

CHIPPEWA COUNTY**BOARD OF ADJUSTMENT****REGULAR MEETING****MAY 5, 2021****CHIPPEWA COUNTY COURTHOUSE, RM 016****3:30 PM**

IF YOU ARE A MEMBER OF THE PUBLIC THIS MEETING WILL BE HELD VIA A TELEPHONE CONFERENCE CALL DUE TO THE COVID-19 PANDEMIC. IF YOU WISH TO SPEAK TO THE BOARD OF ADJUSTMENT AT THIS MEETING, PLEASE CALL THE MEETING PHONE NUMBER BELOW AND ENTER THE ACCESS CODE AND PASSWORD. THE COMMITTEE CHAIR WILL ACKNOWLEDGE YOU AT THE APPROPRIATE TIME ON THE AGENDA.

PRESS *6 DURING THE MEETING IF YOU NEED TO EITHER MUTE OR UNMUTE YOURSELF

MEETING PHONE NUMBER: 1-415-655-0001

MEETING ACCESS CODE: 182 9176573

MEETING PASSWORD: 050521

1. CALL TO ORDER**2. ROLL CALL**

Attendee Name	Organization	Title	Status	Arrived
Jeff Benesch	Chippewa County	Citizen Rep (Chair)	Present	
Doug Matthews	Chippewa County	Citizen Rep	Present	
Roger McFarlane	Chippewa County	Vice Chair	Present	
Julie Geissler	Chippewa County	Citizen Rep	Present	
Larry Marquardt	Chippewa County	Citizen Rep	Present	
Carolyn Kaiser	Chippewa County	Citizen Rep - Alternate	Remote	
Dale Shipman	Chippewa County	Citizen Rep - Alternate	Excused	

Note all five BOA members were present in the meeting, while Alterante Kaiser was on the phone.

3. MEMBERS OF THE PUBLIC WISHING TO BE HEARD

None.

4. CONSENT AGENDA

Motion to Approve.

Board of Adjustment

Minutes
Regular Meeting

Chippewa County Courthouse, Rm 016

May 5, 2021
3:30 PM

RESULT:	APPROVED [UNANIMOUS]
MOVER:	Julie Geissler, Citizen Rep
SECONDER:	Roger McFarlane, Vice Chair
AYES:	Bennesch, Matthews, McFarlane, Geissler, Marquardt

1. Approve the Agenda
2. Approve the Minutes

Board of Adjustment - Regular Meeting - Sep 24, 2020 2:00 PM

5. PUBLIC HEARINGS

1. 2021-0001 SIGH Properties LLC - Variance Request - Doug Clary
Motion to approve of the variance as presented.

Findings:

1. Technical standards have been submitted that show the building would not be inundated by back-to-back 100 year storms.
2. There is a piping system that will assist in the SW management of the site.
3. Alternative steps have been taken to show that the inundation of the property would not occur such as the overflow to the proposed SW pond and the use of swales to move water around and off of the site.

RESULT:	APPROVED [UNANIMOUS]
MOVER:	Larry Marquardt, Citizen Rep
SECONDER:	Roger McFarlane, Vice Chair
AYES:	Bennesch, Matthews, McFarlane, Geissler, Marquardt

6. AGENDA ITEMS FOR FUTURE CONSIDERATION

Clary indicated that the Popple Variance request, which a decision was postponed to give the Popple's and Thompson's time to seek a joint agreement, will be in the circuit court sometime in May of 2021.

7. ADJOURN

Motion to Adjourn.

RESULT:	APPROVED [UNANIMOUS]
MOVER:	Julie Geissler, Citizen Rep
SECONDER:	Roger McFarlane, Vice Chair
AYES:	Bennesch, Matthews, McFarlane, Geissler, Marquardt

CHIPPEWA COUNTY

BOARD OF ADJUSTMENT

REGULAR MEETING

SEPTEMBER 24, 2020

CHIPPEWA COUNTY COURTHOUSE, RM 003

2:00 PM

DUE TO THE COVID-19 PANDEMIC, THIS MEETING IS BEING HELD VIA CONFERENCE CALL TO COMPLY WITH THE SOCIAL DISTANCING GUIDELINES. IF YOU ARE A MEMBER OF THE PUBLIC AND WISH TO SPEAK, PLEASE CALL THE DIAL IN NUMBER AND THE COMMITTEE CHAIR WILL ACKNOWLEDGE YOU AT THE APPROPRIATE TIME ON THE AGENDA.

MEETING PHONE NUMBER: 1-415-655-0001

MEETING ACCESS CODE: 126 003 9699

MEETING PASSWORD: 77288229

1. CALL TO ORDER

2. ROLL CALL

Attendee Name	Organization	Title	Status	Arrived
Jeff Bennesch	Chippewa County	Citizen Rep (Chair)	Present	
Doug Matthews	Chippewa County	Citizen Rep	Present	
Roger McFarlane	Chippewa County	Vice Chair	Present	
Julie Geissler	Chippewa County	Citizen Rep	Present	
Larry Marquardt	Chippewa County	Citizen Rep	Present	
Carolyn Kaiser	Chippewa County	Citizen Rep - Alternate	Excused	
Dale Shipman	Chippewa County	Citizen Rep - Alternate	Excused	

3. MEMBERS OF THE PUBLIC WISHING TO BE HEARD

None.

4. CONSENT AGENDA

Motion to approve.

RESULT:	APPROVED [UNANIMOUS]
MOVER:	Larry Marquardt, Citizen Rep
SECONDER:	Julie Geissler, Citizen Rep
AYES:	Bennesch, Matthews, McFarlane, Geissler, Marquardt

A. Approve the Agenda

B. Approve the Minutes

Board of Adjustment - Regular Meeting - Jan 23, 2020 2:15 PM

Minutes Acceptance: Minutes of Sep 24, 2020 2:00 PM (Consent Agenda)

Board of Adjustment

Minutes
Regular Meeting

Chippewa County Courthouse, Rm 003

September 24, 2020
2:00 PM

Board of Adjustment - Regular Meeting - Jan 23, 2020 3:00 PM

C. Next Meeting Date (If, needed) - October 22, 2020

5. PUBLIC HEARINGS

1. 2020-0003 Thompson & Popple - Variance Request - Town of Eagle Point - Doug Clary
Attorney Manydeeds represented Robert & Mary Popple. Attorney Raihle represented Roger & Sheila Thompson. Motion to postpone variance petition until such time that the legal aspects are resolved.

RESULT:	POSTPONE [UNANIMOUS]
MOVER:	Doug Matthews, Citizen Rep
SECONDER:	Larry Marquardt, Citizen Rep
AYES:	Bennesch, Matthews, McFarlane, Geissler, Marquardt

6. AGENDA ITEMS FOR FUTURE CONSIDERATION

None discussed.

7. ADJOURN

Motion to Adjourn.

RESULT:	APPROVED [UNANIMOUS]
MOVER:	Julie Geissler, Citizen Rep
SECONDER:	Roger McFarlane, Vice Chair
AYES:	Bennesch, Matthews, McFarlane, Geissler, Marquardt

Minutes Acceptance: Minutes of Sep 24, 2020 2:00 PM (Consent Agenda)



STATEMENT OF EXPLANATION

5.1

2021-0001 SIGH PROPERTIES LLC - VARIANCE REQUEST - DOUG CLARY

To allow a Building Opening Elevation of a structure to be within 2 feet above the maximum water elevation produced by the 100-year flood per section 12.64(5)c of the Chippewa County Stormwater Ordinance on parcel number 22809-3612-0000000, which is located in the NE $\frac{1}{4}$ of the NW $\frac{1}{4}$, Section 36, Township 28 North, Range 09 West. Village of Lake Hallie. Property is currently vacant.

CHIPPEWA COUNTY DEPARTMENT OF PLANNING & ZONING

5.1.a

• 711 North Bridge Street, Chippewa Falls, WI 54729 • Phone: 715.726.7940 • Fax: 715.726.4596 • www.co.chippewa.wi.us •

2021 Variance Application



A **VARIANCE** is a relaxation of a dimensional standard in a land use ordinance (e.g., setbacks, lot area, height, etc.). The Board of Adjustment (BOA), after a public hearing, decides whether a variance is to be granted or denied. It is a quasi-judicial body because it functions almost like a court. The BOA's main objective is not to compromise ordinance provisions, but to apply legal criteria provided in State Supreme Court Decisions, State Laws and the County Ordinances to a specific development request, which does not meet the minimum ordinance requirements. Variances are meant to be an infrequent remedy where an ordinance imposes a unique and substantial burden on a property.

Once a completed application is received, the Chippewa County Department of Planning & Zoning will prepare and publish in the Chippewa Herald a public hearing notice of your variance request. The public hearing notice will include the location and time of the required public hearing before the BOA. In addition, your neighbors and any applicable state agency(s) will also be notified. At the hearing, any party may appear in person or may be represented by an agent or attorney to present information to the BOA in opposition or support of your request.

SECTION I: Owner Information				SECTION II: Agent/Contractor Information			
Name: BRIAN SEUBERT				Name: TYLER HASTINGS			
Mailing Address: 4033 123 RD STREET				Mailing Address: 770 TECHNOLOGY WAY			
City: CHIPPEWA FALLS	State: WI	Zip: 54729		City: CHIPPEWA FALLS	State: WI	Zip: 54729	
Telephone: 715-438-6242				Telephone: 715-861-7406			
Email Address: brian.seubert@thesighgroup.com				Email Address: thastings@cbssquaredinc.com			
SECTION III: Parcel Information							
Town of: VILLAGE OF LAKE HALLIE				Property Address: 1855 125 TH STREET			
Parcel Number: 22809-3612-00000000				City: CHIPPEWA FALLS			
Zoning District(s): HIGHWAY COMMERCIAL				State: WI			
				Zip: 54729			

GENERAL DIRECTIONS:

- Complete** the attached Application form and the required six (6) parts:

☒ Part 1: Board of Adjustment Schedule - 2021	☒ Part 4: Construction and/or Plot Plans Required
☒ Part 2: General Questions/Alternatives	☒ Part 5: Applicant Acknowledgements
☒ Part 3: Three Step Test Criteria for Variance	☒ Part 6: Application Completeness Statement
- Submit** the application, all required information and a **\$650.00** public hearing fee by the deadline listed in Part 1 of the application to the Chippewa County Department of Planning & Zoning, Room 009, 711 N. Bridge Street, Chippewa Falls, Wisconsin 54729.
- Make arrangements** to attend or have a representative attend the public hearing, so that the request can be presented and questions answered.

FOR DEPARTMENT OF PLANNING & ZONING STAFF USE:		
Receipt Number: 17645	Appeal Number: 2021-0001	Public Hearing Date: May 2021

Attachment: 2021-0001 SIGH Properties LLC - Application (6347 : 2021-0001 SIGH Properties LLC)

Chippewa County – 2021 Variance Application

Part 1: Board of Adjustment Schedule - 2021

All actions delegated to the BOA pursuant to county ordinances will be subject to the below filing deadlines. Applications will not be considered to be filed and will not be placed on the agenda unless they are properly completed and include ALL required supporting information or documents, including payment of fees. You are encouraged to consult with staff of the Department of Planning & Zoning prior to the filing of an application to insure that all pertinent issues are identified and to determine what information in addition to the application forms will be necessary in order for the department to accept and process your application. Please CIRCLE or HIGHLIGHT the meeting you intend on attending:

<u>Application Deadline: 12:00 Noon</u>	<u>Public Hearing</u>
December 21, 2020	January 21, 2021
January 21, 2021	February 18, 2021
February 18, 2021	March 18, 2021
March 25, 2021	April 22, 2021
April 22, 2021	May 20, 2021
May 27, 2021	June 24, 2021
June 24, 2021	July 22, 2021
July 22, 2021	August 19, 2021
August 26, 2021	September 23, 2021
September 23, 2021	October 21, 2021
October 21, 2021.....	November 18, 2021
November 18, 2021.....	December 16, 2021

Note: Applications and all supporting information are due at 12:00 Noon on the designated date.

Note: Board of Adjustment meetings start at 5:30 PM.

Part 2: General Questions/Alternatives related to the request (Use a separate 8.5" x 11" sheet to answer these questions):

- (A) Section references to all applicable ordinances, which the variance is being sought. Please identify the exact section(s) and number(s).
- (B) Describe the variance being requested (See Part 3 below).
- (C) Describe the effects on the property, if the variance is not granted.
- (D) Describe alternatives to your proposal such as other locations, designs and construction techniques. Attach a site map showing each alternative separately that you considered in each category listed below.
 - (1) Alternatives you considered that comply with the existing standards. If you find such an alternative, you can move forward with this option with a regular permit. Provide the reasons why you rejected the compliant alternatives.
 - (2) Alternatives you considered that require a lesser variance and reasons you rejected them. Provide the reasons why you rejected the alternatives by a lesser variance.

Chippewa County – 2021 Variance Application

PART 3: Three-Step Test Criteria for Variance

Please use a separate 8.5" x 11" sheet of paper to address the questions as presented below. To qualify for a variance, you must meet the three (3) following requirements:

Step One: Unnecessary Hardship

Strict application of an ordinance requirement such as a setback, the required road frontage, the height of a structure, the bulk or density required, will result in unnecessary hardship. Wisconsin case law explains that unnecessary hardship is present where, in the absence of a variance, compliance with the ordinance would prevent the owner from using the property for a permitted use or would render conformity with such restrictions unnecessarily burdensome. If a parcel as a whole, but not necessarily each portion of the parcel provides for a permitted use then the test is not met and a variance cannot be granted. An applicant may not claim hardship because of conditions which are self-imposed or created by a prior owner (for example, splitting a lot to create two substandard lots or starting construction without the proper permits and then claiming hardship). Courts have also determined that loss of profit or financial hardship does not, by themselves, justify a variance.

In your opinion, is unnecessary hardship present on this property?

☒ YES. Please describe the unnecessary hardship present on this property and why it is unnecessarily burdensome for you to comply with the regulations.

☐ NO. A variance cannot be granted.

Step Two: Hardship due to unique physical limitations of the property

The hardship is due to unique physical limitations of the property, i.e. compliance with the ordinance is prevented by limitations of the property (steep slopes, wetlands, etc.) that are not generally shared by other properties. The circumstances of an applicant (growing family, need for a larger garage, etc.) are not a factor in deciding variances. Nearby ordinance violations, prior variances or lack of objections from neighbors do not provide a basis for granting a variance. Minor property limitations that prevent ordinance compliance and are common to a number of properties should be addressed by amendment of the ordinance.

Do unique physical characteristics of your property prevent compliance with the ordinance?

☒ YES. What are the unique physical limitations of your property? Please show the boundaries of these features on the site map(s) and describe the alternatives that you considered.

☐ NO. A variance cannot be granted.

Step Three: No harm to public interests

A variance may not be granted which results in harm to public interests. In applying this test, the BOA must consider impacts of the proposal and the cumulative impacts of similar projects on the interests of the neighbors, the entire community and the general public. These interests are listed as objectives in the purpose statement of the ordinance and may include:

- Public health, safety and welfare
- Water quality
- Fish and Wildlife Habitat
- Natural scenic beauty
- Minimization of property damages
- Provision of efficient public facilities and utilities
- Achievement of eventual compliance for non-conforming uses, structures and lots
- Any other public interest issues

Does your request harm the public interest?

☐ YES. A variance cannot be granted.

☒ NO. Please explain why this request does not cause harm to the public interest.

Chippewa County – 2021 Variance Application

Part 4: Construction and/or Plot Plans:

The plot and construction plans are the most important piece of information pertaining to your request. An accurate diagram showing the relationship of your existing buildings and the proposed activities that you are requesting the variance for is an essential piece of information that the BOA needs in order to reach a decision. In some cases it is not required that you submit professional quality plans, but if you cannot accurately and clearly illustrate your proposal, it is recommended that you obtain assistance in preparing your plot plan.

REQUIRED INFORMATION:

- ☒ A Map of Survey showing all of the following:
- ☒ Dimensions, location(s) and setback(s) of existing and proposed structures and/or additions.
 - ☒ Location of roadways and easements on the property
 - ☒ Location of well(s) and sanitary system(s)
- ☒ An accurate building diagram
- ☒ Anticipated project start date - MAY 1, 2021

ADDITIONAL INFORMATION, if Applicable and requested by the Planning & Zoning Department and/or BOA:

- | | |
|---|---|
| ☐ Vegetation removal proposed | ☒ Location and extent of filling, grading and/or excavation |
| ☒ Contour lines (1-2 ft. intervals) | ☒ Location and type of storm water and erosion control measures |
| ☐ Ordinary high water mark | ☒ Any other construction related to your request |
| ☒ Floodplain & wetland boundaries | |

Part 5: Applicant Acknowledgement/Signature

- I certify that the information I have provided in this application is true, accurate and complete.
- I understand that the BOA's review of this application is a quasi-judicial proceeding.
- I or a representative will have an opportunity to present to the BOA information in favor of this request.
- I have the authority to allow the staff of the Department of Planning & Zoning and BOA Committee member's access to the property to conduct necessary inspections related to my request.
- I understand that I cannot speak to any member of the BOA about this application, except at the public hearing.
- I understand that I cannot direct any written communication about this application to a member of the BOA unless I also file a copy with the Department of Planning & Zoning and direct additional copies to each person who has registered an interest in this application.
- I also understand that if I or my representative fails to appear in front of the BOA during the designated public hearing, as listed below, or my failure to observe the above mentioned rules, my request may be **DENIED**.

Signed: _____

Owner/Agent

Date: 04-07-2021

Part 6: Application Completeness Statement

The Chippewa County Department of Planning & Zoning recommends that the owner/agent for the requested variance submit the information at least **one week** prior to the deadline. Once an application is submitted, the staff will review it to determine if information is missing and/or not submitted by the application deadline. If it is determined that the application is not complete, I understand the application will be either returned to me or placed in "holding" until all requested information is submitted.

By missing the required deadline I understand that this might delay my hearing by one or more months.

Signed: _____

Owner/Agent

Date: 04-07-2021

Part 2:

A. NR 152, Sec 12-64 (a) (5.c)

One or more site maps at a scale of not less than 1 inch equals 100 feet showing the following: post-construction pervious areas including vegetative cover type and condition; impervious surfaces including all buildings, structures, and pavement; post-construction topographic contours of the site at a scale not to exceed 2 feet; post-construction drainage network including enough of the contiguous properties to show runoff patterns onto, through, and from the site; locations and dimensions of drainage easements; locations of maintenance easements specified in the maintenance agreement; flow path and direction for all stormwater conveyance sections; location and type of all stormwater management conveyance and treatment practices, including the on-site and off-site tributary drainage area; location and type of conveyance system that will carry runoff from the drainage and treatment practices to the nearest adequate outlet such as a curbed street, storm drain, or natural drainage way; the minimum permissible Building Opening Elevation of structures exposed to the ground surface - defined as a minimum of two (2) feet above the maximum water elevation produced by the 100-year, 24 hour design storm; watershed boundaries used in hydrology and pollutant loading calculations and any changes to lakes, streams, wetlands, channels, ditches, and other watercourses on and immediately adjacent to the site.

B.

Part 3:

Step One:

Conforming to this ordinance would be unnecessarily burdensome as it would deem the proposed building location and site un-usable.

Step Two:

The building location has been constrained by existing wetland boundaries. The building finished floor elevation has also been constrained by the existing wetland boundaries along with the a high water table elevation.

The storm water basin cannot be lowered due to the high water table elevation and the building cannot be raised due to the wetland boundaries. Raising the building would require greater backfill which would encroach upon the wetland boundaries.

A bio-infiltration device has been designed and modeled but was determined to not be viable due to a limited existing soils infiltration rate and inadequate separation from groundwater.

Additional inlets have been modeled with insignificant results.

Step Three:

This request does not cause harm to the public interest as it is a unique situation which cannot be expected to influence the enforcement of the ordinance on future projects.

In the modeling results, plans and cross sections provided, it is shown that back-to-back 100 year storm events (probability of < .01%) are fully accommodated and do not inundate the building.

C. If the variance is not granted the building as designed cannot be constructed on the parcel.

D.

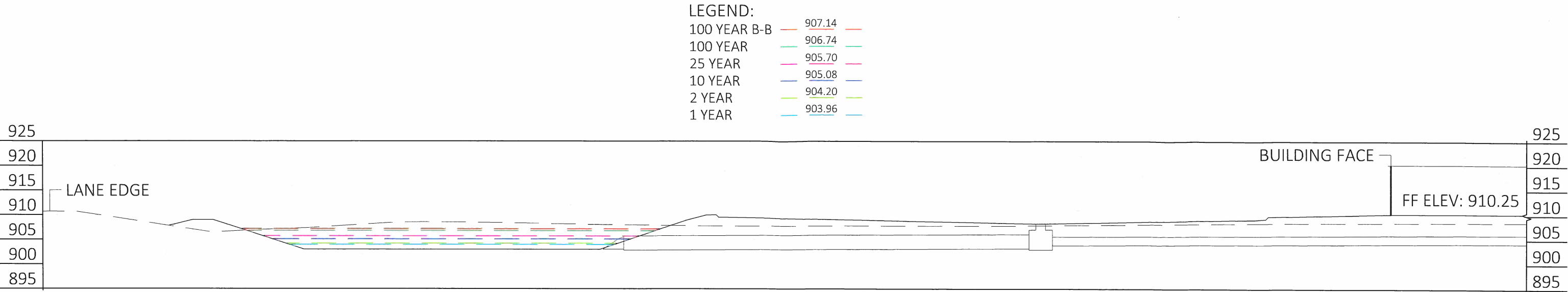
1. No other building locations have been considered as the chosen location is the only location on the property with an area not considered wetland that is big enough for the designed building.

The storm water basin cannot be lowered due to the high water table elevation and the building cannot be raised due to the wetland boundaries. Raising the building would require greater backfill which would encroach upon the wetland boundaries.

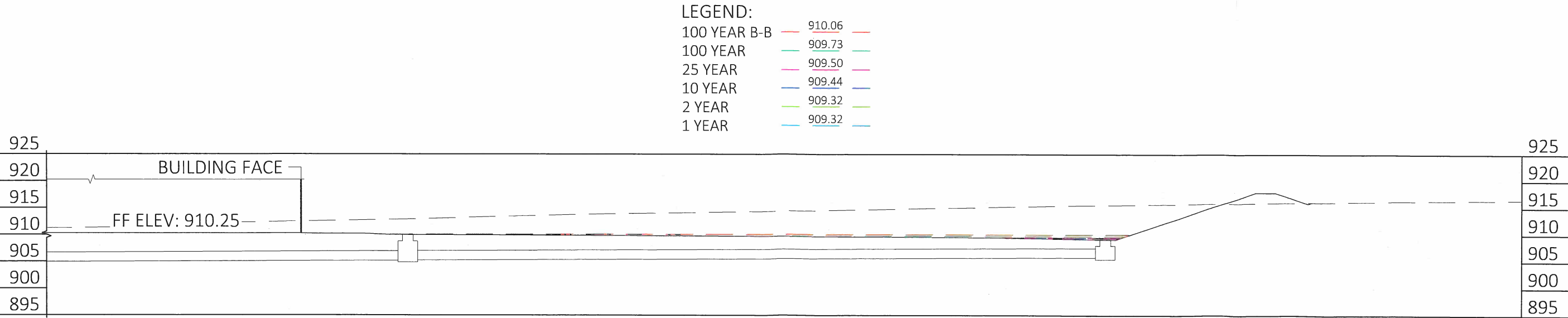
A bio-infiltration device has been designed and modeled but was determined to not be viable due to a limited existing soils infiltration rate and inadequate separation from groundwater.

Additional inlets have been modeled with insignificant results.

2. Not applicable to this application.



WEST OF BUILDING SECTION



EAST OF BUILDING SECTION



Existing Conditions



West Site



West Biofilter



East Site



East Area



Site Bypass



Routing Diagram for SIGH20001_South Site

Prepared by {enter your company name here}, Printed 3/24/2021
HydroCAD® 10.10-3a s/n 09817 © 2020 HydroCAD Software Solutions LLC

SIGH20001_South Site

MSE 24-hr 3 1-Year Rainfall=2.40"

Prepared by {enter your company name here}

Printed 3/24/2021

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Page 2

Summary for Subcatchment 1S: West Site[49] Hint: $T_c < 2dt$ may require smaller dt

Runoff = 4.68 cfs @ 12.11 hrs, Volume= 0.246 af, Depth= 1.74"

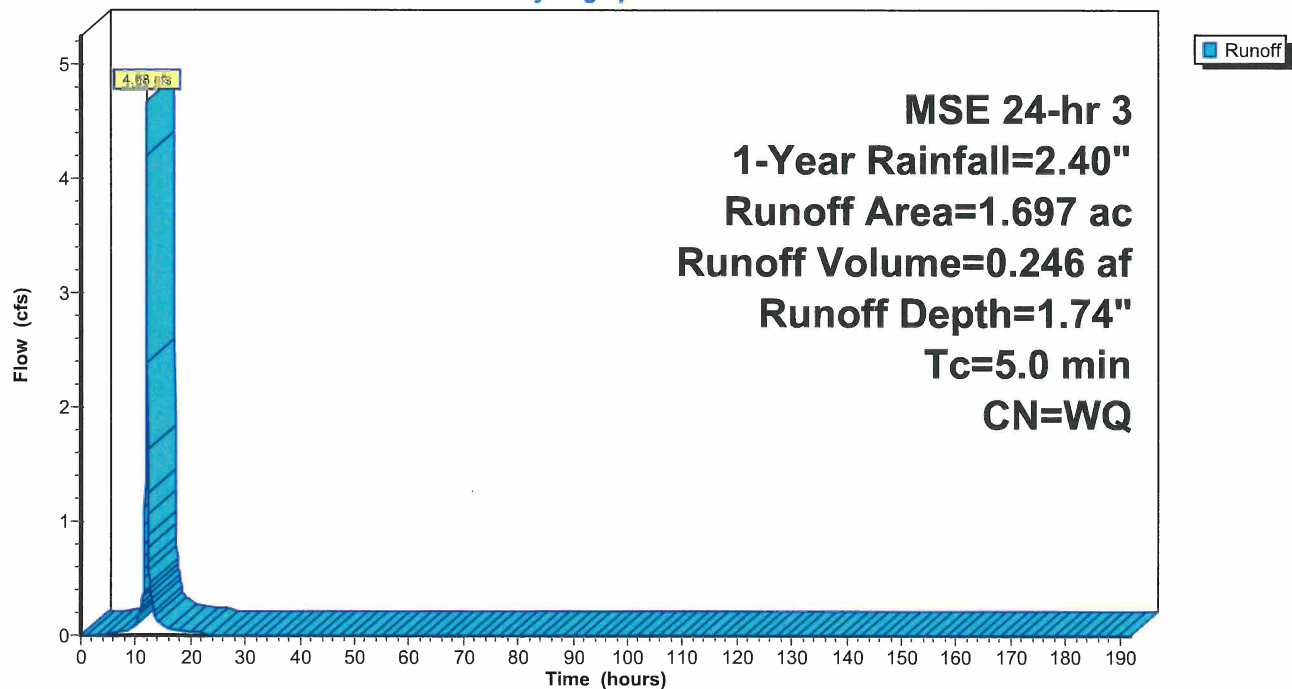
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-192.00 hrs, $dt=0.05$ hrs
MSE 24-hr 3 1-Year Rainfall=2.40"

Area (ac)	CN	Description
0.840	98	Paved parking, HSG B
0.367	61	>75% Grass cover, Good, HSG B
0.294	98	Unconnected roofs, HSG B
0.196	98	Water Surface, HSG B
1.697		Weighted Average
0.367		21.63% Pervious Area
1.330		78.37% Impervious Area
0.294		22.11% Unconnected

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

Subcatchment 1S: West Site

Hydrograph



SIGH20001_South Site

MSE 24-hr 3 1-Year Rainfall=2.40"

Prepared by {enter your company name here}

Printed 3/24/2021

HydroCAD® 10.10-3a s/n 09817 © 2020 HydroCAD Software Solutions LLC

Page 3

Summary for Subcatchment 4S: East Site[49] Hint: $T_c < 2dt$ may require smaller dt

Runoff = 3.71 cfs @ 12.12 hrs, Volume= 0.190 af, Depth= 1.25"

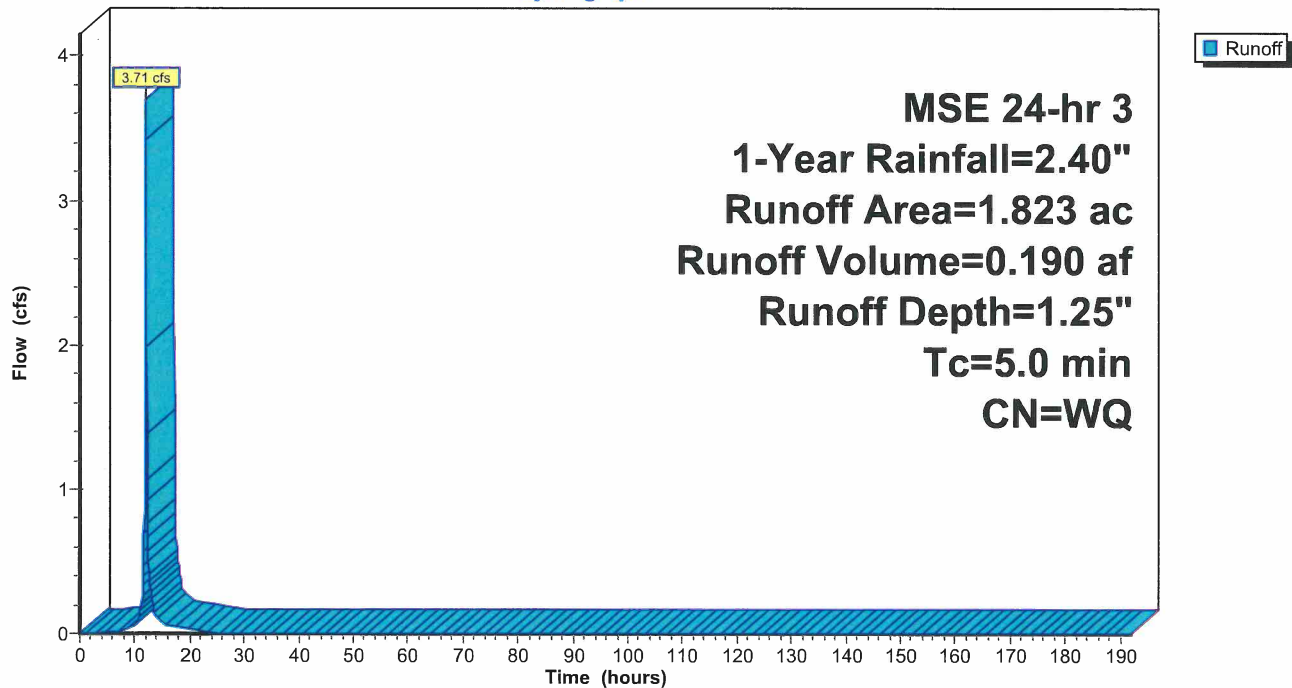
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-192.00 hrs, $dt=0.05$ hrs
MSE 24-hr 3 1-Year Rainfall=2.40"

Area (ac)	CN	Description
1.040	74	>75% Grass cover, Good, HSG C
0.783	98	Roofs, HSG B
1.823		Weighted Average
1.040		57.05% Pervious Area
0.783		42.95% Impervious Area

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

Subcatchment 4S: East Site

Hydrograph



SIGH20001_South Site

MSE 24-hr 3 1-Year Rainfall=2.40"

Prepared by {enter your company name here}

Printed 3/24/2021

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Page 4

Summary for Subcatchment 5S: Site Bypass[49] Hint: $T_c < 2dt$ may require smaller dt

Runoff = 0.34 cfs @ 12.11 hrs, Volume= 0.018 af, Depth= 2.17"

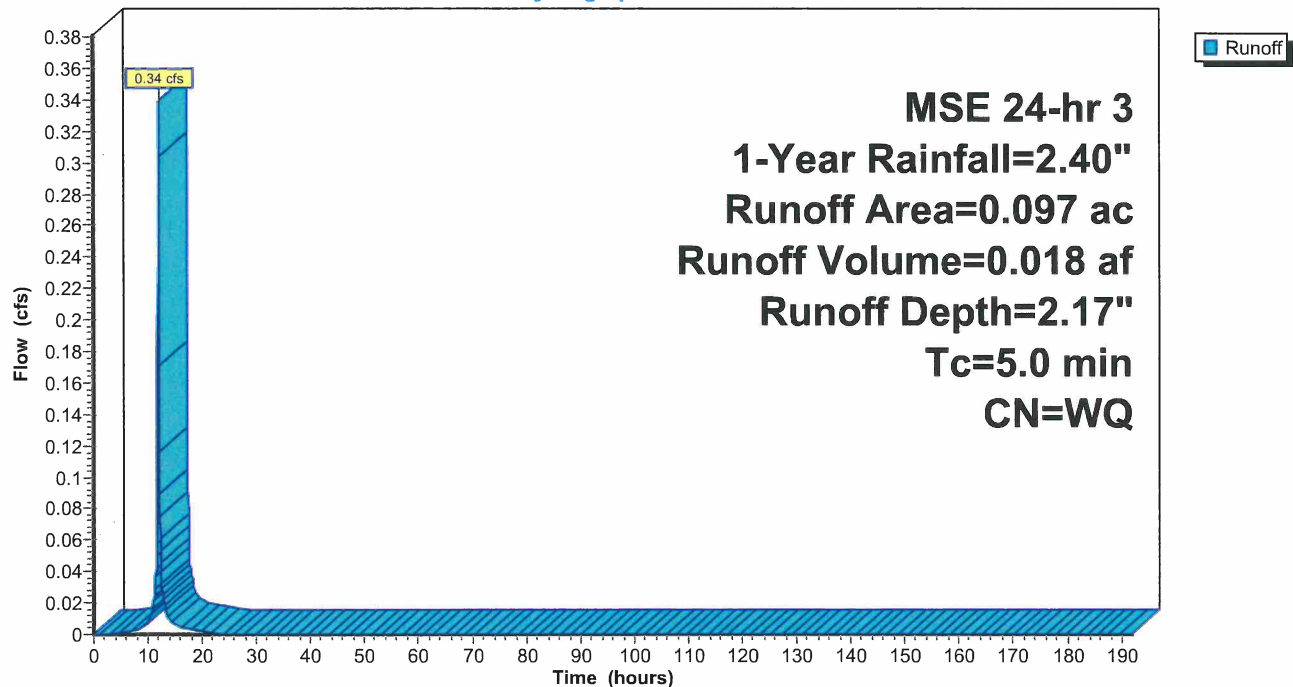
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-192.00 hrs, $dt=0.05$ hrs
MSE 24-hr 3 1-Year Rainfall=2.40"

Area (ac)	CN	Description
0.051	98	Paved parking, HSG B
0.046	98	Roofs, HSG B
0.097		Weighted Average
0.097		100.00% Impervious Area

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

Subcatchment 5S: Site Bypass

Hydrograph



SIGH20001_South Site

MSE 24-hr 3 1-Year Rainfall=2.40"

Prepared by {enter your company name here}

Printed 3/24/2021

HydroCAD® 10.10-3a s/n 09817 © 2020 HydroCAD Software Solutions LLC

Page 5

Summary for Subcatchment 6S: Existing Conditions

Runoff = 4.59 cfs @ 12.19 hrs, Volume= 0.262 af, Depth= 0.72"

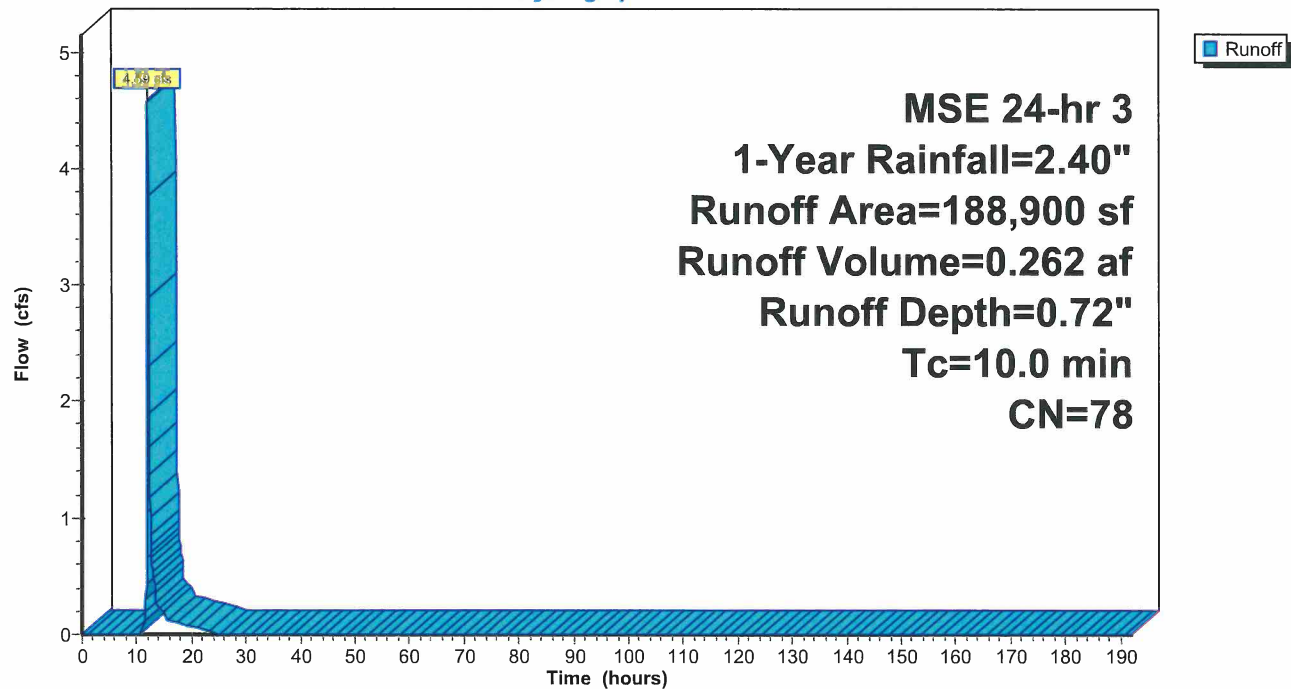
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-192.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 1-Year Rainfall=2.40"

Area (sf)	CN	Description
* 188,900	78	Row crops, straight row, Good, HSG A
188,900		100.00% Pervious Area

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

Subcatchment 6S: Existing Conditions

Hydrograph



SIGH20001_South Site

MSE 24-hr 3 1-Year Rainfall=2.40"

Prepared by {enter your company name here}

Printed 3/24/2021

HydroCAD® 10.10-3a s/n 09817 © 2020 HydroCAD Software Solutions LLC

Page 6

Summary for Pond 2P: West Biofilter

[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=64)

Inflow Area = 3.520 ac, 60.03% Impervious, Inflow Depth = 1.48" for 1-Year event
 Inflow = 8.34 cfs @ 12.11 hrs, Volume= 0.433 af
 Outflow = 0.72 cfs @ 12.78 hrs, Volume= 0.433 af, Atten= 91%, Lag= 40.0 min
 Discarded = 0.72 cfs @ 12.78 hrs, Volume= 0.433 af
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-192.00 hrs, dt= 0.05 hrs
 Peak Elev= 903.96' @ 12.78 hrs Surf.Area= 8,581 sf Storage= 7,662 cf
 Flood Elev= 909.00' Surf.Area= 15,052 sf Storage= 67,191 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
 Center-of-Mass det. time= 81.6 min (848.8 - 767.3)

Volume	Invert	Avail.Storage	Storage Description
#1	903.00'	67,191 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
903.00	7,345	0	0
909.00	15,052	67,191	67,191

Device	Routing	Invert	Outlet Devices
#1	Primary	907.00'	10.0' long x 10.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64
#2	Discarded	903.00'	3.600 in/hr Exfiltration over Surface area

Discarded OutFlow Max=0.72 cfs @ 12.78 hrs HW=903.96' (Free Discharge)
 ↑**2=Exfiltration** (Exfiltration Controls 0.72 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=903.00' (Free Discharge)
 ↑**1=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

SIGH20001_South Site

MSE 24-hr 3 1-Year Rainfall=2.40"

Prepared by {enter your company name here}

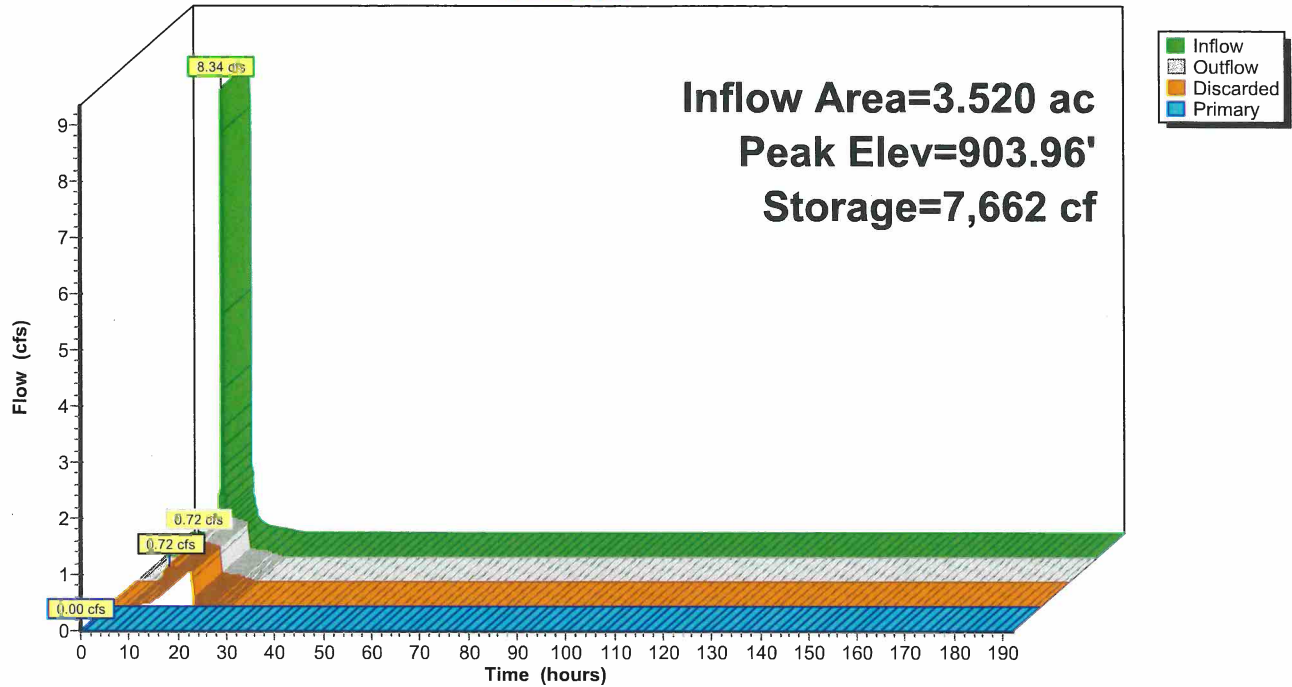
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Pond 2P: West Biofilter

Hydrograph



Attachment: 2021-0001 SIGH Properties LLC - Application (6347 : 2021-0001 SIGH Properties LLC)

SIGH20001_South Site

MSE 24-hr 3 1-Year Rainfall=2.40"

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Summary for Pond 3P: East Area

[44] Hint: Outlet device #2 is below defined storage

Inflow Area = 1.823 ac, 42.95% Impervious, Inflow Depth = 1.25" for 1-Year event
 Inflow = 3.71 cfs @ 12.12 hrs, Volume= 0.190 af
 Outflow = 3.71 cfs @ 12.12 hrs, Volume= 0.190 af, Atten= 0%, Lag= 0.0 min
 Discarded = 0.04 cfs @ 12.12 hrs, Volume= 0.002 af
 Primary = 3.66 cfs @ 12.12 hrs, Volume= 0.187 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-192.00 hrs, dt= 0.05 hrs

Peak Elev= 909.50' @ 12.10 hrs Surf.Area= 5,126 sf Storage= 0 cf

Flood Elev= 910.25' Surf.Area= 2,775 sf Storage= 2,963 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)

Center-of-Mass det. time= 0.0 min (778.0 - 778.0)

Volume	Invert	Avail.Storage	Storage Description
#1	909.50'	2,963 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
909.50	5,126	0	0
910.25	2,775	2,963	2,963

Device	Routing	Invert	Outlet Devices
#1	Primary	905.56'	18.0" Round Culvert L= 450.0' Ke= 0.900 Inlet / Outlet Invert= 905.56' / 903.00' S= 0.0057 ' / Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	909.25'	24.0" Horiz. Orifice/Grate X 2.00 C= 0.600 Limited to weir flow at low heads
#3	Discarded	909.50'	0.500 in/hr Exfiltration over Surface area

Discarded OutFlow Max=0.06 cfs @ 12.12 hrs HW=909.50' (Free Discharge)↑ **3=Exfiltration** (Exfiltration Controls 0.06 cfs)**Primary OutFlow** Max=5.14 cfs @ 12.12 hrs HW=909.50' TW=903.53' (Dynamic Tailwater)↑ **1=Culvert** (Passes 5.14 cfs of 9.96 cfs potential flow)↑ **2=Orifice/Grate** (Weir Controls 5.14 cfs @ 1.64 fps)

SIGH20001_South Site

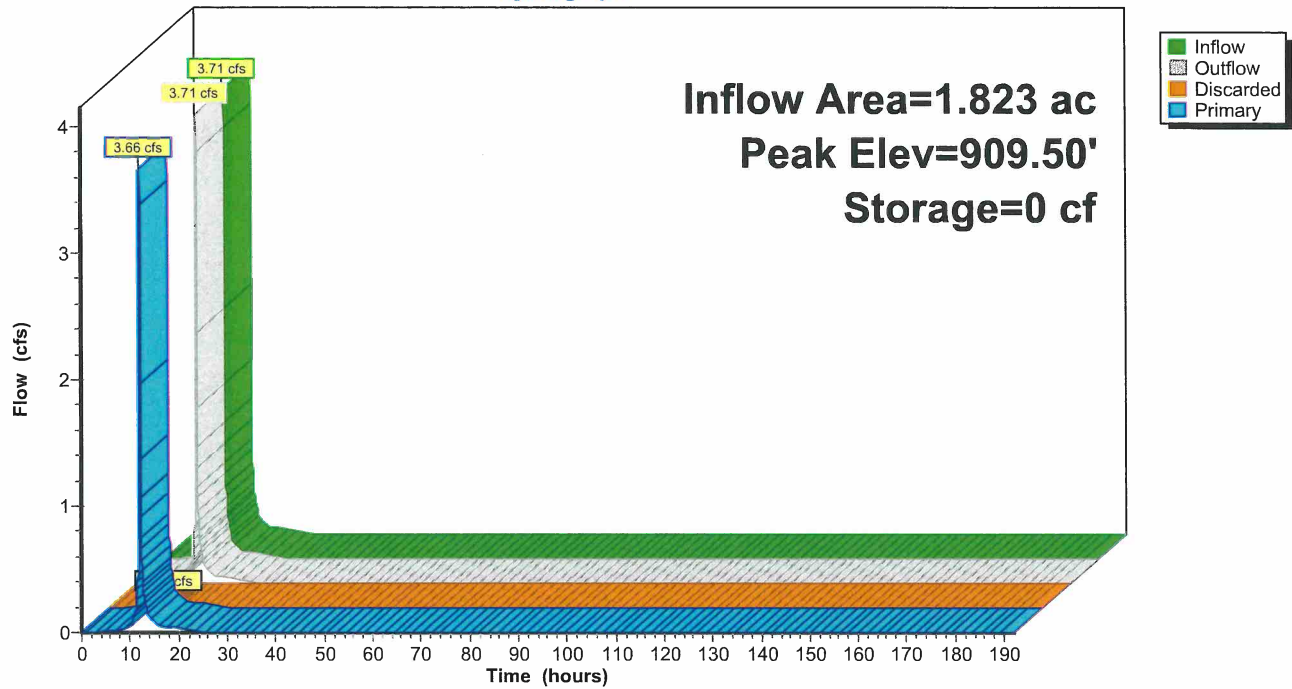
MSE 24-hr 3 1-Year Rainfall=2.40"

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Pond 3P: East Area**Hydrograph**

SIGH20001_South Site

MSE 24-hr 3 2-Year Rainfall=2.76"

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Summary for Subcatchment 1S: West Site[49] Hint: $T_c < 2dt$ may require smaller dt

Runoff = 5.47 cfs @ 12.11 hrs, Volume= 0.289 af, Depth= 2.04"

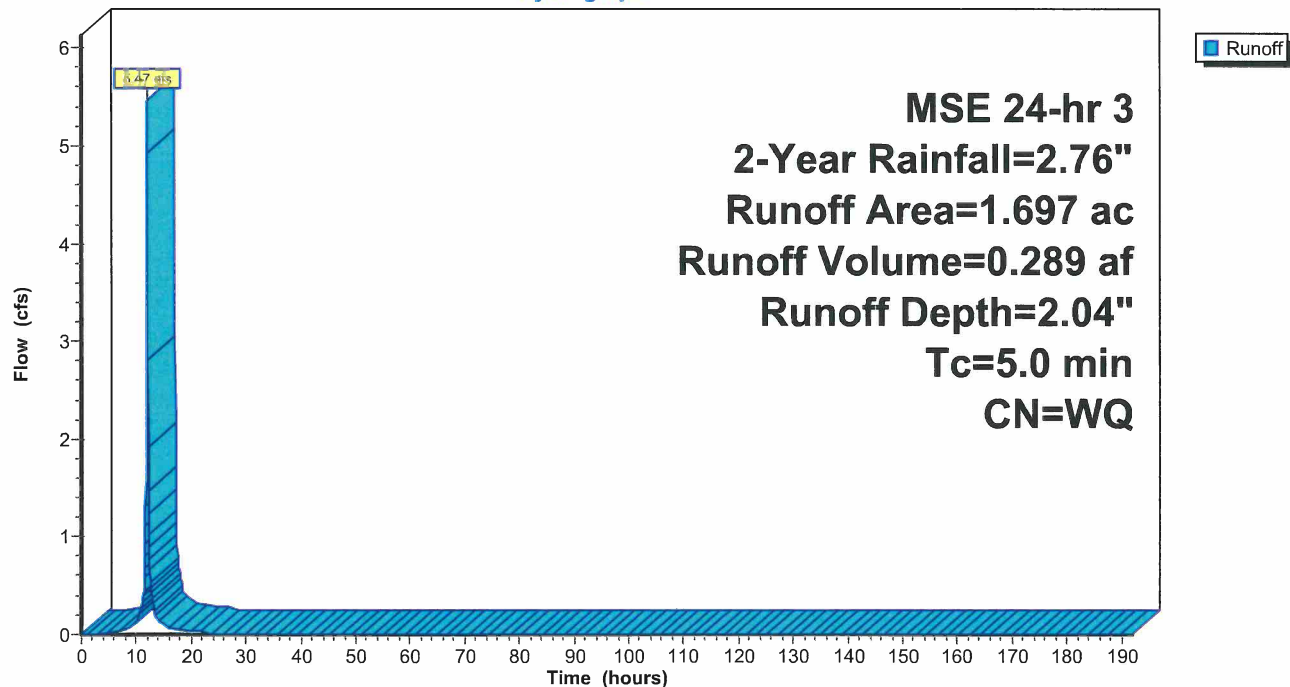
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-192.00 hrs, $dt=0.05$ hrs
MSE 24-hr 3 2-Year Rainfall=2.76"

Area (ac)	CN	Description
0.840	98	Paved parking, HSG B
0.367	61	>75% Grass cover, Good, HSG B
0.294	98	Unconnected roofs, HSG B
0.196	98	Water Surface, HSG B
1.697		Weighted Average
0.367		21.63% Pervious Area
1.330		78.37% Impervious Area
0.294		22.11% Unconnected

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

Subcatchment 1S: West Site

Hydrograph



SIGH20001_South Site

MSE 24-hr 3 2-Year Rainfall=2.76"

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Summary for Subcatchment 4S: East Site[49] Hint: $T_c < 2dt$ may require smaller dt

Runoff = 4.55 cfs @ 12.12 hrs, Volume= 0.231 af, Depth= 1.52"

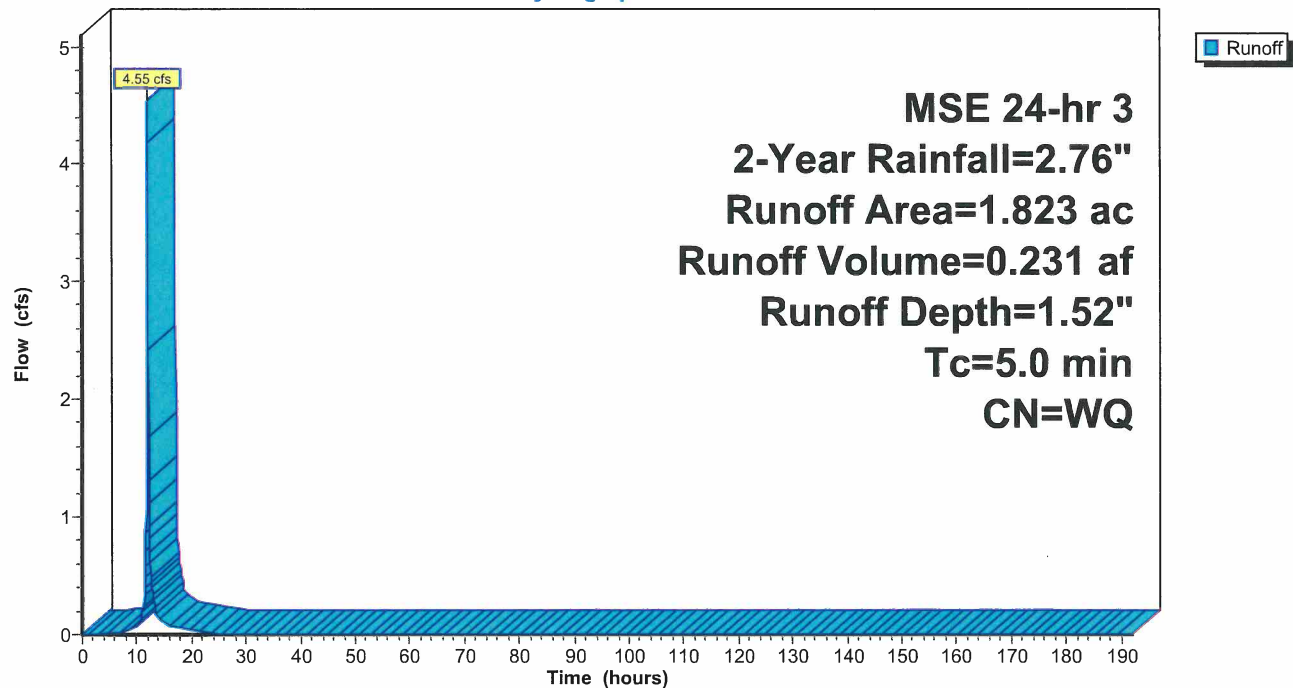
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-192.00 hrs, $dt=0.05$ hrs
MSE 24-hr 3 2-Year Rainfall=2.76"

Area (ac)	CN	Description
1.040	74	>75% Grass cover, Good, HSG C
0.783	98	Roofs, HSG B
1.823		Weighted Average
1.040		57.05% Pervious Area
0.783		42.95% Impervious Area

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

Subcatchment 4S: East Site

Hydrograph



SIGH20001_South Site

MSE 24-hr 3 2-Year Rainfall=2.76"

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Summary for Subcatchment 5S: Site Bypass[49] Hint: $T_c < 2dt$ may require smaller dt

Runoff = 0.39 cfs @ 12.11 hrs, Volume= 0.020 af, Depth= 2.53"

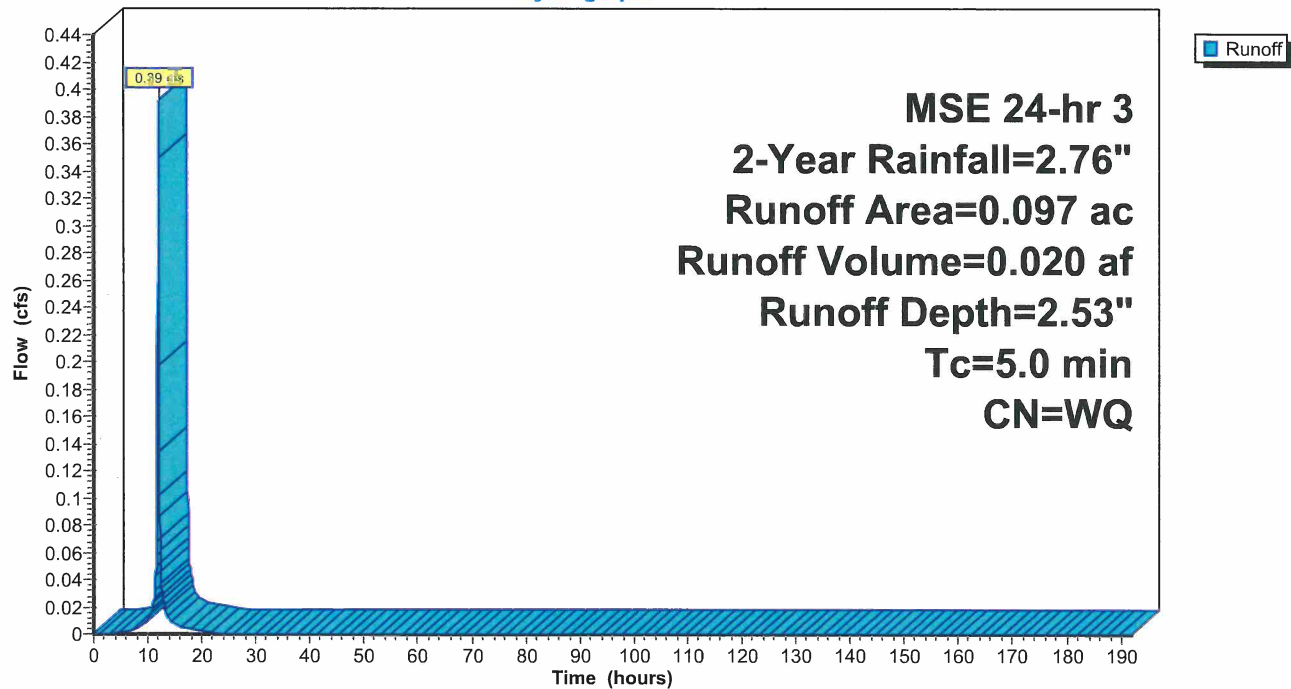
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-192.00 hrs, $dt=0.05$ hrs
MSE 24-hr 3 2-Year Rainfall=2.76"

Area (ac)	CN	Description
0.051	98	Paved parking, HSG B
0.046	98	Roofs, HSG B
0.097		Weighted Average
0.097		100.00% Impervious Area

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

Subcatchment 5S: Site Bypass

Hydrograph



SIGH20001_South Site

MSE 24-hr 3 2-Year Rainfall=2.76"

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Summary for Subcatchment 6S: Existing Conditions

Runoff = 6.22 cfs @ 12.19 hrs, Volume= 0.347 af, Depth= 0.96"

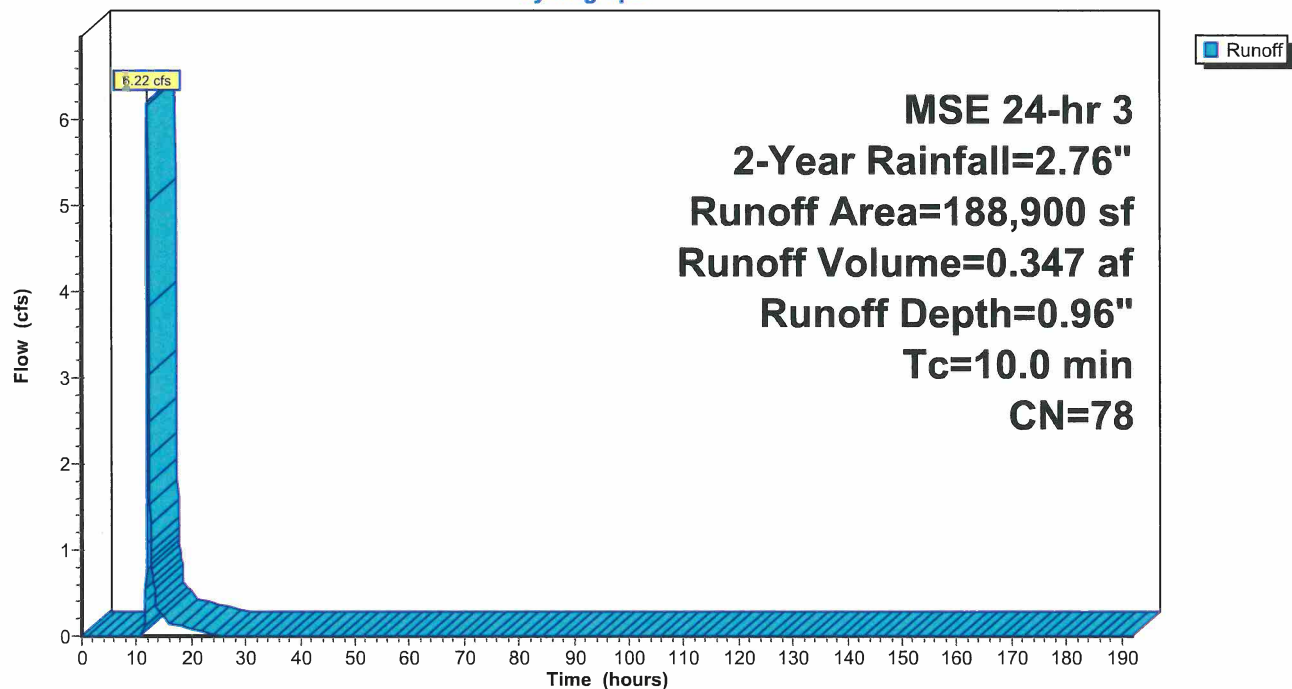
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-192.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 2-Year Rainfall=2.76"

	Area (sf)	CN	Description
*	188,900	78	Row crops, straight row, Good, HSG A
	188,900		100.00% Pervious Area

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

Subcatchment 6S: Existing Conditions

Hydrograph



SIGH20001_South Site

MSE 24-hr 3 2-Year Rainfall=2.76"

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Summary for Pond 2P: West Biofilter

Inflow Area = 3.520 ac, 60.03% Impervious, Inflow Depth = 1.76" for 2-Year event
 Inflow = 9.97 cfs @ 12.11 hrs, Volume= 0.517 af
 Outflow = 0.74 cfs @ 12.99 hrs, Volume= 0.517 af, Atten= 93%, Lag= 52.2 min
 Discarded = 0.74 cfs @ 12.99 hrs, Volume= 0.517 af
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-192.00 hrs, dt= 0.05 hrs
 Peak Elev= 904.20' @ 12.99 hrs Surf.Area= 8,884 sf Storage= 9,725 cf
 Flood Elev= 909.00' Surf.Area= 15,052 sf Storage= 67,191 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
 Center-of-Mass det. time= 103.9 min (869.8 - 765.9)

Volume	Invert	Avail.Storage	Storage Description
#1	903.00'	67,191 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
903.00	7,345	0	0
909.00	15,052	67,191	67,191

Device	Routing	Invert	Outlet Devices
#1	Primary	907.00'	10.0' long x 10.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64
#2	Discarded	903.00'	3.600 in/hr Exfiltration over Surface area

Discarded OutFlow Max=0.74 cfs @ 12.99 hrs HW=904.20' (Free Discharge)
 ↑**2=Exfiltration** (Exfiltration Controls 0.74 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=903.00' (Free Discharge)
 ↑**1=Broad-Crested Rectangular Weir**(Controls 0.00 cfs)

SIGH20001_South Site

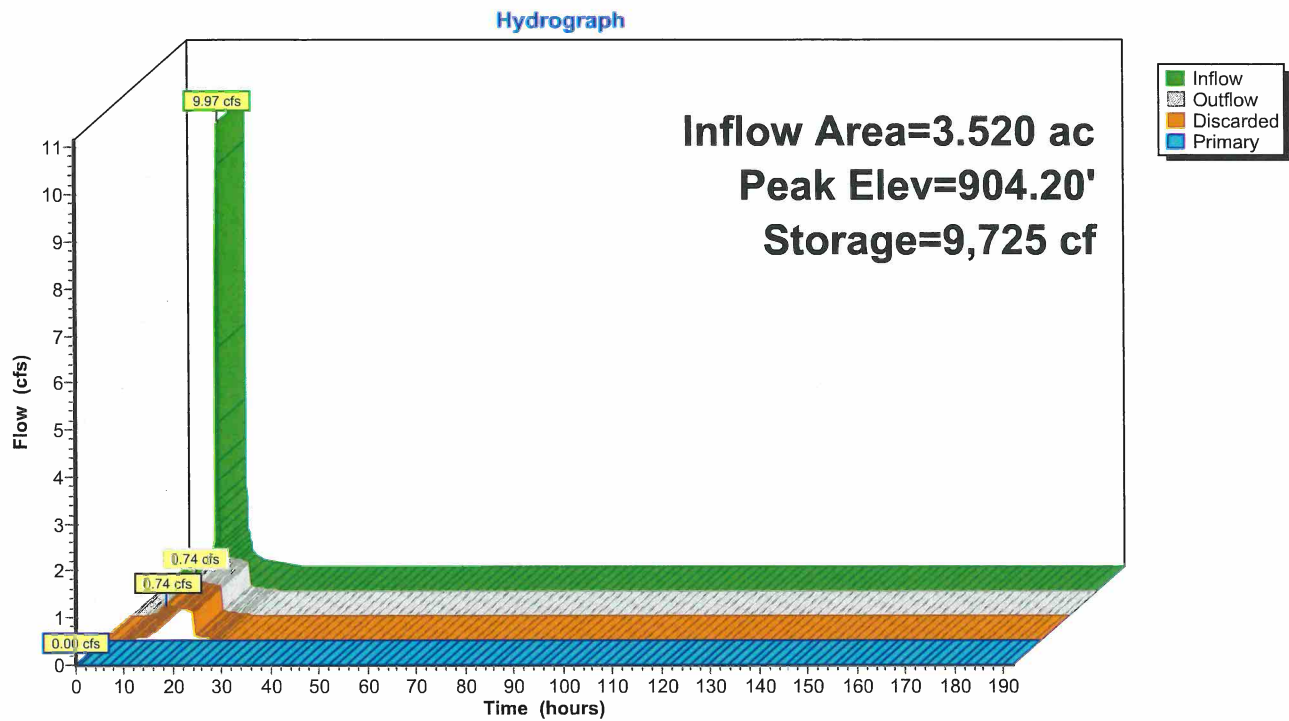
MSE 24-hr 3 2-Year Rainfall=2.76"

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Pond 2P: West Biofilter

SIGH20001_South Site

MSE 24-hr 3 2-Year Rainfall=2.76"

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Summary for Pond 3P: East Area

[44] Hint: Outlet device #2 is below defined storage

Inflow Area = 1.823 ac, 42.95% Impervious, Inflow Depth = 1.52" for 2-Year event
 Inflow = 4.55 cfs @ 12.12 hrs, Volume= 0.231 af
 Outflow = 4.55 cfs @ 12.12 hrs, Volume= 0.231 af, Atten= 0%, Lag= 0.0 min
 Discarded = 0.05 cfs @ 12.12 hrs, Volume= 0.003 af
 Primary = 4.50 cfs @ 12.12 hrs, Volume= 0.228 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-192.00 hrs, dt= 0.05 hrs
 Peak Elev= 909.50' @ 12.10 hrs Surf.Area= 5,126 sf Storage= 0 cf
 Flood Elev= 910.25' Surf.Area= 2,775 sf Storage= 2,963 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
 Center-of-Mass det. time= 0.0 min (776.7 - 776.7)

Volume	Invert	Avail.Storage	Storage Description
#1	909.50'	2,963 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
909.50	5,126	0	0
910.25	2,775	2,963	2,963

Device	Routing	Invert	Outlet Devices
#1	Primary	905.56'	18.0" Round Culvert L= 450.0' Ke= 0.900 Inlet / Outlet Invert= 905.56' / 903.00' S= 0.0057 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	909.25'	24.0" Horiz. Orifice/Grate X 2.00 C= 0.600 Limited to weir flow at low heads
#3	Discarded	909.50'	0.500 in/hr Exfiltration over Surface area

Discarded OutFlow Max=0.06 cfs @ 12.12 hrs HW=909.50' (Free Discharge)
 ↑ **3=Exfiltration** (Exfiltration Controls 0.06 cfs)

Primary OutFlow Max=5.14 cfs @ 12.12 hrs HW=909.50' TW=903.66' (Dynamic Tailwater)
 ↑ **1=Culvert** (Passes 5.14 cfs of 9.96 cfs potential flow)
 ↑ **2=Orifice/Grate** (Weir Controls 5.14 cfs @ 1.64 fps)

SIGH20001_South Site

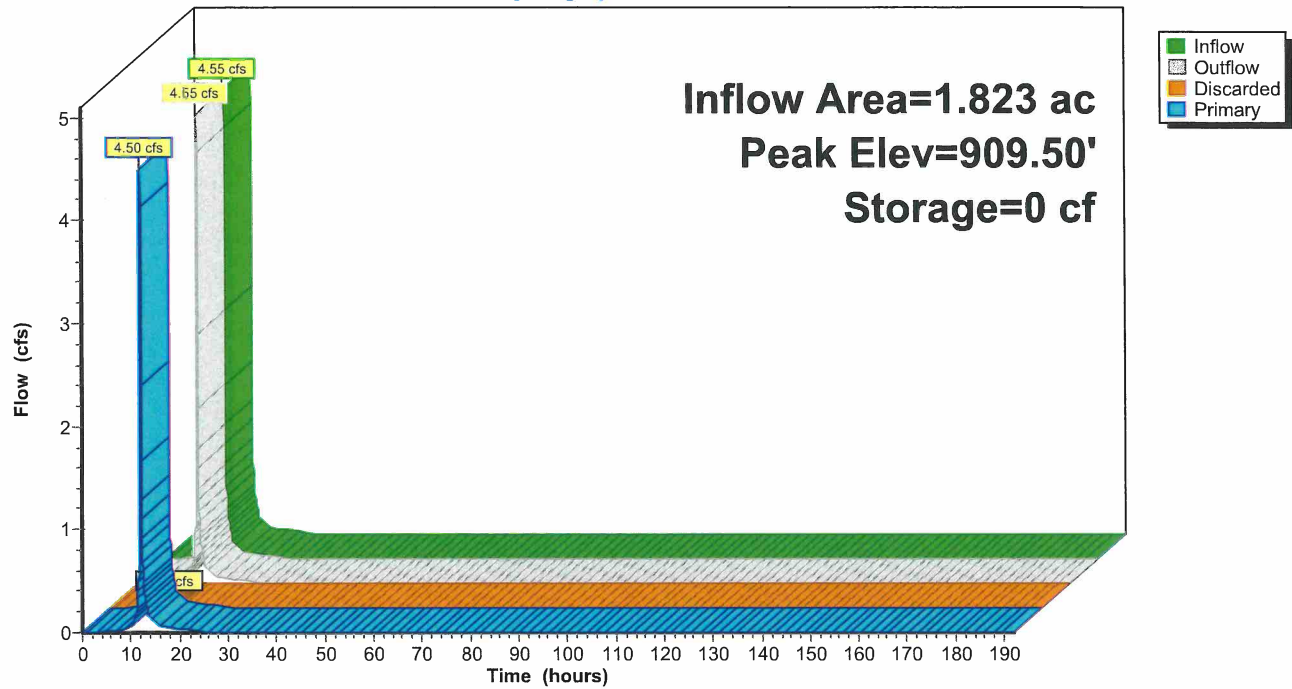
MSE 24-hr 3 2-Year Rainfall=2.76"

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Pond 3P: East Area**Hydrograph**

SIGH20001_South Site

MSE 24-hr 3 5-Year Rainfall=3.41"

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Summary for Subcatchment 1S: West Site[49] Hint: $T_c < 2dt$ may require smaller dt

Runoff = 6.97 cfs @ 12.11 hrs, Volume= 0.368 af, Depth= 2.60"

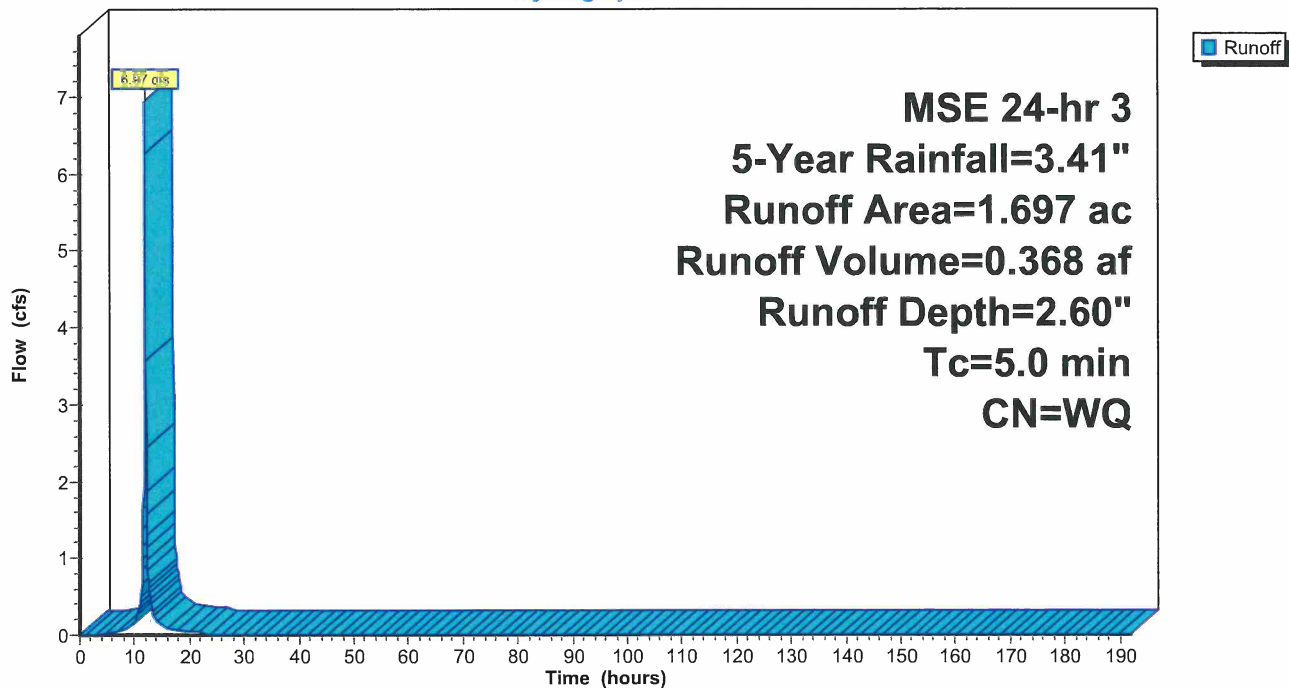
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-192.00 hrs, $dt=0.05$ hrs
MSE 24-hr 3 5-Year Rainfall=3.41"

Area (ac)	CN	Description
0.840	98	Paved parking, HSG B
0.367	61	>75% Grass cover, Good, HSG B
0.294	98	Unconnected roofs, HSG B
0.196	98	Water Surface, HSG B
1.697		Weighted Average
0.367		21.63% Pervious Area
1.330		78.37% Impervious Area
0.294		22.11% Unconnected

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

Subcatchment 1S: West Site

Hydrograph



SIGH20001_South Site

MSE 24-hr 3 5-Year Rainfall=3.41"

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Summary for Subcatchment 4S: East Site[49] Hint: $T_c < 2dt$ may require smaller dt

Runoff = 6.16 cfs @ 12.12 hrs, Volume= 0.309 af, Depth= 2.04"

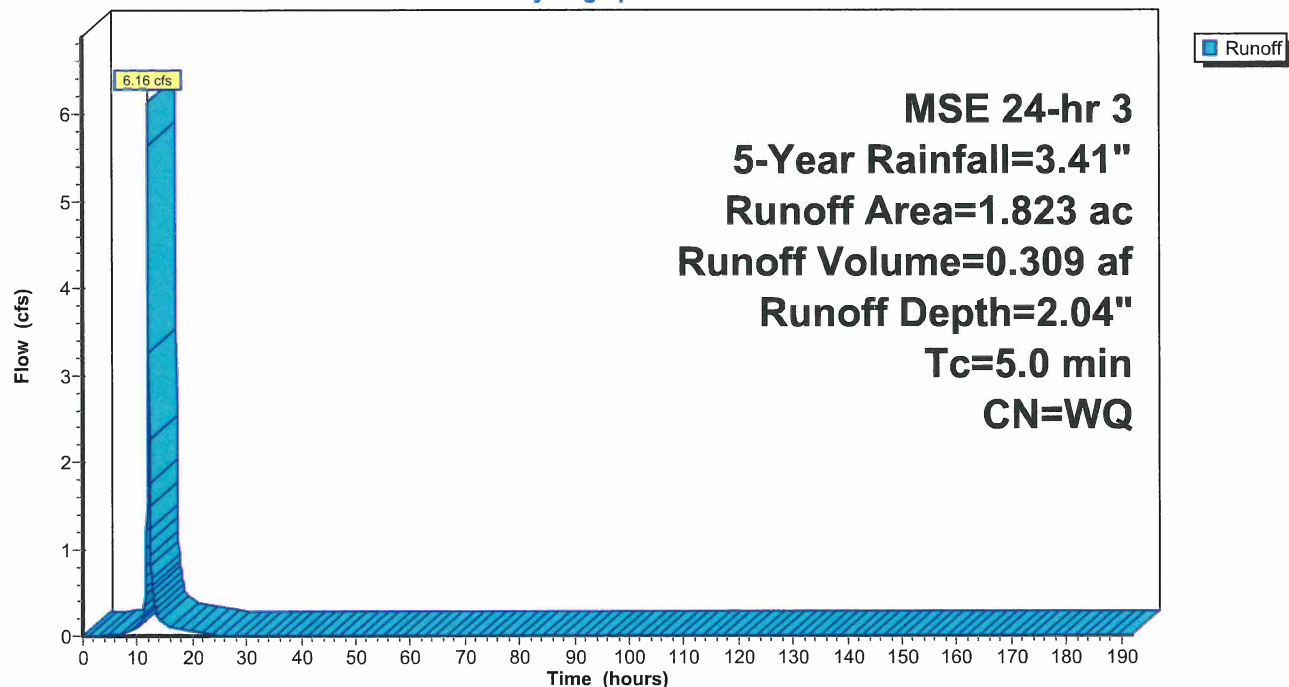
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-192.00 hrs, $dt=0.05$ hrs
MSE 24-hr 3 5-Year Rainfall=3.41"

Area (ac)	CN	Description
1.040	74	>75% Grass cover, Good, HSG C
0.783	98	Roofs, HSG B
1.823		Weighted Average
1.040		57.05% Pervious Area
0.783		42.95% Impervious Area

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

Subcatchment 4S: East Site

Hydrograph



SIGH20001_South Site

MSE 24-hr 3 5-Year Rainfall=3.41"

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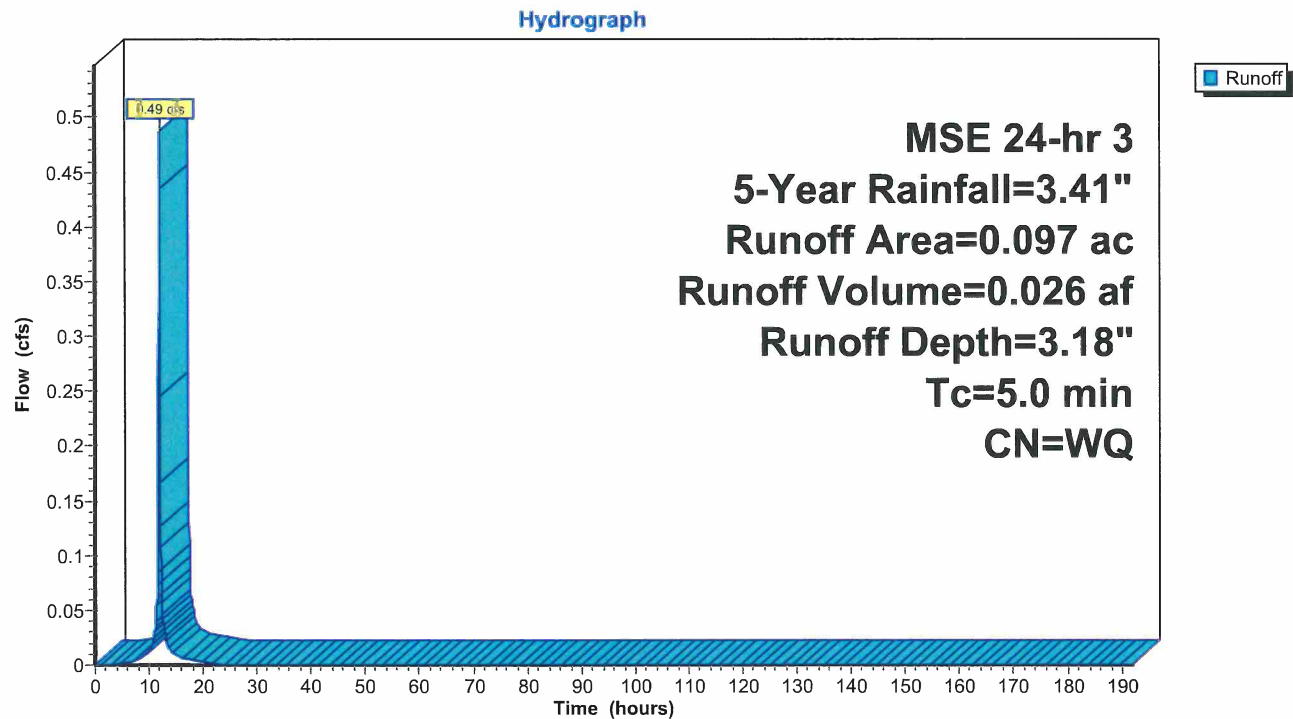
Summary for Subcatchment 5S: Site Bypass[49] Hint: $T_c < 2dt$ may require smaller dt

Runoff = 0.49 cfs @ 12.11 hrs, Volume= 0.026 af, Depth= 3.18"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-192.00 hrs, $dt=0.05$ hrs
MSE 24-hr 3 5-Year Rainfall=3.41"

Area (ac)	CN	Description
0.051	98	Paved parking, HSG B
0.046	98	Roofs, HSG B
0.097		Weighted Average
0.097		100.00% Impervious Area

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

Subcatchment 5S: Site Bypass

SIGH20001_South Site

MSE 24-hr 3 5-Year Rainfall=3.41"

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Summary for Subcatchment 6S: Existing Conditions

Runoff = 9.38 cfs @ 12.18 hrs, Volume= 0.517 af, Depth= 1.43"

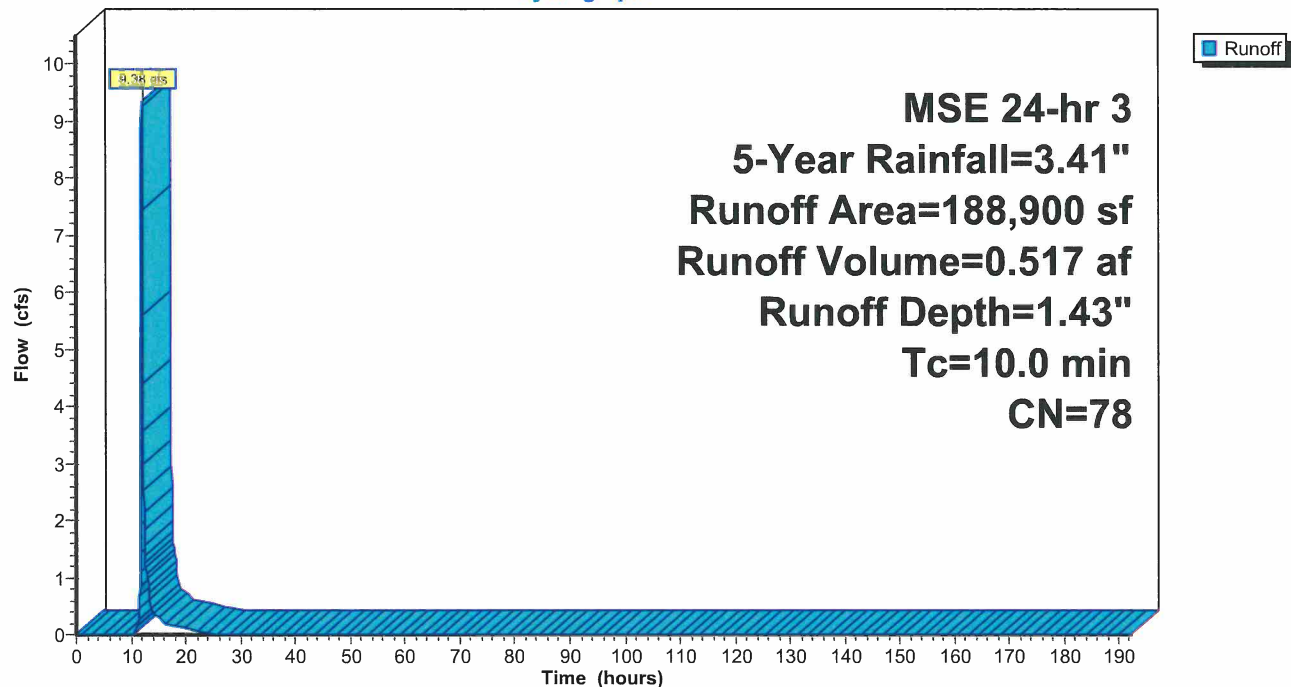
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-192.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 5-Year Rainfall=3.41"

Area (sf)	CN	Description
* 188,900	78	Row crops, straight row, Good, HSG A
188,900		100.00% Pervious Area

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

Subcatchment 6S: Existing Conditions

Hydrograph



SIGH20001_South Site

MSE 24-hr 3 5-Year Rainfall=3.41"

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Summary for Pond 2P: West Biofilter

Inflow Area = 3.520 ac, 60.03% Impervious, Inflow Depth = 2.30" for 5-Year event
 Inflow = 12.60 cfs @ 12.12 hrs, Volume= 0.676 af
 Outflow = 0.79 cfs @ 13.24 hrs, Volume= 0.676 af, Atten= 94%, Lag= 67.1 min
 Discarded = 0.79 cfs @ 13.24 hrs, Volume= 0.676 af
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-192.00 hrs, dt= 0.05 hrs

Peak Elev= 904.66' @ 13.24 hrs Surf.Area= 9,476 sf Storage= 13,951 cf

Flood Elev= 909.00' Surf.Area= 15,052 sf Storage= 67,191 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)

Center-of-Mass det. time= 148.9 min (912.9 - 764.0)

Volume	Invert	Avail.Storage	Storage Description
#1	903.00'	67,191 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
903.00	7,345	0	0
909.00	15,052	67,191	67,191

Device	Routing	Invert	Outlet Devices
#1	Primary	907.00'	10.0' long x 10.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64
#2	Discarded	903.00'	3.600 in/hr Exfiltration over Surface area

Discarded OutFlow Max=0.79 cfs @ 13.24 hrs HW=904.66' (Free Discharge)↑**2=Exfiltration** (Exfiltration Controls 0.79 cfs)**Primary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=903.00' (Free Discharge)↑**1=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

SIGH20001_South Site

MSE 24-hr 3 5-Year Rainfall=3.41"

Prepared by {enter your company name here}

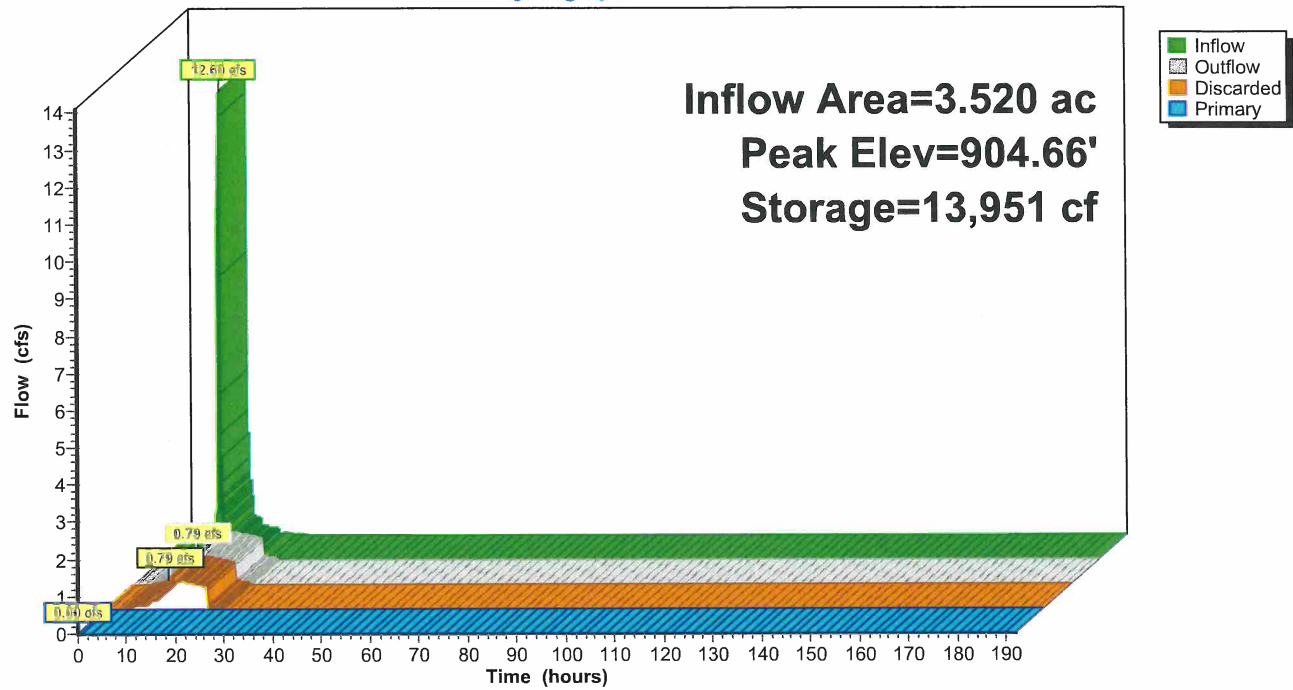
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Pond 2P: West Biofilter

Hydrograph



SIGH20001_South Site

MSE 24-hr 3 5-Year Rainfall=3.41"

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Summary for Pond 3P: East Area

[44] Hint: Outlet device #2 is below defined storage

[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=115)

Inflow Area = 1.823 ac, 42.95% Impervious, Inflow Depth = 2.04" for 5-Year event
 Inflow = 6.16 cfs @ 12.12 hrs, Volume= 0.309 af
 Outflow = 5.86 cfs @ 12.13 hrs, Volume= 0.311 af, Atten= 5%, Lag= 0.9 min
 Discarded = 0.06 cfs @ 12.12 hrs, Volume= 0.004 af
 Primary = 5.80 cfs @ 12.13 hrs, Volume= 0.308 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-192.00 hrs, dt= 0.05 hrs
 Peak Elev= 909.52' @ 12.14 hrs Surf.Area= 5,070 sf Storage= 91 cf
 Flood Elev= 910.25' Surf.Area= 2,775 sf Storage= 2,963 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
 Center-of-Mass det. time= 0.4 min (774.9 - 774.5)

Volume	Invert	Avail.Storage	Storage Description
#1	909.50'	2,963 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
909.50	5,126	0	0
910.25	2,775	2,963	2,963

Device	Routing	Invert	Outlet Devices
#1	Primary	905.56'	18.0" Round Culvert L= 450.0' Ke= 0.900 Inlet / Outlet Invert= 905.56' / 903.00' S= 0.0057 ' / Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	909.25'	24.0" Horiz. Orifice/Grate X 2.00 C= 0.600 Limited to weir flow at low heads
#3	Discarded	909.50'	0.500 in/hr Exfiltration over Surface area

Discarded OutFlow Max=0.06 cfs @ 12.12 hrs HW=909.51' (Free Discharge)↑ **3=Exfiltration** (Exfiltration Controls 0.06 cfs)**Primary OutFlow** Max=5.59 cfs @ 12.13 hrs HW=909.51' TW=903.98' (Dynamic Tailwater)↑ **1=Culvert** (Passes 5.59 cfs of 9.98 cfs potential flow)↑ **2=Orifice/Grate** (Weir Controls 5.59 cfs @ 1.68 fps)

SIGH20001_South Site

MSE 24-hr 3 5-Year Rainfall=3.41"

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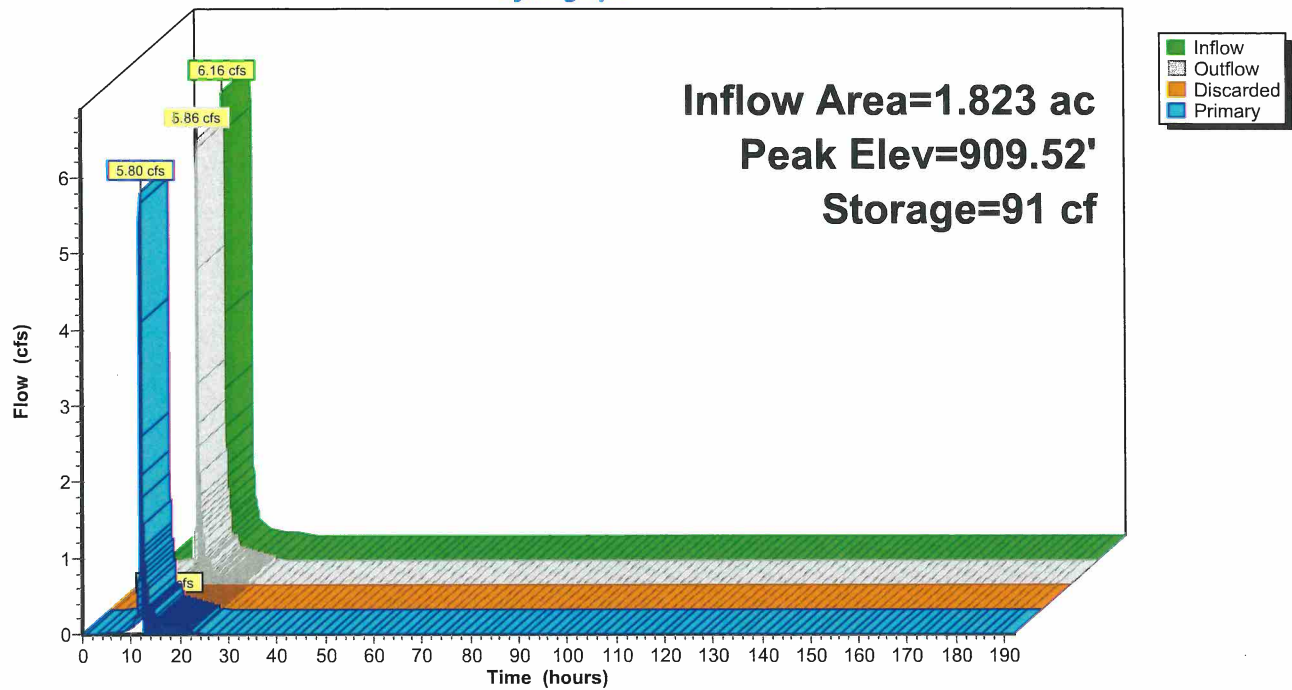
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Pond 3P: East Area

Hydrograph



SIGH20001_South Site

MSE 24-hr 3 10-Year Rainfall=4.00"

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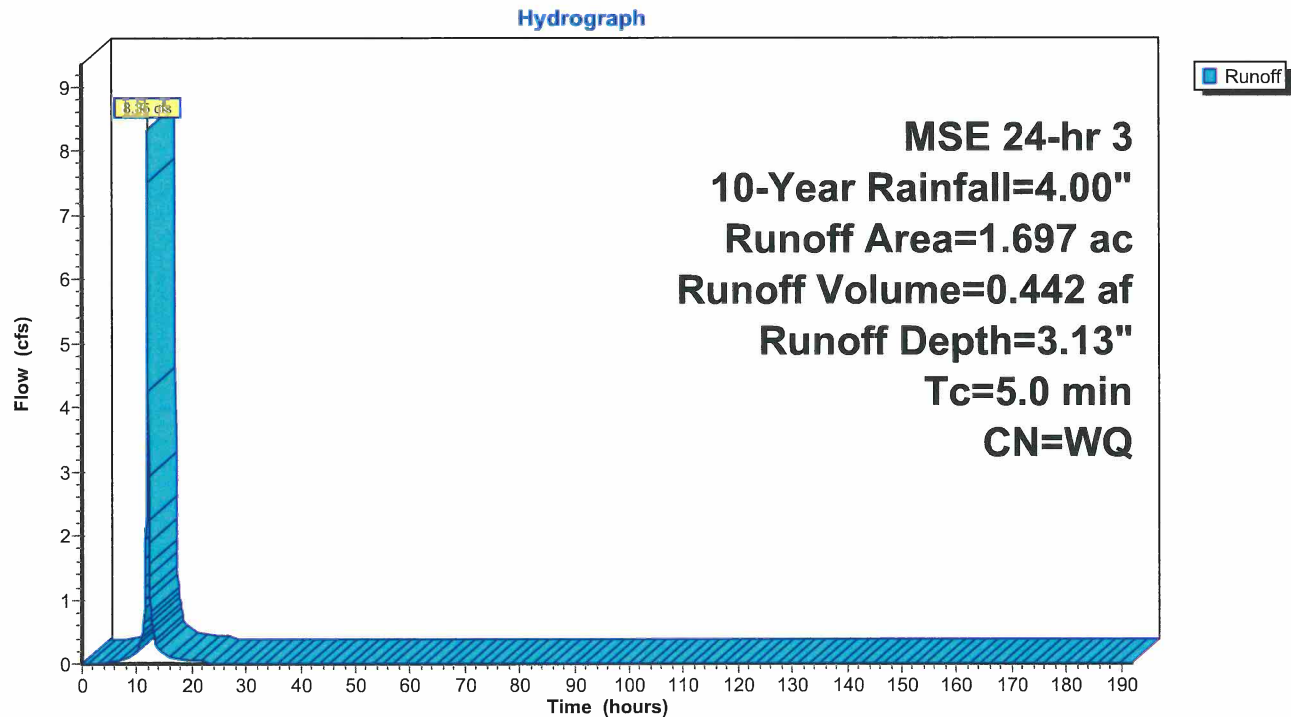
Summary for Subcatchment 1S: West Site[49] Hint: $T_c < 2dt$ may require smaller dt

Runoff = 8.35 cfs @ 12.11 hrs, Volume= 0.442 af, Depth= 3.13"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-192.00 hrs, $dt=0.05$ hrs
MSE 24-hr 3 10-Year Rainfall=4.00"

Area (ac)	CN	Description
0.840	98	Paved parking, HSG B
0.367	61	>75% Grass cover, Good, HSG B
0.294	98	Unconnected roofs, HSG B
0.196	98	Water Surface, HSG B
1.697		Weighted Average
0.367		21.63% Pervious Area
1.330		78.37% Impervious Area
0.294		22.11% Unconnected

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

Subcatchment 1S: West Site

SIGH20001_South Site

MSE 24-hr 3 10-Year Rainfall=4.00"

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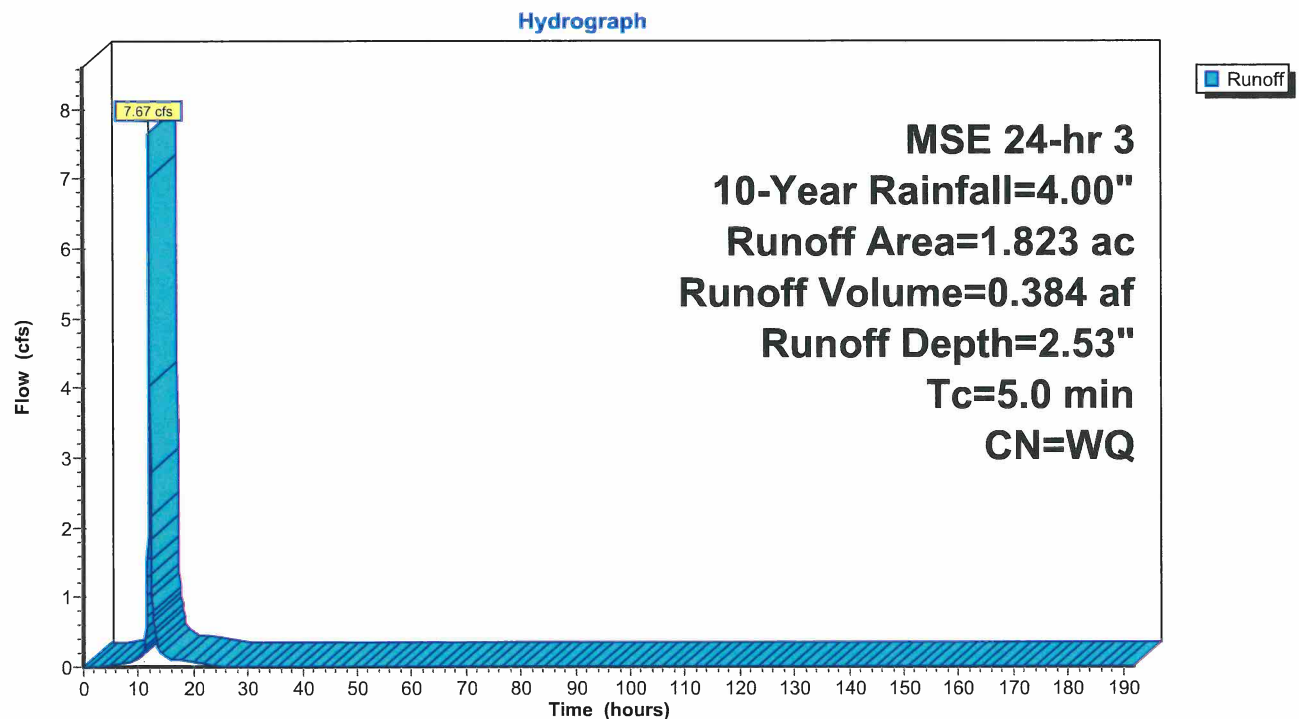
Summary for Subcatchment 4S: East Site[49] Hint: $T_c < 2dt$ may require smaller dt

Runoff = 7.67 cfs @ 12.12 hrs, Volume= 0.384 af, Depth= 2.53"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-192.00 hrs, $dt=0.05$ hrs
MSE 24-hr 3 10-Year Rainfall=4.00"

Area (ac)	CN	Description
1.040	74	>75% Grass cover, Good, HSG C
0.783	98	Roofs, HSG B
1.823		Weighted Average
1.040		57.05% Pervious Area
0.783		42.95% Impervious Area

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

Subcatchment 4S: East Site

SIGH20001_South Site

MSE 24-hr 3 10-Year Rainfall=4.00"

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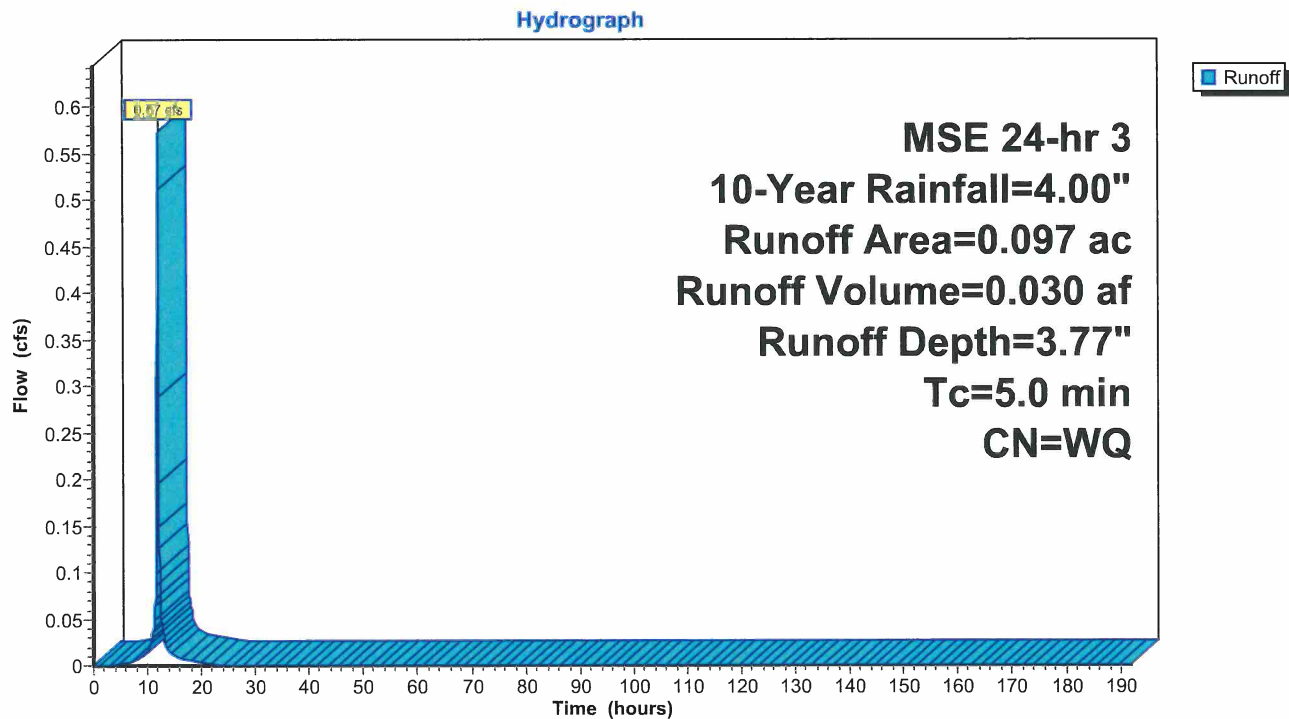
Summary for Subcatchment 5S: Site Bypass[49] Hint: $T_c < 2dt$ may require smaller dt

Runoff = 0.57 cfs @ 12.11 hrs, Volume= 0.030 af, Depth= 3.77"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-192.00 hrs, $dt=0.05$ hrs
MSE 24-hr 3 10-Year Rainfall=4.00"

Area (ac)	CN	Description
0.051	98	Paved parking, HSG B
0.046	98	Roofs, HSG B
0.097		Weighted Average
0.097		100.00% Impervious Area

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

Subcatchment 5S: Site Bypass

SIGH20001_South Site

MSE 24-hr 3 10-Year Rainfall=4.00"

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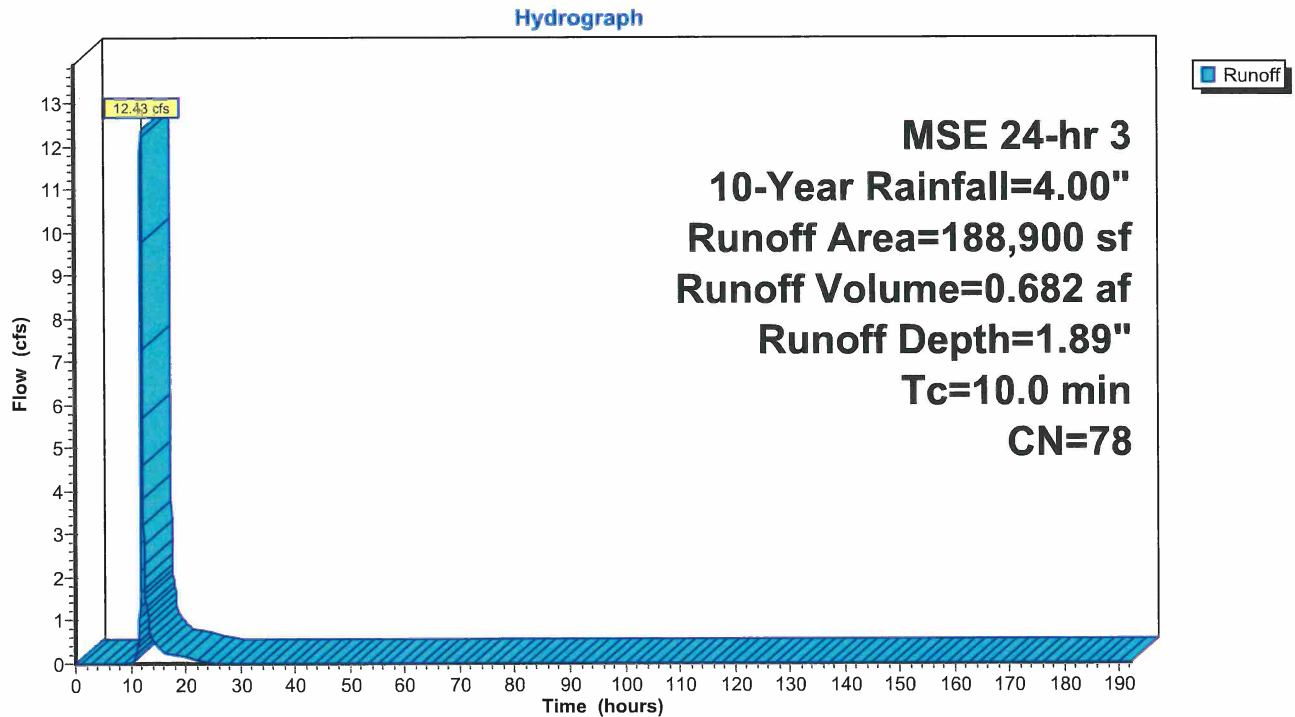
Summary for Subcatchment 6S: Existing Conditions

Runoff = 12.43 cfs @ 12.18 hrs, Volume= 0.682 af, Depth= 1.89"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-192.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 10-Year Rainfall=4.00"

	Area (sf)	CN	Description
*	188,900	78	Row crops, straight row, Good, HSG A
	188,900		100.00% Pervious Area

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

Subcatchment 6S: Existing Conditions

SIGH20001_South Site

MSE 24-hr 3 10-Year Rainfall=4.00"

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Summary for Pond 2P: West Biofilter

Inflow Area = 3.520 ac, 60.03% Impervious, Inflow Depth = 2.81" for 10-Year event
 Inflow = 14.92 cfs @ 12.13 hrs, Volume= 0.823 af
 Outflow = 0.83 cfs @ 13.36 hrs, Volume= 0.823 af, Atten= 94%, Lag= 74.3 min
 Discarded = 0.83 cfs @ 13.36 hrs, Volume= 0.823 af
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-192.00 hrs, dt= 0.05 hrs
 Peak Elev= 905.08' @ 13.36 hrs Surf.Area= 10,019 sf Storage= 18,070 cf
 Flood Elev= 909.00' Surf.Area= 15,052 sf Storage= 67,191 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
 Center-of-Mass det. time= 190.7 min (953.2 - 762.5)

Volume	Invert	Avail.Storage	Storage Description
#1	903.00'	67,191 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
903.00	7,345	0	0
909.00	15,052	67,191	67,191

Device	Routing	Invert	Outlet Devices
#1	Primary	907.00'	10.0' long x 10.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64
#2	Discarded	903.00'	3.600 in/hr Exfiltration over Surface area

Discarded OutFlow Max=0.83 cfs @ 13.36 hrs HW=905.08' (Free Discharge)
 ↳ **2=Exfiltration** (Exfiltration Controls 0.83 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=903.00' (Free Discharge)
 ↳ **1=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

SIGH20001_South Site

MSE 24-hr 3 10-Year Rainfall=4.00"

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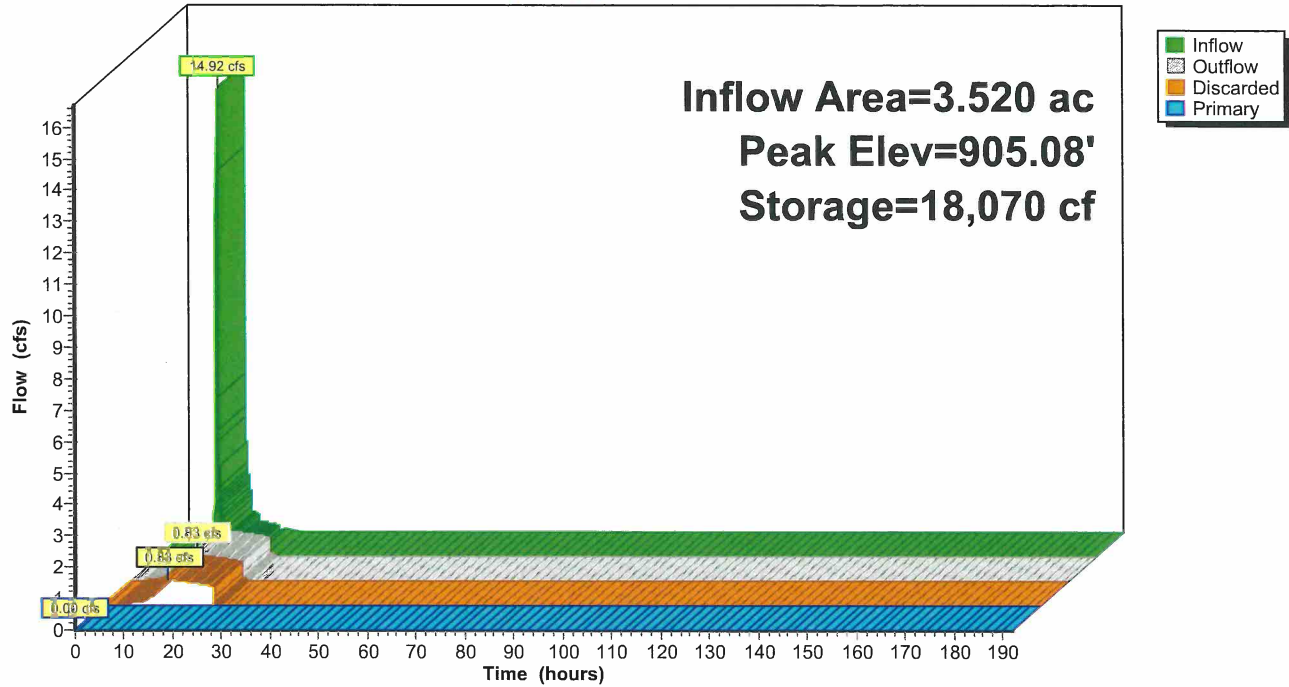
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Pond 2P: West Biofilter

Hydrograph



SIGH20001_South Site

MSE 24-hr 3 10-Year Rainfall=4.00"

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Summary for Pond 3P: East Area

[44] Hint: Outlet device #2 is below defined storage

[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=115)

Inflow Area = 1.823 ac, 42.95% Impervious, Inflow Depth = 2.53" for 10-Year event
 Inflow = 7.67 cfs @ 12.12 hrs, Volume= 0.384 af
 Outflow = 6.98 cfs @ 12.15 hrs, Volume= 0.385 af, Atten= 9%, Lag= 1.9 min
 Discarded = 0.06 cfs @ 12.20 hrs, Volume= 0.004 af
 Primary = 6.92 cfs @ 12.15 hrs, Volume= 0.381 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-192.00 hrs, dt= 0.05 hrs
 Peak Elev= 909.56' @ 12.15 hrs Surf.Area= 4,953 sf Storage= 277 cf
 Flood Elev= 910.25' Surf.Area= 2,775 sf Storage= 2,963 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
 Center-of-Mass det. time= 0.5 min (773.3 - 772.8)

Volume	Invert	Avail.Storage	Storage Description
#1	909.50'	2,963 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
909.50	5,126	0	0
910.25	2,775	2,963	2,963

Device	Routing	Invert	Outlet Devices
#1	Primary	905.56'	18.0" Round Culvert L= 450.0' Ke= 0.900 Inlet / Outlet Invert= 905.56' / 903.00' S= 0.0057 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	909.25'	24.0" Horiz. Orifice/Grate X 2.00 C= 0.600 Limited to weir flow at low heads
#3	Discarded	909.50'	0.500 in/hr Exfiltration over Surface area

Discarded OutFlow Max=0.06 cfs @ 12.20 hrs HW=909.52' (Free Discharge)↑ **3=Exfiltration** (Exfiltration Controls 0.06 cfs)**Primary OutFlow** Max=6.87 cfs @ 12.15 hrs HW=909.55' TW=904.32' (Dynamic Tailwater)↑ **1=Culvert** (Passes 6.87 cfs of 10.02 cfs potential flow)↑ **2=Orifice/Grate** (Weir Controls 6.87 cfs @ 1.80 fps)

SIGH20001_South Site

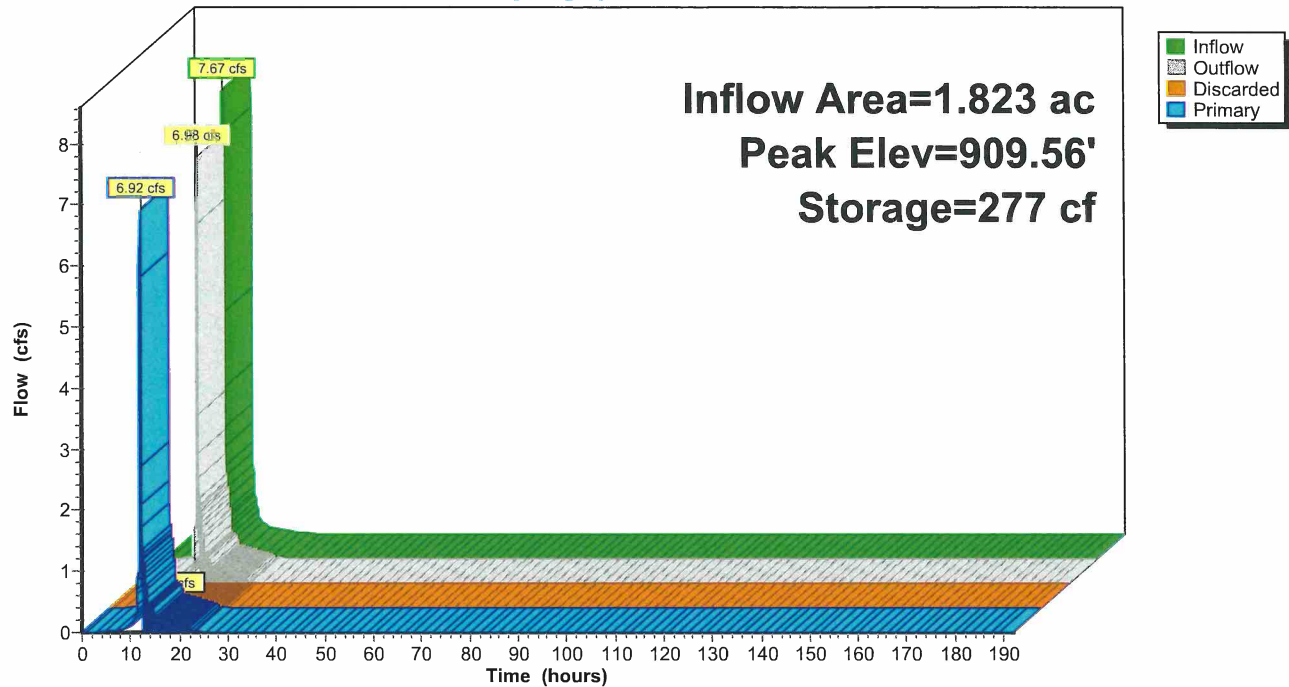
MSE 24-hr 3 10-Year Rainfall=4.00"

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Pond 3P: East Area**Hydrograph**

SIGH20001_South Site

MSE 24-hr 3 25-Year Rainfall=4.87"

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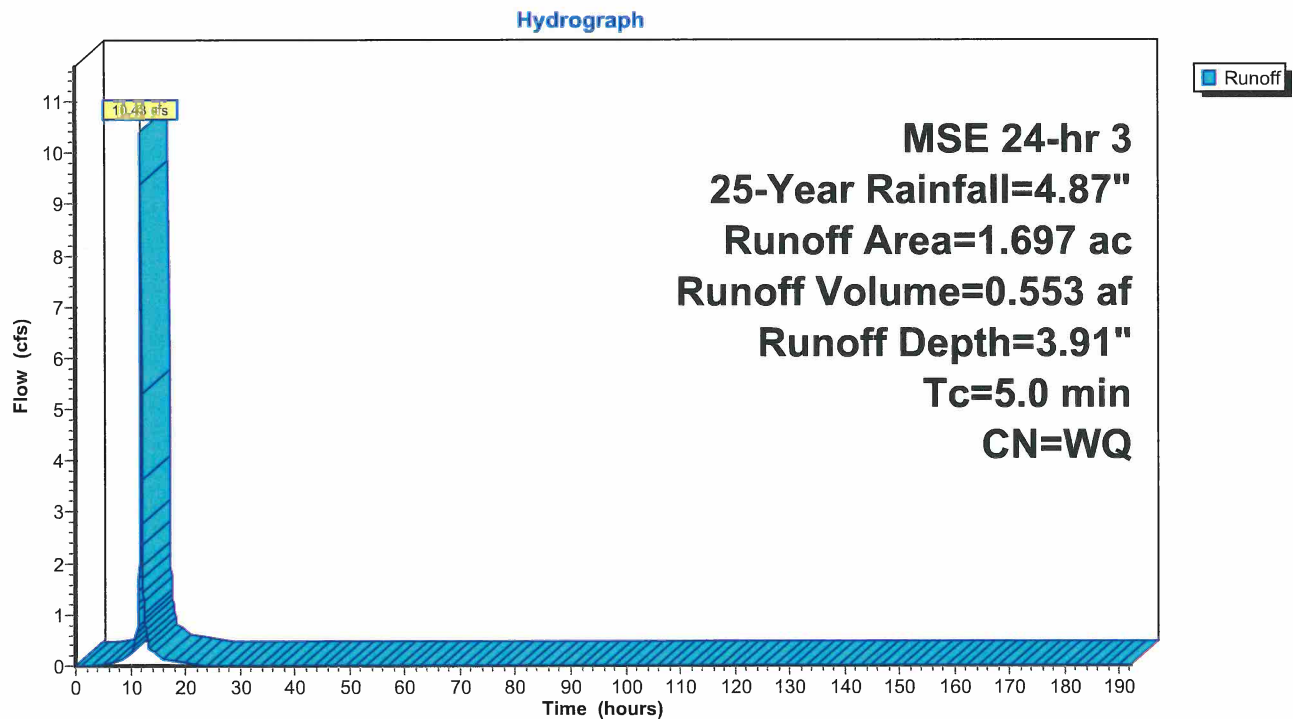
Summary for Subcatchment 1S: West Site[49] Hint: $T_c < 2dt$ may require smaller dt

Runoff = 10.43 cfs @ 12.11 hrs, Volume= 0.553 af, Depth= 3.91"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-192.00 hrs, $dt=0.05$ hrs
MSE 24-hr 3 25-Year Rainfall=4.87"

Area (ac)	CN	Description
0.840	98	Paved parking, HSG B
0.367	61	>75% Grass cover, Good, HSG B
0.294	98	Unconnected roofs, HSG B
0.196	98	Water Surface, HSG B
1.697		Weighted Average
0.367		21.63% Pervious Area
1.330		78.37% Impervious Area
0.294		22.11% Unconnected

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

Subcatchment 1S: West Site

SIGH20001_South Site

MSE 24-hr 3 25-Year Rainfall=4.87"

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Summary for Subcatchment 4S: East Site[49] Hint: $T_c < 2dt$ may require smaller dt

Runoff = 9.98 cfs @ 12.12 hrs, Volume= 0.498 af, Depth= 3.28"

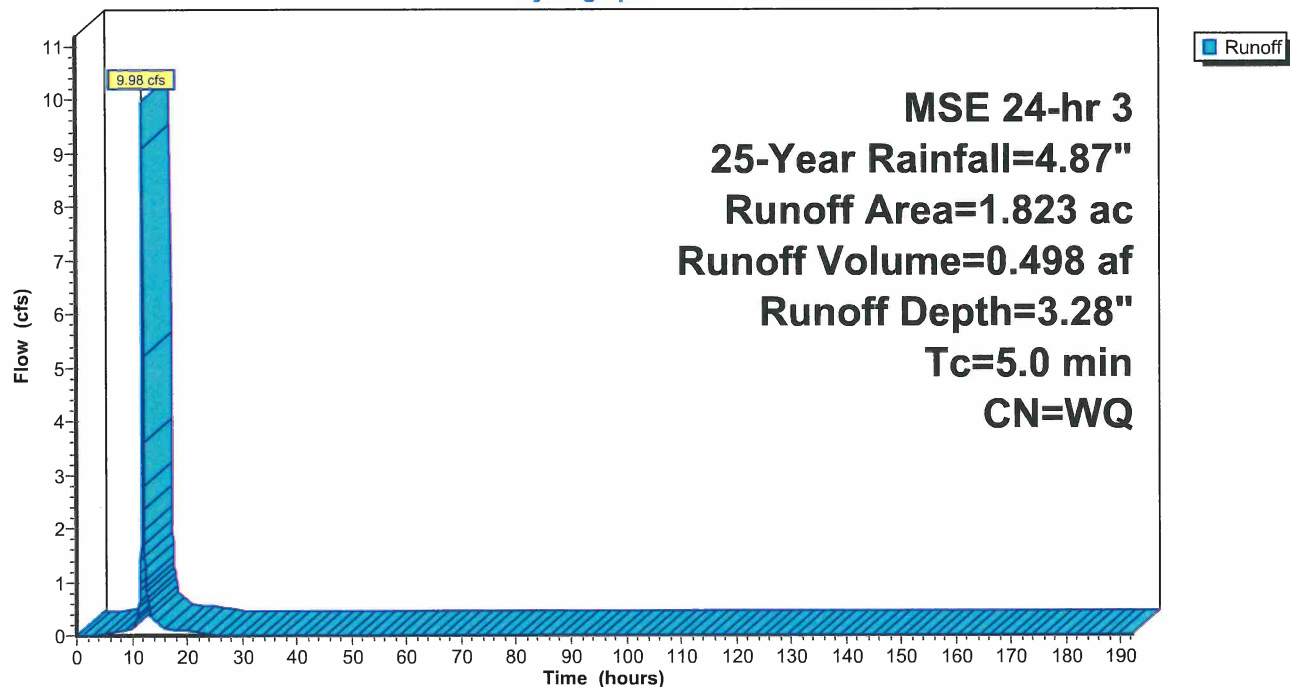
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-192.00 hrs, $dt=0.05$ hrs
MSE 24-hr 3 25-Year Rainfall=4.87"

Area (ac)	CN	Description
1.040	74	>75% Grass cover, Good, HSG C
0.783	98	Roofs, HSG B
1.823		Weighted Average
1.040		57.05% Pervious Area
0.783		42.95% Impervious Area

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

Subcatchment 4S: East Site

Hydrograph



SIGH20001_South Site

MSE 24-hr 3 25-Year Rainfall=4.87"

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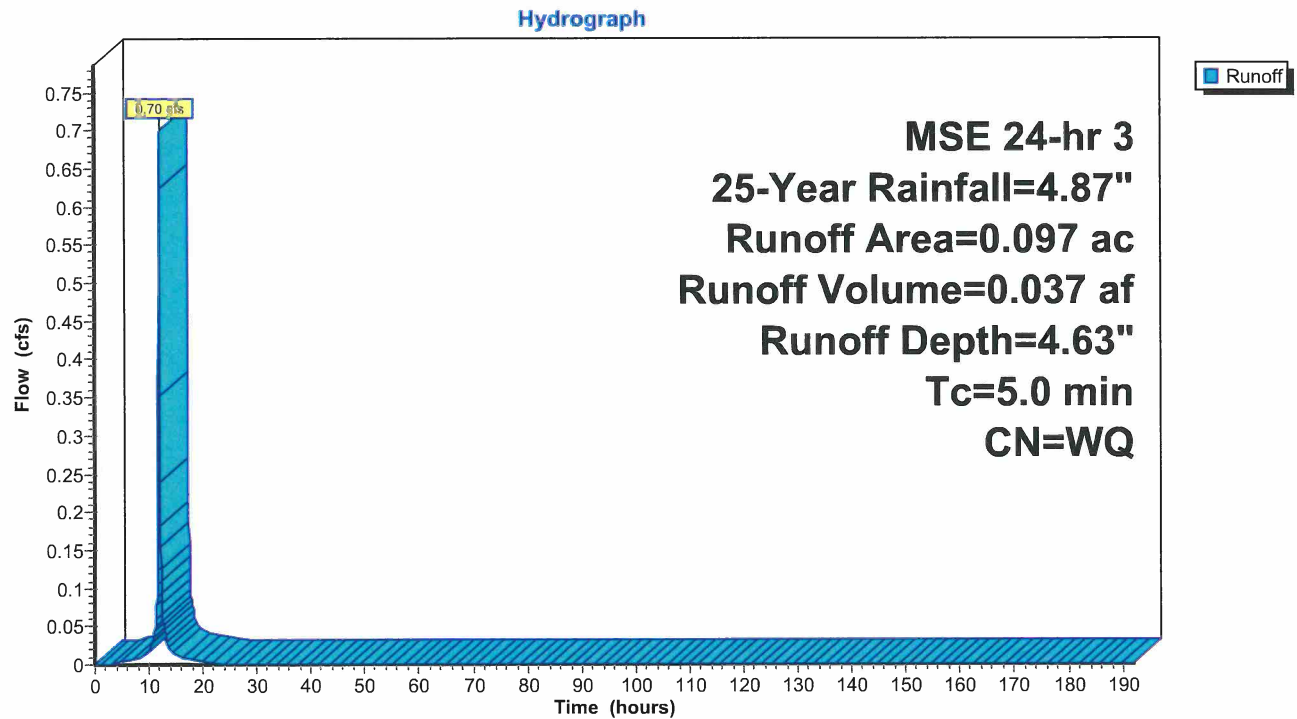
Summary for Subcatchment 5S: Site Bypass[49] Hint: $T_c < 2dt$ may require smaller dt

Runoff = 0.70 cfs @ 12.11 hrs, Volume= 0.037 af, Depth= 4.63"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-192.00 hrs, $dt=0.05$ hrs
MSE 24-hr 3 25-Year Rainfall=4.87"

Area (ac)	CN	Description
0.051	98	Paved parking, HSG B
0.046	98	Roofs, HSG B
0.097		Weighted Average
0.097		100.00% Impervious Area

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

Subcatchment 5S: Site Bypass

SIGH20001_South Site

MSE 24-hr 3 25-Year Rainfall=4.87"

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Summary for Subcatchment 6S: Existing Conditions

Runoff = 17.11 cfs @ 12.18 hrs, Volume= 0.940 af, Depth= 2.60"

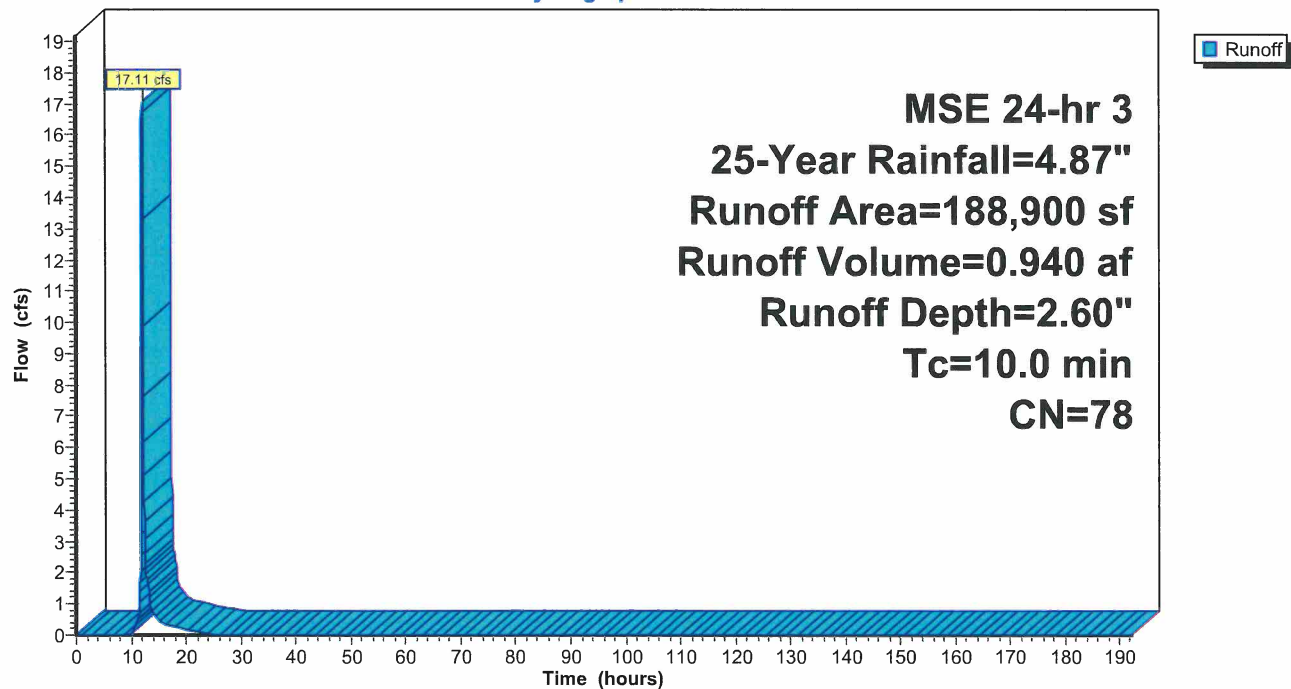
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-192.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 25-Year Rainfall=4.87"

Area (sf)	CN	Description
* 188,900	78	Row crops, straight row, Good, HSG A
188,900		100.00% Pervious Area

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

Subcatchment 6S: Existing Conditions

Hydrograph



SIGH20001_South Site

MSE 24-hr 3 25-Year Rainfall=4.87"

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Summary for Pond 2P: West Biofilter

Inflow Area = 3.520 ac, 60.03% Impervious, Inflow Depth = 3.58" for 25-Year event
 Inflow = 18.97 cfs @ 12.13 hrs, Volume= 1.049 af
 Outflow = 0.90 cfs @ 13.50 hrs, Volume= 1.050 af, Atten= 95%, Lag= 82.1 min
 Discarded = 0.90 cfs @ 13.50 hrs, Volume= 1.050 af
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-192.00 hrs, dt= 0.05 hrs
 Peak Elev= 905.71' @ 13.50 hrs Surf.Area= 10,830 sf Storage= 24,652 cf
 Flood Elev= 909.00' Surf.Area= 15,052 sf Storage= 67,191 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
 Center-of-Mass det. time= 252.3 min (1,012.9 - 760.6)

Volume	Invert	Avail.Storage	Storage Description
#1	903.00'	67,191 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
903.00	7,345	0	0
909.00	15,052	67,191	67,191

Device	Routing	Invert	Outlet Devices
#1	Primary	907.00'	10.0' long x 10.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64
#2	Discarded	903.00'	3.600 in/hr Exfiltration over Surface area

Discarded OutFlow Max=0.90 cfs @ 13.50 hrs HW=905.71' (Free Discharge)
 ↑**2=Exfiltration** (Exfiltration Controls 0.90 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=903.00' (Free Discharge)
 ↑**1=Broad-Crested Rectangular Weir**(Controls 0.00 cfs)

SIGH20001_South Site

MSE 24-hr 3 25-Year Rainfall=4.87"

Prepared by {enter your company name here}

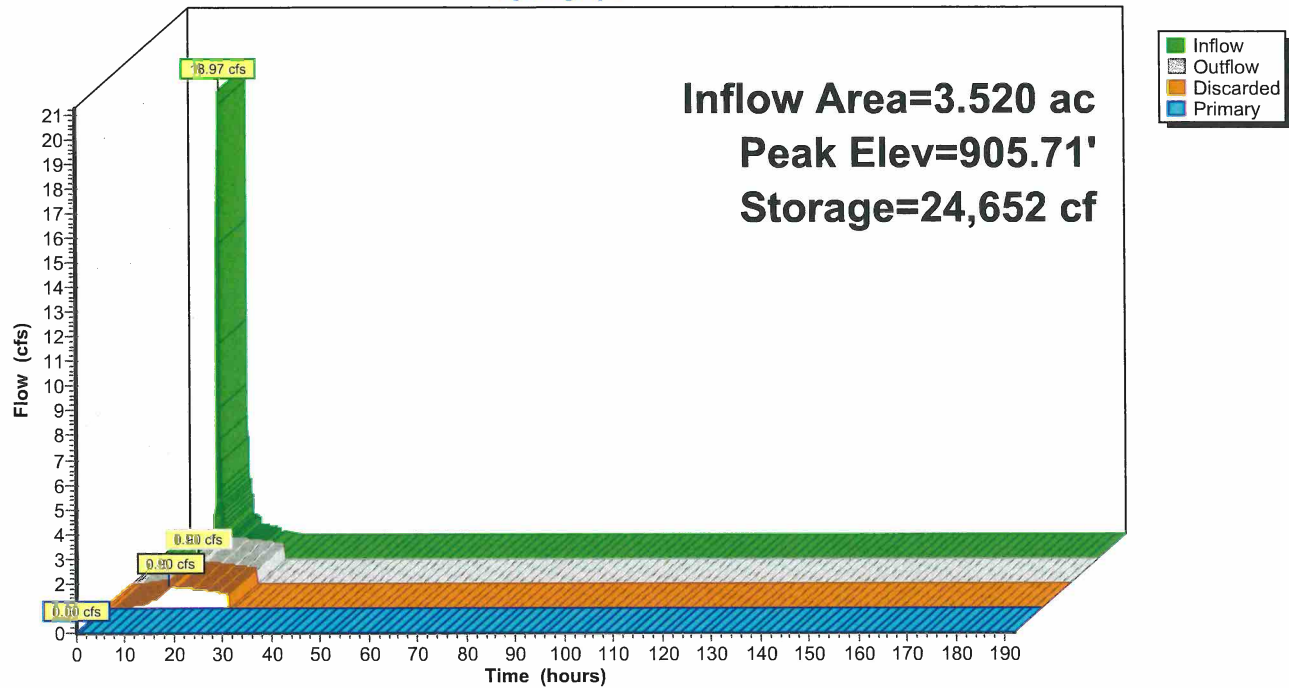
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Pond 2P: West Biofilter

Hydrograph



SIGH20001_South Site

MSE 24-hr 3 25-Year Rainfall=4.87"

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Summary for Pond 3P: East Area

[44] Hint: Outlet device #2 is below defined storage

[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=114)

Inflow Area = 1.823 ac, 42.95% Impervious, Inflow Depth = 3.28" for 25-Year event
 Inflow = 9.98 cfs @ 12.12 hrs, Volume= 0.498 af
 Outflow = 9.11 cfs @ 12.15 hrs, Volume= 0.501 af, Atten= 9%, Lag= 2.0 min
 Discarded = 0.06 cfs @ 12.05 hrs, Volume= 0.005 af
 Primary = 9.06 cfs @ 12.15 hrs, Volume= 0.496 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-192.00 hrs, dt= 0.05 hrs
 Peak Elev= 909.61' @ 12.15 hrs Surf.Area= 4,766 sf Storage= 568 cf
 Flood Elev= 910.25' Surf.Area= 2,775 sf Storage= 2,963 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)

Center-of-Mass det. time= 0.6 min (771.1 - 770.5)

Volume	Invert	Avail.Storage	Storage Description
#1	909.50'	2,963 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
909.50	5,126	0	0
910.25	2,775	2,963	2,963
Device	Routing	Invert	Outlet Devices
#1	Primary	905.56'	18.0" Round Culvert L= 450.0' Ke= 0.900 Inlet / Outlet Invert= 905.56' / 903.00' S= 0.0057 ' S= 0.0057 ' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	909.25'	24.0" Horiz. Orifice/Grate X 2.00 C= 0.600 Limited to weir flow at low heads
#3	Discarded	909.50'	0.500 in/hr Exfiltration over Surface area

Discarded OutFlow Max=0.06 cfs @ 12.05 hrs HW=909.52' (Free Discharge)↑ **3=Exfiltration** (Exfiltration Controls 0.06 cfs)**Primary OutFlow** Max=9.02 cfs @ 12.15 hrs HW=909.61' TW=904.72' (Dynamic Tailwater)↑ **1=Culvert** (Passes 9.02 cfs of 9.86 cfs potential flow)↑ **2=Orifice/Grate** (Weir Controls 9.02 cfs @ 1.97 fps)

SIGH20001_South Site

MSE 24-hr 3 25-Year Rainfall=4.87"

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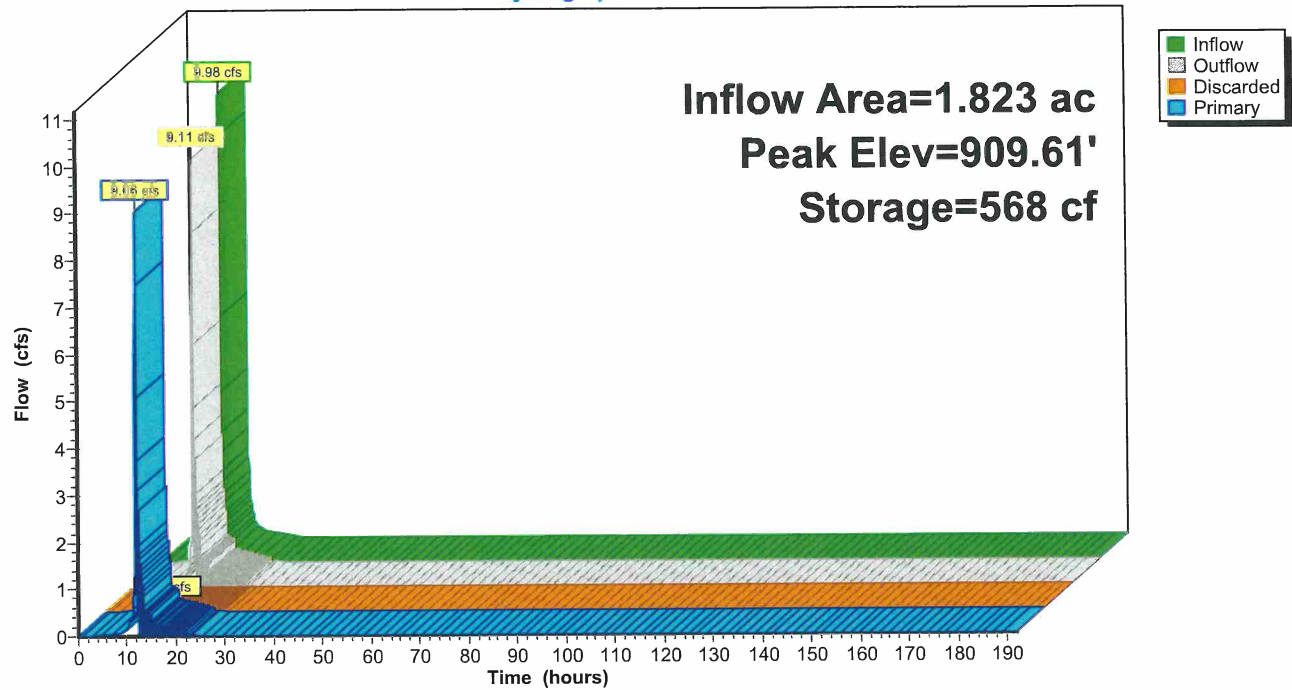
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Pond 3P: East Area

Hydrograph



Attachment: 2021-0001 SIGH Properties LLC - Application (6347 : 2021-0001 SIGH Properties LLC)

SIGH20001_South Site

MSE 24-hr 3 50-Year Rainfall=5.60"

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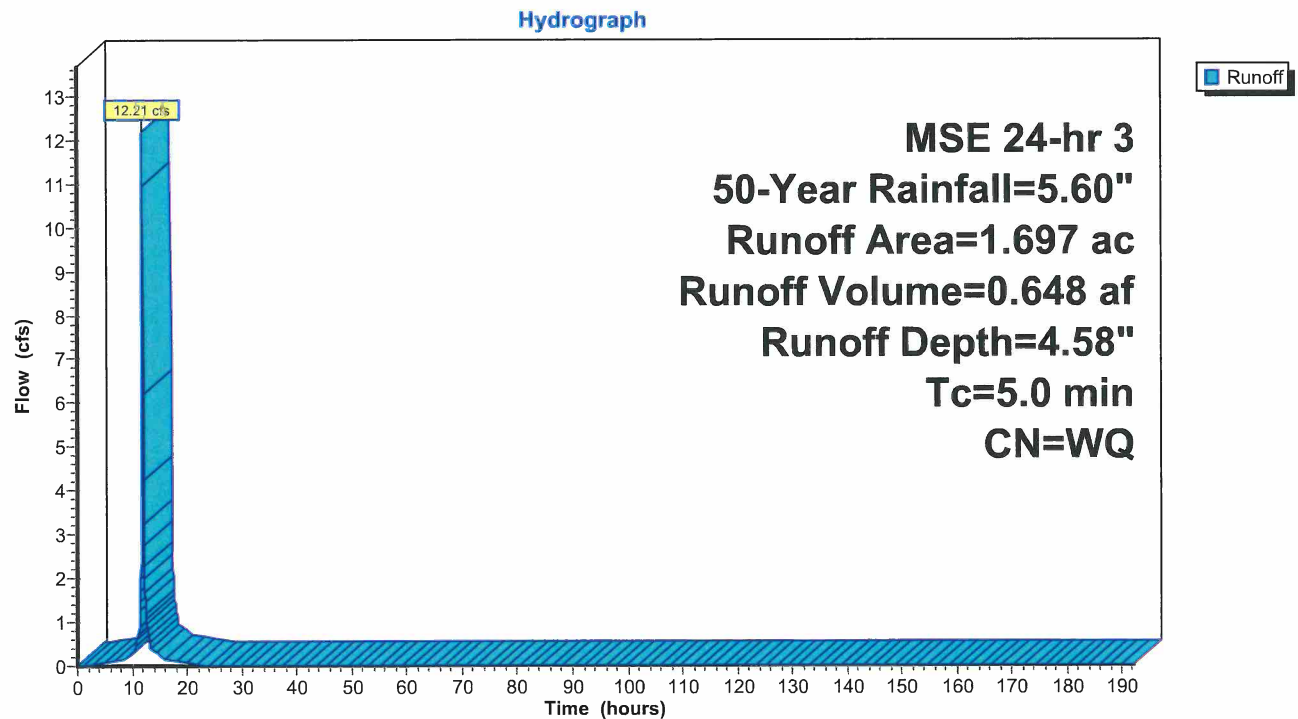
Summary for Subcatchment 1S: West Site[49] Hint: $T_c < 2dt$ may require smaller dt

Runoff = 12.21 cfs @ 12.11 hrs, Volume= 0.648 af, Depth= 4.58"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-192.00 hrs, $dt=0.05$ hrs
MSE 24-hr 3 50-Year Rainfall=5.60"

Area (ac)	CN	Description
0.840	98	Paved parking, HSG B
0.367	61	>75% Grass cover, Good, HSG B
0.294	98	Unconnected roofs, HSG B
0.196	98	Water Surface, HSG B
1.697		Weighted Average
0.367		21.63% Pervious Area
1.330		78.37% Impervious Area
0.294		22.11% Unconnected

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

Subcatchment 1S: West Site

SIGH20001_South Site

MSE 24-hr 3 50-Year Rainfall=5.60"

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Summary for Subcatchment 4S: East Site[49] Hint: $T_c < 2dt$ may require smaller dt

Runoff = 11.97 cfs @ 12.11 hrs, Volume= 0.597 af, Depth= 3.93"

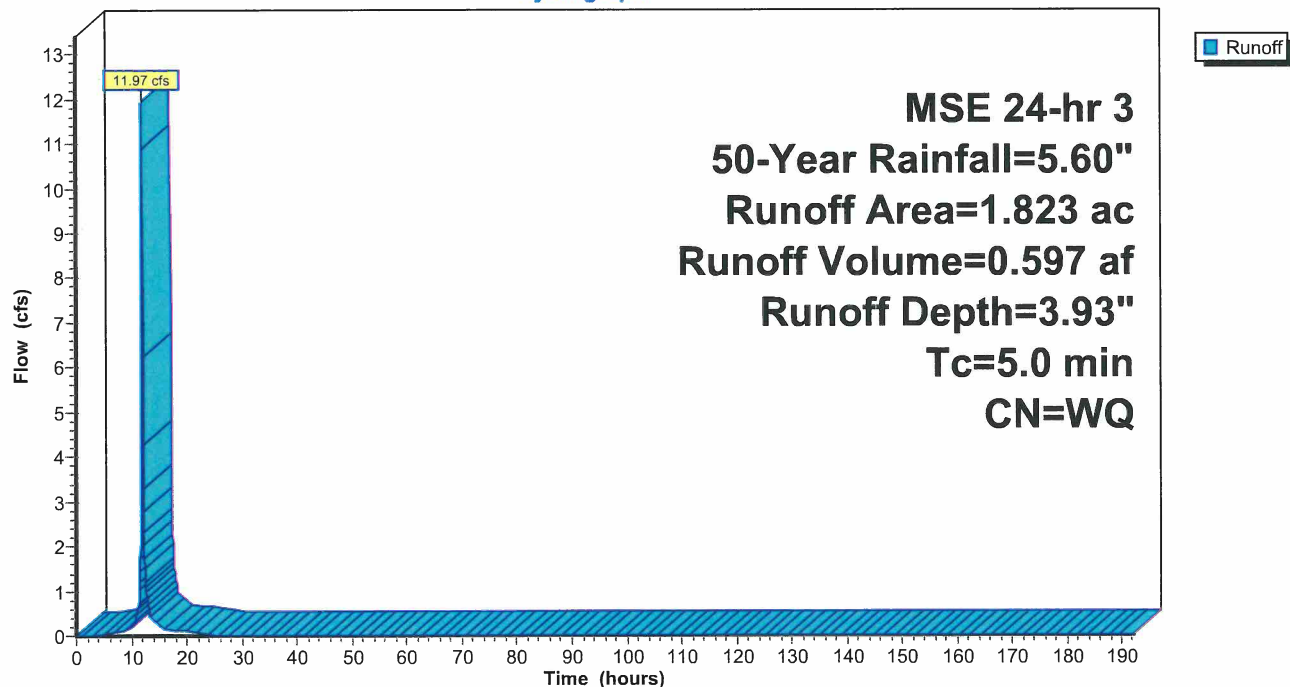
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-192.00 hrs, $dt=0.05$ hrs
MSE 24-hr 3 50-Year Rainfall=5.60"

Area (ac)	CN	Description
1.040	74	>75% Grass cover, Good, HSG C
0.783	98	Roofs, HSG B
1.823		Weighted Average
1.040		57.05% Pervious Area
0.783		42.95% Impervious Area

T _c (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, DE

Subcatchment 4S: East Site

Hydrograph



SIGH20001_South Site

MSE 24-hr 3 50-Year Rainfall=5.60"

Prepared by {enter your company name here}

Printed 3/24/2021

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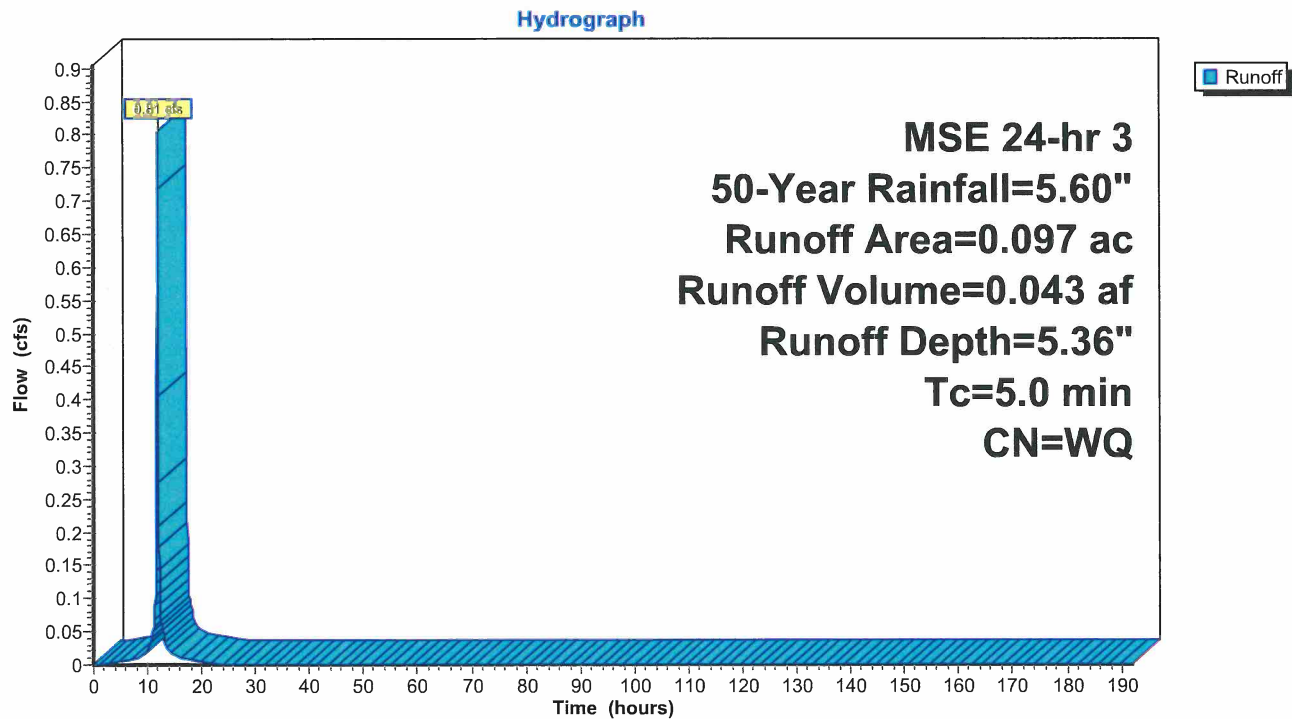
Summary for Subcatchment 5S: Site Bypass[49] Hint: $T_c < 2dt$ may require smaller dt

Runoff = 0.81 cfs @ 12.11 hrs, Volume= 0.043 af, Depth= 5.36"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-192.00 hrs, $dt= 0.05$ hrs
MSE 24-hr 3 50-Year Rainfall=5.60"

Area (ac)	CN	Description
0.051	98	Paved parking, HSG B
0.046	98	Roofs, HSG B
0.097		Weighted Average
0.097		100.00% Impervious Area

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

Subcatchment 5S: Site Bypass

SIGH20001_South Site

MSE 24-hr 3 50-Year Rainfall=5.60"

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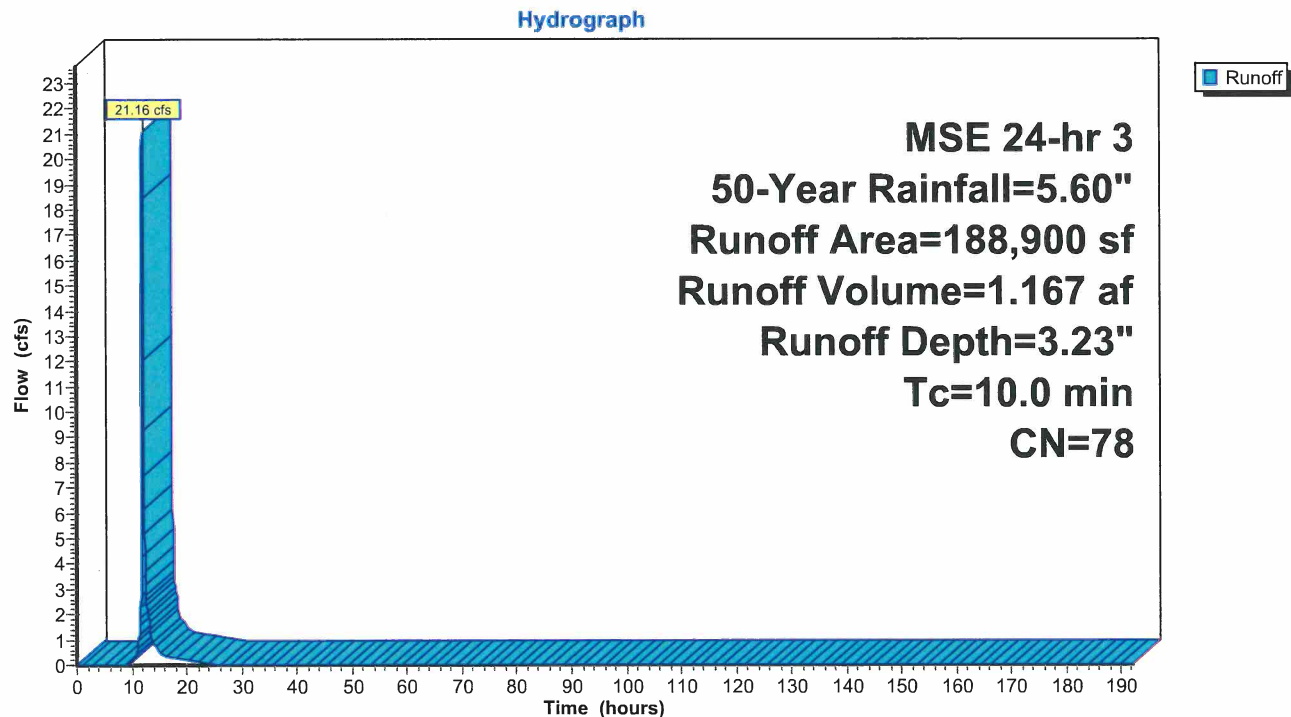
Summary for Subcatchment 6S: Existing Conditions

Runoff = 21.16 cfs @ 12.18 hrs, Volume= 1.167 af, Depth= 3.23"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-192.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 50-Year Rainfall=5.60"

	Area (sf)	CN	Description
*	188,900	78	Row crops, straight row, Good, HSG A
	188,900		100.00% Pervious Area

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

Subcatchment 6S: Existing Conditions

SIGH20001_South Site

MSE 24-hr 3 50-Year Rainfall=5.60"

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Summary for Pond 2P: West Biofilter

Inflow Area = 3.520 ac, 60.03% Impervious, Inflow Depth = 4.22" for 50-Year event
 Inflow = 21.94 cfs @ 12.12 hrs, Volume= 1.239 af
 Outflow = 0.96 cfs @ 13.54 hrs, Volume= 1.239 af, Atten= 96%, Lag= 84.9 min
 Discarded = 0.96 cfs @ 13.54 hrs, Volume= 1.239 af
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-192.00 hrs, dt= 0.05 hrs
 Peak Elev= 906.22' @ 13.54 hrs Surf.Area= 11,477 sf Storage= 30,271 cf
 Flood Elev= 909.00' Surf.Area= 15,052 sf Storage= 67,191 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
 Center-of-Mass det. time= 299.1 min (1,058.2 - 759.1)

Volume	Invert	Avail.Storage	Storage Description
#1	903.00'	67,191 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
903.00	7,345	0	0
909.00	15,052	67,191	67,191

Device	Routing	Invert	Outlet Devices
#1	Primary	907.00'	10.0' long x 10.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64
#2	Discarded	903.00'	3.600 in/hr Exfiltration over Surface area

Discarded OutFlow Max=0.96 cfs @ 13.54 hrs HW=906.22' (Free Discharge)
 ↑**2=Exfiltration** (Exfiltration Controls 0.96 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=903.00' (Free Discharge)
 ↑**1=Broad-Crested Rectangular Weir**(Controls 0.00 cfs)

SIGH20001_South Site

MSE 24-hr 3 50-Year Rainfall=5.60"

Prepared by {enter your company name here}

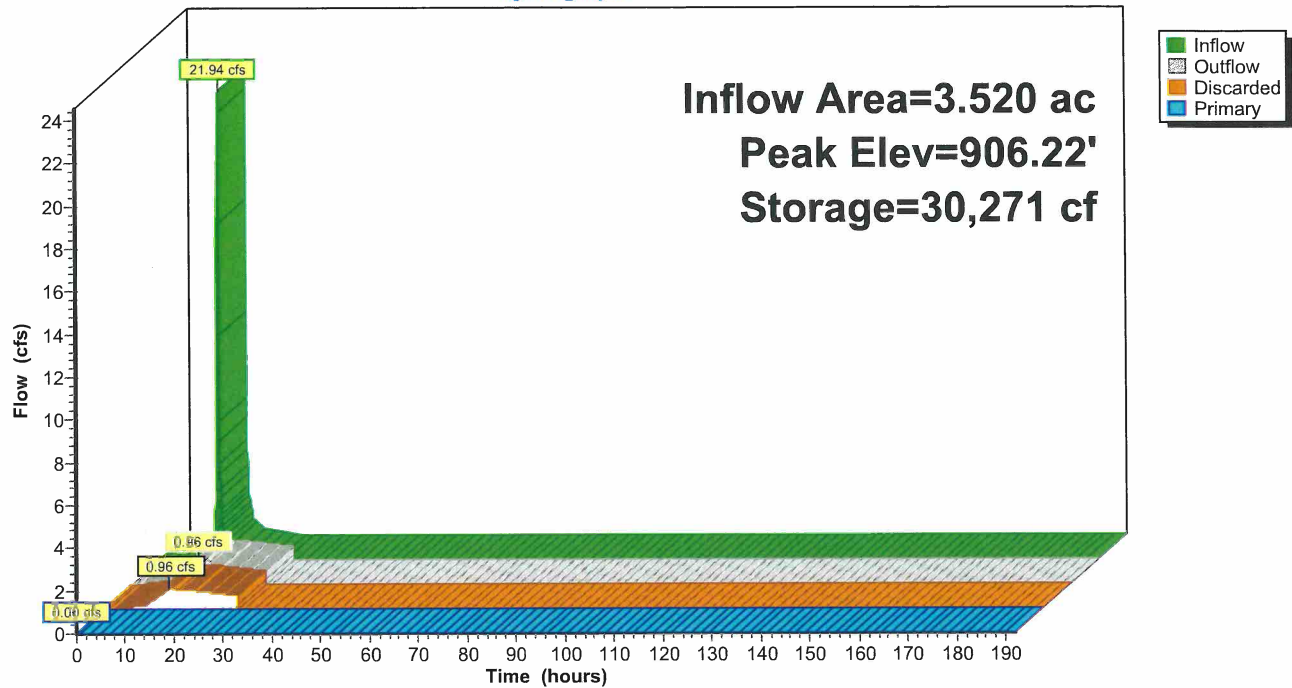
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Pond 2P: West Biofilter

Hydrograph



Attachment: 2021-0001 SIGH Properties LLC - Application (6347 : 2021-0001 SIGH Properties LLC)

SIGH20001_South Site

MSE 24-hr 3 50-Year Rainfall=5.60"

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Summary for Pond 3P: East Area

[44] Hint: Outlet device #2 is below defined storage

Inflow Area = 1.823 ac, 42.95% Impervious, Inflow Depth = 3.93" for 50-Year event
 Inflow = 11.97 cfs @ 12.11 hrs, Volume= 0.597 af
 Outflow = 10.03 cfs @ 12.16 hrs, Volume= 0.597 af, Atten= 16%, Lag= 2.5 min
 Discarded = 0.06 cfs @ 12.02 hrs, Volume= 0.006 af
 Primary = 9.98 cfs @ 12.16 hrs, Volume= 0.591 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-192.00 hrs, dt= 0.05 hrs
 Peak Elev= 909.68' @ 12.15 hrs Surf.Area= 4,548 sf Storage= 893 cf
 Flood Elev= 910.25' Surf.Area= 2,775 sf Storage= 2,963 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
 Center-of-Mass det. time= 0.4 min (769.2 - 768.8)

Volume	Invert	Avail.Storage	Storage Description
#1	909.50'	2,963 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
909.50	5,126	0	0
910.25	2,775	2,963	2,963

Device	Routing	Invert	Outlet Devices
#1	Primary	905.56'	18.0" Round Culvert L= 450.0' Ke= 0.900 Inlet / Outlet Invert= 905.56' / 903.00' S= 0.0057 ' / Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	909.25'	24.0" Horiz. Orifice/Grate X 2.00 C= 0.600 Limited to weir flow at low heads
#3	Discarded	909.50'	0.500 in/hr Exfiltration over Surface area

Discarded OutFlow Max=0.06 cfs @ 12.02 hrs HW=909.52' (Free Discharge)
 ↑ **3=Exfiltration** (Exfiltration Controls 0.06 cfs)

Primary OutFlow Max=9.54 cfs @ 12.16 hrs HW=909.68' TW=905.09' (Dynamic Tailwater)
 ↑ **1=Culvert** (Outlet Controls 9.54 cfs @ 5.40 fps)
 ↑ **2=Orifice/Grate** (Passes 9.54 cfs of 11.51 cfs potential flow)

SIGH20001_South Site

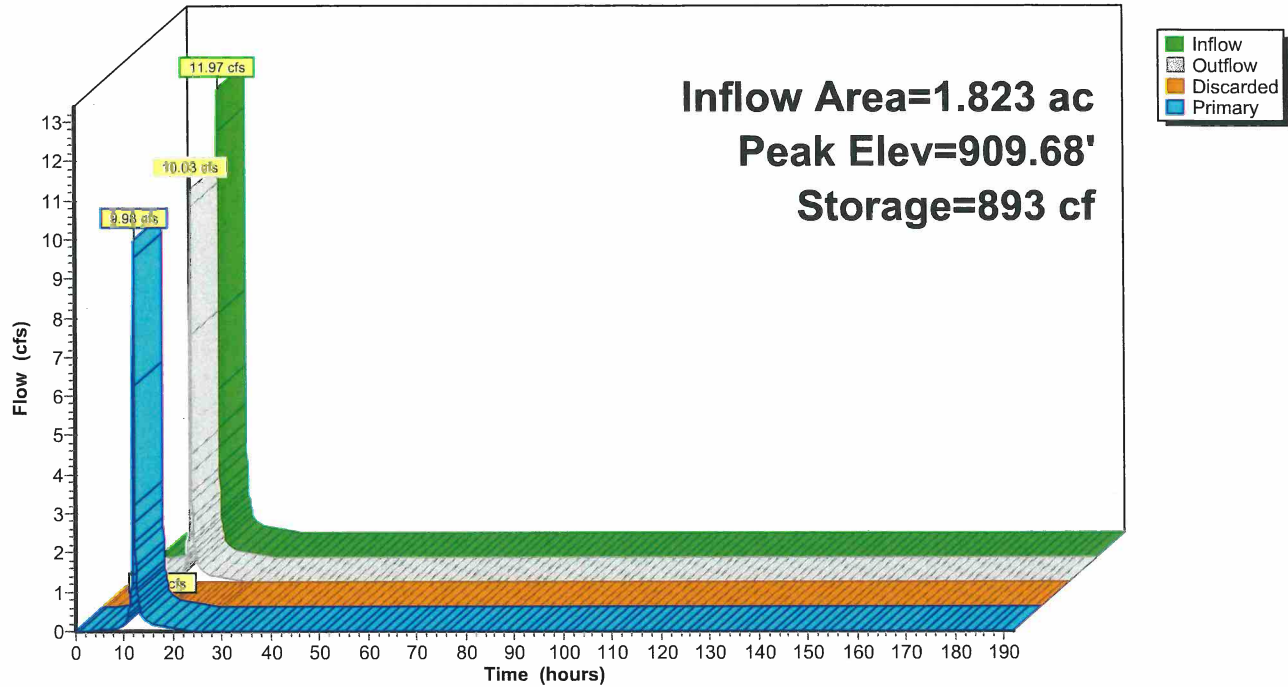
MSE 24-hr 3 50-Year Rainfall=5.60"

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Pond 3P: East Area**Hydrograph**

SIGH20001_South Site

MSE 24-hr 3 100-Year Rainfall=6.38"

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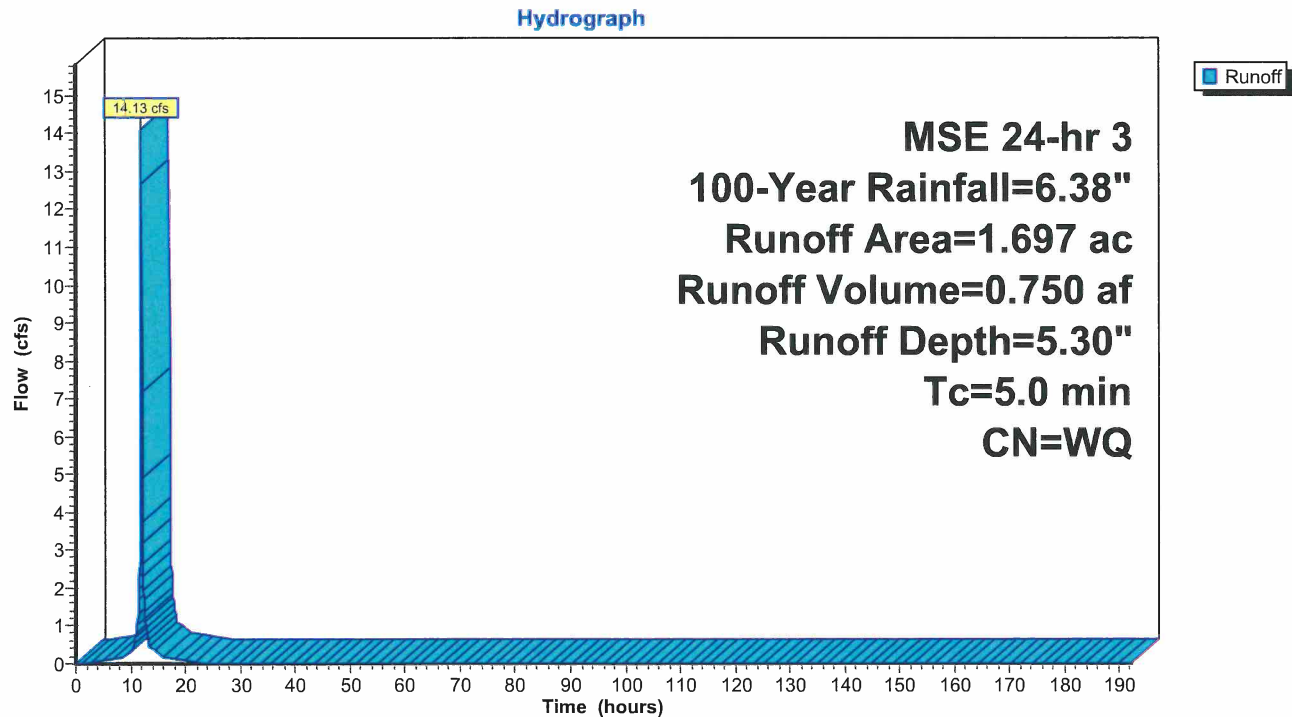
Summary for Subcatchment 1S: West Site[49] Hint: $T_c < 2dt$ may require smaller dt

Runoff = 14.13 cfs @ 12.11 hrs, Volume= 0.750 af, Depth= 5.30"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-192.00 hrs, $dt=0.05$ hrs
MSE 24-hr 3 100-Year Rainfall=6.38"

Area (ac)	CN	Description
0.840	98	Paved parking, HSG B
0.367	61	>75% Grass cover, Good, HSG B
0.294	98	Unconnected roofs, HSG B
0.196	98	Water Surface, HSG B
1.697		Weighted Average
0.367		21.63% Pervious Area
1.330		78.37% Impervious Area
0.294		22.11% Unconnected

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

Subcatchment 1S: West Site

SIGH20001_South Site

MSE 24-hr 3 100-Year Rainfall=6.38"

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Summary for Subcatchment 4S: East Site[49] Hint: $T_c < 2dt$ may require smaller dt

Runoff = 14.11 cfs @ 12.11 hrs, Volume= 0.705 af, Depth= 4.64"

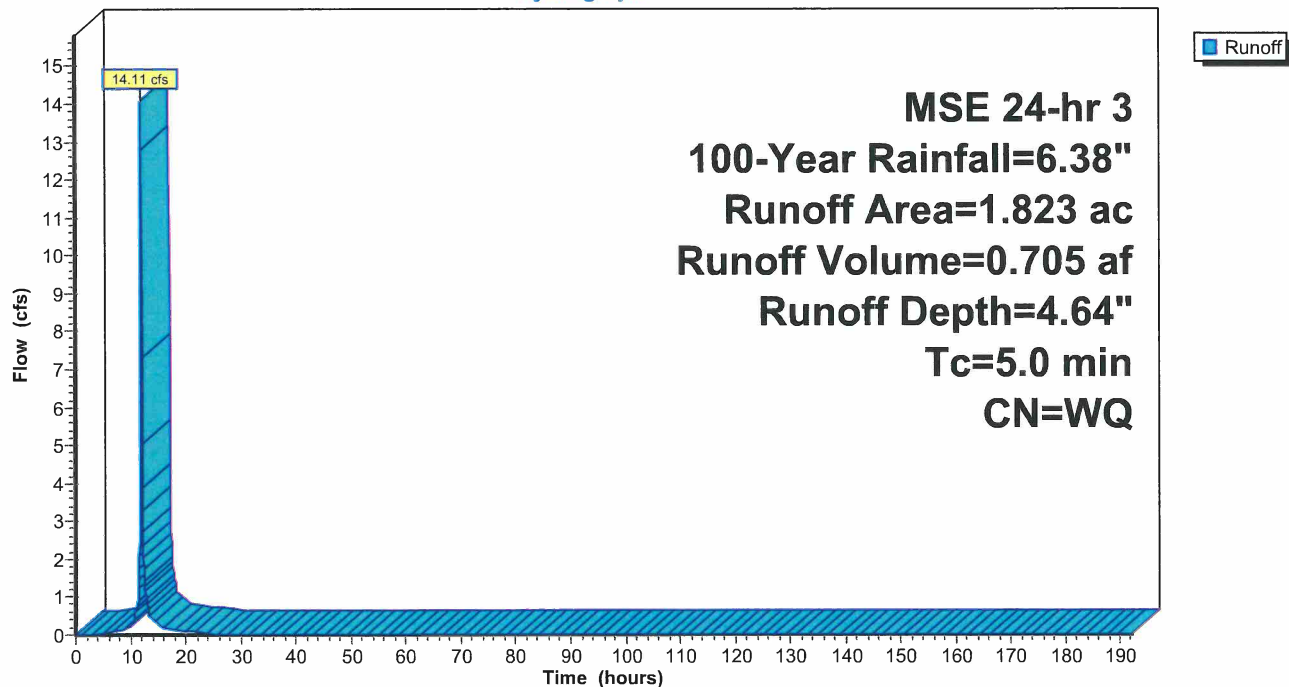
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-192.00 hrs, $dt=0.05$ hrs
MSE 24-hr 3 100-Year Rainfall=6.38"

Area (ac)	CN	Description
1.040	74	>75% Grass cover, Good, HSG C
0.783	98	Roofs, HSG B
1.823		Weighted Average
1.040		57.05% Pervious Area
0.783		42.95% Impervious Area

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

Subcatchment 4S: East Site

Hydrograph



SIGH20001_South Site

MSE 24-hr 3 100-Year Rainfall=6.38"

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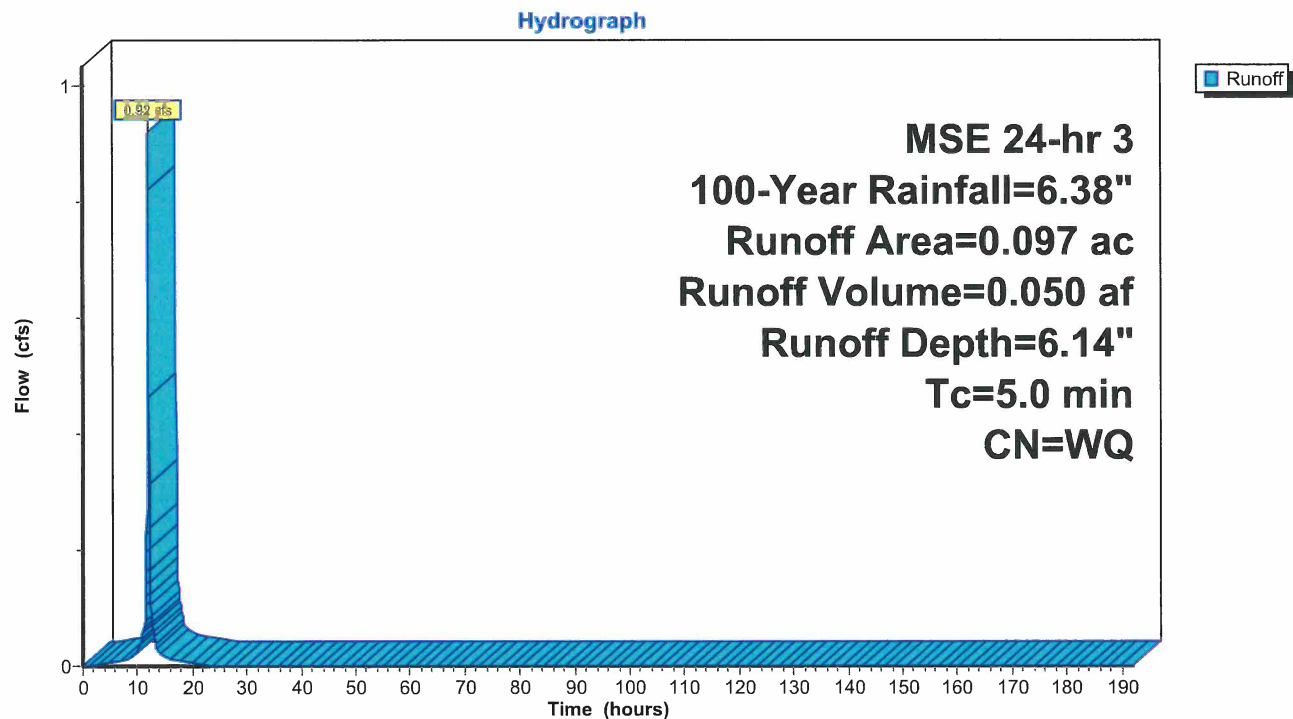
Summary for Subcatchment 5S: Site Bypass[49] Hint: $T_c < 2dt$ may require smaller dt

Runoff = 0.92 cfs @ 12.11 hrs, Volume= 0.050 af, Depth= 6.14"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-192.00 hrs, $dt=0.05$ hrs
MSE 24-hr 3 100-Year Rainfall=6.38"

Area (ac)	CN	Description
0.051	98	Paved parking, HSG B
0.046	98	Roofs, HSG B
0.097		Weighted Average
0.097		100.00% Impervious Area

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

Subcatchment 5S: Site Bypass

SIGH20001_South Site

MSE 24-hr 3 100-Year Rainfall=6.38"

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Summary for Subcatchment 6S: Existing Conditions

Runoff = 25.54 cfs @ 12.18 hrs, Volume= 1.415 af, Depth= 3.92"

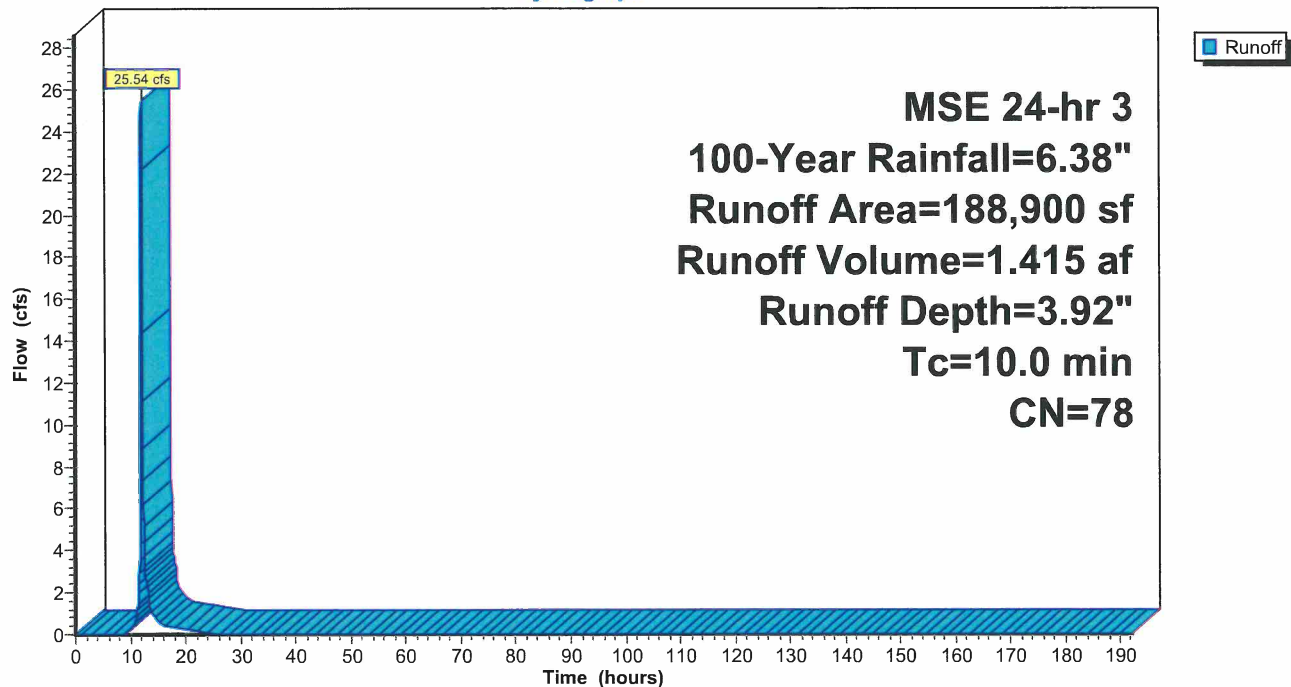
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-192.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 100-Year Rainfall=6.38"

Area (sf)	CN	Description
* 188,900	78	Row crops, straight row, Good, HSG A
188,900		100.00% Pervious Area

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

Subcatchment 6S: Existing Conditions

Hydrograph



SIGH20001_South Site

MSE 24-hr 3 100-Year Rainfall=6.38"

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Summary for Pond 2P: West Biofilter

Inflow Area = 3.520 ac, 60.03% Impervious, Inflow Depth = 4.94" for 100-Year event
 Inflow = 24.38 cfs @ 12.12 hrs, Volume= 1.448 af
 Outflow = 1.01 cfs @ 13.57 hrs, Volume= 1.449 af, Atten= 96%, Lag= 87.1 min
 Discarded = 1.01 cfs @ 13.57 hrs, Volume= 1.449 af
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-192.00 hrs, dt= 0.05 hrs
 Peak Elev= 906.75' @ 13.57 hrs Surf.Area= 12,156 sf Storage= 36,517 cf
 Flood Elev= 909.00' Surf.Area= 15,052 sf Storage= 67,191 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
 Center-of-Mass det. time= 347.1 min (1,105.2 - 758.1)

Volume	Invert	Avail.Storage	Storage Description
#1	903.00'	67,191 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
903.00	7,345	0	0
909.00	15,052	67,191	67,191

Device	Routing	Invert	Outlet Devices
#1	Primary	907.00'	10.0' long x 10.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64
#2	Discarded	903.00'	3.600 in/hr Exfiltration over Surface area

Discarded OutFlow Max=1.01 cfs @ 13.57 hrs HW=906.74' (Free Discharge)
 ↑ **2=Exfiltration** (Exfiltration Controls 1.01 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=903.00' (Free Discharge)
 ↑ **1=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

SIGH20001_South Site

MSE 24-hr 3 100-Year Rainfall=6.38"

Prepared by {enter your company name here}

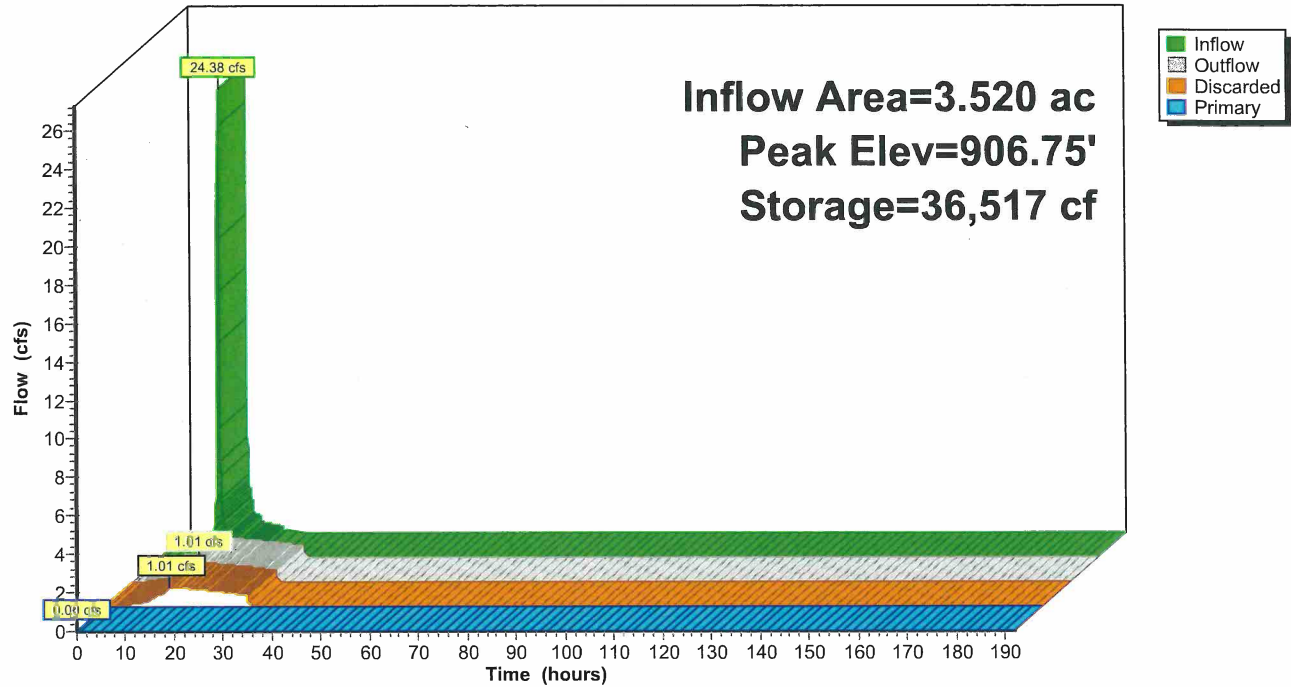
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Pond 2P: West Biofilter

Hydrograph



SIGH20001_South Site

MSE 24-hr 3 100-Year Rainfall=6.38"

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Summary for Pond 3P: East Area

[44] Hint: Outlet device #2 is below defined storage

[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=114)

Inflow Area = 1.823 ac, 42.95% Impervious, Inflow Depth = 4.64" for 100-Year event
 Inflow = 14.11 cfs @ 12.11 hrs, Volume= 0.705 af
 Outflow = 10.32 cfs @ 12.12 hrs, Volume= 0.705 af, Atten= 27%, Lag= 0.3 min
 Discarded = 0.06 cfs @ 12.00 hrs, Volume= 0.007 af
 Primary = 10.27 cfs @ 12.12 hrs, Volume= 0.698 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-192.00 hrs, dt= 0.05 hrs
 Peak Elev= 909.86' @ 12.18 hrs Surf.Area= 4,009 sf Storage= 1,628 cf
 Flood Elev= 910.25' Surf.Area= 2,775 sf Storage= 2,963 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
 Center-of-Mass det. time= 0.9 min (768.1 - 767.2)

Volume	Invert	Avail.Storage	Storage Description
#1	909.50'	2,963 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
909.50	5,126	0	0
910.25	2,775	2,963	2,963

Device	Routing	Invert	Outlet Devices
#1	Primary	905.56'	18.0" Round Culvert L= 450.0' Ke= 0.900 Inlet / Outlet Invert= 905.56' / 903.00' S= 0.0057 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	909.25'	24.0" Horiz. Orifice/Grate X 2.00 C= 0.600 Limited to weir flow at low heads
#3	Discarded	909.50'	0.500 in/hr Exfiltration over Surface area

Discarded OutFlow Max=0.06 cfs @ 12.00 hrs HW=909.53' (Free Discharge)↑ **3=Exfiltration** (Exfiltration Controls 0.06 cfs)**Primary OutFlow** Max=9.57 cfs @ 12.12 hrs HW=909.75' TW=905.13' (Dynamic Tailwater)↑ **1=Culvert** (Outlet Controls 9.57 cfs @ 5.42 fps)↑ **2=Orifice/Grate** (Passes 9.57 cfs of 14.34 cfs potential flow)

SIGH20001_South Site

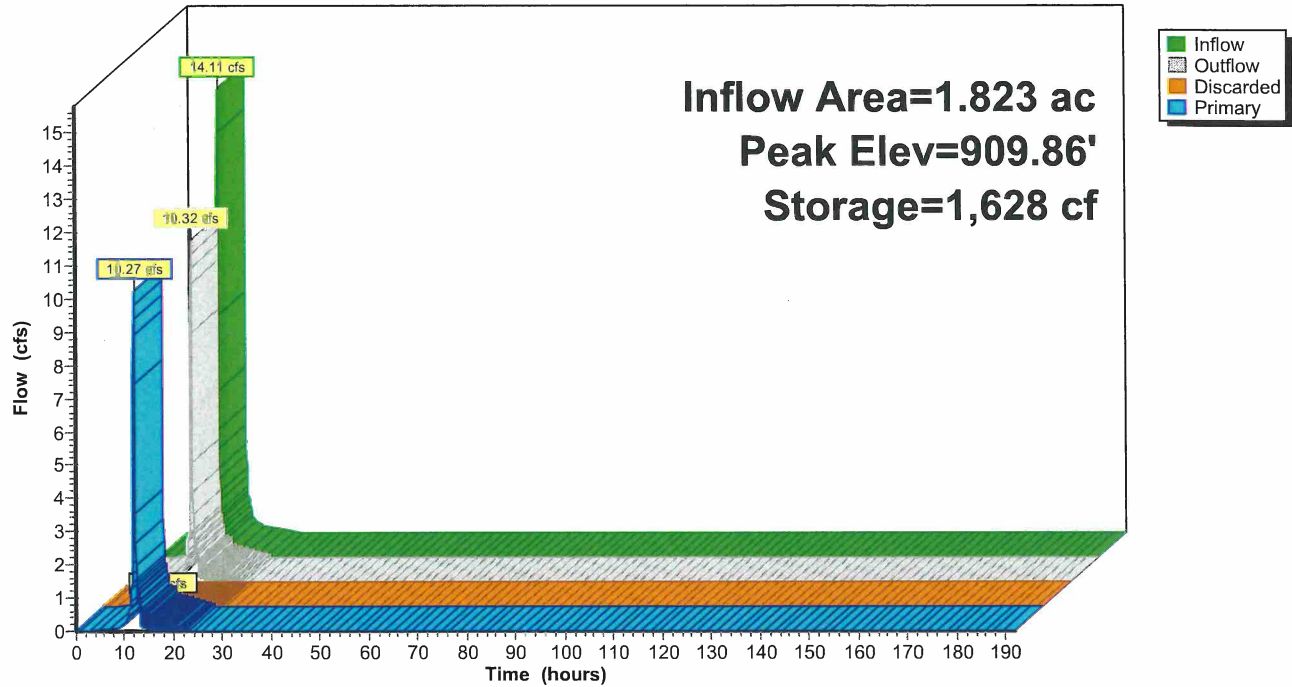
MSE 24-hr 3 100-Year Rainfall=6.38"

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Pond 3P: East Area**Hydrograph**

(Publish – Chippewa Herald – April 27 and April 28, 2021)

CHIPPEWA COUNTY BOARD OF ADJUSTMENT
NOTICE OF PUBLIC HEARING
STATE OF WISCONSIN

PUBLIC NOTICE is hereby given to all persons in the County of Chippewa, Wisconsin, that a public hearing will be held on **May 5, 2021** beginning at **3:30 PM** in Room 016, located in the basement of the Chippewa County Courthouse, Chippewa Falls, Wisconsin, relative to following request:

Variance Petition: #2021-0001

Appellant: SIGH Properties LLC

Agent: Tyler Hastings/CBS Squared

To allow a Building Opening Elevation of a structure to be within 2 feet above the maximum water elevation produced by the 100-year flood per section 12.64(5)c of the Chippewa County Stormwater Ordinance on parcel number 22809-3612-0000000, which is located in the NE ¼ of the NW ¼, Section 36, Township 28 North, Range 09 West. Village of Lake Hallie. Property is currently vacant.

All persons interested are invited to attend, but social distancing and masks will be required. Specific information regarding this hearing can be obtained at the Chippewa County Department of Planning & Zoning.

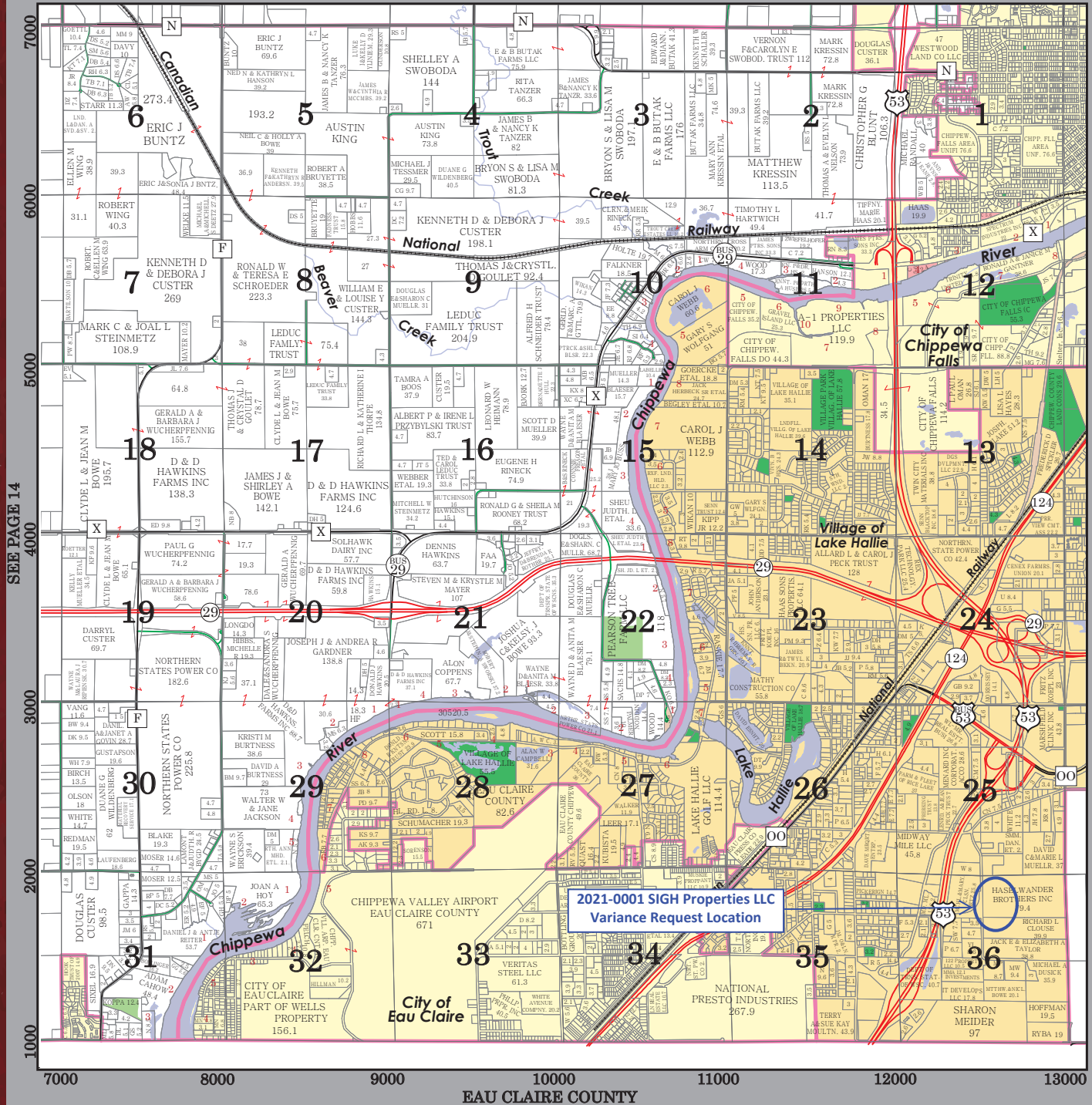
Dated this **22nd** day of **April**, 2021.

Douglas Clary, Director
Department of Planning & Zoning
Chippewa County, Wisconsin

Attachment: 2021-0001 SIGH Properties LLC - Public Hearing Notices & Maps (6347 : 2021-0001 SIGH Properties LLC)



SEE PAGE 28



EAU CLAIRE COUNTY

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All acreages are computed & rounded to the closest tenth acre, roadways are excluded from totals. All mapping is for reference only and is not intended, or to be used for any legal purpose.



LEGENDS Title Services

2225 Brackett Avenue
Eau Claire, WI 54701
Phone: 715-514-5748
legendstitleservice.com

Like any good legend on a map, we can navigate you through a successful real estate transaction.

SEE PAGE 18

CHIPPEWA COUNTY DEPARTMENT OF PLANNING & ZONING

• 711 North Bridge Street, Chippewa Falls, WI 54729 • Phone: 715.726.7940 • Fax: 715.726.4596 • www.co.chippewa.wi.us •

Land Management

Land Planning

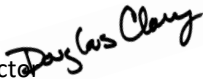
Land Records & G.I.S.

POWTS & Wells

Date: May 3, 2021

To: Property Owner(s)

From: Douglas Clary, Director



Re: Public Meetings & Public Hearing

Dear Property Owner(s):

The Chippewa County Department of Planning & Zoning has received a request for a variance as indicated below. Your property has been determined to be within the legal public hearing notification distance per county and state requirements. I have enclosed a map identifying the location of the parcels associated with this rezone request. If you have any questions regarding this rezone petition, please contact me at (715) 726-7941.

VARIANCE REQUEST: #2021-0001

Appellant: SIGH Properties LLC

Agent: Tyler Hastings/CBS Squared

Parcel Number: 22809-3612-00000000, which is located in the NW ¼ of the NE ¼, Section 36, Township 28 North, Range 09 West. Village of Lake Hallie. Property is currently vacant.

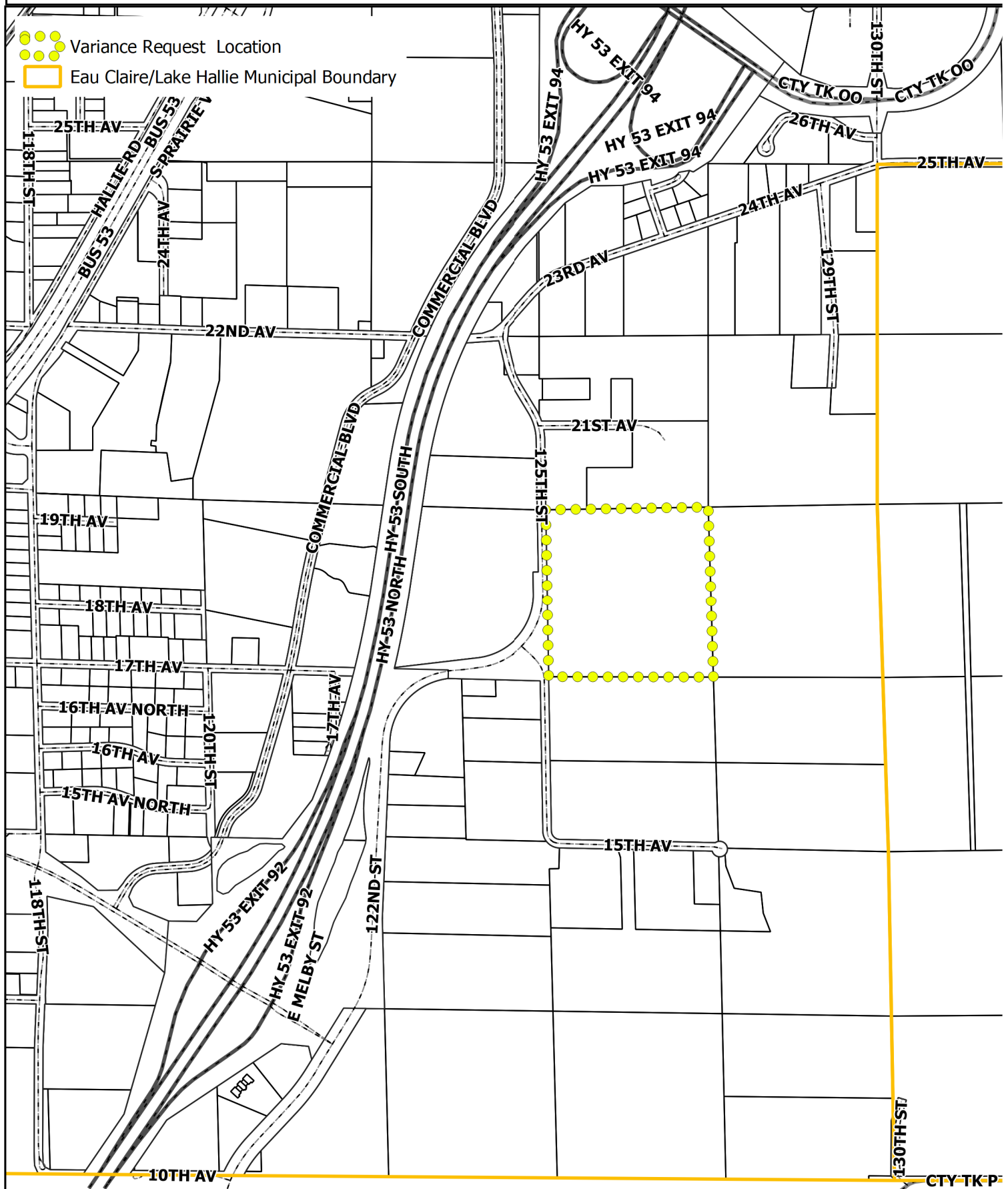
Request: To allow a Building Opening Elevation of a structure to be within 2 feet above the maximum water elevation produced by the 100-year flood per section 12.64(5)c of the Chippewa County Stormwater Ordinance.

Chippewa County Board of Adjustment:

The Chippewa County Board of Adjustment (BOA) will hold a **PUBLIC HEARING** on **May 5, 2021 at 3:30 PM**, in room 016, of the Chippewa County Courthouse located at 711 N. Bridge Street, Chippewa Falls, Wisconsin. The BOA will make a determination to approve or deny the request.

Attachment: 2021-0001 SIGH Properties LLC - Public Hearing Notices & Maps (6347 : 2021-0001 SIGH Properties LLC)

2021-0001 SIGH Properties LLC - Variance Request- Location Map



Attachment: 2021-0001 SIGH Properties LLC - Public Hearing Notices & Maps (6347 : 2021-0001 SIGH Properties LLC)

2021-0001 SIGH Proeprties LLC - Variance Request - Aerial (2020)

 Variance Request Location



Attachment: 2021-0001 SIGH Properties LLC - Public Hearing Notices & Maps (6347 : 2021-0001 SIGH Properties LLC)

VALLEY SPORTS ACADEMY

1855 125TH ST
CHIPPEWA FALLS, WI 54729

NW 1/4 NE 1/4, S36, T28N, R09W, CHIPPEWA COUNTY
CBS SQUARED, INC. PROJECT NO. SIGHP20001

SHEET INDEX

TITLE
T-100 – TITLE SHEET

CIVIL
C-000 – PROJECT LOCATION
C-100 – SITE PLAN
C-101 – EROSION CONTROL PLAN
C-102 – STORM SEWER PLAN
C-103 – PLANTING PLAN
C-200 – CONSTRUCTION DETAILS
C-201 – CONSTRUCTION DETAILS
C-202 – CONSTRUCTION DETAILS

PROJECT DIRECTORY

OWNER
BRIAN SEUBERT
4033 123rd STREET
CHIPPEWA FALLS, WI 54729
(715) 438-6242
CONTACTS: BRIAN SEUBERT (brian.seubert@thesighgroup.com)

CIVIL
CBS SQUARED, INC.
770 TECHNOLOGY WAY
CHIPPEWA FALLS, WI 54729
(715) 861-5226
CONTACTS: CHAD OSTER, PROJECT MANAGER (coster@cbssquaredinc.com)
TYLER HASTINGS, P.E. (thastings@cbssquaredinc.com)
BEN NESJA, TECHNICIAN (bnesja@cbssquaredinc.com)

PROJECT NOTES

GENERAL NOTES

1. TOPSOIL SHALL BE APPLIED TO A DEPTH OF 4 INCHES IN AREAS TO BE SEEDED.
2. TURF ESTABLISHMENT (SEED, FERTILIZER, AND MULCH) SHALL BE COMPLETED WITHIN 7 DAYS AFTER FINAL GRADE HAS BEEN ESTABLISHED. IF DISTURBED AREAS WILL NOT BE RESTORED, TEMPORARY SEEDING SHALL BE PLACED. CONTRACTOR TO FINAL SEED THE FOLLOWING GROWING SEASON.
3. CONTRACTOR TO COORDINATE WITH OWNER ON LOCATION AND PLACEMENT REQUIREMENTS OF EXCESS CUT MATERIAL. ALL MATERIAL MUST REMAIN ON PROPERTY.
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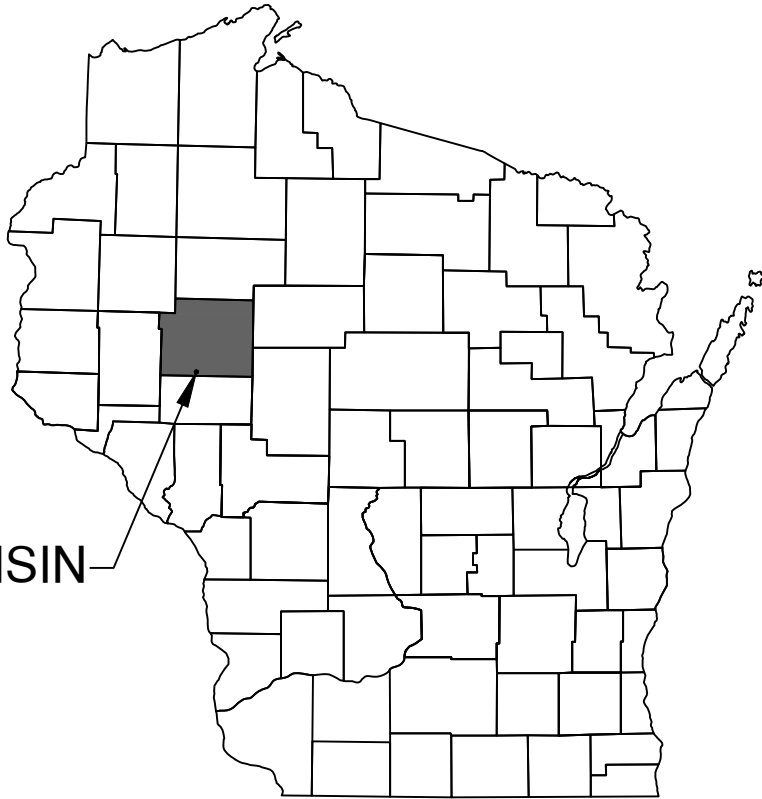
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7. REFER TO WDNR TECHNICAL STANDARD TRACKOUT CONTROL PRACTICES 1057 FOR INSTALLATION, OPERATION AND MAINTENANCE SPECIFICATIONS OF TEMPORARY CONSTRUCTION ENTRANCE

NOTE:

ENTIRETY OF PROJECT TO NOT ENCROACH UPON 75' WETLAND BUFFERS
UNLESS NOTED OR DIRECTED BY ENGINEER.

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CONTRACTOR TO CONTACT ENGINEER FOR MORE INFORMATION.



CHIPPEWA FALLS, WISCONSIN

PROJECT LOCATION
NW 1/4 NE 1/4, S36, T28N, R09W

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Date	Issued for
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LEGEND

- — — — — RIGHT OF WAY
- — — — — PROPERTY LINE
- W — — — — — EXISTING WATER
- SAN — — — — — EXISTING SANITARY
- G — — — — — EXISTING GAS LINE
- E — — — — — EXISTING ELECTRICAL LINE
- OH — — — — — EXISTING OVERHEAD UTILITY
- SS — — — — — EXISTING STORM SEWER
- W — — — — — PROPOSED WATER MAIN
- G — — — — — PROPOSED GAS MAIN
- SAN — — — — — PROPOSED SANITARY LINE
- — — — — PROPOSED STORM SEWER

NOTE:
CONTRACTOR TO VERIFY EXISTING TOPOGRAPHY AND EXISTING UTILITY LOCATIONS. CONTRACTOR TO CONTACT ENGINEER TO RESOLVE ANY DISCREPANCIES.

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* SEE WIDOT SDD 16A1-6 FOR MONUMENT INSTALLATION AND SPECIFICATIONS (LENGTH TO BE 8.0' MIN)
** COORDINATES AND ELEVATIONS TO BE UPDATED AND DOCUMENTED UPON INSTALLATION

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APPROXIMATE MAPPED WETLAND BOUNDARY DETERMINED FROM SURFACE WATER VIEWER

REFERENCE MONUMENT FOR STORMWATER FACILITIES*
Y = 105102.948
X = 165089.071
Z = 908.07**

UTILITY EASEMENT TO BE RECORDED UPON COMPLETION

UPLAND AREA PER OFFSITE AERIAL REVIEW** (JANUARY 2021)
75' WET SIGNATURE BUFFER (TYP)

APPROXIMATE WELL HOUSE LOCATION

APPROXIMATE WELL HOUSE LOCATION

APPROXIMATE WATER RESERVOIR LOCATION

0 80 160

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VALLEY SPORTS ACADEMY

CHIPPEWA FALLS, WI
SITE PLAN
Attachment: Valley Sports Academy Site & Stormwater Plans_03-24-21 (6347 : 2021-0001 SIGH Properties LLC)

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BTN

Drawn by:

BTN

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LEGEND

- RIGHT OF WAY
- PROPERTY LINE
- EXISTING WATER
- EXISTING SANITARY
- EXISTING GAS LINE
- EXISTING ELECTRICAL LINE
- EXISTING OVERHEAD UTILITY
- EXISTING STORM SEWER
- PROPOSED WATER MAIN
- PROPOSED GAS MAIN
- PROPOSED SANITARY LINE
- PROPOSED STORM SEWER
- PROPOSED SILT FENCE
- RIPRAP, MEDIUM
- INLET PROTECTION
- SEDIMENT LOG

TEMPORARY CONSTRUCTION ENTRANCE
REFER TO WDNR TECHNICAL STANDARD TRACKOUT
CONTROL PRACTICES 1057 TABLE 1 FOR STONE SELECTION.

E-MAT, WisDOT URBAN TYPE B

NOTE:
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* DO NOT EXCAVATE BEYOND FINAL GRADE UNTIL ALL SOILS HAVE BEEN CONSIDERED STABILIZED/ ESTABLISHED BY ENGINEER.

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APPROXIMATE MAPPED
WETLAND BOUNDARY
DETERMINED FROM
SURFACE WATER VIEWER

APPROXIMATE WELL HOUSE LOCATION

APPROXIMATE WELL HOUSE LOCATION

APPROXIMATE WATER
RESERVOIR LOCATION

0 80 160

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WETLAND SIGNATURES PER
OFFSITE AERIAL REVIEW**
(JANUARY 2021)

75' WET SIGNATURE
BUFFER (TYP)

WETLAND SIGNATURES PER
OFFSITE AERIAL REVIEW**
(JANUARY 2021)

UPLAND AREA PER
OFFSITE AERIAL REVIEW**
(JANUARY 2021)

C&G TO BE INSTALLED AFTER WETLAND
DELINEATION HAS BEEN COMPLETED

30' WIDE CONSTRUCTION MATTING TO
MINIMIZE ANY WETLAND DISTURBANCE
WITHIN 75' BUFFER ZONE

CONTRACTOR TO CONVEY ROOF DOWNSPOUT WATER TO
RIPRAP DISCHARGE LOCATION VIA ABOVE GROUND PIPING

APPROXIMATE SOURCE WATER
PROTECTION AREA BOUNDARY
DETERMINED FROM SURFACE
WATER VIEWER

OVER-EXCAVATE TO 899 & BACK FILL WITH
SAND TO 903 (SEE DETAIL)*

E-MAT SLOPES $\geq$ 3:1 AS SOON
AS WEATHER PERMITS

FLOW USED IN SOIL
LOSS CALCULATOR

PROPOSED BUILDING
220'x300'
FF: 910.25

PROJECT LIMITS

2' TALL BERM

E-MAT SLOPES $\geq$ 3:1 AS SOON
AS WEATHER PERMITS

SEDIMENT LOG (TYP)

PROJECT LIMITS

UPLAND AREA PER
OFFSITE AERIAL REVIEW**
(JANUARY 2021)

30' WIDE CONSTRUCTION MATTING TO
MINIMIZE ANY WETLAND DISTURBANCE
WITHIN 75' BUFFER ZONE

SILT FENCE (TYP)

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VALLEY SPORTS ACADEMY

CHIPPEWA FALLS, WI
STORM SEWER PLAN

Attachment: Valley Sports Academy Site & Stormwater Plans_03-24-21 (6347 : 2021-0001 SIGH Properties LLC)

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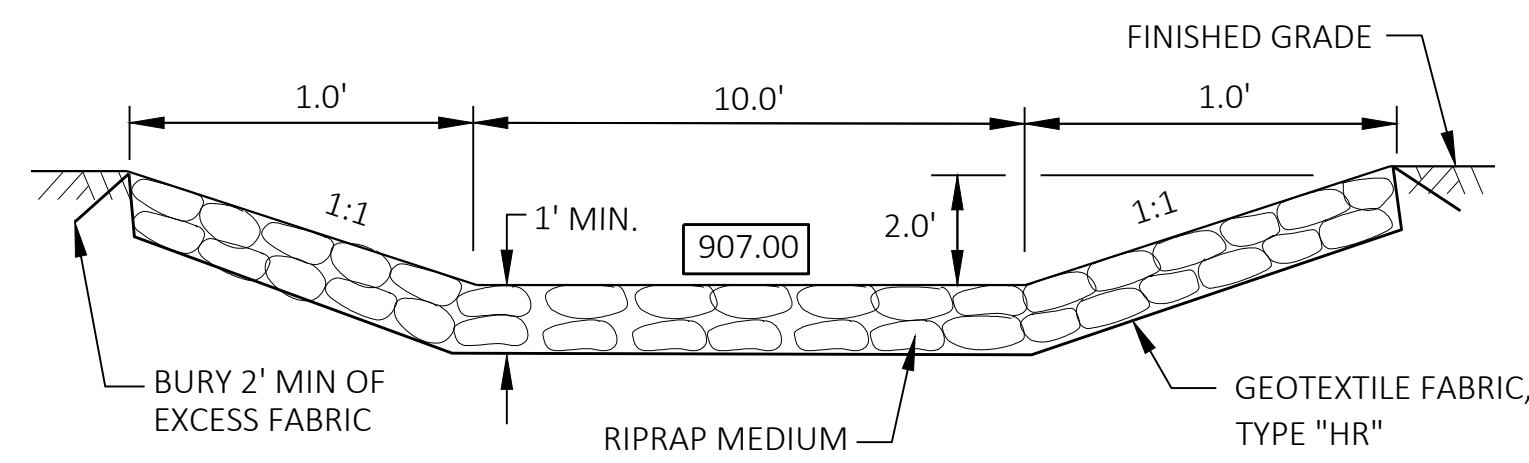
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LEGEND

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|---|---------------------------|
|  | RIGHT OF WAY |
|  | PROPERTY LINE |
|  | EXISTING WATER |
|  | EXISTING SANITARY |
|  | EXISTING GAS LINE |
|  | EXISTING ELECTRICAL LINE |
|  | EXISTING OVERHEAD UTILITY |
|  | EXISTING STORM SEWER |
|  | PROPOSED WATER MAIN |
|  | PROPOSED GAS MAIN |
|  | PROPOSED SANITARY LINE |
|  | PROPOSED STORM SEWER |
|  | RIPRAP, MEDIUM |

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OVERFLOW WEIR

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STORM SEWER STRUCTURE TABLE					
STRUCTURE ID	DESCRIPTION	RIM ELEV	PIPE INVERTS	RIM TO INVERT	COMMENTS
101	CB 4-FT, CONC, TYPE C	908.25	P-100 (30") INV = 903.45 P-101 (12") INV = 904.44 P-104 (18") INV = 903.94 P-102 (18") INV = 903.94	4.81	
102	CB 2.5-FT, PVC, H-20	908.25	P-101 (12") INV = 904.79	3.47	
103	CB 4-FT, CONC, TYPE H-S	908.60	P-102 (18") INV = 904.72 P-103 (12") INV = 905.21 P-103a (12") INV = 905.21	3.88	
104	CB 2.5-FT, PVC, TYPE H	908.71	P-103 (12") INV = 905.52	3.19	
105	CB 2.5-FT, PVC, H-20	910.00	P-104 (18") INV = 905.35 P-105 (18") INV = 905.35 P-106 (12") INV = 905.35	4.65	
106	CB 2.5-FT, PVC, DOME	909.27	P-105 (18") INV = 905.93	3.34	
107	CB 2.5-FT, PVC, DOME	909.28	P-106 (12") INV = 905.98	3.30	

STORM SEWER PIPE SCHEDULE							
PIPE ID	DIAMETER	UP INVERT	DOWN INVERT	LENGTH (FT)	SLOPE	MATERIAL	COMMENT
P-100	30"	903.45	903.03	84	0.50%	CLASS III	
P-101	12"	904.79	904.44	70	0.50%	CLASS III	
P-102	18"	904.72	903.94	155	0.50%	CLASS III	
P-103	12"	905.52	905.21	30	1.00%	CLASS III	
P-103a	12"	905.59	905.21	75	0.50%	CLASS III	
P-104	18"	905.35	903.94	312	0.45%	CLASS III	
P-105	18"	905.93	905.35	131	0.45%	CLASS III	
P-106	12"	905.98	905.35	139	0.46%	CLASS III	

NOTE: LENGTHS GIVEN ARE STRUCTURE CENTER TO STRUCTURE CENTER. LENGTHS DO NOT INCLUDE APRON ENDWALL

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LEGEND

- RIGHT OF WAY
— PROPERTY LINE
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— PROPOSED STORM SEWER
— RIPRAP, MEDIUM

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PLANTING LEGEND:

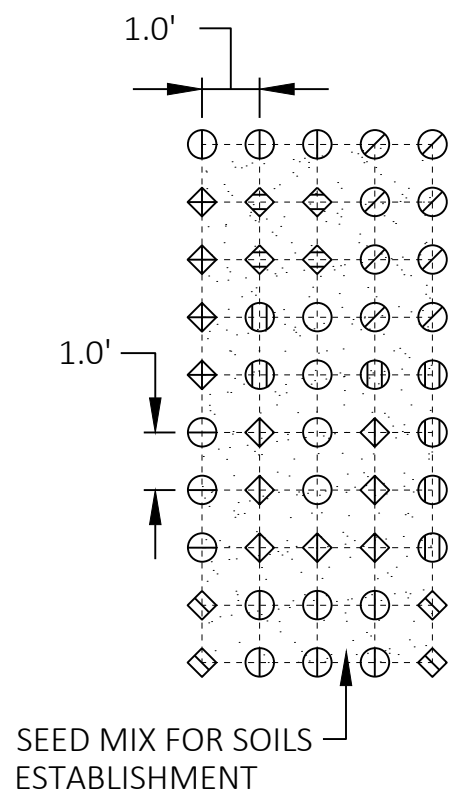
- GRASSES:
- | | | |
|---|----------------------------------|--------------------|
| ⊙ | LITTLE BLUE STEM "CAROUSEL" | HEIGHT:
16"-20" |
| ⊖ | PRAIRIE DROP SEED | 24"-36" |
| ⊕ | BLUE ARROW RUSH | 30"-36" |
| ⊗ | SMOKE SIGNAL LITTLE BLUE STEM | 36"-48" |
| ○ | KARL FORESTER FEATHER REED GRASS | 48"-60" |
- FORBS:
- | | | |
|---|----------------------------------|---------|
| ⬠ | LITTLE GOLDSTAR BLACK EYED SUSAN | 15"-18" |
| ⬡ | WOOD PURPLE ASTER | 12"-16" |
| ⬢ | KISMET INTENSE YELLOW CONEFLOWER | 14"-18" |
| ⬣ | KISMET INTENSE ORANGE CONEFLOWER | 14"-18" |

NOTE: GRASSES AND FORBS ARE TO BE 4" PLUGS

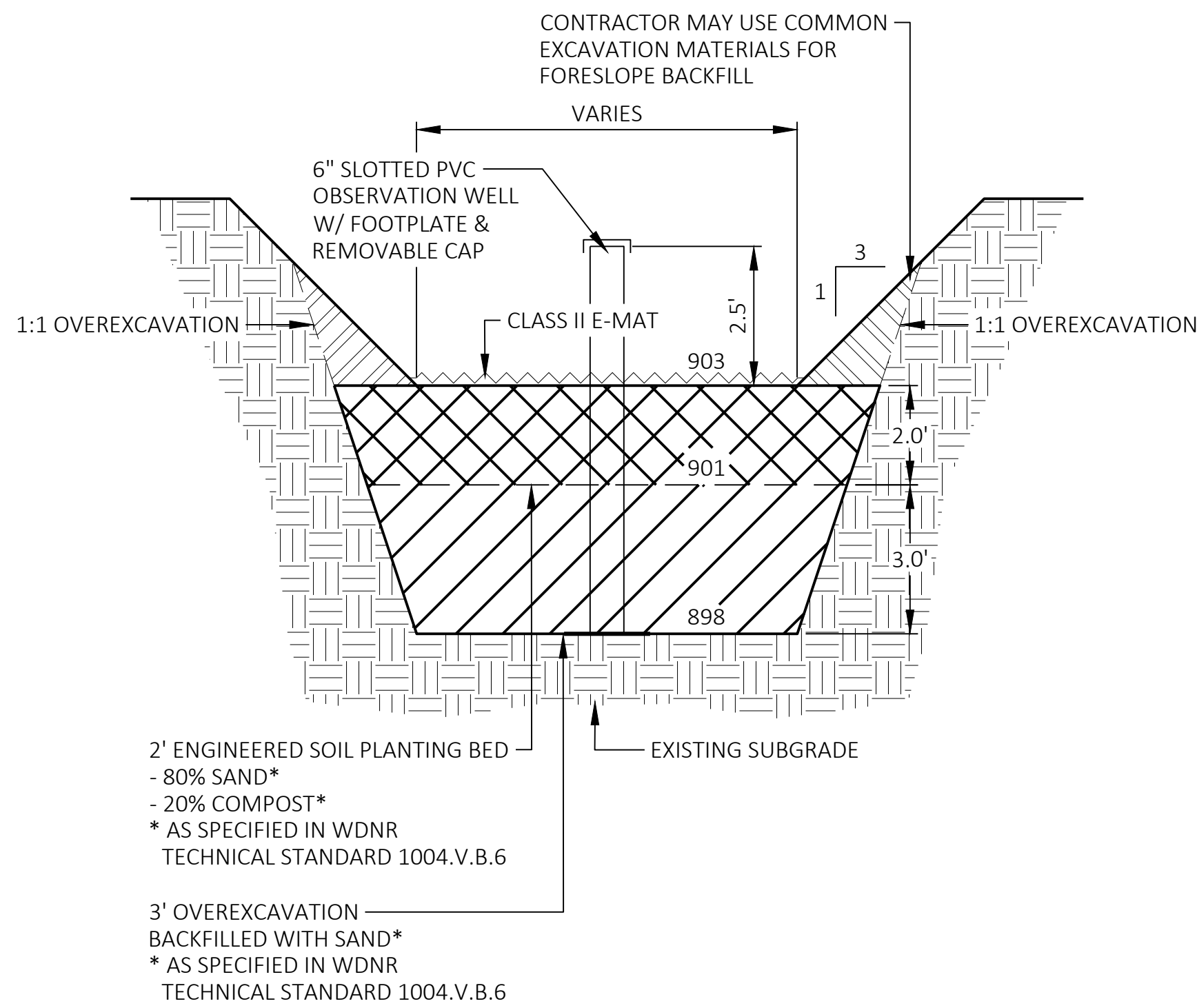
SEED SOURCE: PRAIRIE MOON NURSERY (OR APPROVED EQUAL)

- LOW-GROWING PRAIRIE FOR CLAY SOILS
- | | |
|---------------|--|
| SOIL MOISTURE | MEDIUM |
| SUN EXPOSURE | FULL SUN |
| HEIGHT | 12"-48" |
| SEEDING RATE | 10 LBS PER ACRE OR 1/4 LB PER 1000 SQ FT |

- PLANTING SCHEDULE IS AS FOLLOWS:
1. SEED DETENTION AREAS WITH APPROVED SEED MIX
 2. PLACE CLASS II E-MAT
 3. PLANT PLUGS AS NOTED INTO GID

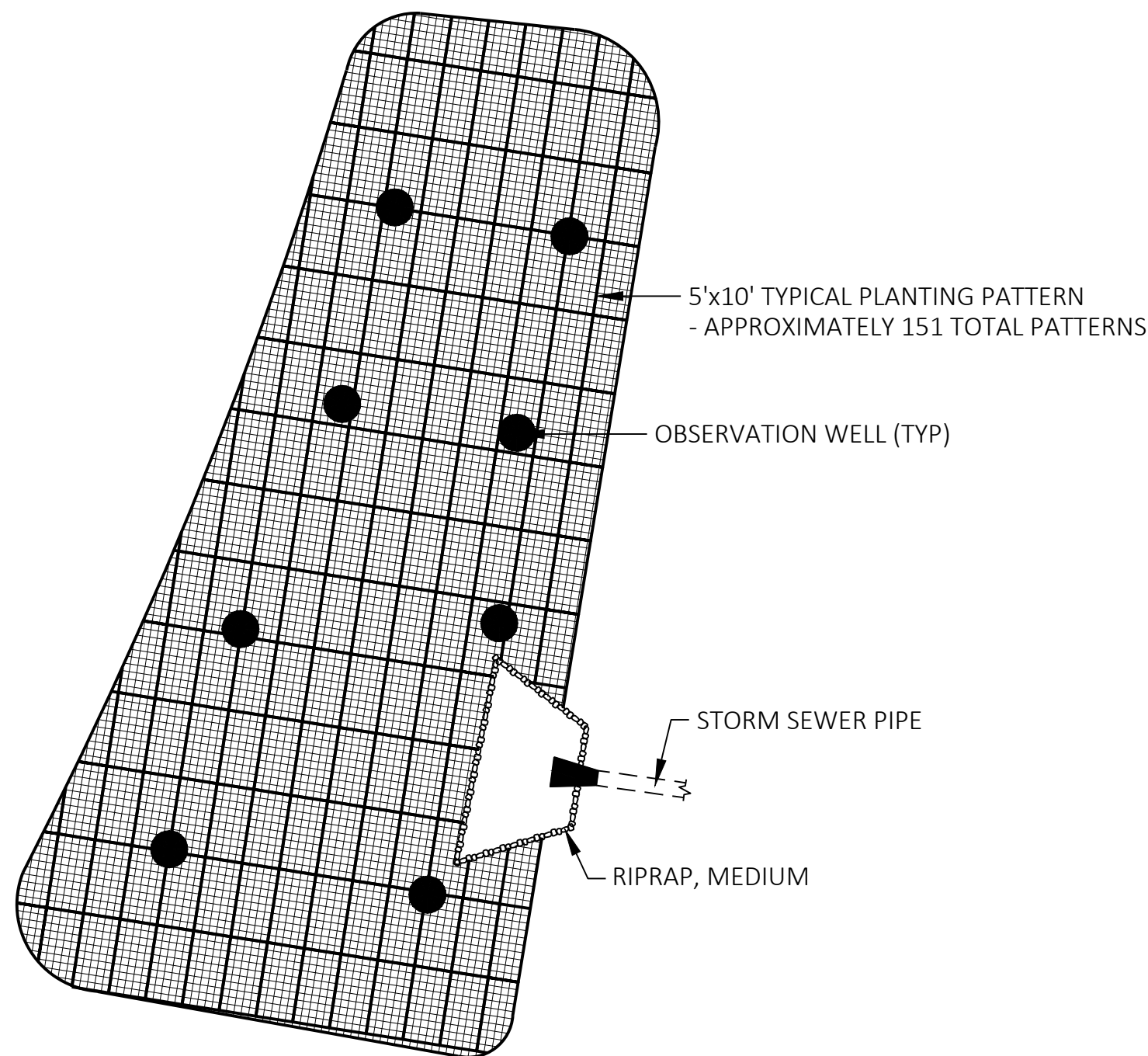


TYPICAL PLANTING PATTERN

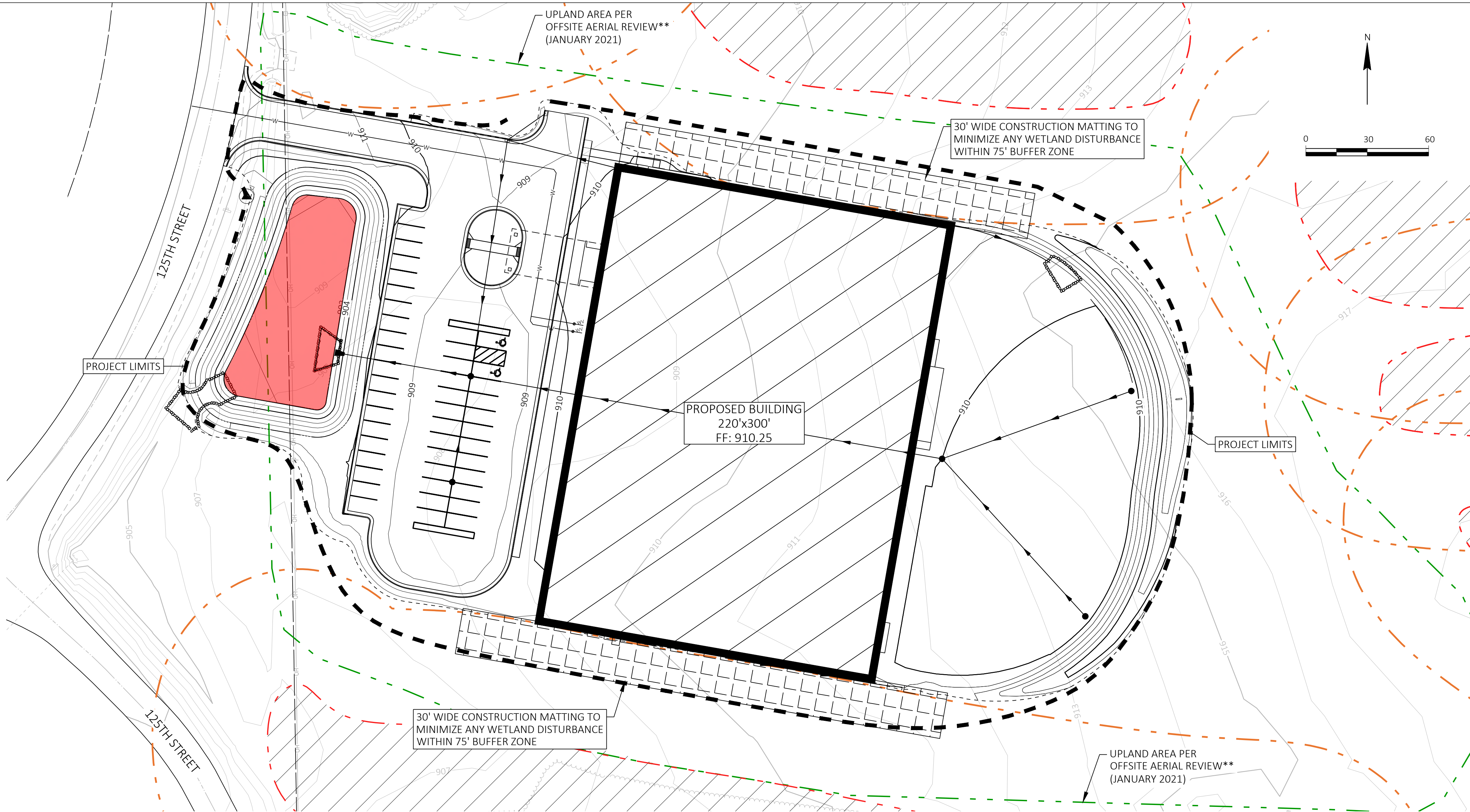


SECTION

BIO-FILTER



PLAN



VALLEY SPORTS ACADEMY

CHIPPEWA FALLS, WI
PLANTING PLAN
Attachment: Valley Sports Academy Site & Stormwater Plans_03-24-21 (6347 : 2021-0001 SIGH Properties LLC)

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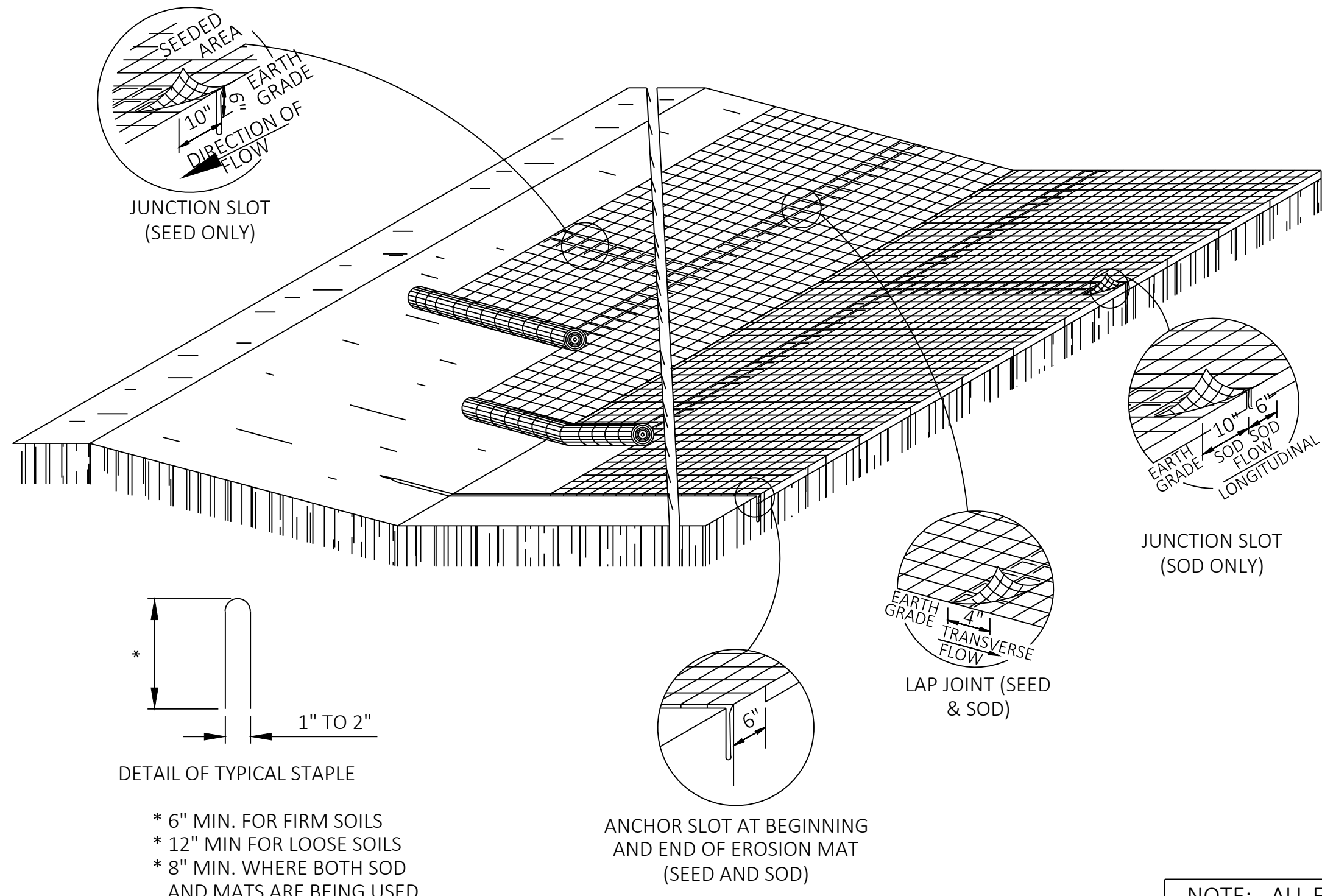
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NOTE: ALL E-MAT TO BE WisDOT URBAN TYPE B

REFER TO WDNR TECHNICAL STANDARD
NON-CHANNEL EROSION MAT 1052
FOR INSTALLATION, OPERATION AND
MAINTENANCE SPECIFICATIONS

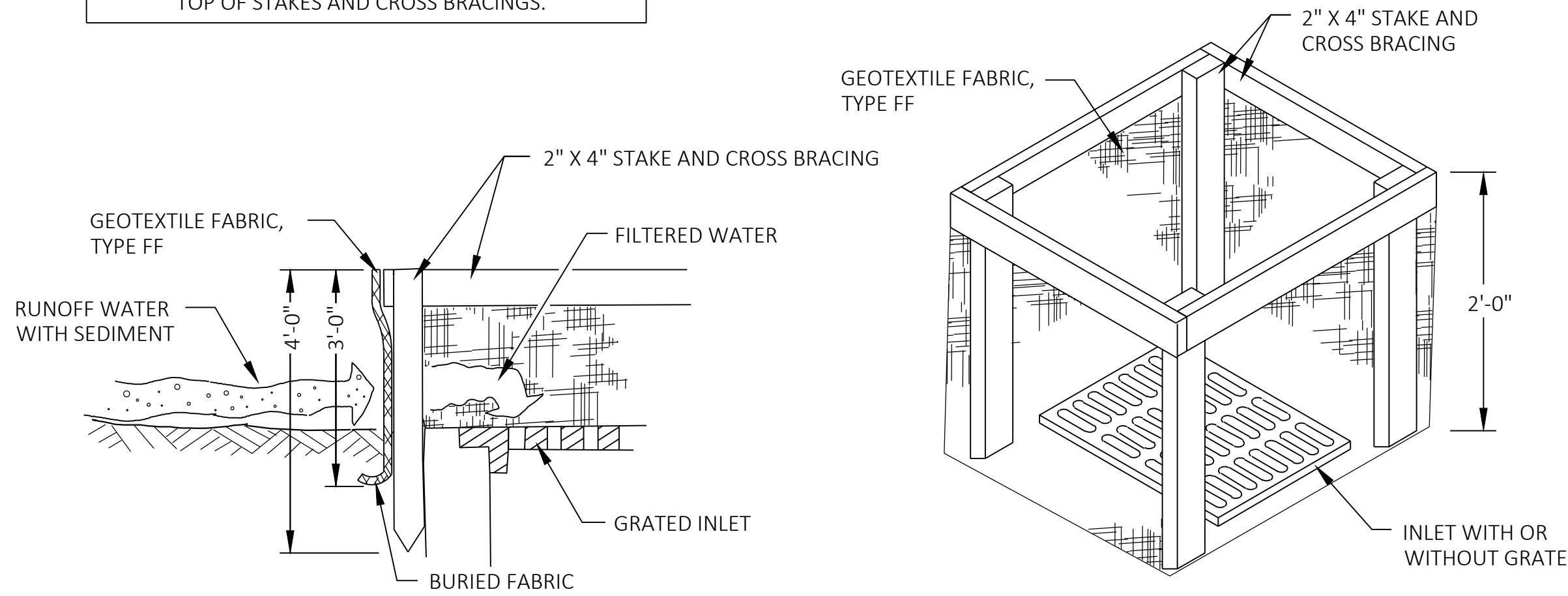
EROSION MAT

EROSION CONTROL

- GENERAL NOTES: DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL SPECIFICATIONS.
- GENERAL NOTES: VARIATIONS IN THE DIMENSIONS OF MATERIALS SHOWN HEREON SHALL BE PERMITTED IF THEY PROVIDE EQUIVALENT PROTECTION AND MATERIAL STRENGTH AND IF PRIOR APPROVAL OF THE ENGINEER IS OBTAINED.
LAP JOINTS SHALL NOT BE PLACED IN THE BOTTOM OF V-SHAPED DITCHES.
JUNCTION SLOTS ON ADJACENT STRIPS OF MATTING SHALL BE STAGGERED A MINIMUM OF 4 FEET APART.
EDGES OF THE EROSION MAT SHALL BE IMPRESSED IN THE SOIL.
- EROSION MAT OVER SOD: A: ONLY JUTE FABRIC WILL BE PERMITTED OVER SOD.
B: ROAD STAKES FOR THE SOD MAY BE OMITTED BY THE ENGINEER IF THE EXISTING SLOPE AND SOIL CONDITIONS SO WARRANT.
C: THE WIDTH OF EROSION MAT SHALL ALWAYS EQUAL THE SOD WIDTH.
D: SOD STRIPS MAY BE PLACED EITHER LONGITUDINALLY OR TRANSVERSELY TO THE FLOW LINE OF THE DITCH.
- EROSION MAT OVER SEEDING: JUNCTION OR ANCHOR SLOTS SHALL BE AT MINIMUM INTERVALS OF 100 FEET ON GRADES UP TO AND INCLUDING 3 PERCENT, AND 50 FEET ON GRADES EXCEEDING 3 PERCENT.
- ROADWAY CLEANING: SWEEPING OF ROAD MUST BE DONE AT A MINIMUM OF ONCE A DAY OR MORE TO REMOVE ALL SEDIMENTS FROM THE ROADWAYS AS NEEDED.

NOTE: REFER TO WDNR TECHNICAL STANDARD
STORM DRAIN INLET PROTECTION FOR
CONSTRUCTION SITES 1060
FOR INSTALLATION, OPERATION AND
MAINTENANCE SPECIFICATIONS

NOTE: ATTACH GEOTEXTILE FABRIC, TYPE FF TO THE
TOP OF STAKES AND CROSS BRACINGS.

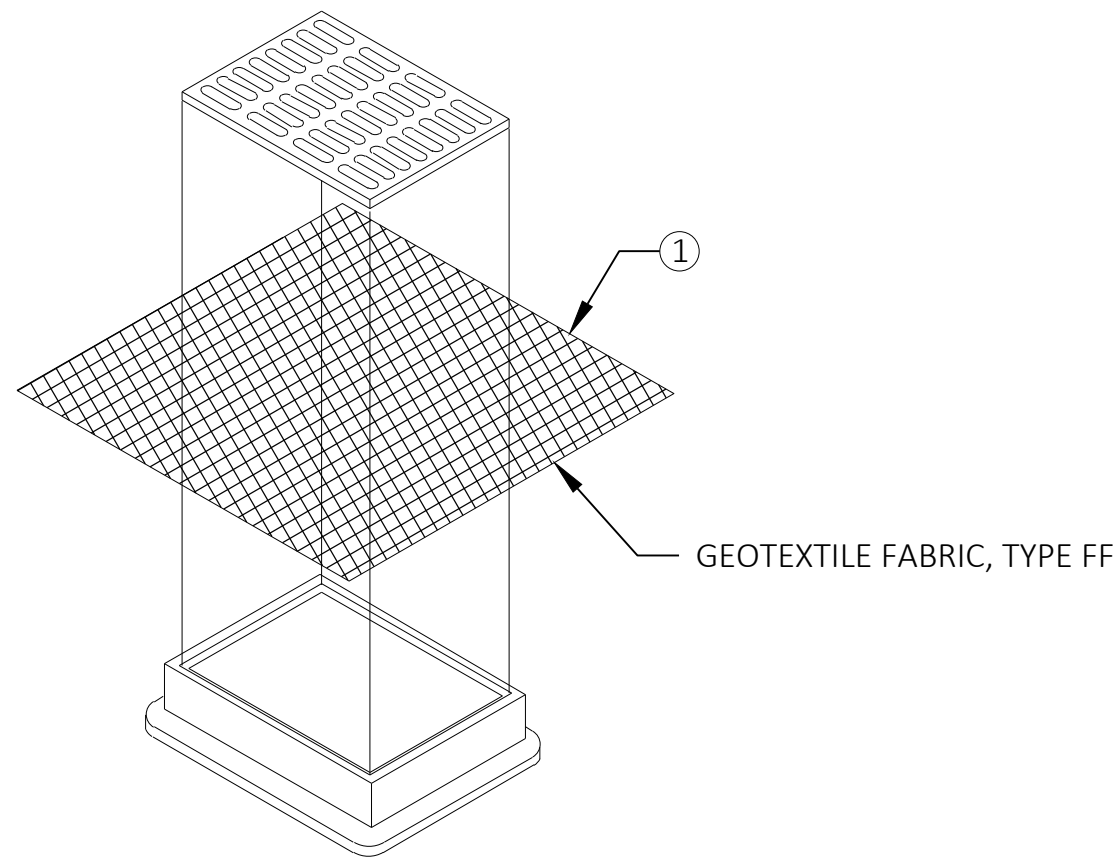


INLET PROTECTION, TYPE A

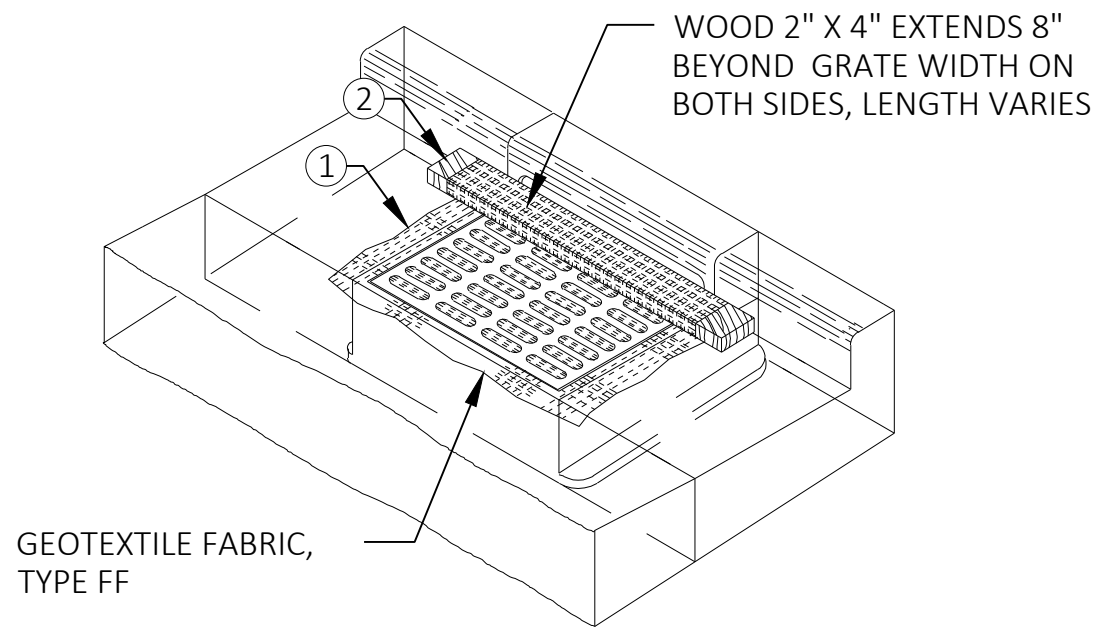
GENERAL NOTES:

FABRIC SHALL BE REPLACED AT THE ENGINEERS DISCRETION. MANUFACTURED ALTERNATIVES APPROVED AND LISTED ON THE DEPARTMENT'S EROSION CONTROL PRODUCT ACCEPTABILITY LIST MAY BE SUBSTITUTED FOR THE INLET PROTECTION TYPE SPECIFIED. 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.

- FABRIC SIZE SHALL BE 8" (MIN) GREATER ON ALL SIDES OF THE INLET COVER TO PROVIDE A HAND HOLD WHEN MAINTENANCE OR REMOVAL IS REQUIRED.
- FOR INLET PROTECTION, TYPE C, WITH A 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.



INLET PROTECTION, TYPE B (W/O CURB BOX)
(CAN BE INSTALLED ON ANY INLET TYPE)



INLET PROTECTION, TYPE C (W/ CURB BOX)

INLET PROTECTION

Issue:	
Date	Issued for
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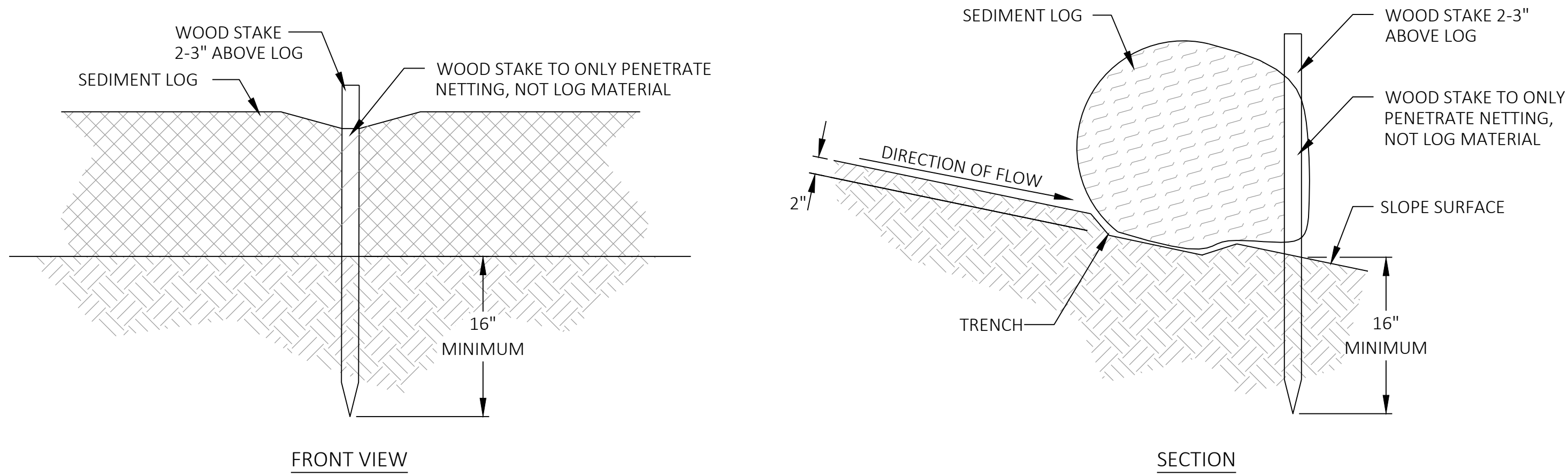
Revisions:		
Mark	Date	Issued as
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Designed by:
BTN
Drawn by:
BTN
Project Number:
SIGHP20001

Sheet Number:

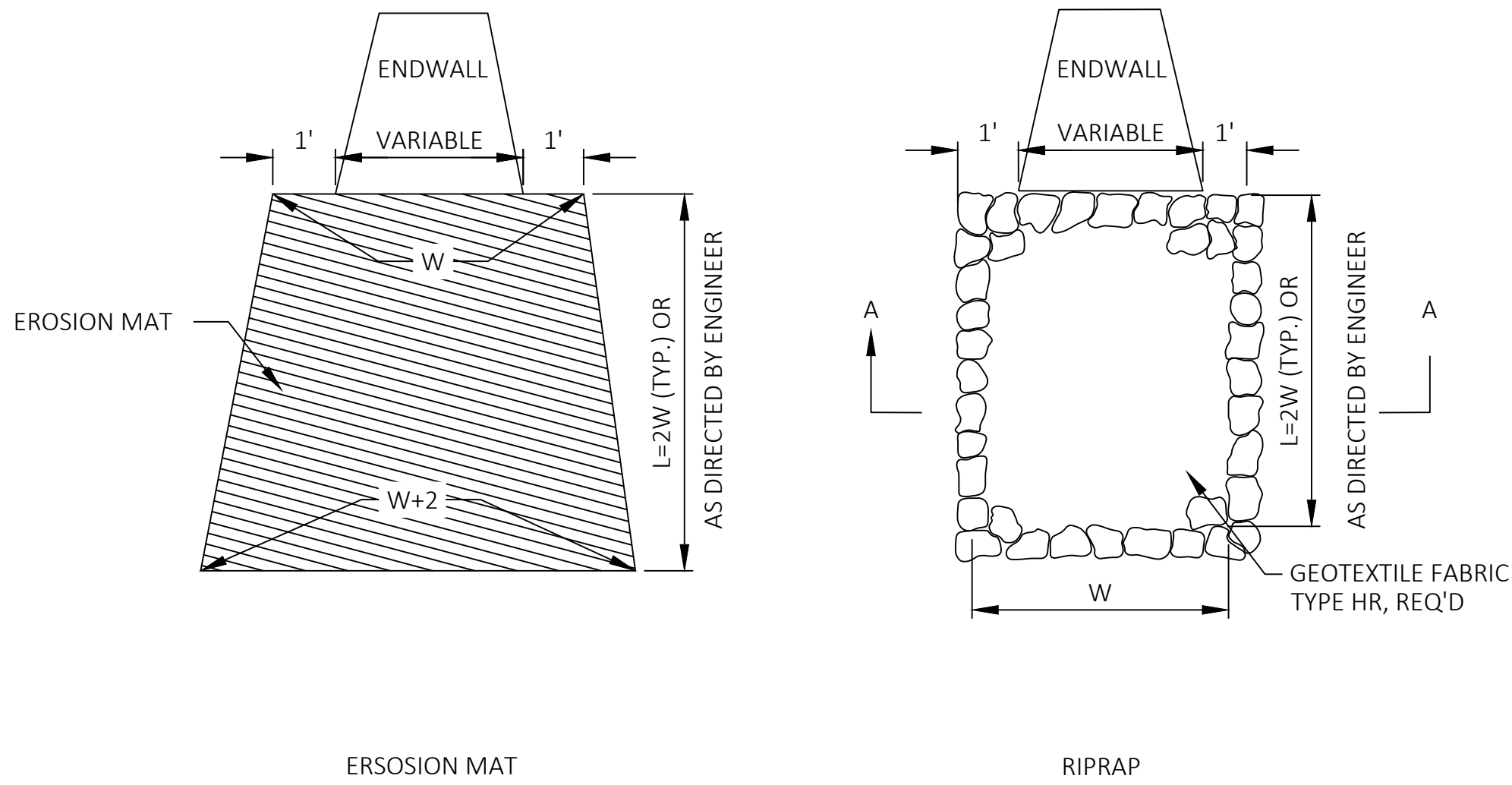
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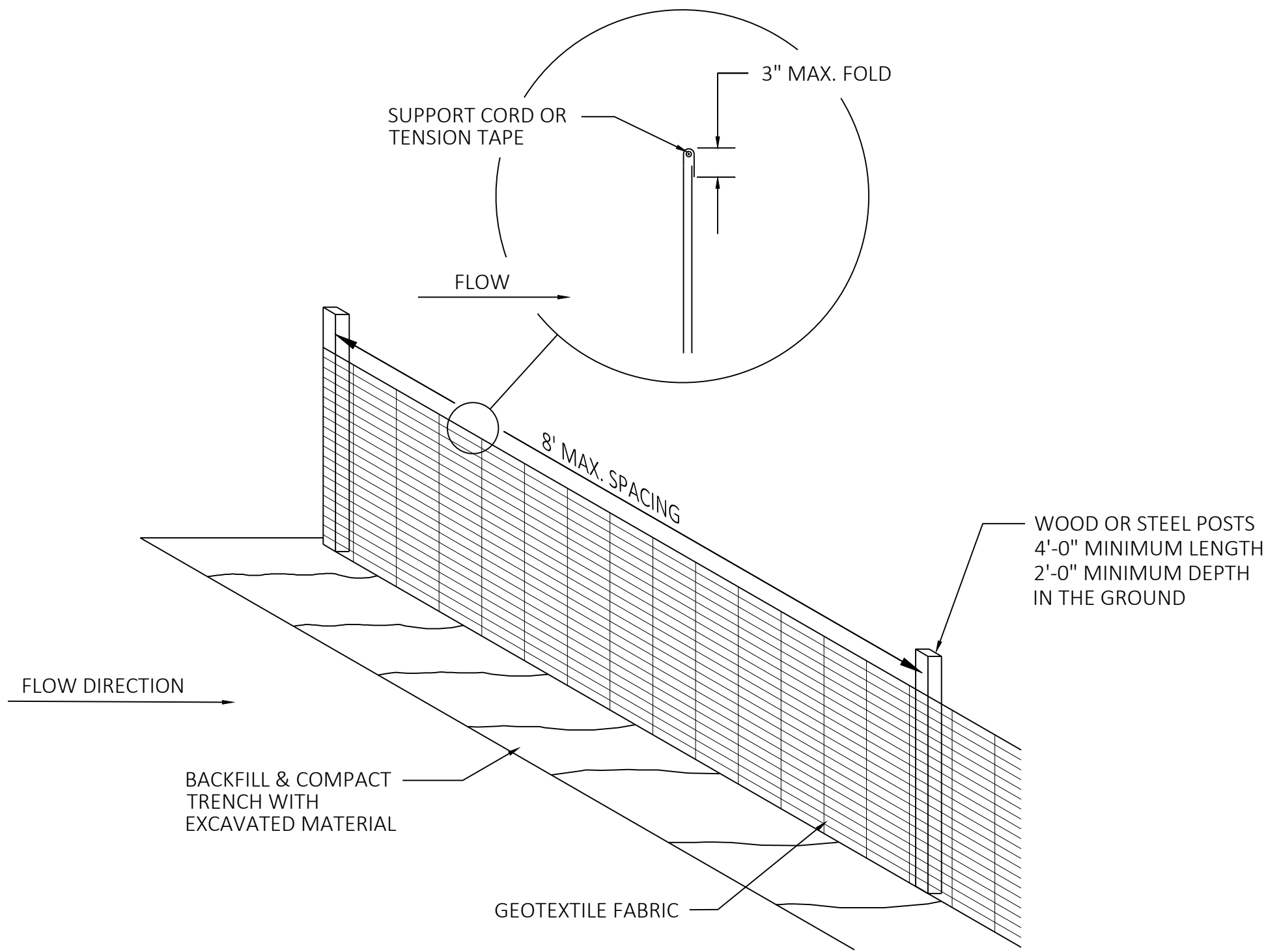


NOTE: REFER TO WDNR TECHNICAL STANDARD
CHECK 1062 FOR INSTALLATION, OPERATION
AND MAINTENANCE SPECIFICATIONS

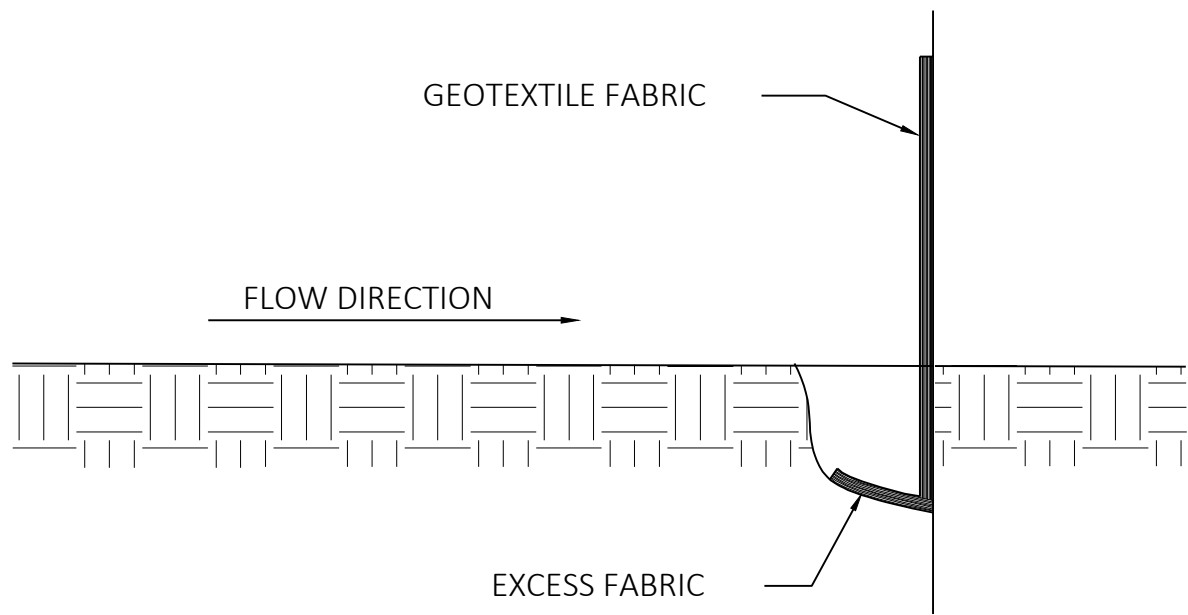
SEDIMENT LOG



EROSION MAT AND RIPRAP TREATMENT AT CULVERTS

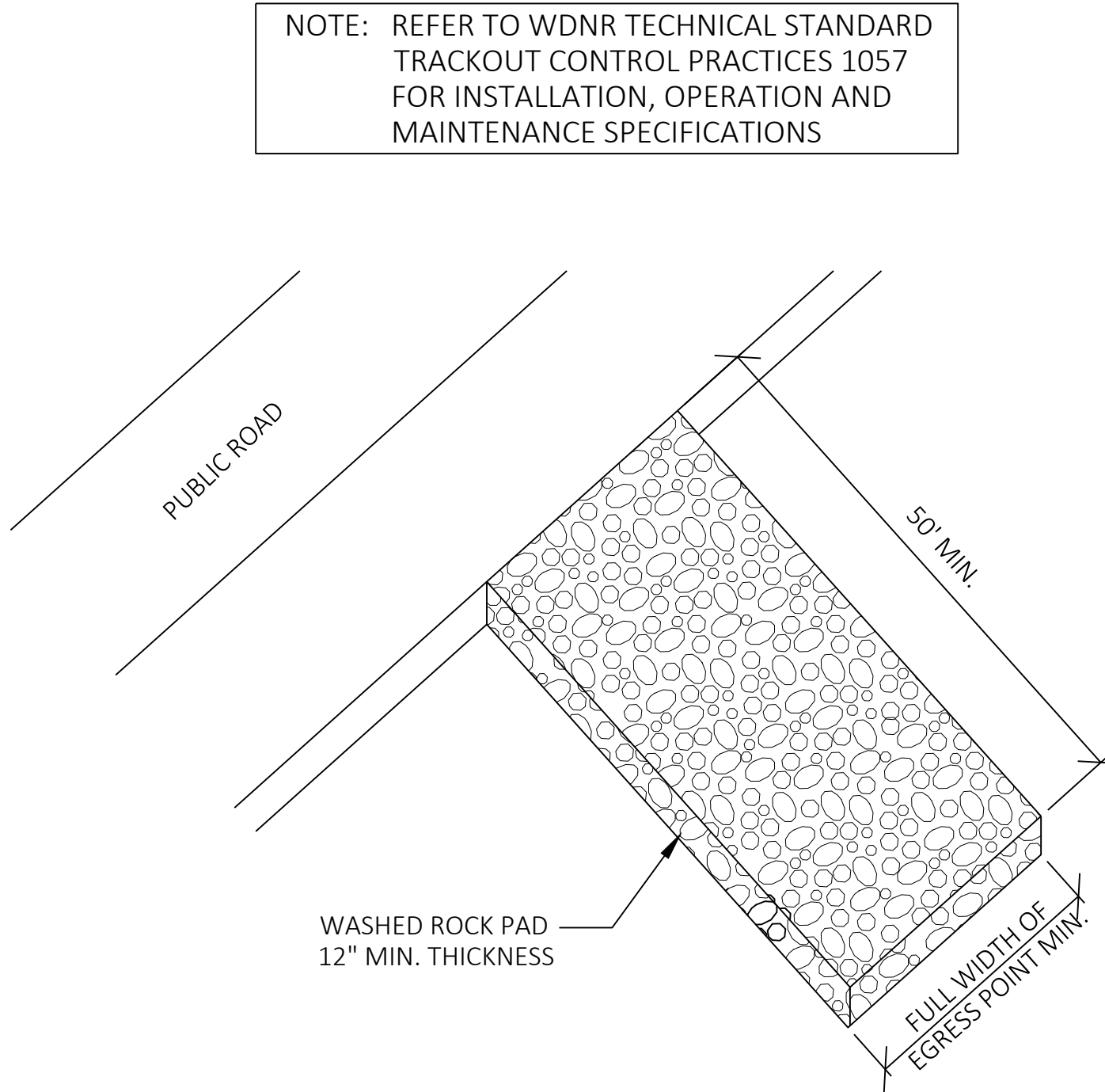


NOTE: REFER TO WDNR TECHNICAL STANDARD
SILT FENCE 1056
FOR INSTALLATION, OPERATION AND
MAINTENANCE SPECIFICATIONS



NOTE:
ADDITIONAL POST DEPTH OR TIE BACKS
MAY BE REQUIRED IN UNSTABLE SOILS.

SILT FENCE



- NOTES:
1. CONSTRUCT TRACKING PAD PRIOR TO THE COMMENCEMENT OF GRADING OPERATIONS.
 2. INSTALL FILTER FABRIC UNDER ROCK TO STOP MUD MIGRATION THROUGH MATERIAL.
 3. INSTALL ADDITIONAL ROCK OR REMOVE AND REPLACE PAD AS NECESSARY TO MAINTAIN A CLEAN AND SAFE ROADWAY SURFACE.
 4. REMOVE TRACKING PAD PRIOR TO THE PLACEMENT OF BITUMINOUS PAVEMENT.
 5. REFER TO WDNR TECHNICAL STANDARD TRACKOUT CONTROL PRACTICES 1057 TABLE 1 FOR STONE SELECTION.

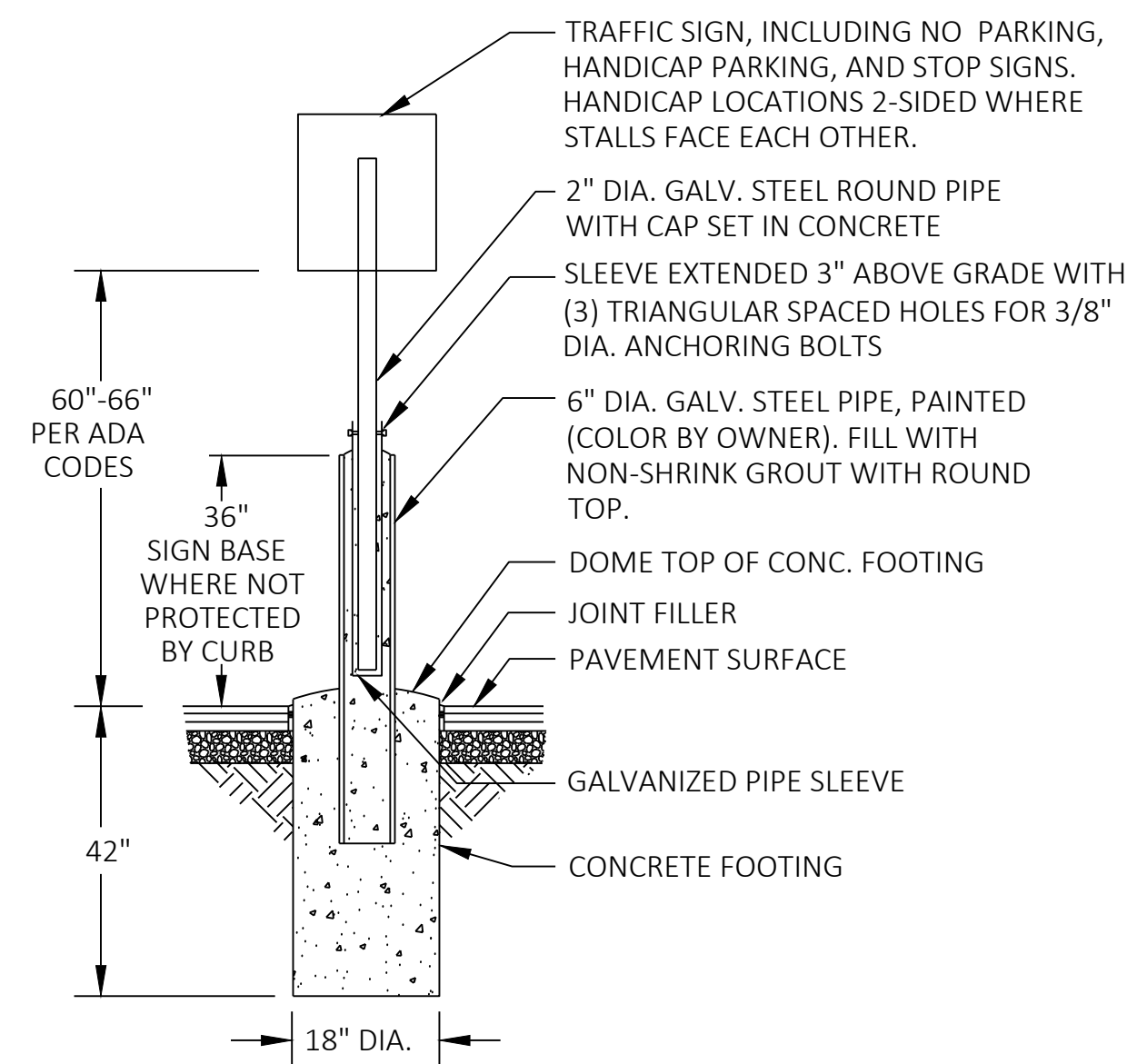
TEMPORARY TRACKING PAD

Issue:	
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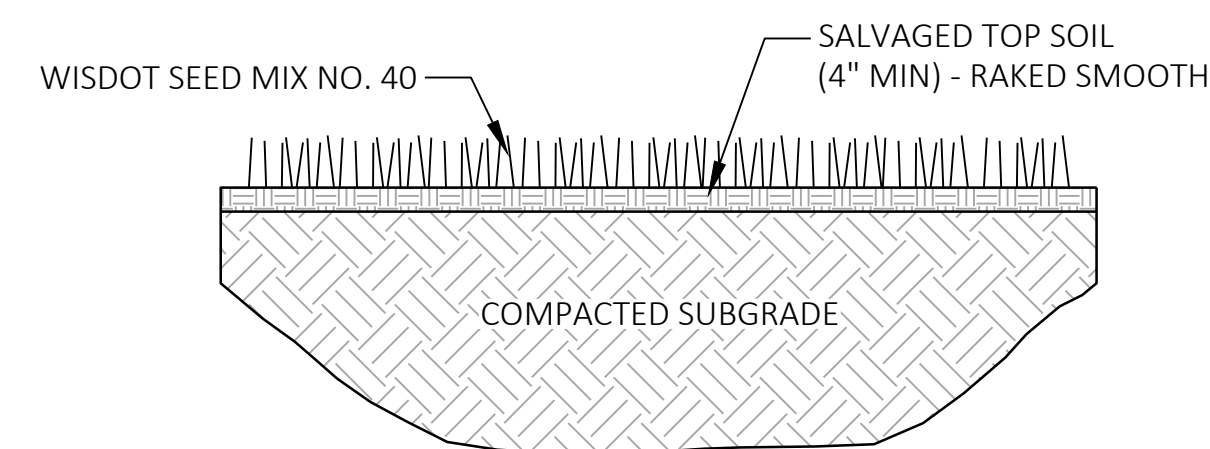
Revisions:		
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Designed by:
BTN
Drawn by:
BTN
Project Number:
SIGHP20001

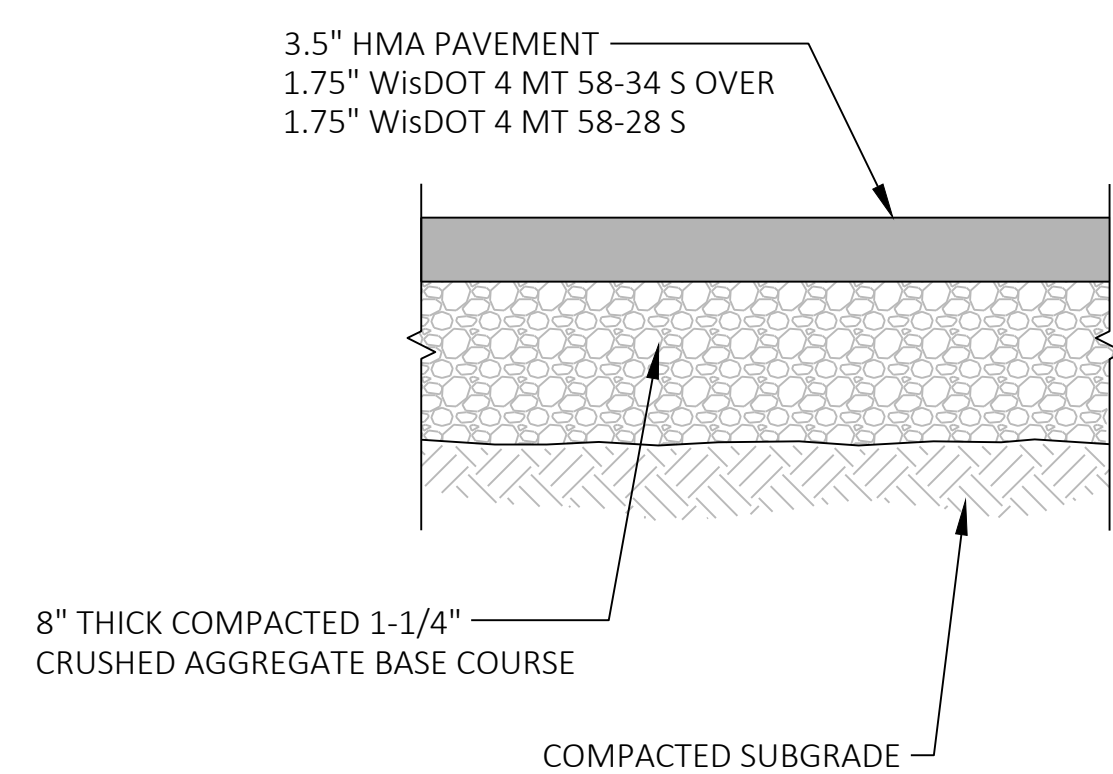
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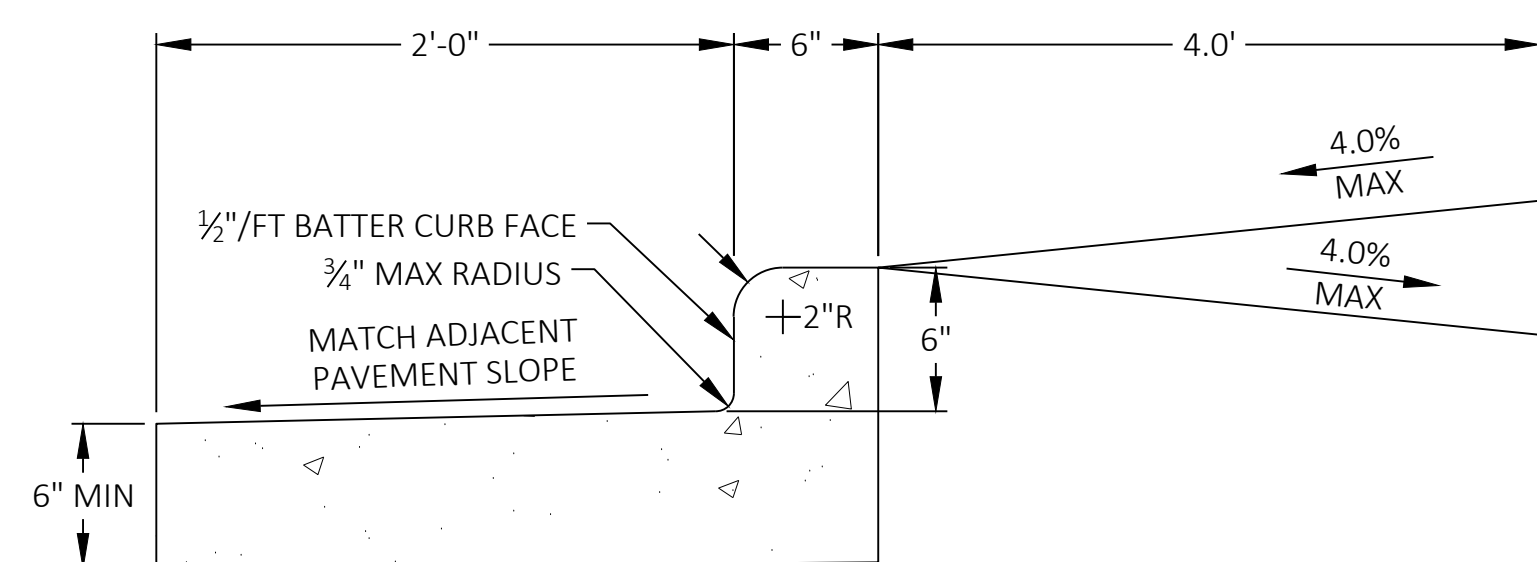
VAN ACCESSIBLE HANDICAP SIGN WITH BOLLARD



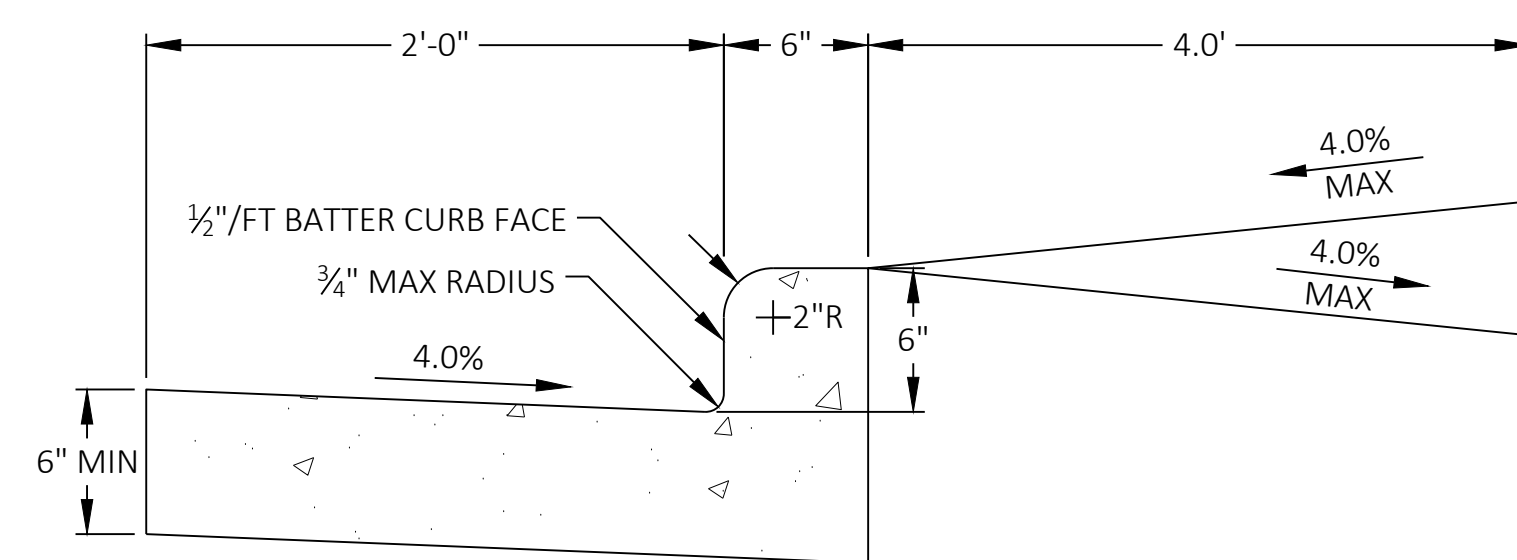
TURF ESTABLISHMENT



ASPHALT PAVING - 3.5" OVER 8" BASE

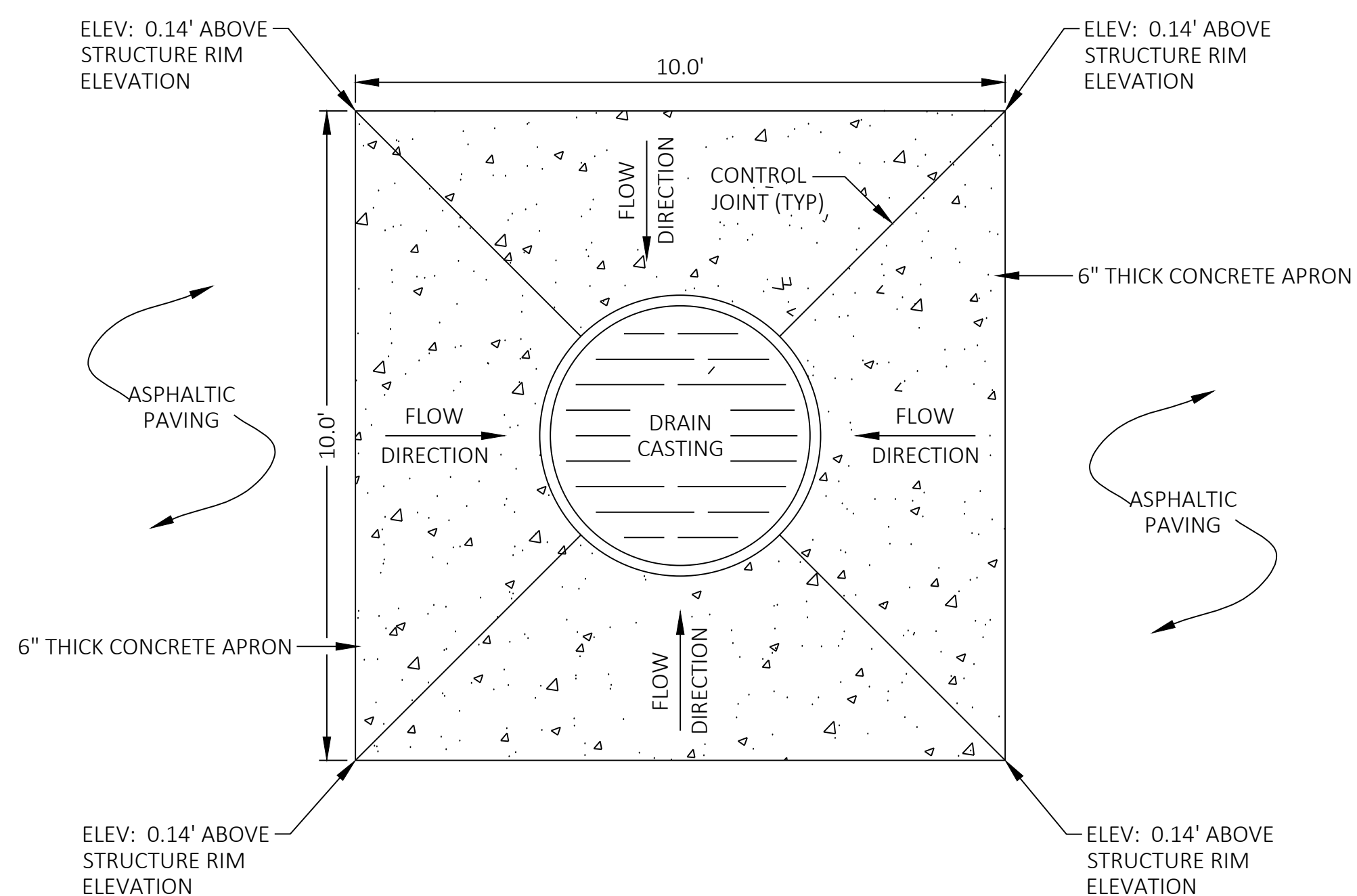


REJECT

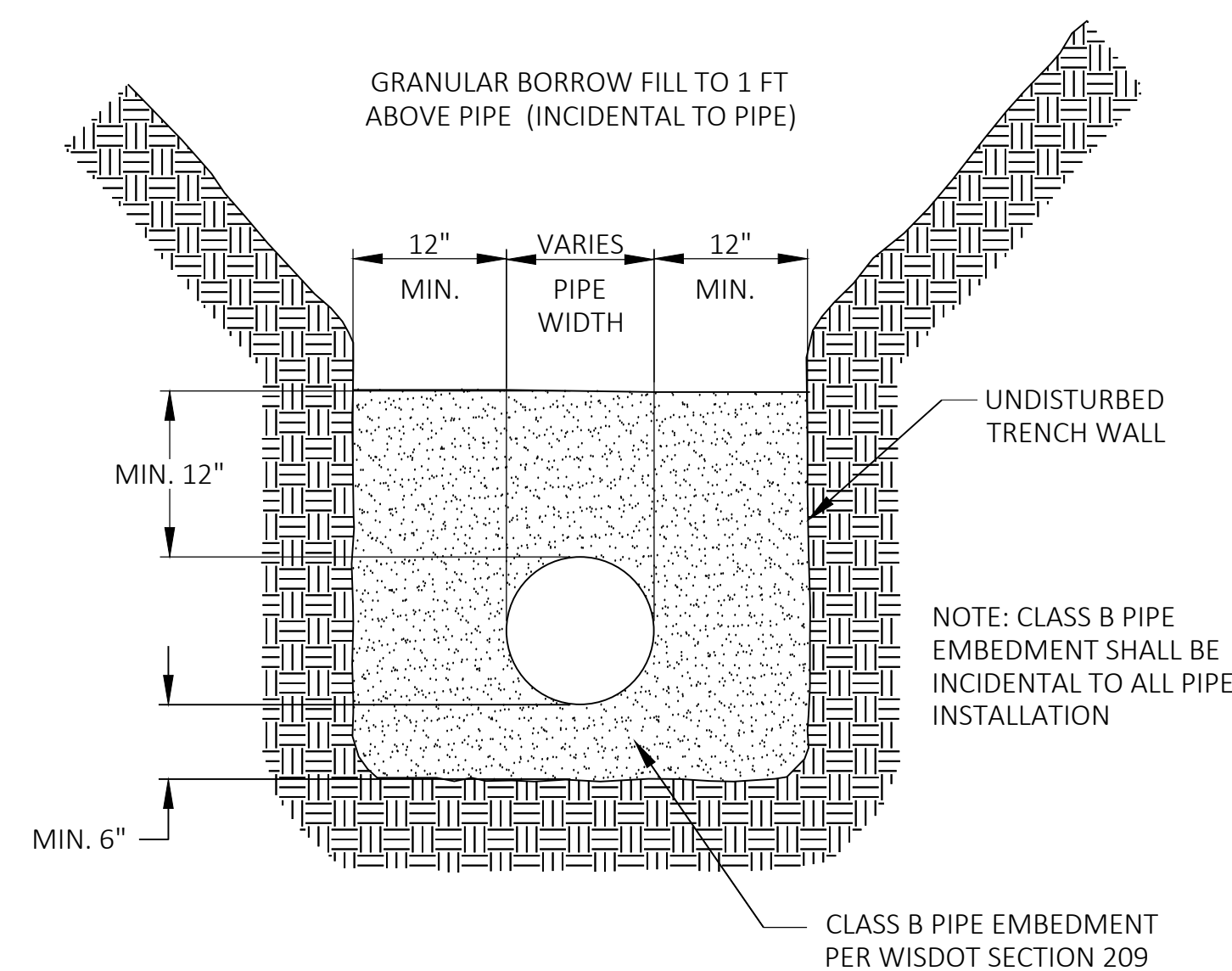


STANDARD

30" CURB AND GUTTER TYPE D



CONCRETE APRON AT AREA DRAIN



TRENCH BEDDING

shall notify the responsible party and administrative authority in writing of any changes required in such practices to bring them into compliance with the conditions of this permit.

- (5) The responsible party shall notify the technical authority of any significant modifications it intends to make to an approved stormwater management plan. The technical authority may require that the proposed modifications be submitted to it for approval prior to incorporation into the stormwater management plan and execution by the responsible party.
 - (6) The responsible party shall maintain all stormwater management practices in accordance with the stormwater management plan until the practices either become the responsibility of a municipality, or are transferred to subsequent private owners as specified in the approved maintenance agreement.
 - (7) The responsible party authorizes the Chippewa County to perform any work or operations necessary to bring stormwater management measures into conformance with the approved stormwater management plan, and consents to a special assessment or charge against the property as authorized under subch. VII of Wis. Stats. Ch. 66 or to charging such costs against the financial guarantee posted under section 12-66.
 - (8) If so directed by the administrative authority the responsible party shall repair at the responsible party's own expense all damage to adjoining municipal facilities and drainage ways caused by runoff, where such damage is caused by activities that are not in compliance with the approved stormwater management plan.
 - (9) The responsible party shall permit property access to the administrative authority and technical authority for the purpose of inspecting the property for compliance with the approved stormwater management plan and this permit.
 - (10) Where site development or redevelopment involves changes in direction, increases in peak rate and/or total volume of runoff from a site, the administrative authority may require the responsible party to make appropriate legal arrangements with affected property owners concerning the prevention of endangerment to property or public safety.
 - (11) The responsible party is subject to the enforcement actions and penalties detailed in section 12-11, if the responsible party fails to comply with the terms of this permit.
- (e) *Permit Conditions.* Permits issued under this subsection may include conditions established by the administrative authority in addition to the requirements needed to meet the standards and plan requirements in Article IV and financial guarantee as provided for in 12-66.
- (f) *Permit Duration.* Permits issued under this section shall be valid from the date of issuance through the date the administrative authority notifies the responsible party that all stormwater management practices have passed the final inspection required under section 12-63(d)(4).

Sec. 12-64.**Specifications.**

- (a) The stormwater management plan shall contain at a minimum the following information:

- (1) Name, address, and telephone number for the following or their designees: landowner; developer; Professional Engineer for practice design and certification; person(s) responsible for installation of stormwater management practices; and person(s) responsible for maintenance of stormwater management practices prior to the transfer, if any, of maintenance responsibility to another party.
- (2) A proper legal description of the property proposed to be developed, referenced to the
- (3) U.S. Public Land Survey system or to block and lot numbers within a recorded land subdivision plat.
- (4) Pre-development site conditions, including:
 - a. One or more site maps at a scale of not less than 1 inch equals 100 feet. The site maps shall show the following: site location and legal property description; predominant soil types and hydrologic soil groups; existing cover type and condition; topographic contours of the site at an interval not to exceed 2 feet; topography and drainage network including enough of the contiguous properties to show runoff patterns onto, through, and from the site; watercourses that may affect or be affected by runoff from the site; flow path and direction for all stormwater conveyance sections; watershed boundaries used in hydrology determinations to show compliance with performance standards; lakes, streams, wetlands, channels, ditches, and other watercourses on and immediately adjacent to the site; limits of the 100 year floodplain; location of wells and wellhead protection areas covering the project area and delineated pursuant to Wis. Adm. Code NR 811.16.
 - b. Hydrology and pollutant loading computations as needed to show compliance with performance standards. All major assumptions used in developing input parameters shall be clearly stated. The geographic areas used in making the calculations shall be clearly cross-referenced to the required map(s).
- (5) Post-development site conditions, including:
 - a. Explanation of the provisions to preserve and use natural topography and land cover features to minimize changes in peak flow runoff rates and volumes to surface waters and wetlands.
 - b. Explanation of any restrictions on stormwater management measures in the development area imposed by wellhead protection plans and ordinances.
 - c. One or more site maps at a scale of not less than 1 inch equals 100 feet showing the following: post-construction pervious areas including vegetative cover type and condition; impervious surfaces including all buildings, structures, and pavement; post-construction topographic contours of the site at a scale not to exceed 2 feet; post-construction drainage network including enough of the contiguous properties to show runoff patterns onto, through, and from the site; locations and dimensions of drainage easements; locations of maintenance easements specified in the maintenance agreement; flow path and direction for all stormwater conveyance sections; location and type of all stormwater management conveyance and

treatment practices, including the on-site and off-site tributary drainage area; location and type of conveyance system that will carry runoff from the drainage and treatment practices to the nearest adequate outlet such as a curbed street, storm drain, or natural drainage way; the minimum permissible Building Opening Elevation of structures exposed to the ground surface - defined as a minimum of two (2) feet above the maximum water elevation produced by the 100-year, 24 hour design storm; watershed boundaries used in hydrology and pollutant loading calculations and any changes to lakes, streams, wetlands, channels, ditches, and other watercourses on and immediately adjacent to the site.

- d. Hydrology and pollutant loading computations as needed to show compliance with performance standards. The computations shall be made for each discharge point in the development, and the geographic areas used in making the calculations shall be clearly cross-referenced to the required map(s).
 - e. Results of investigations of soils and groundwater required for the placement and design of stormwater management measures. Detailed drawings including cross-sections and profiles of all permanent stormwater conveyance and treatment practices.
 - f. Infiltration system design information as described in the Wisconsin Department of Natural Resources Infiltration System Site Evaluation Standard.
- (6) Plans for at least one permanent vertical elevation monument to be used for future monitoring of stormwater facilities. The monument shall be designed to be substantial, permanent, and protected from frost damage. The technical authority will provide guidance on design standards for such monuments. Each monument shall have elevation determined and documented relative to the most current North American Vertical Datum (NAVD). The precision and accuracy of the measurement shall be to a quality acceptable to the technical authority.
 - (7) A description and installation schedule for the stormwater management practices needed to meet the technical and performance standards.
 - (8) A maintenance plan developed for the life of each stormwater management practice including the required maintenance activities and maintenance activity schedule.
 - (9) Quantity and cost estimates for the construction, operation, and maintenance of each stormwater management practice.
 - (10) Other information requested in writing by the administrative authority to determine compliance of the proposed stormwater management measures with the provisions of this ordinance.
 - (11) All site investigations, plans, designs, computations, and drawings shall be certified by a registered Professional Engineer to be prepared in accordance with accepted engineering practice and requirements of this ordinance.
- (b) *Alternate Requirements.* The administrative authority, in consultation with the technical authority, may prescribe alternative submittal requirements for applicants seeking an exemption to on-site stormwater management standards.