Village of Germantown ...Willkommen

Fee must accompany application

- ☐ $700 Minor Addition
- ☐ $1,240 Construction <10,000 SF
- ☐ $2,095 Construction 10,000 SF to 50,000
- ☐ $3,460 Industrial Construction >50,000 SF
- ☐ $3,460 Commercial Construction >50,000
- ☒ $200 Plan Commission Consultation
- ☒ $125 Fire Department Plan Review

PAID_____ DATE_____

SITE PLAN REVIEW APPLICATION

Pursuant to Section 17.43 of the Municipal Code

Please read and complete this application carefully. **All applications must be signed and dated.**

1 APPLICANT OR AGENT

MSA Professional Services, Inc.
Brian Kehrli
1230 South Blvd
Baraboo, WI 53913

Phone (608)355-8887
E-Mail bkehrli@msa-ps.com

PROPERTY OWNER

CrossWay Church
Ben Cartland
W156N10041 Pilgrim Road
Germantown, WI 53022

Phone (262)255-0702
E-Mail benc@crosswayc.org

2 PROPERTY ADDRESS

CrossWay Church Germantown, WI	W156 N10041 Pilgrim Rd Germantown, WI 53022

3 NEIGHBORING USES – Specify name and type of use, e.g. Enviro Tech – Industrial, Smith – Residential, etc.

North	South	East	West
Residential	Residential	Residential	Institutional

4 READ AND INITIAL THE FOLLOWING:

X_____ I am aware of the Village of Germantown ordinance requiring fire sprinklers in most new construction.

X_____ I understand that all new development is subject to Impact and/or Connection Fees that must be paid before building permits will be issued.

X_____ I understand that an incomplete application will be withdrawn from the Plan Commission agenda and that all resubmissions to the Plan Commission are subject to a new application fee.

5 SIGNATURES – ALL APPLICATION MUST BE SIGNED BY OWNER!

Brian J. Kehrli 06/10/2024
Applicant Date

6.10.2024
Owner Date

MSA Memo

To: Village of Germantown Reviewers

From: Brian Kehrli, P.E.

Subject: CrossWay Church Improvements

Date: June 10, 2024

Village Officials and Plan Commission Members,

Crossway Church, located at W156N10041 Pilgrim Road in Germantown, WI is planning to complete a parking lot expansion, driveway addition, and driveway reconstruction along with a small remodel to the building itself.

Site Work:
The site work is split into three separate processes. A parking lot expansion on the west and north sides of the existing parking lot, a new driveway and roadway connection to the north to Sante Fe Drive, and a reconstruction of the existing entrances along Pilgrim Drive. These improvements will require changes to the existing storm water system by expanding the north pond so that the improvements meet performance standards.

Parking Lot Expansion:
The parking lot expansion is desired for a few reasons. The weekly services are drawing more people to the church and there have been a few times when all parking stalls are being used. There have been no expansions to the building since 2009. There are simply more people attending worship services. The desire is to expand approximately 100-110 parking stalls on the west and north sides of the existing parking lot.

Driveway Addition and Connection to Sante Fe Drive:
One other issue that concerns staff at CrossWay is the traffic flow and patterns in the existing parking lot. With only one entrance and exit to Pilgrim Drive, the drive aisles within the existing parking lot become quite congested at the end of services. In order to alleviate some of the congestion, a new connection to Sante Fe Drive is requested. This new connection is expected to alleviate some of the congestion at the end of services. There will be some that use this new driveway as an entrance as well. We do realize this will be a change to the neighborhood to the north with a new connection to the municipal roadway network. The new connection will allow more vehicles to exit onto Sante Fe Drive who will mostly likely turn onto Council Bluffs Drive which intersects with Pilgrim Drive again. Council Bluffs Drive and the exit driveway from CrossWay Church are approximately 1,000 feet apart, so the conflicts between the two intersections should be minimal even with the additional traffic after services.

The plan is to connect the proposed driveway to Sante Fe Drive by extending curb and gutter into the CrossWay Church property. Sante Fe Drive, south of Council Bluffs Drive will not drain well after this connection is completed unless a new inlet is added along the east curb line. This is proposed in the plans and will connect to the existing manhole/inlet on the far south and west side of Sante Fe Trail. The proposed intersection improvement will also include pavement markings for a stop bar and a stop sign for all exiting traffic from the proposed driveway from CrossWay Church Property. This should help control traffic exiting from the church property.

Driveway Reconstruction – Pilgrim Drive Entrances:

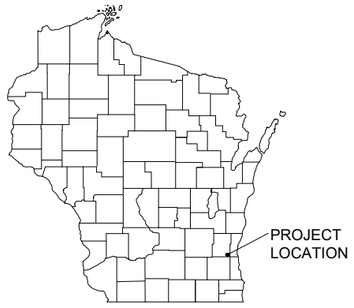
Currently, the property has two driveways that connect to Pilgrim Drive. The southern driveway is intended for exit only and is approximately 40 feet wide at the right-of-way. The concrete for the southern driveway is aged with poor joints. The goal of the reconstruction of this driveway is to replace the concrete apron and sidewalk and to lower the sidewalk 3-inches +/- to reduce the slope between the sidewalk and back of curb. This should smooth the transition between the apron and asphalt pavement along Pilgrim Drive and allow for more efficient traffic flow. The northern driveway is intended for entrance only and is approximately 24 feet wide. The northern driveway is planned to be lowered as well, similar to the southern driveway. The northern driveway is also proposed to be widened to 40 feet to allow for traffic from Pilgrim to enter from the north and south simultaneously.

Pond and Storm Water Improvements:
The work at the property will require improvements to the storm water system and storm water pond. The pond on the north side of the property will handle storm water flows from the parking lot and driveway improvements. Two new culverts will be installed under the proposed 30 stall parking lot north of the existing parking lot and under the entrance driveway just south of Sante Fe Drive. These are existing grassed swales that will be partially paved with a driveway or parking lot. The culverts are required to convey storm water to the pond. The pond will be expanded to include additional storage volume to accommodate the added impervious area of the proposed parking lot and driveway. Currently, the north storm water pond is controlled by an orifice in the end of a 10" HDPE pipe. The proposed plan will add an outlet structure to connect to the existing 10" HDPE pipe. The outlet structure will have a 3-inch orifice on the pond side of the structure, an overflow with grate, and will connect to the 10-inch pipe that convey storm water to the municipal storm water system along Sante Fe and Council Bluffs Drive. The expanded pond will be able to meet peak flow and TSS requirements as set by the DNR, Village and Milwaukee Metropolitan Sewerage District. Infiltration will be almost impossible on the site. Soil borings show the material is clay from the surface to a minimum of 14 feet below ground surface. Clay soils have extremely low infiltration rates and any attempt to infiltrate storm water in clay soils will almost certainly fail. According to DNR requirements, any soil listed as clay, clay loam, silty clay loam, or sandy clay loam is exempt from infiltration requirements.

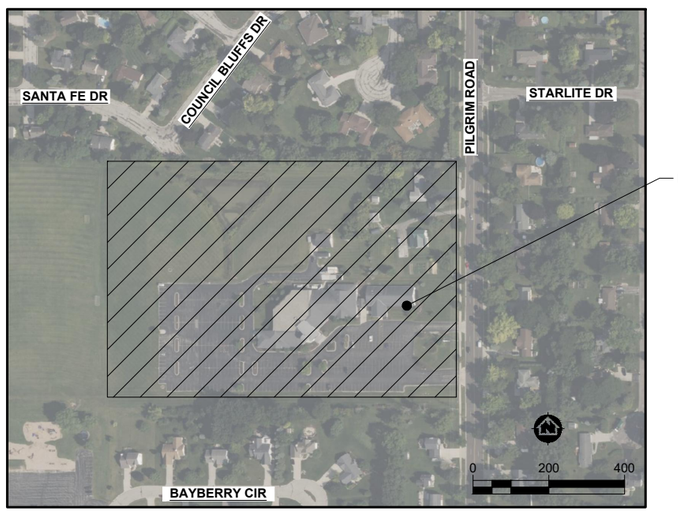
Summary:
The proposed site improvements at CrossWay will expand the parking lot to accommodate more worshippers, especially on Sunday mornings and holidays, improvement traffic flow in the parking lot, allow for more efficient entrance and exit driveways along Pilgrim Drive and expand the storm water facilities to meet regulatory requirements.

CROSSWAY CHURCH IMPROVEMENTS

CROSSWAY CHURCH
VILLAGE OF GERMANTOWN, WASHINGTON COUNTY, WI



SHEET INDEX



LOCATION MAP

WISCONSIN
BRIAN J. KEHRLI
E-39147
PRAIRIE DU SAC
WI
PROFESSIONAL ENGINEER
06/10/2024

NOTE:
PER THE VILLAGE OF GERMANTOWN DEVELOPMENT HANDBOOK, NAD83 AND NAVD88 ARE TO BE USED. FOR THIS SITE, THE DIFFERENCE BETWEEN NAVD29 AND NAVD88 RANGES FROM 0.04 FT TO 0.05 FT.

LEGEND

W	EXISTING WATER MAIN
W	EXISTING WATER MAIN, VALVE & HYDRANT
W	EXISTING WATER SERVICE & CURB STOP
W	PROPOSED WATER MAIN, VALVE, & HYDRANT
W	PROPOSED WATER SERVICE & CURB STOP
SAN	EXISTING SANITARY SEWER & MANHOLE
S	PROPOSED SANITARY SEWER & MANHOLE
FM	EXISTING FORCEMAIN
SS	EXISTING STORM SEWER & INLET
S	PROPOSED STORM SEWER & INLET
S	PROPOSED STORM SEWER & MANHOLE
E	BURIED ELECTRIC
G	BURIED GAS & VALVE
TV	BURIED CABLE TELEVISION
T	BURIED TELEPHONE
FO	BURIED FIBER OPTICS
OH	OVERHEAD UTILITY
	RAILROAD TRACKS
	EXISTING CURB & GUTTER
	PROPOSED CURB & GUTTER
	EXISTING SIDEWALK
	PROPOSED SIDEWALK
CP	EXISTING CULVERT PIPE
	PROPOSED CULVERT PIPE
	FENCE LINE
	DRAINAGE ARROW
	SILT FENCE
	RIGHT-OF-WAY
	BASELINE
	PROPERTY LINE
	TREE LINE
	BENCHMARK
	IRON PIPE
	IRON ROD
	CONTROL POINT
	UTILITY POLE & GUY
1 000.00	SOIL BORING
	LIGHT POLE
	PEDESTAL
	STREET SIGN
	MAILBOX
	FLAGPOLE
	TREE - DECIDUOUS
	TREE - CONIFEROUS
	TREE TO BE REMOVED

UTILITIES

ROADS, SEWER & WATER:
VILLAGE OF GERMANTOWN
N122 W17177 FOND DU LAC AVE
GERMANTOWN, WI 53022

TIM ZIMMERMAN (WASTEWATER)
262-253-7765

PAUL HAUGEN (WATER)
262-253-8254
PHAUGEN@GERMANTOWNWI.GOV

MATTHEW MORTWEDT (DPW)
262-250-4725
MMORTWEDT@GERMANTOWNWI.GOV

GAS & ELECTRIC:
WE ENERGIES
1921 8TH ST SOUTH
WISCONSIN RAPIDS, WI 54494

LARRY KOCH
715-421-7249
LARRY.KOCH@WE-ENERGIES.COM

COMMUNICATIONS:
AT&T
411 7th ST
RACINE, WI 53403

MATTHEW VACHALIK
262-707-6216
MV5616@ATT.COM

TIME WARNER CABLE
E10704 STH 33
BARABOO, WI 53913

TERRY BLAKE
608-576-9208
TERRY.BLAKE@CHARTER.COM

DIGGERS HOTLINE
Dial 811 or (800) 242-8511
www.DiggersHotline.com

NOTE:
UTILITY LOCATIONS SHOWN ON PLANS ARE APPROXIMATE AND CONTRACTOR SHALL HAVE APPROPRIATE UTILITY MARK EXACT LOCATIONS PRIOR TO CONSTRUCTION.

NO.	DATE	REVISION	BY

PROJECT DATE: .
DRAWN BY: KEF
DESIGNED BY: KEF
CHECKED BY: Init

PLOT DATE: 6/10/2024 10:24 AM, G:\20\20426\2042621\05_bim_cadd_discipline\06_Civil\construction documents\G1 TITLE SHEET.dwg

MSA
ENGINEERING | ARCHITECTURE | SURVEYING
FUNDING | PLANNING | ENVIRONMENTAL
1230 South Boulevard, Baraboo WI 53913
(608) 356-2771 www.msa-ps.com

CROSSWAY CHURCH IMPROVEMENTS
CROSSWAY CHURCH
GERMANTOWN, WASHINGTON COUNTY, WI

TITLE SHEET

PROJECT NO. 20426215
SHEET C100

BENCHMARK TABLE

POINT #	DESCRIPTION	NORTHING	EASTING	ELEVATION
CP1	3/4" IRON ROD	102,526.39	383,432.39	895.62
CP2	3/4" IRON ROD	102,492.35	383,159.88	897.81
CP3	3/4" IRON ROD	102,808.51	383,408.95	895.88
CP4	3/4" IRON ROD	102,806.50	383,195.94	897.36
CP5	CUT "X" IN CURB	102,633.21	382,753.67	899.43
BM101	BENCHMARK	102,480.72	383,568.07	896.51
BM102	SECTION MONUMENT	102,464.94	383,554.83	893.89

		NO.	DATE	REVISION	BY
PROJECT DATE: .	DRAWN BY: KEF	.	.	.	.
	DESIGNED BY: KEF	.	.	.	.
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PLOT DATE: 6/10/2024 10:24 AM, G:\20\20426\2042615\05_bim_cadd_discipline\06_Civil\construction documents\20426215 EXISTING SITE PLAN.dwg

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CROSSWAY CHURCH IMPROVEMENTS
CROSSWAY CHURCH
GERMANTOWN, WASHINGTON COUNTY, WI

EXISTING SITE & BENCHMARKS

PROJECT NO. 20426215
SHEET C101

		NO.	DATE	REVISION	BY
PROJECT DATE: .	DRAWN BY: KEF	.	.	.	.
	DESIGNED BY: KEF	.	.	.	.
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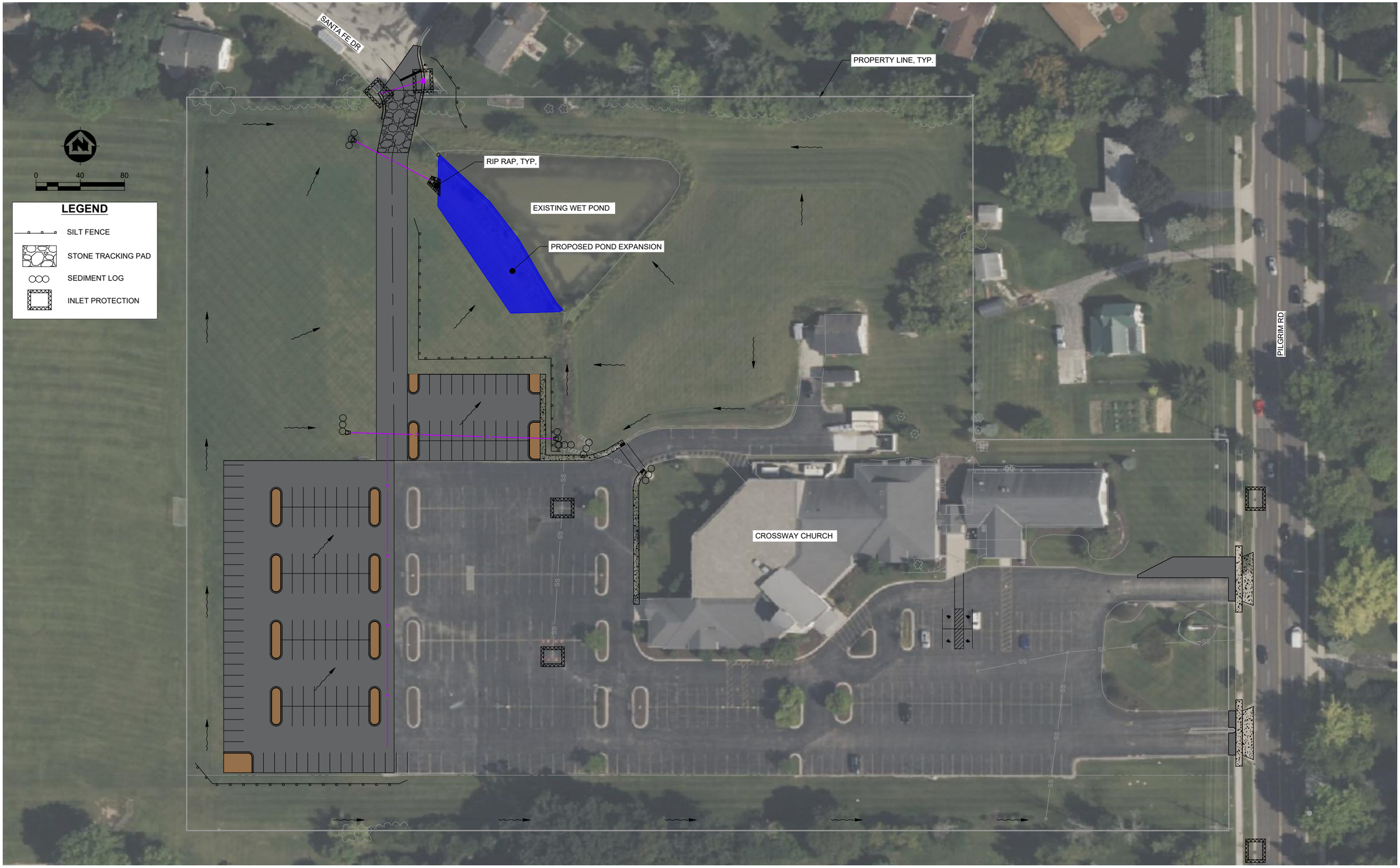
CROSSWAY CHURCH IMPROVEMENTS
CROSSWAY CHURCH
GERMANTOWN, WASHINGTON COUNTY, WI

DEMOLITION PLAN

PROJECT NO. 20426215
SHEET C201



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PLOT DATE: 6/10/2024 10:24 AM, G:\20\20426\2042615\05_bim_cadd_discipline\06_Civil\construction documents\20426215 EROSION CONTROL PLAN.dwg

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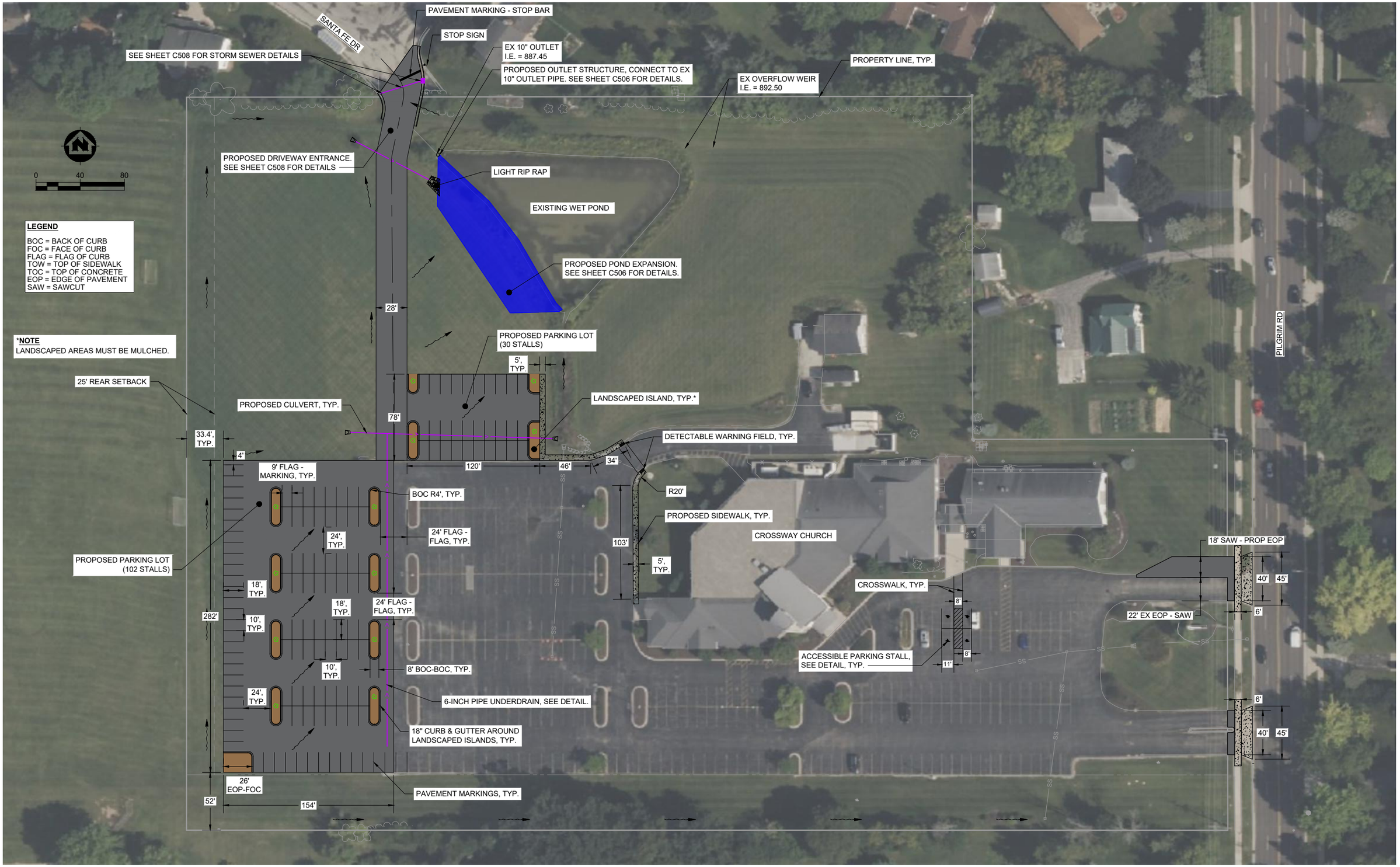
CROSSWAY CHURCH IMPROVEMENTS
CROSSWAY CHURCH
GERMANTOWN, WASHINGTON COUNTY, WI

EROSION CONTROL PLAN

PROJECT NO. 20426215
SHEET C202



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PLOT DATE: 6/10/2024 10:25 AM, G:\20\20426\2042615\05_bim_cadd_discipline\06_Civil\construction documents\20426215 PROPOSED SITE PLAN.dwg

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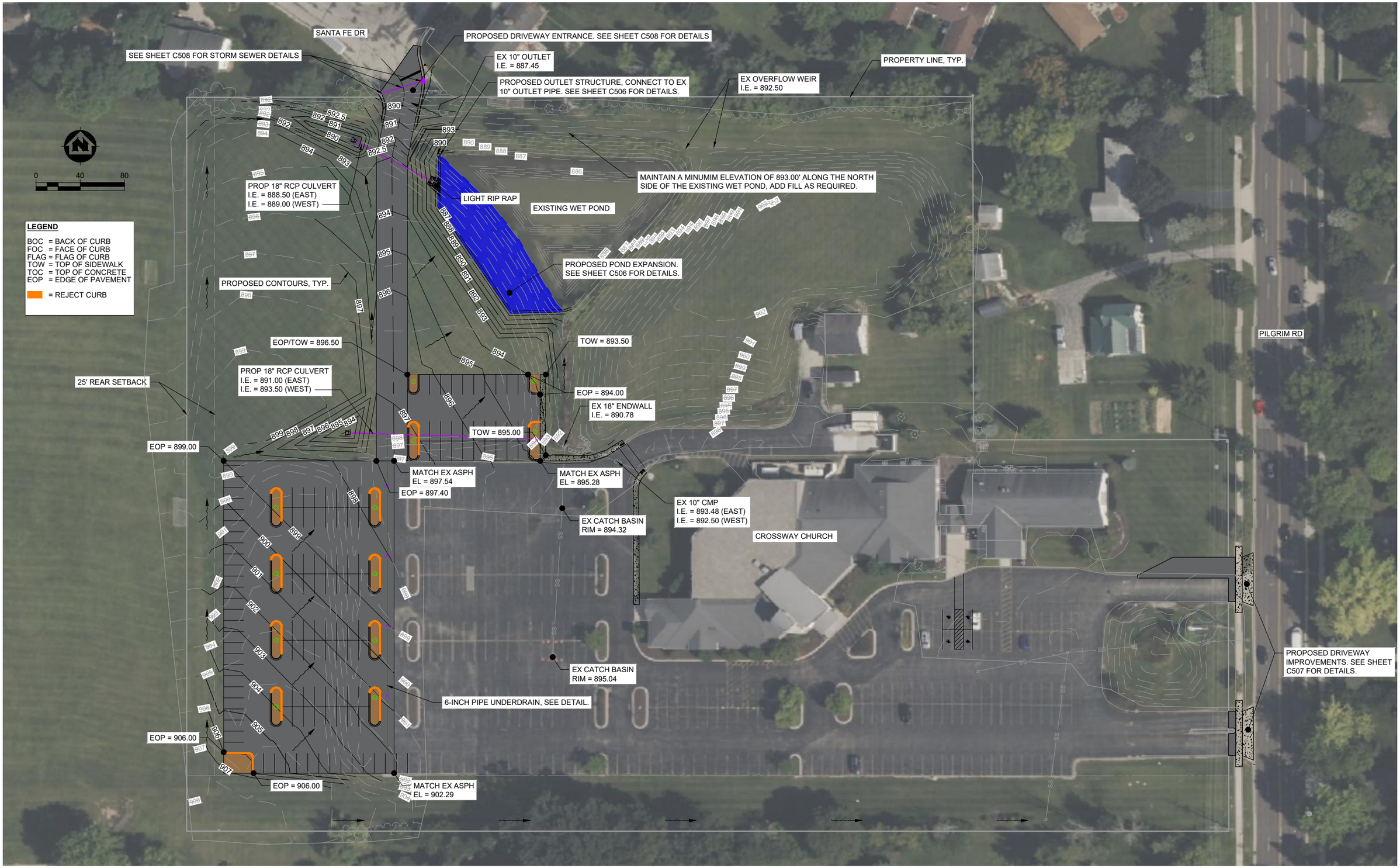
CROSSWAY CHURCH IMPROVEMENTS
CROSSWAY CHURCH
GERMANTOWN, WASHINGTON COUNTY, WI

PROPOSED SITE PLAN

PROJECT NO. 20426215
SHEET C203



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CROSSWAY CHURCH IMPROVEMENTS
CROSSWAY CHURCH
GERMANTOWN, WASHINGTON COUNTY, WI

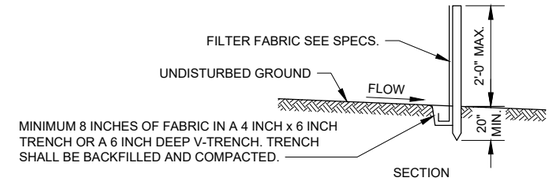
GRADING PLAN

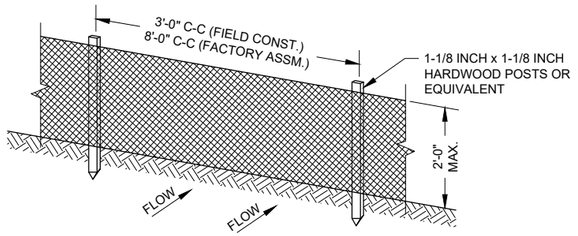
PROJECT NO.
20426215

SHEET
C204

CONSTRUCTION SITE
EROSION CONTROL REQUIREMENTS

1. SECTION NR216.46 OF WISCONSIN STATE ADMINISTRATIVE CODE IDENTIFIES REQUIREMENTS FOR CONSTRUCTION SITE AND POST-CONSTRUCTION EROSION CONTROL. IT IS THE INTENT OF THESE PLANS TO SATISFY THESE REQUIREMENTS. THE METHODS AND STRUCTURES USED TO CONTROL EROSION SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. CONTRACTOR SHALL IMPLEMENT AN APPROPRIATE MEANS OF CONTROLLING EROSION DURING SITE OPERATION AND UNTIL THE VEGETATION IS RE-ESTABLISHED. ADJUSTMENTS TO THE CONTROL SYSTEM SHALL BE MADE AS REQUIRED.
2. ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE WISCONSIN DNR'S CONSERVATION PRACTICE STANDARDS. THESE STANDARDS ARE PERIODICALLY UPDATED AND IT IS THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN AND REFERENCE THE MOST RECENTLY RELEASED STANDARD.
3. THIS INFORMATION IS ONLY ONE PART OF THE OVERALL EROSION CONTROL REQUIREMENTS. ADDITIONAL REQUIREMENTS MAY ALSO BE SHOWN ON THE CONTRACT DRAWINGS AND IN THE ACCOMPANYING SPECIFICATIONS.
4. ADDITIONAL EROSION CONTROL MEASURES, AS REQUESTED IN WRITING BY THE STATE OR LOCAL INSPECTORS, OR THE OWNER'S ENGINEER, SHALL BE INSTALLED WITHIN 24 HOURS.
5. THE AREA OF EROSIVE LAND EXPOSED TO THE ELEMENTS BY GRUBBING, EXCAVATION, TRENCHING, BORROW AND FILL OPERATIONS AT ANY ONE TIME SHALL BE MINIMIZED TO THE MAXIMUM EXTENT PRACTICABLE. FOR ANY DISTURBED AREA THAT REMAINS INACTIVE FOR GREATER THAN 7 WORKING DAYS, OR WHERE GRADING WORK EXTENDS BEYOND THE PERMANENT SEEDING DEADLINES, THE SITE MUST BE TREATED WITH TEMPORARY STABILIZATION MEASURES SUCH AS SOIL TREATMENT, TEMPORARY SEEDING AND/OR MULCHING. ALL DISTURBED AREAS SHALL BE TREATED WITH PERMANENT STABILIZATION MEASURES WITHIN 3 WORKING DAYS OF FINAL GRADING.
6. ALL EROSION CONTROL MEASURES AND STRUCTURES SERVING THE SITE MUST BE INSPECTED AT LEAST WEEKLY OR WITHIN 24 HOURS OF THE TIME 0.5 INCHES OF RAIN HAS OCCURRED. ALL NECESSARY REPAIR AND MAINTENANCE WILL BE DONE AT THIS INSPECTION TIME.
7. ALL EROSION CONTROL DEVICES AND/OR STRUCTURES SHALL BE PROPERLY INSTALLED PRIOR TO CLEARING AND GRUBBING OPERATIONS WITHIN THEIR RESPECTIVE DRAINAGE AREAS. THESE SHALL BE PROPERLY MAINTAINED FOR MAXIMUM EFFECTIVENESS UNTIL VEGETATION IS RE-ESTABLISHED.
8. ALL EROSION CONTROL DEVICES SHALL BE PROPERLY INSTALLED PRIOR TO ANY SOIL DISTURBANCE.
9. ANY SLOPES STEEPER THAN 3H:1V SHALL BE STAKED WITH EROSION CONTROL FABRIC UNLESS INDICATED ON THE PLAN.
10. ALL WASTE AND UNUSED BUILDING MATERIALS (INCLUDING GARBAGE, DEBRIS, CLEANING WASTES, WASTEWATER, TOXIC MATERIALS, OR HAZARDOUS MATERIALS) SHALL BE PROPERLY DISPOSED OF AND NOT ALLOWED TO BE CARRIED OFF-SITE BY RUNOFF OR WIND.
11. WIND EROSION SHALL BE KEPT TO A MINIMUM DURING CONSTRUCTION. WATERING, MULCH, OR A TACKING AGENT MAY BE REQUIRED TO PROTECT NEARBY RESIDENCES AND WATER RESOURCES.
12. CHANNELIZED RUNOFF ENTERING THE PROJECT SITE FROM ADJOINING LANDS SHALL BE DIVERTED THROUGH NATURALLY OR ARTIFICIALLY EROSION-RESISTANT CONVEYANCES. IF CHANNELIZED RUNOFF CANNOT BE DIVERTED, SITE BEST MANAGEMENT PRACTICES MUST ACCOUNT FOR THE ADDITIONAL FLOW RATES AND EROSION POTENTIAL THAT SUCH RUNOFF PRESENTS.
13. THE CONTRACTOR SHALL TAKE ALL POSSIBLE PRECAUTIONS TO PREVENT SOILS FROM BEING TRACKED ONTO PUBLIC OR PRIVATE ROADWAYS. PAVED SURFACES ADJACENT TO CONSTRUCTION SITE VEHICLE ACCESS SHALL BE SWEPT AND/OR SCRAPED (NOT FLUSHED) PERIODICALLY TO REMOVE SOIL, DIRT, AND/OR DUST.
14. EROSION CONTROLS SHALL BE INSTALLED ON THE DOWNSTREAM SIDE OF TEMPORARY STOCKPILES. ANY SOIL STOCKPILE THAT REMAINS FOR MORE THAN 30 DAYS SHALL BE COVERED OR TREATED WITH STABILIZATION PRACTICES SUCH AS TEMPORARY OR PERMANENT SEEDING AND MULCHING. ALL STOCK PILES SHALL BE PLACED AT LEAST 75 FEET FROM STREAMS OR WETLANDS.
15. ADDITIONAL EROSION CONTROL FOR UTILITY CONSTRUCTION (STORM SEWER, SANITARY SEWER, WATER MAIN, ETC.) SHALL INCLUDE THE FOLLOWING:
    a. PLACE EXCAVATED TRENCH MATERIAL ON THE HIGH SIDE OF THE TRENCH.
    b. BACKFILL, COMPACT, AND STABILIZE THE TRENCH IMMEDIATELY AFTER PIPE CONSTRUCTION.
    c. DISCHARGE OF TRENCH WATER OR DEWATERING EFFLUENT MUST BE PROPERLY TREATED TO REMOVE SEDIMENT IN ACCORDANCE WITH THE WDNR CONSERVATION PRACTICE STANDARD 1061 - DEWATERING OR A SUBSEQUENT WDNR DEWATERING STANDARD PRIOR TO DISCHARGE INTO A STORM SEWER, DITCH, DRAINAGEWAY, OR WETLAND OR LAKE.
16. ALL DRAINAGE CULVERTS, STORM DRAIN INLETS, MANHOLES, OR ANY OTHER EXISTING STRUCTURES THAT COULD BE DAMAGED BY SEDIMENTATION SHALL BE PROTECTED ACCORDING TO THE VARIOUS METHODS PROVIDED IN THE PRINTED CONSERVATION PRACTICE STANDARDS.
17. ANY SOIL EROSION THAT OCCURS AFTER FINAL GRADING AND/OR STABILIZATION MUST BE REPAIRED AND THE STABILIZATION WORK REDONE.
18. THE FIRST SIX WEEKS AFTER INITIAL STABILIZATION, ALL NEWLY SEEDED AND MULCHED AREAS SHALL WATERED WHENEVER 7 DAYS ELAPSE WITHOUT A RAIN EVENT.
19. WHEN THE DISTURBED AREA HAS BEEN STABILIZED BY PERMANENT VEGETATION OR OTHER MEANS, TEMPORARY BMP'S SUCH AS SILT FENCES, STRAW BALES, AND SEDIMENT TRAPS SHALL BE REMOVED AND THESE AREAS STABILIZED.
20. ALL TEMPORARY BEST MANAGEMENT PRACTICES SHALL BE MAINTAINED UNTIL THE SITE IS STABILIZED.
21. ALL DISTURBED AREAS SHALL BE PERMANENTLY STABILIZED WITH SEED AND MULCH UNLESS OTHERWISE SPECIFIED. A MINIMUM OF FOUR INCHES OF TOPSOIL SHALL BE APPLIED TO ALL AREAS TO BE SEEDED OR SODDED.





GENERAL NOTES:

1. ENDS OF FENCE SHALL BE TURNED UPSLOPE 1 TO 2 FEET IN ELEVATION TO PREVENT FLANKING.
2. STAPLE FABRIC WITH 1/2 INCH (MINIMUM) STAPLES TO THE UPSLOPE SIDE OF THE POSTS.
3. WHEN TWO SECTIONS OF FILTER FABRIC ADJOIN EACH OTHER THEY SHALL BE OVERLAPPED BY SIX INCHES AND FOLDED.

TYPICAL SILT FENCE INSTALLATION AT SITE PERIMETER DETAIL
NO SCALE

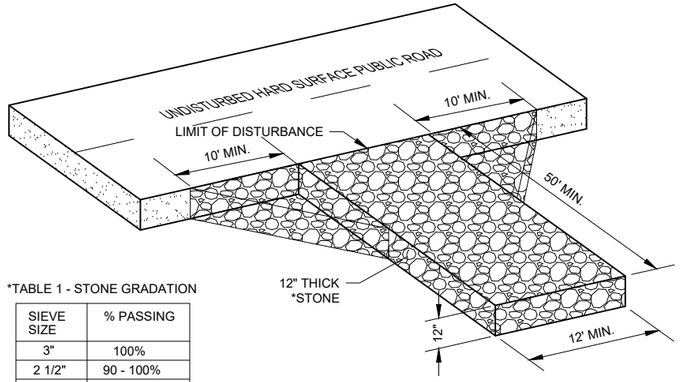
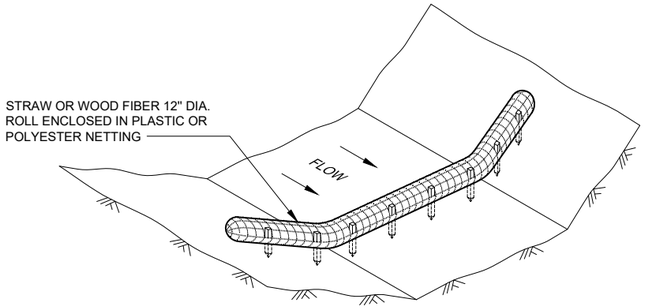


*TABLE 1 - STONE GRADATION

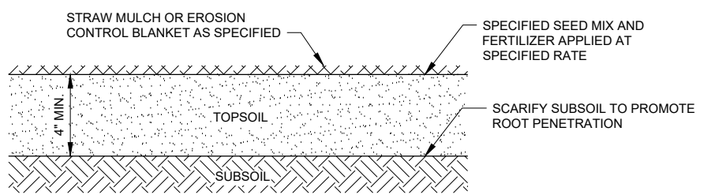
SIEVE SIZE	% PASSING
3"	100%
2 1/2"	90 - 100%
1 1/2"	25 - 60%
3/4"	0 - 20%
3/8"	0 - 5%

NOTES:
1. TRACKING PAD WIDTH SHALL BE AT LEAST THE FULL WIDTH OF HTE EGRESS POINT OR 12' WIDE MINIMUM.
2. TRACKING PAD LENGTH SHALL BE 50' FOR CONSTRUCTION SITES, 30' FOR SINGLE FAMILY RESIDENTIAL, OR AS SPECIFIED IN THE CONTRACT DOCUMENTS. LENGTH OF TRACKING PAD MAY NEED TO BE INCREASE OR ADDITIONAL SEDIMENT CONTROL PRACTICES SHALL BE INSTALLED BY THE CONTRACTOR IS SEDIMENT TRACK-OUT OCCURS.
3. GEOTEXTILE FABRIC TYPE R SHALL BE INSTALLED BETWEEN THE STONE AND SUBGRADE ON SITES WHERE HIGH GROUND WATER IS OBSERVED.
4. CONTRACTOR SHALL CLEAN STREET/ROADWAY ADJACENT TO ALL CONSTRUCTION ACCESS POINTS AT THE END OF EACH WORKDAY OR MORE FREQUENTLY IF REQUESTED.

STONE TRACKING PAD
NO SCALE

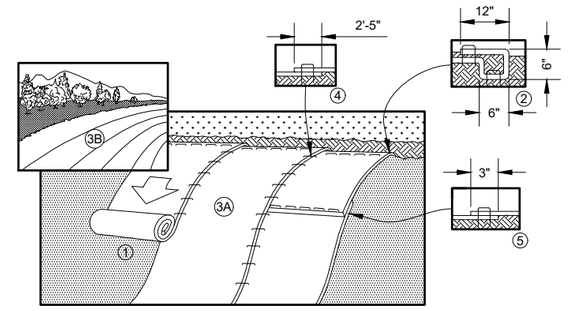


SEDIMENT LOG
NO SCALE



NOTE: WHERE REQUIRED, PLANT HERBACEOUS PLUGS ACCORDING TO PLAN, OR AS DIRECTED BY ENGINEER.

TOPSOIL AND SEEDING DETAIL
NO SCALE



1. PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED.
2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE BLANKET IN A 6" (15 CM) DEEP X 6" (15 CM) WIDE TRENCH WITH APPROXIMATELY 12" (30cm) OF BLANKET EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE BLANKET WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" (30 CM) APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" (30 CM) PORTION OF BLANKET BACK OVER SEED AND COMPACTED SOIL. SECURE BLANKET OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" (30 CM) APART ACROSS THE WIDTH OF THE BLANKET.
3. ROLL THE BLANKETS (A) DOWN OR (B) HORIZONTALLY ACROSS THE SLOPE. BLANKETS WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL BLANKETS MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE.
4. THE EDGES OF PARALLEL BLANKETS MUST BE STAPLED WITH APPROXIMATELY 2"-5" (5 CM-12.5 CM) OVERLAP DEPENDING ON BLANKET TYPE.
5. CONSECUTIVE BLANKETS SPLICED DOWN THE SLOPE MUST BE PLACED END OVER END (SHINGLE STYLE) WITH AN APPROXIMATE 3" (7.5 CM) OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" (30 CM) APART ACROSS ENTIRE BLANKET WIDTH.

NOTE:
*IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" (15 CM) MAY BE NECESSARY TO PROPERLY SECURE THE BLANKETS.

EROSION CONTROL BLANKET DETAIL
NO SCALE

		NO.	DATE	REVISION	BY
PROJECT DATE: .	DRAWN BY: KEF	.	.	.	.
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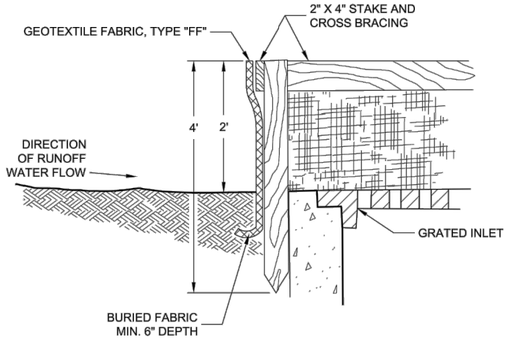
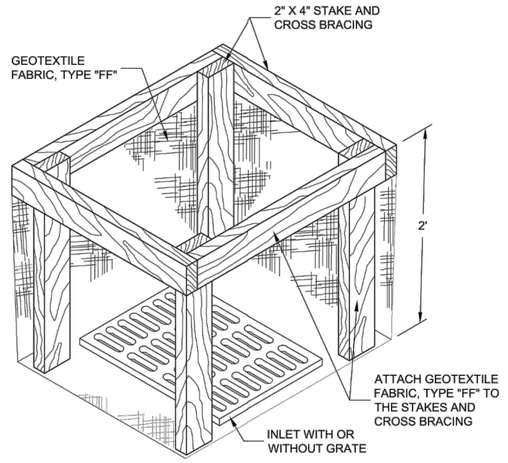
CROSSWAY CHURCH IMPROVEMENTS
CROSSWAY CHURCH
GERMANTOWN, WASHINGTON COUNTY, WI

EROSION CONTROL DETAILS

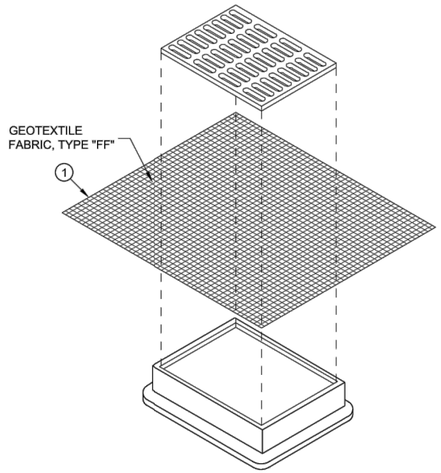
PROJECT NO. 20426215
SHEET C501

SDD 08E10 Inlet Protection, Types A, B, C and D



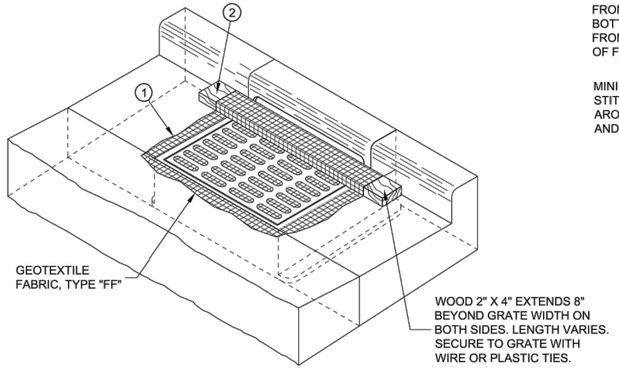


INLET PROTECTION, TYPE "A"

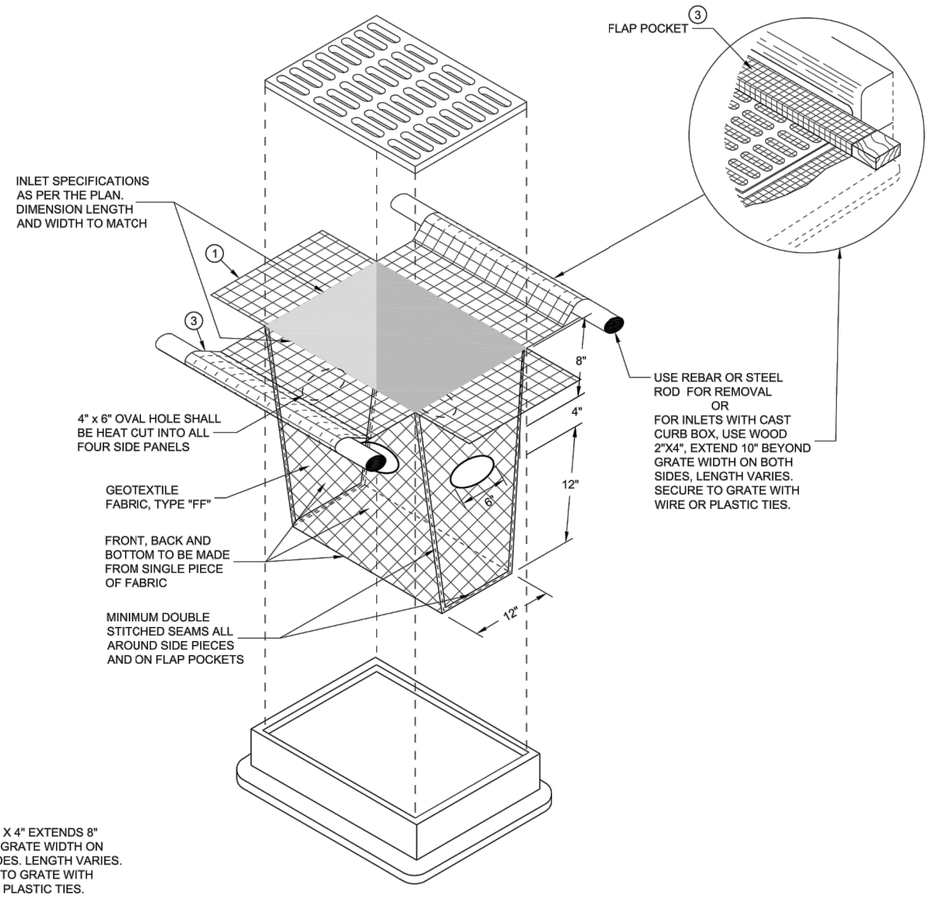


INLET PROTECTION, TYPE "B" (WITHOUT CURB BOX)

(CAN BE INSTALLED IN ANY INLET WITHOUT A CURB BOX)



INLET PROTECTION, TYPE "C" (WITH CURB BOX)



INLET PROTECTION, TYPE "D"

(CAN BE INSTALLED IN ANY INLET WITH OR WITHOUTA CURB BOX AS PER NOTE (2))

GENERAL NOTES

INLET PROTECTION DEVICES SHALL BE MAINTAINED OR REPLACED AT THE DIRECTION OF THE ENGINEER.

MANUFACTURED ALTERNATIVES APPROVED AND LISTED ON THE DEPARTMENT'S EROSION CONTROL PRODUCT ACCEPTABILITY LIST MAY BE SUBSTITUTED.

WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.

(1) FINISHED SIZE, INCLUDING FLAP POCKETS WHERE REQUIRED, SHALL EXTEND A MINIMUM OF 10" AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.

(2) FOR INLET PROTECTION, TYPE C (WITH CURB BOX), AN ADDITIONAL 18" OF FABRIC IS WRAPPED AROUND THE WOOD AND SECURED WITH STAPLES. THE WOOD SHALL NOT BLOCK THE ENTIRE HEIGHT OF THE CURB BOX OPENING.

(3) FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2X4.

INSTALLATION NOTES

TYPES B & C

TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE.

THE CONTRACTOR SHALL DEMONSTRATE A METHOD OF MAINTENANCE, USING A SEWN FLAP, HAND HOLDS OR OTHER METHOD TO PREVENT ACCUMULATED SEDIMENT FROM ENTERING THE INLET.

TYPE D

TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE.

DO NOT INSTALL INLET PROTECTION TYPE D IN INLETS SHALLOWER THAN 30", MEASURED FROM THE BOTTOM OF THE INLET TO THE TOP OF THE GRATE.

THE INSTALLED BAG SHALL HAVE A MINIMUM SIDE CLEARANCE, BETWEEN THE INLET WALLS AND THE BAG, MEASURED AT THE BOTTOM OF THE OVERFLOW HOLES, OF 3". WHERE NECESSARY THE CONTRACTOR SHALL CINCH THE BAG, USING PLASTIC ZIP TIES, TO ACHIEVE THE 3" CLEARANCE. THE TIES SHALL BE PLACED AT A MAXIMUM OF 4" FROM THE BOTTOM OF THE BAG.

INLET PROTECTION TYPES A, B, C AND D

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

10/16/02 — DATE

/S/ Beth Cannestra — ROADWAY STANDARDS DEVELOPMENT ENGINEER

FHWA

6

SDD 08E10 - 02

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SDD 08E10 - 02

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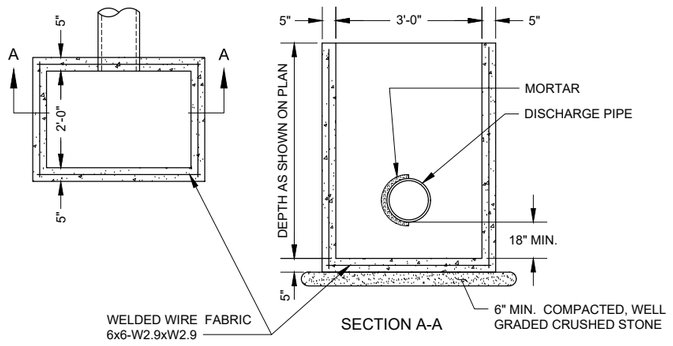
GERMANTOWN, WASHINGTON COUNTY, WI

INLET PROTECTION DETAILS

PROJECT NO. 20426215

SHEET C502



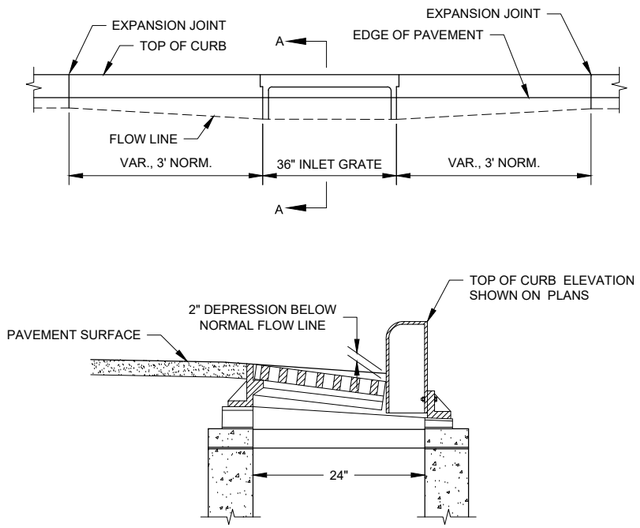
SECTION A-A

GENERAL NOTES:

1. SEE PLANS FOR SIZE, NUMBER, AND LOCATION OF PIPES.
2. DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE SPECIFICATIONS.
3. DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR UNDERGROUND DRAINAGE STRUCTURES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.
4. ALL PRECAST INLET UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF AASHTO DESIGNATION M 199.
5. PRECAST REINFORCED BASES SHALL BE PLACED ON A BED OF MATERIAL AT LEAST 6 INCHES IN DEPTH, WHICH MEETS THE REQUIREMENTS FOR WELL GRADED CRUSHED STONE. THIS BEDDING SHALL BE COMPACTED AND PROVIDE UNIFORM SUPPORT FOR THE ENTIRE AREA OF THE BASE.
6. PRECAST REINFORCED CONCRETE FLAT SLAB TOPS MAY BE USED ON THE STRUCTURES. THE TOPS SHALL BE INSTALLED ON A BED OF MORTAR.
7. ALL BAR STEEL AND WELDED WIRE FABRIC REINFORCEMENT SHALL BE EMBEDDED 2 INCHES CLEAR UNLESS OTHERWISE SHOWN OR NOTED.
8. PRECAST REINFORCED CONCRETE RISERS SHALL BE PLACED WITH TONGUE DOWN.

2' x 3' INLET WITH SUMP DETAIL

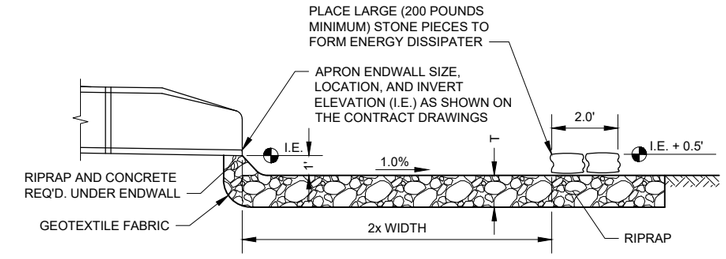
NO SCALE



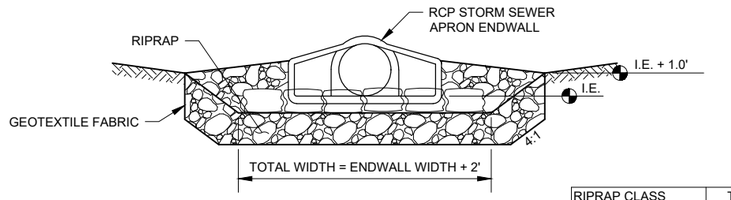
SECTION A-A

CURB AND GUTTER AT INLETS DETAIL

NO SCALE



SIDE VIEW



FRONT VIEW

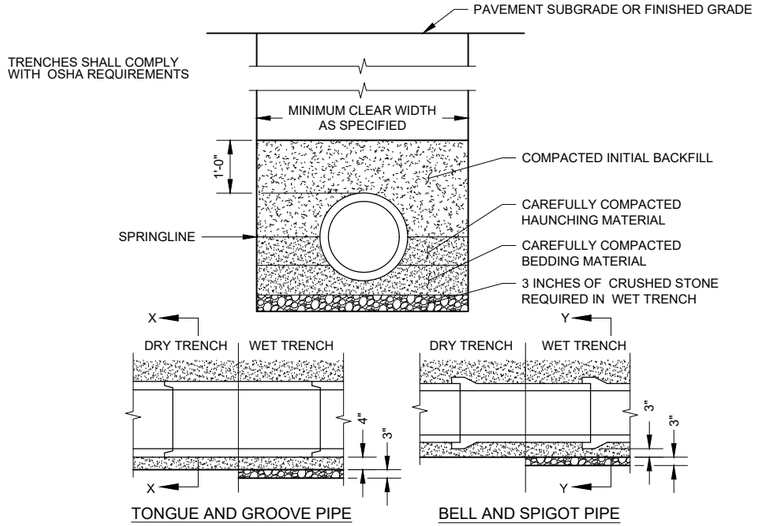
RIPRAP CLASS	T
RIPRAP	12"
MEDIUM RANDOM	18"
HEAVY	24"

GENERAL NOTES:

1. DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE SPECIFICATIONS.
2. THE RIPRAP CLASS AND GEOTEXTILE FABRIC TYPE SHALL BE AS SHOWN ON THE PLANS AND REQUIRED IN THE SPECIFICATIONS.

STORM SEWER OUTFALL DETAIL

NO SCALE



TONGUE AND GROOVE PIPE

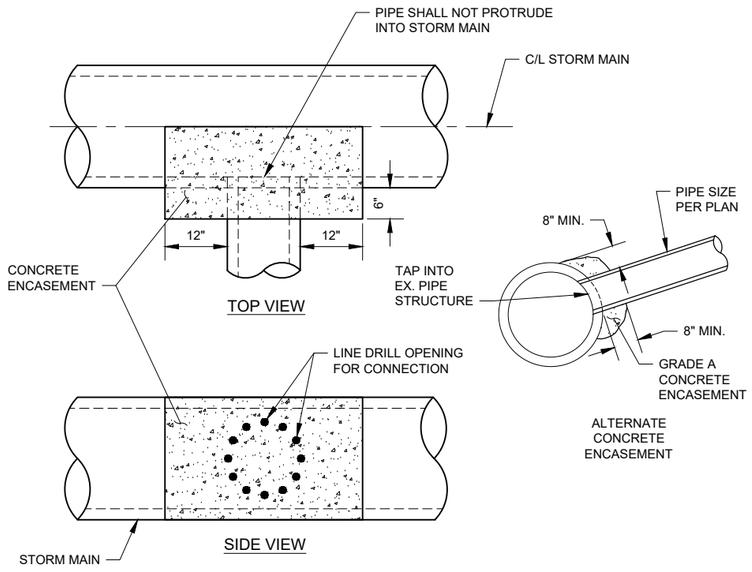
BELL AND SPIGOT PIPE

GENERAL NOTES:

1. BEDDING AND HAUNCHING MATERIAL SHALL BE WELL-GRADED 3/4 TO 1/4 INCH CRUSHED STONE OR OTHER NON-COHESIVE MATERIAL NOT SUBJECT TO MIGRATION AND FREE OF DEBRIS, ORGANIC MATERIAL, AND LARGE STONES.
2. BEDDING MATERIAL TO BE PLACED BEFORE SETTING PIPE, 4 INCH MINIMUM UNDER BARREL WITH 3 INCH MINIMUM UNDER BELL.
3. INITIAL BACKFILL SHALL BE DENSELY COMPACTED, NON-COHESIVE FINELY DIVIDED MATERIAL FREE OF DEBRIS, ORGANIC MATERIAL, AND LARGE STONES.
4. IN ROCK OR OTHER UNCOMPRESSIBLE MATERIALS, THE TRENCH SHALL BE OVEREXCAVATED A MINIMUM OF 6-INCHES AND REFILLED WITH GRANULAR MATERIAL.

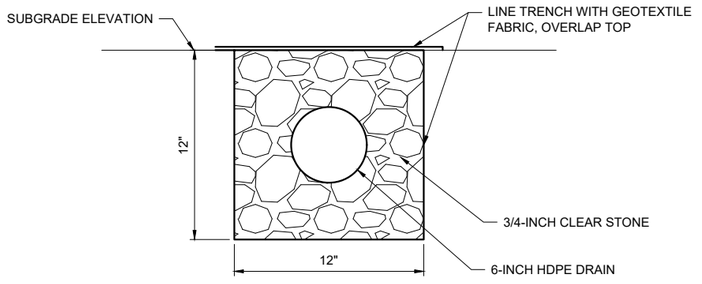
CLASS "B" EMBEDMENT FOR RIGID PIPE DETAIL

NO SCALE



STORM SEWER TAP DETAIL (BLIND CONNECTION)

NO SCALE



6-INCH DRAIN TILE DETAIL

NO SCALE

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CROSSWAY CHURCH IMPROVEMENTS
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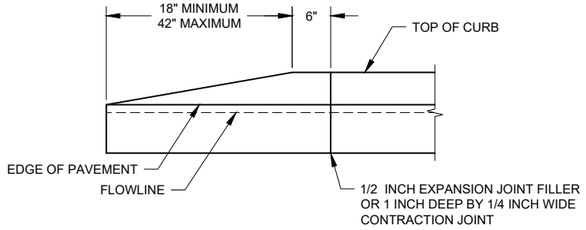
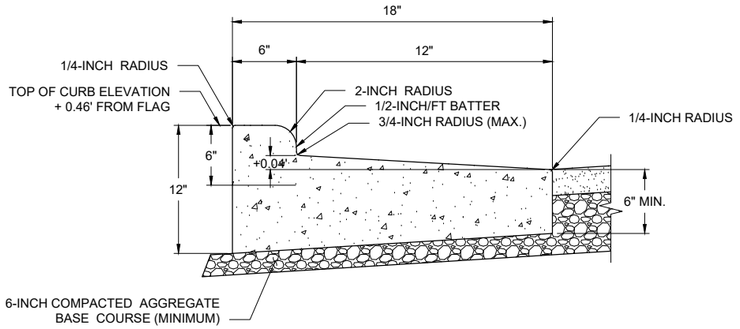
GERMANTOWN, WASHINGTON COUNTY, WI

STORM SEWER DETAILS

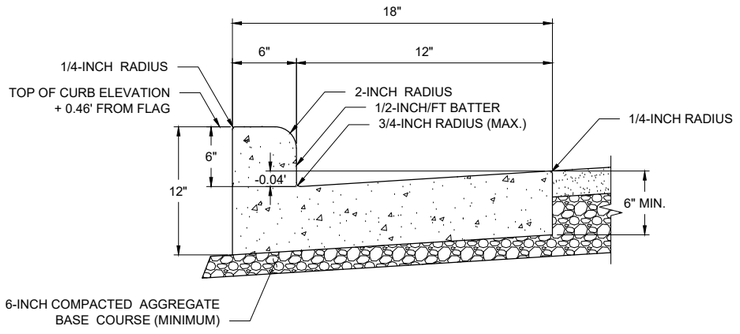
PROJECT NO. 20426215
SHEET C503



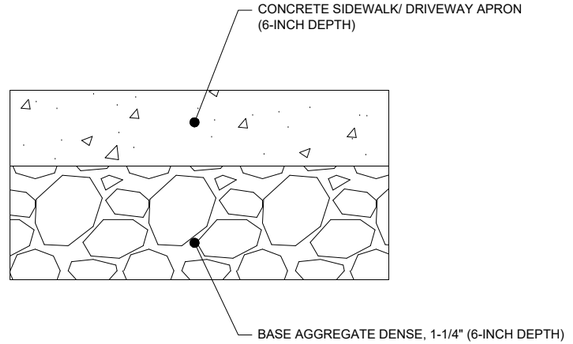
CURB END DETAIL
NO SCALE



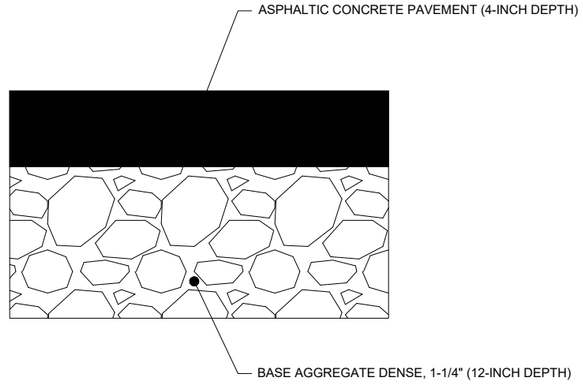
CURB AND GUTTER DETAIL - REJECT CURB
NO SCALE



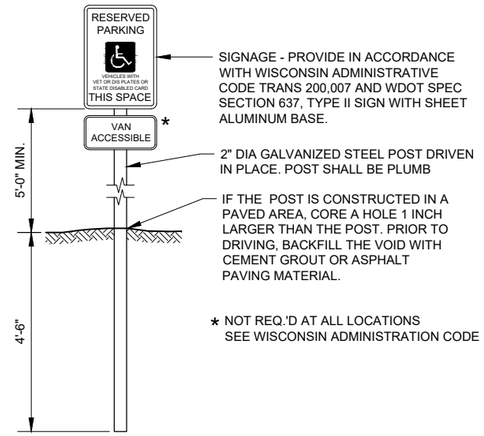
CURB AND GUTTER DETAIL - RECEIVING CURB
NO SCALE



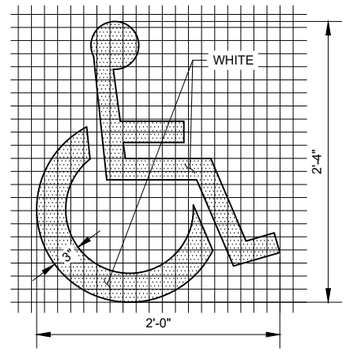
TYPICAL SECTION - SIDEWALK & DRIVEWAY APRON
NO SCALE



TYPICAL SECTION - PARKING LOT
NO SCALE

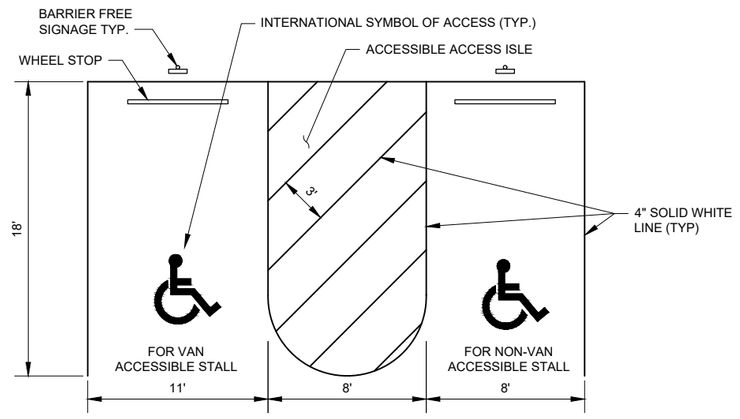


BARRIER FREE SIGNAGE
NO SCALE



INTERNATIONAL SYMBOL OF ACCESS
NO SCALE

GENERAL NOTES:
1. DETAILS OF INSTALLATION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE SPECIFICATIONS.
2. A DETAILED DRAWING OF THE DISABLED PARKING SYMBOL IS ILLUSTRATED IN THE "STANDARD HIGHWAY SIGNS MANUAL" BY THE FEDERAL HIGHWAY ADMINISTRATION.
3. WDOT SPEC. MEANS THE STATE OF WISCONSIN STANDARD SPECIFICATION FOR HIGHWAY AND STRUCTURE CONSTRUCTION, LATEST EDITION, AS AMENDED BY THE MOST CURRENT INTERIM SUPPLEMENTAL SPECIFICATION.
4. PROVIDE DISABLED PARKING STALLS AT LOCATIONS SHOWN ON THE DRAWINGS. STALL AND ACCESS ISLE DIMENSIONS SHALL BE AS SHOWN ON THE DETAIL UNLESS INDICATED OTHERWISE ON THE DRAWING.
5. PROVIDE A DISABLED SYMBOL AND BARRIER FREE SIGNAGE FOR EACH STALL SHOWN ON THE DRAWING.
6. PROVIDE WHEEL STOPS WHEN SHOWN ON THE DRAWINGS.
7. THE MAXIMUM SURFACE SLOPE, ACROSS STALLS OR ACCESSIBLE ROUTES, IN ANY DIRECTION, SHALL BE 2%.



ACCESSIBLE PARKING STALL
NO SCALE

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CROSSWAY CHURCH IMPROVEMENTS
CROSSWAY CHURCH
GERMANTOWN, WASHINGTON COUNTY, WI

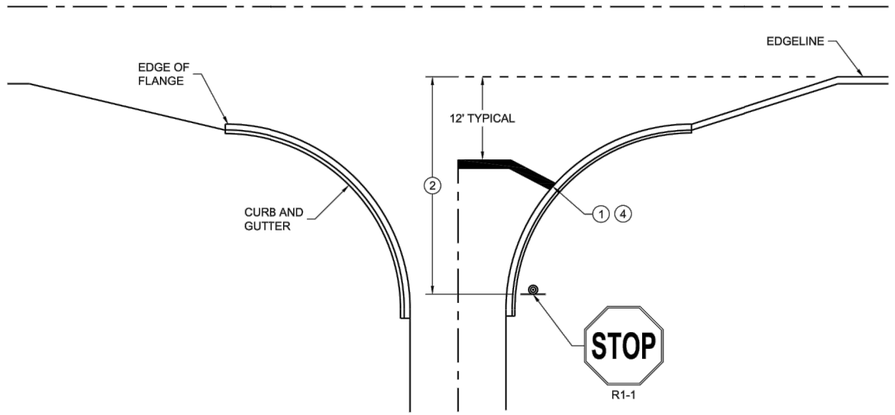
ROADWAY & PARKING DETAILS

PROJECT NO. 20426215
SHEET C504

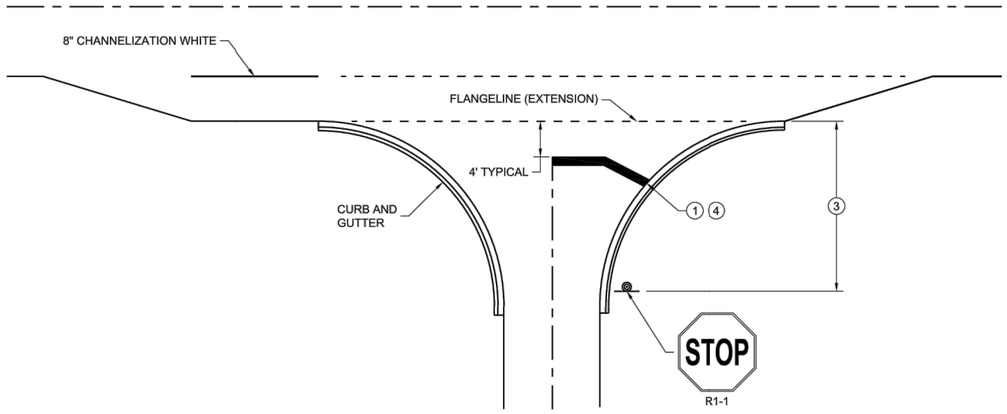
GENERAL NOTES

STOP SIGN SHALL BE PLACED A MINIMUM OF 6 FEET TO A MAXIMUM OF 50 FEET FROM THE EDGELINE LOCATION.

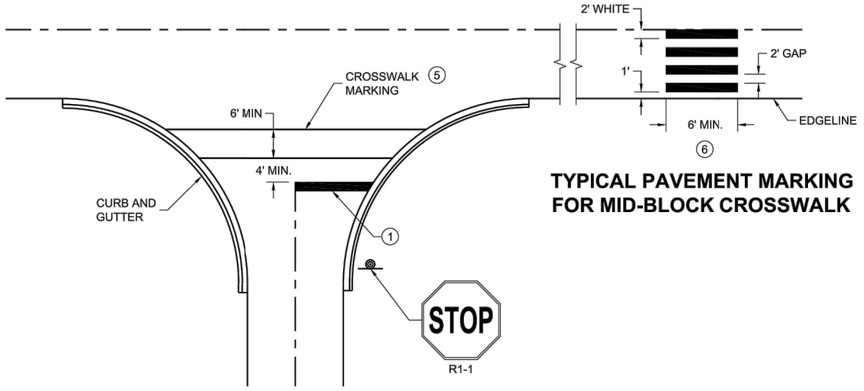
1. 18-INCH STOP LINES MAY BE DELETED OR ADDED BY THE REGION MARKING ENGINEER BASED ON VISIBILITY AND SIGHT LINES.
2. NO STOP LINE IS REQUIRED IF STOP SIGN IS LESS THAN OR EQUAL TO 40 FEET FROM THE EDGELINE.
3. NO STOP LINE IS REQUIRED IF STOP SIGN IS LESS THAN OR EQUAL TO 30 FEET FROM THE FLANGE LINE EXTENSION.
4. MOVE CLOSER TO THE EDGE OF TRAVEL LINE AS NEEDED FOR VISIBILITY AND SIGHT LINES (NO CLOSER THAN 4 FEET).
5. LADDER BAR CROSSWALKS SHOULD ONLY BE USED FOR MID BLOCK CROSSINGS. USE 2 - 6" TRANSVERSE LINES.
6. POSTED SPEED LIMITS OF 40 MPH OR GREATER USE A MINIMUM WIDTH OF 8' FOR MIDBLOCK CROSSWALKS



TYPICAL STOP LINE PAVEMENT MARKING WITH CURB AND GUTTER

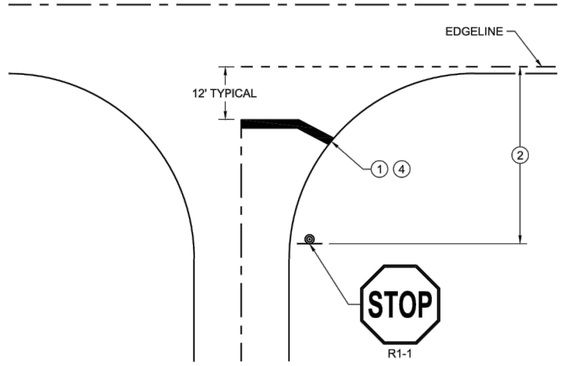


TYPICAL STOP LINE PAVEMENT MARKING FOR SIDE ROADS WITH RIGHT TURN LANE



TYPICAL PAVEMENT MARKING FOR MID-BLOCK CROSSWALK (5)

TYPICAL STOP LINE PAVEMENT MARKING FOR SIDE ROADS WITH CROSSWALK MARKING



TYPICAL STOP LINE PAVEMENT MARKING WITHOUT CURB AND GUTTER

STOP LINE AND CROSSWALK PAVEMENT MARKING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
March 2024 — DATE
/S/ Matthew Rauch — STATE SIGNING AND MARKING ENGINEER
FHWA

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SDD 15C33-05

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CROSSWAY CHURCH IMPROVEMENTS
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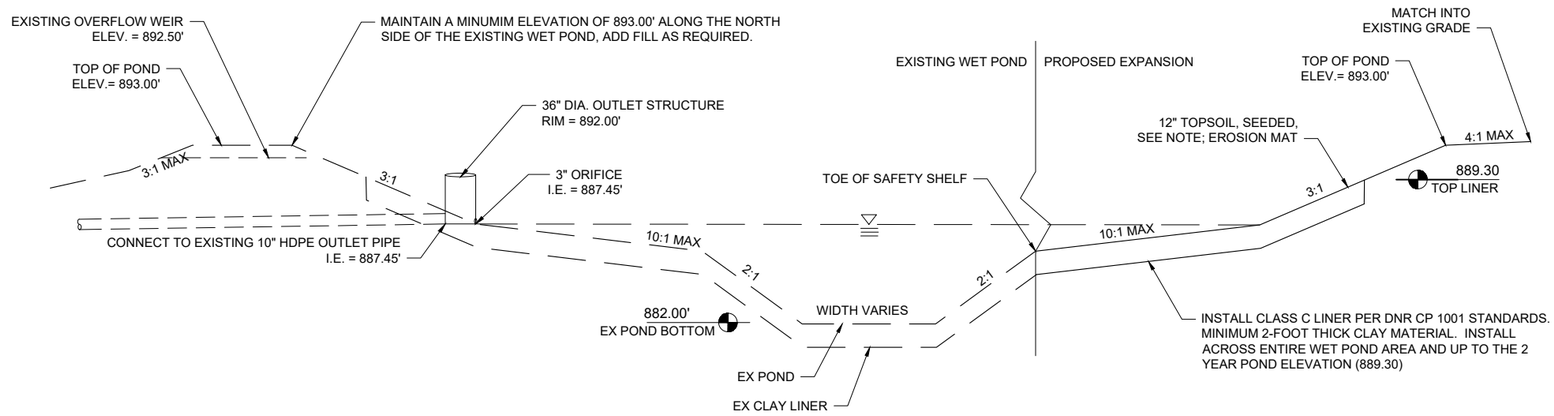
STOP LINE & CROSSWALK DETAIL

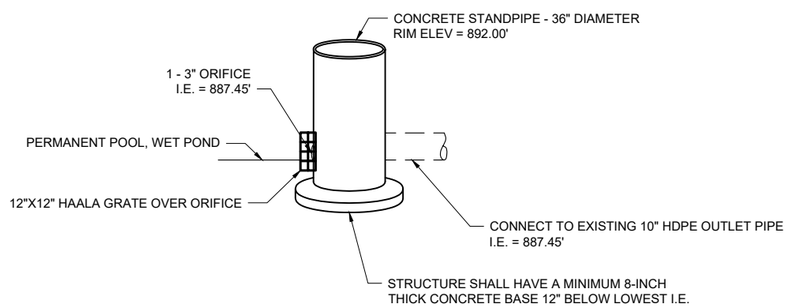
PROJECT NO. 20426215
SHEET C505



NOTES:
- TOP OF POND TO BE A MINIMUM OF 4-FEET WIDE
- WET POND EXPANSION TO OCCUR ABOVE THE TOE OF THE EXISTING SAFETY SHELF

WET POND WITH OUTLET STRUCTURE DETAIL

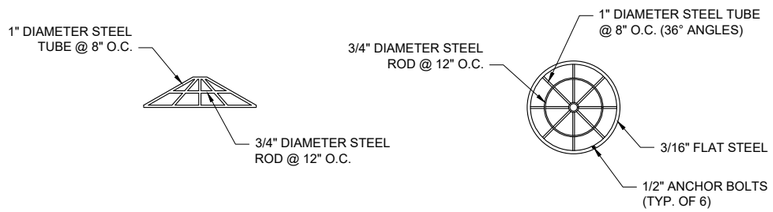
NO SCALE



NOTE:
THE GRATE FOR THIS OUTLET STRUCTURE SHALL BE EITHER A NEENAH HIGH CAPACITY GRATE, BEEHIVE GRATE, OR CONE GRATE AS DETAILED ABOVE. SEE PLAN FOR EXACT ELEVATIONS AND I.E.

WET POND OUTLET STRUCTURE DETAIL

NO SCALE



PROFILE

PLAN

CONE GRATE DETAIL

NO SCALE

		NO.	DATE	REVISION	BY
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	DESIGNED BY: KEF	.	.	.	.
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CROSSWAY CHURCH IMPROVEMENTS
CROSSWAY CHURCH
GERMANTOWN, WASHINGTON COUNTY, WI

WET POND EXPANSION DETAILS

PROJECT NO. 20426215

SHEET C506

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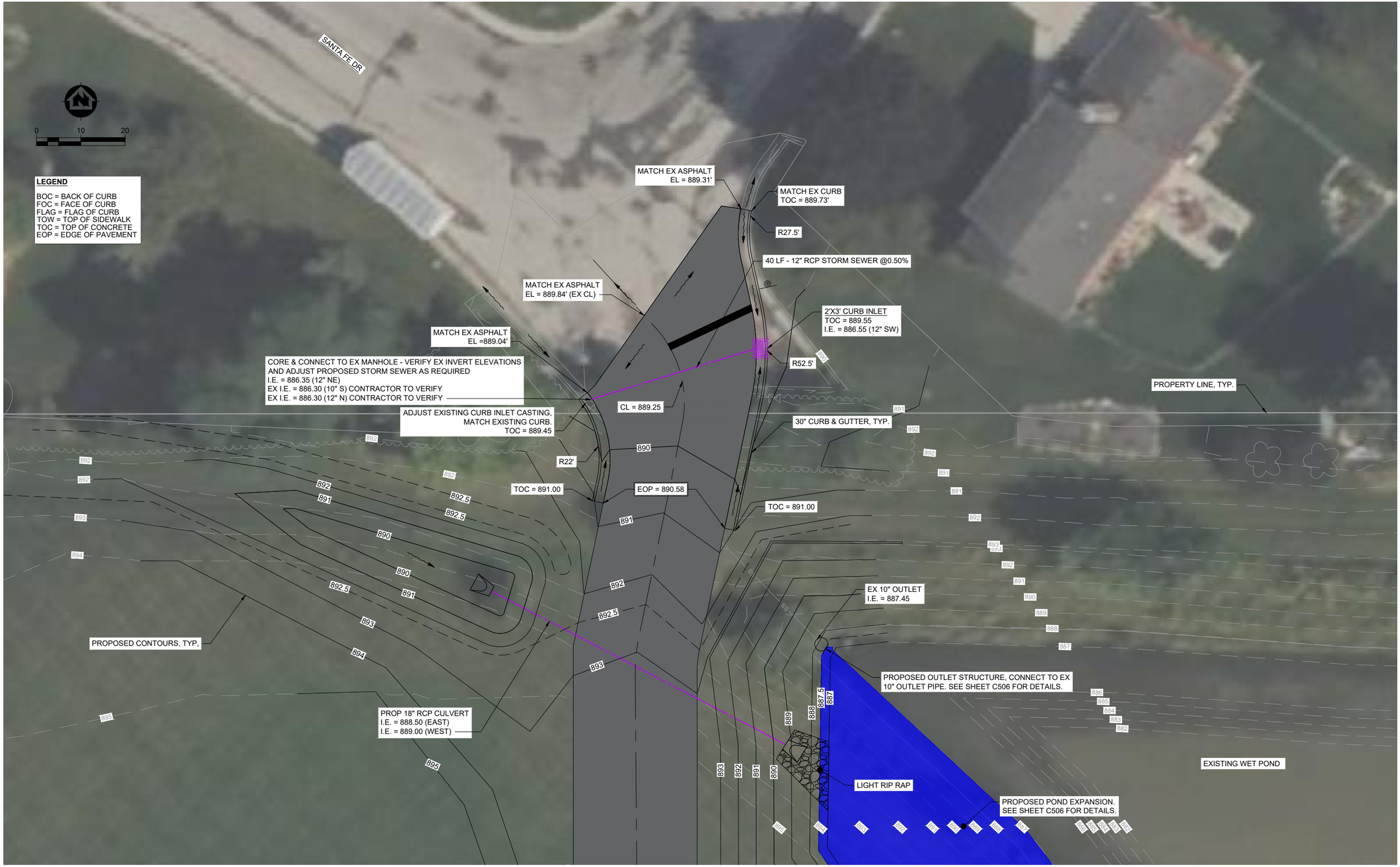
CROSSWAY CHURCH IMPROVEMENTS
CROSSWAY CHURCH
GERMANTOWN, WASHINGTON COUNTY, WI

DRIVEWAY DETAIL - PILGRIM RD

PROJECT NO. 20426215
SHEET C507



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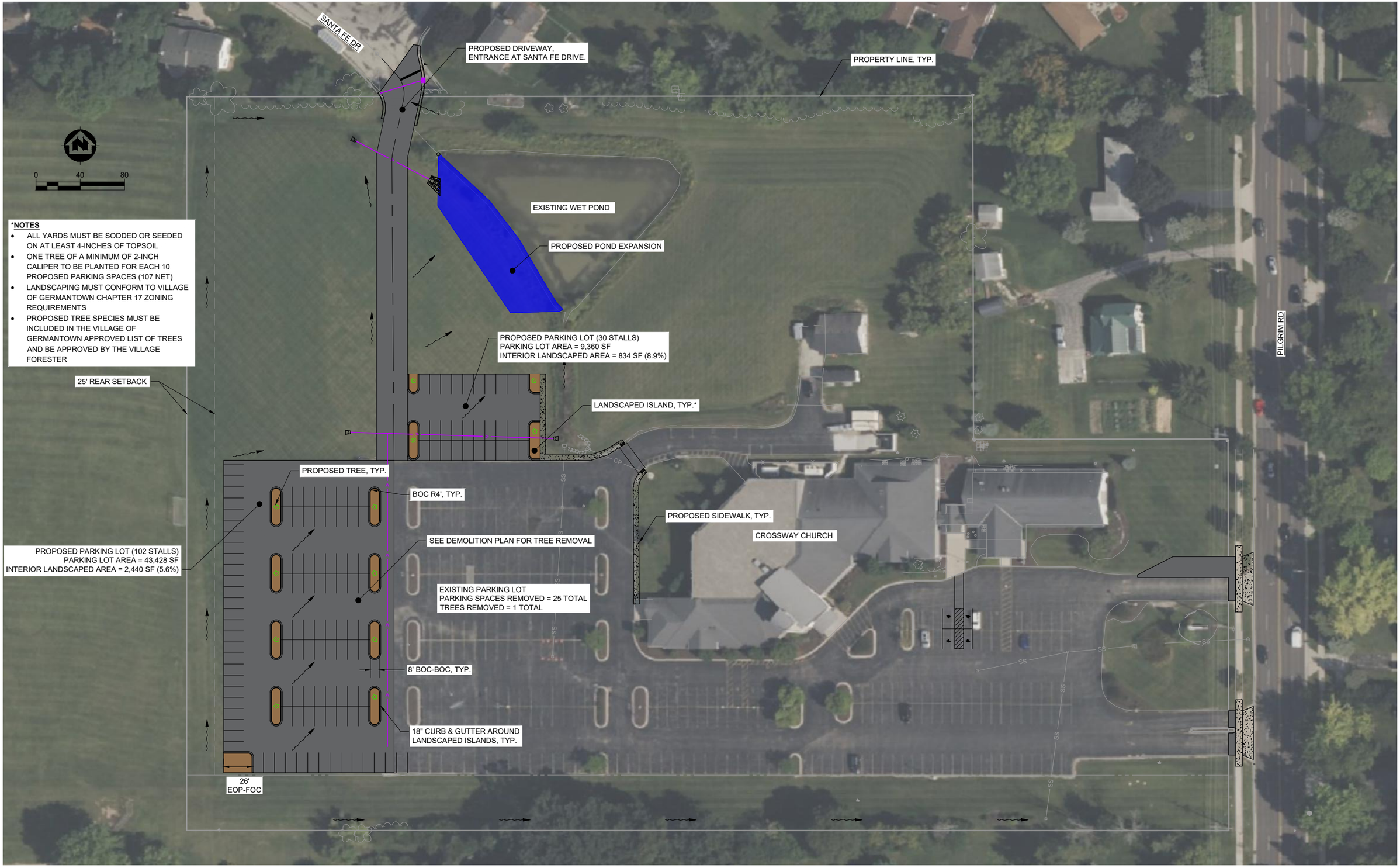
CROSSWAY CHURCH IMPROVEMENTS
CROSSWAY CHURCH
GERMANTOWN, WASHINGTON COUNTY, WI

DRIVEWAY DETAIL - SANTA FE DR

PROJECT NO. 20426215
SHEET C508



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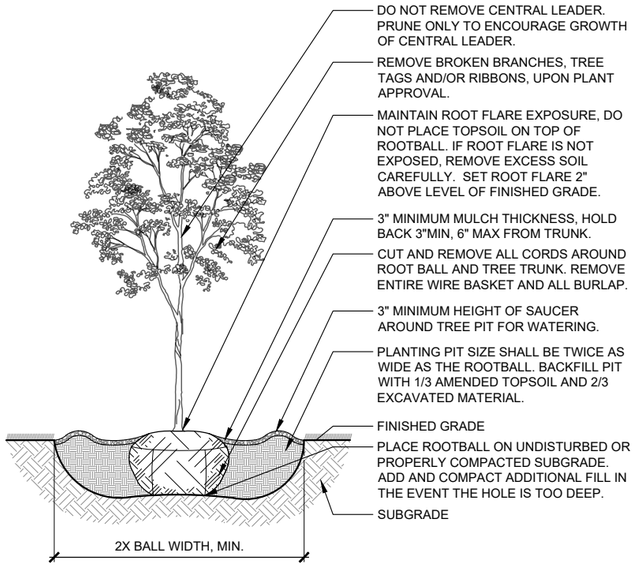
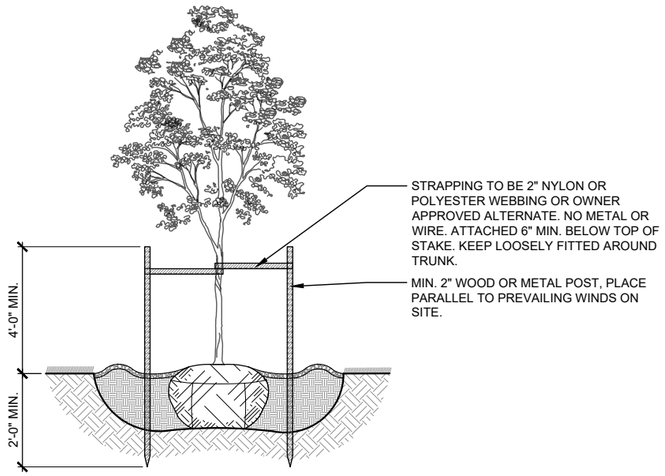
CROSSWAY CHURCH IMPROVEMENTS
CROSSWAY CHURCH
GERMANTOWN, WASHINGTON COUNTY, WI

PROPOSED LANDSCAPING PLAN

PROJECT NO. 20426215
SHEET L201

NOTE:
1. REMOVE AND PROPERLY DISPOSE OF ANY EXCESS EXCAVATED MATERIAL
2. WRAP TRUNK WITH APPROVED TREE WRAP UP TO FIRST BRANCH. (FALL PLANTING REQUIREMENT).





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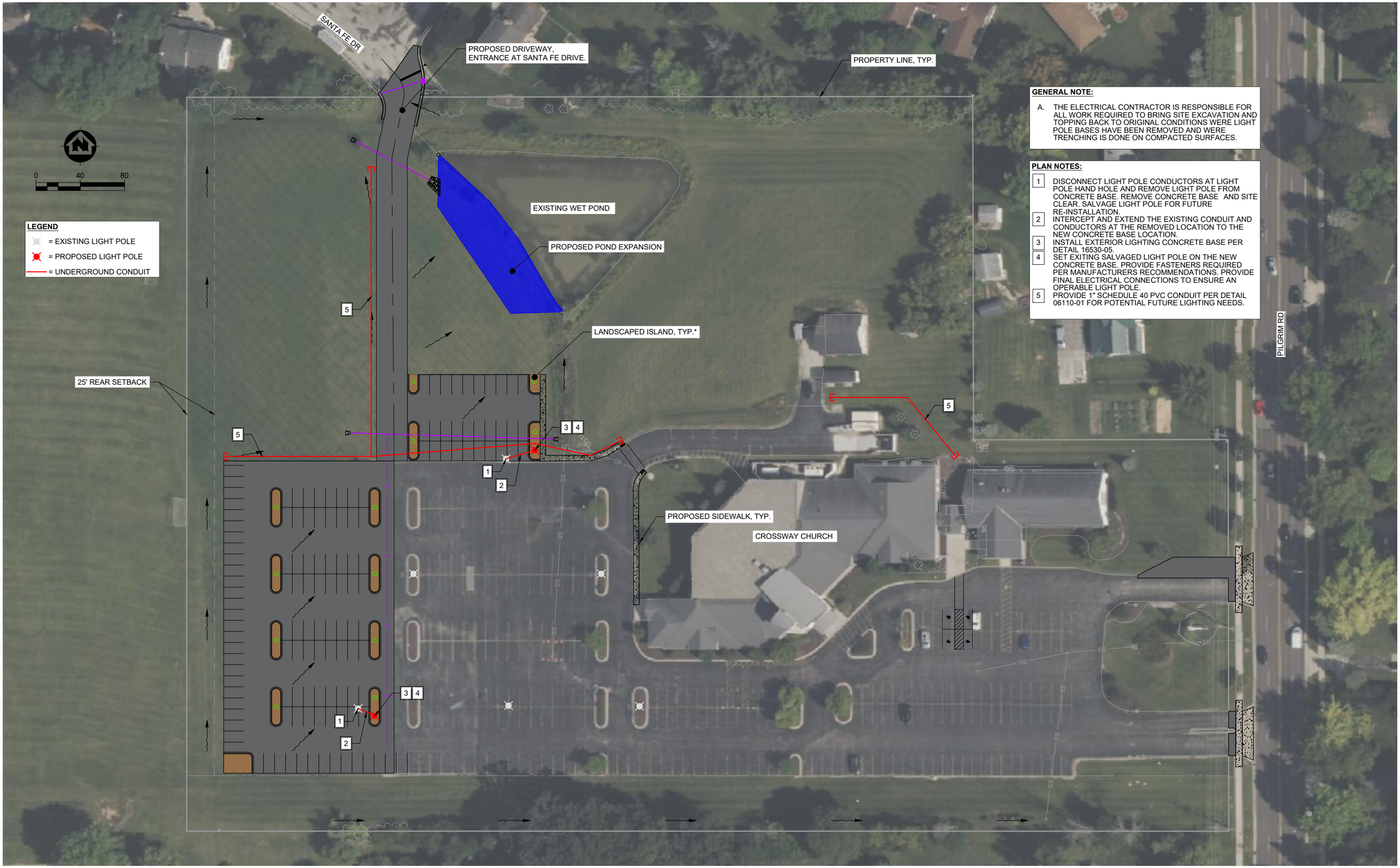
CROSSWAY CHURCH IMPROVEMENTS
CROSSWAY CHURCH
GERMANTOWN, WASHINGTON COUNTY, WI

LANDSCAPING DETAILS

PROJECT NO. 20426215
SHEET L501



GENERAL NOTE:

A. THE ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR ALL WORK REQUIRED TO BRING SITE EXCAVATION AND TOPPING BACK TO ORIGINAL CONDITIONS WERE LIGHT POLE BASES HAVE BEEN REMOVED AND WERE TRENCHING IS DONE ON COMPACTED SURFACES.

PLAN NOTES:

1. DISCONNECT LIGHT POLE CONDUCTORS AT LIGHT POLE HAND HOLE AND REMOVE LIGHT POLE FROM CONCRETE BASE. REMOVE CONCRETE BASE AND SITE CLEAR. SALVAGE LIGHT POLE FOR FUTURE RE-INSTALLATION.
2. INTERCEPT AND EXTEND THE EXISTING CONDUIT AND CONDUCTORS AT THE REMOVED LOCATION TO THE NEW CONCRETE BASE LOCATION.
3. INSTALL EXTERIOR LIGHTING CONCRETE BASE PER DETAIL 16530-05.
4. SET EXITING SALVAGED LIGHT POLE ON THE NEW CONCRETE BASE. PROVIDE FASTENERS REQUIRED PER MANUFACTURERS RECOMMENDATIONS. PROVIDE FINAL ELECTRICAL CONNECTIONS TO ENSURE AN OPERABLE LIGHT POLE.
5. PROVIDE 1" SCHEDULE 40 PVC CONDUIT PER DETAIL 06110-01 FOR POTENTIAL FUTURE LIGHTING NEEDS.

		NO.	DATE	REVISION	BY
PROJECT DATE: .	DRAWN BY: KEF	.	.	.	.
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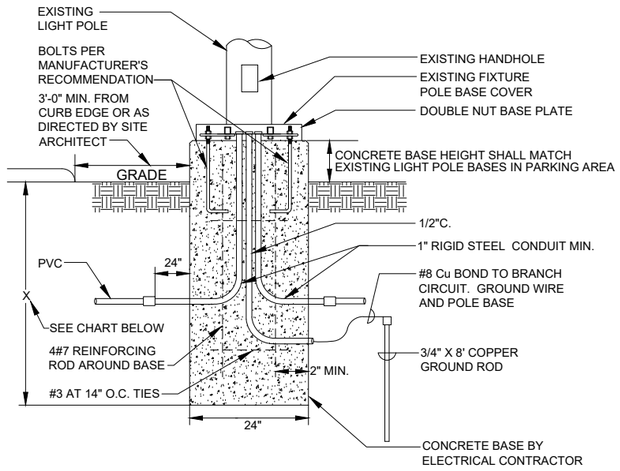
CROSSWAY CHURCH IMPROVEMENTS
CROSSWAY CHURCH
GERMANTOWN, WASHINGTON COUNTY, WI

PROPOSED LIGHTING & ELECTRICAL PLAN

PROJECT NO. 20426215
SHEET E201

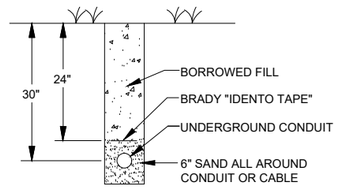


NOTES:

1. IN UNDISTURBED EARTH, EXCLUDING FILL MATERIAL, A 2'-0" DIA. HOLE WHICH SHALL BE USED AS THE FORM FOR THE CONCRETE BASE SHALL BE DRILLED.
2. IN EXCAVATED AREAS OR IN EXISTING SOIL CONTAINING FILL OF OBJECTIONABLE MATERIAL, BACKFILL AROUND CONCRETE BASE WITH COMPACTED GRANULAR BACKFILL A MIN. OF 2'-0" IN ALL DIRECTIONS.

POLE HEIGHT IN FEET	BASE DEPTH IN INCHES BELOW GRADE
10'-0"	X = 60" (INCHES)
15'-0"	X = 60" (INCHES)
20'-0"	X = 60" (INCHES)
25'-0"	X = 72" (INCHES)
30'-0"	X = 72" (INCHES)
35'-0"	X = 72" (INCHES)
40'-0"	X = 96" (INCHES)
45'-0"	X = 96" (INCHES)
50'-0"	X = 108" (INCHES)

16530-05 EXTERIOR LIGHTING CONCRETE BASE DETAIL
NTS



NOTE:

PROVIDE PULL CORDS IN ALL EMPTY CONDUITS.

16110-01 UNDERGROUND CONDUIT DETAIL
NTS

		NO.	DATE	REVISION	BY
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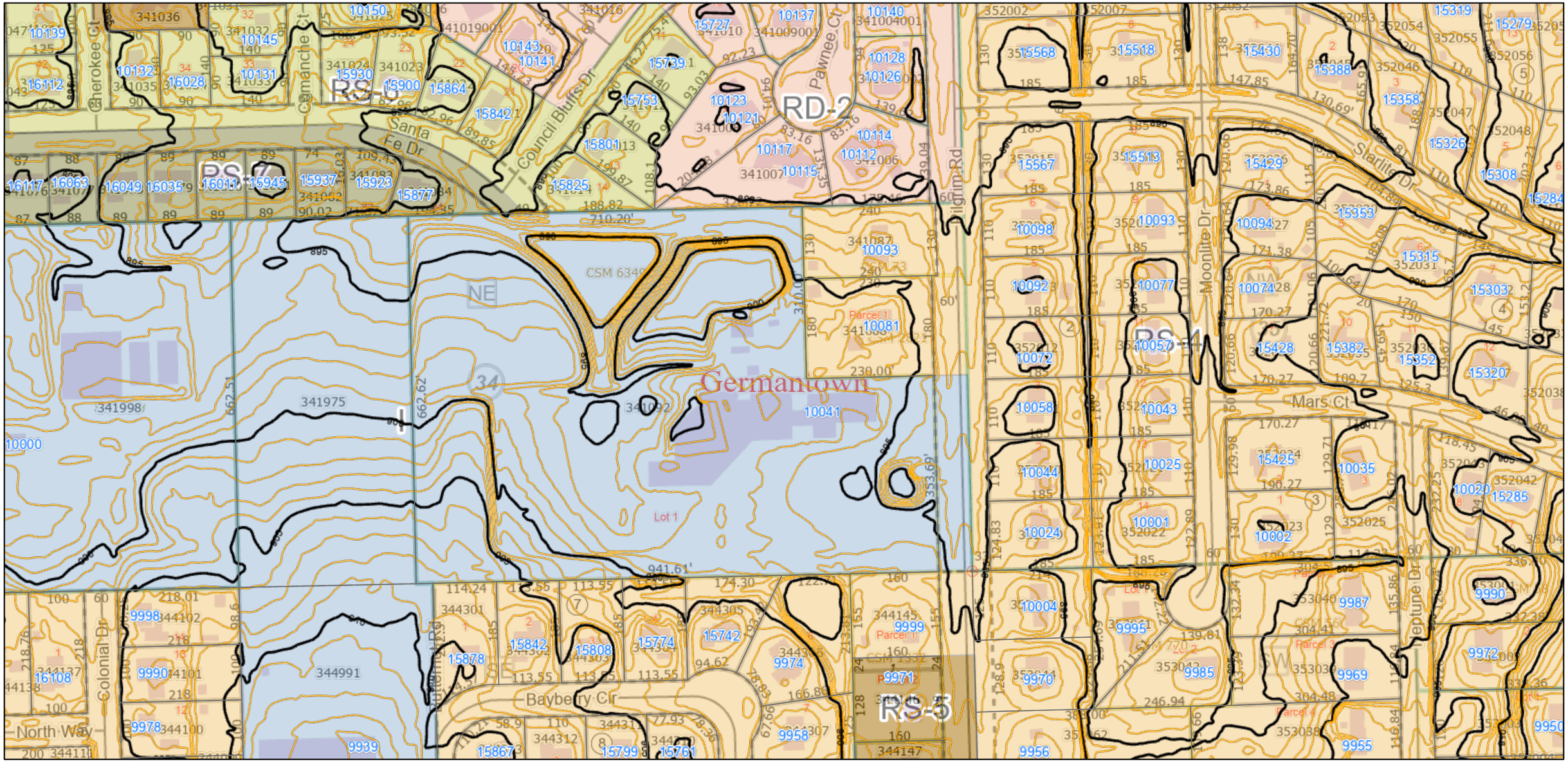
CROSSWAY CHURCH IMPROVEMENTS
CROSSWAY CHURCH
GERMANTOWN, WASHINGTON COUNTY, WI

ELECTRICAL DETAILS

PROJECT NO. 20426215
SHEET E501

CROSSWAY CHURCH - SUPPLEMENTAL SITE PLAN (WASHINGTON COUNTY GIS)



5/30/2024, 10:06:25 AM

1:2,107

0 0.02 0.04 0.09 mi

0 0.04 0.07 0.15 km

Washington County GIS, Washington County

- Current Parcel
- Address Point
- 1' Contours
  - <all other values>
  - Index
  - Intermediate
  - Urbanized Area 2010
- Germantown Zoning
  - RS-4 Single-Family Residential
  - RS-5 Single-Family Residential
  - RS-6 Single-Family Residential
  - RS-7 Single-Family Residential
  - RD-2 One-Family Residential
  - I Institutional
- Lot Number
- Certified Survey Number
- Condominium Name
- Subdivision Name
- Leader Lines
- Parcel Taxkey & Acreage
- PLSS Boundary
- PLSS Section
- PLSS Quarter
- Lot
- Plat
  - Certified Survey Map
  - Condominium
  - Assessor Plat; Cemetery Plat; Subdivision
- Right-of-Way
- Municipality
- Local Road Labels
  - Local Road
- PLSS Monument
- Landhook

Washington County GIS

N112 W17001 Mequon Rd.
P.O. Box 337
Germantown, Wisconsin 53022-0337
Phone: (262) 250-4720 (Engineering)
FAX: (262) 253-8255

Permit #: _____

STORMWATER MANAGEMENT PERMIT APPLICATION

Applicant/Agent	Property Owner
Name: Brian Kehrli, MSA Professional Services, Inc.	Name: Ben Cartland, CrossWay Church
Address: 1230 South Blvd Baraboo, WI 53913	Address: W156N10041 Pilgrim Road Germantown, WI 53022
Phone: 608-355-8887	Phone: 262-255-0702
E-mail: bkehrli@msa-ps.com	E-mail: benc@crosswayc.org

Property Address: CrossWay Church: W156 N10041 Pilgrim Rd, Germantown, WI 53022

Base SWM Permit Application Fee (Non-Refundable):

- ☐ $300.00.
- ☒ Waived, if application associated with Planning Department's Site Plan Review Application.

First-Time SWM Plan Report Review Fee (Non-Refundable):

- ☐ $200.00 for First Detention/Infiltration/Retention Pond or Water Quality Device.
- ☐ $25.00 for each Additional Detention/Infiltration/Retention Pond or Water Quality Device. Quantity: (_____)
- ☐ $10.00 for each Channel/Culvert/Storm Sewer Branch. Quantity: (_____)
- ☐ $500.00 Additional Fee for Optional Expedited Review (3 business days).
- ☒ Waived, if application associated with Planning Department's Site Plan Review Application.

Additional SWM Plan Report Review Fee (Non-Refundable):

- ☐ $250.00 for 2nd SWM Plan Review (i.e., review of 1st SWM Plan revision).
- ☐ $500.00 for each Additional SWM Plan Review (i.e., review of 2nd, 3rd, 4th, etc. SWM Plan revision).
- ☐ $500.00 Additional Fee for Optional Expedited Review for each Additional SWM Plan Review (3 business days).

Certification:

I hereby certify that the information contained herein, including all attachments, is true, accurate, and complete to the best of my knowledge. Further, I grant the Village of Germantown's employees and agents to enter the property to review information included with this application, and to make inspections during and after construction. Application and report review times, approval/denial, and final action shall be as set in Chapter 27, Mun. Ord. Applicant/Agent and Property Owner understand other fee mechanisms (i.e., Site Plan Review Fee) are in place for Village review and approval of the Stormwater Management Plan Report. I am aware that this permit expires the date the Village Engineer or designee notifies me that all stormwater management practices have passed final inspection required under subsection (4)(d) and an approved Maintenance Declaration is recorded with the Register of Deeds as required under section 27.11, or after two years of issuance, whichever occurs first.

Applicant/Agent Signature & Date:	Property Owner Signature & Date:
Brian J. Kehrli 6/10/2024	

REPORT CHECKLIST

The storm water management plan for a site shall include:

- [X] Detailed report containing a narrative description of the storm water facility design, assumptions, and computations
- [X] Detailed maps showing pre-development and post-development conditions, 24" x 36" sheets
- [X] Signature and seal by a Wisconsin Registered Professional Engineer
- [X] Detailed tabular estimate of construction costs for proposed facilities
- [X] Two complete copies of the entire plan

The report describing the site conditions and detention design shall include the following:

- [X] Full watershed of site with contours
- [X] Sub area boundaries
- [X] Time of concentration determination with lengths and slopes
- [X] Hydrologic soil groups
- [X] Curve numbers
- [X] Existing flood plain and wetlands shown, including setback lines
- [X] Comparison of different agency analysis, if appropriate, in tabular format
- [X] Cross section/details of vegetation proposed on berm, safety shelf, water line areas, etc.
- [X] Detention basin volumes
- [X] Existing and proposed contours in pond area at one foot contour interval
- [X] Stage-discharge curve or table for proposed outfall structure
- [X] Site hydrograph for 100-year and 2-year storm predeveloped condition without detention
- [X] Site hydrograph for 100-year and 2-year storm post-developed condition without detention
- [X] Pond output hydrograph for 100-year and 2-year storm post-developed condition with detention
- [X] Clearly indicate pre-development and post-development site discharge for the 2-year and 100-year storm events.
- [X] Draft copy of long term maintenance plan in recordable format
- [X] Completed copy of this checklist

Project Name: _____

Village staff only:

Permit #: _____

Initial submittal date: _____

Response date: _____

Subsequent response date(s): _____

Approval date: _____

Date sent to MMSD (If applicable) _____

*MMSD approval date:*_____

*Date financial guarantee provided and amount:*_____

Facility Certification-date approved: _____

*Final maintenance declaration recorded:*_____

Financial guarantee released: _____

Erosion Control Plan Narrative & Stormwater Memo

To: Kevin Driscoll, P.E., Village Engineer

From: Brian Kehrli, Project Engineer, MSA Professional Services, Inc.

Subject: CrossWay Church Improvements

Date: June 10, 2024

Introduction

This memorandum summarizes the performance of the stormwater management system for CrossWay Church in the Village of Germantown WI. The site is located in the Village of Germantown, Washington County, WI (SE ¼, NE ¼, Section 34, T09N, R20E).

The entire parcel area is approximately 12.18 acres. It is anticipated that 3.5 acres will be disturbed by construction activity. The proposed project includes the addition of 66,000 sf of impervious area including parking lot expansions, sidewalk installation and replacement, and driveway installation and replacement.

Runoff from the existing site is routed to one of two stormwater basins. Most of the runoff is conveyed to the existing wet pond on the north side of the property through grassed swales and area drains placed in the existing parking lot, the outlet for the wet pond is through an outlet structure that convey storm water to municipal storm sewer along Santa Fe Drive. The southeast corner of the property treats its parking area with a detention basin which outlets into municipal storm sewer on Pilgrim Road. Stormwater not conveyed through swales on the east side of the property flows east towards Pilgrim Road. Site information exhibits showing existing and proposed conditions can be found in **Appendix A**.

The USDA Web Soil Survey shows that the soils in the project area consist of silt loams of hydrologic soil group Type C. The proposed improvements will not disturb any wetlands, Surface Water Data viewer (SWDV) shows an area of wetland on the property, this is an existing stormwater BMP. SWDV and Washington County GIS supplemental site maps can be found **Appendix B**. A summary of the curve numbers used for stormwater calculations can be seen below:

Land Use Type	CN
Pavement (Asphalt/Concrete)	98
Roofs	98
Greenspace/Lawn Areas (Silt Loams, group C)	74
Wet Pond Permanent Pool	100

Stormwater Management Requirements

This site is subject to the post construction standards of the Village of Germantown (Chapter 27 - Post Construction Stormwater Management), Milwaukee Metropolitan Sewerage District (MMSD) (Chapter 13), and the Wisconsin DNR (NR151). Collectively, these standards require:

Peak Discharge Rate Control – Post-development peak discharge rates leaving the site under events ranging from the 1-yr, 2-yr, and 100-yr, 24-hr rainfall must not exceed pre-development rates for the same rainfall events. Post development peak discharge rates shall not exceed allowable runoff release rates for the 2-yr and 100-yr, 24-hr rainfall.

2-year allowable release rate = 9.90 ac (Wet Pond Watershed Area) x 0.15 cfs = 1.48 cfs
100-year allowable release rate = 9.90 ac (Wet Pond Watershed Area) x 0.50 cfs = 4.95 cfs

2-year allowable release rate = 12.18 ac (Entire Site) x 0.15 cfs = 1.83 cfs
100-year allowable release rate = 12.18 ac (Entire Site) x 0.50 cfs = 6.09 cfs

Water Quality Treatment – Stormwater runoff from the site must be treated such that there is an 80% reduction in Total Suspended Solids (TSS).

Infiltration – The site is exempt from infiltration requirements per NR 151.12(5)(c)(6)(a) because the infiltration rate of the soil is less than 0.6 inches/hour.

It is assumed that the existing site and stormwater BMPs, including both existing stormwater ponds, meet the above post construction stormwater standards.

Proposed Stormwater Improvements

Peak discharge rate control and water quality treatment will be provided for the site through improvements of the existing wet pond. The existing 10” outlet pipe includes a restrictor plate with orifice which will be removed and replaced with a 36” standpipe outlet structure with 3” orifice. The existing wet pond is large enough to meet water quality standards, however, it will be expanded above the toe of the safety shelf to meet peak discharge rate requirements. It is assumed that the existing site meets both the 2-year and 100-year allowable release rates. A summary of the existing site HydroCAD model with 2-year and 100-year hydrographs can be found in **Appendix C**. A detail showing proposed pond improvements can be found in **Appendix D**. Areas that flow to the existing east detention basin were not modelled due to minor changes to that area.

Peak Discharge Rate Control – The table below provides a summary comparison of peak discharge rate control for the site. Peak discharge rates were modelled for existing conditions, the proposed site with BMP improvements, and the proposed site without BMP improvements (no changes to the existing pond). A summary of the proposed site HydroCAD models with 2-year and 100-year hydrographs can be found in **Appendix E**.

Event	Existing Site (cfs)	Proposed Site (cfs)	Proposed Site w/o Pond Improvements (cfs)
1-year	0.28	0.28	0.31
2-year	0.31	0.30	0.34
10-year	0.41	0.39	0.43
100-year	2.20	2.16	4.38

Water Quality Treatment – The proposed improvements will be routed to the existing wet pond. In order for the pond to achieve 80% TSS reduction, a minimum of 1502.4 lbs of TSS removal is required. The existing pond with proposed improvements provides 2172 lbs, or 92.9% TSS removal. A summary of TSS removal and modeling can be found in **Appendix F**.

USLE Calculations

The project includes mostly parking lot and driveway construction items. For work to be completed in 2024, the maximum flow path will be approximately 170 lineal feet at 2.5% when subgrade is exposed. Subgrade is expected to be covered by gravel/base by September. Areas disturbed during 2024 construction will be restored prior to winter shutdown of the construction site. For work to be completed in 2025, the maximum flow path will be approximately 140 lineal feet at 2.8% when subgrade is exposed. Subgrade is expected to be covered by gravel/base by August. Areas disturbed during 2025 construction will be restored by the end of October 2025 and all restoration work will be reviewed again in the spring of 2026. USLE calculations can be found in **Appendix G.**

Anticipated Construction Schedule

- **2024 Work:** Construction on north parking lot, new driveway to Sante Fe Drive, and the pond expansion.
    - August 15-16, 2024 – Mobilization and install erosion control devices
    - August 18-31, 2024 – Bulk grading for parking lot, driveway and pond including culvert installation
    - September 3-7 – Install gravel for parking lot and driveway
    - September 10-11 – Complete concrete flatwork and curb installation.
    - September 12-14 – Fine grading for parking lot and driveway
    - September 19-20 – Asphalt paving for parking lot and driveway
    - September 24-25 – Initial restoration of the disturbed ditch and areas around the north parking lot and driveway to Sante Fe including temporary erosion mat and ditch checks/sediment logs/rip rap.
    - October 31, 2024 Winter shutdown
- **2025 Work:** Construction on the west parking lot and the east driveway entrances to Pilgrim Drive and building construction.
    - April 1-3, 2025 – Mobilization and install erosion control devices for parking lot and building work
    - April 7-25, 2025 – Excavation for building foundations and foundation construction
    - April 21-August 2025 – Building superstructure work

- July 21-Aug 8, 2025 – Bulk grading for west parking lot
- Aug. 11-15, 2025 – Install gravel for west parking lot
- Aug. 18-22, 2025 – Remove and replace concrete for south entrance to Pilgrim Drive
- Aug. 25-29, 2025 – Remove and replace concrete for north entrance to Pilgrim Drive
- Sept. 2-5, 2025 – Complete concrete flatwork and curb for west parking lot and around the building
- Sept. 9-13, 2025 – Fine grading for parking lot
- Sept. 16-17, 2025 – Asphalt paving for parking lot and entrance driveways
- Sept. 18-27, 2025 – Final restoration of site and continued maintenance of 2024 restoration work.
- October 31, 2025 – Project completion

Construction Phase Erosion Control

Various erosion control measures are included to reduce erosion onsite during construction and after construction is complete.

- Stone Tracking Pad
  A tracking pad will be installed on the north side of the project, at the proposed driveway entrance. The tracking pad will measure a minimum of 20-feet wide by 50-feet long according to WDNR technical standard 1057.
- Erosion Mat
  Channel erosion mat will be utilized in all areas with side slopes greater than 4:1. Erosion mat shall be installed according to WDNR technical standard 1052 and 1053.
- Silt Fence
  Silt fence will be utilized along project construction limits that slope away from the project area. The silt fence will be utilized to prevent soil and other material from leaving the site.
- Sediment Log
  Sediment logs will be used along all ditches with concentrated flows.
- Seeding and Mulching
  Disturbed soil within the project will be restored with seed, and mulch according to the MSA seeding specification. All fill areas shall be seeded within seven days of the last land disturbing activity at the fill site.
- Inlet Protection
  There are numerous inlets and area drains within the project area. All storm inlets within the project area will receive inlet protection. The inlet protection will conform to WDNR Technical Standard 1060.

Reporting

Erosion Control Inspection

- All controls will be inspected at least once per week and within 24-hours of any storm event greater than 0.5-inches. One inspection form shall be completed by the Contractor at the time of inspection.

Minimum Maintenance Requirements (During Construction)

- All measures are to be maintained in good working order. If repairs are necessary, they will be initiated within 24 hours of identification.
- Built up sediment shall be removed from silt fence, sediment logs, and weepers before it reaches a height greater than one-third of that of the BMP in place.
- Silt fences shall be inspected for tears, and to check for proper anchorage and be repaired as necessary.
- Washouts and bare spots shall be repaired in temporary or permanent seeding. Maintenance measures shall be performed to promote healthy vegetative growth.

Long Term Maintenance Requirements

- The inlet structures and area drains shall be inspected every year to check for blockages and accumulation of sediment. All blockages shall be removed along with sediment.
- Curb and gutter shall be inspected yearly for excessive sediment. All excessive sediment shall be removed. Regular street sweeping will eliminate this issue in the long run.

Appendix A –
Site Information Exhibits

WET POND WATERSHED LAND USE BREAKDOWN

A1	**TOTAL**	**37620 SF**
	ROOFS	24360 SF
	GREENSPACE	13260 SF
A2	**TOTAL**	**68560 SF**
	PAVEMENT	48200 SF
	GREENSPACE	20360 SF
A3	**TOTAL**	**37200 SF**
	PAVEMENT	37200 SF
B1	**TOTAL**	**287860 SF**
	ROOFS	2000 SF
	PAVEMENT	11135 SF
	GREENSPACE	258600 SF
	WP PERM POOL	16125 SF

TOTAL LOT AREA = 533340 SF

PERVIOUS AREA = 329770 SF

IMPERVIOUS AREA =203570 SF

PERCENT GREENSPACE = 61.8%

PERCENT IMPERVIOUS = 38.2%

EXISTING STAGE-STORAGE

STAGE	ELEVATION	AREA (SF)
0	882	5000
1	883	5900
2	884	6900
3	885	7900
4	886	9100
5	887	15150
POOL	887.45	16180
6	888	17500
7	889	19700
8	890	22200
9	891	25500
10	892	29800
11	893	34300

			NO.	DATE	REVISION	BY
PROJECT DATE: .	DRAWN BY:	KEF	.	.	.	.
	DESIGNED BY:	KEF	.	.	.	.
	CHECKED BY:	Init	.	.	.	.

PLOT DATE: 6/10/2024 11:06 AM, G:\20\20426\20426215\04_BIM_CADD_Shared\03_Model_Based Files\20426215 Stormwater.dwg

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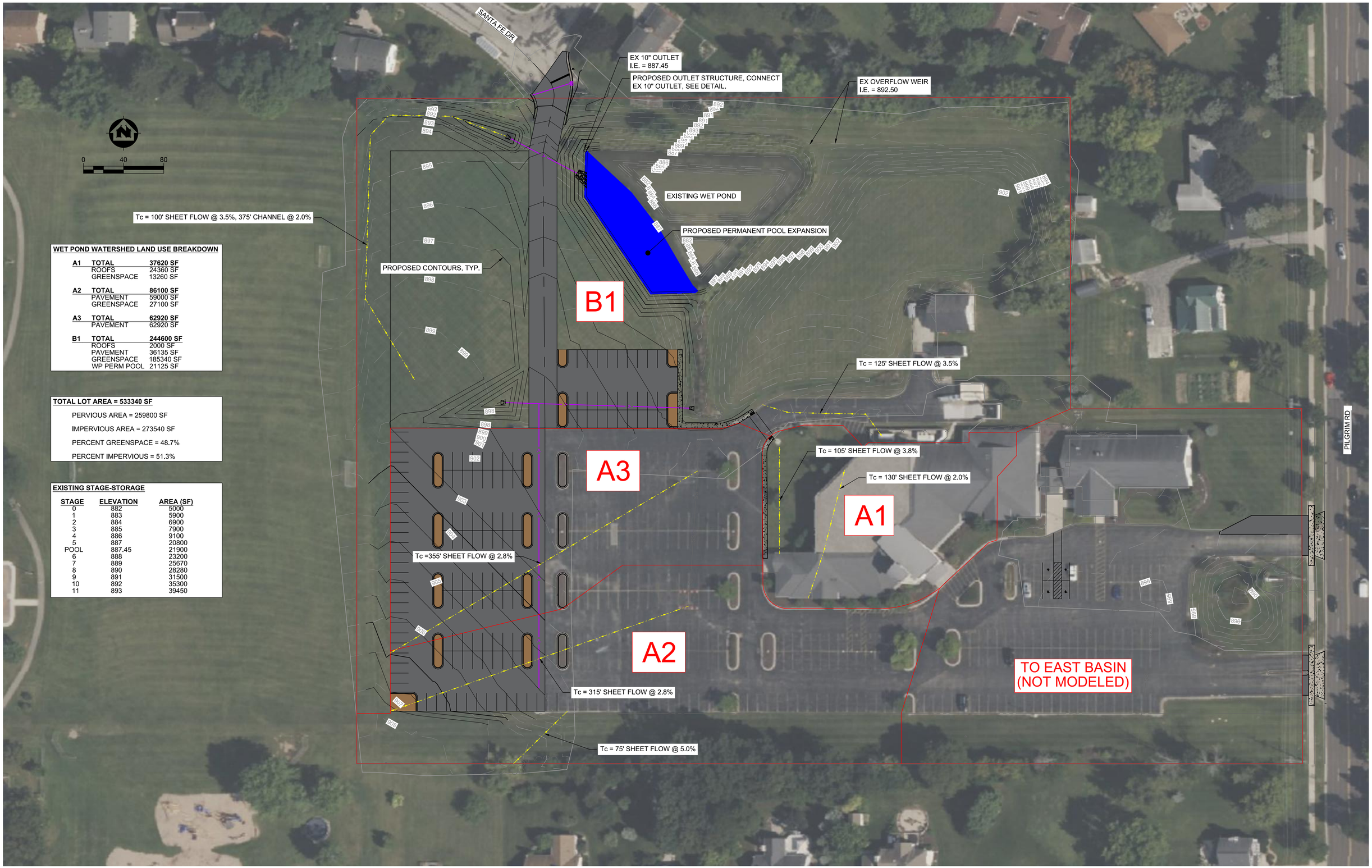
CROSSWAY CHURCH IMPROVEMENTS
CROSSWAY CHURCH
GERMANTOWN, WASHINGTON COUNTY, WI

STORMWATER EXHIBIT - EXISTING

PROJECT NO. 20426215

SHEET EX1



WET POND WATERSHED LAND USE BREAKDOWN

A1	**TOTAL**	**37620 SF**
	ROOFS	24360 SF
	GREENSPACE	13260 SF
A2	**TOTAL**	**86100 SF**
	PAVEMENT	59000 SF
	GREENSPACE	27100 SF
A3	**TOTAL**	**62920 SF**
	PAVEMENT	62920 SF
B1	**TOTAL**	**244600 SF**
	ROOFS	2000 SF
	PAVEMENT	36135 SF
	GREENSPACE	185340 SF
	WP PERM POOL	21125 SF

TOTAL LOT AREA = 533340 SF

PERVIOUS AREA = 259800 SF

IMPERVIOUS AREA = 273540 SF

PERCENT GREENSPACE = 48.7%

PERCENT IMPERVIOUS = 51.3%

EXISTING STAGE-STORAGE

STAGE	ELEVATION	AREA (SF)
0	882	5000
1	883	5900
2	884	6900
3	885	7900
4	886	9100
5	887	20800
POOL	887.45	21900
6	888	23200
7	889	25670
8	890	28280
9	891	31500
10	892	35300
11	893	39450

		NO.	DATE	REVISION	BY
PROJECT DATE: .	DRAWN BY: KEF	.	.	.	.
	DESIGNED BY: KEF	.	.	.	.
	CHECKED BY: Init	.	.	.	.

PLOT DATE: 6/10/2024 11:06 AM, G:\20\20426\20426215\04_BIM_CADD_Shared\03_Model_Based Files\20426215 Stormwater.dwg

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CROSSWAY CHURCH IMPROVEMENTS
CROSSWAY CHURCH
GERMANTOWN, WASHINGTON COUNTY, WI

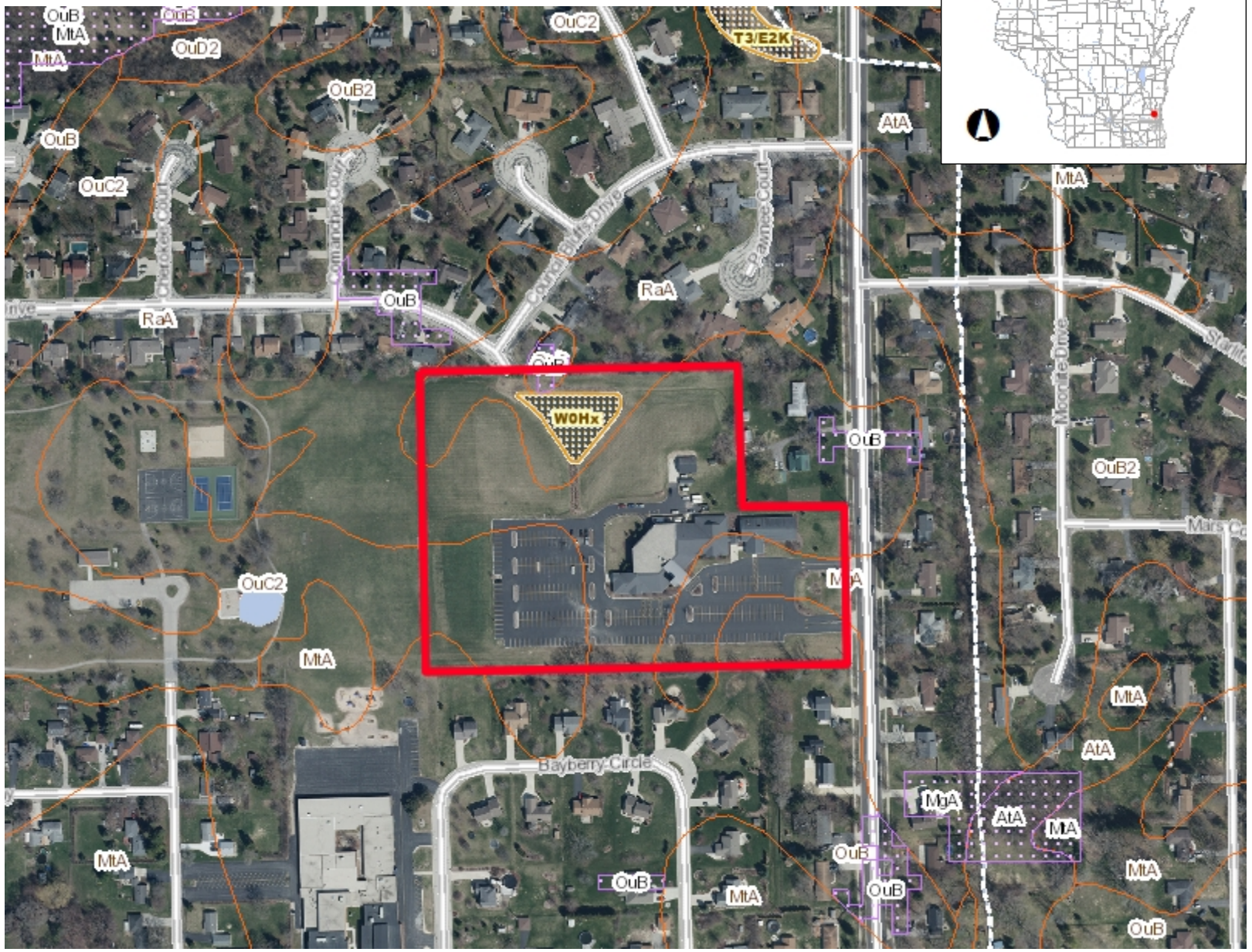
STORMWATER EXHIBIT - PROPOSED

PROJECT NO. 20426215

SHEET EX2

Appendix B –
Supplemental Site Maps

CrossWay Church - SWDV Map



Legend

- Wetland Indicators
- Lake Class Areas
- Riverine/ditch Class Areas
- Wetland Class Areas
- Wetland Class Points
  - Dammed pond
  - Excavated pond
  - Filled/drained wetland
  - Wetland too small to delineate
  - Filled excavated pond
- Filled Points
- Wetland Class Areas
- Filled Areas
- Lake Class Areas
- Riverine/ditch Class Areas
- Wetland Class Areas
- Wetland Class Points
  - Dammed pond
  - Excavated pond
  - Filled/drained wetland
  - Wetland too small to delineate
  - Filled excavated pond
- Filled Points
- Wetland Class Areas
- Filled Areas
- Wetland Identifications and Confirmations
- Groundwater Protection Areas
- NRCS Wetspots
- NRCS Wisconsin Soils
  - Soil Mapping Unit
  - Water
- Municipality
- State Boundaries

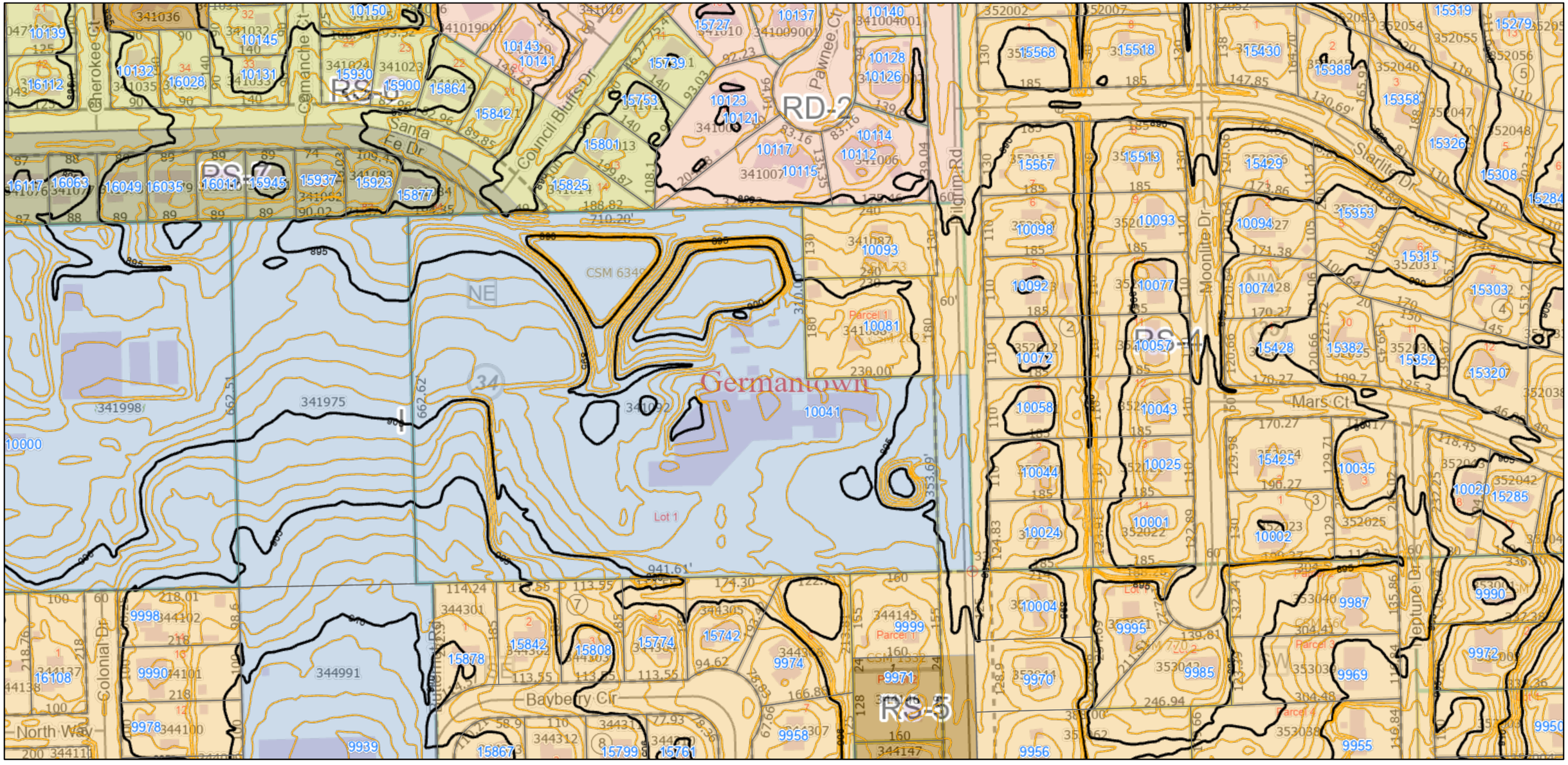
Notes

0.1 0 0.06 0.1 Miles

NAD_1983_HARN_Wisconsin_TM

1: 3,960

CROSSWAY CHURCH - SUPPLEMENTAL SITE PLAN (WASHINGTON COUNTY GIS)



5/30/2024, 10:06:25 AM

1:2,107

0 0.02 0.04 0.09 mi

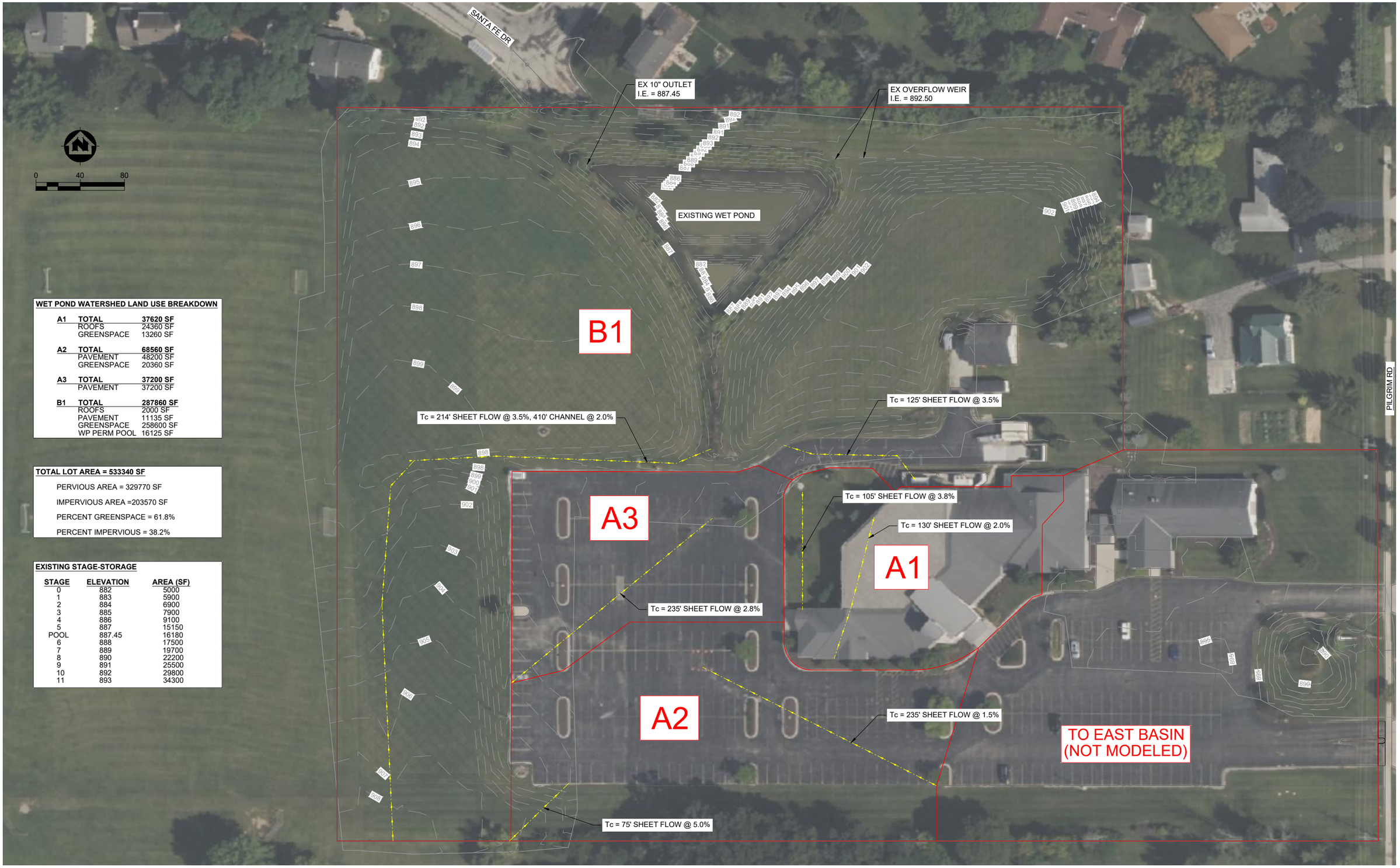
0 0.04 0.07 0.15 km

Washington County GIS, Washington County

- Current Parcel
- Address Point
- 1' Contours
  - <all other values>
  - Index
  - Intermediate
  - Urbanized Area 2010
- Germantown Zoning
  - RS-4 Single-Family Residential
  - RS-5 Single-Family Residential
  - RS-6 Single-Family Residential
  - RS-7 Single-Family Residential
  - RD-2 One-Family Residential
  - I Institutional
- Lot Number
- Certified Survey Number
- Condominium Name
- Subdivision Name
- Leader Lines
- Parcel Taxkey & Acreage
- PLSS Boundary
- PLSS Section
- PLSS Quarter
- Lot
- Plat
  - Certified Survey Map
  - Condominium
  - Assessor Plat; Cemetery Plat; Subdivision
- Right-of-Way
- Municipality
- Local Road Labels
  - Local Road
- PLSS Monument
- Landhook

Washington County GIS

Appendix C –
Existing HydroCAD Model



WET POND WATERSHED LAND USE BREAKDOWN

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	ROOFS	24360 SF
	GREENSPACE	13260 SF
A2	**TOTAL**	**68560 SF**
	PAVEMENT	48200 SF
	GREENSPACE	20360 SF
A3	**TOTAL**	**37200 SF**
	PAVEMENT	37200 SF
B1	**TOTAL**	**287860 SF**
	ROOFS	2000 SF
	PAVEMENT	11135 SF
	GREENSPACE	258600 SF
	WP PERM POOL	16125 SF

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IMPERVIOUS AREA =203570 SF

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POOL	887.45	16180
6	888	17500
7	889	19700
8	890	22200
9	891	25500
10	892	29800
11	893	34300

			NO.	DATE	REVISION	BY
PROJECT DATE: .	DRAWN BY:	KEF	.	.	.	.
	DESIGNED BY:	KEF	.	.	.	.
	CHECKED BY:	Init	.	.	.	.

PLOT DATE: 6/10/2024 11:05 AM, G:\20\20426\2042621\04_BIM_CADD_Shared\03_Model_Based Files\20426215 Stormwater.dwg

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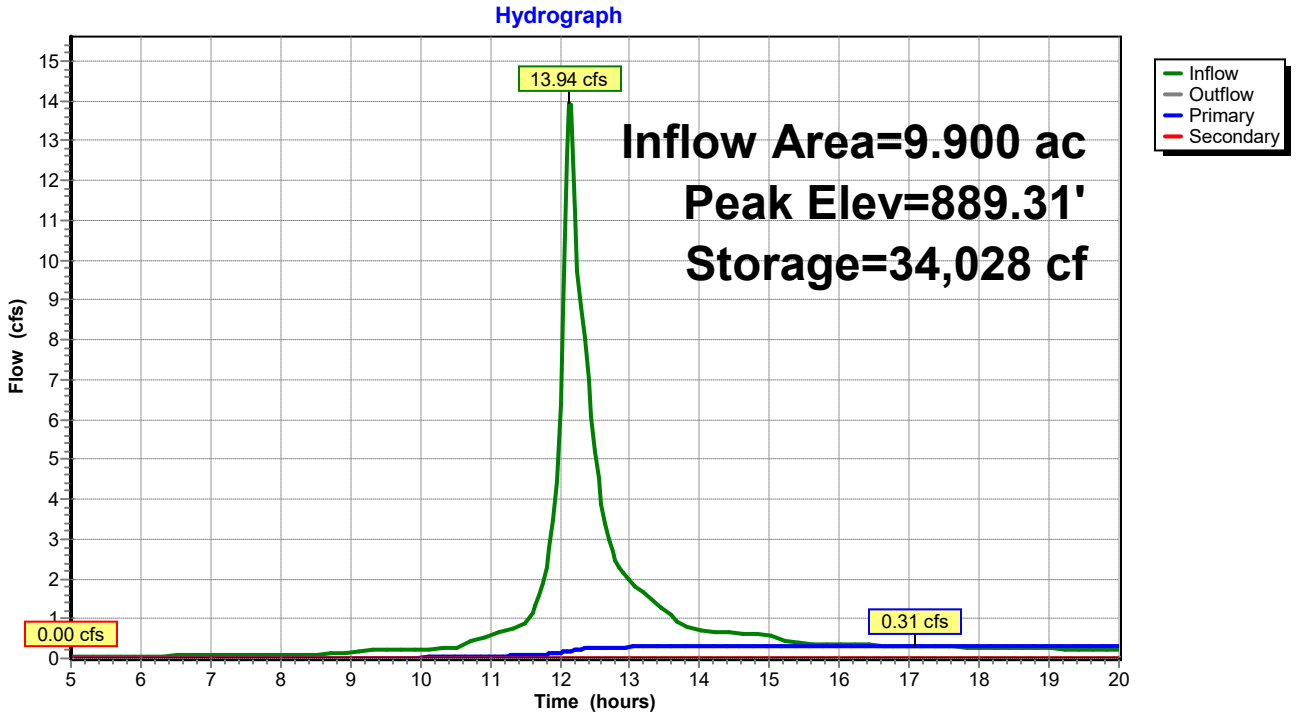
CROSSWAY CHURCH IMPROVEMENTS
CROSSWAY CHURCH
GERMANTOWN, WASHINGTON COUNTY, WI

STORMWATER EXHIBIT - EXISTING

PROJECT NO. 20426215

SHEET EX1

Pond P: EXISTING WET POND



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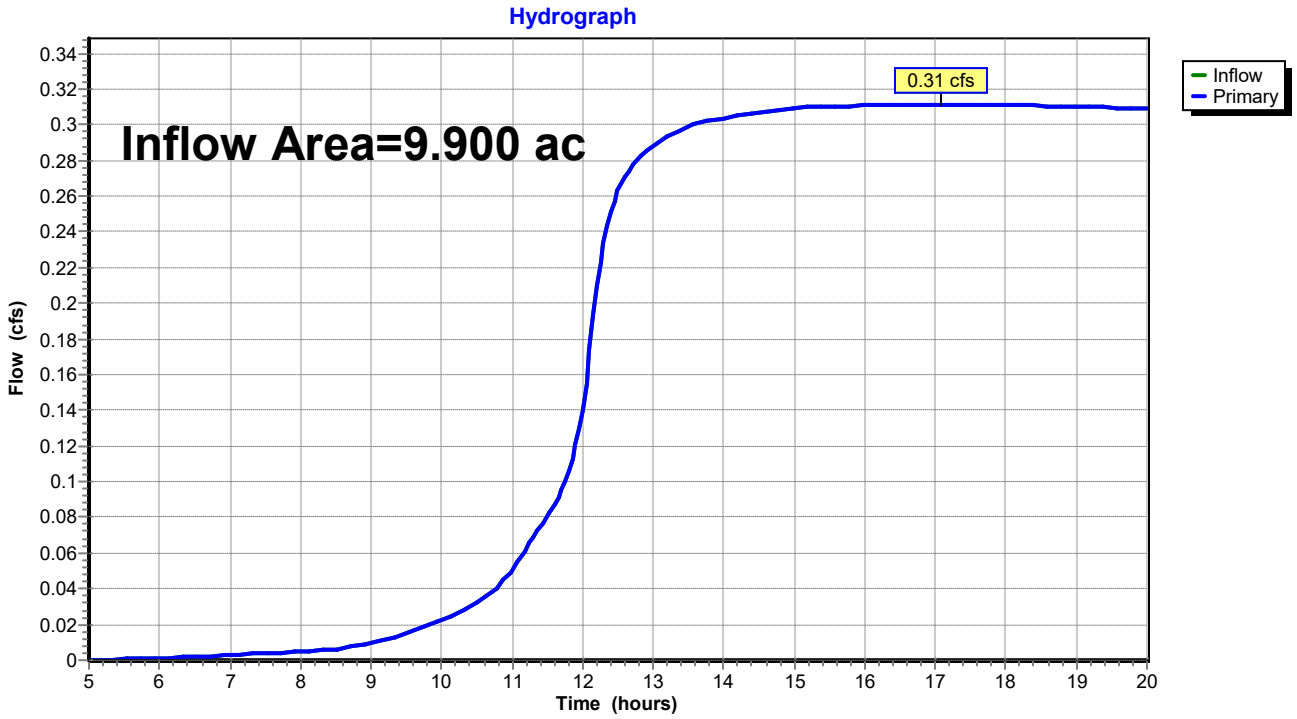
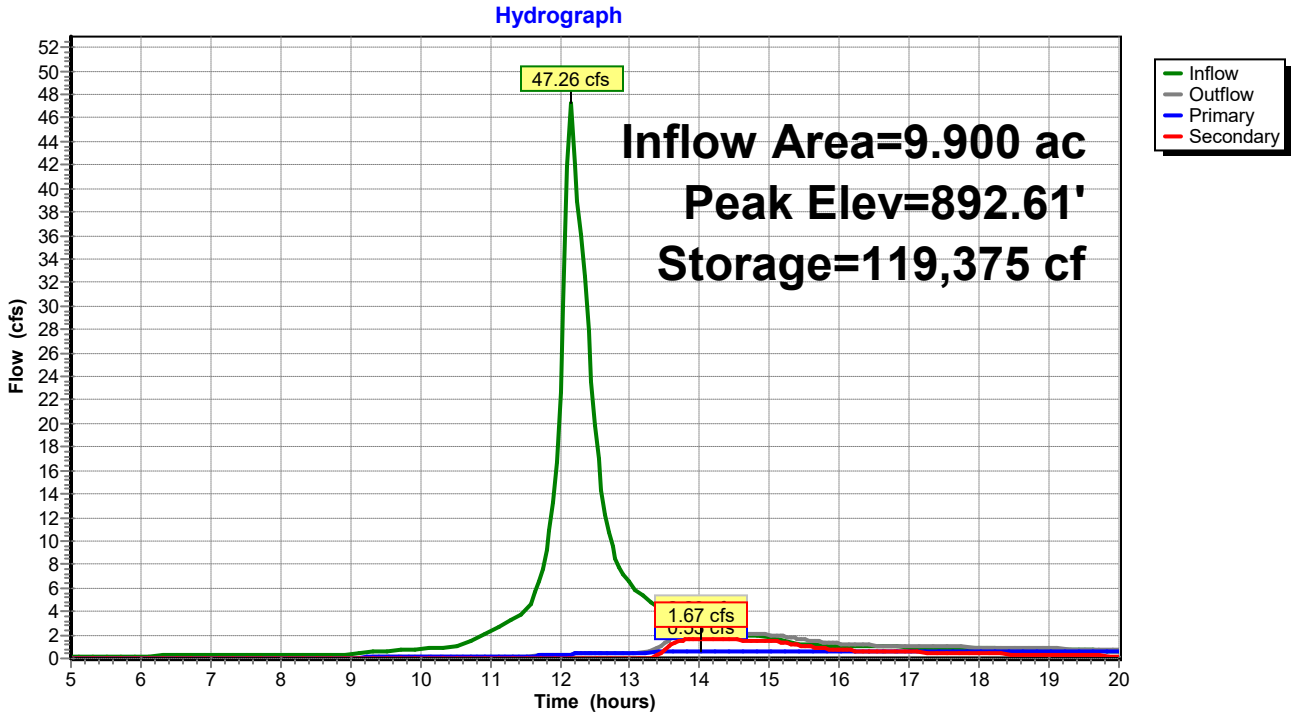


Pond P: EXISTING WET POND



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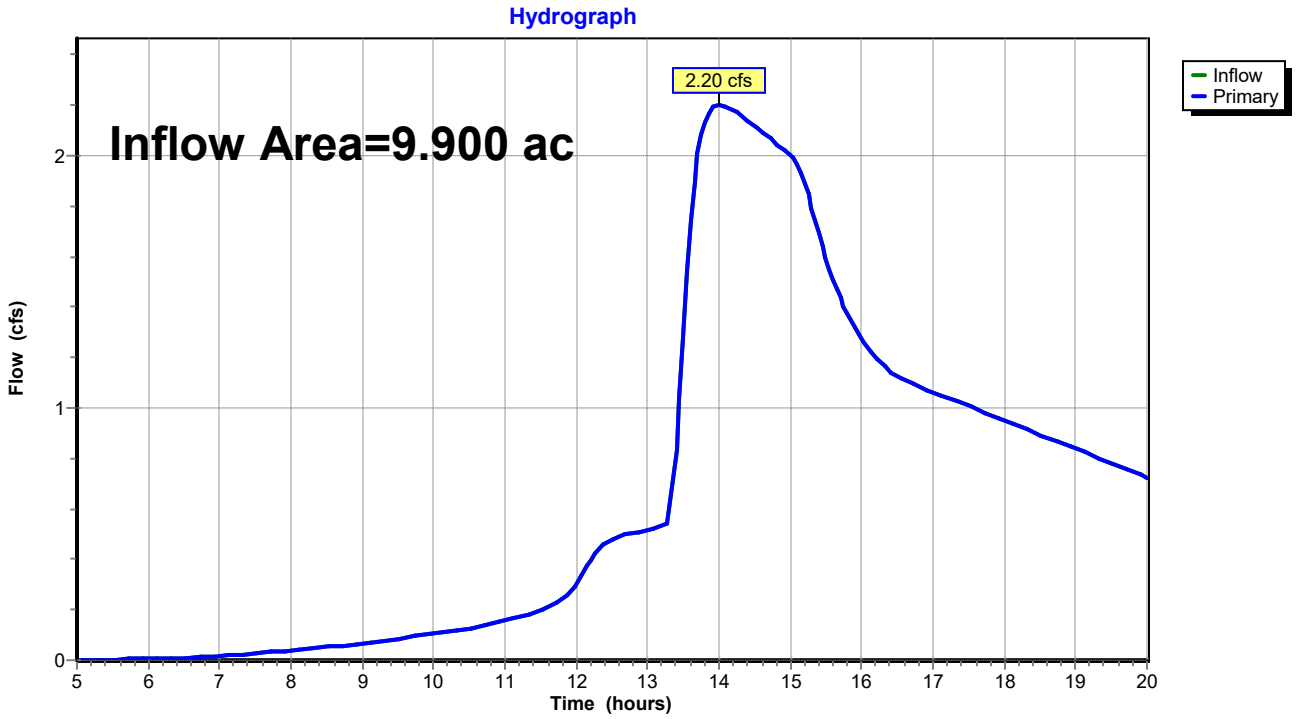
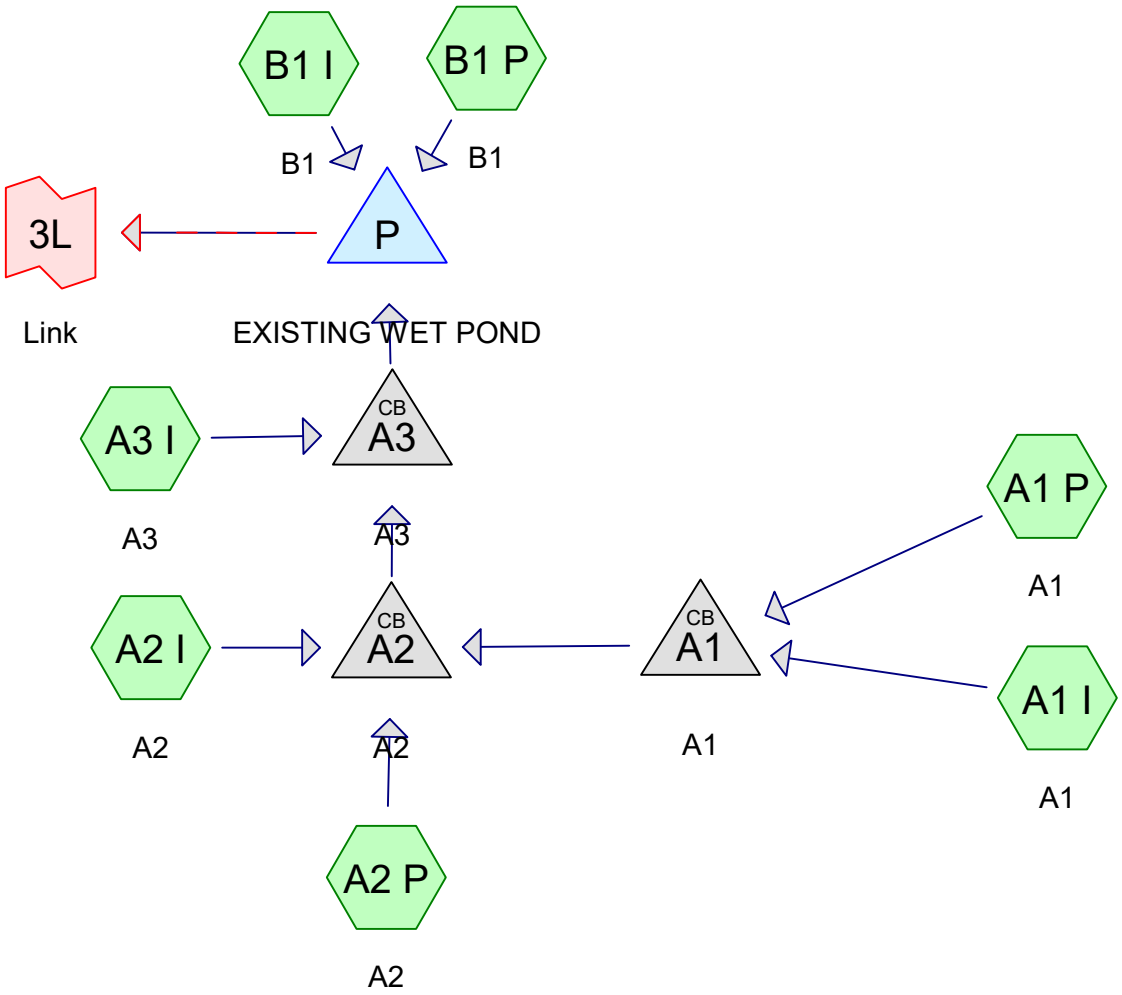




Subcat Reach Pond Link

Routing Diagram for 20426215 Existing 6.6.2024
Prepared by MSA Professional Services, Printed 6/7/2024

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
5.935	74	>75% Grass cover, Good, HSG C (B1 P)
0.256	98	Ex Pavement (B1 I)
0.046	98	Ex Roofs (B1 I)
0.371	100	Ex Wet Pond (B1 P)
0.772	74	LAWN AREA (A1 P, A2 P)
1.961	98	Pavement (A2 I, A3 I)
0.559	98	ROOFS (A1 I)
9.900	**82**	**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
0.000	HSG B	
5.935	HSG C	B1 P
0.000	HSG D	
3.965	Other	A1 I, A1 P, A2 I, A2 P, A3 I, B1 I, B1 P
9.900		**TOTAL AREA**

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	5.935	0.000	0.000	5.935	>75% Grass cover, Good	B1 P
0.000	0.000	0.000	0.000	0.256	0.256	Ex Pavement	B1 I
0.000	0.000	0.000	0.000	0.046	0.046	Ex Roofs	B1 I
0.000	0.000	0.000	0.000	0.371	0.371	Ex Wet Pond	B1 P
0.000	0.000	0.000	0.000	0.772	0.772	LAWN AREA	A1 P, A2 P
0.000	0.000	0.000	0.000	1.961	1.961	Pavement	A2 I, A3 I
0.000	0.000	0.000	0.000	0.559	0.559	ROOFS	A1 I
0.000	**0.000**	**5.935**	**0.000**	**3.965**	**9.900**	**TOTAL AREA**	

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment A1 I: A1 Runoff Area=24,360 sf 100.00% Impervious Runoff Depth>2.05"
Flow Length=130' Slope=0.0200 '/' Tc=6.0 min CN=98 Runoff=1.86 cfs 0.096 af

Subcatchment A1 P: A1 Runoff Area=13,260 sf 0.00% Impervious Runoff Depth>0.49"
Flow Length=105' Slope=0.0380 '/' Tc=6.0 min CN=74 Runoff=0.27 cfs 0.012 af

Subcatchment A2 I: A2 Runoff Area=48,200 sf 100.00% Impervious Runoff Depth>2.05"
Flow Length=235' Slope=0.0150 '/' Tc=6.0 min CN=98 Runoff=3.67 cfs 0.189 af

Subcatchment A2 P: A2 Runoff Area=20,360 sf 0.00% Impervious Runoff Depth>0.49"
Flow Length=75' Slope=0.0500 '/' Tc=6.0 min CN=74 Runoff=0.41 cfs 0.019 af

Subcatchment A3 I: A3 Runoff Area=37,200 sf 100.00% Impervious Runoff Depth>2.05"
Flow Length=235' Slope=0.0280 '/' Tc=6.0 min CN=98 Runoff=2.83 cfs 0.146 af

Subcatchment B1 I: B1 Runoff Area=13,135 sf 100.00% Impervious Runoff Depth>2.05"
Flow Length=125' Slope=0.0350 '/' Tc=6.0 min CN=98 Runoff=1.00 cfs 0.052 af

Subcatchment B1 P: B1 Runoff Area=274,725 sf 5.89% Impervious Runoff Depth>0.57"
Flow Length=624' Tc=19.0 min CN=76 Runoff=3.98 cfs 0.298 af

Pond A1: A1 Peak Elev=895.42' Inflow=2.12 cfs 0.108 af
10.0" Round Culvert n=0.011 L=223.0' S=0.0111 '/' Outflow=2.12 cfs 0.108 af

Pond A2: A2 Peak Elev=893.91' Inflow=6.19 cfs 0.316 af
15.0" Round Culvert n=0.011 L=135.0' S=0.0050 '/' Outflow=6.19 cfs 0.316 af

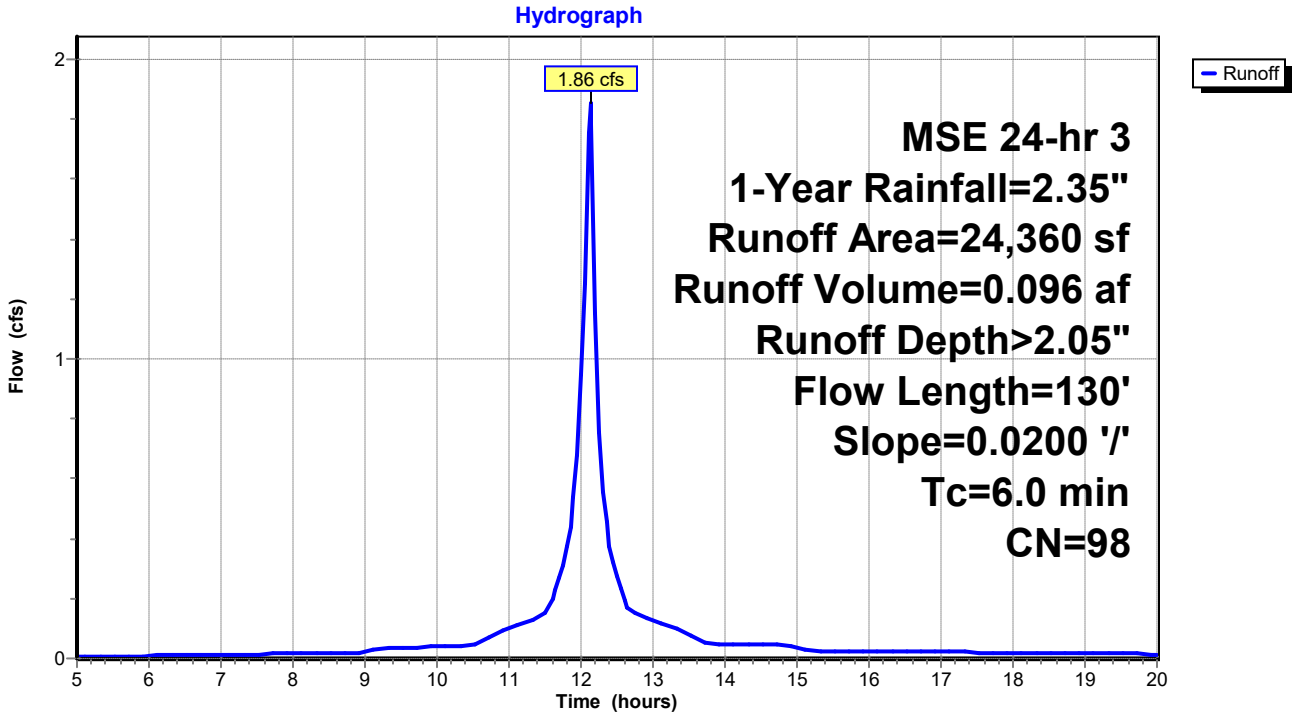
Pond A3: A3 Peak Elev=893.05' Inflow=9.02 cfs 0.462 af
18.0" Round Culvert n=0.011 L=55.0' S=0.0076 '/' Outflow=9.02 cfs 0.462 af

Pond P: EXISTING WET POND Peak Elev=888.99' Storage=27,750 cf Inflow=11.65 cfs 0.812 af
Primary=0.28 cfs 0.190 af Secondary=0.00 cfs 0.000 af Outflow=0.28 cfs 0.190 af

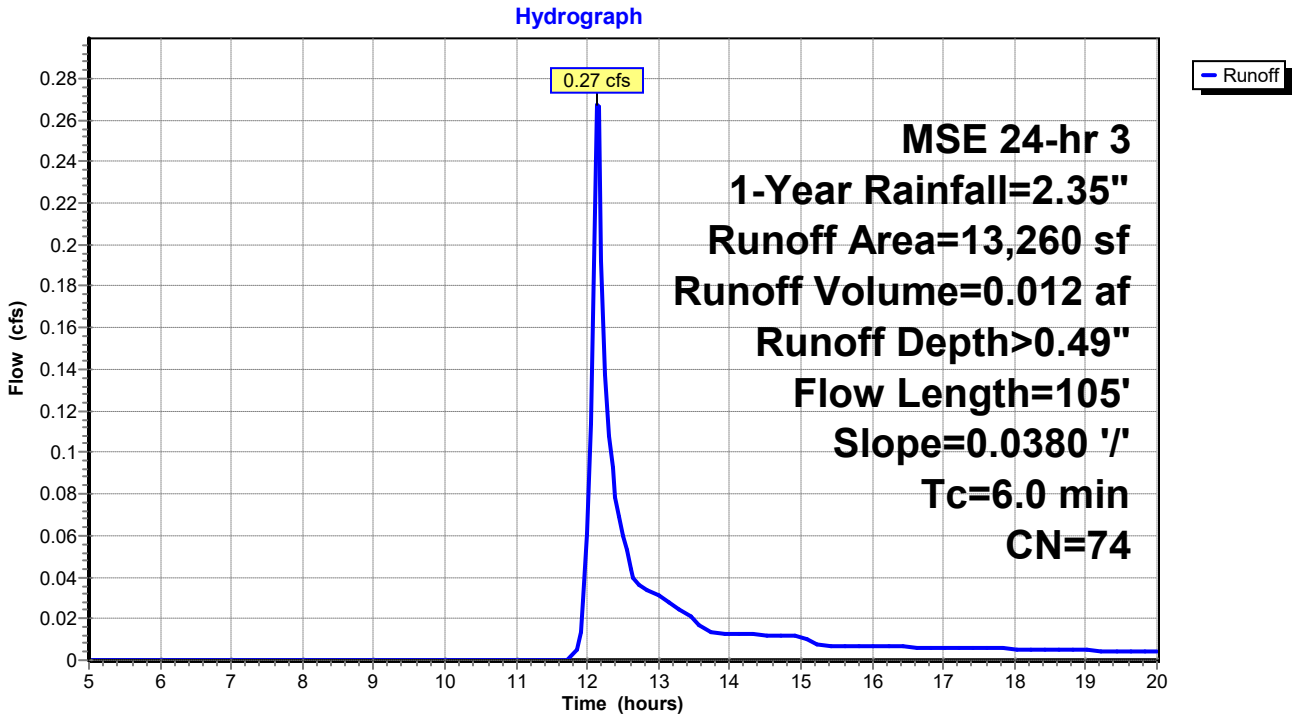
Link 3L: Link Inflow=0.28 cfs 0.190 af
Primary=0.28 cfs 0.190 af

Total Runoff Area = 9.900 ac Runoff Volume = 0.812 af Average Runoff Depth = 0.98"
67.75% Pervious = 6.707 ac 32.25% Impervious = 3.193 ac

Subcatchment A1 I: A1



Subcatchment A1 P: A1



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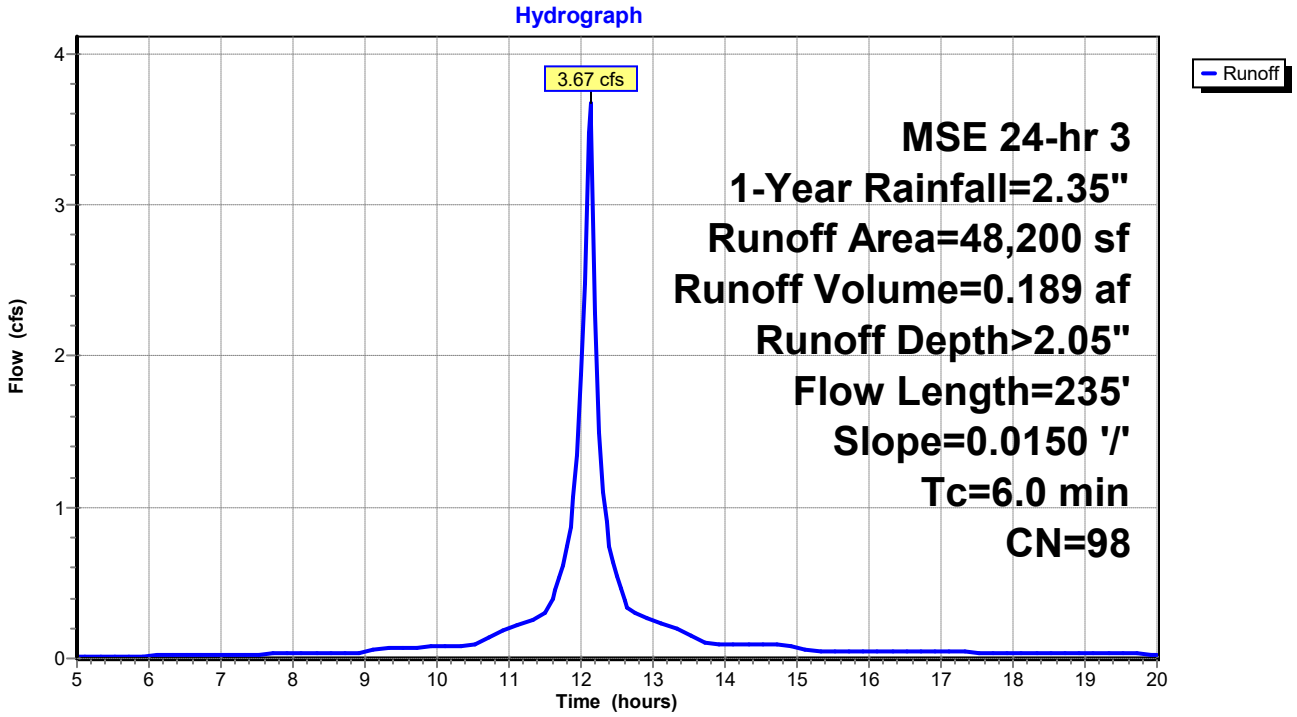

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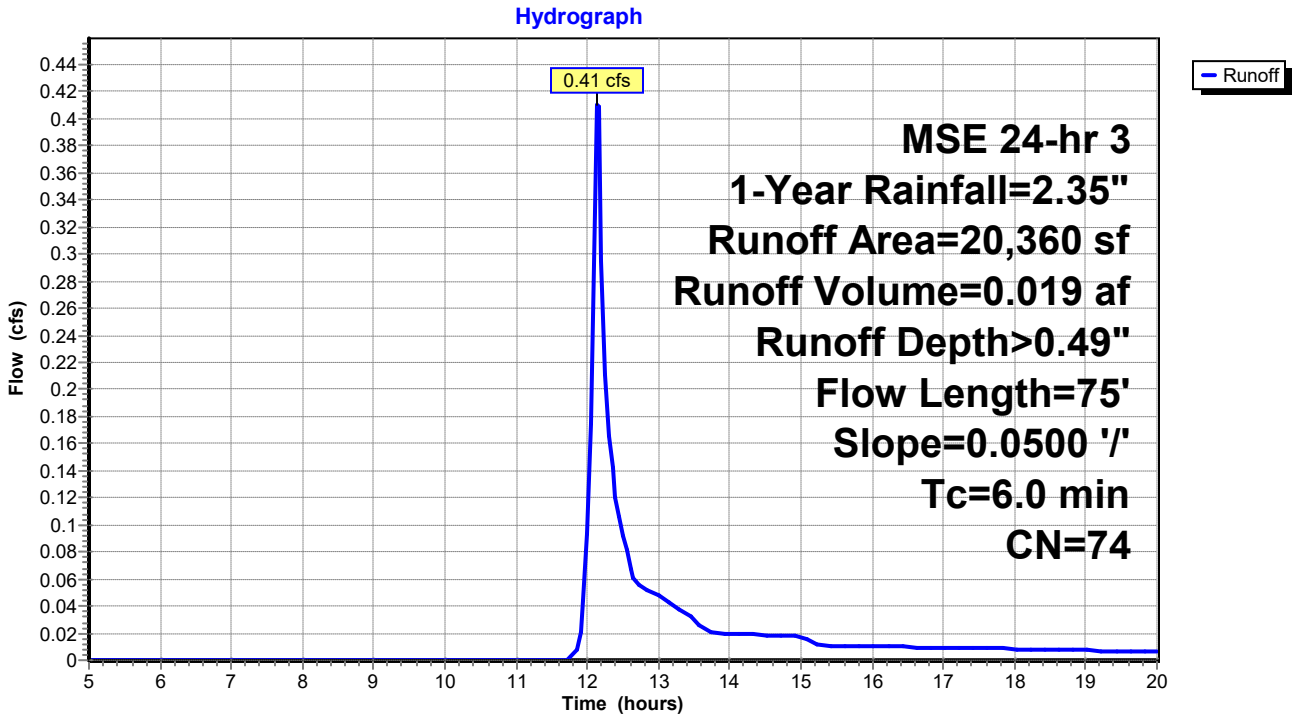

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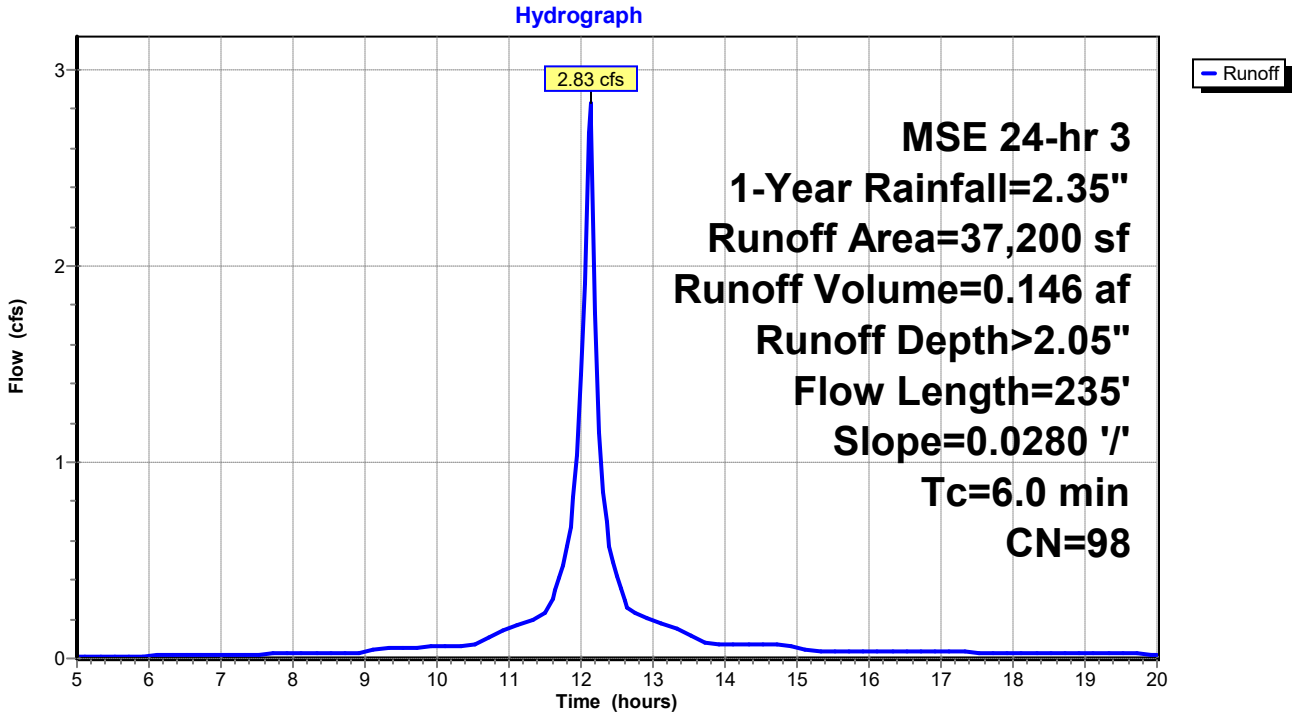
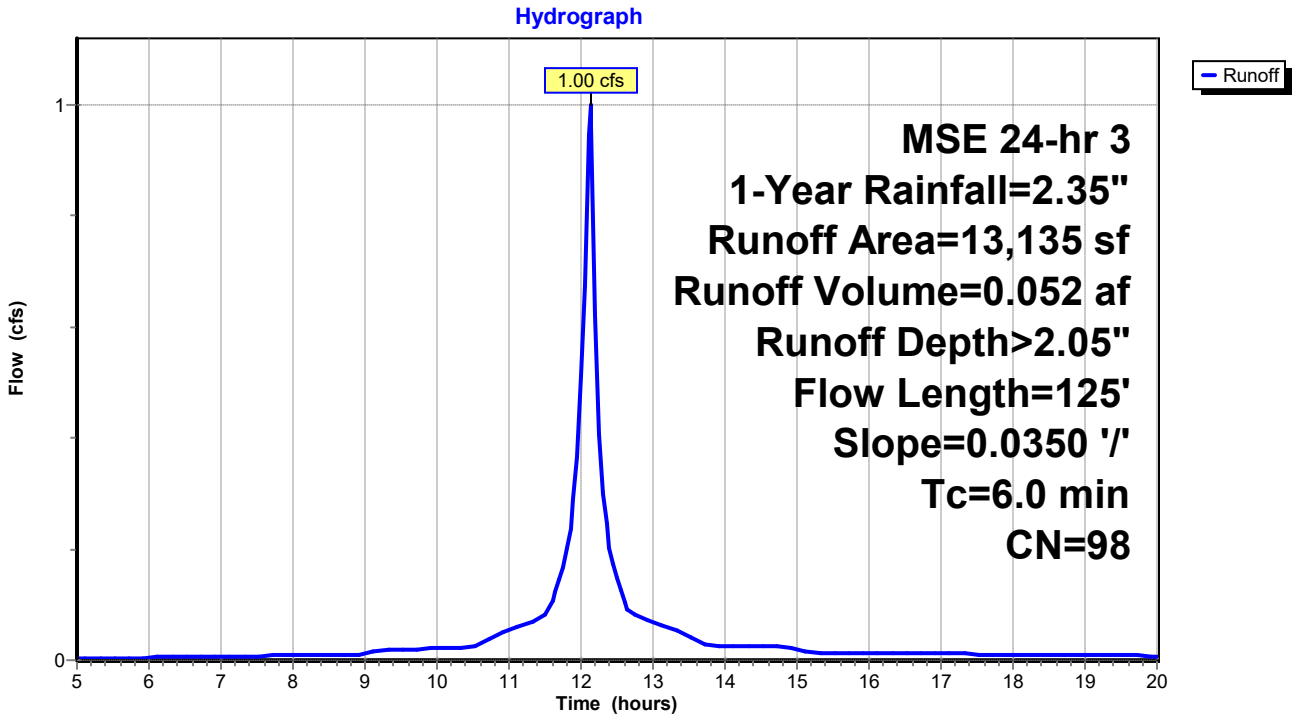
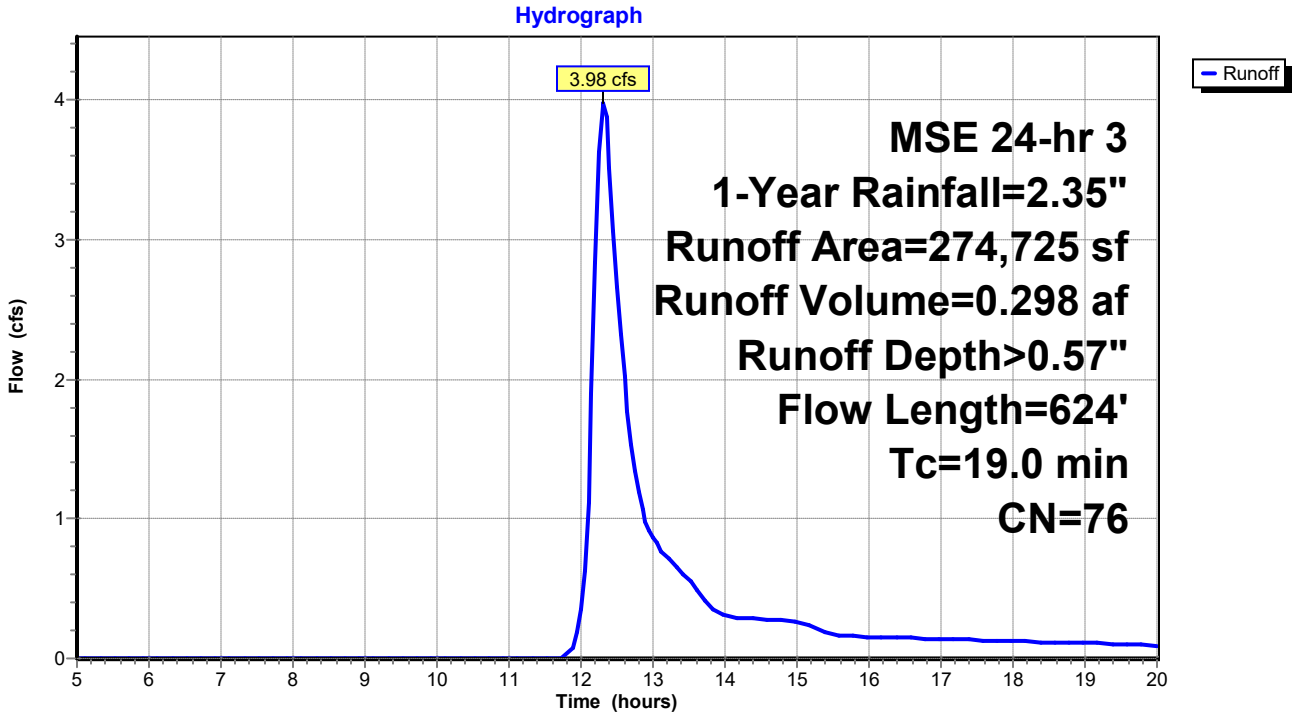


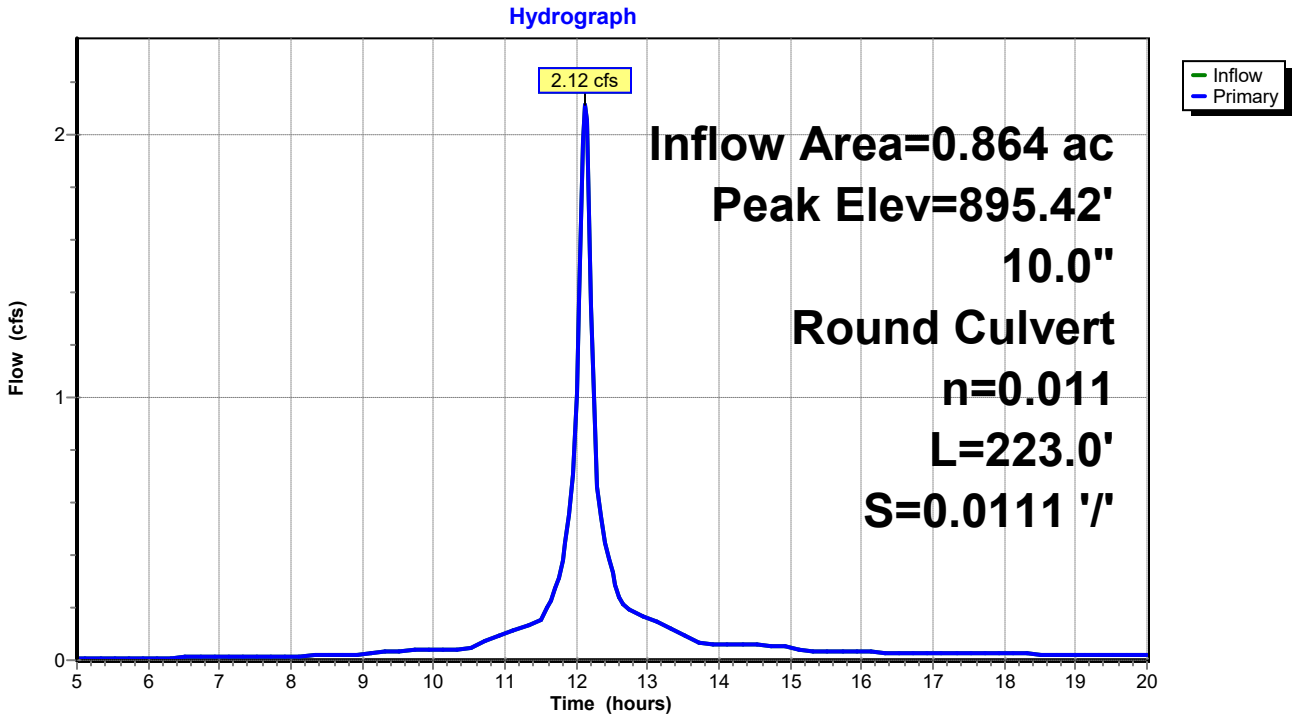
Subcatchment B1 I: B1



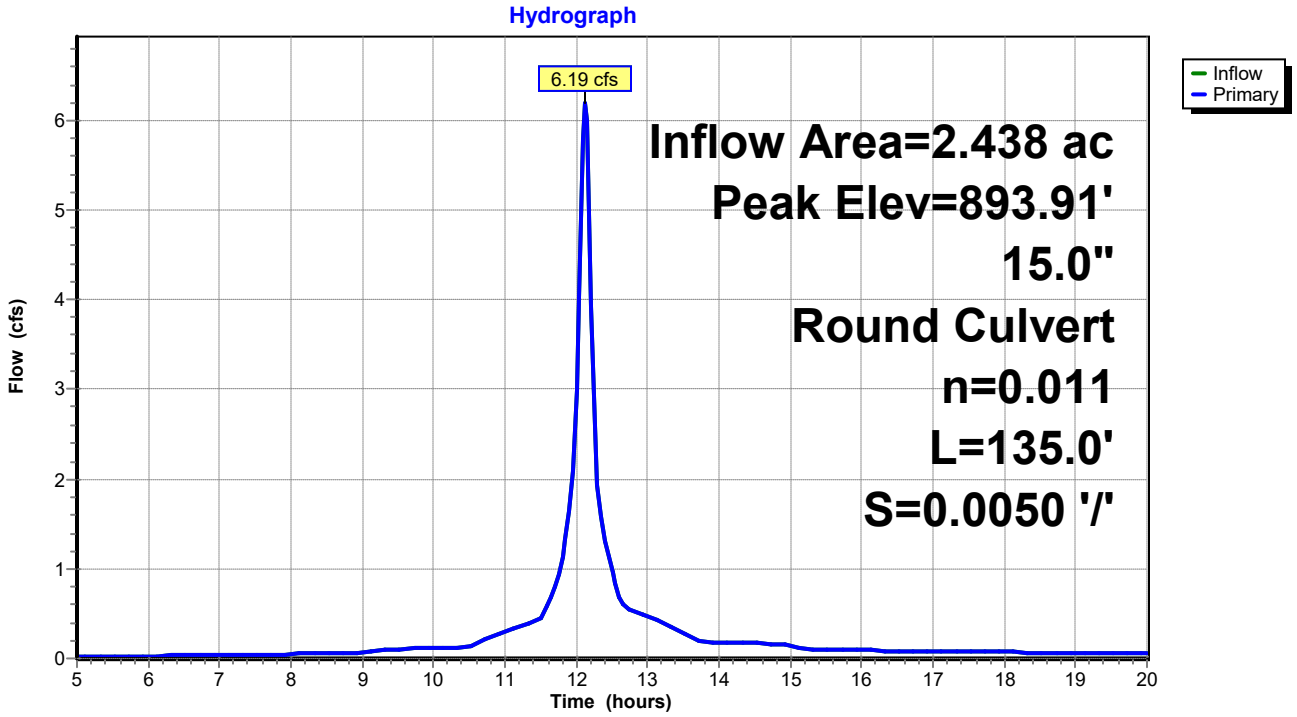
Subcatchment B1 P: B1



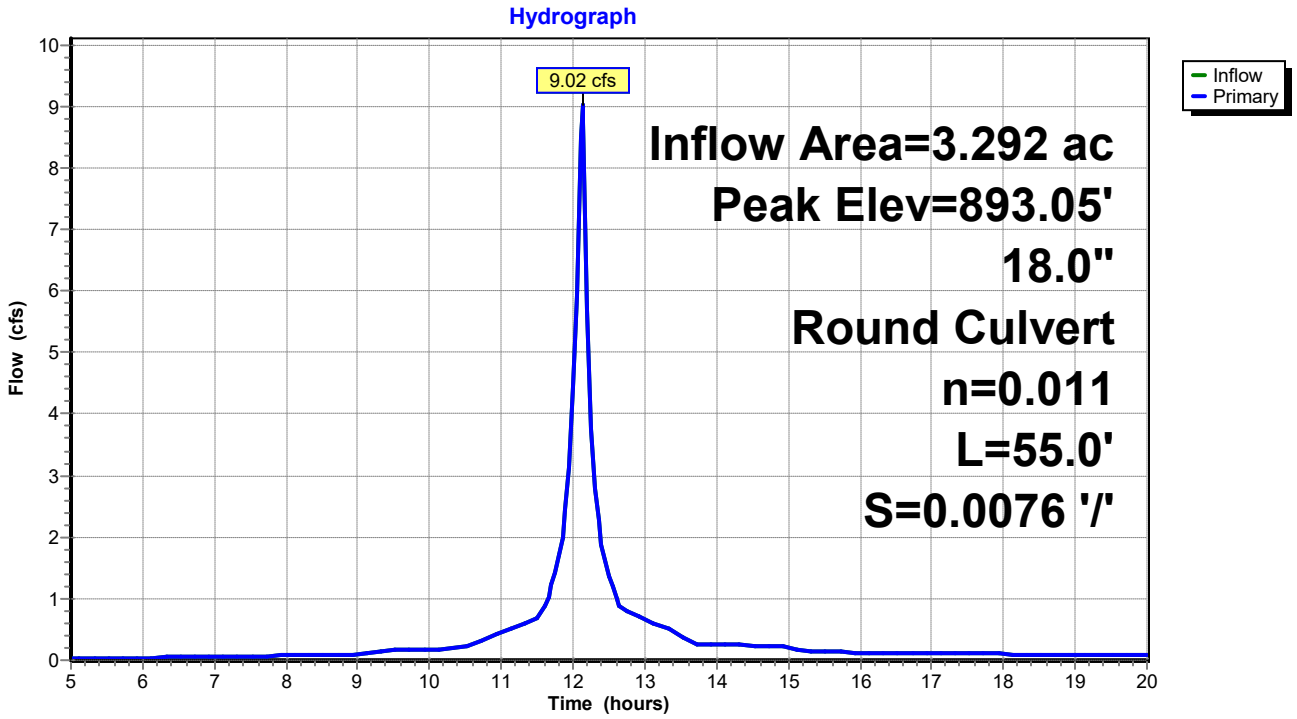
Pond A1: A1



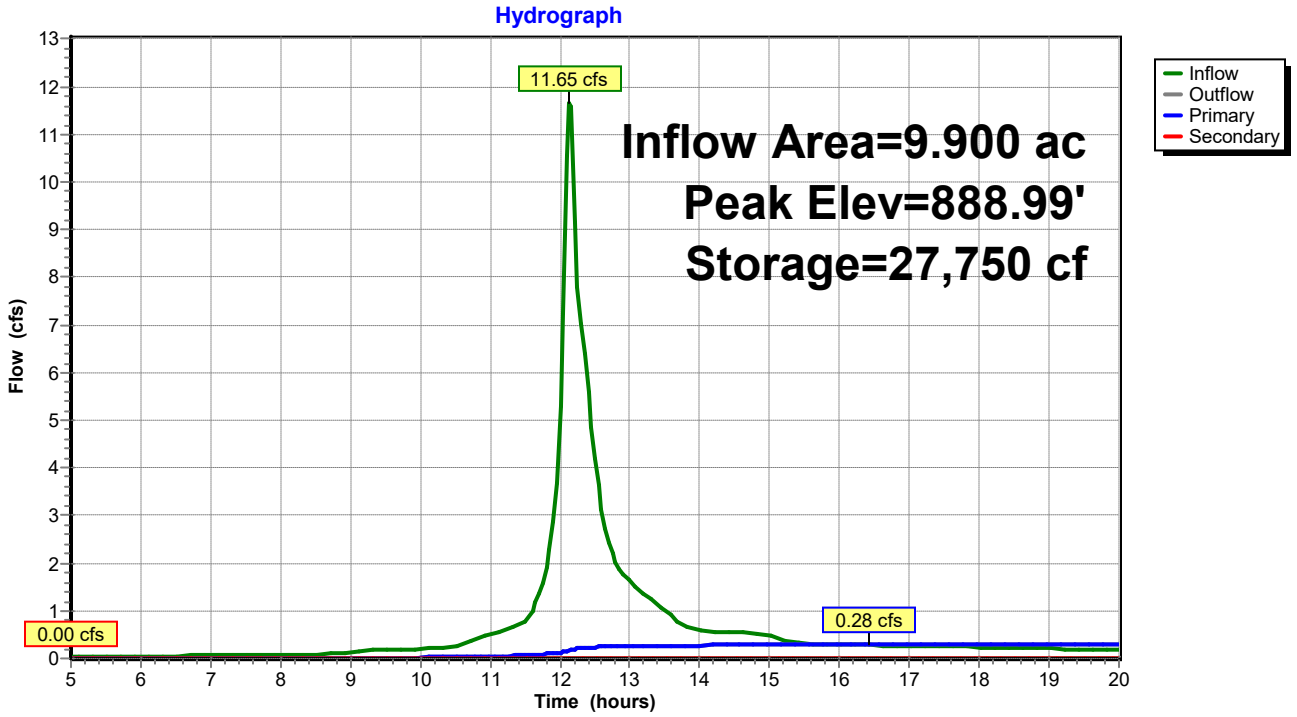
Pond A2: A2



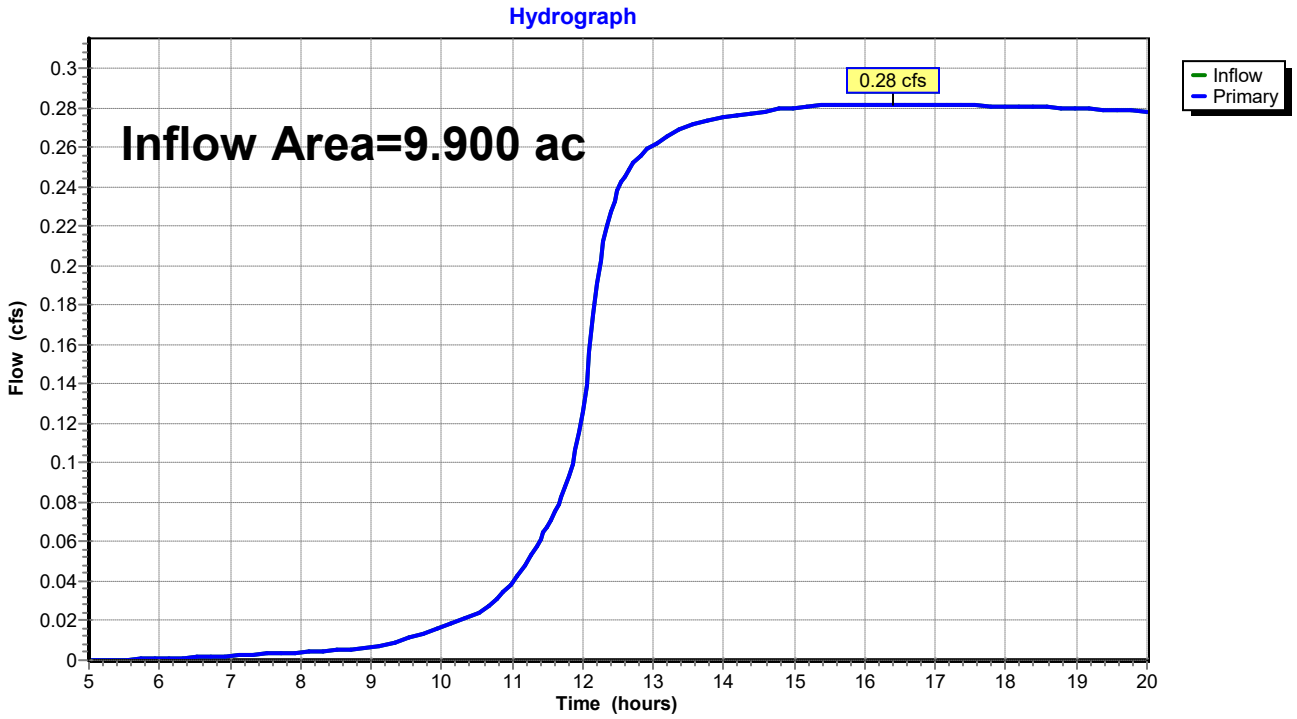
Pond A3: A3



Pond P: EXISTING WET POND



Link 3L: Link



Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment A1 I: A1 Runoff Area=24,360 sf 100.00% Impervious Runoff Depth>2.34"
Flow Length=130' Slope=0.0200 '/' Tc=6.0 min CN=98 Runoff=2.10 cfs 0.109 af

Subcatchment A1 P: A1 Runoff Area=13,260 sf 0.00% Impervious Runoff Depth>0.65"
Flow Length=105' Slope=0.0380 '/' Tc=6.0 min CN=74 Runoff=0.36 cfs 0.017 af

Subcatchment A2 I: A2 Runoff Area=48,200 sf 100.00% Impervious Runoff Depth>2.34"
Flow Length=235' Slope=0.0150 '/' Tc=6.0 min CN=98 Runoff=4.16 cfs 0.216 af

Subcatchment A2 P: A2 Runoff Area=20,360 sf 0.00% Impervious Runoff Depth>0.65"
Flow Length=75' Slope=0.0500 '/' Tc=6.0 min CN=74 Runoff=0.56 cfs 0.025 af

Subcatchment A3 I: A3 Runoff Area=37,200 sf 100.00% Impervious Runoff Depth>2.34"
Flow Length=235' Slope=0.0280 '/' Tc=6.0 min CN=98 Runoff=3.21 cfs 0.166 af

Subcatchment B1 I: B1 Runoff Area=13,135 sf 100.00% Impervious Runoff Depth>2.34"
Flow Length=125' Slope=0.0350 '/' Tc=6.0 min CN=98 Runoff=1.13 cfs 0.059 af

Subcatchment B1 P: B1 Runoff Area=274,725 sf 5.89% Impervious Runoff Depth>0.74"
Flow Length=624' Tc=19.0 min CN=76 Runoff=5.34 cfs 0.389 af

Pond A1: A1 Peak Elev=895.64' Inflow=2.46 cfs 0.126 af
10.0" Round Culvert n=0.011 L=223.0' S=0.0111 '/' Outflow=2.46 cfs 0.126 af

Pond A2: A2 Peak Elev=894.42' Inflow=7.17 cfs 0.367 af
15.0" Round Culvert n=0.011 L=135.0' S=0.0050 '/' Outflow=7.17 cfs 0.367 af

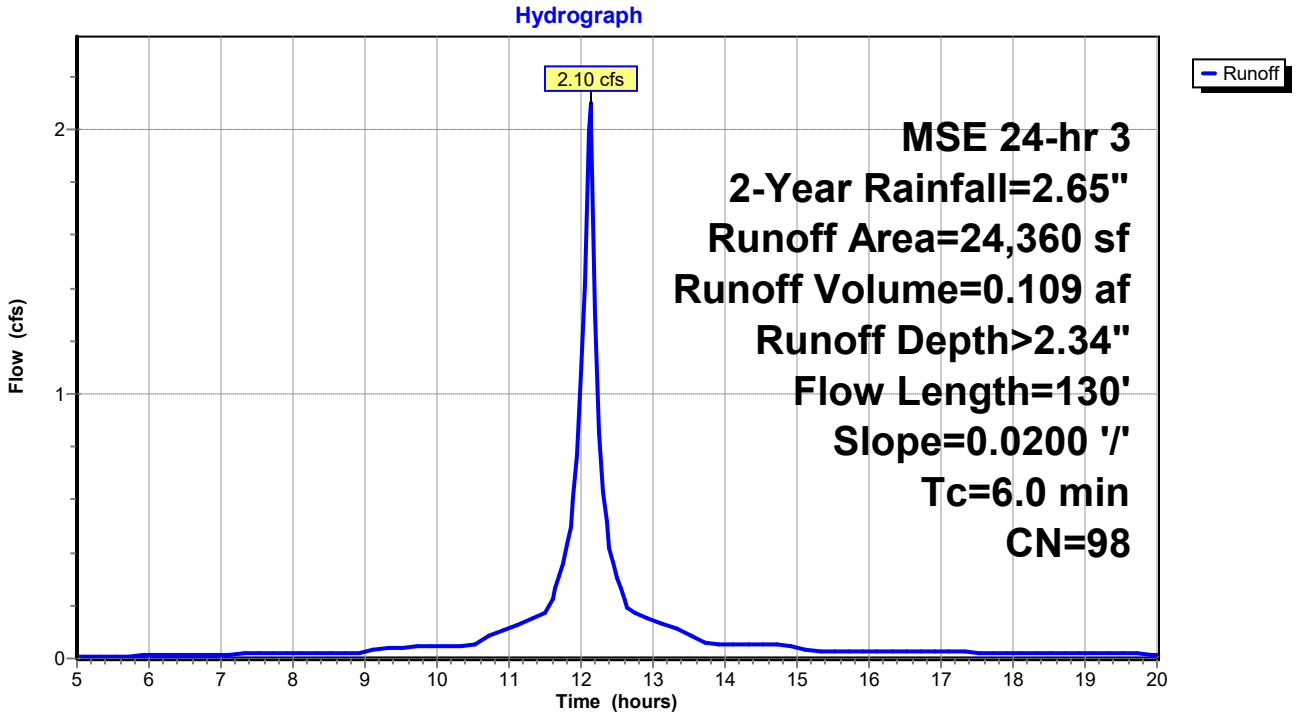
Pond A3: A3 Peak Elev=893.47' Inflow=10.37 cfs 0.533 af
18.0" Round Culvert n=0.011 L=55.0' S=0.0076 '/' Outflow=10.37 cfs 0.533 af

Pond P: EXISTING WET POND Peak Elev=889.31' Storage=34,028 cf Inflow=13.94 cfs 0.980 af
Primary=0.31 cfs 0.211 af Secondary=0.00 cfs 0.000 af Outflow=0.31 cfs 0.211 af

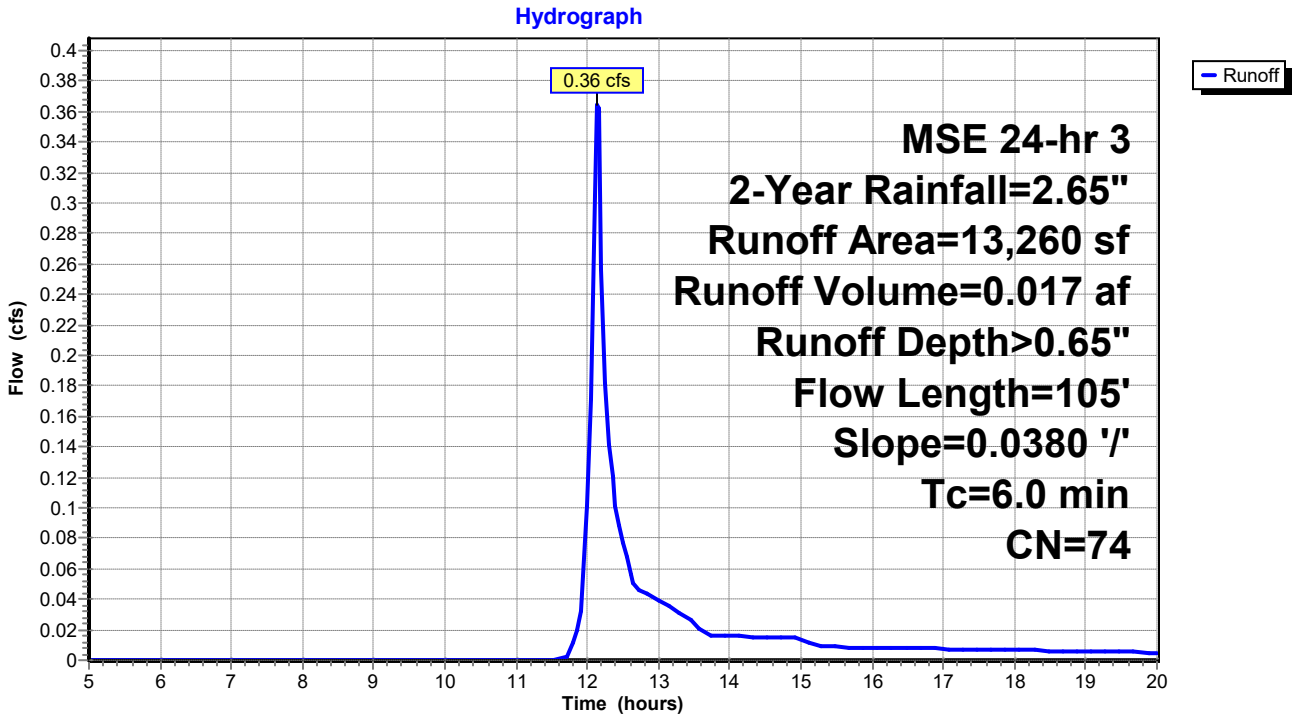
Link 3L: Link Inflow=0.31 cfs 0.211 af
Primary=0.31 cfs 0.211 af

Total Runoff Area = 9.900 ac Runoff Volume = 0.980 af Average Runoff Depth = 1.19"
67.75% Pervious = 6.707 ac 32.25% Impervious = 3.193 ac

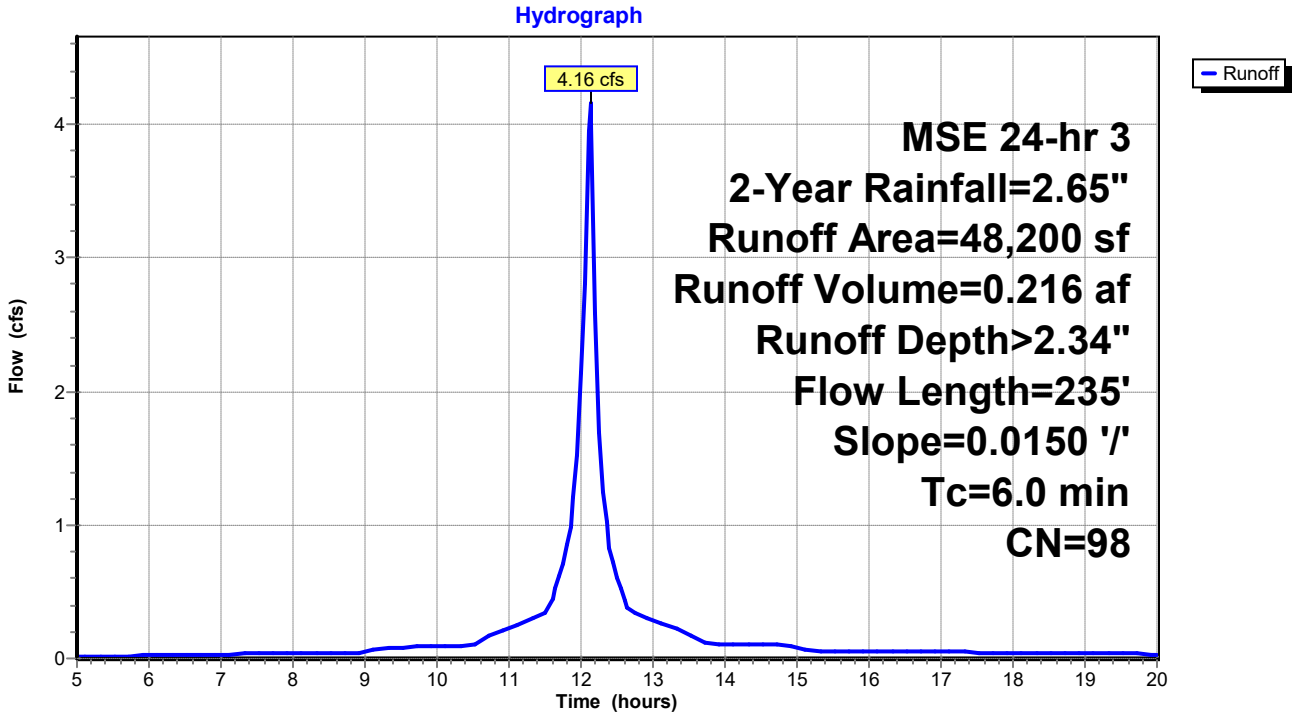
Subcatchment A1 I: A1



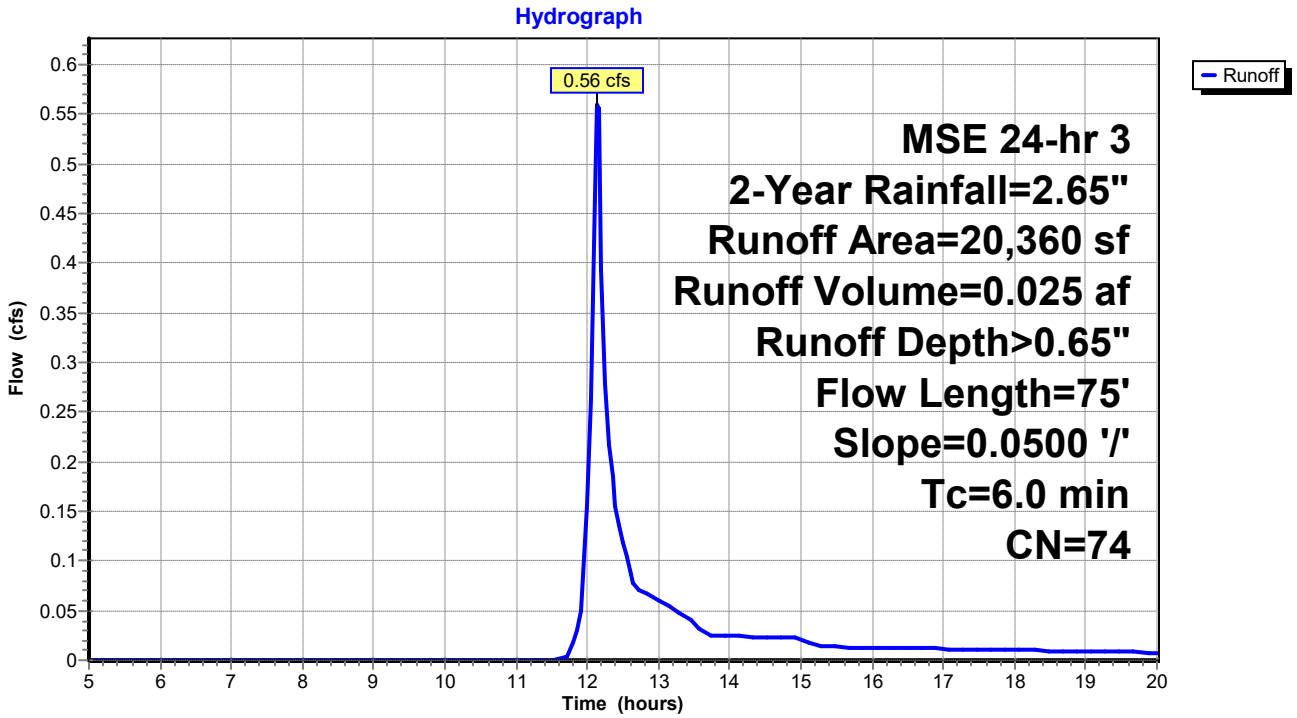
Subcatchment A1 P: A1



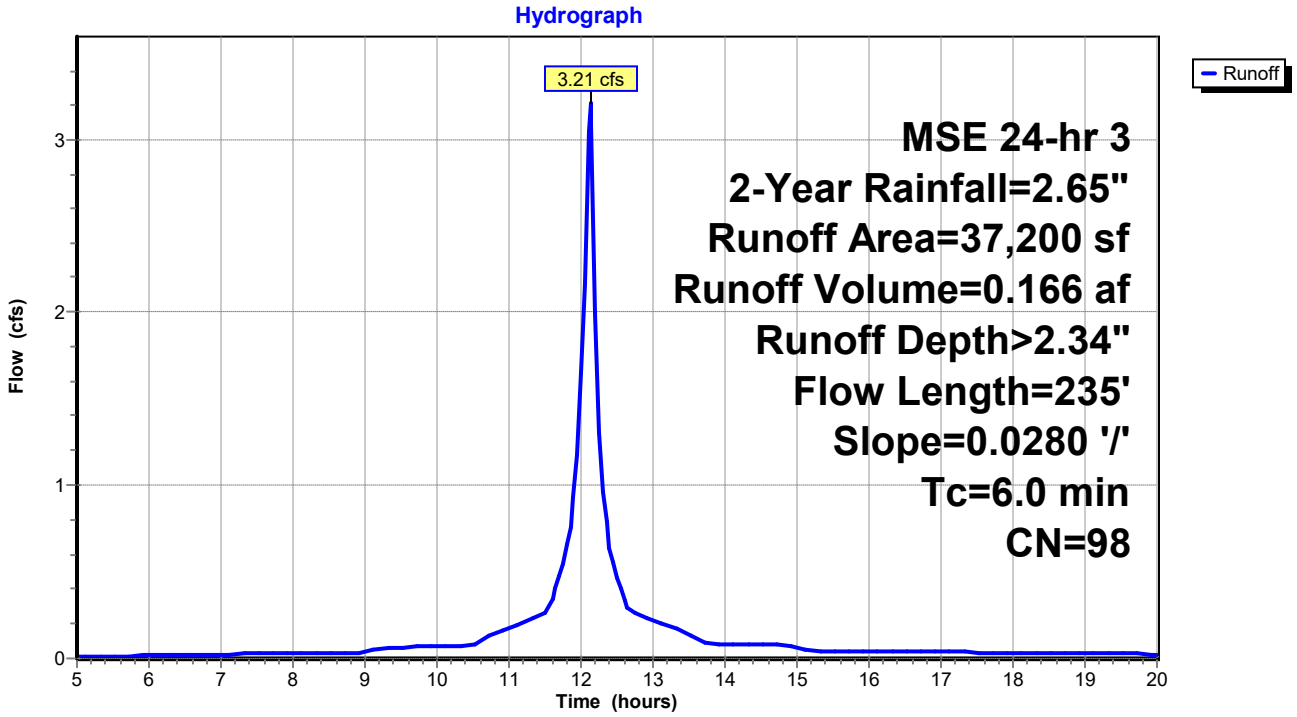
Subcatchment A2 I: A2



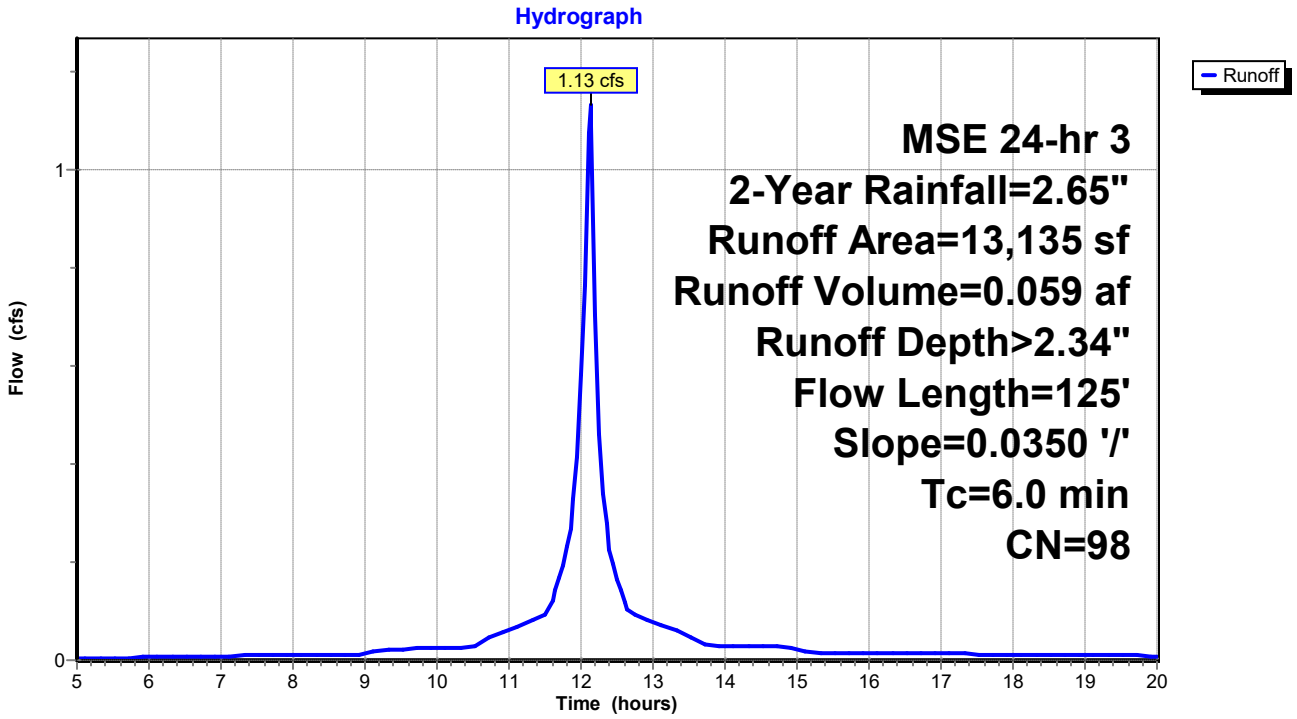
Subcatchment A2 P: A2



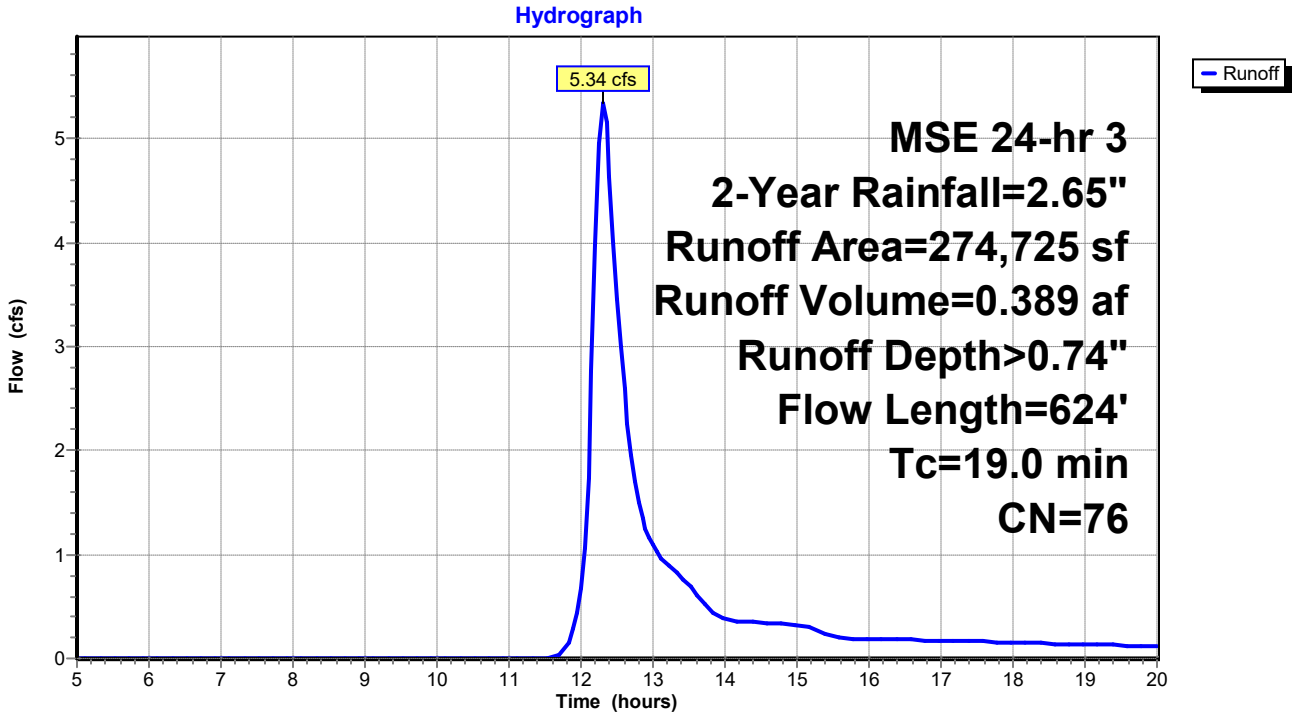
Subcatchment A3 I: A3



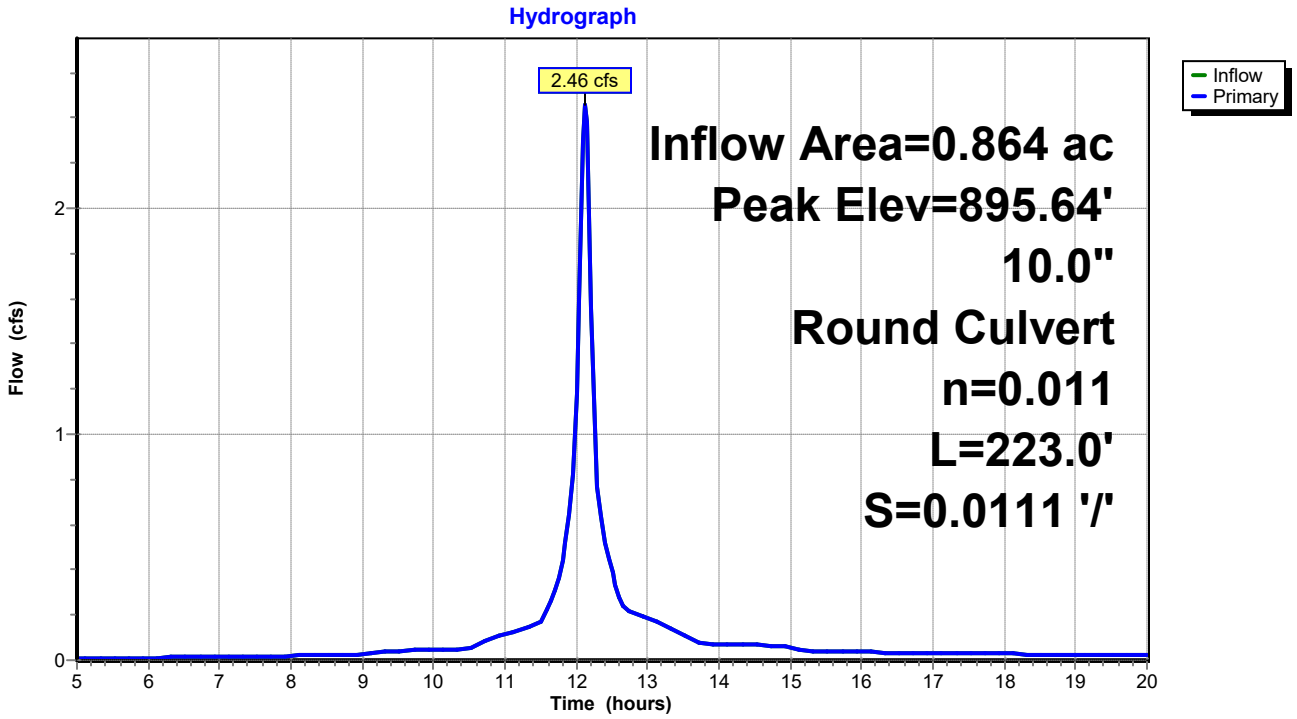
Subcatchment B1 I: B1



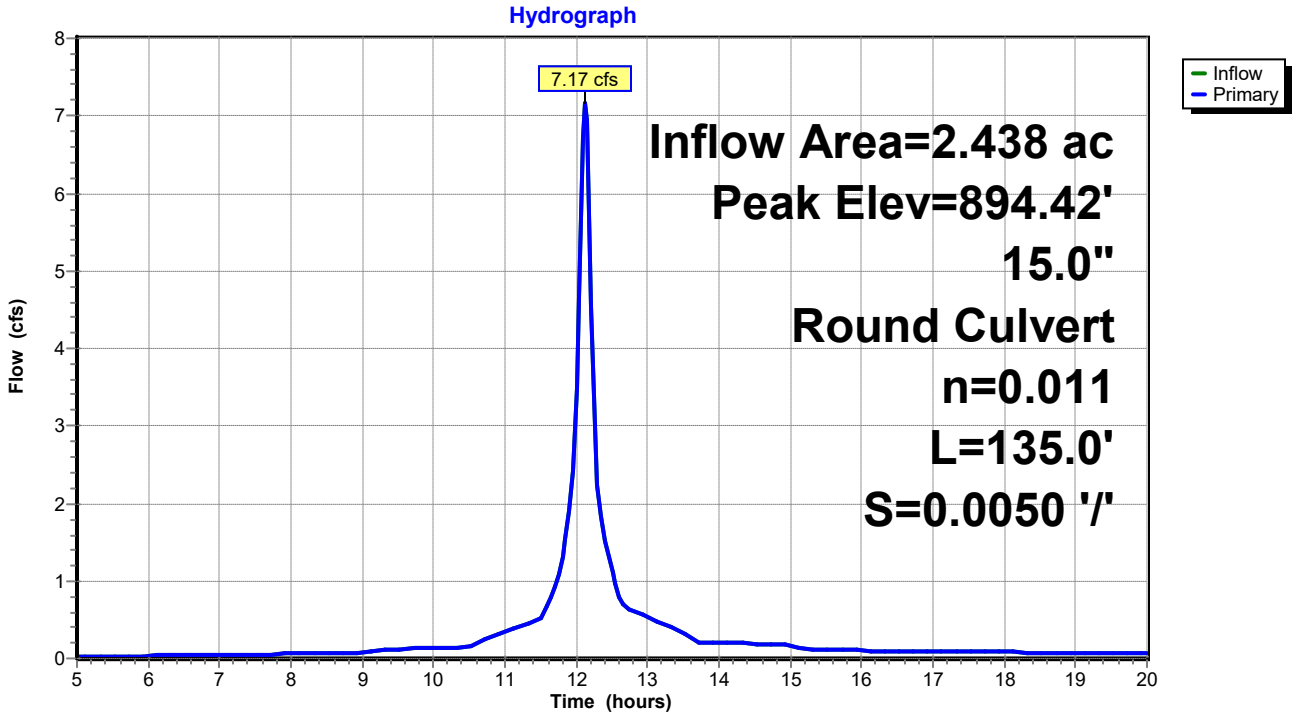
Subcatchment B1 P: B1



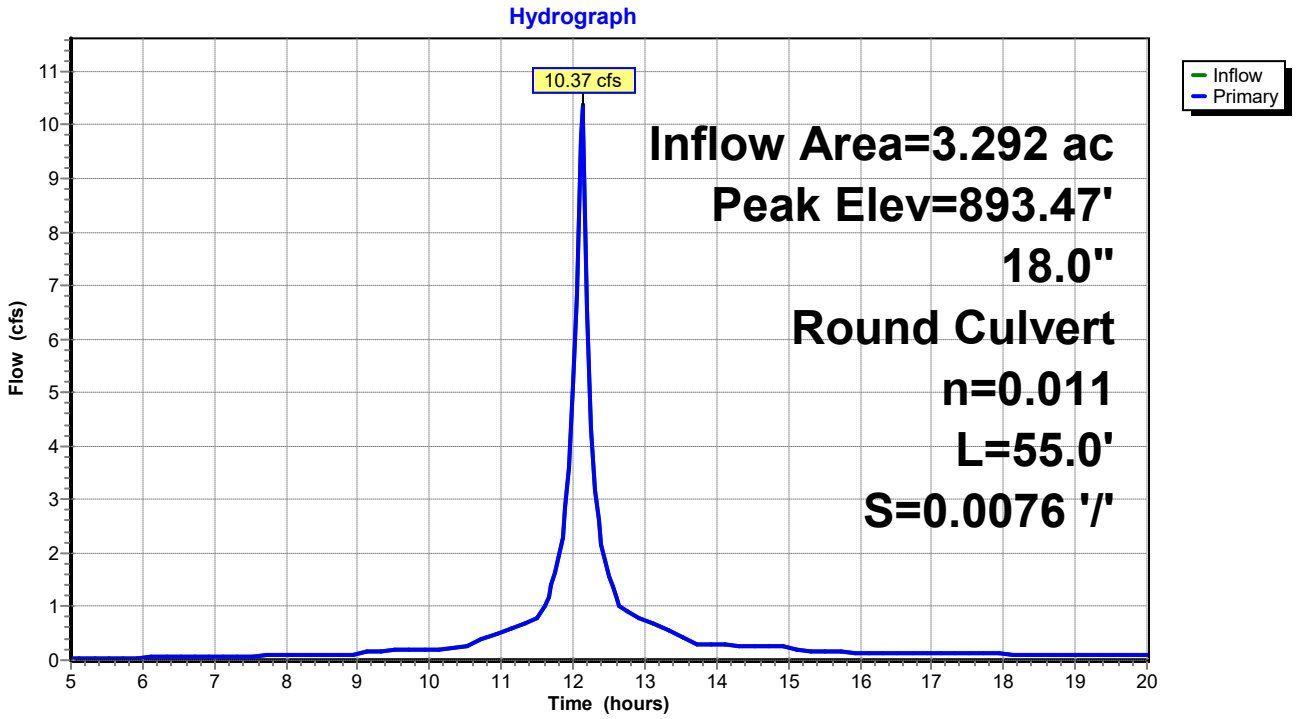
Pond A1: A1



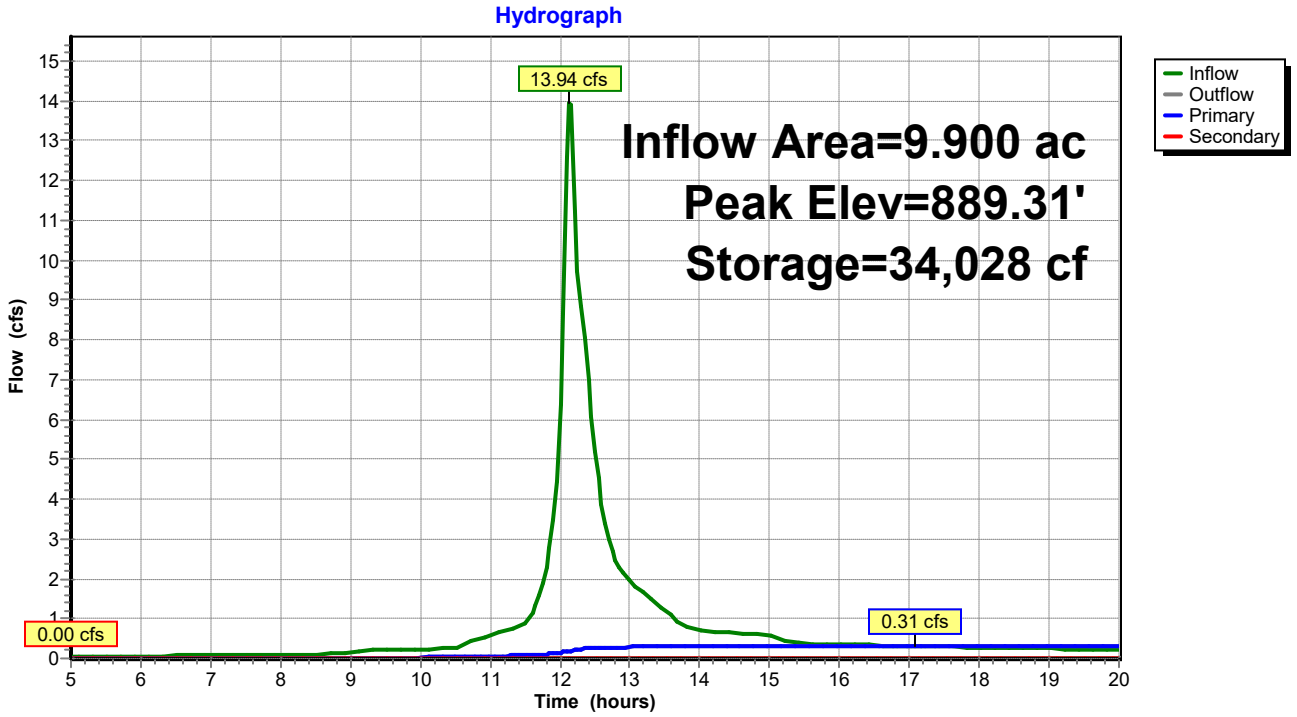
Pond A2: A2



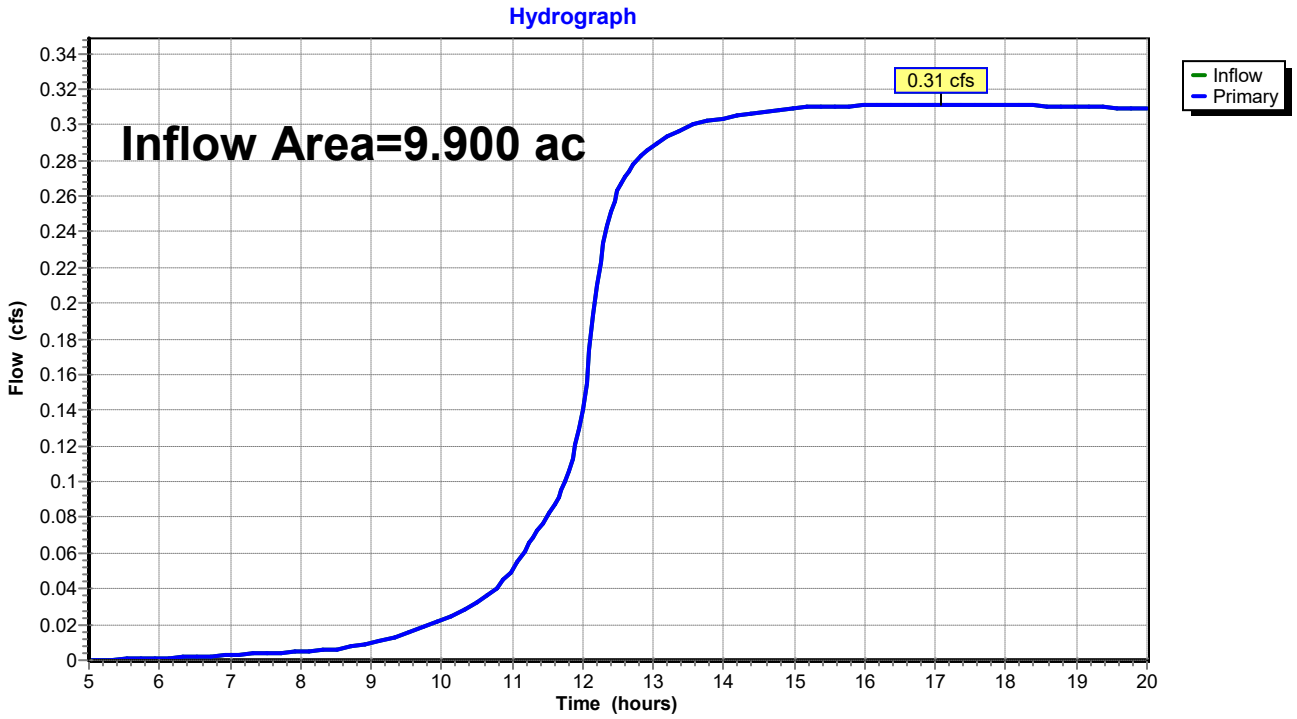
Pond A3: A3



Pond P: EXISTING WET POND



Link 3L: Link



Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment A1 I: A1 Runoff Area=24,360 sf 100.00% Impervious Runoff Depth>3.45"
Flow Length=130' Slope=0.0200 '/' Tc=6.0 min CN=98 Runoff=3.05 cfs 0.161 af

Subcatchment A1 P: A1 Runoff Area=13,260 sf 0.00% Impervious Runoff Depth>1.39"
Flow Length=105' Slope=0.0380 '/' Tc=6.0 min CN=74 Runoff=0.80 cfs 0.035 af

Subcatchment A2 I: A2 Runoff Area=48,200 sf 100.00% Impervious Runoff Depth>3.45"
Flow Length=235' Slope=0.0150 '/' Tc=6.0 min CN=98 Runoff=6.04 cfs 0.318 af

Subcatchment A2 P: A2 Runoff Area=20,360 sf 0.00% Impervious Runoff Depth>1.39"
Flow Length=75' Slope=0.0500 '/' Tc=6.0 min CN=74 Runoff=1.23 cfs 0.054 af

Subcatchment A3 I: A3 Runoff Area=37,200 sf 100.00% Impervious Runoff Depth>3.45"
Flow Length=235' Slope=0.0280 '/' Tc=6.0 min CN=98 Runoff=4.67 cfs 0.246 af

Subcatchment B1 I: B1 Runoff Area=13,135 sf 100.00% Impervious Runoff Depth>3.45"
Flow Length=125' Slope=0.0350 '/' Tc=6.0 min CN=98 Runoff=1.65 cfs 0.087 af

Subcatchment B1 P: B1 Runoff Area=274,725 sf 5.89% Impervious Runoff Depth>1.52"
Flow Length=624' Tc=19.0 min CN=76 Runoff=11.43 cfs 0.798 af

Pond A1: A1 Peak Elev=898.67' Inflow=3.85 cfs 0.196 af
10.0" Round Culvert n=0.011 L=223.0' S=0.0111 '/' Outflow=3.85 cfs 0.196 af

Pond A2: A2 Peak Elev=897.16' Inflow=11.11 cfs 0.569 af
15.0" Round Culvert n=0.011 L=135.0' S=0.0050 '/' Outflow=11.11 cfs 0.569 af

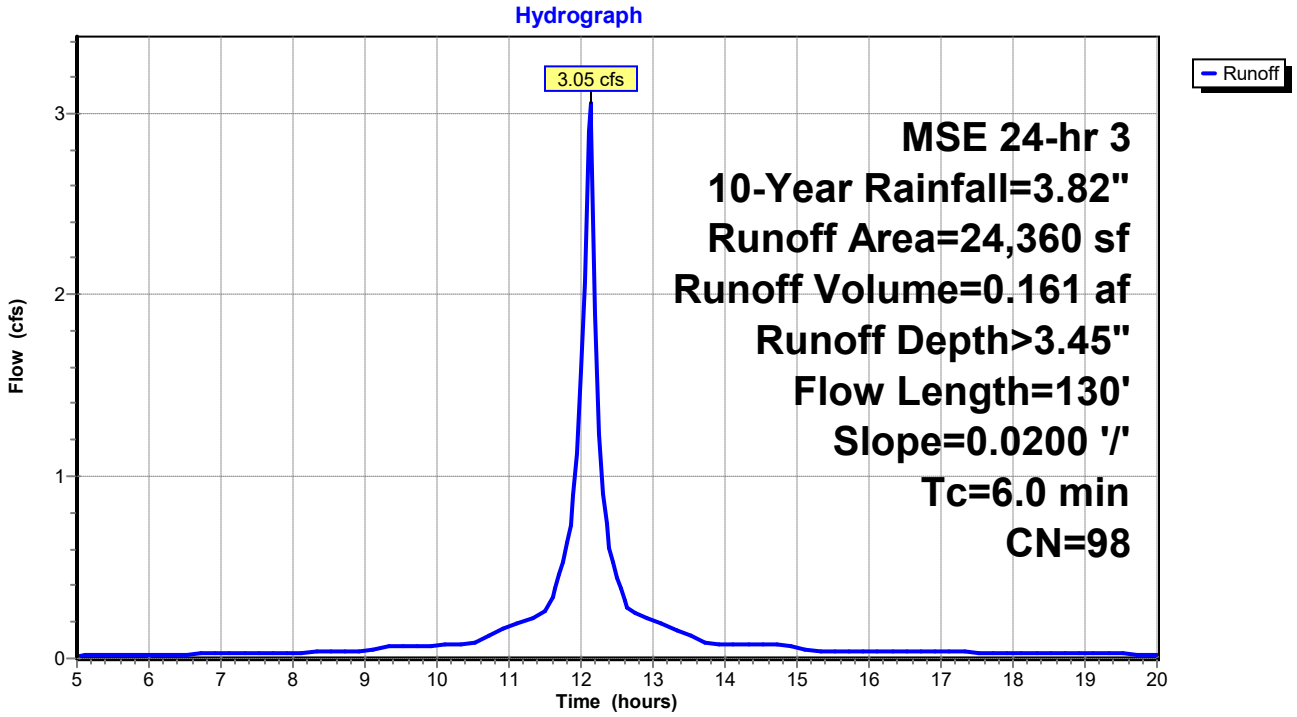
Pond A3: A3 Peak Elev=895.33' Inflow=15.78 cfs 0.814 af
18.0" Round Culvert n=0.011 L=55.0' S=0.0076 '/' Outflow=15.78 cfs 0.814 af

Pond P: EXISTING WET POND Peak Elev=890.56' Storage=61,865 cf Inflow=23.62 cfs 1.700 af
Primary=0.41 cfs 0.283 af Secondary=0.00 cfs 0.000 af Outflow=0.41 cfs 0.283 af

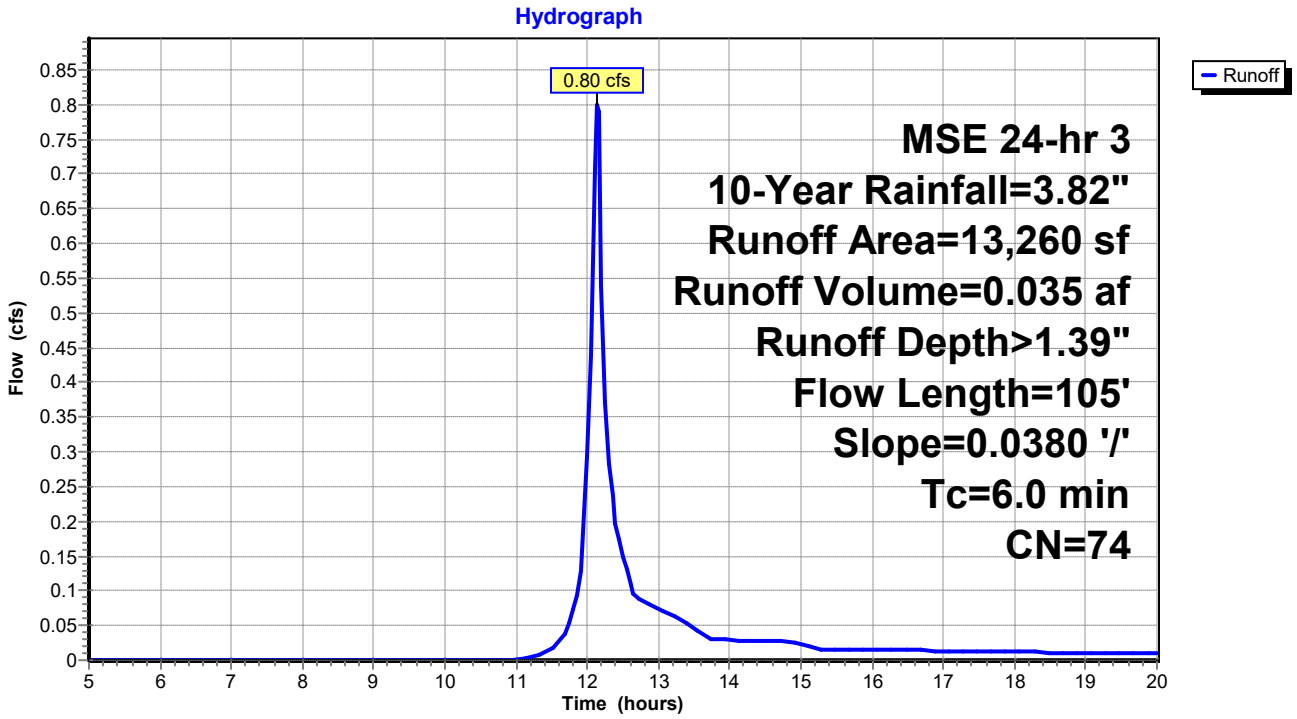
Link 3L: Link Inflow=0.41 cfs 0.283 af
Primary=0.41 cfs 0.283 af

Total Runoff Area = 9.900 ac Runoff Volume = 1.700 af Average Runoff Depth = 2.06"
67.75% Pervious = 6.707 ac 32.25% Impervious = 3.193 ac

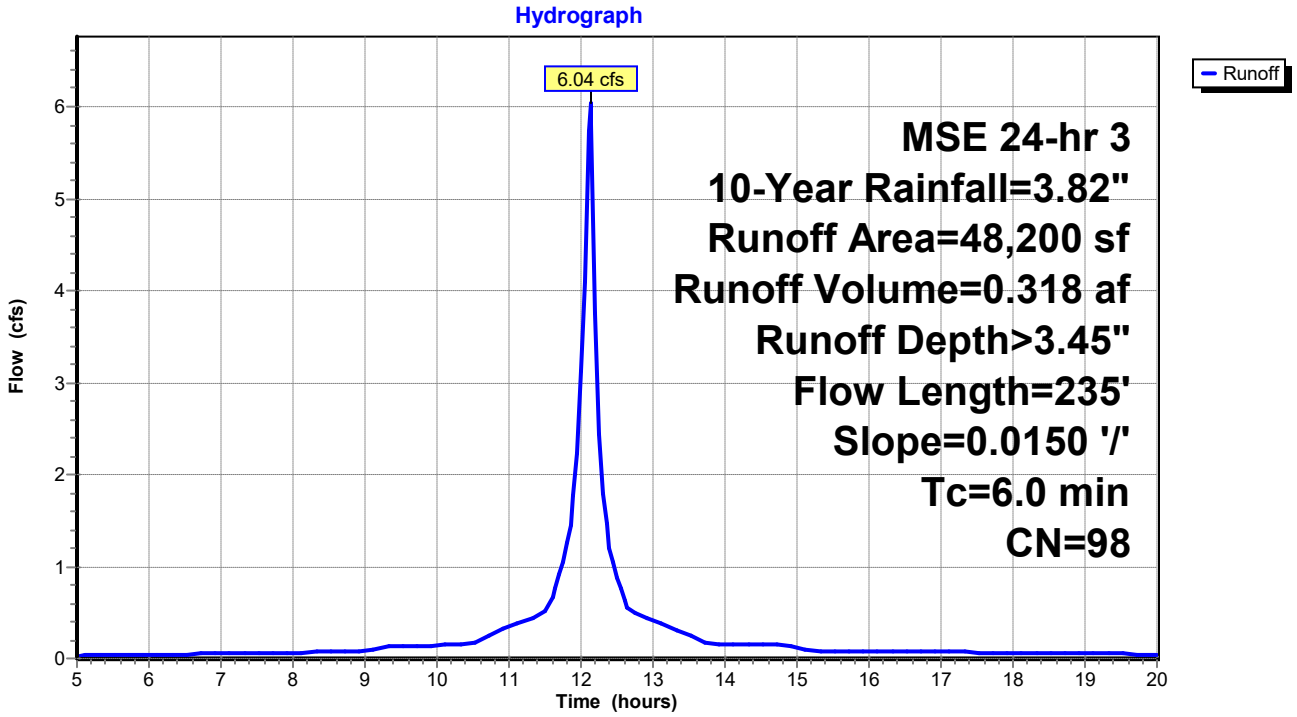
Subcatchment A1 I: A1



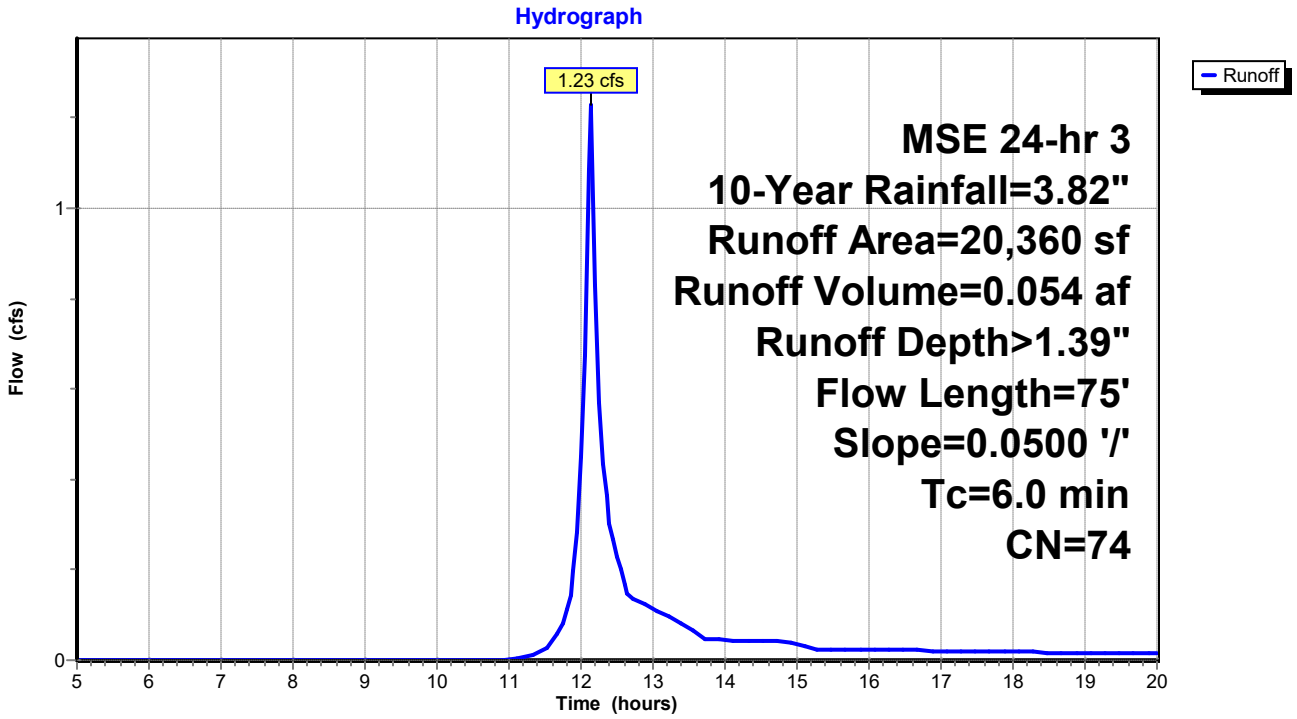
Subcatchment A1 P: A1



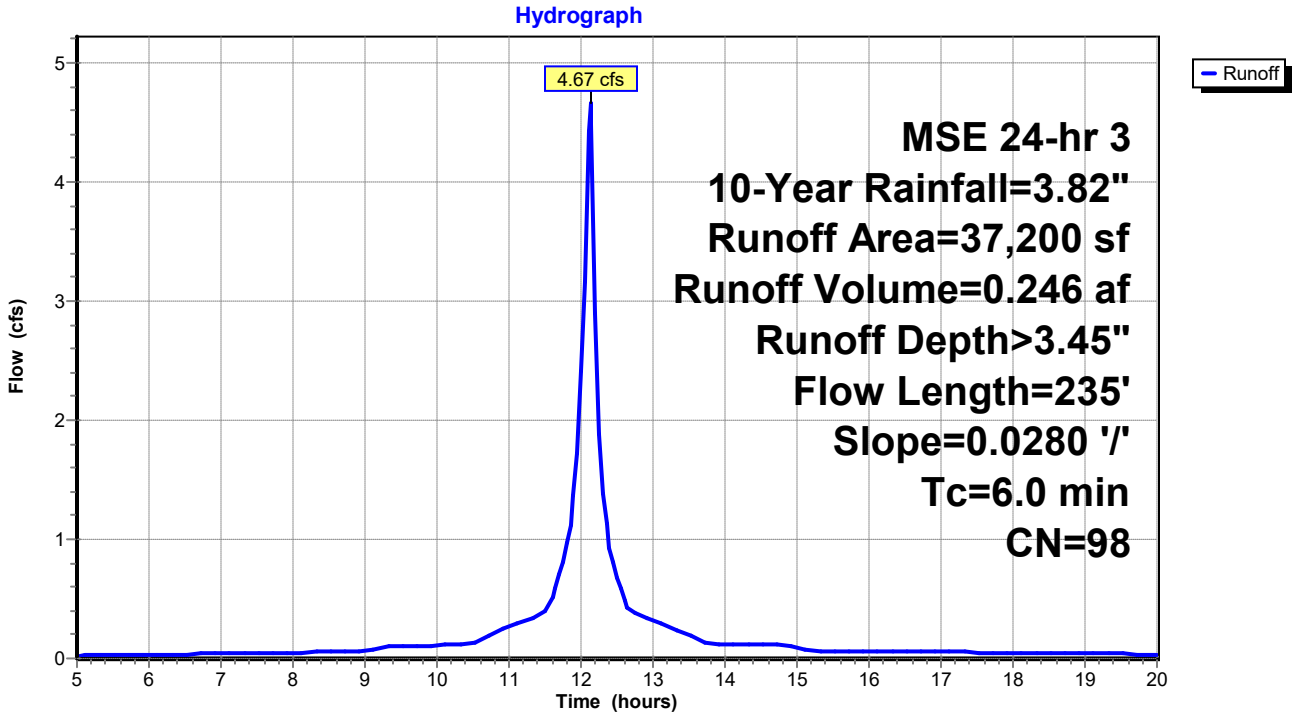
Subcatchment A2 I: A2



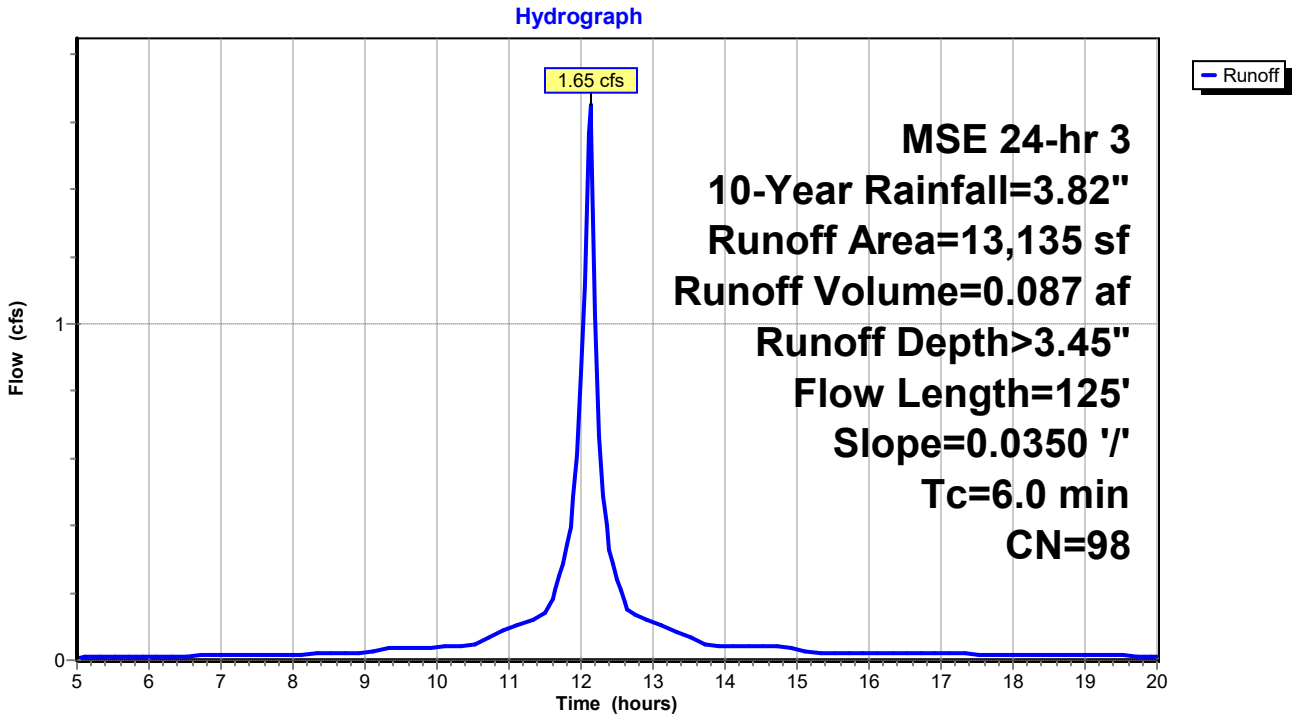
Subcatchment A2 P: A2



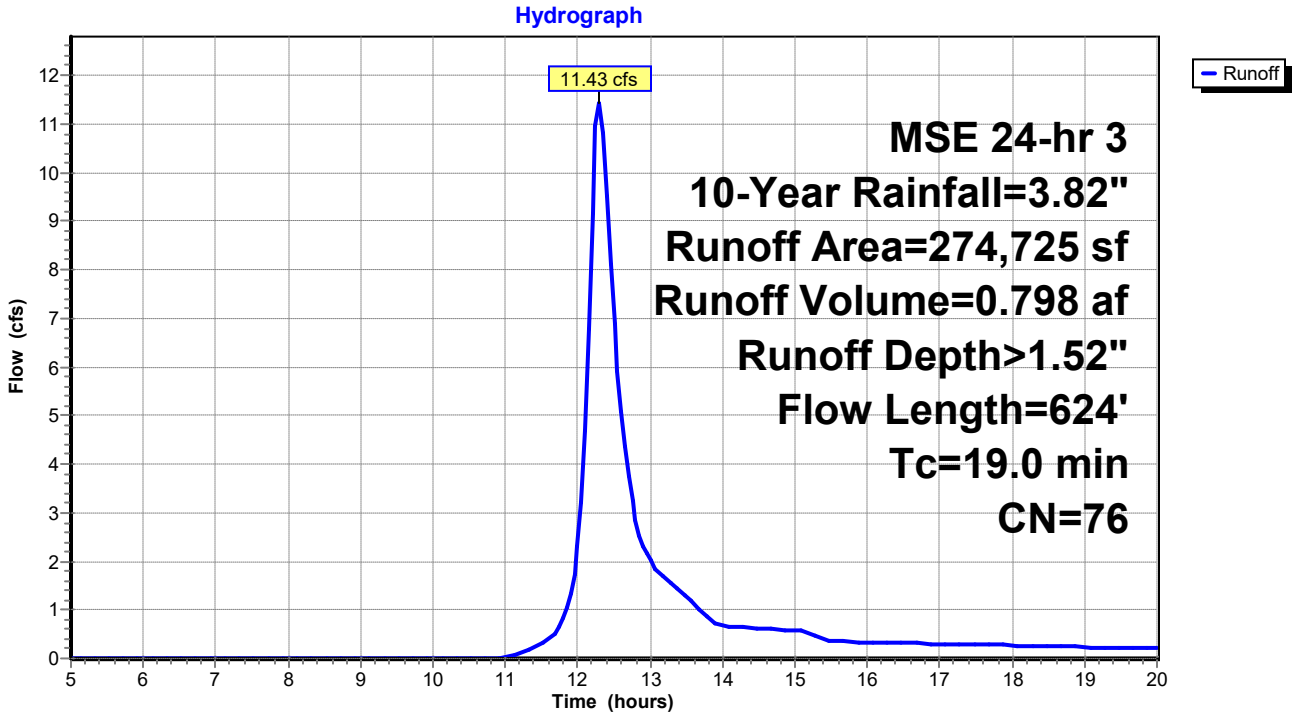
Subcatchment A3 I: A3



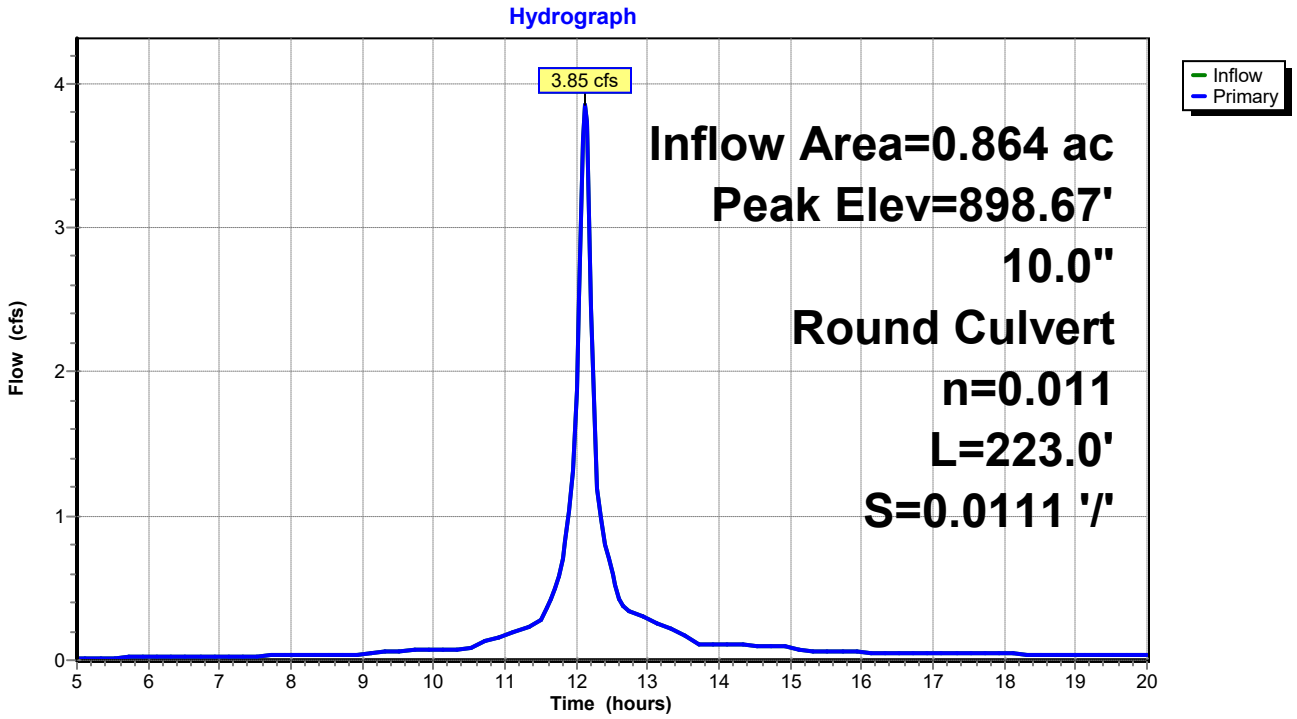
Subcatchment B1 I: B1



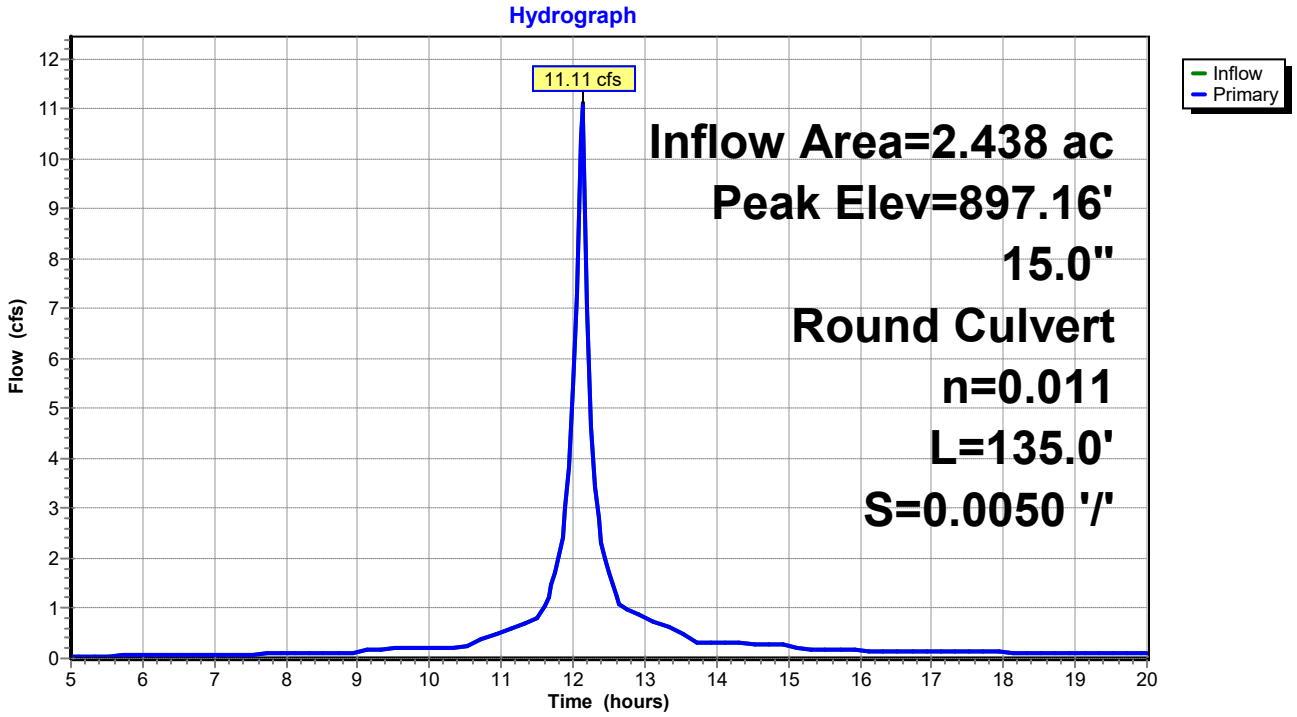
Subcatchment B1 P: B1



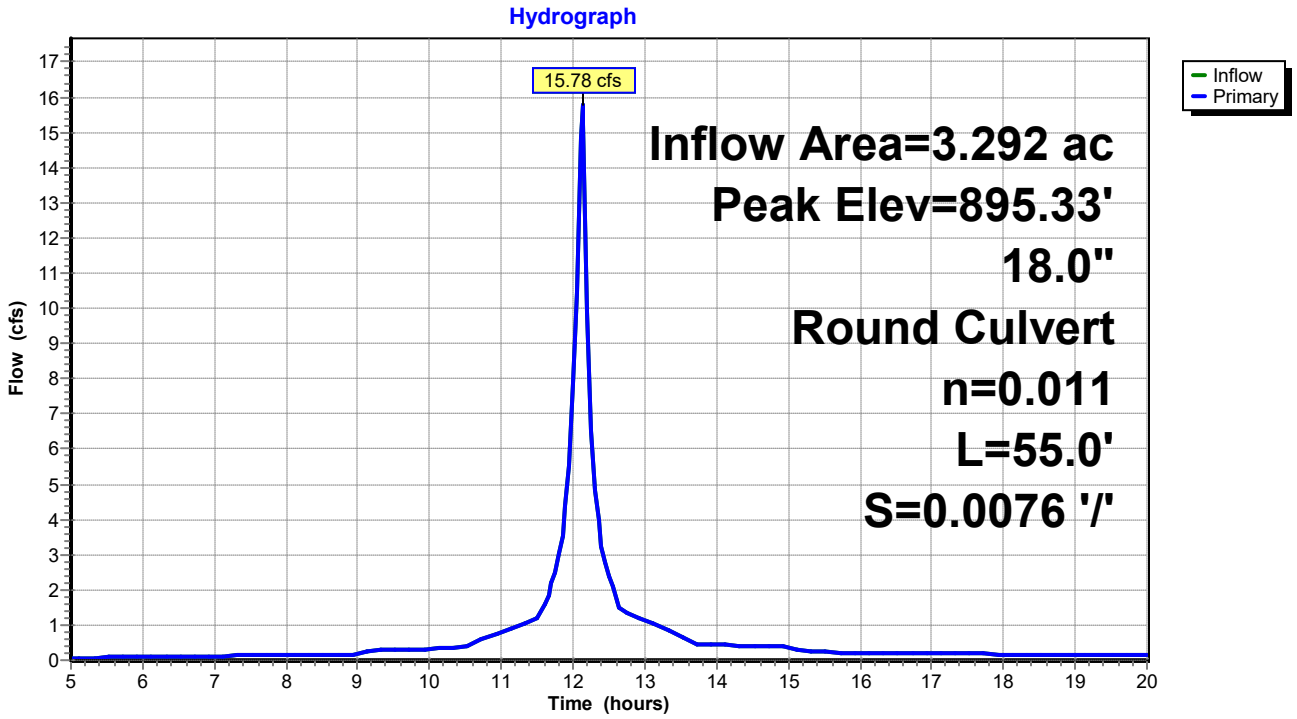
Pond A1: A1



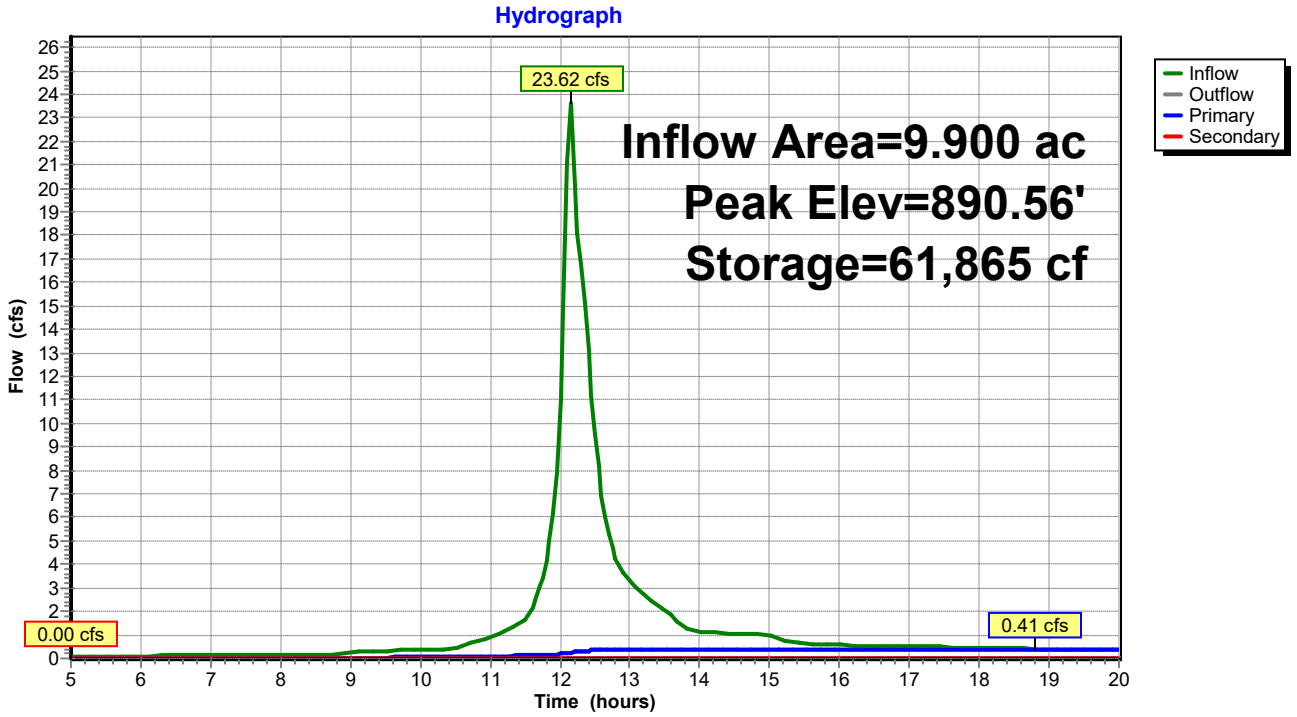
Pond A2: A2



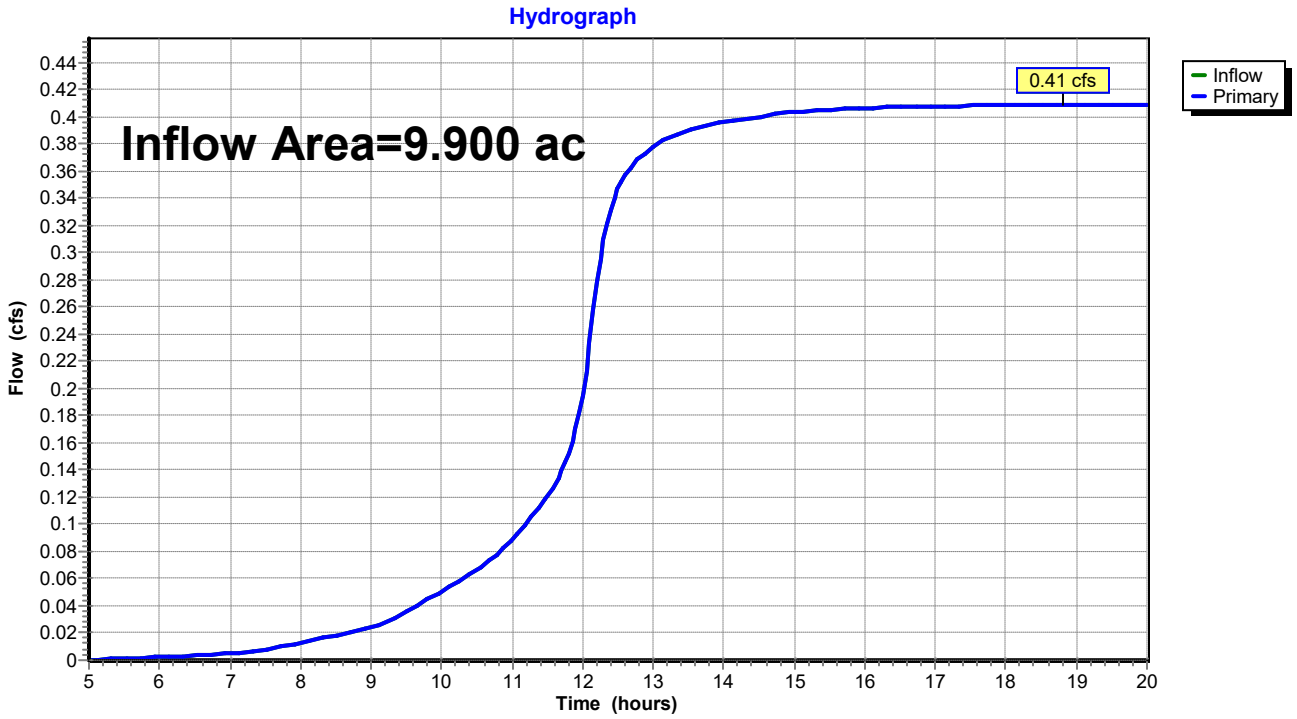
Pond A3: A3



Pond P: EXISTING WET POND



Link 3L: Link



Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment A1 I: A1 Runoff Area=24,360 sf 100.00% Impervious Runoff Depth>5.91"
Flow Length=130' Slope=0.0200 '/' Tc=6.0 min CN=98 Runoff=5.15 cfs 0.275 af

Subcatchment A1 P: A1 Runoff Area=13,260 sf 0.00% Impervious Runoff Depth>3.39"
Flow Length=105' Slope=0.0380 '/' Tc=6.0 min CN=74 Runoff=1.92 cfs 0.086 af

Subcatchment A2 I: A2 Runoff Area=48,200 sf 100.00% Impervious Runoff Depth>5.91"
Flow Length=235' Slope=0.0150 '/' Tc=6.0 min CN=98 Runoff=10.20 cfs 0.545 af

Subcatchment A2 P: A2 Runoff Area=20,360 sf 0.00% Impervious Runoff Depth>3.39"
Flow Length=75' Slope=0.0500 '/' Tc=6.0 min CN=74 Runoff=2.94 cfs 0.132 af

Subcatchment A3 I: A3 Runoff Area=37,200 sf 100.00% Impervious Runoff Depth>5.91"
Flow Length=235' Slope=0.0280 '/' Tc=6.0 min CN=98 Runoff=7.87 cfs 0.420 af

Subcatchment B1 I: B1 Runoff Area=13,135 sf 100.00% Impervious Runoff Depth>5.91"
Flow Length=125' Slope=0.0350 '/' Tc=6.0 min CN=98 Runoff=2.78 cfs 0.148 af

Subcatchment B1 P: B1 Runoff Area=274,725 sf 5.89% Impervious Runoff Depth>3.57"
Flow Length=624' Tc=19.0 min CN=76 Runoff=26.92 cfs 1.879 af

Pond A1: A1 Peak Elev=912.98' Inflow=7.07 cfs 0.361 af
10.0" Round Culvert n=0.011 L=223.0' S=0.0111 '/' Outflow=7.07 cfs 0.361 af

Pond A2: A2 Peak Elev=908.01' Inflow=20.20 cfs 1.038 af
15.0" Round Culvert n=0.011 L=135.0' S=0.0050 '/' Outflow=20.20 cfs 1.038 af

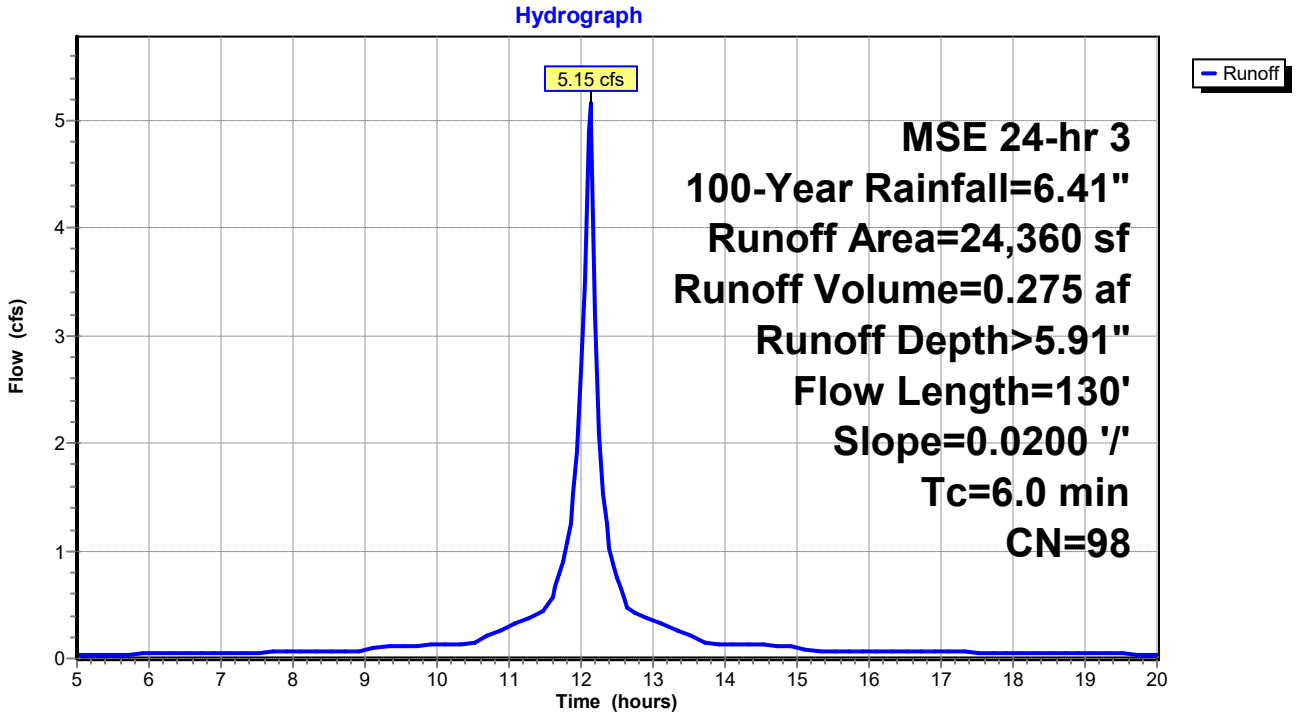
Pond A3: A3 Peak Elev=902.67' Inflow=28.07 cfs 1.458 af
18.0" Round Culvert n=0.011 L=55.0' S=0.0076 '/' Outflow=28.07 cfs 1.458 af

Pond P: EXISTING WET POND Peak Elev=892.61' Storage=119,375 cf Inflow=47.26 cfs 3.485 af
Primary=0.53 cfs 0.386 af Secondary=1.67 cfs 0.428 af Outflow=2.20 cfs 0.814 af

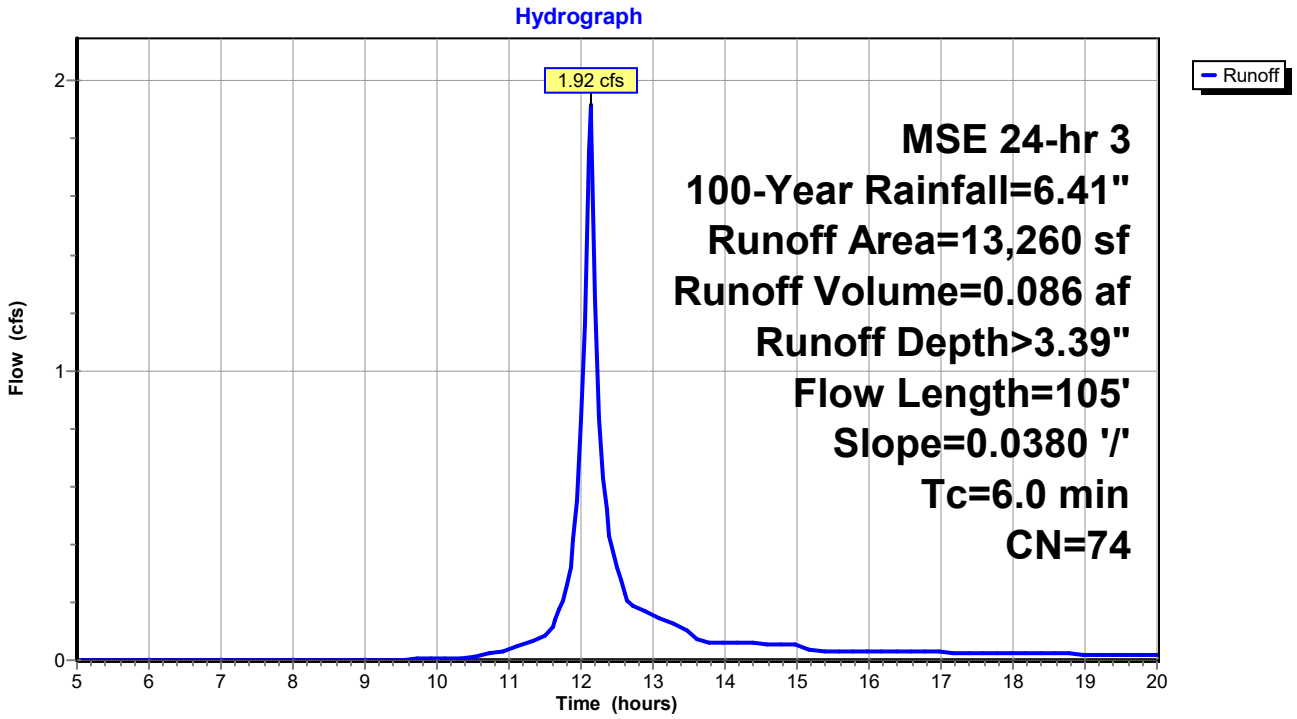
Link 3L: Link Inflow=2.20 cfs 0.814 af
Primary=2.20 cfs 0.814 af

Total Runoff Area = 9.900 ac Runoff Volume = 3.485 af Average Runoff Depth = 4.22"
67.75% Pervious = 6.707 ac 32.25% Impervious = 3.193 ac

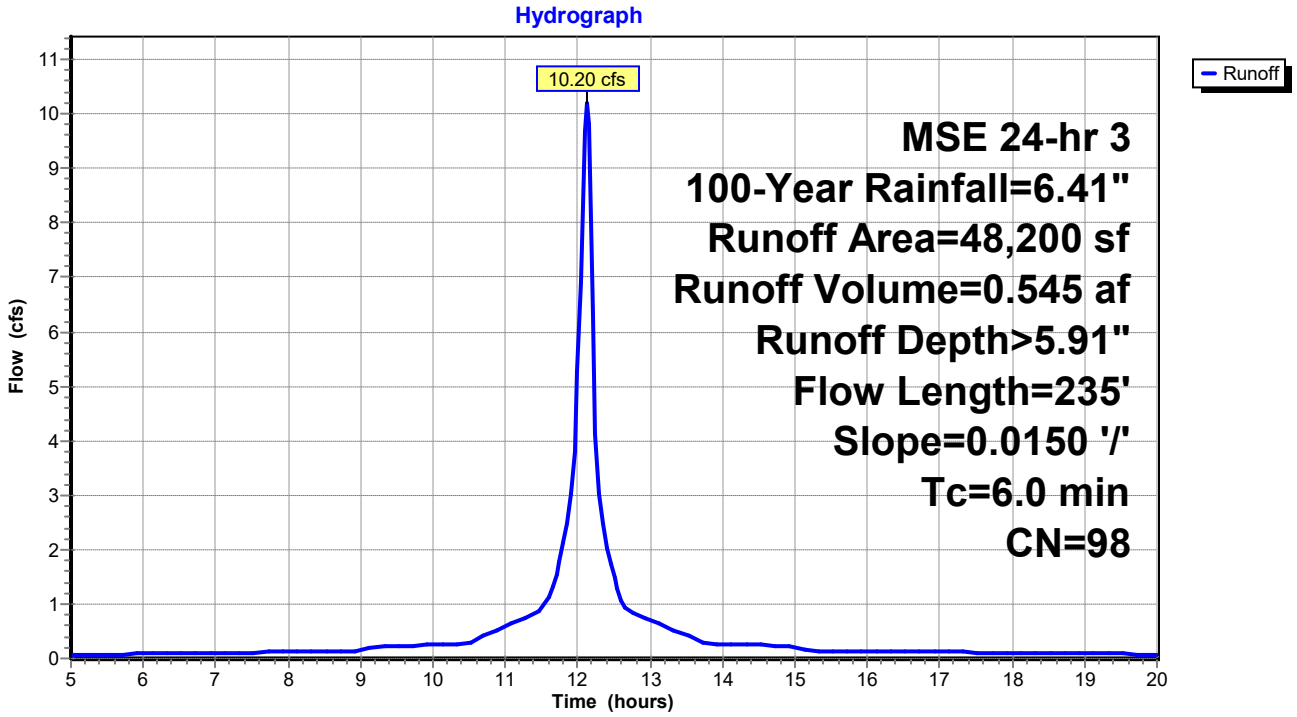
Subcatchment A1 I: A1



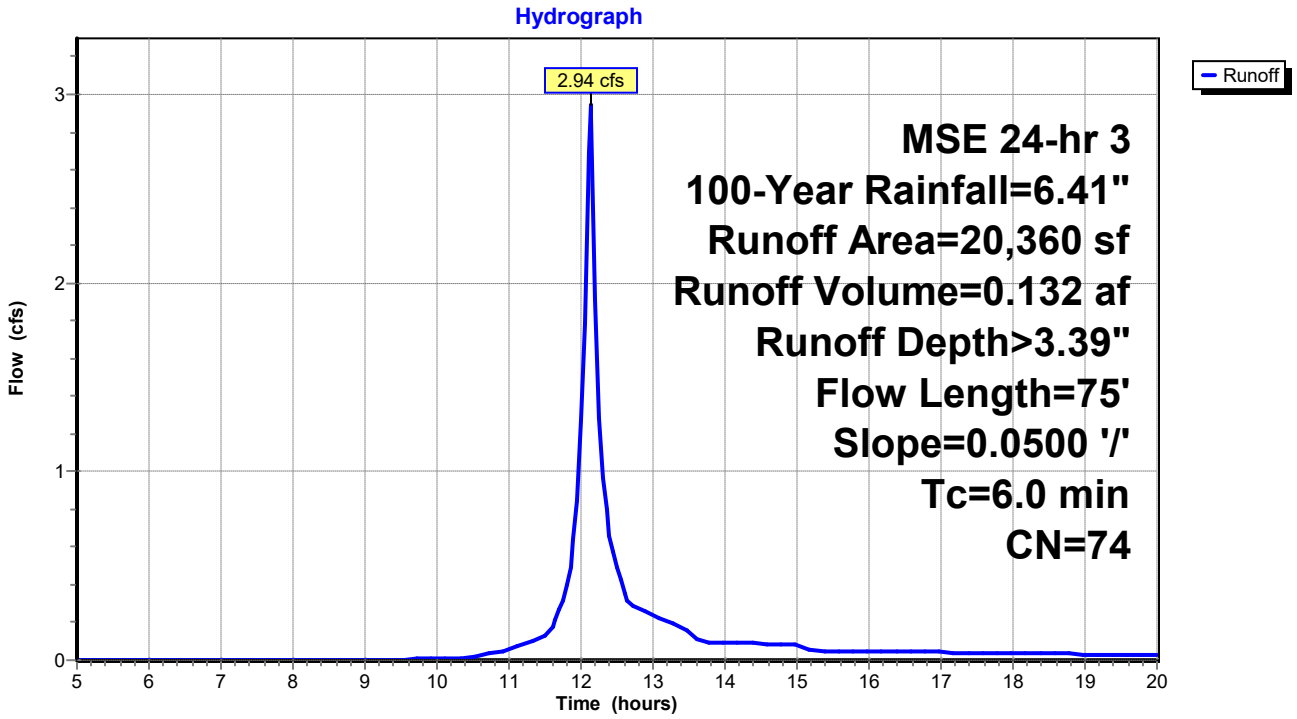
Subcatchment A1 P: A1



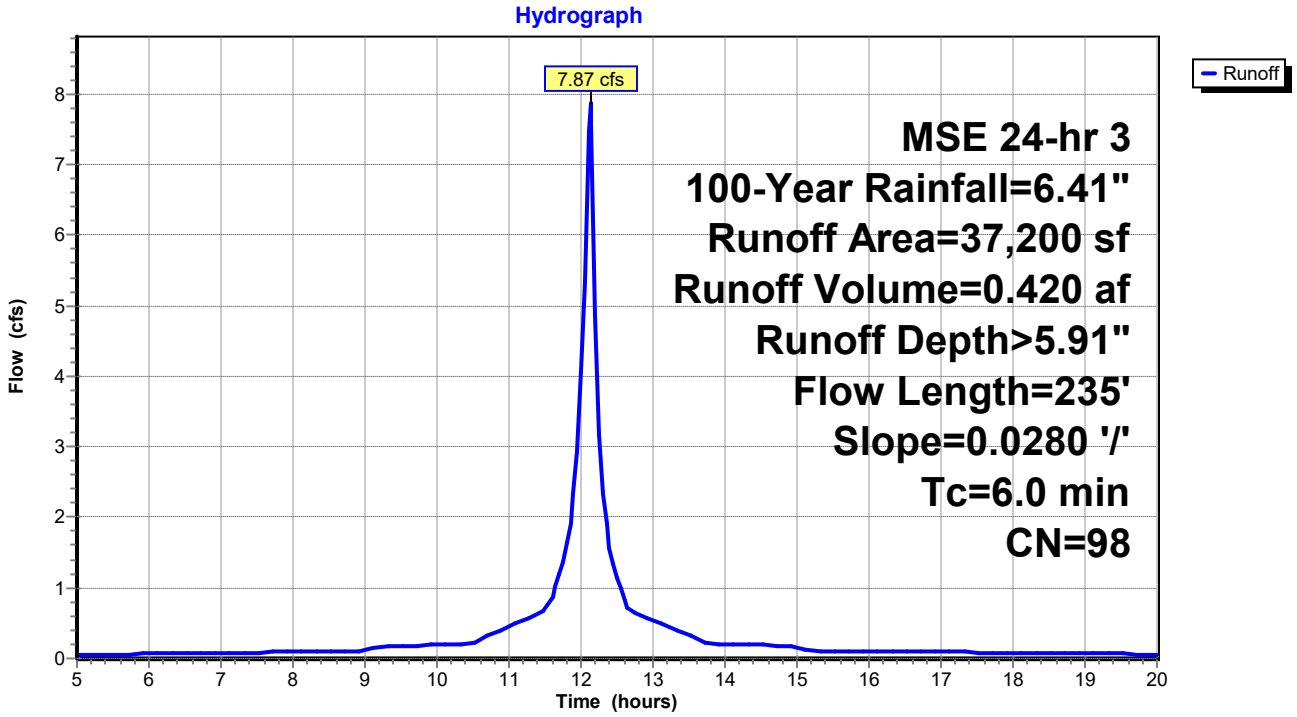
Subcatchment A2 I: A2



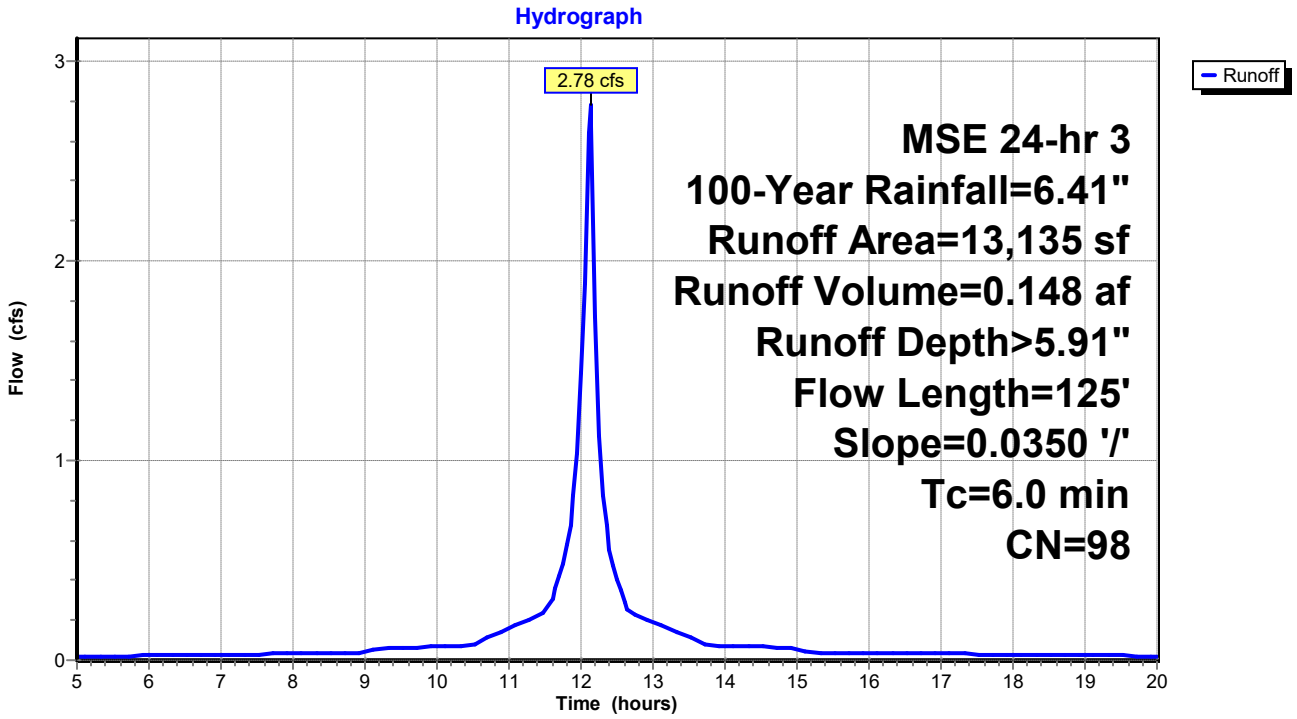
Subcatchment A2 P: A2



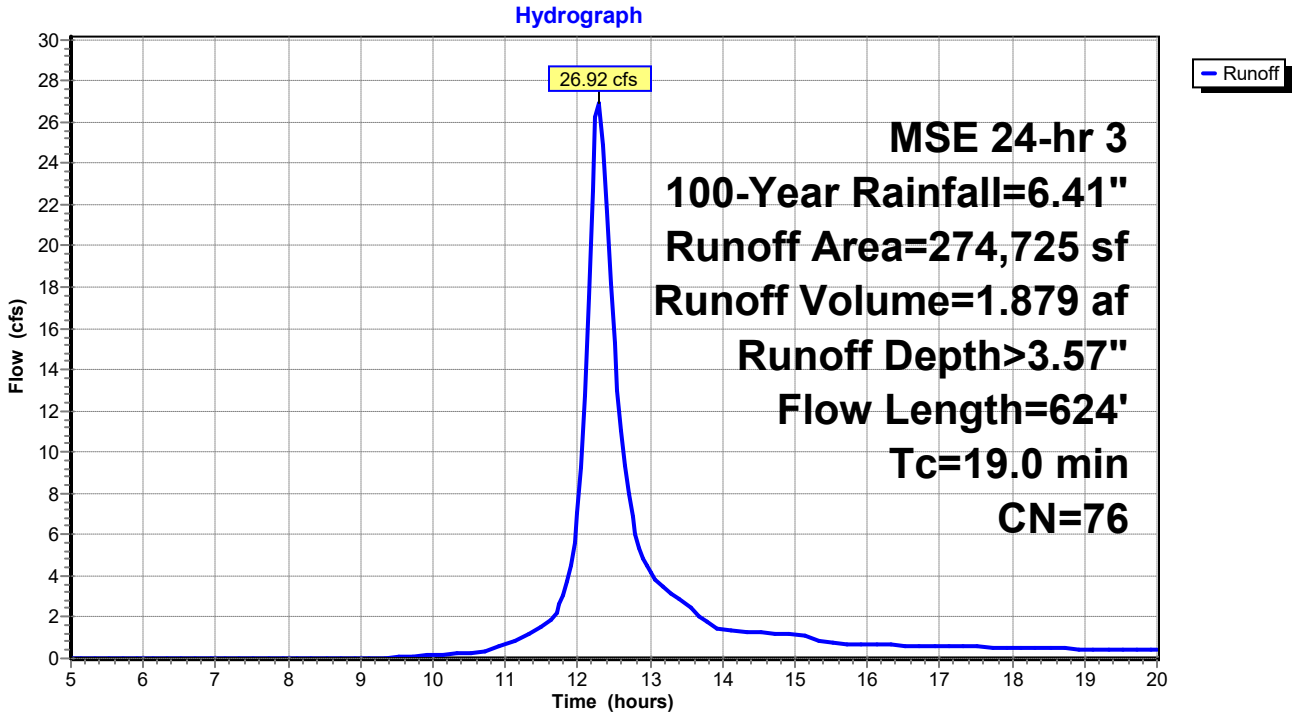
Subcatchment A3 l: A3



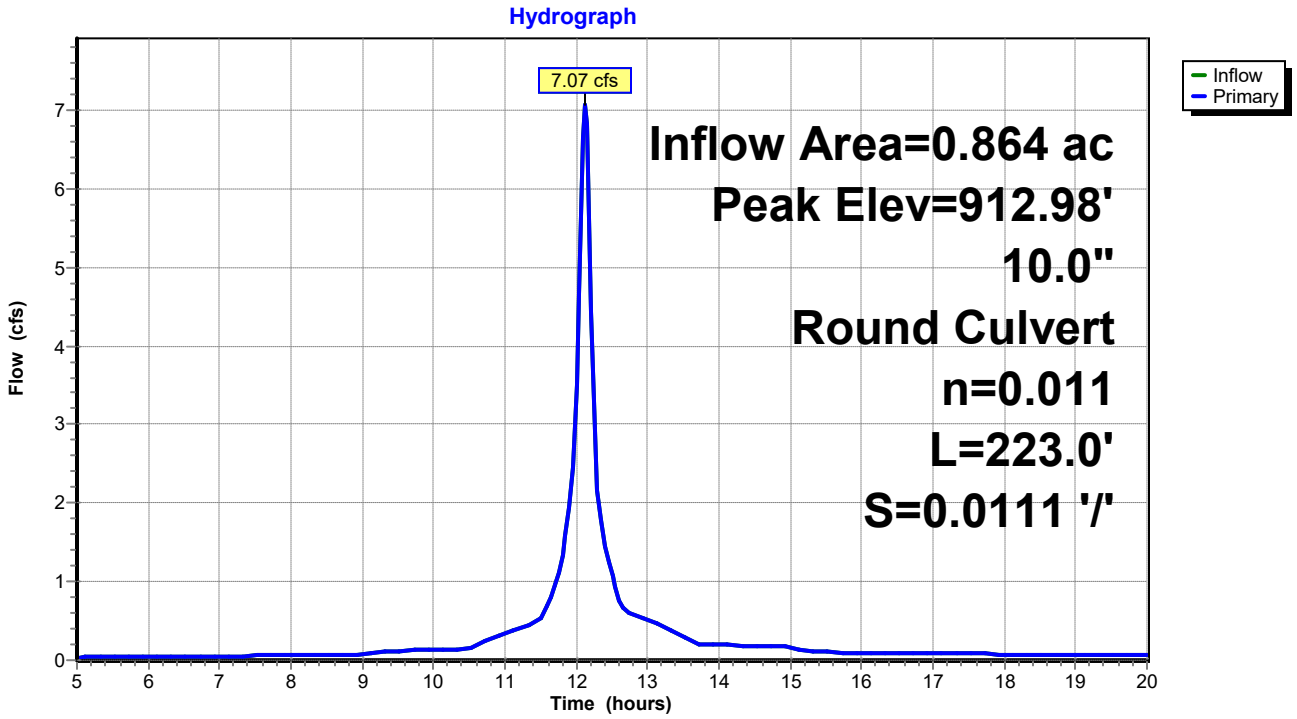
Subcatchment B1 l: B1



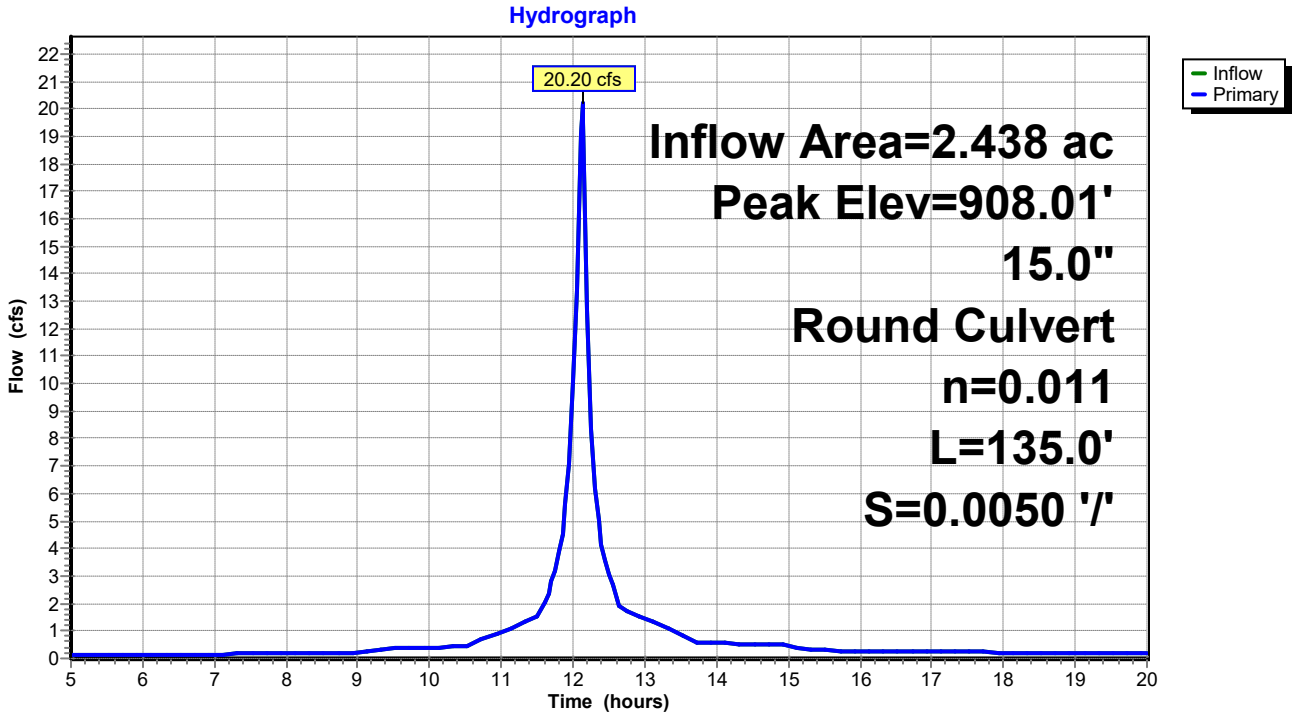
Subcatchment B1 P: B1



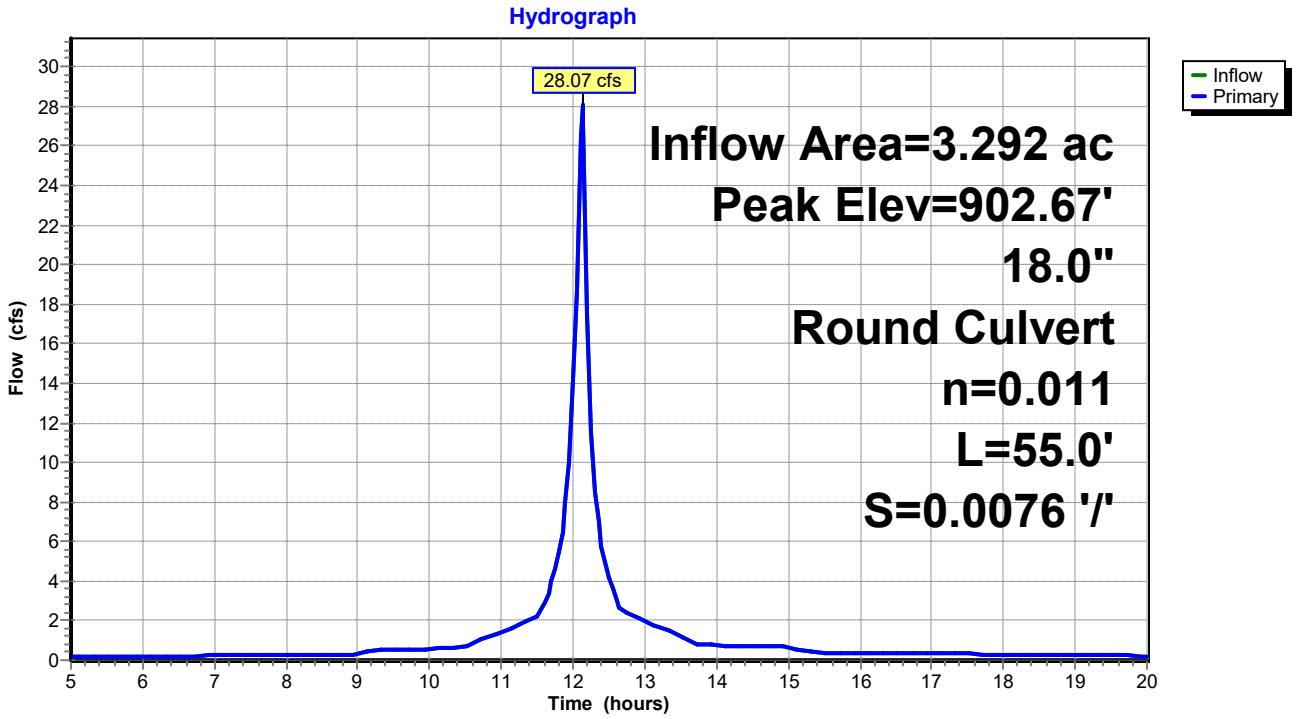
Pond A1: A1



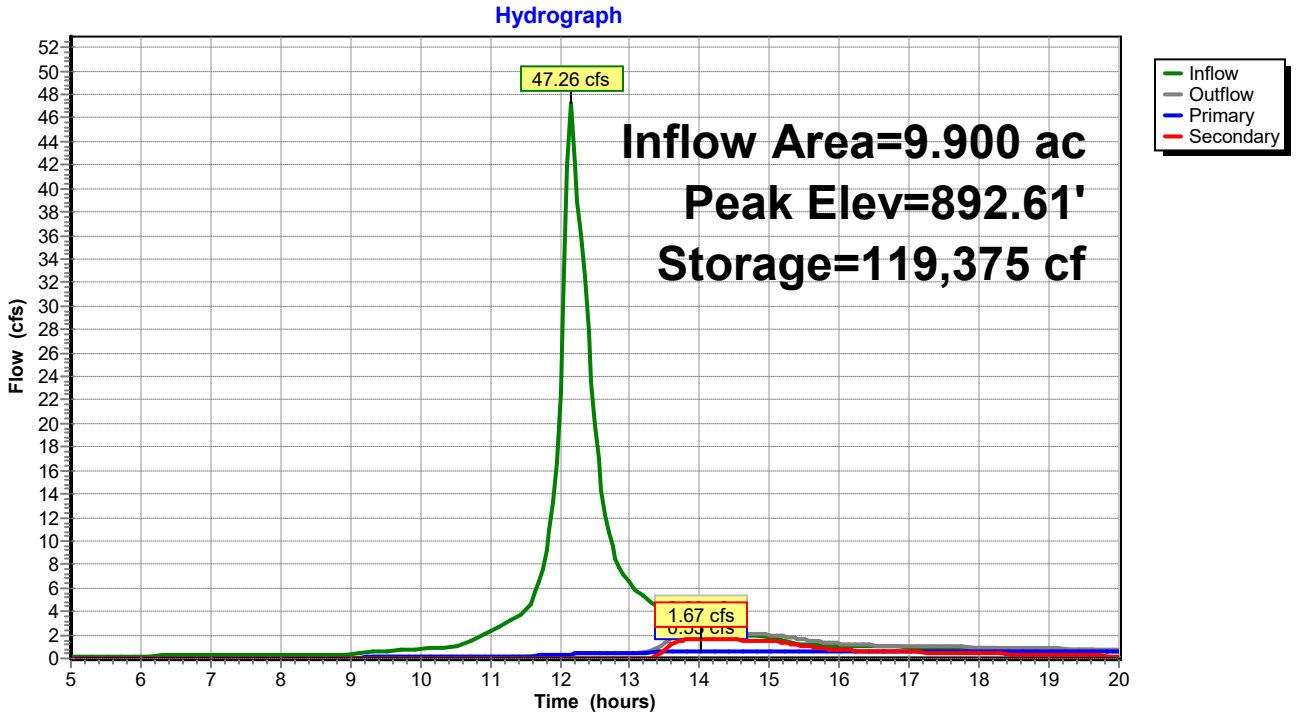
Pond A2: A2



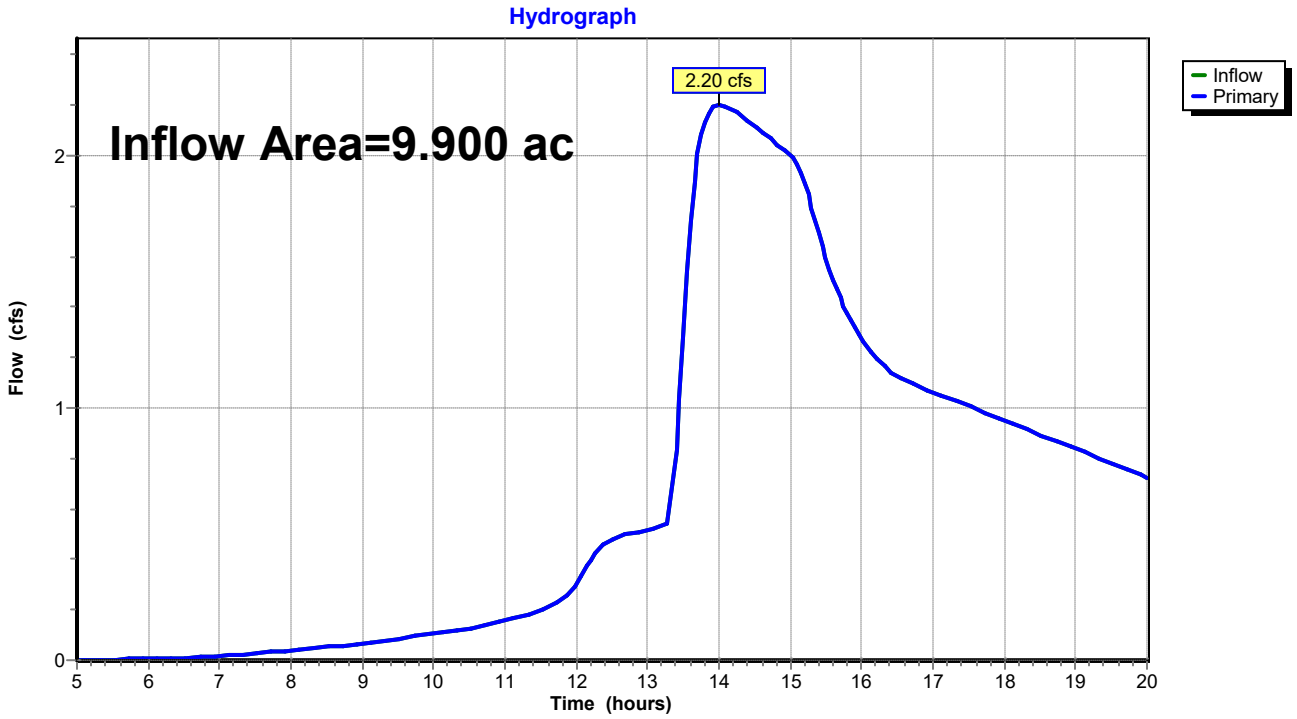
Pond A3: A3



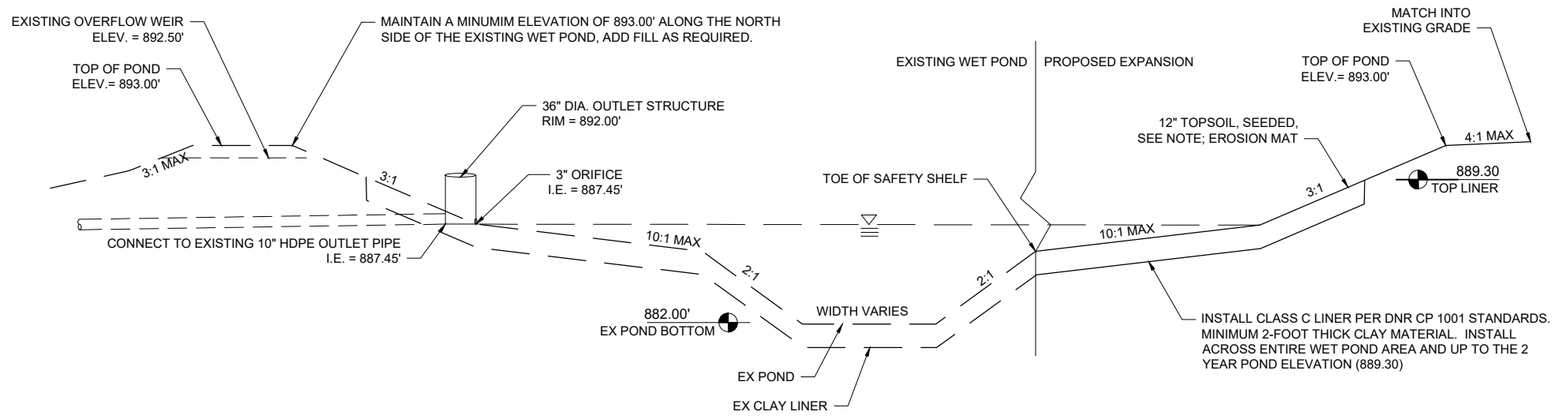
Pond P: EXISTING WET POND



Link 3L: Link



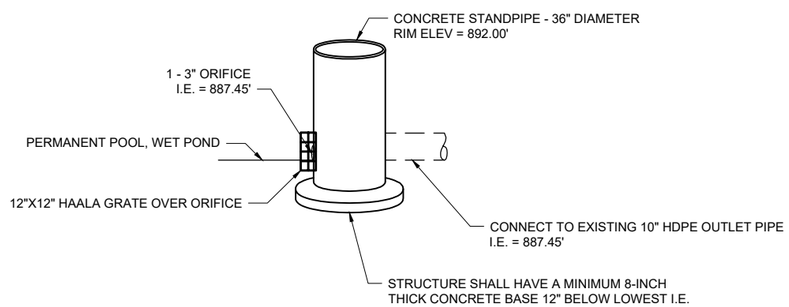
Appendix D –
Wet Pond Expansion Detail



NOTES:
- TOP OF POND TO BE A MINIMUM OF 4-FEET WIDE
- WET POND EXPANSION TO OCCUR ABOVE THE TOE OF THE EXISTING SAFETY SHELF

WET POND WITH OUTLET STRUCTURE DETAIL

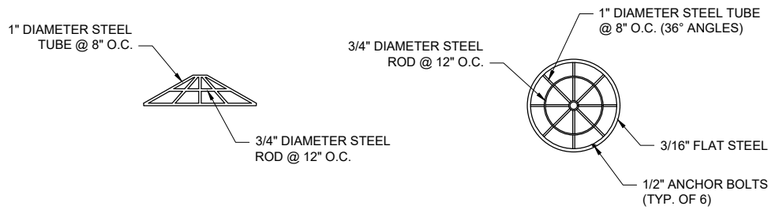
NO SCALE



NOTE:
THE GRATE FOR THIS OUTLET STRUCTURE SHALL BE EITHER A NEENAH HIGH CAPACITY GRATE, BEEHIVE GRATE, OR CONE GRATE AS DETAILED ABOVE. SEE PLAN FOR EXACT ELEVATIONS AND I.E.

WET POND OUTLET STRUCTURE DETAIL

NO SCALE



PROFILE

PLAN

CONE GRATE DETAIL

NO SCALE

		NO.	DATE	REVISION	BY
PROJECT DATE: .	DRAWN BY: KEF	.	.	.	.
	DESIGNED BY: KEF	.	.	.	.
	CHECKED BY: Init	.	.	.	.

PLOT DATE: 6/7/2024 11:19 AM, G:\20\20426\20426215\05_bim_cadd_discipline\06_Civil\construction documents\G2 EROSION CONTROL DETAILS.dwg

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(608) 356-2771 www.msa-ps.com

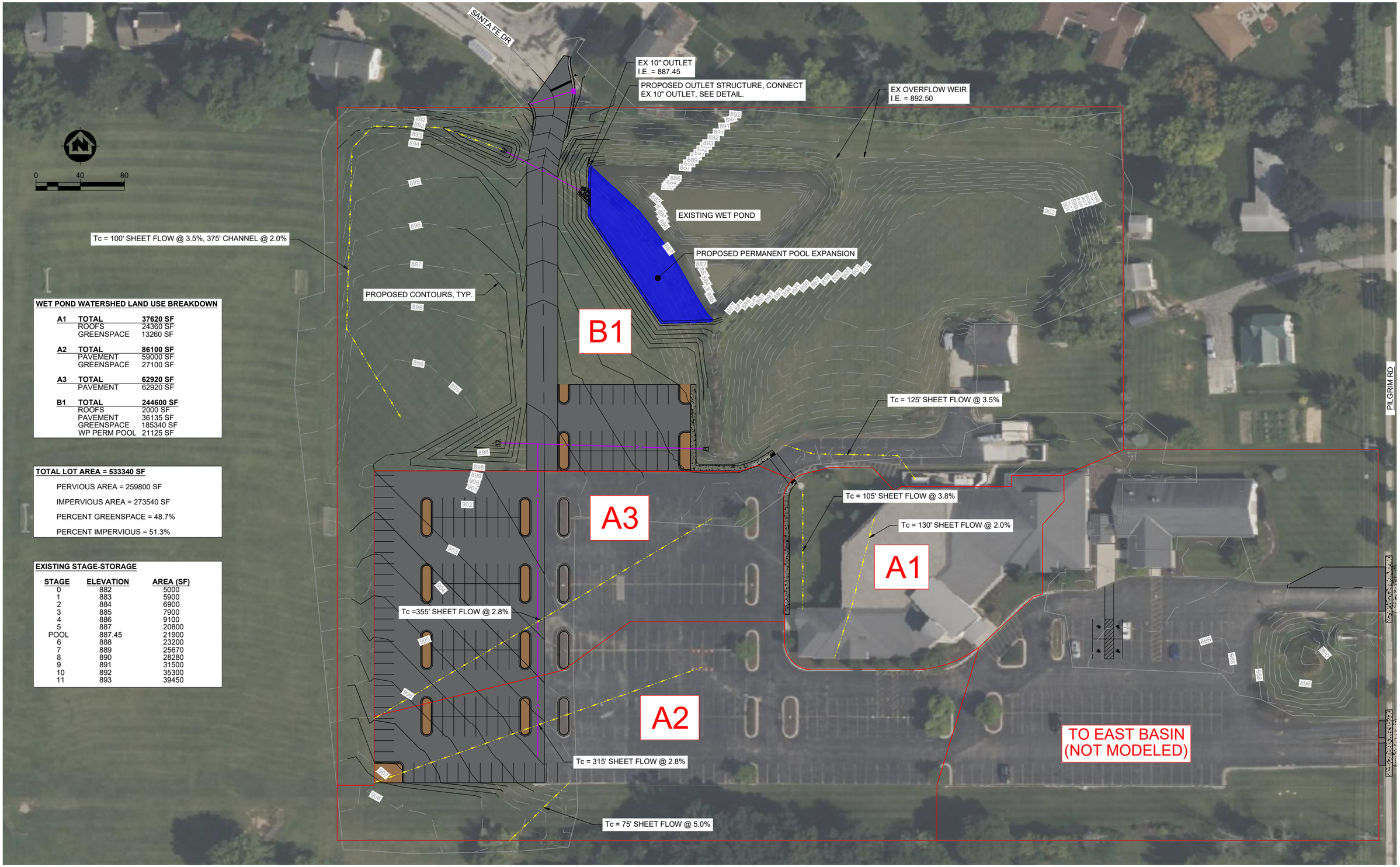
CROSSWAY CHURCH IMPROVEMENTS
CROSSWAY CHURCH
GERMANTOWN, WASHINGTON COUNTY, WI

WET POND EXPANSION DETAILS

PROJECT NO. 20426215

SHEET C506

Appendix E –
Proposed HydroCAD Models



WET POND WATERSHED LAND USE BREAKDOWN

A1	**TOTAL**	**37620 SF**
	ROOFS	24360 SF
	GREENSPACE	13260 SF
A2	**TOTAL**	**86100 SF**
	PAVEMENT	59000 SF
	GREENSPACE	27100 SF
A3	**TOTAL**	**62920 SF**
	PAVEMENT	62920 SF
B1	**TOTAL**	**244600 SF**
	ROOFS	2000 SF
	PAVEMENT	36135 SF
	GREENSPACE	185340 SF
	WP PERM POOL	21125 SF

TOTAL LOT AREA = 533340 SF

PERVIOUS AREA = 259800 SF

IMPERVIOUS AREA = 273540 SF

PERCENT GREENSPACE = 48.7%

PERCENT IMPERVIOUS = 51.3%

EXISTING STAGE-STORAGE

STAGE	ELEVATION	AREA (SF)
0	882	5000
1	883	5900
2	884	6900
3	885	7900
4	886	9100
5	887	20800
POOL	887.45	21900
6	888	23200
7	889	25670
8	890	28280
9	891	31500
10	892	35300
11	893	39450

			NO.	DATE	REVISION	BY
PROJECT DATE: .	DRAWN BY:	KEF	.	.	.	.
	DESIGNED BY:	KEF	.	.	.	.
	CHECKED BY:	Init	.	.	.	.

PLOT DATE: 6/10/2024 11:05 AM, G:\20\20426\2042621\04_BIM_CADD_Shared\03_Model_Based Files\20426215 Stormwater.dwg

MSA
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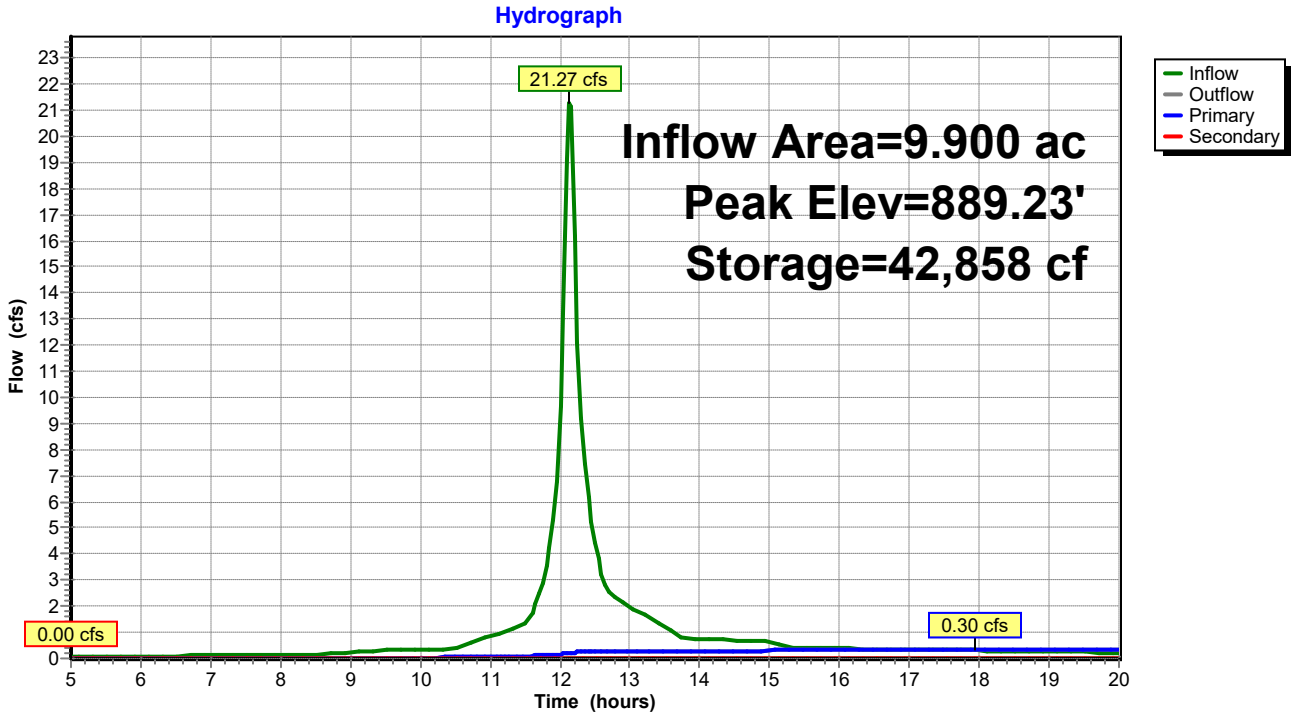
CROSSWAY CHURCH IMPROVEMENTS
CROSSWAY CHURCH
GERMANTOWN, WASHINGTON COUNTY, WI

STORMWATER EXHIBIT - PROPOSED

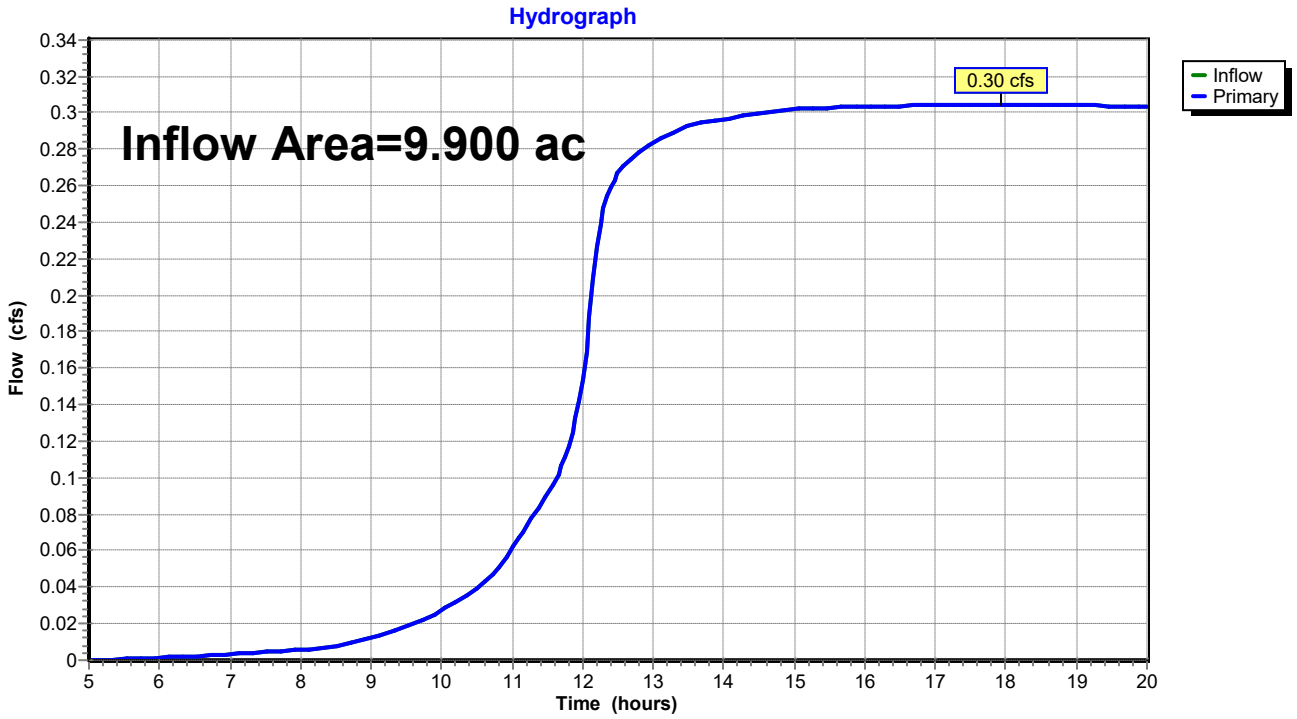
PROJECT NO. 20426215

SHEET EX2

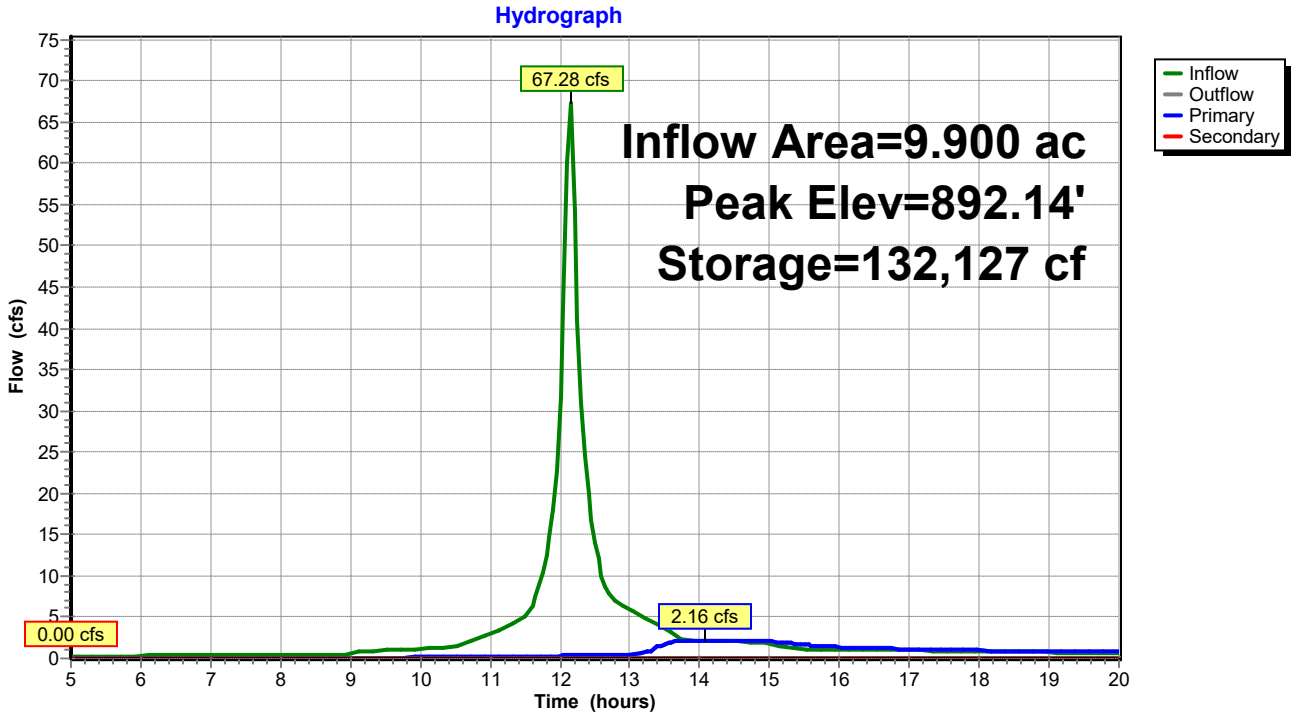
Pond P: EXISTING WET POND



Link 3L: Link



Pond P: EXISTING WET POND



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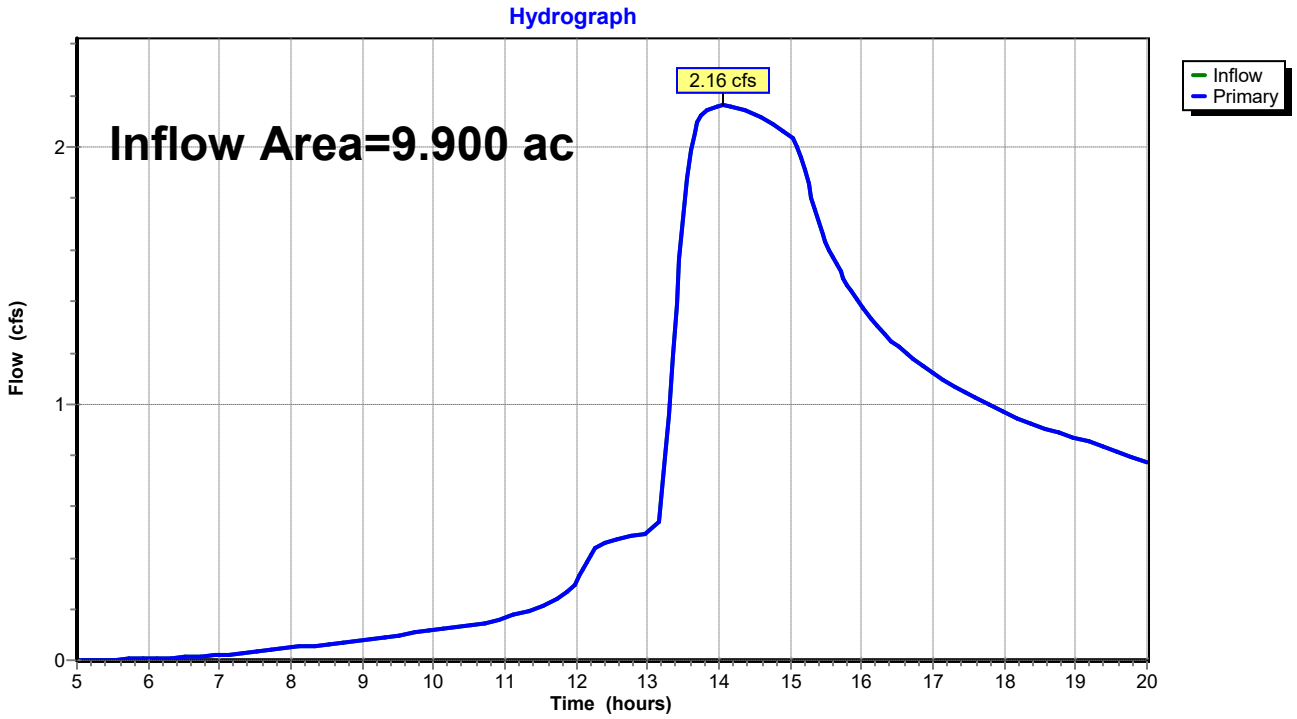
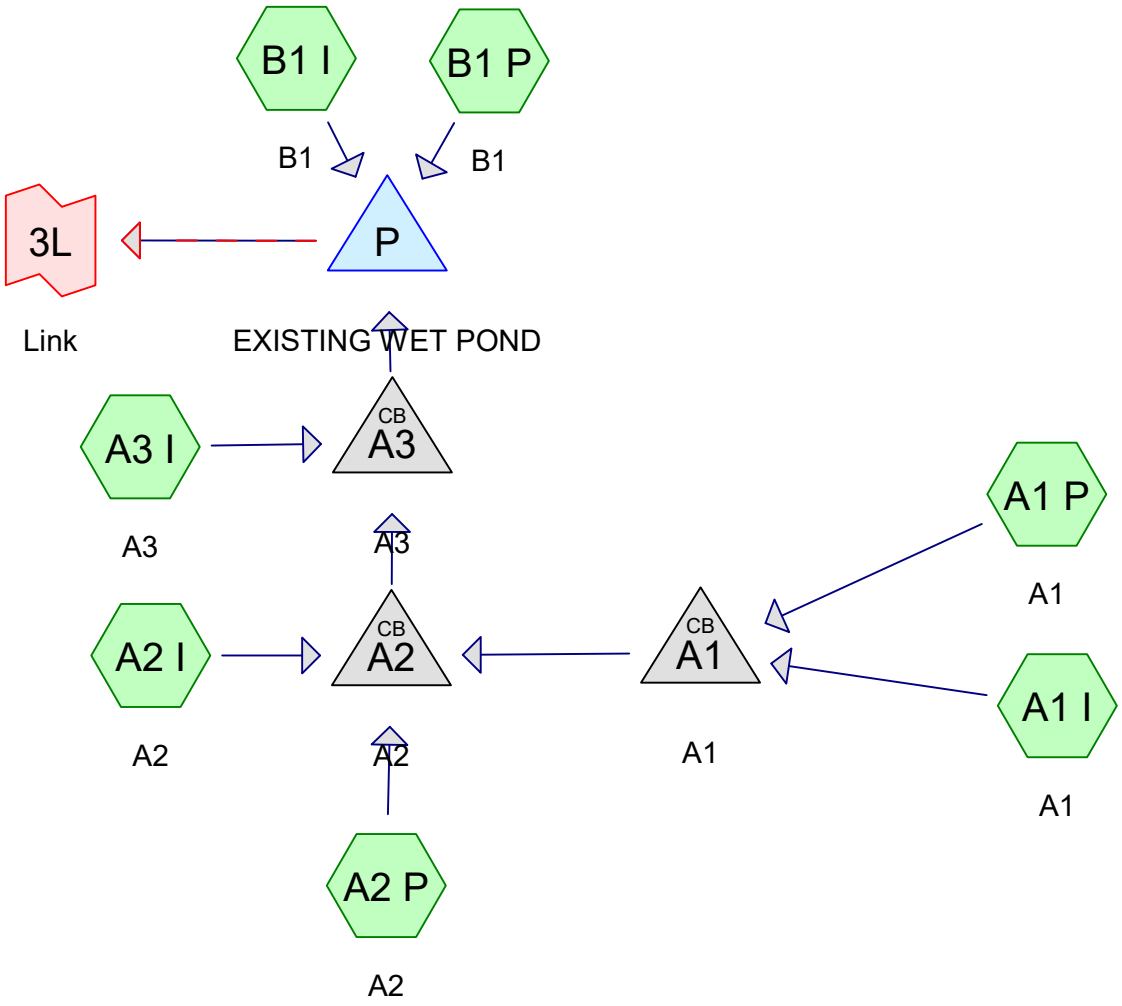




Subcat Reach Pond Link

Routing Diagram for 20426215 Proposed 6.6.2024
Prepared by MSA Professional Services, Printed 6/7/2024

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
4.237	74	>75% Grass cover, Good, HSG C (B1 P)
0.256	98	Ex Pavement (B1 I)
0.046	98	Ex Roofs (B1 I)
0.927	74	LAWN AREA (A1 P, A2 P)
0.574	98	PROP Pavement (B1 I)
2.799	98	Pavement (A2 I, A3 I)
0.559	98	ROOFS (A1 I)
0.503	100	Wet Pond (B1 P)
9.900	**86**	**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
0.000	HSG B	
4.237	HSG C	B1 P
0.000	HSG D	
5.663	Other	A1 I, A1 P, A2 I, A2 P, A3 I, B1 I, B1 P
9.900		**TOTAL AREA**

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	4.237	0.000	0.000	4.237	>75% Grass cover, Good	B1 P
0.000	0.000	0.000	0.000	0.256	0.256	Ex Pavement	B1 I
0.000	0.000	0.000	0.000	0.046	0.046	Ex Roofs	B1 I
0.000	0.000	0.000	0.000	0.927	0.927	LAWN AREA	A1 P, A2 P
0.000	0.000	0.000	0.000	0.574	0.574	PROP Pavement	B1 I
0.000	0.000	0.000	0.000	2.799	2.799	Pavement	A2 I, A3 I
0.000	0.000	0.000	0.000	0.559	0.559	ROOFS	A1 I
0.000	0.000	0.000	0.000	0.503	0.503	Wet Pond	B1 P
0.000	**0.000**	**4.237**	**0.000**	**5.663**	**9.900**	**TOTAL AREA**	

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment A1 I: A1 Runoff Area=24,360 sf 100.00% Impervious Runoff Depth>2.05"
Flow Length=130' Slope=0.0200 '/' Tc=6.0 min CN=98 Runoff=1.86 cfs 0.096 af

Subcatchment A1 P: A1 Runoff Area=13,260 sf 0.00% Impervious Runoff Depth>0.49"
Flow Length=105' Slope=0.0380 '/' Tc=6.0 min CN=74 Runoff=0.27 cfs 0.012 af

Subcatchment A2 I: A2 Runoff Area=59,000 sf 100.00% Impervious Runoff Depth>2.05"
Flow Length=315' Slope=0.0280 '/' Tc=6.0 min CN=98 Runoff=4.49 cfs 0.232 af

Subcatchment A2 P: A2 Runoff Area=27,100 sf 0.00% Impervious Runoff Depth>0.49"
Flow Length=75' Slope=0.0500 '/' Tc=6.0 min CN=74 Runoff=0.55 cfs 0.026 af

Subcatchment A3 I: A3 Runoff Area=62,920 sf 100.00% Impervious Runoff Depth>2.05"
Flow Length=355' Slope=0.0280 '/' Tc=6.0 min CN=98 Runoff=4.79 cfs 0.247 af

Subcatchment B1 I: B1 Runoff Area=38,135 sf 100.00% Impervious Runoff Depth>2.05"
Flow Length=125' Slope=0.0350 '/' Tc=6.0 min CN=98 Runoff=2.91 cfs 0.150 af

Subcatchment B1 P: B1 Runoff Area=206,465 sf 10.61% Impervious Runoff Depth>0.61"
Flow Length=475' Tc=11.5 min CN=77 Runoff=4.19 cfs 0.241 af

Pond A1: A1 Peak Elev=895.42' Inflow=2.12 cfs 0.108 af
10.0" Round Culvert n=0.011 L=223.0' S=0.0111 '/' Outflow=2.12 cfs 0.108 af

Pond A2: A2 Peak Elev=894.41' Inflow=7.14 cfs 0.365 af
15.0" Round Culvert n=0.011 L=135.0' S=0.0050 '/' Outflow=7.14 cfs 0.365 af

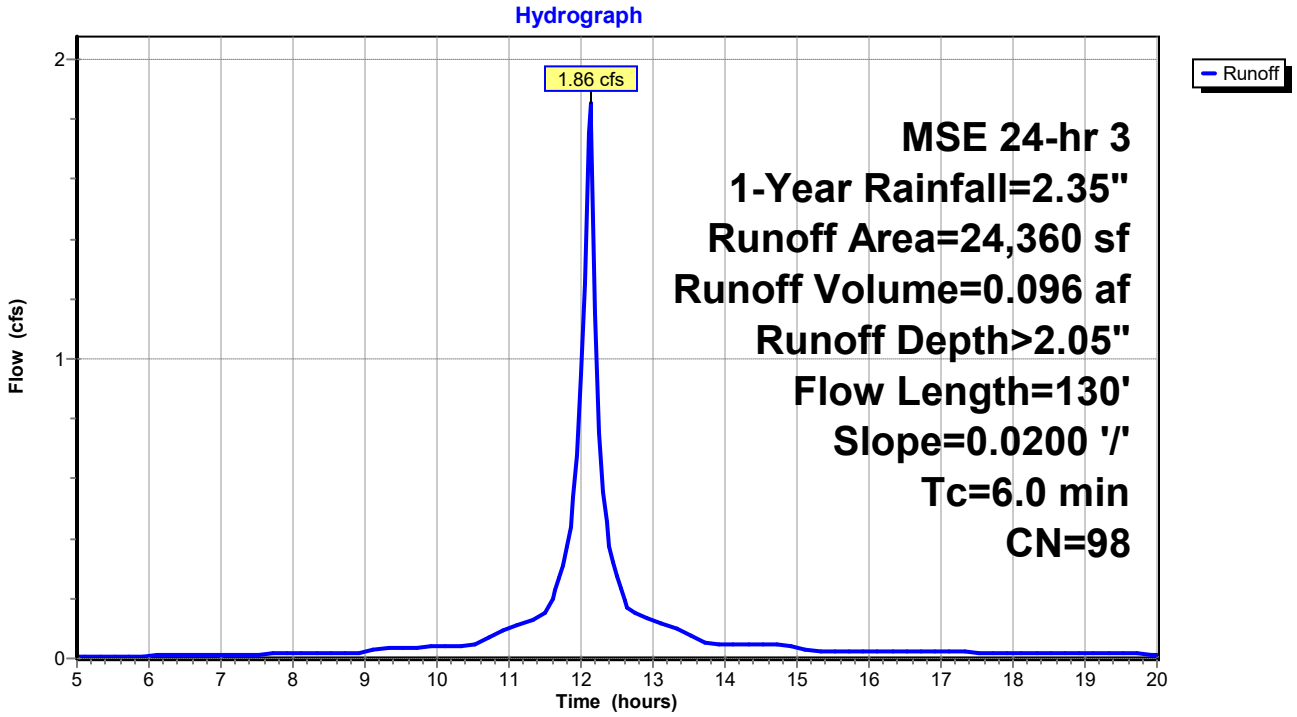
Pond A3: A3 Peak Elev=893.88' Inflow=11.93 cfs 0.612 af
18.0" Round Culvert n=0.011 L=55.0' S=0.0076 '/' Outflow=11.93 cfs 0.612 af

Pond P: EXISTING WET POND Peak Elev=888.96' Storage=35,778 cf Inflow=17.96 cfs 1.002 af
Primary=0.28 cfs 0.190 af Secondary=0.00 cfs 0.000 af Outflow=0.28 cfs 0.190 af

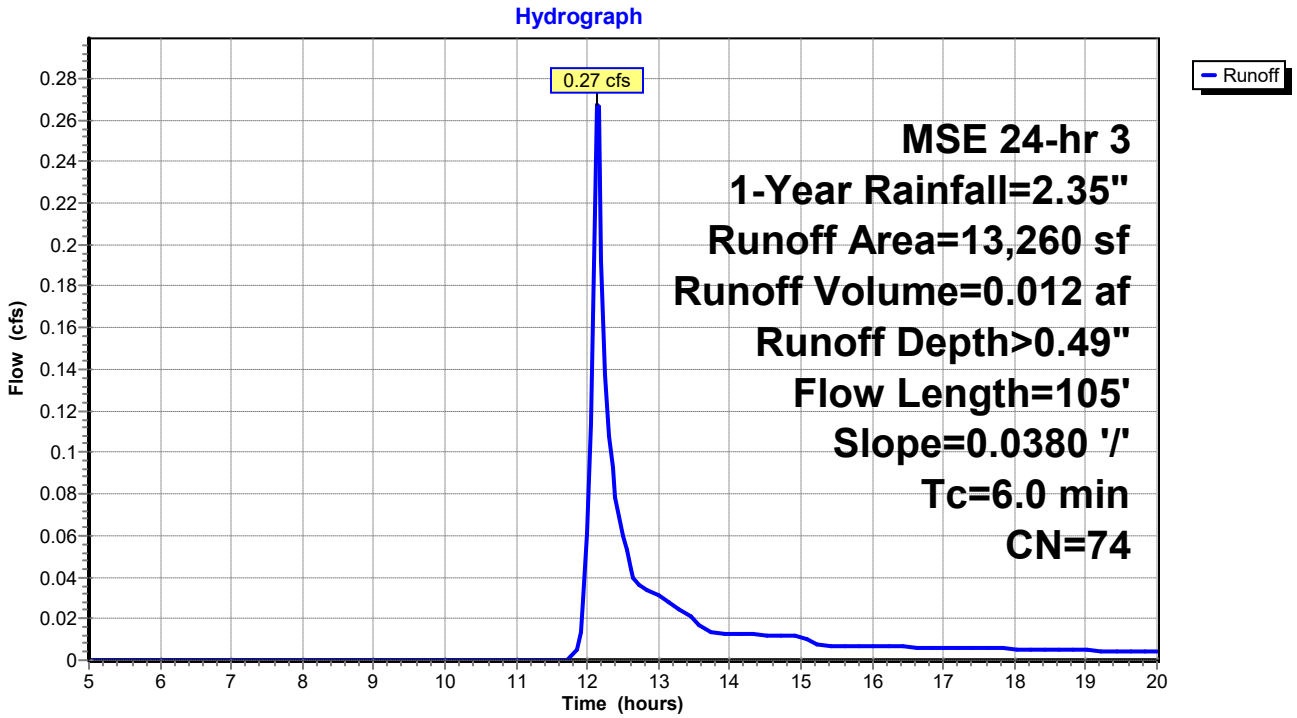
Link 3L: Link Inflow=0.28 cfs 0.190 af
Primary=0.28 cfs 0.190 af

Total Runoff Area = 9.900 ac Runoff Volume = 1.002 af Average Runoff Depth = 1.21"
52.16% Pervious = 5.164 ac 47.84% Impervious = 4.736 ac

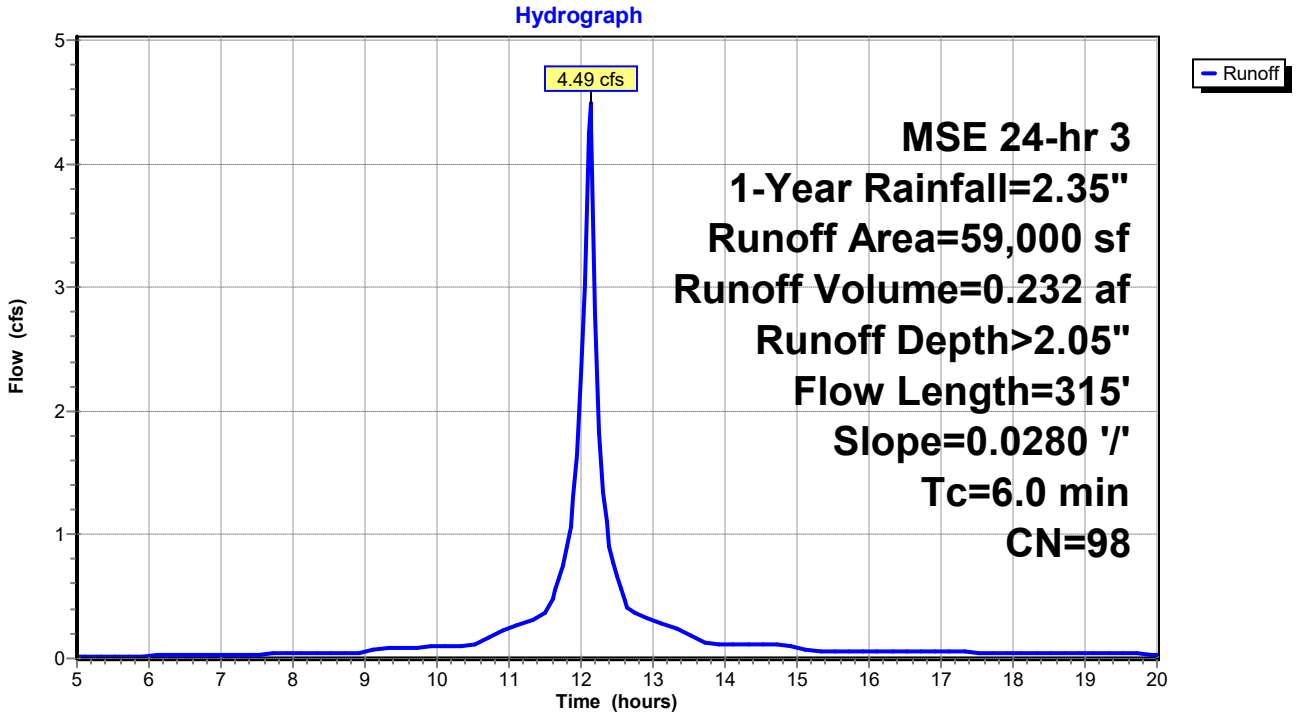
Subcatchment A1 I: A1



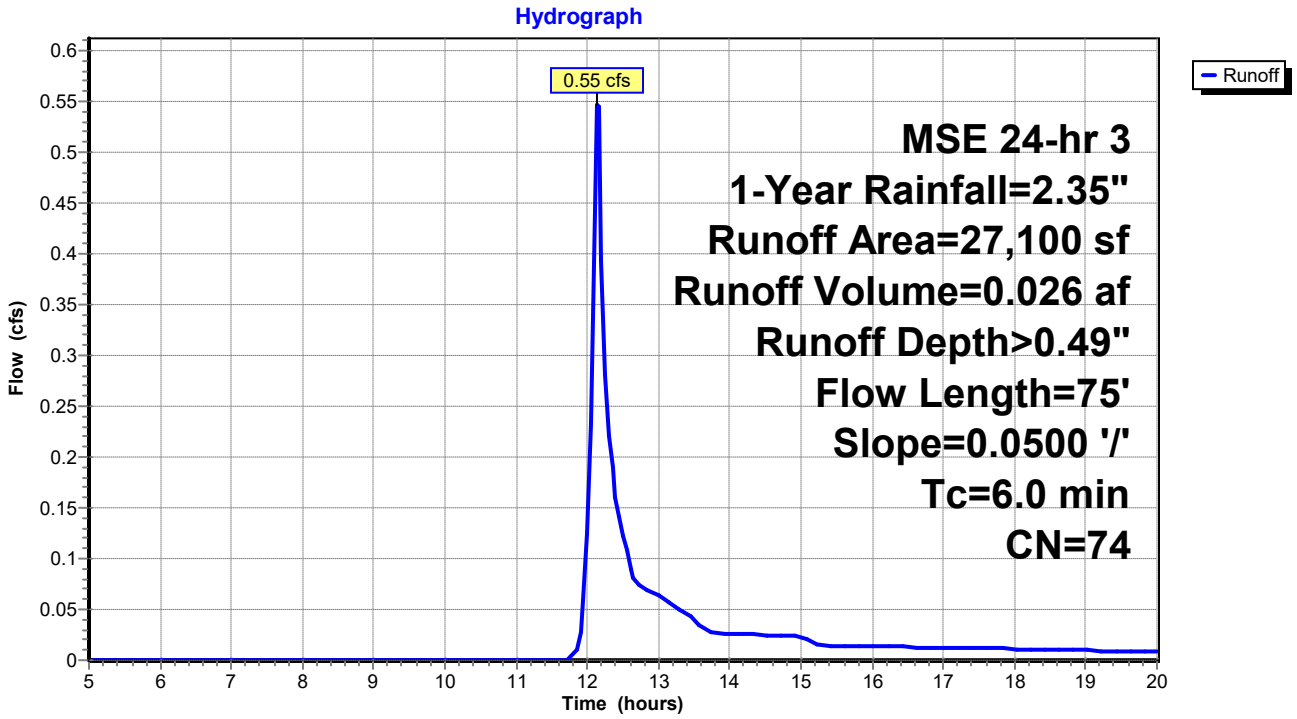
Subcatchment A1 P: A1



Subcatchment A2 I: A2



Subcatchment A2 P: A2



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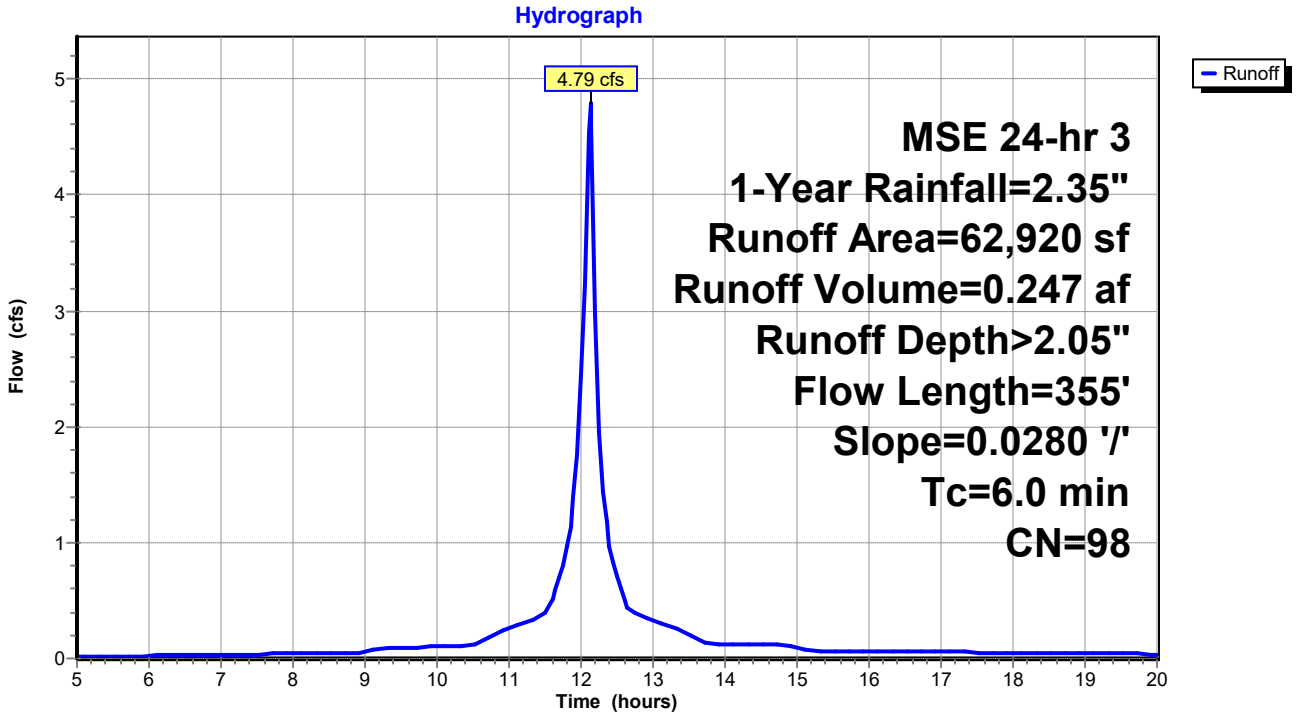
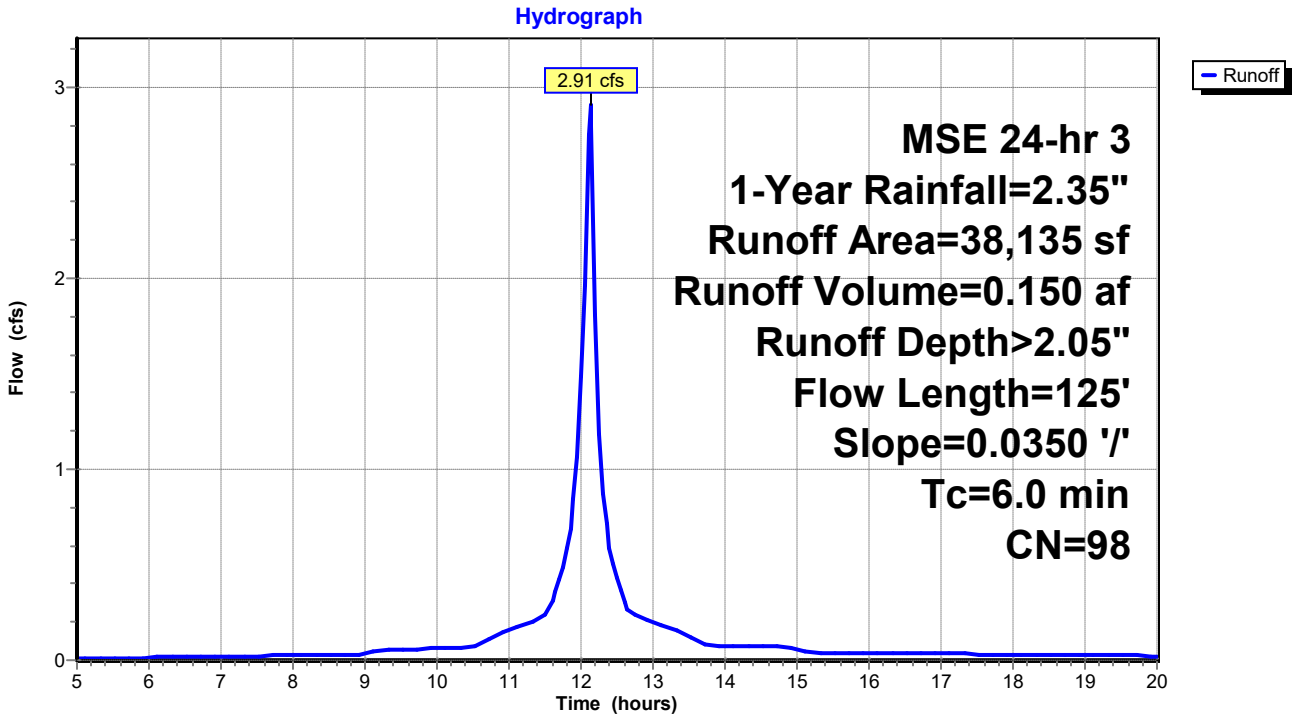
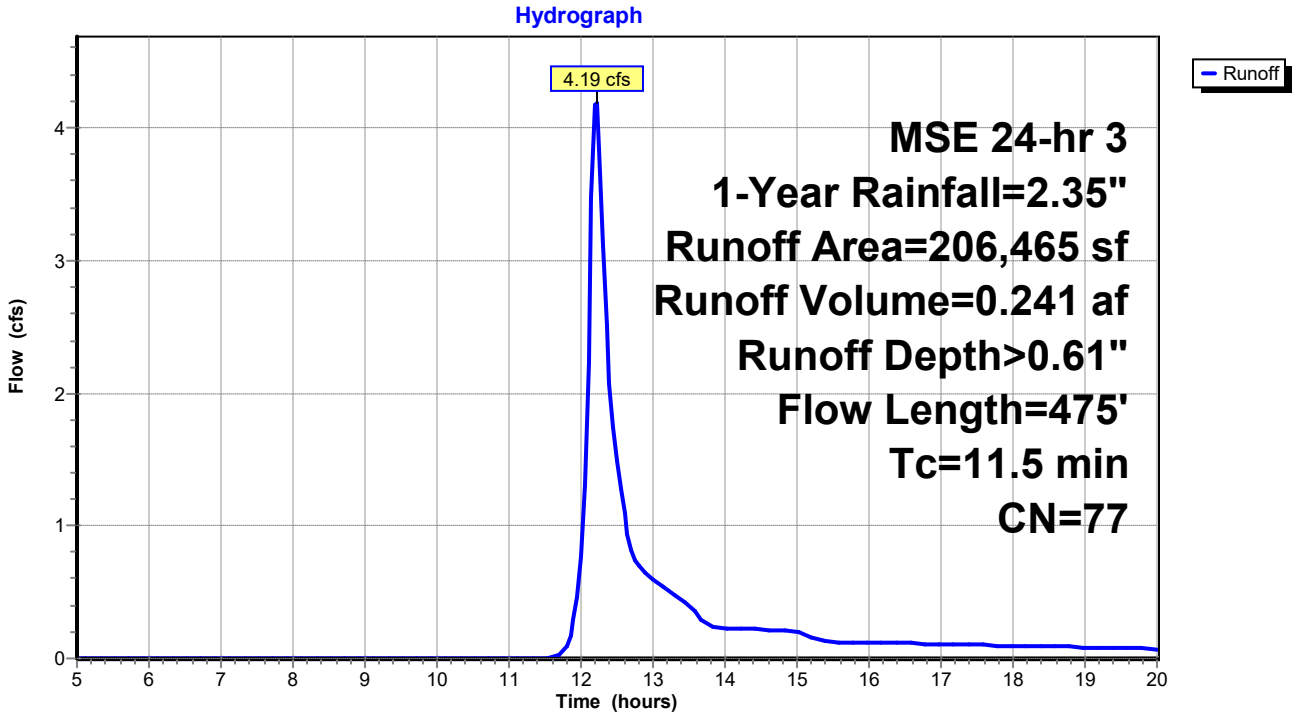


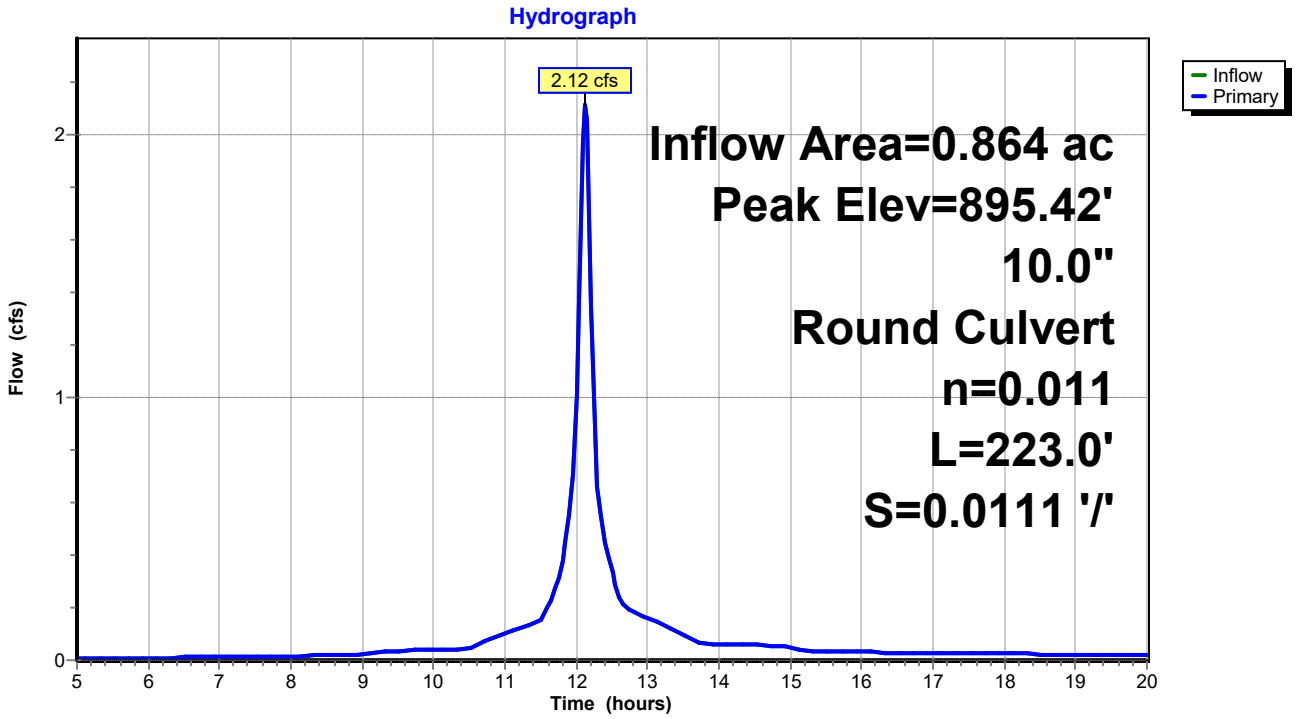
Subcatchment B1 I: B1



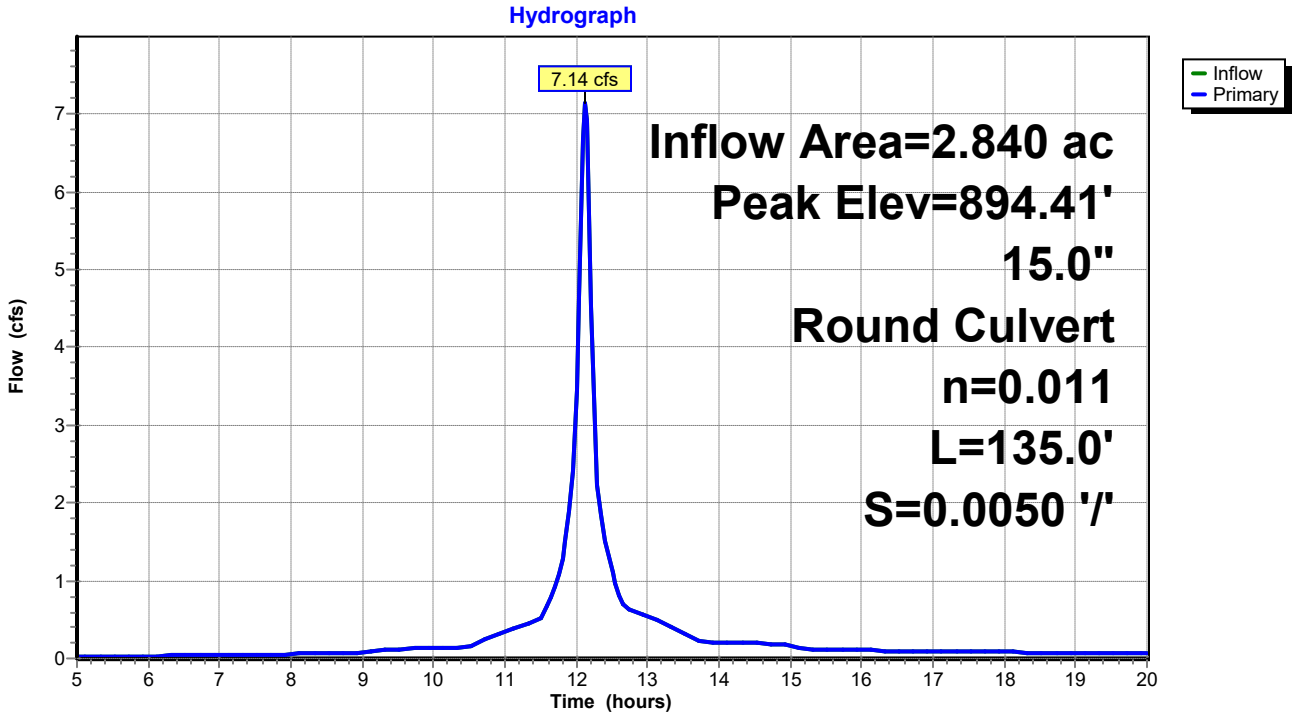
Subcatchment B1 P: B1



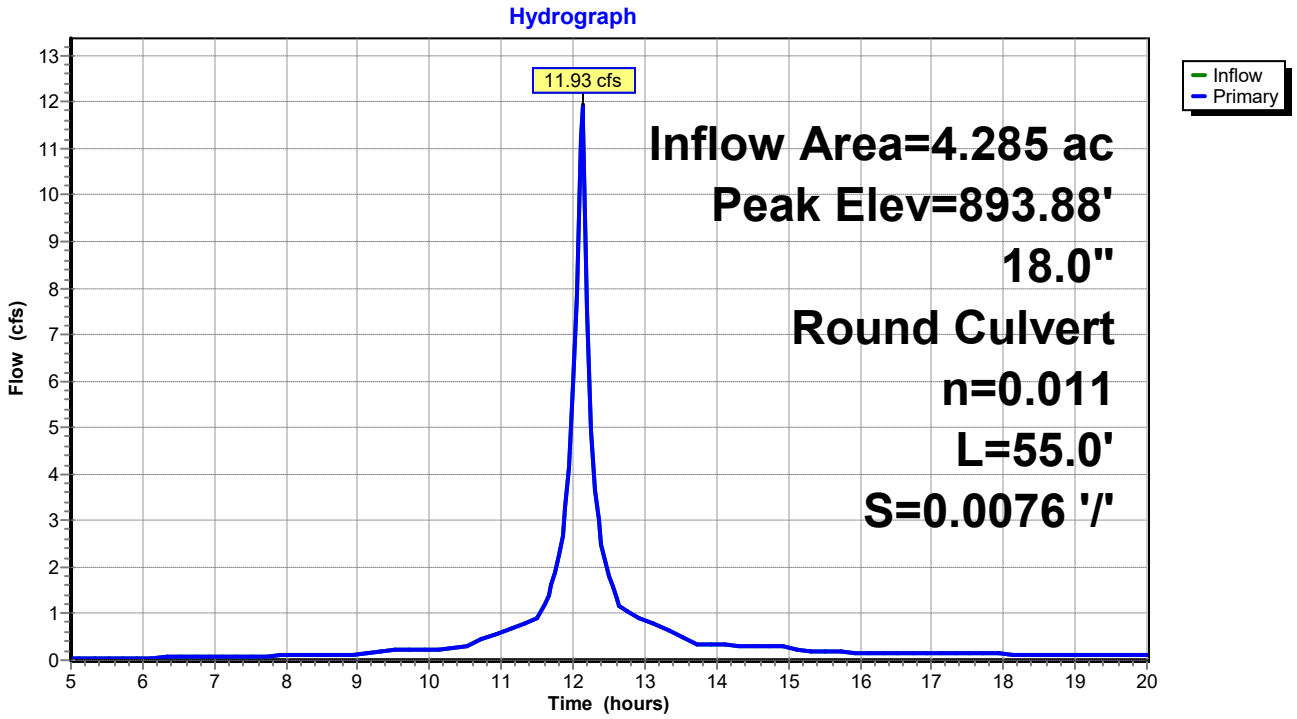
Pond A1: A1



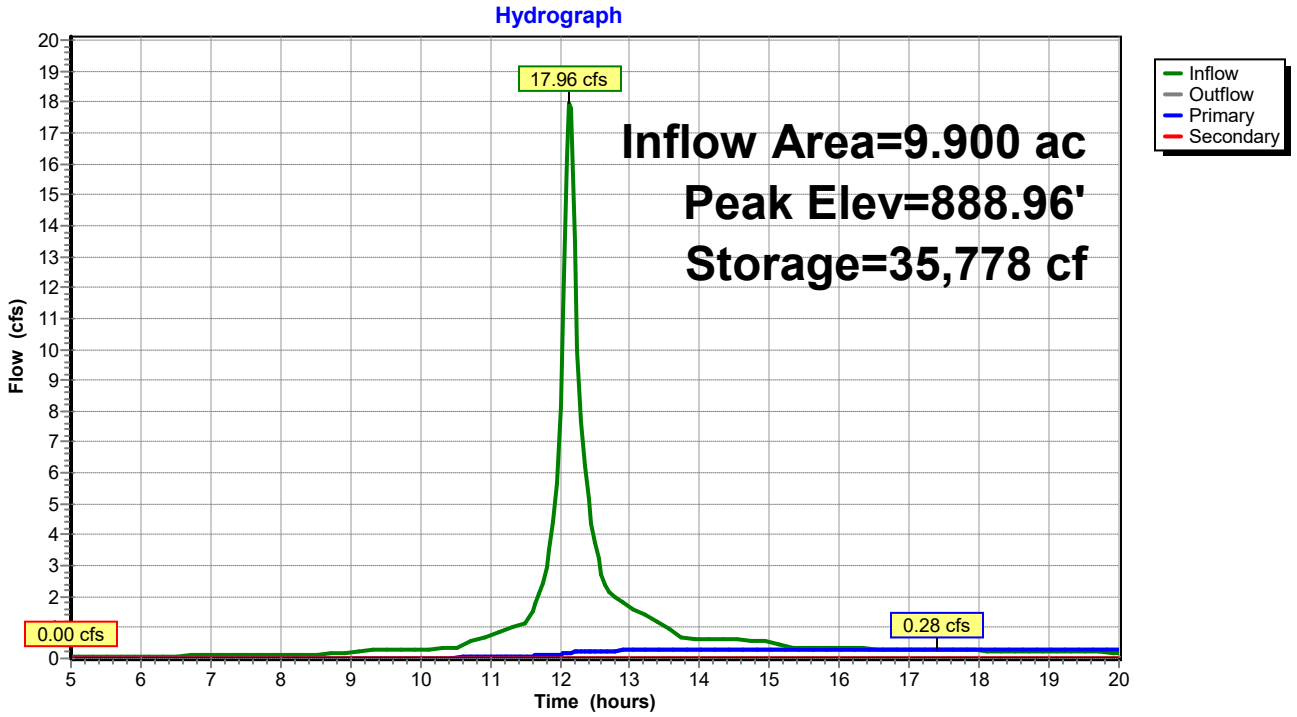
Pond A2: A2



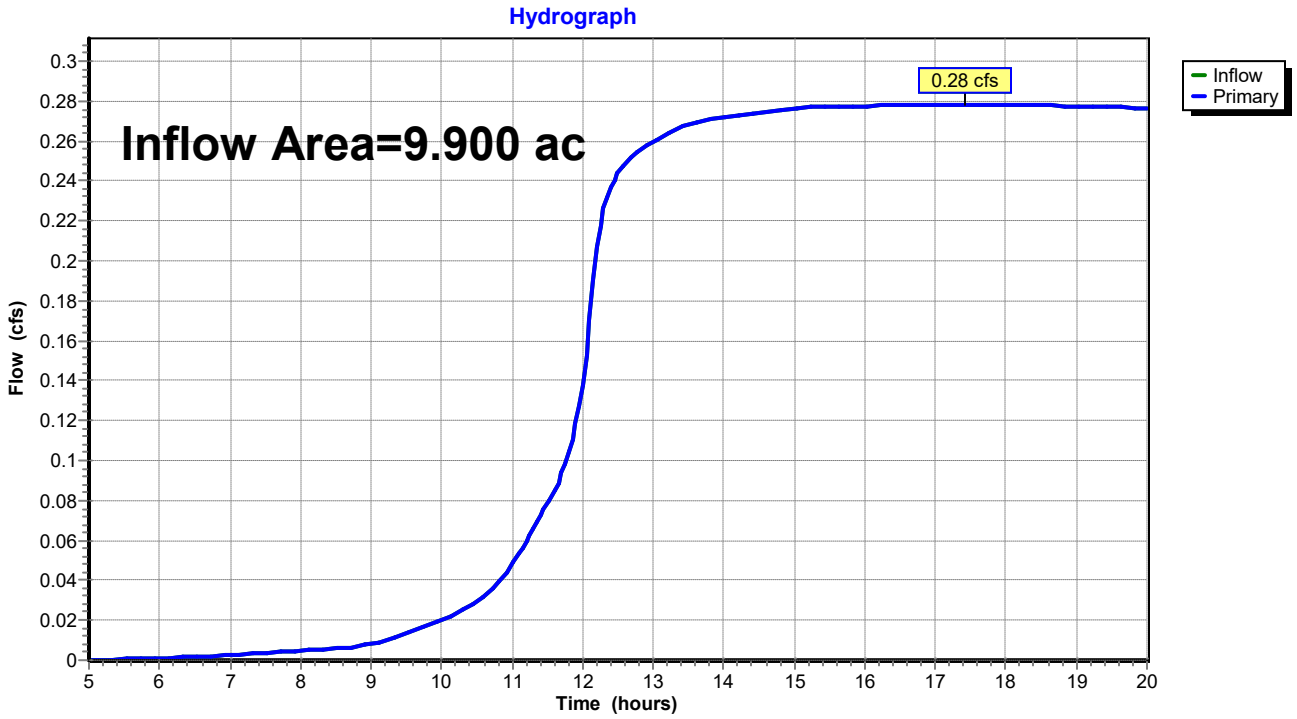
Pond A3: A3



Pond P: EXISTING WET POND



Link 3L: Link



Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment A1 I: A1 Runoff Area=24,360 sf 100.00% Impervious Runoff Depth>2.34"
Flow Length=130' Slope=0.0200 '/' Tc=6.0 min CN=98 Runoff=2.10 cfs 0.109 af

Subcatchment A1 P: A1 Runoff Area=13,260 sf 0.00% Impervious Runoff Depth>0.65"
Flow Length=105' Slope=0.0380 '/' Tc=6.0 min CN=74 Runoff=0.36 cfs 0.017 af

Subcatchment A2 I: A2 Runoff Area=59,000 sf 100.00% Impervious Runoff Depth>2.34"
Flow Length=315' Slope=0.0280 '/' Tc=6.0 min CN=98 Runoff=5.09 cfs 0.264 af

Subcatchment A2 P: A2 Runoff Area=27,100 sf 0.00% Impervious Runoff Depth>0.65"
Flow Length=75' Slope=0.0500 '/' Tc=6.0 min CN=74 Runoff=0.74 cfs 0.034 af

Subcatchment A3 I: A3 Runoff Area=62,920 sf 100.00% Impervious Runoff Depth>2.34"
Flow Length=355' Slope=0.0280 '/' Tc=6.0 min CN=98 Runoff=5.43 cfs 0.281 af

Subcatchment B1 I: B1 Runoff Area=38,135 sf 100.00% Impervious Runoff Depth>2.34"
Flow Length=125' Slope=0.0350 '/' Tc=6.0 min CN=98 Runoff=3.29 cfs 0.171 af

Subcatchment B1 P: B1 Runoff Area=206,465 sf 10.61% Impervious Runoff Depth>0.79"
Flow Length=475' Tc=11.5 min CN=77 Runoff=5.53 cfs 0.312 af

Pond A1: A1 Peak Elev=895.64' Inflow=2.46 cfs 0.126 af
10.0" Round Culvert n=0.011 L=223.0' S=0.0111 '/' Outflow=2.46 cfs 0.126 af

Pond A2: A2 Peak Elev=895.08' Inflow=8.28 cfs 0.423 af
15.0" Round Culvert n=0.011 L=135.0' S=0.0050 '/' Outflow=8.28 cfs 0.423 af

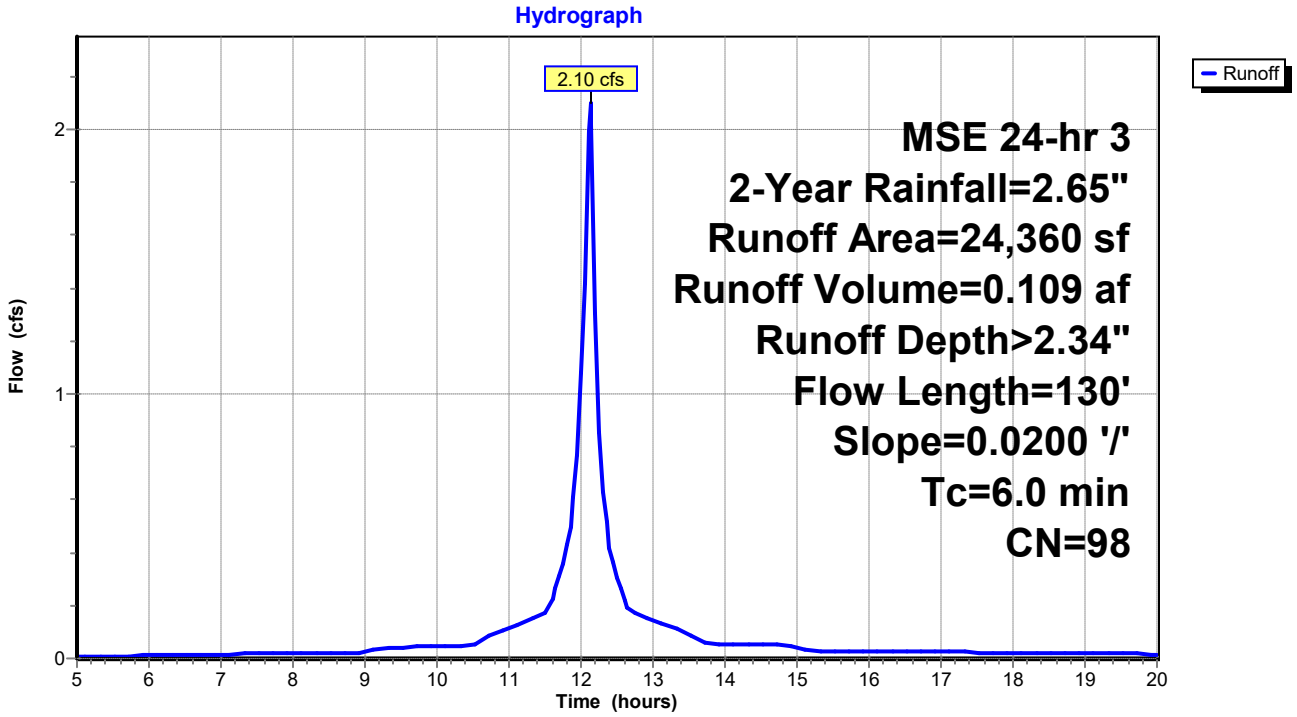
Pond A3: A3 Peak Elev=894.51' Inflow=13.71 cfs 0.705 af
18.0" Round Culvert n=0.011 L=55.0' S=0.0076 '/' Outflow=13.71 cfs 0.705 af

Pond P: EXISTING WET POND Peak Elev=889.23' Storage=42,858 cf Inflow=21.27 cfs 1.187 af
Primary=0.30 cfs 0.210 af Secondary=0.00 cfs 0.000 af Outflow=0.30 cfs 0.210 af

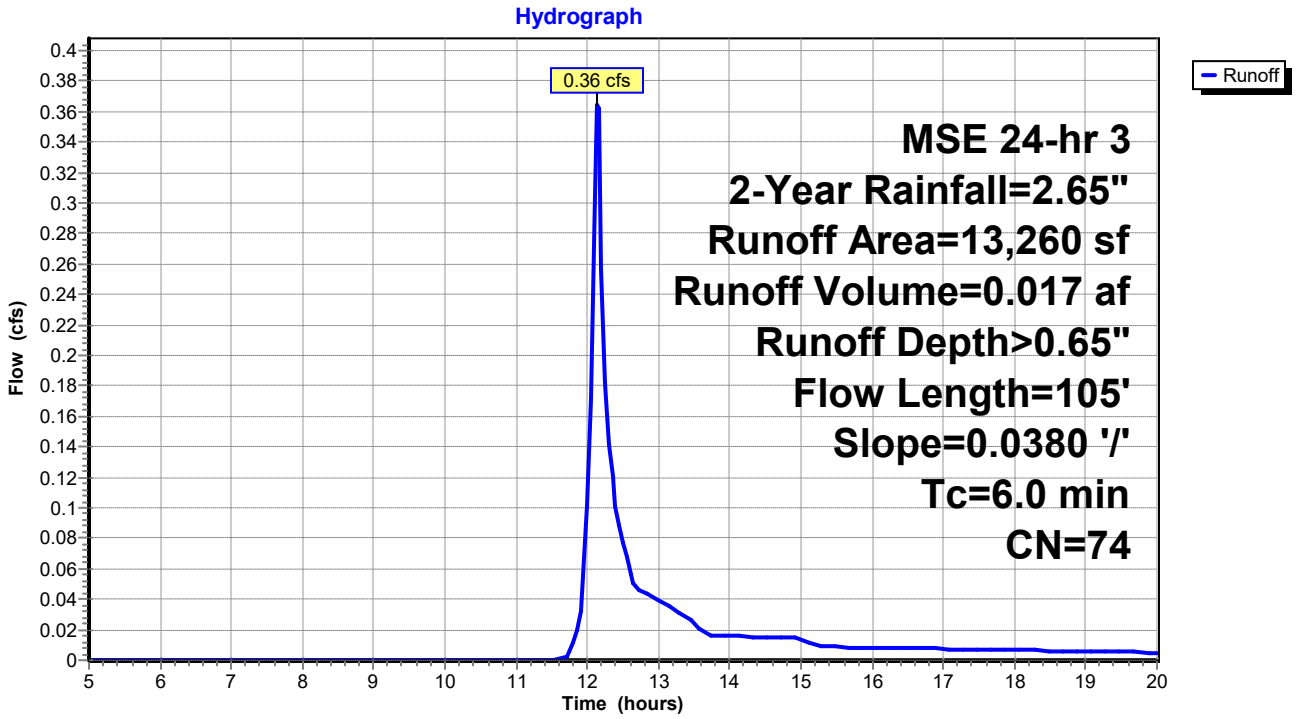
Link 3L: Link Inflow=0.30 cfs 0.210 af
Primary=0.30 cfs 0.210 af

Total Runoff Area = 9.900 ac Runoff Volume = 1.187 af Average Runoff Depth = 1.44"
52.16% Pervious = 5.164 ac 47.84% Impervious = 4.736 ac

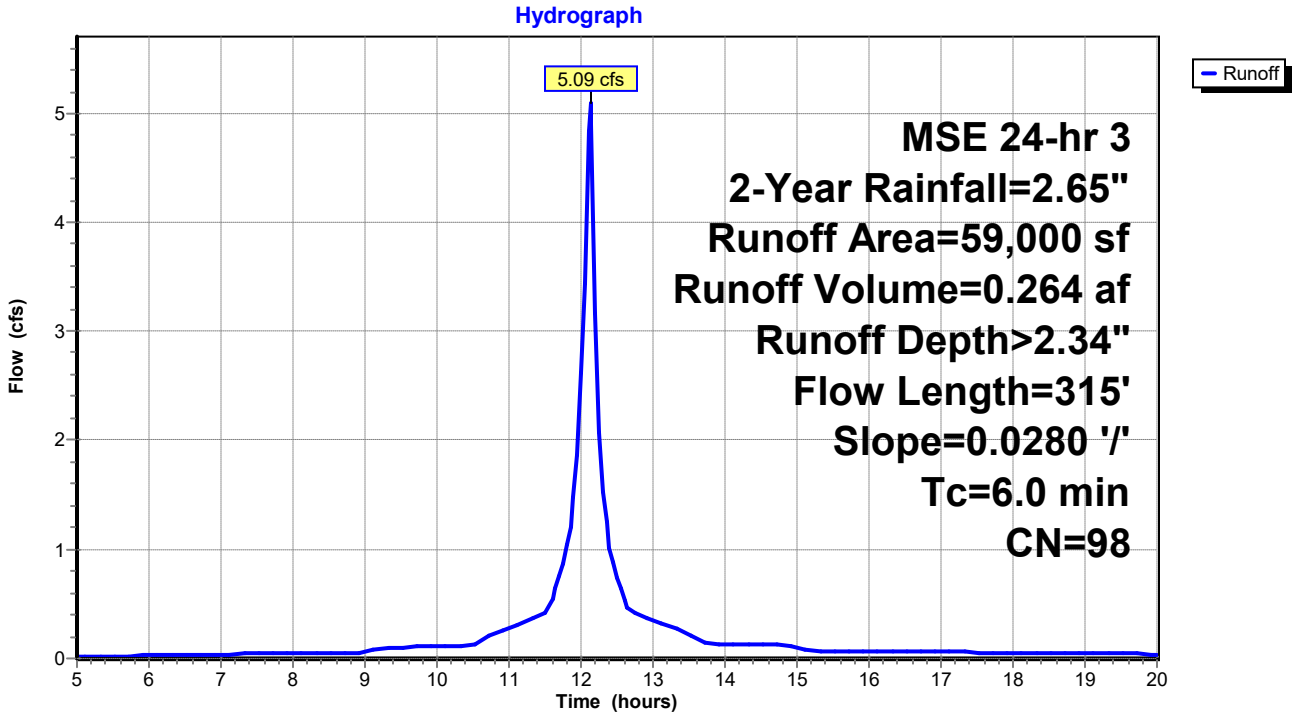
Subcatchment A1 I: A1



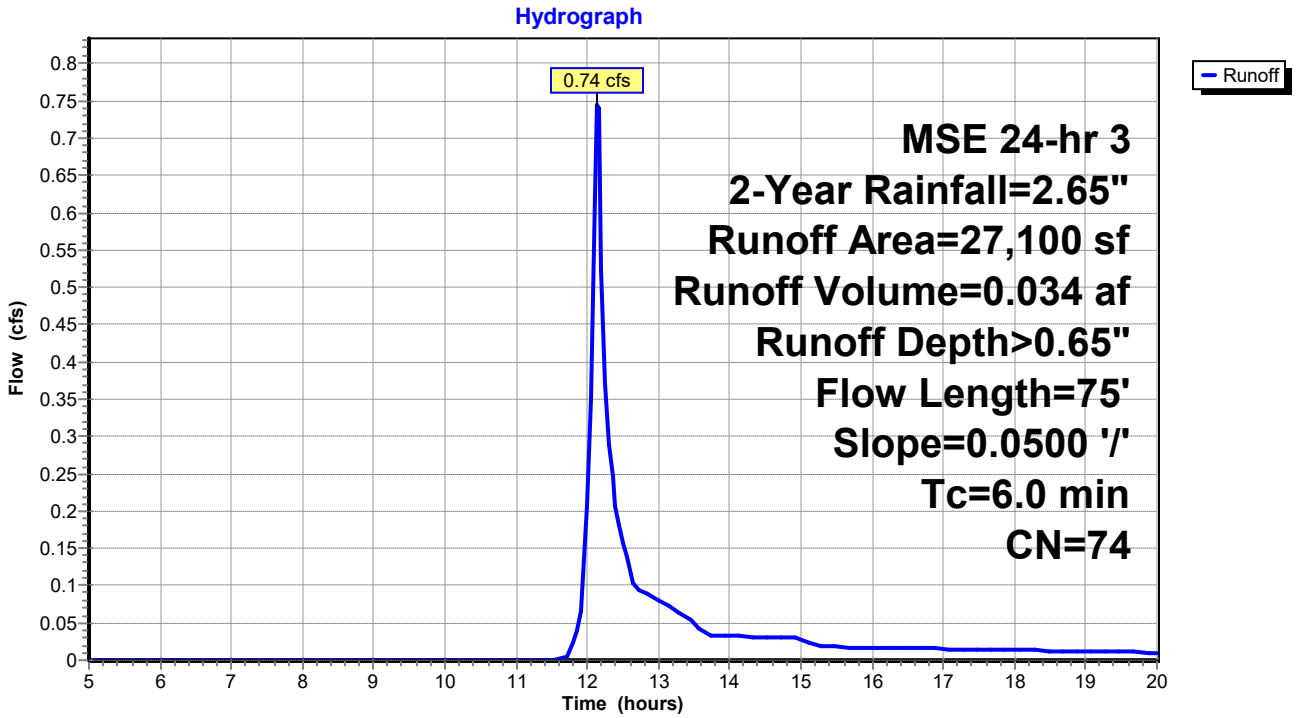
Subcatchment A1 P: A1



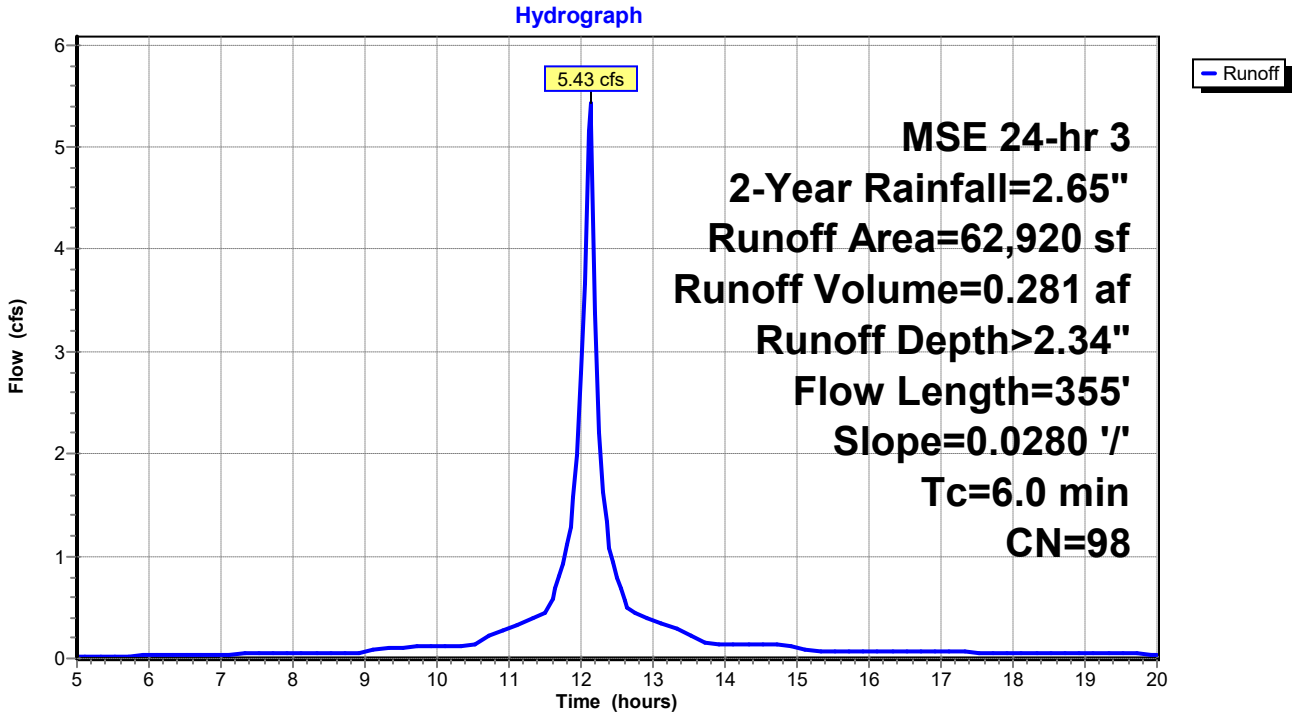
Subcatchment A2 I: A2



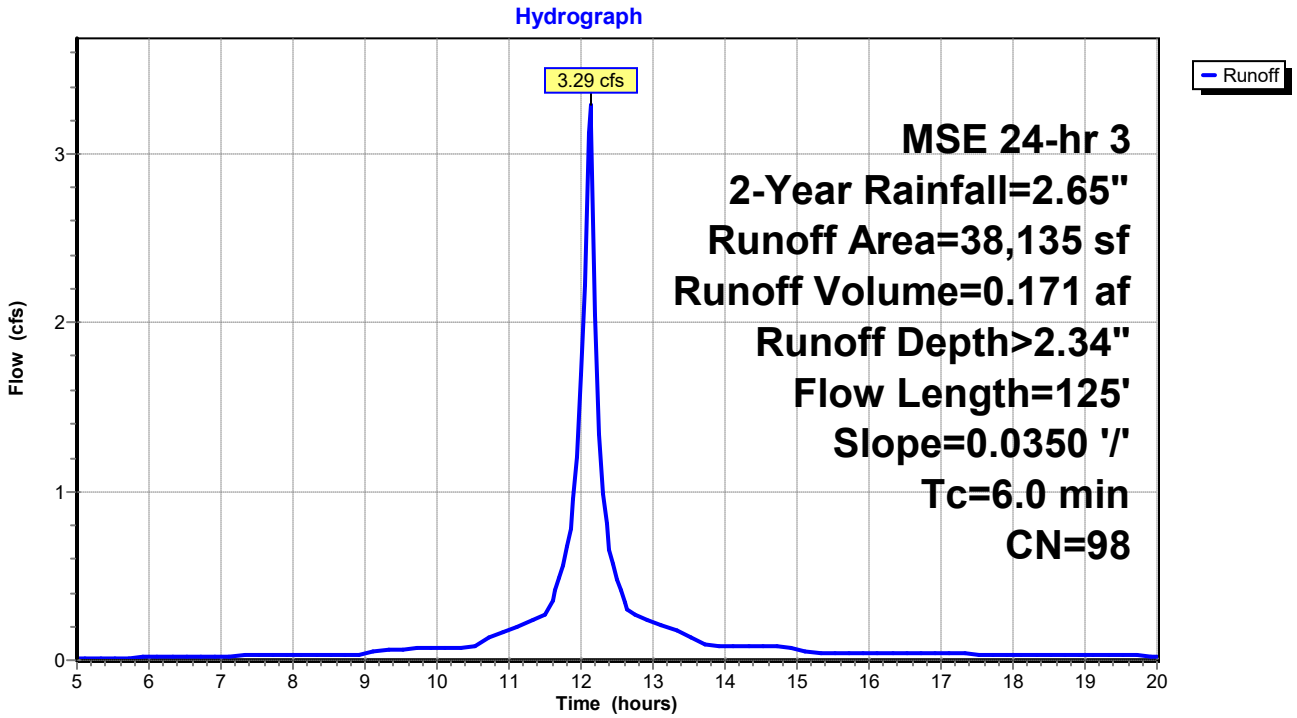
Subcatchment A2 P: A2



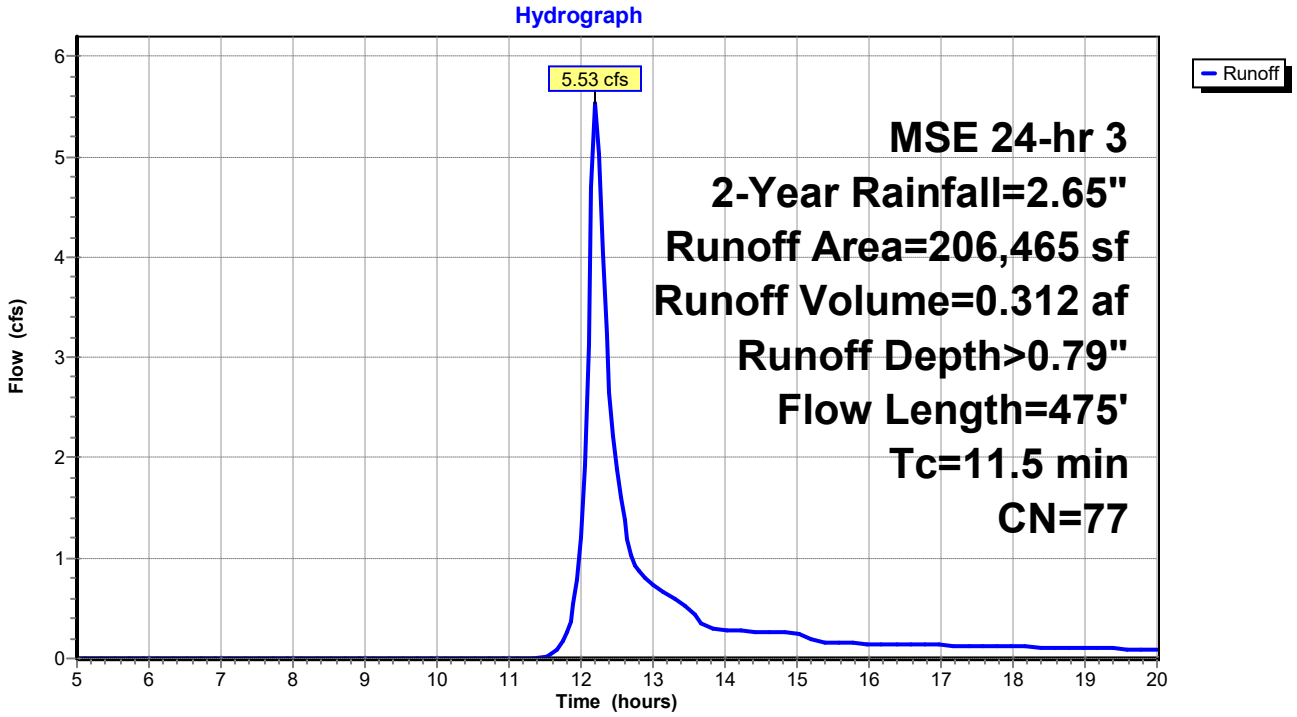
Subcatchment A3 I: A3



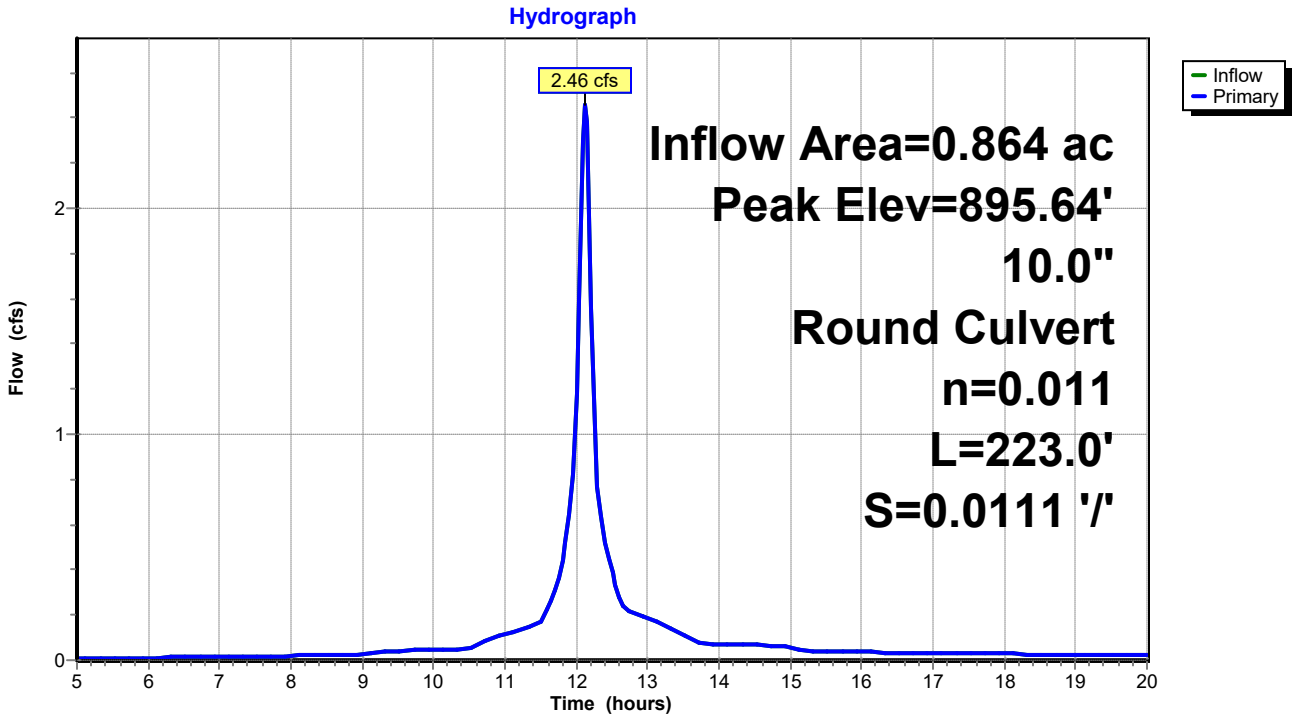
Subcatchment B1 I: B1



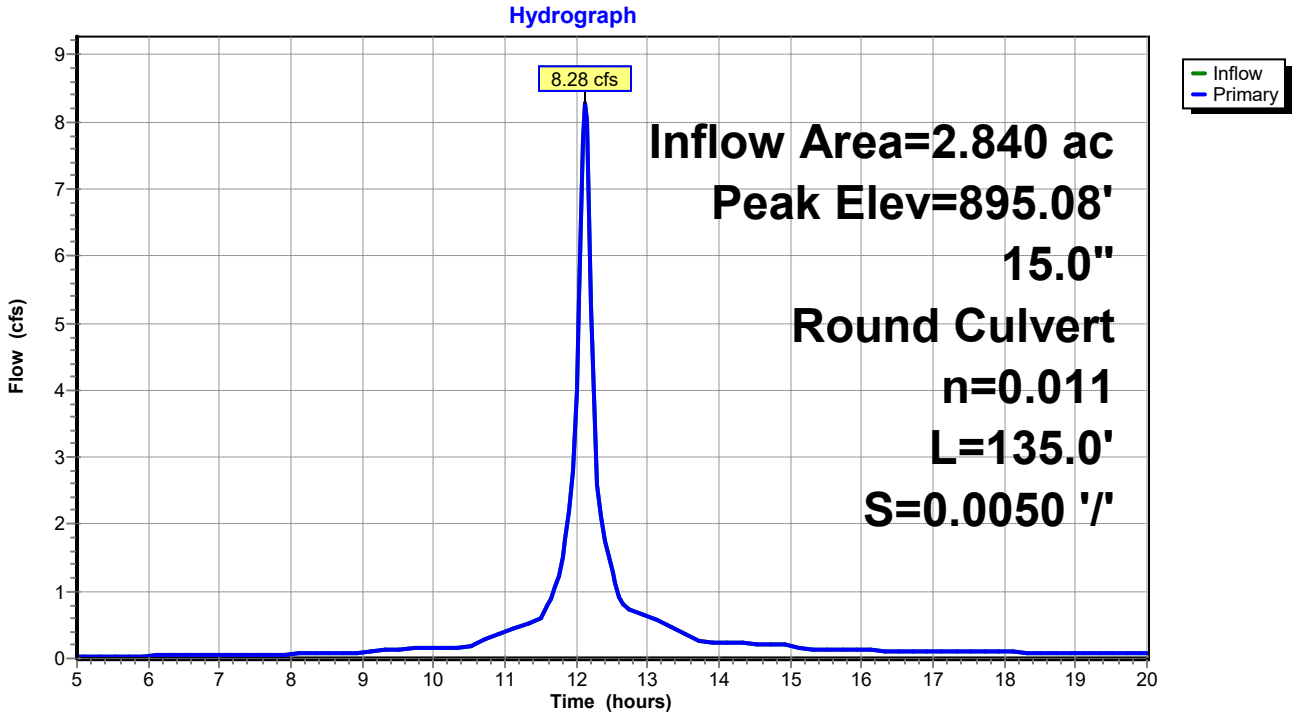
Subcatchment B1 P: B1



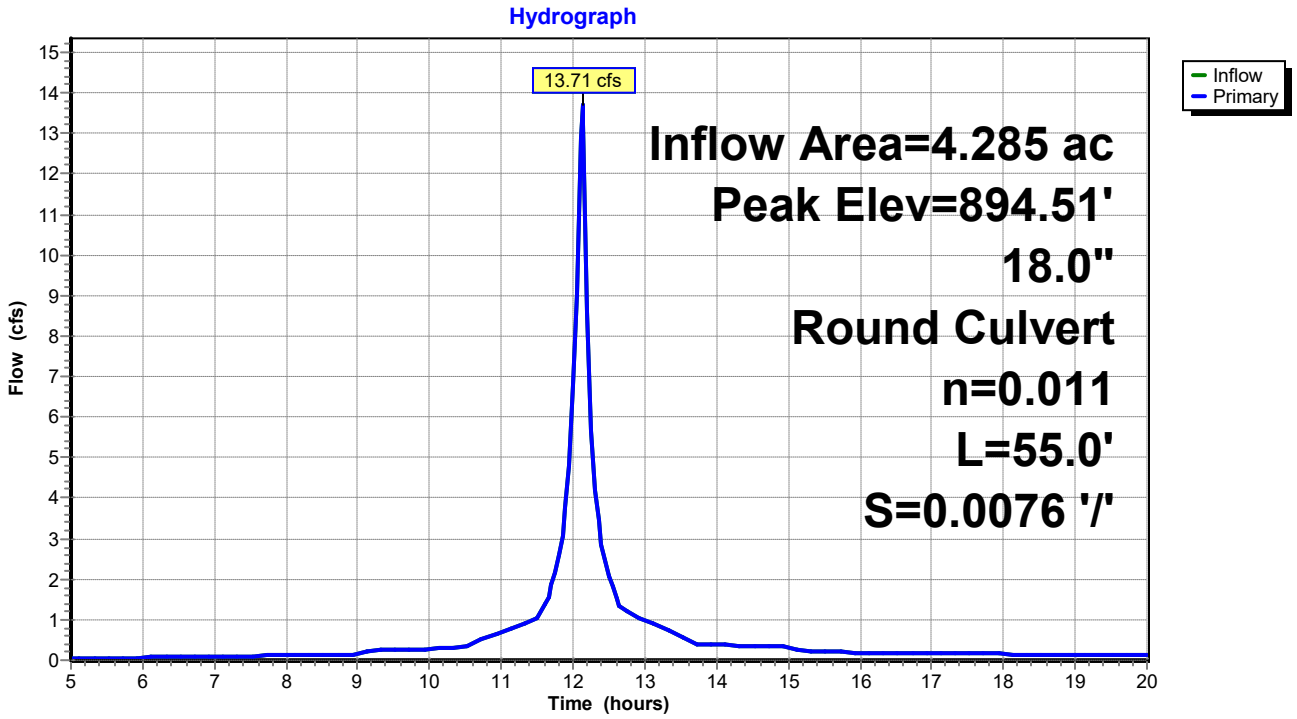
Pond A1: A1



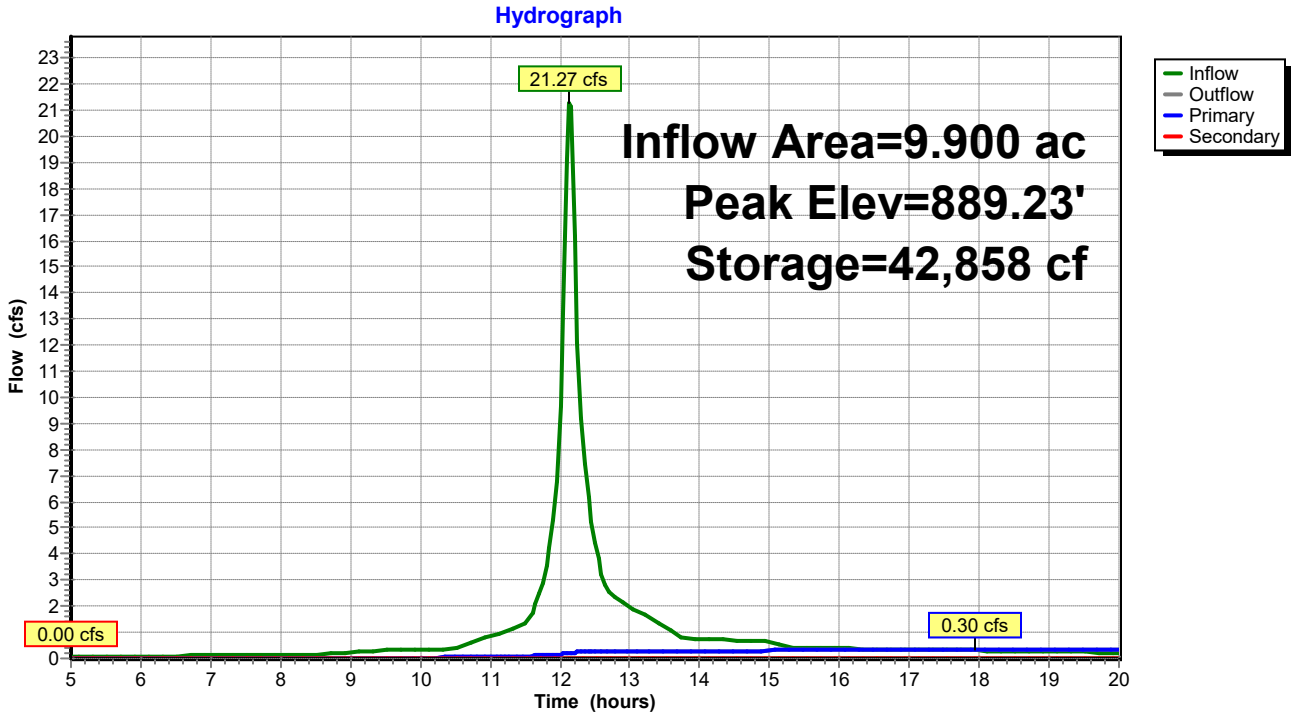
Pond A2: A2



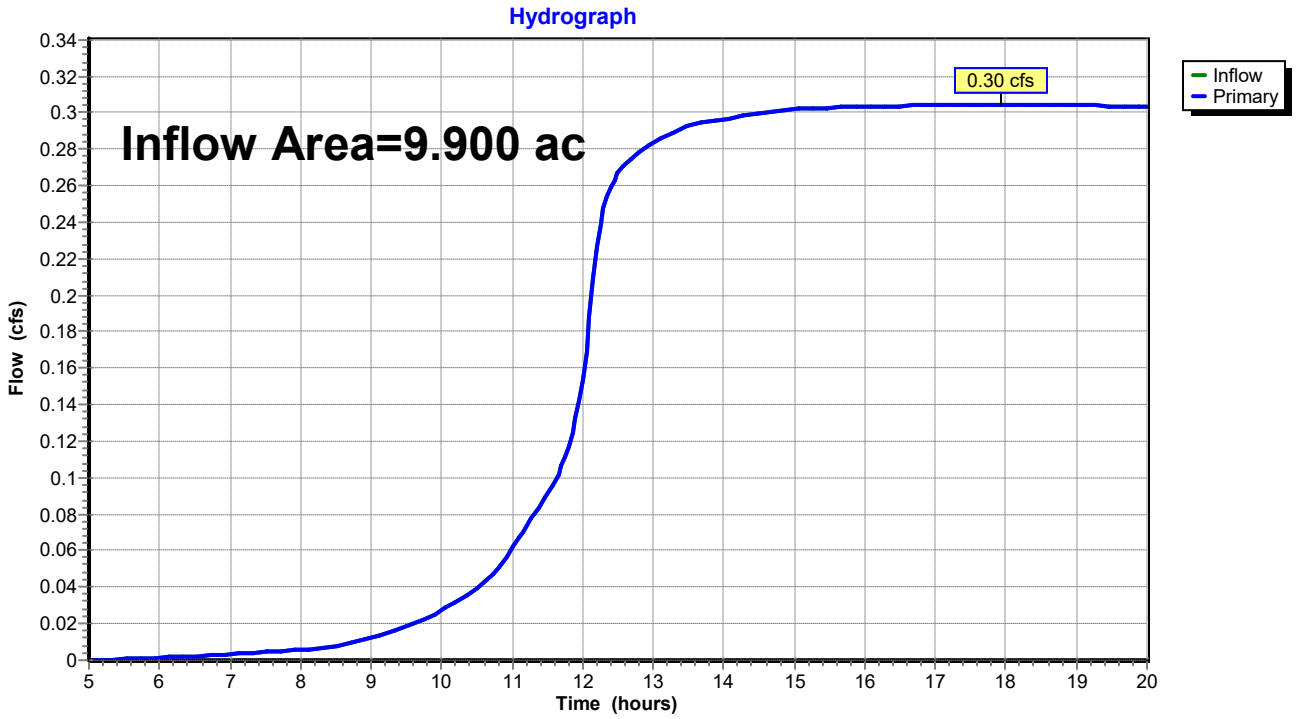
Pond A3: A3



Pond P: EXISTING WET POND



Link 3L: Link



Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment A1 I: A1 Runoff Area=24,360 sf 100.00% Impervious Runoff Depth>3.45"
Flow Length=130' Slope=0.0200 '/' Tc=6.0 min CN=98 Runoff=3.05 cfs 0.161 af

Subcatchment A1 P: A1 Runoff Area=13,260 sf 0.00% Impervious Runoff Depth>1.39"
Flow Length=105' Slope=0.0380 '/' Tc=6.0 min CN=74 Runoff=0.80 cfs 0.035 af

Subcatchment A2 I: A2 Runoff Area=59,000 sf 100.00% Impervious Runoff Depth>3.45"
Flow Length=315' Slope=0.0280 '/' Tc=6.0 min CN=98 Runoff=7.40 cfs 0.390 af

Subcatchment A2 P: A2 Runoff Area=27,100 sf 0.00% Impervious Runoff Depth>1.39"
Flow Length=75' Slope=0.0500 '/' Tc=6.0 min CN=74 Runoff=1.63 cfs 0.072 af

Subcatchment A3 I: A3 Runoff Area=62,920 sf 100.00% Impervious Runoff Depth>3.45"
Flow Length=355' Slope=0.0280 '/' Tc=6.0 min CN=98 Runoff=7.89 cfs 0.416 af

Subcatchment B1 I: B1 Runoff Area=38,135 sf 100.00% Impervious Runoff Depth>3.45"
Flow Length=125' Slope=0.0350 '/' Tc=6.0 min CN=98 Runoff=4.78 cfs 0.252 af

Subcatchment B1 P: B1 Runoff Area=206,465 sf 10.61% Impervious Runoff Depth>1.59"
Flow Length=475' Tc=11.5 min CN=77 Runoff=11.43 cfs 0.629 af

Pond A1: A1 Peak Elev=898.67' Inflow=3.85 cfs 0.196 af
10.0" Round Culvert n=0.011 L=223.0' S=0.0111 '/' Outflow=3.85 cfs 0.196 af

Pond A2: A2 Peak Elev=898.77' Inflow=12.87 cfs 0.658 af
15.0" Round Culvert n=0.011 L=135.0' S=0.0050 '/' Outflow=12.87 cfs 0.658 af

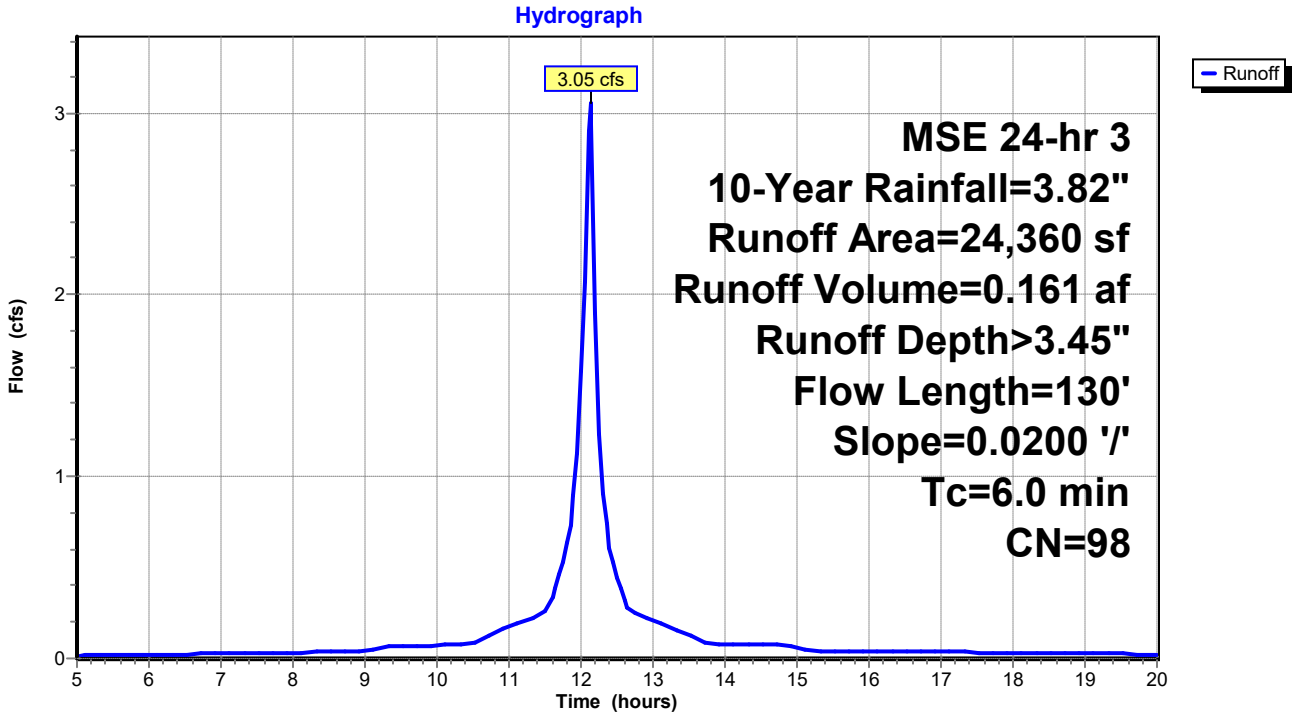
Pond A3: A3 Peak Elev=897.81' Inflow=20.76 cfs 1.074 af
18.0" Round Culvert n=0.011 L=55.0' S=0.0076 '/' Outflow=20.76 cfs 1.074 af

Pond P: EXISTING WET POND Peak Elev=890.32' Storage=73,139 cf Inflow=34.93 cfs 1.954 af
Primary=0.39 cfs 0.276 af Secondary=0.00 cfs 0.000 af Outflow=0.39 cfs 0.276 af

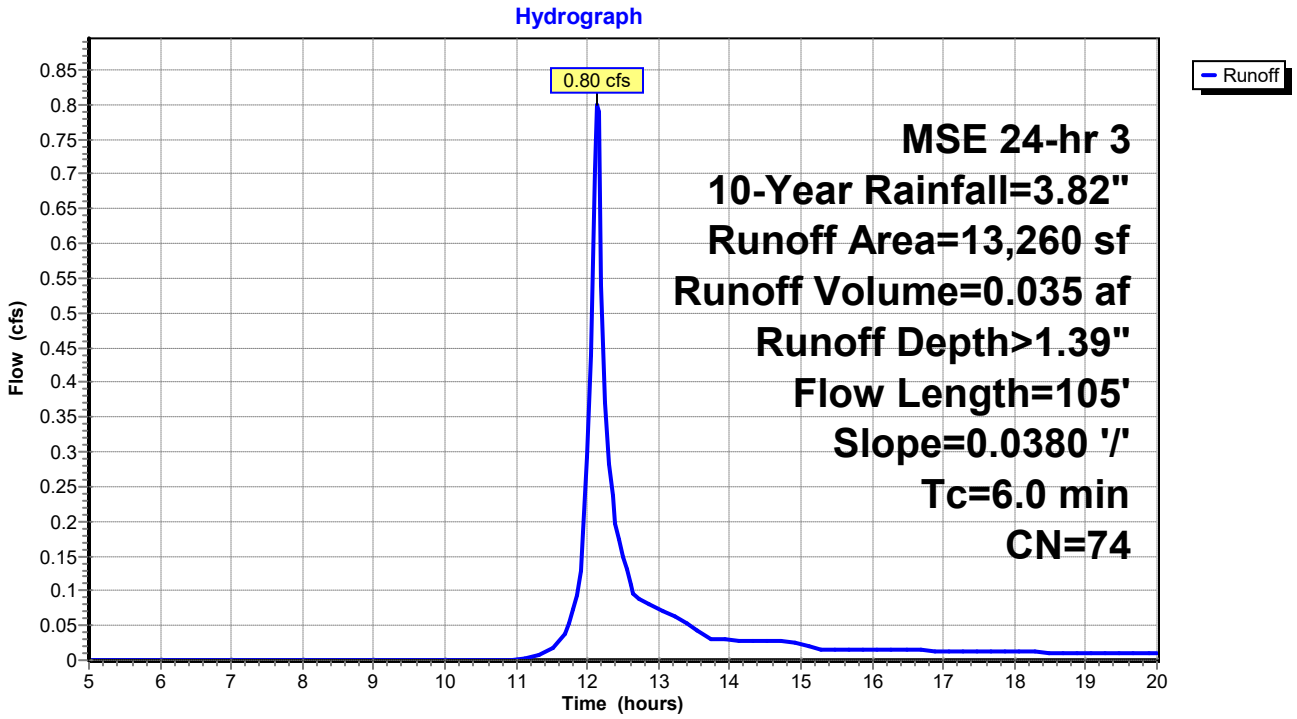
Link 3L: Link Inflow=0.39 cfs 0.276 af
Primary=0.39 cfs 0.276 af

Total Runoff Area = 9.900 ac Runoff Volume = 1.954 af Average Runoff Depth = 2.37"
52.16% Pervious = 5.164 ac 47.84% Impervious = 4.736 ac

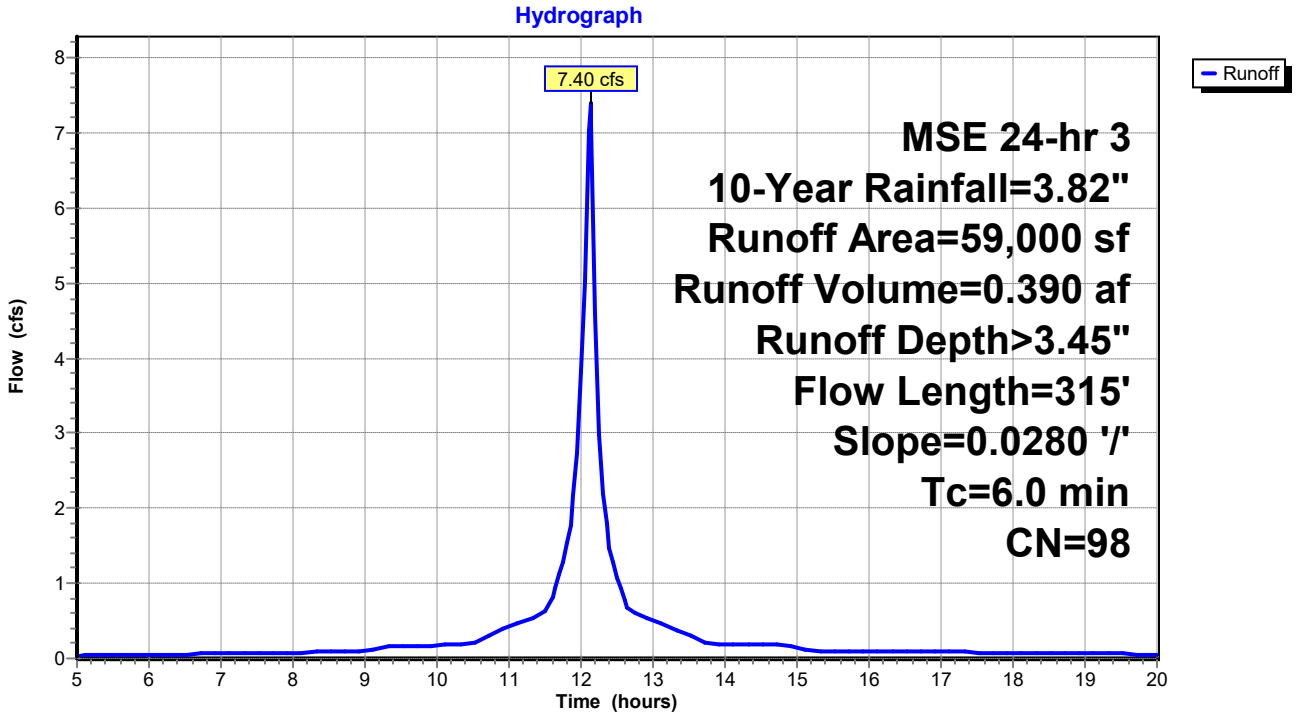
Subcatchment A1 I: A1



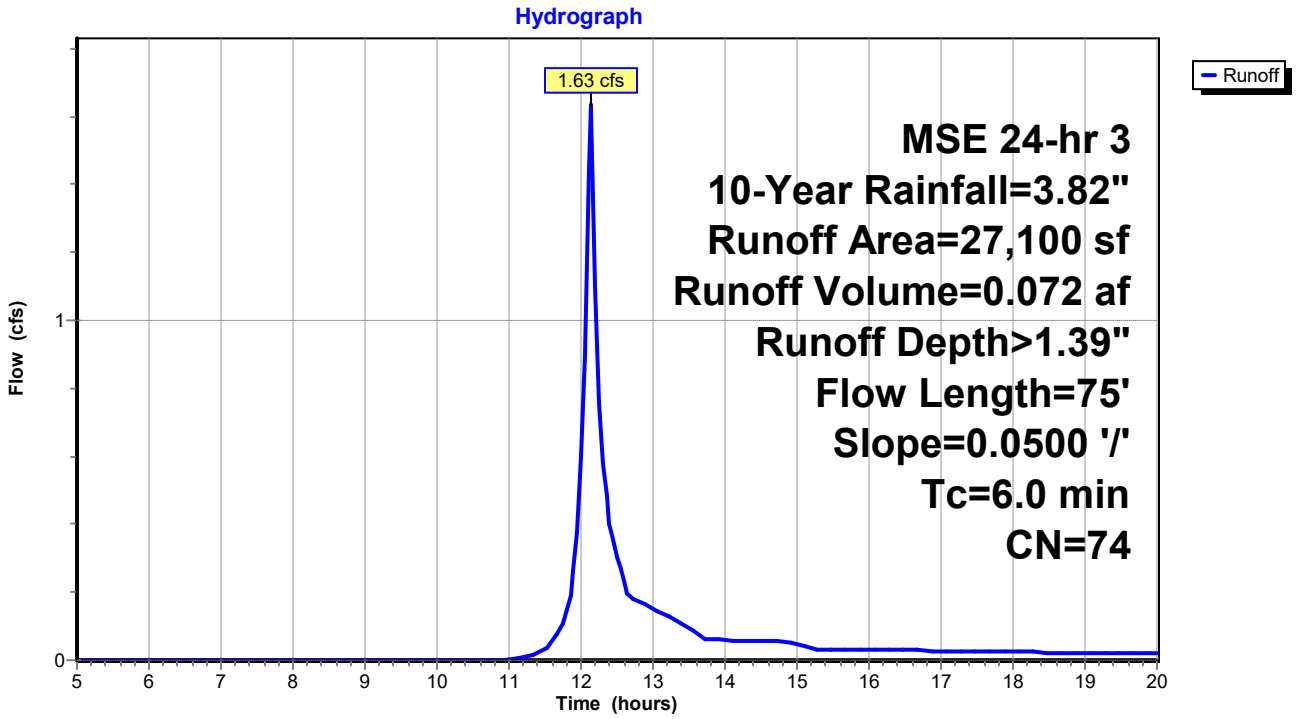
Subcatchment A1 P: A1



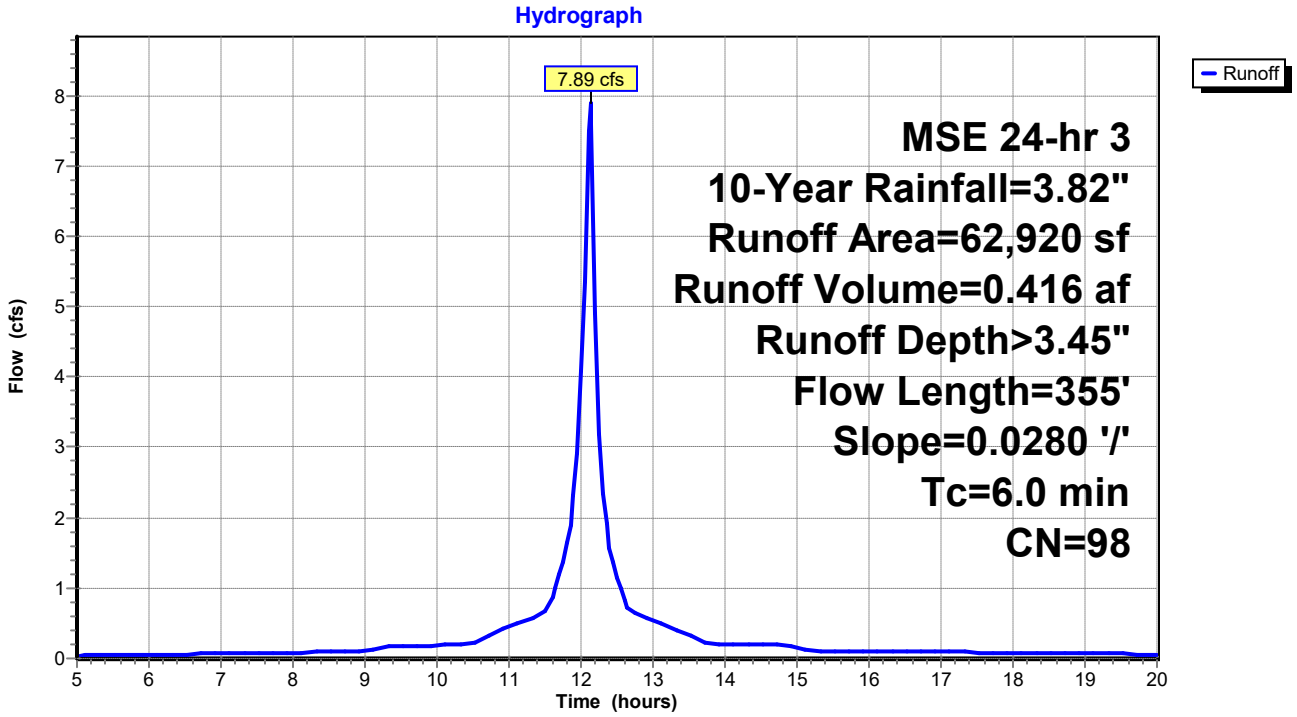
Subcatchment A2 I: A2



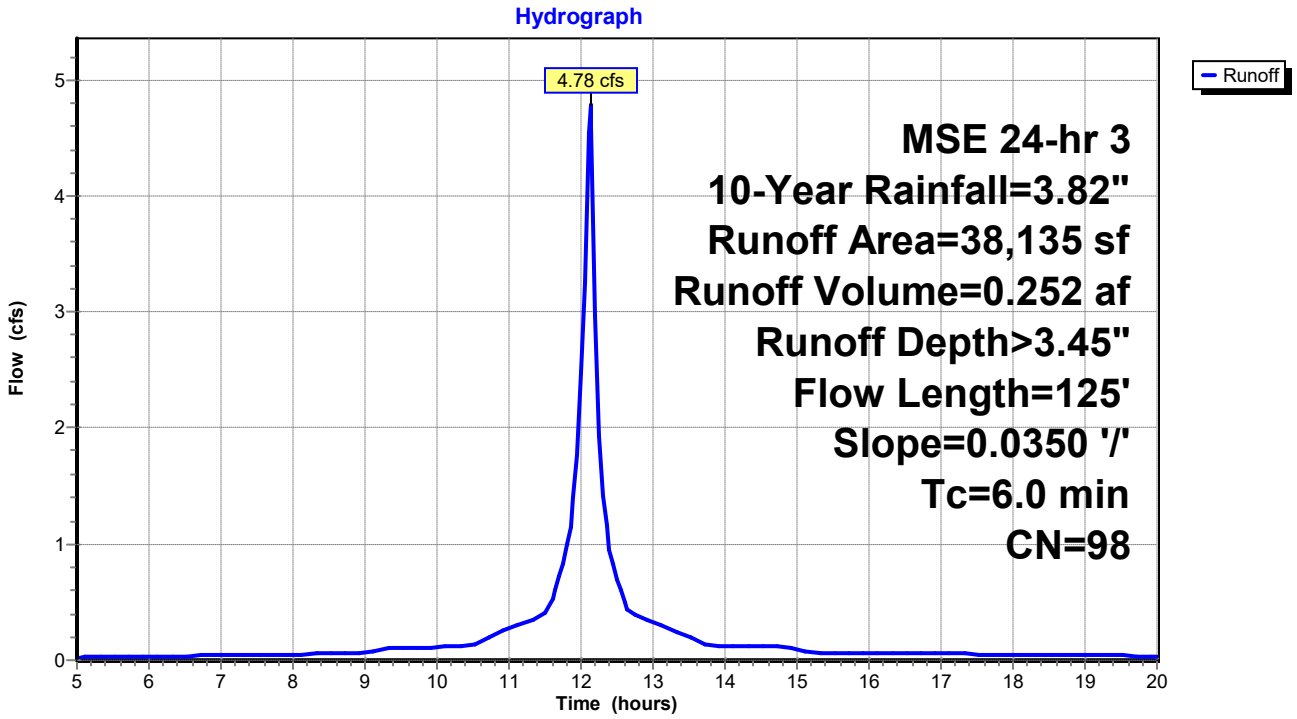
Subcatchment A2 P: A2



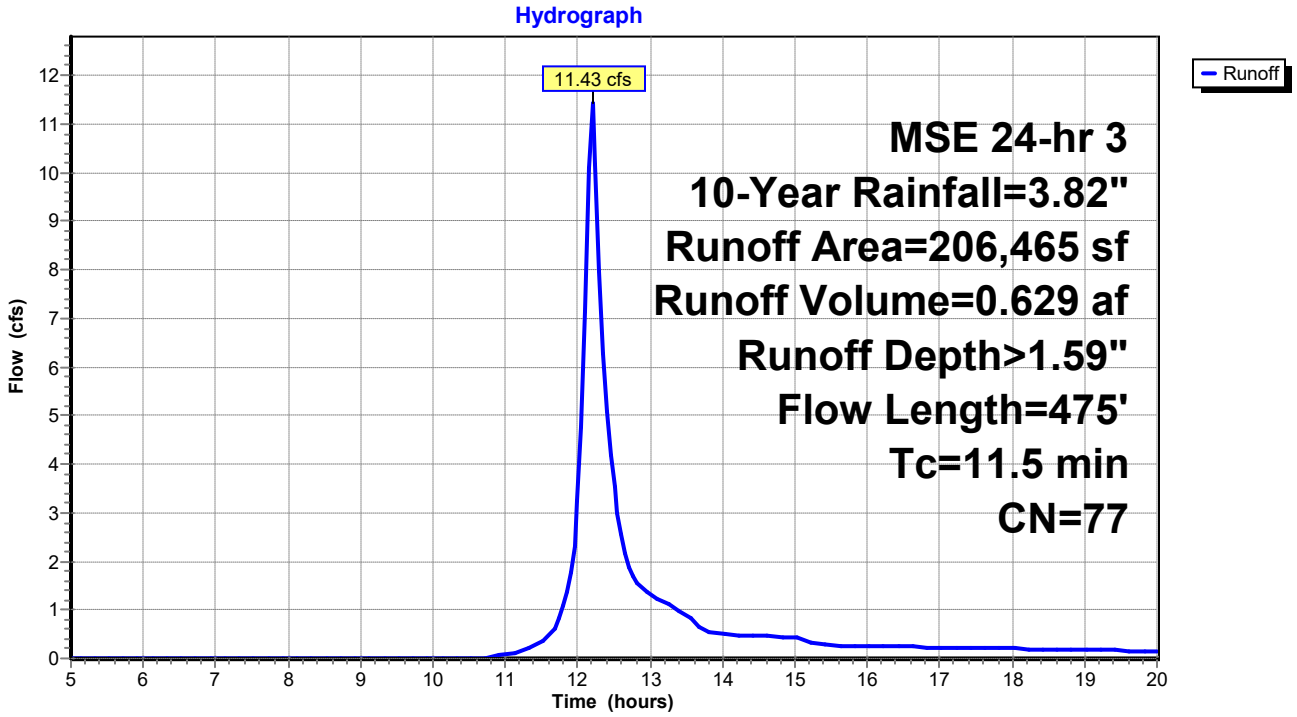
Subcatchment A3 l: A3



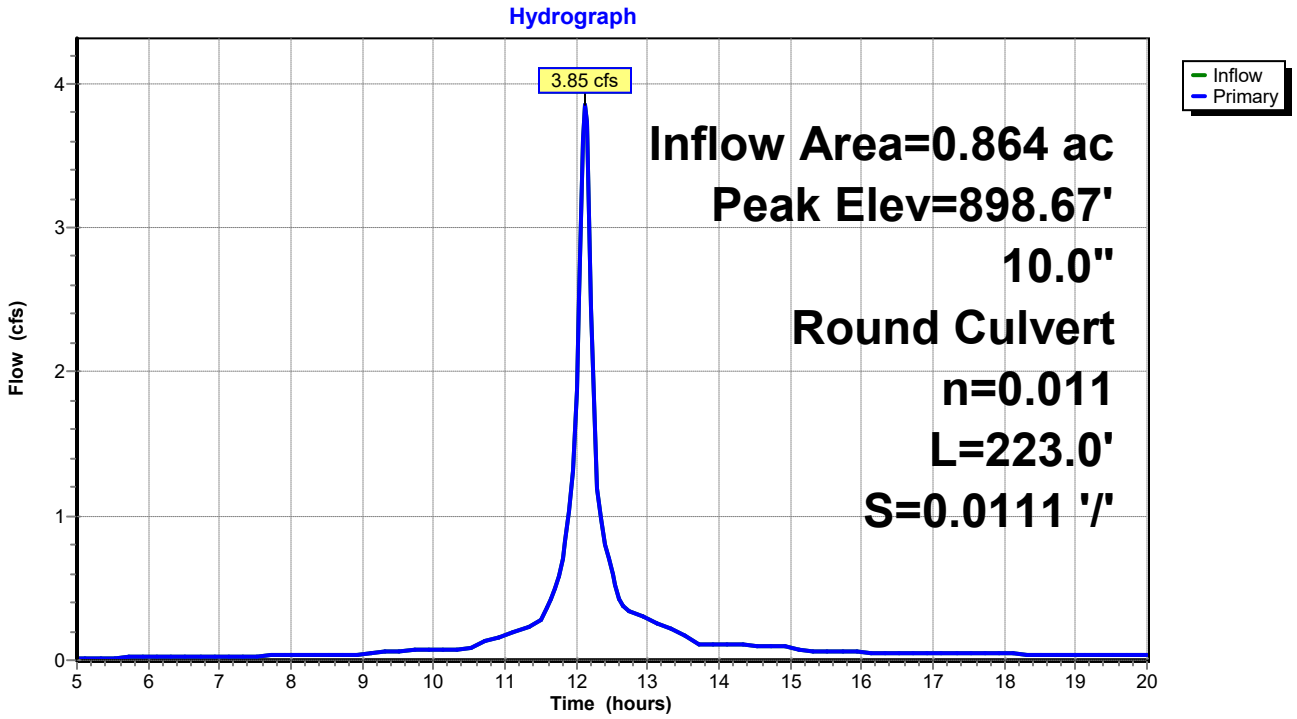
Subcatchment B1 l: B1



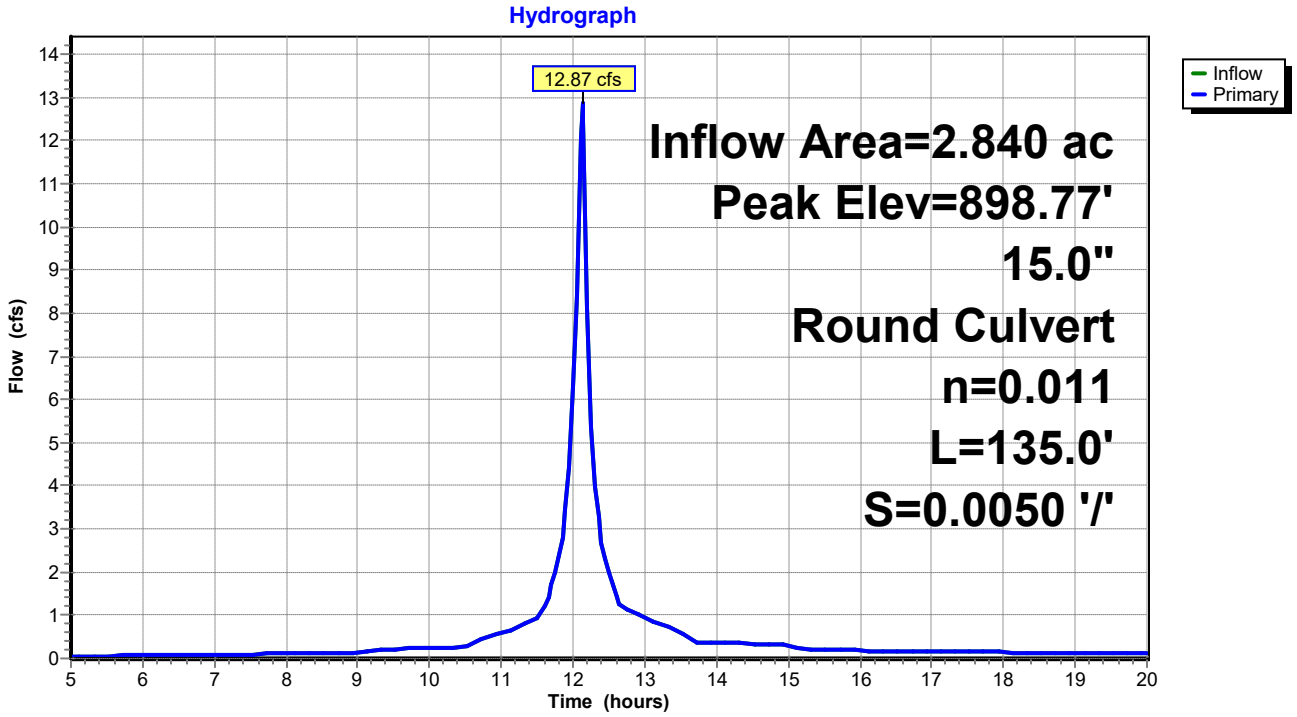
Subcatchment B1 P: B1



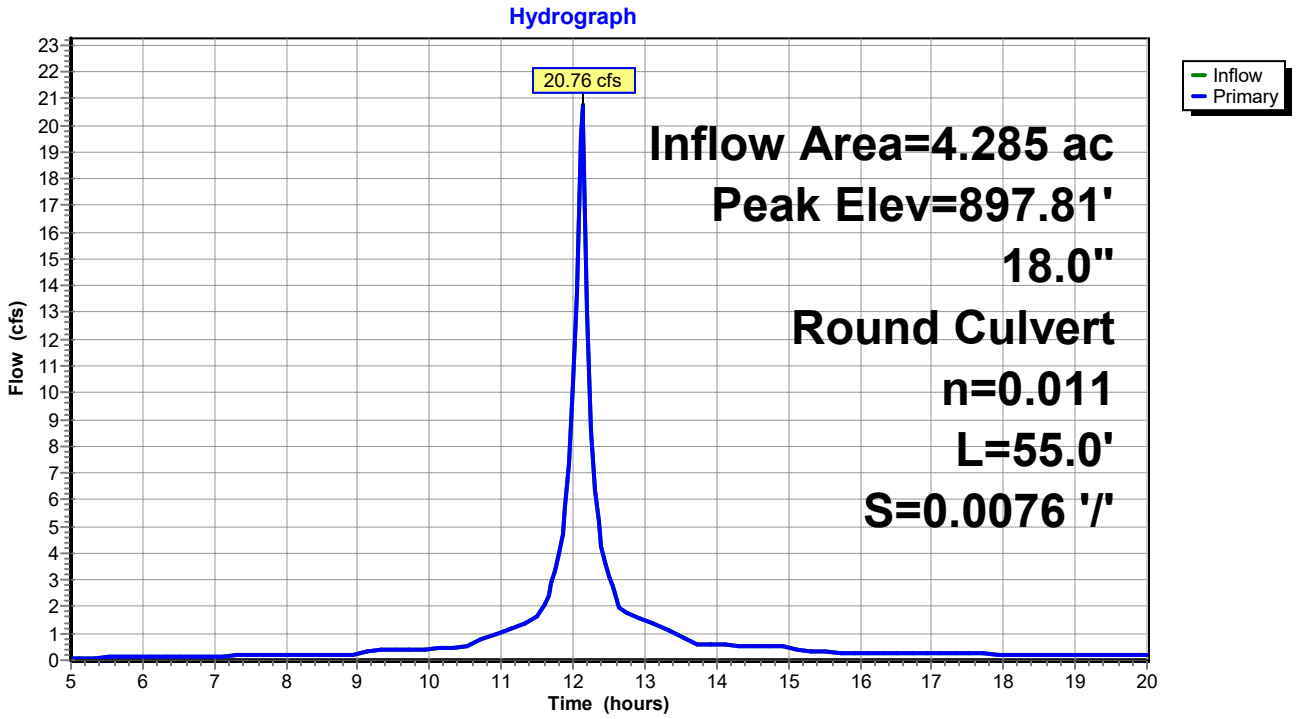
Pond A1: A1



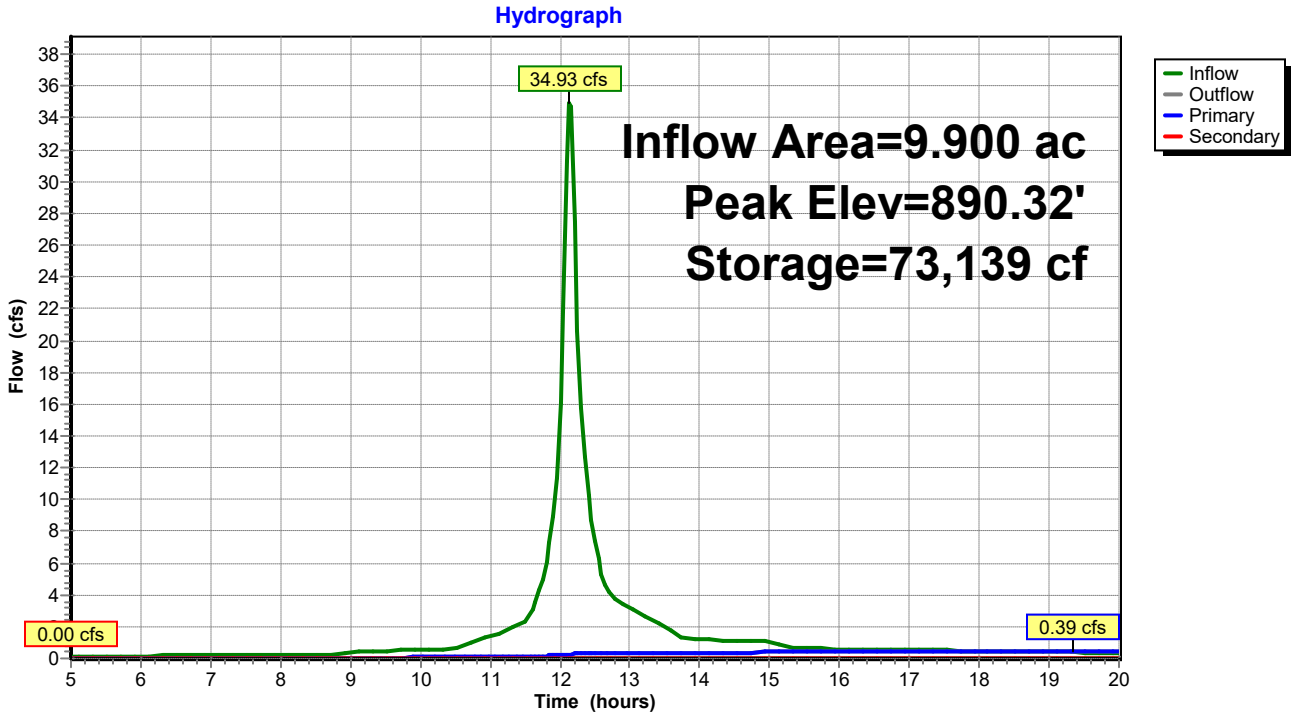
Pond A2: A2



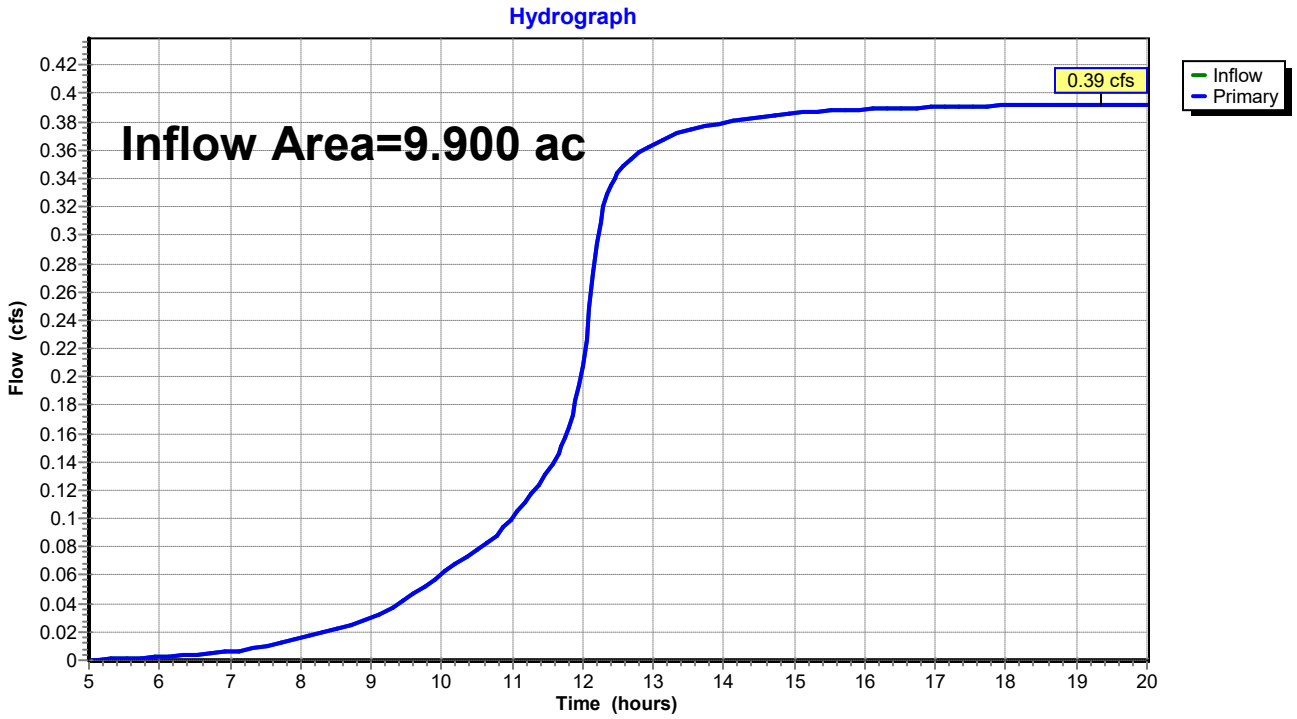
Pond A3: A3



Pond P: EXISTING WET POND



Link 3L: Link



Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment A1 I: A1 Runoff Area=24,360 sf 100.00% Impervious Runoff Depth>5.91"
Flow Length=130' Slope=0.0200 '/' Tc=6.0 min CN=98 Runoff=5.15 cfs 0.275 af

Subcatchment A1 P: A1 Runoff Area=13,260 sf 0.00% Impervious Runoff Depth>3.39"
Flow Length=105' Slope=0.0380 '/' Tc=6.0 min CN=74 Runoff=1.92 cfs 0.086 af

Subcatchment A2 I: A2 Runoff Area=59,000 sf 100.00% Impervious Runoff Depth>5.91"
Flow Length=315' Slope=0.0280 '/' Tc=6.0 min CN=98 Runoff=12.48 cfs 0.667 af

Subcatchment A2 P: A2 Runoff Area=27,100 sf 0.00% Impervious Runoff Depth>3.39"
Flow Length=75' Slope=0.0500 '/' Tc=6.0 min CN=74 Runoff=3.92 cfs 0.176 af

Subcatchment A3 I: A3 Runoff Area=62,920 sf 100.00% Impervious Runoff Depth>5.91"
Flow Length=355' Slope=0.0280 '/' Tc=6.0 min CN=98 Runoff=13.31 cfs 0.711 af

Subcatchment B1 I: B1 Runoff Area=38,135 sf 100.00% Impervious Runoff Depth>5.91"
Flow Length=125' Slope=0.0350 '/' Tc=6.0 min CN=98 Runoff=8.07 cfs 0.431 af

Subcatchment B1 P: B1 Runoff Area=206,465 sf 10.61% Impervious Runoff Depth>3.68"
Flow Length=475' Tc=11.5 min CN=77 Runoff=26.15 cfs 1.455 af

Pond A1: A1 Peak Elev=912.98' Inflow=7.07 cfs 0.361 af
10.0" Round Culvert n=0.011 L=223.0' S=0.0111 '/' Outflow=7.07 cfs 0.361 af

Pond A2: A2 Peak Elev=913.43' Inflow=23.46 cfs 1.204 af
15.0" Round Culvert n=0.011 L=135.0' S=0.0050 '/' Outflow=23.46 cfs 1.204 af

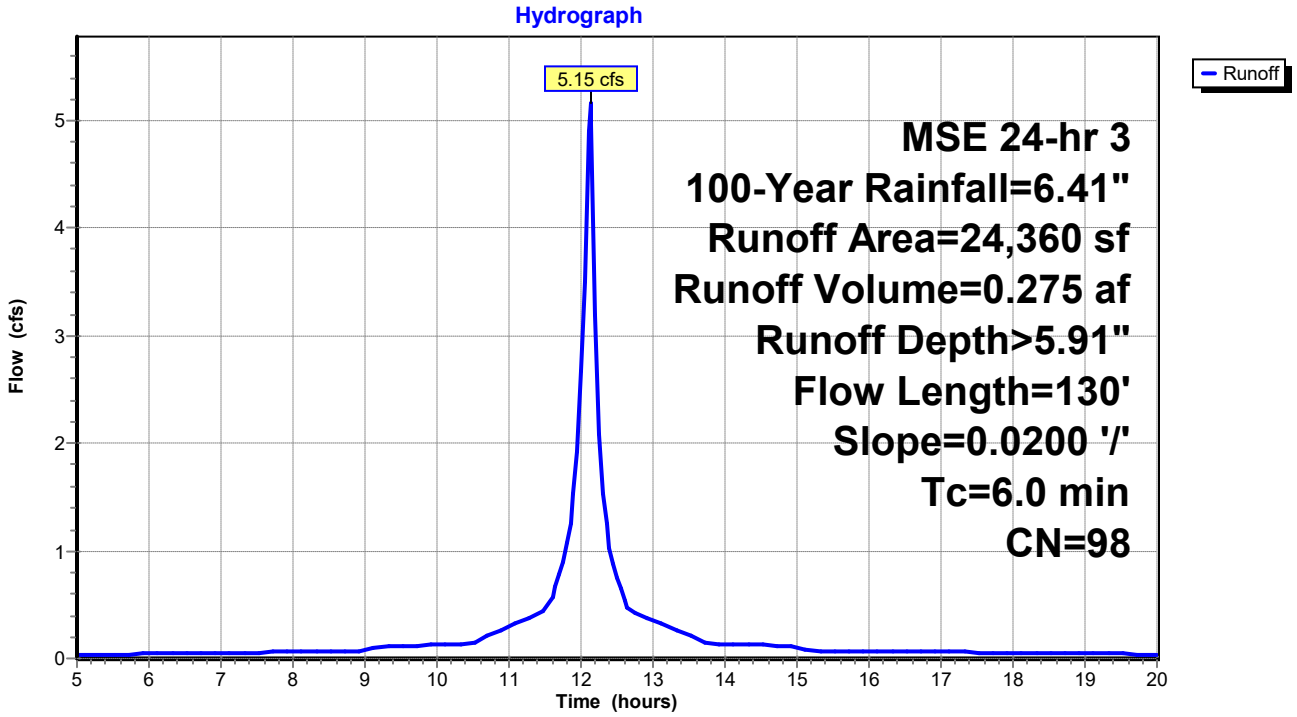
Pond A3: A3 Peak Elev=910.34' Inflow=36.77 cfs 1.915 af
18.0" Round Culvert n=0.011 L=55.0' S=0.0076 '/' Outflow=36.77 cfs 1.915 af

Pond P: EXISTING WET POND Peak Elev=892.14' Storage=132,127 cf Inflow=67.28 cfs 3.800 af
Primary=2.16 cfs 0.852 af Secondary=0.00 cfs 0.000 af Outflow=2.16 cfs 0.852 af

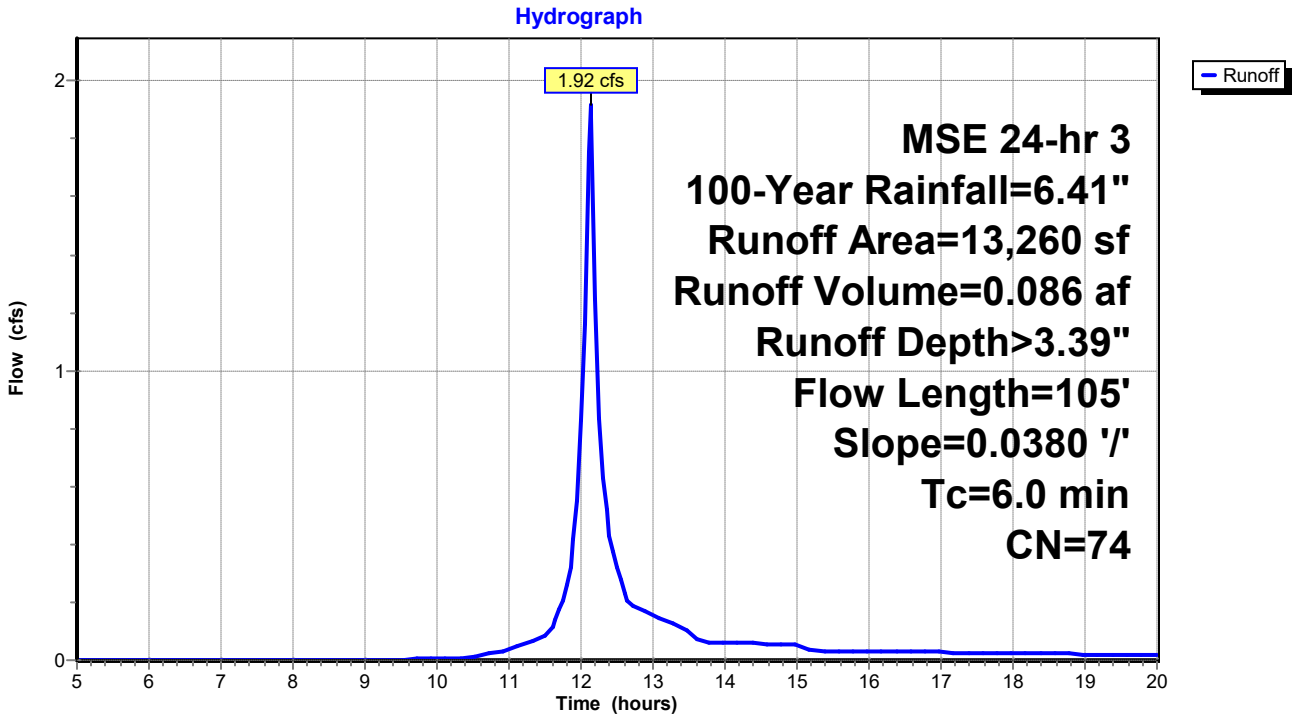
Link 3L: Link Inflow=2.16 cfs 0.852 af
Primary=2.16 cfs 0.852 af

Total Runoff Area = 9.900 ac Runoff Volume = 3.800 af Average Runoff Depth = 4.61"
52.16% Pervious = 5.164 ac 47.84% Impervious = 4.736 ac

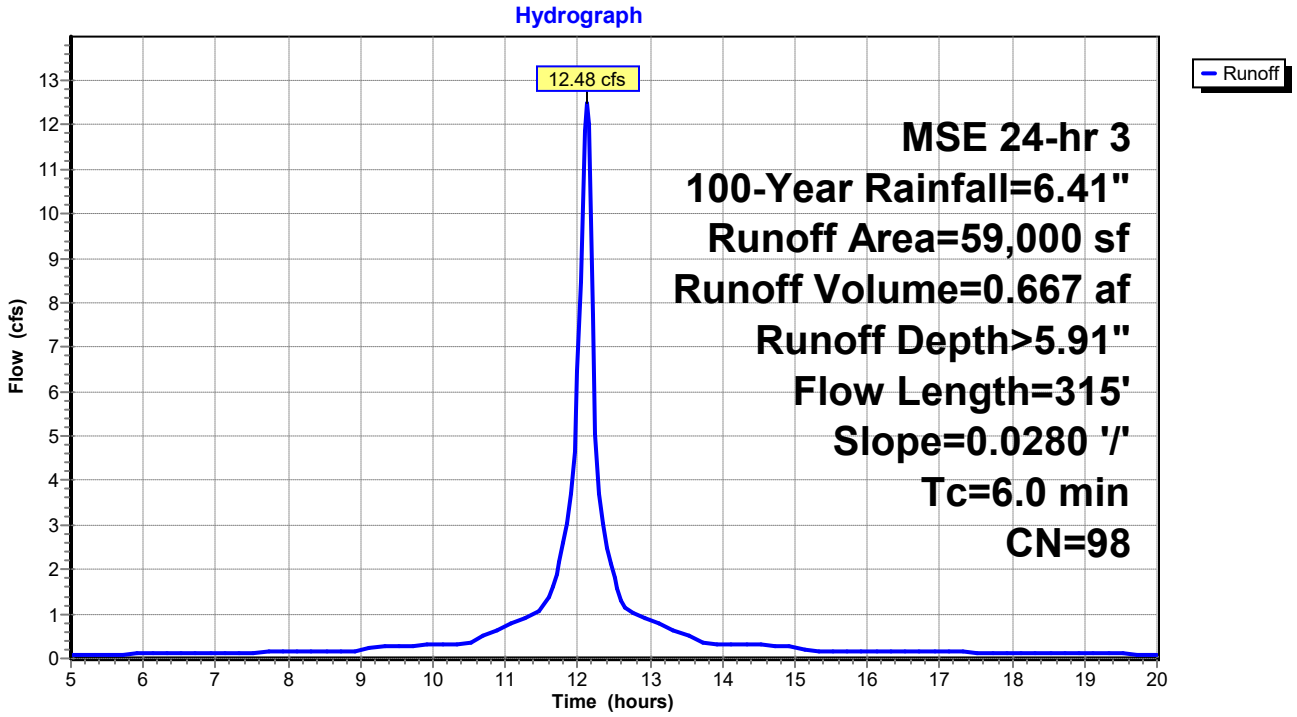
Subcatchment A1 I: A1



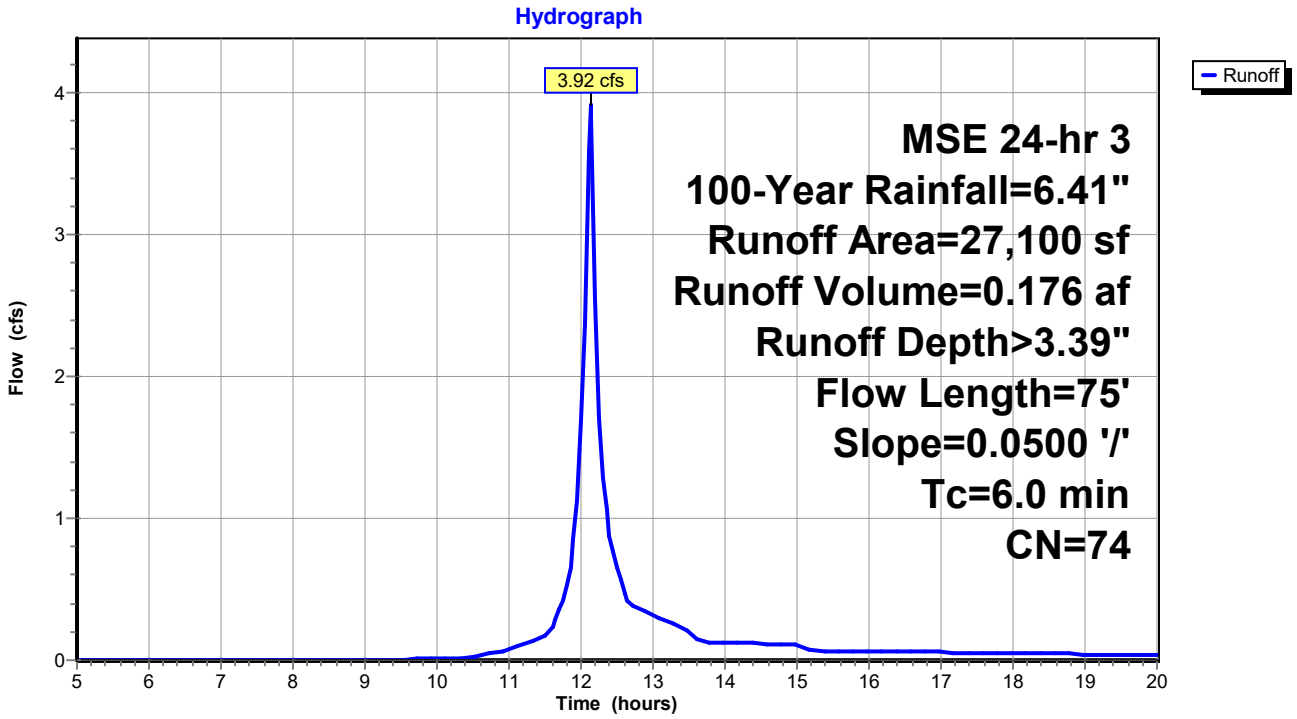
Subcatchment A1 P: A1



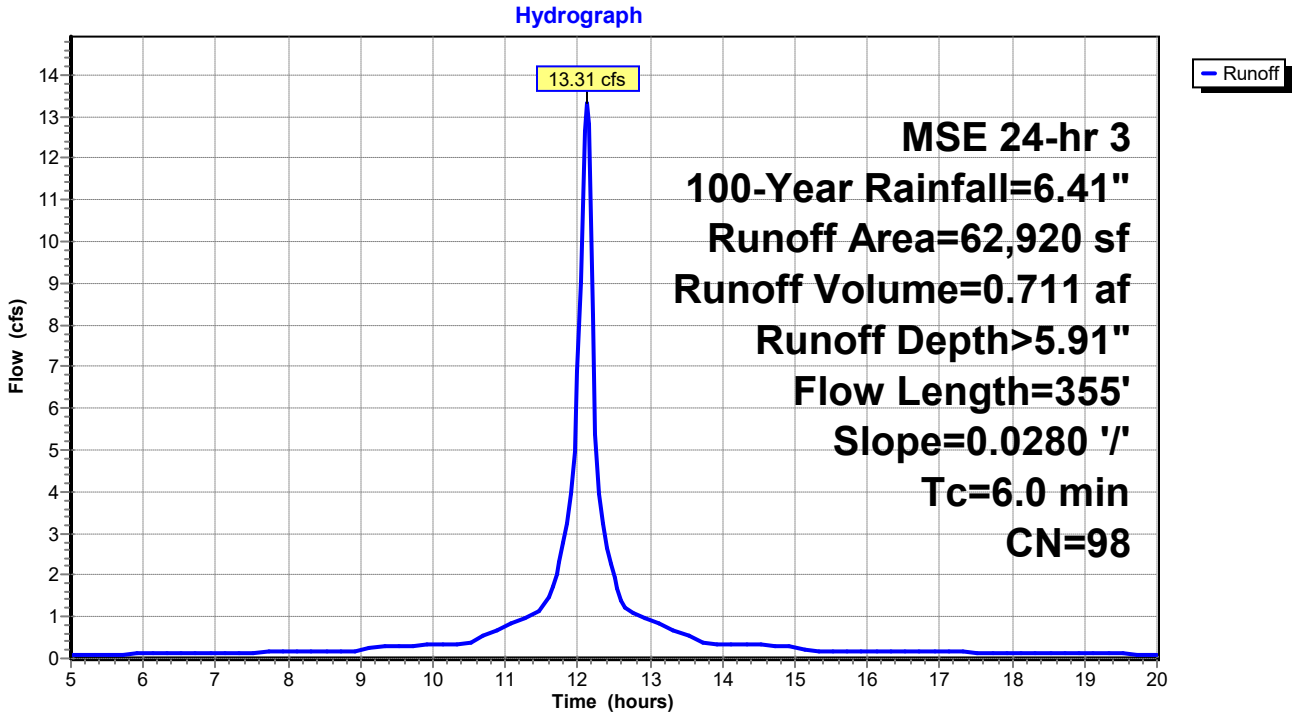
Subcatchment A2 I: A2



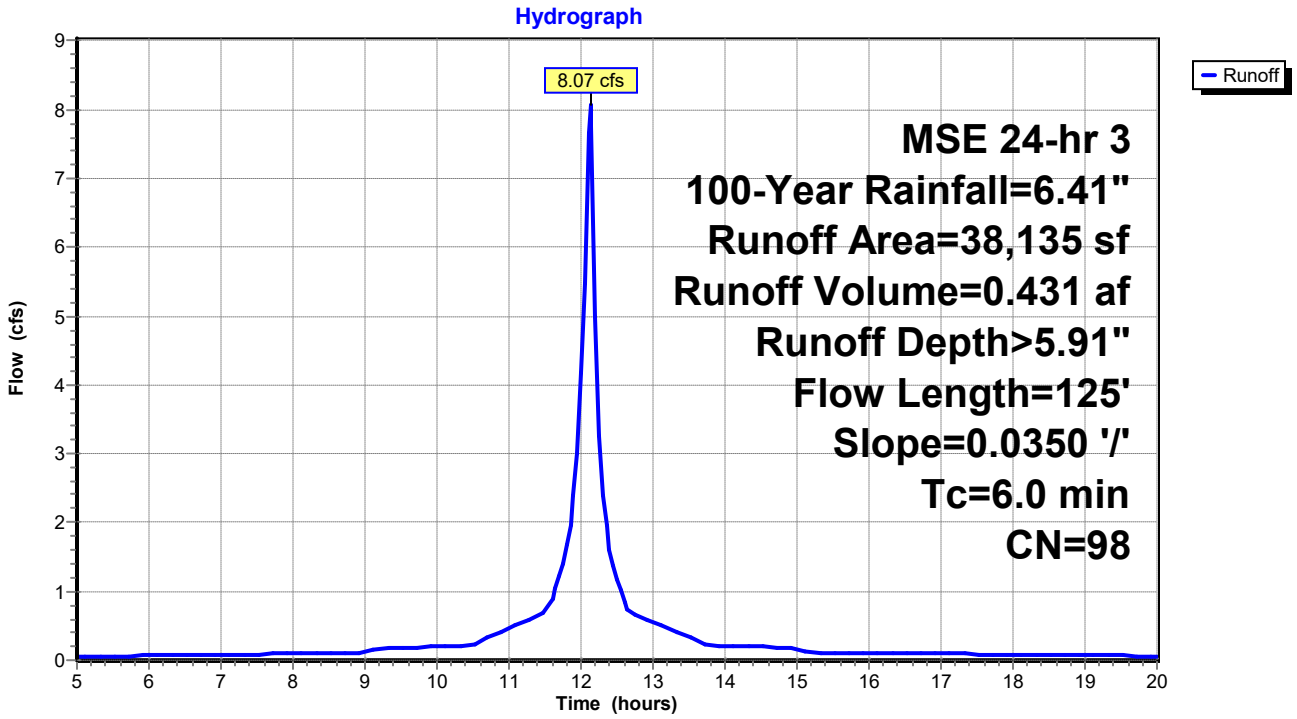
Subcatchment A2 P: A2



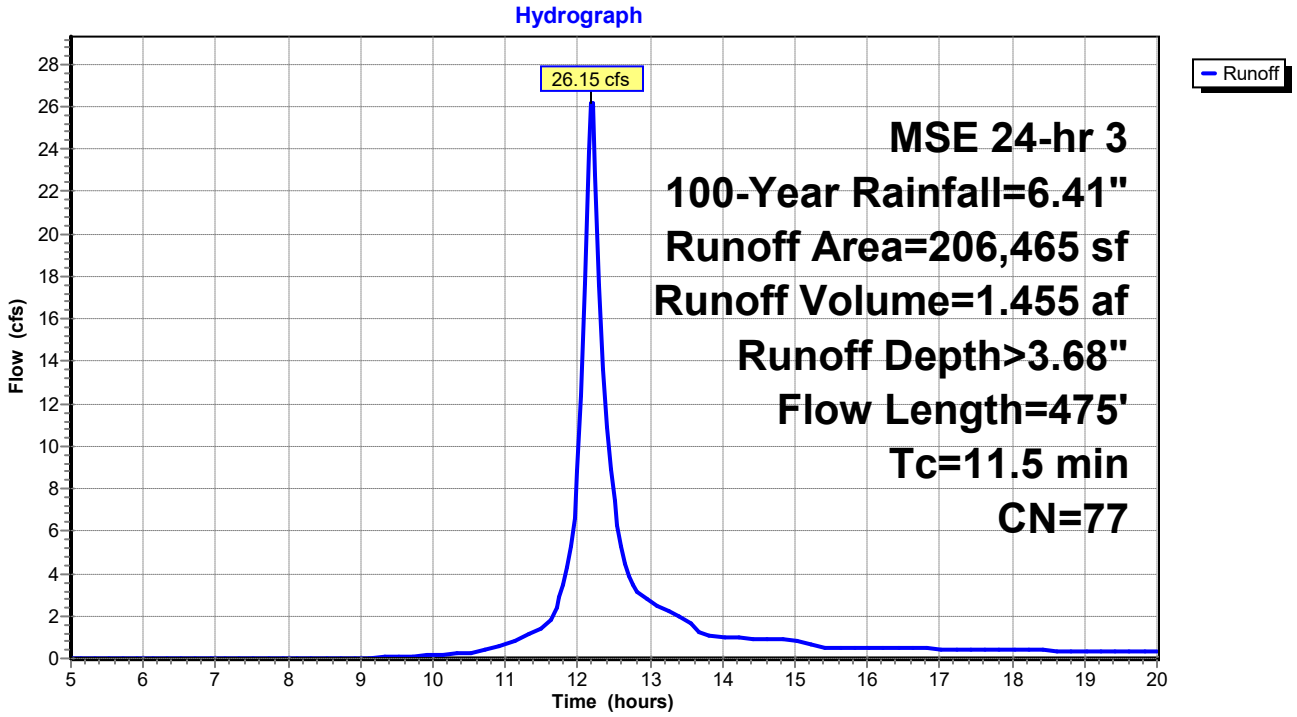
Subcatchment A3 I: A3



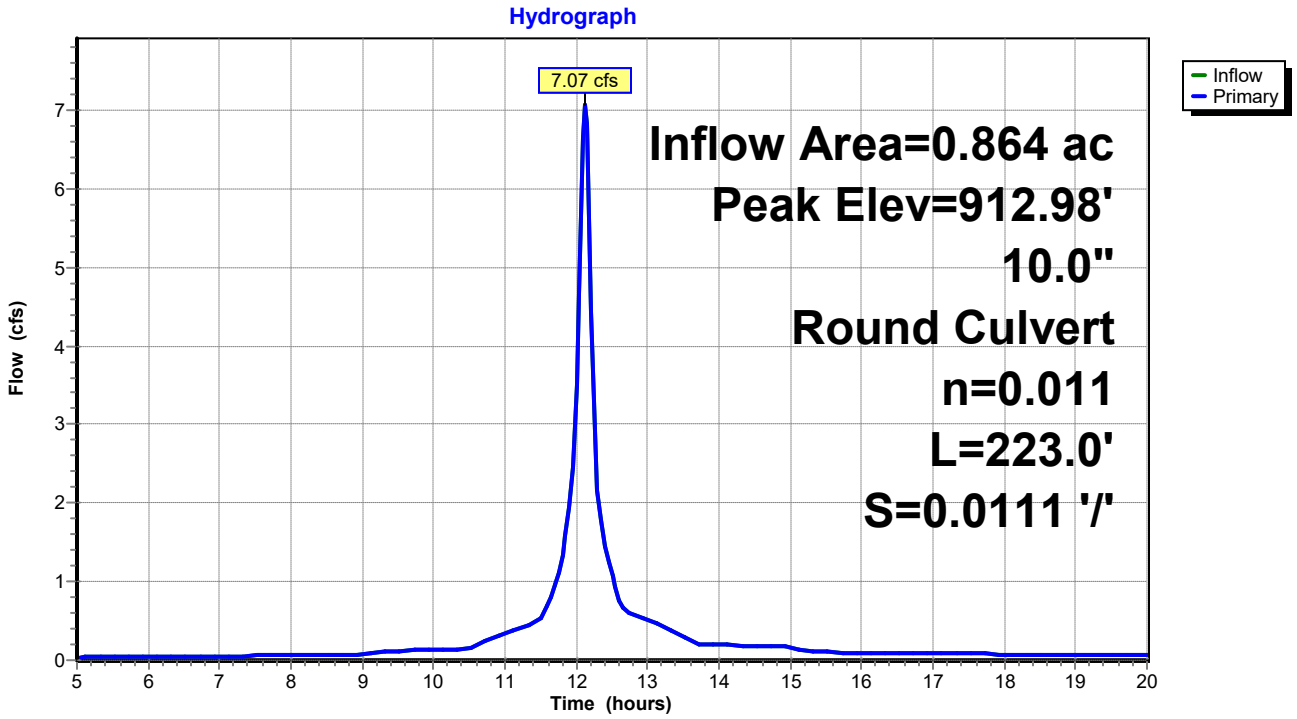
Subcatchment B1 I: B1



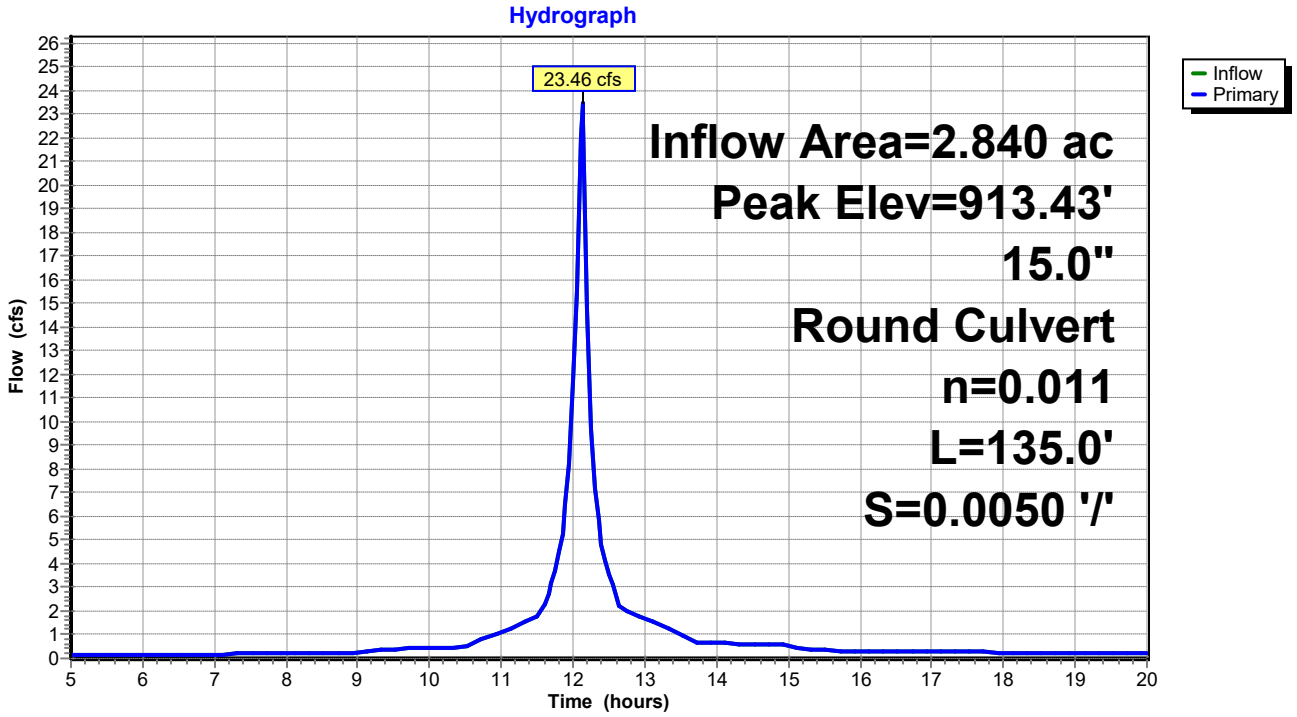
Subcatchment B1 P: B1



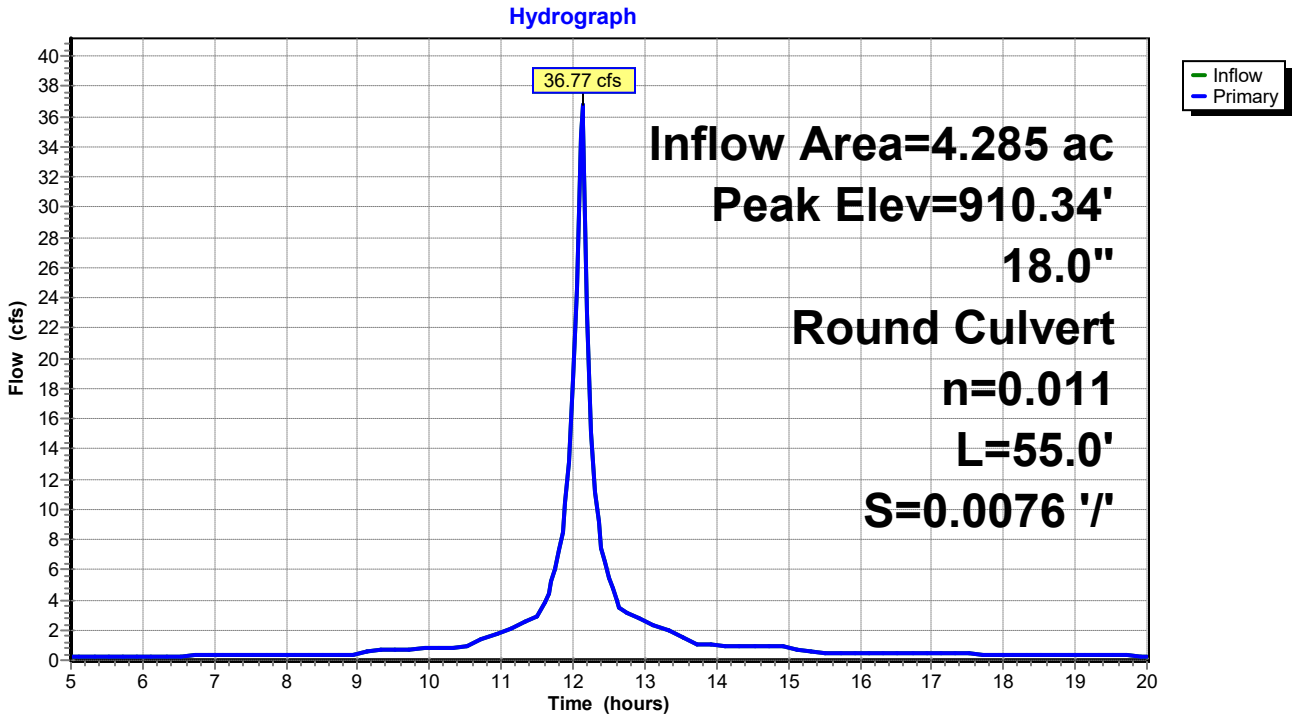
Pond A1: A1



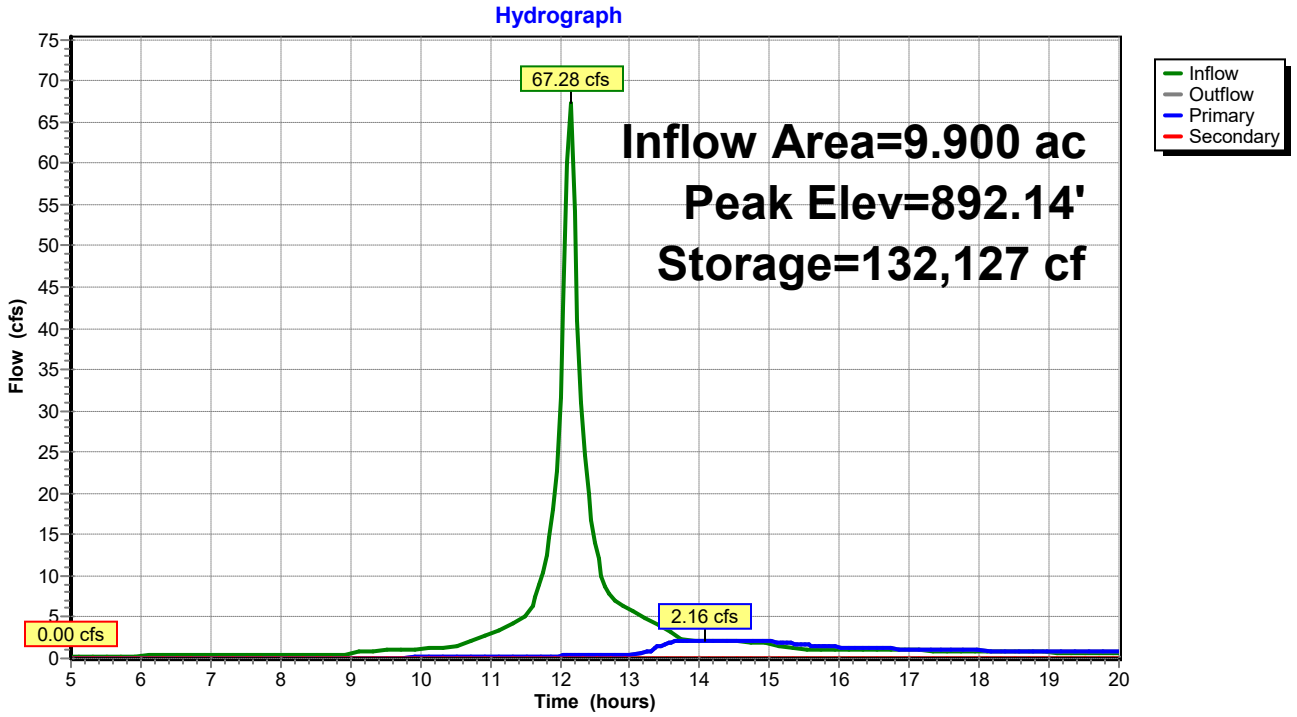
Pond A2: A2



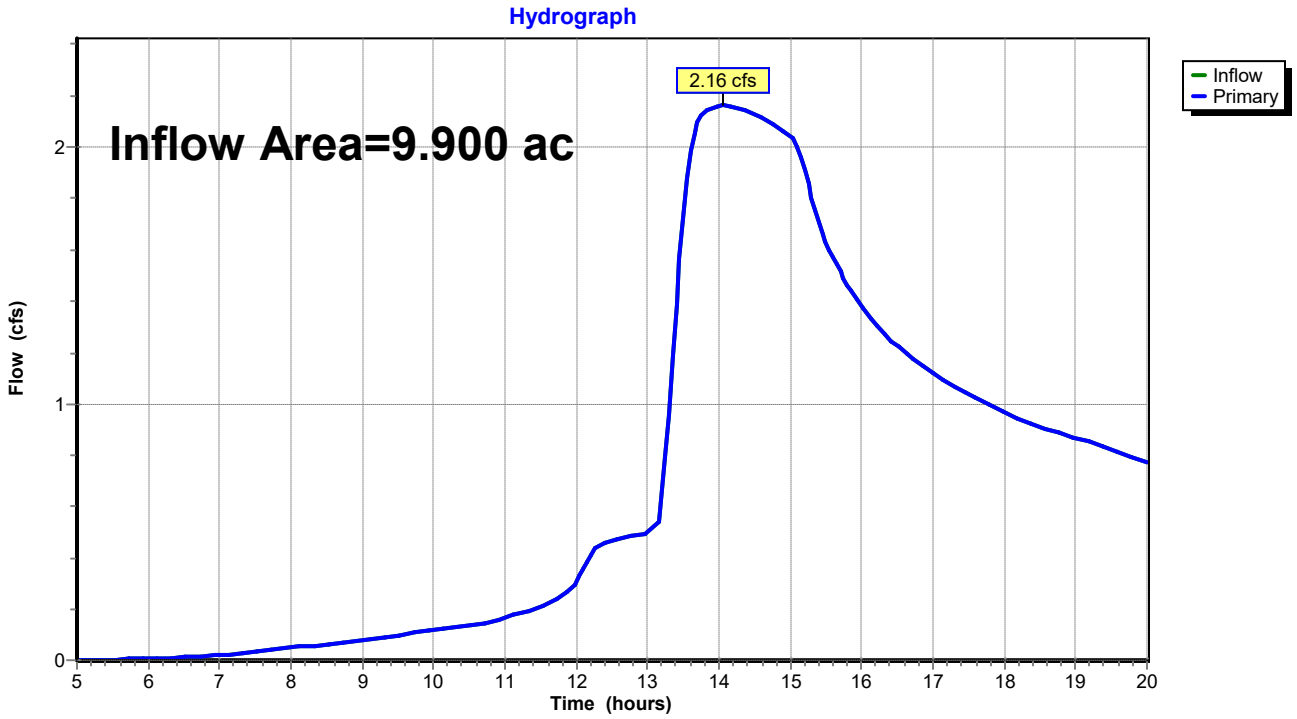
Pond A3: A3



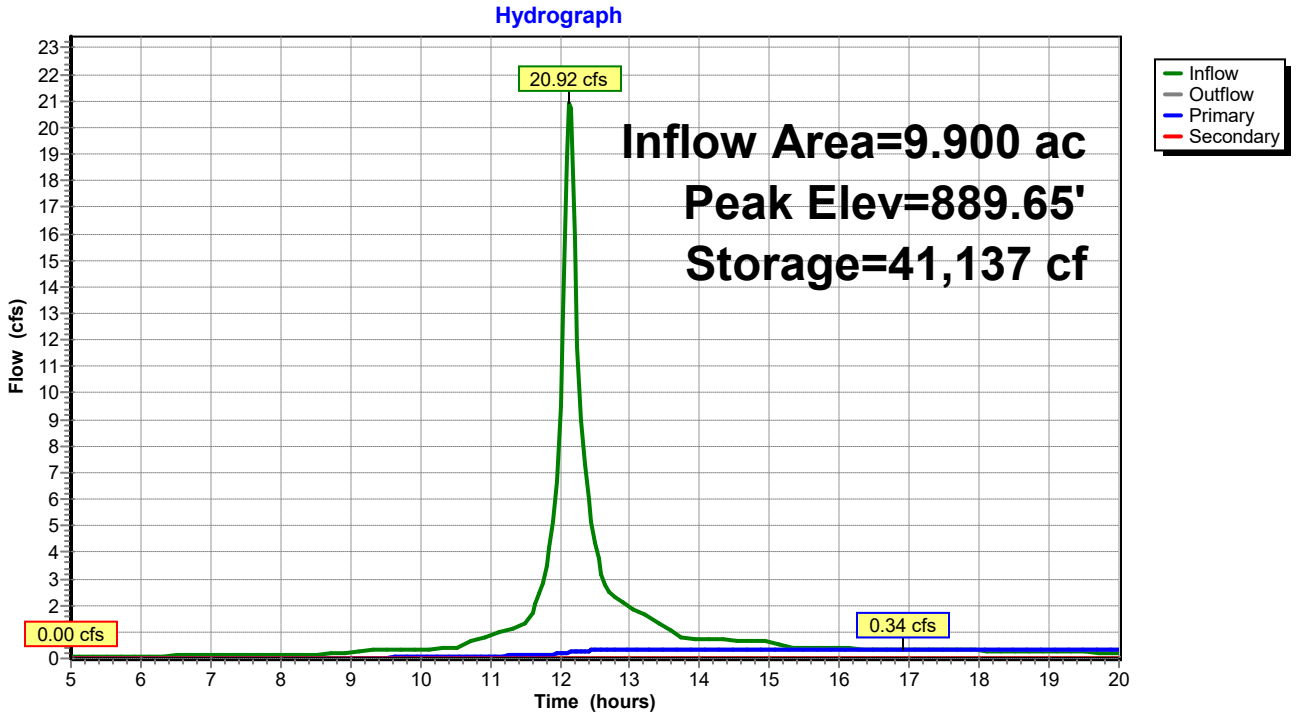
Pond P: EXISTING WET POND



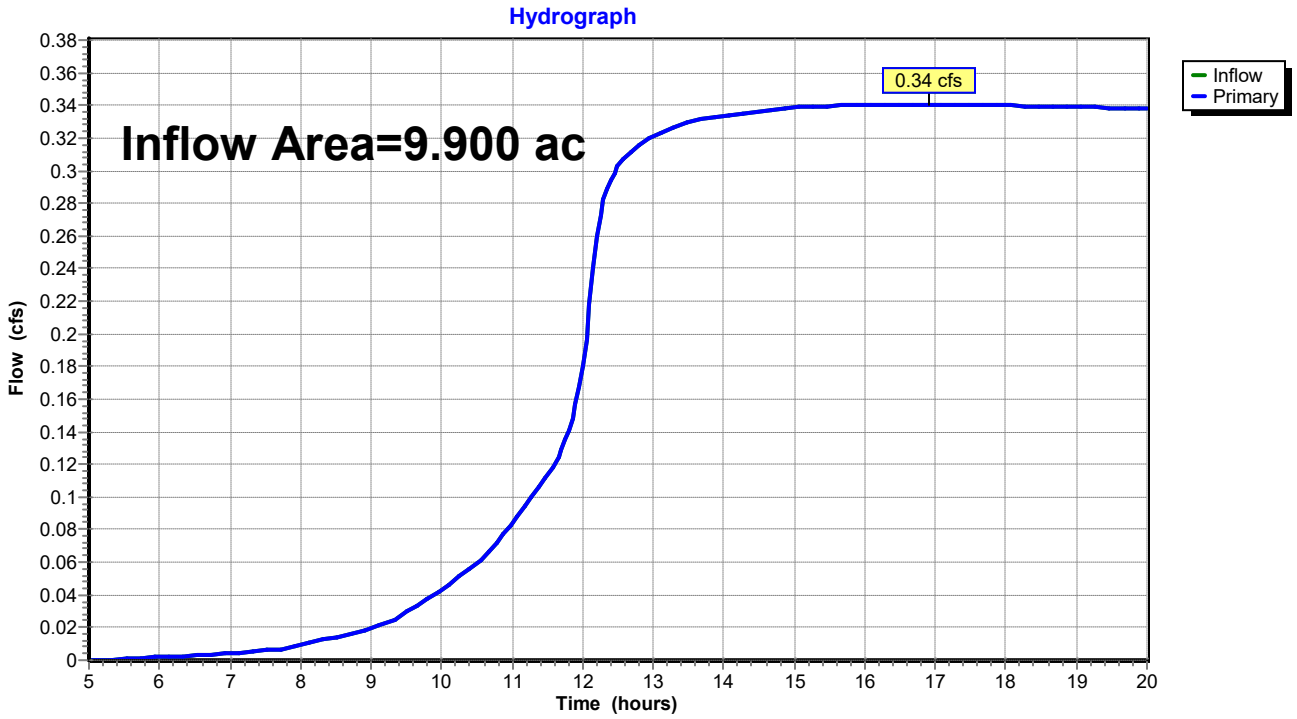
Link 3L: Link



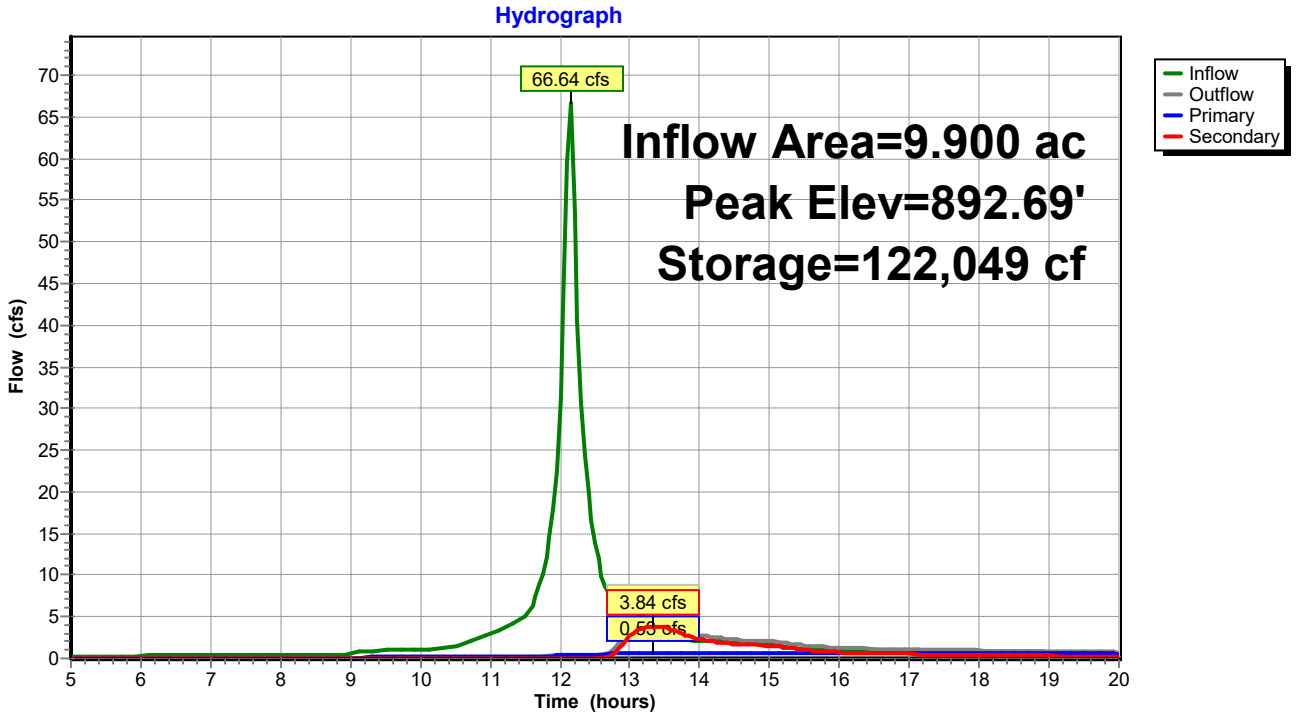
Pond P: EXISTING WET POND



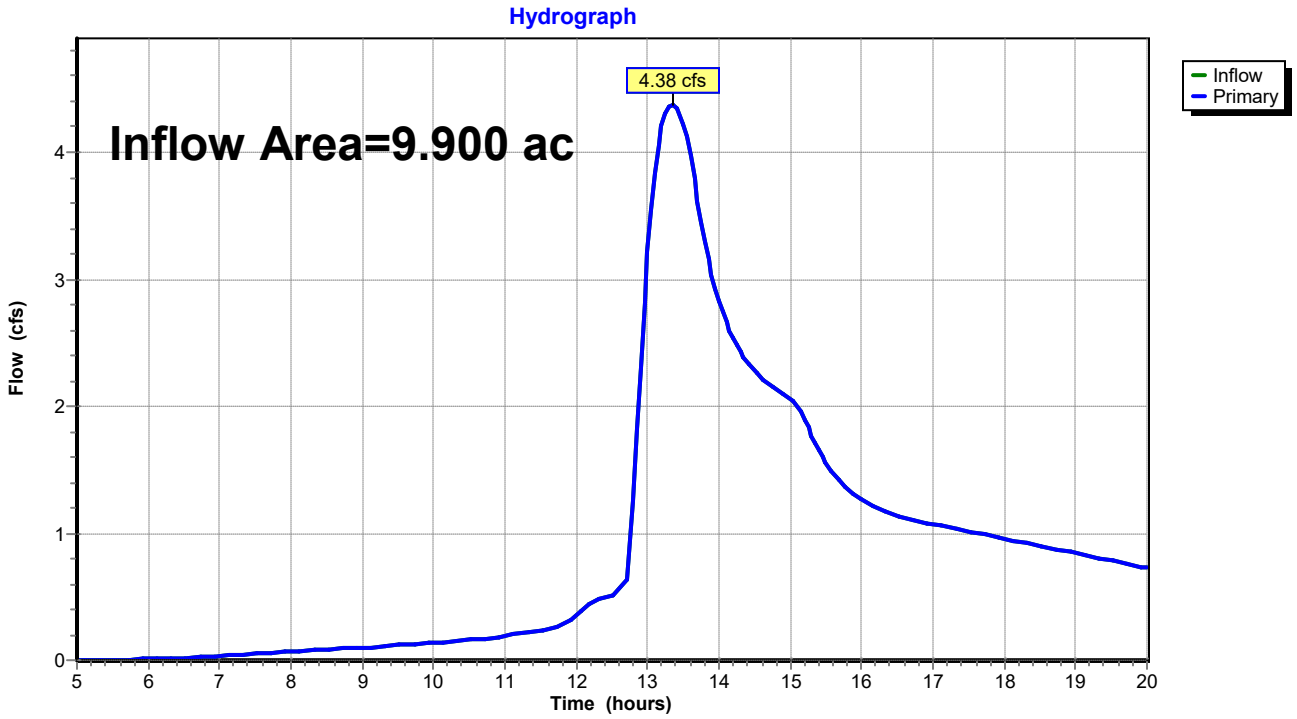
Link 3L: Link

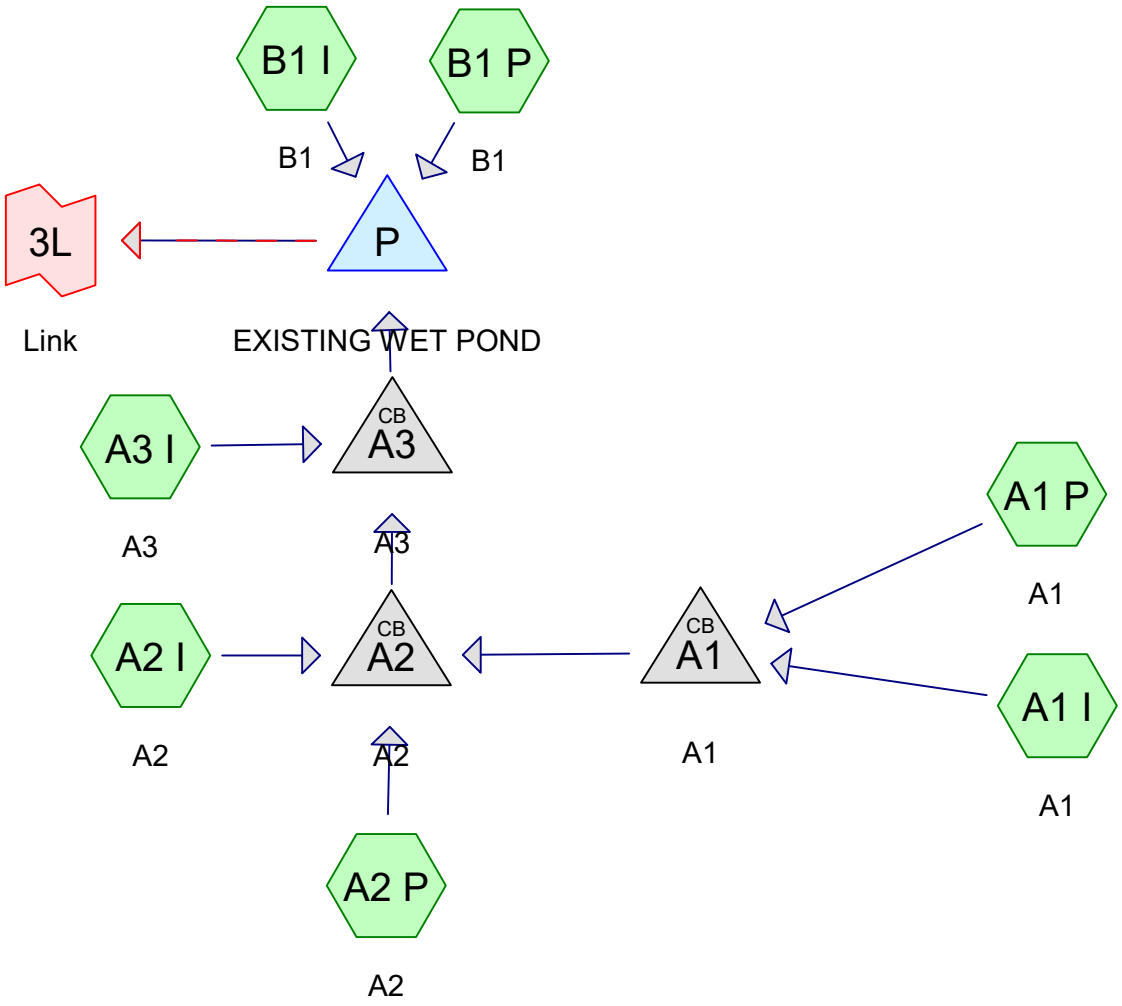


Pond P: EXISTING WET POND



Link 3L: Link





Subcat Reach Pond Link

Routing Diagram for 20426215 Prop NO POND EXPANSION 6.6.2024
Prepared by MSA Professional Services, Printed 6/7/2024

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
4.368	74	>75% Grass cover, Good, HSG C (B1 P)
0.256	98	Ex Pavement (B1 I)
0.046	98	Ex Roofs (B1 I)
0.927	74	LAWN AREA (A1 P, A2 P)
0.574	98	PROP Pavement (B1 I)
2.799	98	Pavement (A2 I, A3 I)
0.559	98	ROOFS (A1 I)
0.371	100	Wet Pond (B1 P)
9.900	**85**	**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
0.000	HSG B	
4.368	HSG C	B1 P
0.000	HSG D	
5.532	Other	A1 I, A1 P, A2 I, A2 P, A3 I, B1 I, B1 P
9.900		**TOTAL AREA**

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	4.368	0.000	0.000	4.368	>75% Grass cover, Good	B1 P
0.000	0.000	0.000	0.000	0.256	0.256	Ex Pavement	B1 I
0.000	0.000	0.000	0.000	0.046	0.046	Ex Roofs	B1 I
0.000	0.000	0.000	0.000	0.927	0.927	LAWN AREA	A1 P, A2 P
0.000	0.000	0.000	0.000	0.574	0.574	PROP Pavement	B1 I
0.000	0.000	0.000	0.000	2.799	2.799	Pavement	A2 I, A3 I
0.000	0.000	0.000	0.000	0.559	0.559	ROOFS	A1 I
0.000	0.000	0.000	0.000	0.371	0.371	Wet Pond	B1 P
0.000	**0.000**	**4.368**	**0.000**	**5.532**	**9.900**	**TOTAL AREA**	

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment A1 I: A1 Runoff Area=24,360 sf 100.00% Impervious Runoff Depth>2.05"
Flow Length=130' Slope=0.0200 '/' Tc=6.0 min CN=98 Runoff=1.86 cfs 0.096 af

Subcatchment A1 P: A1 Runoff Area=13,260 sf 0.00% Impervious Runoff Depth>0.49"
Flow Length=105' Slope=0.0380 '/' Tc=6.0 min CN=74 Runoff=0.27 cfs 0.012 af

Subcatchment A2 I: A2 Runoff Area=59,000 sf 100.00% Impervious Runoff Depth>2.05"
Flow Length=315' Slope=0.0280 '/' Tc=6.0 min CN=98 Runoff=4.49 cfs 0.232 af

Subcatchment A2 P: A2 Runoff Area=27,100 sf 0.00% Impervious Runoff Depth>0.49"
Flow Length=75' Slope=0.0500 '/' Tc=6.0 min CN=74 Runoff=0.55 cfs 0.026 af

Subcatchment A3 I: A3 Runoff Area=62,920 sf 100.00% Impervious Runoff Depth>2.05"
Flow Length=355' Slope=0.0280 '/' Tc=6.0 min CN=98 Runoff=4.79 cfs 0.247 af

Subcatchment B1 I: B1 Runoff Area=38,135 sf 100.00% Impervious Runoff Depth>2.05"
Flow Length=125' Slope=0.0350 '/' Tc=6.0 min CN=98 Runoff=2.91 cfs 0.150 af

Subcatchment B1 P: B1 Runoff Area=206,465 sf 7.84% Impervious Runoff Depth>0.57"
Flow Length=475' Tc=11.5 min CN=76 Runoff=3.85 cfs 0.224 af

Pond A1: A1 Peak Elev=895.42' Inflow=2.12 cfs 0.108 af
10.0" Round Culvert n=0.011 L=223.0' S=0.0111 '/' Outflow=2.12 cfs 0.108 af

Pond A2: A2 Peak Elev=894.41' Inflow=7.14 cfs 0.365 af
15.0" Round Culvert n=0.011 L=135.0' S=0.0050 '/' Outflow=7.14 cfs 0.365 af

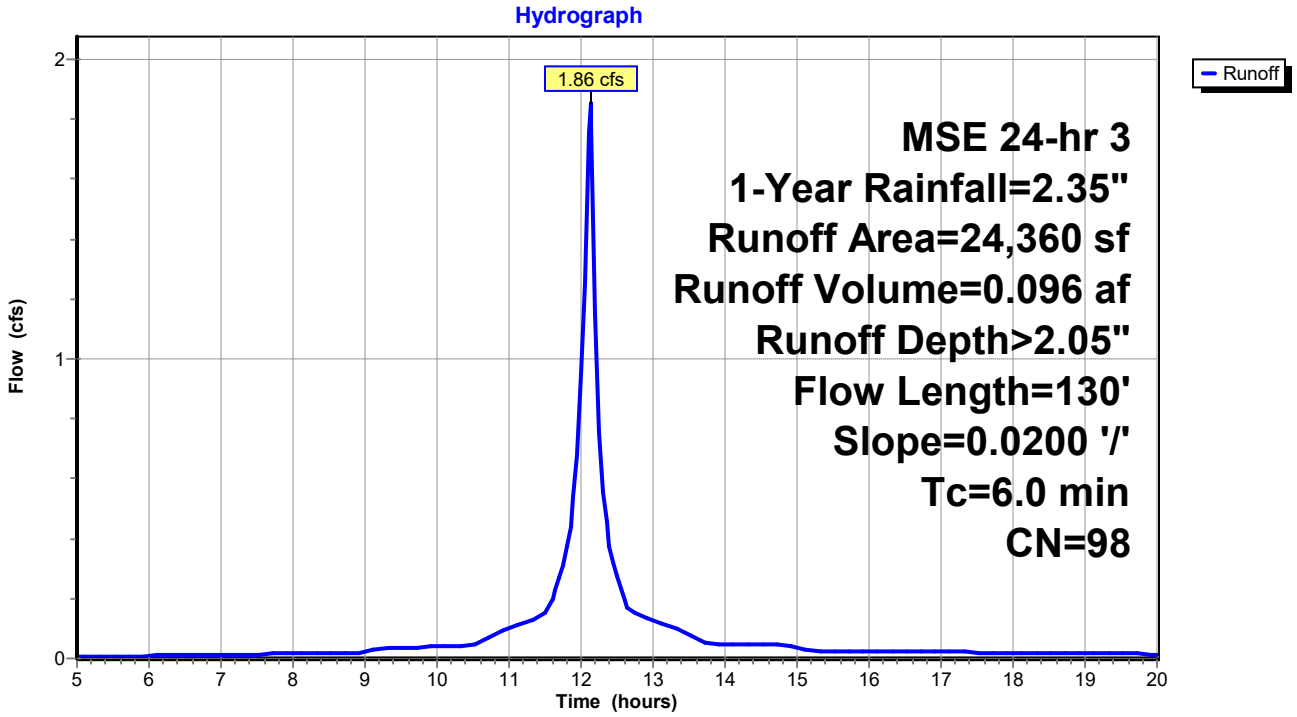
Pond A3: A3 Peak Elev=893.88' Inflow=11.93 cfs 0.612 af
18.0" Round Culvert n=0.011 L=55.0' S=0.0076 '/' Outflow=11.93 cfs 0.612 af

Pond P: EXISTING WET POND Peak Elev=889.32' Storage=34,316 cf Inflow=17.66 cfs 0.986 af
Primary=0.31 cfs 0.218 af Secondary=0.00 cfs 0.000 af Outflow=0.31 cfs 0.218 af

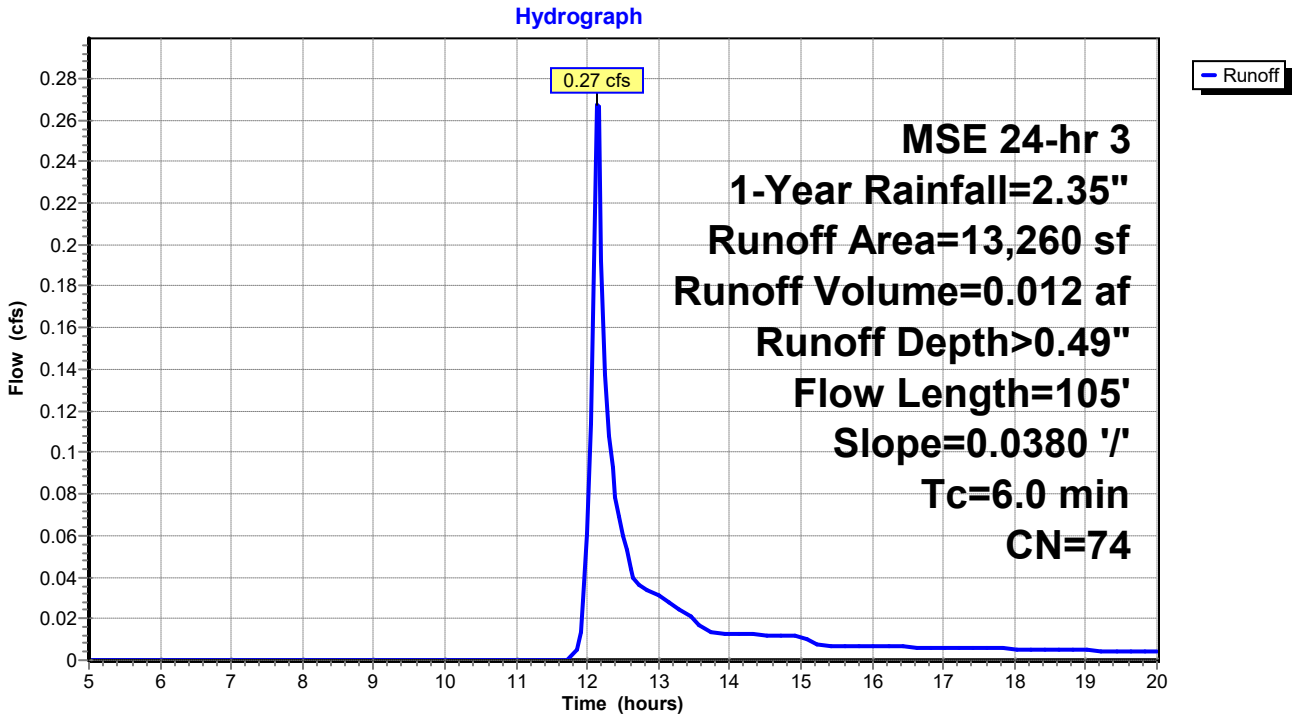
Link 3L: Link Inflow=0.31 cfs 0.218 af
Primary=0.31 cfs 0.218 af

Total Runoff Area = 9.900 ac Runoff Volume = 0.986 af Average Runoff Depth = 1.20"
53.48% Pervious = 5.295 ac 46.52% Impervious = 4.605 ac

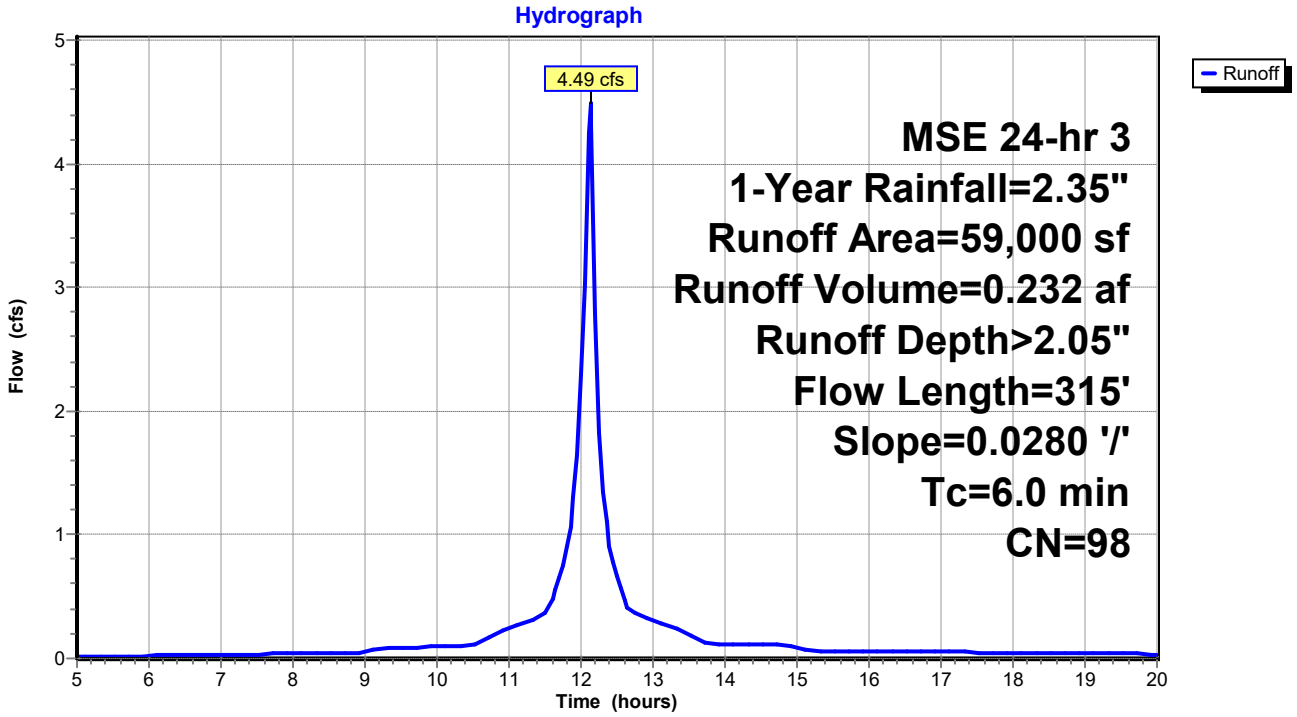
Subcatchment A1 I: A1



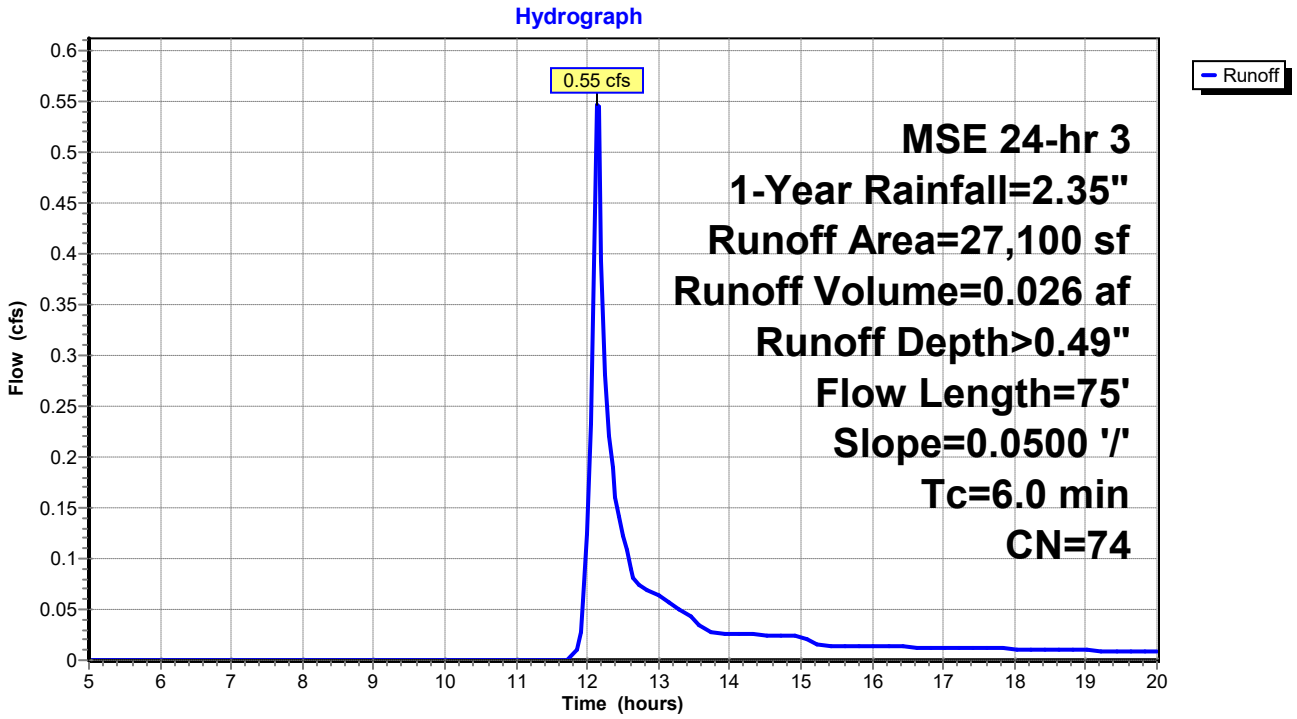
Subcatchment A1 P: A1



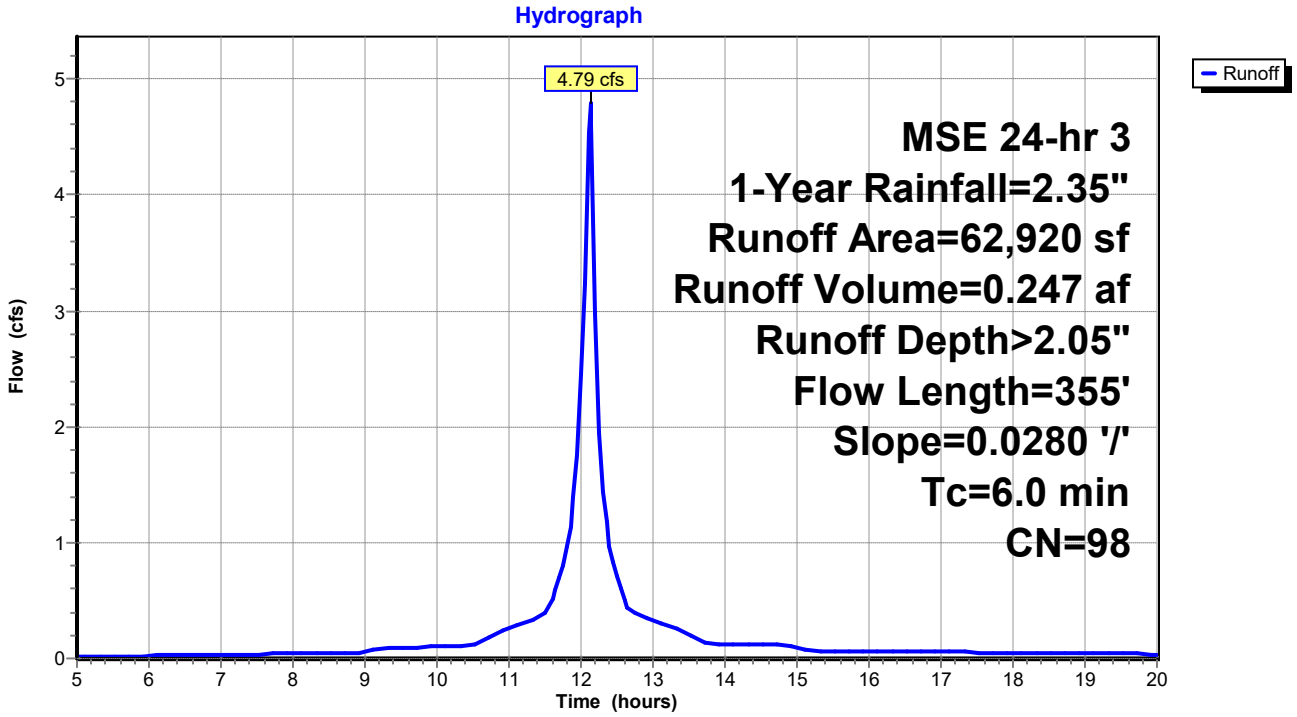
Subcatchment A2 I: A2



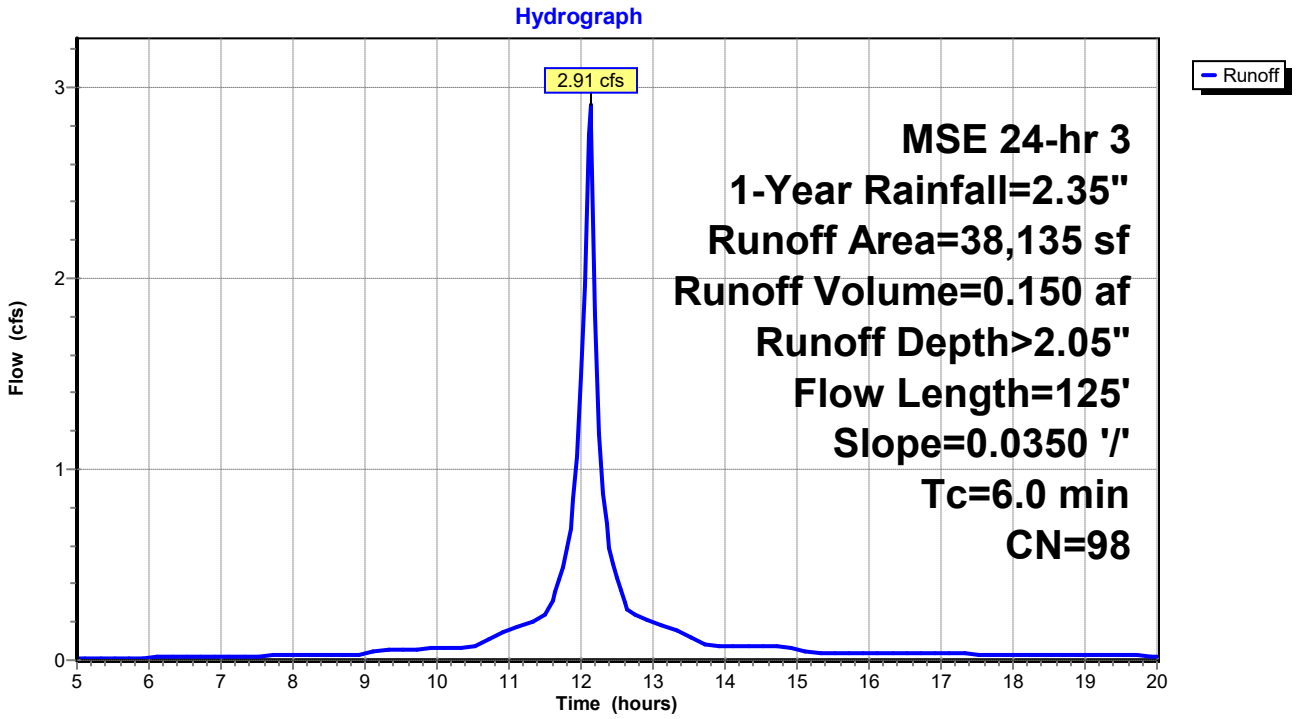
Subcatchment A2 P: A2



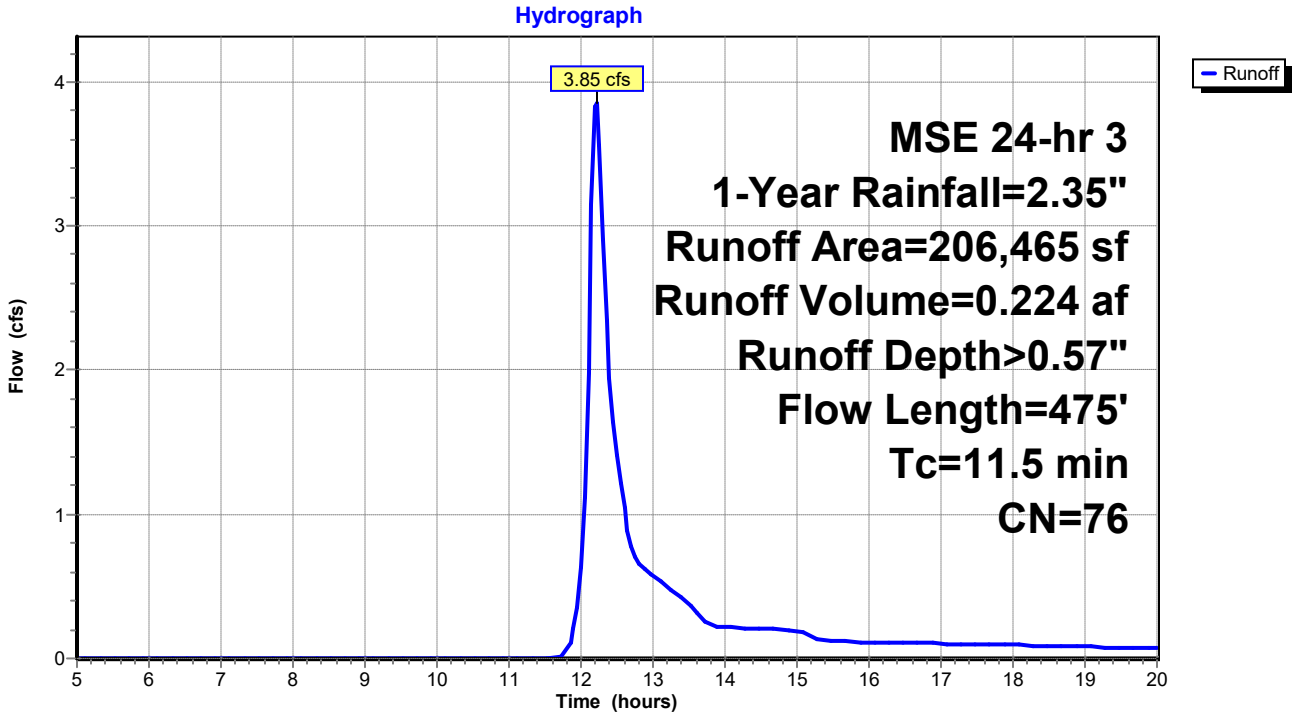
Subcatchment A3 I: A3



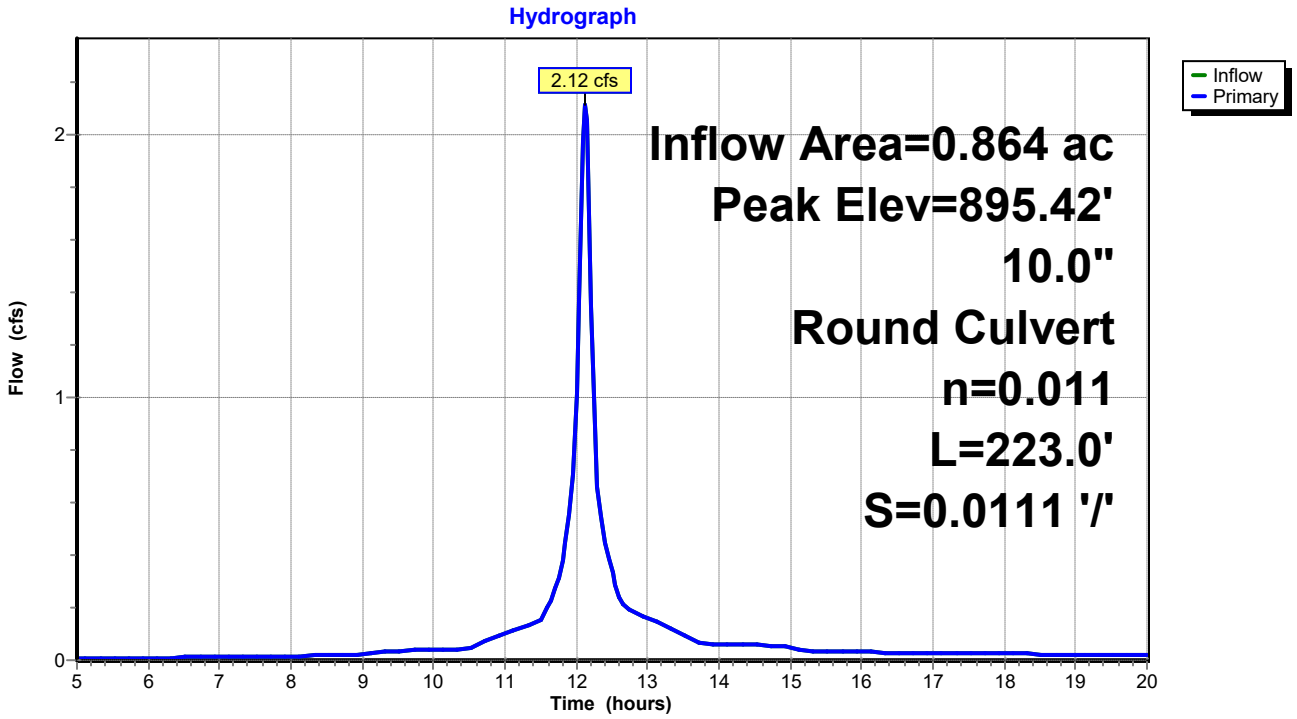
Subcatchment B1 I: B1



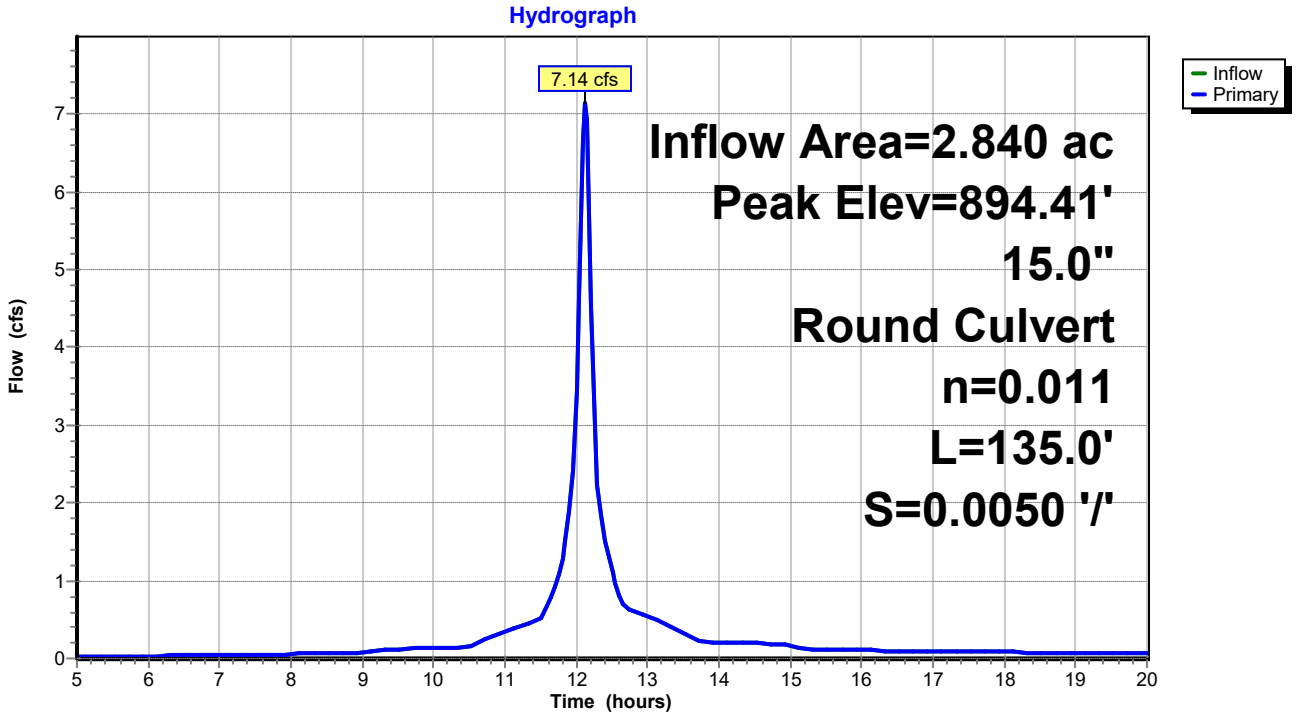
Subcatchment B1 P: B1



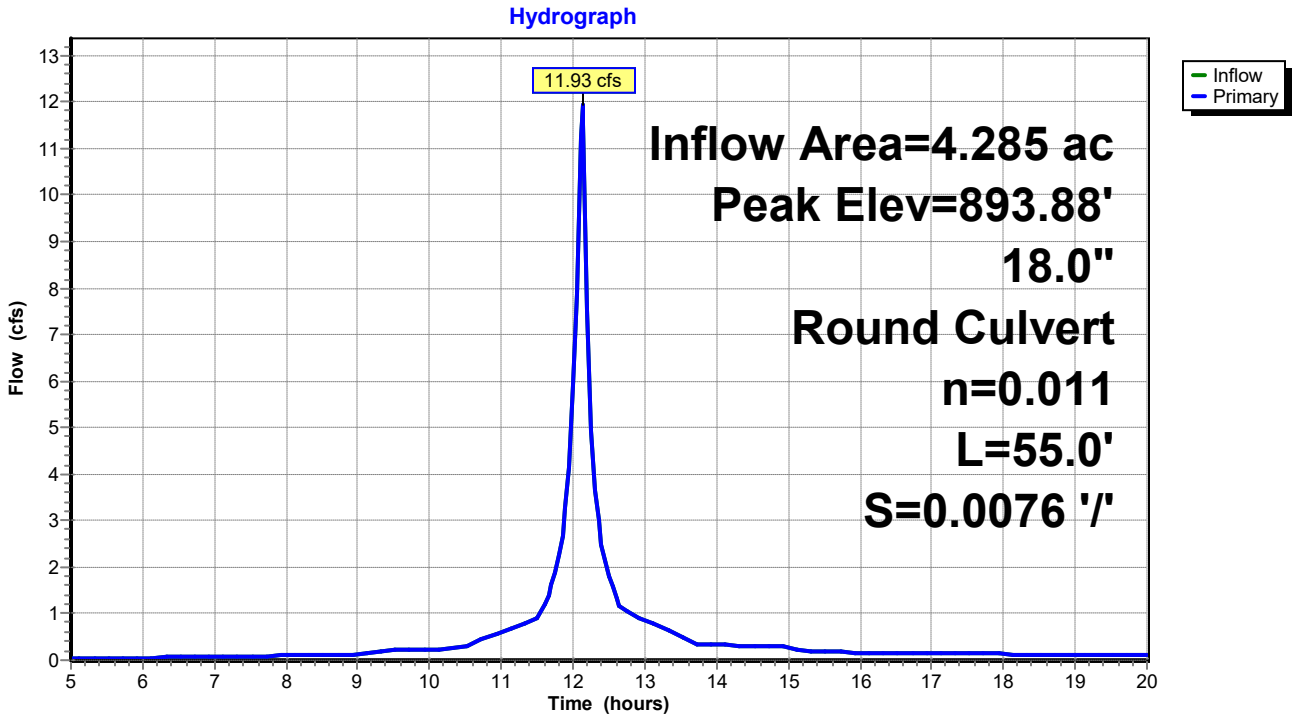
Pond A1: A1



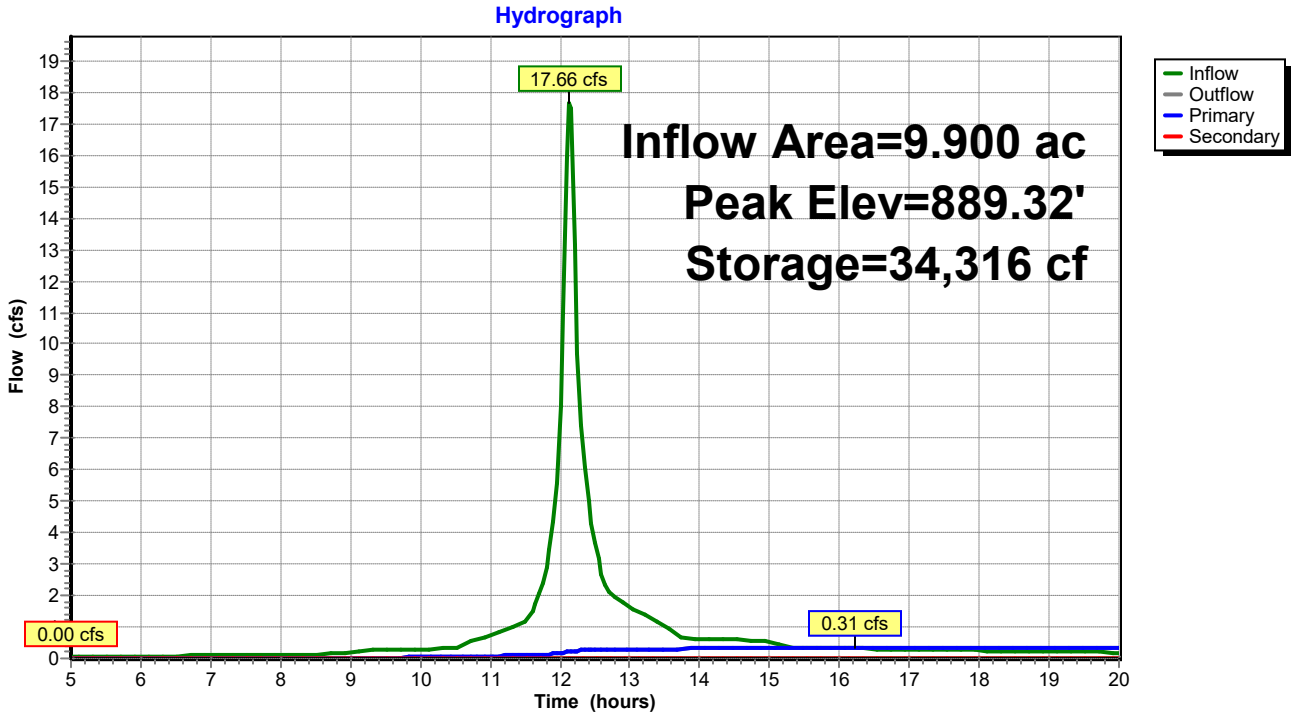
Pond A2: A2



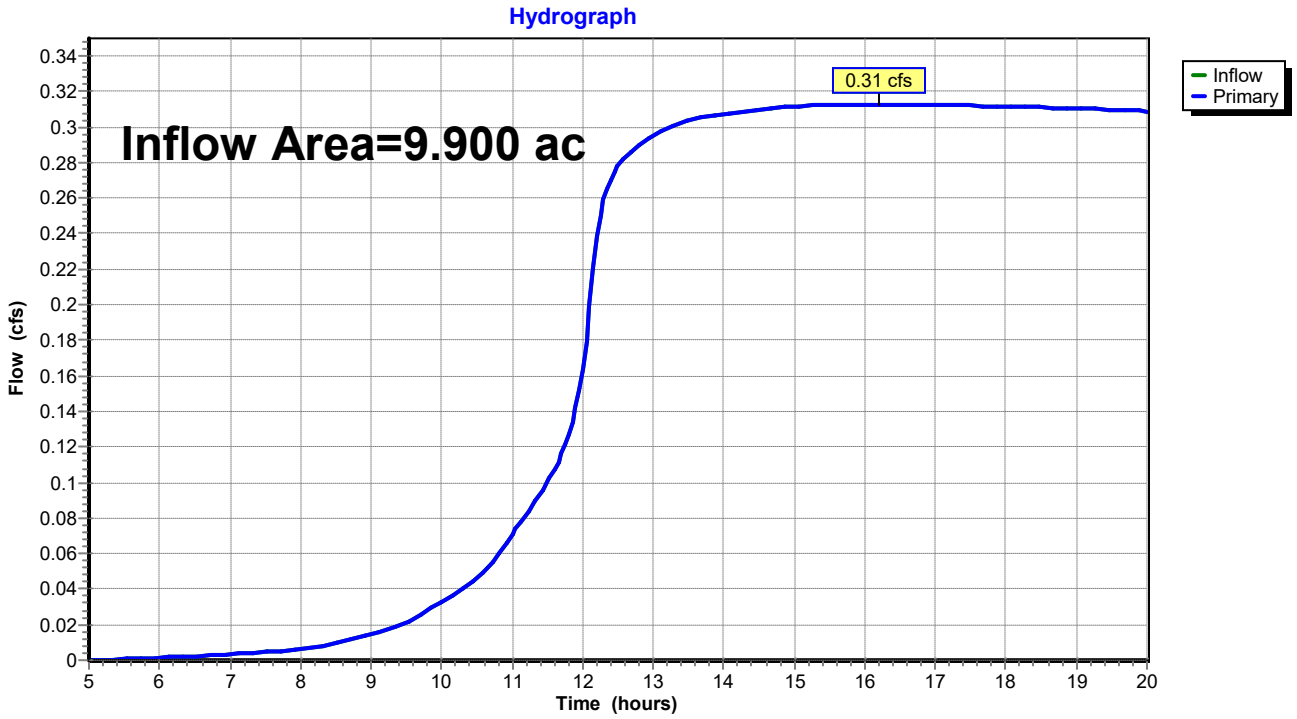
Pond A3: A3



Pond P: EXISTING WET POND



Link 3L: Link



Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment A1 I: A1 Runoff Area=24,360 sf 100.00% Impervious Runoff Depth>2.34"
Flow Length=130' Slope=0.0200 '/' Tc=6.0 min CN=98 Runoff=2.10 cfs 0.109 af

Subcatchment A1 P: A1 Runoff Area=13,260 sf 0.00% Impervious Runoff Depth>0.65"
Flow Length=105' Slope=0.0380 '/' Tc=6.0 min CN=74 Runoff=0.36 cfs 0.017 af

Subcatchment A2 I: A2 Runoff Area=59,000 sf 100.00% Impervious Runoff Depth>2.34"
Flow Length=315' Slope=0.0280 '/' Tc=6.0 min CN=98 Runoff=5.09 cfs 0.264 af

Subcatchment A2 P: A2 Runoff Area=27,100 sf 0.00% Impervious Runoff Depth>0.65"
Flow Length=75' Slope=0.0500 '/' Tc=6.0 min CN=74 Runoff=0.74 cfs 0.034 af

Subcatchment A3 I: A3 Runoff Area=62,920 sf 100.00% Impervious Runoff Depth>2.34"
Flow Length=355' Slope=0.0280 '/' Tc=6.0 min CN=98 Runoff=5.43 cfs 0.281 af

Subcatchment B1 I: B1 Runoff Area=38,135 sf 100.00% Impervious Runoff Depth>2.34"
Flow Length=125' Slope=0.0350 '/' Tc=6.0 min CN=98 Runoff=3.29 cfs 0.171 af

Subcatchment B1 P: B1 Runoff Area=206,465 sf 7.84% Impervious Runoff Depth>0.74"
Flow Length=475' Tc=11.5 min CN=76 Runoff=5.16 cfs 0.293 af

Pond A1: A1 Peak Elev=895.64' Inflow=2.46 cfs 0.126 af
10.0" Round Culvert n=0.011 L=223.0' S=0.0111 '/' Outflow=2.46 cfs 0.126 af

Pond A2: A2 Peak Elev=895.08' Inflow=8.28 cfs 0.423 af
15.0" Round Culvert n=0.011 L=135.0' S=0.0050 '/' Outflow=8.28 cfs 0.423 af

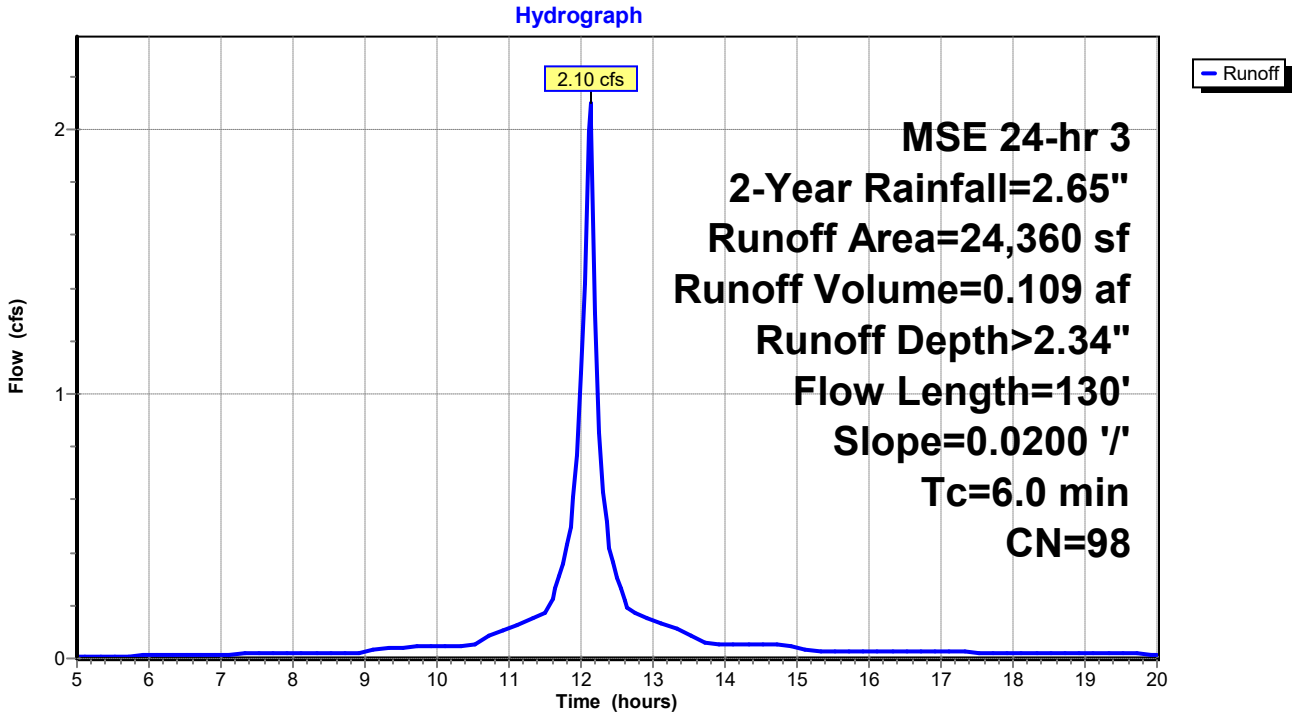
Pond A3: A3 Peak Elev=894.51' Inflow=13.71 cfs 0.705 af
18.0" Round Culvert n=0.011 L=55.0' S=0.0076 '/' Outflow=13.71 cfs 0.705 af

Pond P: EXISTING WET POND Peak Elev=889.65' Storage=41,137 cf Inflow=20.92 cfs 1.168 af
Primary=0.34 cfs 0.239 af Secondary=0.00 cfs 0.000 af Outflow=0.34 cfs 0.239 af

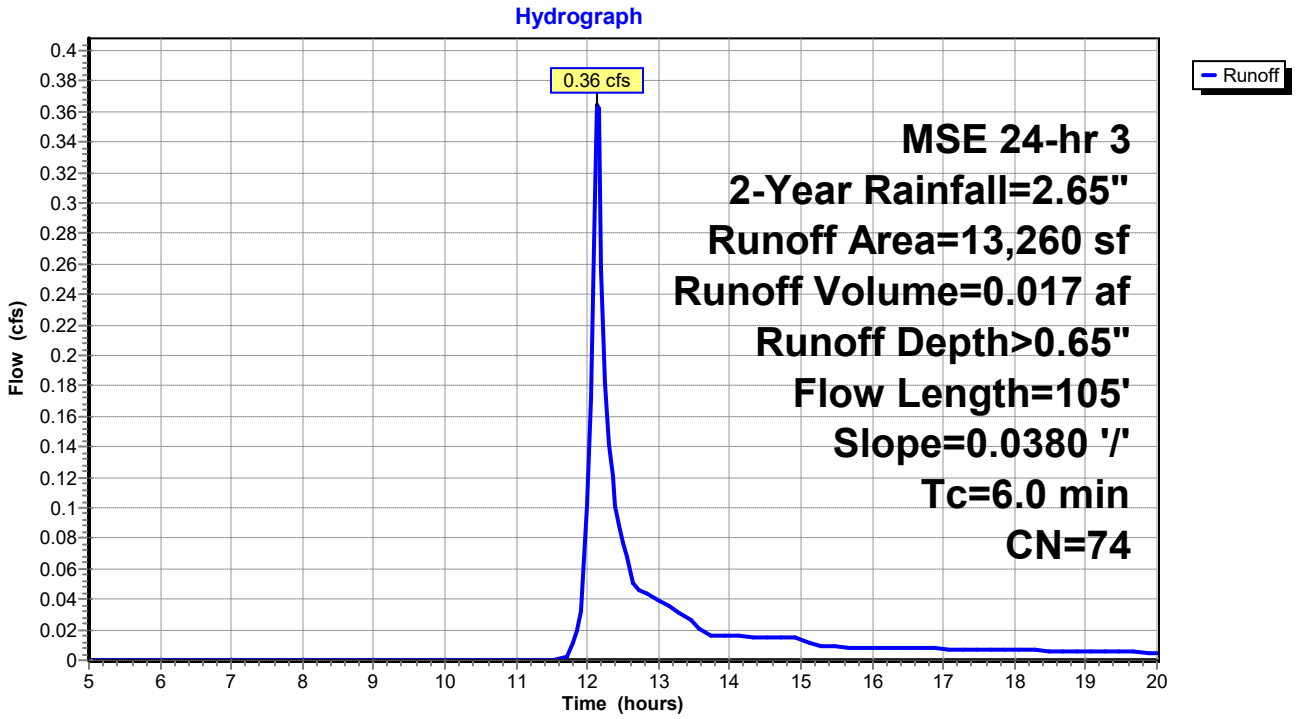
Link 3L: Link Inflow=0.34 cfs 0.239 af
Primary=0.34 cfs 0.239 af

Total Runoff Area = 9.900 ac Runoff Volume = 1.168 af Average Runoff Depth = 1.42"
53.48% Pervious = 5.295 ac 46.52% Impervious = 4.605 ac

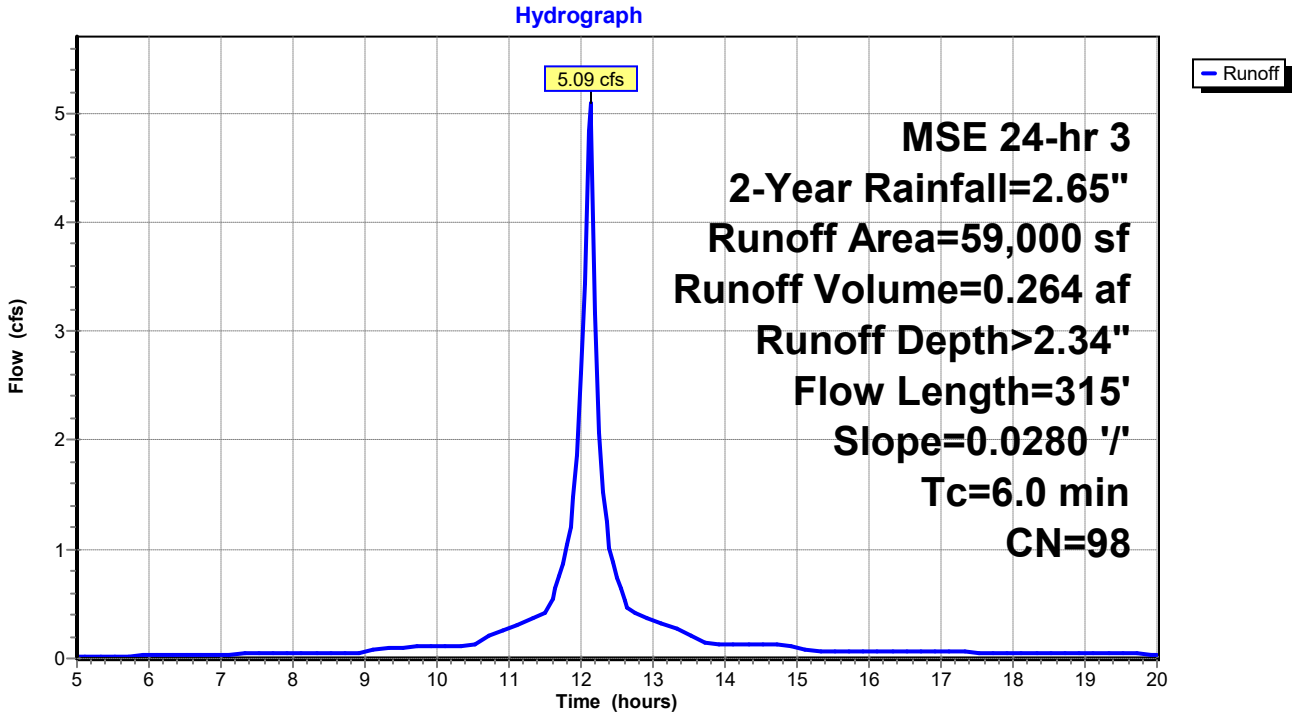
Subcatchment A1 I: A1



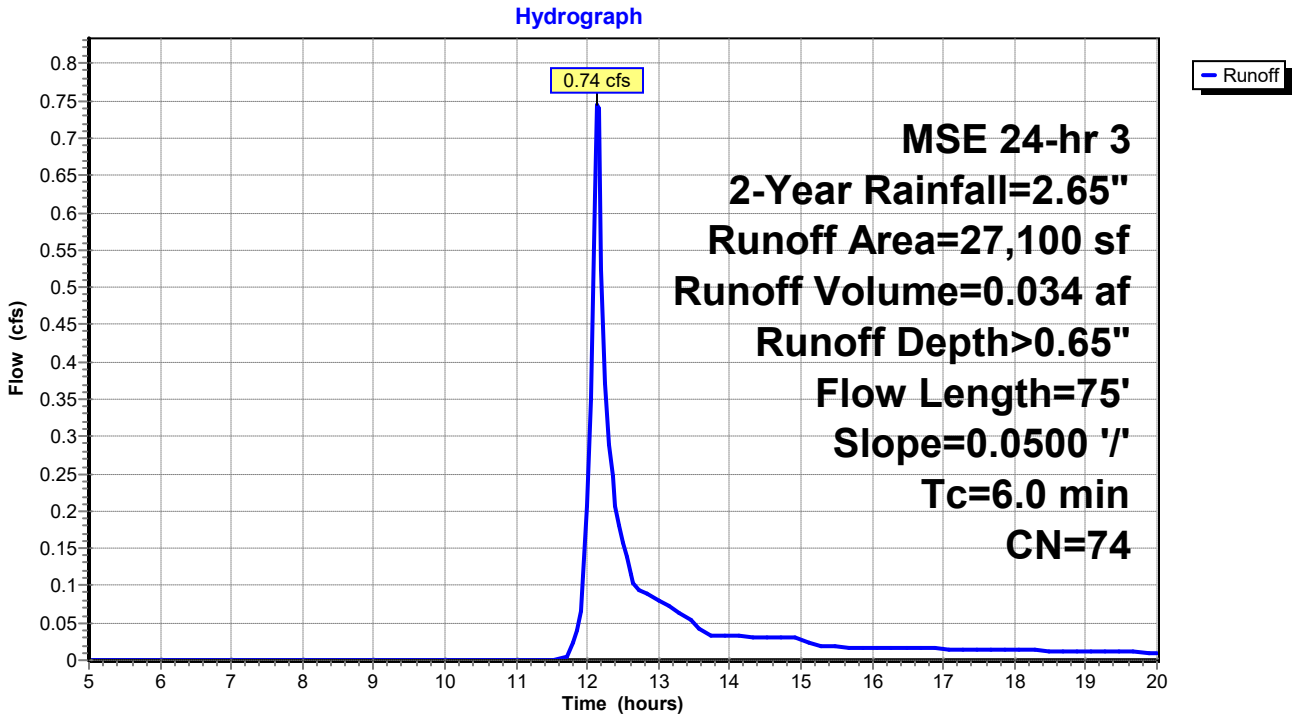
Subcatchment A1 P: A1



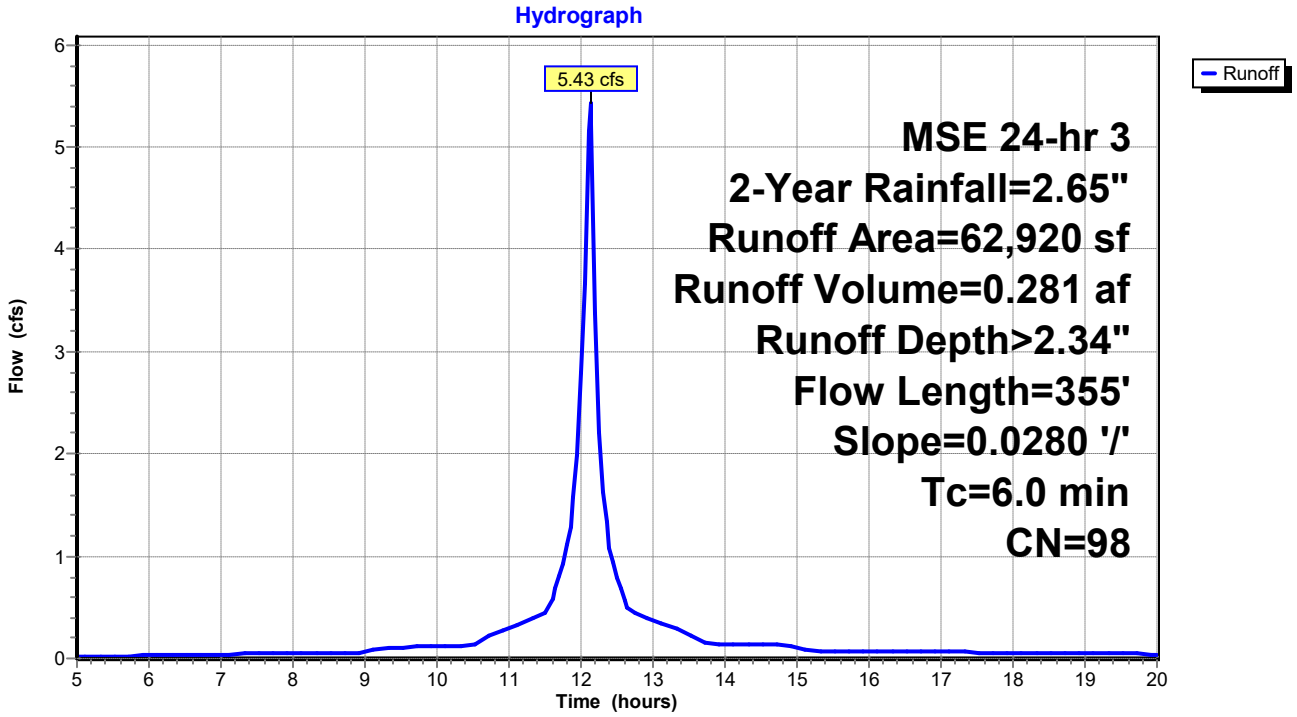
Subcatchment A2 I: A2



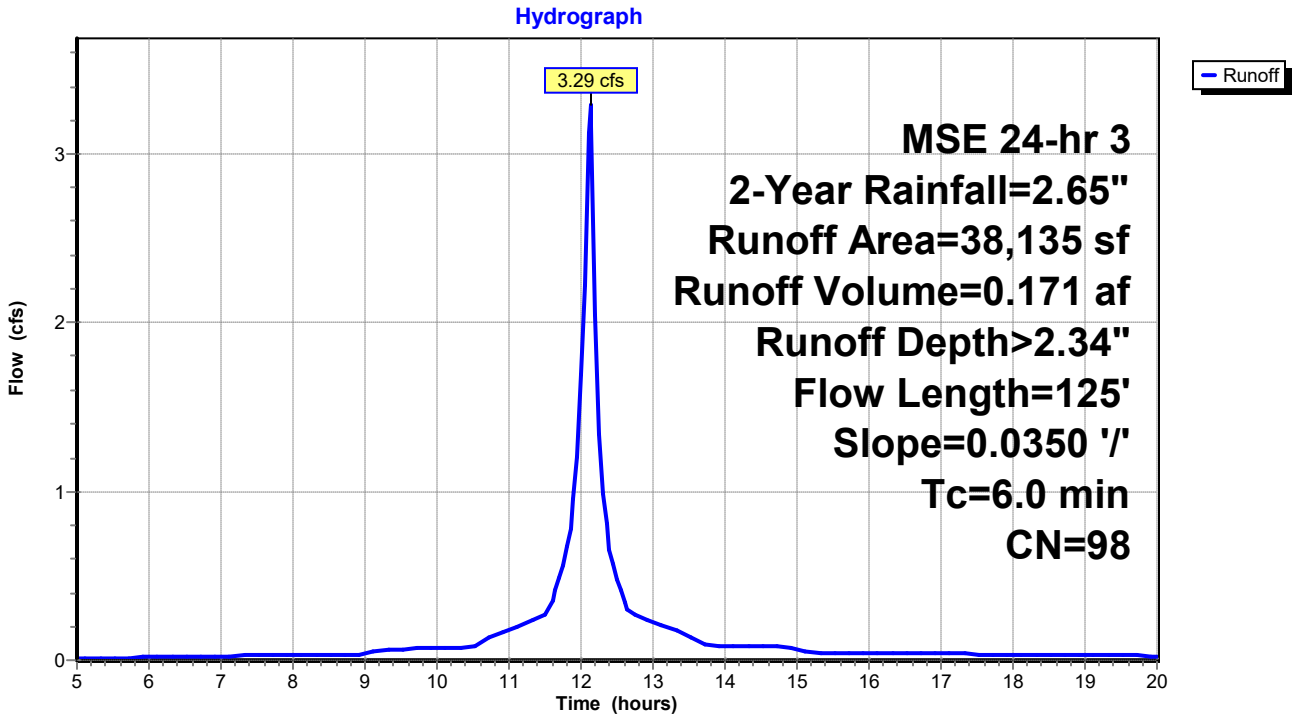
Subcatchment A2 P: A2



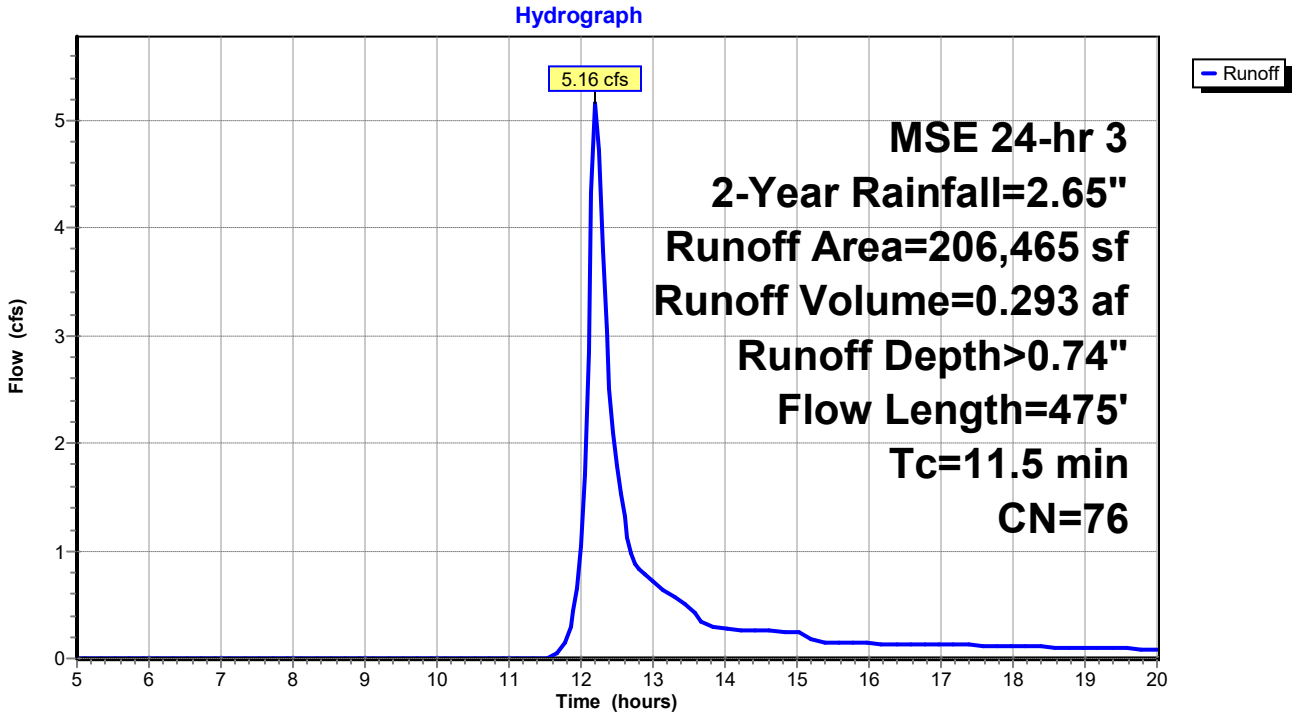
Subcatchment A3 l: A3



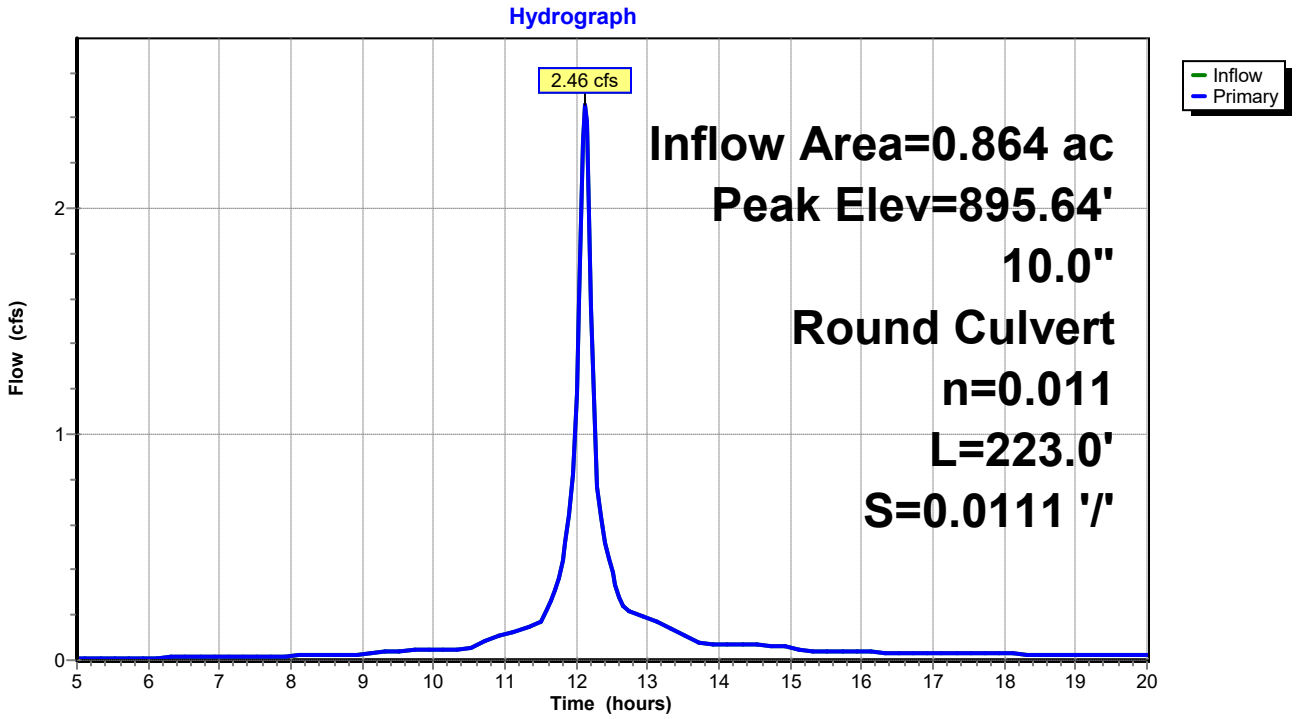
Subcatchment B1 l: B1



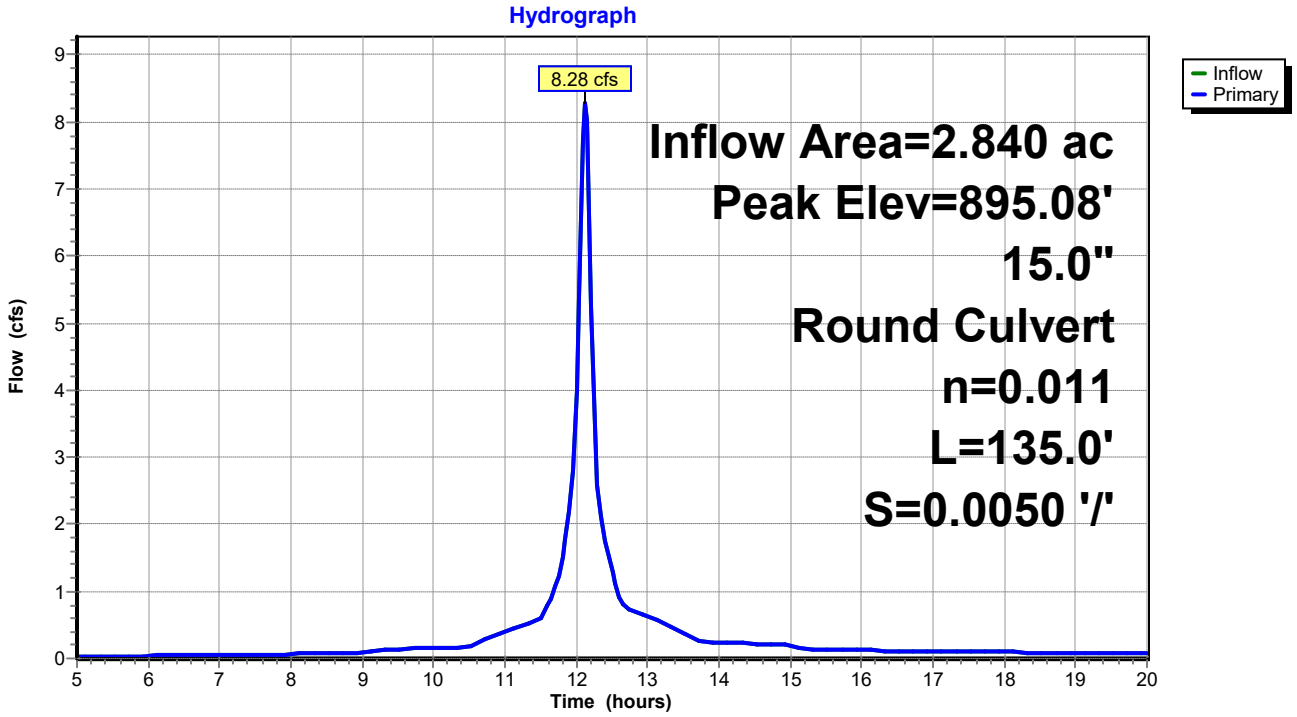
Subcatchment B1 P: B1



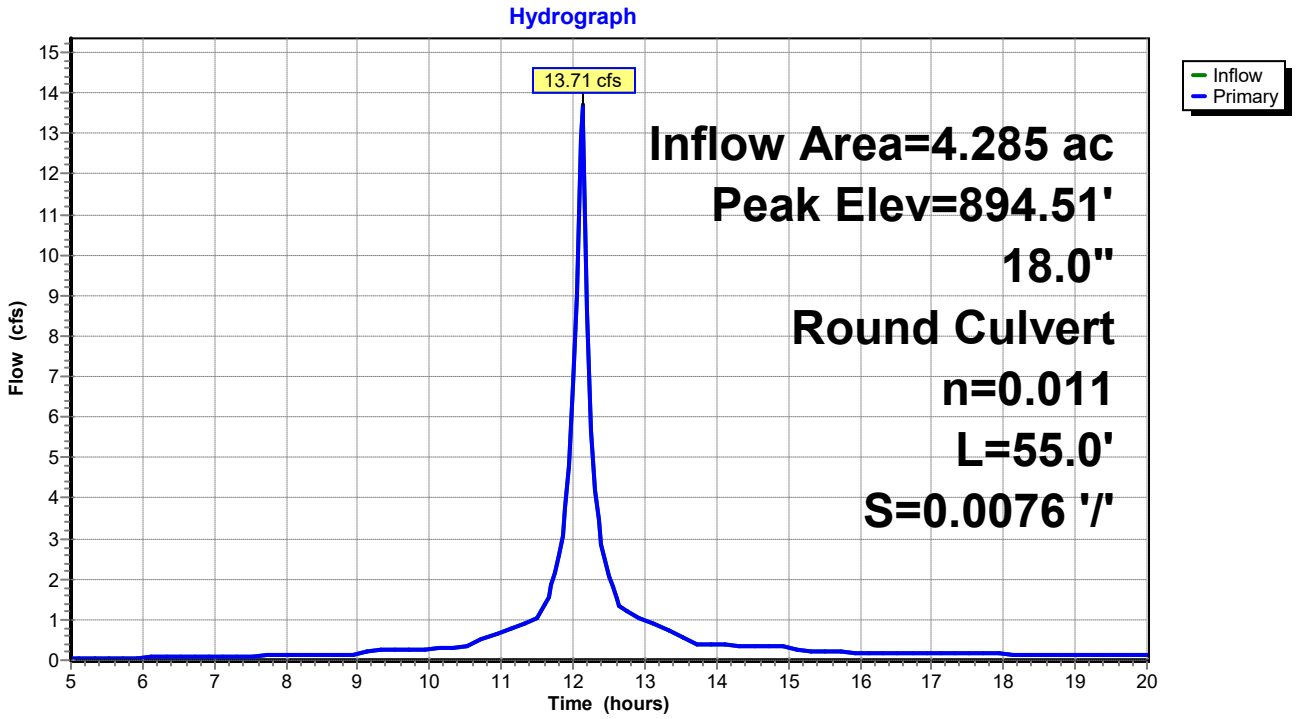
Pond A1: A1



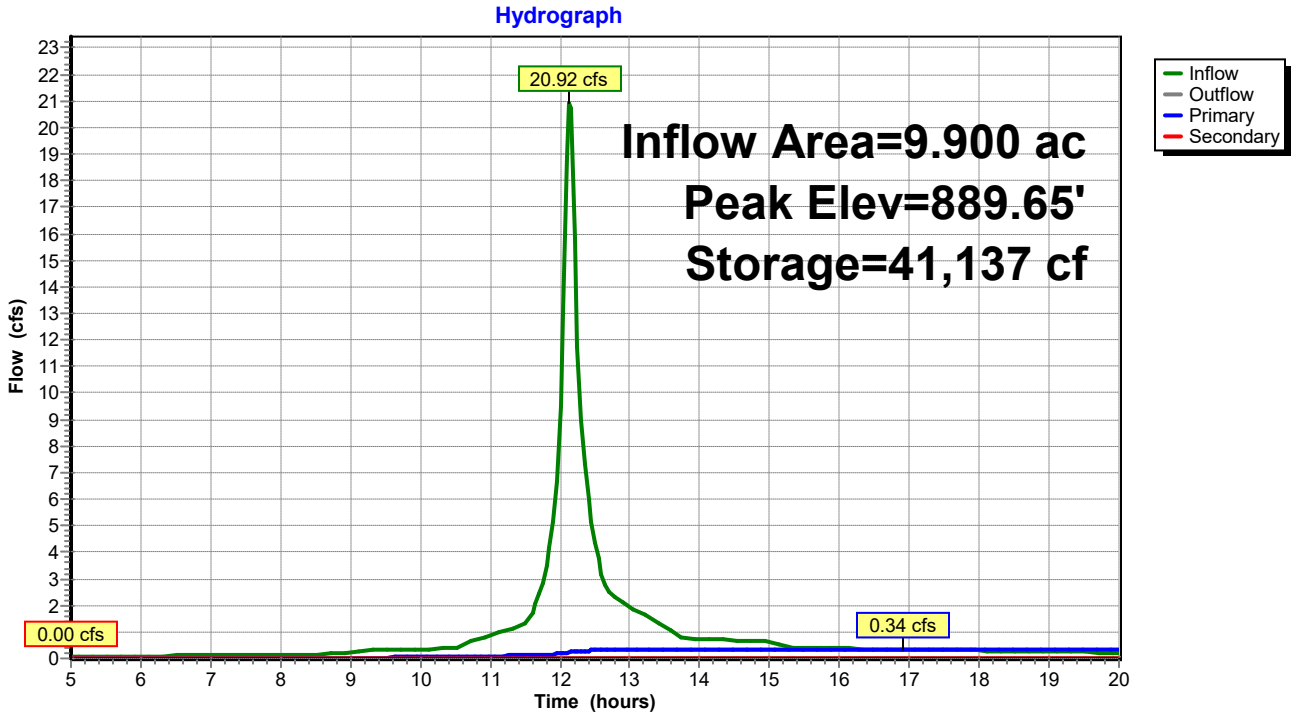
Pond A2: A2



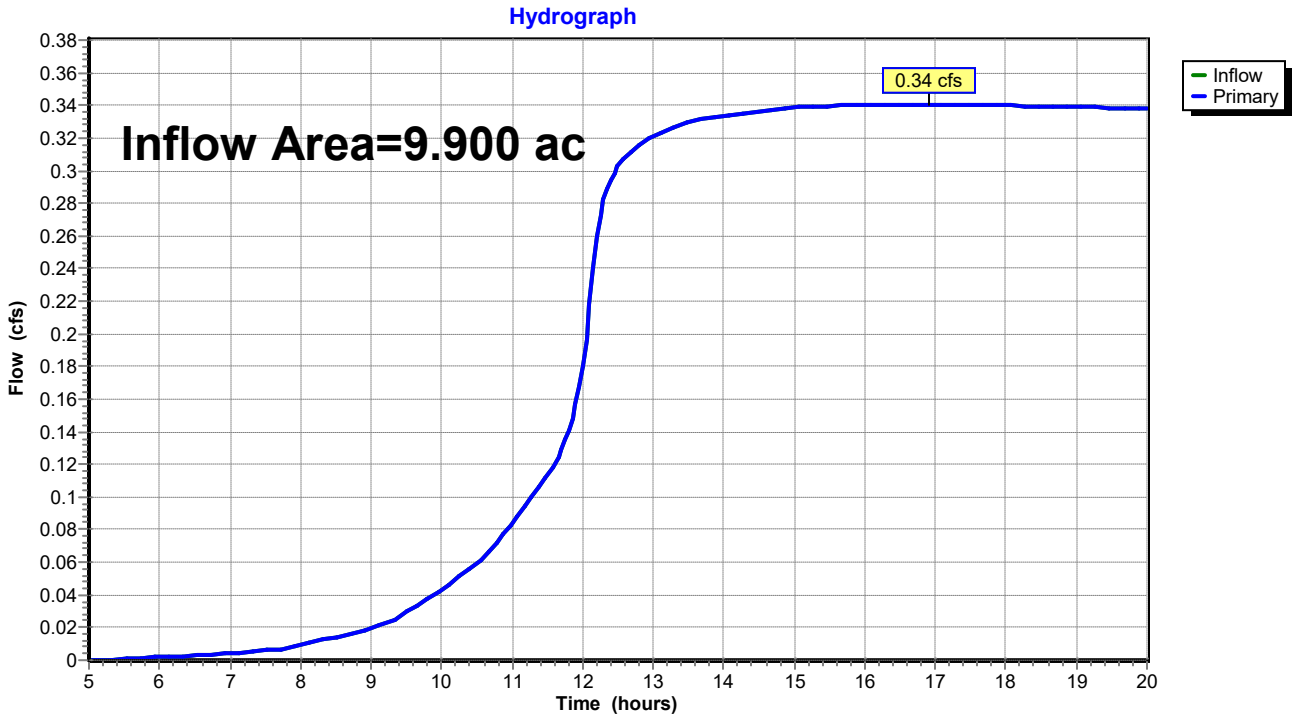
Pond A3: A3



Pond P: EXISTING WET POND



Link 3L: Link



Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment A1 I: A1 Runoff Area=24,360 sf 100.00% Impervious Runoff Depth>3.45"
Flow Length=130' Slope=0.0200 '/' Tc=6.0 min CN=98 Runoff=3.05 cfs 0.161 af

Subcatchment A1 P: A1 Runoff Area=13,260 sf 0.00% Impervious Runoff Depth>1.39"
Flow Length=105' Slope=0.0380 '/' Tc=6.0 min CN=74 Runoff=0.80 cfs 0.035 af

Subcatchment A2 I: A2 Runoff Area=59,000 sf 100.00% Impervious Runoff Depth>3.45"
Flow Length=315' Slope=0.0280 '/' Tc=6.0 min CN=98 Runoff=7.40 cfs 0.390 af

Subcatchment A2 P: A2 Runoff Area=27,100 sf 0.00% Impervious Runoff Depth>1.39"
Flow Length=75' Slope=0.0500 '/' Tc=6.0 min CN=74 Runoff=1.63 cfs 0.072 af

Subcatchment A3 I: A3 Runoff Area=62,920 sf 100.00% Impervious Runoff Depth>3.45"
Flow Length=355' Slope=0.0280 '/' Tc=6.0 min CN=98 Runoff=7.89 cfs 0.416 af

Subcatchment B1 I: B1 Runoff Area=38,135 sf 100.00% Impervious Runoff Depth>3.45"
Flow Length=125' Slope=0.0350 '/' Tc=6.0 min CN=98 Runoff=4.78 cfs 0.252 af

Subcatchment B1 P: B1 Runoff Area=206,465 sf 7.84% Impervious Runoff Depth>1.52"
Flow Length=475' Tc=11.5 min CN=76 Runoff=10.92 cfs 0.601 af

Pond A1: A1 Peak Elev=898.67' Inflow=3.85 cfs 0.196 af
10.0" Round Culvert n=0.011 L=223.0' S=0.0111 '/' Outflow=3.85 cfs 0.196 af

Pond A2: A2 Peak Elev=898.77' Inflow=12.87 cfs 0.658 af
15.0" Round Culvert n=0.011 L=135.0' S=0.0050 '/' Outflow=12.87 cfs 0.658 af

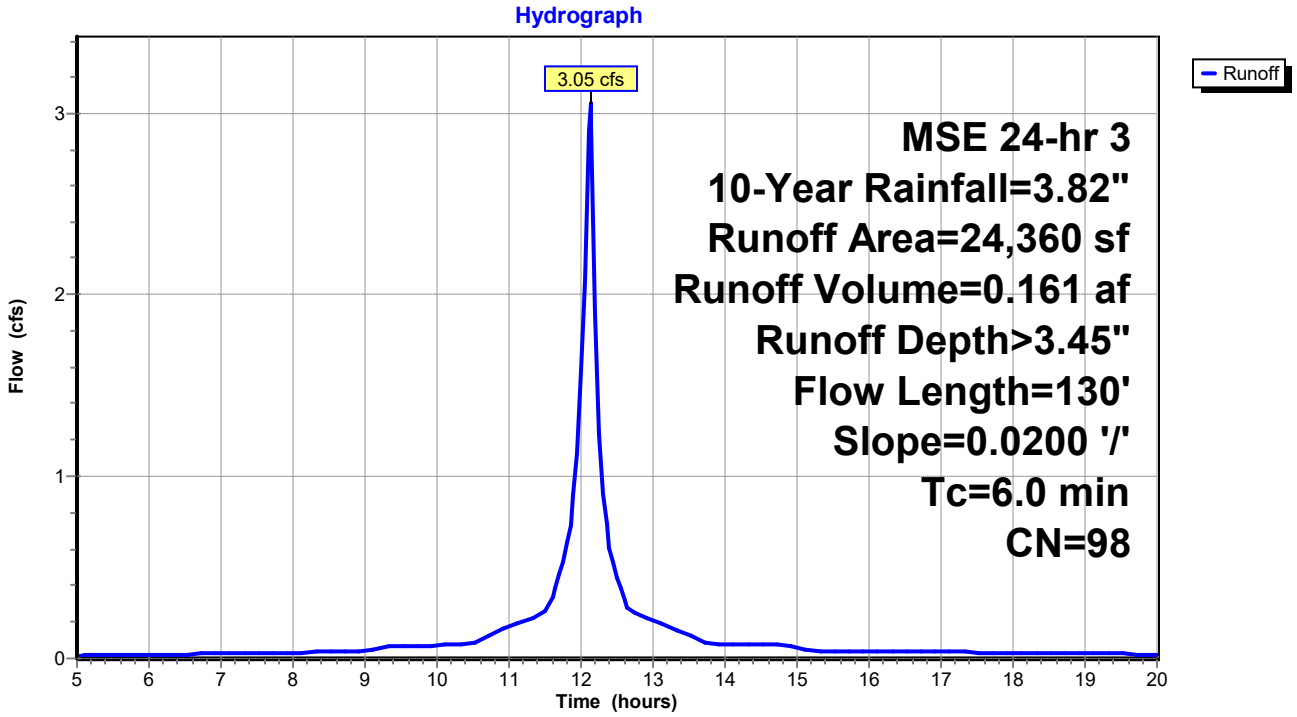
Pond A3: A3 Peak Elev=897.81' Inflow=20.76 cfs 1.074 af
18.0" Round Culvert n=0.011 L=55.0' S=0.0076 '/' Outflow=20.76 cfs 1.074 af

Pond P: EXISTING WET POND Peak Elev=890.92' Storage=70,611 cf Inflow=34.45 cfs 1.927 af
Primary=0.43 cfs 0.311 af Secondary=0.00 cfs 0.000 af Outflow=0.43 cfs 0.311 af

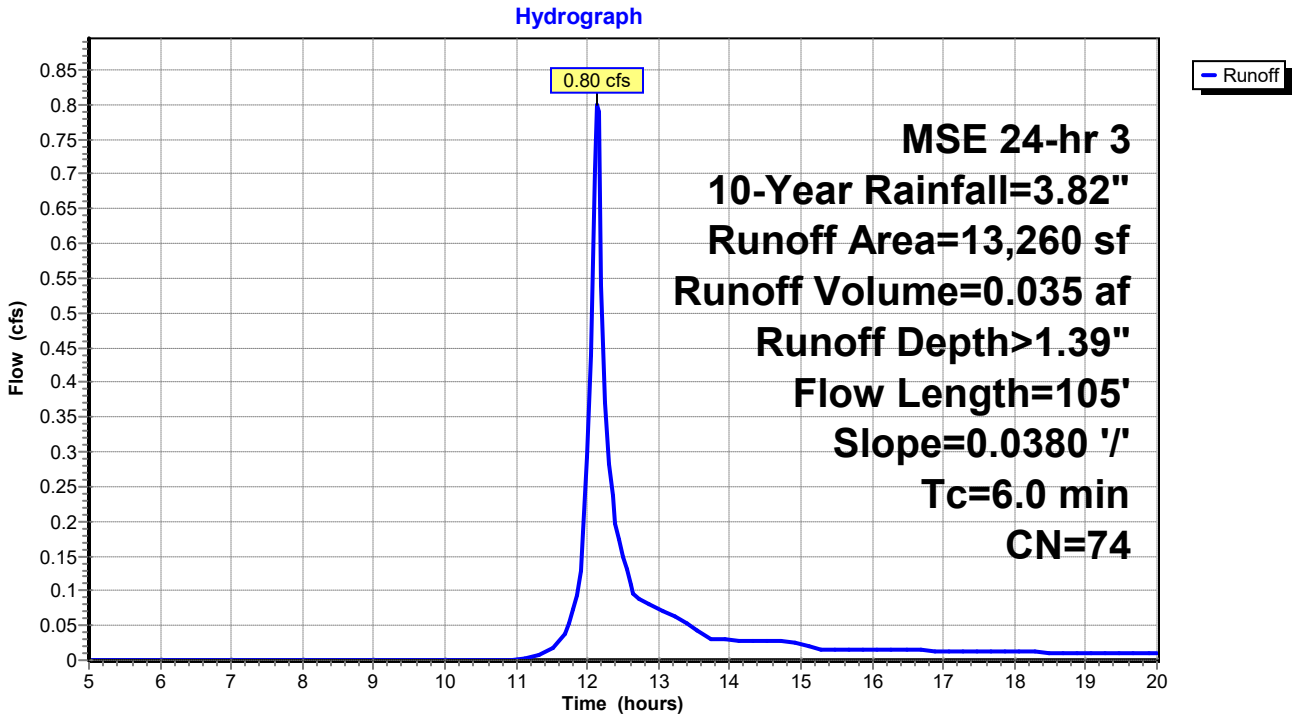
Link 3L: Link Inflow=0.43 cfs 0.311 af
Primary=0.43 cfs 0.311 af

Total Runoff Area = 9.900 ac Runoff Volume = 1.927 af Average Runoff Depth = 2.34"
53.48% Pervious = 5.295 ac 46.52% Impervious = 4.605 ac

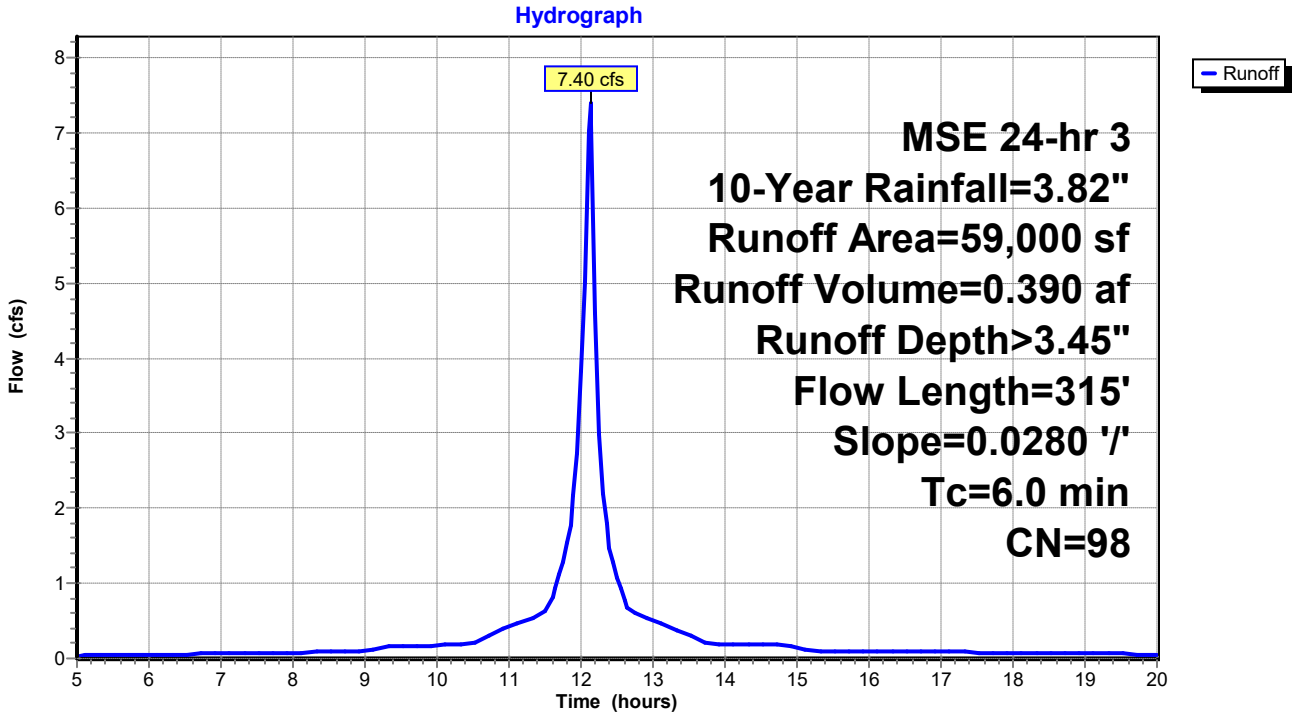
Subcatchment A1 I: A1



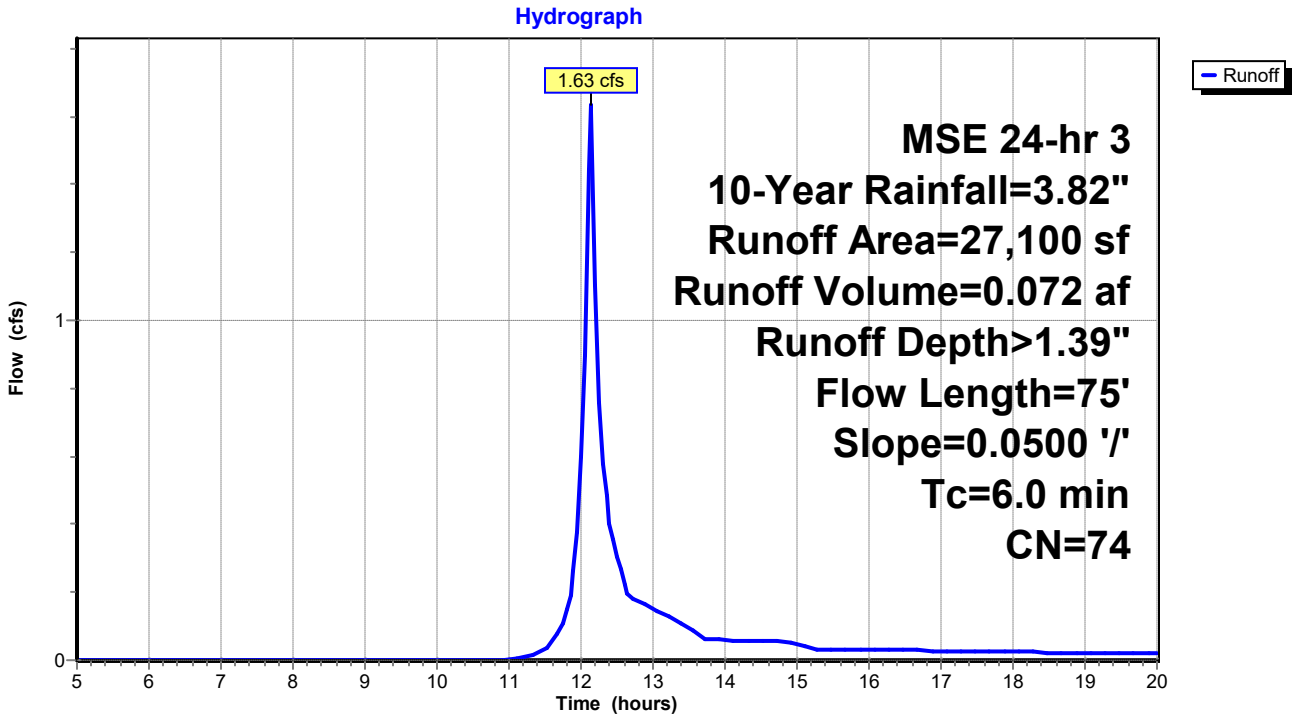
Subcatchment A1 P: A1



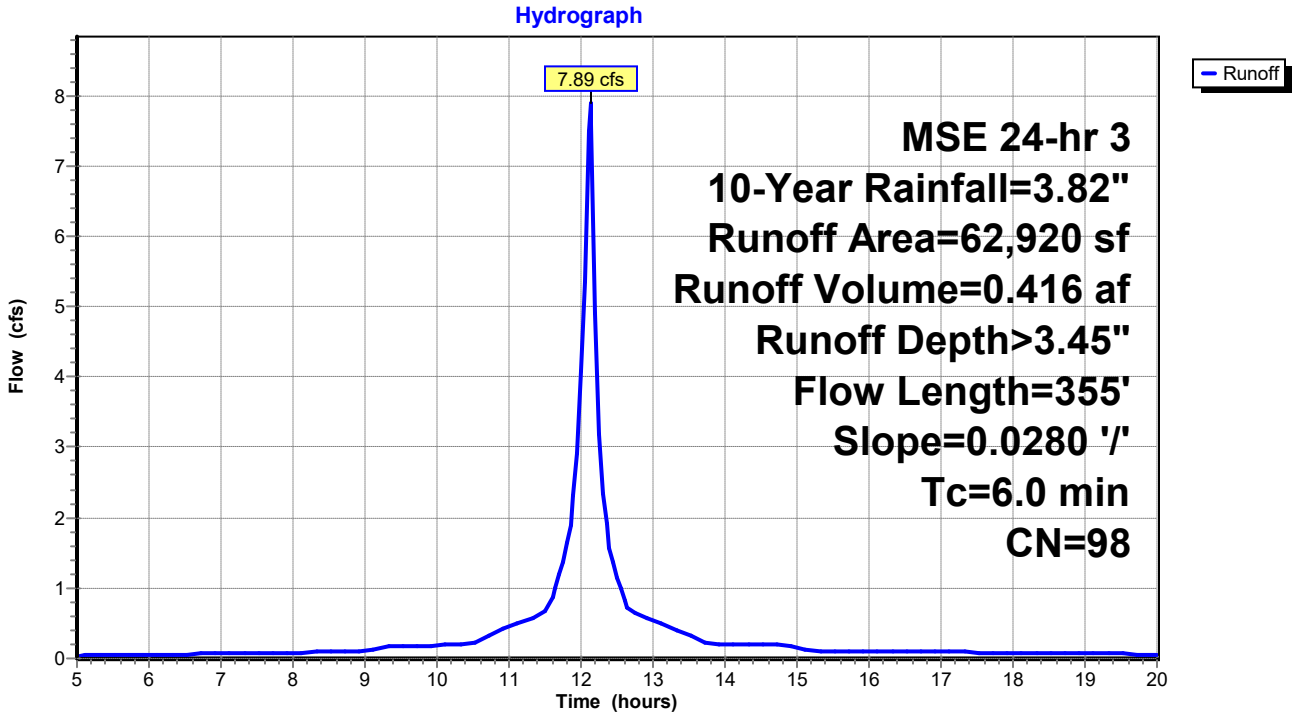
Subcatchment A2 I: A2



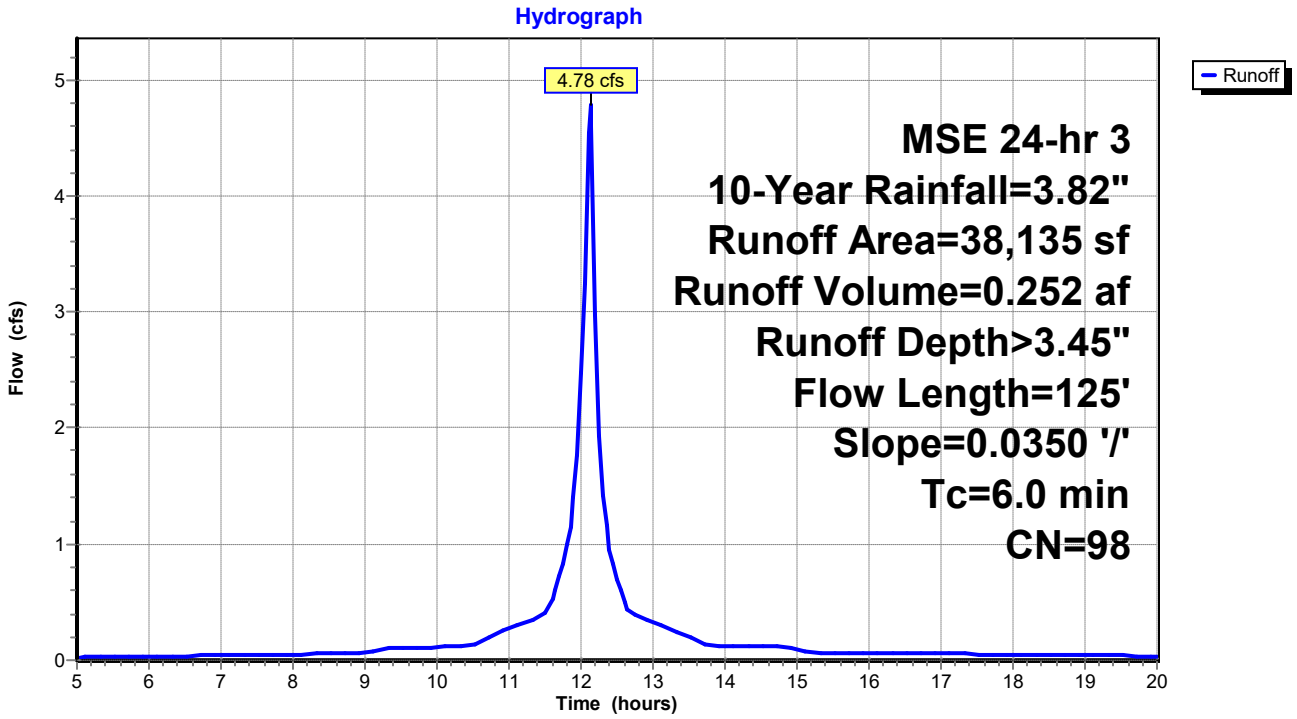
Subcatchment A2 P: A2



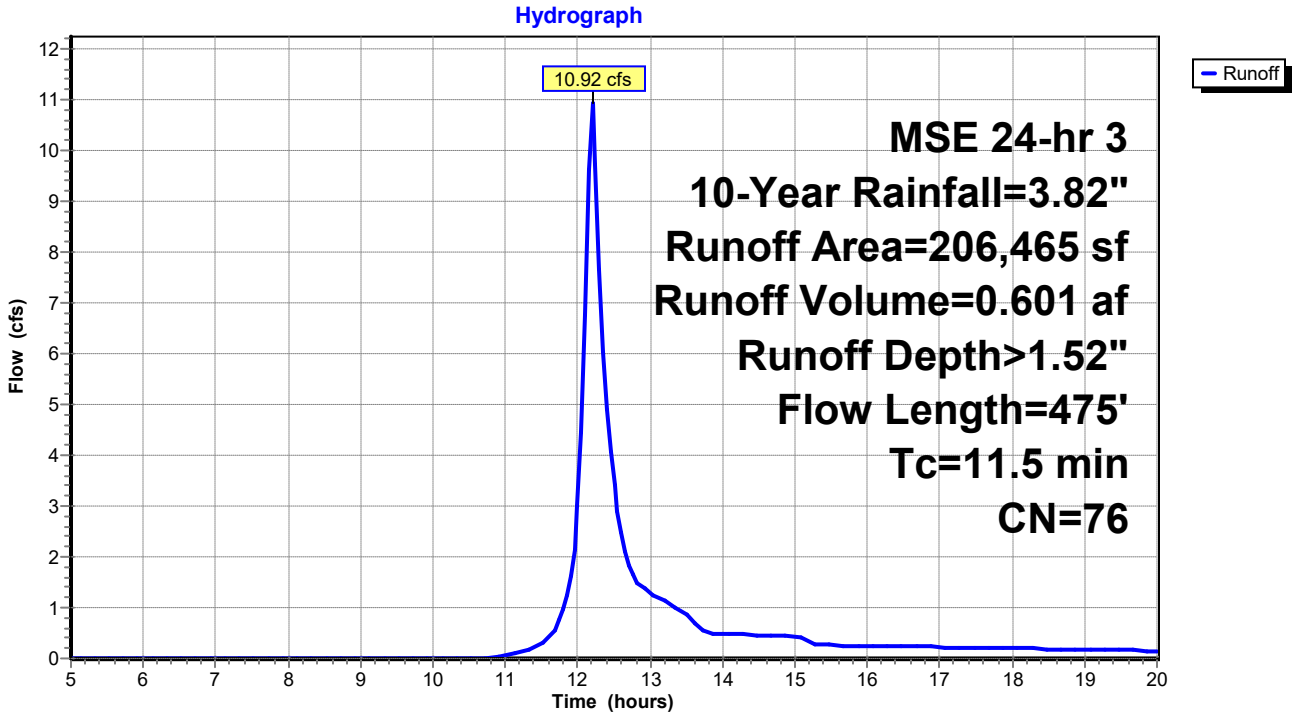
Subcatchment A3 I: A3



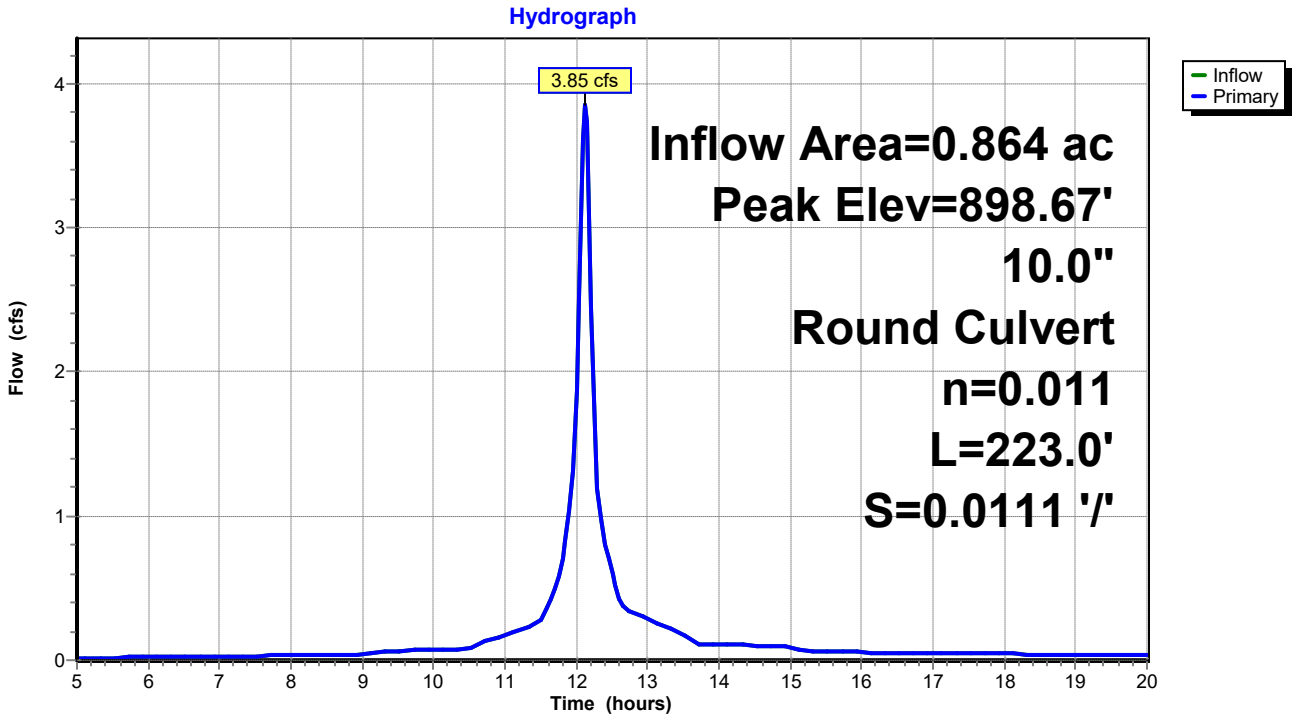
Subcatchment B1 I: B1



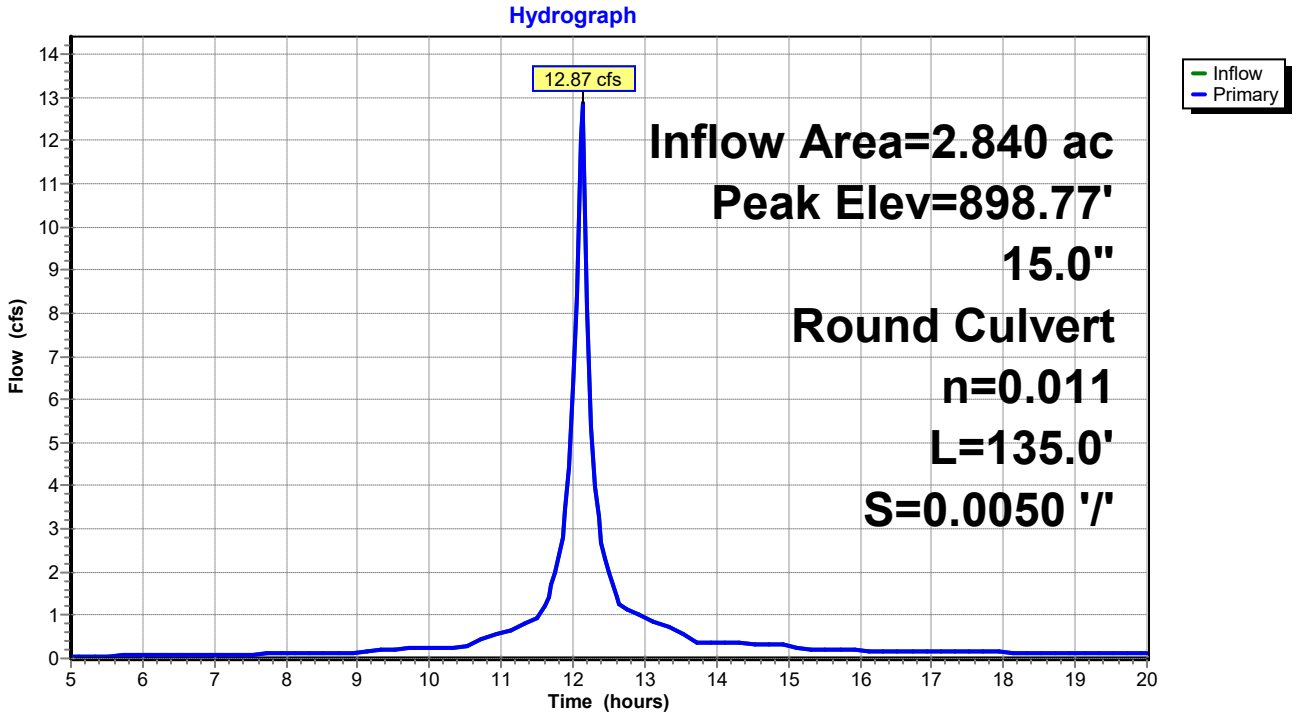
Subcatchment B1 P: B1



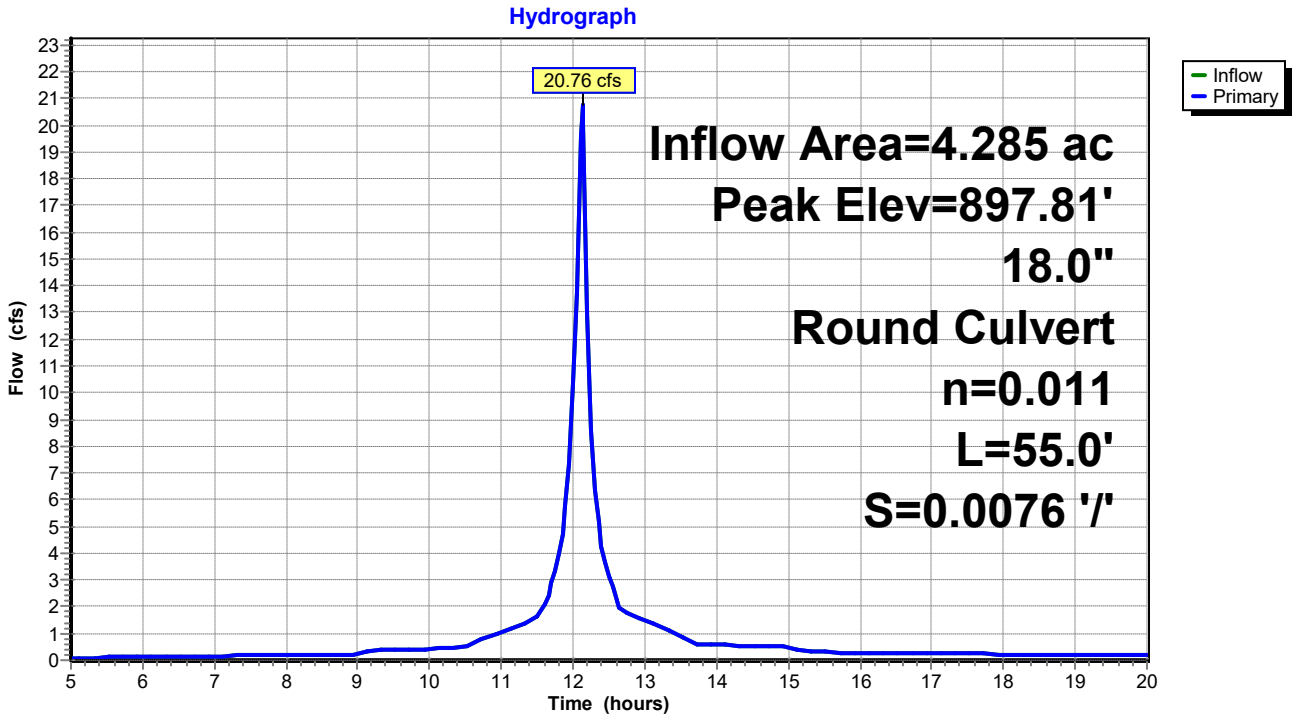
Pond A1: A1



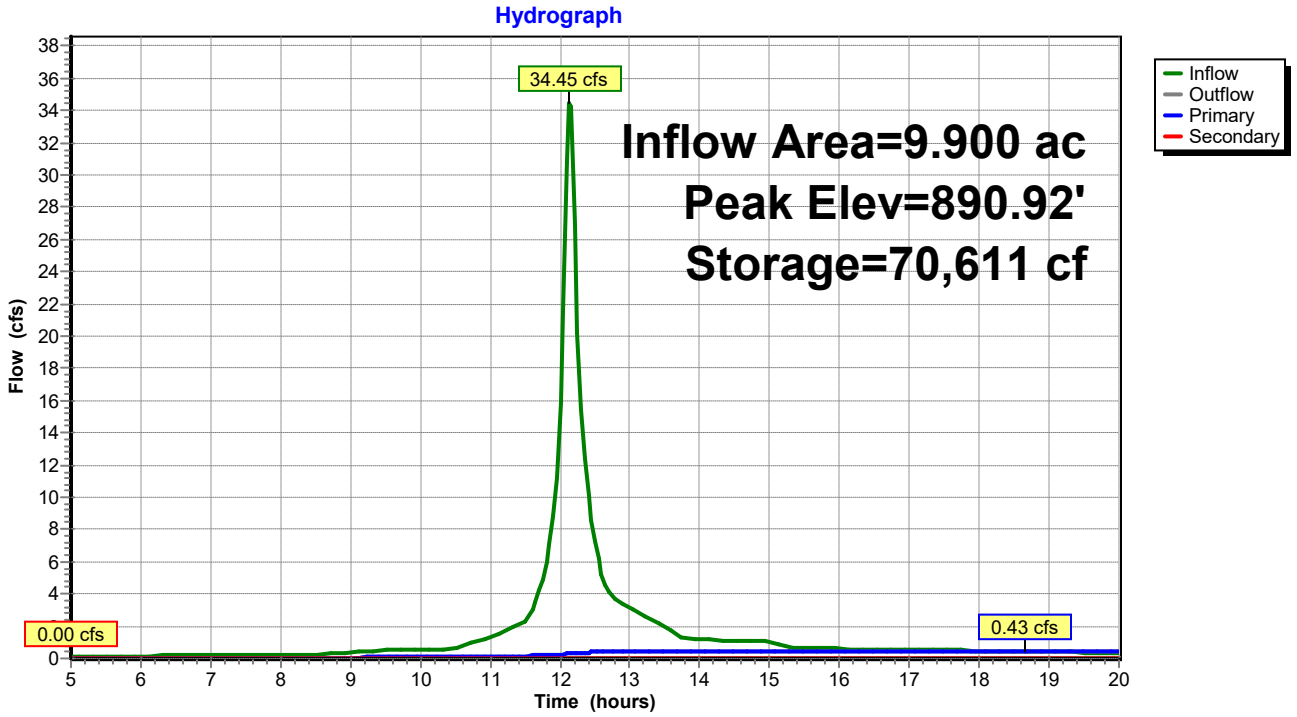
Pond A2: A2



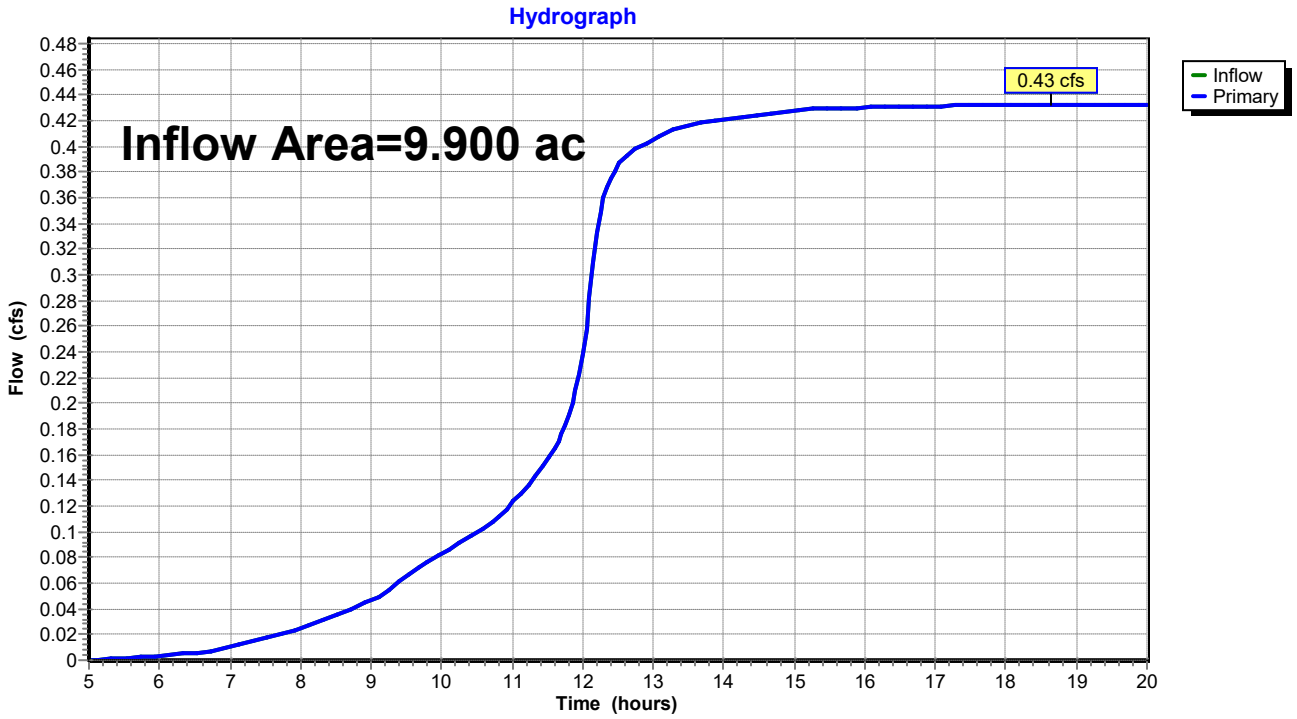
Pond A3: A3



Pond P: EXISTING WET POND



Link 3L: Link



Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment A1 I: A1 Runoff Area=24,360 sf 100.00% Impervious Runoff Depth>5.91"
Flow Length=130' Slope=0.0200 '/' Tc=6.0 min CN=98 Runoff=5.15 cfs 0.275 af

Subcatchment A1 P: A1 Runoff Area=13,260 sf 0.00% Impervious Runoff Depth>3.39"
Flow Length=105' Slope=0.0380 '/' Tc=6.0 min CN=74 Runoff=1.92 cfs 0.086 af

Subcatchment A2 I: A2 Runoff Area=59,000 sf 100.00% Impervious Runoff Depth>5.91"
Flow Length=315' Slope=0.0280 '/' Tc=6.0 min CN=98 Runoff=12.48 cfs 0.667 af

Subcatchment A2 P: A2 Runoff Area=27,100 sf 0.00% Impervious Runoff Depth>3.39"
Flow Length=75' Slope=0.0500 '/' Tc=6.0 min CN=74 Runoff=3.92 cfs 0.176 af

Subcatchment A3 I: A3 Runoff Area=62,920 sf 100.00% Impervious Runoff Depth>5.91"
Flow Length=355' Slope=0.0280 '/' Tc=6.0 min CN=98 Runoff=13.31 cfs 0.711 af

Subcatchment B1 I: B1 Runoff Area=38,135 sf 100.00% Impervious Runoff Depth>5.91"
Flow Length=125' Slope=0.0350 '/' Tc=6.0 min CN=98 Runoff=8.07 cfs 0.431 af

Subcatchment B1 P: B1 Runoff Area=206,465 sf 7.84% Impervious Runoff Depth>3.58"
Flow Length=475' Tc=11.5 min CN=76 Runoff=25.50 cfs 1.415 af

Pond A1: A1 Peak Elev=912.98' Inflow=7.07 cfs 0.361 af
10.0" Round Culvert n=0.011 L=223.0' S=0.0111 '/' Outflow=7.07 cfs 0.361 af

Pond A2: A2 Peak Elev=913.43' Inflow=23.46 cfs 1.204 af
15.0" Round Culvert n=0.011 L=135.0' S=0.0050 '/' Outflow=23.46 cfs 1.204 af

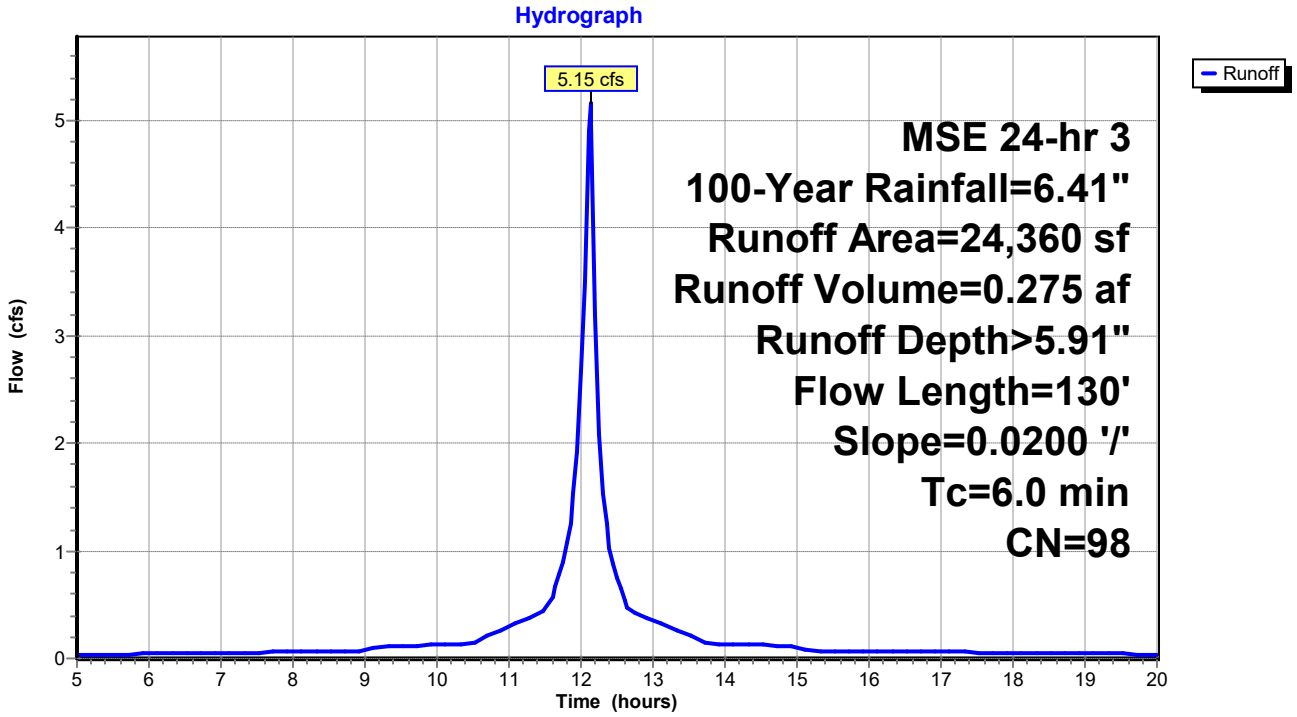
Pond A3: A3 Peak Elev=910.34' Inflow=36.77 cfs 1.915 af
18.0" Round Culvert n=0.011 L=55.0' S=0.0076 '/' Outflow=36.77 cfs 1.915 af

Pond P: EXISTING WET POND Peak Elev=892.69' Storage=122,049 cf Inflow=66.64 cfs 3.760 af
Primary=0.53 cfs 0.404 af Secondary=3.84 cfs 0.684 af Outflow=4.38 cfs 1.088 af

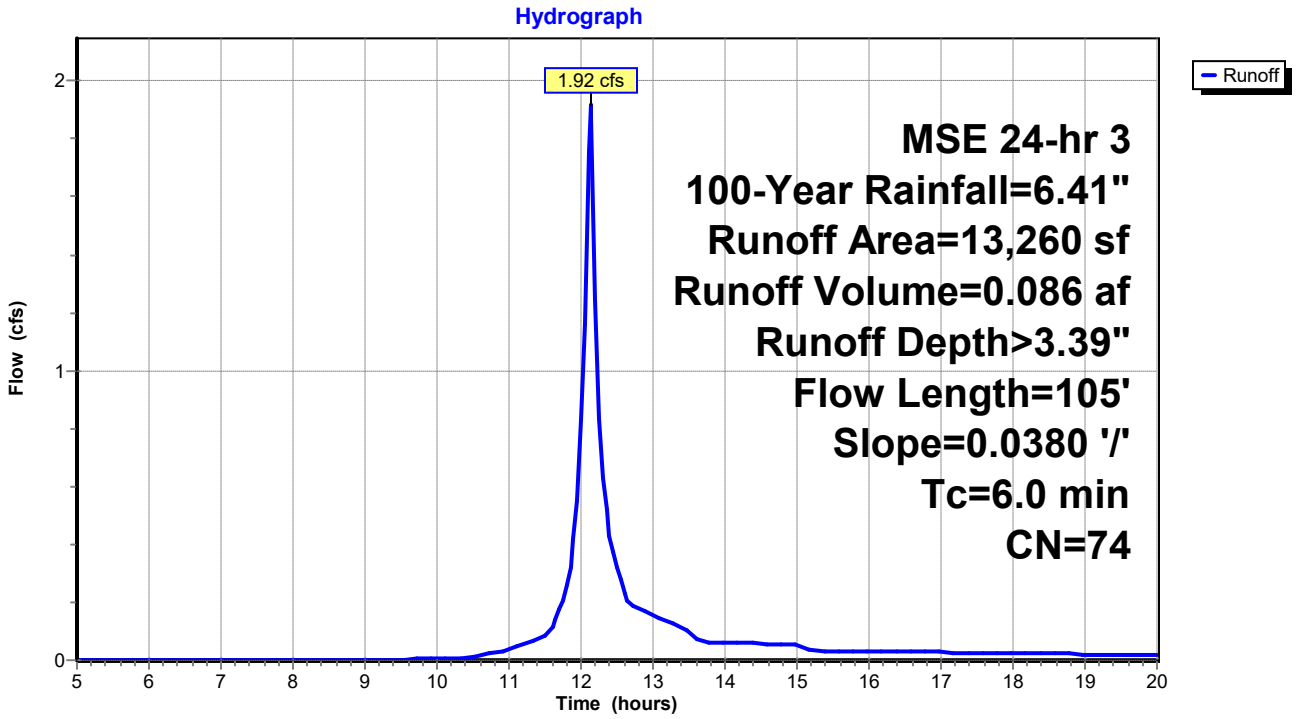
Link 3L: Link Inflow=4.38 cfs 1.088 af
Primary=4.38 cfs 1.088 af

Total Runoff Area = 9.900 ac Runoff Volume = 3.760 af Average Runoff Depth = 4.56"
53.48% Pervious = 5.295 ac 46.52% Impervious = 4.605 ac

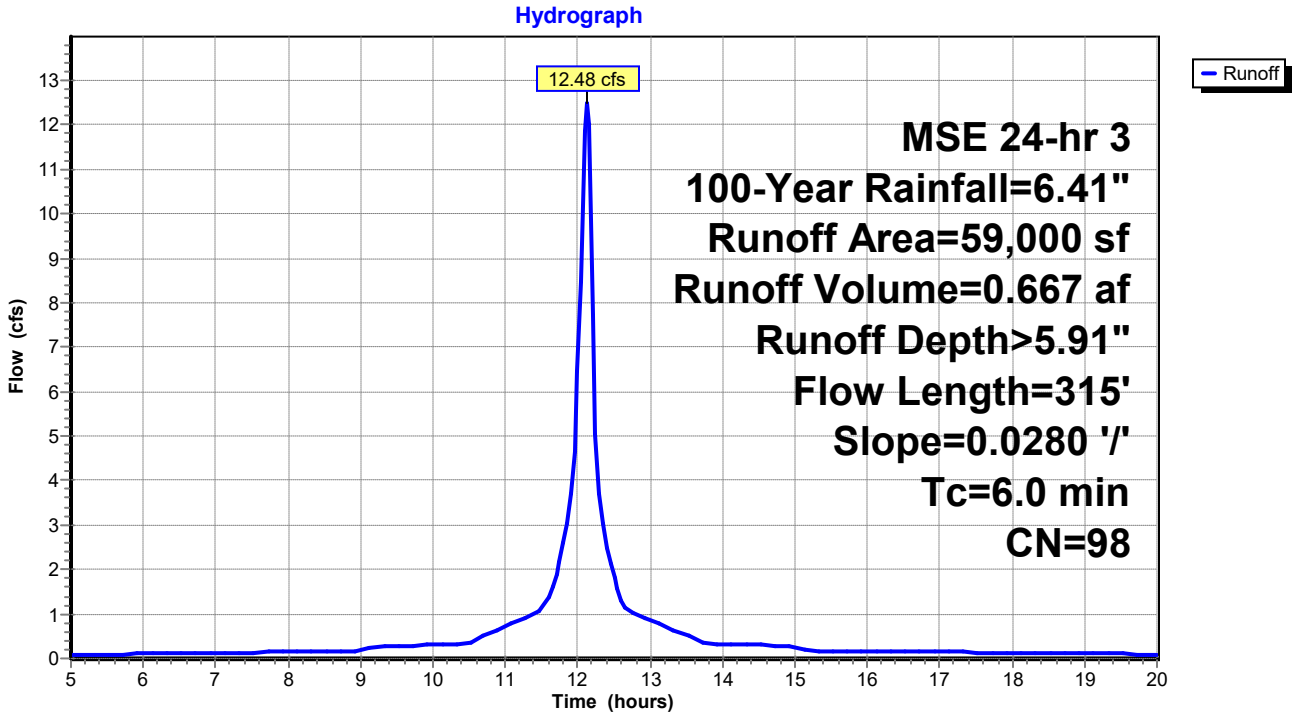
Subcatchment A1 I: A1



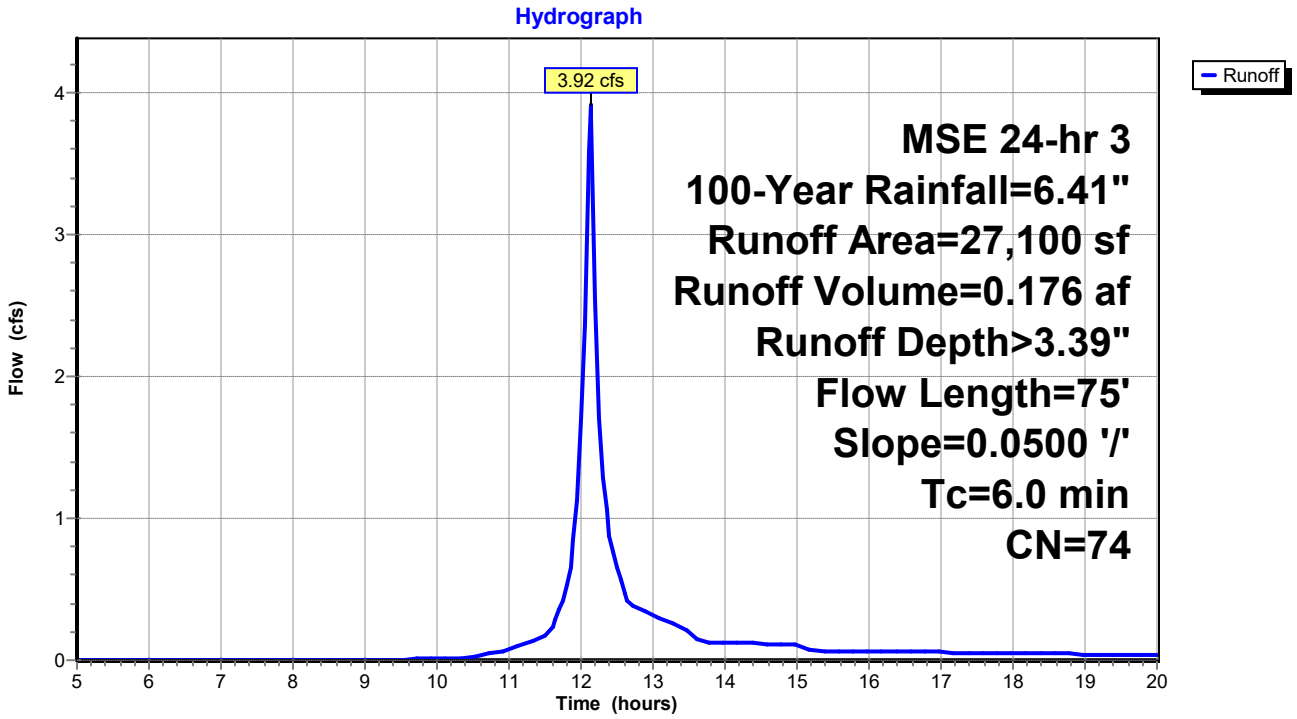
Subcatchment A1 P: A1



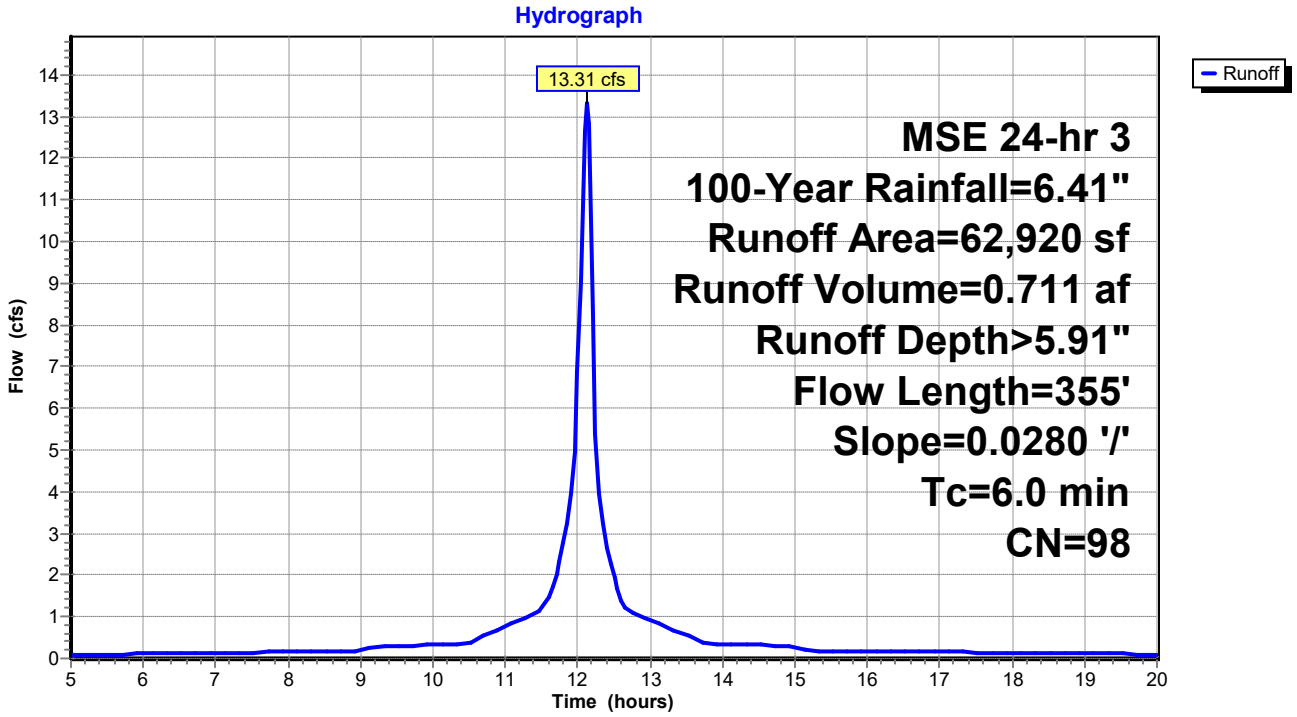
Subcatchment A2 I: A2



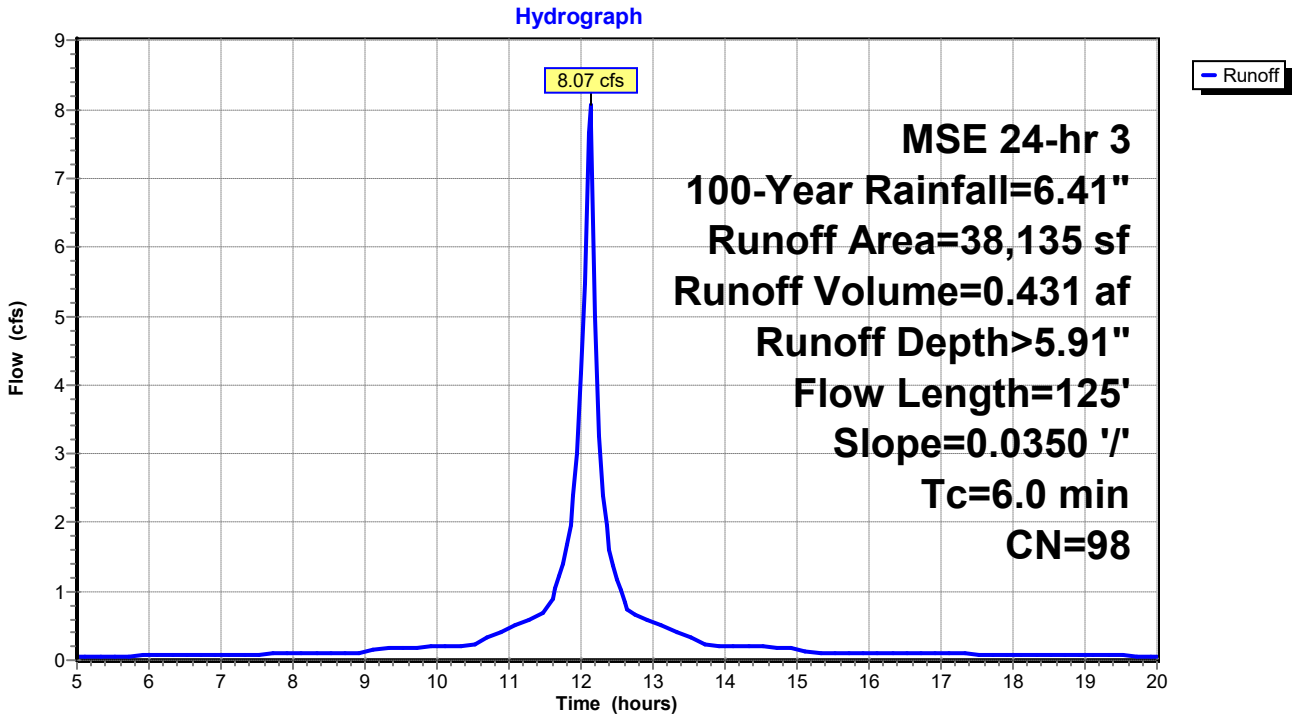
Subcatchment A2 P: A2



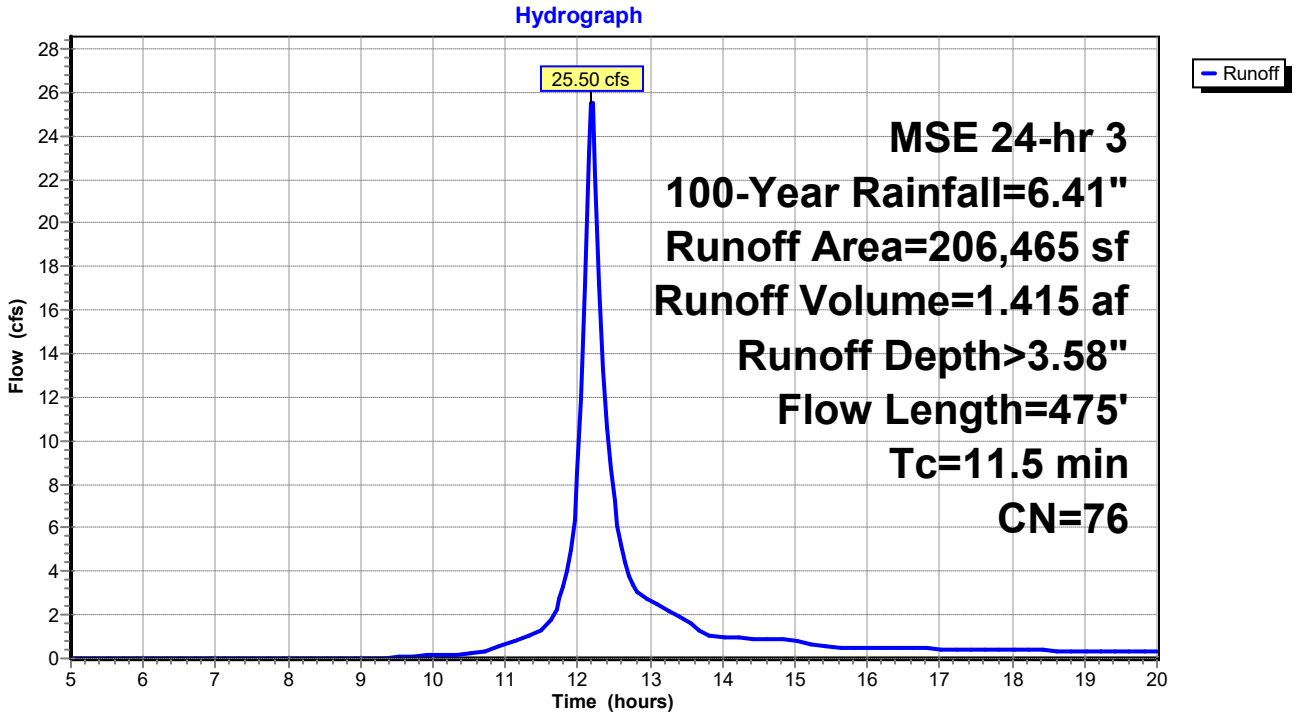
Subcatchment A3 l: A3



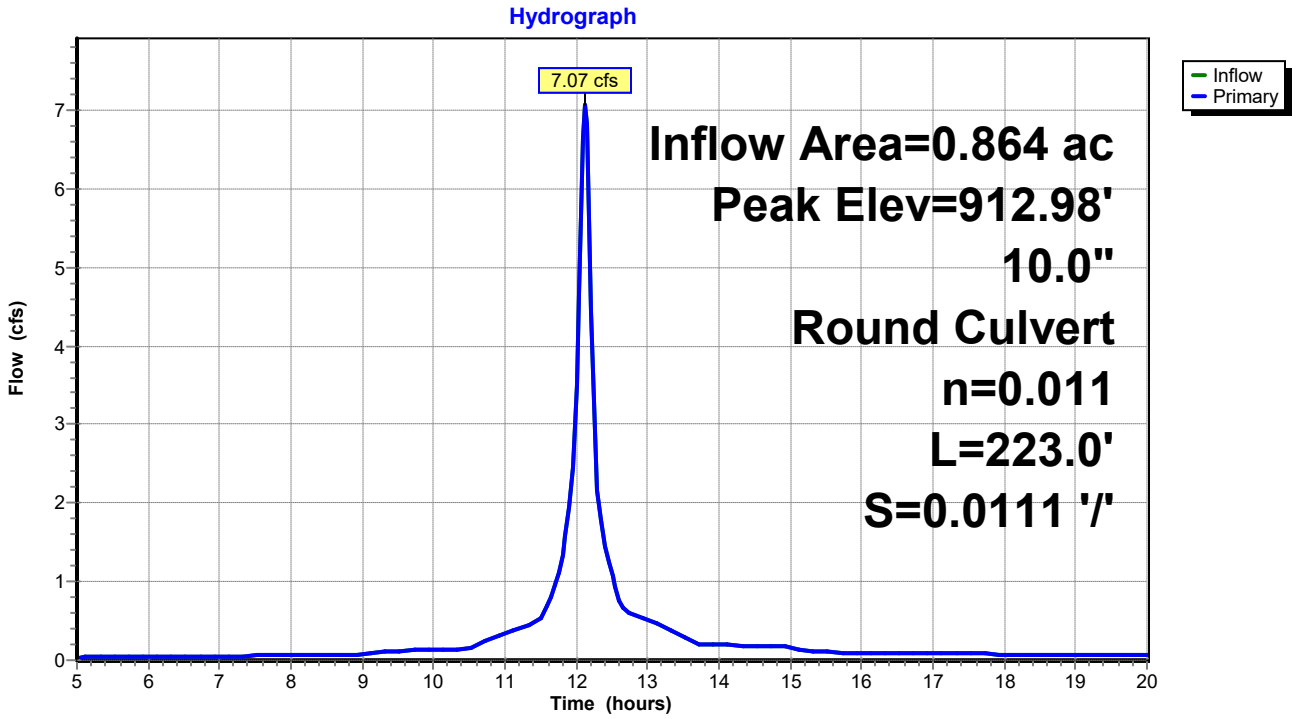
Subcatchment B1 l: B1



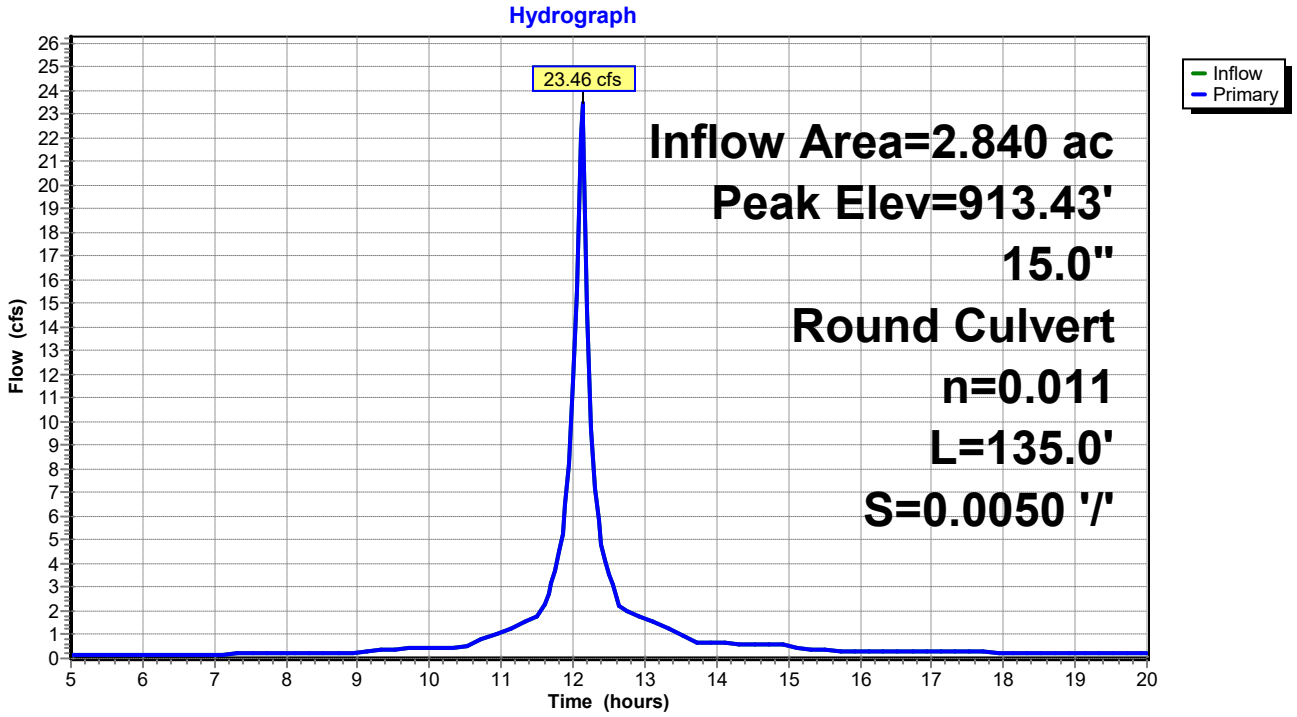
Subcatchment B1 P: B1



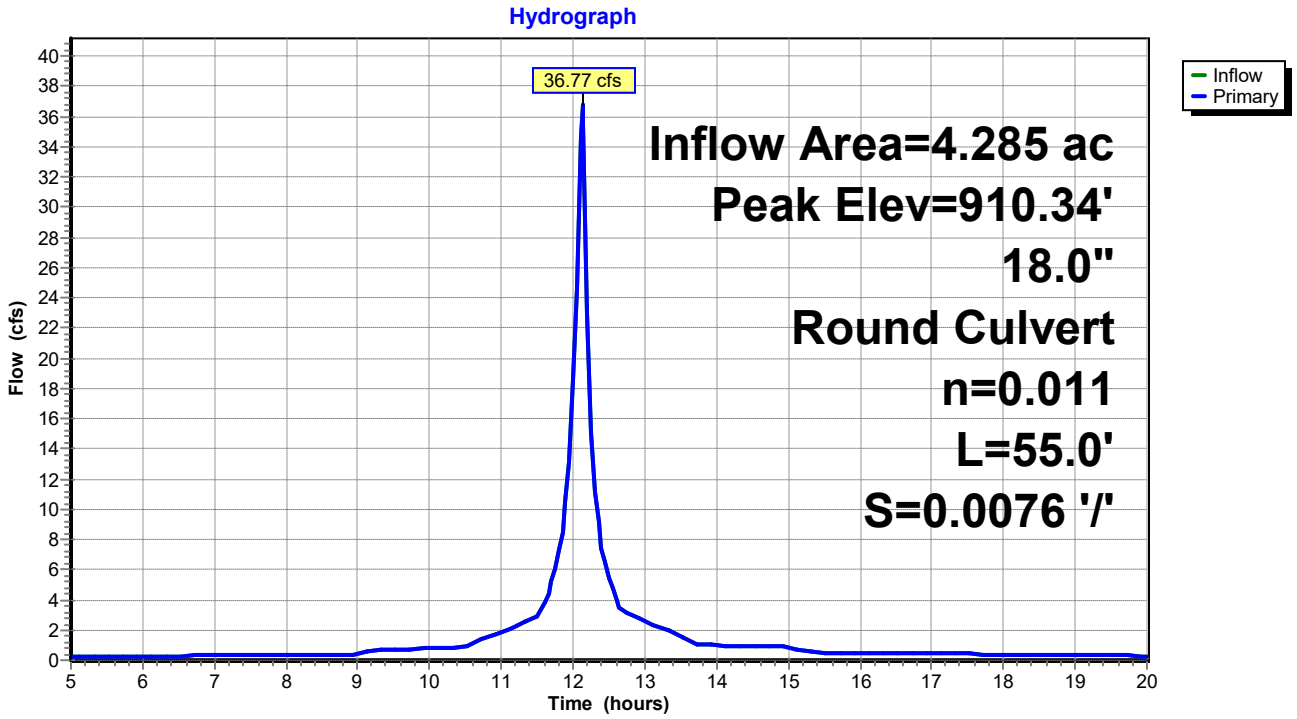
Pond A1: A1



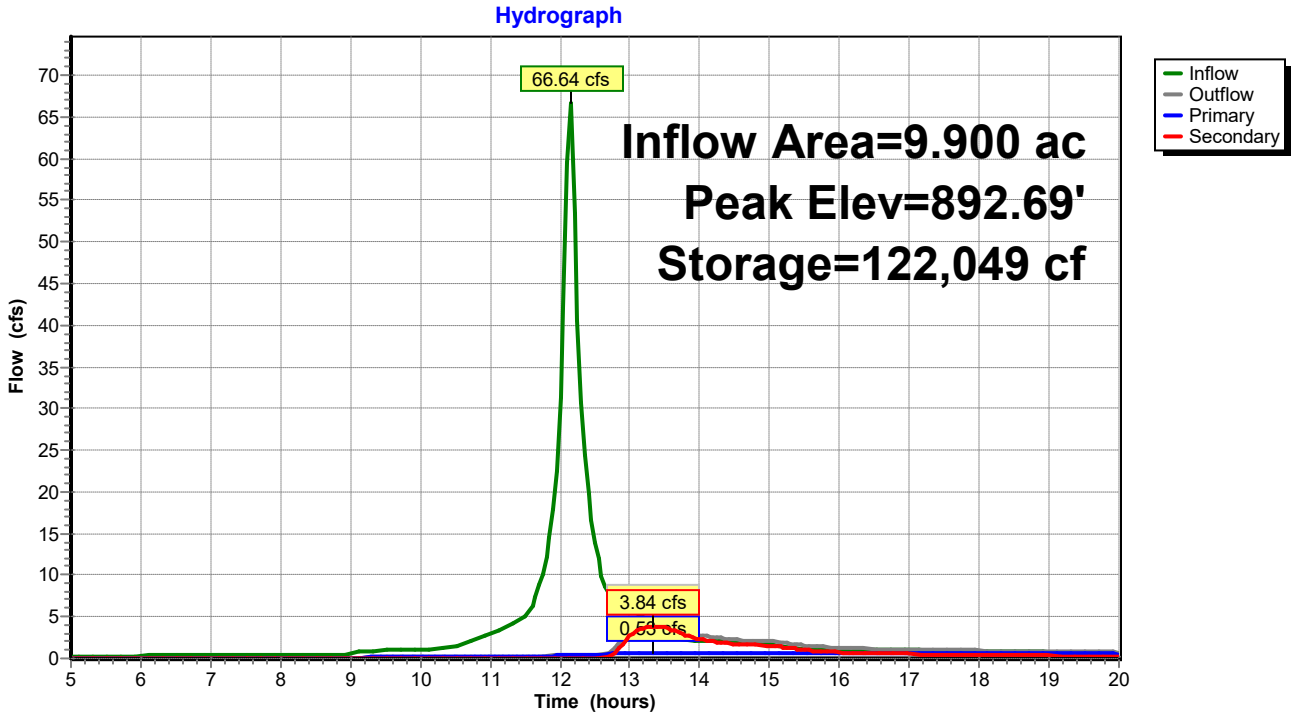
Pond A2: A2



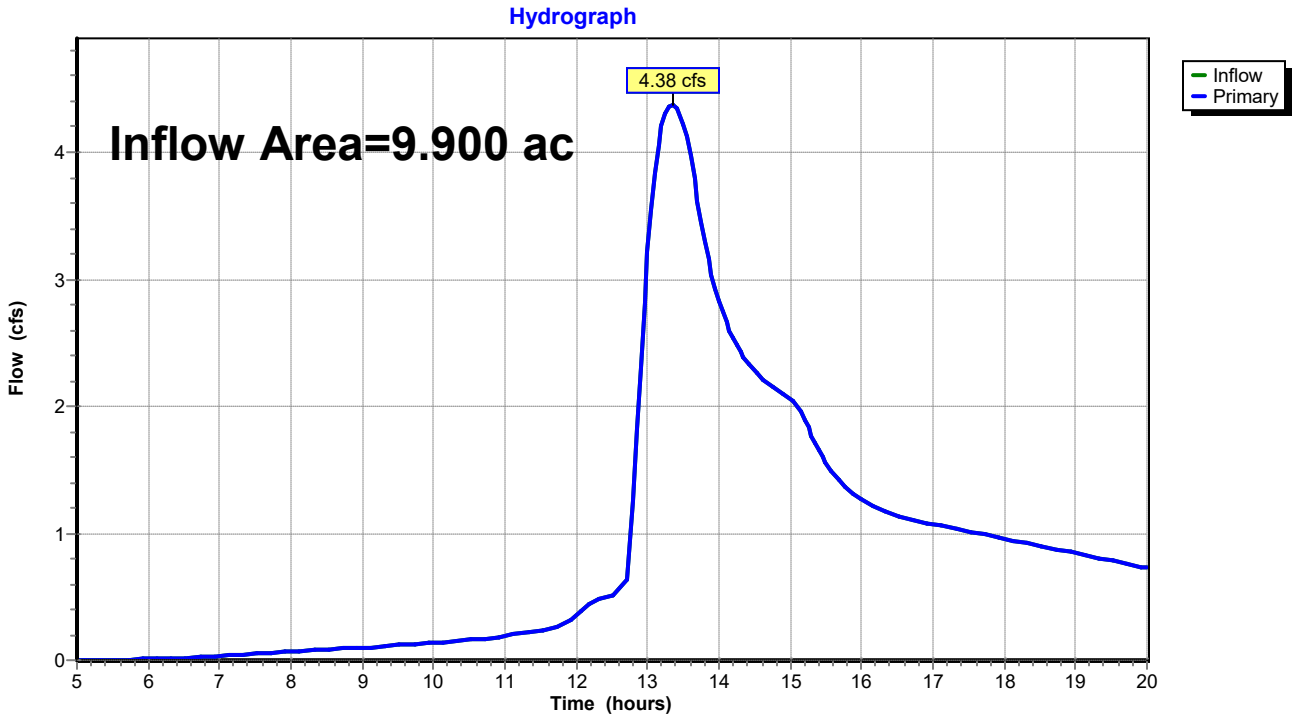
Pond A3: A3



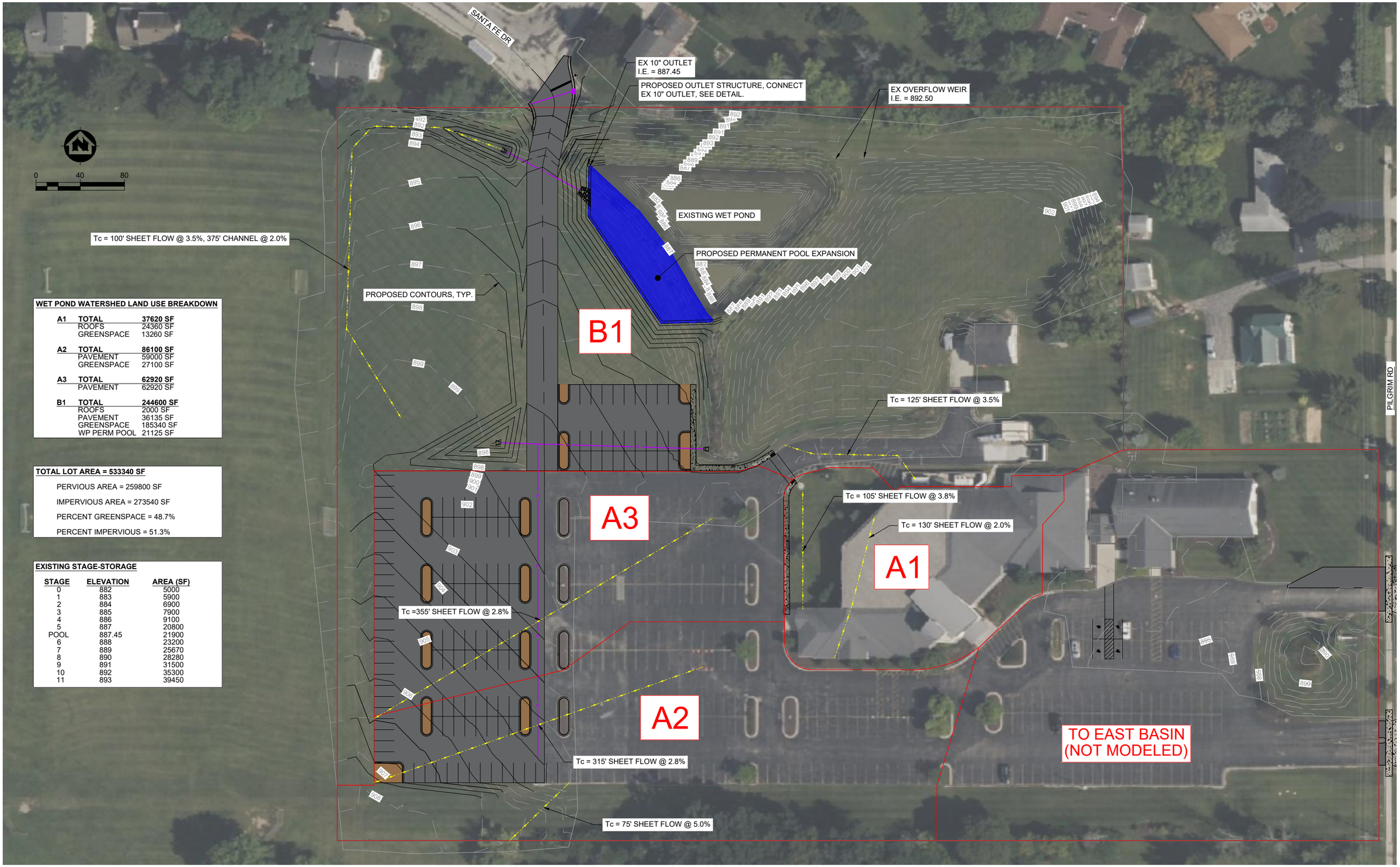
Pond P: EXISTING WET POND



Link 3L: Link



Appendix F –
TSS Removal Summary



WET POND WATERSHED LAND USE BREAKDOWN

A1	**TOTAL**	**37620 SF**
	ROOFS	24360 SF
	GREENSPACE	13260 SF
A2	**TOTAL**	**86100 SF**
	PAVEMENT	59000 SF
	GREENSPACE	27100 SF
A3	**TOTAL**	**62920 SF**
	PAVEMENT	62920 SF
B1	**TOTAL**	**244600 SF**
	ROOFS	2000 SF
	PAVEMENT	36135 SF
	GREENSPACE	185340 SF
	WP PERM POOL	21125 SF

TOTAL LOT AREA = 533340 SF

PERVIOUS AREA = 259800 SF

IMPERVIOUS AREA = 273540 SF

PERCENT GREENSPACE = 48.7%

PERCENT IMPERVIOUS = 51.3%

EXISTING STAGE-STORAGE

STAGE	ELEVATION	AREA (SF)
0	882	5000
1	883	5900
2	884	6900
3	885	7900
4	886	9100
5	887	20800
POOL	887.45	21900
6	888	23200
7	889	25670
8	890	28280
9	891	31500
10	892	35300
11	893	39450

			NO.	DATE	REVISION	BY
PROJECT DATE: .	DRAWN BY:	KEF	.	.	.	.
	DESIGNED BY:	KEF	.	.	.	.
	CHECKED BY:	Init	.	.	.	.

PLOT DATE: 6/10/2024 11:05 AM, G:\20\20426\2042621\04_BIM_CADD_Shared\03_Model_Based Files\20426215 Stormwater.dwg

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1230 South Boulevard, Baraboo WI 53913
(608) 356-2771 www.msa-ps.com

CROSSWAY CHURCH IMPROVEMENTS
CROSSWAY CHURCH
GERMANTOWN, WASHINGTON COUNTY, WI

STORMWATER EXHIBIT - PROPOSED

PROJECT NO. 20426215

SHEET EX2

CROSSWAY CHURCH - TSS REMOVAL SUMMARY

A1	Area (Acres)	TSS Generated (lbs)	Required Removal (%)	Required Removal (lbs)
Roofs	0.56	110.6	80%	88.48
Greenspace	0.30	26.7	0%	0
Total	**0.86**	**137.30**	**-**	**88.48**

A2	Area (Acres)	TSS Generated (lbs)	Required Removal (%)	Required Removal (lbs)
Parking Lot	1.35	831.6	80%	665.28
Greenspace	0.62	55.2	0%	0
Total	**1.98**	**886.80**	**-**	**665.28**

A3	Area (Acres)	TSS Generated (lbs)	Required Removal (%)	Required Removal (lbs)
Parking Lot	1.44	887.1	80%	709.68
Total	**1.44**	**887.10**		**709.68**

B1	Area (Acres)	TSS Generated (lbs)	Required Removal (%)	Required Removal (lbs)
Roofs	0.05	0.7	80%	0.56
Driveway/Sidewalk	0.61	36.8	80%	29.44
Parking Lot	0.22	11.2	80%	8.96
Greenspace	4.24	377.2	0%	0
Permanent Pool	0.50	0	0%	0
Total	**5.62**	**425.90**	**-**	**38.96**

Total	**9.90**	**2337.10**	**-**	**1502.40**

Pond - TSS In	2337.00 lbs
Pond - TSS Out	165 lbs
TSS Removed	**2172 lbs**

Required TSS Removal	**1502.4 lbs**
Proposed BMP TSS Removal	**2172.0 lbs**
Percent Removal	**92.9%**

TSS CALCULATIONS - 20426215 CROSSWAY CHURCH

Data file name: G:\20\20426\20426215\00_Project Shared Docs\Permits\WinSLAMM\20426215 Proposed 6.6.2024.mdb
WinSLAMM Version 10.5.0
Rain file name: C:\WinSLAMM Files\Rain Files\WisReg - Madison WI 1981.RAN
Particulate Solids Concentration file name: C:\WinSLAMM Files\v10.1 WI_AVG01.pscx
Runoff Coefficient file name: C:\WinSLAMM Files\WI_SL06 Dec06.rsvx
Residential Street Delivery file name: C:\WinSLAMM Files\WI_Res and Other Urban Dec06.std
Institutional Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std
Commercial Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std
Industrial Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std
Other Urban Street Delivery file name: C:\WinSLAMM Files\WI_Res and Other Urban Dec06.std
Freeway Street Delivery file name: C:\WinSLAMM Files\Freeway Dec06.std
Apply Street Delivery Files to Adjust the After Event Load Street Dirt Mass Balance: False
Pollutant Relative Concentration file name: C:\WinSLAMM Files\WI_GEO03.ppdx
Source Area PSD and Peak to Average Flow Ratio File: C:\WinSLAMM Files\NURP Source Area PSD Files.csv
Cost Data file name:
Seed for random number generator: -42
Study period starting date: 01/01/81 Study period ending date: 12/31/81
Start of Winter Season: 12/02 End of Winter Season: 03/12
Date: 06-07-2024 Time: 12:45:04
Site information:

LU# 1 - Commercial: A1 Total area (ac): 0.860
1 - Roofs 1: 0.560 ac. Pitched Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
45 - Large Landscaped Areas 1: 0.300 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

LU# 2 - Commercial: A2 Total area (ac): 1.970
13 - Paved Parking 1: 1.350 ac. Connected
Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
45 - Large Landscaped Areas 1: 0.620 ac. Normal Silty
Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

LU# 3 - Commercial: A3 Total area (ac): 1.440
13 - Paved Parking 1: 1.440 ac. Connected
Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

LU# 4 - Commercial: B1 Total area (ac): 5.610

1 - Roofs 1: 0.050 ac. Pitched Disconnected Normal Silty
Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

13 - Paved Parking 1: 0.220 ac. Disconnected Normal Silty
Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

25 - Driveways 1: 0.610 ac. Disconnected Normal Silty
Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

45 - Large Landscaped Areas 1: 4.240 ac. Normal Silty
Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

70 - Water Body Areas: 0.500 ac.
Source Area PSD File:

Control Practice 1: Wet Detention Pond CP# 1 (DS) - DS Wet Pond # 2

Particle Size Distribution file name: Not needed - calculated by program

Initial stage elevation (ft): 5.45
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): 0.25
2. Number of orifices: 1
3. Invert elevation above datum (ft): 5.45

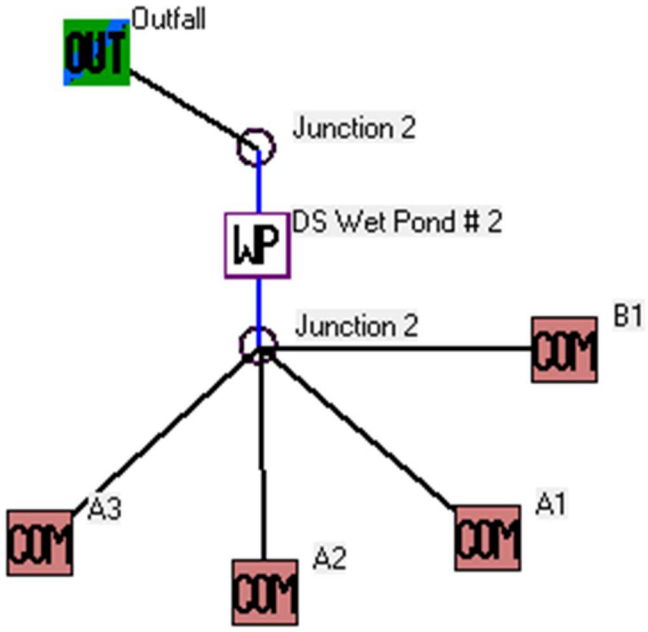
Outlet type: Broad Crested Weir
1. Weir crest length (ft): 18
2. Weir crest width (ft): 10
3. Height from datum to bottom of weir opening: 10.50

Outlet type: Vertical Stand Pipe
1. Stand pipe diameter (ft): 3
2. Stand pipe height above datum (ft): 10

Pond stage and surface area

Entry Number	Stage (ft)	Pond Area (acres)	Natural Seepage (in/hr)	Other Outflow (cfs)
0	0.00	0.0000	0.00	0.00
1	0.10	0.1140	0.00	0.00
2	1.00	0.1350	0.00	0.00
3	2.00	0.1580	0.00	0.00
4	3.00	0.1810	0.00	0.00
5	4.00	0.2080	0.00	0.00
6	5.00	0.4770	0.00	0.00
7	6.00	0.5320	0.00	0.00
8	7.00	0.5890	0.00	0.00
9	8.00	0.6490	0.00	0.00
10	9.00	0.7230	0.00	0.00
11	10.00	0.8100	0.00	0.00
12	11.00	0.9050	0.00	0.00

Routing Diagram



Wet Pond Input Data

Wet Detention Control Device

Pond Number 1
Drainage System Control Practice

Initial Stage Elevation (ft): 5.45

Maximum Inflow into Pond (cfs)
Enter 0 or leave blank for no limit:

Enter Two Stage Area Values in Rows 1 and 2, and Press to Interpolate

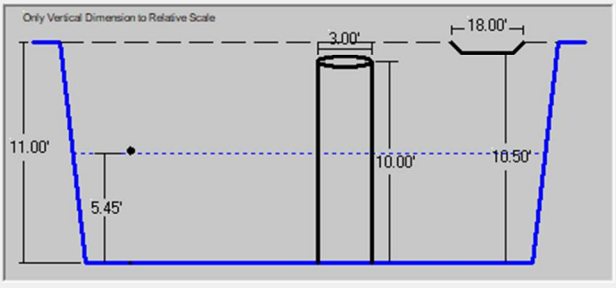
Create Pond Stage-Area Values | Refresh Schematic

Enter fraction (greater than 0) that you want to modify all pond areas by and then select 'Modify Pond Areas' button: 0.00 | Modify Pond Areas

Copy Pond Data | Paste Pond Data | Recalculate Cumulative Volume

Save or Delete Pond Data to Database File | Get Pond Data From Database File

	Stage (ft)	Area (acres)	Cumulative Volume (ac-ft)
0	0.00	0.0000	0.0000
1	0.10	0.1140	0.006
2	1.00	0.1350	0.118
3	2.00	0.1580	0.264
4	3.00	0.1810	0.434
5	4.00	0.2080	0.628
6	5.00	0.4770	0.971
7	6.00	0.5320	1.475
8	7.00	0.5890	2.036
9	8.00	0.6490	2.655
10	9.00	0.7230	3.341
11	10.00	0.8100	4.107
12	11.00	0.9050	4.965
13			
14			
15			
16			
17			



Add | **Sharp Crested Weir**

Weir Length (ft)	
Height from datum to bottom of weir opening (ft)	

Add | **V-Notch Weir**

Weir Angle (<180 degrees)	
Height from datum to bottom of weir opening (ft)	
Number of V-Notch weirs	

Remove | **Orifice Set 1**

Orifice Diameter (ft)	0.25
Invert elevation above datum (ft)	5.45
Number of orifices in set	1

Add | **Orifice Set 2**

Orifice Diameter (ft)	
Invert elevation above datum (ft)	
Number of orifices in set	

Add | **Orifice Set 3**

Orifice Diameter (ft)	
Invert elevation above datum (ft)	
Number of orifices in set	

Add | **Stone Weeper**

Width at bottom of weeper (ft)	
Weeper side slope (_H:1V)	
Upstream side slope (_H:1V)	
Downstream side slope (_H:1V)	
Horizontal flow path length at top of weeper (ft)	
Average rock diameter (ft)	
Distance from bottom to top of weeper (ft)	
Height from datum to bottom of weeper (ft)	

Remove | **Vertical Stand Pipe**

Pipe diameter (ft)	3.00
Height above datum (ft)	10.00

Add | Add

Month	Evaporation (in/day)	Water Withdraw Rate (ac-ft/day)
Jan	0.00	0.000
Feb	0.00	0.000
Mar	0.00	0.000
Apr	0.00	0.000
May	0.00	0.000
Jun	0.00	0.000
Jul	0.00	0.000
Aug	0.00	0.000
Sep	0.00	0.000
Oct	0.00	0.000
Nov	0.00	0.000
Dec	0.00	0.000

Add | Add

Stage (ft)	Natural Seepage Rate (in/hr)	Other Outflow Rate (cfs)
0.00	0.00	0.000
0.10	0.00	0.000
1.00	0.00	0.000
2.00	0.00	0.000
3.00	0.00	0.000
4.00	0.00	0.000
5.00	0.00	0.000

Remove | **Broad Crested Weir (Required)**

Weir crest length (ft)	18.00
Weir crest width (ft)	10.00
Height from datum to bottom of weir opening (ft)	10.50

Add | **Seepage Basin**

Infiltration rate (in/hr)	
Width of device (ft)	
Length of device (ft)	
Invert elevation of seepage basin inlet above datum (ft)	

Add | **Pump**

To Delete This Practice, Right Mouse Click on Icon and Select Delete

Cancel | Continue | Press 'F1' for Help

Control Practice # : 1 | CP Index # : 1

BMP Output Data

Land Uses | Junctions | **Control Practices**

Runoff Volume | Part. Solids Yield (lbs) | Part. Solids Conc. (mg/L)

Data File: G:\20\20426\2042621nSLAMM\20426215 Proposed 6.6.2024.mdb
Rain File: WisReg - Madison WI
Date: 06-07-24 Time: 12:43:12 F
Site Description:

Col. #:	2	4	5	6	7	8	9	10	11	12	13	14	15
Control Practice No.	Control Practice Type	Total Inflow Volume (cf)	Total Outflow Volume (cf)	Percent Volume Reduction	Total Influent Load (lbs)	Total Effluent Load (lbs)	Percent Load Reduction	Flow Weighted Influent Conc (mg/L)	Flow Weighted Effluent Conc (mg/L)	Percent Conc. Reduction	Influent Median Part. Size (microns)	Effluent Median Part. Size (microns)	Notes
1	Wet Detention Pond	355659	356521	-0.242	2337	164.8	92.95	105.3	7.402	92.967	7.80	1.06	No Pond Overflows

Output Summary

File Name:
G:\20\20426\20426215\00_Project Shared Docs\Permits\WinSLAMM\20426215 Proposed 6.6.2024.mdb

Outfall Output Summary

	Runoff Volume (cu. ft.)	Percent Runoff Reduction	Runoff Coefficient (Rv)	Particulate Solids Conc. (mg/L)	Particulate Solids Yield (lbs)	Percent Particulate Solids Reduction
Total of All Land Uses without Controls	355659		0.31	105.3	2337	
Outfall Total with Controls	356524	-0.24 %	0.31	7.402	164.8	92.95 %
Current File Output: Annualized Total After Outfall Controls	357504	Years in Model Run:	1.00		165.2	

Print Output Summary to .csv File
Print Output Summary to Text File
Print Output Summary to Printer

Total Area Modeled (ac): 9.890

Total Control Practice Costs

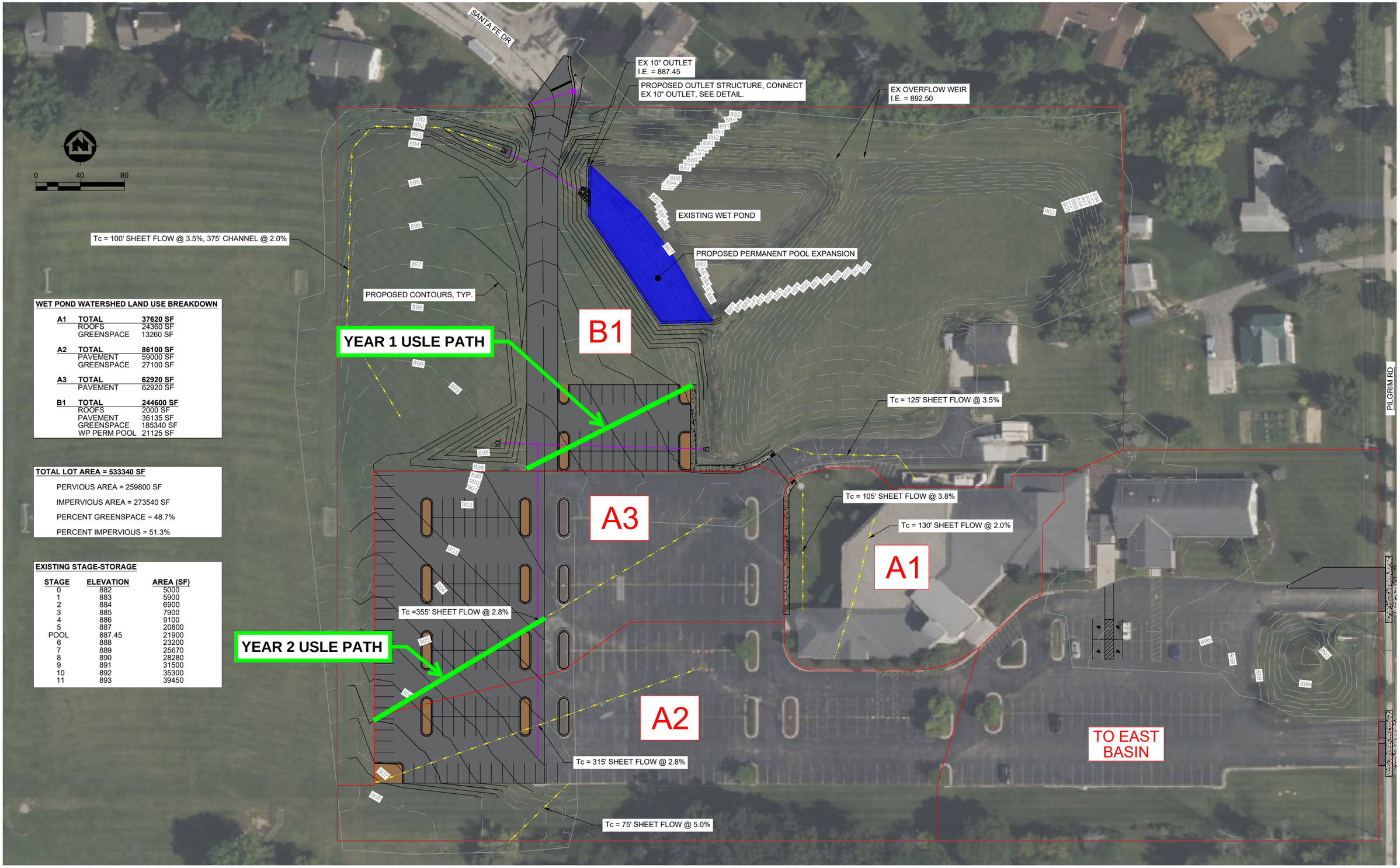
Capital Cost	N/A
Land Cost	N/A
Annual Maintenance Cost	N/A
Present Value of All Costs	N/A
Annualized Value of All Costs	N/A

Perform Outfall Flow Duration Curve Calculations

Receiving Water Impacts Due To Stormwater Runoff
(CWP Impervious Cover Model)

	Calculated Rv	Approximate Urban Stream Classification
Without Controls	0.31	Poor
With Controls	0.31	Poor

Appendix G –
USLE Models



WET POND WATERSHED LAND USE BREAKDOWN

A1	**TOTAL**	**37620 SF**
	ROOFS	24360 SF
	GREENSPACE	13260 SF
A2	**TOTAL**	**86100 SF**
	PAVEMENT	59000 SF
	GREENSPACE	27100 SF
A3	**TOTAL**	**62920 SF**
	PAVEMENT	62920 SF
B1	**TOTAL**	**244600 SF**
	ROOFS	2000 SF
	PAVEMENT	36135 SF
	GREENSPACE	185340 SF
	WP PERM POOL	21125 SF

TOTAL LOT AREA = 533340 SF

PERVIOUS AREA = 259800 SF

IMPERVIOUS AREA = 273540 SF

PERCENT GREENSPACE = 48.7%

PERCENT IMPERVIOUS = 51.3%

EXISTING STAGE-STORAGE

STAGE	ELEVATION	AREA (SF)
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3	885	7900
4	886	9100
5	887	20800
POOL	887.45	21900
6	888	23200
7	889	25670
8	890	28280
9	891	31500
10	892	35300
11	893	39450

			NO.	DATE	REVISION	BY
PROJECT DATE: .	DRAWN BY:	KEF	.	.	.	.
	DESIGNED BY:	KEF	.	.	.	.
	CHECKED BY:	Init	.	.	.	.

PLOT DATE: 6/10/2024 10:49 AM, G:\20\20426\2042621\04_BIM_CADD_Shared\03_Model_Based Files\20426215 Stormwater.dwg

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1230 South Boulevard, Baraboo WI 53913
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CROSSWAY CHURCH IMPROVEMENTS
CROSSWAY CHURCH
GERMANTOWN, WASHINGTON COUNTY, WI

STORMWATER EXHIBIT

PROJECT NO. 20426215

SHEET EX2

Soil Loss & Sediment Discharge Calculation Tool

for use on Construction Sites in the State of Wisconsin

WDNR Version 2.0 (06-29-2017)

WISCONSIN DEPT. OF NATURAL RESOURCES

YEAR 1

Developer: CROSSWAY CHURCH (VILLAGE OF GERMANTOWN)

Project: 20426215 CROSSWAY CHURCH IMPROVEMENTS

Date: 05/31/24

County: Washington

Version 1.0

Activity (1)	Begin Date (2)	End Date (3)	Period % R (4)	Annual R Factor (5)	Sub Soil Texture (6)	Soil Erodibility K Factor (7)	Slope (%) (8)	Slope Length (ft) (9)	LS Factor (10)	Land Cover C Factor (11)	Soil loss A (tons/acre) (12)	SDF (13)	Sediment Control Practice (14)	Sediment Discharge (t/ac) (15)
Bare Ground	08/18/24	10/31/24	23.1%	120	Silt Loam	0.43	2.5%	170	0.28	1.00	3.4	1.076	Silt Fence	2.2
End	10/31/24	-----	-----	-----	-------	-----	2.5%	170	0.28	------	-----	0.000		0.0
		-----	-----	-----	-------	-----	2.5%	170	0.28	-----	-----	0.000		0.0
		-----	-----	-----	-------	-----	2.5%	170	0.28	-----	-----	0.000		0.0
		-----	-----	-----	-------	-----	2.5%	0	-----	-----	-----	0.000		0.0
		-----	-----	-----	-------	-----	0.0%	0	-----	-----	-----	0.000		0.0
										TOTAL	**3.4**		**TOTAL**	**2.2**
													% Reduction Required	**NONE**

Notes:

See Help Page for further descriptions of variables and items in drop-down boxes.
The last land disturbing activity on each sheet must be 'End'. This is either 12 months from the start of construction or final stabilization.
For periods of construction that exceed 12 months, please demonstrate that 5 tons/acre/year is not exceeded in any given 12 month period.

NOTE: THIS TOOL ONLY ADDRESSED SOIL EROSION DUE TO SHEET FLOW. MEASURES TO CONTROL CHANNEL EROSION MAY ALSO BE REQUIRED TO MEET SEDIMENT DISCHARGE REQUIREMENTS.

Recommended Permanent Seeding Dates:

4/15-6/1 Thaw-6/30	and	8/1-8/21	Turf, introduced grasses and legumes Native Grasses, forbs, and legumes

Designed By:	Kassandra Fritz
Date	5/31/2024

Soil Loss & Sediment Discharge Calculation Tool

for use on Construction Sites in the State of Wisconsin

WDNR Version 2.0 (06-29-2017)

WISCONSIN DEPT. OF NATURAL RESOURCES

YEAR 2

Developer: CROSSWAY CHURCH (VILLAGE OF GERMANTOWN)

Project: 20426215 CROSSWAY CHURCH IMPROVEMENTS

Date: 5/31/2024

County: Washington

Version 1.0

Activity (1)	Begin Date (2)	End Date (3)	Period % R (4)	Annual R Factor (5)	Sub Soil Texture (6)	Soil Erodibility K Factor (7)	Slope (%) (8)	Slope Length (ft) (9)	LS Factor (10)	Land Cover C Factor (11)	Soil loss A (tons/acre) (12)	SDF (13)	Sediment Control Practice (14)	Sediment Discharge (t/ac) (15)
Bare Ground	07/21/25	09/01/25	24.0%	120	Silt Loam	0.43	2.8%	140	0.30	1.00	3.7	1.047	Inlet Protection	2.7
End	09/01/25	-----	-----	-----	-------	-----	2.8%	140	0.30	------	-----	0.000	Inlet Protection	0.0
		-----	-----	-----	-------	-----	2.8%	140	0.30	-----	-----	0.000		0.0
		-----	-----	-----	-------	-----	2.8%	140	0.30	-----	-----	0.000		0.0
		-----	-----	-----	-------	-----	2.8%	0	-----	-----	-----	0.000		0.0
		-----	-----	-----	-------	-----	0.0%	0	-----	-----	-----	0.000		0.0
										TOTAL	**3.7**		**TOTAL**	**2.7**
													% Reduction Required	**NONE**

Notes:

See Help Page for further descriptions of variables and items in drop-down boxes.
The last land disturbing activity on each sheet must be 'End'. This is either 12 months from the start of construction or final stabilization.
For periods of construction that exceed 12 months, please demonstrate that 5 tons/acre/year is not exceeded in any given 12 month period.

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Recommended Permanent Seeding Dates:

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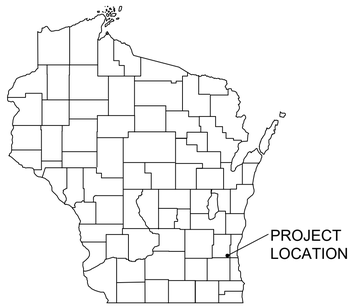
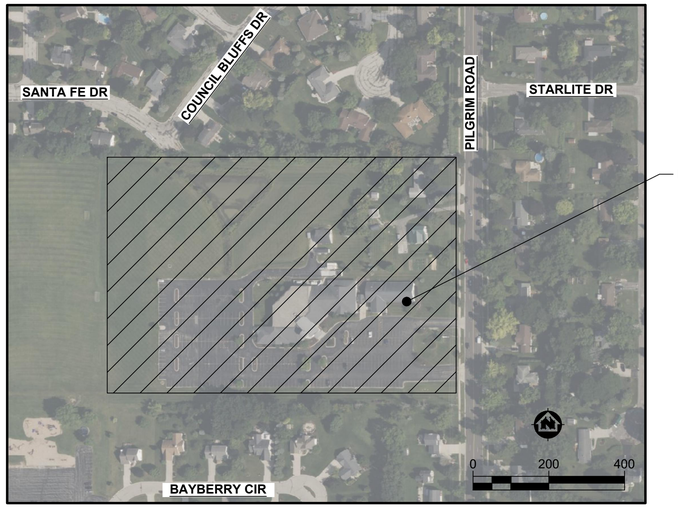
Designed By:	Kassandra Fritz
Date	5/31/2024

CROSSWAY CHURCH IMPROVEMENTS

CROSSWAY CHURCH
VILLAGE OF GERMANTOWN, WASHINGTON COUNTY, WI



SHEET INDEX



LOCATION MAP

WISCONSIN
BRIAN J. KEHRLI
E-39147
PRAIRIE DU SAC
WI
PROFESSIONAL ENGINEER
06/10/2024

NOTE:
PER THE VILLAGE OF GERMANTOWN DEVELOPMENT HANDBOOK, NAD83 AND NAVD88 ARE TO BE USED. FOR THIS SITE, THE DIFFERENCE BETWEEN NAVD29 AND NAVD88 RANGES FROM 0.04 FT TO 0.05 FT.

LEGEND

W	EXISTING WATER MAIN
W	EXISTING WATER MAIN, VALVE & HYDRANT
W	EXISTING WATER SERVICE & CURB STOP
W	PROPOSED WATER MAIN, VALVE, & HYDRANT
W	PROPOSED WATER SERVICE & CURB STOP
SAN	EXISTING SANITARY SEWER & MANHOLE
S	PROPOSED SANITARY SEWER & MANHOLE
FM	EXISTING FORCEMAIN
SS	EXISTING STORM SEWER & INLET
S	PROPOSED STORM SEWER & INLET
S	PROPOSED STORM SEWER & MANHOLE
E	BURIED ELECTRIC
G	BURIED GAS & VALVE
TV	BURIED CABLE TELEVISION
T	BURIED TELEPHONE
FO	BURIED FIBER OPTICS
OH	OVERHEAD UTILITY
	RAILROAD TRACKS
	EXISTING CURB & GUTTER
	PROPOSED CURB & GUTTER
	EXISTING SIDEWALK
	PROPOSED SIDEWALK
CP	EXISTING CULVERT PIPE
	PROPOSED CULVERT PIPE
	FENCE LINE
	DRAINAGE ARROW
	SILT FENCE
	RIGHT-OF-WAY
	BASELINE
	PROPERTY LINE
	TREE LINE
	BENCHMARK
	IRON PIPE
	IRON ROD
	CONTROL POINT
	UTILITY POLE & GUY
1 000.00	SOIL BORING
	LIGHT POLE
	PEDESTAL
	STREET SIGN
	MAILBOX
	FLAGPOLE
	TREE - DECIDUOUS
	TREE - CONIFEROUS
	TREE TO BE REMOVED

UTILITIES

ROADS, SEWER & WATER:
VILLAGE OF GERMANTOWN
N122 W17177 FOND DU LAC AVE
GERMANTOWN, WI 53022

TIM ZIMMERMAN (WASTEWATER)
262-253-7765

PAUL HAUGEN (WATER)
262-253-8254
PHAUGEN@GERMANTOWNWI.GOV

MATTHEW MORTWEDT (DPW)
262-250-4725
MMORTWEDT@GERMANTOWNWI.GOV

GAS & ELECTRIC:
WE ENERGIES
1921 8TH ST SOUTH
WISCONSIN RAPIDS, WI 54494

LARRY KOCH
715-421-7249
LARRY.KOCH@WE-ENERGIES.COM

COMMUNICATIONS:
AT&T
411 7th ST
RACINE, WI 53403

MATTHEW VACHALIK
262-707-6216
MV5616@ATT.COM

TIME WARNER CABLE
E10704 STH 33
BARABOO, WI 53913

TERRY BLAKE
608-576-9208
TERRY.BLAKE@CHARTER.COM

DIGGERS HOTLINE
Dial 811 or (800) 242-8511
www.DiggersHotline.com

NOTE:
UTILITY LOCATIONS SHOWN ON PLANS ARE APPROXIMATE AND CONTRACTOR SHALL HAVE APPROPRIATE UTILITY MARK EXACT LOCATIONS PRIOR TO CONSTRUCTION.

NO.	DATE	REVISION	BY
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PROJECT DATE: .
DRAWN BY: KEF
DESIGNED BY: KEF
CHECKED BY: Init

PLOT DATE: 6/10/2024 10:27 AM, G:\20\20426\2042621\05_bim_cadd_discipline\06_Civil\construction documents\G1 TITLE SHEET.dwg

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CROSSWAY CHURCH IMPROVEMENTS
CROSSWAY CHURCH
GERMANTOWN, WASHINGTON COUNTY, WI

TITLE SHEET

PROJECT NO. 20426215
SHEET C100

BENCHMARK TABLE

POINT #	DESCRIPTION	NORTHING	EASTING	ELEVATION
CP1	3/4" IRON ROD	102,526.39	383,432.39	895.62
CP2	3/4" IRON ROD	102,492.35	383,159.88	897.81
CP3	3/4" IRON ROD	102,808.51	383,408.95	895.88
CP4	3/4" IRON ROD	102,806.50	383,195.94	897.36
CP5	CUT "X" IN CURB	102,633.21	382,753.67	899.43
BM101	BENCHMARK	102,480.72	383,568.07	896.51
BM102	SECTION MONUMENT	102,464.94	383,554.83	893.89

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CROSSWAY CHURCH IMPROVEMENTS
CROSSWAY CHURCH
GERMANTOWN, WASHINGTON COUNTY, WI

EXISTING SITE & BENCHMARKS

PROJECT NO. 20426215

SHEET C101

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CROSSWAY CHURCH IMPROVEMENTS
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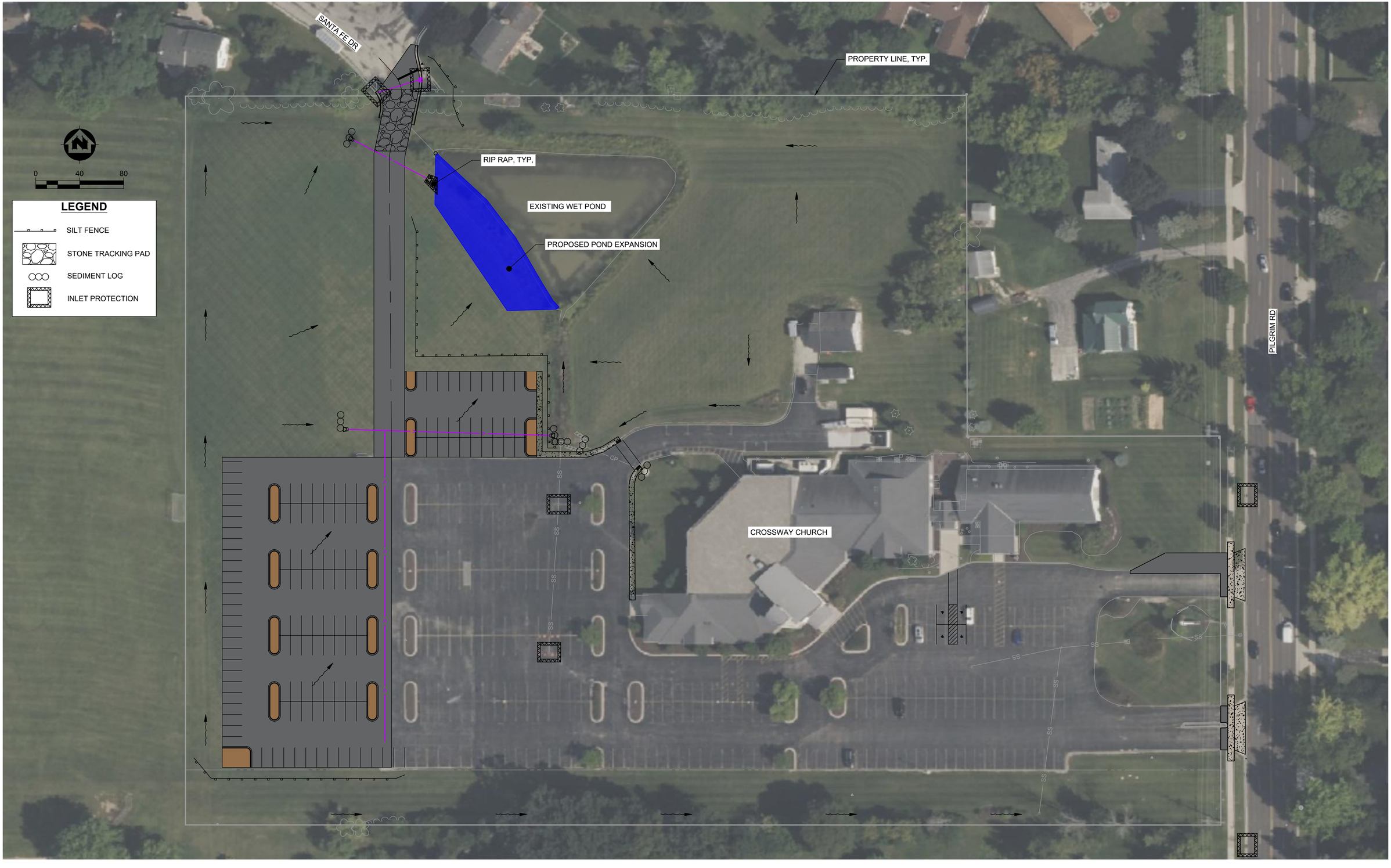
GERMANTOWN, WASHINGTON COUNTY, WI

DEMOLITION PLAN

PROJECT NO.
20426215

SHEET
C201



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PLOT DATE: 6/10/2024 10:27 AM, G:\20\20426\20426215\05_bim_cadd_discipline\06_Civil\construction documents\20426215 EROSION CONTROL PLAN.dwg

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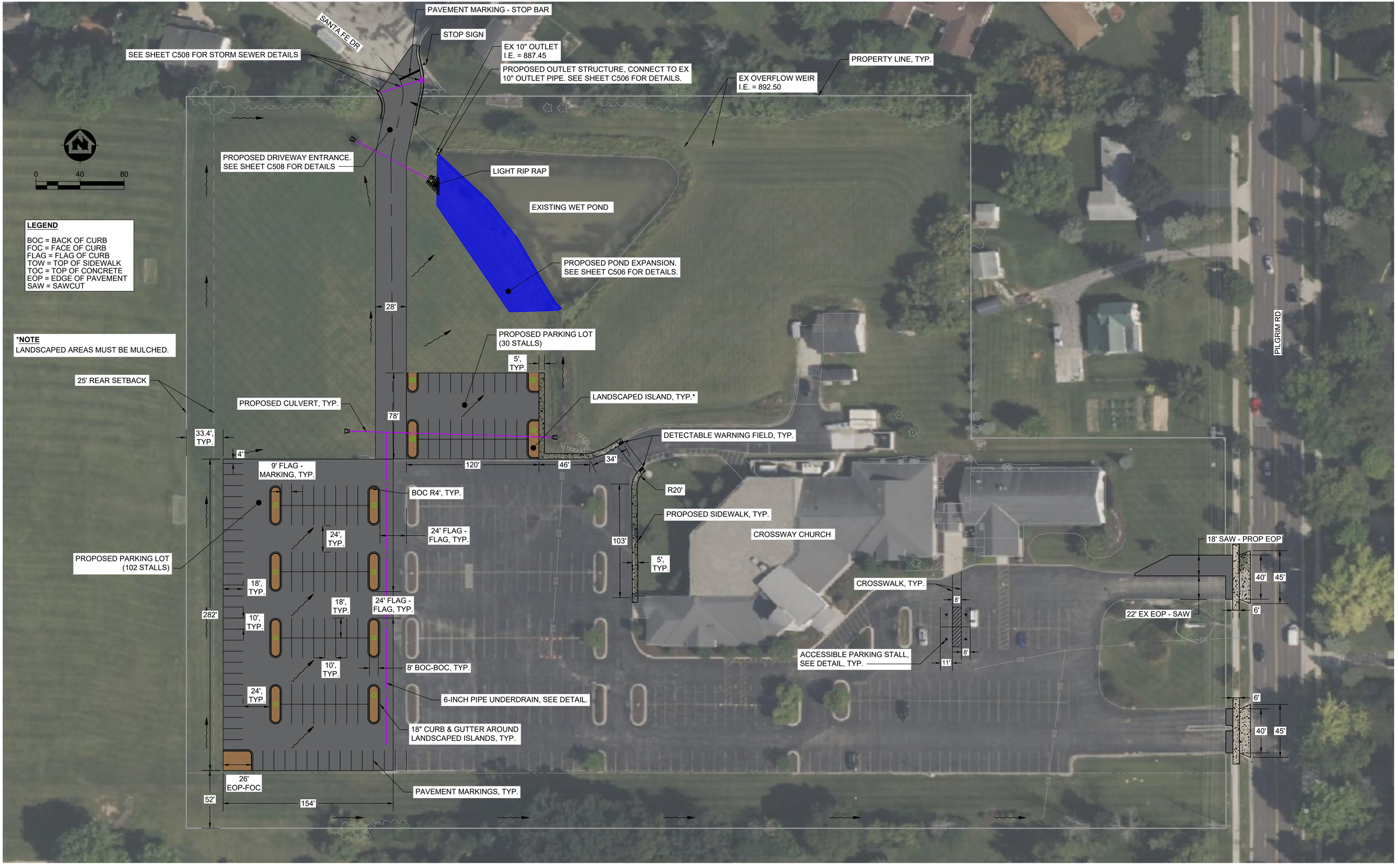
CROSSWAY CHURCH IMPROVEMENTS
CROSSWAY CHURCH
GERMANTOWN, WASHINGTON COUNTY, WI

EROSION CONTROL PLAN

PROJECT NO. 20426215
SHEET C202



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PLOT DATE: 6/10/2024 10:27 AM, G:\20\20426\2042621\05_bim_cadd_discipline\06_Civil\construction documents\20426215 PROPOSED SITE PLAN.dwg

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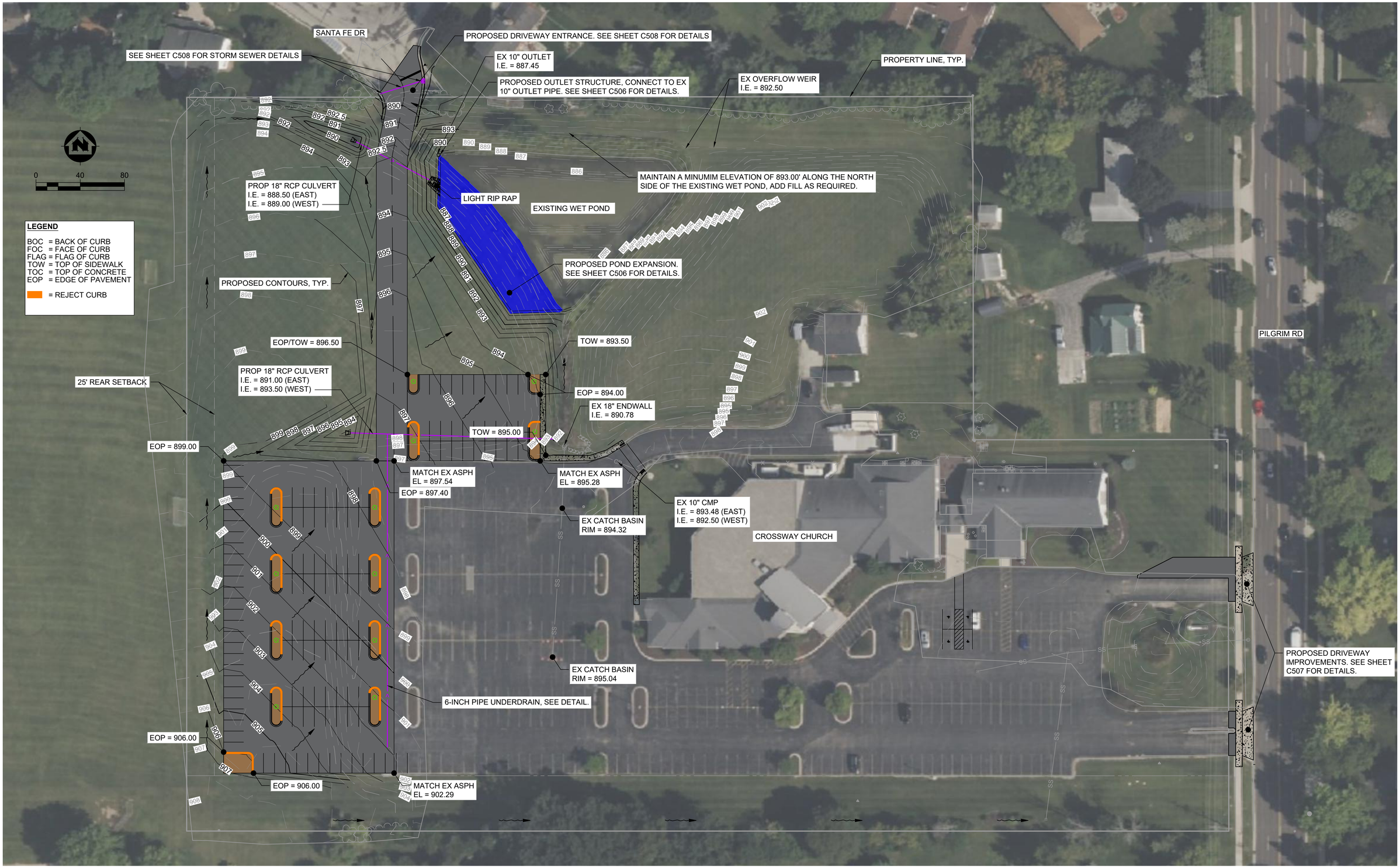
CROSSWAY CHURCH IMPROVEMENTS
CROSSWAY CHURCH
GERMANTOWN, WASHINGTON COUNTY, WI

PROPOSED SITE PLAN

PROJECT NO. 20426215
SHEET C203



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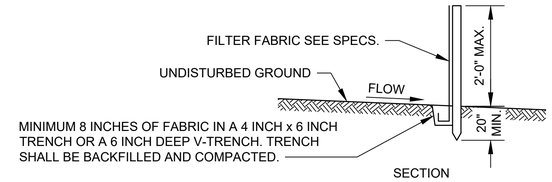
CROSSWAY CHURCH IMPROVEMENTS
CROSSWAY CHURCH
GERMANTOWN, WASHINGTON COUNTY, WI

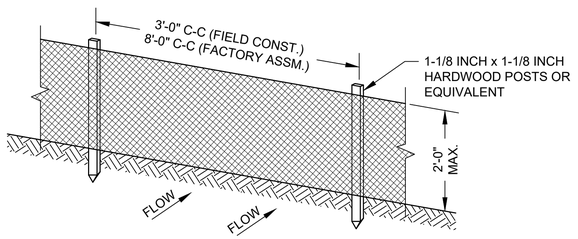
GRADING PLAN

PROJECT NO.
20426215
SHEET
C204

CONSTRUCTION SITE
EROSION CONTROL REQUIREMENTS

1. SECTION NR216.46 OF WISCONSIN STATE ADMINISTRATIVE CODE IDENTIFIES REQUIREMENTS FOR CONSTRUCTION SITE AND POST-CONSTRUCTION EROSION CONTROL. IT IS THE INTENT OF THESE PLANS TO SATISFY THESE REQUIREMENTS. THE METHODS AND STRUCTURES USED TO CONTROL EROSION SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. CONTRACTOR SHALL IMPLEMENT AN APPROPRIATE MEANS OF CONTROLLING EROSION DURING SITE OPERATION AND UNTIL THE VEGETATION IS RE-ESTABLISHED. ADJUSTMENTS TO THE CONTROL SYSTEM SHALL BE MADE AS REQUIRED.
2. ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE WISCONSIN DNR'S CONSERVATION PRACTICE STANDARDS. THESE STANDARDS ARE PERIODICALLY UPDATED AND IT IS THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN AND REFERENCE THE MOST RECENTLY RELEASED STANDARD.
3. THIS INFORMATION IS ONLY ONE PART OF THE OVERALL EROSION CONTROL REQUIREMENTS. ADDITIONAL REQUIREMENTS MAY ALSO BE SHOWN ON THE CONTRACT DRAWINGS AND IN THE ACCOMPANYING SPECIFICATIONS.
4. ADDITIONAL EROSION CONTROL MEASURES, AS REQUESTED IN WRITING BY THE STATE OR LOCAL INSPECTORS, OR THE OWNER'S ENGINEER, SHALL BE INSTALLED WITHIN 24 HOURS.
5. THE AREA OF EROSIVE LAND EXPOSED TO THE ELEMENTS BY GRUBBING, EXCAVATION, TRENCHING, BORROW AND FILL OPERATIONS AT ANY ONE TIME SHALL BE MINIMIZED TO THE MAXIMUM EXTENT PRACTICABLE. FOR ANY DISTURBED AREA THAT REMAINS INACTIVE FOR GREATER THAN 7 WORKING DAYS, OR WHERE GRADING WORK EXTENDS BEYOND THE PERMANENT SEEDING DEADLINES, THE SITE MUST BE TREATED WITH TEMPORARY STABILIZATION MEASURES SUCH AS SOIL TREATMENT, TEMPORARY SEEDING AND/OR MULCHING. ALL DISTURBED AREAS SHALL BE TREATED WITH PERMANENT STABILIZATION MEASURES WITHIN 3 WORKING DAYS OF FINAL GRADING.
6. ALL EROSION CONTROL MEASURES AND STRUCTURES SERVING THE SITE MUST BE INSPECTED AT LEAST WEEKLY OR WITHIN 24 HOURS OF THE TIME 0.5 INCHES OF RAIN HAS OCCURRED. ALL NECESSARY REPAIR AND MAINTENANCE WILL BE DONE AT THIS INSPECTION TIME.
7. ALL EROSION CONTROL DEVICES AND/OR STRUCTURES SHALL BE PROPERLY INSTALLED PRIOR TO CLEARING AND GRUBBING OPERATIONS WITHIN THEIR RESPECTIVE DRAINAGE AREAS. THESE SHALL BE PROPERLY MAINTAINED FOR MAXIMUM EFFECTIVENESS UNTIL VEGETATION IS RE-ESTABLISHED.
8. ALL EROSION CONTROL DEVICES SHALL BE PROPERLY INSTALLED PRIOR TO ANY SOIL DISTURBANCE.
9. ANY SLOPES STEEPER THAN 3H:1V SHALL BE STAKED WITH EROSION CONTROL FABRIC UNLESS INDICATED ON THE PLAN.
10. ALL WASTE AND UNUSED BUILDING MATERIALS (INCLUDING GARBAGE, DEBRIS, CLEANING WASTES, WASTEWATER, TOXIC MATERIALS, OR HAZARDOUS MATERIALS) SHALL BE PROPERLY DISPOSED OF AND NOT ALLOWED TO BE CARRIED OFF-SITE BY RUNOFF OR WIND.
11. WIND EROSION SHALL BE KEPT TO A MINIMUM DURING CONSTRUCTION. WATERING, MULCH, OR A TACKING AGENT MAY BE REQUIRED TO PROTECT NEARBY RESIDENCES AND WATER RESOURCES.
12. CHANNELIZED RUNOFF ENTERING THE PROJECT SITE FROM ADJOINING LANDS SHALL BE DIVERTED THROUGH NATURALLY OR ARTIFICIALLY EROSION-RESISTANT CONVEYANCES. IF CHANNELIZED RUNOFF CANNOT BE DIVERTED, SITE BEST MANAGEMENT PRACTICES MUST ACCOUNT FOR THE ADDITIONAL FLOW RATES AND EROSION POTENTIAL THAT SUCH RUNOFF PRESENTS.
13. THE CONTRACTOR SHALL TAKE ALL POSSIBLE PRECAUTIONS TO PREVENT SOILS FROM BEING TRACKED ONTO PUBLIC OR PRIVATE ROADWAYS. PAVED SURFACES ADJACENT TO CONSTRUCTION SITE VEHICLE ACCESS SHALL BE SWEPT AND/OR SCRAPED (NOT FLUSHED) PERIODICALLY TO REMOVE SOIL, DIRT, AND/OR DUST.
14. EROSION CONTROLS SHALL BE INSTALLED ON THE DOWNSTREAM SIDE OF TEMPORARY STOCKPILES. ANY SOIL STOCKPILE THAT REMAINS FOR MORE THAN 30 DAYS SHALL BE COVERED OR TREATED WITH STABILIZATION PRACTICES SUCH AS TEMPORARY OR PERMANENT SEEDING AND MULCHING. ALL STOCK PILES SHALL BE PLACED AT LEAST 75 FEET FROM STREAMS OR WETLANDS.
15. ADDITIONAL EROSION CONTROL FOR UTILITY CONSTRUCTION (STORM SEWER, SANITARY SEWER, WATER MAIN, ETC.) SHALL INCLUDE THE FOLLOWING:
    a. PLACE EXCAVATED TRENCH MATERIAL ON THE HIGH SIDE OF THE TRENCH.
    b. BACKFILL, COMPACT, AND STABILIZE THE TRENCH IMMEDIATELY AFTER PIPE CONSTRUCTION.
    c. DISCHARGE OF TRENCH WATER OR DEWATERING EFFLUENT MUST BE PROPERLY TREATED TO REMOVE SEDIMENT IN ACCORDANCE WITH THE WDNR CONSERVATION PRACTICE STANDARD 1061 - DEWATERING OR A SUBSEQUENT WDNR DEWATERING STANDARD PRIOR TO DISCHARGE INTO A STORM SEWER, DITCH, DRAINAGEWAY, OR WETLAND OR LAKE.
16. ALL DRAINAGE CULVERTS, STORM DRAIN INLETS, MANHOLES, OR ANY OTHER EXISTING STRUCTURES THAT COULD BE DAMAGED BY SEDIMENTATION SHALL BE PROTECTED ACCORDING TO THE VARIOUS METHODS PROVIDED IN THE PRINTED CONSERVATION PRACTICE STANDARDS.
17. ANY SOIL EROSION THAT OCCURS AFTER FINAL GRADING AND/OR STABILIZATION MUST BE REPAIRED AND THE STABILIZATION WORK REDONE.
18. THE FIRST SIX WEEKS AFTER INITIAL STABILIZATION, ALL NEWLY SEEDED AND MULCHED AREAS SHALL WATERED WHENEVER 7 DAYS ELAPSE WITHOUT A RAIN EVENT.
19. WHEN THE DISTURBED AREA HAS BEEN STABILIZED BY PERMANENT VEGETATION OR OTHER MEANS, TEMPORARY BMP'S SUCH AS SILT FENCES, STRAW BALES, AND SEDIMENT TRAPS SHALL BE REMOVED AND THESE AREAS STABILIZED.
20. ALL TEMPORARY BEST MANAGEMENT PRACTICES SHALL BE MAINTAINED UNTIL THE SITE IS STABILIZED.
21. ALL DISTURBED AREAS SHALL BE PERMANENTLY STABILIZED WITH SEED AND MULCH UNLESS OTHERWISE SPECIFIED. A MINIMUM OF FOUR INCHES OF TOPSOIL SHALL BE APPLIED TO ALL AREAS TO BE SEEDED OR SODDED.





GENERAL NOTES:

1. ENDS OF FENCE SHALL BE TURNED UPSLOPE 1 TO 2 FEET IN ELEVATION TO PREVENT FLANKING.
2. STAPLE FABRIC WITH 1/2 INCH (MINIMUM) STAPLES TO THE UPSLOPE SIDE OF THE POSTS.
3. WHEN TWO SECTIONS OF FILTER FABRIC ADJOIN EACH OTHER THEY SHALL BE OVERLAPPED BY SIX INCHES AND FOLDED.

TYPICAL SILT FENCE INSTALLATION AT SITE PERIMETER DETAIL
NO SCALE

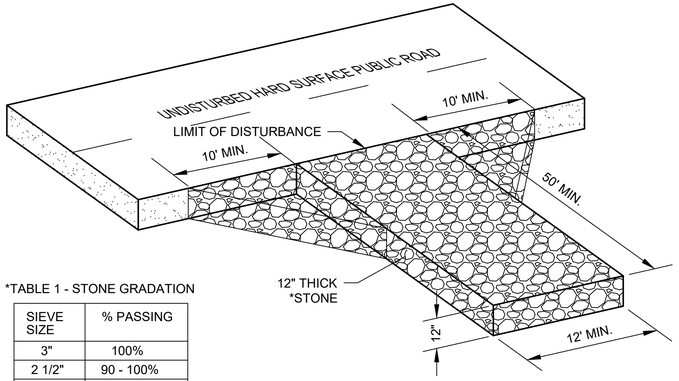
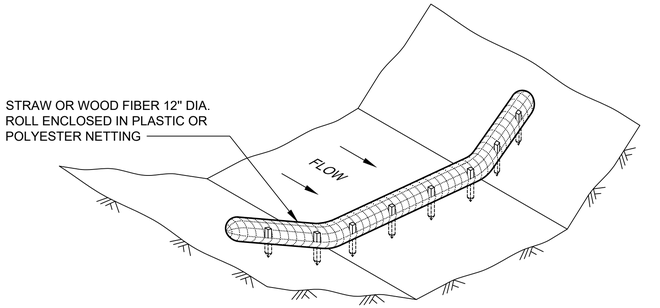


*TABLE 1 - STONE GRADATION

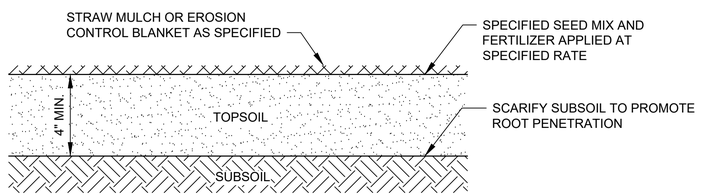
SIEVE SIZE	% PASSING
3"	100%
2 1/2"	90 - 100%
1 1/2"	25 - 60%
3/4"	0 - 20%
3/8"	0 - 5%

NOTES:
1. TRACKING PAD WIDTH SHALL BE AT LEAST THE FULL WIDTH OF HTE EGRESS POINT OR 12' WIDE MINIMUM.
2. TRACKING PAD LENGTH SHALL BE 50' FOR CONSTRUCTION SITES, 30' FOR SINGLE FAMILY RESIDENTIAL, OR AS SPECIFIED IN THE CONTRACT DOCUMENTS. LENGTH OF TRACKING PAD MAY NEED TO BE INCREASE OR ADDITIONAL SEDIMENT CONTROL PRACTICES SHALL BE INSTALLED BY THE CONTRACTOR IS SEDIMENT TRACK-OUT OCCURS.
3. GEOTEXTILE FABRIC TYPE R SHALL BE INSTALLED BETWEEN THE STONE AND SUBGRADE ON SITES WHERE HIGH GROUND WATER IS OBSERVED.
4. CONTRACTOR SHALL CLEAN STREET/ROADWAY ADJACENT TO ALL CONSTRUCTION ACCESS POINTS AT THE END OF EACH WORKDAY OR MORE FREQUENTLY IF REQUESTED.

STONE TRACKING PAD
NO SCALE

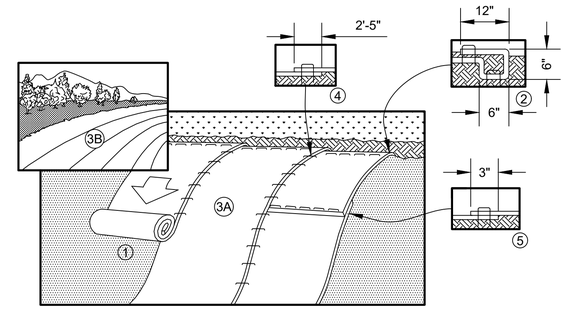


SEDIMENT LOG
NO SCALE



NOTE: WHERE REQUIRED, PLANT HERBACEOUS PLUGS ACCORDING TO PLAN, OR AS DIRECTED BY ENGINEER.

TOPSOIL AND SEEDING DETAIL
NO SCALE



1. PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED.
2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE BLANKET IN A 6" (15 CM) DEEP X 6" (15 CM) WIDE TRENCH WITH APPROXIMATELY 12" (30cm) OF BLANKET EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE BLANKET WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" (30 CM) APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" (30 CM) PORTION OF BLANKET BACK OVER SEED AND COMPACTED SOIL. SECURE BLANKET OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" (30 CM) APART ACROSS THE WIDTH OF THE BLANKET.
3. ROLL THE BLANKETS (A) DOWN OR (B) HORIZONTALLY ACROSS THE SLOPE. BLANKETS WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL BLANKETS MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE.
4. THE EDGES OF PARALLEL BLANKETS MUST BE STAPLED WITH APPROXIMATELY 2"-5" (5 CM-12.5 CM) OVERLAP DEPENDING ON BLANKET TYPE.
5. CONSECUTIVE BLANKETS SPLICED DOWN THE SLOPE MUST BE PLACED END OVER END (SHINGLE STYLE) WITH AN APPROXIMATE 3" (7.5 CM) OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" (30 CM) APART ACROSS ENTIRE BLANKET WIDTH.

NOTE:
*IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" (15 CM) MAY BE NECESSARY TO PROPERLY SECURE THE BLANKETS.

EROSION CONTROL BLANKET DETAIL
NO SCALE

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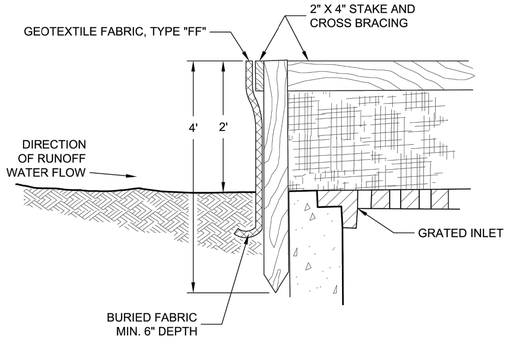
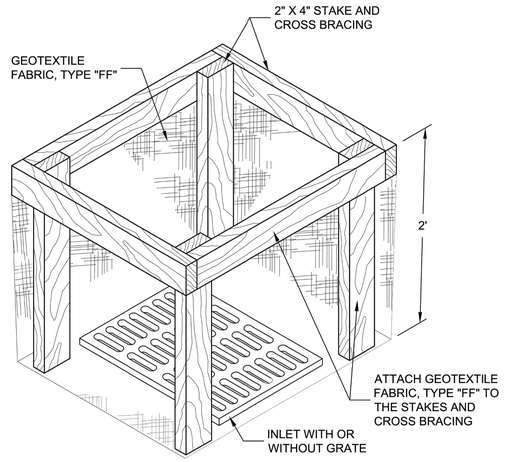
CROSSWAY CHURCH IMPROVEMENTS
CROSSWAY CHURCH
GERMANTOWN, WASHINGTON COUNTY, WI

EROSION CONTROL DETAILS

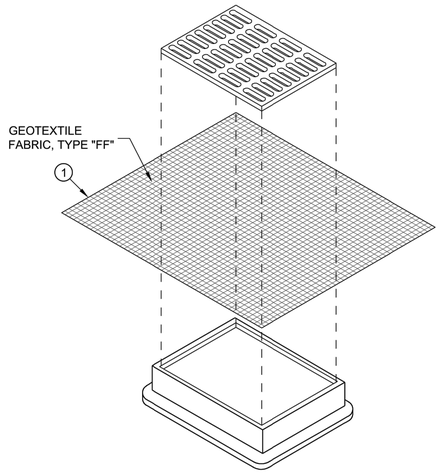
PROJECT NO. 20426215
SHEET C501

SDD 08E10 Inlet Protection, Types A, B, C and D





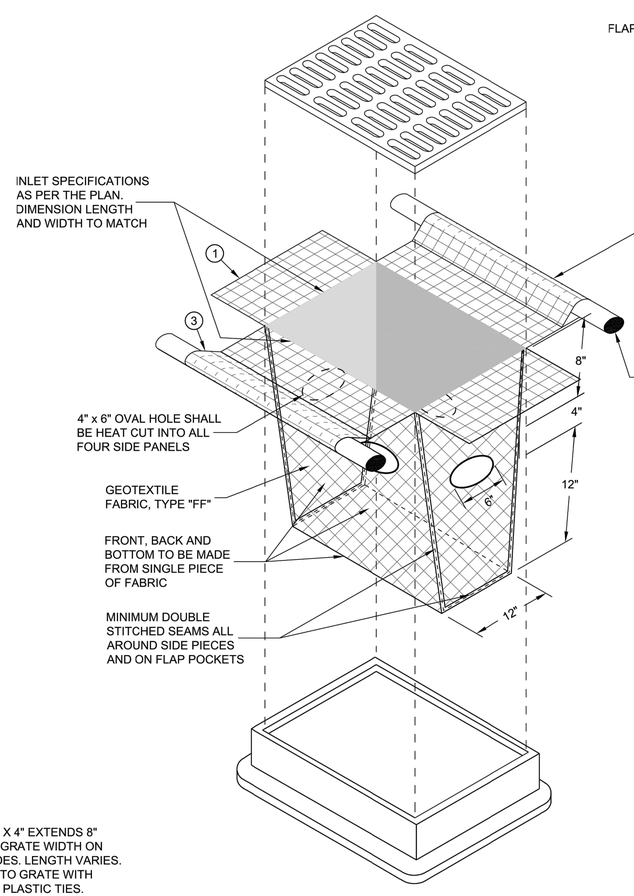
INLET PROTECTION, TYPE "A"



INLET PROTECTION, TYPE "B" (WITHOUT CURB BOX)

(CAN BE INSTALLED IN ANY INLET WITHOUT A CURB BOX)

INLET PROTECTION, TYPE "C" (WITH CURB BOX)



INLET PROTECTION, TYPE "D"

(CAN BE INSTALLED IN ANY INLET WITH OR WITHOUTA CURB BOX AS PER NOTE (2))

GENERAL NOTES

INLET PROTECTION DEVICES SHALL BE MAINTAINED OR REPLACED AT THE DIRECTION OF THE ENGINEER.

MANUFACTURED ALTERNATIVES APPROVED AND LISTED ON THE DEPARTMENT'S EROSION CONTROL PRODUCT ACCEPTABILITY LIST MAY BE SUBSTITUTED.

WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.

(1) FINISHED SIZE, INCLUDING FLAP POCKETS WHERE REQUIRED, SHALL EXTEND A MINIMUM OF 10" AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.

(2) FOR INLET PROTECTION, TYPE C (WITH CURB BOX), AN ADDITIONAL 18" OF FABRIC IS WRAPPED AROUND THE WOOD AND SECURED WITH STAPLES. THE WOOD SHALL NOT BLOCK THE ENTIRE HEIGHT OF THE CURB BOX OPENING.

(3) FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2X4.

INSTALLATION NOTES

TYPES B & C

TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE.

THE CONTRACTOR SHALL DEMONSTRATE A METHOD OF MAINTENANCE, USING A SEWN FLAP, HAND HOLDS OR OTHER METHOD TO PREVENT ACCUMULATED SEDIMENT FROM ENTERING THE INLET.

TYPE D

TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE.

DO NOT INSTALL INLET PROTECTION TYPE D IN INLETS SHALLOWER THAN 30", MEASURED FROM THE BOTTOM OF THE INLET TO THE TOP OF THE GRATE.

THE INSTALLED BAG SHALL HAVE A MINIMUM SIDE CLEARANCE, BETWEEN THE INLET WALLS AND THE BAG, MEASURED AT THE BOTTOM OF THE OVERFLOW HOLES, OF 3". WHERE NECESSARY THE CONTRACTOR SHALL CINCH THE BAG, USING PLASTIC ZIP TIES, TO ACHIEVE THE 3" CLEARANCE. THE TIES SHALL BE PLACED AT A MAXIMUM OF 4" FROM THE BOTTOM OF THE BAG.

INLET PROTECTION TYPES A, B, C AND D

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

10/16/02 — DATE

/S/ Beth Cannestra — ROADWAY STANDARDS DEVELOPMENT ENGINEER

FHWA

6

SDD 08E10 - 02

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SDD 08E10 - 02

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PLOT DATE: 6/10/2024 10:27 AM, G:\20\20426\2042615\05_bim_cadd_discipline\06_Civil\construction documents\G2 EROSION CONTROL DETAILS.dwg

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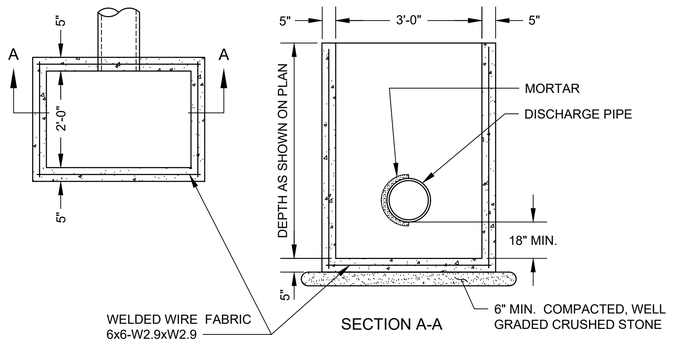
CROSSWAY CHURCH IMPROVEMENTS
CROSSWAY CHURCH
GERMANTOWN, WASHINGTON COUNTY, WI

INLET PROTECTION DETAILS

PROJECT NO. 20426215

SHEET C502



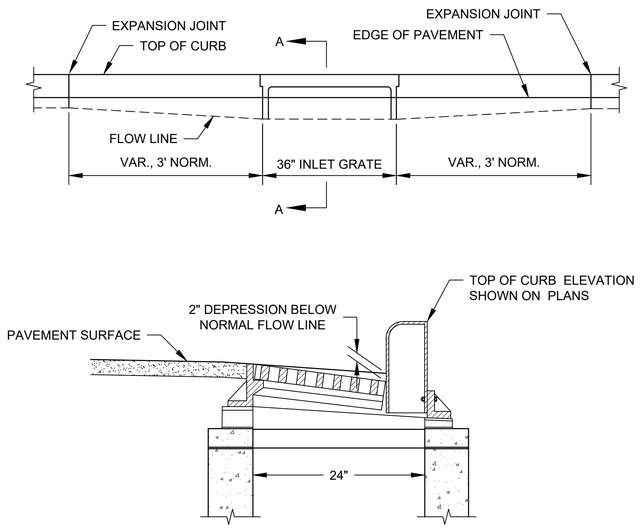
SECTION A-A

GENERAL NOTES:

1. SEE PLANS FOR SIZE, NUMBER, AND LOCATION OF PIPES.
2. DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE SPECIFICATIONS.
3. DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR UNDERGROUND DRAINAGE STRUCTURES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.
4. ALL PRECAST INLET UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF AASHTO DESIGNATION M 199.
5. PRECAST REINFORCED BASES SHALL BE PLACED ON A BED OF MATERIAL AT LEAST 6 INCHES IN DEPTH, WHICH MEETS THE REQUIREMENTS FOR WELL GRADED CRUSHED STONE. THIS BEDDING SHALL BE COMPACTED AND PROVIDE UNIFORM SUPPORT FOR THE ENTIRE AREA OF THE BASE.
6. PRECAST REINFORCED CONCRETE FLAT SLAB TOPS MAY BE USED ON THE STRUCTURES. THE TOPS SHALL BE INSTALLED ON A BED OF MORTAR.
7. ALL BAR STEEL AND WELDED WIRE FABRIC REINFORCEMENT SHALL BE EMBEDDED 2 INCHES CLEAR UNLESS OTHERWISE SHOWN OR NOTED.
8. PRECAST REINFORCED CONCRETE RISERS SHALL BE PLACED WITH TONGUE DOWN.

2' x 3' INLET WITH SUMP DETAIL

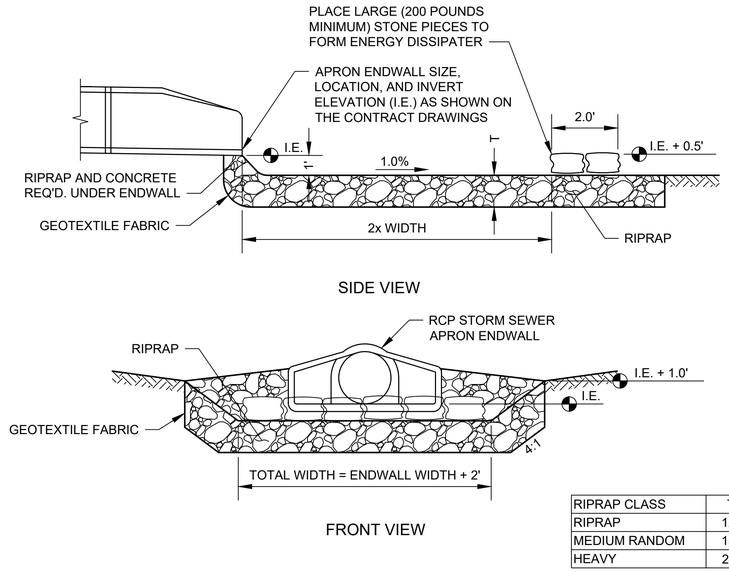
NO SCALE



SECTION A-A

CURB AND GUTTER AT INLETS DETAIL

NO SCALE



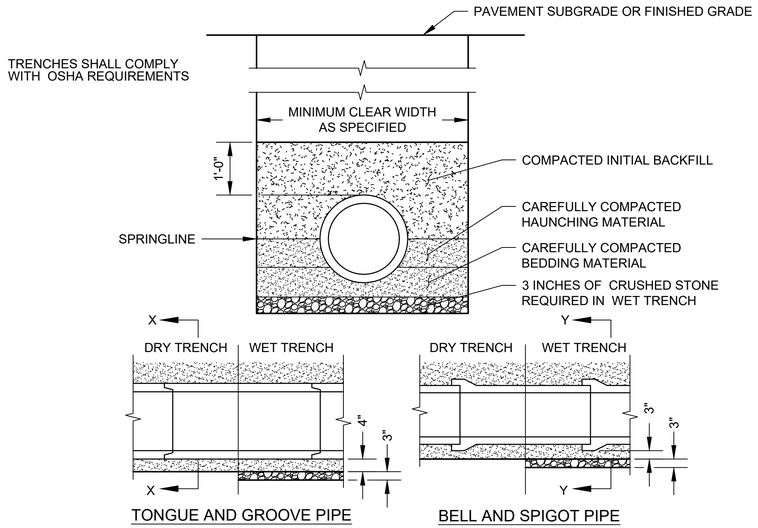
RIPRAP CLASS	T
RIPRAP	12"
MEDIUM RANDOM	18"
HEAVY	24"

GENERAL NOTES:

1. DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE SPECIFICATIONS.
2. THE RIPRAP CLASS AND GEOTEXTILE FABRIC TYPE SHALL BE AS SHOWN ON THE PLANS AND REQUIRED IN THE SPECIFICATIONS.

STORM SEWER OUTFALL DETAIL

NO SCALE



TONGUE AND GROOVE PIPE

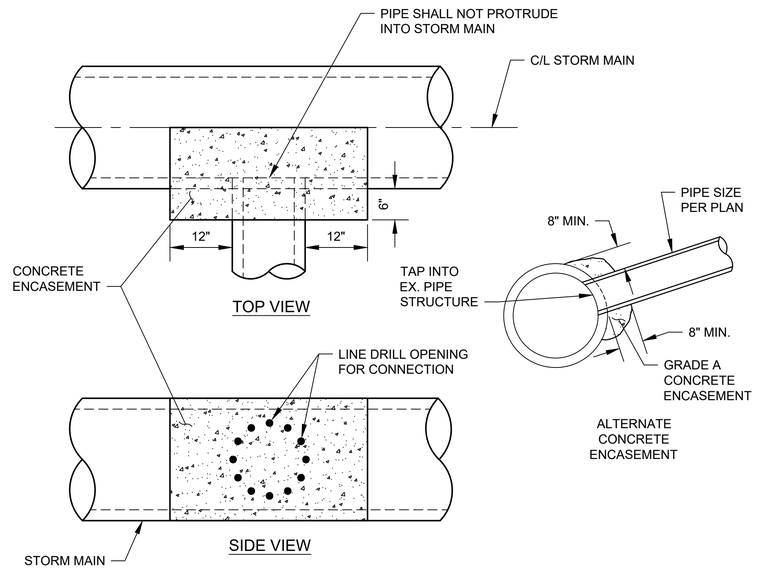
BELL AND SPIGOT PIPE

GENERAL NOTES:

1. BEDDING AND HAUNCHING MATERIAL SHALL BE WELL-GRADED 3/4 TO 1/4 INCH CRUSHED STONE OR OTHER NON-COHESIVE MATERIAL NOT SUBJECT TO MIGRATION AND FREE OF DEBRIS, ORGANIC MATERIAL, AND LARGE STONES.
2. BEDDING MATERIAL TO BE PLACED BEFORE SETTING PIPE, 4 INCH MINIMUM UNDER BARREL WITH 3 INCH MINIMUM UNDER BELL.
3. INITIAL BACKFILL SHALL BE DENSELY COMPACTED, NON-COHESIVE FINELY DIVIDED MATERIAL FREE OF DEBRIS, ORGANIC MATERIAL, AND LARGE STONES.
4. IN ROCK OR OTHER UNCOMPRESSIBLE MATERIALS, THE TRENCH SHALL BE OVEREXCAVATED A MINIMUM OF 6-INCHES AND REFILLED WITH GRANULAR MATERIAL.

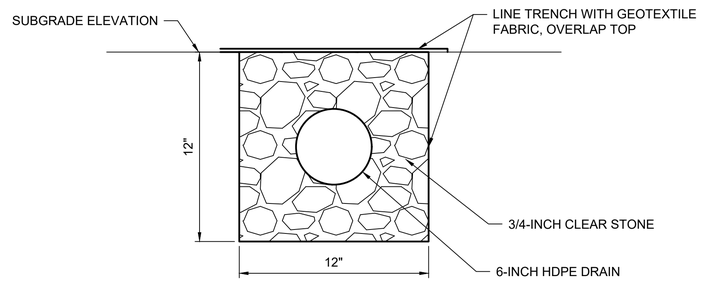
CLASS "B" EMBEDMENT FOR RIGID PIPE DETAIL

NO SCALE



STORM SEWER TAP DETAIL (BLIND CONNECTION)

NO SCALE



6-INCH DRAIN TILE DETAIL

NO SCALE

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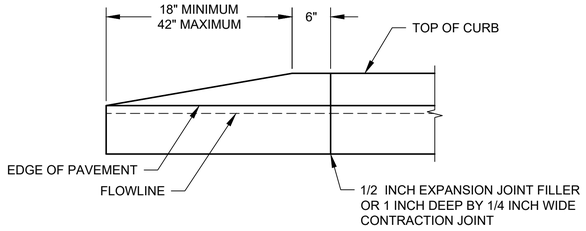
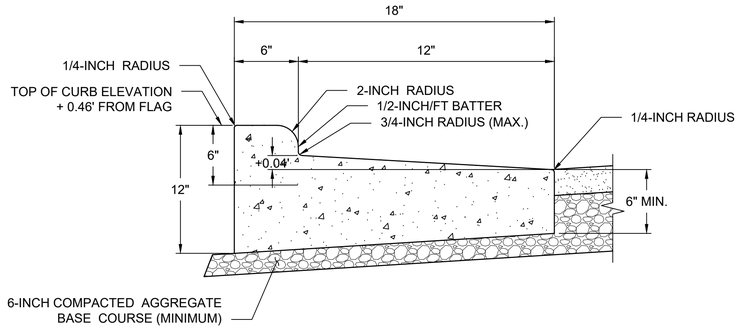
CROSSWAY CHURCH IMPROVEMENTS
CROSSWAY CHURCH
GERMANTOWN, WASHINGTON COUNTY, WI

STORM SEWER DETAILS

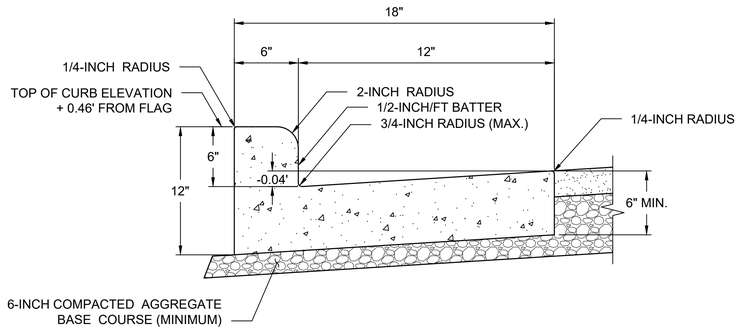
PROJECT NO. 20426215
SHEET C503



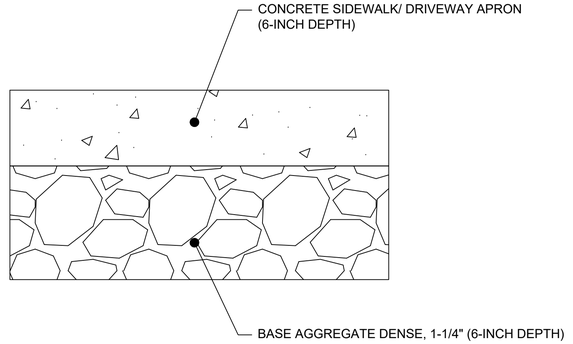
CURB END DETAIL
NO SCALE



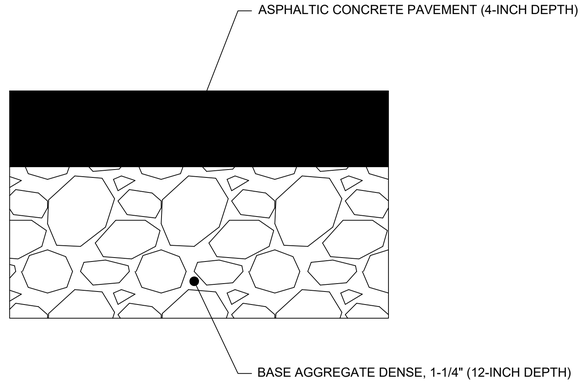
CURB AND GUTTER DETAIL - REJECT CURB
NO SCALE



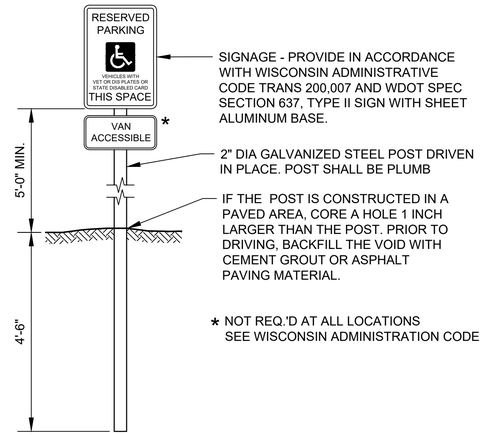
CURB AND GUTTER DETAIL - RECEIVING CURB
NO SCALE



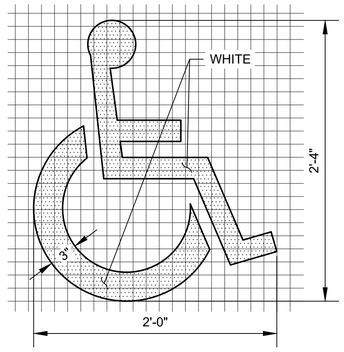
TYPICAL SECTION - SIDEWALK & DRIVEWAY APRON
NO SCALE



TYPICAL SECTION - PARKING LOT
NO SCALE

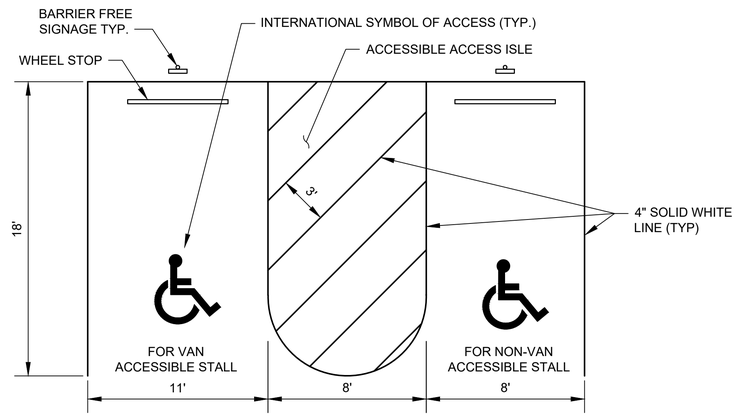


BARRIER FREE SIGNAGE
NO SCALE



INTERNATIONAL SYMBOL OF ACCESS
NO SCALE

GENERAL NOTES:
1. DETAILS OF INSTALLATION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE SPECIFICATIONS.
2. A DETAILED DRAWING OF THE DISABLED PARKING SYMBOL IS ILLUSTRATED IN THE "STANDARD HIGHWAY SIGNS MANUAL" BY THE FEDERAL HIGHWAY ADMINISTRATION.
3. WDOT SPEC. MEANS THE STATE OF WISCONSIN STANDARD SPECIFICATION FOR HIGHWAY AND STRUCTURE CONSTRUCTION, LATEST EDITION, AS AMENDED BY THE MOST CURRENT INTERIM SUPPLEMENTAL SPECIFICATION.
4. PROVIDE DISABLED PARKING STALLS AT LOCATIONS SHOWN ON THE DRAWINGS. STALL AND ACCESS ISLE DIMENSIONS SHALL BE AS SHOWN ON THE DETAIL UNLESS INDICATED OTHERWISE ON THE DRAWING.
5. PROVIDE A DISABLED SYMBOL AND BARRIER FREE SIGNAGE FOR EACH STALL SHOWN ON THE DRAWING.
6. PROVIDE WHEEL STOPS WHEN SHOWN ON THE DRAWINGS.
7. THE MAXIMUM SURFACE SLOPE, ACROSS STALLS OR ACCESSIBLE ROUTES, IN ANY DIRECTION, SHALL BE 2%.



ACCESSIBLE PARKING STALL
NO SCALE

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CROSSWAY CHURCH IMPROVEMENTS
CROSSWAY CHURCH
GERMANTOWN, WASHINGTON COUNTY, WI

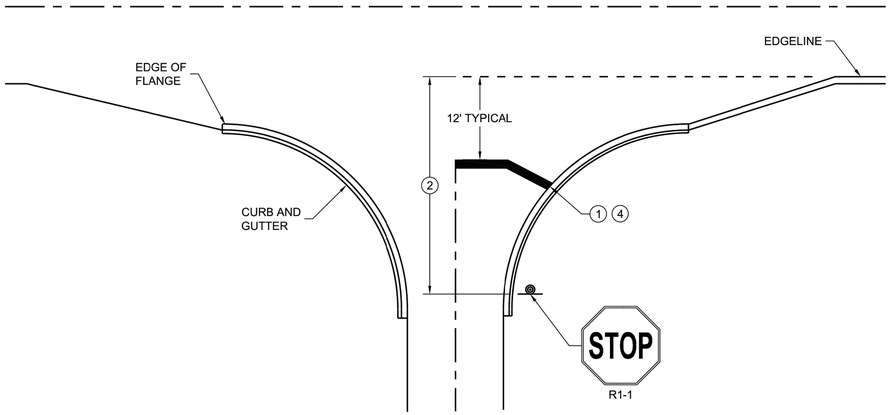
ROADWAY & PARKING DETAILS

PROJECT NO. 20426215
SHEET C504

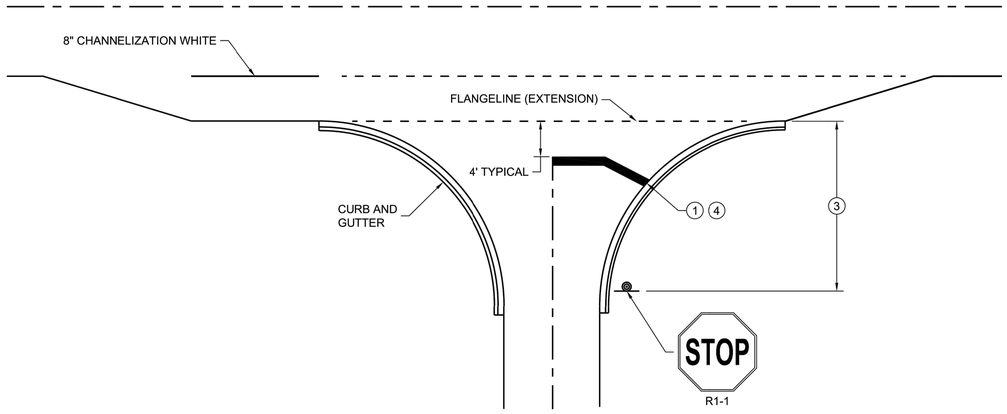
GENERAL NOTES

STOP SIGN SHALL BE PLACED A MINIMUM OF 6 FEET TO A MAXIMUM OF 50 FEET FROM THE EDGELINE LOCATION.

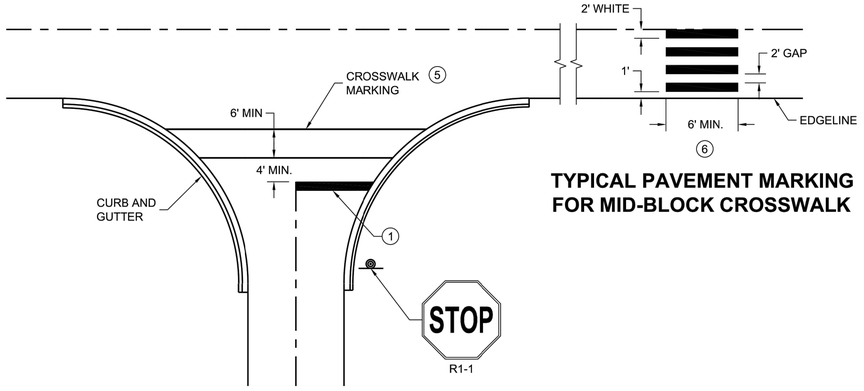
1. 18-INCH STOP LINES MAY BE DELETED OR ADDED BY THE REGION MARKING ENGINEER BASED ON VISIBILITY AND SIGHT LINES.
2. NO STOP LINE IS REQUIRED IF STOP SIGN IS LESS THAN OR EQUAL TO 40 FEET FROM THE EDGELINE.
3. NO STOP LINE IS REQUIRED IF STOP SIGN IS LESS THAN OR EQUAL TO 30 FEET FROM THE FLANGE LINE EXTENSION.
4. MOVE CLOSER TO THE EDGE OF TRAVEL LINE AS NEEDED FOR VISIBILITY AND SIGHT LINES (NO CLOSER THAN 4 FEET).
5. LADDER BAR CROSSWALKS SHOULD ONLY BE USED FOR MID BLOCK CROSSINGS. USE 2 - 6" TRANSVERSE LINES.
6. POSTED SPEED LIMITS OF 40 MPH OR GREATER USE A MINIMUM WIDTH OF 8' FOR MIDBLOCK CROSSWALKS



TYPICAL STOP LINE PAVEMENT MARKING WITH CURB AND GUTTER



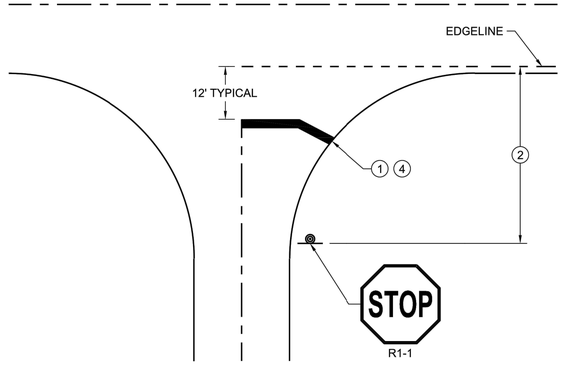
TYPICAL STOP LINE PAVEMENT MARKING FOR SIDE ROADS WITH RIGHT TURN LANE



TYPICAL PAVEMENT MARKING FOR MID-BLOCK CROSSWALK

5

TYPICAL STOP LINE PAVEMENT MARKING FOR SIDE ROADS WITH CROSSWALK MARKING



TYPICAL STOP LINE PAVEMENT MARKING WITHOUT CURB AND GUTTER

STOP LINE AND CROSSWALK PAVEMENT MARKING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
March 2024 — DATE
/S/ Matthew Rauch — STATE SIGNING AND MARKING ENGINEER

FHWA

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SDD 15C33-05

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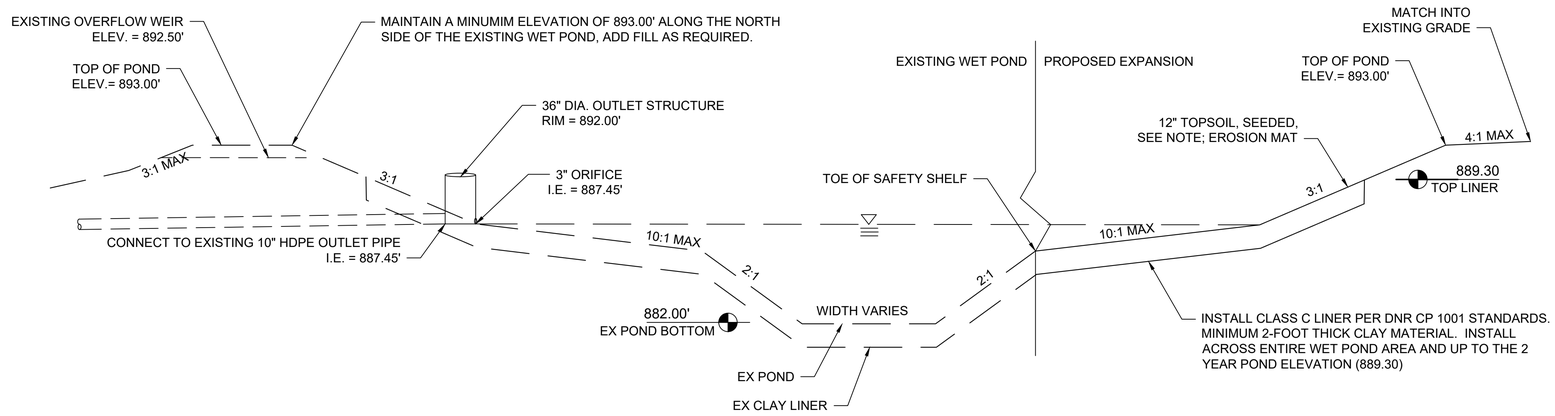
CROSSWAY CHURCH IMPROVEMENTS
CROSSWAY CHURCH
GERMANTOWN, WASHINGTON COUNTY, WI

STOP LINE & CROSSWALK DETAIL

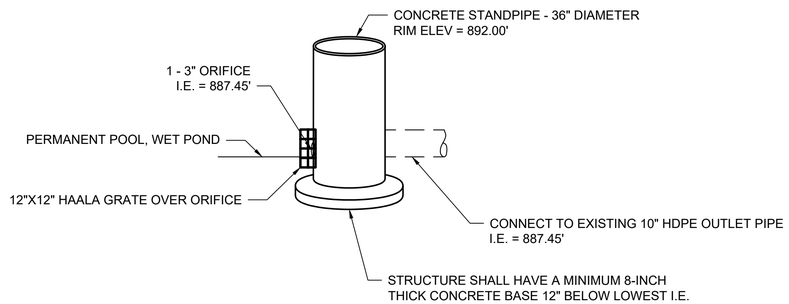
PROJECT NO. 20426215
SHEET C505



NOTES:
- TOP OF POND TO BE A MINIMUM OF 4-FEET WIDE
- WET POND EXPANSION TO OCCUR ABOVE THE TOE OF THE EXISTING SAFETY SHELF

WET POND WITH OUTLET STRUCTURE DETAIL

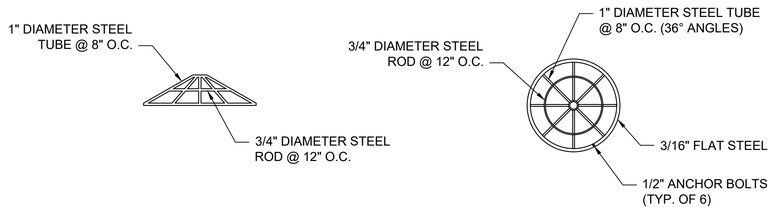
NO SCALE



NOTE:
THE GRATE FOR THIS OUTLET STRUCTURE SHALL BE EITHER A NEENAH HIGH CAPACITY GRATE, BEEHIVE GRATE, OR CONE GRATE AS DETAILED ABOVE. SEE PLAN FOR EXACT ELEVATIONS AND I.E.

WET POND OUTLET STRUCTURE DETAIL

NO SCALE



PROFILE

PLAN

CONE GRATE DETAIL

NO SCALE

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CROSSWAY CHURCH IMPROVEMENTS
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GERMANTOWN, WASHINGTON COUNTY, WI

WET POND EXPANSION DETAILS

PROJECT NO. 20426215
SHEET C506

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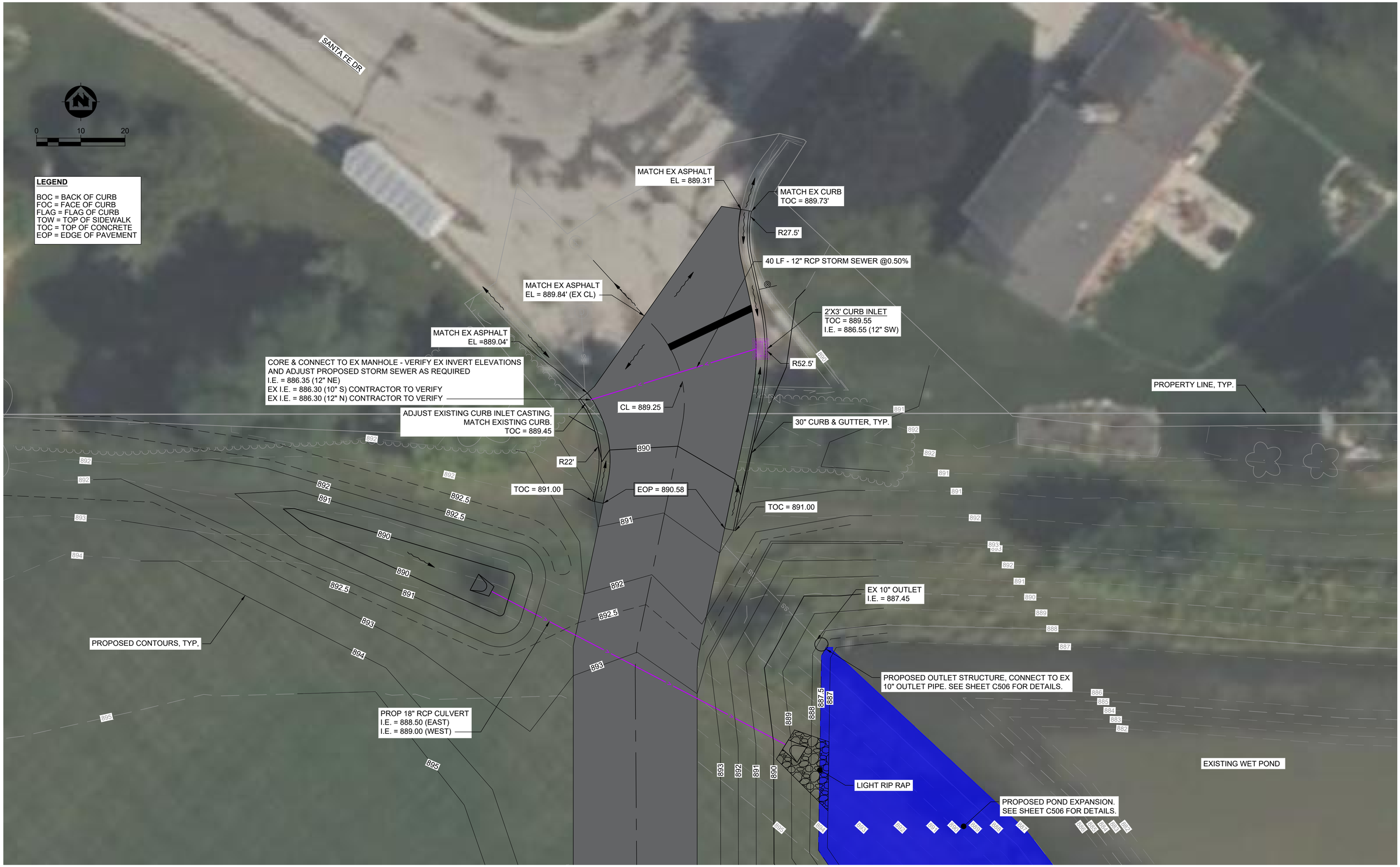
CROSSWAY CHURCH IMPROVEMENTS
CROSSWAY CHURCH
GERMANTOWN, WASHINGTON COUNTY, WI

DRIVEWAY DETAIL - PILGRIM RD

PROJECT NO. 20426215
SHEET C507



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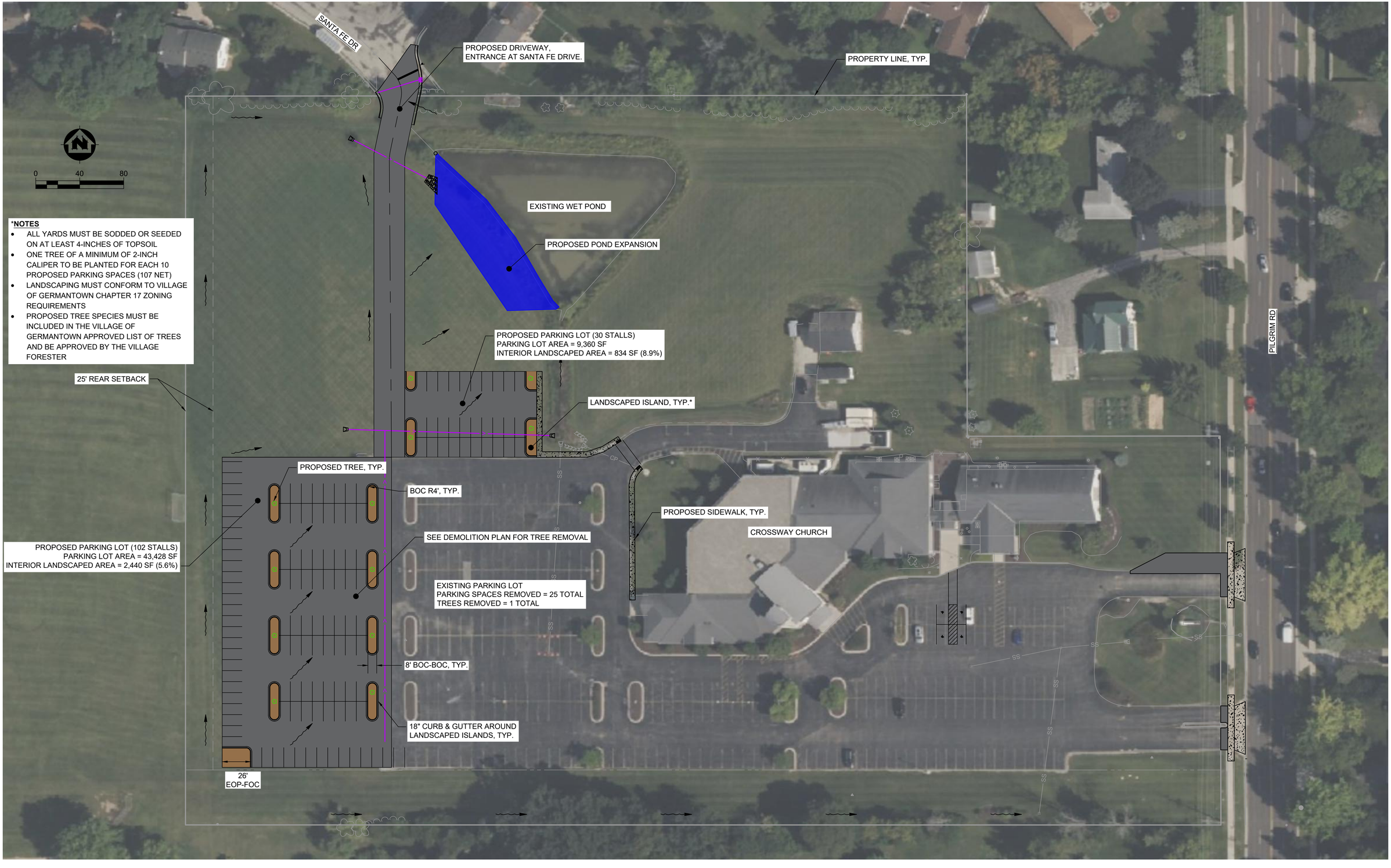
CROSSWAY CHURCH IMPROVEMENTS
CROSSWAY CHURCH
GERMANTOWN, WASHINGTON COUNTY, WI

DRIVEWAY DETAIL - SANTA FE DR

PROJECT NO.
20426215
SHEET
C508



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PLOT DATE: 6/10/2024 10:28 AM, G:\20\20426\20426215\05_bim_cadd_discipline\06_Civil\construction documents\20426215 PROPOSED SITE PLAN.dwg

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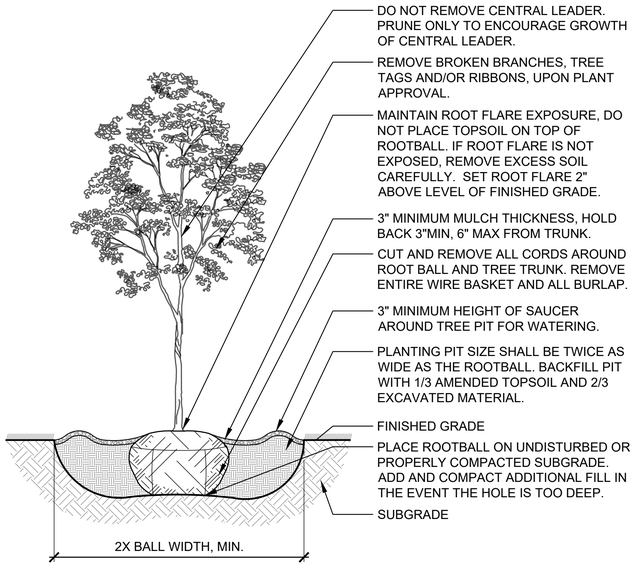
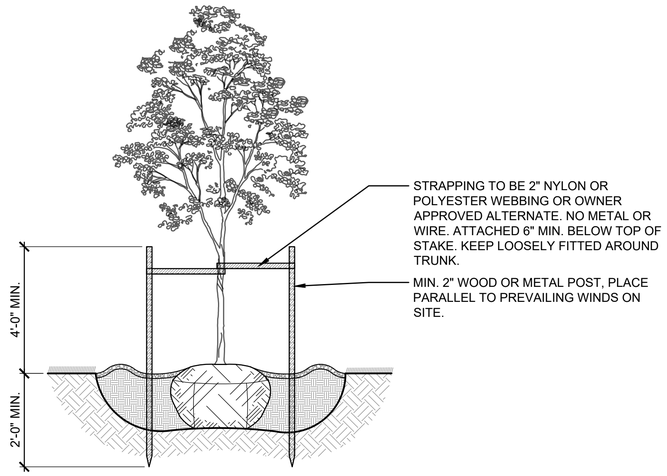
CROSSWAY CHURCH IMPROVEMENTS
CROSSWAY CHURCH
GERMANTOWN, WASHINGTON COUNTY, WI

PROPOSED LANDSCAPING PLAN

PROJECT NO. 20426215
SHEET L201

NOTE:
1. REMOVE AND PROPERLY DISPOSE OF ANY EXCESS EXCAVATED MATERIAL
2. WRAP TRUNK WITH APPROVED TREE WRAP UP TO FIRST BRANCH. (FALL PLANTING REQUIREMENT).





		NO.	DATE	REVISION	BY
PROJECT DATE: .	DRAWN BY: KEF	.	.	.	.
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PLOT DATE: 6/10/2024 10:28 AM, G:\20\20426\20426215\05_bim_cadd_discipline\06_Civil\construction documents\20426215 PROPOSED SITE PLAN.dwg

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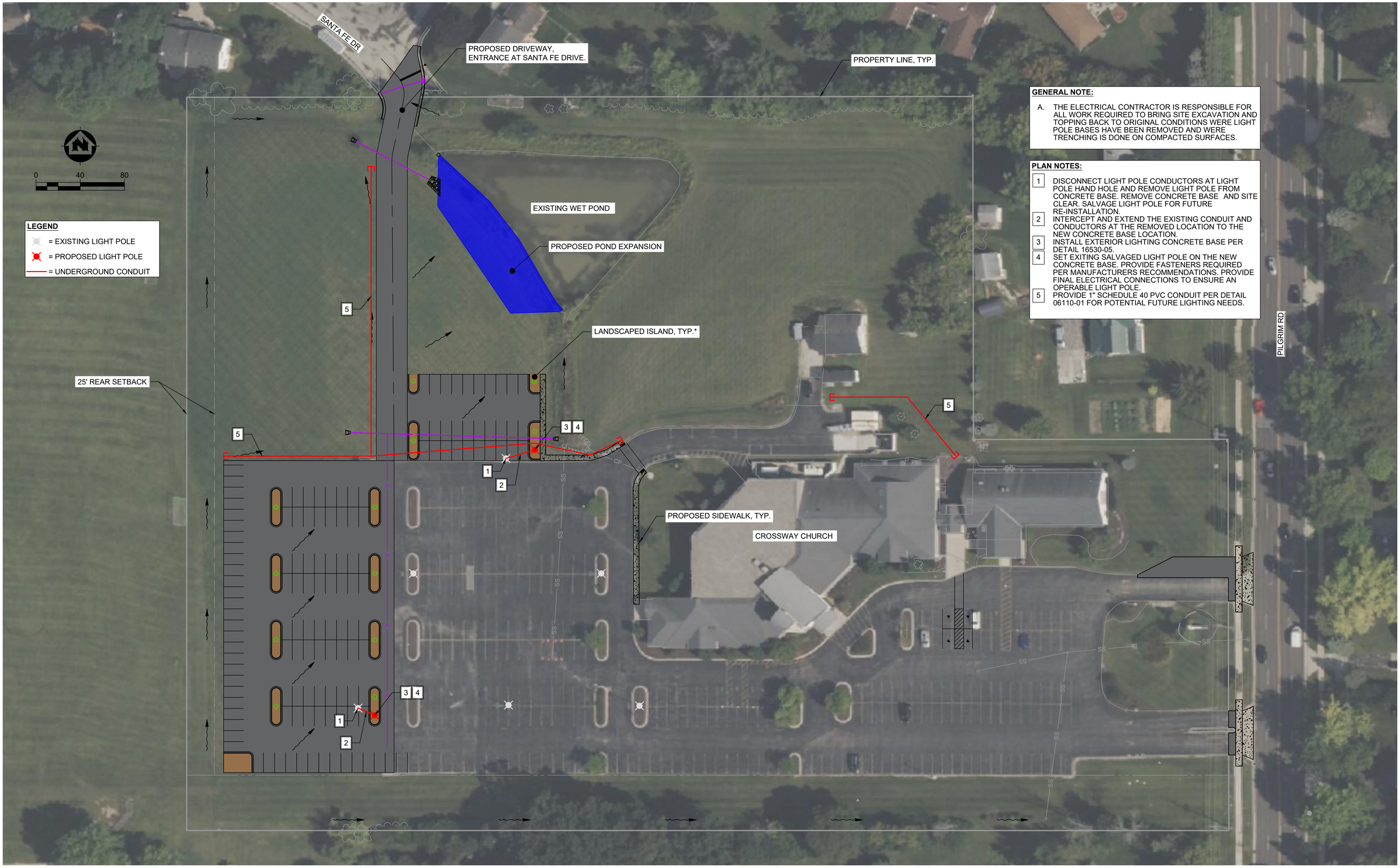
CROSSWAY CHURCH IMPROVEMENTS
CROSSWAY CHURCH
GERMANTOWN, WASHINGTON COUNTY, WI

LANDSCAPING DETAILS

PROJECT NO. 20426215
SHEET L501



GENERAL NOTE:

A. THE ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR ALL WORK REQUIRED TO BRING SITE EXCAVATION AND TOPPING BACK TO ORIGINAL CONDITIONS WERE LIGHT POLE BASES HAVE BEEN REMOVED AND WERE TRENCHING IS DONE ON COMPACTED SURFACES.

PLAN NOTES:

1. DISCONNECT LIGHT POLE CONDUCTORS AT LIGHT POLE HAND HOLE AND REMOVE LIGHT POLE FROM CONCRETE BASE. REMOVE CONCRETE BASE AND SITE CLEAR. SALVAGE LIGHT POLE FOR FUTURE RE-INSTALLATION.
2. INTERCEPT AND EXTEND THE EXISTING CONDUIT AND CONDUCTORS AT THE REMOVED LOCATION TO THE NEW CONCRETE BASE LOCATION.
3. INSTALL EXTERIOR LIGHTING CONCRETE BASE PER DETAIL 16530-05.
4. SET EXITING SALVAGED LIGHT POLE ON THE NEW CONCRETE BASE. PROVIDE FASTENERS REQUIRED PER MANUFACTURERS RECOMMENDATIONS. PROVIDE FINAL ELECTRICAL CONNECTIONS TO ENSURE AN OPERABLE LIGHT POLE.
5. PROVIDE 1" SCHEDULE 40 PVC CONDUIT PER DETAIL 06110-01 FOR POTENTIAL FUTURE LIGHTING NEEDS.

		NO.	DATE	REVISION	BY
PROJECT DATE: .	DRAWN BY: KEF	.	.	.	.
	DESIGNED BY: KEF	.	.	.	.
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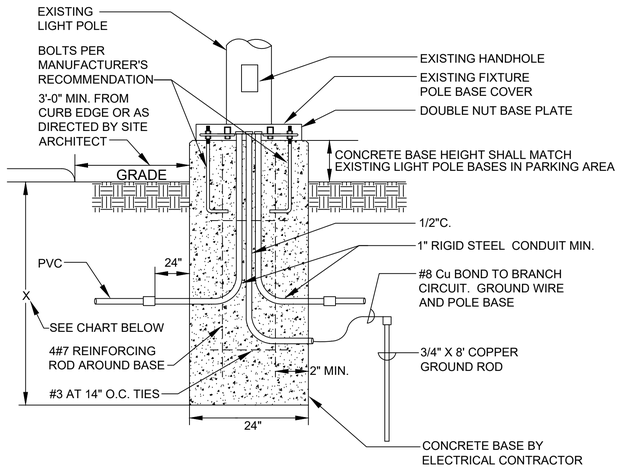
CROSSWAY CHURCH IMPROVEMENTS
CROSSWAY CHURCH
GERMANTOWN, WASHINGTON COUNTY, WI

PROPOSED LIGHTING & ELECTRICAL PLAN

PROJECT NO. 20426215

SHEET E201

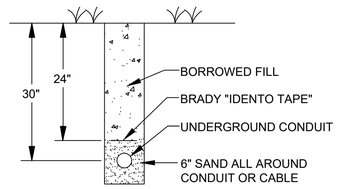


NOTES:

1. IN UNDISTURBED EARTH, EXCLUDING FILL MATERIAL, A 2'-0" DIA. HOLE WHICH SHALL BE USED AS THE FORM FOR THE CONCRETE BASE SHALL BE DRILLED.
2. IN EXCAVATED AREAS OR IN EXISTING SOIL CONTAINING FILL OF OBJECTIONABLE MATERIAL, BACKFILL AROUND CONCRETE BASE WITH COMPACTED GRANULAR BACKFILL A MIN. OF 2'-0" IN ALL DIRECTIONS.

POLE HEIGHT IN FEET	BASE DEPTH IN INCHES BELOW GRADE
10'-0"	X = 60" (INCHES)
15'-0"	X = 60" (INCHES)
20'-0"	X = 60" (INCHES)
25'-0"	X = 72" (INCHES)
30'-0"	X = 72" (INCHES)
35'-0"	X = 72" (INCHES)
40'-0"	X = 96" (INCHES)
45'-0"	X = 96" (INCHES)
50'-0"	X = 108" (INCHES)

16530-05 EXTERIOR LIGHTING CONCRETE BASE DETAIL
NTS



NOTE:

PROVIDE PULL CORDS IN ALL EMPTY CONDUITS.

16110-01 UNDERGROUND CONDUIT DETAIL
NTS

		NO.	DATE	REVISION	BY
PROJECT DATE: .	DRAWN BY: KEF	.	.	.	.
	DESIGNED BY: KEF	.	.	.	.
	CHECKED BY: Init	.	.	.	.

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CROSSWAY CHURCH IMPROVEMENTS
CROSSWAY CHURCH
GERMANTOWN, WASHINGTON COUNTY, WI

ELECTRICAL DETAILS

PROJECT NO. 20426215
SHEET E501

CROSSWAY CHURCH
PARKING LOT EXPANSION
PRELIMINARY COST ESTIMATE
APRIL 2024

ITEM NO.	ITEM DESCRIPTION	ESTIMATED QUANTITY	UNITS	UNIT PRICE	TOTAL PRICE
General					
	Mobilization, Bonds and Insurance	1	L.S.	$ 5,000.00	$ 5,000.00
	Erosion Control	1	L.S.	$ 15,000.00	$ 15,000.00
	Clearing and Grubbing	1	L.S.	$ 2,500.00	$ 2,500.00
	Turf Restoration	1	L.S.	$ 12,500.00	$ 12,500.00
	Traffic Control	1	L.S.	$ 1,500.00	$ 1,500.00
				$ -	$ -
Storm Sewer					
	Grading for Storm Water Pond Improvements	1	L.S.	$ 16,000.00	$ 16,000.00
	12-inch Storm Sewer	40	L.F.	$ 45.00	$ 1,800.00
	18-inch Storm Sewer	270	L.F.	$ 65.00	$ 17,550.00
	Storm Pond Effluent Structure	1	Ea.	$ 2,500.00	$ 2,500.00
	Storm Sewer Inlet, 2'x3'	1	Ea.	$ 2,800.00	$ 2,800.00
	18-inch Apron Endwall with Grate	4	Ea.	$ 1,000.00	$ 4,000.00
	Inlet Protection, Type B	7	Ea.	$ 250.00	$ 1,750.00
	Shallow Ditching	200	L.F.	$ 20.00	$ 4,000.00
	Connect to Existing Storm Manhole	1	Ea.	$ 1,000.00	$ 1,000.00
					$ -
Roadway					
	Unclassified Excavation	1	L.S.	$ 25,000.00	$ 25,000.00
	Curb and Gutter Removal	100	L.F.	$ 3.00	$ 300.00
	Concrete Flatwork Removal	600	S.F.	$ 2.00	$ 1,200.00
	Dense Graded Base, 1-1/4-Inch	4,200	Ton	$ 15.00	$ 63,000.00
	Dense Graded Base, 3-Inch	400	Ton	$ 15.00	$ 6,000.00
	Excavation Below Subgrade	200	CY	$ 15.00	$ 3,000.00
	Asphaltic Concrete Pavement (4.0-Inch)	1,500	Ton	$ 70.00	$ 105,000.00
	Asphalt Driveway Patch (4.0-Inch)	40	Ton	$ 120.00	$ 4,800.00
	Concrete Sidewalk, (5-Inch)	1,800	S.F.	$ 5.00	$ 9,000.00
	Concrete Sidewalk/Driveway (6-inch)	1,500	S.F.	$ 6.50	$ 9,750.00
	Curb and Gutter, 24-inch	1,050	L.F.	$ 20.00	$ 21,000.00
	Pipe Underdrain, 6-inch	300	L.F.	$ 15.00	$ 4,500.00
	Connect Draintile to Storm Sewer	1	Ea.	$ 500.00	$ 500.00
	Remove Pavement Markings	200	L.F.	$ 10.00	$ 2,000.00
	Pavement Marking, Paint, Symbol, Accessible	4	Ea.	$ 200.00	$ 800.00
	Pavement Marking, Paint, Crosswalk	1	L.S.	$ 1,000.00	$ 1,000.00
	Pavement Marking, Paint, Parking Stalls, 4-inch	3,400	L.F.	$ 1.00	$ 3,400.00
	Stone Tracking Pad	1	Ea.	$ 1,000.00	$ 1,000.00
		CONSTRUCTION SUBTOTAL:			**$ 349,150.00**

DECLARATION OF COVENANT FOR STORM WATER MANAGEMENT FACILITY MAINTENANCE

Document Number

THIS DECLARATION OF COVENANT FOR STORM WATER MANAGEMENT FACILITY MAINTENANCE and related covenants is declared and made this _____ day of _____, 200_ by_____ ____ ("Developer").

WHEREAS, _____as Developer owns the real property described below on Exhibit A attached hereto and incorporated herein by reference (the "Property"); and

WHEREAS, Developer has ~~[subdivided or~~ developed] the Property; and

WHEREAS, pursuant to subdivision and/or other applicable approvals, including permit approvals granted by the Village of Germantown, and in accordance with and obedience to conditions of such approvals and the applicable code provisions and Village policies governing storm water management facilities, and in order to insure that the storm water facilities constructed on and serving the Property continue to function according to the design and performance standards which they were constructed to meet, in perpetuity, Developer, for the benefit of itself, its successors in interest and the Property in perpetuity, hereby declares the following covenants, conditions and restrictions relating to the installation and maintenance of the storm water facilities on the subject Property.

Name and Return Address

WHEREAS, This Agreement includes the following exhibits:

Exhibit A: Legal Description of the real estate which this Agreement applies ("Property").

Exhibit B: Location Map(s) – shows an accurate location of each storm water management facility affected by this Agreement.

Exhibit C: Minimum Maintenance Requirements – prescribes those activities that must be carried out to maintain compliance with this Agreement.

_____

Parcel Identification Number(s) – (PIN)

Through this Declaration Developer hereby subjects the Property to the following covenants, conditions and restrictions:

1. Developer and its assigns and successors in interest ("Responsible Party") shall be responsible for the routine and extraordinary maintenance of the storm water management facilities identified in Exhibit B, and shall maintain the storm water management facilities and drainage easements in accordance with Exhibit C.
2. The Village of Germantown, or its designee, is authorized to access the Property as necessary to conduct inspections of the storm water management facilities and drainage easements to ascertain compliance with this Agreement and the minimum storm water management practice maintenance requirements prescribed in Exhibit C.
3. Upon notification to the Responsible Party by the Village of Germantown of maintenance deficiencies which require correction, the specified corrective actions shall be performed by the Responsible Party within a reasonable time frame, as shall be prescribed by the Village Engineer, which shall be no less than thirty (30) calendar days.

4. The Village of Germantown is authorized to perform the corrective actions identified in its inspection report or its notice if the Responsible Party does not make the required corrections within the time period prescribed by the Village Engineer for corrective action. The costs and expenses of such corrective actions shall, in accordance with Section 66.0627 of the Wisconsin Statues, shall be invoiced to the Responsible Party and if not paid within the time determined by the Village Board, shall be entered on the tax roll as a special charge against the Property, and collected with any other taxes levied thereon for the year in which the work is completed.
5. This Declaration shall run with the Property and be binding upon the Developer and its successors and assigns. This Declaration may not be amended or abrogated in part or whole, without the express written consent of the Village of Germantown.

Dated this ___ day of _____, 200_.

Owner:

_____
(Owners Signature)

(Owners Typed Name)

Acknowledgements

State of Wisconsin) :ss
County of Washington)

Personally came before me this ____ day of _____, 200_, the above named ___[Owners name]_____ to me known to be the person who executed the foregoing instrument and acknowledged the same.

_____.
[Name]
Notary Public, Washington County, WI
My commission expires:_____.

This document was drafted by:

_____

_____

[Name and address of drafter]

Exhibit A – Legal Description

The following description and reduced copy map identifies the land parcel(s) affected by this Declaration. For a larger scale view of the referenced document, contact the Washington County Register of Deeds office.

[Provide appropriate legal description/metes and bounds here.]

[Note: An example map is shown below. This exhibit must be customized for each site, including the minimum elements shown. It must include a reference to a Subdivision Plat, Certified Survey number, or Condominium Plat, and a map to illustrate the affected parcel(s).]

Tax Parcel ID Number: **341092**
Date of Recording: **Dated 12/10/2009, Recorded 01/22/2010**
Subdivision/CSM: **Document No. 1242156**
CSM 6349 V48 P14 PAR 2&3&4 CSM 2821 SENE 34 9 20 Lot 1
Legal Description: **Southeast Quarter (SE 1/4) of the Northeast Quarter (NE 1/4) of Section 34, Township 9N, Range 20E Washington County, Wisconsin.**
Site Address: **W156N10041 PILGRIM RD GERMANTOWN, WI 53022**
Map Produced By: **Washington County GIS**

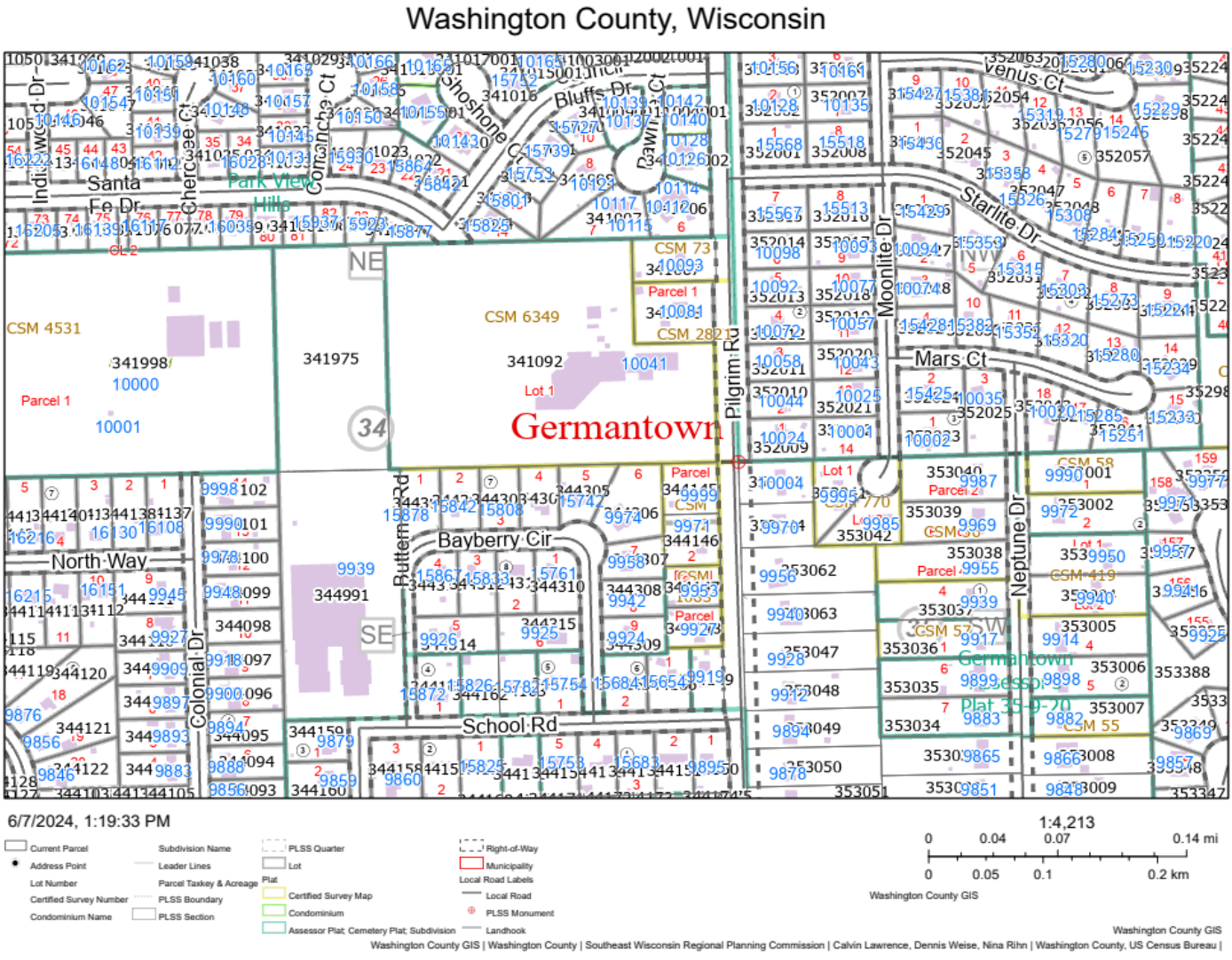


Exhibit B - Location Map
Storm Water Management Facilities Covered by this Declaration

[An example location map and the minimum elements that must accompany the map are shown below. This exhibit must be customized for each site.]

The storm water management practices covered by this Declaration are depicted in the reduced copy of the construction plans, as shown below. **The practices include expansion of the existing wet detention basin, existing outlet structure replacement, and all associated pipes, earthen berms, storm sewer and all associate structures, and other components of these practices.** All of the noted storm water management facilities are located within a drainage easement in Outlot 1 of the subdivision plat, as noted in Exhibit A.

Subdivision Name**:** **NA**
Storm water Practices**:** **Wet Detention Basin Expansion and Outlet Structure Replacement.**
Location of Practices**:** **Entire Property.**

Figure 1
Plan View of Storm Water Management Facilities

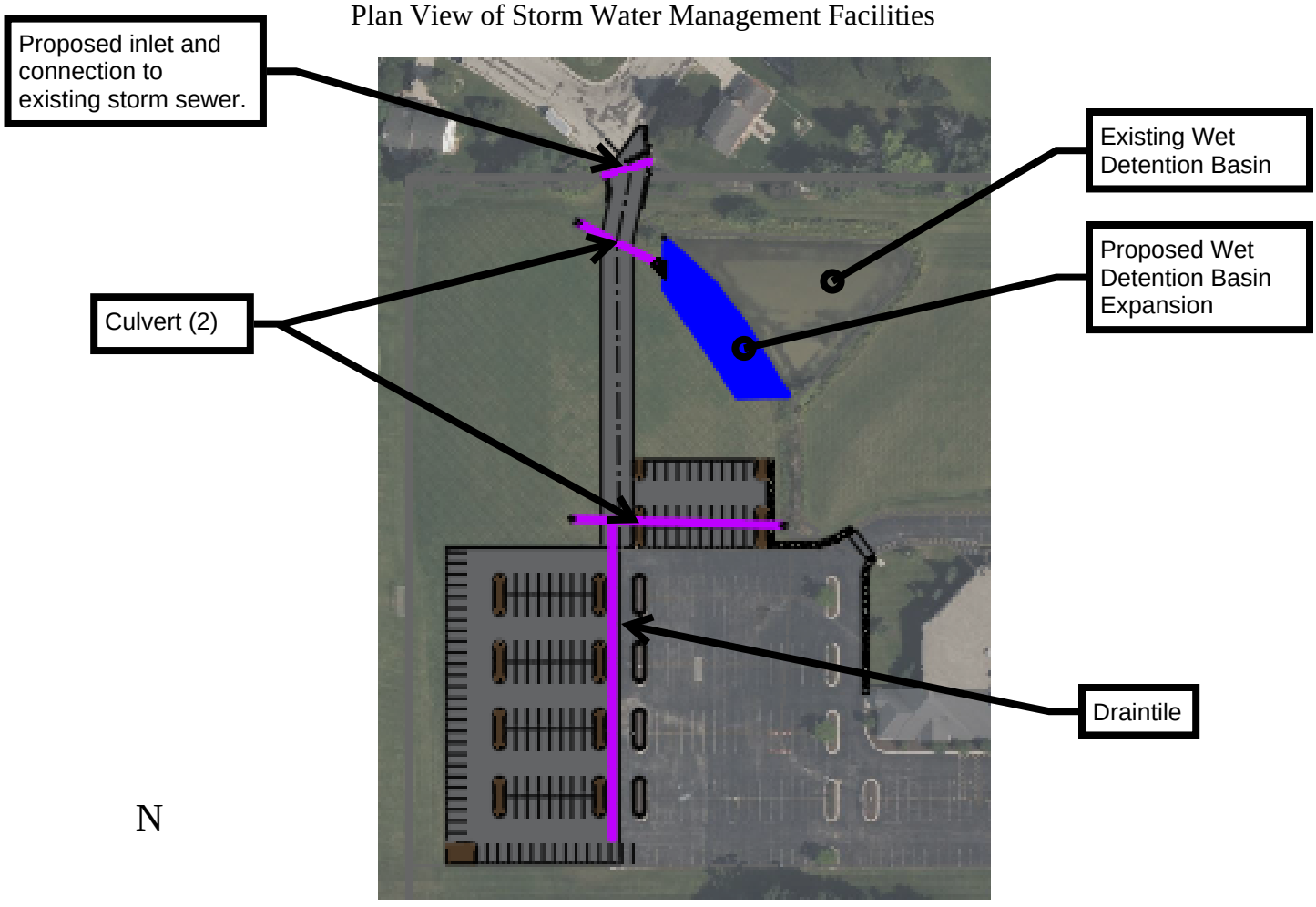


Exhibit C
Minimum Storm Water Management Facility Maintenance Requirements

This exhibit explains the basic function of each of the storm water management facilities shown on Exhibit B and prescribes the minimum maintenance requirements to remain compliant with conditions of subdivision or development approval, storm water management plan acceptance, and Village ordinances and policies, as well as the rules of MMSD, and the Declaration to which this is appended. The maintenance activities listed below are aimed to ensure these facilities continue serving their intended functions in perpetuity. The list of activities is not all inclusive, but rather indicates the minimum type of maintenance that can be expected for this particular site. Access to the stormwater facilities for maintenance vehicles is shown in Exhibit B. Any failure of a storm water facility that is caused by a lack of maintenance will subject the Party to enforcement of the provisions in this Declaration, by the Village of Germantown.

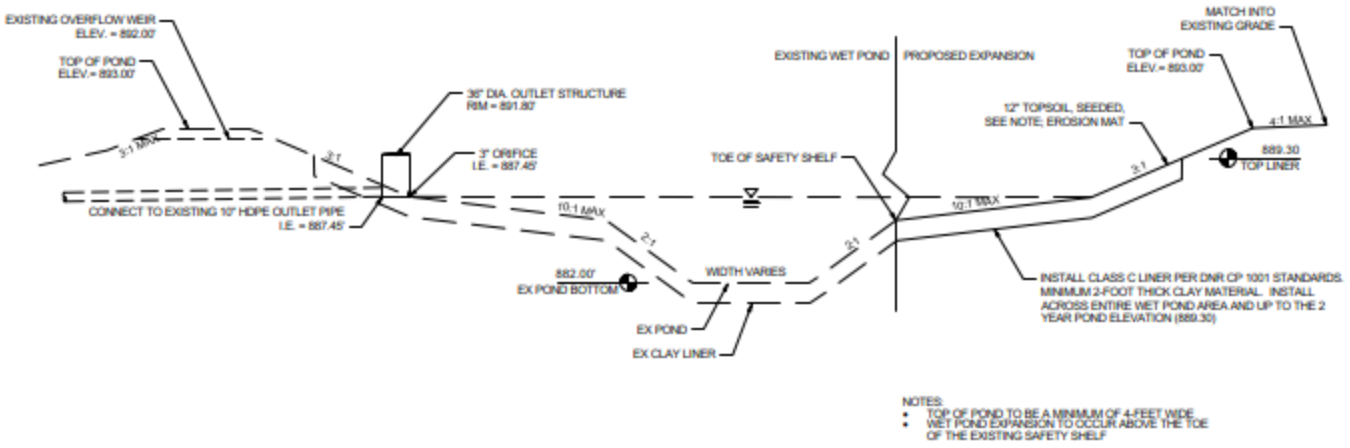
[Example maintenance language is listed below. This exhibit must be customized for each site. The minimum elements of this exhibit include: a description of the drainage area and the installed storm water management system & best management practices, a list of BMP maintenance requirements, and detailed construction drawings showing all critical components and their planned elevations.]

System Description:

The existing storm water management BMPs were designed to trap at least 80% of sediment in runoff and maintain MMSD restricted peak flows. The drainage area of the wet detention basin includes the entire parcel north and west of the existing church, as well as parking lot and roof drain items routed to the basin through storm sewer.

The proposed BMP improvements will expand the existing wet pond above the toe of the safety shelf to maintain sediment and peak flow reduction requirements. In addition to upsizing the pond, the existing restrictor plate will be removed from the existing 10" outlet and replaced with a 36"-diameter outlet structure with 3.0-inch orifice. A detail of both the pond expansion and outlet can be seen below.

All elevations indicated in Exhibit C represent planned values and are presented in feet above mean sea level (NAD 1929). These are required to be field verified upon construction. Actual elevations (and more detailed information on the designs) can be obtained by contacting the Village of Germantown, and can be used as a reference point during maintenance inspections.

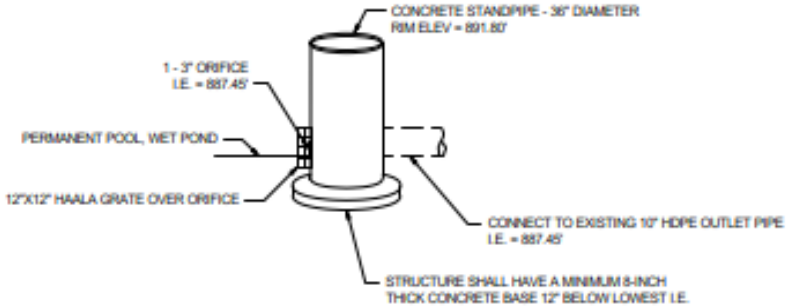


WET POND WITH OUTLET STRUCTURE DETAIL
NO SCALE

Minimum Maintenance Requirements:

There is hereby incorporated by reference as though fully set forth at length, the latest edition of the Village of Germantown Stormwater Maintenance Manual for Private Facilities and Declarant shall observe all of the performance standards and undertake to perform all required inspection and maintenance activities provided therein, as a material provision of this covenant.

Figure 3
Outlet Structure Detail



NOTE:
THE GRATE FOR THIS OUTLET STRUCTURE SHALL BE EITHER A
NEENAH HIGH CAPACITY GRATE, BEEHIVE GRATE, OR CONE GRATE
AS DETAILED ABOVE. SEE PLAN FOR EXACT ELEVATIONS AND I.E.

WET POND OUTLET STRUCTURE DETAIL
NO SCALE

VILLAGE OF GERMANTOWN
APPLICATION FOR EROSION CONTROL PERMIT

N112 W17001 Mequon Road - P.O. Box 337 - Germantown, WI 53022
Phone (262) 250-4760

PERMIT #E - _____

The undersigned hereby applies for a permit to build, construct or to install according to the following statement:

1. Owner CrossWay Church (Ben Cartland) Phone 262-255-0702
   Address W156N10041 Pilgrim Road City/State Germantown, WI 53022
2. Location of Structure Improvements to Existing Structures Zoning District Institutional
3. Name of Contractor UNKNOWN AT THIS TIME. Phone _____
   Address _____ City/State _____
4. Parcel Description: Lot 1 (CSM 6349) Subdivision Parcel No: 341092
5. Description of Land Disturbing Activity:
   Excavating or Filling 5000 Cubic Yards Trenching 600 Linear Feet
   Grading/Removal of Ground Cover 124,000 Sq. Ft. Total Area Disturbed 152,460 Sq. Ft.
6. Erosion Control Permit Fee $ 1262.30

CONDITIONS OF APPROVAL

1. Property Owner/Applicant is responsible for compliance with the Erosion Control Ordinance or COMM 21.125 and Conditionally Approved Plan. Owner/Applicant is responsible for activities of any subcontractors which may affect non-compliance situations.
2. Install Erosion Control devices as identified in the Approved Erosion Control Plan.
3. Use of #3 aggregate stone or other approved stone with a minimum 3" diameter required for access drives, 6" depth, 30'-50' length, 14'-20' width.
4. Protect all storm sewer inlets with approved Erosion Control devices.
5. Remove tracking (i.e. sediment) from street at the end of each work day. Maintain all road drainage systems and tracking provisions, stormwater drainage systems, control measures and other facilities identified in the Erosion Control Plan.
6. Repair any siltation or erosion damage to adjoining surfaces and drainageways resulting from land development or disturbing activities.
7. All soil storage piles shall be located at least 25 feet from any downslope road, lake, stream, wetland, ditch, channel or other watercourse.
8. Stock piles that are left for more than seven (7) days should be seeded, covered with a tarp or have erosion control - silt fence/straw bales installed on the downslope side(s) of the stock pile.
9. Inspect all Erosion Control devices after each rain of 0.5 inches or more and at least once each week and make needed repairs.
10. Maintain all Erosion Control devices until disturbed areas are stabilized (seed/sod/mulch disturbed areas as soon as possible.)
11. Keep a copy of the Conditionally Approved Erosion Control Plan on site.

Acceptance of conditions by applicant. (In case of applicant not being the owner of the parcel, the applicant shall act as the agent for the owner and the owner's permission and acceptance of all conditions shall be in force as soon as the applicant is permitted by the owner to proceed with the work outlined herein.)

I hereby certify that I fully understand the provisions of the Village of Germantown Erosion Control Ordinance and that I accept responsibility for carrying out the control plan for the referenced project, as approved by the Village.

In addition to the Conditions of Approval, this permit must be transferred to the new home owner and the site must be stabilized or protected at the time of occupancy. (No occupancy will be granted until the site is stabilized or protected.)

Signed _____ Print Ben Cartland Phone 262.255.0702
Owner/Applicant

PERMIT APPROVED: _____ Date _____
Village of Germantown