description
*	6,354	98	ROAD
*	1,806	98	DRIVEWAY
*	7,200	98	ROOF
*	8,326	98	POND
*	68,615	71	GRASS
	92,301	78	Weighted Average
	68,615		74.34% Pervious Area
	23,686		25.66% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.2	164	0.0340	0.21		Sheet Flow, Grass: Short n= 0.150 P2= 2.54"

Subcatchment WETPOND: WETPOND

Summary for Pond DRY POND: DRY POND

[92] Warning: Device #4 is above defined storage

Inflow Area = 0.212 ac, 3.86% Impervious, Inflow Depth > 0.45" for 10 yr - Jackson event
 Inflow = 0.10 cfs @ 12.26 hrs, Volume= 0.008 af
 Outflow = 0.02 cfs @ 13.39 hrs, Volume= 0.007 af, Atten= 85%, Lag= 67.5 min
 Primary = 0.02 cfs @ 13.39 hrs, Volume= 0.007 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs / 6
 Peak Elev= 862.64' @ 13.39 hrs Surf.Area= 505 sf Storage= 147 cf
 Flood Elev= 864.00' Surf.Area= 1,769 sf Storage= 1,610 cf

Plug-Flow detention time= 159.2 min calculated for 0.007 af (89% of inflow)

Center-of-Mass det. time= 109.6 min (969.0 - 859.5)

Volume	Invert	Avail.Storage	Storage Description
#1	862.50'	1,610 cf	Custom Stage Data (Prismatic) Listed below

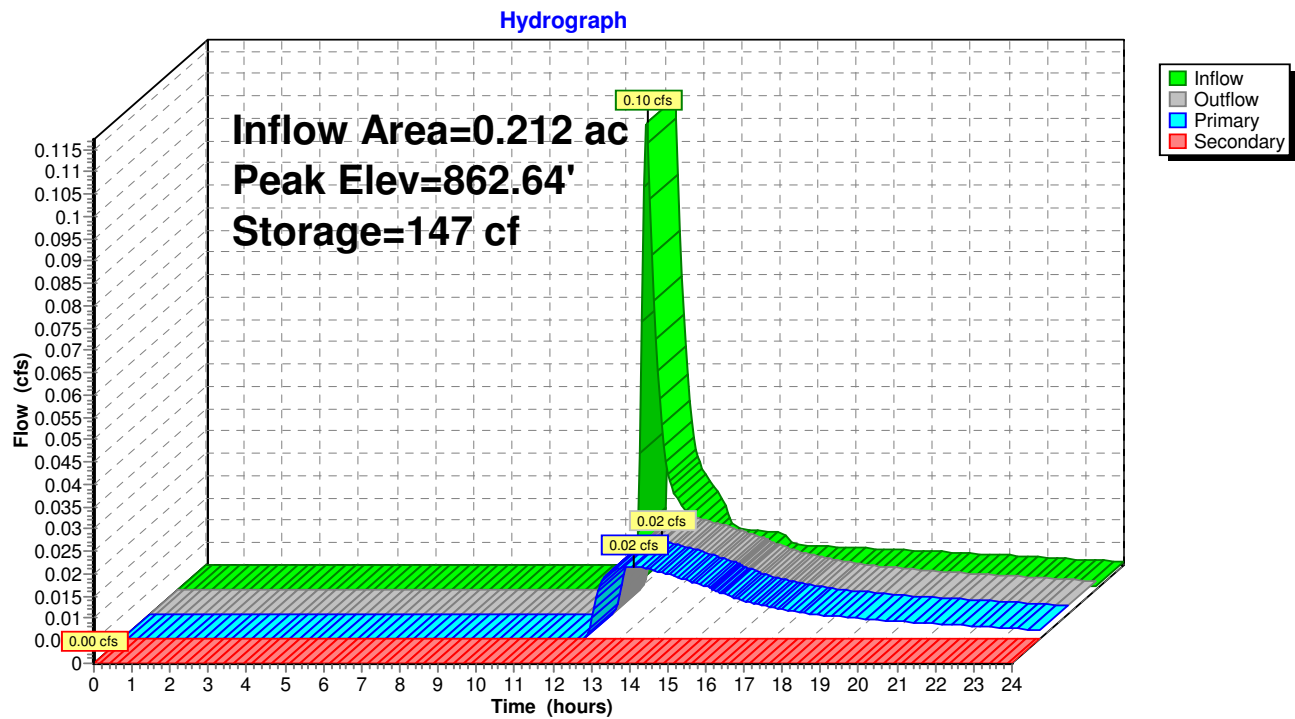
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
862.50	378	0	0
864.00	1,769	1,610	1,610

Device	Routing	Invert	Outlet Devices
#1	Primary	862.50'	8.0" Round Culvert L= 23.0' Ke= 0.700 Inlet / Outlet Invert= 862.50' / 861.40' S= 0.0478 '/' Cc= 0.900 n= 0.011, Flow Area= 0.35 sf
#2	Device 1	862.50'	1.5" Vert. Orifice/Grate C= 0.600
#3	Device 1	863.95'	2.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#4	Secondary	864.00'	30.0' long x 12.0' 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) 2.57 2.62 2.70 2.67 2.66 2.67 2.66 2.64

Primary OutFlow Max=0.02 cfs @ 13.39 hrs HW=862.64' TW=0.00' (Dynamic Tailwater)

↑ **1=Culvert** (Passes 0.02 cfs of 0.06 cfs potential flow)
 ↑ **2=Orifice/Grate** (Orifice Controls 0.02 cfs @ 1.31 fps)
 ↑ **3=Orifice/Grate** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=862.50' TW=0.00' (Dynamic Tailwater)↑ **4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond DRY POND: DRY POND

Summary for Pond OFFSITE: OFFSITE

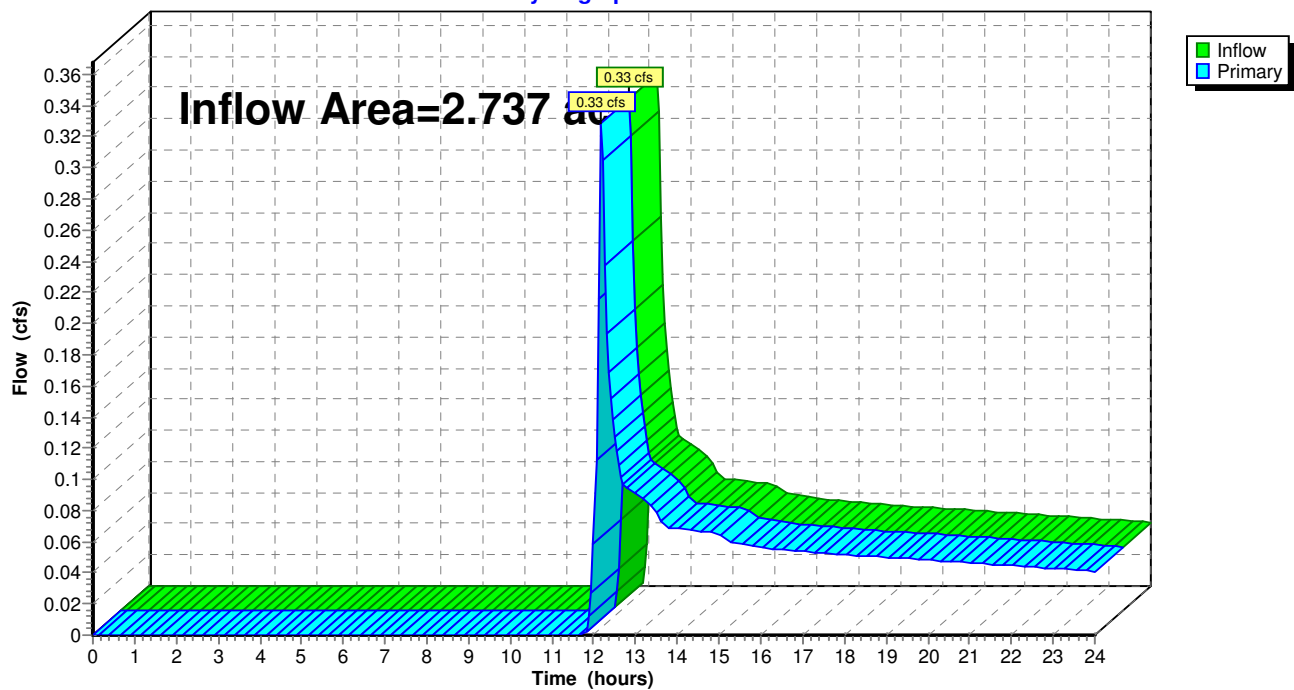
[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 2.737 ac, 22.04% Impervious, Inflow Depth > 0.27" for 10 yr - Jackson event
Inflow = 0.33 cfs @ 12.17 hrs, Volume= 0.061 af
Primary = 0.33 cfs @ 12.17 hrs, Volume= 0.061 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs / 6

Pond OFFSITE: OFFSITE

Hydrograph



Summary for Pond WET POND: WET POND 1

Inflow Area = 2.119 ac, 25.66% Impervious, Inflow Depth > 0.69" for 10 yr - Jackson event
 Inflow = 1.88 cfs @ 12.23 hrs, Volume= 0.122 af
 Outflow = 0.04 cfs @ 19.08 hrs, Volume= 0.036 af, Atten= 98%, Lag= 411.1 min
 Primary = 0.04 cfs @ 19.08 hrs, Volume= 0.036 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs / 6

Peak Elev= 861.90' @ 19.08 hrs Surf.Area= 8,276 sf Storage= 3,986 cf

Flood Elev= 864.00' Surf.Area= 11,491 sf Storage= 24,899 cf

Plug-Flow detention time= 365.7 min calculated for 0.036 af (30% of inflow)

Center-of-Mass det. time= 257.1 min (1,095.8 - 838.8)

Volume	Invert	Avail.Storage	Storage Description
#1	861.50'	29,879 cf	Custom Stage Data (Prismatic) Listed below

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
861.50	7,663	0	0
864.50	12,256	29,879	29,879

Device	Routing	Invert	Outlet Devices
#1	Primary	861.50'	12.0" Round Culvert L= 38.0' Ke= 0.700 Inlet / Outlet Invert= 861.50' / 861.40' S= 0.0026 '/' Cc= 0.900 n= 0.011, Flow Area= 0.79 sf
#2	Device 1	861.50'	1.6" Vert. Orifice/Grate C= 0.600
#3	Device 1	863.95'	36.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#4	Secondary	864.00'	30.0' long x 12.0' 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) 2.57 2.62 2.70 2.67 2.66 2.67 2.66 2.64

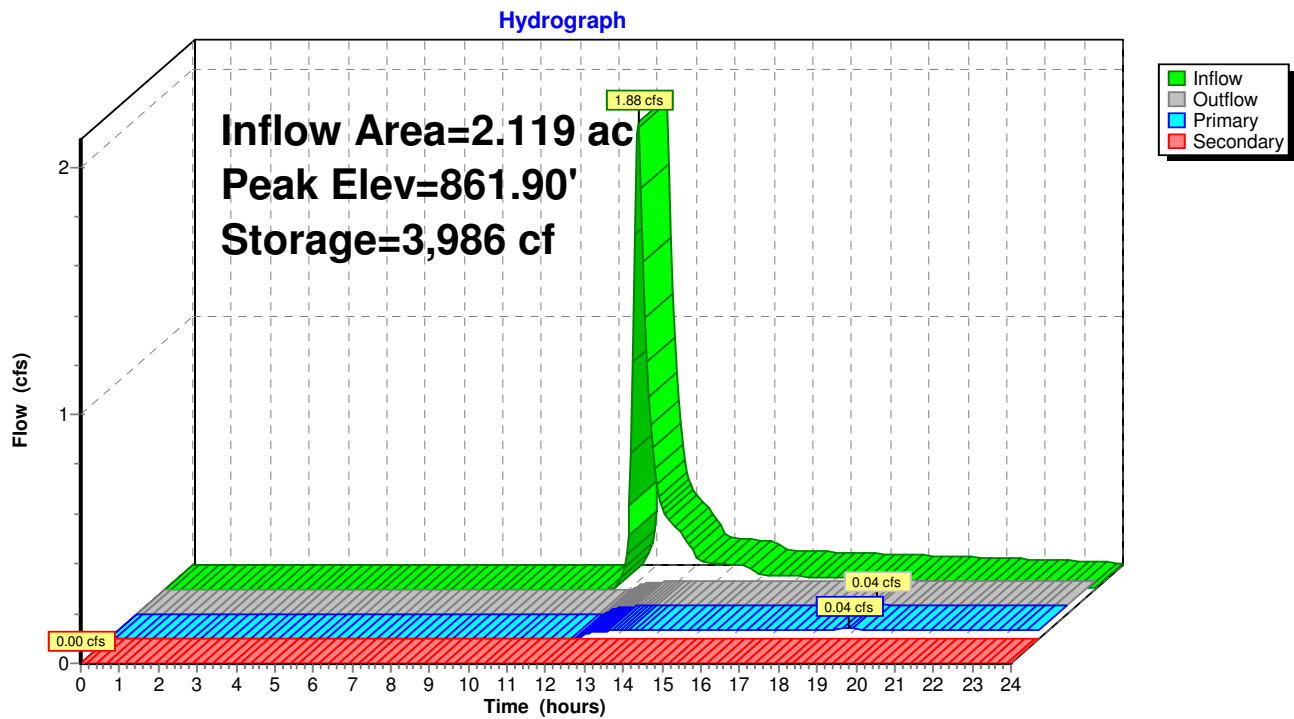
Primary OutFlow Max=0.04 cfs @ 19.08 hrs HW=861.90' TW=0.00' (Dynamic Tailwater)

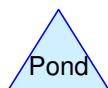
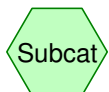
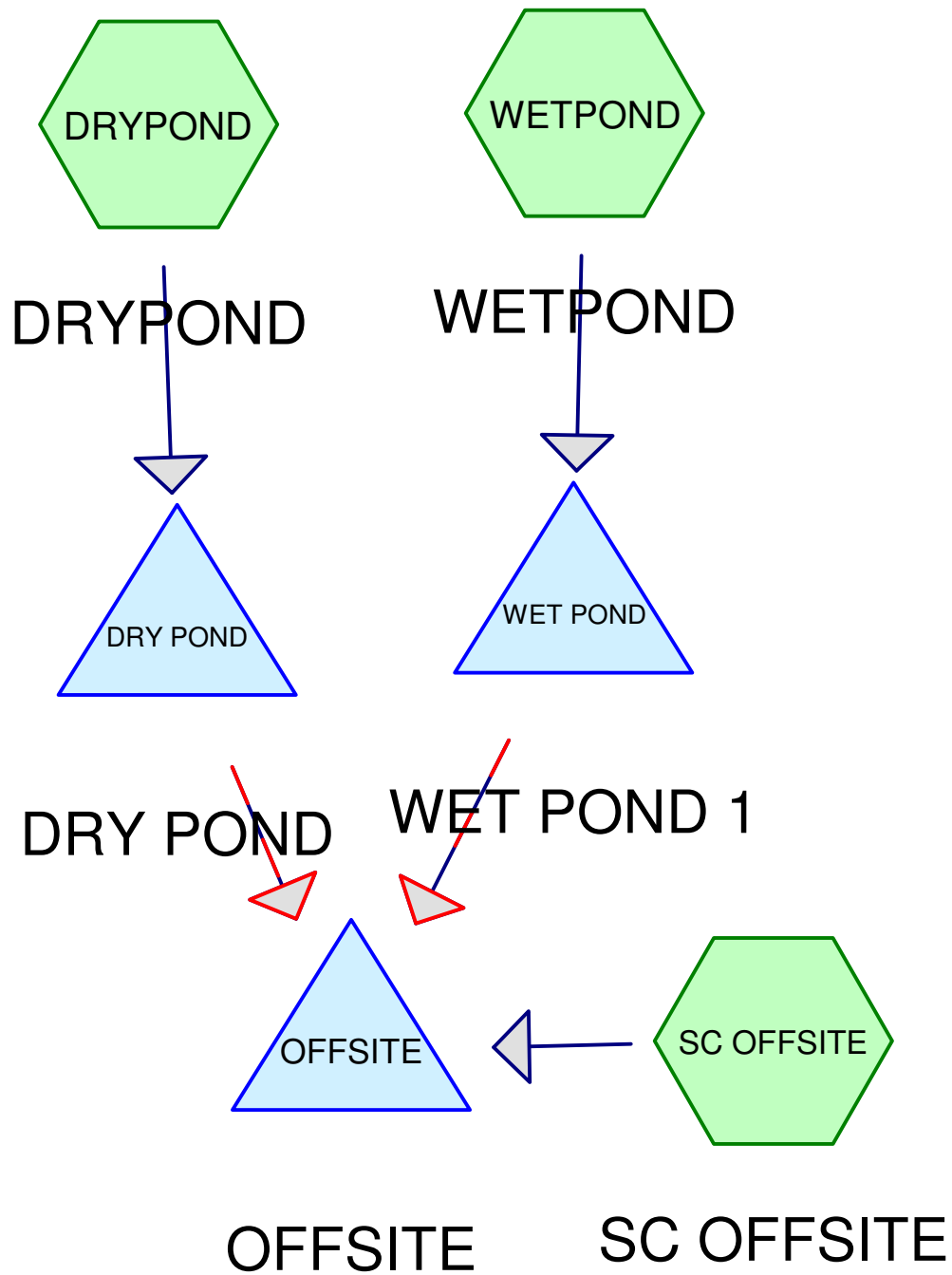
↑ **1=Culvert** (Passes 0.04 cfs of 0.40 cfs potential flow)
 ↑ **2=Orifice/Grate** (Orifice Controls 0.04 cfs @ 2.78 fps)
 ↑ **3=Orifice/Grate** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=861.50' TW=0.00' (Dynamic Tailwater)

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

Pond WET POND: WET POND 1





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Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.059	98	DRIVEWAY (DRYPOND, SC OFFSITE, WETPOND)
0.355	71	GRAA (SC OFFSITE)
1.779	71	GRASS (DRYPOND, WETPOND)
0.191	98	POND (WETPOND)
0.146	98	ROAD (WETPOND)
0.042	98	ROADWAY (SC OFFSITE)
0.165	98	ROOF (WETPOND)
2.737	77	TOTAL AREA

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Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
0.000	HSG B	
0.000	HSG C	
0.000	HSG D	
2.737	Other	DRYPOND, SC OFFSITE, WETPOND
2.737		TOTAL AREA

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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	0.000	0.000	0.059	0.059	DRIVEWAY	DRYPOND, SC OFFSITE, WETPOND
0.000	0.000	0.000	0.000	0.355	0.355	GRAA	SC OFFSITE
0.000	0.000	0.000	0.000	1.779	1.779	GRASS	DRYPOND, WETPOND
0.000	0.000	0.000	0.000	0.191	0.191	POND	WETPOND
0.000	0.000	0.000	0.000	0.146	0.146	ROAD	WETPOND
0.000	0.000	0.000	0.000	0.042	0.042	ROADWAY	SC OFFSITE
0.000	0.000	0.000	0.000	0.165	0.165	ROOF	WETPOND
0.000	0.000	0.000	0.000	2.737	2.737	TOTAL AREA	

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Pipe Listing (all nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Diam/Width (inches)	Height (inches)	Inside-Fill (inches)
1	DRY POND	862.50	861.40	23.0	0.0478	0.011	8.0	0.0	0.0
2	WET POND	861.50	861.40	38.0	0.0026	0.011	12.0	0.0	0.0

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points x 6
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment DRYPOND: DRYPOND Runoff Area=9,252 sf 3.86% Impervious Runoff Depth>3.35"
Flow Length=100' Slope=0.0100 '/' Tc=14.5 min CN=72 Runoff=0.92 cfs 0.059 af

Subcatchment SC OFFSITE: SC OFFSITE Runoff Area=17,679 sf 12.63% Impervious Runoff Depth>3.55"
Flow Length=76' Tc=8.0 min CN=74 Runoff=2.39 cfs 0.120 af

Subcatchment WETPOND: WETPOND Runoff Area=92,301 sf 25.66% Impervious Runoff Depth>3.96"
Flow Length=164' Slope=0.0340 '/' Tc=13.2 min CN=78 Runoff=11.38 cfs 0.699 af

Pond DRY POND: DRY POND Peak Elev=863.94' Storage=1,543 cf Inflow=0.92 cfs 0.059 af
Primary=0.07 cfs 0.052 af Secondary=0.00 cfs 0.000 af Outflow=0.07 cfs 0.052 af

Pond OFFSITE: OFFSITE Inflow=2.49 cfs 0.318 af
Primary=2.49 cfs 0.318 af

Pond WET POND: WET POND 1 Peak Elev=863.98' Storage=24,682 cf Inflow=11.38 cfs 0.699 af
Primary=0.25 cfs 0.146 af Secondary=0.00 cfs 0.000 af Outflow=0.25 cfs 0.146 af

Total Runoff Area = 2.737 ac Runoff Volume = 0.878 af Average Runoff Depth = 3.85"
77.96% Pervious = 2.134 ac 22.04% Impervious = 0.603 ac

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MSE 24-hr 3 100 yr - Jackson Rainfall=6.43"

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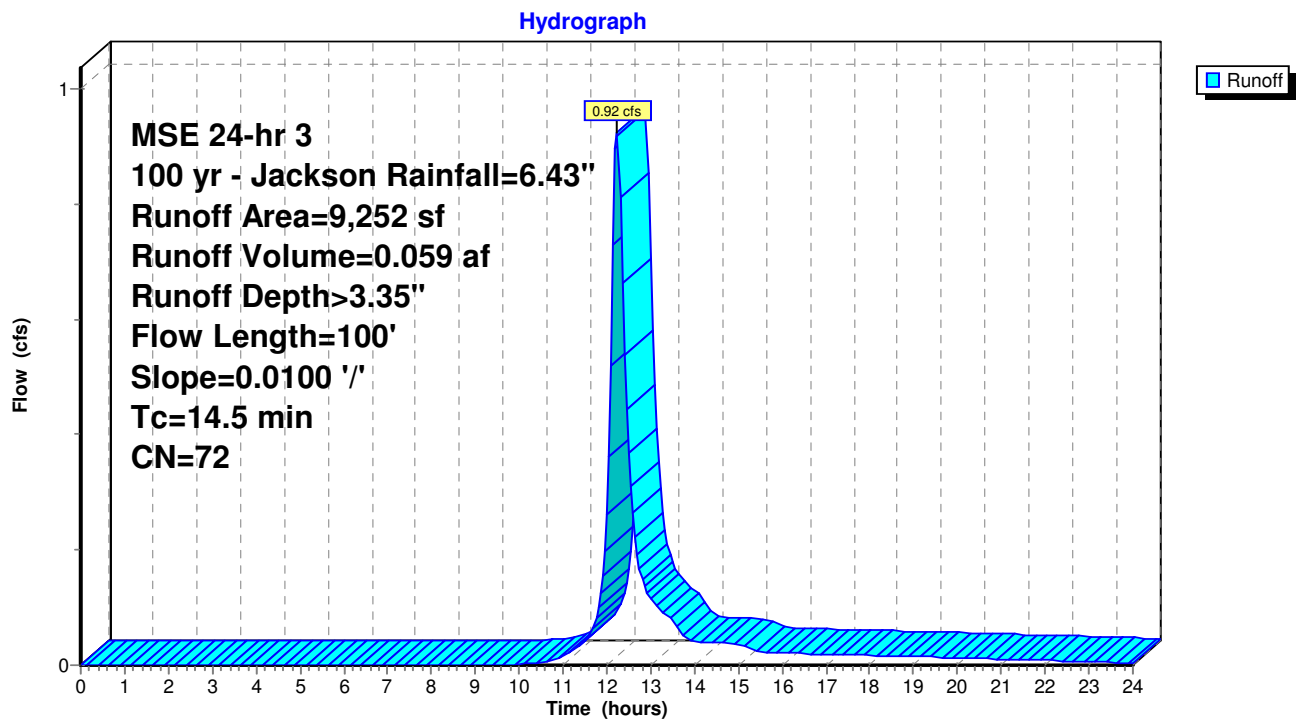
Summary for Subcatchment DRYPOND: DRYPOND

Runoff = 0.92 cfs @ 12.23 hrs, Volume= 0.059 af, Depth> 3.35"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 100 yr - Jackson Rainfall=6.43"

	Area (sf)	CN	Description
*	357	98	DRIVEWAY
*	8,895	71	GRASS
	9,252	72	Weighted Average
	8,895		96.14% Pervious Area
	357		3.86% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.5	100	0.0100	0.11		Sheet Flow, Grass: Short n= 0.150 P2= 2.54"

Subcatchment DRYPOND: DRYPOND

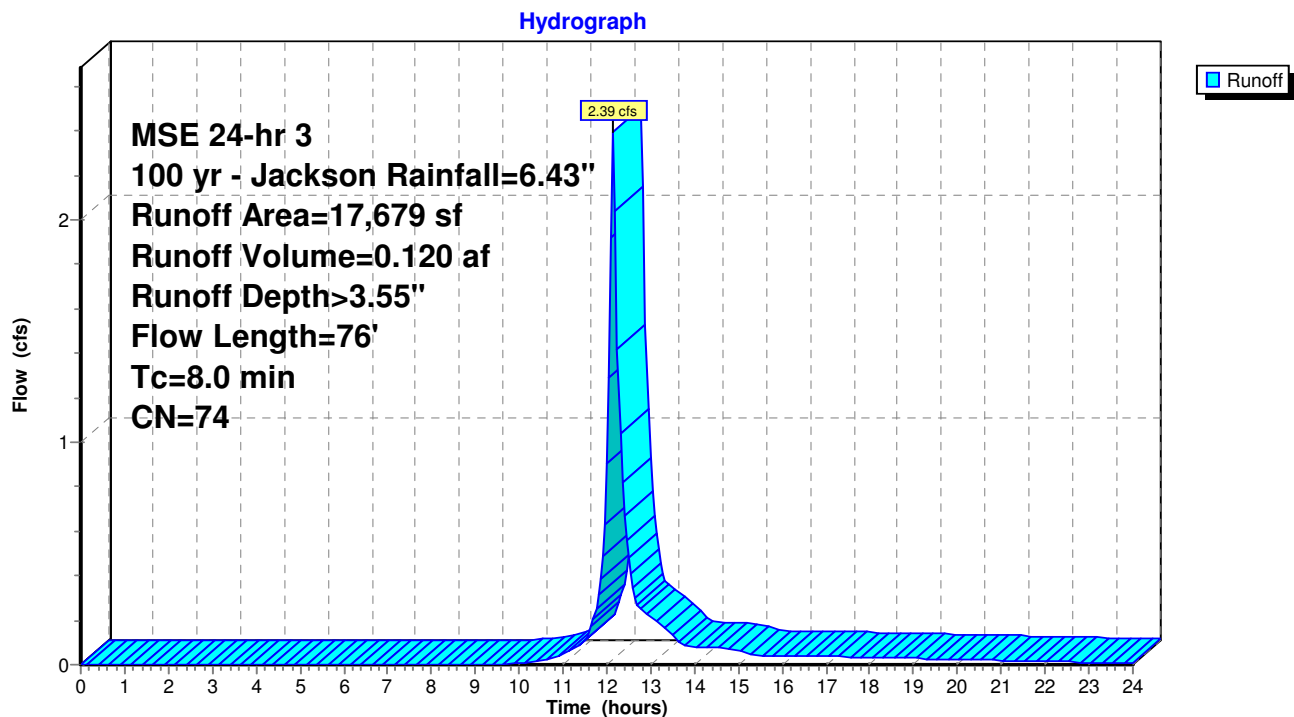
Summary for Subcatchment SC OFFSITE: SC OFFSITE

Runoff = 2.39 cfs @ 12.15 hrs, Volume= 0.120 af, Depth> 3.55"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 100 yr - Jackson Rainfall=6.43"

	Area (sf)	CN	Description
*	1,840	98	ROADWAY
*	393	98	DRIVEWAY
*	0	98	ROOF
*	15,446	71	GRAA
	17,679	74	Weighted Average
	15,446		87.37% Pervious Area
	2,233		12.63% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.8	56	0.0210	0.14		Sheet Flow, Grass: Short n= 0.150 P2= 2.54"
1.2	20	0.2250	0.29		Sheet Flow, Grass: Short n= 0.150 P2= 2.54"
8.0	76	Total			

Subcatchment SC OFFSITE: SC OFFSITE

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MSE 24-hr 3 100 yr - Jackson Rainfall=6.43"

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Summary for Subcatchment WETPOND: WETPOND

Runoff = 11.38 cfs @ 12.21 hrs, Volume= 0.699 af, Depth> 3.96"

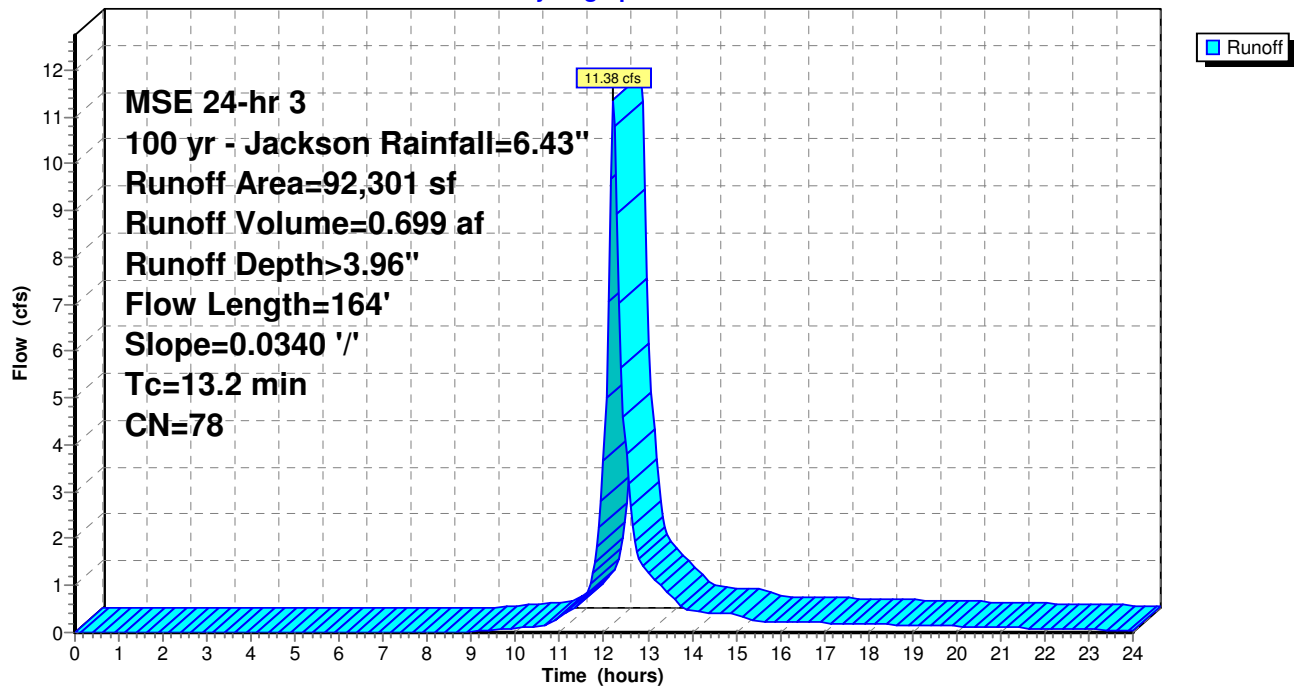
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 100 yr - Jackson Rainfall=6.43"

	Area (sf)	CN	Description
*	6,354	98	ROAD
*	1,806	98	DRIVEWAY
*	7,200	98	ROOF
*	8,326	98	POND
*	68,615	71	GRASS
	92,301	78	Weighted Average
	68,615		74.34% Pervious Area
	23,686		25.66% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.2	164	0.0340	0.21		Sheet Flow, Grass: Short n= 0.150 P2= 2.54"

Subcatchment WETPOND: WETPOND

Hydrograph



Summary for Pond DRY POND: DRY POND

[92] Warning: Device #4 is above defined storage

Inflow Area = 0.212 ac, 3.86% Impervious, Inflow Depth > 3.35" for 100 yr - Jackson event
 Inflow = 0.92 cfs @ 12.23 hrs, Volume= 0.059 af
 Outflow = 0.07 cfs @ 13.58 hrs, Volume= 0.052 af, Atten= 93%, Lag= 81.0 min
 Primary = 0.07 cfs @ 13.58 hrs, Volume= 0.052 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs / 6
 Peak Elev= 863.94' @ 13.58 hrs Surf.Area= 1,711 sf Storage= 1,543 cf
 Flood Elev= 864.00' Surf.Area= 1,769 sf Storage= 1,610 cf

Plug-Flow detention time= 266.8 min calculated for 0.052 af (88% of inflow)

Center-of-Mass det. time= 219.5 min (1,032.3 - 812.8)

Volume	Invert	Avail.Storage	Storage Description
#1	862.50'	1,610 cf	Custom Stage Data (Prismatic) Listed below

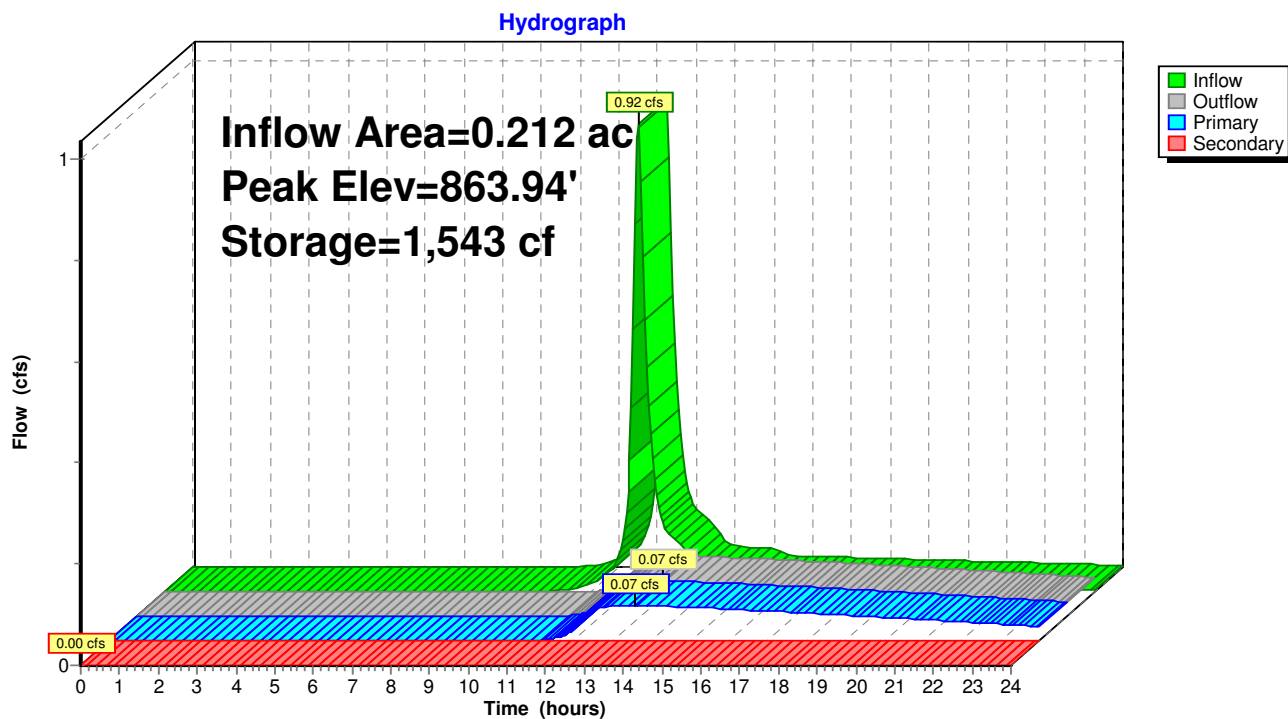
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
862.50	378	0	0
864.00	1,769	1,610	1,610

Device	Routing	Invert	Outlet Devices
#1	Primary	862.50'	8.0" Round Culvert L= 23.0' Ke= 0.700 Inlet / Outlet Invert= 862.50' / 861.40' S= 0.0478 '/' Cc= 0.900 n= 0.011, Flow Area= 0.35 sf
#2	Device 1	862.50'	1.5" Vert. Orifice/Grate C= 0.600
#3	Device 1	863.95'	2.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#4	Secondary	864.00'	30.0' long x 12.0' 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) 2.57 2.62 2.70 2.67 2.66 2.67 2.66 2.64

Primary OutFlow Max=0.07 cfs @ 13.58 hrs HW=863.94' TW=0.00' (Dynamic Tailwater)

↑ **1=Culvert** (Passes 0.07 cfs of 1.56 cfs potential flow)
 ↑ **2=Orifice/Grate** (Orifice Controls 0.07 cfs @ 5.65 fps)
 ↑ **3=Orifice/Grate** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=862.50' TW=0.00' (Dynamic Tailwater)↑ **4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

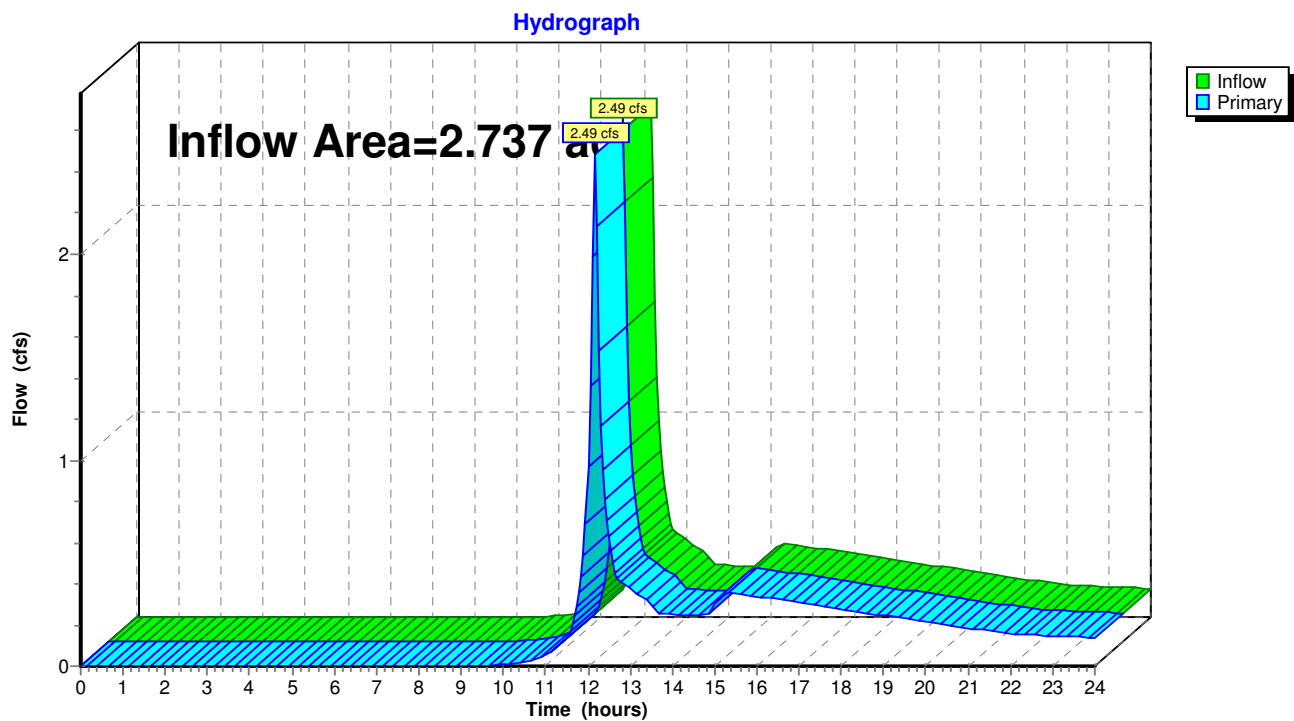
Pond DRY POND: DRY POND

Summary for Pond OFFSITE: OFFSITE

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 2.737 ac, 22.04% Impervious, Inflow Depth > 1.39" for 100 yr - Jackson event
Inflow = 2.49 cfs @ 12.15 hrs, Volume= 0.318 af
Primary = 2.49 cfs @ 12.15 hrs, Volume= 0.318 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs / 6

Pond OFFSITE: OFFSITE

Summary for Pond WET POND: WET POND 1

Inflow Area = 2.119 ac, 25.66% Impervious, Inflow Depth > 3.96" for 100 yr - Jackson event
 Inflow = 11.38 cfs @ 12.21 hrs, Volume= 0.699 af
 Outflow = 0.25 cfs @ 15.37 hrs, Volume= 0.146 af, Atten= 98%, Lag= 189.6 min
 Primary = 0.25 cfs @ 15.37 hrs, Volume= 0.146 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs / 6
 Peak Elev= 863.98' @ 15.37 hrs Surf.Area= 11,457 sf Storage= 24,682 cf
 Flood Elev= 864.00' Surf.Area= 11,491 sf Storage= 24,899 cf

Plug-Flow detention time= 368.5 min calculated for 0.145 af (21% of inflow)
 Center-of-Mass det. time= 266.8 min (1,068.6 - 801.8)

Volume	Invert	Avail.Storage	Storage Description
#1	861.50'	29,879 cf	Custom Stage Data (Prismatic) Listed below
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
861.50	7,663	0	0
864.50	12,256	29,879	29,879

Device	Routing	Invert	Outlet Devices
#1	Primary	861.50'	12.0" Round Culvert L= 38.0' Ke= 0.700 Inlet / Outlet Invert= 861.50' / 861.40' S= 0.0026 '/' Cc= 0.900 n= 0.011, Flow Area= 0.79 sf
#2	Device 1	861.50'	1.6" Vert. Orifice/Grate C= 0.600
#3	Device 1	863.95'	36.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#4	Secondary	864.00'	30.0' long x 12.0' 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) 2.57 2.62 2.70 2.67 2.66 2.67 2.66 2.64

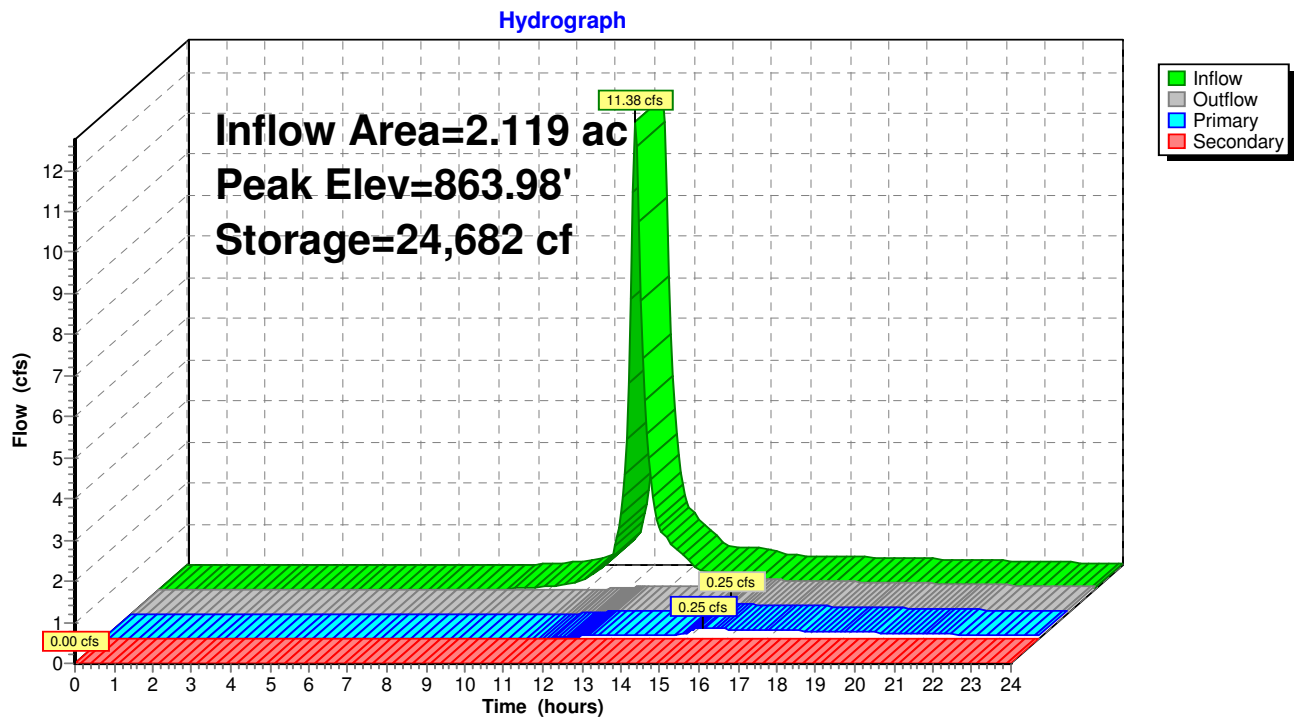
Primary OutFlow Max=0.25 cfs @ 15.37 hrs HW=863.98' TW=0.00' (Dynamic Tailwater)

↑ **1=Culvert** (Passes 0.25 cfs of 4.69 cfs potential flow)
 ↑ **2=Orifice/Grate** (Orifice Controls 0.10 cfs @ 7.48 fps)
 ↑ **3=Orifice/Grate** (Weir Controls 0.15 cfs @ 0.55 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=861.50' TW=0.00' (Dynamic Tailwater)

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

Pond WET POND: WET POND 1



APPENDIX 8
WINSLAMM Input and Output

Data file name: F:\Projects TerraTec\MSquared - Little Lambs
 Corner\Hydrology\2021-09 Little Lamb 006.mdb
 WinSLAMM Version 10.2.1
 Rain file name: C:\WinSLAMM Files\Rain Files\WI Milwaukee 69.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_Res and Other Urban
 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_Com Inst Indust
 Dec06.std
 Freeway Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust 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.ppd
 Source Area PSD and Peak to Average Flow Ratio File: C:\WinSLAMM Files\NURP Source
 Area PSD Files.csv
 Cost Data file name:
 Seed for random number generator: -42
 Study period starting date: 01/05/69 Study period ending date: 12/31/69
 Date: 09-06-2021 Time: 12:36:27
 Site information:
 Little Lamb's Corner Development

Pre-Development Area Description	Pre-Development Area (ac)	Pre-Development CN
Grass	2.740	71
Total Area (ac)/Composite CN	2.740	71

 LU# 1 - Residential: Residential 1 - Lot 6 Total area (ac): 0.212
 25 - Driveways 1: 0.008 ac. Connected Source Area PSD File: C:\WinSLAMM
 Files\NURP.cpz FS-CP#2
 51 - Small Landscaped Areas 1: 0.204 ac. Normal Silty Source Area PSD
 File: C:\WinSLAMM Files\NURP.cpz

 LU# 2 - Residential: Residential 2 Pond Total area (ac): 2.118
 1 - Roofs 1: 0.165 ac. Pitched Disconnected Normal Silty Source
 Area PSD File: C:\WinSLAMM Files\NURP.cpz
 25 - Driveways 1: 0.041 ac. Disconnected Normal Silty Source Area PSD
 File: C:\WinSLAMM Files\NURP.cpz
 37 - Streets 1: 0.145 ac. Smooth Street Length = 0.039 curb-mi Street
 Width (assuming two curb-mi per street mile) = 61.34615 ft
 Default St. Dirt Accum. Source Area PSD File: C:\WinSLAMM
 Files\NURP.cpz
 51 - Small Landscaped Areas 1: 1.576 ac. Normal Silty Source Area PSD
 File: C:\WinSLAMM Files\NURP.cpz

70 - Water Body Areas: 0.191 ac. Source Area PSD File:

LU# 3 - Residential: Residential 3 - offsite Total area (ac): 0.405
25 - Driveways 1: 0.009 ac. Connected Source Area PSD File: C:\WinSLAMM
Files\NURP.cpz FS-CP#4
26 - Driveways 2: 0.041 ac. Disconnected Normal Silty Source Area PSD
File: C:\WinSLAMM Files\NURP.cpz
51 - Small Landscaped Areas 1: 0.355 ac. Normal Silty Source Area PSD
File: C:\WinSLAMM Files\NURP.cpz

Control Practice 1: Grass Swale CP# 1 (DS) - DS Grass Swales # 1

Total drainage area (acres)= 0.212
Fraction of drainage area served by swales (ac) = 1.00
Swale density (ft/ac) = 433.00
Total swale length (ft) = 92
Average swale length to outlet (ft)= 92
Typical bottom width (ft) = 4.0
Typical swale side slope (_H:1V) = 3.0
Typical longitudinal slope (ft.H/ft.V) = 0.005
Swale retardance factor: A
Typical grass height (in) = 3.0
Swale dynamic infiltration rate (in/hr)= 0.020
Typical swale depth (ft) for cost analysis (optional) = 0.0
Particle size distribution file name: Not needed - calculated by program
Use total swale length instead of swale density for infiltration

calculations: False

Control Practice 2: Filter Strip CP# 1 (SA) - SA Device, LU# 1 ,SA# 25

Total drainage area (acres)= 0.008
Fraction of drainage area served by filter strips (ac) = 1.00
Total filter strip width (ft) = 50.0
Effective flow length (ft) = 10
Infiltration rate (in/hr)= 0.020
Typical longitudinal slope (ft.H/ft.V) = 0.060
Typical grass height (in) = 3.0
Swale retardance factor = B
Use stochastic analysis to determine infiltration rate: False
Infiltration rate coefficient of variation (COV) = 0.00
Particle size distribution file name: Not needed - calculated by program
Surface Clogging Load (lbs/sf) = 3.50

Control Practice 3: Wet Detention Pond CP# 1 (DS) - DS Wet Pond # 4

Particle Size Distribution file name: Not needed - calculated by program
Initial stage elevation (ft): 6

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): 0.01

2. Number of orifices: 1

3. Invert elevation above datum (ft): 6

Outlet type: Broad Crested Weir

1. Weir crest length (ft): 10

2. Weir crest width (ft): 14

3. Height from datum to bottom of weir opening: 8.5

Outlet type: Vertical Stand Pipe

1. Stand pipe diameter (ft): 3

2. Stand pipe height above datum (ft): 8.45

Pond stage and surface area

(cfs)	Entry Number	Stage (ft)	Pond Area (acres)	Natural Seepage (in/hr)	Other Outflow
	0	0.00	0.0000	0.00	
0.00	1	1.00	0.0730	0.00	
0.00	2	2.00	0.0853	0.00	
0.00	3	3.00	0.0983	0.00	
0.00	4	4.00	0.1120	0.00	
0.00	5	5.00	0.1264	0.00	
0.00	6	6.00	0.1906	0.00	
0.00	7	6.50	0.2082	0.00	
0.00	8	7.50	0.2460	0.00	
0.00	9	8.50	0.2858	0.00	
0.00	10	9.00	0.3066	0.00	
0.00					

Control Practice 4: Filter Strip CP# 2 (SA) - SA Device, LU# 3 ,SA# 25

Total drainage area (acres)= 0.009

Fraction of drainage area served by filter strips (ac) = 1.00

Total filter strip width (ft) = 50.0

Effective flow length (ft) = 20

Infiltration rate (in/hr)= 0.020

Typical longitudinal slope (ft.H/ft.V) = 0.070

Typical grass height (in) = 3.0

Swale retardance factor = B

Use stochastic analysis to determine infiltration rate: False

Infiltration rate coefficient of variation (COV) = 0.00

Particle size distribution file name: Not needed - calculated by program

Surface Clogging Load (lbs/sf) = 3.50

SLAMM for Windows Version 10.2.1
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All Rights Reserved

Data file name: F:\Projects TerraTec\MSquared - Little Lambs
Corner\Hydrology\2021-09 Little Lamb 006.mdb
Data file description: Little Lamb's Corner Development
Rain file name: C:\WinSLAMM Files\Rain Files\WI Milwaukee 69.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_Res and Other Urban
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_Com Inst Indust
Dec06.std
Freeway Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std
Pollutant Relative Concentration file name: C:\WinSLAMM Files\WI_GEO03.ppdxd
Model Run Start Date: 01/05/69 Model Run End Date: 12/31/69
Date of run: 09-06-2021 Time of run: 12:36:09
Total Area Modeled (acres): 2.735
Years in Model Run: 0.99

Particulate	Percent	Runoff	Percent Particulate
		Volume	Runoff
Solids Particulate		(cu ft)	Volume
Yield	Solids		Conc.
(lbs)	Reduction		Reduction
			(mg/L)
Total of all Land Uses without Controls:		47921	-
238.4	-		79.68
Outfall Total with Controls:		23121	51.75%
46.03	80.69%		31.89
Annualized Total After Outfall Controls:		23443	
46.66			

ATTACHMENT 9
Stormwater Maintenance Plan Checklist

Stormwater Practice Maintenance Plan Checklist

Little Lamb's Corner Development

Glen Brooke Drive

Village of Jackson, Wisconsin

Date of Inspection: _____

Inspector Name: _____

Inspector Address: _____

Inspector Telephone Number: _____

Type of Inspection: Storm Event _____; Monthly _____; Annual _____; Other _____

Inspection Item	Acceptable	Remedial Action Required
General Site Conditions		
- Trash or debris		
- Erosion		
- Sediment Deposits		
- Other		
Piping		
- Trash or debris		
- Accumulated Sediment		
- Pipe Condition		
Wet Pond		
- Trash or debris		
- Accumulated Sediment		
- Outlet Structure Condition		
- Water level		
- Emergency Spillway		
- Perimeter Berm/Fence		
Dry Pond		
- Trash or debris		
- Accumulated Sediment		
- Outlet Structure Condition		
- Water level		
- Emergency Spillway		
- Perimeter Berm/Fence		

[illegible]



engineering | architecture | environmental | surveying
landscape architecture | planning | economic development

W61 N497 Washington Avenue
Cedarburg, WI 53012
262-204-2360
800-472-7372
FAX 262-375-2688
www.cedarcorp.com

September 24, 2021

Village of Jackson
N168 W20733 Main Street
PO Box 637
Jackson, WI 53037

Attn: Mr. Brian Kober, P.E., Director of Public Works

Re: Contractor's Application for Payment No. 2
Willow Ridge Drive Reconstruction
Project No. 05789-0013

Dear Mr. Kober:

Enclosed for your use in payment to Soper Sewer & Water LLC in the amount of \$224,864.81 is Contractor's Application for Payment No. 2.

Please Note: As the Contractor has not yet received payment from the Village related to their Application for Payment No. 1, this application does not include lien waivers from subcontractors and/or material suppliers associated with Application No. 1. These lien waivers will be submitted and included with Contractor's application for payment no. 3.

Following your review and approval, please complete the application for payment forms within the areas reserved for the Owner. Thereafter, retain one copy for your records, provide the second copy to the Contractor with payment, and provide the third copy to our office.

Should you have any questions, please feel free to contact me at our Cedarburg office.

Sincerely,

CEDAR CORPORATION

A handwritten signature in black ink, appearing to read 'Doug Kroes', written over a horizontal line.

Douglas T. Kroes
Senior Construction Manager

Enclosed: As Noted

Cc: Doug Hansen, Soper Sewer & Water LLC

Contractor's Application for Payment No. 2

		Application Date:	9/20/2021	Application Period:	Through 9/17/2021
To (Owner):	Village of Jackson	From (Contractor):	Soper Sewer & Water LLC	Via (Engineer):	Cedar Corporation
Contact:	Brian Kober	Contact:	Doug Hansen	Contact:	Doug Kroes
Project:	Willow Ridge Drive Reconstruction	Address:	139 E. Packer Avenue Oshkosh, WI 54901	Address:	Cedar Corporation W61 N497 Washington Avenue Cedarburg, WI 53012
Owner's Contract No.:	A-21	Contractor's Project No.:	SSW21-049	Engineer's Project No.:	05789-0013

Change Order Summary

Approved Change Orders				
Number	Additions	Deductions (Enter as Positive Number)		
			1. ORIGINAL CONTRACT PRICE	\$ 788,832.75
			2. Net change by Change Orders	\$ -
			3. CURRENT CONTRACT PRICE (Line 1 + Line 2)	\$ 788,832.75
			4. TOTAL COMPLETED TO DATE	
			(Column L Total on Progress Estimates)	\$ 330,479.80
			5. RETAINAGE:	
			a. 5% X \$330,479.80 Work Completed	\$ 16,523.99
			6. RETAINAGE REDUCTION TO DATE (Enter as Positive Number) ...	\$
			7. AMOUNT ELIGIBLE TO DATE (Line 4 - Line 5a, + Line 6)	\$ 313,955.81
			8. LESS PREVIOUS PAYMENTS (Line 7 from Prior Application)	\$ 89,091.00
			9. AMOUNT DUE THIS APPLICATION	\$ 224,864.81
TOTALS				
NET CHANGE BY CHANGE ORDERS				

Contractor's Certification

The undersigned Contractor certifies that to the best of its knowledge:

(1) all previous progress payments received from Owner on account of Work done under the Contract have been applied on account to discharge Contractor's legitimate obligations incurred in connection with Work covered by prior Applications for Payment;

(2) title to all Work, materials and equipment incorporated in said Work or otherwise listed in or covered by this Application for Payment will pass to Owner per Article 15 of the General Conditions; and

(3) all Work covered by this Application for Payment is in accordance with the Contract Documents and is not defective.

By: 	Date: 9/21/2021
---	-----------------

Payment of:	\$	<u>224,864.81</u>
(Line 9 or other - attach explanation of the other amount)		

Recommended by: [Signature] (Engineer) 9-24-21 (Date)

Payment of: \$ _____
(Line 9 or other - attach explanation of the other amount)

Approved by: _____ (Owner) _____ (Date)

For (Project): Willow Ridge Drive Reconstruction								Application Date: 9/20/2021			
Application Period: Through 9/17/2021								Owner's Contract No.: A-21			
								Engineer's Project No.: 05789-0013			
A	B	C	D	E	F	G	H	I	J	K	L
Item No.	Description	Unit	Estimated Quantity	Bid Unit Price	Bid Item Value (\$)	Work Completed Previously		Work Completed This Period		Total Work Completed to Date	
						Estimated Quantity Installed	Value of Work Installed (\$)	Estimated Quantity Installed	Value of Work Installed (\$)	Estimated Quantity Installed	Value of Work Installed (\$)
1.	COMMON EXCAVATION	L.S.	4,200.00	\$ 16.20	\$ 68,040.00		\$ -	3,150.00	\$ 51,030.00	3,150.00	\$ 51,030.00
2.	SAW CUTTING ASPHALT ROADWAY	L.S.	200.00	\$ 3.10	\$ 620.00		\$ -		\$ -		\$ -
3.	SAN MH CHIMNEY & CASTING REPLACEMENT	I.D.	7.00	\$ 1,440.00	\$ 10,080.00	3.00	\$ 4,320.00		\$ -	3.00	\$ 4,320.00
4.	VALVE BOX REPLACEMENT	S.F.	3.00	\$ 420.00	\$ 1,260.00		\$ -	2.00	\$ 840.00	2.00	\$ 840.00
5.	48" STORM SEWER MANHOLE	L.F.	4.00	\$ 2,870.00	\$ 11,480.00		\$ -	4.00	\$ 11,480.00	4.00	\$ 11,480.00
6.	12" DIA. STORM SEWER	L.F.	595.00	\$ 90.00	\$ 53,550.00		\$ -	639.00	\$ 57,510.00	639.00	\$ 57,510.00
7.	6" DIA. PVC STORM SEWER	EA.	98.00	\$ 90.00	\$ 8,820.00		\$ -	72.50	\$ 6,525.00	72.50	\$ 6,525.00
8.	4" DIA. STORM LATERAL	EA.	2,084.00	\$ 68.00	\$ 141,712.00	1,065.00	\$ 72,420.00	986.10	\$ 65,694.80	2,031.10	\$ 138,114.80
9.	STORM MANHOLE CHIMNEY & CASTING REPLACEMENT	1,000GAL	4.00	\$ 1,600.00	\$ 6,400.00	1.00	\$ 1,600.00		\$ -	1.00	\$ 1,600.00
10.	CATCH BASIN REPLACEMENT	100 LBS	6.00	\$ 3,000.00	\$ 18,000.00		\$ -	6.00	\$ 18,000.00	6.00	\$ 18,000.00
11.	CURB BOX REPLACEMENT	L.F.	5.00	\$ 650.00	\$ 3,250.00	1.00	\$ 650.00	5.00	\$ 3,250.00	6.00	\$ 3,900.00
12.	CURB STOP REPLACEMENT	S.Y.	3.00	\$ 1,200.00	\$ 3,600.00		\$ -	2.00	\$ 2,400.00	2.00	\$ 2,400.00
13.	SANITARY LATERAL REPLACEMENT (1 UNIT)	S.Y.	12.00	\$ 200.00	\$ 2,400.00		\$ -	12.50	\$ 2,500.00	12.50	\$ 2,500.00
14.	6" SAN LATERAL RECONNECTION (7 UNITS)	L.S.	71.00	\$ 200.00	\$ 14,200.00		\$ -	56.10	\$ 11,220.00	56.10	\$ 11,220.00
15.	REMOVE CONCRETE SIDEWALK	C.Y.	13,435.00	\$ 0.50	\$ 6,717.50		\$ -		\$ -		\$ -
16.	4" CONCRETE SIDEWALK	TON	12,968.00	\$ 4.35	\$ 56,410.80		\$ -		\$ -		\$ -
17.	REMOVE CURB & GUTTER	S.Y.	3,461.00	\$ 0.70	\$ 2,422.70		\$ -		\$ -		\$ -
18.	30" CURB & GUTTER TYPE "D"	TON	3,234.00	\$ 13.50	\$ 43,659.00		\$ -		\$ -		\$ -
19.	REMOVE CONCRETE DRIVEWAY APRON	TON	6,754.00	\$ 0.50	\$ 3,377.00		\$ -		\$ -		\$ -
20.	7" CONCRETE DRIVEWAY APRON & SIDEWALK	GAL	10,319.00	\$ 5.50	\$ 56,754.50		\$ -		\$ -		\$ -
21.	EXCAVATION BELOW SUBGRADE (EBS)	TON	420.00	\$ 17.00	\$ 7,140.00		\$ -		\$ -		\$ -
22.	EBS BACKFILL 1-1/4" DENSE	TON	840.00	\$ 15.00	\$ 12,600.00		\$ -		\$ -		\$ -
23.	1-1/4" DENSE CRUSHED AGGREGATE BASE COURSE	L.F.	3,900.00	\$ 15.00	\$ 58,500.00		\$ -		\$ -		\$ -
24.	LOWER LAYER HMA PAVEMENT 3-1/4"	L.F.	1,275.00	\$ 71.00	\$ 90,525.00		\$ -		\$ -		\$ -
25.	UPPER LAYER HMA PAVEMENT 1-3/4"	L.S.	685.00	\$ 75.85	\$ 51,820.25		\$ -		\$ -		\$ -
26.	TRAFFIC CONTROL (Includes Mobilization)	EA.	1.00	\$ 25,000.00	\$ 25,000.00	0.25	\$ 6,250.00	0.25	\$ 6,250.00	0.50	\$ 12,500.00
27.	LAWN RESTORATION	S.F.	3,509.00	\$ 6.00	\$ 21,054.00		\$ -		\$ -		\$ -
28.	INLET PROTECTION	S.F.	10.00	\$ 90.00	\$ 900.00		\$ -		\$ -		\$ -
29.	ABANDON 8" SAN SEWER & WTM	S.F.	1.00	\$ 4,880.00	\$ 4,880.00	1.00	\$ 4,880.00		\$ -	1.00	\$ 4,880.00
30.	REMOVE SAN. MANHOLE	S.Y.	1.00	\$ 2,660.00	\$ 2,660.00	1.00	\$ 2,660.00		\$ -	1.00	\$ 2,660.00
31.	SALVAGE HYDRANT AND VALVE	L.F.	1.00	\$ 1,000.00	\$ 1,000.00	1.00	\$ 1,000.00		\$ -	1.00	\$ 1,000.00
TOTAL BID ITEMS 1-31					\$ 788,832.75		\$ 93,780.00		\$ 236,699.80		\$ 330,479.80
ADDITIONAL ITEMS											
					\$ -		\$ -		\$ -		\$ -
					\$ -		\$ -		\$ -		\$ -
TOTAL ADDITIONAL ITEMS					\$ -		\$ -		\$ -		\$ -
TOTAL ALL ITEMS					\$ 788,832.75		\$ 93,780.00		\$ 236,699.80		\$ 330,479.80

M e m o

e

To: Brian Kober

From: Jeff L. Deitsch JLD

Date: 09/22/2021

m

Re: Replacing Jet/Vac Sewer Truck

o

The Jet/Vac truck is scheduled to replace in 2022. This Jet/Vac purchase will come from the DNR replacement fund.

The WWTF staff has demo Six different Jet/Vac Manufactures. The staff found it hard to get an apple-to-apple comparison, so we came up with 22 different specifications to get as close to that comparison on how we use our truck. One big step was to take the chassis out of the comparison to concentrate on the real workings of the jet/vac. The Jet/Vac Manufactures were told that their equipment will be built on a 2022 HV513, 450 Hp International Chassis. The results of the specifications comparison are attached to this memo.

Next, staff investigated the ease of operation and how the jet/Vac manufactures would build their machines to how we used it in the village for the past 20 years. It soon came apparent that two manufacturers stood out and of the two GapVac was the choice of the staff.

Throughout the demos the staff often remark that it would be nice if we could take good ideas from each different manufactures and put it on one machine. GapVax is that manufacturer willing to build the Jet/Vac Truck to how we use the truck.

The Jet/Vac Comparison Truck memo has the apple-to-apple comparison to get a price from all the equipment manufactures. We recommend purchasing a GapVax and Lakeside truck for a price not to exceed \$475,000.

We are still negotiating the final price. Building and delivery of the truck will take over a year, so we would like to confirm the order this year!

If you have any questions, please do not hesitate to ask.

Jeff

Jetter Truck Comparison

9/21/2021

Specification	Camel	Vacall	Vactor	Jet Vac	Vac Con	GapVax
Single Engine Operaton	Yes	YES	YES	YES	YES	YES
12 yd Dump Debris Body	YES	YES	YES	YES	YES	YES
Dump Debris Body With Remote/Cab	Yes	Yes	NO	NO	Yes	Yes
Boom Reach	26	25	27	27	27	26
Roots 824 18" Blower	YES	YES	YES	YES	YES	YES
Trash pump Rear GPM/Size	720 /3"	710 /4"	500 /4"	800 /4"	750 /4"	800/4"
Wireless Remote Control	YES	YES	YES	YES	YES	YES
Multi Directional Wireless Remote	No	YES	NO	NO	YES	YES
Front & Rear Cameras	YES	YES	YES	YES	YES	YES
International Chassis 450HP	YES	YES	YES	YES	YES	YES
Water Tank Capacity	1500	1500	1500	1500	1500	1500
Water Pump GPM / PSI	80 / 2500	80 / 2500	80 / 2500	80 / 2500	80 / 2500	80 / 2500
Hose Reel Extends	Yes	NO	Yes	Yes	NO	NO
Final Blower Filter	Pleated	Steel	Stainless	Pleated	Stainless	Stainless
Jetter Hose Size / FT	600 / 1"	600 / 1	600 / 1"	600 / 1"	600 / 1	600 / 1
Repair Facility Location In Miles	34.5	23	16.5	95.7	14.5	50.3
Moble Repair Service	YES	YES	YES	YES	YES	YES
Cold Weather Recirculator	YES	YES	YES	YES	YES	YES
Alumium Toolbox Behind Cab	16x42x96	16x36x96	16x30x96	24x42x100	16x42x96	NO
2.5" water tank fill both sides	YES	YES	YES	YES	YES	YES
Auto Level Wind / Hose Tensioner	Yes / Yes	Yes / Yes	Yes / Yes	Yes / Yes	YES / YES	YES / YES
Two Front Bumper Mounted Tool Box	YES	YES	YES	YES	YES	YES
Hydro Excavation Kit	YES	YES	YES	YES	YES	YES
Truck mounted Jetter/Vac/ Hydro EX	\$ 302,618.00	\$ 332,412.00	\$ 322,302.00	\$ 351,169.00	\$ 349,654.00	\$ 322,597.00
Village Truck Chassis Bid	\$ 124,987.00	\$ 124,987.00	\$ 124,987.00	\$ 124,987.00	\$ 124,987.00	\$ 124,987.00
Total	\$ 427,605.00	\$ 457,399.00	\$ 447,289.00	\$ 476,156.00	\$ 474,641.00	\$ 447,584.00

Optional Hot Water	\$ 12,500.00	\$ 7,201.00	\$ 14,599.00	\$ 14,857.00	\$ 19,469.00	\$ 17,259.00
difference from low price unit	\$ -	\$ 29,794.00	\$ 19,684.00	\$ 48,551.00	\$ 47,036.00	\$ 19,979.00

HV613



Configuration: 113" BBC, Set-Back Front Axle
Application: Truck or Tractor
Engine: International A26



- ▶ REFUSE
- ▶ HEAVY CONSTRUCTION DUMP
- ▶ RECOVERY
- ▶ CONCRETE MIXER

International® trucks have always answered the call for the toughest jobs around. Now there's a new breed of vocational truck that redefines the standard for uptime and productivity. Introducing the new International HV™ Series. The HV613 offers the superior maneuverability of a set-back, wide-track front axle. It also includes the industry standard for operator safety, versatility and dependability in its Diamond Logic® Electrical System. Plus, the HV613 reaches new levels of uptime, efficiency and performance with its advanced new A26™ engine and new interior that includes new, driver-focused controls and a new class-leading HVAC system.





KEY FEATURES:

- ▶ New International® A26™ 12.4L engine with class-leading two-year unlimited mile warranty
- ▶ Wide-track axles providing maximum maneuverability and up to a 50-degree wheel cut
- ▶ New door, side glass and mirror designs improve lateral visibility and workplace safety
- ▶ All-new dash designed for the driver with more space for additional rocker switches
- ▶ Available premium gauge cluster designed with driver input is customizable with virtual gauges
- ▶ Best-in-class Diamond Logic® electrical system with new industry-standard J1939 architecture
- ▶ Easy-access column-mounted shifter integrated with engine braking helps keep hands on the wheel
- ▶ All-new HVAC system, designed for reliability, now includes a high-performance MAX defrost feature



113" BBC SET-BACK FRONT AXLE

GVW

- ▶ 60,000 - lbs. (4x2)
- ▶ 74,000 - lbs. (6x4)
- ▶ 75,000 - lbs. (8x6)

Models/BBC/BA

- ▶ 113" BBC / 45.9" BA

Wheelbase Options

- ▶ 128 - 311"

Axle Configurations

- ▶ 4x2
- ▶ 6x4
- ▶ 8x6 Tridem

Rear Axle

- ▶ SINGLE REAR AXLE (4x2)
 - Meritor
 - Single Reduction: 20,000 - 30,000 lbs.
 - Double Reduction: 26,000 - 38,000* lbs.
 - Two-Speed: 23,000 lbs.
 - Dana Spicer
 - Single Reduction: 23,000 - 31,000 lbs.
 - Two-Speed: 23,000 lbs.
- ▶ TANDEM REAR AXLE (6x4)
 - Meritor:
 - Single Reduction: 40,000 - 52,000 lbs.
 - Dana Spicer:
 - Single Reduction: 46,000 lbs. - 50,000 lbs.
- ▶ TRIDEM REAR AXLE (8x6)
 - Meritor:
 - Single Reduction: 53,000 lbs.

Front Axle

- ▶ Dana Spicer
 - Non-Driving: 12,000 - 22,000 lbs.
- ▶ Meritor
 - Non-Driving: 12,000 - 22,000 lbs.

Frames

- ▶ Heat Treated Alloy Steel 120,000 PSI
- ▶ 11.25 x .5" THK Super Single Rail

Front Suspension

- ▶ Spring Multileaf: 14,000 - 20,000 lbs.
- ▶ Parabolic Taperleaf: 12,000 - 22,000 lbs.

Rear Suspension

- ▶ Chalmers: 23,000 - 52,000 lbs.
- ▶ Hendrickson
 - RT: 40,000 - 52,000 lbs.
 - HAS: 23,000 - 46,000 lbs.
 - HMX: 40,000 - 50,000 lbs.
 - PRIMAX: 23,000 - 46,000 lbs. (Tandem) 69,000 lbs. (Tridem)
- ▶ Link: 46,000 lbs.
- ▶ International: 20,000 - 40,000* lbs.

Electrical System

- ▶ ALTERNATORS
 - Leece-Neville: 12 Volt, 160 - 325 Amp
 - Delco Remy: 12 Volt, 165 - 240 Amp
- ▶ BATTERY SYSTEMS
 - JCI: 12 Volt 2100 CCA
 - Fleetrite®: 12 Volt 1980 - 3800 CCA

Exhaust System

- ▶ Single canister after-treatment device
- ▶ Frame Mounted Right Side, Back of or Under Cab
- ▶ Single Vertical Tailpipe, Right Side Back of Cab

Brakes

- ▶ Air Disc Brakes with ABS, Optional Traction Control, Optional Electronic Stability Program with Traction Control
- ▶ Optional Drum Brakes

Power Steering

- ▶ Single Power
- ▶ Dual Power on Front Axle 16,000 lbs. and Above

Engine

- ▶ International A26: Up to 475 hp, 1700 lb.-ft of torque

Transmissions

- ▶ Eaton Manual: 8LL (10), 9ALL (11), 13, 15, and 18-speed
- ▶ Eaton Automated Manual: 8LL (10), 9ALL (11), 13, and 18-speed UltraShiftPLUS®, and 10-speed Eaton Fuller Advantage™
- ▶ Allison Automatic: EVS, RDS, HS Series

Fuel Tanks

- ▶ 50 - 200 Gallons, Single or Dual, Non-Polished or Polished Aluminum, Mounted Right or Left Side Under Cab

Tires

- ▶ Continental, Michelin, Goodyear, Bridgestone

* Application Restriction

Note: The information and conclusions contained herein are believed to be correct at time of publication, but do not necessarily apply to similar vehicles with different specifications or with production dates after the production of this publication. Vehicles with different specifications or later dates of production may yield different results. Vehicle specifications are subject to change without notice. TAD17025 9/2017

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MC SERIES

COMBINATION JETVAC

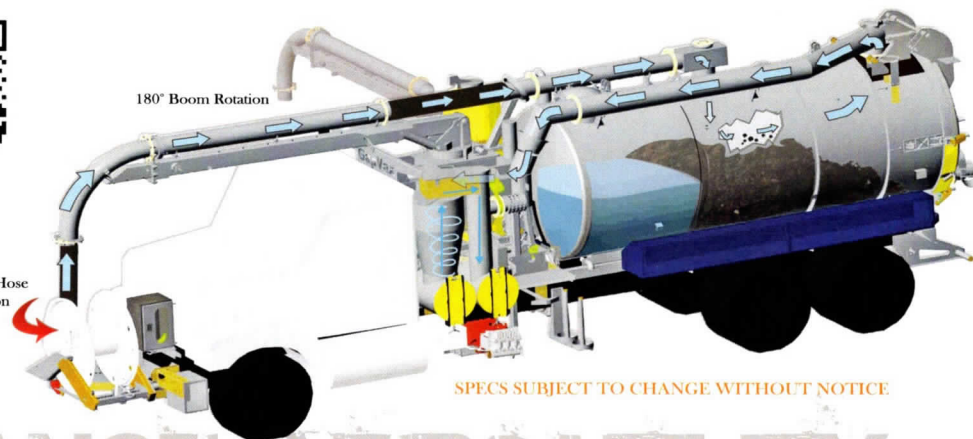


MC SERIES COMBINATION JETVAC



180° Front Hose
Reel Rotation

180° Boom Rotation



SPECS SUBJECT TO CHANGE WITHOUT NOTICE

POWER. PERFORMANCE. VERSATILITY.

VACUUM SYSTEM:

Positive Displacement Pump; 3,500 CFM, 16" Hg 500 HP Transfer Case -15,500 ft-lb torque, with air shift. The 8' front-mounted, telescopic boom has twin lift cylinders, and a 26' reach. (Options include blowers up to 6,000 CFM/27" Hg).

FILTRATION:

Top loading debris tank, debris body baffle, dual 10" stainless steel floatball shutoff, and centrifugal cyclone separator. They cyclone has a full opening door with removable vortex finder and 20" cleanout. Also equipped with a custom engineered, washable, stainless steel vee wire filter (300 micron).

DEBRIS BODY:

Our unique design offers a unitized water and debris tank with double sub-frame. Payload options of 5-13 cubic yards, made from 3/16" ASTM A572 Grade 50 exten steel. Full opening tailgate with field-adjustable hinge and dual cylinders. Four fail-safe, individually adjustable locks that assure a complete seal. Heavy duty, double acting lift cylinder provides a stable 50° dump angle.

WATER SYSTEM:

Our 3/16" Stainless steel water tank offers an available capacity of 500-2,000 gallons. The tri-plex water pump is standard at 80 gpm/2,000 PSI. (Optional water pump flow up to 100 gpm and PSI up to 3,000)

The front-mounted, articulating hose reel features a heavy duty frame mount with high ground clearance and allows for easy engine access. It is directly driven with a 1" x 800', 1 1/4" x 500', or 3/4" x 1,200' capacity.

The standard features of the water system include: a multi-flow water system; 3" water fill line with anti-siphon and 2 1/2" fire hose fitting; curbside water level site tube; 3" water supply line with easy access filter and shutoff valve; low point water drains.



OPTIONS:

- Stainless steel debris body
- HX packages
- Pump-off systems
- Various lighting options
- Tons of storage options from toolboxes to tube racks
- Body flush-out system
- Interior coating in debris tank
- Lateral hose reel kit
- Hydraulic tool circuit
- Wireless remote or pendant remote

*See website for complete listing



AUTHORIZED



TREASURERS REPORT

(Depository Accounts)

August 31, 2021

	BALANCE 7/31/2021	BALANCE 8/31/2021
<u>GENERAL:</u>		
GENERAL CHECKING	\$544,266.14	\$1,314,225.96
ANTIQUE FIRE TRUCK	\$2,929.80	\$2,929.92
CREDIT CARD ACCOUNT	\$164,844.31	\$205,584.06
HIPPA ACCOUNT	\$217,676.55	\$243,382.64
MONEY MARKET	\$7,156,770.37	\$7,157,397.81
DONATION ACCOUNT	\$8,767.75	\$8,432.25
JUNE 2019 BORROWS	\$4,916.76	\$4,916.96
PARK FEES	\$292,476.69	\$304,388.64
FIRE/RESCUE RESERVE	\$6,152.63	\$6,152.87
EMS FUNDING ESCROW	\$6,226.02	\$6,226.27
POLICE & FIRE IMPACT FEES	\$83,727.13	\$102,750.97
TD AMERITRADE - 6.4M	\$0.00	\$0.00
TD AMERITRADE - 1.8M	\$12,228.95	\$12,227.80
TD AMERITRADE - 8.03M	\$4,484,386.29	\$4,156,413.14
	-----	-----
TOTAL GENERAL	\$12,985,369.39	\$13,525,029.29
	-----	-----
<u>WATER UTILITY:</u>		
WATER UTILITY DEPRECIATION FUND	\$22,886.32	\$22,887.23
WATER UTILITY RESERVE	\$118,997.40	\$119,002.13
WATER IMPACT FEES	\$51,992.34	\$63,474.72
	-----	-----
TOTAL WATER UTILITY	\$193,876.06	\$205,364.08
	-----	-----
<u>SEWER UTILITY:</u>		
SEWER DEPRECIATION FUND	\$5,755.14	\$5,755.37
SEWER UTILITY RESERVE	\$74,317.79	\$74,320.75
DNR REPLACEMENT FUND	\$1,253,928.39	\$1,253,978.25
SEWER SPECIAL REDEMPTION FUND	\$2,502.20	\$2,502.30
SO. INTERCEPTOR IMPACT FEE	\$54,860.71	\$56,152.93
SEWER SERVICE FEES	\$2,062,531.64	\$2,118,615.16
	-----	-----
TOTAL SEWER UTILITY	\$3,453,895.87	\$3,511,324.76
	-----	-----
GRAND TOTAL:	\$16,633,141.32	\$17,241,718.13
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Public Works Report

September 28, 2021

Treatment Plant - Designed Capacity – 1.67 million gallons per day
 Peak Flow Capacity – 6.0 million gallons per day

Year 2019

January	Avg. Flow 1.270 MGD	Min. Flow 900,000 g.p.d.	Max. 2.660 MGD
February	Avg. Flow 1.229 MGD	Min. Flow 850,000 g.p.d.	Max. 1.980 MGD
March	Avg. Flow 1.379 MGD	Min. Flow 910,000 g.p.d.	Max. 2.790 MGD
April	Avg. Flow 1.483 MGD	Min. Flow 1.020 MGD	Max. 2.660 MGD
May	Avg. Flow 1.542 MGD	Min. Flow 1.320 MGD	Max. 1.960 MGD
June	Avg. Flow 2.144 MGD	Min. Flow 1.300 MGD	Max. 2.700 MGD
July	Avg. Flow 1.251 MGD	Min. Flow 970,000 g.p.d.	Max. 1.850 MGD
August	Avg. Flow 1.098 MGD	Min. Flow 830,000 g.p.d.	Max. 1.470 MGD
September	Avg. Flow 1.253 MGD	Min. Flow 800,000 g.p.d.	Max. 2.050 MGD
October	Avg. Flow 1.699 MGD	Min. Flow 1.060 MGD	Max. 4.010 MGD
November	Avg. Flow 1.499 MGD	Min. Flow 1.14 MGD	Max. 2.26 MGD
December	Avg. Flow 1.372 MGD	Min. Flow 910,000 g.p.d.	Max. 2.14 MGD

Year 2020

January	Avg. Flow 1.280 MGD	Min. Flow 1.055 MGD	Max. 1.720 MGD
February	Avg. Flow 1.221 MGD	Min. Flow 1.000 MGD	Max. 1.630 MGD
March	Avg. Flow 1.581 MGD	Min. Flow 1.010 MGD	Max. 2.290 MGD
April	Avg. Flow 1.283 MGD	Min. Flow 940,000 g.p.d.	Max. 2.210 MGD
May	Avg. Flow 1.607 MGD	Min. Flow 1.010 MGD	Max. 4.090 MGD
June	Avg. Flow 1.178 MGD	Min. Flow 980,000 g.p.d.	Max. 1.510 MGD
July	Avg. Flow 1.269 MGD	Min. Flow 800,000 g.p.d.	Max. 2.370 MGD
August	Avg. Flow 1.042 MGD	Min. Flow 760,000 g.p.d.	Max. 1.510 MGD
September	Avg. Flow 1.148 MGD	Min. Flow 810,000 g.p.d.	Max. 1.850 MGD
October	Avg. Flow 1.172 MGD	Min. Flow 870,000 g.p.d.	Max. 2.210 MGD
November	Avg. Flow 1.122 MGD	Min. Flow 860,000 g.p.d.	Max. 1.770 MGD
December	Avg. Flow 1.164 MGD	Min. Flow 940,000 g.p.d.	Max. 1.480 MGD

Year 2021

January	Avg. Flow 1.075 MGD	Min. Flow 880,000 g.p.d.	Max. 1.460 MGD
February	Avg. Flow 1.015 MGD	Min. Flow 830,000 g.p.d.	Max. 1.590 MGD
March	Avg. Flow 1.525 MGD	Min. Flow 1.160 MGD	Max. 1.970 MGD
April	Avg. Flow 1.264 MGD	Min. Flow 1.020 MGD	Max. 1.950 MGD
May	Avg. Flow 1.108 MGD	Min. Flow 880,000 g.p.d.	Max. 1.450 MGD
June	Avg. Flow 1.091 MGD	Min. Flow 810,000 g.p.d.	Max. 1.670 MGD
July	Avg. Flow 983,226 g.p.d.	Min. Flow 780,000 g.p.d.	Max. 1.410 MGD
August	Avg. Flow 1.281 MGD	Min. Flow 800,000 g.p.d.	Max. 2.530 MGD

Years Summary of Water Consumption

2006 Total Pumpage 207,719,000 gallons	2007 Total Pumpage 217,224,000 gallons
2008 Total Pumpage 229,613,000 gallons	2009 Total Pumpage 231,160,000 gallons
2010 Total Pumpage 239,326,000 gallons	2011 Total Pumpage 240,268,000 gallons
2012 Total Pumpage 253,492,000 gallons	2013 Total Pumpage 228,371,000 gallons
2014 Total Pumpage 230,973,000 gallons	2015 Total Pumpage 222,621,000 gallons
2016 Total Pumpage 254,531,000 gallons	2017 Total Pumpage 251,387,000 gallons
2018 Total Pumpage 241,322,000 gallons	2019 Total Pumpage 253,427,000 gallons
2020 Total Pumpage 259,413,000 gallons	

Year 2019

Jan. Avg. 638,230 g.p.d.	Highest Day 791,000 gals.	Total 19,785,000 gallons
Feb. Avg. 605,820 g.p.d.	Highest Day 758,000 gals.	Total 16,963,000 gallons
March Avg. 616,230 g.p.d.	Highest Day 946,000 gals.	Total 19,103,000 gallons
April Avg. 697,800 g.p.d.	Highest Day 1.112 MGD	Total 20,934,000 gallons
May Avg. 707,810 g.p.d.	Highest Day 889,000 gals.	Total 21,942,000 gallons
June Avg. 766,200 g.p.d.	Highest Day 969,000 gals.	Total 22,986,000 gallons
July Avg. 843,710 g.p.d.	Highest Day 1.174 MGD	Total 26,155,000 gallons
August Avg. 747,230 g.p.d.	Highest Day 1.061 MGD	Total 23,164,000 gallons
Sept Avg. 689,300 g.p.d.	Highest Day 830,000 gals.	Total 20,679,790 gallons
Oct. Avg. 696,520 g.p.d.	Highest Day 1.116 MGD	Total 21,592,000 gallons
Nov. Avg. 643,970 g.p.d.	Highest Day 830,000 gals.	Total 19,319,000 gallons
Dec. Avg. 671,100 g.p.d.	Highest Day 875,000 gals.	Total 20,805,000 gallons

Year 2020

Jan. Avg. 662,650 g.p.d.	Highest Day 769,000 gals.	Total 20,542,000 gallons
Feb Avg. 682,280 g.p.d.	Highest Day 886,000 gals.	Total 19,786,000 gallons
March Avg. 702,030 g.p.d.	Highest Day 837,000 gals.	Total 21,763,000 gallons
April Avg. 731,070 g.p.d.	Highest Day 1.153 MGD	Total 21,932,000 gallons
May Avg. 691,030 g.p.d.	Highest Day 915,000 gals.	Total 21,422,000 gallons
June Avg. 806,030 g.p.d.	Highest Day 1.057 MGD	Total 24,181,000 gallons
July Avg. 841,970 g.p.d.	Highest Day 1.431 MGD	Total 26,101,000 gallons
August Avg. 878,710 g.p.d.	Highest Day 1.437 MGD	Total 27,240,000 gallons
Sept Avg. 696,370 g.p.d.	Highest Day 1.058 MGD	Total 20,891,000 gallons
October Avg. 677,160 g.p.d.	Highest Day 963,000 gals.	Total 20,992,000 gallons
Nov Avg. 567,100 g.p.d.	Highest Day 850,000 gals.	Total 17,013,000 gallons
Dec Avg. 566,130 g.p.d.	Highest Day 815,000 gals.	Total 17,550,000 gallons

Year 2021

Jan. Avg. 565,650 g.p.d.	Highest Day 789,000 gals.	Total 17,535,000 gallons
Feb Avg. 517,650 g.p.d.	Highest Day 913,000 gals.	Total 16,047,000 gallons
March Avg. 583,770 g.p.d.	Highest Day 1.303 MGD	Total 18,097,000 gallons
April Avg. 642,770 g.p.d.	Highest Day 1.190 MGD	Total 19,283,000 gallons
May Avg. 659,610 g.p.d.	Highest Day 1.103 MGD	Total 20,448,000 gallons
June Avg. 825,730 g.p.d.	Highest Day 1.311 MGD	Total 24,772,000 gallons
July Avg. 750,190 g.p.d.	Highest Day 1.529 MGD	Total 23,256,000 gallons
August Avg. 768,940 g.p.d.	Highest Day 1.920 MGD	Total 23,837,000 gallons

Pump Capacity - Well #1- 400 g.p.m. Well #3 -900 g.p.m. Well #4 - 1200 g.p.m. Well #5 – 1,100 g.p.m. Well #6 – 800 g.p.m.

WWTP – Holding & Septage Receiving

2005	\$ 87,562.01	2006	\$101,115.11	2007	\$152,201.07	2008	\$210,441.47
2009	\$183,815.34	2010	\$197,653.66	2011	\$220,576.28	2012	\$236,224.70
2013	\$235,336.46	2014	\$203,938.32	2015	\$210,644.47	2016	\$220,473.17
2017	\$232,358.23	2018	\$245,767.74	2019	\$219,822.80	2020	\$204,656.11

2019	Holdings (gals)	Grease (gals)	G Decant (gals)	Septage (gals)	S Decant (gals)	Total Billings
January	1,230,000			2,000	77,700	\$11,872.50
Feb	1,432,250			1,000	70,100	\$13,255.50
March	1,614,450			11,750	161,800	\$17,489.35
April	1,485,950			48,700	335,350	\$22,462.85
May	1,589,200			27,600	349,400	\$22,690.60
June	1,338,900			36,950	243,400	\$18,458.95
July	1,504,450			17,000	302,900	\$20,373.10
August	1,599,950			27,800	293,200	\$21,380.60
September	1,405,900			14,000	217,450	\$17,313.45
October	1,517,950			19,500	335,900	\$21,418.60
November	1,265,950			11,500	256,950	\$17,071.10
December	1,647,650			6,500	102,500	\$16,036.20

2020	Holdings (gals)	Grease (gals)	G Decant (gals)	Septage (gals)	S Decant (gals)	Total Billings
January	1,426,900				71,000	\$11,872.50
February	1,310,500			2,250	88,500	\$12,786.50
March	1,471,600	900		5,000	173,650	\$16,429.05
April	1,263,950			29,000	326,170	\$19,570.85
May	1,168,670			4,450	308,250	\$17,255.86
June	1,253,900			9,900	196,550	\$15,390.45
July	1,459,700			16,450	212,650	\$17,734.10
August	1,148,750			4,250	168,530	\$13,594.50
September	1,276,950			22,700	299,450	\$18,723.35
October	1,372,200	2,200		39,750	456,000	\$24,386.35
November	1,231,850			33,650	301,700	\$18,911.55
December	1,489,450			16,950	160,200	\$16,683.35

2021	Holdings (gals)	Grease (gals)	G Decant (gals)	Septage (gals)	S Decant (gals)	Total Billings
January	1,284,600			6,650	77,250	\$12,507.30
February	1,386,475			3,000	44,450	\$12,338.05
March	1,633,050			27,600	206,050	\$19,457.65
April	1,425,850			38,000	268,500	\$19,829.30
May	1,297,900			34,550	232,100	\$17,740.45
June	1,392,350			52,800	258,500	\$19,977.30
July	1,338,500			31,600	245,050	\$18,256.25

CTH P and STH 60 Intersection Project and old Park-n-Lot Property

WisDOT was using the area for a job trailer location during the STH 45 resurfacing project this year. Due to limited power on the site, the contractor has moved the job trailers to the new park-n-ride lot on Apple Lane. Once the resurfacing project is completed, the Village will restart the process of purchasing the property again. No change.

Morning Meadows Subdivision

Roads have been paved in phase two. Phase 3 plans are being reviewed.

Trilogy Consulting - Study / Impact Fees

The existing impact fee study is over ten years old and needs to be update per State Statue requirements. Trilogy Consulting has been asked to provide an updated cost to complete the project by the end of 2021.

Jackson Municipal Complex

On schedule for an open house on October 5th. Paving of the parking lot and new landscaping is being addressed.

Willow Ridge Drive Reconstruction Project

Willow Ridge Drive Reconstruction Project has all the underground completed. Road removal has started with cubing to be installed this week.

Spruce Street/Ridgeway Drive Extension Project

We are working a streetlight layout for the two streets. Wondra needs to re-seed the grass areas of the project. Once completed we will look to close out the project.

Hunters Road Reconstruction Project and Highland Road Storm Sewer Project

Landscaping and punch list items are being addressed. Re-seeding will happen in September and the repair of two catch basins will need to be done before closing out of the project. No change.

Coffee Connection Trail Project

All underground is completed. Grading for the path will start soon.

Respectfully submitted, Brian W. Kober, P.E.