DESIGN GROUP, INC.
CIVIL ENGINEERS • SURVEYORS • CONSULTANTS

DRAINAGE LAND PLANNING
HIGHWAYS BUILDING DESIGN
REPORTS SURVEY

December 4, 2023

Stockbridge Planning Board
50 Main Street
Stockbridge, MA 01262

RE: Definitive Subdivision – 35-37 Interlaken Rd.

Dear Planning Board Members;

Enclosed for your review, please find four (4) sets of Definitive Subdivision Plans for the above-named project. Also enclosed are the following documents:

1. Four (4) Copies of the Form "C" Application.
2. Copy of a Letter to the Town Clerk.
3. [1]Two (2) copies of the Stormwater Management Study dated 11/22/23.
4. Copy of original property survey plan (by Foresight Land Services, dated July 24, 2012).
5. Definitive Subdivision Plans (Dated Dec. 4, 2023).

We have inquired about a filing *fee* but have not been able to determine an amount. Once an amount is determined, we will arrange payment forthwith.

Per Stockbridge Subdivision Regulations, we have not prepared an Impact Statement because the project is less than 10 lots in size.

We look forward to presenting the project at the next available public hearing. If you have any questions, feel free to contact us.

Sincerely,

S-K DESIGN GROUP, INC.

Robert G. Fournier
[Project Manager]

Enclosures

CC: Stockbridge Conservation Commission (2 copies)
35-37 Interlaken Road Realty Trust
Atty. Jonathan M. Silverstein
File

[1] Additional copies available upon request

ATTACHMENT 1

Form C

FORM C
APPLICATION FOR APPROVAL OF DEFINITIVE PLAN

File one completed form with the Planning Board and one copy with the Town Clerk.

(Where alternative paragraphs are provided, applicant is to select and complete the paragraph pertinent to his case.)

TO THE PLANNING BOARD OF THE TOWN OF STOCKBRIDGE:

1. The undersigned applicant, being the owner of all land included within a proposed subdivision shown on the accompanying plan, entitled:

   Definitive Subdivision, Prepared for 35-37 Interlaken Road Realty Trust

   and dated _____, 20 23, and prepared by SK Design Group, Inc.

   Massachusetts Registered (Engineer) (Surveyor), registration no. 39863 submits such plan as a definitive plan of the proposed subdivision and makes application to the Board for final approval thereof.

2. The land within the proposed subdivision is subject to the following easements and restrictions.

   Book 544, Pg. 582; Book 532, Pg. 582;

   Book 537, Pg. 377; Book 476, Pg. 524

3. There are appurtenant to the land within the proposed subdivision the following easements and restrictions over the land of others:

4. A preliminary plan of the proposed subdivision was discussed by the Board on June 6, 20 23. The modifications recommended at this meeting have been incorporated in the accompanying plan.

5. The applicant agrees, if the definitive plan is approved, to construct and install all improvements within the proposed subdivision required by the rules and regulations of the Stockbridge Planning Board as in force on the date of this application, and as modified and supplemented by the work specifications and other requirements of the Department of Public Works and the Health Dept.

6. The applicant further agrees to complete all said required improvements within two years from the date of approval of the definitive plan by the Board, unless the Board approves a different period of time.

7. The applicant further agrees, if this application is approved, to file with the Board within (20) days of such approval, a bond in form satisfactory to the Board and conditioned on the completion of all required improvements in the time and manner prescribed, in a penal sum sufficient, in the opinion of the Board , to cover the cost of such work, and executed by the applicant as principal and a surety company authorized to do business in the Commonwealth and satisfactory money or negotiable securities, satisfactory to the Board, in an amount equal to the penal sum of the bond.

OR

(As an alternative to the above agreement) The applicant requests the Board to approve the definitive plan on condition that no lot in the subdivision shall be sold and no building shall be erected or placed on any lot until the required improvements specified are constructed and installed so as to serve the lots adequately.

8. The applicant further agrees, if this application is approved, to cause the definitive plan of the subdivision to be recorded in the Berkshire Registry of Deeds or in the Berkshire Land Registry District within (6) months of such approval, and agrees not to sell, or to offer to sell, any of the lots within the subdivision.

9. The owner's title to the land is derived under deed from Lee Bank,

dated May 11, 2009, and recorded in

Berkshire District Registry of Deeds, book 04293 page 338

or under Land Court Certificate of Title no. _____

registered in Berkshire Land Registry District, book _____ page _____

Applicant 35-37 Interlaken Road Realty Trust

Address 776 Boylston St., Unit E9A, Boston, MA 02199

Accepted this _____ day of_____, 20___, as duly submitted under the rules and regulations of the Stockbridge Planning Board

Stockbridge Planning Board

BY _____

Fee of $_____ received_____, 20___

By _____, _____

TITLE

ATTACHMENT 2

Letter to Town Clerk

DESIGN GROUP, INC.
CIVIL ENGINEERS • SURVEYORS • CONSULTANTS

DRAINAGE LAND PLANNING
HIGHWAYS BUILDING DESIGN
REPORTS SURVEY

December 4, 2023

Stockbridge Town Clerk
50 Main Street
Stockbridge, MA 01262

RE: Definitive Subdivision – 35-37 Interlaken Rd.

Dear Clerk;

This letter is official notification of the **submission of a Definitive Subdivision Plan** to the Town of Stockbridge Planning Board. Said plan is entitled, "Building Lot Plan, of Bonnie Brier Lane, Surveyed for 35-37 Interlaken Road Realty Trust, Located at 35-37 Interlaken Rd., Stockbridge, Massachusetts, Scale: 1" = 40', December 4, 2023, S-K Design Group, Inc., Civil Engineers-Consultants-Surveyors, 2 Federico Drive, Pittsfield, Massachusetts 01201".

The plans are submitted in accordance with Section 81-T of Chapter 41 of the General Laws of Massachusetts.

Also attached, please find the Form "C" Application for Approval of the Definitive Plans with pertinent information thereon.

If you should have any questions or require additional information, please do not hesitate to contact our office.

Sincerely,

S-K DESIGN GROUP, INC.

Robert G. Fournier
[Project Manager]

Enclosures

CC: 35-37 Interlaken Road Realty Trust
Atty. Jonathan M. Silverstein
File

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ATTACHMENT 3

Stormwater Management Study

STORMWATER MANAGEMENT REPORT

Bonnie Brier Lane

Stockbridge, MA

Applicant:

35-37 Interlaken Road Realty Trust

Prepared by:

SK DESIGN GROUP INC

November 22, 2023

SUMMARY:

The project is a single-family subdivision of 3 lots on a proposed cul-de-sac off Interlaken Road, between Meadow Road and Tree Farm Road. The Stormwater Management System begins with deep-sump catch basins that collect runoff, to be piped to a treatment manhole. There, flows are treated with all flows up to the volume required for groundwater recharge and water quality treatment going to an infiltration basin. The restricted discharge from the infiltration basin leads to a level spreader. The stormwater management system complies with DEP standards in preventing increases in peak runoff, providing groundwater recharge, removing pollutants, controlling erosion and sediment during construction, and providing for long-term management. There will be no increase in peak rate of runoff to any of the abutting properties to the project.

APPLCIABILITY

The Stormwater management standards are applied to this project generically based upon the design standards set forth under the Subdivision regulations. Reviewing the Massachusetts Stormwater Management Standards, we find that they do not apply to small projects such as this.

Applicability

Except as expressly provided herein, stormwater runoff from all industrial, commercial, institutional, office, residential and transportation projects including site preparation, construction and redevelopment, and all point source stormwater discharges from said projects shall be managed according to the Stormwater Management Standards. However, -

The Stormwater Management Standards shall <u>not</u> apply to:

(1) A single-family house;
(2) Housing development and redevelopment projects comprised of detached single-family dwellings on four or fewer lots provided that there are no stormwater discharges that may potentially affect a critical area;

In this case, application of the stormwater standards results in a review of said standards and a determination that they do not apply. Notwithstanding the inapplicability of the standards, the proposed subdivision meets the standards to the maximum practical extent.

EXISTING CONDITIONS:

Land Use and vegetative cover: The property has been developed since 1890 according to the local real estate records. The primary uses include residential and educational. The proposed development is limited to the portion of the lot between Interlaken Road and a protected wetland system that bisects the property. The property includes assessor lots #31 and #32. The picture below depicts the development area and cover, including buildings, lawn, and trees.

Soils: The soil on the site have been mapped by the USDA. We have adjusted the mapped boundaries based on a detailed topographic mapping. Adjusted soil boundaries and map codes are shown on the accompanying watershed maps. The soil series present are silty loam and gravel. On-site soils in the development area are rated as Hydrologic Soil Group (HSG) "C", Silty loam soils typically yield somewhat higher runoff rates.

Hydrologic Setting: Drainage from the proposed subdivision and the two proposed houses will flow easterly towards Interlaken Road. While other portions of the property drain to the south and west, no work is proposed in those areas.

Low Impact Development: The use of "Low Impact Development" practices is assumed in the project development. The individual house designs are undetermined, yet the site is conducive to the installation of rain gardens. Favorable soil and groundwater depth in the in the building envelopes is

expected to encourage infiltration. While the new lots exceed 10 acres in area, the building envelopes are restricted to two acres for purposes of this analysis. This will disconnect runoff and allow dispersion over undeveloped lawns as currently existing and avoids point source discharges related to the construction of houses. This approach avoids the need for structural BMPs.

Stormwater Management System Summary: Runoff from the subdivision road is captured in deep sump catch basins, routed through a stormceptor manhole and directed to the on-site infiltration basin. The basin will be constructed on private property and maintained by a Homeowner's Association.

DESIGN METHODOLOGY:

For watershed modeling and design of the detention/infiltration basin, Natural Resource Conservation Service methods, based on TR-55 and TR-20, were followed using the "HydroCad" computer program (ver. 10.0 build 12), an adaptation of SCS TR-20 and TR-55 methods. The drainage basin characteristics of Curve Number (CN) and time of concentration (Tc) are described and calculated based on NRCS methodology.

Summaries are provided for the 2-year, and 10-year storms. Details of parameters used for the model are provided in the section on the 100-year storm. All input parameters for the runoff estimate from the contributing areas are the same except for the rainfall.

COMPLIANCE WITH DEP STANDARDS:

The project design generally complies with MA DEP stormwater management standards, as summarized below.

Standard 1. No new untreated discharge or erosion: The new point source discharge from the project will receive over 80% TSS removal for water quality treatment in compliance with DEP guidelines. Erosion controls will be implemented during construction to prevent sediment discharge from the site (see site plans). The proposed flow rate from the detention basin to the roadside swale is lower than under current conditions, and the discharge will be dispersed by a stone spreader, eliminating erosion hazard. Discharge velocity from the 12" outlet, is within the control capacity of a good sod cover. The

stone stilling basin and spreader will further reduce the discharge velocities to well below any potentially erosive rates.

Standard 2. Post-development peak discharge rates do not exceed pre-development: Proposed peak flows from the site are reduced compared to existing flows as summarized below:

Discharge to the Design Point under Existing Conditions:

Event	Inflow (cfs)	Primary (cfs)
2 YR	9.88	9.88
10 YR	24.09	24.09
25 YR	36.07	36.07
100 YR	**61.73**	**61.73**

Discharge to the Design Point under Proposed Conditions:

Event	Inflow (cfs)	Primary (cfs)
2 YR	9.32	9.32
10 YR	21.63	21.63
25 YR	32.19	32.19
100 YR	**55.09**	**55.09**

In each case the post development design flows to the design point are less than the existing flows. The details of the stormwater analysis are found in the summaries from the HydroCAD calculations attached hereto.

Standard 3. Annual recharge of groundwater should approximate current conditions: Runoff from the subdivision road is captured and directed to the infiltration basin after treatment. The runoff from future house development is disconnected in 20% of the lot area to promote natural attenuation and recharge consistent with LID practices. No point source discharges are proposed from the building lots.

Rv = F x impervious area

Rv	= ***Required Recharge Volume*, expressed in Ft^3, cubic yards, or acre-feet**
F	= **Target Depth Factor associated with each Hydrologic Soil Group**
Impervious Area	= **pavement and rooftop area on site**

***Rv* = [(0.25-in/12)(0.56 acres)]**

Rv = 0.01157acre-feet

Rv = 0.01157 acre-feet x 43560 square feet/acre-feet = 504 cubic feet Total

Capture area adjustment: determining if enough runoff is directed to the recharge practice

In this case, the site design directs only a portion of the site's impervious area to the BMPs. As a result, the infiltration BMPs may not be able to capture sufficient rainfall on an average annual basis to meet the *Required Recharge Volume*. This design increases the storage capacity of the infiltration BMPs so that they may capture more of the runoff from the impervious surfaces located within the contributing drainage area. The procedure for this is as follows:

1) *Rv = F x impervious area*
2) *Rv = [(0.25 inches/12 inches/foot)(1.91 acre)(43,560 sq. ft./acre)]*
   Rv = 1,735 cubic feet
3) *Site area draining to recharge facilities = .56 acres*
4) *Ratio of total site area to site area draining to recharge facilities = 1.91 acre/0.56 acre = 3.4*
5) *Adjusted minimum required recharge volume = [(3.4)(1735 cubic feet)] = 5917 cu. ft.*

The detention basin provides infiltration but does not meet the separation to groundwater requirement of 2 feet seasonally. The basin provides 10,118 cf of storage below the primary outlet invert. The project requests relief from this standard under the redevelopment provisions the inapplicability of the standards for this development based upon its small size.

$$Time_{drawdown} = \frac{1735\ cubic\ feet}{(0.3\ inches/hour)(1ft/12\ inches)(4188\ square\ feet)}$$

$Time_{drawdown}$ = 17 hours< 72 Hours OK

The standards require the drawdown occur in 72 hours the BMPs for recharge are in the hydrologic soil group 'C' soils which provide adequate infiltration rates.

Standard 4. 80% Total Suspended Solids (TSS) removal: All point source discharges from impervious Subdivision Road surfaces are treated to remove over 80% of Total Suspended Solids (TSS). All

impervious areas tributary to the discharge are routed through the stormwater management system.

TSS Removal Calculation Worksheet

Location: Bonnie Brier Lane

A BMP[1]	B TSS Removal Rate[1]	C Starting TSS Load*	D Amount Removed (B*C)	E Remaining Load (C-D)
Deep Sump Catch Basin	0.25	1.00	0.25	0.75
Stormceptor	0.80	0.75	0.60	0.15
Detention Basin	0.50	0.15	0.075	0.075

Total TSS Removal = 92.5%

Separate Form Needs to be Completed for Each Outlet or BMP Train

Project: Stockbridge Sub
Prepared By: Jim Scalise
Date: Nov. 2023

*Equals remaining load from previous BMP (E) which enters the BMP

Standard 5. Higher potential pollutant loadings prohibit certain practices: Not Applicable

Standard 6. Discharges to critical areas treat 1" of runoff and prohibit certain practices: Not Applicable

Standard 7. Redevelopment sites must meet standards to maximum extent practicable and improve Existing conditions: This is applicable although the project is not jurisdictional under the standard and a mix of new and re-development. This standard is not specifically applied yet is an acceptable justification for not meeting the full standards.

Standard 8. Construction related Impacts including Erosion and Sediment Controls must be implemented. A detailed erosion and sediment control procedure is spelled out for the project on the plan set. This includes perimeter sediment barriers, rough grading of lots to provide depressions for

sediment capture, and interim seeding of rough graded lots for stabilization until final construction is done on the lots. Until construction is completed and all tributary areas are stabilized, frequent inspection and maintenance of the erosion controls is required. Construction period maintenance will be the responsibility of the site work contractor. A construction period "Stormwater Pollution Prevention Plan" (SWPPP) will be prepared and submitted by the developer prior to any site work taking place.

Standard 9. Long Term Operation and Maintenance Plan required: See Attachment.

After construction, a minimum of annual inspection and maintenance of all system components is recommended. Maintenance of stormwater facilities outside of the public way will be the responsibility of the homeowners' association. The only vegetation management required is annual mowing of the detention and infiltration basins and adjacent slopes to prevent development of large woody vegetation and maintain a good sod cover. The infiltration basin is designed so that it can be maintained as lawn by the Association. The assumed infiltration rate makes allowance for compaction by regular mowing and foot traffic. The stormwater management facilities should be inspected monthly during the first year of operation or until it is clear they are functioning properly. After that, inspections should generally be twice a year, with maintenance as required. With proper construction and maintenance, clogging of the infiltration surface of the infiltration basin is not expected to be a problem. However, if ponding persists in the basin for over 72 hours, the basin should be de-watered (pump to roadside swale) and roto-tilled to restore the infiltration capacity, and re-seeded.

Standard 10. Illicit discharges prohibited: No illicit discharges are known to exist on the site, and the proposed project has no potential sources of illicit discharge. Sanitary sewerage will be collected by the gravity sewer system as shown on the plans.

Stormceptor®

CONTECH ENGINEERED SOLUTIONS
A QUIKRETE COMPANY

Detailed Stormceptor Sizing Report – Sub Area 1: parking area

Project Information & Location			
Project Name	Bousquet	Project Number	200201
City	Pittsfield	State/ Province	Massachusetts
Country	United States of America	Date	8/3/2022
Designer Information		**EOR Information (optional)**	
Name	James Scalise	Name	
Company	SK Design Group, Inc	Company	
Phone #	413-443-3537	Phone #	
Email	jscalise@sk-designgroup.com	Email	

Stormwater Treatment Recommendation

The recommended Stormceptor Model(s) which achieve or exceed the user defined water quality objective for each site within the project are listed in the below Sizing Summary table.

Site Name	Sub Area 1: parking area
Recommended Stormceptor Model	STC 450i
Target TSS Removal (%)	80.0
TSS Removal (%) Provided	83
PSD	Fine Distribution
Rainfall Station	PITTSFIELD WB AIRPORT

The recommended Stormceptor model achieves the water quality objectives based on the selected inputs, historical rainfall records and selected particle size distribution.

Stormceptor Sizing Summary	
Stormceptor Model	% TSS Removal Provided
STC 450i	83
STC 900	89
STC 1200	89
STC 1800	90
STC 2400	92
STC 3600	93
STC 4800	94
STC 6000	94
STC 7200	96
STC 11000	97
STC 13000	97
STC 16000	98

Stormceptor
The Stormceptor oil and sediment separator is sized to treat stormwater runoff by removing pollutants through gravity separation and flotation. Stormceptor's patented design generates positive TSS removal for each rainfall event, including large storms. Significant levels of pollutants such as heavy metals, free oils and nutrients are prevented from entering natural water resources and the re-suspension of previously captured sediment (scour) does not occur.
Stormceptor provides a high level of TSS removal for small frequent storm events that represent the majority of annual rainfall volume and pollutant load. Positive treatment continues for large infrequent events, however, such events have little impact on the average annual TSS removal as they represent a small percentage of the total runoff volume and pollutant load.

Design Methodology
Stormceptor is sized using PCSWMM for Stormceptor, a continuous simulation model based on US EPA SWMM. The program calculates hydrology using local historical rainfall data and specified site parameters. With US EPA SWMM's precision, every Stormceptor unit is designed to achieve a defined water quality objective. The TSS removal data presented follows US EPA guidelines to reduce the average annual TSS load. The Stormceptor's unit process for TSS removal is settling. The settling model calculates TSS removal by analyzing:
- Site parameters
- Continuous historical rainfall data, including duration, distribution, peaks & inter-event dry periods
- Particle size distribution, and associated settling velocities (Stokes Law, corrected for drag)
- TSS load
- Detention time of the system

Hydrology Analysis
PCSWMM for Stormceptor calculates annual hydrology with the US EPA SWMM and local continuous historical rainfall data. Performance calculations of Stormceptor are based on the average annual removal of TSS for the selected site parameters. The Stormceptor is engineered to capture sediment particles by treating the required average annual runoff volume, ensuring positive removal efficiency is maintained during each rainfall event, and preventing negative removal efficiency (scour). Smaller recurring storms account for the majority of rainfall events and average annual runoff volume, as observed in the historical rainfall data analyses presented in this section.

Rainfall Station			
State/Province	Massachusetts	Total Number of Rainfall Events	3838
Rainfall Station Name	PITTSFIELD WB AIRPORT	Total Rainfall (in)	847.0
Station ID #	6414	Average Annual Rainfall (in)	36.8
Coordinates	42°26'0"N, 73°17'0"W	Total Evaporation (in)	102.9
Elevation (ft)		Total Infiltration (in)	16.6
Years of Rainfall Data	23	Total Rainfall that is Runoff (in)	727.5

Notes
• Stormceptor performance estimates are based on simulations using PCSWMM for Stormceptor, which uses the EPA Rainfall and Runoff modules. • Design estimates listed are only representative of specific project requirements based on total suspended solids (TSS) removal defined by the selected PSD, and based on stable site conditions only, after construction is completed. • For submerged applications or sites specific to spill control, please contact your local Stormceptor representative for further design assistance.

Drainage Area	
Total Area (acres)	0.7
Imperviousness %	98.0

Water Quality Objective	
TSS Removal (%)	80.0
Runoff Volume Capture (%)	
Oil Spill Capture Volume (Gal)	
Peak Conveyed Flow Rate (CFS)	5.40
Water Quality Flow Rate (CFS)	0.91

Up Stream Storage	
Storage (ac-ft)	Discharge (cfs)
0.000	0.000

Up Stream Flow Diversion	
Max. Flow to Stormceptor (cfs)	

Design Details	
Stormceptor Inlet Invert Elev (ft)	1114.40
Stormceptor Outlet Invert Elev (ft)	1114.40
Stormceptor Rim Elev (ft)	1119.40
Normal Water Level Elevation (ft)	1112.00
Pipe Diameter (in)	12
Pipe Material	HDPE - plastic
Multiple Inlets (Y/N)	No
Grate Inlet (Y/N)	No

Particle Size Distribution (PSD)

Removing the smallest fraction of particulates from runoff ensures the majority of pollutants, such as metals, hydrocarbons and nutrients are captured. The table below identifies the Particle Size Distribution (PSD) that was selected to define TSS removal for the Stormceptor design.

Fine Distribution		
Particle Diameter (microns)	Distribution %	Specific Gravity
20.0	20.0	1.30
60.0	20.0	1.80
150.0	20.0	2.20
400.0	20.0	2.65
2000.0	20.0	2.65

Site Name	Sub Area 1: parking area

Site Details

Drainage Area	
Total Area (acres)	0.7
Imperviousness %	98.0

Surface Characteristics	
Width (ft)	349.00
Slope %	2
Impervious Depression Storage (in)	0.02
Pervious Depression Storage (in)	0.2
Impervious Manning's n	0.015
Pervious Manning's n	0.25

Maintenance Frequency	
Maintenance Frequency (months) >	12

Infiltration Parameters	
Horton's equation is used to estimate infiltration	
Max. Infiltration Rate (in/hr)	2.44
Min. Infiltration Rate (in/hr)	0.4
Decay Rate (1/sec)	0.00055
Regeneration Rate (1/sec)	0.01

Evaporation	
Daily Evaporation Rate (in/day)	0.1

Dry Weather Flow	
Dry Weather Flow (cfs)	0

Winter Months	
Winter Infiltration	0

TSS Loading Parameters	
TSS Loading Function	

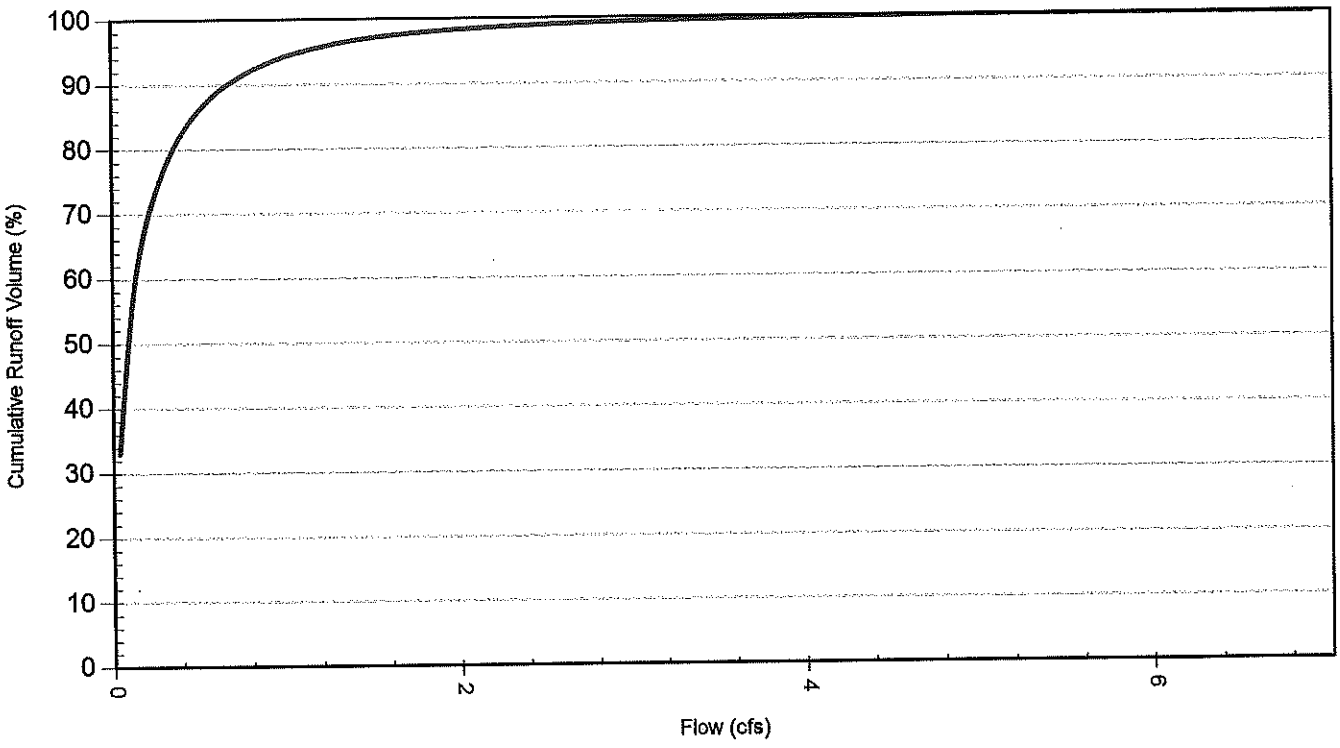
Buildup/Wash-off Parameters	
Target Event Mean Conc. (EMC) mg/L	
Exponential Buildup Power	
Exponential Washoff Exponent	

TSS Availability Parameters	
Availability Constant A	
Availability Factor B	
Availability Exponent C	
Min. Particle Size Affected by Availability (micron)	

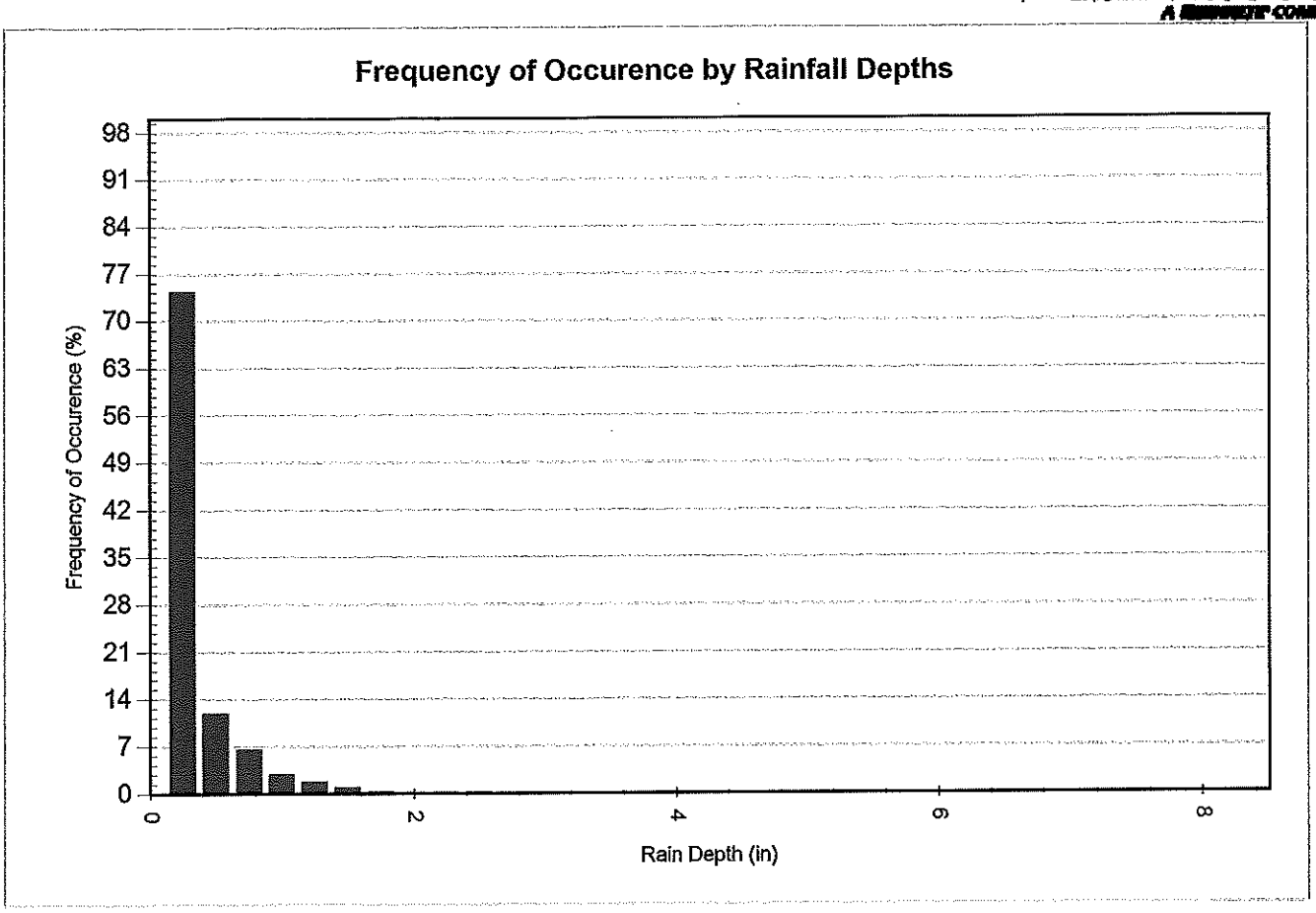
Cumulative Runoff Volume by Runoff Rate			
Runoff Rate (cfs)	Runoff Volume (ft³)	Volume Over (ft³)	Cumulative Runoff Volume (%)
0.035	634286	1280047	33.1
0.141	1179276	734993	61.6
0.318	1499172	415111	78.3
0.565	1683445	230843	87.9
0.883	1785013	129281	93.2
1.271	1841418	72874	96.2
1.730	1872413	41882	97.8
2.260	1890037	24258	98.7
2.860	1900947	13347	99.3
3.531	1907392	6902	99.6
4.273	1911387	2908	99.8
5.085	1913979	318	100.0
5.968	1914297	0	100.0
6.922	1914297	0	100.0

Cumulative Runoff Volume by Runoff Rate

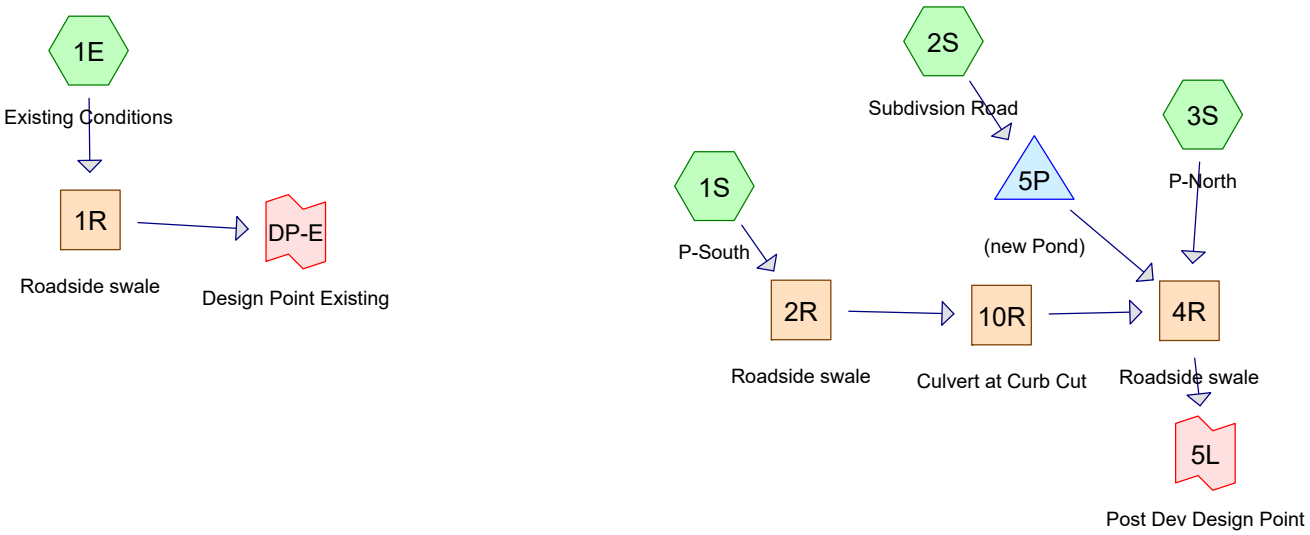
For area: 0.7(ac), imperviousness: 98.0%, rainfall station: PITTSFIELD WB AIRPORT

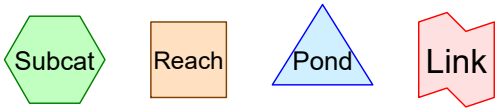


Rainfall Event Analysis				
Rainfall Depth (in)	No. of Events	Percentage of Total Events (%)	Total Volume (in)	Percentage of Annual Volume (%)
0.25	2855	74.4	193	22.8
0.50	460	12.0	166	19.6
0.75	254	6.6	156	18.4
1.00	117	3.0	103	12.1
1.25	69	1.8	77	9.1
1.50	38	1.0	52	6.1
1.75	13	0.3	21	2.4
2.00	8	0.2	15	1.7
2.25	6	0.2	13	1.5
2.50	9	0.2	21	2.5
2.75	3	0.1	8	1.0
3.00	3	0.1	9	1.0
3.25	1	0.0	3	0.4
3.50	1	0.0	3	0.4
3.75	0	0.0	0	0.0
4.00	0	0.0	0	0.0
4.25	0	0.0	0	0.0
4.50	0	0.0	0	0.0
4.75	0	0.0	0	0.0
5.00	0	0.0	0	0.0
5.25	0	0.0	0	0.0
5.50	0	0.0	0	0.0
5.75	0	0.0	0	0.0
6.00	0	0.0	0	0.0
6.25	0	0.0	0	0.0
6.50	0	0.0	0	0.0
6.75	0	0.0	0	0.0
7.00	0	0.0	0	0.0
7.25	0	0.0	0	0.0
7.50	0	0.0	0	0.0
7.75	0	0.0	0	0.0
8.00	0	0.0	0	0.0
8.25	0	0.0	0	0.0
8.25	1	0.0	8	1.0



For Stormceptor Specifications and Drawings Please Visit:
https://www.conteches.com/technical-guides/search?filter=1WBC0O5EYX





Routing Diagram for SWM Calcs
Prepared by SK Design Group, Inc, Printed 12/1/2023

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
4.000	77	2 acre lots, 12% imp, HSG C (1S, 3S)
15.756	74	>75% Grass cover, Good, HSG C (1E, 1S, 2S, 3S)
0.073	98	Driveway from Cul de Sac (1S)
0.073	98	Gymnasium Roof (1E)
0.925	98	Paved parking, HSG C (2S, 3S)
0.052	98	Roof Main house (1S)
0.289	98	Roofs, HSG C (2S, 3S)
0.158	98	Rooftop area Main house (1E)
7.206	70	Woods, Good, HSG C (1E, 1S, 2S, 3S)
0.769	98	exisitng looped driveway (1E)

Summary for Subcatchment 1E: Existing Conditions

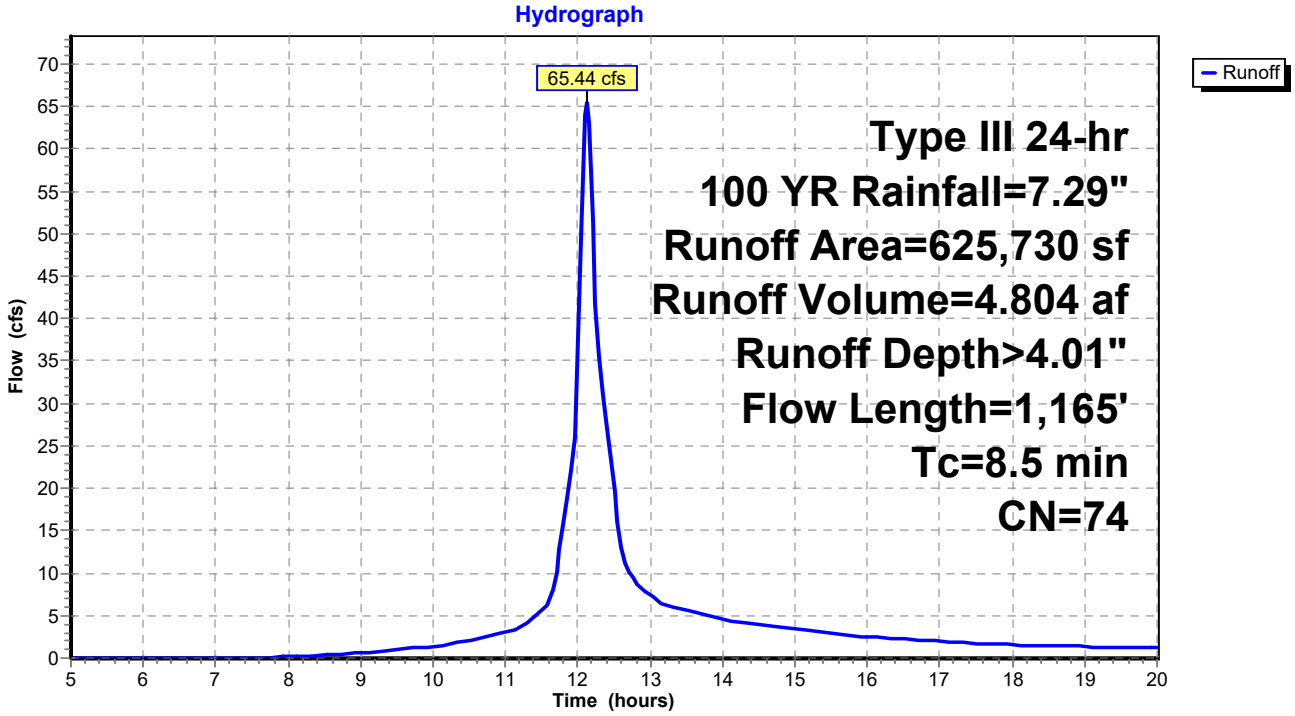
Runoff = 65.44 cfs @ 12.12 hrs, Volume= 4.804 af, Depth> 4.01"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 YR Rainfall=7.29"

	Area (sf)	CN	Description
*	6,875	98	Rooftop area Main house
*	3,200	98	Gymnasium Roof
*	33,500	98	exisitng looped driveway
	183,775	70	Woods, Good, HSG C
	398,380	74	>75% Grass cover, Good, HSG C
	625,730	74	Weighted Average
	582,155		93.04% Pervious Area
	43,575		6.96% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.6	50	0.0240	0.15		**Sheet Flow,** Grass: Short n= 0.150 P2= 2.81"
0.4	70	0.0420	3.07		**Shallow Concentrated Flow, Grassed waterway** Grassed Waterway Kv= 15.0 fps
2.5	1,045	0.0100	7.07	56.55	**Parabolic Channel,** W=6.00' D=2.00' Area=8.0 sf Perim=7.5' n= 0.022
8.5	1,165	Total			

Subcatchment 1E: Existing Conditions



Summary for Subcatchment 1S: P-South

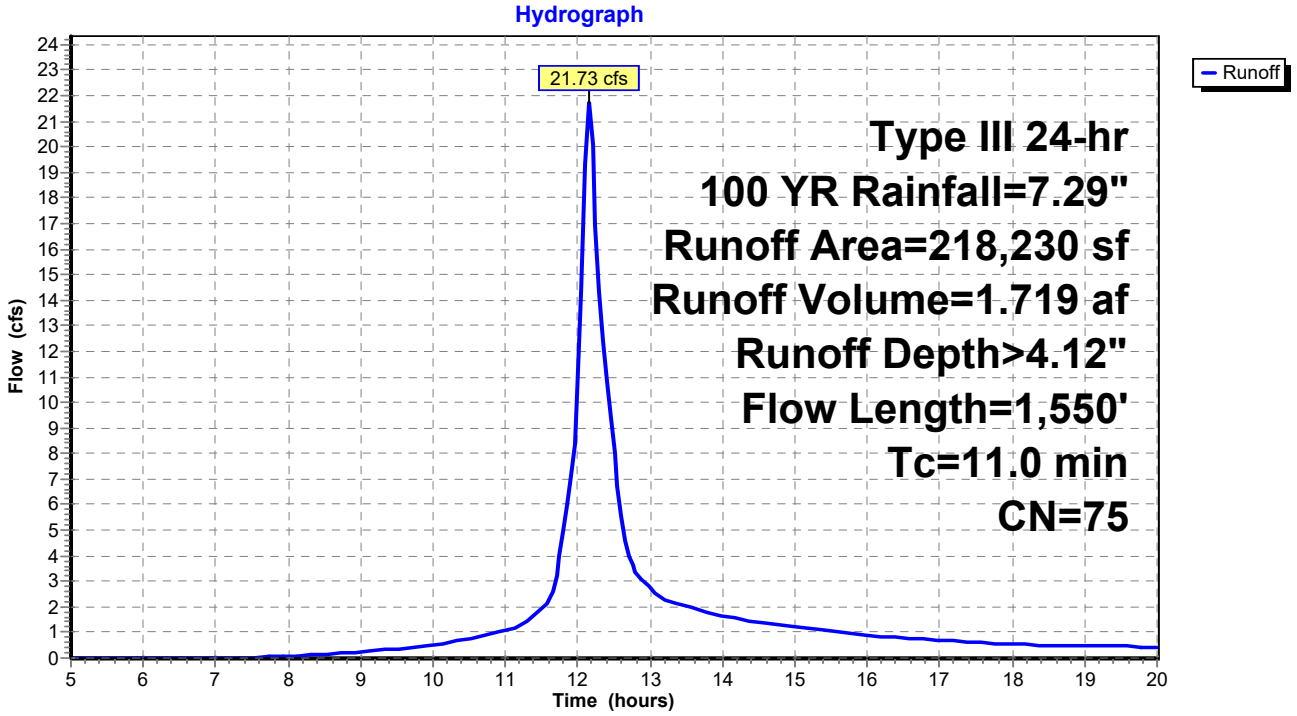
Runoff = 21.73 cfs @ 12.15 hrs, Volume= 1.719 af, Depth> 4.12"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 YR Rainfall=7.29"

	Area (sf)	CN	Description
	87,120	77	2 acre lots, 12% imp, HSG C
*	2,275	98	Roof Main house
	29,830	70	Woods, Good, HSG C
*	3,200	98	Driveway from Cul de Sac
	95,805	74	>75% Grass cover, Good, HSG C
	218,230	75	Weighted Average
	202,301		92.70% Pervious Area
	15,929		7.30% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0	50	0.0200	0.14		**Sheet Flow,** Grass: Short n= 0.150 P2= 2.81"
2.6	500	0.0460	3.22		**Shallow Concentrated Flow, Overland flow along southerly driv** Grassed Waterway Kv= 15.0 fps
2.4	1,000	0.0100	7.07	56.55	**Parabolic Channel,** W=6.00' D=2.00' Area=8.0 sf Perim=7.5' n= 0.022
11.0	1,550	Total			

Subcatchment 1S: P-South



Summary for Subcatchment 2S: Subdivsion Road

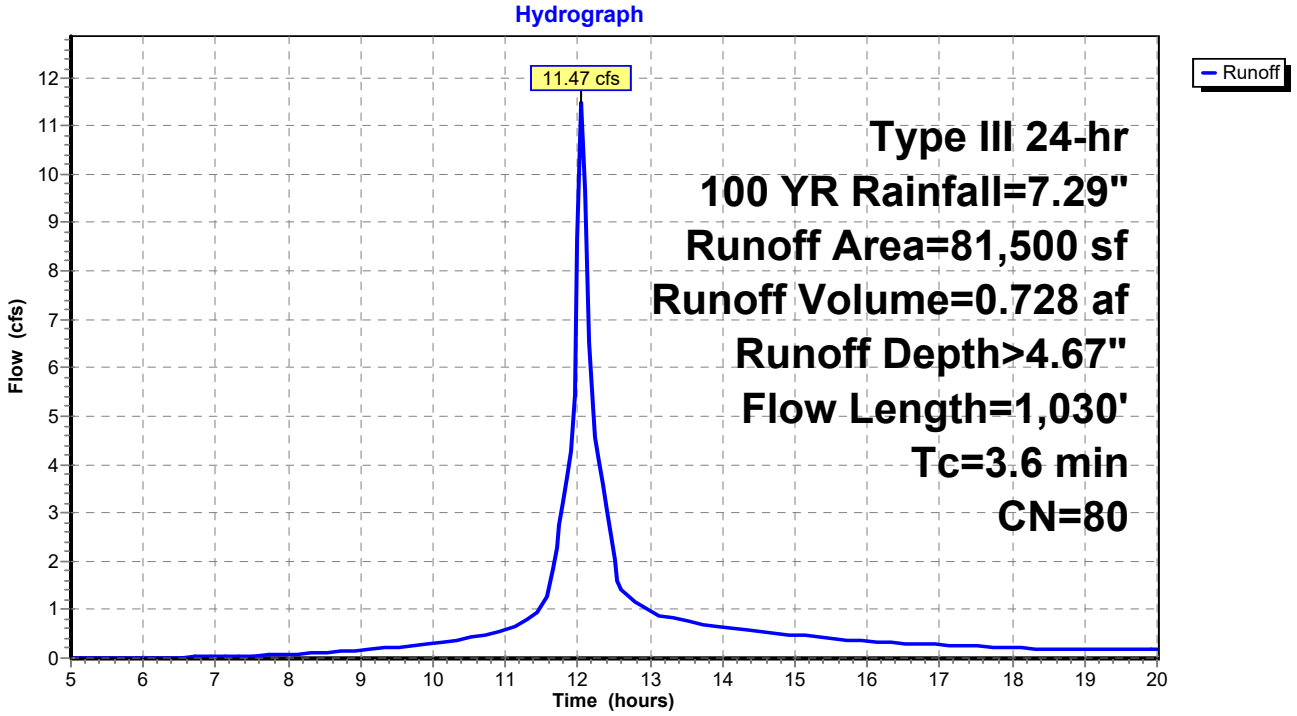
Runoff = 11.47 cfs @ 12.06 hrs, Volume= 0.728 af, Depth> 4.67"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 YR Rainfall=7.29"

Area (sf)	CN	Description
15,360	98	Paved parking, HSG C
26,115	74	>75% Grass cover, Good, HSG C
8,825	98	Roofs, HSG C
31,200	70	Woods, Good, HSG C
81,500	80	Weighted Average
57,315		70.33% Pervious Area
24,185		29.67% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.0	50	0.0100	0.85		**Sheet Flow, Roof** Smooth surfaces n= 0.011 P2= 2.81"
0.6	130	0.0500	3.35		**Shallow Concentrated Flow, Lawn** Grassed Waterway Kv= 15.0 fps
0.5	100	0.0300	3.52		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.4	300	0.0800	13.90	10.92	**Pipe Channel,** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.012
1.1	450	0.0100	7.07	56.55	**Parabolic Channel,** W=6.00' D=2.00' Area=8.0 sf Perim=7.5' n= 0.022
3.6	1,030	Total			

Subcatchment 2S: Subdivsion Road



Summary for Subcatchment 3S: P-North

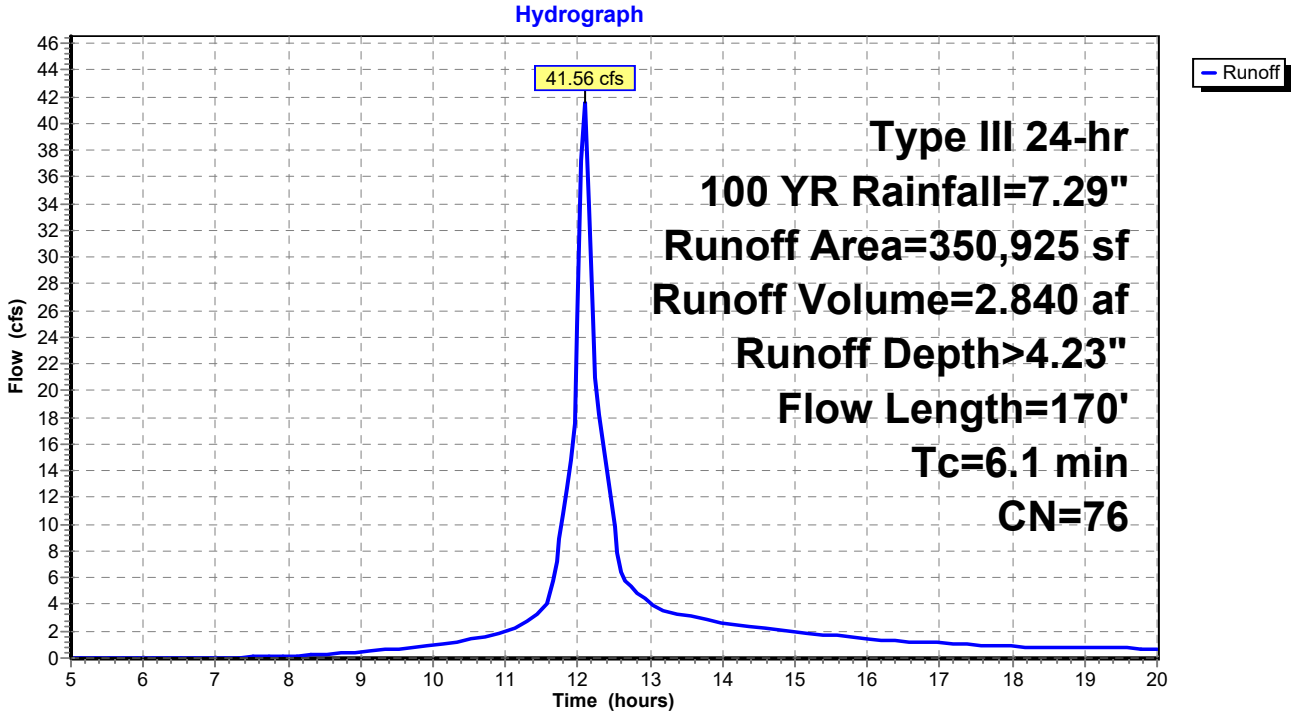
Runoff = 41.56 cfs @ 12.09 hrs, Volume= 2.840 af, Depth> 4.23"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 YR Rainfall=7.29"

Area (sf)	CN	Description
87,120	77	2 acre lots, 12% imp, HSG C
3,760	98	Roofs, HSG C
69,088	70	Woods, Good, HSG C
24,925	98	Paved parking, HSG C
166,032	74	>75% Grass cover, Good, HSG C
350,925	76	Weighted Average
311,786		88.85% Pervious Area
39,139		11.15% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.6	50	0.0240	0.15		**Sheet Flow,** Grass: Short n= 0.150 P2= 2.81"
0.4	70	0.0420	3.07		**Shallow Concentrated Flow, Grass along driveway** Grassed Waterway Kv= 15.0 fps
0.1	50	0.0100	7.07	56.55	**Parabolic Channel,** W=6.00' D=2.00' Area=8.0 sf Perim=7.5' n= 0.022
6.1	170	Total			

Subcatchment 3S: P-North



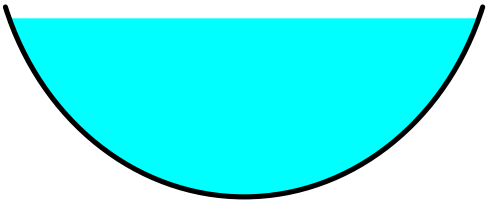
Summary for Reach 1R: Roadside swale

Inflow Area = 14.365 ac, 6.96% Impervious, Inflow Depth > 4.01" for 100 YR event
Inflow = 65.44 cfs @ 12.12 hrs, Volume= 4.804 af
Outflow = 61.72 cfs @ 12.19 hrs, Volume= 4.788 af, Atten= 6%, Lag= 4.4 min

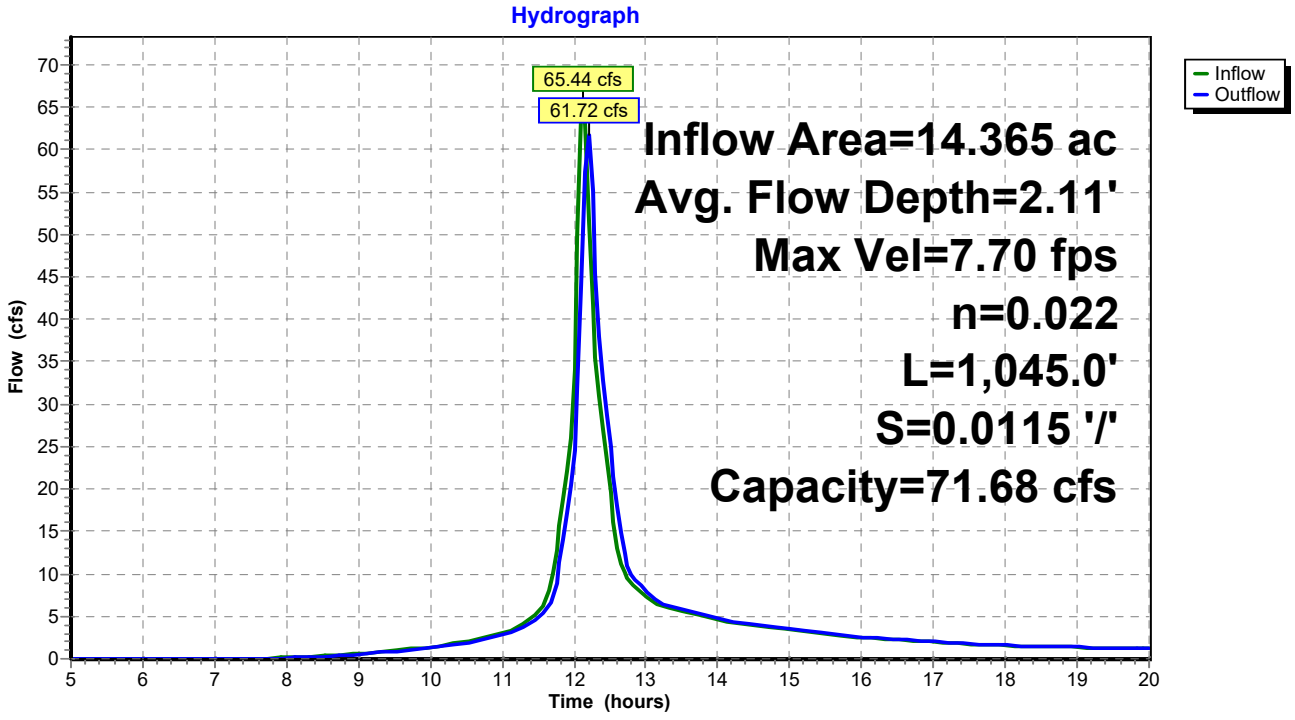
Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 7.70 fps, Min. Travel Time= 2.3 min
Avg. Velocity = 3.09 fps, Avg. Travel Time= 5.6 min

Peak Storage= 8,558 cf @ 12.15 hrs
Average Depth at Peak Storage= 2.11'
Bank-Full Depth= 2.25' Flow Area= 9.0 sf, Capacity= 71.68 cfs

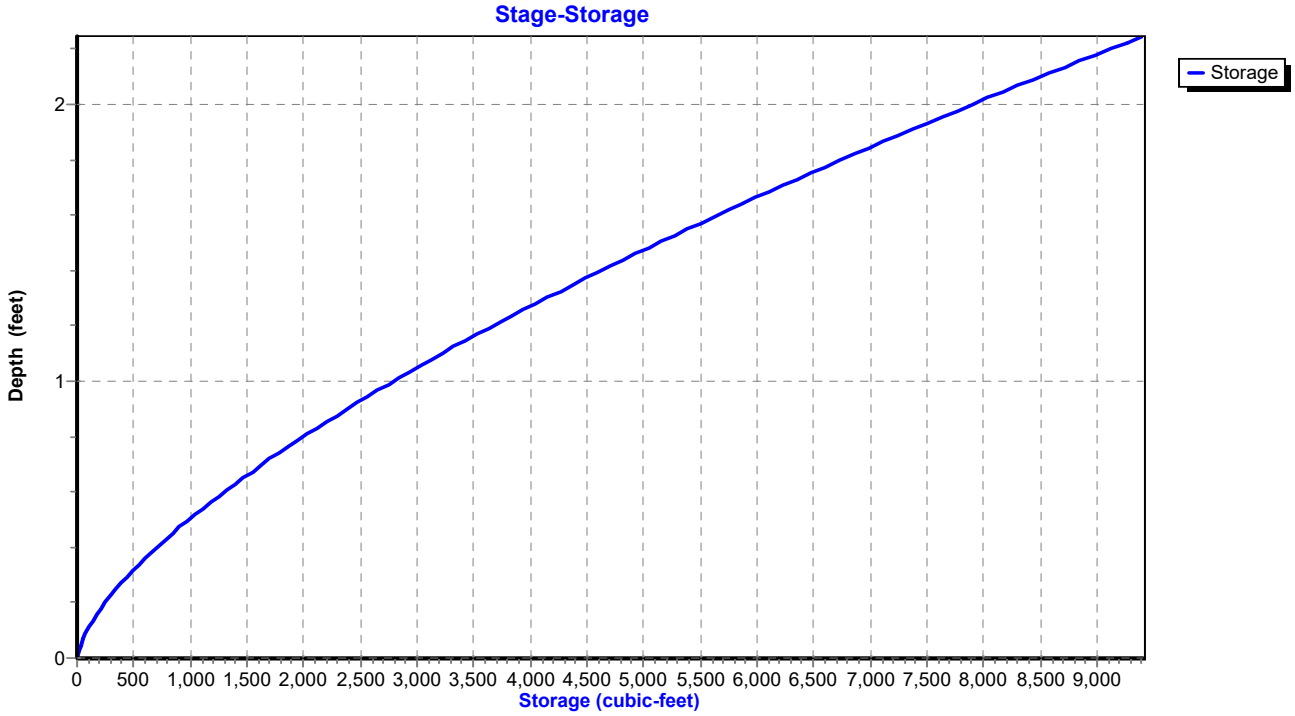
6.00' x 2.25' deep Parabolic Channel, n= 0.022 Earth, clean & straight
Length= 1,045.0' Slope= 0.0115 '/'
Inlet Invert= 1,046.00', Outlet Invert= 1,034.00'



Reach 1R: Roadside swale



Reach 1R: Roadside swale



Stage-Area-Storage for Reach 1R: Roadside swale

Elevation (feet)	End-Area (sq-ft)	Storage (cubic-feet)	Elevation (feet)	End-Area (sq-ft)	Storage (cubic-feet)
1,046.00	0.0	0	1,046.52	1.0	1,045
1,046.01	0.0	4	1,046.53	1.0	1,075
1,046.02	0.0	8	1,046.54	1.1	1,106
1,046.03	0.0	15	1,046.55	1.1	1,137
1,046.04	0.0	23	1,046.56	1.1	1,168
1,046.05	0.0	32	1,046.57	1.1	1,199
1,046.06	0.0	41	1,046.58	1.2	1,231
1,046.07	0.0	52	1,046.59	1.2	1,263
1,046.08	0.1	64	1,046.60	1.2	1,295
1,046.09	0.1	75	1,046.61	1.3	1,328
1,046.10	0.1	89	1,046.62	1.3	1,361
1,046.11	0.1	102	1,046.63	1.3	1,393
1,046.12	0.1	116	1,046.64	1.4	1,427
1,046.13	0.1	131	1,046.65	1.4	1,460
1,046.14	0.1	146	1,046.66	1.4	1,494
1,046.15	0.2	162	1,046.67	1.5	1,528
1,046.16	0.2	178	1,046.68	1.5	1,563
1,046.17	0.2	196	1,046.69	1.5	1,597
1,046.18	0.2	213	1,046.70	1.6	1,632
1,046.19	0.2	231	1,046.71	1.6	1,667
1,046.20	0.2	249	1,046.72	1.6	1,702
1,046.21	0.3	268	1,046.73	1.7	1,738
1,046.22	0.3	288	1,046.74	1.7	1,774
1,046.23	0.3	308	1,046.75	1.7	1,810
1,046.24	0.3	328	1,046.76	1.8	1,846
1,046.25	0.3	348	1,046.77	1.8	1,883
1,046.26	0.4	370	1,046.78	1.8	1,920
1,046.27	0.4	391	1,046.79	1.9	1,957
1,046.28	0.4	413	1,046.80	1.9	1,994
1,046.29	0.4	435	1,046.81	1.9	2,031
1,046.30	0.4	458	1,046.82	2.0	2,069
1,046.31	0.5	481	1,046.83	2.0	2,107
1,046.32	0.5	505	1,046.84	2.1	2,146
1,046.33	0.5	528	1,046.85	2.1	2,184
1,046.34	0.5	553	1,046.86	2.1	2,223
1,046.35	0.6	577	1,046.87	2.2	2,261
1,046.36	0.6	602	1,046.88	2.2	2,300
1,046.37	0.6	627	1,046.89	2.2	2,340
1,046.38	0.6	653	1,046.90	2.3	2,379
1,046.39	0.6	679	1,046.91	2.3	2,419
1,046.40	0.7	705	1,046.92	2.4	2,459
1,046.41	0.7	732	1,046.93	2.4	2,499
1,046.42	0.7	759	1,046.94	2.4	2,540
1,046.43	0.8	786	1,046.95	2.5	2,580
1,046.44	0.8	814	1,046.96	2.5	2,621
1,046.45	0.8	841	1,046.97	2.5	2,662
1,046.46	0.8	870	1,046.98	2.6	2,704
1,046.47	0.9	898	1,046.99	2.6	2,745
1,046.48	0.9	927	1,047.00	2.7	2,787
1,046.49	0.9	956	1,047.01	2.7	2,829
1,046.50	0.9	985	1,047.02	2.7	2,871
1,046.51	1.0	1,015	1,047.03	2.8	2,913

Stage-Area-Storage for Reach 1R: Roadside swale (continued)

Elevation (feet)	End-Area (sq-ft)	Storage (cubic-feet)	Elevation (feet)	End-Area (sq-ft)	Storage (cubic-feet)
1,047.04	2.8	2,956	1,047.56	5.2	5,430
1,047.05	2.9	2,998	1,047.57	5.2	5,482
1,047.06	2.9	3,041	1,047.58	5.3	5,534
1,047.07	3.0	3,084	1,047.59	5.3	5,587
1,047.08	3.0	3,128	1,047.60	5.4	5,640
1,047.09	3.0	3,171	1,047.61	5.4	5,693
1,047.10	3.1	3,215	1,047.62	5.5	5,746
1,047.11	3.1	3,259	1,047.63	5.5	5,799
1,047.12	3.2	3,303	1,047.64	5.6	5,853
1,047.13	3.2	3,347	1,047.65	5.7	5,906
1,047.14	3.2	3,392	1,047.66	5.7	5,960
1,047.15	3.3	3,437	1,047.67	5.8	6,014
1,047.16	3.3	3,482	1,047.68	5.8	6,068
1,047.17	3.4	3,527	1,047.69	5.9	6,122
1,047.18	3.4	3,572	1,047.70	5.9	6,177
1,047.19	3.5	3,618	1,047.71	6.0	6,231
1,047.20	3.5	3,663	1,047.72	6.0	6,286
1,047.21	3.5	3,709	1,047.73	6.1	6,341
1,047.22	3.6	3,755	1,047.74	6.1	6,396
1,047.23	3.6	3,801	1,047.75	6.2	6,451
1,047.24	3.7	3,848	1,047.76	6.2	6,507
1,047.25	3.7	3,895	1,047.77	6.3	6,562
1,047.26	3.8	3,941	1,047.78	6.3	6,618
1,047.27	3.8	3,988	1,047.79	6.4	6,674
1,047.28	3.9	4,036	1,047.80	6.4	6,730
1,047.29	3.9	4,083	1,047.81	6.5	6,786
1,047.30	4.0	4,131	1,047.82	6.5	6,842
1,047.31	4.0	4,178	1,047.83	6.6	6,899
1,047.32	4.0	4,226	1,047.84	6.7	6,955
1,047.33	4.1	4,274	1,047.85	6.7	7,012
1,047.34	4.1	4,323	1,047.86	6.8	7,069
1,047.35	4.2	4,371	1,047.87	6.8	7,126
1,047.36	4.2	4,420	1,047.88	6.9	7,183
1,047.37	4.3	4,469	1,047.89	6.9	7,241
1,047.38	4.3	4,518	1,047.90	7.0	7,298
1,047.39	4.4	4,567	1,047.91	7.0	7,356
1,047.40	4.4	4,616	1,047.92	7.1	7,414
1,047.41	4.5	4,666	1,047.93	7.2	7,472
1,047.42	4.5	4,715	1,047.94	7.2	7,530
1,047.43	4.6	4,765	1,047.95	7.3	7,588
1,047.44	4.6	4,815	1,047.96	7.3	7,647
1,047.45	4.7	4,866	1,047.97	7.4	7,705
1,047.46	4.7	4,916	1,047.98	7.4	7,764
1,047.47	4.8	4,967	1,047.99	7.5	7,823
1,047.48	4.8	5,017	1,048.00	7.5	7,882
1,047.49	4.9	5,068	1,048.01	7.6	7,941
1,047.50	4.9	5,120	1,048.02	7.7	8,000
1,047.51	4.9	5,171	1,048.03	7.7	8,060
1,047.52	5.0	5,222	1,048.04	7.8	8,120
1,047.53	5.0	5,274	1,048.05	7.8	8,179
1,047.54	5.1	5,326	1,048.06	7.9	8,239
1,047.55	5.1	5,378	1,048.07	7.9	8,299

Stage-Area-Storage for Reach 1R: Roadside swale (continued)

Elevation (feet)	End-Area (sq-ft)	Storage (cubic-feet)
1,048.08	8.0	8,360
1,048.09	8.1	8,420
1,048.10	8.1	8,480
1,048.11	8.2	8,541
1,048.12	8.2	8,602
1,048.13	8.3	8,663
1,048.14	8.3	8,724
1,048.15	8.4	8,785
1,048.16	8.5	8,846
1,048.17	8.5	8,908
1,048.18	8.6	8,970
1,048.19	8.6	9,031
1,048.20	8.7	9,093
1,048.21	8.8	9,155
1,048.22	8.8	9,218
1,048.23	8.9	9,280
1,048.24	8.9	9,342
1,048.25	**9.0**	**9,405**

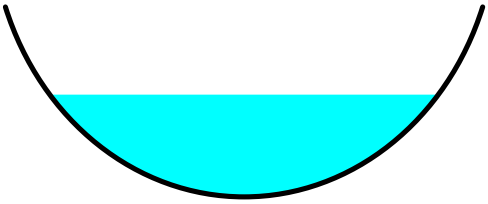
Summary for Reach 2R: Roadside swale

Inflow Area = 5.010 ac, 7.30% Impervious, Inflow Depth > 4.12" for 100 YR event
Inflow = 21.73 cfs @ 12.15 hrs, Volume= 1.719 af
Outflow = 21.01 cfs @ 12.20 hrs, Volume= 1.716 af, Atten= 3%, Lag= 2.4 min

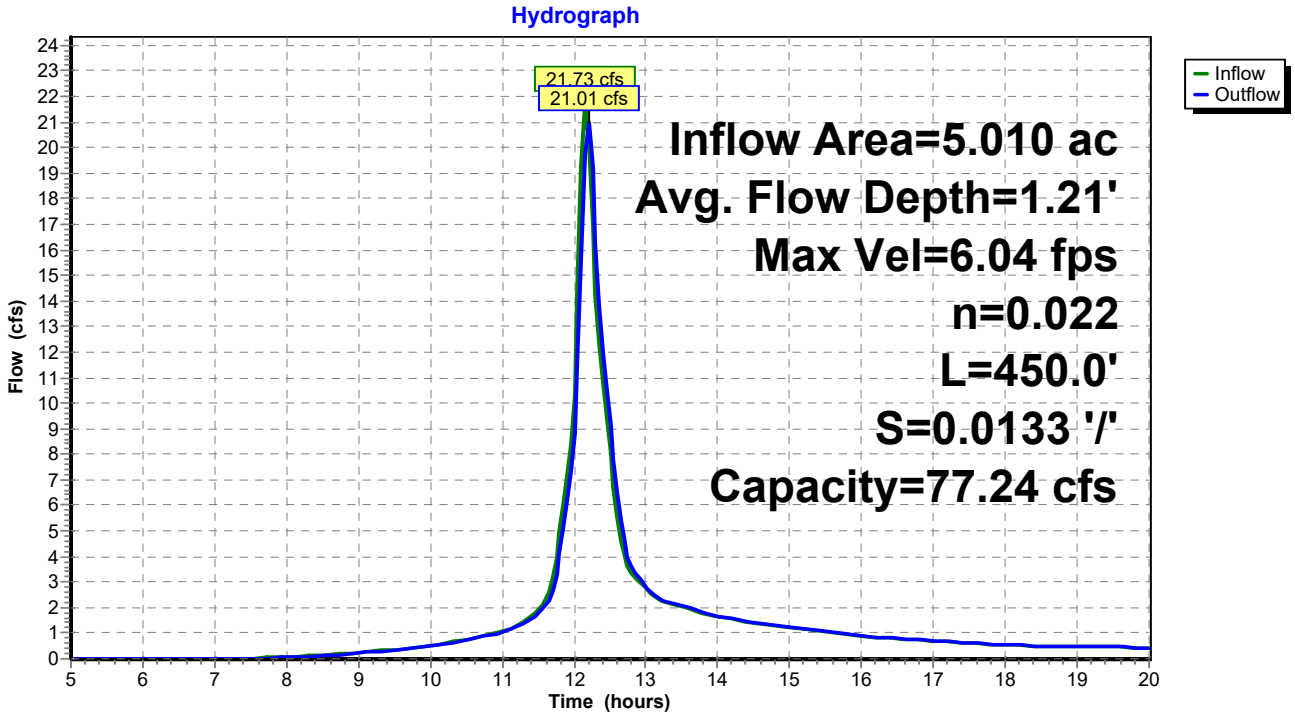
Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 6.04 fps, Min. Travel Time= 1.2 min
Avg. Velocity = 2.40 fps, Avg. Travel Time= 3.1 min

Peak Storage= 1,597 cf @ 12.17 hrs
Average Depth at Peak Storage= 1.21'
Bank-Full Depth= 2.25' Flow Area= 9.0 sf, Capacity= 77.24 cfs

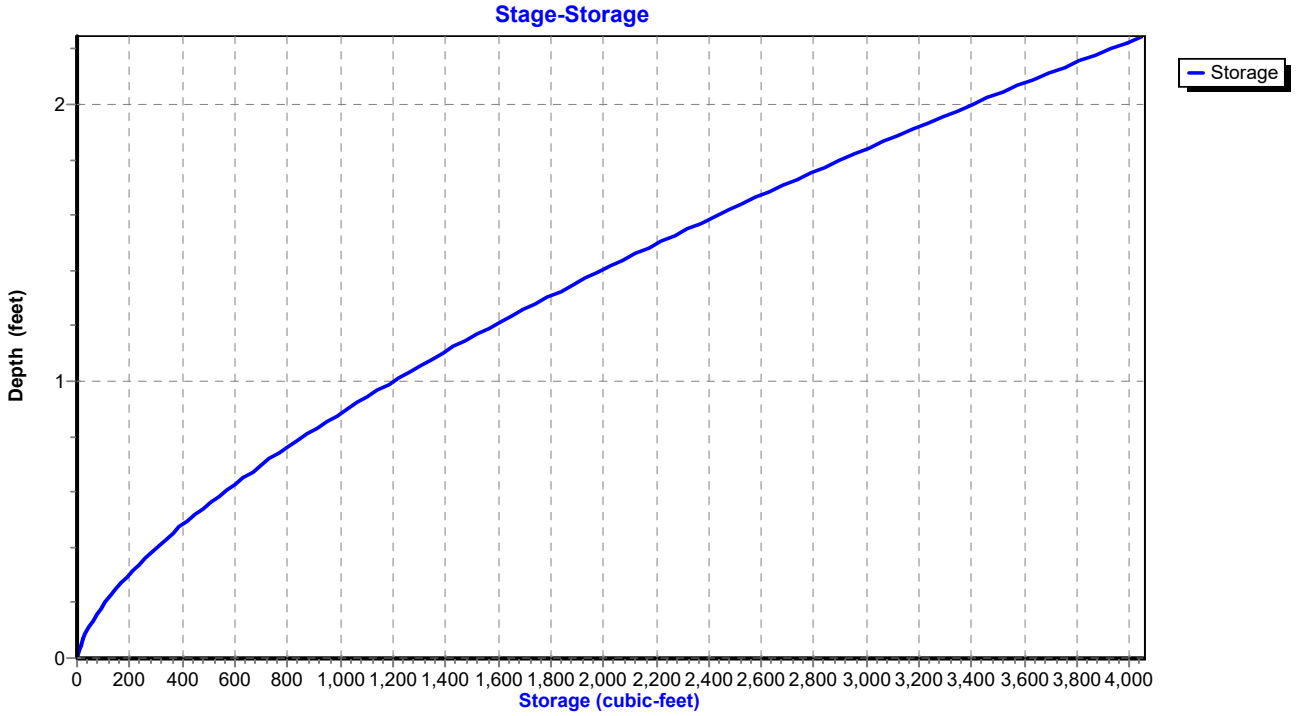
6.00' x 2.25' deep Parabolic Channel, n= 0.022 Earth, clean & straight
Length= 450.0' Slope= 0.0133 '/'
Inlet Invert= 1,046.00', Outlet Invert= 1,040.00'



Reach 2R: Roadside swale



Reach 2R: Roadside swale



Stage-Area-Storage for Reach 2R: Roadside swale

Elevation (feet)	End-Area (sq-ft)	Storage (cubic-feet)	Elevation (feet)	End-Area (sq-ft)	Storage (cubic-feet)
1,046.00	0.0	0	1,046.52	1.0	450
1,046.01	0.0	2	1,046.53	1.0	463
1,046.02	0.0	4	1,046.54	1.1	476
1,046.03	0.0	7	1,046.55	1.1	490
1,046.04	0.0	10	1,046.56	1.1	503
1,046.05	0.0	14	1,046.57	1.1	516
1,046.06	0.0	18	1,046.58	1.2	530
1,046.07	0.0	22	1,046.59	1.2	544
1,046.08	0.1	27	1,046.60	1.2	558
1,046.09	0.1	32	1,046.61	1.3	572
1,046.10	0.1	38	1,046.62	1.3	586
1,046.11	0.1	44	1,046.63	1.3	600
1,046.12	0.1	50	1,046.64	1.4	614
1,046.13	0.1	56	1,046.65	1.4	629
1,046.14	0.1	63	1,046.66	1.4	643
1,046.15	0.2	70	1,046.67	1.5	658
1,046.16	0.2	77	1,046.68	1.5	673
1,046.17	0.2	84	1,046.69	1.5	688
1,046.18	0.2	92	1,046.70	1.6	703
1,046.19	0.2	100	1,046.71	1.6	718
1,046.20	0.2	107	1,046.72	1.6	733
1,046.21	0.3	116	1,046.73	1.7	749
1,046.22	0.3	124	1,046.74	1.7	764
1,046.23	0.3	132	1,046.75	1.7	779
1,046.24	0.3	141	1,046.76	1.8	795
1,046.25	0.3	150	1,046.77	1.8	811
1,046.26	0.4	159	1,046.78	1.8	827
1,046.27	0.4	168	1,046.79	1.9	843
1,046.28	0.4	178	1,046.80	1.9	859
1,046.29	0.4	187	1,046.81	1.9	875
1,046.30	0.4	197	1,046.82	2.0	891
1,046.31	0.5	207	1,046.83	2.0	907
1,046.32	0.5	217	1,046.84	2.1	924
1,046.33	0.5	228	1,046.85	2.1	940
1,046.34	0.5	238	1,046.86	2.1	957
1,046.35	0.6	249	1,046.87	2.2	974
1,046.36	0.6	259	1,046.88	2.2	991
1,046.37	0.6	270	1,046.89	2.2	1,008
1,046.38	0.6	281	1,046.90	2.3	1,025
1,046.39	0.6	292	1,046.91	2.3	1,042
1,046.40	0.7	304	1,046.92	2.4	1,059
1,046.41	0.7	315	1,046.93	2.4	1,076
1,046.42	0.7	327	1,046.94	2.4	1,094
1,046.43	0.8	338	1,046.95	2.5	1,111
1,046.44	0.8	350	1,046.96	2.5	1,129
1,046.45	0.8	362	1,046.97	2.5	1,146
1,046.46	0.8	374	1,046.98	2.6	1,164
1,046.47	0.9	387	1,046.99	2.6	1,182
1,046.48	0.9	399	1,047.00	2.7	1,200
1,046.49	0.9	412	1,047.01	2.7	1,218
1,046.50	0.9	424	1,047.02	2.7	1,236
1,046.51	1.0	437	1,047.03	2.8	1,254

Stage-Area-Storage for Reach 2R: Roadside swale (continued)

Elevation (feet)	End-Area (sq-ft)	Storage (cubic-feet)	Elevation (feet)	End-Area (sq-ft)	Storage (cubic-feet)
1,047.04	2.8	1,273	1,047.56	5.2	2,338
1,047.05	2.9	1,291	1,047.57	5.2	2,361
1,047.06	2.9	1,310	1,047.58	5.3	2,383
1,047.07	3.0	1,328	1,047.59	5.3	2,406
1,047.08	3.0	1,347	1,047.60	5.4	2,429
1,047.09	3.0	1,366	1,047.61	5.4	2,451
1,047.10	3.1	1,384	1,047.62	5.5	2,474
1,047.11	3.1	1,403	1,047.63	5.5	2,497
1,047.12	3.2	1,422	1,047.64	5.6	2,520
1,047.13	3.2	1,441	1,047.65	5.7	2,543
1,047.14	3.2	1,461	1,047.66	5.7	2,567
1,047.15	3.3	1,480	1,047.67	5.8	2,590
1,047.16	3.3	1,499	1,047.68	5.8	2,613
1,047.17	3.4	1,519	1,047.69	5.9	2,636
1,047.18	3.4	1,538	1,047.70	5.9	2,660
1,047.19	3.5	1,558	1,047.71	6.0	2,683
1,047.20	3.5	1,577	1,047.72	6.0	2,707
1,047.21	3.5	1,597	1,047.73	6.1	2,731
1,047.22	3.6	1,617	1,047.74	6.1	2,754
1,047.23	3.6	1,637	1,047.75	6.2	2,778
1,047.24	3.7	1,657	1,047.76	6.2	2,802
1,047.25	3.7	1,677	1,047.77	6.3	2,826
1,047.26	3.8	1,697	1,047.78	6.3	2,850
1,047.27	3.8	1,718	1,047.79	6.4	2,874
1,047.28	3.9	1,738	1,047.80	6.4	2,898
1,047.29	3.9	1,758	1,047.81	6.5	2,922
1,047.30	4.0	1,779	1,047.82	6.5	2,946
1,047.31	4.0	1,799	1,047.83	6.6	2,971
1,047.32	4.0	1,820	1,047.84	6.7	2,995
1,047.33	4.1	1,841	1,047.85	6.7	3,020
1,047.34	4.1	1,861	1,047.86	6.8	3,044
1,047.35	4.2	1,882	1,047.87	6.8	3,069
1,047.36	4.2	1,903	1,047.88	6.9	3,093
1,047.37	4.3	1,924	1,047.89	6.9	3,118
1,047.38	4.3	1,945	1,047.90	7.0	3,143
1,047.39	4.4	1,967	1,047.91	7.0	3,168
1,047.40	4.4	1,988	1,047.92	7.1	3,193
1,047.41	4.5	2,009	1,047.93	7.2	3,218
1,047.42	4.5	2,031	1,047.94	7.2	3,243
1,047.43	4.6	2,052	1,047.95	7.3	3,268
1,047.44	4.6	2,074	1,047.96	7.3	3,293
1,047.45	4.7	2,095	1,047.97	7.4	3,318
1,047.46	4.7	2,117	1,047.98	7.4	3,343
1,047.47	4.8	2,139	1,047.99	7.5	3,369
1,047.48	4.8	2,161	1,048.00	7.5	3,394
1,047.49	4.9	2,183	1,048.01	7.6	3,420
1,047.50	4.9	2,205	1,048.02	7.7	3,445
1,047.51	4.9	2,227	1,048.03	7.7	3,471
1,047.52	5.0	2,249	1,048.04	7.8	3,496
1,047.53	5.0	2,271	1,048.05	7.8	3,522
1,047.54	5.1	2,293	1,048.06	7.9	3,548
1,047.55	5.1	2,316	1,048.07	7.9	3,574

Stage-Area-Storage for Reach 2R: Roadside swale (continued)

Elevation (feet)	End-Area (sq-ft)	Storage (cubic-feet)
1,048.08	8.0	3,600
1,048.09	8.1	3,626
1,048.10	8.1	3,652
1,048.11	8.2	3,678
1,048.12	8.2	3,704
1,048.13	8.3	3,730
1,048.14	8.3	3,757
1,048.15	8.4	3,783
1,048.16	8.5	3,809
1,048.17	8.5	3,836
1,048.18	8.6	3,862
1,048.19	8.6	3,889
1,048.20	8.7	3,916
1,048.21	8.8	3,943
1,048.22	8.8	3,969
1,048.23	8.9	3,996
1,048.24	8.9	4,023
1,048.25	**9.0**	**4,050**

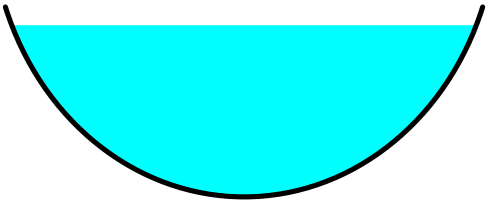
Summary for Reach 4R: Roadside swale

Inflow Area = 14.937 ac, 12.18% Impervious, Inflow Depth > 3.88" for 100 YR event
Inflow = 57.04 cfs @ 12.11 hrs, Volume= 4.825 af
Outflow = 55.09 cfs @ 12.15 hrs, Volume= 4.817 af, Atten= 3%, Lag= 2.3 min

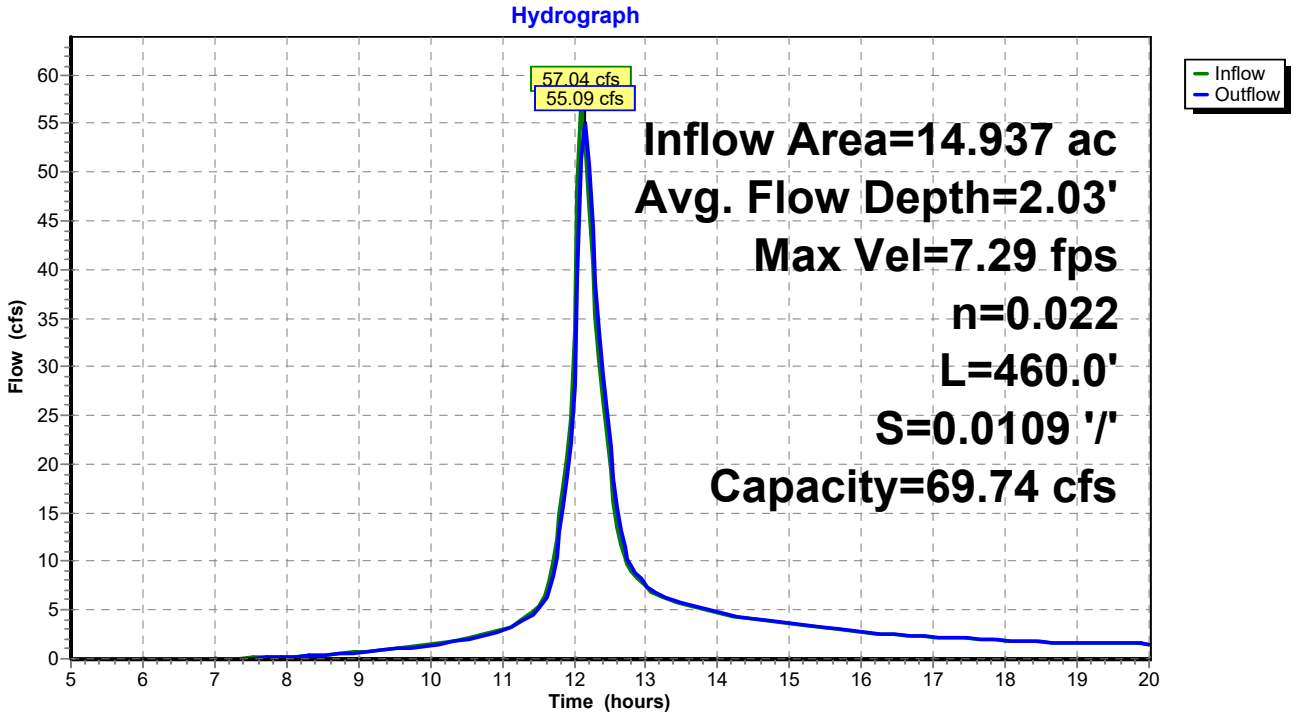
Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 7.29 fps, Min. Travel Time= 1.1 min
Avg. Velocity = 3.02 fps, Avg. Travel Time= 2.5 min

Peak Storage= 3,553 cf @ 12.12 hrs
Average Depth at Peak Storage= 2.03'
Bank-Full Depth= 2.25' Flow Area= 9.0 sf, Capacity= 69.74 cfs

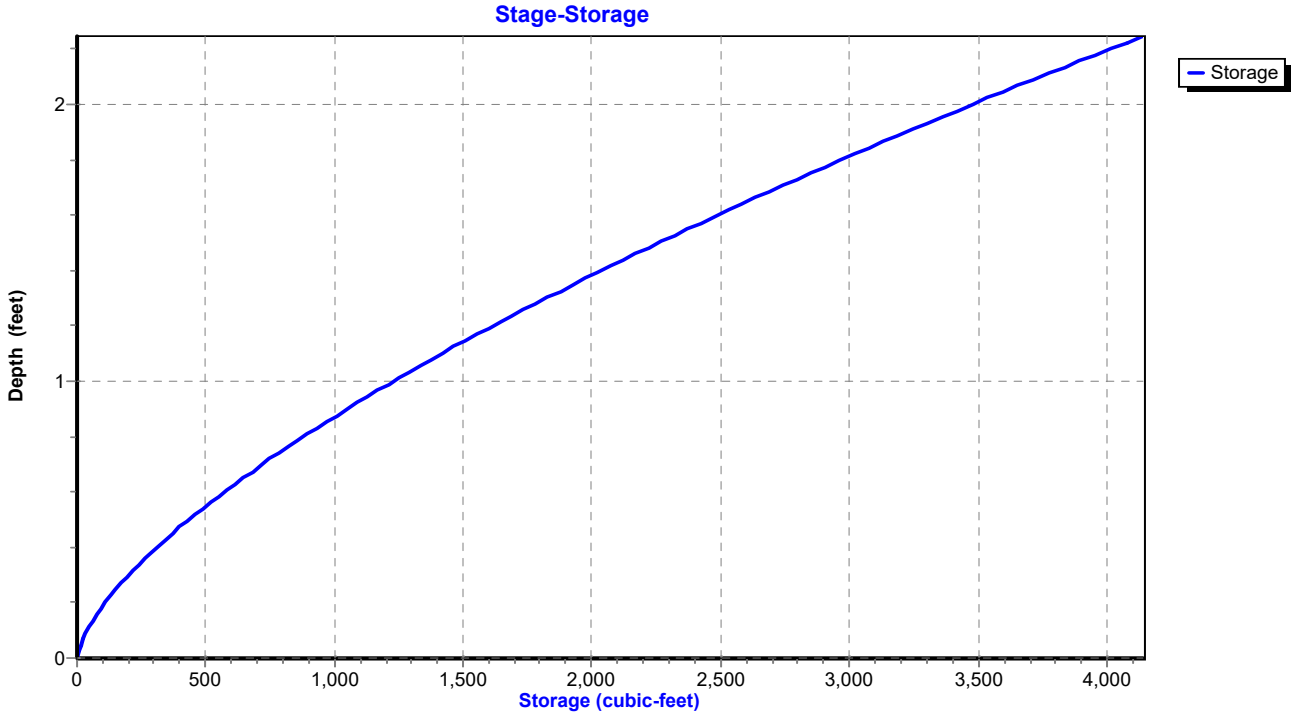
6.00' x 2.25' deep Parabolic Channel, n= 0.022 Earth, clean & straight
Length= 460.0' Slope= 0.0109 '/'
Inlet Invert= 1,039.00', Outlet Invert= 1,034.00'



Reach 4R: Roadside swale



Reach 4R: Roadside swale



Stage-Area-Storage for Reach 4R: Roadside swale

Elevation (feet)	End-Area (sq-ft)	Storage (cubic-feet)	Elevation (feet)	End-Area (sq-ft)	Storage (cubic-feet)
1,039.00	0.0	0	1,039.52	1.0	460
1,039.01	0.0	2	1,039.53	1.0	473
1,039.02	0.0	4	1,039.54	1.1	487
1,039.03	0.0	7	1,039.55	1.1	500
1,039.04	0.0	10	1,039.56	1.1	514
1,039.05	0.0	14	1,039.57	1.1	528
1,039.06	0.0	18	1,039.58	1.2	542
1,039.07	0.0	23	1,039.59	1.2	556
1,039.08	0.1	28	1,039.60	1.2	570
1,039.09	0.1	33	1,039.61	1.3	584
1,039.10	0.1	39	1,039.62	1.3	599
1,039.11	0.1	45	1,039.63	1.3	613
1,039.12	0.1	51	1,039.64	1.4	628
1,039.13	0.1	58	1,039.65	1.4	643
1,039.14	0.1	64	1,039.66	1.4	658
1,039.15	0.2	71	1,039.67	1.5	673
1,039.16	0.2	79	1,039.68	1.5	688
1,039.17	0.2	86	1,039.69	1.5	703
1,039.18	0.2	94	1,039.70	1.6	718
1,039.19	0.2	102	1,039.71	1.6	734
1,039.20	0.2	110	1,039.72	1.6	749
1,039.21	0.3	118	1,039.73	1.7	765
1,039.22	0.3	127	1,039.74	1.7	781
1,039.23	0.3	135	1,039.75	1.7	797
1,039.24	0.3	144	1,039.76	1.8	813
1,039.25	0.3	153	1,039.77	1.8	829
1,039.26	0.4	163	1,039.78	1.8	845
1,039.27	0.4	172	1,039.79	1.9	861
1,039.28	0.4	182	1,039.80	1.9	878
1,039.29	0.4	192	1,039.81	1.9	894
1,039.30	0.4	202	1,039.82	2.0	911
1,039.31	0.5	212	1,039.83	2.0	928
1,039.32	0.5	222	1,039.84	2.1	944
1,039.33	0.5	233	1,039.85	2.1	961
1,039.34	0.5	243	1,039.86	2.1	978
1,039.35	0.6	254	1,039.87	2.2	995
1,039.36	0.6	265	1,039.88	2.2	1,013
1,039.37	0.6	276	1,039.89	2.2	1,030
1,039.38	0.6	287	1,039.90	2.3	1,047
1,039.39	0.6	299	1,039.91	2.3	1,065
1,039.40	0.7	310	1,039.92	2.4	1,082
1,039.41	0.7	322	1,039.93	2.4	1,100
1,039.42	0.7	334	1,039.94	2.4	1,118
1,039.43	0.8	346	1,039.95	2.5	1,136
1,039.44	0.8	358	1,039.96	2.5	1,154
1,039.45	0.8	370	1,039.97	2.5	1,172
1,039.46	0.8	383	1,039.98	2.6	1,190
1,039.47	0.9	395	1,039.99	2.6	1,208
1,039.48	0.9	408	1,040.00	2.7	1,227
1,039.49	0.9	421	1,040.01	2.7	1,245
1,039.50	0.9	434	1,040.02	2.7	1,264
1,039.51	1.0	447	1,040.03	2.8	1,282

Stage-Area-Storage for Reach 4R: Roadside swale (continued)

Elevation (feet)	End-Area (sq-ft)	Storage (cubic-feet)	Elevation (feet)	End-Area (sq-ft)	Storage (cubic-feet)
1,040.04	2.8	1,301	1,040.56	5.2	2,390
1,040.05	2.9	1,320	1,040.57	5.2	2,413
1,040.06	2.9	1,339	1,040.58	5.3	2,436
1,040.07	3.0	1,358	1,040.59	5.3	2,459
1,040.08	3.0	1,377	1,040.60	5.4	2,483
1,040.09	3.0	1,396	1,040.61	5.4	2,506
1,040.10	3.1	1,415	1,040.62	5.5	2,529
1,040.11	3.1	1,435	1,040.63	5.5	2,553
1,040.12	3.2	1,454	1,040.64	5.6	2,576
1,040.13	3.2	1,474	1,040.65	5.7	2,600
1,040.14	3.2	1,493	1,040.66	5.7	2,624
1,040.15	3.3	1,513	1,040.67	5.8	2,647
1,040.16	3.3	1,533	1,040.68	5.8	2,671
1,040.17	3.4	1,552	1,040.69	5.9	2,695
1,040.18	3.4	1,572	1,040.70	5.9	2,719
1,040.19	3.5	1,592	1,040.71	6.0	2,743
1,040.20	3.5	1,613	1,040.72	6.0	2,767
1,040.21	3.5	1,633	1,040.73	6.1	2,791
1,040.22	3.6	1,653	1,040.74	6.1	2,816
1,040.23	3.6	1,673	1,040.75	6.2	2,840
1,040.24	3.7	1,694	1,040.76	6.2	2,864
1,040.25	3.7	1,714	1,040.77	6.3	2,889
1,040.26	3.8	1,735	1,040.78	6.3	2,913
1,040.27	3.8	1,756	1,040.79	6.4	2,938
1,040.28	3.9	1,776	1,040.80	6.4	2,962
1,040.29	3.9	1,797	1,040.81	6.5	2,987
1,040.30	4.0	1,818	1,040.82	6.5	3,012
1,040.31	4.0	1,839	1,040.83	6.6	3,037
1,040.32	4.0	1,860	1,040.84	6.7	3,062
1,040.33	4.1	1,882	1,040.85	6.7	3,087
1,040.34	4.1	1,903	1,040.86	6.8	3,112
1,040.35	4.2	1,924	1,040.87	6.8	3,137
1,040.36	4.2	1,946	1,040.88	6.9	3,162
1,040.37	4.3	1,967	1,040.89	6.9	3,187
1,040.38	4.3	1,989	1,040.90	7.0	3,213
1,040.39	4.4	2,010	1,040.91	7.0	3,238
1,040.40	4.4	2,032	1,040.92	7.1	3,263
1,040.41	4.5	2,054	1,040.93	7.2	3,289
1,040.42	4.5	2,076	1,040.94	7.2	3,315
1,040.43	4.6	2,098	1,040.95	7.3	3,340
1,040.44	4.6	2,120	1,040.96	7.3	3,366
1,040.45	4.7	2,142	1,040.97	7.4	3,392
1,040.46	4.7	2,164	1,040.98	7.4	3,418
1,040.47	4.8	2,186	1,040.99	7.5	3,444
1,040.48	4.8	2,209	1,041.00	7.5	3,470
1,040.49	4.9	2,231	1,041.01	7.6	3,496
1,040.50	4.9	2,254	1,041.02	7.7	3,522
1,040.51	4.9	2,276	1,041.03	7.7	3,548
1,040.52	5.0	2,299	1,041.04	7.8	3,574
1,040.53	5.0	2,321	1,041.05	7.8	3,600
1,040.54	5.1	2,344	1,041.06	7.9	3,627
1,040.55	5.1	2,367	1,041.07	7.9	3,653

Stage-Area-Storage for Reach 4R: Roadside swale (continued)

Elevation (feet)	End-Area (sq-ft)	Storage (cubic-feet)
1,041.08	8.0	3,680
1,041.09	8.1	3,706
1,041.10	8.1	3,733
1,041.11	8.2	3,760
1,041.12	8.2	3,786
1,041.13	8.3	3,813
1,041.14	8.3	3,840
1,041.15	8.4	3,867
1,041.16	8.5	3,894
1,041.17	8.5	3,921
1,041.18	8.6	3,948
1,041.19	8.6	3,976
1,041.20	8.7	4,003
1,041.21	8.8	4,030
1,041.22	8.8	4,058
1,041.23	8.9	4,085
1,041.24	8.9	4,112
1,041.25	**9.0**	**4,140**

Summary for Reach 10R: Culvert at Curb Cut

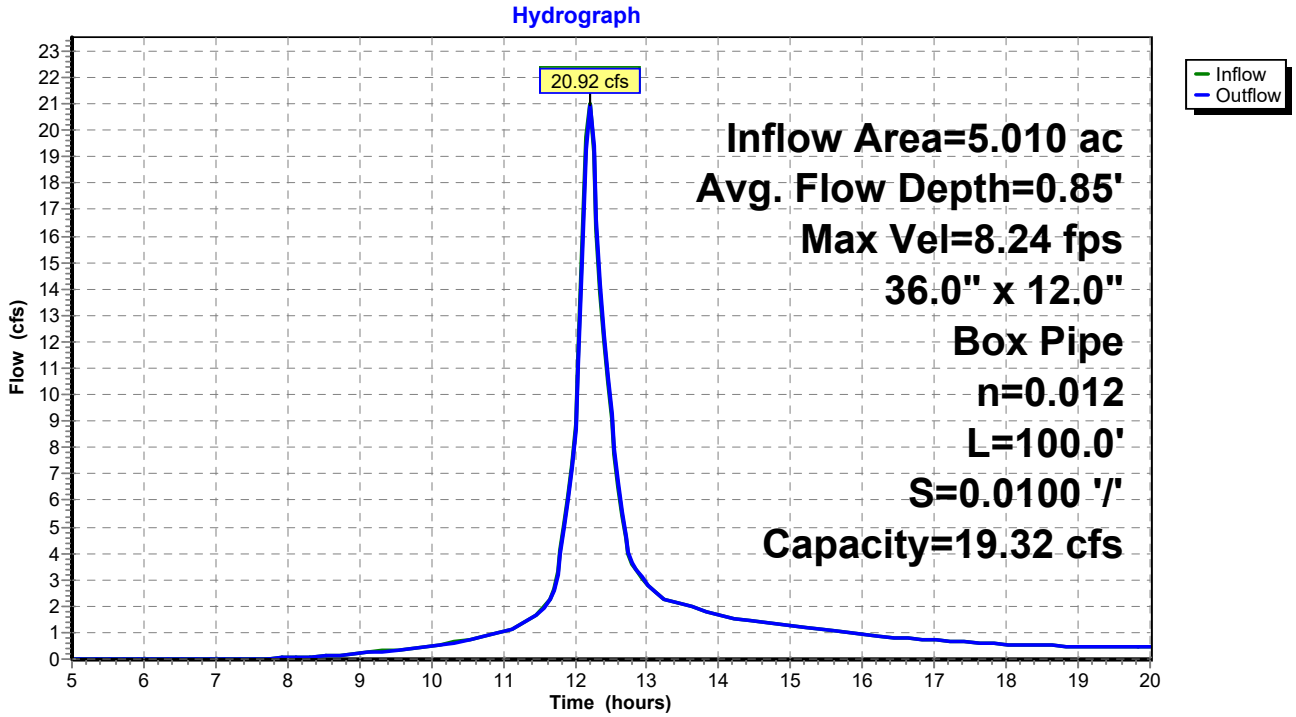
Inflow Area = 5.010 ac, 7.30% Impervious, Inflow Depth > 4.11" for 100 YR event
Inflow = 21.01 cfs @ 12.20 hrs, Volume= 1.716 af
Outflow = 20.92 cfs @ 12.20 hrs, Volume= 1.715 af, Atten= 0%, Lag= 0.3 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 8.24 fps, Min. Travel Time= 0.2 min
Avg. Velocity = 2.75 fps, Avg. Travel Time= 0.6 min

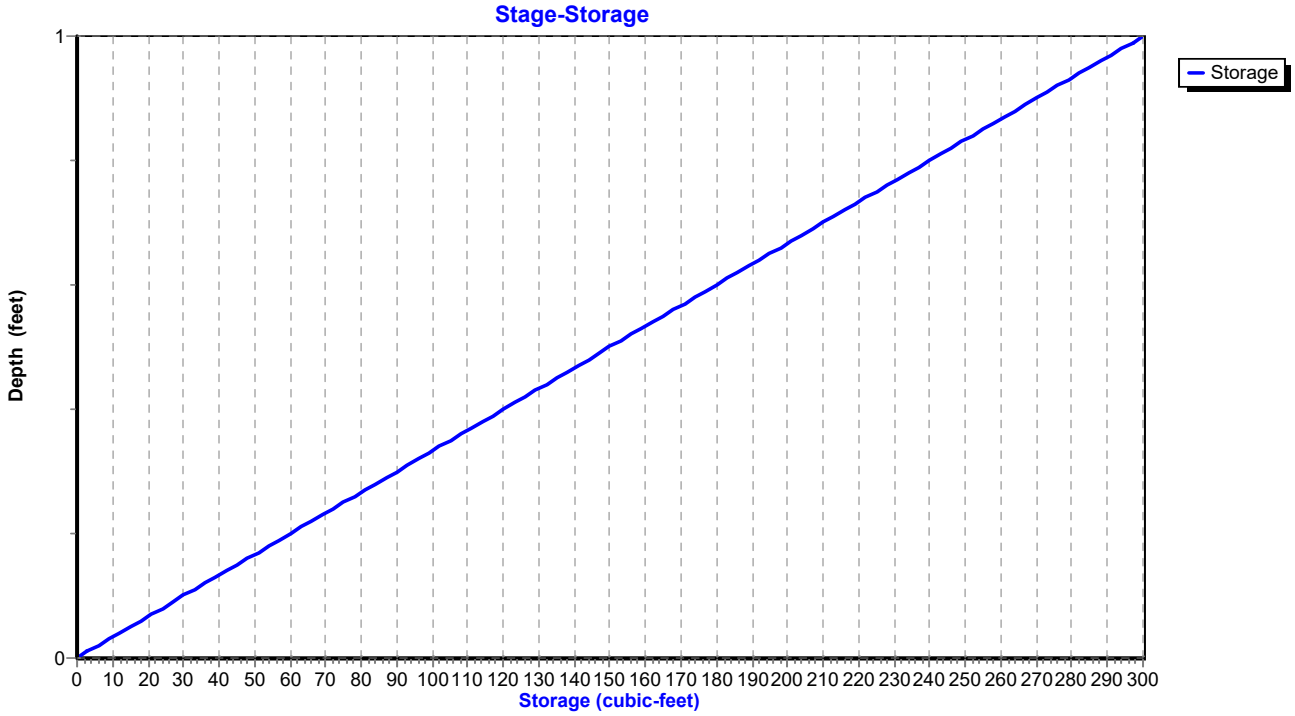
Peak Storage= 255 cf @ 12.20 hrs
Average Depth at Peak Storage= 0.85'
Bank-Full Depth= 1.00' Flow Area= 3.0 sf, Capacity= 19.32 cfs

36.0" W x 12.0" H Box Pipe
n= 0.012
Length= 100.0' Slope= 0.0100 '/'
Inlet Invert= 1,040.00', Outlet Invert= 1,039.00'

Reach 10R: Culvert at Curb Cut



Reach 10R: Culvert at Curb Cut



Stage-Area-Storage for Reach 10R: Culvert at Curb Cut

Elevation (feet)	End-Area (sq-ft)	Storage (cubic-feet)
1,040.00	0.0	0
1,040.01	0.0	3
1,040.02	0.1	6
1,040.03	0.1	9
1,040.04	0.1	12
1,040.05	0.2	15
1,040.06	0.2	18
1,040.07	0.2	21
1,040.08	0.2	24
1,040.09	0.3	27
1,040.10	0.3	30
1,040.11	0.3	33
1,040.12	0.4	36
1,040.13	0.4	39
1,040.14	0.4	42
1,040.15	0.4	45
1,040.16	0.5	48
1,040.17	0.5	51
1,040.18	0.5	54
1,040.19	0.6	57
1,040.20	0.6	60
1,040.21	0.6	63
1,040.22	0.7	66
1,040.23	0.7	69
1,040.24	0.7	72
1,040.25	0.8	75
1,040.26	0.8	78
1,040.27	0.8	81
1,040.28	0.8	84
1,040.29	0.9	87
1,040.30	0.9	90
1,040.31	0.9	93
1,040.32	1.0	96
1,040.33	1.0	99
1,040.34	1.0	102
1,040.35	1.1	105
1,040.36	1.1	108
1,040.37	1.1	111
1,040.38	1.1	114
1,040.39	1.2	117
1,040.40	1.2	120
1,040.41	1.2	123
1,040.42	1.3	126
1,040.43	1.3	129
1,040.44	1.3	132
1,040.45	1.4	135
1,040.46	1.4	138
1,040.47	1.4	141
1,040.48	1.4	144
1,040.49	1.5	147
1,040.50	1.5	150
1,040.51	1.5	153
1,040.52	1.6	156
1,040.53	1.6	159
1,040.54	1.6	162
1,040.55	1.7	165
1,040.56	1.7	168
1,040.57	1.7	171
1,040.58	1.7	174
1,040.59	1.8	177
1,040.60	1.8	180
1,040.61	1.8	183
1,040.62	1.9	186
1,040.63	1.9	189
1,040.64	1.9	192
1,040.65	2.0	195
1,040.66	2.0	198
1,040.67	2.0	201
1,040.68	2.0	204
1,040.69	2.1	207
1,040.70	2.1	210
1,040.71	2.1	213
1,040.72	2.2	216
1,040.73	2.2	219
1,040.74	2.2	222
1,040.75	2.3	225
1,040.76	2.3	228
1,040.77	2.3	231
1,040.78	2.3	234
1,040.79	2.4	237
1,040.80	2.4	240
1,040.81	2.4	243
1,040.82	2.5	246
1,040.83	2.5	249
1,040.84	2.5	252
1,040.85	2.5	255
1,040.86	2.6	258
1,040.87	2.6	261
1,040.88	2.6	264
1,040.89	2.7	267
1,040.90	2.7	270
1,040.91	2.7	273
1,040.92	2.8	276
1,040.93	2.8	279
1,040.94	2.8	282
1,040.95	2.9	285
1,040.96	2.9	288
1,040.97	2.9	291
1,040.98	2.9	294
1,040.99	3.0	297
1,041.00	**3.0**	**300**

Summary for Pond 5P: (new Pond)

Inflow Area = 1.871 ac, 29.67% Impervious, Inflow Depth > 4.67" for 100 YR event
Inflow = 11.47 cfs @ 12.06 hrs, Volume= 0.728 af
Outflow = 0.43 cfs @ 15.33 hrs, Volume= 0.270 af, Atten= 96%, Lag= 196.2 min
Primary = 0.43 cfs @ 15.33 hrs, Volume= 0.270 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 1,041.87' @ 15.33 hrs Surf.Area= 7,561 sf Storage= 22,741 cf

Plug-Flow detention time= 287.3 min calculated for 0.270 af (37% of inflow)
Center-of-Mass det. time= 191.4 min (963.7 - 772.2)

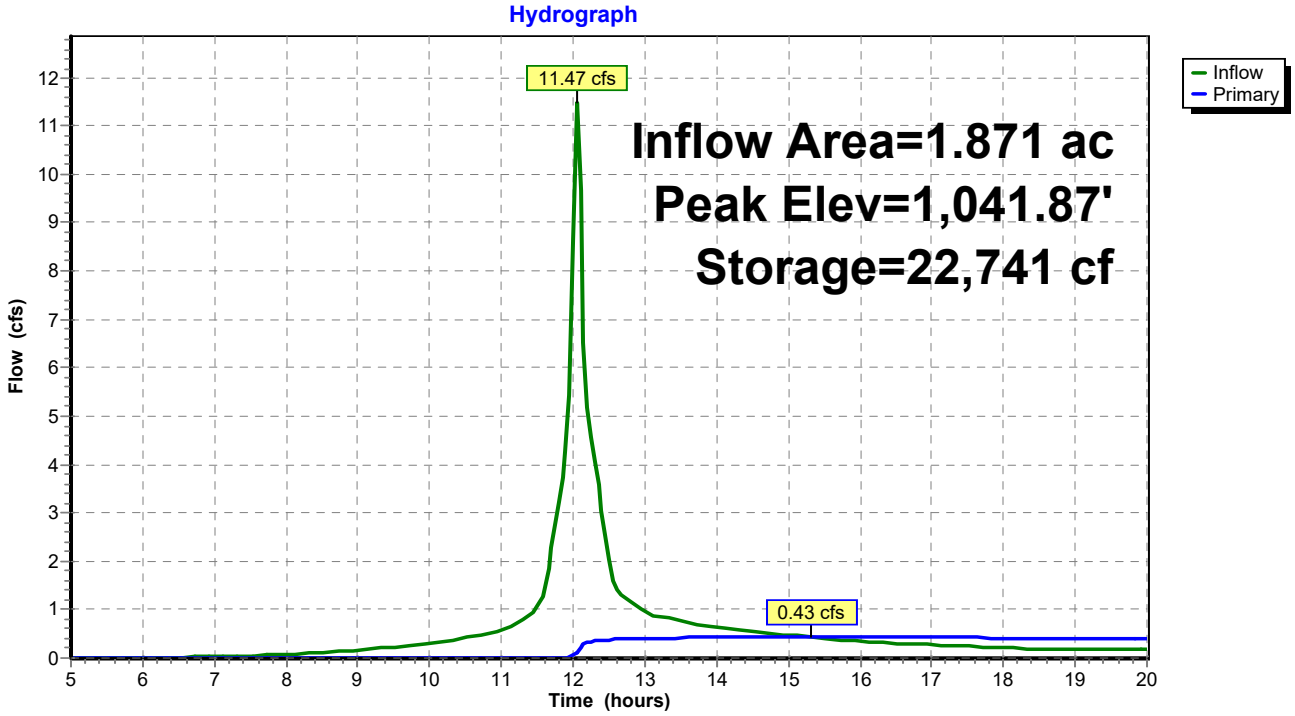
Volume	Invert	Avail.Storage	Storage Description
#1	1,038.00'	31,830 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc) x 2

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,038.00	2,094	0	0
1,043.00	4,272	15,915	15,915

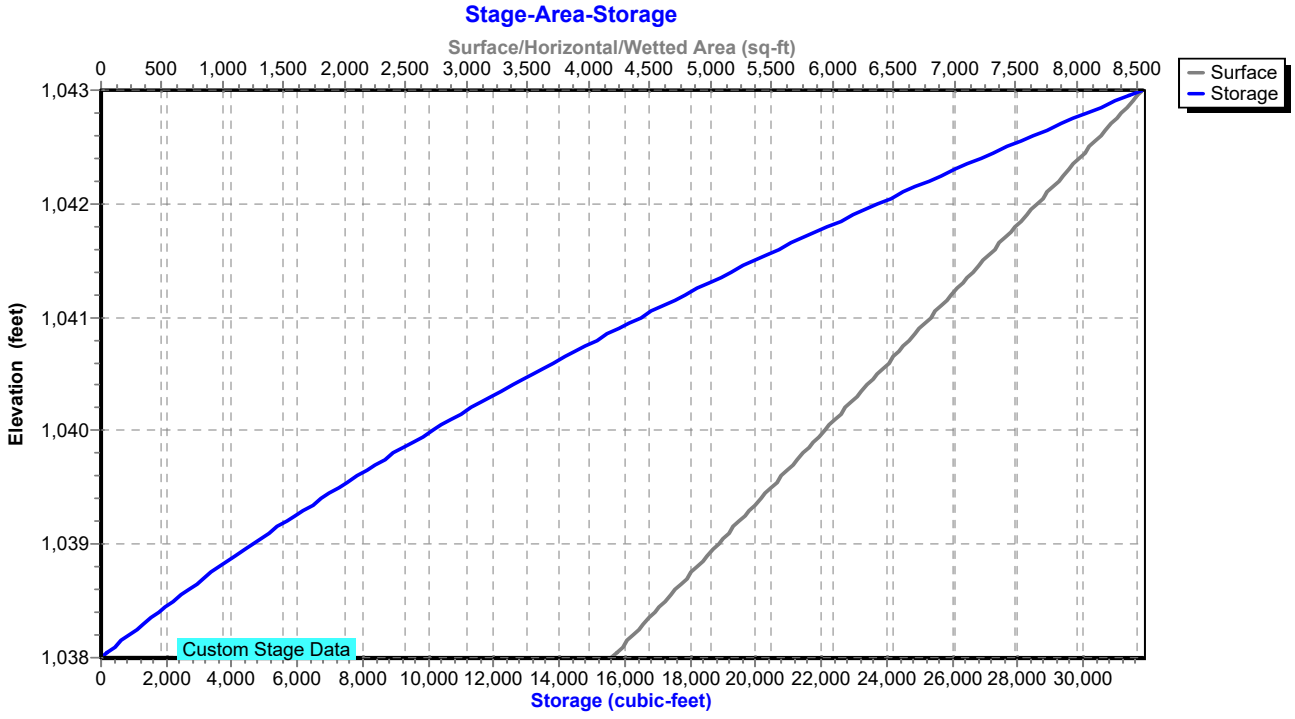
Device	Routing	Invert	Outlet Devices
#1	Primary	1,042.08'	**5.0' long x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88
#2	Primary	1,040.00'	**4.0" Round Culvert** L= 32.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 1,040.00' / 1,039.50' S= 0.0156 '/' Cc= 0.900 n= 0.012, Flow Area= 0.09 sf

Primary OutFlow Max=0.43 cfs @ 15.33 hrs HW=1,041.87' (Free Discharge)
└─**1=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)
└─**2=Culvert** (Barrel Controls 0.43 cfs @ 4.93 fps)

Pond 5P: (new Pond)



Pond 5P: (new Pond)



Stage-Area-Storage for Pond 5P: (new Pond)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
1,038.00	4,188	0	1,038.52	4,641	2,296
1,038.01	4,197	42	1,038.53	4,650	2,342
1,038.02	4,205	84	1,038.54	4,658	2,389
1,038.03	4,214	126	1,038.55	4,667	2,435
1,038.04	4,223	168	1,038.56	4,676	2,482
1,038.05	4,232	210	1,038.57	4,685	2,529
1,038.06	4,240	253	1,038.58	4,693	2,576
1,038.07	4,249	295	1,038.59	4,702	2,623
1,038.08	4,258	338	1,038.60	4,711	2,670
1,038.09	4,266	380	1,038.61	4,719	2,717
1,038.10	4,275	423	1,038.62	4,728	2,764
1,038.11	4,284	466	1,038.63	4,737	2,811
1,038.12	4,293	509	1,038.64	4,746	2,859
1,038.13	4,301	552	1,038.65	4,754	2,906
1,038.14	4,310	595	1,038.66	4,763	2,954
1,038.15	4,319	638	1,038.67	4,772	3,002
1,038.16	4,327	681	1,038.68	4,780	3,049
1,038.17	4,336	725	1,038.69	4,789	3,097
1,038.18	4,345	768	1,038.70	4,798	3,145
1,038.19	4,354	811	1,038.71	4,807	3,193
1,038.20	4,362	855	1,038.72	4,815	3,241
1,038.21	4,371	899	1,038.73	4,824	3,289
1,038.22	4,380	942	1,038.74	4,833	3,338
1,038.23	4,388	986	1,038.75	4,841	3,386
1,038.24	4,397	1,030	1,038.76	4,850	3,434
1,038.25	4,406	1,074	1,038.77	4,859	3,483
1,038.26	4,415	1,118	1,038.78	4,868	3,532
1,038.27	4,423	1,163	1,038.79	4,876	3,580
1,038.28	4,432	1,207	1,038.80	4,885	3,629
1,038.29	4,441	1,251	1,038.81	4,894	3,678
1,038.30	4,449	1,296	1,038.82	4,902	3,727
1,038.31	4,458	1,340	1,038.83	4,911	3,776
1,038.32	4,467	1,385	1,038.84	4,920	3,825
1,038.33	4,475	1,429	1,038.85	4,929	3,875
1,038.34	4,484	1,474	1,038.86	4,937	3,924
1,038.35	4,493	1,519	1,038.87	4,946	3,973
1,038.36	4,502	1,564	1,038.88	4,955	4,023
1,038.37	4,510	1,609	1,038.89	4,963	4,072
1,038.38	4,519	1,654	1,038.90	4,972	4,122
1,038.39	4,528	1,700	1,038.91	4,981	4,172
1,038.40	4,536	1,745	1,038.92	4,990	4,222
1,038.41	4,545	1,790	1,038.93	4,998	4,272
1,038.42	4,554	1,836	1,038.94	5,007	4,322
1,038.43	4,563	1,881	1,038.95	5,016	4,372
1,038.44	4,571	1,927	1,038.96	5,024	4,422
1,038.45	4,580	1,973	1,038.97	5,033	4,472
1,038.46	4,589	2,019	1,038.98	5,042	4,523
1,038.47	4,597	2,065	1,038.99	5,050	4,573
1,038.48	4,606	2,111	1,039.00	5,059	4,624
1,038.49	4,615	2,157	1,039.01	5,068	4,674
1,038.50	4,624	2,203	1,039.02	5,077	4,725
1,038.51	4,632	2,249	1,039.03	5,085	4,776

Stage-Area-Storage for Pond 5P: (new Pond) (continued)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
1,039.04	5,094	4,827	1,039.56	5,547	7,593
1,039.05	5,103	4,878	1,039.57	5,556	7,649
1,039.06	5,111	4,929	1,039.58	5,564	7,704
1,039.07	5,120	4,980	1,039.59	5,573	7,760
1,039.08	5,129	5,031	1,039.60	5,582	7,816
1,039.09	5,138	5,082	1,039.61	5,591	7,872
1,039.10	5,146	5,134	1,039.62	5,599	7,928
1,039.11	5,155	5,185	1,039.63	5,608	7,984
1,039.12	5,164	5,237	1,039.64	5,617	8,040
1,039.13	5,172	5,289	1,039.65	5,625	8,096
1,039.14	5,181	5,340	1,039.66	5,634	8,152
1,039.15	5,190	5,392	1,039.67	5,643	8,209
1,039.16	5,199	5,444	1,039.68	5,652	8,265
1,039.17	5,207	5,496	1,039.69	5,660	8,322
1,039.18	5,216	5,548	1,039.70	5,669	8,378
1,039.19	5,225	5,601	1,039.71	5,678	8,435
1,039.20	5,233	5,653	1,039.72	5,686	8,492
1,039.21	5,242	5,705	1,039.73	5,695	8,549
1,039.22	5,251	5,758	1,039.74	5,704	8,606
1,039.23	5,260	5,810	1,039.75	5,713	8,663
1,039.24	5,268	5,863	1,039.76	5,721	8,720
1,039.25	5,277	5,916	1,039.77	5,730	8,777
1,039.26	5,286	5,968	1,039.78	5,739	8,835
1,039.27	5,294	6,021	1,039.79	5,747	8,892
1,039.28	5,303	6,074	1,039.80	5,756	8,950
1,039.29	5,312	6,127	1,039.81	5,765	9,007
1,039.30	5,321	6,181	1,039.82	5,774	9,065
1,039.31	5,329	6,234	1,039.83	5,782	9,123
1,039.32	5,338	6,287	1,039.84	5,791	9,181
1,039.33	5,347	6,341	1,039.85	5,800	9,239
1,039.34	5,355	6,394	1,039.86	5,808	9,297
1,039.35	5,364	6,448	1,039.87	5,817	9,355
1,039.36	5,373	6,501	1,039.88	5,826	9,413
1,039.37	5,382	6,555	1,039.89	5,835	9,471
1,039.38	5,390	6,609	1,039.90	5,843	9,530
1,039.39	5,399	6,663	1,039.91	5,852	9,588
1,039.40	5,408	6,717	1,039.92	5,861	9,647
1,039.41	5,416	6,771	1,039.93	5,869	9,705
1,039.42	5,425	6,825	1,039.94	5,878	9,764
1,039.43	5,434	6,880	1,039.95	5,887	9,823
1,039.44	5,443	6,934	1,039.96	5,896	9,882
1,039.45	5,451	6,988	1,039.97	5,904	9,941
1,039.46	5,460	7,043	1,039.98	5,913	10,000
1,039.47	5,469	7,098	1,039.99	5,922	10,059
1,039.48	5,477	7,152	1,040.00	5,930	10,118
1,039.49	5,486	7,207	1,040.01	5,939	10,178
1,039.50	5,495	7,262	1,040.02	5,948	10,237
1,039.51	5,504	7,317	1,040.03	5,957	10,297
1,039.52	5,512	7,372	1,040.04	5,965	10,356
1,039.53	5,521	7,427	1,040.05	5,974	10,416
1,039.54	5,530	7,483	1,040.06	5,983	10,476
1,039.55	5,538	7,538	1,040.07	5,991	10,536

Stage-Area-Storage for Pond 5P: (new Pond) (continued)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
1,040.08	6,000	10,596	1,040.60	6,453	13,833
1,040.09	6,009	10,656	1,040.61	6,462	13,898
1,040.10	6,018	10,716	1,040.62	6,471	13,963
1,040.11	6,026	10,776	1,040.63	6,479	14,027
1,040.12	6,035	10,836	1,040.64	6,488	14,092
1,040.13	6,044	10,897	1,040.65	6,497	14,157
1,040.14	6,052	10,957	1,040.66	6,505	14,222
1,040.15	6,061	11,018	1,040.67	6,514	14,287
1,040.16	6,070	11,078	1,040.68	6,523	14,352
1,040.17	6,079	11,139	1,040.69	6,532	14,418
1,040.18	6,087	11,200	1,040.70	6,540	14,483
1,040.19	6,096	11,261	1,040.71	6,549	14,549
1,040.20	6,105	11,322	1,040.72	6,558	14,614
1,040.21	6,113	11,383	1,040.73	6,566	14,680
1,040.22	6,122	11,444	1,040.74	6,575	14,745
1,040.23	6,131	11,505	1,040.75	6,584	14,811
1,040.24	6,139	11,567	1,040.76	6,593	14,877
1,040.25	6,148	11,628	1,040.77	6,601	14,943
1,040.26	6,157	11,690	1,040.78	6,610	15,009
1,040.27	6,166	11,751	1,040.79	6,619	15,075
1,040.28	6,174	11,813	1,040.80	6,627	15,142
1,040.29	6,183	11,875	1,040.81	6,636	15,208
1,040.30	6,192	11,937	1,040.82	6,645	15,274
1,040.31	6,200	11,999	1,040.83	6,653	15,341
1,040.32	6,209	12,061	1,040.84	6,662	15,407
1,040.33	6,218	12,123	1,040.85	6,671	15,474
1,040.34	6,227	12,185	1,040.86	6,680	15,541
1,040.35	6,235	12,247	1,040.87	6,688	15,608
1,040.36	6,244	12,310	1,040.88	6,697	15,674
1,040.37	6,253	12,372	1,040.89	6,706	15,741
1,040.38	6,261	12,435	1,040.90	6,714	15,809
1,040.39	6,270	12,498	1,040.91	6,723	15,876
1,040.40	6,279	12,560	1,040.92	6,732	15,943
1,040.41	6,288	12,623	1,040.93	6,741	16,010
1,040.42	6,296	12,686	1,040.94	6,749	16,078
1,040.43	6,305	12,749	1,040.95	6,758	16,145
1,040.44	6,314	12,812	1,040.96	6,767	16,213
1,040.45	6,322	12,875	1,040.97	6,775	16,281
1,040.46	6,331	12,939	1,040.98	6,784	16,349
1,040.47	6,340	13,002	1,040.99	6,793	16,416
1,040.48	6,349	13,065	1,041.00	6,802	16,484
1,040.49	6,357	13,129	1,041.01	6,810	16,552
1,040.50	6,366	13,193	1,041.02	6,819	16,621
1,040.51	6,375	13,256	1,041.03	6,828	16,689
1,040.52	6,383	13,320	1,041.04	6,836	16,757
1,040.53	6,392	13,384	1,041.05	6,845	16,826
1,040.54	6,401	13,448	1,041.06	6,854	16,894
1,040.55	6,410	13,512	1,041.07	6,863	16,963
1,040.56	6,418	13,576	1,041.08	6,871	17,031
1,040.57	6,427	13,640	1,041.09	6,880	17,100
1,040.58	6,436	13,705	1,041.10	6,889	17,169
1,040.59	6,444	13,769	1,041.11	6,897	17,238

Stage-Area-Storage for Pond 5P: (new Pond) (continued)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
1,041.12	6,906	17,307	1,041.64	7,359	21,016
1,041.13	6,915	17,376	1,041.65	7,368	21,089
1,041.14	6,924	17,445	1,041.66	7,377	21,163
1,041.15	6,932	17,514	1,041.67	7,385	21,237
1,041.16	6,941	17,584	1,041.68	7,394	21,311
1,041.17	6,950	17,653	1,041.69	7,403	21,385
1,041.18	6,958	17,723	1,041.70	7,411	21,459
1,041.19	6,967	17,792	1,041.71	7,420	21,533
1,041.20	6,976	17,862	1,041.72	7,429	21,607
1,041.21	6,985	17,932	1,041.73	7,438	21,682
1,041.22	6,993	18,002	1,041.74	7,446	21,756
1,041.23	7,002	18,072	1,041.75	7,455	21,831
1,041.24	7,011	18,142	1,041.76	7,464	21,905
1,041.25	7,019	18,212	1,041.77	7,472	21,980
1,041.26	7,028	18,282	1,041.78	7,481	22,055
1,041.27	7,037	18,353	1,041.79	7,490	22,130
1,041.28	7,046	18,423	1,041.80	7,499	22,204
1,041.29	7,054	18,493	1,041.81	7,507	22,279
1,041.30	7,063	18,564	1,041.82	7,516	22,355
1,041.31	7,072	18,635	1,041.83	7,525	22,430
1,041.32	7,080	18,706	1,041.84	7,533	22,505
1,041.33	7,089	18,776	1,041.85	7,542	22,580
1,041.34	7,098	18,847	1,041.86	7,551	22,656
1,041.35	7,107	18,918	1,041.87	7,560	22,731
1,041.36	7,115	18,989	1,041.88	7,568	22,807
1,041.37	7,124	19,061	1,041.89	7,577	22,883
1,041.38	7,133	19,132	1,041.90	7,586	22,959
1,041.39	7,141	19,203	1,041.91	7,594	23,035
1,041.40	7,150	19,275	1,041.92	7,603	23,111
1,041.41	7,159	19,346	1,041.93	7,612	23,187
1,041.42	7,168	19,418	1,041.94	7,621	23,263
1,041.43	7,176	19,490	1,041.95	7,629	23,339
1,041.44	7,185	19,561	1,041.96	7,638	23,415
1,041.45	7,194	19,633	1,041.97	7,647	23,492
1,041.46	7,202	19,705	1,041.98	7,655	23,568
1,041.47	7,211	19,777	1,041.99	7,664	23,645
1,041.48	7,220	19,850	1,042.00	7,673	23,722
1,041.49	7,228	19,922	1,042.01	7,682	23,798
1,041.50	7,237	19,994	1,042.02	7,690	23,875
1,041.51	7,246	20,067	1,042.03	7,699	23,952
1,041.52	7,255	20,139	1,042.04	7,708	24,029
1,041.53	7,263	20,212	1,042.05	7,716	24,106
1,041.54	7,272	20,284	1,042.06	7,725	24,184
1,041.55	7,281	20,357	1,042.07	7,734	24,261
1,041.56	7,289	20,430	1,042.08	7,742	24,338
1,041.57	7,298	20,503	1,042.09	7,751	24,416
1,041.58	7,307	20,576	1,042.10	7,760	24,493
1,041.59	7,316	20,649	1,042.11	7,769	24,571
1,041.60	7,324	20,722	1,042.12	7,777	24,649
1,041.61	7,333	20,795	1,042.13	7,786	24,726
1,041.62	7,342	20,869	1,042.14	7,795	24,804
1,041.63	7,350	20,942	1,042.15	7,803	24,882

Stage-Area-Storage for Pond 5P: (new Pond) (continued)

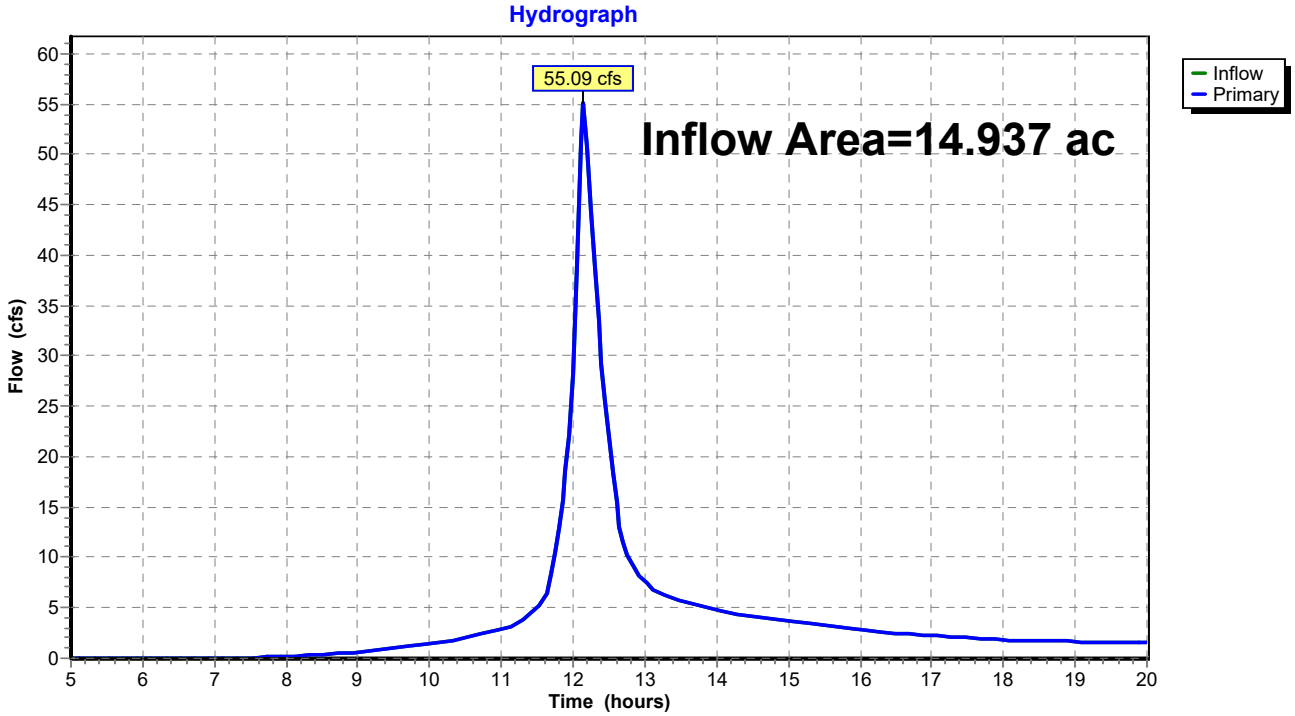
Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
1,042.16	7,812	24,960
1,042.17	7,821	25,039
1,042.18	7,830	25,117
1,042.19	7,838	25,195
1,042.20	7,847	25,274
1,042.21	7,856	25,352
1,042.22	7,864	25,431
1,042.23	7,873	25,509
1,042.24	7,882	25,588
1,042.25	7,891	25,667
1,042.26	7,899	25,746
1,042.27	7,908	25,825
1,042.28	7,917	25,904
1,042.29	7,925	25,983
1,042.30	7,934	26,063
1,042.31	7,943	26,142
1,042.32	7,952	26,222
1,042.33	7,960	26,301
1,042.34	7,969	26,381
1,042.35	7,978	26,460
1,042.36	7,986	26,540
1,042.37	7,995	26,620
1,042.38	8,004	26,700
1,042.39	8,013	26,780
1,042.40	8,021	26,860
1,042.41	8,030	26,941
1,042.42	8,039	27,021
1,042.43	8,047	27,101
1,042.44	8,056	27,182
1,042.45	8,065	27,263
1,042.46	8,074	27,343
1,042.47	8,082	27,424
1,042.48	8,091	27,505
1,042.49	8,100	27,586
1,042.50	8,108	27,667
1,042.51	8,117	27,748
1,042.52	8,126	27,829
1,042.53	8,135	27,911
1,042.54	8,143	27,992
1,042.55	8,152	28,073
1,042.56	8,161	28,155
1,042.57	8,169	28,237
1,042.58	8,178	28,318
1,042.59	8,187	28,400
1,042.60	8,196	28,482
1,042.61	8,204	28,564
1,042.62	8,213	28,646
1,042.63	8,222	28,728
1,042.64	8,230	28,811
1,042.65	8,239	28,893
1,042.66	8,248	28,975
1,042.67	8,257	29,058
1,042.68	8,265	29,141
1,042.69	8,274	29,223
1,042.70	8,283	29,306
1,042.71	8,291	29,389
1,042.72	8,300	29,472
1,042.73	8,309	29,555
1,042.74	8,317	29,638
1,042.75	8,326	29,721
1,042.76	8,335	29,805
1,042.77	8,344	29,888
1,042.78	8,352	29,971
1,042.79	8,361	30,055
1,042.80	8,370	30,139
1,042.81	8,378	30,222
1,042.82	8,387	30,306
1,042.83	8,396	30,390
1,042.84	8,405	30,474
1,042.85	8,413	30,558
1,042.86	8,422	30,642
1,042.87	8,431	30,727
1,042.88	8,439	30,811
1,042.89	8,448	30,895
1,042.90	8,457	30,980
1,042.91	8,466	31,065
1,042.92	8,474	31,149
1,042.93	8,483	31,234
1,042.94	8,492	31,319
1,042.95	8,500	31,404
1,042.96	8,509	31,489
1,042.97	8,518	31,574
1,042.98	8,527	31,659
1,042.99	8,535	31,745
1,043.00	**8,544**	**31,830**

Summary for Link 5L: Post Dev Design Point

Inflow Area = 14.937 ac, 12.18% Impervious, Inflow Depth > 3.87" for 100 YR event
Inflow = 55.09 cfs @ 12.15 hrs, Volume= 4.817 af
Primary = 55.09 cfs @ 12.15 hrs, Volume= 4.817 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Link 5L: Post Dev Design Point

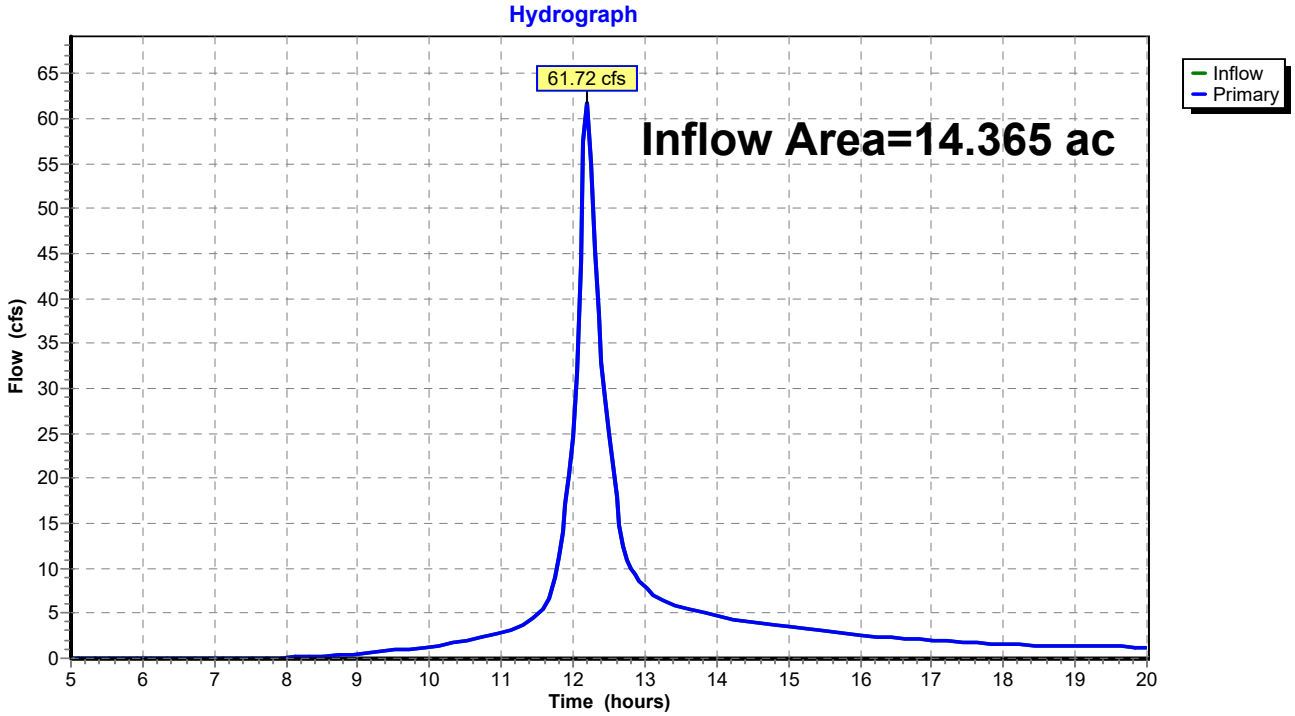


Summary for Link DP-E: Design Point Existing

Inflow Area = 14.365 ac, 6.96% Impervious, Inflow Depth > 4.00" for 100 YR event
Inflow = 61.72 cfs @ 12.19 hrs, Volume= 4.788 af
Primary = 61.72 cfs @ 12.19 hrs, Volume= 4.788 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Link DP-E: Design Point Existing



ATTACHMENT 4

Original Survey Plan
(By Foresight Land Services)

GENERAL NOTES

1. This Plan of Land is intended solely to represent the boundary lines of the subject property.

2. Unless otherwise noted hereon, this survey plan shall not be construed as depicting the presence, absence, or limits of any or all regulated wetlands or floodplains. Any surface water features shown, such as streams or ponds, are not represented as indicating limits of wetland resource areas.

3. No other permits, approvals, uses, site conditions or suitability are expressed or implied hereby, either directly or by omission.

4. All parcels are subject to and with the benefit of all rights, restrictions, conditions, easements, leases, encumbrances and appurtenances of record.

5. Endorsement does not imply compliance with Wetlands Protection Act or zoning.

6. Horizontal Datum is based upon Massachusetts State Plane System, Mainland Zone. Data provided by GPS occupations performed by Clark Engineering & Surveying, P.C.

7. Reference is made to a plan entitled "Definitive Plan, Ruhan Acres, Stockbridge, Mass, surveyed for Hans. K. Maeder, Route 183, Stockbridge, Mass., Sheet 1 of 2, dated 10-22-74, prepared by Robert G. Brown & Associates, Inc. Said plan is recorded in the Berkshire Middle District Registry of Deeds (BMDRD) in Plan Book 417G, Plan 197.

8. Reference is made to a plan entitled "Layout of Lots for Friends of Stockbridge School in Stockbridge, Mass., dated March 1972, prepared by Robert G. Brown & Assoc., Inc. Said plan is recorded in the BMDRD in Plan Book 417G, Plan 20.

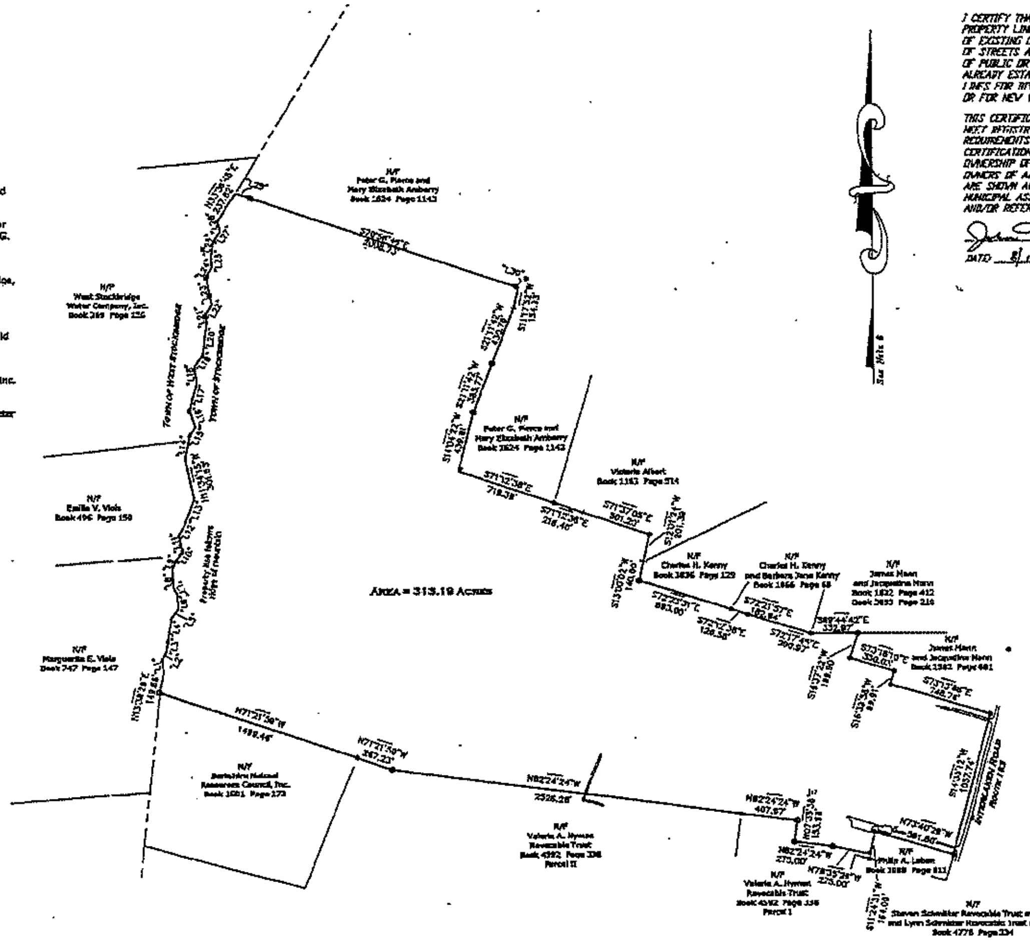
9. Reference is made to a plan entitled "Plan of Land surveyed for Charles H. & Barbara J. Kenny in Stockbridge, Massachusetts, June 1989, prepared by Kelly-Granger-Parsons and Associates, Inc. Said plan is recorded in the BMDRD in Plat C, #39.

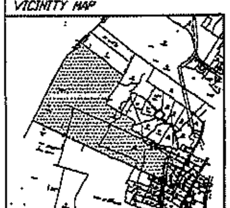
10. Reference is made to a plan entitled "Plan of Land in Stockbridge, Massachusetts surveyed for James Mann and Jacqueline Mann, February 7, 1998, prepared by Accord Engineering & Surveying, Inc. Said plan is recorded in the BMDRD in Plat E, #263.

11. Reference is made to a plan entitled "Definitive Plan of Land in Stockbridge, MA., prepared for Peter Pierce, February 1986, prepared by Brown Associates, Inc. Said plan is recorded in the BMDRD in Drawer M, #39.

Bearing Table

Line	Bearing	Distance
L1	N07-30-56W	91.18'
L2	N27-16-53W	80.20'
L3	N07-49-32E	67.50'
L4	N08-41-26E	173.85'
L5	N37-08-40E	82.80'
L6	N04-30-43W	199.75'
L7	N28-22-09W	56.02'
L8	N03-01-30W	123.17'
L9	N20-52-27E	70.11'
L10	N35-08-55E	62.87'
L11	N11-52-56W	119.55'
L12	N30-33-09E	83.61'
L13	N21-18-40E	195.36'
L14	N11-28-28E	171.51'
L15	N29-54-34E	75.93'
L16	N18-25-02W	322.38'
L17	N14-27-53E	202.82'
L18	N05-57-05W	130.29'
L19	N34-41-04E	105.33'
L20	N07-50-30E	298.63'
L21	N11-13-06W	52.28'
L22	N30-17-12E	91.33'
L23	N11-03-45W	206.96'
L24	N20-25-21E	83.56'
L25	N08-00-00E	104.00'
L26	N08-47-51E	85.00'
L27	N26-43-44E	85.62'
L28	N13-56-53W	78.82'
L29	S72-10-34E	109.20'
L30	S64-08-42E	15.95'





I CERTIFY THAT THIS PLAN SHOWS THE PROPERTY LINES THAT ARE THE LINES OF EXISTING OWNERSHIPS, AND THE LINES OF STREETS AND WAYS SHOWN ARE THOSE OF PUBLIC OR PRIVATE STREETS OR WAYS ALREADY ESTABLISHED, AND THAT NO NEW LINES FOR DIVISION OF EXISTING OWNERSHIPS OR FOR NEW WAYS ARE SHOWN.

THIS CERTIFICATION IS INTENDED TO MEET REGISTRY OF DEEDS REQUIREMENTS AND IS NOT A CERTIFICATION TO THE TITLE OR OWNERSHIP OF THE PROPERTY SHOWN. OWNERS OF ADJOINING PROPERTIES ARE SHOWN ACCORDING TO CURRENT MUNICIPAL ASSESSOR'S RECORDS, AND/OR REFERENCES IN LOCUS DEED.

John M. Campetti

DATED 8/1/2012

PK #65

COUNTY OF BERKSHIRE

MIDDLE DISTRICT REGISTRY OF DEEDS, PLAN RECEIVED AND FILED FOR RECORD

Aug. 23, 2012 at 3:32 PM.

IN PLAT K #65

I CERTIFY THAT THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE RULES AND REGULATIONS OF THE REGISTERS OF DEEDS.

John M. Campetti

DATED 8/1/2012

LEGEND

- BOUND FOUND
- IRON PIPE FOUND
- IRON PIPE SET
- PILE OF STONES
- EDGE OF ASPHALT
- PROPERTY LINE

RECORD OWNER

35-37 INTERLAKEN ROAD REALTY TRUST
BOOK 4293 PAGE 330
BOOK 4962 PAGE 7

GRAPHIC SCALE

(IN FEET)
1 inch = 400 ft.

MARK	DATE	REVISION	BY	APP'D

PLAN OF LAND
Prepared for
35-37 INTERLAKEN ROAD REALTY TRUST
Interlaken Road (Route 183)
Stockbridge, MA

PREPARED BY:

SCALE:	1" = 400'	DWN. BY:	JOT
DATE:	July 24, 2012	DWG. NO.	E1672007
JOB NO.	E1672	TAG	007

CHK. BY: JMC

Plat K #65

ATTACHMENT 5

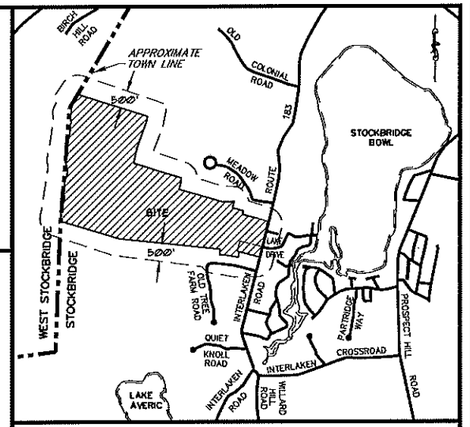
Definitive Subdivision Plans
(Dated Dec. 4, 2023)

OWNER / APPLICANT:

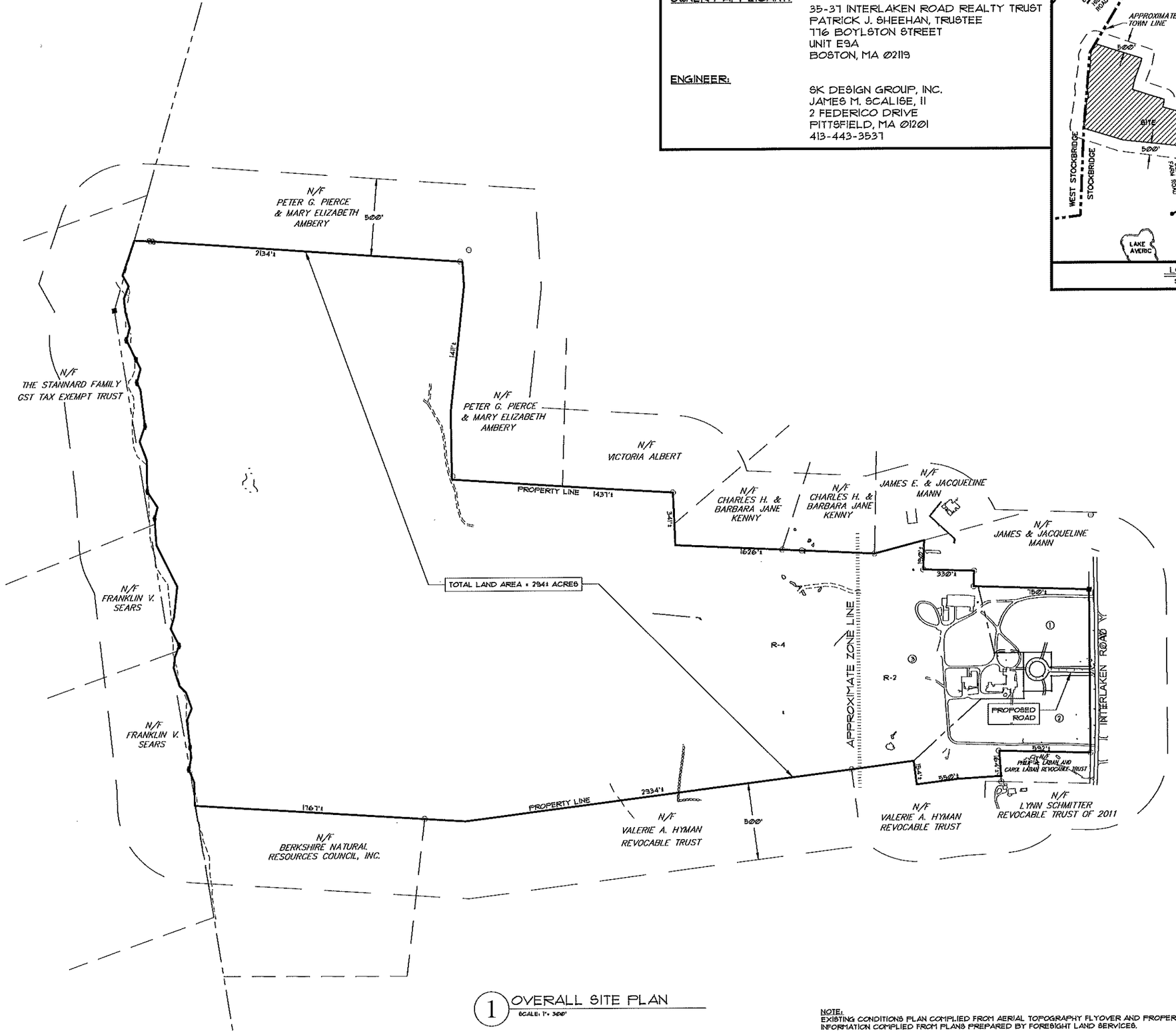
35-37 INTERLAKEN ROAD REALTY TRUST
PATRICK J. SHEEHAN, TRUSTEE
776 BOYLSTON STREET
UNIT E9A
BOSTON, MA 02119

ENGINEER:

SK DESIGN GROUP, INC.
JAMES M. SCALISE, II
2 FEDERICO DRIVE
PITTSFIELD, MA 01201
413-443-3537



LOCUS PLAN
SCALE : 1"=2000'±



1 OVERALL SITE PLAN
SCALE: 1"= 300'

NOTE:
EXISTING CONDITIONS PLAN COMPILED FROM AERIAL TOPOGRAPHY FLYOVER AND PROPERTY LINE INFORMATION COMPILED FROM PLANS PREPARED BY FORESIGHT LAND SERVICES.

GRAPHIC SCALE
0 150 300 600
(IN FEET)
1 INCH = 300 FEET

BONNIE BRIER LANE SUBDIVISION
PREPARED FOR:
35-37 INTERLAKEN ROAD REALTY TRUST
LOCATED AT:
35-37 INTERLAKEN ROAD
STOCKBRIDGE, MASSACHUSETTS

Design Group, Inc.
Civil Engineers • Surveyors • Consultants
2 FEDERICO DRIVE • PITTSFIELD, MASSACHUSETTS 01201 • (413) 443-3537

PLAN DESCRIPTION:
INDEX PLAN

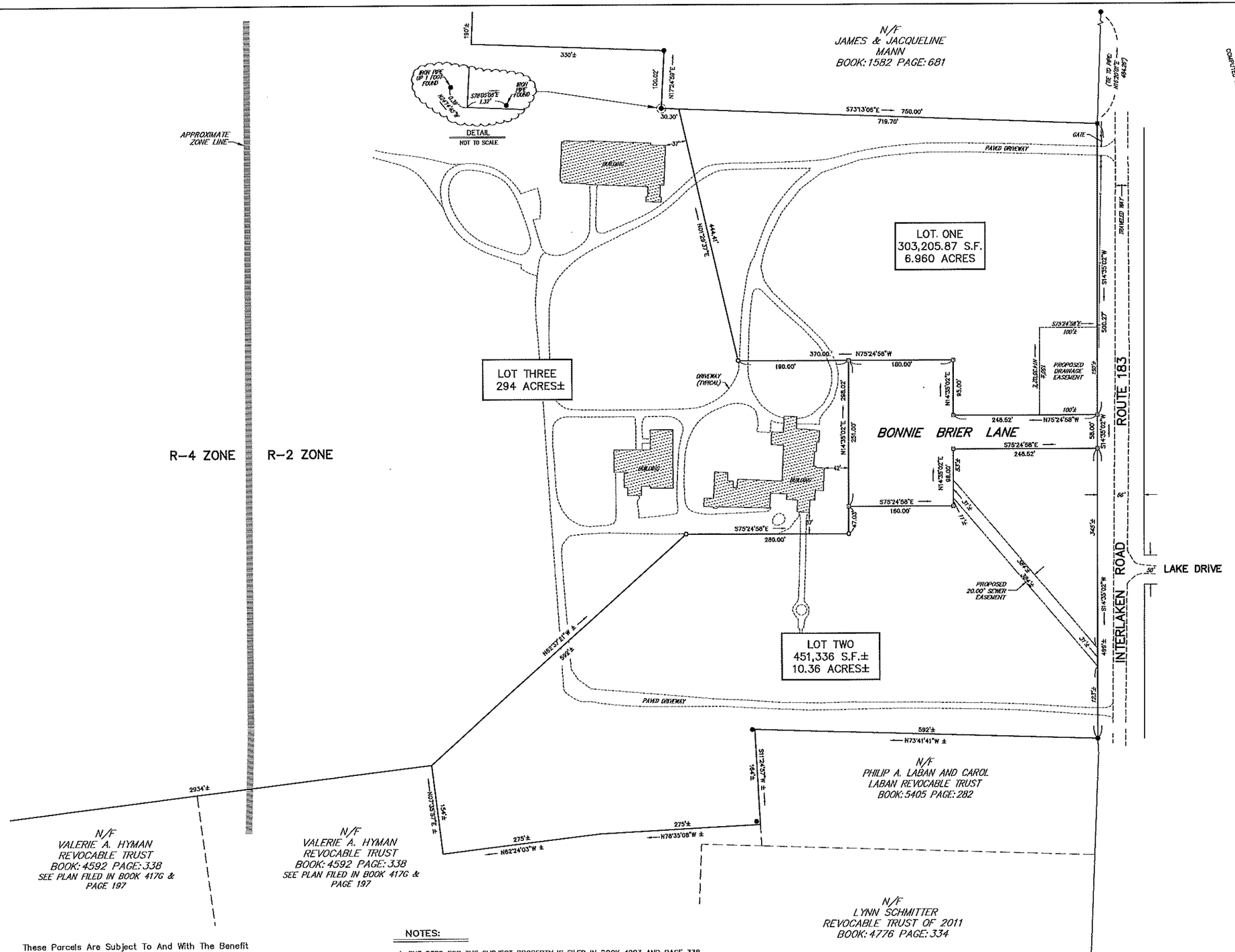
SK DESIGN GROUP PROJECT #:
160117

COMMONWEALTH OF MASSACHUSETTS
JAMES M. SCALISE, II
CIVIL
No. 30983
REGISTERED
PROFESSIONAL ENGINEER

JAMES M. SCALISE II
SK DESIGN GROUP PRESIDENT
LICENSE #30983
PROFESSIONAL OF RECORD
PHONE: 413-443-3537

REVISION:

DRAWN BY: BKR	CHECKED BY: JMS II
ORIG. DATE: DEC. 4, 2023	SHEET NO. 1 OF 6
ISSUED FOR: PERMIT	
SCALE: AS NOTED	



These Parcels Are Subject To And With The Benefit Of All Rights, Restrictions, Conditions, Easements, Leases, Encumbrances, And Appurtenances Of Record.

I Certify That This Plan Has Been Prepared In Conformity With The Rules And Regulations Of The Registers Of Deeds Of The Commonwealth Of Massachusetts.

Professional Land Surveyor

NOTES:

1. THE DEED FOR THE SUBJECT PROPERTY IS FILED IN BOOK 4293 AND PAGE 338 AND THE OWNER IS LISTED AS 35-37 INTERLAKEN ROAD REALTY TRUST. ALSO, SEE JUDGEMENT BENEFITING 35-37 INTERLAKEN ROAD REALTY TRUST FILED IN BOOK 4962 AND PAGE 7.
2. SEE PLANS OF SUBJECT PROPERTY FILED IN DRAWER NUMBER 197 AND FILED IN PLAT K AND PLAN NUMBER 65.
3. THE SUBJECT PROPERTY FALLS WITHIN THE R2 AND R4 ZONES AT THE TIME THIS PLAN WAS PREPARED. LOTS ONE AND TWO FALL ENTIRELY WITHIN THE R-2 ZONE.

FILED FOR APPROVAL:
DATE : _____
DATE APPROVED: _____
DATE OF ENDORSEMENT: _____

STOCKBRIDGE PLANNING BOARD

Planning Board Endorsement Does Not Imply Compliance With The MA Wetland Protection Act Or Zoning By-Law.

APPROVED : _____, 20__

HEALTH DEPARTMENT

DATE : _____

I _____ CLERK OF THE TOWN OF STOCKBRIDGE HEREBY CERTIFY THAT THE NOTICE OF APPROVAL OF THIS PLAN BY THE STOCKBRIDGE PLANNING BOARD HAS BEEN RECEIVED AND RECORDED AT THIS OFFICE AND NO APPEAL WAS RECEIVED DURING THE TWENTY DAYS NEXT AFTER SUCH RECEIPT AND RECORDING OF SAID NOTICE.

CLERK

LEGEND

- ■ GRANITE BOUND FOUND
- ● IRON PIPE FOUND
- ▣ BOUND TO BE SET
- ○ IRON PIPE TO BE SET
- —o— POST AND RAIL FENCE

BUILDING LOT PLAN
OF
BONNIE BRIER LANE

SURVEYED FOR

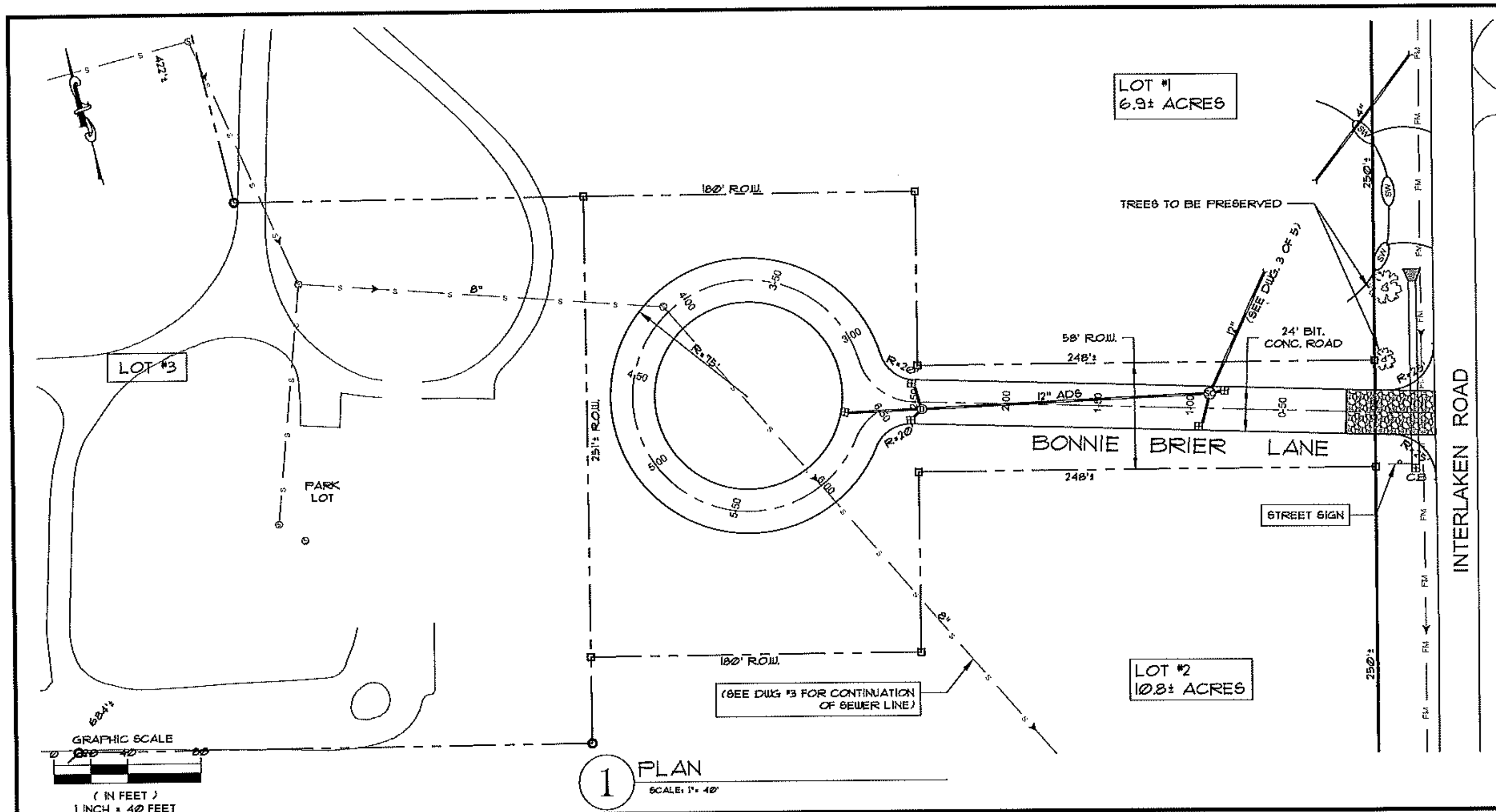
35-37 INTERLAKEN ROAD REALTY TRUST

35 AND 37 INTERLAKEN ROAD
STOCKBRIDGE, MASSACHUSETTS

Scale: 0 40 80 Feet (1"=80')
0 10 20 Meters

DECEMBER 4, 2023

Design Group, Inc.
Civil Engineers * Surveyors * Consultants
2 FEDERICO DRIVE * PITTSFIELD, MASSACHUSETTS 01201 * (413)443-3537



1 PLAN
SCALE: 1" = 40'

LEGEND

- APPROXIMATE PROPERTY LINE
- EXISTING CONTOUR
- EXISTING TREELINE
- EXISTING UTILITY POLE
- PROPOSED DRAIN MANHOLE
- PROPOSED CATCH BASIN
- PROPOSED DRAIN LINE (SIZE AS NOTED)
- PROPOSED CONCRETE BOUND
- EXISTING SEWER MAIN
- EXISTING FORCEMAIN
- PROPOSED STORMCEPTOR

FILED FOR APPROVAL ______ , 202

APPROVED ______ , 202

STOCKBRIDGE PLANNING BOARD

APPROVED ______ , 202

CONSERVATION COMMISSION

APPROVED ______ , 202

BOARD OF HEALTH

APPROVED ______ , 202

TOWN CLERK

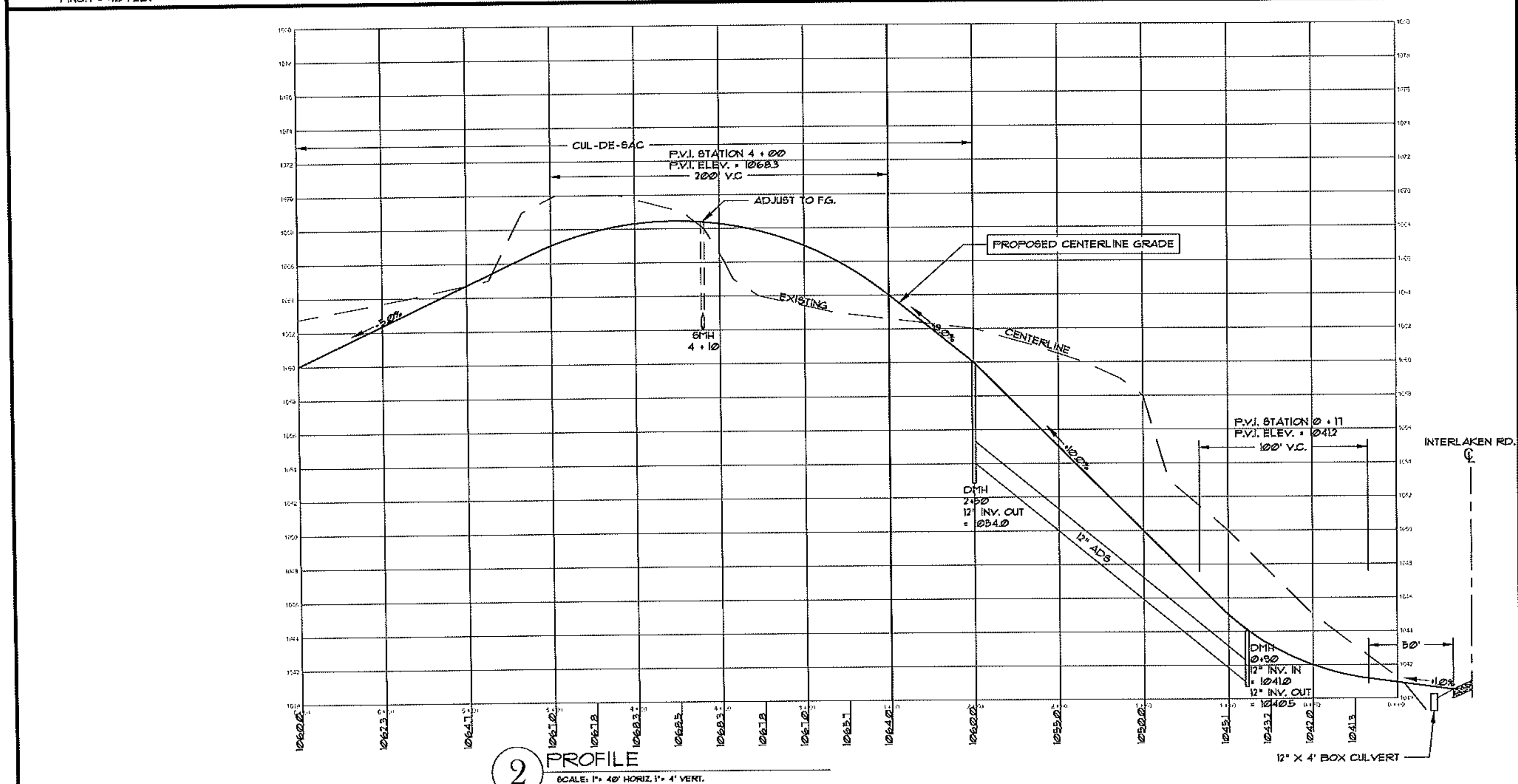
BONNIE BRIER LANE SUBDIVISION

PREPARED FOR:

35-37 INTERLAKEN ROAD REALTY TRUST

LOCATED AT:

35-37 INTERLAKEN ROAD
STOCKBRIDGE, MASSACHUSETTS

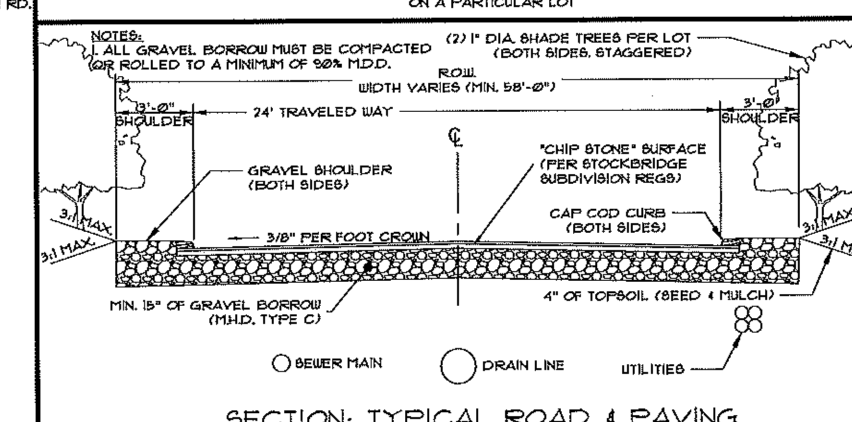


2 PROFILE
SCALE: 1" = 40' HORIZ. 1" = 4' VERT.

CONSTRUCTION NOTES:

1. CONTRACTOR SHALL PROVIDE THE ENGINEER WITH TIES TO ALL SEWER AND WATER HOUSE CONNECTIONS WHEN APPLICABLE
2. ALL IMPROVEMENTS ARE TO BE BUILT IN ACCORDANCE WITH APPLICABLE TOWN OF STOCKBRIDGE STANDARD SPECIFICATIONS UNLESS OTHERWISE NOTED HEREON
3. THE CONTRACTOR SHALL DETERMINE THE EXACT SIZE AND LOCATION OF ALL UTILITIES AND SUB-SURFACE STRUCTURES IN THE FIELD
4. CONTRACTOR SHALL CONTACT DIGSAFE & STOCKBRIDGE D.P.W. PRIOR TO START OF WORK
5. ALL EXISTING BUILDING TO BE DEMOLISHED, LOAMED, SEEDED, & MULCHED PRIOR TO ANY NEW HOMES BEING CONSTRUCTED ON A PARTICULAR LOT

NOTES:
1. ALL GRAVEL BORROW MUST BE COMPACTED OR ROLLED TO A MINIMUM OF 90% M.D.D.



SECTION: TYPICAL ROAD & PAVING
SCALE: N.T.S.

Design Group, Inc.
Civil Engineers * Surveyors * Consultants
2 FEDERICO DRIVE * PITTSFIELD, MASSACHUSETTS 01201 * (413) 443-3537

PLAN DESCRIPTION:
PLAN & PROFILE

SK DESIGN GROUP PROJECT #: 16017

COMMONWEALTH OF MASSACHUSETTS JAMES M. SCALISE, II CIVIL No. 39863 REGISTERED PROFESSIONAL ENGINEER

JAMES M. SCALISE II
SK DESIGN GROUP PRESIDENT
LICENSE #39863
PROFESSIONAL OF RECORD
PHONE: 413-443-3537

REVISION:

DRAWN BY: BKR	CHECKED BY: JMS II
ORIG. DATE: DEC. 4, 2023	SHEET NO. 3 OF 6
ISSUED FOR: PERMIT	
SCALE: AS NOTED	

EROSION CONTROL NOTES

1. ALL EROSION CONTROL FENCES ARE TO BE INSTALLED AND FULLY OPERATIONAL PRIOR TO ANY CLEARING AND ARE TO BE MAINTAINED THROUGHOUT CONSTRUCTION UNTIL PERMANENT GROUND COVER IS ESTABLISHED & APPROVED.

2. ALL SLOPES SHALL BE SODDED, HYDRO-SEEDED OR APPLIED WITH GROUND COVER SPECIFIED AS SOON AS CONSTRUCTION PHASES PERMIT.

3. CONTRACTOR IS RESPONSIBLE FOR DAILY INSPECTIONS AND MAINTENANCE OF THE EROSION CONTROLS THROUGH CONSTRUCTION AND UNTIL ESTABLISHMENT OF PERMANENT GROUND COVER. SEDIMENT SHALL BE REMOVED AS NECESSARY TO INSURE EFFICIENT OPERATION OF THE FACILITIES DURING AND AFTER CONSTRUCTION.

4. CONTRACTOR IS RESPONSIBLE FOR MONITORING DOWNSTREAM CONDITIONS THROUGHOUT THE CONSTRUCTION PERIOD AND CLEANING ANY DEBRIS AND SEDIMENT CAUSED BY THE CONSTRUCTION.

5. ADDITIONAL EROSION CONTROL MEASURES MAY BE REQUIRED BY THE ENGINEER OR REGULATING AGENCIES.

6. THE SOIL EROSION SEDIMENT CONTROL PROCEDURES AND DETAILS AS SHOWN SHALL BE FOLLOWED AND INSTALLED IN A MANNER SO AS TO MINIMIZE EROSION OF THE DISTURBED AREAS AND PREVENT SEDIMENT FROM LEAVING THE SITE, OR ENTERING THE ADJACENT WETLANDS.

7. THE CONTRACTOR WILL BE REQUIRED TO INCORPORATE ALL TEMPORARY AND PERMANENT EROSION CONTROL MEASURES INTO THE PROJECT AT THE EARLIEST PRACTICABLE TIME DURING CONSTRUCTION. THE EROSION CONTROL MEASURES DETAILED HEREON SHALL BE CONTINUED UNTIL THE PERMANENT DRAINAGE FACILITIES HAVE BEEN CONSTRUCTED AND UNTIL THE GRASS OR SURFACE TREATMENT ON SWALES AND SLOPES ARE SUFFICIENTLY ESTABLISHED TO BE AN EFFECTIVE EROSION DETERRENT OR AS DIRECTED BY THE ENGINEER. THE SEDIMENT REMOVED FROM THE CONTROL STRUCTURES SHALL BE EVENLY DISTRIBUTED OUTSIDE CONSTRUCTION LIMITS AT A LOCATION ACCEPTABLE TO THE OWNER/ENGINEER.

8. ANY DISTURBED EARTH AREAS THAT SHALL BE IDLE FOR 30 DAYS OR LONGER, SHALL HAVE TEMPORARY GRASSING APPLIED.

9. PRIOR TO ANY OTHER CONSTRUCTION, A STABILIZED CONSTRUCTION ENTRANCE SHALL BE CONSTRUCTED AT THE ENTRY TO THE SITE

10. ADDITIONAL EROSION CONTROL DEVICES SHALL BE INSTALLED IMMEDIATELY AFTER GROUND DISTURBANCE OCCURS. THE LOCATION OF SOME OF THE EROSION CONTROL DEVICES MAY HAVE TO BE ALTERED FROM THAT SHOWN ON THE APPROVED PLANS IF DRAINAGE PATTERNS DURING CONSTRUCTION ARE DIFFERENT FROM THE FINAL PROPOSED DRAINAGE PATTERNS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ACCOMPLISH EROSION CONTROL FOR ALL DRAINAGE PATTERNS CREATED AT VARIOUS STAGES DURING CONSTRUCTION. ANY DIFFICULTY IN CONTROLLING EROSION DURING ANY PHASE OF CONSTRUCTION SHALL BE REPORTED TO THE ENGINEER & CON. COM'L IMMEDIATELY. IN NO CASE SHALL LESS EROSION CONTROLS THAN APPROVED BE PERMITTED.

11. ALL OPEN SWALES MUST BE STABILIZED W/ MULCH & SEED OR RIP-RAP IMMEDIATELY AFTER CONSTRUCTION.

12. CONDUIT OUTLET PROTECTION (RIP-RAP & EROSION CONTROLS) MUST BE INSTALLED AT ALL REQUIRED OUT FALLS PRIOR TO THE DRAINAGE SYSTEM BECOMING OPERATIONAL.

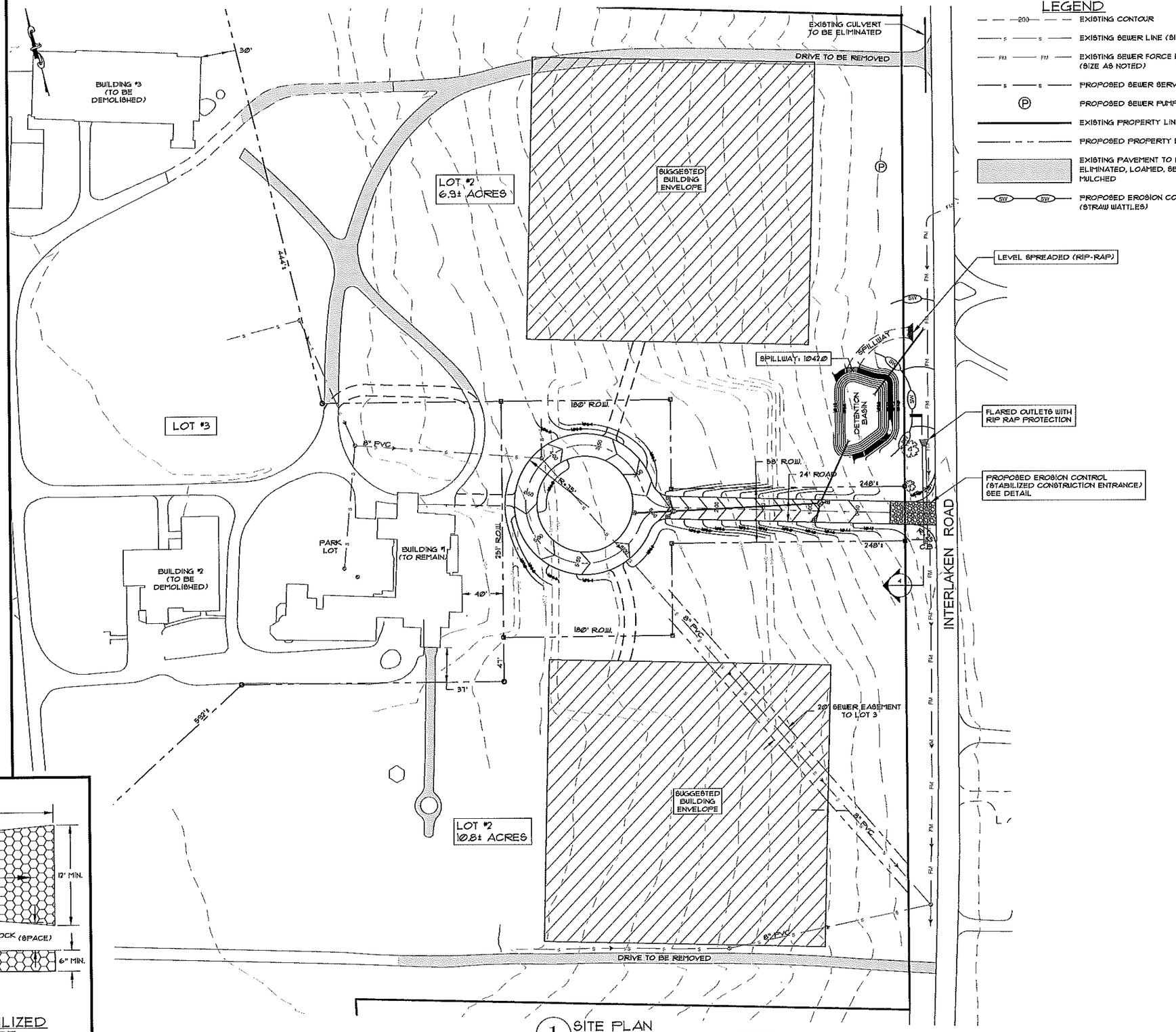
13. AT THE TIME WHEN SITE PREPARATION FOR PERMANENT VEGETATIVE STABILIZATION IS TO BE ESTABLISHED, ANY SOIL THAT WILL NOT PROVIDE A SUITABLE ENVIRONMENT TO SUPPORT ADEQUATE VEGETATIVE GROUND COVER SHALL BE REMOVED OR TREATED IN SUCH A WAY THAT WILL PERMANENTLY ADJUST THE SOIL CONDITIONS AND RENDER IT SUITABLE FOR VEGETATIVE GROUND COVER.

14. IF THE REMOVAL OR TREATMENT OF THE SOIL WILL NOT PROVIDE SUITABLE CONDITIONS, ANOTHER MEANS OF PERMANENT GROUND STABILIZATION WILL HAVE TO BE EMPLOYED.

15. HAY BALES AND/OR STRAW BALES SHALL BE REPLACED EVERY 3 MONTHS TO MAINTAIN THEIR EFFECTIVENESS.

16. CHEMICALS, FERTILIZERS, PESTICIDES, AND/OR HERBICIDES SHALL NOT BE USED ON SITE.

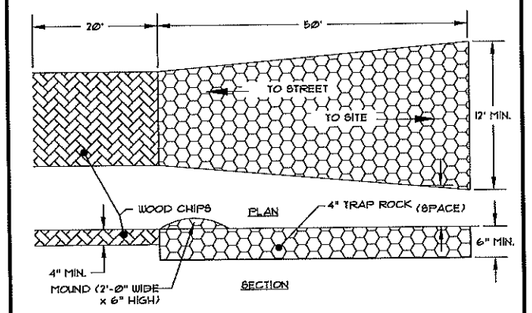
17. WATER SHALL BE USED TO MAINTAIN DUST CONTROL DURING CONSTRUCTION.



1 SITE PLAN
SCALE: 1" = 50'

LEGEND

- EXISTING CONTOUR
- EXISTING SEWER LINE (SIZE AS NOTED)
- EXISTING SEWER FORCE MAIN (SIZE AS NOTED)
- PROPOSED SEWER SERVICE (4")
- PROPOSED SEWER PUMP
- EXISTING PROPERTY LINE
- PROPOSED PROPERTY LINE
- EXISTING PAVEMENT TO BE ELIMINATED, LOAMED, SEEDED & MULCHED
- PROPOSED EROSION CONTROL (STRAW WATTLES)



DETAIL: TEMPORARY STABILIZED CONSTRUCTION ENTRANCE
SCALE: N.T.S.

BONNIE BRIER LANE SUBDIVISION
PREPARED FOR:
35-37 INTERLAKEN ROAD REALTY TRUST
LOCATED AT:
35-37 INTERLAKEN ROAD
STOCKBRIDGE, MASSACHUSETTS

Design Group, Inc.
Civil Engineers * Surveyors * Consultants
2 TECHNOLOGY DRIVE * WESTFIELD, MASSACHUSETTS 01085 * (413) 562-3207

PLAN DESCRIPTION:
GRADING & UTILITIES PLAN

SK DESIGN GROUP PROJECT #: 16017

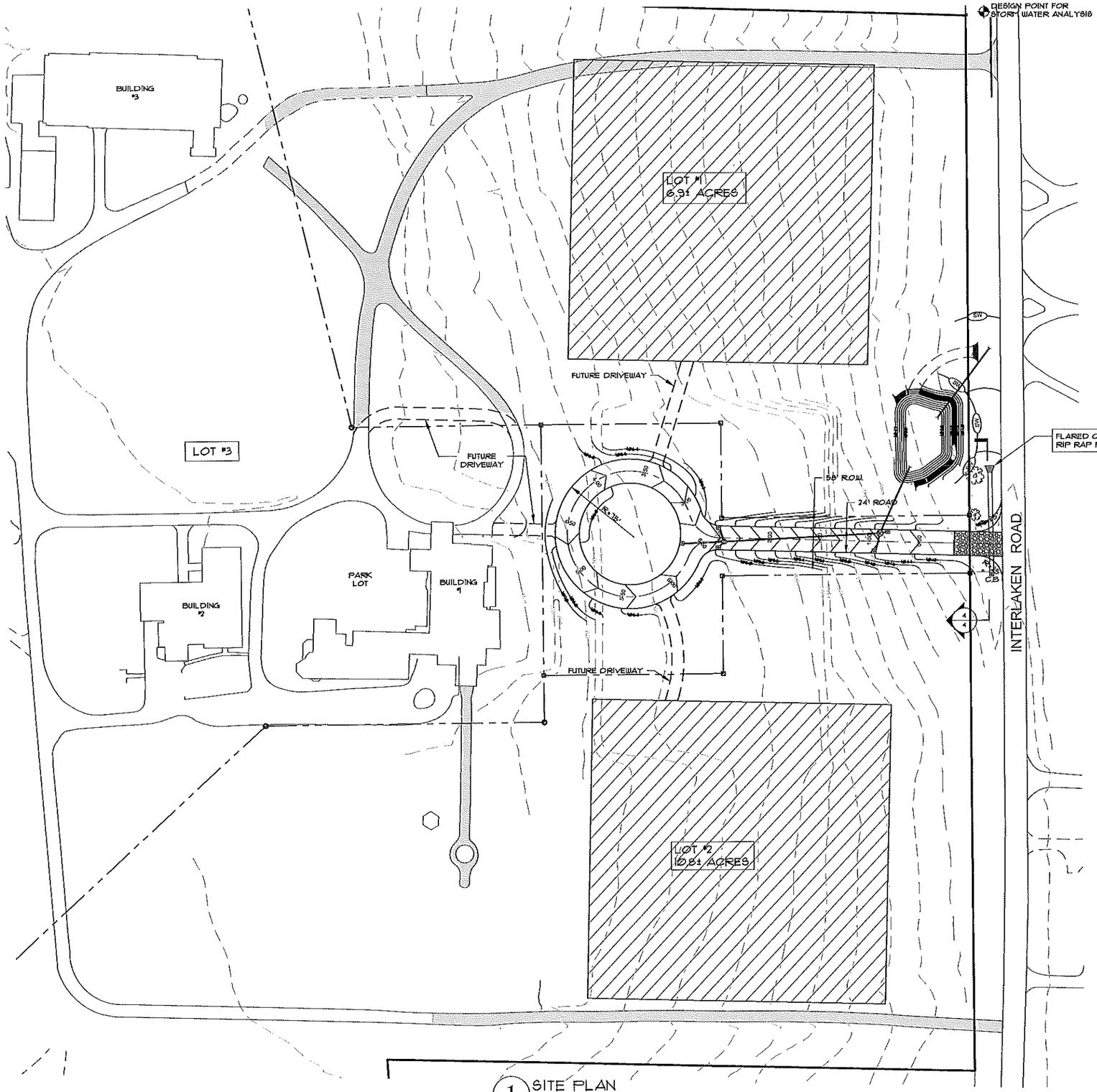
JAMES M. SCALISE, II
CIVIL
No. 30993
REGISTERED PROFESSIONAL ENGINEER
COMMONWEALTH OF MASSACHUSETTS

JAMES M. SCALISE II
SK DESIGN GROUP PRESIDENT
LICENSE #30993
PROFESSIONAL OF RECORD
PHONE: 413-443-3337

REVISION:

DRAWN BY: BKR	CHECKED BY: JMS II
ORIG. DATE: DEC. 4, 2023	SHEET NO. 4 OF 6
ISSUED FOR: PERMIT	
SCALE: 1" = 50'	

C:\SK DESIGN GROUP\2016\16017-Sheehan Acquisitions-Former DeSisto School-Site Design & Permitting\Drawings\Subdivision\16017 SUBDIVISION (10-23-2023).dwg
Plotted On: Monday, December 04, 2023 - 9:53am
User Name: bkrandow



LEGEND

- EXISTING CONTOUR
- EXISTING SEWER LINE (SIZE AS NOTED)
- EXISTING SEWER FORCE MAIN (SIZE AS NOTED)
- PROPOSED SEWER SERVICE (4")
- PROPOSED SEWER PUMP
- EXISTING PROPERTY LINE
- PROPOSED PROPERTY LINE

GRAPHIC SCALE
0 25 50 100
(IN FEET)
1 INCH = 50 FEET

1 SITE PLAN
SCALE: 1" = 50'

BONNIE BRIER LANE SUBDIVISION
PREPARED FOR:

35-37 INTERLAKEN ROAD REALTY TRUST

LOCATED AT:
35-37 INTERLAKEN ROAD
STOCKBRIDGE, MASSACHUSETTS

Design Group, Inc.
Civil Engineers * Surveyors * Consultants
2 STEEPLE DRIVE * FITCHBURG, MASSACHUSETTS 01420 * (978) 342-0357

PLAN DESCRIPTION:
WATERSHED PLAN

SK DESIGN GROUP PROJECT #:
16011

JAMES M. SCALISE, II
CIVIL
No. 50565
REGISTERED PROFESSIONAL ENGINEER
COMMONWEALTH OF MASSACHUSETTS
JAMES M. SCALISE II
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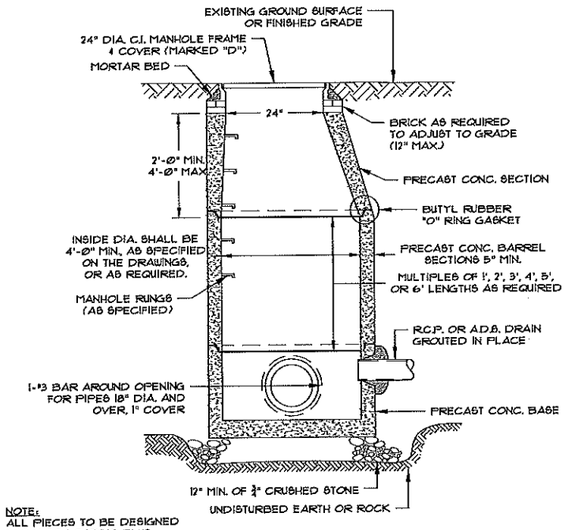
PHONE: 413-443-3537

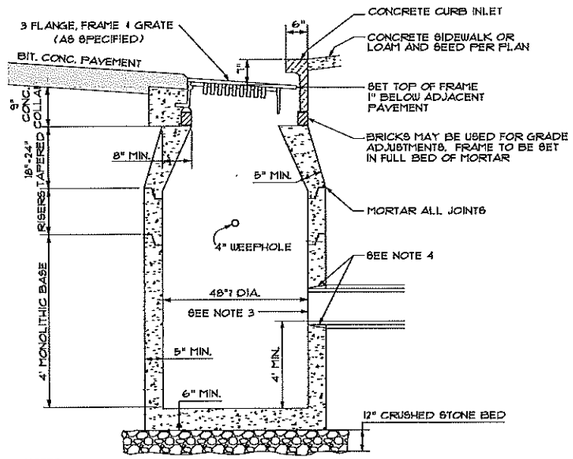
REVISION:

DRAWN BY:	CHECKED BY:
BKR	JMS II
ORG. DATE:	SHEET NO.
DEC. 4, 2023	5
ISSUED FOR:	OF
PERMIT	6
SCALE:	
1" = 50'	



NOTE:
ALL PIECES TO BE DESIGNED FOR H-20 LOADING PLUS EARTH LOAD MINIMUM

1 DETAIL: TYPICAL PRECAST DRAIN MANHOLE
SCALE: N.T.S.

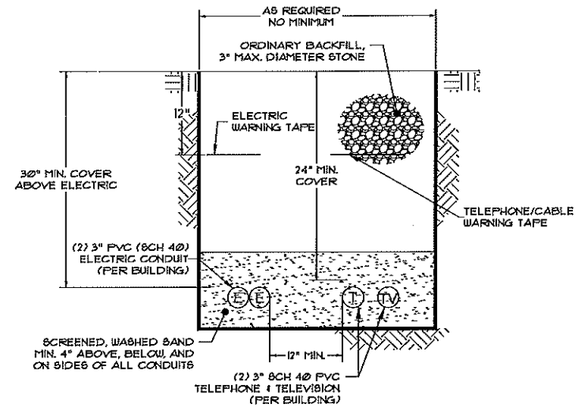


NOTES:
1. FOR EXTRA DEPTH CATCH BASINS, USE RISER SECTIONS 1' TO 4' HEIGHT AS REQ'D. FOR SHALL CATCH BASINS, SUBSTITUTE SLAB TOP FOR TAPER TOP.

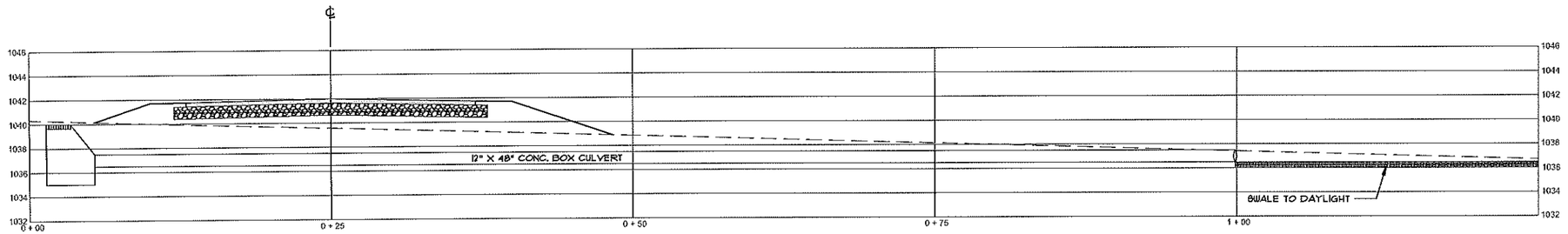
2. FACE OF PIPE FLUSH, OR NOT TO PROJECT MORE THAN 4" FROM FACE OF WALL ALONG CENTERLINE OF PIPE.

3. CONNECTION TO BE MORTARED COLLAR OR RUBBER BOOT. SEE SPECIFICATIONS

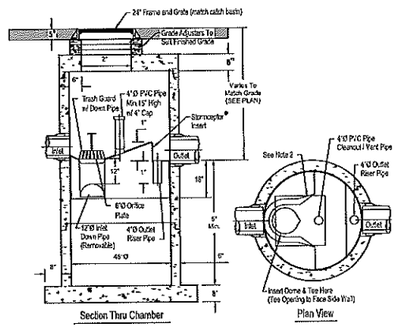
2 DETAIL: TYPICAL CATCH BASIN
SCALE: N.T.S.



3 DETAIL: TYPICAL UTILITY TRENCH
SCALE: N.T.S.



4 DRIVEWAY CROSS SECTION
SCALE: 1" = 5'



Notes:
1. The use of a Flexible Connection is recommended at The Inlet and Outlet Pipe.
2. The Cover should be positioned over The Inlet Drop Pipe and The Vent Pipe.
3. The Stormceptor System is protected by one or more of the following U.S. Patents: #4985148, #5498333, #5725760, #5753115, #5849181, #6068765, #6371690.
4. Contact a Concrete Pipe Division representative for details not listed on this sheet.

5 STC 4501 - STORMCEPTOR DETAIL
SCALE: N.T.S

BONNIE BRIER LANE SUBDIVISION
PREPARED FOR:
35-37 INTERLAKEN ROAD REALTY TRUST
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STOCKBRIDGE, MASSACHUSETTS

Design Group, Inc.
Civil Engineers • Surveyors • Consultants
3 FEDERICO DRIVE • FITCHBURG, MASSACHUSETTS 01420 • (413) 443-3557

PLAN DESCRIPTION:
DETAILS

SK DESIGN GROUP PROJECT #:
16017

COMMONWEALTH OF MASSACHUSETTS
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REVISIONS:

DRAWN BY: BKR	CHECKED BY: JMS II
ORIG. DATE: DEC. 4, 2023	SHEET NO. 6 OF 6
ISSUED FOR: PERMIT	
SCALE: AS NOTED	