May 11, 2020

Drainage Report

Prepared for:

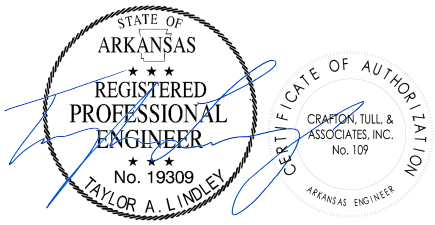
RAUSCH COLEMAN HOMES

Stokenbury Farms Phase I of Phase II

Submitted to:

City of Elkins Planning Department
1874 Stokenbury Road
Elkins, AR 72727

CT JOB NO. 19106900



Crafton Tull

Crafton Tull

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DRAINAGE LETTER

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PROJECT OWNER:

NWA LD, LLC
4058 N. College Avenue, Suite 300
Fayetteville, AR 72703

PROJECT LOCATION:

The project is located on the east side of North Center Street (HWY 16) in Elkins, Arkansas.

PROJECT DESCRIPTION:

Stokenbury Farms Subdivision is a single family residential development that will be split into five phases. The subdivision includes approximately 92 acres with 241 lots, a park area, a proposed retention pond, improved existing detention ponds, and a stream crossing. Phase I is on the eastern half of the site adjacent to HWY 16. It is comprised of 22 acres and 80 lots.

Phase I is currently comprised of meadows with an existing farm pond. This farm pond is not a jurisdictional wetland and will be filled during Phase I grading. There will be sanitary sewer and water improvements shown in the construction plans.

AREA DRAINAGE ISSUES:

The existing drainage ditch along HWY 16 does not have positive drainage. The ditch will be reshaped in order to adequately convey storm water. An 18" culvert will be added under Justin Lane to allow storm water to flow north to the culvert under HWY 16.

The property adjacent to the southern border of Phase 1 and 5 is flat. This property drains in the general direction of our site but a maximum slope of 0.6%. Due to the land cover and minimal slope, the runoff from this property will either infiltrate into the ground or remain stagnant on the property before reach Phase 1. However, we have designed two iterations of storm sewer for Stokenbury Farms. The first iteration included no offsite area from the south because of the existing drainage pattern. With this iteration, a shorter Tc of 14 minutes was used to size the pipe run. The second iteration included a rough delineation of runoff from the south that could enter Stokenbury Farms. As previously discussed, due to the topography and land cover of this property the time of concentration is much longer. This results in a lower intensity used in designing the storm network. The first iteration was more conservative with a greater flow and has thus been selected for the design. Please see the Storm Sewer Design section for more information.

FLOOD ZONE INFORMATION:

Phase I has lots in Zone AE according to the FEMA Flood Insurance Rate Map 05143C0245F, effective date May 16, 2008. 11 lots are in the White River floodplain and 10 lots are in the Stokenbury Creek floodplain. After construction a LOMR-f will be filed on these lots. Minimum finished flood elevations (FFE) have been called out on the grading plan. All FFE are 2' or more above the established or calculated base flood elevations.

Using the effective FIS study, we determined the BFE's for all the lots. Annotated Panels 75P and 76P are provided in the appendix with the interpolated BFE's for each lot.

As discussed in the preliminary plat phase, a LOMR will be filed once the creek crossing has been installed. Since the creek crossing will not happen until Phase II, the LOMR-F will remove the lots in Phase I out of the floodplain prior to the map being changed in future phases.

DRAINAGE DESIGN:

Please reference the Drainage Report approved with the Preliminary Plat of Stokenbury Farms Phase II.

The drainage design for the site included seven study points. Study Point 1A is in the center of Stokenbury Creek. The peak flow of the proposed site does not line up with the peak flow of the overall basin (1,000 acres). This results in post-developed flows that are not increased at the outfall.

Study Point 2C analyzed the discharge at the northern border of Phase I. A wet pond has been designed to reduce post development flows below pre-development at this study point. The outlet structure is a concrete weir structure with a graded overflow weir. Details are provided in the construction plan set. Rip rap and an energy dissipator are shown at the pond discharge to return the concentrated flow back to sheet flow before entering the adjacent property.

Study Point 3B is the analysis of the proposed site's discharge in the ditch along HWY 16 as it flows north. The high points along Stinson Rd and Justin Lane have been designed to reduce the post-development flow routed to this study point below pre-development flow.

Likewise, Study Point 4A analyzed the proposed site discharge into the ditch along HWY 16 as it flow south. Runoff from the proposed site has been routed through swales in the rear of the proposed lots to limit discharge onto the adjacent property owner's property. Flows are not increased on the adjacent property (as proven in the Preliminary Plat drainage report), nor are flows increased at Study Point 4A.

The final series of study points are along the northern border of Phase I. Study Points 2A, 2B, and 3A were analyzed to show the reduction in post-development flows in the storm water that directly discharges onto the adjacent property from the rear of the lots rather than being routed through the ponds. Post-development flows are reduced at all three of these study points.

See below for the discharge summary at each study point and the proposed pond function. Additional information and drainage maps can be found in the appendix.

Table 1. Study Point 1A

Storm Event	*Existing Outflow*	*Proposed Outflow*	*Difference*
(yrs)	(cfs)	(cfs)	(cfs)
1	945.63	925.51	-20.12
2	1156.94	1129.71	-27.23
5	1537.57	1497.16	-40.41
10	1891.69	1838.73	-52.96
25	2417.18	2345.28	-71.9
50	2860.73	2772.68	-88.05
100	3329.5	3224.28	-105.22

Table 2. Study Point 2A

Storm Event	*Existing Outflow*	*Proposed Outflow*	*Difference*
(yrs)	(cfs)	(cfs)	(cfs)
1	1.15	1.07	-0.08
2	1.4	1.29	-0.11
5	1.83	1.69	-0.14
10	2.23	2.05	-0.18
25	2.82	2.59	-0.23
50	3.32	3.04	-0.28
100	3.85	3.51	-0.34

Table 3. Study Point 2B

Storm Event	*Existing Outflow*	*Proposed Outflow*	*Difference*
(yrs)	(cfs)	(cfs)	(cfs)
1	1.52	1.11	-0.41
2	1.54	1.34	-0.5
5	2.41	1.75	-0.66
10	2.95	2.13	-0.82
25	3.75	2.7	-1.05
50	4.42	3.18	-1.24
100	5.13	3.69	-1.44

Table 4. Study Point 2C

Storm Event	*Existing Outflow*	*Proposed Outflow*	*Difference*
(yrs)	(cfs)	(cfs)	(cfs)
1	9.97	9.48	-0.49
2	12.11	11.47	-0.64
5	15.98	15.13	-0.85
10	19.58	18.43	-1.15
25	24.89	23.37	-1.52
50	29.37	27.43	-1.94
100	34.09	31.73	-2.36

Table 5. Study Point 3A

Storm Event	*Existing Outflow*	*Proposed Outflow*	*Difference*
(yrs)	(cfs)	(cfs)	(cfs)
1	0.49	0.48	-0.01
2	0.59	0.58	-0.01
5	0.78	0.77	-0.01
10	0.95	0.94	-0.01
25	1.2	1.18	-0.02
50	1.41	1.39	-0.02
100	1.64	1.61	-0.03

Table 6. Study Point 3B

Storm Event	*Existing Outflow*	*Proposed Outflow*	*Difference*
(yrs)	(cfs)	(cfs)	(cfs)
1	4.53	4.45	-0.08
2	5.48	5.19	-0.29
5	7.17	6.49	-0.68
10	8.74	7.66	-1.08
25	11.04	9.37	-1.67
50	12.98	10.79	-2.19
100	15.02	12.27	-2.75

Table 7. Study Point 4A

Storm Event	*Existing Outflow*	*Proposed Outflow*	*Difference*
(yrs)	(cfs)	(cfs)	(cfs)
1	10.74	10.42	-0.32
2	13.07	12.61	-0.46
5	17.26	16.52	-0.74
10	21.14	20.13	-1.01
25	26.87	25.46	-1.41
50	31.71	29.94	-1.77
100	36.8	34.66	-2.14

Table 8. Proposed Pond 1

Storm Event	*Proposed Outflow*	*Water Surface*	*Freeboard*
(yrs)	(cfs)	(ft)	(ft)
1	9.48	1205.24	2.76
2	11.47	1205.42	2.58
5	15.13	1205.7	2.3
10	18.43	1205.95	2.05
25	23.37	1206.28	1.72
50	27.43	1206.54	1.46
100	31.73	1206.8	1.2

The two existing ponds for Stokenbury Farms Phase I will be improved with this project as the excavation from the ponds will be used to bring Phase I to grade. The proposed dry and wet pond were modeled as interconnected ponds with two 30" CMP culverts connecting the ponds and two 36" RCP culverts as the ultimate outlet structure from the wet pond. The tailwater conditions were set to the peak depth in the north channel at the pond outlet structure. The tailwater conditions vary between storm events. Please see Drainage Channel Sizing in the preliminary plat drainage report for more information. The tables below shows the pond calculation summary.

Table 9. Existing Pond Current Function Summary

Storm Event	*Existing Outflow*	*Existing WSE south pond**	*Existing Freeboard south pond*	*Existing WSE north pond**	*Existing Freeboard north pond*
(yrs)	(cfs)	(ft)	(ft)	(ft)	(ft)
2	25.60	1218.08	1.92	1217.87	2.13
5	31.27	1218.39	1.61	1218.15	1.85
10	35.59	1218.61	1.39	1218.36	1.64
25	40.76	1218.98	1.02	1218.67	1.33
50	44.96	1219.22	0.78	1218.88	1.12
100	47.88	1219.45	0.55	1219.09	0.91

*top of pond for both existing ponds is 1220.00'.

Table 10. Redesigned Pond Function Summary

Storm Event	*Proposed Outflow*	*Proposed WSE south pond**	*Proposed Freeboard south pond*	*Proposed WSE north pond**	*Proposed Freeboard north pond*
(yrs)	(cfs)	(ft)	(ft)	(ft)	(ft)
2	6.38	1218.29	2.01	1217.17	2.83
5	12.63	1218.53	1.77	1217.50	2.50
10	15.98	1218.70	1.60	1217.74	2.26
25	21.28	1218.95	1.35	1218.06	1.94
50	25.97	1219.11	1.19	1218.29	1.71
100	28.52	1219.27	1.03	1218.50	1.50

*top of pond for the south proposed pond is 1220.30' and 1220.0' for the north.

Lastly, additional studies were requested for the drainage ditches adjacent to the property. There have been no changes to either of these studies from the preliminary plat phase to the construction plan phase.

STORM DRAINAGE DESIGN:

Improvements as outlined in this report and depicted on the design drawings will not endanger life or have negative impacts on adjacent or downstream property or watersheds.

All storm sewers have been designed to convey the 10-year storm event using the storm sewer sizing spreadsheets. The 100-year storm event will be contained within the public right of way or drainage easements. Per the City of Elkins Land Use Code, the storm sewer network has been designed to keep the 100 year storm event below the curb (0.33' for mountable curb) and to keep the hydraulic grade line (HGL) for the 10 year storm event 2' below the gutter line (2.3' from top rim).

Phase I storm sewer design include lines 5, 7, 8, 9, and 10. Even though these lines will be built in future phases, the final function has been designed to eliminate the need to re-lay or upsize any pipes in the future. Known tailwater conditions were used at the discharge of each pipe run. The known tailwater for storm line 1 is 10 year and 100 year water surface elevation of pond 1. The known tailwater for storm line 3 is the 10 year and 100 year water surface elevation of the cross section downstream of the proposed box culvert. The known tailwater for storm line 5 is the interpolated 10 year and 100 year water surface elevation at the discharge of 5-1. See annotated HEC-RAS profiles in the appendix for calculations of storm line 3 and 5's known tailwater conditions.

The storm sewer design including inlet, pipe, and HGL calculations are presented in the appendix of this report. The storm sewer calculations incorporate an accurate representation of inlet bypass/down-stream capture in case any inlet does not capture 100% of runoff.

TEMPORARY CHANNEL ANALYSIS

There is a temporary channel on the east side of the subdivision that allows the discharges from storm line 5, 6, and 7 to flow into Stokenbury Creek without causing flooding issues onsite. The intermediate channel is a triangular channel with a slope of 1% and 3:1 side slopes.

The channel was analyzed at three locations: Area 1, area 2,and area 3. These locations were selected as the immediate downstream area from each storm line discharge. The table below shows the designed depth and the depth used for the 10 year and 100 year storm event. The channel has over 1' of freeboard at all locations for the 100 year storm event, thus it is adequately sized.

Table 11. Temporary Channel Analysis

Area	*Storm Event*	*Flow*	*Designed Channel Depth*	*Peak Depth*	*Freeboard*
	(yrs)	(cfs)	(ft)	(ft)	(ft)
1	10	11.56	2.5	1.1	1.2
	100	16.63	2.5	1.3	1.2
2	10	21.99	4.25	1.4	2.85
	100	31.71	4.25	1.6	2.65
3	10	30.08	6.5	1.6	4.9
	100	43.40	6.5	1.8	4.7

There are two radii in the temporary channel. The radius at the future intersection of Troy St and Hilda Ln is 25'. The 100 year storm event is 1.3' deep here and would result in a 7.8' top width (3:1 side slopes). 25' is greater than double the top width. The radius at Hilda Ln directing the stormwater due west is 25' as well. The 100 year storm event is 1.8' deep here and would result in a 10.8' top width. 25' is greater than double this top width. Thus, the radii of the channel are adequately designed.

WATER QUALITY MEASURES:

As described in the Preliminary Plat Drainage report, storm sewer will not directly discharge into Stokenbury Creek. Sedimentation forebays have been designed at the outfall of each storm sewer run which will allow for settling before discharging into the stream. Storm sewer line 3 was originally shown to discharge into a sedimentation forebay but due to site constraints the sanitary sewer crossing at this location made the originally design not feasible. Storm sewer line 3 now ties into the box culvert and will discharge directly into Stokenbury Creek.

EROSION & SEDIMENT CONTROL MEASURES:

Erosion and sediment control will be achieved through the use of silt fences at the down slope side of the proposed grading, rock barriers around the curb inlets, and flared end sections to prevent sediment from entering the drainage system.

CONCLUSION:

The grading for the site was designed to convey the runoff from the 100-year frequency storm event.

Should you have any questions or require any additional information, please feel free to contact us at your convenience.

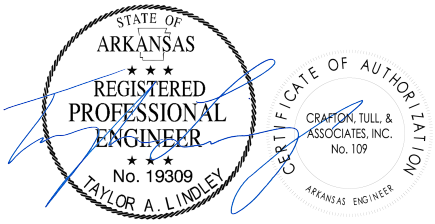
CERTIFICATION:

I, Taylor Lindley, Registered Professional Engineer No. 19309 in the State of Arkansas, hereby certify that the drainage designs and specifications contained in this report have been prepared by me, or under my responsible supervision, in accordance with the regulations of the City of Elkins, Arkansas, the Professional Engineers Registration Act of the State of Arkansas, and reflect the application of generally accepted standards of engineering practice. I further certify that the improvements outlined in this report will not have any adverse effects to life or downstream properties. I understand that review of these plans is limited to general compliance with the city codes and regulations and does not warrant the engineer's design or imply any liability to the City of Elkins for the designs contained herein.

Signed and Sealed by Professional Engineer

Sincerely,

Crafton, Tull & Associates, Inc.



Taylor Lindley, P.E.
Project Manager



Ali Karr, E.I.

Crafton Tull

VICINITY MAP

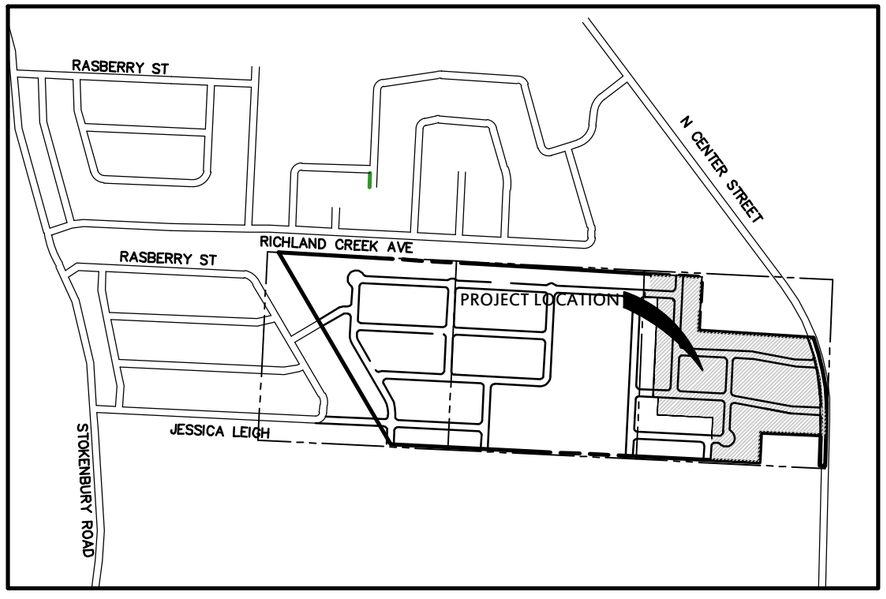
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STOKENBURY FARMS

PHASE 1 OF PHASE 2 SUBDIVISON

ELKINS, ARKANSAS

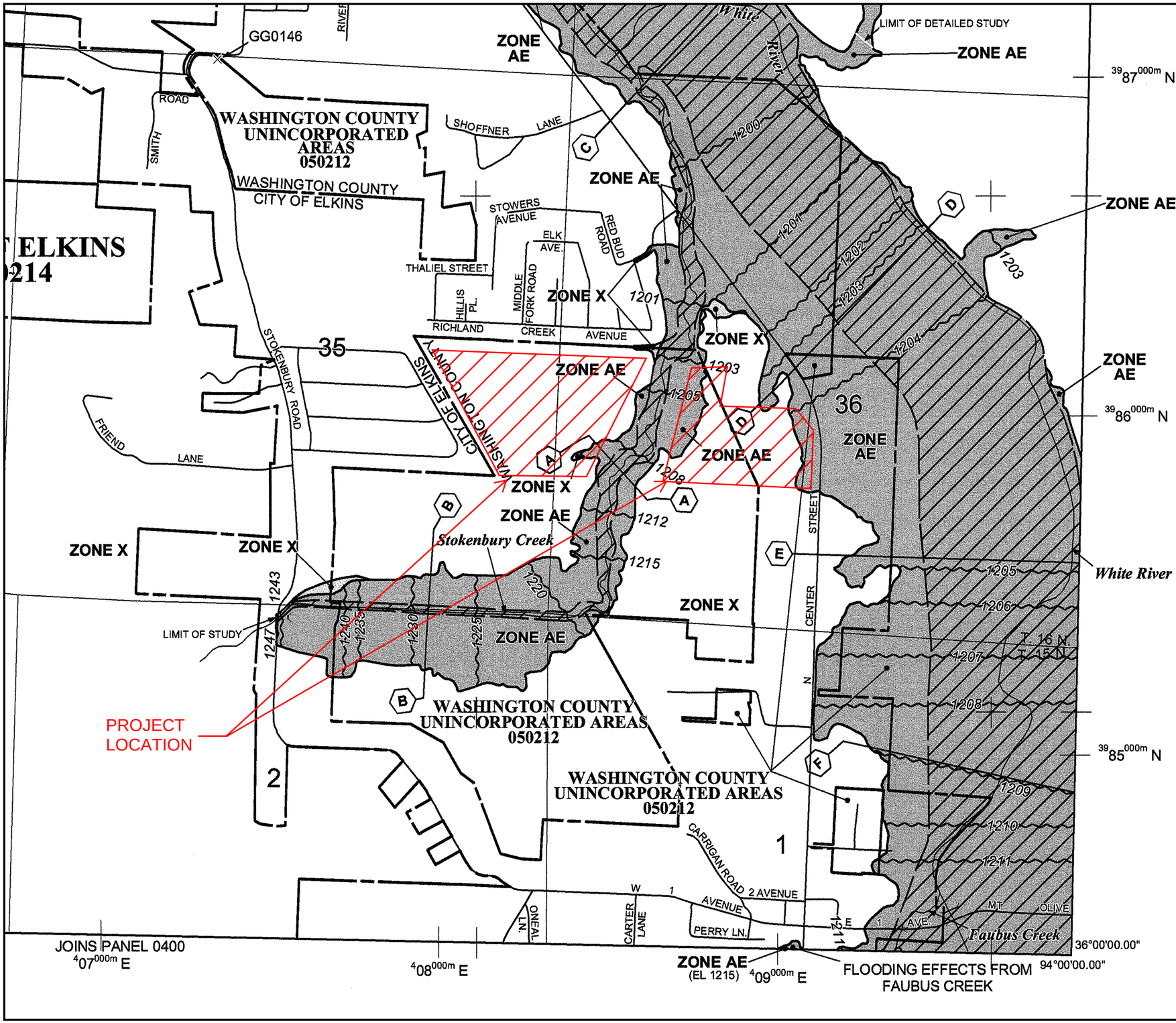
PRELIMINARY PLAT



VICINITY MAP
NTS

FEMA FIRM PANEL

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MAP SCALE 1" = 1000'

500 0 1000 2000 FEET

200 0 200 600

PANEL 0245F

NATIONAL FLOOD INSURANCE PROGRAM

FIRM

FLOOD INSURANCE RATE MAP

WASHINGTON COUNTY, ARKANSAS AND INCORPORATED AREAS

PANEL 245 OF 575

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
WASHINGTON COUNTY	050212	0245	F
ELKINS, CITY OF	050214	0245	F
FAYETTEVILLE, CITY OF	050216	0245	F

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
05143C0245F

MAP REVISED
MAY 16, 2008

Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov

SOIL SURVEY

Crafton Tull

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Washington County, Arkansas



October 11, 2018

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map



MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

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

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

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

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

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

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

Soil Survey Area: Washington County, Arkansas
Survey Area Data: Version 15, Sep 12, 2018

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

Date(s) aerial images were photographed: Dec 29, 2011—Oct 30, 2017

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

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
Ck	Cherokee complex, mounded	28.5	30.7%
Jo	Johnsburg silt loam, 0 to 2 percent slopes	43.3	46.6%
SfB	Savannah fine sandy loam, 1 to 3 percent slopes	20.8	22.4%
Sn	Sloan silt loam	0.4	0.4%
Totals for Area of Interest		**92.9**	**100.0%**

Map Unit Descriptions

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

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

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

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or

landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Washington County, Arkansas

Ck—Cherokee complex, mounded

Map Unit Setting

National map unit symbol: m0kd
Mean annual precipitation: 38 to 53 inches
Mean annual air temperature: 47 to 69 degrees F
Frost-free period: 200 to 245 days
Farmland classification: Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season

Map Unit Composition

Cherokee and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Cherokee

Setting

Landform: Stream terraces
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Linear
Parent material: Silty and clayey pedisediment

Typical profile

A - 0 to 9 inches: silt loam
E - 9 to 19 inches: silt loam
Btg1 - 19 to 24 inches: silty clay loam
Btg2 - 24 to 61 inches: clay
Cg - 61 to 72 inches: silty clay loam

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: 16 to 22 inches to abrupt textural change
Natural drainage class: Somewhat poorly drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: About 6 to 18 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Low (about 4.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3w
Hydrologic Soil Group: D
Hydric soil rating: No

Minor Components

Aqualfs

Percent of map unit: 10 percent
Landform: Depressions

Down-slope shape: Concave
Across-slope shape: Convex
Hydric soil rating: Yes

Jo—Johnsburg silt loam, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 2sr05
Elevation: 920 to 2,290 feet
Mean annual precipitation: 43 to 53 inches
Mean annual air temperature: 55 to 59 degrees F
Frost-free period: 180 to 210 days
Farmland classification: Prime farmland if protected from flooding or not frequently flooded during the growing season

Map Unit Composition

Johnsburg and similar soils: 81 percent
Minor components: 19 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Johnsburg

Setting

Landform: Hillslopes
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Fine-silty loess over silty and clayey pedisediment over silty and clayey residuum weathered from sedimentary rock

Typical profile

Ap - 0 to 8 inches: silt loam
Bt - 8 to 22 inches: silty clay loam
2Btgx1 - 22 to 31 inches: silty clay loam
2Btgx2 - 31 to 43 inches: silty clay loam
2Btgx3 - 43 to 56 inches: silty clay loam
3Bt - 56 to 80 inches: gravelly silty clay loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: 18 to 28 inches to fragipan
Natural drainage class: Somewhat poorly drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 12 to 24 inches
Frequency of flooding: None
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline (0.2 to 0.6 mmhos/cm)

Available water storage in profile: Low (about 4.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: D
Ecological site: Fragipan Upland Woodland (F116AY004MO)
Hydric soil rating: No

Minor Components

Leaf

Percent of map unit: 5 percent
Landform: Hillslopes
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Aquults

Percent of map unit: 5 percent
Landform: Hillslopes
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: Yes

Cherokee

Percent of map unit: 5 percent
Landform: Hillslopes
Down-slope shape: Concave
Across-slope shape: Concave
Ecological site: Wet Footslope Prairie (R116BY027MO)
Other vegetative classification: Mixed/Transitional (Mixed Native Vegetation)
Hydric soil rating: No

Captina

Percent of map unit: 3 percent
Landform: Hillslopes
Down-slope shape: Concave
Across-slope shape: Concave
Ecological site: Fragipan Upland Woodland (F116BY001MO)
Other vegetative classification: Mixed/Transitional (Mixed Native Vegetation)
Hydric soil rating: No

Mayes

Percent of map unit: 1 percent
Landform: Hillslopes
Down-slope shape: Concave
Across-slope shape: Concave
Ecological site: Shale Upland Prairie (R112XY021MO)
Other vegetative classification: Grass/Prairie (Herbaceous Vegetation)
Hydric soil rating: No

SfB—Savannah fine sandy loam, 1 to 3 percent slopes

Map Unit Setting

National map unit symbol: m0m2
Mean annual precipitation: 38 to 53 inches
Mean annual air temperature: 47 to 69 degrees F
Frost-free period: 200 to 245 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Savannah and similar soils: 95 percent
Minor components: 5 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Savannah

Setting

Landform: Stream terraces
Landform position (three-dimensional): Tread
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Loamy colluvium derived from sandstone and siltstone and/or loamy pedisediment

Typical profile

Ap - 0 to 5 inches: fine sandy loam
Bt - 5 to 22 inches: loam
Btx - 22 to 70 inches: loam

Properties and qualities

Slope: 1 to 3 percent
Depth to restrictive feature: 18 to 26 inches to fragipan
Natural drainage class: Moderately well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: About 16 to 30 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Low (about 3.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: C
Hydric soil rating: No

Minor Components

Aquults

Percent of map unit: 5 percent
Landform: Depressions
Down-slope shape: Concave
Across-slope shape: Convex
Hydric soil rating: Yes

Sn—Sloan silt loam

Map Unit Setting

National map unit symbol: m0m4
Elevation: 920 to 970 feet
Mean annual precipitation: 38 to 53 inches
Mean annual air temperature: 47 to 69 degrees F
Frost-free period: 200 to 245 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Sloan and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Sloan

Setting

Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Linear

Typical profile

A - 0 to 17 inches: silt loam
C - 17 to 61 inches: silt loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Poorly drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.20 to 1.98 in/hr)
Depth to water table: About 0 to 12 inches
Frequency of flooding: Frequent
Frequency of ponding: None
Available water storage in profile: High (about 11.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3w

Hydrologic Soil Group: B/D
Ecological site: Wet Floodplain Step Forest (F116AY040MO)
Hydric soil rating: Yes

Minor Components

Aquents
Percent of map unit: 5 percent
Landform: Depressions
Down-slope shape: Concave
Across-slope shape: Convex
Hydric soil rating: Yes

Razort
Percent of map unit: 5 percent
Hydric soil rating: No

Soil Information for All Uses

Soil Properties and Qualities

The Soil Properties and Qualities section includes various soil properties and qualities displayed as thematic maps with a summary table for the soil map units in the selected area of interest. A single value or rating for each map unit is generated by aggregating the interpretive ratings of individual map unit components. This aggregation process is defined for each property or quality.

Soil Qualities and Features

Soil qualities are behavior and performance attributes that are not directly measured, but are inferred from observations of dynamic conditions and from soil properties. Example soil qualities include natural drainage, and frost action. Soil features are attributes that are not directly part of the soil. Example soil features include slope and depth to restrictive layer. These features can greatly impact the use and management of the soil.

Hydrologic Soil Group

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

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

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

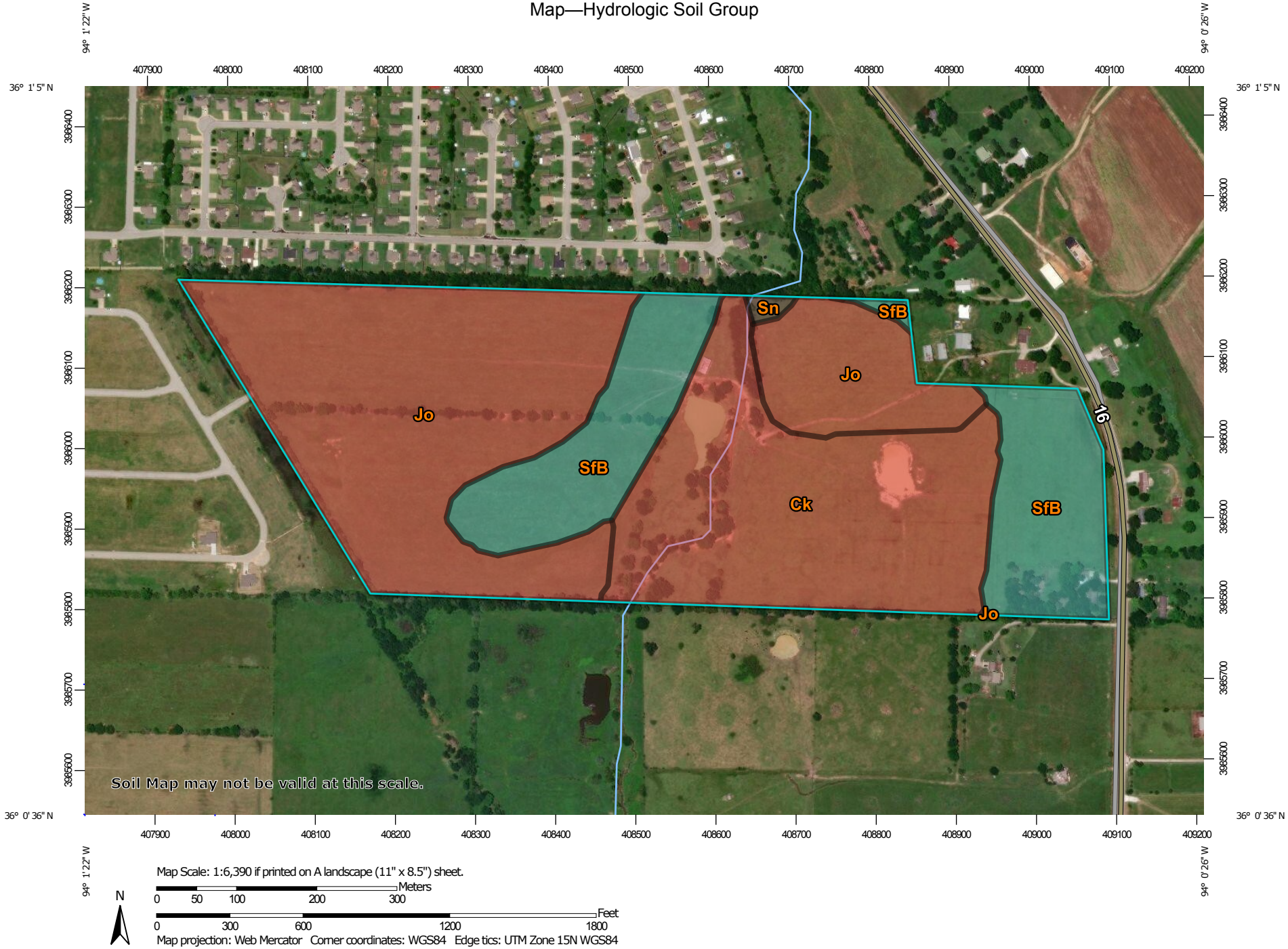
Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

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

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

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

Custom Soil Resource Report
Map—Hydrologic Soil Group



MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

Soil Rating Polygons

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

Soil Rating Lines

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

Soil Rating Points

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

Water Features

- Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background

- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

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

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

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

Soil Survey Area: Washington County, Arkansas
Survey Area Data: Version 15, Sep 12, 2018

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

Date(s) aerial images were photographed: Dec 29, 2011—Oct 30, 2017

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

Table—Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
Ck	Cherokee complex, mounded	D	28.5	30.7%
Jo	Johnsburg silt loam, 0 to 2 percent slopes	D	43.3	46.6%
SfB	Savannah fine sandy loam, 1 to 3 percent slopes	C	20.8	22.4%
Sn	Sloan silt loam	B/D	0.4	0.4%
Totals for Area of Interest			**92.9**	**100.0%**

Rating Options—Hydrologic Soil Group

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

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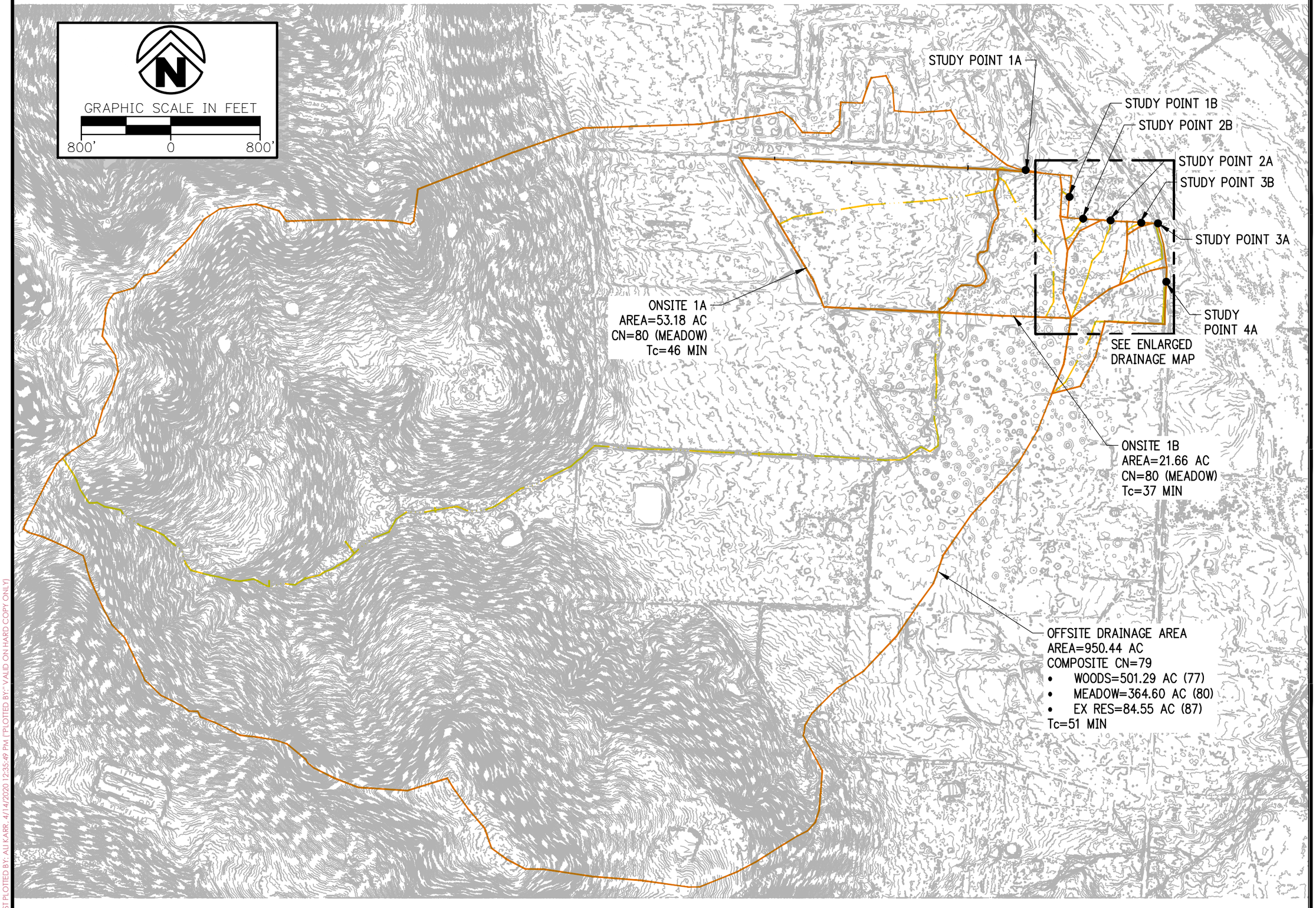
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DRAINAGE MAPS

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STOKENBURY FARMS
ELKINS, AR

Key Plan

No.	Description	Date

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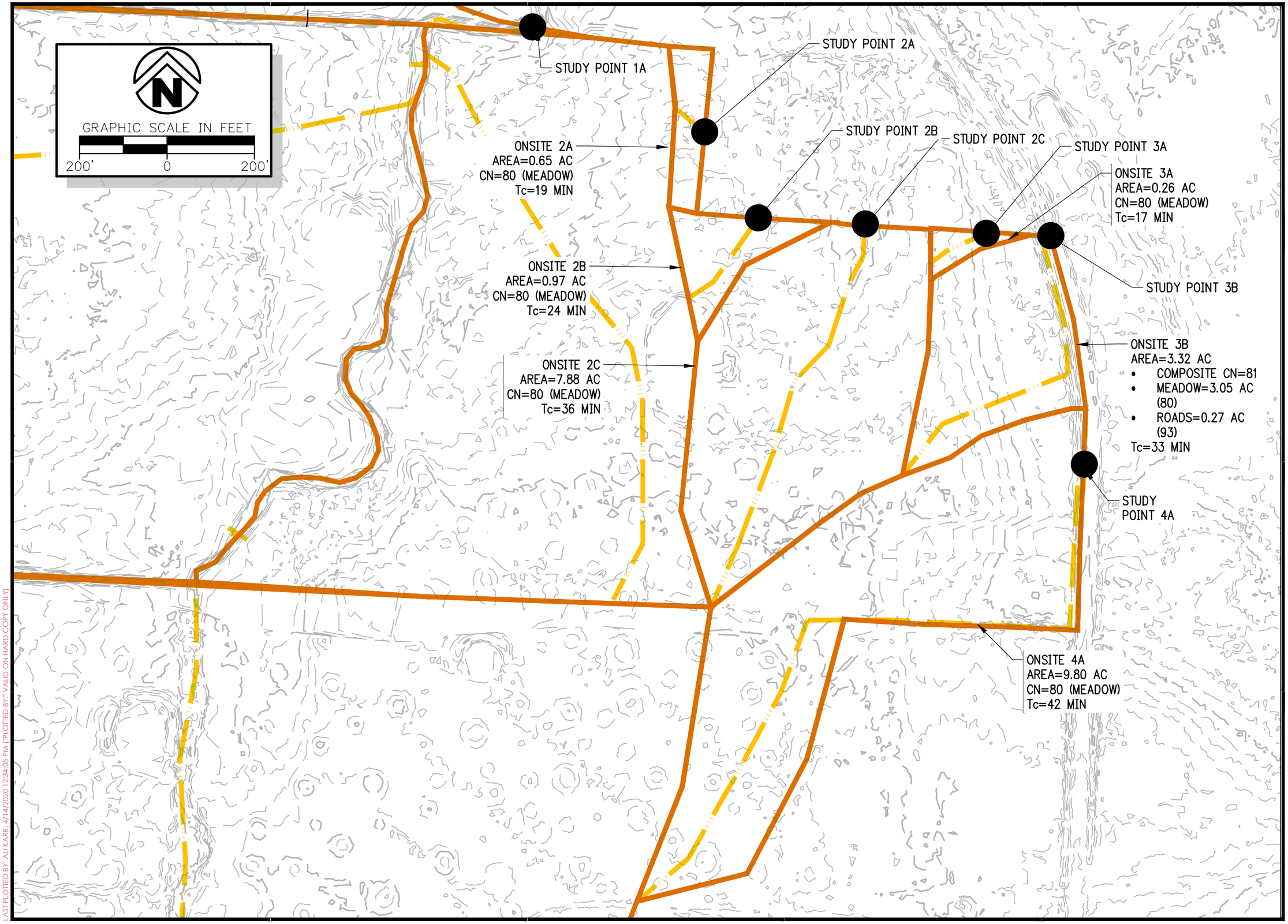
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PRE-DEVELOPMENT DRAINAGE MAP

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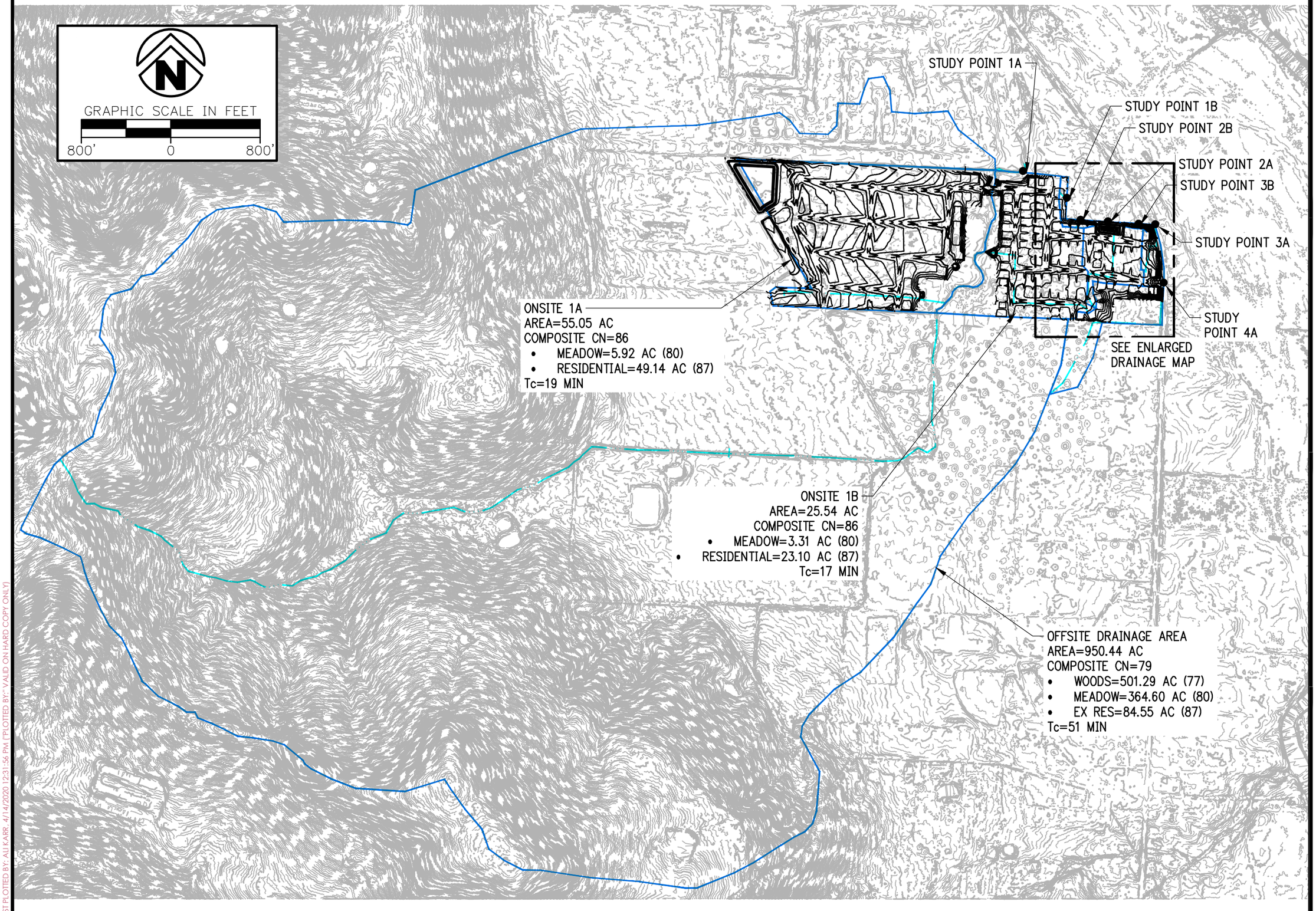
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PRE-DEVELOPMENT DRAINAGE MAP

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Key Plan

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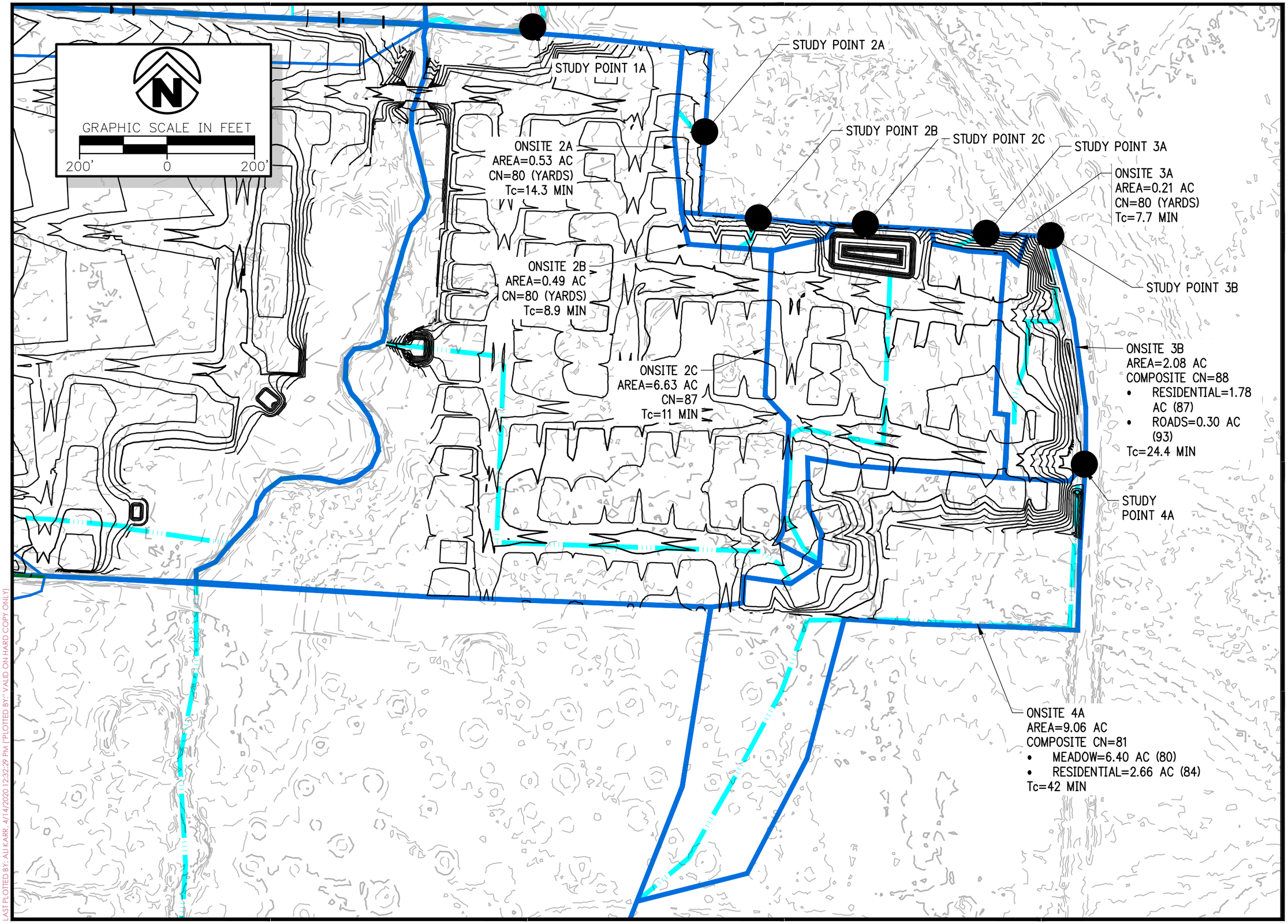
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POST-DEVELOPMENT DRAINAGE MAP- OVERALL

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LAYOUT: POST , LAST SAVED: AES162, 4/2/2020 5:04:03 PM
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No. 109
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STOKENBURY FARMS
ELKINS, AR

Key Plan

No.	Description	Date

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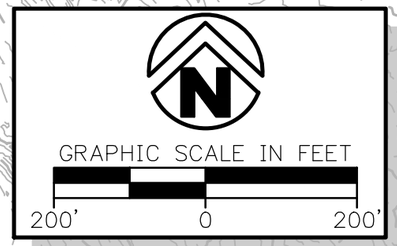
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POST-DEVELOPMENT DRAINAGE MAP-ENLARGED VIEW

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CATCHMENT 1
AREA= 22.30 AC
RUNOFF COEFFICIENT=0.61
Tc=26.4 MIN

CATCHMENT 2
AREA= 25.85 AC
RUNOFF COEFFICIENT=0.61
Tc=32.4 MIN

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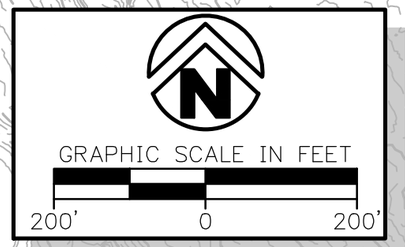
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EXISTING STOKENBURY PONDS DRAINAGE MAP

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LAYOUT: PRE SI PONDS 1 , LAST SAVED: AES162, 4/14/2020 12:54:45 PM
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CATCHMENT 1
AREA= 24.79 AC
RUNOFF COEFFICIENT=0.61
Tc=26.4 MIN

CATCHMENT 2
AREA= 25.68 AC
RUNOFF COEFFICIENT=0.61
Tc=32.4 MIN

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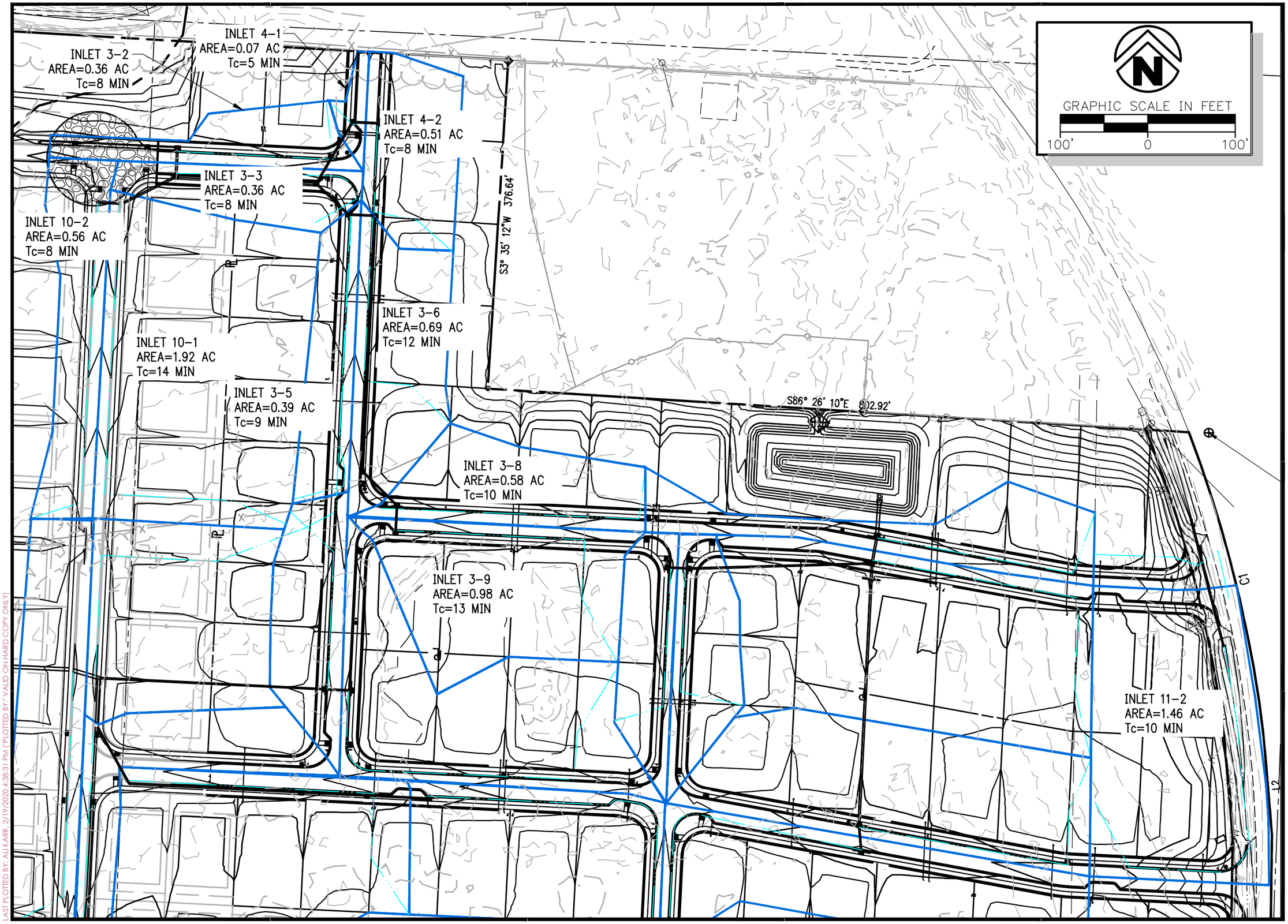
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PROPOSED STOKENBURY PONDS DRAINAGE MAP

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INLET MAP- 1 OF 2

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LAYOUT: 1 , LAST SAVED: AE5162, 2/19/2020 4:13:57 PM
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GRAPHIC SCALE IN FEET

100' 0 100'

S86° 26' 10"E 802.92'

INLET 1-2
AREA=0.62 AC
Tc=10 MIN

INLET 5-4
AREA=0.49 AC
Tc=9 MIN

INLET 5-3
AREA=1.04 AC
Tc=14 MIN

INLET 2-2
AREA=0.37 AC
Tc=7 MIN

INLET 2-1
AREA=0.42 AC
Tc=9 MIN

INLET 1-3
AREA=1.83 AC
Tc=14 MIN

INLET 5-2
AREA=0.71 AC
Tc=10 MIN

INLET 5-5
AREA=1.24 AC
Tc=14 MIN

INLET 7-1
AREA=0.65 AC
Tc=7 MIN

INLET 1-4
AREA=1.34 AC
Tc=12 MIN

INLET 6-1
AREA=1.67 AC
Tc=14 MIN

INLET 6-2
AREA=1.14 AC
Tc=11 MIN

INLET 1-5
AREA=1.32 AC
Tc=9 MIN

INLET 7-3
AREA=0.36 AC
Tc=7 MIN

INLET 7-5
AREA=1.32 AC
Tc=8 MIN

INLET 8-1
AREA=0.53 AC
Tc=10 MIN

INLET 9-1
AREA=0.41 AC
Tc=10 MIN

INLET 7-6
AREA=1.13 AC
Tc=10 MIN

INLET 7-7
AREA=0.57 AC
Tc=6 MIN

L6

L5

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STOKENBURY FARMS

ELKINS, AR

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INLET MAP- 2 OF 2

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STORM SEWER CALCULATIONS

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Job Description: Stokenbury Farms Phase I
CTA Job Number: 19106901

Date: February 21, 2020
By: Ali Karr, E.I.

				OVERLAND FLOW				CHANELIZED FLOW						TOTAL
	DRAINAGE AREA	INLET LOCATION	AREA (acres)	LENGTH (ft)	SLOPE (%)	RUNOFF (C)	TIME OF CONC. (min)	SURFACE TYPE	LENGTH (ft)	SLOPE (%)	RUNOFF (n)	VELOCITY (ft/sec)	TIME OF CONC. (min)	TIME OF CONC. (min)
1	1-2	JUSTIN ST	0.62	72	1.50%	0.57	7.07	Paved	227	0.50%	0.013	1.44	2.63	10
2	1-3	JUSTIN ST	1.83	184	1.50%	0.57	11.30	Paved	240	0.50%	0.013	1.44	2.78	14
3	1-4	STINSON RD	1.34	120	1.50%	0.57	9.13	Paved	242	0.50%	0.013	1.44	2.81	12
4	1-5	STINSON RD	1.32	37	2.00%	0.57	4.61	Paved	497	0.90%	0.013	1.93	4.30	9
5	2-1	PATRICIA LN	0.42	71	1.30%	0.57	7.37	Paved	151	0.50%	0.013	1.44	1.75	9
6	2-2	PATRICIA LN	0.37	57	2.20%	0.57	5.54	Paved	158	0.50%	0.013	1.44	1.83	7
7	3-2	SAYDI ST	0.36	64	2.20%	0.57	5.87	Paved	177	0.50%	0.013	1.44	2.05	8
8	3-3	SAYDI ST	0.36	54	2.70%	0.57	5.03	Paved	221	0.50%	0.013	1.44	2.56	8
9	3-5	JENNIFER ANN LN	0.39	57	1.50%	0.57	6.29	Paved	310	1.10%	0.013	2.13	2.42	9
10	3-6	JENNIFER ANN LN	0.69	152	1.50%	0.57	10.27	Paved	187	1.10%	0.013	2.13	1.46	12
11	3-8	JUSTIN ST	0.58	59	1.50%	0.57	6.40	Paved	297	0.50%	0.013	1.44	3.44	10
12	3-9	JUSTIN ST	0.98	149	1.50%	0.57	10.17	Paved	219	0.50%	0.013	1.44	2.54	13
13	4-1	JENNIFER ANN LN	0.07	30	2.20%	0.57	4.02	Paved	1	1.00%	0.013	2.03	0.01	5
14	4-2	JENNIFER ANN LN	0.51	93	3.00%	0.57	6.38	Paved	109	0.50%	0.013	1.44	1.26	8
15	5-2	HILDA LN	0.71	76	1.30%	0.57	7.62	Paved	256	0.70%	0.013	1.70	2.51	10
16	5-3	HILDA LN	1.04	232	1.50%	0.57	12.69	Paved	139	0.50%	0.013	1.44	1.61	14
17	5-4	JENNIFER ANN LN	0.49	68	1.50%	0.57	6.87	Paved	157	0.50%	0.013	1.44	1.82	9
18	5-5	JENNIFER ANN LN	1.24	135	1.50%	0.57	9.68	Paved	340	0.50%	0.013	1.44	3.94	14
19	6-1	STINSON RD	1.67	151	1.40%	0.57	10.48	Paved	282	0.50%	0.013	1.44	3.27	14
20	6-2	STINSON RD	1.14	72	1.50%	0.57	7.07	Paved	397	0.70%	0.013	1.70	3.89	11
21	7-1	HILDA LN	0.65	40	3.30%	0.57	4.05	Paved	262	0.70%	0.013	1.70	2.57	7
22	7-3	HILDA LN	0.36	41	2.00%	0.57	4.85	Paved	162	0.60%	0.013	1.57	1.71	7
23	7-5	TROY ST	1.32	65	2.20%	0.57	5.91	Paved	273	0.92%	0.013	1.95	2.33	8
24	7-6	TROY ST	1.17	104	1.25%	0.57	9.03	Paved	79	0.50%	0.013	1.44	0.92	10
25	7-8	OLIVER ALLEN LN	0.13	42	1.50%	0.57	5.40	Paved	81	1.50%	0.013	2.49	0.54	6
26	7-9	OLIVER ALLEN LN	0.40	34	1.50%	0.57	4.86	Paved	162	1.50%	0.013	2.49	1.08	6
26	8-1	HILDA LN	0.53	80	1.30%	0.57	7.82	Paved	222	0.70%	0.013	1.70	2.18	10
27	9-1	TROY ST	0.41	92	1.00%	0.57	9.15	Paved	92	0.50%	0.013	1.44	1.07	10
28	10-1	HILDA LN	1.92	213	1.50%	0.57	12.16	Paved	333	1.90%	0.013	2.80	1.98	14
29	10-2	HILDA LN	0.56	59	2.10%	0.57	5.72	Paved	343	1.90%	0.013	2.80	2.04	8
30	11-2	NORTH DRIVEWAY	1.46	85	1.50%	0.57	7.68	Unpaved	385	2.20%	0.030	2.39	2.68	10

Job Description: Stokenbury Farms Phase I **Date:** February 21, 2020
CTA Job Number: 19106901 **By:** Ali Karr, E.I.

CATCH BASINS IN A SUMP: DESIGN (10 - YEAR STORM EVENT)

	INLET NUMBER	INLET LOCATION	AREA Tc (min)	TYPE OF INLET	AREA (ac)	C	TOTAL Tc (min)	* I (in/hr)	RUNOFF AT INLET (CA)	CARRY-OVER FROM UPSTREAM INLET (CA)	TOTAL FLOW Qt (cfs)	INLET LENTGTH (ft)	AREA OPENING (sf^2)	*** CLOG REDUC. (%)	** CAPAC. Qp (cfs) CURB	** CAPAC Qp (cfs) GRATE	DEPTH AT CURB d (ft)		RDWY CROSS SLOPE (ft/ft)	SPREAD AT INLET (ft)	SPREAD AT GRATE (ft)	TOTAL RUNOFF (CA)
1	1-2	JUSTIN ST	10		0.62	0.57	10	5.87	0.35		2.07	17		20	14.4	0.0	0.14		0.0300	4.57		0.35
2	1-3	JUSTIN ST	14		1.83	0.57	14	5.06	1.04		5.28	20		20	17.0	0.0	0.23		0.0300	7.65		1.04
3	1-4	STINSON RD	12		1.34	0.57	12	5.42	0.76		4.14	20		20	17.0	0.0	0.20		0.0300	6.51		0.76
4	1-5	STINSON RD	9		1.32	0.57	9	6.12	0.75		4.61	20		20	17.0	0.0	0.21		0.0300	6.99		0.75
5																						
6	2-1	PATRICIA LN	9		0.42	0.57	9	6.12	0.24		1.47	8		20	6.8	0.0	0.18		0.0300	6.00		0.24
7	2-2	PATRICIA LN	7		0.37	0.57	7	6.74	0.21		1.40	8		20	6.8	0.0	0.17		0.0300	5.83		0.21
8																						
9	3-2	SAYDI ST	8		0.36	0.57	8	6.41	0.21		1.32	5		20	4.2	0.0	0.23		0.0300	7.64		0.21
10	3-3	SAYDI ST	8		0.36	0.57	8	6.41	0.21		1.32	8		20	6.8	0.0	0.17		0.0300	5.58		0.21
11	3-5	JENNIFER ANN LN	9		0.39	0.57	9	6.12	0.22		1.36	8		20	6.8	0.0	0.17		0.0300	5.71		0.22
12	3-8	JUSTIN ST	10		0.58	0.57	10	5.87	0.33		1.95	12		20	10.2	0.0	0.17		0.0300	5.53		0.33
13	3-9	JUSTIN ST	13		0.98	0.57	13	5.23	0.56		2.92	12		20	10.2	0.0	0.22		0.0300	7.25		0.56
14																						
15	4-1	JENNIFER ANN LN	5		0.07	0.57	5	7.56	0.04		0.30	4		20	3.4	0.0	0.10		0.0300	3.32		0.04
16	4-2	JENNIFER ANN LN	8		0.51	0.57	8	6.41	0.29	0.01	1.95	8		20	6.8	0.0	0.22		0.0300	7.26		0.30
17																						
18	5-2	HILDA LN	10		0.71	0.57	10	5.87	0.40		2.37	13		20	11.0	0.0	0.18		0.0300	5.98		0.40
19	5-3	HILDA LN	14		1.04	0.57	14	5.06	0.59	0.01	3.06	13		20	11.0	0.0	0.21		0.0300	7.08		0.60
20	5-4	JENNIFER ANN LN	9		0.49	0.57	9	6.12	0.28		1.71	12		20	10.2	0.0	0.15		0.0300	5.07		0.28
21	5-5	JENNIFER ANN LN	14		1.24	0.57	14	5.06	0.70		3.57	16		20	13.6	0.0	0.21		0.0300	6.84		0.70
22																						
23	6-1	STINSON RD	14		1.67	0.57	14	5.06	0.95		4.82	16		20	13.6	0.0	0.25		0.0300	8.35		0.95
24	6-2	STINSON RD	11		1.14	0.57	11	5.63	0.65		3.66	12		20	10.2	0.0	0.25		0.0300	8.43		0.65
25																						
26	7-5	TROY ST	8		1.32	0.57	8	6.41	0.75		4.83	20		20	17.0	0.0	0.22		0.0300	7.21		0.75
27	7-6	TROY ST	10		1.17	0.57	10	5.87	0.67		3.91	20		20	17.0	0.0	0.19		0.0300	6.27		0.67
28	7-8	OLIVER ALLEN LN	6		0.13	0.57	6	7.12	0.07		0.53	4		20	3.4	0.0	0.14		0.0300	4.82		0.07
29	7-9	OLIVER ALLEN LN	6		0.40	0.57	6	7.12	0.23		1.63	8		20	6.8	0.0	0.19		0.0300	6.44		0.23
30																						
31	8-1	HILDA LN	10		0.53	0.57	10	5.87	0.30		1.77	8		20	6.8	0.0	0.20		0.0300	6.81		0.30
32																						
33	9-1	TROY ST	10		0.41	0.57	10	5.87	0.23		1.37	8		20	6.8	0.0	0.17		0.0300	5.74		0.23
34																						
35	10-1	HILDA LN	14		1.92	0.57	14	5.06	1.09		5.54	20		20	17.0	0.0	0.24		0.0300	7.90		1.09
36	10-2	HILDA LN	8		0.56	0.57	8	6.41	0.32		2.05	16		20	13.6	0.0	0.14		0.0300	4.72		0.32
37																						
38	11-2	NORTH DRIVEWAY	10		1.46	0.57	10	5.87	0.83		4.88	FES										0.83

* 5 MINUTES IS THE MINIMUM TIME OF CONCENTRATION FOR CATCHMENT BASINS (10 - YEAR I = 7.34 IN/HR).
** CAPACITY FOR A MXIMUM OF 6" HEADWATER
*** CLOG REDUCTION FACTOR FOR CURB/AREA INLETS IS 20% FOR GRATED INLETS IS 50%

Job Description Stokenbury Farms Phase I **Date:** February 21, 2020
CTA Job Number 19106901 **By:** Ali Karr, E.I.

CATCH BASINS IN A SUMP: DESIGN (100 - YEAR STORM EVENT)

	INLET NUMBER	INLET LOCATION	AREA Tc (min)	TYPE OF INLET	AREA (ac)	C	TOTAL Tc (min)	* I (in/hr)	RUNOFF AT INLET (CA)	CARRY-OVER FROM UPSTREAM INLET (CA)	TOTAL FLOW Qt (cfs)	INLET LENTGTH (ft)	AREA OPENING (sf^2)	*** CLOG REDUC. (%)	** CAPAC. Qp (cfs) CURB	** CAPAC Qp (cfs) GRATE	DEPTH AT CURB d (ft)		RDWY CROSS SLOPE (ft/ft)	SPREAD AT INLET (ft)		TOTAL RUNOFF (CA)
1	1-2	JUSTIN ST	10	0	0.62	0.57	10	8.43	0.35		2.98	17	0	20	14.4	0.0	0.17		0.0300	5.82		0.35
2	1-3	JUSTIN ST	14	0	1.83	0.57	14	7.29	1.04		7.61	20	0	20	17.0	0.0	0.29		0.0300	9.76		1.04
3	1-4	STINSON RD	12	0	1.34	0.57	12	7.81	0.76		5.96	20	0	20	17.0	0.0	0.25		0.0300	8.30		0.76
4	1-5	STINSON RD	9	0	1.32	0.57	9	8.80	0.75		6.62	20	0	20	17.0	0.0	0.27		0.0300	8.90		0.75
5																						
6	2-1	PATRICIA LN	9	0	0.42	0.57	9	8.80	0.24		2.11	8	0	20	6.8	0.0	0.23		0.0300	7.64		0.24
7	2-2	PATRICIA LN	7	0	0.37	0.57	7	9.68	0.21		2.01	8	0	20	6.8	0.0	0.22		0.0300	7.41		0.21
8																						
9	3-2	SAYDI ST	8	0	0.36	0.57	8	9.21	0.21		1.89	5	0	20	4.2	0.0	0.29		0.0300	9.72		0.21
10	3-3	SAYDI ST	8	0	0.36	0.57	8	9.21	0.21		1.89	8	0	20	6.8	0.0	0.21		0.0300	7.11		0.21
11	3-5	JENNIFER ANN LN	9	0	0.39	0.57	9	8.80	0.22		1.96	8	0	20	6.8	0.0	0.22		0.0300	7.27		0.22
12	3-8	JUSTIN ST	10	0	0.58	0.57	10	8.43	0.33		2.80	12	0	20	10.2	0.0	0.21		0.0300	7.04		0.33
13	3-9	JUSTIN ST	13	0	0.98	0.57	13	7.54	0.56		4.21	12	0	20	10.2	0.0	0.28		0.0300	9.25		0.56
14																						
15	4-1	JENNIFER ANN LN	5	0	0.07	0.57	5	10.83	0.04		0.43	4	0	20	3.4	0.0	0.13		0.0300	4.22		0.04
16	4-2	JENNIFER ANN LN	8	0	0.51	0.57	8	9.21	0.29	0.05	3.12	8	0	20	6.8	0.0	0.30		0.0300	9.92		0.34
17																						
18	5-2	HILDA LN	10	0	0.71	0.57	10	8.43	0.40		3.41	13	0	20	11.0	0.0	0.23		0.0300	7.62		0.40
19	5-3	HILDA LN	14	0	1.04	0.57	14	7.29	0.59	0.04	4.63	13	0	20	11.0	0.0	0.28		0.0300	9.34		0.63
20	5-4	JENNIFER ANN LN	9	0	0.49	0.57	9	8.80	0.28		2.46	12	0	20	10.2	0.0	0.19		0.0300	6.46		0.28
21	5-5	JENNIFER ANN LN	14	0	1.24	0.57	14	7.29	0.70		5.14	16	0	20	13.6	0.0	0.26		0.0300	8.72		0.70
22																						
23	6-1	STINSON RD	14	0	1.67	0.57	14	7.29	0.95		6.94	16	0	20	13.6	0.0	0.32		0.0300	10.66		0.95
24	6-2	STINSON RD	11	0	1.14	0.57	11	8.10	0.65		5.27	12	0	20	10.2	0.0	0.32		0.0300	10.74		0.65
25																						
26	7-5	TROY ST	8	0	1.32	0.57	8	9.21	0.75		6.93	20	0	20	17.0	0.0	0.28		0.0300	9.17		0.75
27	7-6	TROY ST	10	0	1.17	0.57	10	8.43	0.67		5.62	20	0	20	17.0	0.0	0.24		0.0300	7.98		0.67
28	7-8	OLIVER ALLEN LN	6	0	0.13	0.57	6	10.21	0.07		0.76	4	0	20	3.4	0.0	0.18		0.0300	6.13		0.07
29	7-9	OLIVER ALLEN LN	6	0	0.40	0.57	6	10.21	0.23		2.34	8	0	20	6.8	0.0	0.25		0.0300	8.19		0.23
30																						
31	8-1	HILDA LN	10	0	0.53	0.57	10	8.43	0.30		2.55	8	0	20	6.8	0.0	0.26		0.0300	8.67		0.30
32																						
33	9-1	TROY ST	10	0	0.41	0.57	10	8.43	0.23		1.97	8	0	20	6.8	0.0	0.22		0.0300	7.31		0.23
34																						
35	10-1	HILDA LN	14	0	1.92	0.57	14	7.29	1.09		7.98	20	0	20	17.0	0.0	0.30		0.0300	10.08		1.09
36	10-2	HILDA LN	8	0	0.56	0.57	8	9.21	0.32		2.94	16	0	20	13.6	0.0	0.18		0.0300	6.01		0.32
37																						
38	11-2	NORTH DRIVEWAY	10	0	1.46	0.57	10	8.43	0.83		7.02	FES										0.83

* 5 MINUTES IS THE MINIMUM TIME OF CONCENTRATION FOR CATCHMENT BASINS (100 - YEAR I = 10.22 IN/HR).
** CAPACITY FOR A MXIMUM OF 6" HEADWATER
*** CLOG REDUCTION FACTOR FOR CURB/AREA INLETS IS 20% FOR GRATED INLETS IS 50%

Crafton Tull

Job Description: Stokenbury Farms Phase I
CTA Job Number: 19106901

Date: February 21, 2020
By: Ali Karr, E.I.

DEPRESSED CURB INLETS ON GRADE: DESIGN (10 - YEAR)

	INLET NUMBER	INLET LOCATION	AREA Tc (min)	AREA (ac)	C	* Tc (min)	** I (in/hr)	RUNOFF AT INLET (CA)	CARRY OVER (CA)	TOTAL FLOW Qt (cfs)	n	RDWY SLOPE S (%)	CROSS SLOPE Sx (%)	PONDED WIDTH t (ft)	DEPTH AT CURB d (ft)	VELOCITY V (ft/sec)	INLET LENGTH L (ft)	a (in)	W (ft)	Eo	Se	Lt (ft)	E	Qi (cfs)	Rf	ACTUAL Qa (cfs)	BYPASS Qp (cfs)	CARRY OVER (CA)	CAPTURE (%)	TOTAL RUNOFF (CA)
1	3-6	JENNIFER ANN LN	12	0.69	0.57	12	5.42	0.39		2.13	0.013	1.10%	3.00%	6.74	0.20	3.13	8.00	4.00	1.50	0.49	0.14	9.44	0.97	2.06	1.00	2.06	0.07	0.01	97%	0.38
2																														
3	7-1	HILDA LN	7	0.65	0.57	7	6.74	0.37	0.00	2.50	0.013	0.70%	3.00%	7.78	0.23	2.75	8.00	4.00	1.50	0.44	0.13	9.30	0.97	2.43	1.00	2.43	0.07	0.01	97%	0.36
4	7-3	HILDA LN	7	0.36	0.57	7	6.74	0.21		1.38	0.013	0.60%	3.00%	6.42	0.19	2.24	8.00	4.00	1.50	0.51	0.14	6.45	1.00	1.38	1.00	1.38	0.00	0.00	100%	0.21
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* 5 MINUTES IS THE MINIMUM TIME OF CONCENTRATION FOR CURB INLETS.
** THE INTENSITY FOR 5 MINUTE Tc DURING A 10 - YEAR STROM IS 7.34 in/hr.

Crafton Tull

Job Description: Stokenbury Farms Phase I
CTA Job Number: 19106901

Date: February 21, 2020
By: Ali Karr, E.I.

DEPRESSED CURB INLETS ON GRADE: DESIGN (100 - YEAR)

	INLET NUMBER	INLET LOCATION	AREA Tc (min)	AREA (ac)	C	* Tc (min)	** I (in/hr)	RUNOFF AT INLET (CA)	CARRY OVER (CA)	TOTAL FLOW Qt (cfs)	n	RDWY SLOPE S (%)	CROSS SLOPE Sx (%)	PONDED WIDTH t (ft)	DEPTH AT CURB d (ft)	VELOCITY V (ft/sec)	INLET LENGTH L (ft)	a (in)	W (ft)	Eo	Se	Lt (ft)	E	Qi (cfs)	Rf	ACTUAL Qa (cfs)	BYPASS Qp (cfs)	CARRY OVER (CA)	CAPTURE (%)	TOTAL RUNOFF (CA)
1	3-6	JENNIFER ANN LN	12	0.69	0.57	12	7.81	0.39		3.07	0.013	1.10%	3.00%	7.72	0.23	3.43	8.00	4.00	1.50	0.44	0.13	11.59	0.88	2.70	1.00	2.70	0.37	0.05	88%	0.35
2																														
3	7-1	HILDA LN	7	0.65	0.57	7	9.68	0.37	0.00	3.59	0.013	0.70%	3.00%	8.91	0.27	3.01	8.00	4.00	1.50	0.39	0.12	11.40	0.89	3.18	1.00	3.18	0.41	0.04	89%	0.33
4	7-3	HILDA LN	7	0.36	0.57	7	9.68	0.21		1.99	0.013	0.60%	3.00%	7.35	0.22	2.45	8.00	4.00	1.50	0.46	0.13	7.89	1.00	1.99	1.00	1.99	0.00	0.00	100%	0.21
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* 5 MINUTES IS THE MINIMUM TIME OF CONCENTRATION FOR CURB INLETS.
** THE INTENSITY FOR 5 MINUTE Tc DURING A 100 - YEAR STROM IS 10.22 in/hr.

Crafton Tull

Job Description: Stokenbury Farms Phase I
CTA Job Number: 19106901

Date: February 21, 2020
By: Ali Karr, E.I.

STORM SEWER WORKSHEET: DESIGN (10 - YEAR)

	OUTFALL RUN NO.	NOTES	INLET NUMBER	INLET LOCATION	AREA	INLET "CA"	OTHER "CA"	FROM STRUCTURE NUMBER	TOTAL SUM "CA"	INLET TIME OF CONC. Tc (min)	PIPE RUN Tc (min)	DESIGN Tc (min)	* INTENSITY (in/hr)	PIPE FLOW Qt (cfs)	NUMBER OF RUNS	PIPE SIZE (in)	PIPE FRICTION COEFF. n	PIPE SLOPE (ft/ft)	** PIPE CAPACITY (cfs)	PIPE VELOCITY (ft/sec)	PIPE LENGTH (ft)	PIPE Tc (min)	INLET FLOWLINE ELEVATION (ft)	TOTAL FALL (ft)	OUTLET FLOWLINE ELEVATION (ft)	*** TOP ELEVATION (ft)	STRUCT. HEIGHT (ft)	FLOW vs. CAPACITY (%)
1		SUMP PIPE	1-5	STINSON RD	1.32	0.75			0.75	9.0	0.00	9.00	6.12	4.61	1	18	0.013	0.0040	6.64	3.76	28.46	0.13	1205.92	0.11	1205.80	1209.23	3.31	69%
2		SUMP PIPE	1-4	STINSON RD	1.34	0.76	0.75	1-5	1.52	12.0	0.00	12.00	5.42	8.23	1	24	0.013	0.0040	14.31	4.55	294.38	1.08	1205.70	1.18	1204.52	1209.24	3.54	57%
3		SUMP PIPE	2-2	PATRICIA LN	0.37	0.21			0.21	7.0	0.00	7.00	6.74	1.40	1	18	0.013	0.0049	7.35	4.16	20.34	0.08	1206.66	0.10	1206.56	1210.20	3.54	19%
4		SUMP PIPE	2-1	PATRICIA LN	0.42	0.24	0.21	2-1	0.45	9.0	0.00	9.00	6.12	2.74	1	18	0.013	0.0075	9.09	5.14	205.70	0.67	1206.46	1.54	1204.92	1210.18	3.72	30%
5		SUMP PIPE	1-3	JUSTIN ST	1.83	1.04	1.96	1-4,2-1	3.01	14.0	0.00	14.00	5.06	15.22	1	24	0.013	0.0073	19.33	6.15	27.35	0.07	1204.42	0.20	1204.22	1208.56	4.14	79%
6		SUMP PIPE	1-2	JUSTIN ST	0.62	0.35	3.01	1-3	3.36	10.0	0.00	14.00	5.06	17.01	1	30	0.013	0.0040	25.94	5.28	31.16	0.10	1204.12	0.12	1204.00	1208.56	4.44	66%
7																												
8		SUMP PIPE	3-9	JUSTIN ST	0.98	0.56			0.56	13.0	0.00	13.00	5.23	2.92	1	18	0.013	0.0050	7.43	4.20	27.34	0.11	1204.22	0.14	1204.08	1208.69	4.47	39%
9		SUMP PIPE	3-8	JUSTIN ST	0.58	0.33	0.56	3-9	0.89	10.0	0.00	13.00	5.23	4.66	1	18	0.013	0.0050	7.46	4.22	50.91	0.20	1203.98	0.26	1203.72	1208.69	4.71	62%
10		JUNCTION	3-7	JUNCTION BOX		0.00	0.89	3-8	0.89	0.0	0.00	13.00	5.23	4.66	1	18	0.013	0.0050	7.44	4.21	288.95	1.14	1203.62	1.45	1202.17	1209.32	5.70	63%
11		GRADE PIPE	3-6	JENNIFER ANN LN	0.69	0.38	0.89	3-7	1.27	12.0	0.00	13.00	5.23	6.65	1	18	0.013	0.0062	8.30	4.70	27.35	0.10	1202.07	0.17	1201.90	1206.30	4.23	80%
12		SUMP PIPE	3-5	JENNIFER ANN LN	0.39	0.22	1.27	3-6	1.49	9.0	0.00	13.00	5.23	7.81	1	18	0.013	0.0086	9.71	5.50	46.65	0.14	1201.80	0.40	1201.40	1206.30	4.50	80%
13		SUMP PIPE	4-2	JENNIFER ANN LN	0.51	0.30			0.30	8.0	0.00	8.00	6.41	1.95	1	18	0.013	0.0051	7.46	4.22	27.34	0.11	1202.03	0.14	1201.89	1205.47	3.44	26%
14		SUMP PIPE	4-1	JENNIFER ANN LN	0.07	0.04	0.30	4-2	0.34	5.0	0.00	8.00	6.41	2.21	1	18	0.013	0.0050	7.43	4.20	77.70	0.31	1201.79	0.39	1201.40	1205.47	3.68	30%
15		JUNCTION	3-4	JUNCTION BOX		0.00	1.84	3-5,4-1	1.84	0.0	0.00	13.00	5.23	9.61	1	24	0.013	0.0100	22.62	7.20	156.46	0.36	1200.90	1.56	1199.34	1205.20	4.30	42%
16		SUMP PIPE	10-2	HILDA LN	0.56	0.32			0.32	8.0	0.00	8.00	6.41	2.05	1	18	0.013	0.0050	7.43	4.20	27.34	0.11	1200.46	0.14	1200.32	1204.62	4.16	28%
17		SUMP PIPE	10-1	HILDA LN	1.92	1.09	0.32	10-2	1.41	14.0	0.00	14.00	5.06	7.16	1	24	0.013	0.0075	19.59	6.24	64.49	0.17	1199.82	0.48	1199.34	1204.62	4.80	37%
18		SUMP PIPE	3-3	SAYDI ST	0.36	0.21	3.25	3-4,10-1	3.46	8.0	0.00	14.00	5.06	17.49	1	24	0.013	0.0102	22.79	7.25	27.36	0.06	1199.24	0.28	1198.96	1203.70	4.46	77%
19		SUMP PIPE	3-2	SAYDI ST	0.36	0.21	3.46	3-3	3.66	8.0	0.00	14.00	5.06	18.53	1	30	0.013	0.0040	25.94	5.28	267.33	0.84	1198.86	1.07	1197.79	1203.70	4.84	71%
20																												
21		SUMP PIPE	7-9	OLIVER ALLEN LN	0.40	0.23			0.23	6.0	0.00	6.00	7.12	1.63	1	18	0.013	0.0040	6.64	3.76	31.06	0.14	1207.41	0.12	1207.28	1210.52	3.11	25%
22		SUMP PIPE	7-8	OLIVER ALLEN LN	0.13	0.07	0.23	7-9	0.30	6.0	0.00	6.00	7.12	2.16	1	18	0.013	0.0040	6.64	3.76	31.06	0.14	1207.18	0.12	1207.06	1210.52	3.34	33%
23		GRADE PIPE	7-7	JUNCTION BOX		0.00	0.30	7-8	0.30	0.0	0.00	6.00	7.12	2.16	1	18	0.013	0.0040	6.64	3.76	144.31	0.64	1206.96	0.58	1206.38	1210.58	3.62	33%
24		SUMP PIPE	7-6	TROY ST	1.17	0.67	0.30	7-7	0.97	10.0	0.00	10.00	5.87	5.69	1	18	0.013	0.0040	6.64	3.76	31.06	0.14	1206.28	0.12	1206.16	1209.87	3.59	86%
25		SUMP PIPE	7-5	TROY ST	1.32	0.75	0.97	7-6	1.72	8.0	0.00	10.00	5.87	10.10	1	24	0.013	0.0040	14.31	4.55	280.60	1.03	1205.66	1.12	1204.53	1209.85	4.19	71%
26		SUMP PIPE	9-1	TROY ST	0.41	0.23			0.23	10.0	0.00	10.00	5.87	1.37	1	18	0.013	0.0050	7.43	4.20	27.59	0.11	1205.07	0.14	1204.93	1210.70	5.63	18%
27		JUNCTION	7-4	JUNCTION BOX		0.00	1.96	7-5,9-1	1.96	0.0	0.00	10.00	5.87	11.47	1	24	0.013	0.0040	14.31	4.55	44.87	0.16	1204.43	0.18	1204.25	1210.64	6.21	80%
28		GRADE PIPE	7-3	HILDA LN	0.36	0.21	1.96	7-4	2.16	7.0	0.00	10.00	5.87	12.68	1	24	0.013	0.0050	16.00	5.09	63.67	0.21	1204.15	0.32	1203.84	1209.82	5.67	79%
29		SUMP PIPE	8-1	HILDA LN	0.53	0.30			0.30	10.0	0.00	10.00	5.87	1.77	1	18	0.013	0.0050	7.43	4.20	28.35	0.11	1204.38	0.14	1204.24	1209.39	5.02	24%
30		JUNCTION	7-2	JUNCTION BOX		0.00	2.46	7-3,8-1	2.46	0.0	0.00	10.00	5.87	14.45	1	24	0.013	0.0065	18.24	5.81	226.00	0.65	1203.74	1.47	1202.27	1209.72	5.98	79%
31		SUMP PIPE	6-2	STINSON RD	1.14	0.65			0.65	11.0	0.00	11.00	5.63	3.66	1	18	0.013	0.0040	6.64	3.76	338.81	1.50	1204.38	1.36	1203.02	1209.72	5.34	55%
32		SUMP PIPE	6-1	STINSON RD	1.67	0.95	0.65	6-2	1.60	14.0	0.00	14.00	5.06	8.11	1	24	0.013	0.0040	14.31	4.55	64.08	0.23	1202.52	0.26	1202.27	1207.97	5.44	57%
33		GRADE PIPE	7-1	HILDA LN	0.65	0.36	4.07	7-2,6-1	4.42	7.0	0.00	14.00	5.06	22.40	1	30	0.013	0.0047	28.12	5.73	63.59	0.19	1201.77	0.30	1201.47	1207.73	5.96	80%
34		SUMP PIPE	5-5	JENNIFER ANN LN	1.24	0.70			0.70	14.0	0.00	14.00	5.06	3.57	1	18	0.013	0.0040	6.64	3.76	27.35	0.12	1203.59	0.11	1203.48	1208.17	4.58	54%
35		SUMP PIPE	5-4	JENNIFER ANN LN	0.49	0.28	0.70	5-5	0.98	9.0	0.00	17.00	4.62	4.55	1	18	0.013	0.0040	6.64	3.76	253.01	1.12	1203.38	1.01	1202.37	1208.17	4.79	68%
36		SUMP PIPE	5-3	HILDA LN	1.04	0.60	5.41	5-4,7-1	6.01	14.0	0.00	17.00	4.62	27.78	1	36	0.013	0.0040	42.18	5.97	28.35	0.08	1201.37	0.11	1201.25	1207.28	5.91	66%
37		SUMP PIPE	5-2	HILDA LN	0.71	0.40	6.01	2-3	6.42	10.0	0.00	17.00	4.62	29.65	1	36	0.013	0.0040	42.18	5.97	151.21	0.42	1201.15	0.60	1200.55	1207.32	6.17	70%
38																												
39		SUMP PIPE	11-2	NORTH DRIVEWAY	1.46	0.83			0.83	10.0	0.00	10.00	5.87	4.88	1	18	0.013	0.0051	7.53	4.26	144.59	0.57	1201.62	0.74	1200.88	1207.32	5.70	65%

* A MINIMUM TIME OF CONCENTRATION OF 5 MINUTES FOR A GIVEN PART OF A STORM SEWER SYSTEM IS RECOMMENDED. THE 5 MINUTE INTENSITY FOR THE 10 YEAR STORM IS 7.34 in/hr.

** FULL FLOW CAPACITY DOES NOT CONSIDER ADDITIONAL CAPAPCITY DUE TO AVAILABLE HEAD AT INLET FIELD.

*** MANHOLE COVER, GRATE, OR TOP OF HEADWALL ELEVATION.

ELLIPTICAL EQUIVALENT

Crafton Tull

Job Description: Stokenbury Farms Phase I
CTA Job Number: 19106901

Date: February 21, 2020
By: Ali Karr, E.I.

STORM SEWER WORKSHEET: DESIGN (100 - YEAR)

	OUTFALL RUN NO.	NOTES	INLET NUMBER	INLET LOCATION	AREA	INLET "CA"	OTHER "CA"	FROM STRUCTURE NUMBER	TOTAL SUM "CA"	INLET TIME OF CONC. Tc (min)	PIPE RUN Tc (min)	DESIGN Tc (min)	* INTENSITY (in/hr)	PIPE FLOW Qt (cfs)	NUMBER OF RUNS	PIPE SIZE (in)	PIPE FRICTION COEFF. n	PIPE SLOPE (ft/ft)	** PIPE CAPACITY (cfs)	PIPE VELOCITY (ft/sec)	PIPE LENGTH (ft)	PIPE Tc (min)	INLET FLOWLINE ELEVATION (ft)	TOTAL FALL (ft)	OUTLET FLOWLINE ELEVATION (ft)	*** TOP ELEVATION (ft)	STRUCT. HEIGHT (ft)	FLOW vs. CAPACITY (%)
1		SUMP PIPE	1-5	STINSON RD	1.32	0.75			0.75	9.0	0.00	9.00	8.80	6.62	1	18	0.013	0.0040	6.64	3.76	28.46	0.13	1205.92	0.11	1205.80	1209.23	3.31	100%
2		SUMP PIPE	1-4	STINSON RD	1.34	0.76	0.75	1-5	1.52	12.0	0.00	12.00	7.81	11.84	1	24	0.013	0.0040	14.31	4.55	294.38	1.08	1205.70	1.18	1204.52	1209.24	3.54	83%
3		SUMP PIPE	2-2	PATRICIA LN	0.37	0.21			0.21	7.0	0.00	7.00	9.68	2.01	1	18	0.013	0.0049	7.35	4.16	20.34	0.08	1206.66	0.10	1206.56	1210.20	3.54	27%
4		SUMP PIPE	2-1	PATRICIA LN	0.42	0.24	0.21	2-1	0.45	9.0	0.00	9.00	8.80	3.94	1	18	0.013	0.0075	9.09	5.14	205.70	0.67	1206.46	1.54	1204.92	1210.18	3.72	43%
5		SUMP PIPE	1-3	JUSTIN ST	1.83	1.04	1.96	1-4,2-1	3.01	14.0	0.00	14.00	7.29	21.93	1	24	0.013	0.0073	19.33	6.15	27.35	0.07	1204.42	0.20	1204.22	1208.56	4.14	113%
6		SUMP PIPE	1-2	JUSTIN ST	0.62	0.35	3.01	1-3	3.36	10.0	0.00	14.00	7.29	24.51	1	30	0.013	0.0040	25.94	5.28	31.16	0.10	1204.12	0.12	1204.00	1208.56	4.44	94%
7																												
8		SUMP PIPE	3-9	JUSTIN ST	0.98	0.56			0.56	13.0	0.00	13.00	7.54	4.21	1	18	0.013	0.0050	7.43	4.20	27.34	0.11	1204.22	0.14	1204.08	1208.69	4.47	57%
9		SUMP PIPE	3-8	JUSTIN ST	0.58	0.33	0.56	3-9	0.89	10.0	0.00	13.00	7.54	6.71	1	18	0.013	0.0050	7.46	4.22	50.91	0.20	1203.98	0.26	1203.72	1208.69	4.71	90%
10		JUNCTION	3-7	JUNCTION BOX		0.00	0.89	3-8	0.89	0.0	0.00	13.00	7.54	6.71	1	18	0.013	0.0050	7.44	4.21	288.95	1.14	1203.62	1.45	1202.17	1209.32	5.70	90%
11		GRADE PIPE	3-6	JENNIFER ANN LN	0.69	0.35	0.89	3-7	1.24	12.0	0.00	13.00	7.54	9.32	1	18	0.013	0.0062	8.30	4.70	27.35	0.10	1202.07	0.17	1201.90	1206.30	4.23	112%
12		SUMP PIPE	3-5	JENNIFER ANN LN	0.39	0.22	1.24	3-6	1.46	9.0	0.00	13.00	7.54	10.99	1	18	0.013	0.0086	9.71	5.50	46.65	0.14	1201.80	0.40	1201.40	1206.30	4.50	113%
13		SUMP PIPE	4-2	JENNIFER ANN LN	0.51	0.34			0.34	8.0	0.00	8.00	9.21	3.12	1	18	0.013	0.0051	7.46	4.22	27.34	0.11	1202.03	0.14	1201.89	1205.47	3.44	42%
14		SUMP PIPE	4-1	JENNIFER ANN LN	0.07	0.04	0.34	4-2	0.38	5.0	0.00	8.00	9.21	3.48	1	18	0.013	0.0050	7.43	4.20	77.70	0.31	1201.79	0.39	1201.40	1205.47	3.68	47%
15		JUNCTION	3-4	JUNCTION BOX		0.00	1.84	3-5,4-1	1.84	0.0	0.00	13.00	7.54	13.85	1	24	0.013	0.0100	22.62	7.20	156.46	0.36	1200.90	1.56	1199.34	1205.20	4.30	61%
16		SUMP PIPE	10-2	HILDA LN	0.56	0.32			0.32	8.0	0.00	8.00	9.21	2.94	1	18	0.013	0.0050	7.43	4.20	27.34	0.11	1200.46	0.14	1200.32	1204.62	4.16	40%
17		SUMP PIPE	10-1	HILDA LN	1.92	1.09	0.32	10-2	1.41	14.0	0.00	14.00	7.29	10.31	1	24	0.013	0.0075	19.59	6.24	64.49	0.17	1199.82	0.48	1199.34	1204.62	4.80	53%
18		SUMP PIPE	3-3	SAYDI ST	0.36	0.21	3.25	3-4,10-1	3.46	8.0	0.00	14.00	7.29	25.20	1	24	0.013	0.0102	22.79	7.25	27.36	0.06	1199.24	0.28	1198.96	1203.70	4.46	111%
19		SUMP PIPE	3-2	SAYDI ST	0.36	0.21	3.46	3-3	3.66	8.0	0.00	14.00	7.29	26.70	1	30	0.013	0.0040	25.94	5.28	267.33	0.84	1198.86	1.07	1197.79	1203.70	4.84	103%
20																												
21		SUMP PIPE	7-9	OLIVER ALLEN LN	0.40	0.23			0.23	6.0	0.00	6.00	10.21	2.34	1	18	0.013	0.0040	6.64	3.76	31.06	0.14	1207.41	0.12	1207.28	1210.52	3.11	35%
22		SUMP PIPE	7-8	OLIVER ALLEN LN	0.13	0.07	0.23	7-9	0.30	6.0	0.00	6.00	10.21	3.10	1	18	0.013	0.0040	6.64	3.76	31.06	0.14	1207.18	0.12	1207.06	1210.52	3.34	47%
23		GRADE PIPE	7-7	JUNCTION BOX		0.00	0.30	7-8	0.30	0.0	0.00	6.00	10.21	3.10	1	18	0.013	0.0040	6.64	3.76	144.31	0.64	1206.96	0.58	1206.38	1210.58	3.62	47%
24		SUMP PIPE	7-6	TROY ST	1.17	0.67	0.30	7-7	0.97	10.0	0.00	10.00	8.43	8.18	1	18	0.013	0.0040	6.64	3.76	31.06	0.14	1206.28	0.12	1206.16	1209.87	3.59	123%
25		SUMP PIPE	7-5	TROY ST	1.32	0.75	0.97	7-6	1.72	8.0	0.00	10.00	8.43	14.52	1	24	0.013	0.0040	14.31	4.55	280.60	1.03	1205.66	1.12	1204.53	1209.85	4.19	102%
26		SUMP PIPE	9-1	TROY ST	0.41	0.23			0.23	10.0	0.00	10.00	8.43	1.97	1	18	0.013	0.0050	7.43	4.20	27.59	0.11	1205.07	0.14	1204.93	1210.70	5.63	27%
27		JUNCTION	7-4	JUNCTION BOX		0.00	1.96	7-5,9-1	1.96	0.0	0.00	10.00	8.43	16.50	1	24	0.013	0.0040	14.31	4.55	44.87	0.16	1204.43	0.18	1204.25	1210.64	6.21	115%
28		GRADE PIPE	7-3	HILDA LN	0.36	0.21	1.96	7-4	2.16	7.0	0.00	10.00	8.43	18.23	1	24	0.013	0.0050	16.00	5.09	63.67	0.21	1204.15	0.32	1203.84	1209.82	5.67	114%
29		SUMP PIPE	8-1	HILDA LN	0.53	0.30			0.30	10.0	0.00	10.00	8.43	2.55	1	18	0.013	0.0050	7.43	4.20	28.35	0.11	1204.38	0.14	1204.24	1209.39	5.02	34%
30		JUNCTION	7-2	JUNCTION BOX		0.00	2.46	7-3,8-1	2.46	0.0	0.00	10.00	8.43	20.77	1	24	0.013	0.0065	18.24	5.81	226.00	0.65	1203.74	1.47	1202.27	1209.72	5.98	114%
31		SUMP PIPE	6-2	STINSON RD	1.14	0.65			0.65	11.0	0.00	11.00	8.10	5.27	1	18	0.013	0.0040	6.64	3.76	338.81	1.50	1204.38	1.36	1203.02	1209.72	5.34	79%
32		SUMP PIPE	6-1	STINSON RD	1.67	0.95	0.65	6-2	1.60	14.0	0.00	14.00	7.29	11.68	1	24	0.013	0.0040	14.31	4.55	64.08	0.23	1202.52	0.26	1202.27	1207.97	5.44	82%
33		GRADE PIPE	7-1	HILDA LN	0.65	0.33	4.07	7-2,6-1	4.39	7.0	0.00	14.00	7.29	32.04	1	30	0.013	0.0047	28.12	5.73	63.59	0.19	1201.77	0.30	1201.47	1207.73	5.96	114%
34		SUMP PIPE	5-5	JENNIFER ANN LN	1.24	0.70			0.70	14.0	0.00	14.00	7.29	5.14	1	18	0.013	0.0040	6.64	3.76	27.35	0.12	1203.59	0.11	1203.48	1208.17	4.58	77%
35		SUMP PIPE	5-4	JENNIFER ANN LN	0.49	0.28	0.70	5-5	0.98	9.0	0.00	17.00	6.67	6.56	1	18	0.013	0.0040	6.64	3.76	253.01	1.12	1203.38	1.01	1202.37	1208.17	4.79	99%
36		SUMP PIPE	5-3	HILDA LN	1.04	0.63	5.38	5-4,7-1	6.01	14.0	0.00	17.00	6.67	40.09	1	36	0.013	0.0040	42.18	5.97	28.35	0.08	1201.37	0.11	1201.25	1207.28	5.91	95%
37		SUMP PIPE	5-2	HILDA LN	0.71	0.40	6.01	2-3	6.42	10.0	0.00	17.00	6.67	42.78	1	36	0.013	0.0040	42.18	5.97	151.21	0.42	1201.15	0.60	1200.55	1207.32	6.17	101%
38																												
39		SUMP PIPE	11-2	NORTH DRIVEWAY	1.46	0.83			0.83	10.0	0.00	10.00	8.43	7.02	1	18	0.013	0.0051	7.53	4.26	144.59	0.57	1201.62	0.74	1200.88	1207.32	5.70	93%

* A MINIMUM TIME OF CONCENTRATION OF 5 MINUTES FOR A GIVEN PART OF A STORM SEWER SYSTEM IS RECOMMENDED. THE 5 MINUTE INTENSITY FOR THE 100 YEAR STORM IS 10.22 in/hr.

** FULL FLOW CAPACITY DOES NOT CONSIDER ADDITIONAL CAPAPCITY DUE TO AVAILABLE HEAD AT INLET FIELD.

*** MANHOLE COVER, GRATE, OR TOP OF HEADWALL ELEVATION.

ELLIPTICAL EQUIVALENT

Job Description: Stokenbury Farms Phase I **Date:** February 21, 2020
CTA Job Number: 19106901 **By:** Ali Karr, E.I.

HYDRAULIC GRADE LINE WORKSHEET: DESIGN (10 - YEAR)

	INLET NUMBER	INLET LOCATION	INLET TYPE	LINE LENGTH (ft)	INLET AREA (ac)	TOTAL AREA (ac)	RUNOFF COEFF. (C)	INCR CxA	TOTAL CxA	INLET TIME OF CONC (min)	TIME OF CONC (min)	RAINFALL INTENSITY (in/hr)	TOTAL RUNOFF (cfs)	ADDITIONAL FLOW (cfs)	TOTAL FLOW (cfs)	CAPACITY FULL (cfs)	VELOCITY (ft/sec)	PIPE SIZE (in)	PIPE SLOPE (%)	INVERT ELEVATION DOWN (ft)	INVERT ELEVATION UP (ft)	HGL DOWN (ft)	HGL UP (ft)	TOP RING OR GUTTER (ft)	DIFFERENCE (ft)
1	1-5	STINSON RD		28.46	1.32		0.57	0.75	0.75	9.00	9.00	6.12	4.61		4.61	6.64	3.76	18	0.40%	1205.80	1205.92	1206.79	1206.87	1209.23	2.4
2	1-4	STINSON RD		294.38	1.34		0.57	0.76	1.52	12.00	12.00	5.42	8.23		8.23	14.31	4.55	24	0.40%	1204.52	1205.70	1206.06	1206.79	1209.24	2.5
3	2-2	PATRICIA LN		20.34	0.37		0.57	0.21	0.21	7.00	7.00	6.74	1.40		1.40	7.35	4.16	18	0.49%	1206.56	1206.66	1207.23	1207.23	1210.20	3.0
4	2-1	PATRICIA LN		205.70	0.42		0.57	0.24	0.45	9.00	9.00	6.12	2.74		2.74	9.09	5.14	18	0.75%	1204.92	1206.46	1206.06	1207.23	1210.18	3.0
5	1-3	JUSTIN ST		27.35	1.83		0.57	1.04	3.01	14.00	14.00	5.06	15.22		15.22	19.33	6.15	24	0.73%	1204.22	1204.42	1205.99	1206.06	1208.56	2.5
6	1-2	JUSTIN ST		31.16	0.62		0.57	0.35	3.36	10.00	14.00	5.06	17.01		17.01	25.94	5.28	30	0.40%	1204.00	1204.12	1205.95	1205.99	1208.56	2.6
7																									
8	3-9	JUSTIN ST		27.34	0.98		0.57	0.56	0.56	13.00	13.00	5.23	2.92		2.92	7.43	4.20	18	0.50%	1204.08	1204.22	1204.84	1204.87	1208.69	3.8
9	3-8	JUSTIN ST		50.91	0.58		0.57	0.33	0.89	10.00	13.00	5.23	4.66		4.66	7.46	4.22	18	0.50%	1203.72	1203.98	1204.55	1204.84	1208.69	3.9
10	3-7	JUNCTION BOX		288.95	0.00		#N/A	0.00	0.89	0.00	13.00	5.23	4.66		4.66	7.44	4.21	18	0.50%	1202.17	1203.62	1203.06	1204.48	1209.32	4.8
11	3-6	JENNIFER ANN LN		27.35	0.69		0.57	0.38	1.27	12.00	13.00	5.23	6.65		6.65	8.30	4.70	18	0.62%	1201.90	1202.07	1202.88	1203.06	1206.30	3.2
12	3-5	JENNIFER ANN LN		46.65	0.39		0.57	0.22	1.49	9.00	13.00	5.23	7.81		7.81	9.71	5.50	18	0.86%	1201.40	1201.80	1202.39	1202.86	1206.30	3.4
13	4-2	JENNIFER ANN LN		27.34	0.51		0.57	0.30	0.30	8.00	8.00	6.41	1.95		1.95	7.46	4.22	18	0.51%	1201.89	1202.03	1202.41	1202.56	1205.47	2.9
14	4-1	JENNIFER ANN LN		77.70	0.07		0.57	0.04	0.34	5.00	8.00	6.41	2.21		2.21	7.43	4.20	18	0.50%	1201.40	1201.79	1202.28	1202.35	1205.47	3.1
15	3-4	JUNCTION BOX		156.46	0.00		#N/A	0.00	1.84	0.00	13.00	5.23	9.61		9.61	22.62	7.20	24	1.00%	1199.34	1200.90	1202.13	1202.28	1205.20	2.9
16	10-2	HILDA LN		27.34	0.56		0.57	0.32	0.32	8.00	8.00	6.41	2.05		2.05	7.43	4.20	18	0.50%	1200.32	1200.46	1202.20	1202.21	1204.62	2.4
17	10-1	HILDA LN		64.49	1.92		0.57	1.09	1.41	14.00	14.00	5.06	7.16		7.16	19.59	6.24	24	0.75%	1199.34	1199.82	1202.13	1202.20	1204.62	2.4
18	3-3	SAYDI ST		27.36	0.36		0.57	0.21	3.46	8.00	14.00	5.06	17.49		17.49	22.79	7.25	24	1.02%	1198.96	1199.24	1201.97	1202.13	1203.70	1.6
19	3-2	SAYDI ST		267.33	0.36		0.57	0.21	3.66	8.00	14.00	5.06	18.53		18.53	25.94	5.28	30	0.40%	1197.79	1198.86	1201.45	1201.97	1203.70	1.7
20																									
	7-9	OLIVER ALLEN LN		31.06	0.40		0.57	0.23	0.23	6.00	6.00	7.12	1.63		1.63	6.64	3.76	18	0.40%	1207.28	1207.41	1207.82	1207.89	1210.52	2.6
	7-8	OLIVER ALLEN LN		31.06	0.13		0.57	0.07	0.30	6.00	6.00	7.12	2.16		2.16	6.64	3.76	18	0.40%	1207.06	1207.18	1207.61	1207.82	1210.52	2.7
21	7-7	JUNCTION BOX		144.31	0.00		#N/A	0.00	0.30	0.00	6.00	7.12	2.16		2.16	6.64	3.76	18	0.40%	1206.38	1206.96	1207.33	1207.54	1210.58	3.0
22	7-6	TROY ST		31.06	1.17		0.57	0.67	0.97	10.00	10.00	5.87	5.69		5.69	6.64	3.76	18	0.40%	1206.16	1206.28	1207.08	1207.33	1209.87	2.5
23	7-5	TROY ST		280.60	1.32		0.57	0.75	1.72	8.00	10.00	5.87	10.10		10.10	14.31	4.55	24	0.40%	1204.53	1205.66	1206.23	1206.90	1209.85	2.9
24	9-1	TROY ST		27.59	0.41		0.57	0.23	0.23	10.00	10.00	5.87	1.37		1.37	7.43	4.20	18	0.50%	1204.93	1205.07	1206.23	1206.24	1210.70	4.5
25	7-4	JUNCTION BOX		44.87	0.00		#N/A	0.00	1.96	0.00	10.00	5.87	11.47		11.47	14.31	4.55	24	0.40%	1204.25	1204.43	1206.19	1206.23	1210.64	4.4
26	7-3	HILDA LN		63.67	0.36		0.57	0.21	2.16	7.00	10.00	5.87	12.68		12.68	16.00	5.09	24	0.50%	1203.84	1204.15	1206.01	1206.19	1209.82	3.6
27	8-1	HILDA LN		28.35	0.53		0.57	0.30	0.30	10.00	10.00	5.87	1.77		1.77	7.43	4.20	18	0.50%	1204.24	1204.38	1206.01	1206.02	1209.39	3.4
28	7-2	JUNCTION BOX		226.00	0.00		#N/A	0.00	2.46	0.00	10.00	5.87	14.45		14.45	18.24	5.81	24	0.65%	1202.27	1203.74	1205.17	1206.01	1209.72	3.7
29	6-2	STINSON RD		338.81	1.14		0.57	0.65	0.65	11.00	11.00	5.63	3.66		3.66	6.64	3.76	18	0.40%	1203.02	1204.38	1205.26	1205.65	1209.72	4.1
30	6-1	STINSON RD		64.08	1.67		0.57	0.95	1.60	14.00	14.00	5.06	8.11		8.11	14.31	4.55	24	0.40%	1202.27	1202.52	1205.17	1205.26	1207.97	2.7
31	7-1	HILDA LN		63.59	0.65		0.57	0.36	4.42	7.00	14.00	5.06	22.40		22.40	28.12	5.73	30	0.47%	1201.47	1201.77	1204.99	1205.17	1207.73	2.6
32	5-5	JENNIFER ANN LN		27.35	1.24		0.57	0.70	0.70	14.00	14.00	5.06	3.57		3.57	6.64	3.76	18	0.40%	1203.48	1203.59	1205.22	1205.31	1208.17	2.9
33	5-4	JENNIFER ANN LN		253.01	0.49		0.57	0.28	0.98	9.00	17.00	4.62	4.55		4.55	6.64	3.76	18	0.40%	1202.37	1203.38	1204.99	1205.22	1208.17	3.0
34	5-3	HILDA LN		28.35	1.04		0.57	0.60	6.01	14.00	17.00	4.62	27.78		27.78	42.18	5.97	36	0.40%	1201.25	1201.37	1204.93	1204.99	1207.28	2.3
35	5-2	HILDA LN		151.21	0.71		0.57	0.40	6.42	10.00	17.00	4.62	29.65		29.65	42.18	5.97	36	0.40%	1200.55	1201.15	1204.58	1204.93	1207.32	2.4

Crafton Tull

Job Description: Stokenbury Farms Phase I
CTA Job Number: 19106901

Date: February 21, 2020
By: Ali Karr, E.I.

HYDRAULIC GRADE LINE WORKSHEET: DESIGN (100 - YEAR)

	INLET NUMBER	INLET LOCATION	INLET TYPE	LINE LENGTH (ft)	INLET AREA (ac)	TOTAL AREA (ac)	RUNOFF COEFF. (C)	INCR CxA	TOTAL CxA	INLET TIME OF CONC (min)	TIME OF CONC (min)	RAINFALL INTENSITY (in/hr)	TOTAL RUNOFF (cfs)	ADDITIONAL FLOW (cfs)	TOTAL FLOW (cfs)	CAPACITY FULL (cfs)	VELOCITY (ft/sec)	PIPE SIZE (in)	PIPE SLOPE (%)	INVERT ELEVATION DOWN (ft)	INVERT ELEVATION UP (ft)	HGL DOWN (ft)	HGL UP (ft)	TOP RING OR GUTTER (ft)	DIFFERENCE (ft)
1	1-5	STINSON RD	0.00	28.46	1.32	0.00	0.57	0.75	0.75	9.00	9.00	8.80	6.62	0	6.62	6.64	3.76	18	0.40%	1205.80	1205.92	1208.04	1208.16	1209.23	1.1
2	1-4	STINSON RD	0.00	294.38	1.34	0.00	0.57	0.76	1.52	12.00	12.00	7.81	11.84	0	11.84	14.31	4.55	24	0.40%	1204.52	1205.70	1207.22	1208.04	1209.24	1.2
3	2-2	PATRICIA LN	0.00	20.34	0.37	0.00	0.57	0.21	0.21	7.00	7.00	9.68	2.01	0	2.01	7.35	4.16	18	0.49%	1206.56	1206.66	1207.84	1207.84	1210.20	2.4
4	2-1	PATRICIA LN	0.00	205.70	0.42	0.00	0.57	0.24	0.45	9.00	9.00	8.80	3.94	0	3.94	9.09	5.14	18	0.75%	1204.92	1206.46	1207.22	1207.84	1210.18	2.3
5	1-3	JUSTIN ST	0.00	27.35	1.83	0.00	0.57	1.04	3.01	14.00	14.00	7.29	21.93	0	21.93	19.33	6.15	24	0.73%	1204.22	1204.42	1206.93	1207.22	1208.56	1.3
6	1-2	JUSTIN ST	0.00	31.16	0.62	0.00	0.57	0.35	3.36	10.00	14.00	7.29	24.51	0	24.51	25.94	5.28	30	0.40%	1204.00	1204.12	1206.80	1206.93	1208.56	1.6
7																									
8	3-9	JUSTIN ST	0.00	27.34	0.98	0.00	0.57	0.56	0.56	13.00	13.00	7.54	4.21	0	4.21	7.43	4.20	18	0.50%	1204.08	1204.22	1206.12	1206.17	1208.69	2.5
9	3-8	JUSTIN ST	0.00	50.91	0.58	0.00	0.57	0.33	0.89	10.00	13.00	7.54	6.71	0	6.71	7.46	4.22	18	0.50%	1203.72	1203.98	1205.92	1206.12	1208.69	2.6
10	3-7	JUNCTION BOX	0.00	288.95	0.00	0.00	#N/A	0.00	0.89	0.00	13.00	7.54	6.71	0	6.71	7.44	4.21	18	0.50%	1202.17	1203.62	1204.75	1205.92	1209.32	3.4
11	3-6	JENNIFER ANN LN	0.00	27.35	0.69	0.00	0.57	0.35	1.24	12.00	13.00	7.54	9.32	0	9.32	8.30	4.70	18	0.62%	1201.90	1202.07	1204.55	1204.75	1206.30	1.5
12	3-5	JENNIFER ANN LN	0.00	46.65	0.39	0.00	0.57	0.22	1.46	9.00	13.00	7.54	10.99	0	10.99	9.71	5.50	18	0.86%	1201.40	1201.80	1204.09	1204.55	1206.30	1.8
13	4-2	JENNIFER ANN LN	0.00	27.34	0.51	0.00	0.57	0.34	0.34	8.00	8.00	9.21	3.12	0	3.12	7.46	4.22	18	0.51%	1201.89	1202.03	1204.17	1204.20	1205.47	1.3
14	4-1	JENNIFER ANN LN	0.00	77.70	0.07	0.00	0.57	0.04	0.38	5.00	8.00	9.21	3.48	0	3.48	7.43	4.20	18	0.50%	1201.40	1201.79	1204.09	1204.17	1205.47	1.3
15	3-4	JUNCTION BOX	0.00	156.46	0.00	0.00	#N/A	0.00	1.84	0.00	13.00	7.54	13.85	0	13.85	22.62	7.20	24	1.00%	1199.34	1200.90	1203.56	1204.09	1205.20	1.1
16	10-2	HILDA LN	0.00	27.34	0.56	0.00	0.57	0.32	0.32	8.00	8.00	9.21	2.94	0	2.94	7.43	4.20	18	0.50%	1200.32	1200.46	1203.70	1203.72	1204.62	0.9
17	10-1	HILDA LN	0.00	64.49	1.92	0.00	0.57	1.09	1.41	14.00	14.00	7.29	10.31	0	10.31	19.59	6.24	24	0.75%	1199.34	1199.82	1203.56	1203.70	1204.62	0.9
18	3-3	SAYDI ST	0.00	27.36	0.36	0.00	0.57	0.21	3.46	8.00	14.00	7.29	25.20	0	25.20	22.79	7.25	24	1.02%	1198.96	1199.24	1203.25	1203.56	1203.70	0.1
19	3-2	SAYDI ST	0.00	267.33	0.36	0.00	0.57	0.21	3.66	8.00	14.00	7.29	26.70	0	26.70	25.94	5.28	30	0.40%	1197.79	1198.86	1202.19	1203.25	1203.70	0.5
20																									
21	7-9	OLIVER ALLEN LN	0.00	31.06	0.40	0.00	0.57	0.23	0.23	6.00	6.00	10.21	2.34	0	2.34	6.64	3.76	18	0.40%	1207.28	1207.41	1210.02	1201.03	1210.52	9.5
22	7-8	OLIVER ALLEN LN	0.00	31.06	0.13	0.00	0.57	0.07	0.30	6.00	6.00	10.21	3.10	0	3.10	6.64	3.76	18	0.40%	1207.06	1207.18	1209.99	1210.02	1210.52	0.5
23	7-7	JUNCTION BOX	0.00	144.31	0.00	0.00	#N/A	0.00	0.30	0.00	6.00	10.21	3.10	0	3.10	6.64	3.76	18	0.40%	1206.38	1206.96	1209.87	1209.99	1210.58	0.6
24	7-6	TROY ST	0.00	31.06	1.17	0.00	0.57	0.67	0.97	10.00	10.00	8.43	8.18	0	8.18	6.64	3.76	18	0.40%	1206.16	1206.28	1209.85	1210.04	1209.87	-0.2
25	7-5	TROY ST	0.00	280.60	1.32	0.00	0.57	0.75	1.72	8.00	10.00	8.43	14.52	0	14.52	14.31	4.55	24	0.40%	1204.53	1205.66	1208.78	1209.94	1209.85	-0.1
26	9-1	TROY ST	0.00	27.59	0.41	0.00	0.57	0.23	0.23	10.00	10.00	8.43	1.97	0	1.97	7.43	4.20	18	0.50%	1204.93	1205.07	1208.78	1208.79	1210.70	1.9
27	7-4	JUNCTION BOX	0.00	44.87	0.00	0.00	#N/A	0.00	1.96	0.00	10.00	8.43	16.50	0	16.50	14.31	4.55	24	0.40%	1204.25	1204.43	1208.65	1208.78	1210.64	1.9
28	7-3	HILDA LN	0.00	63.67	0.36	0.00	0.57	0.21	2.16	7.00	10.00	8.43	18.23	0	18.23	16.00	5.09	24	0.50%	1203.84	1204.15	1208.27	1208.65	1209.82	1.2
29	8-1	HILDA LN	0.00	28.35	0.53	0.00	0.57	0.30	0.30	10.00	10.00	8.43	2.55	0	2.55	7.43	4.20	18	0.50%	1204.24	1204.38	1208.27	1208.29	1209.39	1.1
30	7-2	JUNCTION BOX	0.00	226.00	0.00	0.00	#N/A	0.00	2.46	0.00	10.00	8.43	20.77	0	20.77	18.24	5.81	24	0.65%	1202.27	1203.74	1206.54	1208.27	1209.72	1.5
31	6-2	STINSON RD	0.00	338.81	1.14	0.00	0.57	0.65	0.65	11.00	11.00	8.10	5.27	0	5.27	6.64	3.76	18	0.40%	1203.02	1204.38	1206.71	1207.58	1209.72	2.1
32	6-1	STINSON RD	0.00	64.08	1.67	0.00	0.57	0.95	1.60	14.00	14.00	7.29	11.68	0	11.68	14.31	4.55	24	0.40%	1202.27	1202.52	1206.54	1206.71	1207.97	1.3
33	7-1	HILDA LN	0.00	63.59	0.65	0.00	0.57	0.33	4.39	7.00	14.00	7.29	32.04	0	32.04	28.12	5.73	30	0.47%	1201.47	1201.77	1206.15	1206.54	1207.73	1.2
34	5-5	JENNIFER ANN LN	0.00	27.35	1.24	0.00	0.57	0.70	0.70	14.00	14.00	7.29	5.14	0	5.14	6.64	3.76	18	0.40%	1203.48	1203.59	1206.65	1206.84	1208.17	1.3
35	5-4	JENNIFER ANN LN	0.00	253.01	0.49	0.00	0.57	0.28	0.98	9.00	17.00	6.67	6.56	0	6.56	6.64	3.76	18	0.40%	1202.37	1203.38	1206.15	1206.65	1208.17	1.5
36	5-3	HILDA LN	0.00	28.35	1.04	0.00	0.57	0.63	6.01	14.00	17.00	6.67	40.09	0	40.09	42.18	5.97	36	0.40%	1201.25	1201.37	1206.03	1206.15	1207.28	1.1
37	5-2	HILDA LN	0.00	151.21	0.71	0.00	0.57	0.40	6.42	10.00	17.00	6.67	42.78	0	42.78	42.18	5.97	36	0.40%	1200.55	1201.15	1205.30	1206.03	1207.32	1.3

Crafton Tull

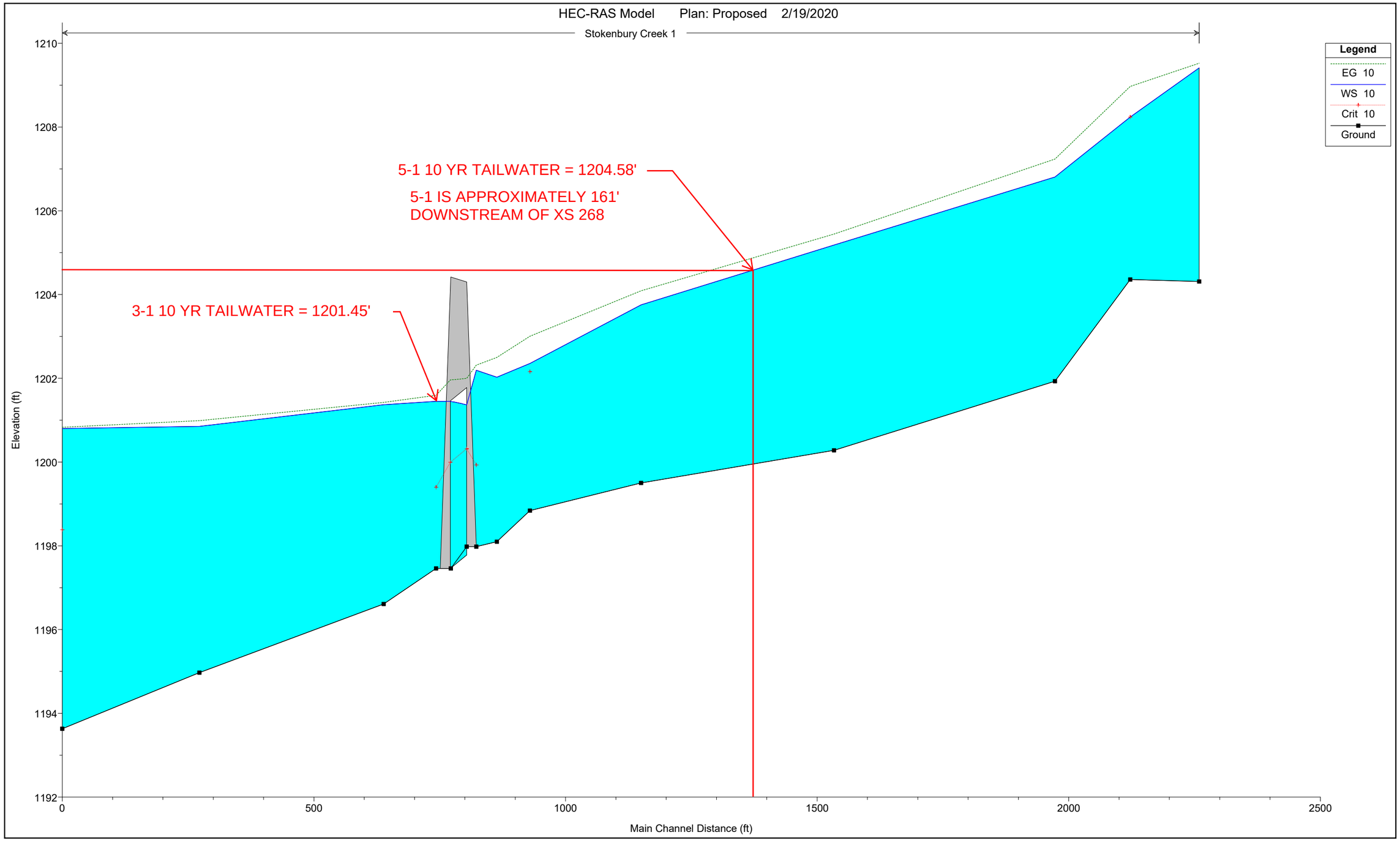
Job Description: Stokenbury Farms Phase I
CTA Job Number: 19106901

Date: February 21, 2020
By: Ali Karr, E.I.

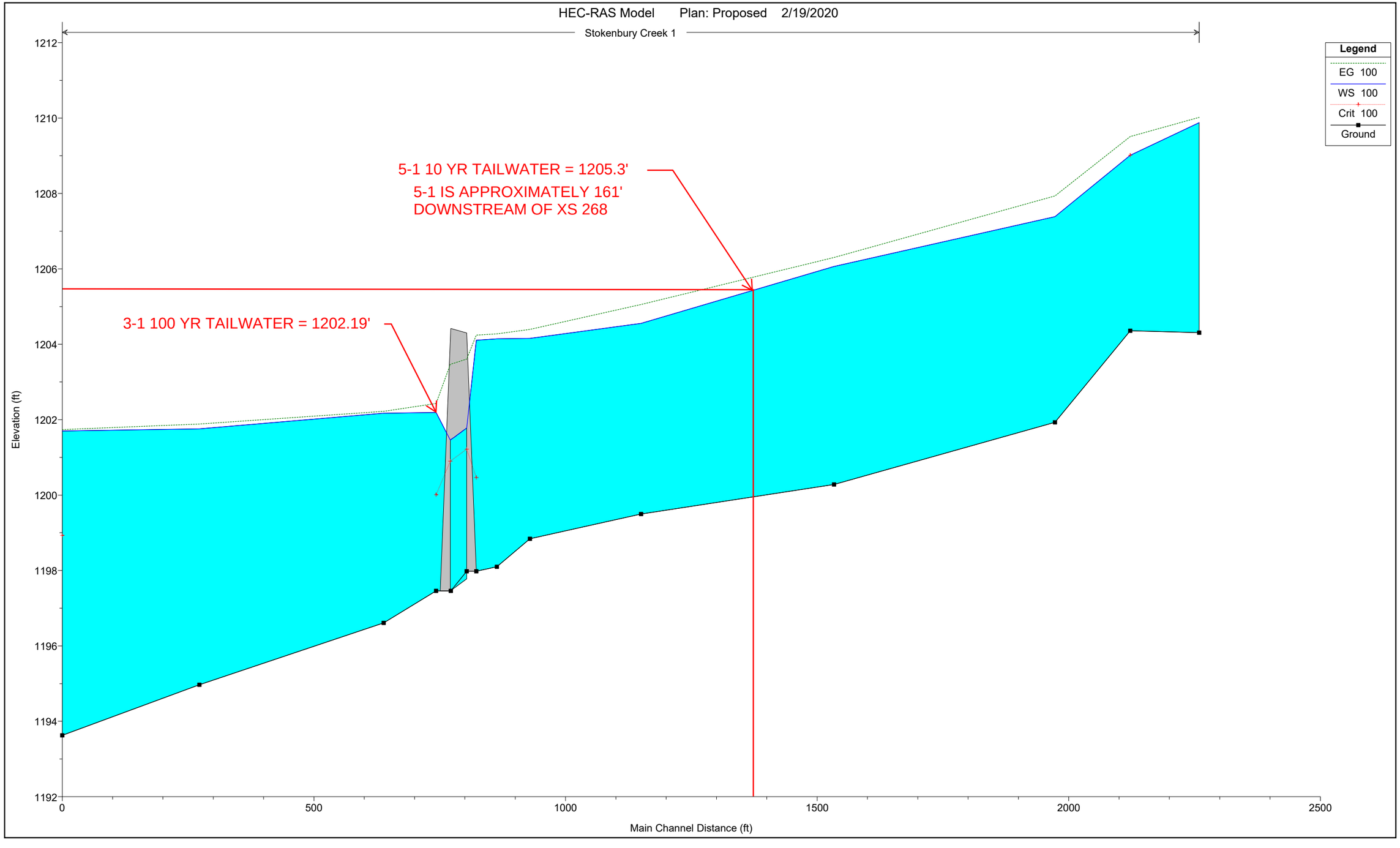
INLET FLOW RATES

	INLET NUMBER	AREA (ac)	TIME OF CONC. (min)	RUNOFF COEFF. C	TOTAL RUNOFF (CA)	2 - YEAR I (in/hr)	2 - YEAR Q (cfs)	5 - YEAR I (in/hr)	5 - YEAR Q (cfs)	10 - YEAR I (in/hr)	10 - YEAR Q (cfs)	25 - YEAR I (in/hr)	25 - YEAR Q (cfs)	50 - YEAR I (in/hr)	50 - YEAR Q (cfs)	100 - YEAR I (in/hr)	100 - YEAR Q (cfs)
1	1-5	1.32	9	0.57	0.75	4.37	3.29	5.40	4.06	6.12	4.61	7.17	5.40	7.98	6.00	8.80	6.62
2	1-4	1.34	12	0.57	0.76	3.86	2.95	4.77	3.65	5.42	4.14	6.36	4.86	7.08	5.41	7.81	5.96
3	2-2	0.37	7	0.57	0.21	4.83	1.01	5.95	1.24	6.74	1.40	7.90	1.64	8.78	1.83	9.68	2.01
4	2-1	0.42	9	0.57	0.24	4.37	1.05	5.40	1.29	6.12	1.47	7.17	1.72	7.98	1.91	8.80	2.11
5	1-3	1.83	14	0.57	1.04	3.59	3.75	4.45	4.64	5.06	5.28	5.93	6.19	6.61	6.89	7.29	7.61
6	1-2	0.62	10	0.57	0.35	4.18	1.48	5.17	1.83	5.87	2.07	6.87	2.43	7.65	2.70	8.43	2.98
7																	
8	3-9	0.98	13	0.57	0.56	3.72	2.08	4.61	2.57	5.23	2.92	6.14	3.43	6.83	3.82	7.54	4.21
9	3-8	0.58	10	0.57	0.33	4.18	1.39	5.17	1.71	5.87	1.95	6.87	2.28	7.65	2.54	8.43	2.80
10	3-7	JUNCTION BOX															
11	3-6	0.69	12	0.57	0.39	3.86	1.52	4.77	1.88	5.42	2.13	6.36	2.50	7.08	2.78	7.81	3.07
12	3-5	0.39	9	0.57	0.22	4.37	0.97	5.40	1.20	6.12	1.36	7.17	1.59	7.98	1.77	8.80	1.96
13	4-2	0.51	8	0.57	0.29	4.59	1.33	5.66	1.64	6.41	1.86	7.51	2.18	8.36	2.43	9.21	2.68
14	4-1	0.07	5	0.57	0.04	5.44	0.22	6.68	0.27	7.56	0.30	8.85	0.35	9.84	0.39	10.83	0.43
15	3-4	JUNCTION BOX															
16	10-2	0.56	8	0.57	0.32	4.59	1.46	5.66	1.81	6.41	2.05	7.51	2.40	8.36	2.67	9.21	2.94
17	10-1	1.92	14	0.57	1.09	3.59	3.93	4.45	4.87	5.06	5.54	5.93	6.49	6.61	7.23	7.29	7.98
18	3-3	0.36	8	0.57	0.21	4.59	0.94	5.66	1.16	6.41	1.32	7.51	1.54	8.36	1.71	9.21	1.89
19	3-2	0.36	8	0.57	0.21	4.59	0.94	5.66	1.16	6.41	1.32	7.51	1.54	8.36	1.71	9.21	1.89
20																	
21	7-9	0.40	6	0.57	0.23	5.11	1.17	6.29	1.44	7.12	1.63	8.34	1.91	9.27	2.12	10.21	2.34
22	7-8	0.13	6	0.57	0.07	5.11	0.38	6.29	0.47	7.12	0.53	8.34	0.62	9.27	0.69	10.21	0.76
23	7-7	JUNCTION BOX															
24	7-6	1.17	10	0.57	0.67	4.18	2.79	5.17	3.45	5.87	3.91	6.87	4.58	7.65	5.10	8.43	5.62
25	7-5	1.32	8	0.57	0.75	4.59	3.45	5.66	4.26	6.41	4.83	7.51	5.65	8.36	6.29	9.21	6.93
26	9-1	0.41	10	0.57	0.23	4.18	0.98	5.17	1.21	5.87	1.37	6.87	1.61	7.65	1.79	8.43	1.97
27	7-4	JUNCTION BOX															
28	7-3	0.36	7	0.57	0.21	4.83	0.99	5.95	1.22	6.74	1.38	7.90	1.62	8.78	1.80	9.68	1.99
29	8-1	0.53	10	0.57	0.30	4.18	1.26	5.17	1.56	5.87	1.77	6.87	2.08	7.65	2.31	8.43	2.55
30	7-2	JUNCTION BOX															
31	6-2	1.14	11	0.57	0.65	4.01	2.61	4.96	3.22	5.63	3.66	6.60	4.29	7.35	4.77	8.10	5.27
32	5-2	0.71	10	0.57	0.40	4.18	1.69	5.17	2.09	5.87	2.37	6.87	2.78	7.65	3.09	8.43	3.41

PROFILES ARE FROM
HEC-RAS MODEL THAT WAS
REVIEWED AND APPROVED
DURING PRELIMINARY PLAT



PROFILES ARE FROM
HEC-RAS MODEL THAT WAS
REVIEWED AND APPROVED
DURING PRELIMINARY PLAT



LINE 1 - Base 10 Year

Label: 1-4
Type: Catch Basin
ID: 230

Label: 1-5
Type: Catch Basin
ID: 231

Label: 1-2
Type: Catch Basin
ID: 227

Label: 1-3
Type: Catch Basin
ID: 228

Label: 1-5
Type: Conduit
ID: 254

Label: 1-3
Type: Conduit
ID: 256

Label: 1-1
Type: Outfall
ID: 212

Label: 1-4
Type: Conduit
ID: 255

Label: 1-2
Type: Conduit
ID: 257

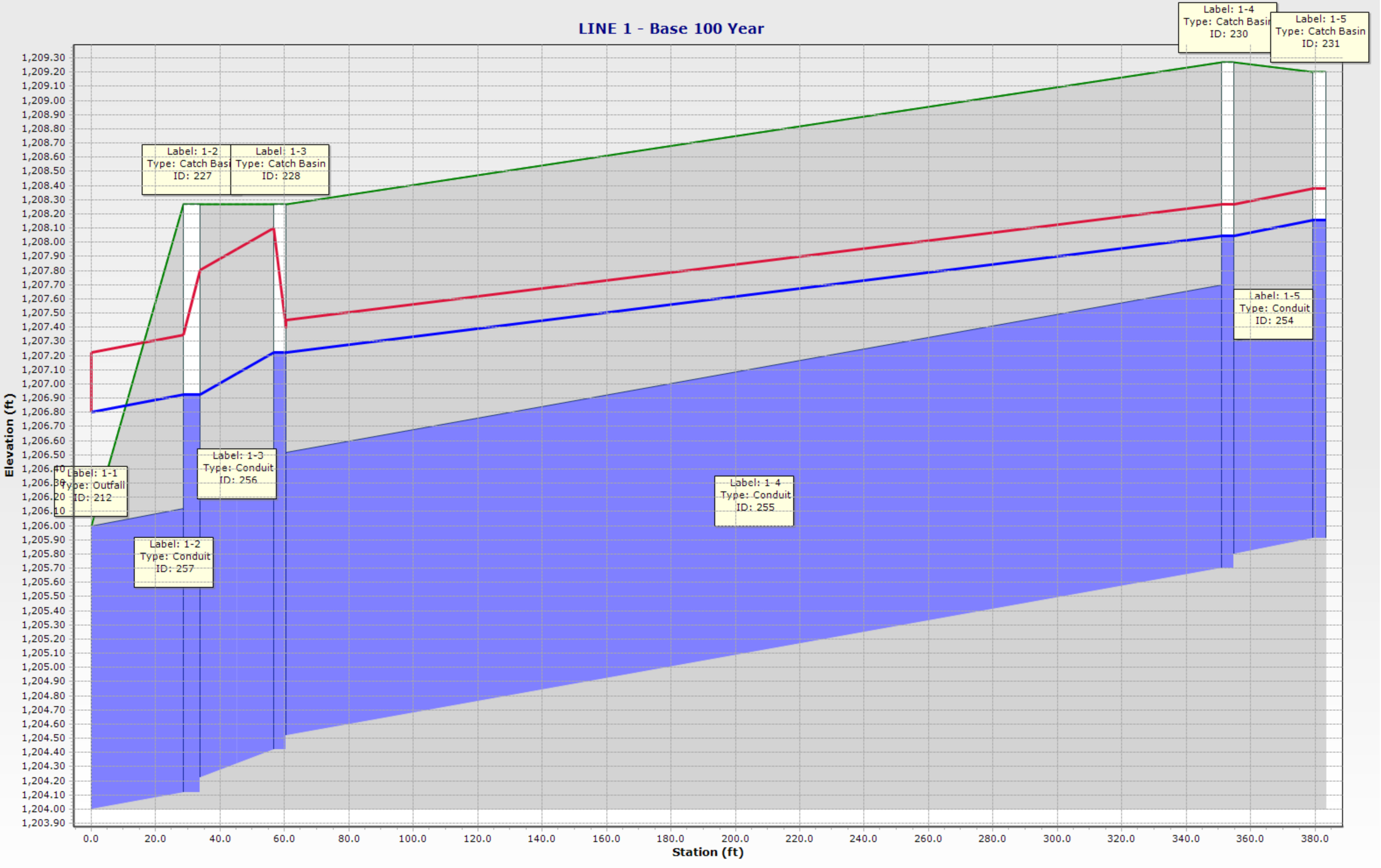
Elevation (ft)

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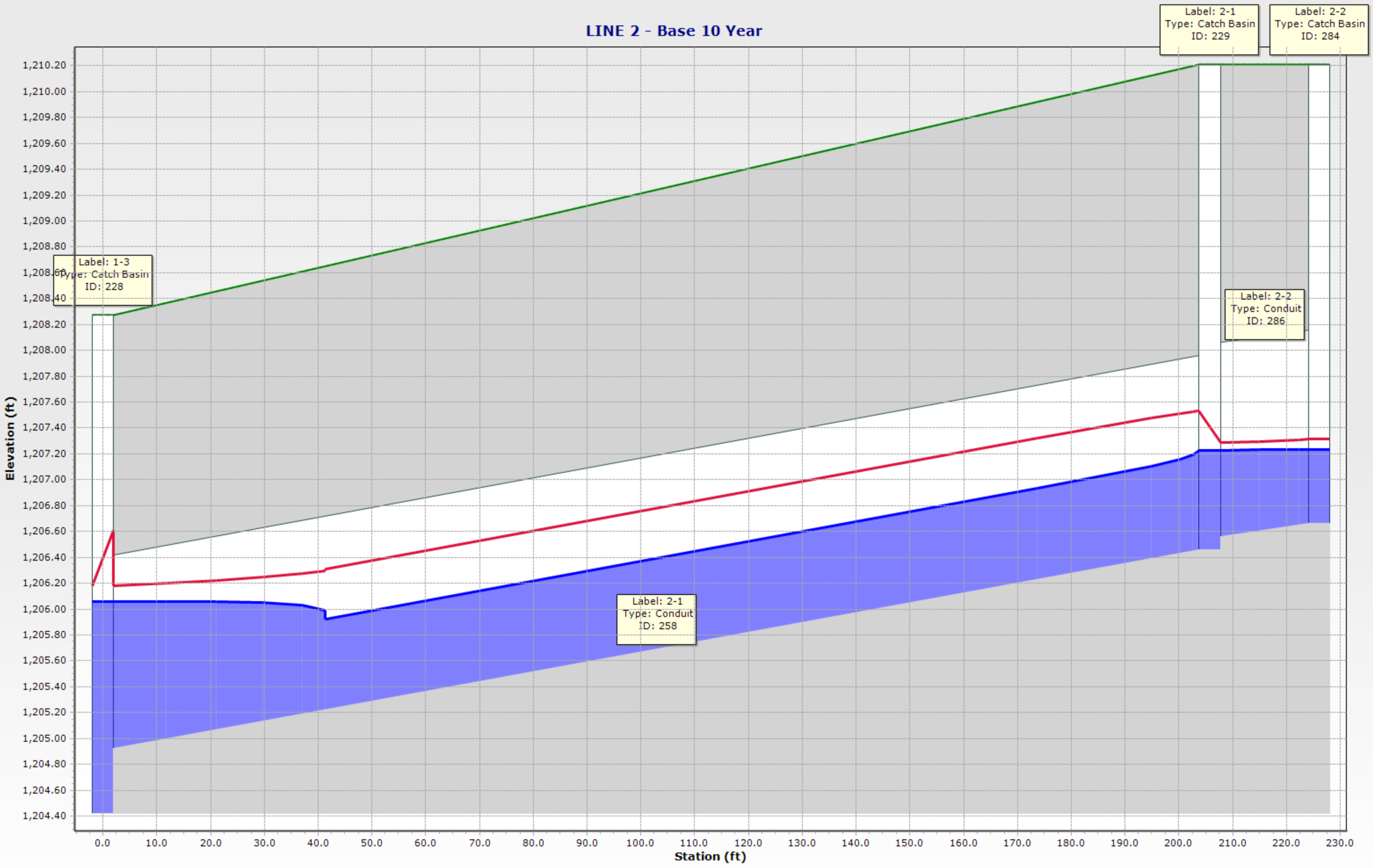
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Station (ft)

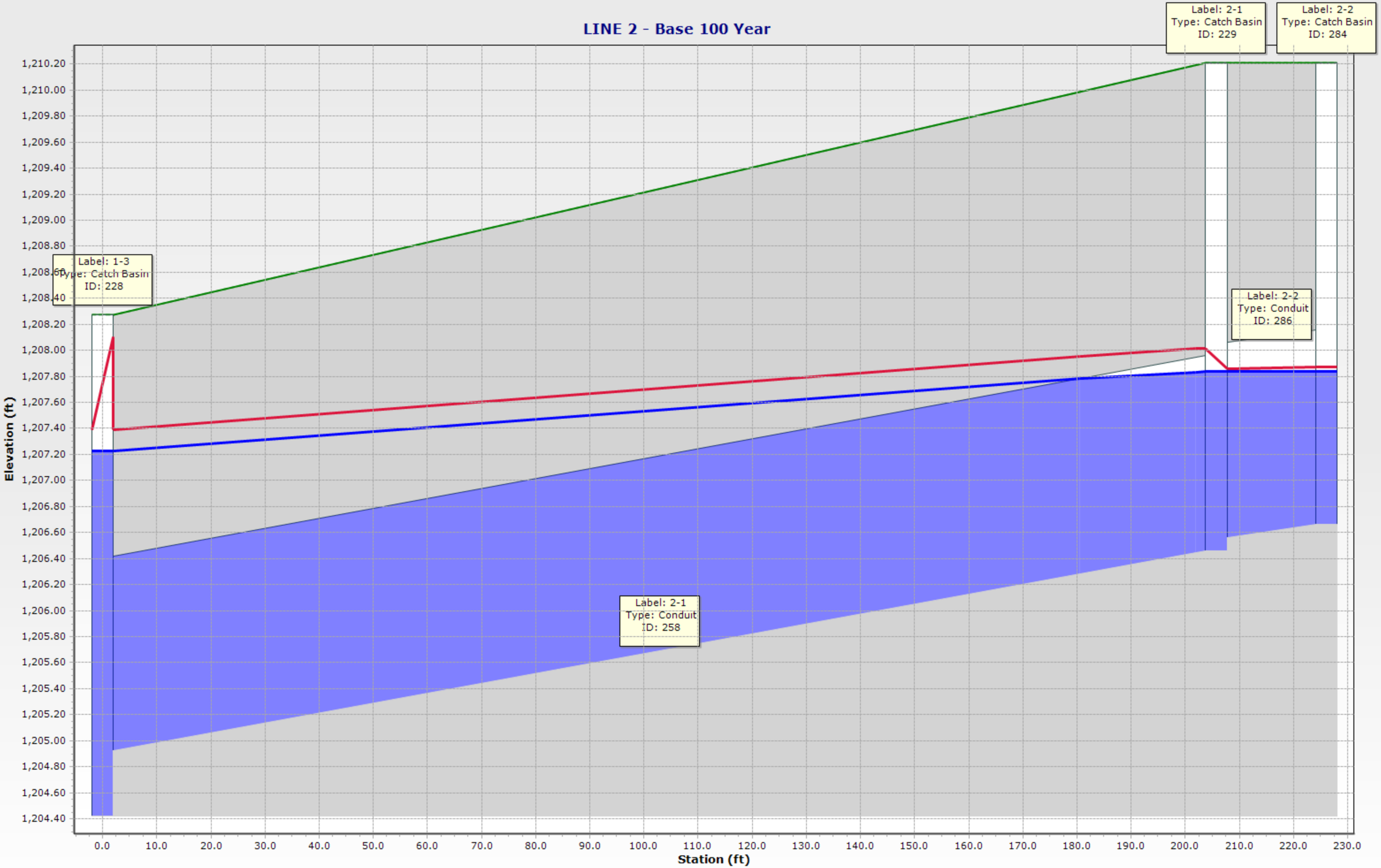
LINE 1 - Base 100 Year



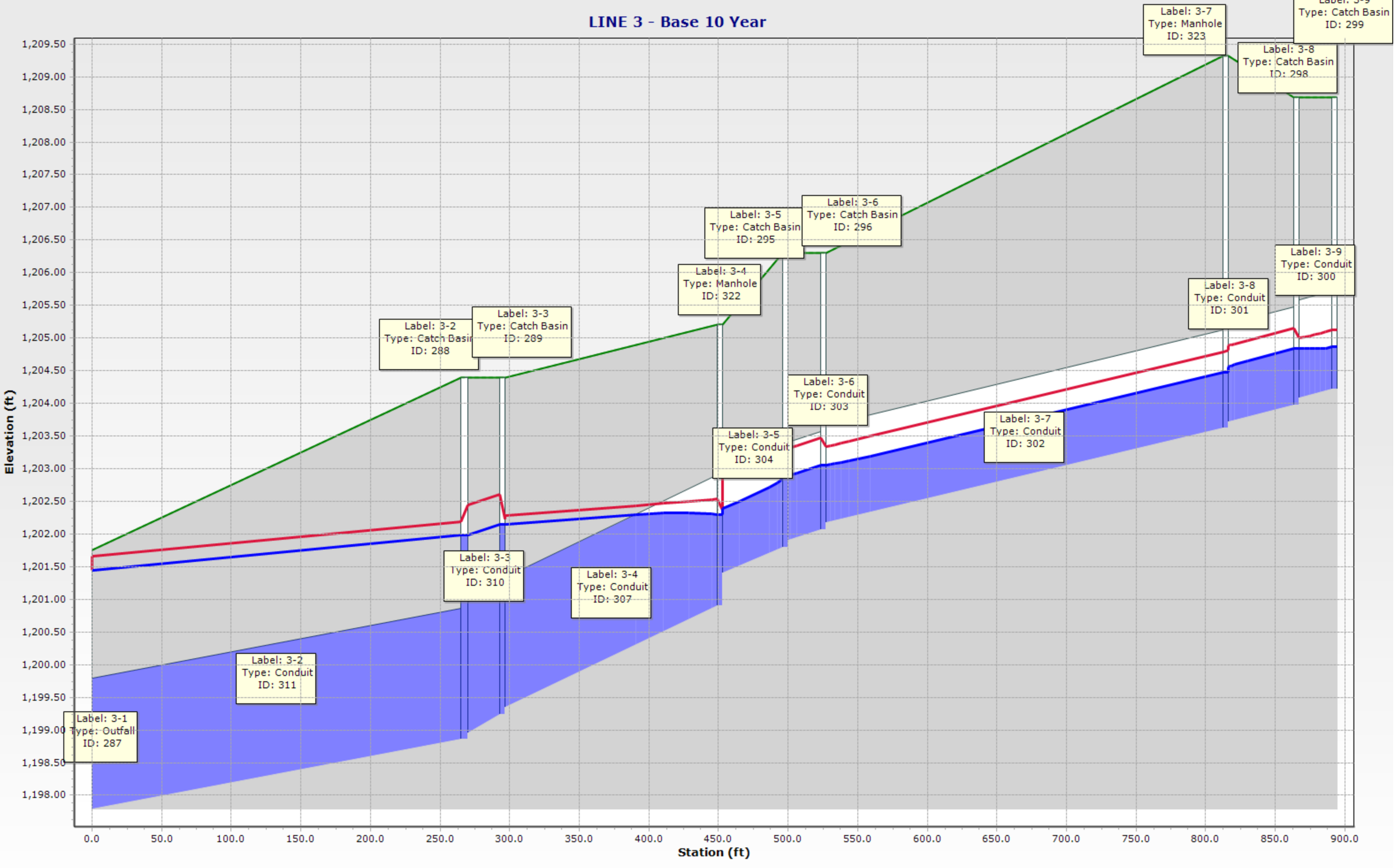
LINE 2 - Base 10 Year

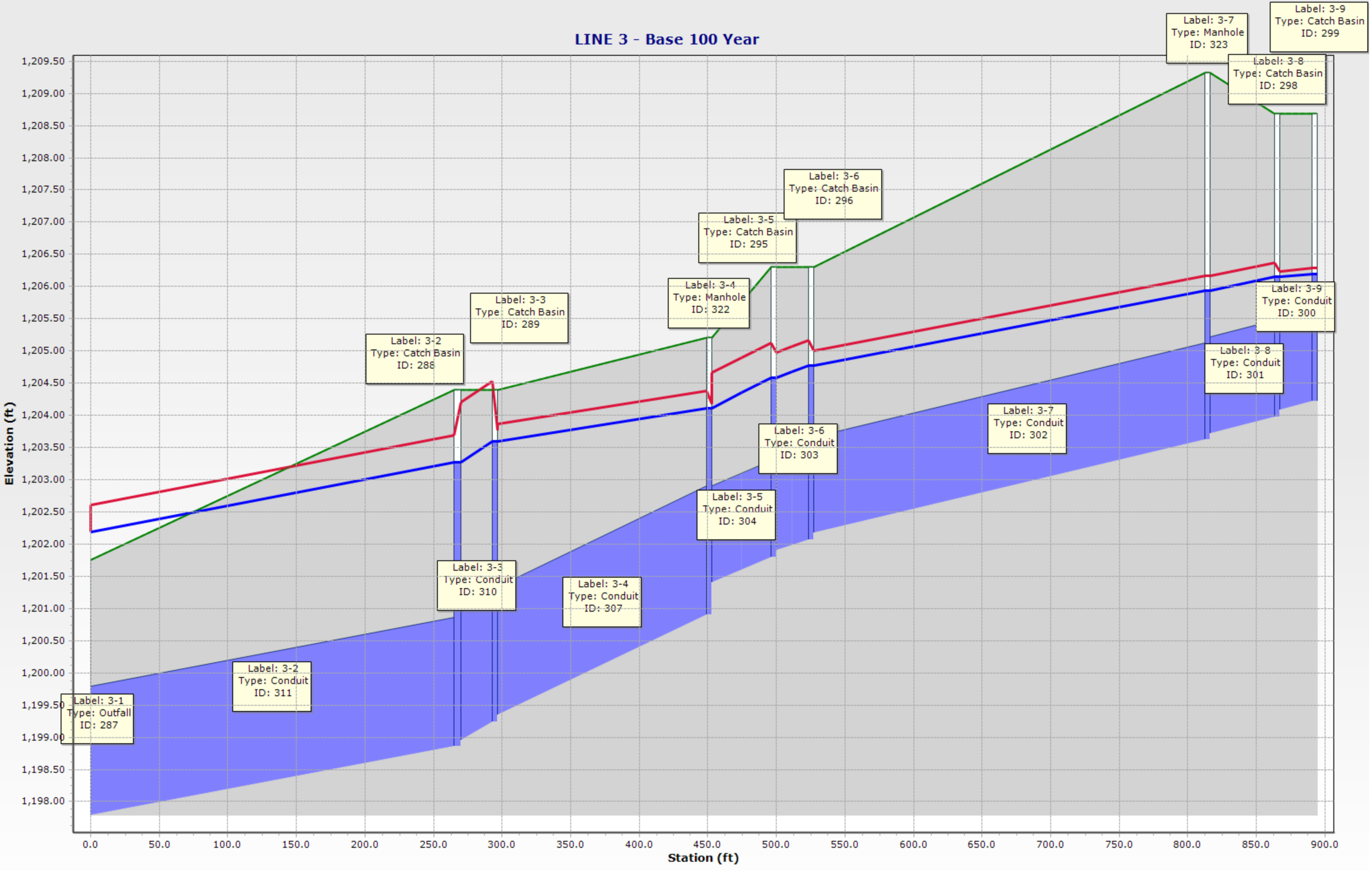


LINE 2 - Base 100 Year

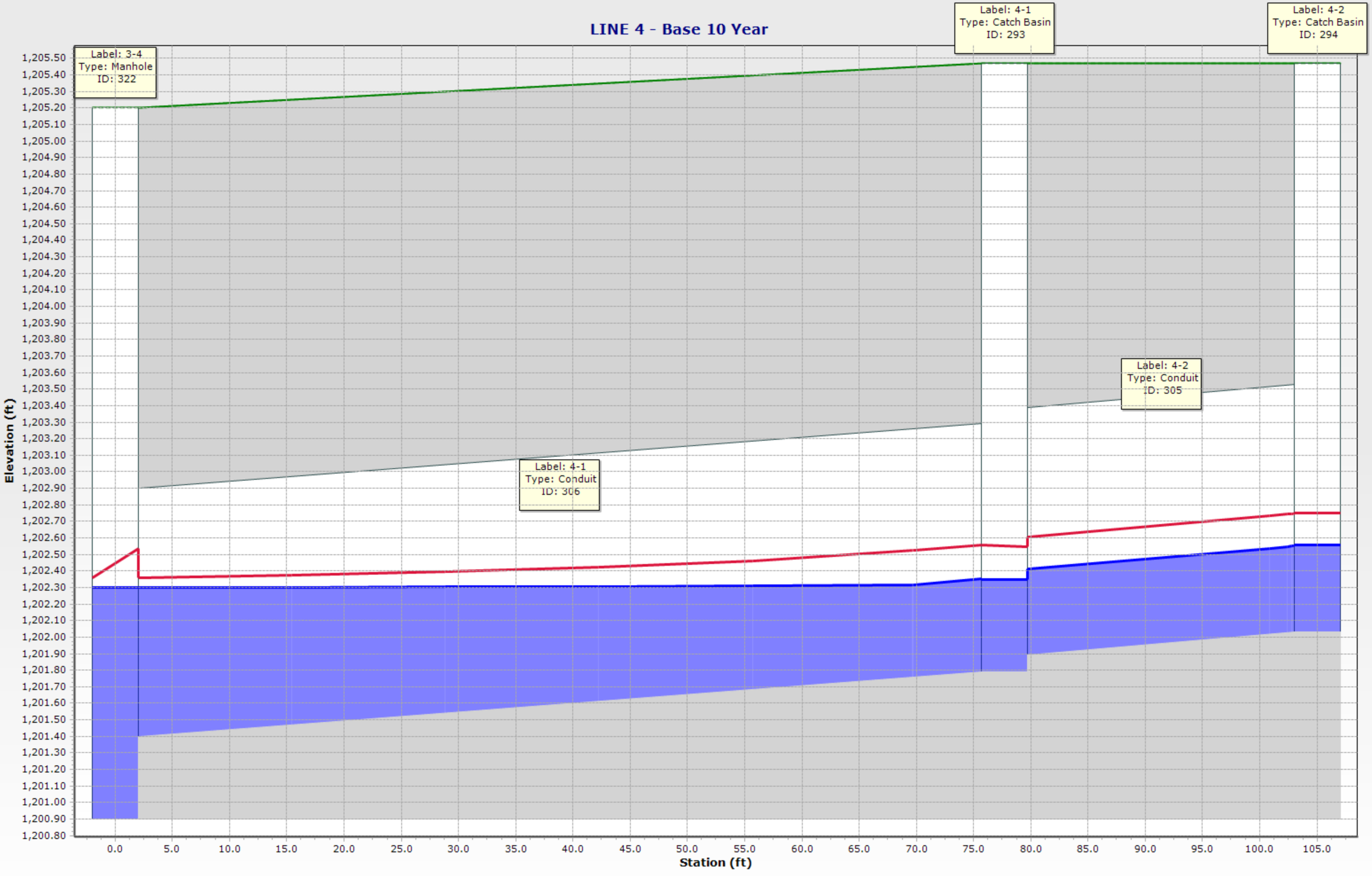


LINE 3 - Base 10 Year

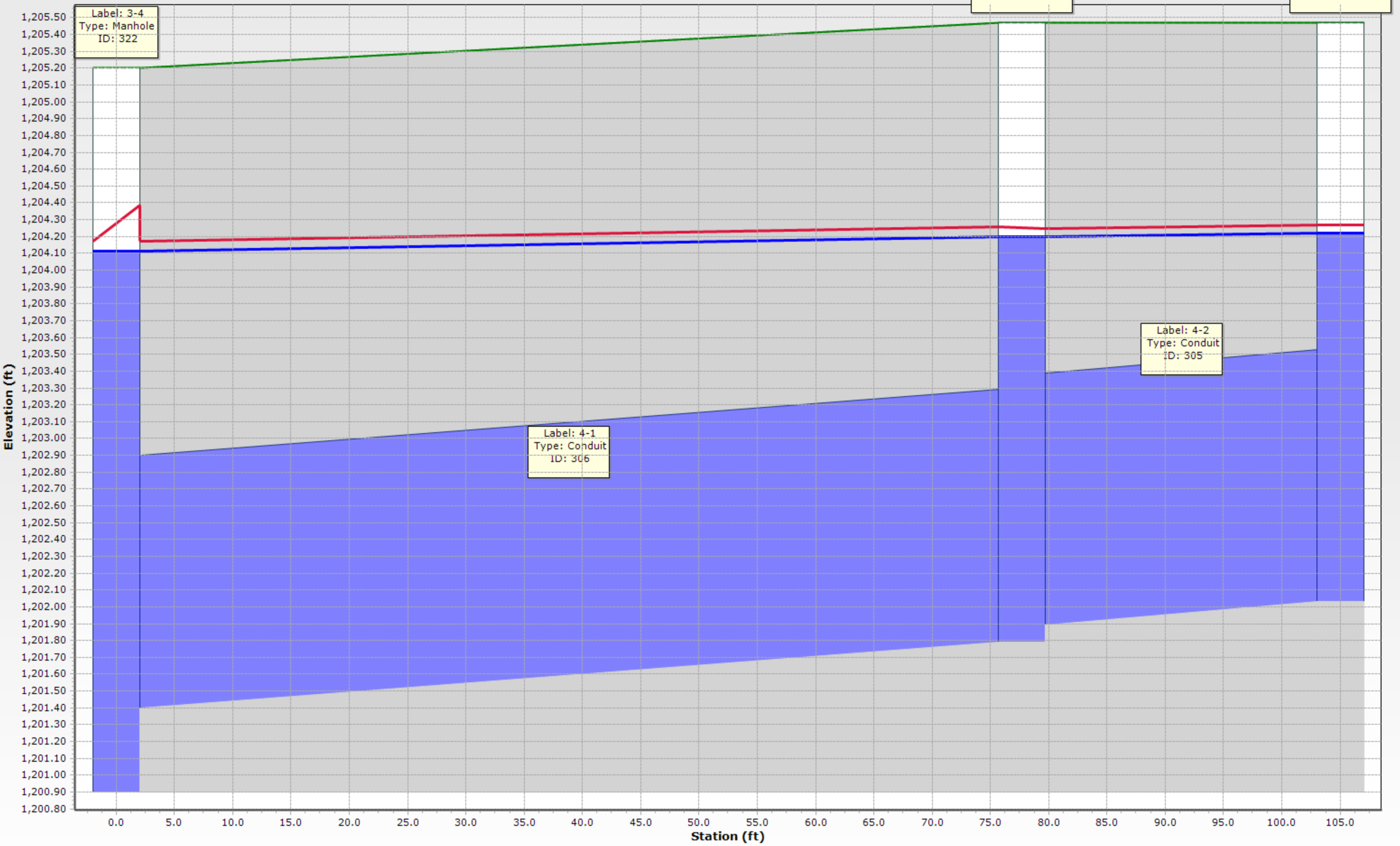



LINE 3 - Base 100 Year
Elevation (ft)
Station (ft)
1,209.50
1,209.00
1,208.50
1,208.00
1,207.50
1,207.00
1,206.50
1,206.00
1,205.50
1,205.00
1,204.50
1,204.00
1,203.50
1,203.00
1,202.50
1,202.00
1,201.50
1,201.00
1,200.50
1,200.00
1,199.50
1,199.00
1,198.50
1,198.00
0.0
50.0
100.0
150.0
200.0
250.0
300.0
350.0
400.0
450.0
500.0
550.0
600.0
650.0
700.0
750.0
800.0
850.0
900.0
Label: 3-1
Type: Outfall
ID: 287
Label: 3-2
Type: Catch Basin
ID: 288
Label: 3-3
Type: Catch Basin
ID: 289
Label: 3-4
Type: Manhole
ID: 322
Label: 3-5
Type: Catch Basin
ID: 295
Label: 3-6
Type: Catch Basin
ID: 296
Label: 3-7
Type: Manhole
ID: 323
Label: 3-8
Type: Catch Basin
ID: 298
Label: 3-9
Type: Catch Basin
ID: 299
Label: 3-2
Type: Conduit
ID: 311
Label: 3-3
Type: Conduit
ID: 310
Label: 3-4
Type: Conduit
ID: 307
Label: 3-5
Type: Conduit
ID: 304
Label: 3-6
Type: Conduit
ID: 303
Label: 3-7
Type: Conduit
ID: 302
Label: 3-8
Type: Conduit
ID: 301
Label: 3-9
Type: Conduit
ID: 300

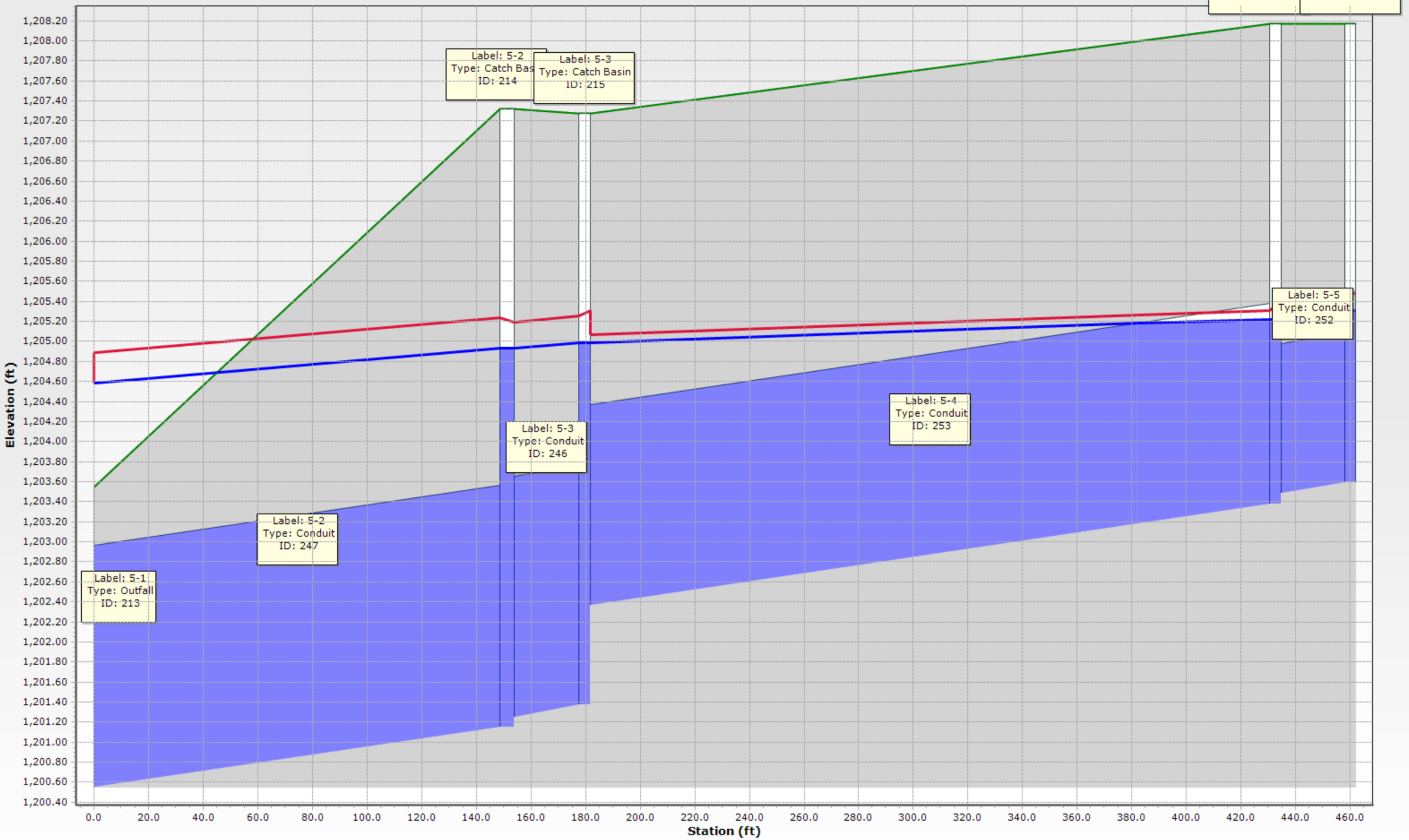
LINE 4 - Base 10 Year



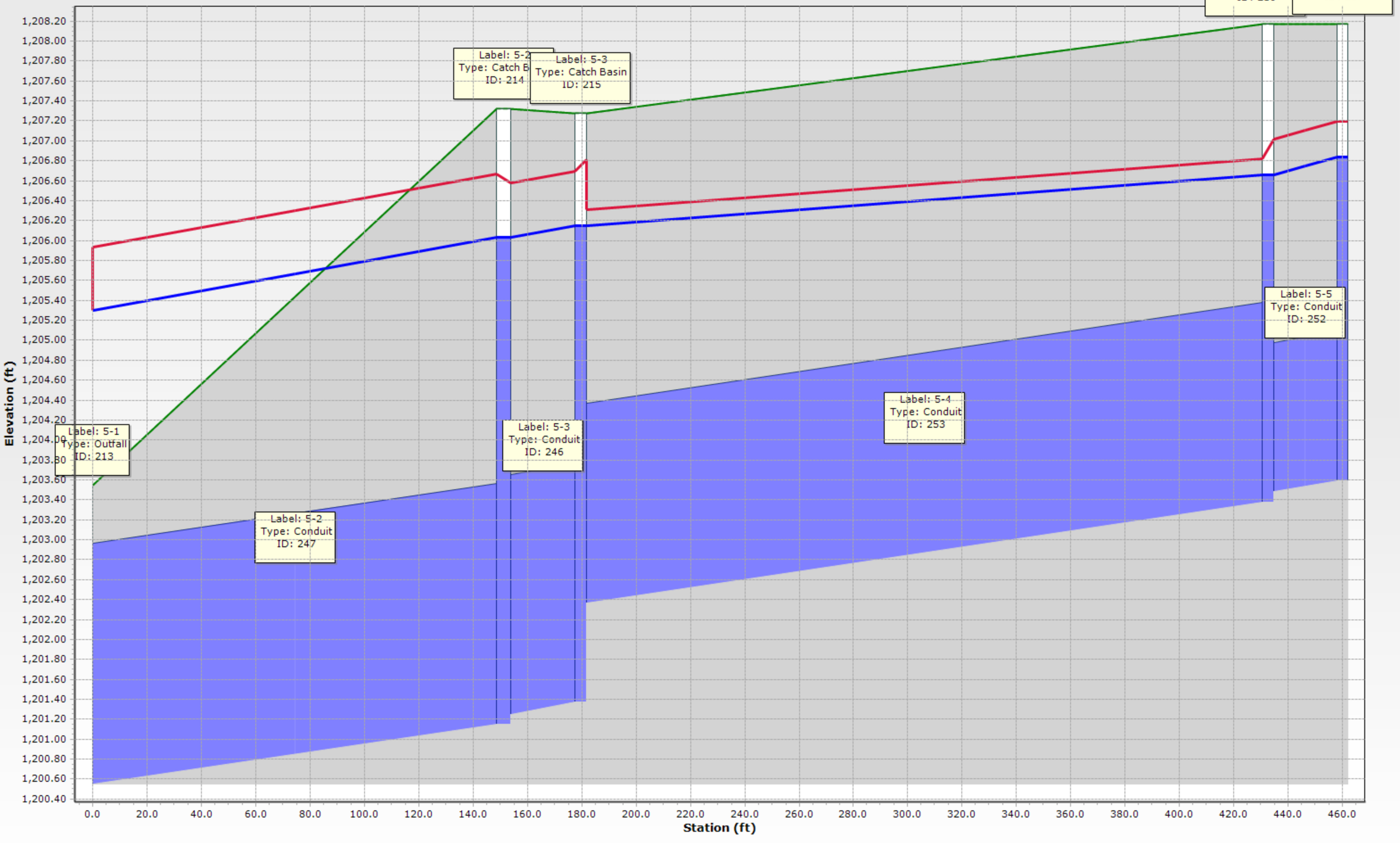
LINE 4 - Base 100 Year



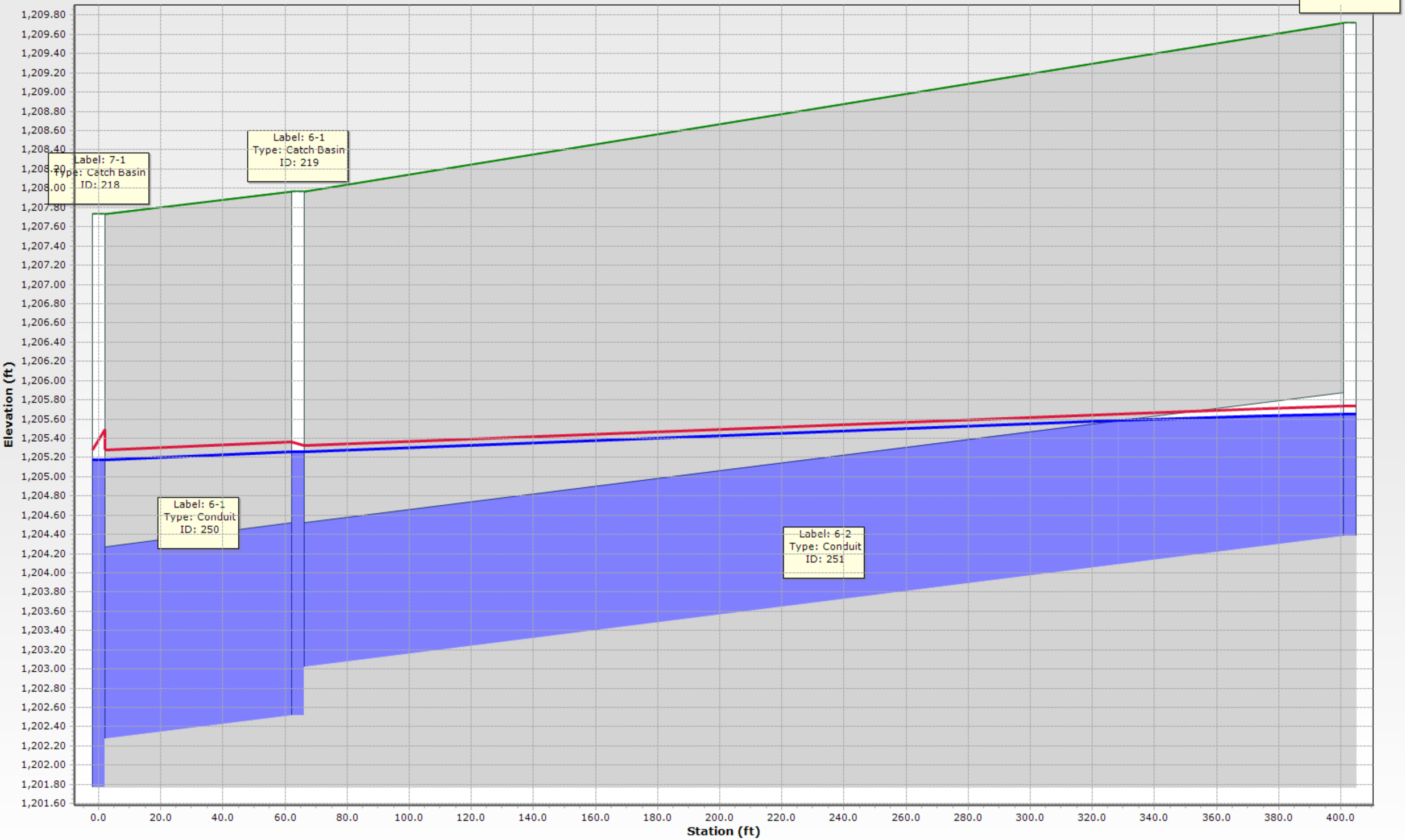
LINE 5 - Base 10 Year



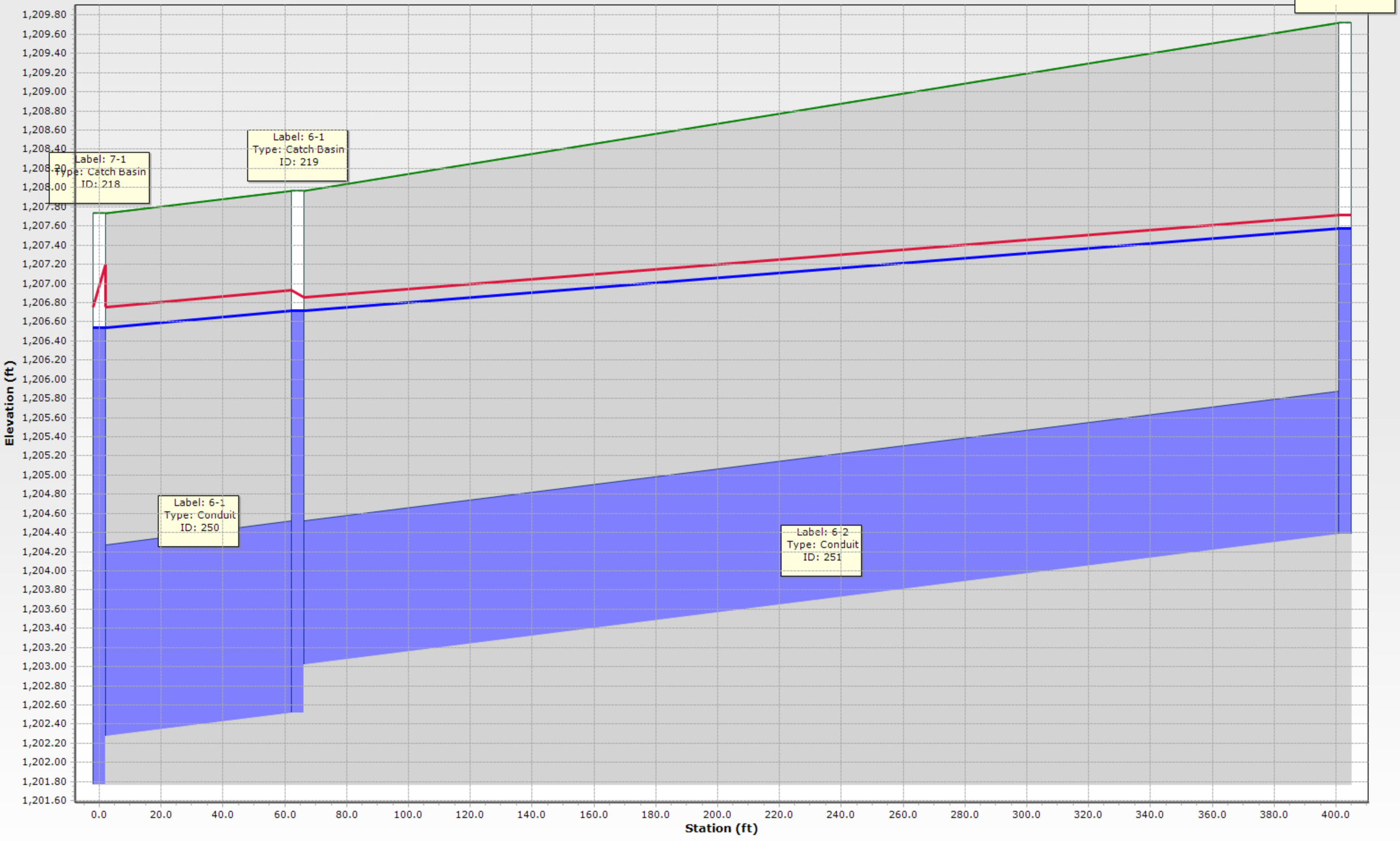
LINE 5 - Base 100 Year



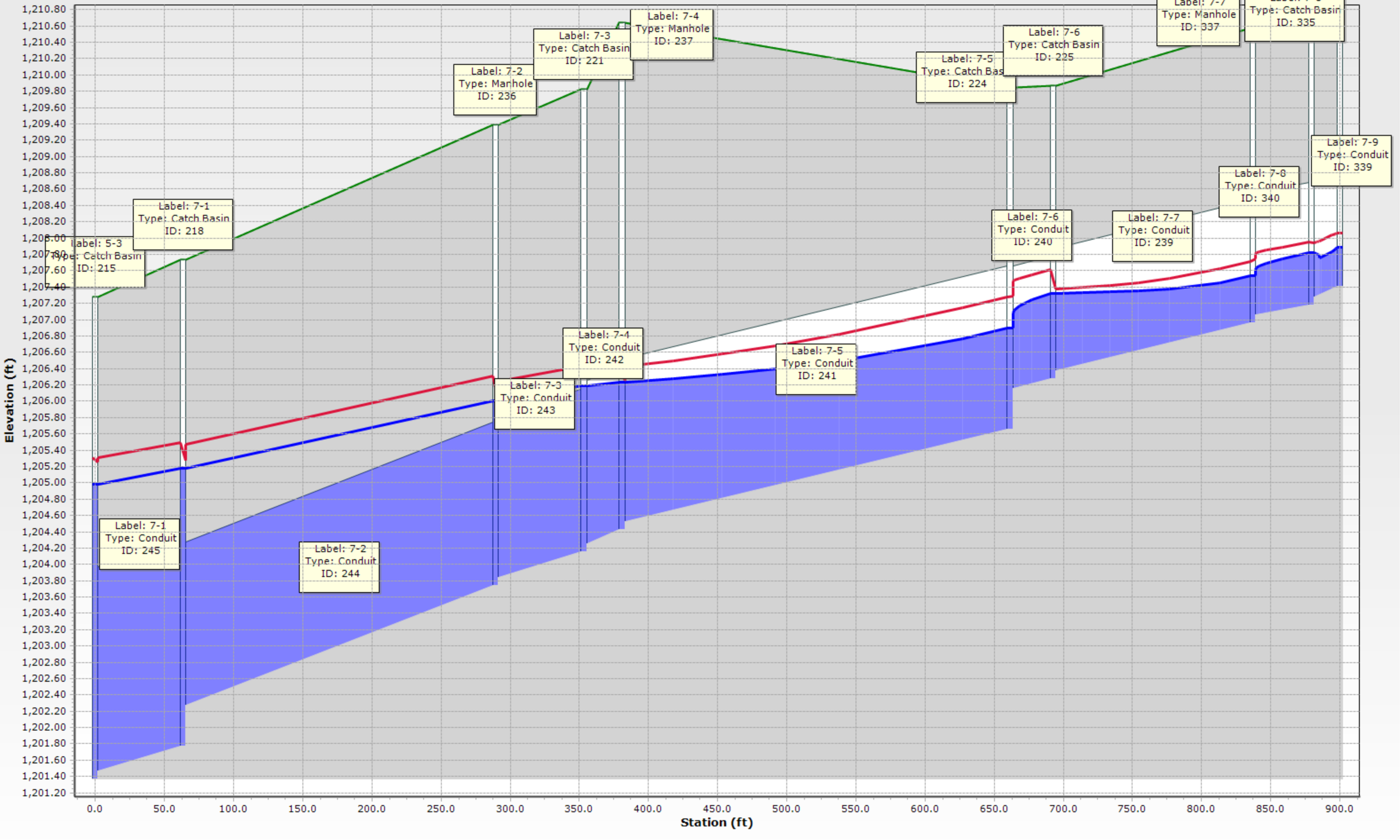
LINE 6 - Base 10 Year



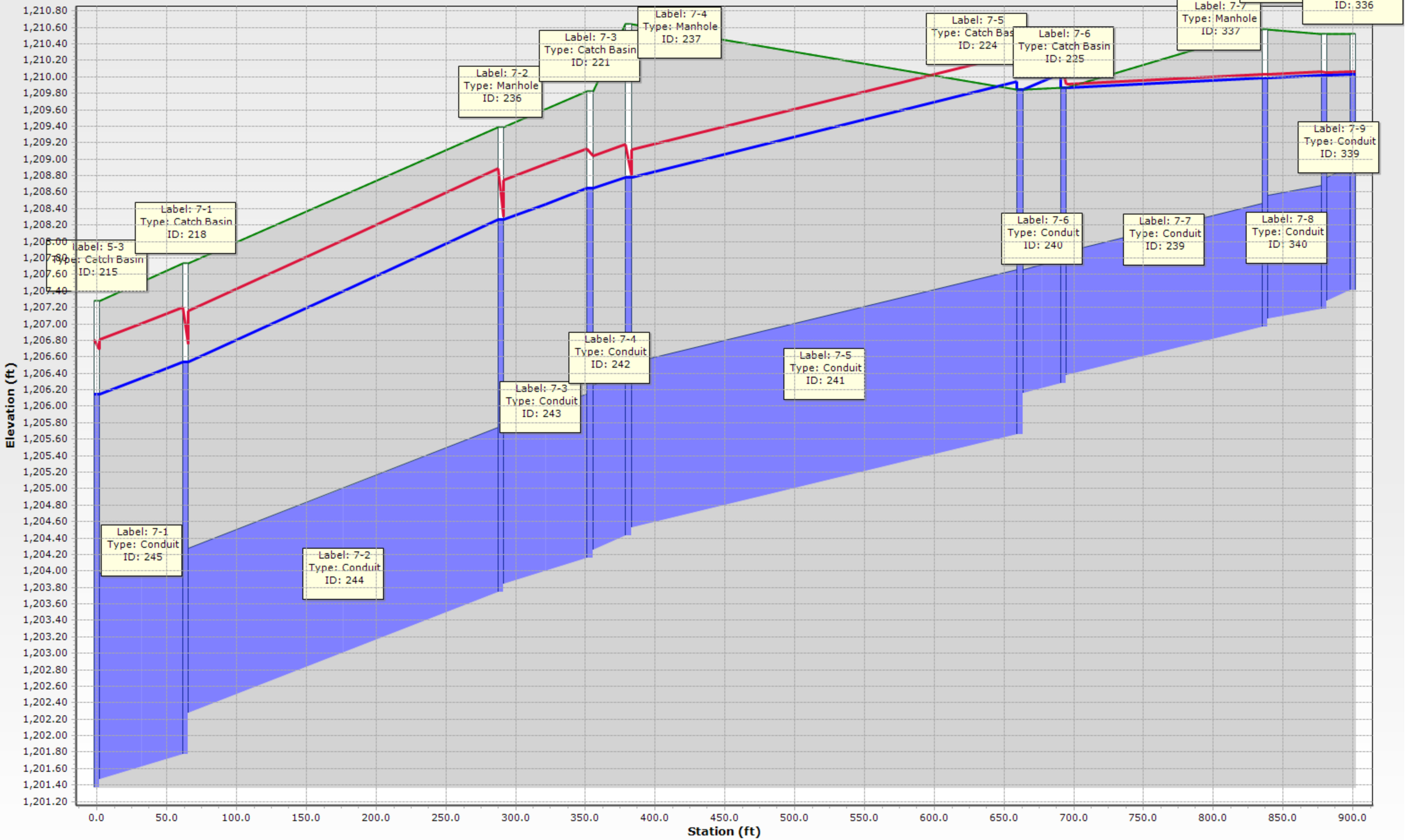
LINE 6 - Base 100 Year



LINE 7 - Base 10 Year



LINE 7 - Base 100 Year



LINE 8 - Base 10 Year

Label: 8-1
Type: Catch Basin
ID: 235

Label: 7-2
Type: Manhole
ID: 236

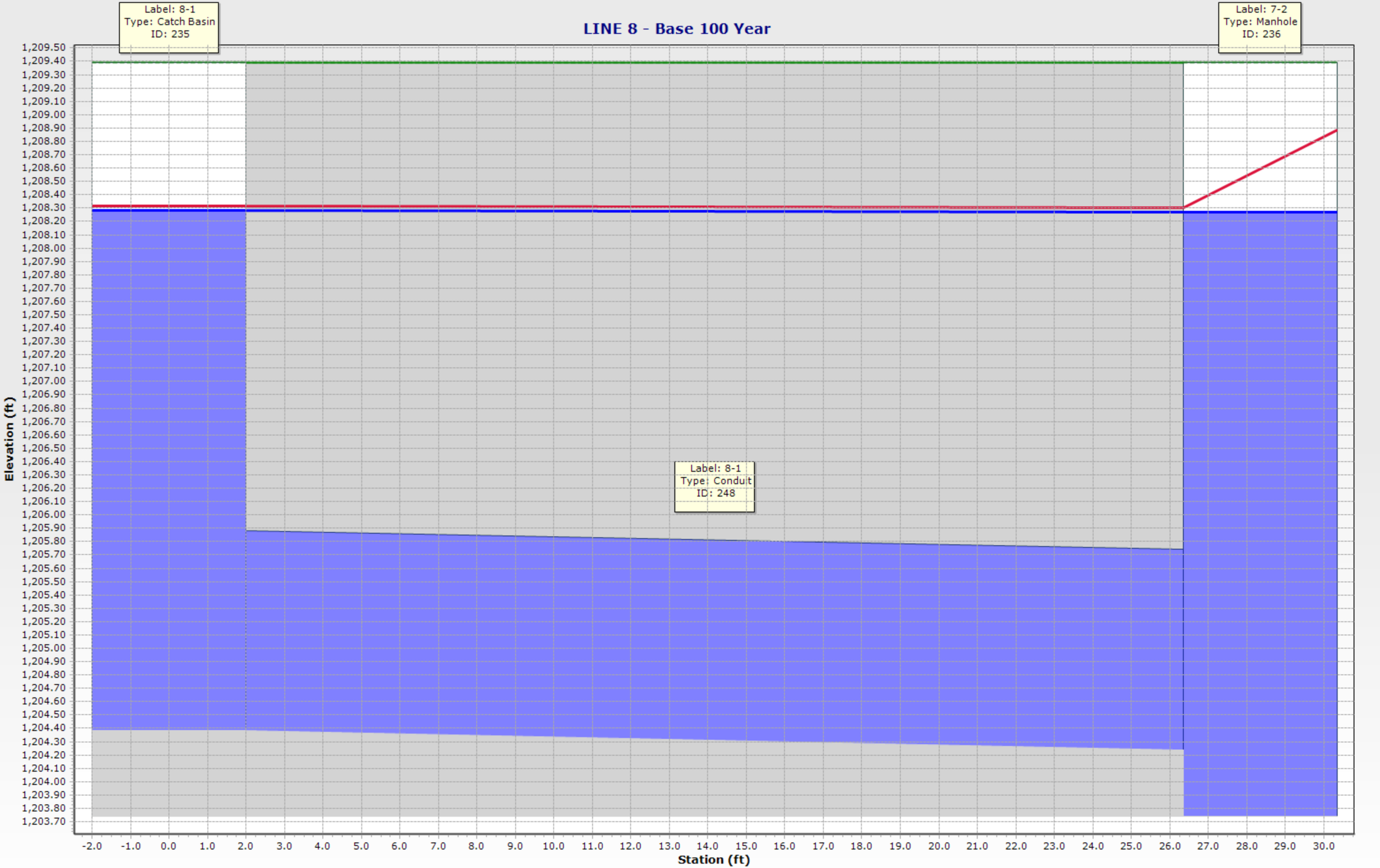
Label: 8-1
Type: Conduit
ID: 248

Elevation (ft)

1,209.50 1,209.40 1,209.30 1,209.20 1,209.10 1,209.00 1,208.90 1,208.80 1,208.70 1,208.60 1,208.50 1,208.40 1,208.30 1,208.20 1,208.10 1,208.00 1,207.90 1,207.80 1,207.70 1,207.60 1,207.50 1,207.40 1,207.30 1,207.20 1,207.10 1,207.00 1,206.90 1,206.80 1,206.70 1,206.60 1,206.50 1,206.40 1,206.30 1,206.20 1,206.10 1,206.00 1,205.90 1,205.80 1,205.70 1,205.60 1,205.50 1,205.40 1,205.30 1,205.20 1,205.10 1,205.00 1,204.90 1,204.80 1,204.70 1,204.60 1,204.50 1,204.40 1,204.30 1,204.20 1,204.10 1,204.00 1,203.90 1,203.80 1,203.70

-2.0 -1.0 0.0 1.0 2.0 3.0 4.0 5.0 6.0 7.0 8.0 9.0 10.0 11.0 12.0 13.0 14.0 15.0 16.0 17.0 18.0 19.0 20.0 21.0 22.0 23.0 24.0 25.0 26.0 27.0 28.0 29.0 30.0

Station (ft)


LINE 8 - Base 100 Year
Label: 8-1
Type: Catch Basin
ID: 235
Label: 7-2
Type: Manhole
ID: 236
Label: 8-1
Type: Conduit
ID: 248
Elevation (ft)
Station (ft)

LINE 9 - Base 10 Year

Label: 9-1
Type: Catch Basin
ID: 223

Label: 7-4
Type: Manhole
ID: 237

Label: 9-1
Type: Conduit
ID: 249

Elevation (ft)

1,210.80
1,210.60
1,210.40
1,210.20
1,210.00
1,209.80
1,209.60
1,209.40
1,209.20
1,209.00
1,208.80
1,208.60
1,208.40
1,208.20
1,208.00
1,207.80
1,207.60
1,207.40
1,207.20
1,207.00
1,206.80
1,206.60
1,206.40
1,206.20
1,206.00
1,205.80
1,205.60
1,205.40
1,205.20
1,205.00
1,204.80
1,204.60
1,204.40

-2.0 -1.0 0.0 1.0 2.0 3.0 4.0 5.0 6.0 7.0 8.0 9.0 10.0 11.0 12.0 13.0 14.0 15.0 16.0 17.0 18.0 19.0 20.0 21.0 22.0 23.0 24.0 25.0 26.0 27.0 28.0 29.0 30.0

Station (ft)

LINE 9 - Base 100 Year

Label: 9-1
Type: Catch Basin
ID: 223

Label: 7-4
Type: Manhole
ID: 237

Label: 9-1
Type: Conduit
ID: 249

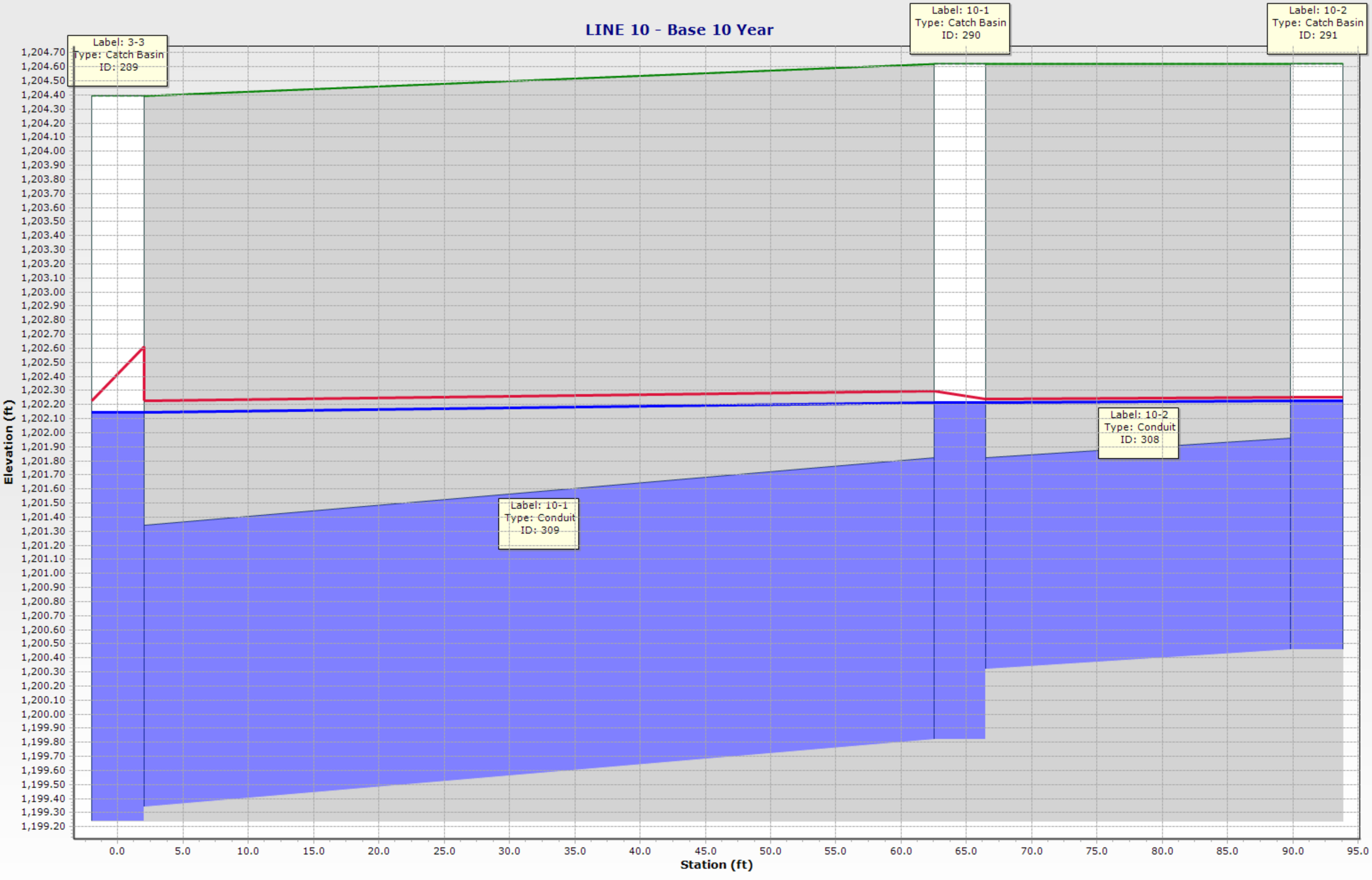
Elevation (ft)

1,210.80
1,210.60
1,210.40
1,210.20
1,210.00
1,209.80
1,209.60
1,209.40
1,209.20
1,209.00
1,208.80
1,208.60
1,208.40
1,208.20
1,208.00
1,207.80
1,207.60
1,207.40
1,207.20
1,207.00
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1,206.60
1,206.40
1,206.20
1,206.00
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1,205.60
1,205.40
1,205.20
1,205.00
1,204.80
1,204.60
1,204.40

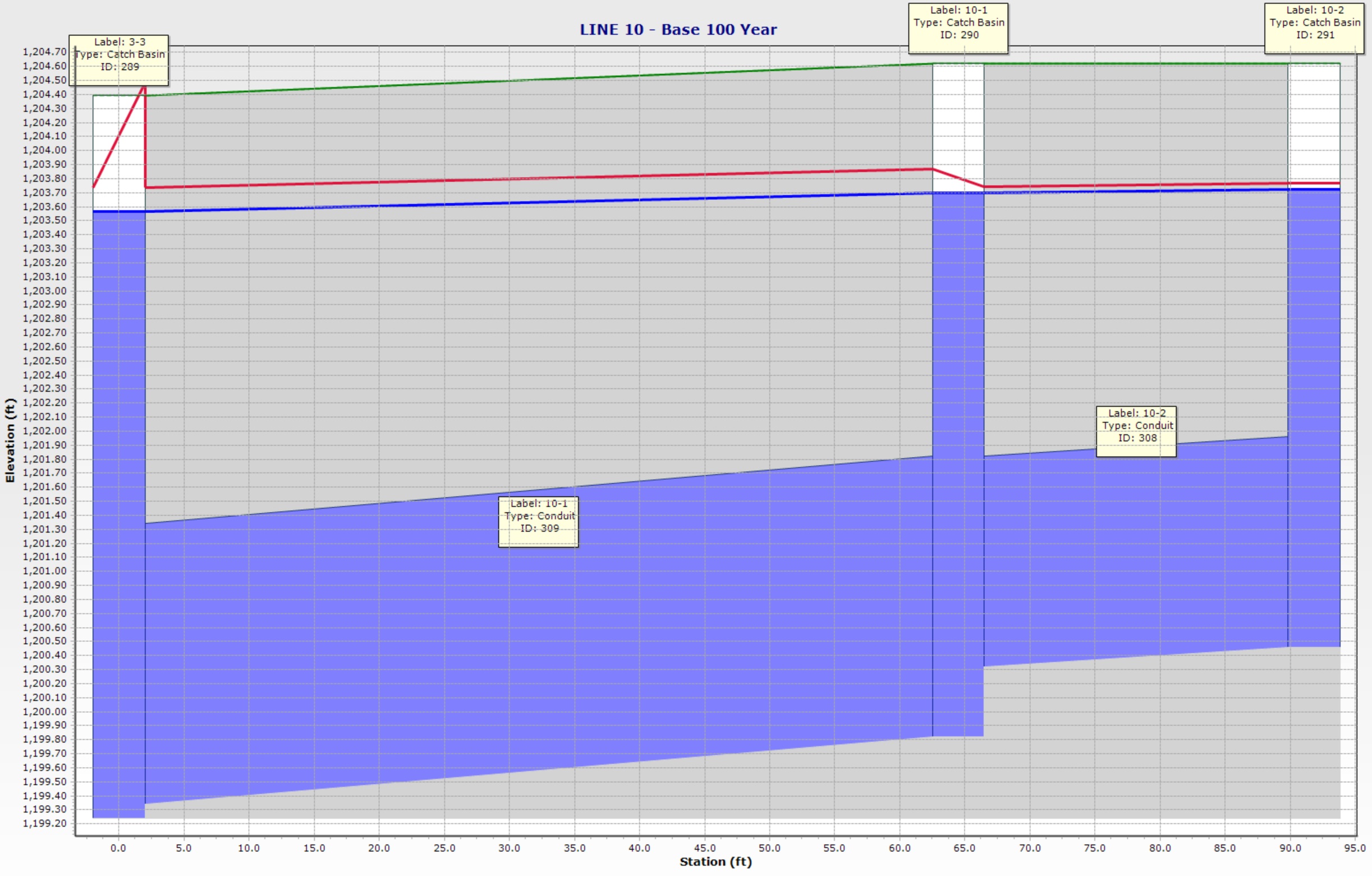
-2.0 -1.0 0.0 1.0 2.0 3.0 4.0 5.0 6.0 7.0 8.0 9.0 10.0 11.0 12.0 13.0 14.0 15.0 16.0 17.0 18.0 19.0 20.0 21.0 22.0 23.0 24.0 25.0 26.0 27.0 28.0 29.0 30.0

Station (ft)

LINE 10 - Base 10 Year

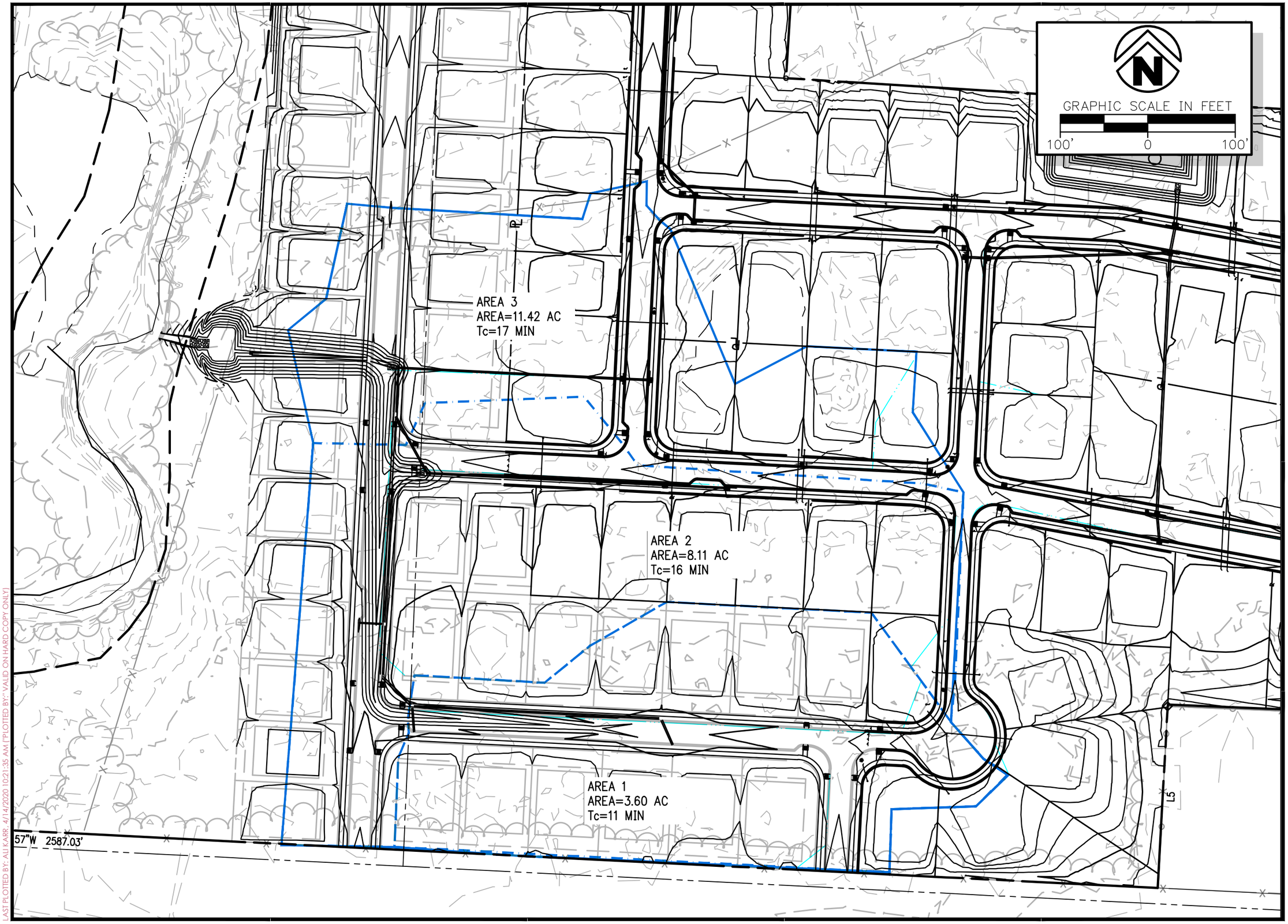


LINE 10 - Base 100 Year



CHANNEL ANALYSIS

Crafton Tull



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Crafton Tull
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CERTIFICATE OF AUTHORIZATION:

CERTIFICATE OF AUTHORIZATION
CRAFTON, TULL & ASSOCIATES, INC.
No. 109
ARKANSAS ENGINEER

STOKENBURY FARMS
ELKINS, AR

Key Plan

No.	Description	Date

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PROJECT NO: 19106901
ISSUE DATE:
CONTACT: T. LINDLEY
CHECKED BY:

ISSUED FOR REVIEW

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CHANNEL ANALYSIS MAP

DRAWING: G:\19106901_ELKINS\PH1\INFRASTRUCTURE\CIVIL\REPORTS\DRAINAGE\MAPS\TEMP CHANNEL ANALYSIS MAP.DWG
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LAST PLOTTED BY: ALI KARR, 4/14/2020 10:21:35 AM ("PLOTTED BY:" VALID ON HARD COPY ONLY)

Crafton Tull

Job Description: Stokenbury Farms Phase I
CTA Job Number: 19106901

Date: April 14, 2020
By: Ali Karr, E.I.

				OVERLAND FLOW				CHANELIZED FLOW						TOTAL
	DRAINAGE AREA	INLET LOCATION	AREA (acres)	LENGTH (ft)	SLOPE (%)	RUNOFF (C)	TIME OF CONC. (min)	SURFACE TYPE	LENGTH (ft)	SLOPE (%)	RUNOFF (n)	VELOCITY (ft/sec)	TIME OF CONC. (min)	TIME OF CONC. (min)
1	AREA 1	TROY ST	3.60	65	2.80%	0.57	5.46	Unpaved	558	0.98%	0.030	1.60	5.82	11
2	AREA 2	STINSON RD	8.11	72	1.50%	0.57	7.07	Paved	743	0.50%	0.013	1.44	8.61	16
3	AREA 3	HILDA LN	11.42	135	1.50%	0.57	9.68	Paved	640	0.50%	0.013	1.44	7.42	17
4														
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30														

Crafton Tull

Job Description: Stokenbury Farms Phase I
CTA Job Number: 19106901

Date: April 14, 2020
By: Ali Karr, E.I.

INLET FLOW RATES

	INLET NUMBER	AREA (ac)	TIME OF CONC. (min)	RUNOFF COEFF. C	TOTAL RUNOFF (CA)	2 - YEAR		5 - YEAR		10 - YEAR		25 - YEAR		50 - YEAR		100 - YEAR	
						I (in/hr)	Q (cfs)	I (in/hr)	Q (cfs)	I (in/hr)	Q (cfs)	I (in/hr)	Q (cfs)	I (in/hr)	Q (cfs)	I (in/hr)	Q (cfs)
1	AREA 1	3.60	11	0.57	2.05	4.01	8.23	4.96	10.18	5.63	**11.56**	6.60	13.55	7.35	15.08	8.10	**16.63**
2	AREA 2	8.11	16	0.57	4.62	3.37	15.56	4.18	19.32	4.76	**21.99**	5.58	25.79	6.21	28.73	6.86	**31.71**
3	AREA 3	11.42	17	0.57	6.51	3.27	21.27	4.06	26.42	4.62	**30.08**	5.42	35.28	6.04	39.31	6.67	**43.40**
4																	
5																	
6																	
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8																	
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31																	
32																	

Worksheet for Swale at Area 1 10 YR

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data	
Roughness Coefficient	0.030
Channel Slope	0.010 ft/ft
Left Side Slope	3.000 H:V
Right Side Slope	3.000 H:V
Discharge	11.56 cfs

Results	
Normal Depth	13.2 in
Flow Area	3.6 ft²
Wetted Perimeter	6.9 ft
Hydraulic Radius	6.2 in
Top Width	6.58 ft
Critical Depth	11.8 in
Critical Slope	0.018 ft/ft
Velocity	3.20 ft/s
Velocity Head	0.16 ft
Specific Energy	1.26 ft
Froude Number	0.763
Flow Type	Subcritical

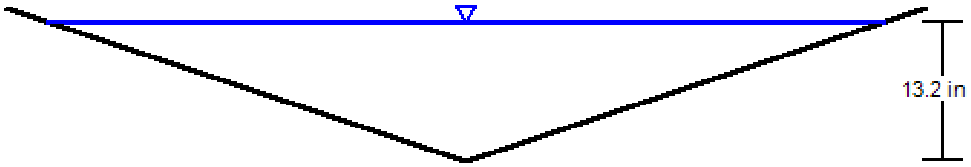
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Downstream Depth	0.0 in
Length	0.0 ft
Number Of Steps	0

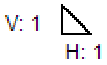
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Upstream Depth	0.0 in
Profile Description	N/A
Profile Headloss	0.00 ft
Downstream Velocity	0.00 ft/s
Upstream Velocity	0.00 ft/s
Normal Depth	13.2 in
Critical Depth	11.8 in
Channel Slope	0.010 ft/ft
Critical Slope	0.018 ft/ft

Cross Section for Swale at Area 1 10 YR

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data	
Roughness Coefficient	0.030
Channel Slope	0.010 ft/ft
Normal Depth	13.2 in
Left Side Slope	3.000 H:V
Right Side Slope	3.000 H:V
Discharge	11.56 cfs





Worksheet for Swale at Area 1 100 YR

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data	
Roughness Coefficient	0.030
Channel Slope	0.010 ft/ft
Left Side Slope	3.000 H:V
Right Side Slope	3.000 H:V
Discharge	16.63 cfs

Results	
Normal Depth	15.1 in
Flow Area	4.7 ft²
Wetted Perimeter	7.9 ft
Hydraulic Radius	7.2 in
Top Width	7.54 ft
Critical Depth	13.7 in
Critical Slope	0.017 ft/ft
Velocity	3.51 ft/s
Velocity Head	0.19 ft
Specific Energy	1.45 ft
Froude Number	0.780
Flow Type	Subcritical

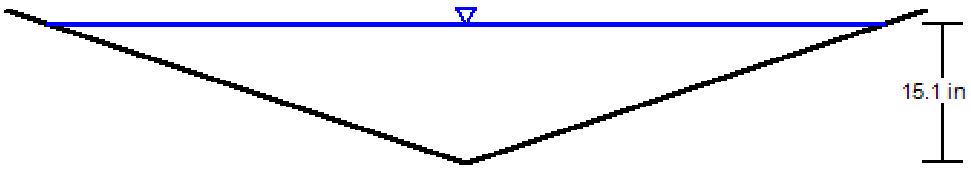
GVF Input Data	
Downstream Depth	0.0 in
Length	0.0 ft
Number Of Steps	0

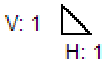
GVF Output Data	
Upstream Depth	0.0 in
Profile Description	N/A
Profile Headloss	0.00 ft
Downstream Velocity	0.00 ft/s
Upstream Velocity	0.00 ft/s
Normal Depth	15.1 in
Critical Depth	13.7 in
Channel Slope	0.010 ft/ft
Critical Slope	0.017 ft/ft

Cross Section for Swale at Area 1 100 YR

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data	
Roughness Coefficient	0.030
Channel Slope	0.010 ft/ft
Normal Depth	15.1 in
Left Side Slope	3.000 H:V
Right Side Slope	3.000 H:V
Discharge	16.63 cfs





Worksheet for Swale at Area 2 10 YR

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data	
Roughness Coefficient	0.030
Channel Slope	0.010 ft/ft
Left Side Slope	3.000 H:V
Right Side Slope	3.000 H:V
Discharge	21.99 cfs

Results	
Normal Depth	16.7 in
Flow Area	5.8 ft²
Wetted Perimeter	8.8 ft
Hydraulic Radius	7.9 in
Top Width	8.37 ft
Critical Depth	15.3 in
Critical Slope	0.016 ft/ft
Velocity	3.76 ft/s
Velocity Head	0.22 ft
Specific Energy	1.62 ft
Froude Number	0.794
Flow Type	Subcritical

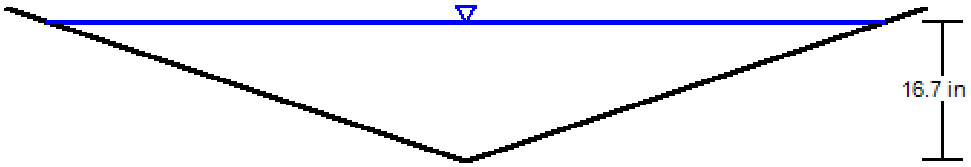
GVF Input Data	
Downstream Depth	0.0 in
Length	0.0 ft
Number Of Steps	0

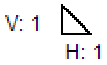
GVF Output Data	
Upstream Depth	0.0 in
Profile Description	N/A
Profile Headloss	0.00 ft
Downstream Velocity	0.00 ft/s
Upstream Velocity	0.00 ft/s
Normal Depth	16.7 in
Critical Depth	15.3 in
Channel Slope	0.010 ft/ft
Critical Slope	0.016 ft/ft

Cross Section for Swale at Area 2 10 YR

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data	
Roughness Coefficient	0.030
Channel Slope	0.010 ft/ft
Normal Depth	16.7 in
Left Side Slope	3.000 H:V
Right Side Slope	3.000 H:V
Discharge	21.99 cfs





Worksheet for Swale at Area 2 100 YR

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data	
Roughness Coefficient	0.030
Channel Slope	0.010 ft/ft
Left Side Slope	3.000 H:V
Right Side Slope	3.000 H:V
Discharge	31.71 cfs

Results	
Normal Depth	19.2 in
Flow Area	7.7 ft²
Wetted Perimeter	10.1 ft
Hydraulic Radius	9.1 in
Top Width	9.61 ft
Critical Depth	17.7 in
Critical Slope	0.016 ft/ft
Velocity	4.12 ft/s
Velocity Head	0.26 ft
Specific Energy	1.87 ft
Froude Number	0.812
Flow Type	Subcritical

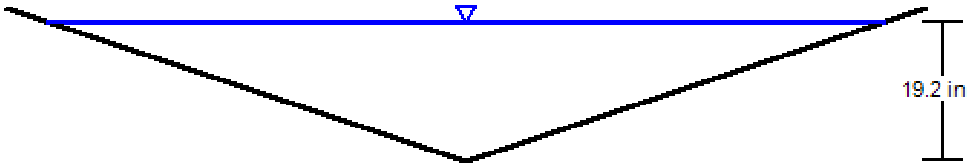
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Length	0.0 ft
Number Of Steps	0

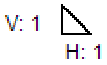
GVF Output Data	
Upstream Depth	0.0 in
Profile Description	N/A
Profile Headloss	0.00 ft
Downstream Velocity	0.00 ft/s
Upstream Velocity	0.00 ft/s
Normal Depth	19.2 in
Critical Depth	17.7 in
Channel Slope	0.010 ft/ft
Critical Slope	0.016 ft/ft

Cross Section for Swale at Area 2 100 YR

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data	
Roughness Coefficient	0.030
Channel Slope	0.010 ft/ft
Normal Depth	19.2 in
Left Side Slope	3.000 H:V
Right Side Slope	3.000 H:V
Discharge	31.71 cfs





Worksheet for Swale at Area 3 10 YR

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data	
Roughness Coefficient	0.030
Channel Slope	0.010 ft/ft
Left Side Slope	3.000 H:V
Right Side Slope	3.000 H:V
Discharge	30.08 cfs

Results	
Normal Depth	18.8 in
Flow Area	7.4 ft²
Wetted Perimeter	9.9 ft
Hydraulic Radius	8.9 in
Top Width	9.42 ft
Critical Depth	17.3 in
Critical Slope	0.016 ft/ft
Velocity	4.07 ft/s
Velocity Head	0.26 ft
Specific Energy	1.83 ft
Froude Number	0.810
Flow Type	Subcritical

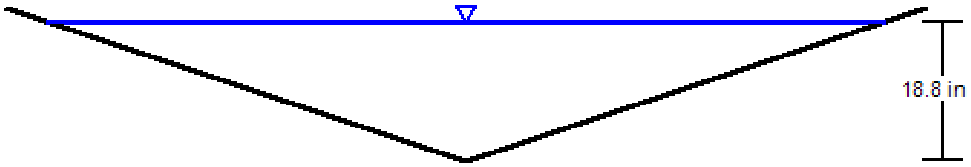
GVF Input Data	
Downstream Depth	0.0 in
Length	0.0 ft
Number Of Steps	0

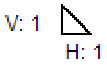
GVF Output Data	
Upstream Depth	0.0 in
Profile Description	N/A
Profile Headloss	0.00 ft
Downstream Velocity	0.00 ft/s
Upstream Velocity	0.00 ft/s
Normal Depth	18.8 in
Critical Depth	17.3 in
Channel Slope	0.010 ft/ft
Critical Slope	0.016 ft/ft

Cross Section for Swale at Area 3 10 YR

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data	
Roughness Coefficient	0.030
Channel Slope	0.010 ft/ft
Normal Depth	18.8 in
Left Side Slope	3.000 H:V
Right Side Slope	3.000 H:V
Discharge	30.08 cfs





Worksheet for Swale at Area 3 100 YR

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data	
Roughness Coefficient	0.030
Channel Slope	0.010 ft/ft
Left Side Slope	3.000 H:V
Right Side Slope	3.000 H:V
Discharge	43.40 cfs

Results	
Normal Depth	21.6 in
Flow Area	9.7 ft²
Wetted Perimeter	11.4 ft
Hydraulic Radius	10.3 in
Top Width	10.81 ft
Critical Depth	20.0 in
Critical Slope	0.015 ft/ft
Velocity	4.46 ft/s
Velocity Head	0.31 ft
Specific Energy	2.11 ft
Froude Number	0.829
Flow Type	Subcritical

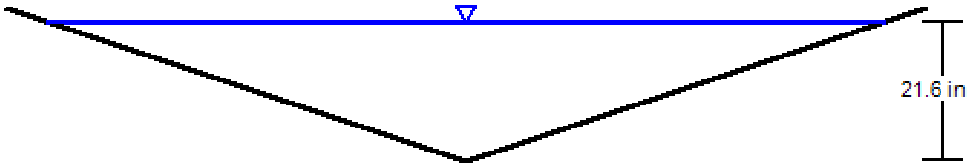
GVF Input Data	
Downstream Depth	0.0 in
Length	0.0 ft
Number Of Steps	0

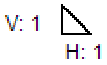
GVF Output Data	
Upstream Depth	0.0 in
Profile Description	N/A
Profile Headloss	0.00 ft
Downstream Velocity	0.00 ft/s
Upstream Velocity	0.00 ft/s
Normal Depth	21.6 in
Critical Depth	20.0 in
Channel Slope	0.010 ft/ft
Critical Slope	0.015 ft/ft

Cross Section for Swale at Area 3 100 YR

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data	
Roughness Coefficient	0.030
Channel Slope	0.010 ft/ft
Normal Depth	21.6 in
Left Side Slope	3.000 H:V
Right Side Slope	3.000 H:V
Discharge	43.40 cfs





LOMR-F DATA

Crafton Tull

CITY OF ELKINS

FLOODING CONTROLLED BY WHITE RIVER

CONFLUENCE WITH WHITE RIVER

N. CENTER ST. (AR HIGHWAY 16)

10%, 2% AND 0.2% ANNUAL CHANCE FLOODS NOT COMPUTED

ELEVATION IN FEET (NAVD 88)

1240
1230
1220
1210
1200
1190
1180
1170
1160
1150

0 500 1000 1500 2000 2500 3000 3500 4000 4500 5000 5500 6000 6500

STREAM DISTANCE IN FEET ABOVE CONFLUENCE WITH WHITE RIVER

LOT	LOCATION OF UPSTREAM LOT CORNER	BFE
69	1365' DOWNSTREAM OF XS A	1203.6
70	1365' DOWNSTREAM OF XS A	1203.6
71	1237' DOWNSTREAM OF XS A	1204.3
72	1169' DOWNSTREAM OF XS A	1204.6
73	1106' DOWNSTREAM OF XS A	1204.9
74	1070' DOWNSTREAM OF XS A	1205.1
75	992' DOWNSTREAM OF XS A	1205.4
76	929' DOWNSTREAM OF XS A	1205.7
77	865' DOWNSTREAM OF XS A	1206.1
78	794' DOWNSTREAM OF XS A	1206.3

A

LEGEND

- 0.2% ANNUAL CHANCE FLOOD
- 1% ANNUAL CHANCE FLOOD
- 2% ANNUAL CHANCE FLOOD
- 10% ANNUAL CHANCE FLOOD
- STREAM BED
- CROSS SECTION LOCATION

FLOOD PROFILES

STOKENBURY CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY
WASHINGTON COUNTY, AR
AND INCORPORATED AREAS

69P

CITY OF ELKINS

HIGHWAY 74

CONFLUENCE OF STOKENBURY CREEK

10%, 2% AND 0.2% ANNUAL CHANCE FLOODS NOT COMPUTED

LOT	LOCATION OF UPSTREAM LOT CORNER	BFE
1	880' DOWNSTREAM OF XS E (0.17 MI)	1204.9
2	880' DOWNSTREAM OF XS E (0.17 MI)	1204.9
44	1271' DOWNSTREAM OF XS E (0.24 MI)	1204.8
43	1602' DOWNSTREAM OF XS E (0.30 MI)	1204.7
42	1821' DOWNSTREAM OF XS E (0.34 MI)	1204.7
45	1085' UPSTREAM OF XS D (0.21 MI)	1204.1
46	856' UPSTREAM OF XS D (0.16 MI)	1203.9
47	695' UPSTREAM OF XS D (0.13 MI)	1203.7
57	419' UPSTREAM OF XS D (0.08 MI)	1203.5
58	352' UPSTREAM OF XS D (0.07 MI)	1203.5
59	274' UPSTREAM OF XS D (0.05 MI)	1203.4
POND	11' UPSTREAM OF XS D	1203.3

LEGEND

- 0.2% ANNUAL CHANCE FLOOD
- 1% ANNUAL CHANCE FLOOD
- 2% ANNUAL CHANCE FLOOD
- 10% ANNUAL CHANCE FLOOD
- STREAM BED
- CROSS SECTION LOCATION

ELEVATION IN FEET (NAVD 88)

1210 1205 1200 1195 1190 1185 1180 1175 1170 1165

693.8 694.0 694.2 694.4 694.6 694.8 695.0 695.2 695.4 695.6 695.8 696.0 696.2 696.4

STREAM DISTANCE IN MILES ABOVE MOUTH

B C D E

FLOOD PROFILES

WHITE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY
WASHINGTON COUNTY, AR
AND INCORPORATED AREAS

90P

DRAINAGE DESIGN

Crafton Tull

Elkins Subdivision Drainage

Project Summary	
Title	
Engineer	Ali Karr, E.I.
Company	Crafton Tull
Date	4/14/2020

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Elkins Subdivision Drainage

Subsection: Master Network Summary

Catchments Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ac-ft)	Time to Peak (hours)	Peak Flow (ft^3/s)
ONSITE 1A	Pre-Development 1 YR	1	7.167	12.350	54.80
ONSITE 1A	Post-Development 1 YR	1	9.584	12.100	123.74
ONSITE 1A	Pre-Development 2 YR	2	8.658	12.350	66.68
ONSITE 1A	Post-Development 2 YR	2	11.301	12.100	145.30
ONSITE 1A	Pre-Development 5 YR	5	11.355	12.350	88.00
ONSITE 1A	Post-Development 5 YR	5	14.354	12.050	183.66
ONSITE 1A	Pre-Development 10 YR	10	13.883	12.350	107.76
ONSITE 1A	Post-Development 10 YR	10	17.168	12.050	218.64
ONSITE 1A	Pre-Development 25 YR	25	17.666	12.350	137.01
ONSITE 1A	Post-Development 25 YR	25	21.326	12.050	269.59
ONSITE 1A	Pre-Development 50 YR	50	20.890	12.350	161.64
ONSITE 1A	Post-Development 50 YR	50	24.831	12.050	311.98
ONSITE 1A	Post-Development 100 YR	100	28.540	12.050	356.37
ONSITE 1A	Pre-Development 100 YR	100	24.327	12.350	187.63
ONSITE 4	Pre-Development 1 YR	1	1.322	12.300	10.74
ONSITE 4	Post-Development 1 YR	1	1.276	12.300	10.42
ONSITE 4	Pre-Development 2 YR	2	1.597	12.300	13.07
ONSITE 4	Post-Development 2 YR	2	1.535	12.300	12.61
ONSITE 4	Pre-Development 5 YR	5	2.095	12.300	17.26
ONSITE 4	Post-Development 5 YR	5	2.003	12.300	16.52
ONSITE 4	Pre-Development 10 YR	10	2.561	12.300	21.14
ONSITE 4	Post-Development 10 YR	10	2.439	12.300	20.13
ONSITE 4	Pre-Development 25 YR	25	3.259	12.300	26.87

Elkins Subdivision Drainage

Subsection: Master Network Summary

Catchments Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ac-ft)	Time to Peak (hours)	Peak Flow (ft^3/s)
ONSITE 4	Post-Development 25 YR	25	3.091	12.300	25.46
ONSITE 4	Pre-Development 50 YR	50	3.854	12.300	31.71
ONSITE 4	Post-Development 50 YR	50	3.646	12.300	29.94
ONSITE 4	Post-Development 100 YR	100	4.236	12.300	34.66
ONSITE 4	Pre-Development 100 YR	100	4.488	12.300	36.80
ONSITE 2C	Pre-Development 1 YR	1	1.065	12.250	9.97
ONSITE 2C	Post-Development 1 YR	1	1.203	12.000	19.09
ONSITE 2C	Pre-Development 2 YR	2	1.287	12.200	12.11
ONSITE 2C	Post-Development 2 YR	2	1.413	12.000	22.31
ONSITE 2C	Pre-Development 5 YR	5	1.688	12.200	15.98
ONSITE 2C	Post-Development 5 YR	5	1.785	12.000	27.93
ONSITE 2C	Pre-Development 10 YR	10	2.063	12.200	19.58
ONSITE 2C	Post-Development 10 YR	10	2.128	12.000	33.02
ONSITE 2C	Pre-Development 25 YR	25	2.625	12.200	24.89
ONSITE 2C	Post-Development 25 YR	25	2.633	12.000	40.40
ONSITE 2C	Pre-Development 50 YR	50	3.104	12.200	29.37
ONSITE 2C	Post-Development 50 YR	50	3.058	12.000	46.53
ONSITE 2C	Post-Development 100 YR	100	3.508	12.000	52.95
ONSITE 2C	Pre-Development 100 YR	100	3.614	12.200	34.09
ONSITE 1B	Pre-Development 1 YR	1	2.926	12.300	25.49
ONSITE 1B	Post-Development 1 YR	1	4.449	12.050	60.58
ONSITE 1B	Pre-Development 2 YR	2	3.534	12.250	30.99
ONSITE 1B	Post-Development 2 YR	2	5.246	12.050	71.27

Elkins Subdivision Drainage

Subsection: Master Network Summary

Catchments Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ac-ft)	Time to Peak (hours)	Peak Flow (ft^3/s)
ONSITE 1B	Pre-Development 5 YR	5	4.635	12.250	40.89
ONSITE 1B	Post-Development 5 YR	5	6.663	12.050	89.99
ONSITE 1B	Pre-Development 10 YR	10	5.666	12.250	50.08
ONSITE 1B	Post-Development 10 YR	10	7.969	12.050	107.00
ONSITE 1B	Pre-Development 25 YR	25	7.210	12.250	63.66
ONSITE 1B	Post-Development 25 YR	25	9.899	12.050	131.75
ONSITE 1B	Pre-Development 50 YR	50	8.525	12.250	75.10
ONSITE 1B	Post-Development 50 YR	50	11.526	12.050	152.34
ONSITE 1B	Post-Development 100 YR	100	13.247	12.050	173.89
ONSITE 1B	Pre-Development 100 YR	100	9.927	12.250	87.17
OFFSITE 1	Pre-Development 1 YR	1	122.408	12.400	868.48
OFFSITE 1	Post-Development 1 YR	1	122.408	12.400	868.48
OFFSITE 1	Pre-Development 2 YR	2	148.499	12.400	1,063.41
OFFSITE 1	Post-Development 2 YR	2	148.499	12.400	1,063.41
OFFSITE 1	Pre-Development 5 YR	5	195.885	12.400	1,414.70
OFFSITE 1	Post-Development 5 YR	5	195.885	12.400	1,414.70
OFFSITE 1	Pre-Development 10 YR	10	240.412	12.400	1,741.68
OFFSITE 1	Post-Development 10 YR	10	240.412	12.400	1,741.68
OFFSITE 1	Pre-Development 25 YR	25	307.238	12.400	2,227.08
OFFSITE 1	Post-Development 25 YR	25	307.238	12.400	2,227.08
OFFSITE 1	Pre-Development 50 YR	50	364.301	12.400	2,636.93
OFFSITE 1	Post-Development 50 YR	50	364.301	12.400	2,636.93
OFFSITE 1	Post-Development 100 YR	100	425.214	12.400	3,070.18

Elkins Subdivision Drainage

Subsection: Master Network Summary

Catchments Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ac-ft)	Time to Peak (hours)	Peak Flow (ft^3/s)
OFFSITE 1	Pre-Development 100 YR	100	425.214	12.400	3,070.18
ONSITE 3B	Pre-Development 1 YR	1	0.469	12.200	4.53
ONSITE 3B	Post-Development 1 YR	1	0.391	12.150	4.45
ONSITE 3B	Pre-Development 2 YR	2	0.564	12.200	5.48
ONSITE 3B	Post-Development 2 YR	2	0.458	12.100	5.19
ONSITE 3B	Pre-Development 5 YR	5	0.736	12.200	7.17
ONSITE 3B	Post-Development 5 YR	5	0.576	12.100	6.49
ONSITE 3B	Pre-Development 10 YR	10	0.896	12.200	8.74
ONSITE 3B	Post-Development 10 YR	10	0.684	12.100	7.66
ONSITE 3B	Pre-Development 25 YR	25	1.135	12.200	11.04
ONSITE 3B	Post-Development 25 YR	25	0.843	12.100	9.37
ONSITE 3B	Pre-Development 50 YR	50	1.339	12.200	12.98
ONSITE 3B	Post-Development 50 YR	50	0.977	12.100	10.79
ONSITE 3B	Post-Development 100 YR	100	1.118	12.100	12.27
ONSITE 3B	Pre-Development 100 YR	100	1.555	12.200	15.02
ONSITE 2A	Pre-Development 1 YR	1	0.088	12.100	1.15
ONSITE 2A	Post-Development 1 YR	1	0.072	12.050	1.07
ONSITE 2A	Pre-Development 2 YR	2	0.107	12.100	1.40
ONSITE 2A	Post-Development 2 YR	2	0.087	12.050	1.29
ONSITE 2A	Pre-Development 5 YR	5	0.140	12.100	1.83
ONSITE 2A	Post-Development 5 YR	5	0.114	12.050	1.69
ONSITE 2A	Pre-Development 10 YR	10	0.171	12.100	2.23
ONSITE 2A	Post-Development 10 YR	10	0.139	12.050	2.05

Elkins Subdivision Drainage

Subsection: Master Network Summary

Catchments Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ac-ft)	Time to Peak (hours)	Peak Flow (ft^3/s)
ONSITE 2A	Pre-Development 25 YR	25	0.217	12.050	2.82
ONSITE 2A	Post-Development 25 YR	25	0.177	12.050	2.59
ONSITE 2A	Pre-Development 50 YR	50	0.257	12.050	3.32
ONSITE 2A	Post-Development 50 YR	50	0.210	12.050	3.04
ONSITE 2A	Post-Development 100 YR	100	0.244	12.050	3.51
ONSITE 2A	Pre-Development 100 YR	100	0.299	12.050	3.85
ONSITE 2B	Pre-Development 1 YR	1	0.131	12.150	1.52
ONSITE 2B	Post-Development 1 YR	1	0.067	12.000	1.11
ONSITE 2B	Pre-Development 2 YR	2	0.159	12.150	1.84
ONSITE 2B	Post-Development 2 YR	2	0.081	12.000	1.34
ONSITE 2B	Pre-Development 5 YR	5	0.208	12.100	2.41
ONSITE 2B	Post-Development 5 YR	5	0.106	12.000	1.75
ONSITE 2B	Pre-Development 10 YR	10	0.254	12.100	2.95
ONSITE 2B	Post-Development 10 YR	10	0.129	11.950	2.13
ONSITE 2B	Pre-Development 25 YR	25	0.324	12.100	3.75
ONSITE 2B	Post-Development 25 YR	25	0.164	11.950	2.70
ONSITE 2B	Pre-Development 50 YR	50	0.383	12.100	4.42
ONSITE 2B	Post-Development 50 YR	50	0.194	11.950	3.18
ONSITE 2B	Post-Development 100 YR	100	0.226	11.950	3.69
ONSITE 2B	Pre-Development 100 YR	100	0.446	12.100	5.13
ONSITE 3A	Pre-Development 1 YR	1	0.035	12.050	0.49
ONSITE 3A	Post-Development 1 YR	1	0.028	11.950	0.48
ONSITE 3A	Pre-Development 2 YR	2	0.043	12.050	0.59

Elkins Subdivision Drainage

Subsection: Master Network Summary

Catchments Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ac-ft)	Time to Peak (hours)	Peak Flow (ft³/s)
ONSITE 3A	Post-Development 2 YR	2	0.034	11.950	0.58
ONSITE 3A	Pre-Development 5 YR	5	0.056	12.050	0.78
ONSITE 3A	Post-Development 5 YR	5	0.044	11.950	0.77
ONSITE 3A	Pre-Development 10 YR	10	0.068	12.050	0.95
ONSITE 3A	Post-Development 10 YR	10	0.054	11.950	0.94
ONSITE 3A	Pre-Development 25 YR	25	0.087	12.050	1.20
ONSITE 3A	Post-Development 25 YR	25	0.069	11.950	1.18
ONSITE 3A	Pre-Development 50 YR	50	0.103	12.050	1.41
ONSITE 3A	Post-Development 50 YR	50	0.081	11.950	1.39
ONSITE 3A	Post-Development 100 YR	100	0.095	11.950	1.61
ONSITE 3A	Pre-Development 100 YR	100	0.129	12.050	1.76

Node Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ac-ft)	Time to Peak (hours)	Peak Flow (ft³/s)
STUDY POINT 1	Pre-Development 1 YR	1	132.501	12.400	945.63
STUDY POINT 1	Post-Development 1 YR	1	136.441	12.400	925.51
STUDY POINT 1	Pre-Development 2 YR	2	160.691	12.400	1,156.94
STUDY POINT 1	Post-Development 2 YR	2	165.046	12.400	1,129.71
STUDY POINT 1	Pre-Development 5 YR	5	211.875	12.400	1,537.57
STUDY POINT 1	Post-Development 5 YR	5	216.902	12.400	1,497.16
STUDY POINT 1	Pre-Development 10 YR	10	259.961	12.400	1,891.69
STUDY POINT 1	Post-Development 10 YR	10	265.550	12.400	1,838.73
STUDY POINT 1	Pre-Development 25 YR	25	332.114	12.400	2,417.18

Elkins Subdivision Drainage

Subsection: Master Network Summary

Node Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ac-ft)	Time to Peak (hours)	Peak Flow (ft^3/s)
STUDY POINT 1	Post-Development 25 YR	25	338.463	12.400	2,345.28
STUDY POINT 1	Pre-Development 50 YR	50	393.717	12.400	2,860.73
STUDY POINT 1	Post-Development 50 YR	50	400.658	12.400	2,772.68
STUDY POINT 1	Post-Development 100 YR	100	467.002	12.400	3,224.28
STUDY POINT 1	Pre-Development 100 YR	100	459.469	12.400	3,329.50
STUDY POINT 2C	Pre-Development 1 YR	1	1.065	12.250	9.97
STUDY POINT 2C	Post-Development 1 YR	1	1.189	12.150	9.48
STUDY POINT 2C	Pre-Development 2 YR	2	1.287	12.200	12.11
STUDY POINT 2C	Post-Development 2 YR	2	1.397	12.150	11.47
STUDY POINT 2C	Pre-Development 5 YR	5	1.688	12.200	15.98
STUDY POINT 2C	Post-Development 5 YR	5	1.767	12.150	15.13
STUDY POINT 2C	Pre-Development 10 YR	10	2.063	12.200	19.58
STUDY POINT 2C	Post-Development 10 YR	10	2.106	12.150	18.43
STUDY POINT 2C	Pre-Development 25 YR	25	2.625	12.200	24.89
STUDY POINT 2C	Post-Development 25 YR	25	2.607	12.150	23.37
STUDY POINT 2C	Pre-Development 50 YR	50	3.104	12.200	29.37
STUDY POINT 2C	Post-Development 50 YR	50	3.029	12.150	27.43
STUDY POINT 2C	Post-Development 100 YR	100	3.475	12.150	31.73
STUDY POINT 2C	Pre-Development 100 YR	100	3.614	12.200	34.09
STUDY POINT 4	Pre-Development 1 YR	1	1.322	12.300	10.74
STUDY POINT 4	Post-Development 1 YR	1	1.276	12.300	10.42
STUDY POINT 4	Pre-Development 2 YR	2	1.597	12.300	13.07
STUDY POINT 4	Post-Development 2 YR	2	1.535	12.300	12.61

Elkins Subdivision Drainage

Subsection: Master Network Summary

Node Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ac-ft)	Time to Peak (hours)	Peak Flow (ft^3/s)
STUDY POINT 4	Pre-Development 5 YR	5	2.095	12.300	17.26
STUDY POINT 4	Post-Development 5 YR	5	2.003	12.300	16.52
STUDY POINT 4	Pre-Development 10 YR	10	2.561	12.300	21.14
STUDY POINT 4	Post-Development 10 YR	10	2.439	12.300	20.13
STUDY POINT 4	Pre-Development 25 YR	25	3.259	12.300	26.87
STUDY POINT 4	Post-Development 25 YR	25	3.091	12.300	25.46
STUDY POINT 4	Pre-Development 50 YR	50	3.854	12.300	31.71
STUDY POINT 4	Post-Development 50 YR	50	3.646	12.300	29.94
STUDY POINT 4	Post-Development 100 YR	100	4.236	12.300	34.66
STUDY POINT 4	Pre-Development 100 YR	100	4.488	12.300	36.80
STUDY POINT 3B	Pre-Development 1 YR	1	0.469	12.200	4.53
STUDY POINT 3B	Post-Development 1 YR	1	0.391	12.150	4.45
STUDY POINT 3B	Pre-Development 2 YR	2	0.564	12.200	5.48
STUDY POINT 3B	Post-Development 2 YR	2	0.458	12.100	5.19
STUDY POINT 3B	Pre-Development 5 YR	5	0.736	12.200	7.17
STUDY POINT 3B	Post-Development 5 YR	5	0.576	12.100	6.49
STUDY POINT 3B	Pre-Development 10 YR	10	0.896	12.200	8.74
STUDY POINT 3B	Post-Development 10 YR	10	0.684	12.100	7.66
STUDY POINT 3B	Pre-Development 25 YR	25	1.135	12.200	11.04
STUDY POINT 3B	Post-Development 25 YR	25	0.843	12.100	9.37
STUDY POINT 3B	Pre-Development 50 YR	50	1.339	12.200	12.98
STUDY POINT 3B	Post-Development 50 YR	50	0.977	12.100	10.79
STUDY POINT 3B	Post-Development 100 YR	100	1.118	12.100	12.27

Elkins Subdivision Drainage

Subsection: Master Network Summary

Node Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ac-ft)	Time to Peak (hours)	Peak Flow (ft^3/s)
STUDY POINT 3B	Pre-Development 100 YR	100	1.555	12.200	15.02
STUDY POINT 3A	Pre-Development 1 YR	1	0.035	12.050	0.49
STUDY POINT 3A	Post-Development 1 YR	1	0.028	11.950	0.48
STUDY POINT 3A	Pre-Development 2 YR	2	0.043	12.050	0.59
STUDY POINT 3A	Post-Development 2 YR	2	0.034	11.950	0.58
STUDY POINT 3A	Pre-Development 5 YR	5	0.056	12.050	0.78
STUDY POINT 3A	Post-Development 5 YR	5	0.044	11.950	0.77
STUDY POINT 3A	Pre-Development 10 YR	10	0.068	12.050	0.95
STUDY POINT 3A	Post-Development 10 YR	10	0.054	11.950	0.94
STUDY POINT 3A	Pre-Development 25 YR	25	0.087	12.050	1.20
STUDY POINT 3A	Post-Development 25 YR	25	0.069	11.950	1.18
STUDY POINT 3A	Pre-Development 50 YR	50	0.103	12.050	1.41
STUDY POINT 3A	Post-Development 50 YR	50	0.081	11.950	1.39
STUDY POINT 3A	Post-Development 100 YR	100	0.095	11.950	1.61
STUDY POINT 3A	Pre-Development 100 YR	100	0.129	12.050	1.76
STUDY POINT 2B	Pre-Development 1 YR	1	0.131	12.150	1.52
STUDY POINT 2B	Post-Development 1 YR	1	0.067	12.000	1.11
STUDY POINT 2B	Pre-Development 2 YR	2	0.159	12.150	1.84
STUDY POINT 2B	Post-Development 2 YR	2	0.081	12.000	1.34
STUDY POINT 2B	Pre-Development 5 YR	5	0.208	12.100	2.41
STUDY POINT 2B	Post-Development 5 YR	5	0.106	12.000	1.75
STUDY POINT 2B	Pre-Development 10 YR	10	0.254	12.100	2.95
STUDY POINT 2B	Post-Development 10 YR	10	0.129	11.950	2.13

Elkins Subdivision Drainage

Subsection: Master Network Summary

Node Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ac-ft)	Time to Peak (hours)	Peak Flow (ft^3/s)
STUDY POINT 2B	Pre-Development 25 YR	25	0.324	12.100	3.75
STUDY POINT 2B	Post-Development 25 YR	25	0.164	11.950	2.70
STUDY POINT 2B	Pre-Development 50 YR	50	0.383	12.100	4.42
STUDY POINT 2B	Post-Development 50 YR	50	0.194	11.950	3.18
STUDY POINT 2B	Post-Development 100 YR	100	0.226	11.950	3.69
STUDY POINT 2B	Pre-Development 100 YR	100	0.446	12.100	5.13
STUDY POINT 2A	Pre-Development 1 YR	1	0.088	12.100	1.15
STUDY POINT 2A	Post-Development 1 YR	1	0.072	12.050	1.07
STUDY POINT 2A	Pre-Development 2 YR	2	0.107	12.100	1.40
STUDY POINT 2A	Post-Development 2 YR	2	0.087	12.050	1.29
STUDY POINT 2A	Pre-Development 5 YR	5	0.140	12.100	1.83
STUDY POINT 2A	Post-Development 5 YR	5	0.114	12.050	1.69
STUDY POINT 2A	Pre-Development 10 YR	10	0.171	12.100	2.23
STUDY POINT 2A	Post-Development 10 YR	10	0.139	12.050	2.05
STUDY POINT 2A	Pre-Development 25 YR	25	0.217	12.050	2.82
STUDY POINT 2A	Post-Development 25 YR	25	0.177	12.050	2.59
STUDY POINT 2A	Pre-Development 50 YR	50	0.257	12.050	3.32
STUDY POINT 2A	Post-Development 50 YR	50	0.210	12.050	3.04
STUDY POINT 2A	Post-Development 100 YR	100	0.244	12.050	3.51
STUDY POINT 2A	Pre-Development 100 YR	100	0.299	12.050	3.85

Pond Summary

Elkins Subdivision Drainage

Subsection: Master Network Summary

Pond Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ac-ft)	Time to Peak (hours)	Peak Flow (ft^3/s)	Maximum Water Surface Elevation (ft)	Maximum Pond Storage (ac-ft)
PO-3 (IN)	Post-Development 1 YR	1	1.203	12.000	19.09	(N/A)	(N/A)
PO-3 (OUT)	Post-Development 1 YR	1	1.189	12.150	9.48	1.24	0.352
PO-3 (IN)	Post-Development 2 YR	2	1.413	12.000	22.31	(N/A)	(N/A)
PO-3 (OUT)	Post-Development 2 YR	2	1.397	12.150	11.47	1.42	0.406
PO-3 (IN)	Post-Development 5 YR	5	1.785	12.000	27.93	(N/A)	(N/A)
PO-3 (OUT)	Post-Development 5 YR	5	1.767	12.150	15.13	1.70	0.496
PO-3 (IN)	Post-Development 10 YR	10	2.128	12.000	33.02	(N/A)	(N/A)
PO-3 (OUT)	Post-Development 10 YR	10	2.106	12.150	18.43	1.95	0.577
PO-3 (IN)	Post-Development 25 YR	25	2.633	12.000	40.40	(N/A)	(N/A)
PO-3 (OUT)	Post-Development 25 YR	25	2.607	12.150	23.37	2.28	0.687
PO-3 (IN)	Post-Development 50 YR	50	3.058	12.000	46.53	(N/A)	(N/A)
PO-3 (OUT)	Post-Development 50 YR	50	3.029	12.150	27.43	2.54	0.778
PO-3 (IN)	Post-Development 100 YR	100	3.508	12.000	52.95	(N/A)	(N/A)
PO-3 (OUT)	Post-Development 100 YR	100	3.475	12.150	31.73	2.80	0.869

Elkins Subdivision Drainage

Subsection: Time-Depth Curve
Label: Time-Depth - 1
Scenario: Post-Development 1 YR

Return Event: 1 years
Storm Event: 1 YR

Time-Depth Curve: 1 YR	
Label	1 YR
Start Time	0.000 hours
Increment	0.100 hours
End Time	24.000 hours
Return Event	1 years

CUMULATIVE RAINFALL (in)
Output Time Increment = 0.100 hours
Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
0.000	0.0	0.0	0.0	0.0	0.0
0.500	0.0	0.0	0.0	0.0	0.0
1.000	0.0	0.0	0.0	0.0	0.1
1.500	0.1	0.1	0.1	0.1	0.1
2.000	0.1	0.1	0.1	0.1	0.1
2.500	0.1	0.1	0.1	0.1	0.1
3.000	0.1	0.1	0.1	0.1	0.1
3.500	0.1	0.1	0.2	0.2	0.2
4.000	0.2	0.2	0.2	0.2	0.2
4.500	0.2	0.2	0.2	0.2	0.2
5.000	0.2	0.2	0.2	0.2	0.2
5.500	0.2	0.3	0.3	0.3	0.3
6.000	0.3	0.3	0.3	0.3	0.3
6.500	0.3	0.3	0.3	0.3	0.3
7.000	0.3	0.4	0.4	0.4	0.4
7.500	0.4	0.4	0.4	0.4	0.4
8.000	0.4	0.4	0.4	0.4	0.5
8.500	0.5	0.5	0.5	0.5	0.5
9.000	0.5	0.5	0.5	0.5	0.6
9.500	0.6	0.6	0.6	0.6	0.6
10.000	0.6	0.6	0.7	0.7	0.7
10.500	0.7	0.7	0.8	0.8	0.8
11.000	0.8	0.8	0.9	0.9	1.0
11.500	1.0	1.1	1.2	1.5	2.0
12.000	2.3	2.4	2.4	2.5	2.5
12.500	2.6	2.6	2.6	2.7	2.7
13.000	2.7	2.7	2.7	2.8	2.8
13.500	2.8	2.8	2.8	2.8	2.9
14.000	2.9	2.9	2.9	2.9	2.9
14.500	2.9	2.9	3.0	3.0	3.0
15.000	3.0	3.0	3.0	3.0	3.0
15.500	3.0	3.0	3.1	3.1	3.1
16.000	3.1	3.1	3.1	3.1	3.1
16.500	3.1	3.1	3.1	3.1	3.1

Elkins Subdivision Drainage

Subsection: Time-Depth Curve
Label: Time-Depth - 1
Scenario: Post-Development 1 YR

Return Event: 1 years
Storm Event: 1 YR

CUMULATIVE RAINFALL (in)
Output Time Increment = 0.100 hours
Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
17.000	3.2	3.2	3.2	3.2	3.2
17.500	3.2	3.2	3.2	3.2	3.2
18.000	3.2	3.2	3.2	3.2	3.2
18.500	3.3	3.3	3.3	3.3	3.3
19.000	3.3	3.3	3.3	3.3	3.3
19.500	3.3	3.3	3.3	3.3	3.3
20.000	3.3	3.3	3.3	3.3	3.4
20.500	3.4	3.4	3.4	3.4	3.4
21.000	3.4	3.4	3.4	3.4	3.4
21.500	3.4	3.4	3.4	3.4	3.4
22.000	3.4	3.4	3.4	3.4	3.4
22.500	3.4	3.4	3.4	3.5	3.5
23.000	3.5	3.5	3.5	3.5	3.5
23.500	3.5	3.5	3.5	3.5	3.5
24.000	3.5	(N/A)	(N/A)	(N/A)	(N/A)

Elkins Subdivision Drainage

Subsection: Time-Depth Curve
Label: Time-Depth - 1
Scenario: Post-Development 10 YR

Return Event: 10 years
Storm Event: 10 YR

Time-Depth Curve: 10 YR	
Label	10 YR
Start Time	0.000 hours
Increment	0.100 hours
End Time	24.000 hours
Return Event	10 years

CUMULATIVE RAINFALL (in)
Output Time Increment = 0.100 hours
Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
0.000	0.0	0.0	0.0	0.0	0.0
0.500	0.0	0.0	0.0	0.0	0.0
1.000	0.1	0.1	0.1	0.1	0.1
1.500	0.1	0.1	0.1	0.1	0.1
2.000	0.1	0.1	0.1	0.1	0.1
2.500	0.1	0.2	0.2	0.2	0.2
3.000	0.2	0.2	0.2	0.2	0.2
3.500	0.2	0.2	0.2	0.2	0.2
4.000	0.3	0.3	0.3	0.3	0.3
4.500	0.3	0.3	0.3	0.3	0.3
5.000	0.3	0.3	0.4	0.4	0.4
5.500	0.4	0.4	0.4	0.4	0.4
6.000	0.4	0.4	0.4	0.5	0.5
6.500	0.5	0.5	0.5	0.5	0.5
7.000	0.5	0.5	0.5	0.6	0.6
7.500	0.6	0.6	0.6	0.6	0.6
8.000	0.6	0.6	0.7	0.7	0.7
8.500	0.7	0.7	0.7	0.7	0.8
9.000	0.8	0.8	0.8	0.8	0.8
9.500	0.9	0.9	0.9	0.9	0.9
10.000	1.0	1.0	1.0	1.0	1.1
10.500	1.1	1.1	1.1	1.2	1.2
11.000	1.2	1.3	1.3	1.4	1.4
11.500	1.5	1.6	1.9	2.3	3.0
12.000	3.5	3.6	3.7	3.8	3.9
12.500	3.9	3.9	4.0	4.0	4.1
13.000	4.1	4.1	4.2	4.2	4.2
13.500	4.2	4.3	4.3	4.3	4.3
14.000	4.4	4.4	4.4	4.4	4.4
14.500	4.4	4.5	4.5	4.5	4.5
15.000	4.5	4.5	4.6	4.6	4.6
15.500	4.6	4.6	4.6	4.6	4.7
16.000	4.7	4.7	4.7	4.7	4.7
16.500	4.7	4.7	4.8	4.8	4.8

Elkins Subdivision Drainage

Subsection: Time-Depth Curve
Label: Time-Depth - 1
Scenario: Post-Development 10 YR

Return Event: 10 years
Storm Event: 10 YR

CUMULATIVE RAINFALL (in)
Output Time Increment = 0.100 hours
Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
17.000	4.8	4.8	4.8	4.8	4.8
17.500	4.8	4.9	4.9	4.9	4.9
18.000	4.9	4.9	4.9	4.9	4.9
18.500	4.9	4.9	5.0	5.0	5.0
19.000	5.0	5.0	5.0	5.0	5.0
19.500	5.0	5.0	5.0	5.0	5.0
20.000	5.1	5.1	5.1	5.1	5.1
20.500	5.1	5.1	5.1	5.1	5.1
21.000	5.1	5.1	5.1	5.1	5.1
21.500	5.2	5.2	5.2	5.2	5.2
22.000	5.2	5.2	5.2	5.2	5.2
22.500	5.2	5.2	5.2	5.2	5.2
23.000	5.3	5.3	5.3	5.3	5.3
23.500	5.3	5.3	5.3	5.3	5.3
24.000	5.3	(N/A)	(N/A)	(N/A)	(N/A)

Elkins Subdivision Drainage

Subsection: Time-Depth Curve
Label: Time-Depth - 1
Scenario: Post-Development 100 YR

Return Event: 100 years
Storm Event: 100 YR

Time-Depth Curve: 100 YR	
Label	100 YR
Start Time	0.000 hours
Increment	0.100 hours
End Time	24.000 hours
Return Event	100 years

CUMULATIVE RAINFALL (in)
Output Time Increment = 0.100 hours
Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
0.000	0.0	0.0	0.0	0.0	0.0
0.500	0.0	0.0	0.1	0.1	0.1
1.000	0.1	0.1	0.1	0.1	0.1
1.500	0.1	0.1	0.1	0.2	0.2
2.000	0.2	0.2	0.2	0.2	0.2
2.500	0.2	0.2	0.2	0.3	0.3
3.000	0.3	0.3	0.3	0.3	0.3
3.500	0.3	0.3	0.3	0.4	0.4
4.000	0.4	0.4	0.4	0.4	0.4
4.500	0.4	0.4	0.5	0.5	0.5
5.000	0.5	0.5	0.5	0.5	0.6
5.500	0.6	0.6	0.6	0.6	0.6
6.000	0.6	0.6	0.7	0.7	0.7
6.500	0.7	0.7	0.7	0.8	0.8
7.000	0.8	0.8	0.8	0.8	0.8
7.500	0.9	0.9	0.9	0.9	0.9
8.000	0.9	1.0	1.0	1.0	1.0
8.500	1.0	1.1	1.1	1.1	1.1
9.000	1.2	1.2	1.2	1.2	1.3
9.500	1.3	1.3	1.3	1.4	1.4
10.000	1.4	1.5	1.5	1.5	1.6
10.500	1.6	1.7	1.7	1.8	1.8
11.000	1.9	1.9	2.0	2.1	2.1
11.500	2.2	2.4	2.8	3.4	4.5
12.000	5.2	5.4	5.5	5.6	5.7
12.500	5.8	5.9	5.9	6.0	6.1
13.000	6.1	6.2	6.2	6.2	6.3
13.500	6.3	6.4	6.4	6.4	6.5
14.000	6.5	6.5	6.5	6.6	6.6
14.500	6.6	6.7	6.7	6.7	6.7
15.000	6.8	6.8	6.8	6.8	6.8
15.500	6.9	6.9	6.9	6.9	6.9
16.000	7.0	7.0	7.0	7.0	7.0
16.500	7.0	7.1	7.1	7.1	7.1

Elkins Subdivision Drainage

Subsection: Time-Depth Curve
Label: Time-Depth - 1
Scenario: Post-Development 100 YR

Return Event: 100 years
Storm Event: 100 YR

CUMULATIVE RAINFALL (in)
Output Time Increment = 0.100 hours
Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
17.000	7.1	7.1	7.2	7.2	7.2
17.500	7.2	7.2	7.2	7.3	7.3
18.000	7.3	7.3	7.3	7.3	7.3
18.500	7.4	7.4	7.4	7.4	7.4
19.000	7.4	7.4	7.4	7.5	7.5
19.500	7.5	7.5	7.5	7.5	7.5
20.000	7.5	7.5	7.6	7.6	7.6
20.500	7.6	7.6	7.6	7.6	7.6
21.000	7.6	7.6	7.7	7.7	7.7
21.500	7.7	7.7	7.7	7.7	7.7
22.000	7.7	7.7	7.7	7.8	7.8
22.500	7.8	7.8	7.8	7.8	7.8
23.000	7.8	7.8	7.8	7.8	7.9
23.500	7.9	7.9	7.9	7.9	7.9
24.000	7.9	(N/A)	(N/A)	(N/A)	(N/A)

Elkins Subdivision Drainage

Subsection: Time-Depth Curve
Label: Time-Depth - 1
Scenario: Post-Development 2 YR

Return Event: 2 years
Storm Event: 2 YR

Time-Depth Curve: 2 YR	
Label	2 YR
Start Time	0.000 hours
Increment	0.100 hours
End Time	24.000 hours
Return Event	2 years

CUMULATIVE RAINFALL (in)
Output Time Increment = 0.100 hours
Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
0.000	0.0	0.0	0.0	0.0	0.0
0.500	0.0	0.0	0.0	0.0	0.0
1.000	0.0	0.0	0.0	0.1	0.1
1.500	0.1	0.1	0.1	0.1	0.1
2.000	0.1	0.1	0.1	0.1	0.1
2.500	0.1	0.1	0.1	0.1	0.1
3.000	0.1	0.1	0.1	0.2	0.2
3.500	0.2	0.2	0.2	0.2	0.2
4.000	0.2	0.2	0.2	0.2	0.2
4.500	0.2	0.2	0.2	0.2	0.2
5.000	0.2	0.3	0.3	0.3	0.3
5.500	0.3	0.3	0.3	0.3	0.3
6.000	0.3	0.3	0.3	0.3	0.3
6.500	0.3	0.4	0.4	0.4	0.4
7.000	0.4	0.4	0.4	0.4	0.4
7.500	0.4	0.4	0.4	0.5	0.5
8.000	0.5	0.5	0.5	0.5	0.5
8.500	0.5	0.5	0.5	0.6	0.6
9.000	0.6	0.6	0.6	0.6	0.6
9.500	0.6	0.7	0.7	0.7	0.7
10.000	0.7	0.7	0.7	0.8	0.8
10.500	0.8	0.8	0.8	0.9	0.9
11.000	0.9	1.0	1.0	1.0	1.1
11.500	1.1	1.2	1.4	1.7	2.2
12.000	2.6	2.7	2.7	2.8	2.8
12.500	2.9	2.9	2.9	3.0	3.0
13.000	3.0	3.0	3.1	3.1	3.1
13.500	3.1	3.2	3.2	3.2	3.2
14.000	3.2	3.2	3.2	3.3	3.3
14.500	3.3	3.3	3.3	3.3	3.3
15.000	3.3	3.4	3.4	3.4	3.4
15.500	3.4	3.4	3.4	3.4	3.4
16.000	3.4	3.5	3.5	3.5	3.5
16.500	3.5	3.5	3.5	3.5	3.5

Elkins Subdivision Drainage

Subsection: Time-Depth Curve
Label: Time-Depth - 1
Scenario: Post-Development 2 YR

Return Event: 2 years
Storm Event: 2 YR

CUMULATIVE RAINFALL (in)
Output Time Increment = 0.100 hours
Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
17.000	3.5	3.5	3.6	3.6	3.6
17.500	3.6	3.6	3.6	3.6	3.6
18.000	3.6	3.6	3.6	3.6	3.6
18.500	3.6	3.7	3.7	3.7	3.7
19.000	3.7	3.7	3.7	3.7	3.7
19.500	3.7	3.7	3.7	3.7	3.7
20.000	3.7	3.7	3.7	3.7	3.8
20.500	3.8	3.8	3.8	3.8	3.8
21.000	3.8	3.8	3.8	3.8	3.8
21.500	3.8	3.8	3.8	3.8	3.8
22.000	3.8	3.8	3.8	3.8	3.8
22.500	3.9	3.9	3.9	3.9	3.9
23.000	3.9	3.9	3.9	3.9	3.9
23.500	3.9	3.9	3.9	3.9	3.9
24.000	3.9	(N/A)	(N/A)	(N/A)	(N/A)

Elkins Subdivision Drainage

Subsection: Time-Depth Curve
Label: Time-Depth - 1
Scenario: Post-Development 25 YR

Return Event: 25 years
Storm Event: 25 YR

Time-Depth Curve: 25 YR	
Label	25 YR
Start Time	0.000 hours
Increment	0.100 hours
End Time	24.000 hours
Return Event	25 years

CUMULATIVE RAINFALL (in)
Output Time Increment = 0.100 hours
Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
0.000	0.0	0.0	0.0	0.0	0.0
0.500	0.0	0.0	0.0	0.1	0.1
1.000	0.1	0.1	0.1	0.1	0.1
1.500	0.1	0.1	0.1	0.1	0.1
2.000	0.1	0.1	0.2	0.2	0.2
2.500	0.2	0.2	0.2	0.2	0.2
3.000	0.2	0.2	0.2	0.2	0.2
3.500	0.3	0.3	0.3	0.3	0.3
4.000	0.3	0.3	0.3	0.3	0.3
4.500	0.3	0.4	0.4	0.4	0.4
5.000	0.4	0.4	0.4	0.4	0.4
5.500	0.4	0.5	0.5	0.5	0.5
6.000	0.5	0.5	0.5	0.5	0.5
6.500	0.6	0.6	0.6	0.6	0.6
7.000	0.6	0.6	0.6	0.7	0.7
7.500	0.7	0.7	0.7	0.7	0.7
8.000	0.8	0.8	0.8	0.8	0.8
8.500	0.8	0.8	0.9	0.9	0.9
9.000	0.9	0.9	1.0	1.0	1.0
9.500	1.0	1.0	1.1	1.1	1.1
10.000	1.1	1.2	1.2	1.2	1.2
10.500	1.3	1.3	1.3	1.4	1.4
11.000	1.5	1.5	1.6	1.6	1.7
11.500	1.8	1.9	2.2	2.7	3.6
12.000	4.2	4.3	4.4	4.5	4.5
12.500	4.6	4.7	4.7	4.8	4.8
13.000	4.8	4.9	4.9	4.9	5.0
13.500	5.0	5.0	5.1	5.1	5.1
14.000	5.1	5.2	5.2	5.2	5.2
14.500	5.3	5.3	5.3	5.3	5.3
15.000	5.4	5.4	5.4	5.4	5.4
15.500	5.4	5.5	5.5	5.5	5.5
16.000	5.5	5.5	5.5	5.6	5.6
16.500	5.6	5.6	5.6	5.6	5.6

Elkins Subdivision Drainage

Subsection: Time-Depth Curve
Label: Time-Depth - 1
Scenario: Post-Development 25 YR

Return Event: 25 years
Storm Event: 25 YR

CUMULATIVE RAINFALL (in)
Output Time Increment = 0.100 hours
Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
17.000	5.7	5.7	5.7	5.7	5.7
17.500	5.7	5.7	5.7	5.8	5.8
18.000	5.8	5.8	5.8	5.8	5.8
18.500	5.8	5.8	5.8	5.9	5.9
19.000	5.9	5.9	5.9	5.9	5.9
19.500	5.9	5.9	5.9	6.0	6.0
20.000	6.0	6.0	6.0	6.0	6.0
20.500	6.0	6.0	6.0	6.0	6.0
21.000	6.0	6.1	6.1	6.1	6.1
21.500	6.1	6.1	6.1	6.1	6.1
22.000	6.1	6.1	6.1	6.1	6.2
22.500	6.2	6.2	6.2	6.2	6.2
23.000	6.2	6.2	6.2	6.2	6.2
23.500	6.2	6.2	6.2	6.3	6.3
24.000	6.3	(N/A)	(N/A)	(N/A)	(N/A)

Elkins Subdivision Drainage

Subsection: Time-Depth Curve
Label: Time-Depth - 1
Scenario: Post-Development 5 YR

Return Event: 5 years
Storm Event: 5 YR

Time-Depth Curve: 5 YR	
Label	5 YR
Start Time	0.000 hours
Increment	0.100 hours
End Time	24.000 hours
Return Event	5 years

CUMULATIVE RAINFALL (in)
Output Time Increment = 0.100 hours
Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
0.000	0.0	0.0	0.0	0.0	0.0
0.500	0.0	0.0	0.0	0.0	0.0
1.000	0.0	0.1	0.1	0.1	0.1
1.500	0.1	0.1	0.1	0.1	0.1
2.000	0.1	0.1	0.1	0.1	0.1
2.500	0.1	0.1	0.1	0.1	0.2
3.000	0.2	0.2	0.2	0.2	0.2
3.500	0.2	0.2	0.2	0.2	0.2
4.000	0.2	0.2	0.2	0.2	0.2
4.500	0.3	0.3	0.3	0.3	0.3
5.000	0.3	0.3	0.3	0.3	0.3
5.500	0.3	0.3	0.3	0.4	0.4
6.000	0.4	0.4	0.4	0.4	0.4
6.500	0.4	0.4	0.4	0.4	0.5
7.000	0.5	0.5	0.5	0.5	0.5
7.500	0.5	0.5	0.5	0.5	0.5
8.000	0.6	0.6	0.6	0.6	0.6
8.500	0.6	0.6	0.6	0.7	0.7
9.000	0.7	0.7	0.7	0.7	0.7
9.500	0.8	0.8	0.8	0.8	0.8
10.000	0.8	0.9	0.9	0.9	0.9
10.500	0.9	1.0	1.0	1.0	1.1
11.000	1.1	1.1	1.2	1.2	1.3
11.500	1.3	1.4	1.6	2.0	2.6
12.000	3.1	3.2	3.2	3.3	3.4
12.500	3.4	3.5	3.5	3.5	3.6
13.000	3.6	3.6	3.6	3.7	3.7
13.500	3.7	3.7	3.8	3.8	3.8
14.000	3.8	3.8	3.8	3.9	3.9
14.500	3.9	3.9	3.9	3.9	4.0
15.000	4.0	4.0	4.0	4.0	4.0
15.500	4.0	4.0	4.1	4.1	4.1
16.000	4.1	4.1	4.1	4.1	4.1
16.500	4.1	4.2	4.2	4.2	4.2

Elkins Subdivision Drainage

Subsection: Time-Depth Curve
Label: Time-Depth - 1
Scenario: Post-Development 5 YR

Return Event: 5 years
Storm Event: 5 YR

CUMULATIVE RAINFALL (in)
Output Time Increment = 0.100 hours
Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
17.000	4.2	4.2	4.2	4.2	4.2
17.500	4.2	4.2	4.3	4.3	4.3
18.000	4.3	4.3	4.3	4.3	4.3
18.500	4.3	4.3	4.3	4.3	4.4
19.000	4.4	4.4	4.4	4.4	4.4
19.500	4.4	4.4	4.4	4.4	4.4
20.000	4.4	4.4	4.4	4.4	4.5
20.500	4.5	4.5	4.5	4.5	4.5
21.000	4.5	4.5	4.5	4.5	4.5
21.500	4.5	4.5	4.5	4.5	4.5
22.000	4.5	4.5	4.6	4.6	4.6
22.500	4.6	4.6	4.6	4.6	4.6
23.000	4.6	4.6	4.6	4.6	4.6
23.500	4.6	4.6	4.6	4.6	4.6
24.000	4.7	(N/A)	(N/A)	(N/A)	(N/A)

Elkins Subdivision Drainage

Subsection: Time-Depth Curve
Label: Time-Depth - 1
Scenario: Post-Development 50 YR

Return Event: 50 years
Storm Event: 50 YR

Time-Depth Curve: 50 YR	
Label	50 YR
Start Time	0.000 hours
Increment	0.100 hours
End Time	24.000 hours
Return Event	50 years

CUMULATIVE RAINFALL (in)
Output Time Increment = 0.100 hours
Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
0.000	0.0	0.0	0.0	0.0	0.0
0.500	0.0	0.0	0.1	0.1	0.1
1.000	0.1	0.1	0.1	0.1	0.1
1.500	0.1	0.1	0.1	0.1	0.1
2.000	0.2	0.2	0.2	0.2	0.2
2.500	0.2	0.2	0.2	0.2	0.2
3.000	0.2	0.3	0.3	0.3	0.3
3.500	0.3	0.3	0.3	0.3	0.3
4.000	0.3	0.3	0.4	0.4	0.4
4.500	0.4	0.4	0.4	0.4	0.4
5.000	0.4	0.5	0.5	0.5	0.5
5.500	0.5	0.5	0.5	0.5	0.6
6.000	0.6	0.6	0.6	0.6	0.6
6.500	0.6	0.6	0.7	0.7	0.7
7.000	0.7	0.7	0.7	0.7	0.8
7.500	0.8	0.8	0.8	0.8	0.8
8.000	0.8	0.9	0.9	0.9	0.9
8.500	0.9	1.0	1.0	1.0	1.0
9.000	1.0	1.1	1.1	1.1	1.1
9.500	1.2	1.2	1.2	1.2	1.3
10.000	1.3	1.3	1.3	1.4	1.4
10.500	1.4	1.5	1.5	1.6	1.6
11.000	1.7	1.7	1.8	1.8	1.9
11.500	2.0	2.2	2.5	3.0	4.0
12.000	4.7	4.8	4.9	5.0	5.1
12.500	5.2	5.3	5.3	5.4	5.4
13.000	5.5	5.5	5.5	5.6	5.6
13.500	5.6	5.7	5.7	5.7	5.8
14.000	5.8	5.8	5.8	5.9	5.9
14.500	5.9	5.9	6.0	6.0	6.0
15.000	6.0	6.1	6.1	6.1	6.1
15.500	6.1	6.2	6.2	6.2	6.2
16.000	6.2	6.2	6.3	6.3	6.3
16.500	6.3	6.3	6.3	6.3	6.4

Elkins Subdivision Drainage

Subsection: Time-Depth Curve
Label: Time-Depth - 1
Scenario: Post-Development 50 YR

Return Event: 50 years
Storm Event: 50 YR

CUMULATIVE RAINFALL (in)
Output Time Increment = 0.100 hours
Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
17.000	6.4	6.4	6.4	6.4	6.4
17.500	6.4	6.5	6.5	6.5	6.5
18.000	6.5	6.5	6.5	6.5	6.6
18.500	6.6	6.6	6.6	6.6	6.6
19.000	6.6	6.6	6.7	6.7	6.7
19.500	6.7	6.7	6.7	6.7	6.7
20.000	6.7	6.7	6.7	6.8	6.8
20.500	6.8	6.8	6.8	6.8	6.8
21.000	6.8	6.8	6.8	6.8	6.9
21.500	6.9	6.9	6.9	6.9	6.9
22.000	6.9	6.9	6.9	6.9	6.9
22.500	6.9	7.0	7.0	7.0	7.0
23.000	7.0	7.0	7.0	7.0	7.0
23.500	7.0	7.0	7.0	7.1	7.1
24.000	7.1	(N/A)	(N/A)	(N/A)	(N/A)

Elkins Subdivision Drainage

Subsection: Time of Concentration Calculations
Label: OFFSITE 1
Scenario: Post-Development 1 YR

Return Event: 1 years
Storm Event: 1 YR

Time of Concentration Results

Segment #1: TR-55 Sheet Flow	
Hydraulic Length	150.00 ft
Manning's n	0.400
Slope	0.041 ft/ft
2 Year 24 Hour Depth	3.9 in
Average Velocity	0.12 ft/s
Segment Time of Concentration	0.336 hours

Segment #2: TR-55 Shallow Concentrated Flow	
Hydraulic Length	291.00 ft
Is Paved?	False
Slope	0.150 ft/ft
Average Velocity	6.25 ft/s
Segment Time of Concentration	0.013 hours

Segment #3: TR-55 Channel Flow	
Flow Area	28.0 ft²
Hydraulic Length	1,495.00 ft
Manning's n	0.050
Slope	0.089 ft/ft
Wetted Perimeter	14.50 ft
Average Velocity	13.79 ft/s
Segment Time of Concentration	0.030 hours

Segment #4: TR-55 Channel Flow	
Flow Area	33.8 ft²
Hydraulic Length	1,085.00 ft
Manning's n	0.050
Slope	0.060 ft/ft
Wetted Perimeter	19.25 ft
Average Velocity	10.61 ft/s
Segment Time of Concentration	0.028 hours

Segment #5: TR-55 Channel Flow	
Flow Area	117.3 ft²
Hydraulic Length	2,425.00 ft
Manning's n	0.050

Segment #5: TR-55 Channel Flow	
Slope	0.020 ft/ft
Wetted Perimeter	45.15 ft
Average Velocity	7.96 ft/s
Segment Time of Concentration	0.085 hours

Segment #6: TR-55 Channel Flow	
Flow Area	110.0 ft²
Hydraulic Length	3,255.00 ft
Manning's n	0.045
Slope	0.008 ft/ft
Wetted Perimeter	34.35 ft
Average Velocity	6.43 ft/s
Segment Time of Concentration	0.141 hours

Segment #7: TR-55 Channel Flow	
Flow Area	105.0 ft²
Hydraulic Length	3,300.00 ft
Manning's n	0.040
Slope	0.005 ft/ft
Wetted Perimeter	50.50 ft
Average Velocity	4.29 ft/s
Segment Time of Concentration	0.214 hours

Time of Concentration (Composite)	
Time of Concentration (Composite)	0.846 hours

Elkins Subdivision Drainage

Subsection: Time of Concentration Calculations
Label: OFFSITE 1
Scenario: Post-Development 1 YR

Return Event: 1 years
Storm Event: 1 YR

==== SCS Channel Flow

Tc =	R = Qa / Wp V = (1.49 * (R**(2/3)) * (Sf**-0.5)) / n (Lf / V) / 3600
Where:	R= Hydraulic radius Aq= Flow area, square feet Wp= Wetted perimeter, feet V= Velocity, ft/sec Sf= Slope, ft/ft n= Manning's n Tc= Time of concentration, hours Lf= Flow length, feet

==== SCS TR-55 Shallow Concentration Flow

Tc =	Unpaved surface: V = 16.1345 * (Sf**0.5) Paved Surface: V = 20.3282 * (Sf**0.5) (Lf / V) / 3600
Where:	V= Velocity, ft/sec Sf= Slope, ft/ft Tc= Time of concentration, hours Lf= Flow length, feet

==== SCS TR-55 Sheet Flow

Tc =	(0.007 * ((n * Lf)**0.8)) / ((P**0.5) * (Sf**0.4))
Where:	Tc= Time of concentration, hours n= Manning's n Lf= Flow length, feet P= 2yr, 24hr Rain depth, inches Sf= Slope, %

Elkins Subdivision Drainage

Subsection: Time of Concentration Calculations
Label: OFFSITE 1
Scenario: Pre-Development 1 YR

Return Event: 1 years
Storm Event: 1 YR

Time of Concentration Results

Segment #1: TR-55 Sheet Flow	
Hydraulic Length	150.00 ft
Manning's n	0.400
Slope	0.041 ft/ft
2 Year 24 Hour Depth	3.9 in
Average Velocity	0.12 ft/s
Segment Time of Concentration	0.336 hours

Segment #2: TR-55 Shallow Concentrated Flow	
Hydraulic Length	291.00 ft
Is Paved?	False
Slope	0.150 ft/ft
Average Velocity	6.25 ft/s
Segment Time of Concentration	0.013 hours

Segment #3: TR-55 Channel Flow	
Flow Area	28.0 ft²
Hydraulic Length	1,495.00 ft
Manning's n	0.050
Slope	0.089 ft/ft
Wetted Perimeter	14.50 ft
Average Velocity	13.79 ft/s
Segment Time of Concentration	0.030 hours

Segment #4: TR-55 Channel Flow	
Flow Area	33.8 ft²
Hydraulic Length	1,085.00 ft
Manning's n	0.050
Slope	0.060 ft/ft
Wetted Perimeter	19.25 ft
Average Velocity	10.61 ft/s
Segment Time of Concentration	0.028 hours

Segment #5: TR-55 Channel Flow	
Flow Area	117.3 ft²
Hydraulic Length	2,425.00 ft
Manning's n	0.050

Segment #5: TR-55 Channel Flow	
Slope	0.020 ft/ft
Wetted Perimeter	45.15 ft
Average Velocity	7.96 ft/s
Segment Time of Concentration	0.085 hours

Segment #6: TR-55 Channel Flow	
Flow Area	110.0 ft²
Hydraulic Length	3,255.00 ft
Manning's n	0.045
Slope	0.008 ft/ft
Wetted Perimeter	34.35 ft
Average Velocity	6.43 ft/s
Segment Time of Concentration	0.141 hours

Segment #7: TR-55 Channel Flow	
Flow Area	105.0 ft²
Hydraulic Length	3,300.00 ft
Manning's n	0.040
Slope	0.005 ft/ft
Wetted Perimeter	50.50 ft
Average Velocity	4.29 ft/s
Segment Time of Concentration	0.214 hours

Time of Concentration (Composite)	
Time of Concentration (Composite)	0.846 hours

Elkins Subdivision Drainage

Subsection: Time of Concentration Calculations
Label: OFFSITE 1
Scenario: Pre-Development 1 YR

Return Event: 1 years
Storm Event: 1 YR

==== SCS Channel Flow

Tc = R = Qa / Wp
V = (1.49 * (R**(2/3)) * (Sf**-0.5)) / n

(Lf / V) / 3600

Where:
R= Hydraulic radius
Aq= Flow area, square feet
Wp= Wetted perimeter, feet
V= Velocity, ft/sec
Sf= Slope, ft/ft
n= Manning's n
Tc= Time of concentration, hours
Lf= Flow length, feet

==== SCS TR-55 Shallow Concentration Flow

Tc = Unpaved surface:
V = 16.1345 * (Sf**0.5)

Paved Surface:
V = 20.3282 * (Sf**0.5)

(Lf / V) / 3600

Where:
V= Velocity, ft/sec
Sf= Slope, ft/ft
Tc= Time of concentration, hours
Lf= Flow length, feet

==== SCS TR-55 Sheet Flow

Tc = (0.007 * ((n * Lf)**0.8)) / ((P**0.5) * (Sf**0.4))

Where:
Tc= Time of concentration, hours
n= Manning's n
Lf= Flow length, feet
P= 2yr, 24hr Rain depth, inches
Sf= Slope, %

Elkins Subdivision Drainage

Subsection: Time of Concentration Calculations
Label: ONSITE 1A
Scenario: Post-Development 1 YR

Return Event: 1 years
Storm Event: 1 YR

Time of Concentration Results

Segment #1: TR-55 Sheet Flow	
Hydraulic Length	35.00 ft
Manning's n	0.240
Slope	0.015 ft/ft
2 Year 24 Hour Depth	3.9 in
Average Velocity	0.09 ft/s
Segment Time of Concentration	0.104 hours

Segment #2: TR-55 Channel Flow	
Flow Area	3.3 ft²
Hydraulic Length	700.00 ft
Manning's n	0.013
Slope	0.005 ft/ft
Wetted Perimeter	13.50 ft
Average Velocity	3.14 ft/s
Segment Time of Concentration	0.062 hours

Segment #3: TR-55 Channel Flow	
Flow Area	3.1 ft²
Hydraulic Length	510.00 ft
Manning's n	0.013
Slope	0.010 ft/ft
Wetted Perimeter	6.28 ft
Average Velocity	7.16 ft/s
Segment Time of Concentration	0.020 hours

Segment #4: TR-55 Channel Flow	
Flow Area	110.0 ft²
Hydraulic Length	2,101.00 ft
Manning's n	0.040
Slope	0.005 ft/ft
Wetted Perimeter	50.50 ft
Average Velocity	4.43 ft/s
Segment Time of Concentration	0.132 hours

Time of Concentration (Composite)

Elkins Subdivision Drainage

Subsection: Time of Concentration Calculations
Label: ONSITE 1A
Scenario: Post-Development 1 YR

Return Event: 1 years
Storm Event: 1 YR

Time of Concentration (Composite)	
Time of Concentration (Composite)	0.318 hours

==== SCS Channel Flow

Tc = R = Qa / Wp
V = (1.49 * (R**(2/3)) * (Sf**-0.5)) / n

(Lf / V) / 3600

Where:
R= Hydraulic radius
Aq= Flow area, square feet
Wp= Wetted perimeter, feet
V= Velocity, ft/sec
Sf= Slope, ft/ft
n= Manning's n
Tc= Time of concentration, hours
Lf= Flow length, feet

==== SCS TR-55 Sheet Flow

Tc = (0.007 * ((n * Lf)**0.8)) / ((P**0.5) * (Sf**0.4))

Where:
Tc= Time of concentration, hours
n= Manning's n
Lf= Flow length, feet
P= 2yr, 24hr Rain depth, inches
Sf= Slope, %

Elkins Subdivision Drainage

Subsection: Time of Concentration Calculations
Label: ONSITE 1A
Scenario: Pre-Development 1 YR

Return Event: 1 years
Storm Event: 1 YR

Time of Concentration Results

Segment #1: TR-55 Sheet Flow	
Hydraulic Length	150.00 ft
Manning's n	0.240
Slope	0.007 ft/ft
2 Year 24 Hour Depth	3.9 in
Average Velocity	0.09 ft/s
Segment Time of Concentration	0.452 hours

Segment #2: TR-55 Shallow Concentrated Flow	
Hydraulic Length	1,800.00 ft
Is Paved?	False
Slope	0.012 ft/ft
Average Velocity	1.77 ft/s
Segment Time of Concentration	0.283 hours

Segment #3: TR-55 Channel Flow	
Flow Area	105.0 ft²
Hydraulic Length	445.00 ft
Manning's n	0.040
Slope	0.005 ft/ft
Wetted Perimeter	50.50 ft
Average Velocity	4.29 ft/s
Segment Time of Concentration	0.029 hours

Time of Concentration (Composite)	
Time of Concentration (Composite)	0.764 hours

Elkins Subdivision Drainage

Subsection: Time of Concentration Calculations
Label: ONSITE 1A
Scenario: Pre-Development 1 YR

Return Event: 1 years
Storm Event: 1 YR

==== SCS Channel Flow

Tc =	R = Qa / Wp
	V = (1.49 * (R**(2/3)) * (Sf**-0.5)) / n
	(Lf / V) / 3600
Where:	R= Hydraulic radius
	Aq= Flow area, square feet
	Wp= Wetted perimeter, feet
	V= Velocity, ft/sec
	Sf= Slope, ft/ft
	n= Manning's n
	Tc= Time of concentration, hours
	Lf= Flow length, feet

==== SCS TR-55 Shallow Concentration Flow

Tc =	Unpaved surface:
	V = 16.1345 * (Sf**0.5)
	Paved Surface:
	V = 20.3282 * (Sf**0.5)
	(Lf / V) / 3600
Where:	V= Velocity, ft/sec
	Sf= Slope, ft/ft
	Tc= Time of concentration, hours
	Lf= Flow length, feet

==== SCS TR-55 Sheet Flow

Tc =	(0.007 * ((n * Lf)**0.8)) / ((P**0.5) * (Sf**0.4))
Where:	Tc= Time of concentration, hours
	n= Manning's n
	Lf= Flow length, feet
	P= 2yr, 24hr Rain depth, inches
	Sf= Slope, %

Elkins Subdivision Drainage

Subsection: Time of Concentration Calculations
Label: ONSITE 1B
Scenario: Post-Development 1 YR

Return Event: 1 years
Storm Event: 1 YR

Time of Concentration Results

Segment #1: TR-55 Sheet Flow	
Hydraulic Length	50.00 ft
Manning's n	0.240
Slope	0.015 ft/ft
2 Year 24 Hour Depth	3.9 in
Average Velocity	0.10 ft/s
Segment Time of Concentration	0.138 hours

Segment #2: TR-55 Channel Flow	
Flow Area	3.3 ft²
Hydraulic Length	400.00 ft
Manning's n	0.013
Slope	0.005 ft/ft
Wetted Perimeter	13.50 ft
Average Velocity	3.14 ft/s
Segment Time of Concentration	0.035 hours

Segment #3: TR-55 Channel Flow	
Flow Area	3.1 ft²
Hydraulic Length	845.00 ft
Manning's n	0.013
Slope	0.010 ft/ft
Wetted Perimeter	6.28 ft
Average Velocity	7.22 ft/s
Segment Time of Concentration	0.033 hours

Segment #4: TR-55 Channel Flow	
Flow Area	110.0 ft²
Hydraulic Length	1,315.00 ft
Manning's n	0.040
Slope	0.005 ft/ft
Wetted Perimeter	50.50 ft
Average Velocity	4.43 ft/s
Segment Time of Concentration	0.083 hours

Time of Concentration (Composite)

Elkins Subdivision Drainage

Subsection: Time of Concentration Calculations
Label: ONSITE 1B
Scenario: Post-Development 1 YR

Return Event: 1 years
Storm Event: 1 YR

Time of Concentration (Composite)	
Time of Concentration (Composite)	0.289 hours

Elkins Subdivision Drainage

Subsection: Time of Concentration Calculations
Label: ONSITE 1B
Scenario: Post-Development 1 YR

Return Event: 1 years
Storm Event: 1 YR

==== SCS Channel Flow

Tc = R = Qa / Wp
V = (1.49 * (R**(2/3)) * (Sf**-0.5)) / n

(Lf / V) / 3600

Where:
R= Hydraulic radius
Aq= Flow area, square feet
Wp= Wetted perimeter, feet
V= Velocity, ft/sec
Sf= Slope, ft/ft
n= Manning's n
Tc= Time of concentration, hours
Lf= Flow length, feet

==== SCS TR-55 Sheet Flow

Tc = (0.007 * ((n * Lf)**0.8)) / ((P**0.5) * (Sf**0.4))

Where:
Tc= Time of concentration, hours
n= Manning's n
Lf= Flow length, feet
P= 2yr, 24hr Rain depth, inches
Sf= Slope, %

Elkins Subdivision Drainage

Subsection: Time of Concentration Calculations
Label: ONSITE 1B
Scenario: Pre-Development 1 YR

Return Event: 1 years
Storm Event: 1 YR

Time of Concentration Results

Segment #1: TR-55 Sheet Flow	
Hydraulic Length	150.00 ft
Manning's n	0.240
Slope	0.010 ft/ft
2 Year 24 Hour Depth	3.9 in
Average Velocity	0.11 ft/s
Segment Time of Concentration	0.392 hours

Segment #2: TR-55 Shallow Concentrated Flow	
Hydraulic Length	1,220.00 ft
Is Paved?	False
Slope	0.010 ft/ft
Average Velocity	1.61 ft/s
Segment Time of Concentration	0.210 hours

Segment #3: TR-55 Channel Flow	
Flow Area	105.0 ft²
Hydraulic Length	330.00 ft
Manning's n	0.040
Slope	0.005 ft/ft
Wetted Perimeter	50.50 ft
Average Velocity	4.29 ft/s
Segment Time of Concentration	0.021 hours

Time of Concentration (Composite)	
Time of Concentration (Composite)	0.624 hours

==== SCS Channel Flow

Tc = R = Qa / Wp
V = (1.49 * (R**(2/3)) * (Sf**-0.5)) / n

(Lf / V) / 3600

Where:
R= Hydraulic radius
Aq= Flow area, square feet
Wp= Wetted perimeter, feet
V= Velocity, ft/sec
Sf= Slope, ft/ft
n= Manning's n
Tc= Time of concentration, hours
Lf= Flow length, feet

==== SCS TR-55 Shallow Concentration Flow

Tc = Unpaved surface:
V = 16.1345 * (Sf**0.5)

Paved Surface:
V = 20.3282 * (Sf**0.5)

(Lf / V) / 3600

Where:
V= Velocity, ft/sec
Sf= Slope, ft/ft
Tc= Time of concentration, hours
Lf= Flow length, feet

==== SCS TR-55 Sheet Flow

Tc = (0.007 * ((n * Lf)**0.8)) / ((P**0.5) * (Sf**0.4))

Where:
Tc= Time of concentration, hours
n= Manning's n
Lf= Flow length, feet
P= 2yr, 24hr Rain depth, inches
Sf= Slope, %

Elkins Subdivision Drainage

Subsection: Time of Concentration Calculations
Label: ONSITE 2A
Scenario: Post-Development 1 YR

Return Event: 1 years
Storm Event: 1 YR

Time of Concentration Results

Segment #1: TR-55 Sheet Flow	
Hydraulic Length	80.00 ft
Manning's n	0.240
Slope	0.010 ft/ft
2 Year 24 Hour Depth	3.9 in
Average Velocity	0.09 ft/s
Segment Time of Concentration	0.238 hours

Time of Concentration (Composite)	
Time of Concentration (Composite)	0.238 hours

==== SCS Channel Flow

Tc = R = Qa / Wp
V = (1.49 * (R**(2/3)) * (Sf**-0.5)) / n

(Lf / V) / 3600

Where:
R= Hydraulic radius
Aq= Flow area, square feet
Wp= Wetted perimeter, feet
V= Velocity, ft/sec
Sf= Slope, ft/ft
n= Manning's n
Tc= Time of concentration, hours
Lf= Flow length, feet

Elkins Subdivision Drainage

Subsection: Time of Concentration Calculations
Label: ONSITE 2A
Scenario: Pre-Development 1 YR

Return Event: 1 years
Storm Event: 1 YR

Time of Concentration Results

Segment #1: TR-55 Sheet Flow	
Hydraulic Length	87.00 ft
Manning's n	0.240
Slope	0.006 ft/ft
2 Year 24 Hour Depth	3.9 in
Average Velocity	0.08 ft/s
Segment Time of Concentration	0.312 hours

Time of Concentration (Composite)	
Time of Concentration (Composite)	0.312 hours

==== SCS Channel Flow

Tc = R = Qa / Wp
V = (1.49 * (R**(2/3)) * (Sf**-0.5)) / n

(Lf / V) / 3600

Where:
R= Hydraulic radius
Aq= Flow area, square feet
Wp= Wetted perimeter, feet
V= Velocity, ft/sec
Sf= Slope, ft/ft
n= Manning's n
Tc= Time of concentration, hours
Lf= Flow length, feet

Elkins Subdivision Drainage

Subsection: Time of Concentration Calculations
Label: ONSITE 2B
Scenario: Post-Development 1 YR

Return Event: 1 years
Storm Event: 1 YR

Time of Concentration Results

Segment #1: TR-55 Sheet Flow	
Hydraulic Length	97.00 ft
Manning's n	0.240
Slope	0.047 ft/ft
2 Year 24 Hour Depth	3.9 in
Average Velocity	0.18 ft/s
Segment Time of Concentration	0.149 hours

Time of Concentration (Composite)	
Time of Concentration (Composite)	0.149 hours

Elkins Subdivision Drainage

Subsection: Time of Concentration Calculations
Label: ONSITE 2B
Scenario: Post-Development 1 YR

Return Event: 1 years
Storm Event: 1 YR

==== SCS Channel Flow

Tc = R = Qa / Wp
V = (1.49 * (R**(2/3)) * (Sf**-0.5)) / n

(Lf / V) / 3600

Where:
R= Hydraulic radius
Aq= Flow area, square feet
Wp= Wetted perimeter, feet
V= Velocity, ft/sec
Sf= Slope, ft/ft
n= Manning's n
Tc= Time of concentration, hours
Lf= Flow length, feet

Elkins Subdivision Drainage

Subsection: Time of Concentration Calculations
Label: ONSITE 2B
Scenario: Pre-Development 1 YR

Return Event: 1 years
Storm Event: 1 YR

Time of Concentration Results

Segment #1: TR-55 Sheet Flow	
Hydraulic Length	150.00 ft
Manning's n	0.240
Slope	0.011 ft/ft
2 Year 24 Hour Depth	3.9 in
Average Velocity	0.11 ft/s
Segment Time of Concentration	0.378 hours

Segment #2: TR-55 Shallow Concentrated Flow	
Hydraulic Length	95.00 ft
Is Paved?	False
Slope	0.011 ft/ft
Average Velocity	1.69 ft/s
Segment Time of Concentration	0.016 hours

Time of Concentration (Composite)	
Time of Concentration (Composite)	0.394 hours

Elkins Subdivision Drainage

Subsection: Time of Concentration Calculations
Label: ONSITE 2B
Scenario: Pre-Development 1 YR

Return Event: 1 years
Storm Event: 1 YR

==== SCS Channel Flow

Tc = R = Qa / Wp
V = (1.49 * (R**(2/3)) * (Sf**-0.5)) / n

(Lf / V) / 3600

Where:
R= Hydraulic radius
Aq= Flow area, square feet
Wp= Wetted perimeter, feet
V= Velocity, ft/sec
Sf= Slope, ft/ft
n= Manning's n
Tc= Time of concentration, hours
Lf= Flow length, feet

==== SCS TR-55 Shallow Concentration Flow

Tc = Unpaved surface:
V = 16.1345 * (Sf**0.5)

Paved Surface:
V = 20.3282 * (Sf**0.5)

(Lf / V) / 3600

Where:
V= Velocity, ft/sec
Sf= Slope, ft/ft
Tc= Time of concentration, hours
Lf= Flow length, feet

Elkins Subdivision Drainage

Subsection: Time of Concentration Calculations
Label: ONSITE 2C
Scenario: Post-Development 1 YR

Return Event: 1 years
Storm Event: 1 YR

Time of Concentration Results

Segment #1: TR-55 Sheet Flow	
Hydraulic Length	45.00 ft
Manning's n	0.240
Slope	0.015 ft/ft
2 Year 24 Hour Depth	3.9 in
Average Velocity	0.10 ft/s
Segment Time of Concentration	0.127 hours

Segment #2: TR-55 Channel Flow	
Flow Area	3.3 ft²
Hydraulic Length	485.00 ft
Manning's n	0.013
Slope	0.005 ft/ft
Wetted Perimeter	13.50 ft
Average Velocity	3.17 ft/s
Segment Time of Concentration	0.043 hours

Segment #3: TR-55 Channel Flow	
Flow Area	3.1 ft²
Hydraulic Length	395.00 ft
Manning's n	0.013
Slope	0.010 ft/ft
Wetted Perimeter	6.28 ft
Average Velocity	7.22 ft/s
Segment Time of Concentration	0.015 hours

Time of Concentration (Composite)	
Time of Concentration (Composite)	0.185 hours

Elkins Subdivision Drainage

Subsection: Time of Concentration Calculations
Label: ONSITE 2C
Scenario: Post-Development 1 YR

Return Event: 1 years
Storm Event: 1 YR

==== SCS Channel Flow

Tc = R = Qa / Wp
V = (1.49 * (R**(2/3)) * (Sf**-0.5)) / n

(Lf / V) / 3600

Where:
R= Hydraulic radius
Aq= Flow area, square feet
Wp= Wetted perimeter, feet
V= Velocity, ft/sec
Sf= Slope, ft/ft
n= Manning's n
Tc= Time of concentration, hours
Lf= Flow length, feet

==== SCS TR-55 Sheet Flow

Tc = (0.007 * ((n * Lf)**0.8)) / ((P**0.5) * (Sf**0.4))

Where:
Tc= Time of concentration, hours
n= Manning's n
Lf= Flow length, feet
P= 2yr, 24hr Rain depth, inches
Sf= Slope, %

Elkins Subdivision Drainage

Subsection: Time of Concentration Calculations
Label: ONSITE 2C
Scenario: Pre-Development 1 YR

Return Event: 1 years
Storm Event: 1 YR

Time of Concentration Results

Segment #1: TR-55 Sheet Flow	
Hydraulic Length	150.00 ft
Manning's n	0.240
Slope	0.008 ft/ft
2 Year 24 Hour Depth	3.9 in
Average Velocity	0.10 ft/s
Segment Time of Concentration	0.429 hours

Segment #2: TR-55 Shallow Concentrated Flow	
Hydraulic Length	545.00 ft
Is Paved?	False
Slope	0.007 ft/ft
Average Velocity	1.35 ft/s
Segment Time of Concentration	0.112 hours

Segment #3: TR-55 Channel Flow	
Flow Area	60.0 ft²
Hydraulic Length	238.00 ft
Manning's n	0.045
Slope	0.005 ft/ft
Wetted Perimeter	40.00 ft
Average Velocity	3.07 ft/s
Segment Time of Concentration	0.022 hours

Time of Concentration (Composite)	
Time of Concentration (Composite)	0.563 hours

Elkins Subdivision Drainage

Subsection: Time of Concentration Calculations
Label: ONSITE 2C
Scenario: Pre-Development 1 YR

Return Event: 1 years
Storm Event: 1 YR

==== SCS Channel Flow

Tc = R = Qa / Wp
V = (1.49 * (R**(2/3)) * (Sf**-0.5)) / n

(Lf / V) / 3600

Where:
R= Hydraulic radius
Aq= Flow area, square feet
Wp= Wetted perimeter, feet
V= Velocity, ft/sec
Sf= Slope, ft/ft
n= Manning's n
Tc= Time of concentration, hours
Lf= Flow length, feet

==== SCS TR-55 Shallow Concentration Flow

Tc = Unpaved surface:
V = 16.1345 * (Sf**0.5)

Paved Surface:
V = 20.3282 * (Sf**0.5)

(Lf / V) / 3600

Where:
V= Velocity, ft/sec
Sf= Slope, ft/ft
Tc= Time of concentration, hours
Lf= Flow length, feet

==== SCS TR-55 Sheet Flow

Tc = (0.007 * ((n * Lf)**0.8)) / ((P**0.5) * (Sf**0.4))

Where:
Tc= Time of concentration, hours
n= Manning's n
Lf= Flow length, feet
P= 2yr, 24hr Rain depth, inches
Sf= Slope, %

Elkins Subdivision Drainage

Subsection: Time of Concentration Calculations
Label: ONSITE 3A
Scenario: Post-Development 1 YR

Return Event: 1 years
Storm Event: 1 YR

Time of Concentration Results

Segment #1: TR-55 Sheet Flow	
Hydraulic Length	89.00 ft
Manning's n	0.240
Slope	0.058 ft/ft
2 Year 24 Hour Depth	3.9 in
Average Velocity	0.19 ft/s
Segment Time of Concentration	0.128 hours

Time of Concentration (Composite)	
Time of Concentration (Composite)	0.128 hours

==== SCS Channel Flow

Tc = R = Qa / Wp
V = (1.49 * (R**(2/3)) * (Sf**-0.5)) / n

(Lf / V) / 3600

Where:
R= Hydraulic radius
Aq= Flow area, square feet
Wp= Wetted perimeter, feet
V= Velocity, ft/sec
Sf= Slope, ft/ft
n= Manning's n
Tc= Time of concentration, hours
Lf= Flow length, feet

Elkins Subdivision Drainage

Subsection: Time of Concentration Calculations
Label: ONSITE 3A
Scenario: Pre-Development 1 YR

Return Event: 1 years
Storm Event: 1 YR

Time of Concentration Results

Segment #1: TR-55 Sheet Flow	
Hydraulic Length	145.00 ft
Manning's n	0.240
Slope	0.022 ft/ft
2 Year 24 Hour Depth	3.9 in
Average Velocity	0.14 ft/s
Segment Time of Concentration	0.279 hours

Time of Concentration (Composite)	
Time of Concentration (Composite)	0.279 hours

Elkins Subdivision Drainage

Subsection: Time of Concentration Calculations
Label: ONSITE 3A
Scenario: Pre-Development 1 YR

Return Event: 1 years
Storm Event: 1 YR

==== SCS Channel Flow

Tc = R = Qa / Wp
V = (1.49 * (R**(2/3)) * (Sf**-0.5)) / n

(Lf / V) / 3600

Where:
R= Hydraulic radius
Aq= Flow area, square feet
Wp= Wetted perimeter, feet
V= Velocity, ft/sec
Sf= Slope, ft/ft
n= Manning's n
Tc= Time of concentration, hours
Lf= Flow length, feet

Elkins Subdivision Drainage

Subsection: Time of Concentration Calculations
Label: ONSITE 3B
Scenario: Post-Development 1 YR

Return Event: 1 years
Storm Event: 1 YR

Time of Concentration Results

Segment #1: TR-55 Sheet Flow	
Hydraulic Length	142.00 ft
Manning's n	0.240
Slope	0.010 ft/ft
2 Year 24 Hour Depth	3.9 in
Average Velocity	0.11 ft/s
Segment Time of Concentration	0.375 hours

Segment #2: TR-55 Shallow Concentrated Flow	
Hydraulic Length	100.00 ft
Is Paved?	False
Slope	0.010 ft/ft
Average Velocity	1.61 ft/s
Segment Time of Concentration	0.017 hours

Segment #3: TR-55 Channel Flow	
Flow Area	3.3 ft²
Hydraulic Length	75.00 ft
Manning's n	0.013
Slope	0.040 ft/ft
Wetted Perimeter	13.30 ft
Average Velocity	9.05 ft/s
Segment Time of Concentration	0.002 hours

Segment #4: TR-55 Channel Flow	
Flow Area	60.0 ft²
Hydraulic Length	200.00 ft
Manning's n	0.040
Slope	0.005 ft/ft
Wetted Perimeter	24.50 ft
Average Velocity	4.79 ft/s
Segment Time of Concentration	0.012 hours

Time of Concentration (Composite)	
Time of Concentration (Composite)	0.406 hours

==== SCS Channel Flow

Tc = R = Qa / Wp
V = (1.49 * (R**(2/3)) * (Sf**-0.5)) / n

(Lf / V) / 3600

Where:
R= Hydraulic radius
Aq= Flow area, square feet
Wp= Wetted perimeter, feet
V= Velocity, ft/sec
Sf= Slope, ft/ft
n= Manning's n
Tc= Time of concentration, hours
Lf= Flow length, feet

==== SCS TR-55 Shallow Concentration Flow

Tc = Unpaved surface:
V = 16.1345 * (Sf**0.5)

Paved Surface:
V = 20.3282 * (Sf**0.5)

(Lf / V) / 3600

Where:
V= Velocity, ft/sec
Sf= Slope, ft/ft
Tc= Time of concentration, hours
Lf= Flow length, feet

==== SCS TR-55 Sheet Flow

Tc = (0.007 * ((n * Lf)**0.8)) / ((P**0.5) * (Sf**0.4))

Where:
Tc= Time of concentration, hours
n= Manning's n
Lf= Flow length, feet
P= 2yr, 24hr Rain depth, inches
Sf= Slope, %

Elkins Subdivision Drainage

Subsection: Time of Concentration Calculations
Label: ONSITE 3B
Scenario: Pre-Development 1 YR

Return Event: 1 years
Storm Event: 1 YR

Time of Concentration Results

Segment #1: TR-55 Sheet Flow	
Hydraulic Length	150.00 ft
Manning's n	0.240
Slope	0.006 ft/ft
2 Year 24 Hour Depth	3.9 in
Average Velocity	0.09 ft/s
Segment Time of Concentration	0.481 hours

Segment #2: TR-55 Shallow Concentrated Flow	
Hydraulic Length	305.00 ft
Is Paved?	False
Slope	0.015 ft/ft
Average Velocity	1.98 ft/s
Segment Time of Concentration	0.043 hours

Segment #3: TR-55 Channel Flow	
Flow Area	60.0 ft²
Hydraulic Length	310.00 ft
Manning's n	0.040
Slope	0.005 ft/ft
Wetted Perimeter	24.50 ft
Average Velocity	4.79 ft/s
Segment Time of Concentration	0.018 hours

Time of Concentration (Composite)	
Time of Concentration (Composite)	0.542 hours

==== SCS Channel Flow

Tc =	R = Qa / Wp
	V = (1.49 * (R**(2/3)) * (Sf**-0.5)) / n
	(Lf / V) / 3600
Where:	R= Hydraulic radius
	Aq= Flow area, square feet
	Wp= Wetted perimeter, feet
	V= Velocity, ft/sec
	Sf= Slope, ft/ft
	n= Manning's n
	Tc= Time of concentration, hours
	Lf= Flow length, feet

==== SCS TR-55 Shallow Concentration Flow

Tc =	Unpaved surface:
	V = 16.1345 * (Sf**0.5)
	Paved Surface:
	V = 20.3282 * (Sf**0.5)
	(Lf / V) / 3600
Where:	V= Velocity, ft/sec
	Sf= Slope, ft/ft
	Tc= Time of concentration, hours
	Lf= Flow length, feet

==== SCS TR-55 Sheet Flow

Tc =	(0.007 * ((n * Lf)**0.8)) / ((P**0.5) * (Sf**0.4))
Where:	Tc= Time of concentration, hours
	n= Manning's n
	Lf= Flow length, feet
	P= 2yr, 24hr Rain depth, inches
	Sf= Slope, %

Elkins Subdivision Drainage

Subsection: Time of Concentration Calculations
Label: ONSITE 4
Scenario: Post-Development 1 YR

Return Event: 1 years
Storm Event: 1 YR

Time of Concentration Results

Segment #1: TR-55 Sheet Flow	
Hydraulic Length	150.00 ft
Manning's n	0.240
Slope	0.005 ft/ft
2 Year 24 Hour Depth	3.9 in
Average Velocity	0.08 ft/s
Segment Time of Concentration	0.517 hours

Segment #2: TR-55 Shallow Concentrated Flow	
Hydraulic Length	610.00 ft
Is Paved?	False
Slope	0.008 ft/ft
Average Velocity	1.44 ft/s
Segment Time of Concentration	0.117 hours

Segment #3: TR-55 Channel Flow	
Flow Area	24.0 ft²
Hydraulic Length	925.00 ft
Manning's n	0.040
Slope	0.010 ft/ft
Wetted Perimeter	24.00 ft
Average Velocity	3.73 ft/s
Segment Time of Concentration	0.069 hours

Time of Concentration (Composite)	
Time of Concentration (Composite)	0.704 hours

==== SCS Channel Flow

Tc = R = Qa / Wp
V = (1.49 * (R**(2/3)) * (Sf**-0.5)) / n

(Lf / V) / 3600

Where:
R= Hydraulic radius
Aq= Flow area, square feet
Wp= Wetted perimeter, feet
V= Velocity, ft/sec
Sf= Slope, ft/ft
n= Manning's n
Tc= Time of concentration, hours
Lf= Flow length, feet

==== SCS TR-55 Shallow Concentration Flow

Tc = Unpaved surface:
V = 16.1345 * (Sf**0.5)

Paved Surface:
V = 20.3282 * (Sf**0.5)

(Lf / V) / 3600

Where:
V= Velocity, ft/sec
Sf= Slope, ft/ft
Tc= Time of concentration, hours
Lf= Flow length, feet

==== SCS TR-55 Sheet Flow

Tc = (0.007 * ((n * Lf)**0.8)) / ((P**0.5) * (Sf**0.4))

Where:
Tc= Time of concentration, hours
n= Manning's n
Lf= Flow length, feet
P= 2yr, 24hr Rain depth, inches
Sf= Slope, %

Elkins Subdivision Drainage

Subsection: Time of Concentration Calculations
Label: ONSITE 4
Scenario: Pre-Development 1 YR

Return Event: 1 years
Storm Event: 1 YR

Time of Concentration Results

Segment #1: TR-55 Sheet Flow	
Hydraulic Length	150.00 ft
Manning's n	0.240
Slope	0.005 ft/ft
2 Year 24 Hour Depth	3.9 in
Average Velocity	0.08 ft/s
Segment Time of Concentration	0.517 hours

Segment #2: TR-55 Shallow Concentrated Flow	
Hydraulic Length	610.00 ft
Is Paved?	False
Slope	0.008 ft/ft
Average Velocity	1.44 ft/s
Segment Time of Concentration	0.117 hours

Segment #3: TR-55 Channel Flow	
Flow Area	24.0 ft²
Hydraulic Length	925.00 ft
Manning's n	0.040
Slope	0.010 ft/ft
Wetted Perimeter	24.00 ft
Average Velocity	3.73 ft/s
Segment Time of Concentration	0.069 hours

Time of Concentration (Composite)	
Time of Concentration (Composite)	0.704 hours

==== SCS Channel Flow

Tc = R = Qa / Wp
V = (1.49 * (R**(2/3)) * (Sf**-0.5)) / n

(Lf / V) / 3600

Where:
R= Hydraulic radius
Aq= Flow area, square feet
Wp= Wetted perimeter, feet
V= Velocity, ft/sec
Sf= Slope, ft/ft
n= Manning's n
Tc= Time of concentration, hours
Lf= Flow length, feet

==== SCS TR-55 Shallow Concentration Flow

Tc = Unpaved surface:
V = 16.1345 * (Sf**0.5)

Paved Surface:
V = 20.3282 * (Sf**0.5)

(Lf / V) / 3600

Where:
V= Velocity, ft/sec
Sf= Slope, ft/ft
Tc= Time of concentration, hours
Lf= Flow length, feet

==== SCS TR-55 Sheet Flow

Tc = (0.007 * ((n * Lf)**0.8)) / ((P**0.5) * (Sf**0.4))

Where:
Tc= Time of concentration, hours
n= Manning's n
Lf= Flow length, feet
P= 2yr, 24hr Rain depth, inches
Sf= Slope, %

Elkins Subdivision Drainage

Subsection: Runoff CN-Area
Label: OFFSITE 1
Scenario: Post-Development 1 YR

Return Event: 1 years
Storm Event: 1 YR

Runoff Curve Number Data

Soil/Surface Description	CN	Area (acres)	C (%)	UC (%)	Adjusted CN
woods	77.000	501.290	0.0	0.0	77.000
meadow	80.000	364.600	0.0	0.0	80.000
ex residential	87.000	84.547	0.0	0.0	87.000
COMPOSITE AREA & WEIGHTED CN --->	(N/A)	950.437	(N/A)	(N/A)	79.040

Elkins Subdivision Drainage

Subsection: Runoff CN-Area
Label: OFFSITE 1
Scenario: Pre-Development 1 YR

Return Event: 1 years
Storm Event: 1 YR

Runoff Curve Number Data

Soil/Surface Description	CN	Area (acres)	C (%)	UC (%)	Adjusted CN
woods	77.000	501.290	0.0	0.0	77.000
meadow	80.000	364.600	0.0	0.0	80.000
ex residential	87.000	84.547	0.0	0.0	87.000
COMPOSITE AREA & WEIGHTED CN --->	(N/A)	950.437	(N/A)	(N/A)	79.040

Elkins Subdivision Drainage

Subsection: Runoff CN-Area
Label: ONSITE 1A
Scenario: Post-Development 1 YR

Return Event: 1 years
Storm Event: 1 YR

Runoff Curve Number Data

Soil/Surface Description	CN	Area (acres)	C (%)	UC (%)	Adjusted CN
meadow	80.000	5.916	0.0	0.0	80.000
RESIDENTIAL	87.000	49.137	0.0	0.0	87.000
COMPOSITE AREA & WEIGHTED CN --->	(N/A)	55.053	(N/A)	(N/A)	86.248

Elkins Subdivision Drainage

Subsection: Runoff CN-Area
Label: ONSITE 1B
Scenario: Post-Development 1 YR

Return Event: 1 years
Storm Event: 1 YR

Runoff Curve Number Data

Soil/Surface Description	CN	Area (acres)	C (%)	UC (%)	Adjusted CN
residential	87.000	22.231	0.0	0.0	87.000
meadow	80.000	3.307	0.0	0.0	80.000
COMPOSITE AREA & WEIGHTED CN --->	(N/A)	25.538	(N/A)	(N/A)	86.094

Elkins Subdivision Drainage

Subsection: Runoff CN-Area
Label: ONSITE 3B
Scenario: Post-Development 1 YR

Return Event: 1 years
Storm Event: 1 YR

Runoff Curve Number Data

Soil/Surface Description	CN	Area (acres)	C (%)	UC (%)	Adjusted CN
residential	87.000	1.780	0.0	0.0	87.000
roads	93.000	0.300	0.0	0.0	93.000
COMPOSITE AREA & WEIGHTED CN --->	(N/A)	2.080	(N/A)	(N/A)	87.865

Elkins Subdivision Drainage

Subsection: Runoff CN-Area
Label: ONSITE 3B
Scenario: Pre-Development 1 YR

Return Event: 1 years
Storm Event: 1 YR

Runoff Curve Number Data

Soil/Surface Description	CN	Area (acres)	C (%)	UC (%)	Adjusted CN
meadow	80.000	3.050	0.0	0.0	80.000
roads	93.000	0.270	0.0	0.0	93.000
COMPOSITE AREA & WEIGHTED CN --->	(N/A)	3.320	(N/A)	(N/A)	81.057

Elkins Subdivision Drainage

Subsection: Runoff CN-Area
Label: ONSITE 4
Scenario: Post-Development 1 YR

Return Event: 1 years
Storm Event: 1 YR

Runoff Curve Number Data

Soil/Surface Description	CN	Area (acres)	C (%)	UC (%)	Adjusted CN
OPEN SPACE	84.000	2.659	0.0	0.0	84.000
meadow	80.000	6.397	0.0	0.0	80.000
COMPOSITE AREA & WEIGHTED CN --->	(N/A)	9.056	(N/A)	(N/A)	81.174

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Equations

Unit Hydrograph Method (Computational Notes)

Definition of Terms

At	Total area (acres): At = Ai+Ap
Ai	Impervious area (acres)
Ap	Pervious area (acres)
CNi	Runoff curve number for impervious area
CNp	Runoff curve number for pervious area
fLoss	f loss constant infiltration (depth/time)
gKs	Saturated Hydraulic Conductivity (depth/time)
Md	Volumetric Moisture Deficit
Psi	Capillary Suction (length)
hK	Horton Infiltration Decay Rate (time^-1)
fo	Initial Infiltration Rate (depth/time)
fc	Ultimate(capacity)Infiltration Rate (depth/time)
Ia	Initial Abstraction (length)
dt	Computational increment (duration of unit excess rainfall) Default dt is smallest value of 0.1333Tc, rtm, and th (Smallest dt is then adjusted to match up with Tp)
UDdt	User specified override computational main time increment (only used if UDdt is => .1333Tc)
D(t)	Point on distribution curve (fraction of P) for time step t
K	2 / (1 + (Tr/Tp)): default K = 0.75: (for Tr/Tp = 1.67)
Ks	Hydrograph shape factor = Unit Conversions * K: = ((1hr/3600sec) * (1ft/12in) * ((5280ft)**2/sq.mi)) * K Default Ks = 645.333 * 0.75 = 484
Lag	Lag time from center of excess runoff (dt) to Tp: Lag = 0.6Tc
P	Total precipitation depth, inches
Pa(t)	Accumulated rainfall at time step t
Pi(t)	Incremental rainfall at time step t
qp	Peak discharge (cfs) for 1in. runoff, for 1hr, for 1 sq.mi. = (Ks * A * Q) / Tp (where Q = 1in. runoff, A=sq.mi.)
Qu(t)	Unit hydrograph ordinate (cfs) at time step t
Q(t)	Final hydrograph ordinate (cfs) at time step t
Rai(t)	Accumulated runoff (inches) at time step t for impervious area
Rap(t)	Accumulated runoff (inches) at time step t for pervious area
Rii(t)	Incremental runoff (inches) at time step t for impervious area
Rip(t)	Incremental runoff (inches) at time step t for pervious area
R(t)	Incremental weighted total runoff (inches)
Rtm	Time increment for rainfall table
Si	S for impervious area: Si = (1000/CNi) - 10
Sp	S for pervious area: Sp = (1000/CNp) - 10
t	Time step (row) number
Tc	Time of concentration
Tb	Time (hrs) of entire unit hydrograph: Tb = Tp + Tr
Tp	Time (hrs) to peak of a unit hydrograph: Tp = (dt/2) + Lag
Tr	Time (hrs) of receding limb of unit hydrograph: Tr = ratio of Tp

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Equations

Unit Hydrograph Method
Computational Notes
Precipitation

Column (1)	Time for time step t
Column (2)	D(t) = Point on distribution curve for time step t
Column (3)	Pi(t) = Pa(t) - Pa(t-1): Col.(4) - Preceding Col.(4)
Column (4)	Pa(t) = D(t) x P: Col.(2) x P

Pervious Area Runoff (using SCS Runoff CN Method)

Column (5)	Rap(t) = Accumulated pervious runoff for time step t
	If (Pa(t) is <= 0.2Sp) then use: Rap(t) = 0.0
	If (Pa(t) is > 0.2Sp) then use:
	
	Rap(t) = (Col.(4)-0.2Sp)**2 / (Col.(4)+0.8Sp)

Column (6)	Rip(t) = Incremental pervious runoff for time step t Rip(t) = Rap(t) - Rap(t-1) Rip(t) = Col.(5) for current row - Col.(5) for preceding row.

Impervious Area Runoff

Column (7 & 8)...	Did not specify to use impervious areas.

Incremental Weighted Runoff

Column (9)	R(t) = (Ap/At) x Rip(t) + (Ai/At) x Rii(t) R(t) = (Ap/At) x Col.(6) + (Ai/At) x Col.(8)

SCS Unit Hydrograph Method

Column (10)	Q(t) is computed with the SCS unit hydrograph method using R(t) and Qu(t).

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: OFFSITE 1
Scenario: Post-Development 1 YR

Return Event: 1 years
Storm Event: 1 YR

Storm Event	1 YR
Return Event	1 years
Duration	24.000 hours
Depth	3.5 in
Time of Concentration (Composite)	0.846 hours
Area (User Defined)	950.437 acres

Computational Time Increment	0.113 hours
Time to Peak (Computed)	12.406 hours
Flow (Peak, Computed)	871.24 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.400 hours
Flow (Peak Interpolated Output)	868.48 ft³/s

Drainage Area	
SCS CN (Composite)	79.000
Area (User Defined)	950.437 acres
Maximum Retention (Pervious)	2.7 in
Maximum Retention (Pervious, 20 percent)	0.5 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	1.6 in
Runoff Volume (Pervious)	124.033 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	122.408 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.846 hours
Computational Time Increment	0.113 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: OFFSITE 1
Scenario: Post-Development 1 YR

Return Event: 1 years
Storm Event: 1 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	1,273.15 ft³/s
Unit peak time, Tp	0.564 hours
Unit receding limb, Tr	2.256 hours
Total unit time, Tb	2.819 hours

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: OFFSITE 1
Scenario: Pre-Development 1 YR

Return Event: 1 years
Storm Event: 1 YR

Storm Event	1 YR
Return Event	1 years
Duration	24.000 hours
Depth	3.5 in
Time of Concentration (Composite)	0.846 hours
Area (User Defined)	950.437 acres

Computational Time Increment	0.113 hours
Time to Peak (Computed)	12.406 hours
Flow (Peak, Computed)	871.24 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.400 hours
Flow (Peak Interpolated Output)	868.48 ft³/s

Drainage Area	
SCS CN (Composite)	79.000
Area (User Defined)	950.437 acres
Maximum Retention (Pervious)	2.7 in
Maximum Retention (Pervious, 20 percent)	0.5 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	1.6 in
Runoff Volume (Pervious)	124.033 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	122.408 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.846 hours
Computational Time Increment	0.113 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: OFFSITE 1
Scenario: Pre-Development 1 YR

Return Event: 1 years
Storm Event: 1 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	1,273.15 ft³/s
Unit peak time, Tp	0.564 hours
Unit receding limb, Tr	2.256 hours
Total unit time, Tb	2.819 hours

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: OFFSITE 1
Scenario: Post-Development 2 YR

Return Event: 2 years
Storm Event: 2 YR

Storm Event	2 YR
Return Event	2 years
Duration	24.000 hours
Depth	3.9 in
Time of Concentration (Composite)	0.846 hours
Area (User Defined)	950.437 acres

Computational Time Increment	0.113 hours
Time to Peak (Computed)	12.406 hours
Flow (Peak, Computed)	1,066.49 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.400 hours
Flow (Peak Interpolated Output)	1,063.41 ft³/s

Drainage Area	
SCS CN (Composite)	79.000
Area (User Defined)	950.437 acres
Maximum Retention (Pervious)	2.7 in
Maximum Retention (Pervious, 20 percent)	0.5 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	1.9 in
Runoff Volume (Pervious)	150.389 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	148.499 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.846 hours
Computational Time Increment	0.113 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: OFFSITE 1
Scenario: Post-Development 2 YR

Return Event: 2 years
Storm Event: 2 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	1,273.15 ft³/s
Unit peak time, Tp	0.564 hours
Unit receding limb, Tr	2.256 hours
Total unit time, Tb	2.819 hours

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: OFFSITE 1
Scenario: Pre-Development 2 YR

Return Event: 2 years
Storm Event: 2 YR

Storm Event	2 YR
Return Event	2 years
Duration	24.000 hours
Depth	3.9 in
Time of Concentration (Composite)	0.846 hours
Area (User Defined)	950.437 acres

Computational Time Increment	0.113 hours
Time to Peak (Computed)	12.406 hours
Flow (Peak, Computed)	1,066.49 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.400 hours
Flow (Peak Interpolated Output)	1,063.41 ft³/s

Drainage Area	
SCS CN (Composite)	79.000
Area (User Defined)	950.437 acres
Maximum Retention (Pervious)	2.7 in
Maximum Retention (Pervious, 20 percent)	0.5 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	1.9 in
Runoff Volume (Pervious)	150.389 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	148.499 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.846 hours
Computational Time Increment	0.113 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: OFFSITE 1
Scenario: Pre-Development 2 YR

Return Event: 2 years
Storm Event: 2 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	1,273.15 ft³/s
Unit peak time, Tp	0.564 hours
Unit receding limb, Tr	2.256 hours
Total unit time, Tb	2.819 hours

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: OFFSITE 1
Scenario: Post-Development 5 YR

Return Event: 5 years
Storm Event: 5 YR

Storm Event	5 YR
Return Event	5 years
Duration	24.000 hours
Depth	4.7 in
Time of Concentration (Composite)	0.846 hours
Area (User Defined)	950.437 acres

Computational Time Increment	0.113 hours
Time to Peak (Computed)	12.406 hours
Flow (Peak, Computed)	1,418.31 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.400 hours
Flow (Peak Interpolated Output)	1,414.70 ft³/s

Drainage Area	
SCS CN (Composite)	79.000
Area (User Defined)	950.437 acres
Maximum Retention (Pervious)	2.7 in
Maximum Retention (Pervious, 20 percent)	0.5 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	2.5 in
Runoff Volume (Pervious)	198.237 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	195.885 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.846 hours
Computational Time Increment	0.113 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: OFFSITE 1
Scenario: Post-Development 5 YR

Return Event: 5 years
Storm Event: 5 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	1,273.15 ft³/s
Unit peak time, Tp	0.564 hours
Unit receding limb, Tr	2.256 hours
Total unit time, Tb	2.819 hours

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: OFFSITE 1
Scenario: Pre-Development 5 YR

Return Event: 5 years
Storm Event: 5 YR

Storm Event	5 YR
Return Event	5 years
Duration	24.000 hours
Depth	4.7 in
Time of Concentration (Composite)	0.846 hours
Area (User Defined)	950.437 acres

Computational Time Increment	0.113 hours
Time to Peak (Computed)	12.406 hours
Flow (Peak, Computed)	1,418.31 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.400 hours
Flow (Peak Interpolated Output)	1,414.70 ft³/s

Drainage Area	
SCS CN (Composite)	79.000
Area (User Defined)	950.437 acres
Maximum Retention (Pervious)	2.7 in
Maximum Retention (Pervious, 20 percent)	0.5 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	2.5 in
Runoff Volume (Pervious)	198.237 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	195.885 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.846 hours
Computational Time Increment	0.113 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: OFFSITE 1
Scenario: Pre-Development 5 YR

Return Event: 5 years
Storm Event: 5 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	1,273.15 ft³/s
Unit peak time, Tp	0.564 hours
Unit receding limb, Tr	2.256 hours
Total unit time, Tb	2.819 hours

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: OFFSITE 1
Scenario: Post-Development 10 YR

Return Event: 10 years
Storm Event: 10 YR

Storm Event	10 YR
Return Event	10 years
Duration	24.000 hours
Depth	5.3 in
Time of Concentration (Composite)	0.846 hours
Area (User Defined)	950.437 acres

Computational Time Increment	0.113 hours
Time to Peak (Computed)	12.406 hours
Flow (Peak, Computed)	1,745.72 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.400 hours
Flow (Peak Interpolated Output)	1,741.68 ft³/s

Drainage Area	
SCS CN (Composite)	79.000
Area (User Defined)	950.437 acres
Maximum Retention (Pervious)	2.7 in
Maximum Retention (Pervious, 20 percent)	0.5 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	3.1 in
Runoff Volume (Pervious)	243.182 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	240.412 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.846 hours
Computational Time Increment	0.113 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: OFFSITE 1
Scenario: Post-Development 10 YR

Return Event: 10 years
Storm Event: 10 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	1,273.15 ft³/s
Unit peak time, Tp	0.564 hours
Unit receding limb, Tr	2.256 hours
Total unit time, Tb	2.819 hours

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: OFFSITE 1
Scenario: Pre-Development 10 YR

Return Event: 10 years
Storm Event: 10 YR

Storm Event	10 YR
Return Event	10 years
Duration	24.000 hours
Depth	5.3 in
Time of Concentration (Composite)	0.846 hours
Area (User Defined)	950.437 acres

Computational Time Increment	0.113 hours
Time to Peak (Computed)	12.406 hours
Flow (Peak, Computed)	1,745.72 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.400 hours
Flow (Peak Interpolated Output)	1,741.68 ft³/s

Drainage Area	
SCS CN (Composite)	79.000
Area (User Defined)	950.437 acres
Maximum Retention (Pervious)	2.7 in
Maximum Retention (Pervious, 20 percent)	0.5 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	3.1 in
Runoff Volume (Pervious)	243.182 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	240.412 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.846 hours
Computational Time Increment	0.113 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: OFFSITE 1
Scenario: Pre-Development 10 YR

Return Event: 10 years
Storm Event: 10 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	1,273.15 ft³/s
Unit peak time, Tp	0.564 hours
Unit receding limb, Tr	2.256 hours
Total unit time, Tb	2.819 hours

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: OFFSITE 1
Scenario: Post-Development 25 YR

Return Event: 25 years
Storm Event: 25 YR

Storm Event	25 YR
Return Event	25 years
Duration	24.000 hours
Depth	6.3 in
Time of Concentration (Composite)	0.846 hours
Area (User Defined)	950.437 acres

Computational Time Increment	0.113 hours
Time to Peak (Computed)	12.406 hours
Flow (Peak, Computed)	2,231.69 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.400 hours
Flow (Peak Interpolated Output)	2,227.08 ft³/s

Drainage Area	
SCS CN (Composite)	79.000
Area (User Defined)	950.437 acres
Maximum Retention (Pervious)	2.7 in
Maximum Retention (Pervious, 20 percent)	0.5 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	3.9 in
Runoff Volume (Pervious)	310.614 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	307.238 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.846 hours
Computational Time Increment	0.113 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: OFFSITE 1
Scenario: Post-Development 25 YR

Return Event: 25 years
Storm Event: 25 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	1,273.15 ft³/s
Unit peak time, Tp	0.564 hours
Unit receding limb, Tr	2.256 hours
Total unit time, Tb	2.819 hours

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: OFFSITE 1
Scenario: Pre-Development 25 YR

Return Event: 25 years
Storm Event: 25 YR

Storm Event	25 YR
Return Event	25 years
Duration	24.000 hours
Depth	6.3 in
Time of Concentration (Composite)	0.846 hours
Area (User Defined)	950.437 acres

Computational Time Increment	0.113 hours
Time to Peak (Computed)	12.406 hours
Flow (Peak, Computed)	2,231.69 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.400 hours
Flow (Peak Interpolated Output)	2,227.08 ft³/s

Drainage Area	
SCS CN (Composite)	79.000
Area (User Defined)	950.437 acres
Maximum Retention (Pervious)	2.7 in
Maximum Retention (Pervious, 20 percent)	0.5 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	3.9 in
Runoff Volume (Pervious)	310.614 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	307.238 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.846 hours
Computational Time Increment	0.113 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: OFFSITE 1
Scenario: Pre-Development 25 YR

Return Event: 25 years
Storm Event: 25 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	1,273.15 ft³/s
Unit peak time, Tp	0.564 hours
Unit receding limb, Tr	2.256 hours
Total unit time, Tb	2.819 hours

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: OFFSITE 1
Scenario: Post-Development 50 YR

Return Event: 50 years
Storm Event: 50 YR

Storm Event	50 YR
Return Event	50 years
Duration	24.000 hours
Depth	7.1 in
Time of Concentration (Composite)	0.846 hours
Area (User Defined)	950.437 acres

Computational Time Increment	0.113 hours
Time to Peak (Computed)	12.406 hours
Flow (Peak, Computed)	2,641.96 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.400 hours
Flow (Peak Interpolated Output)	2,636.93 ft³/s

Drainage Area	
SCS CN (Composite)	79.000
Area (User Defined)	950.437 acres
Maximum Retention (Pervious)	2.7 in
Maximum Retention (Pervious, 20 percent)	0.5 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	4.6 in
Runoff Volume (Pervious)	368.179 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	364.301 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.846 hours
Computational Time Increment	0.113 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: OFFSITE 1
Scenario: Post-Development 50 YR

Return Event: 50 years
Storm Event: 50 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	1,273.15 ft³/s
Unit peak time, Tp	0.564 hours
Unit receding limb, Tr	2.256 hours
Total unit time, Tb	2.819 hours

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: OFFSITE 1
Scenario: Pre-Development 50 YR

Return Event: 50 years
Storm Event: 50 YR

Storm Event	50 YR
Return Event	50 years
Duration	24.000 hours
Depth	7.1 in
Time of Concentration (Composite)	0.846 hours
Area (User Defined)	950.437 acres

Computational Time Increment	0.113 hours
Time to Peak (Computed)	12.406 hours
Flow (Peak, Computed)	2,641.96 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.400 hours
Flow (Peak Interpolated Output)	2,636.93 ft³/s

Drainage Area	
SCS CN (Composite)	79.000
Area (User Defined)	950.437 acres
Maximum Retention (Pervious)	2.7 in
Maximum Retention (Pervious, 20 percent)	0.5 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	4.6 in
Runoff Volume (Pervious)	368.179 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	364.301 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.846 hours
Computational Time Increment	0.113 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: OFFSITE 1
Scenario: Pre-Development 50 YR

Return Event: 50 years
Storm Event: 50 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	1,273.15 ft³/s
Unit peak time, Tp	0.564 hours
Unit receding limb, Tr	2.256 hours
Total unit time, Tb	2.819 hours

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: OFFSITE 1
Scenario: Post-Development 100 YR

Return Event: 100 years
Storm Event: 100 YR

Storm Event	100 YR
Return Event	100 years
Duration	24.000 hours
Depth	7.9 in
Time of Concentration (Composite)	0.846 hours
Area (User Defined)	950.437 acres

Computational Time Increment	0.113 hours
Time to Peak (Computed)	12.406 hours
Flow (Peak, Computed)	3,075.63 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.400 hours
Flow (Peak Interpolated Output)	3,070.18 ft³/s

Drainage Area	
SCS CN (Composite)	79.000
Area (User Defined)	950.437 acres
Maximum Retention (Pervious)	2.7 in
Maximum Retention (Pervious, 20 percent)	0.5 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	5.4 in
Runoff Volume (Pervious)	429.617 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	425.214 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.846 hours
Computational Time Increment	0.113 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: OFFSITE 1
Scenario: Post-Development 100 YR

Return Event: 100 years
Storm Event: 100 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	1,273.15 ft³/s
Unit peak time, Tp	0.564 hours
Unit receding limb, Tr	2.256 hours
Total unit time, Tb	2.819 hours

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: OFFSITE 1
Scenario: Pre-Development 100 YR

Return Event: 100 years
Storm Event: 100 YR

Storm Event	100 YR
Return Event	100 years
Duration	24.000 hours
Depth	7.9 in
Time of Concentration (Composite)	0.846 hours
Area (User Defined)	950.437 acres

Computational Time Increment	0.113 hours
Time to Peak (Computed)	12.406 hours
Flow (Peak, Computed)	3,075.63 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.400 hours
Flow (Peak Interpolated Output)	3,070.18 ft³/s

Drainage Area	
SCS CN (Composite)	79.000
Area (User Defined)	950.437 acres
Maximum Retention (Pervious)	2.7 in
Maximum Retention (Pervious, 20 percent)	0.5 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	5.4 in
Runoff Volume (Pervious)	429.617 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	425.214 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.846 hours
Computational Time Increment	0.113 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: OFFSITE 1
Scenario: Pre-Development 100 YR

Return Event: 100 years
Storm Event: 100 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	1,273.15 ft³/s
Unit peak time, Tp	0.564 hours
Unit receding limb, Tr	2.256 hours
Total unit time, Tb	2.819 hours

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 1A
Scenario: Post-Development 1 YR

Return Event: 1 years
Storm Event: 1 YR

Storm Event	1 YR
Return Event	1 years
Duration	24.000 hours
Depth	3.5 in
Time of Concentration (Composite)	0.318 hours
Area (User Defined)	55.053 acres

Computational Time Increment	0.042 hours
Time to Peak (Computed)	12.074 hours
Flow (Peak, Computed)	126.28 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.100 hours
Flow (Peak Interpolated Output)	123.74 ft³/s

Drainage Area	
SCS CN (Composite)	86.000
Area (User Defined)	55.053 acres
Maximum Retention (Pervious)	1.6 in
Maximum Retention (Pervious, 20 percent)	0.3 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	2.1 in
Runoff Volume (Pervious)	9.627 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	9.584 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.318 hours
Computational Time Increment	0.042 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 1A
Scenario: Post-Development 1 YR

Return Event: 1 years
Storm Event: 1 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	196.31 ft³/s
Unit peak time, Tp	0.212 hours
Unit receding limb, Tr	0.847 hours
Total unit time, Tb	1.059 hours

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 1A
Scenario: Pre-Development 1 YR

Return Event: 1 years
Storm Event: 1 YR

Storm Event	1 YR
Return Event	1 years
Duration	24.000 hours
Depth	3.5 in
Time of Concentration (Composite)	0.764 hours
Area (User Defined)	53.178 acres

Computational Time Increment	0.102 hours
Time to Peak (Computed)	12.326 hours
Flow (Peak, Computed)	55.10 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.350 hours
Flow (Peak Interpolated Output)	54.80 ft³/s

Drainage Area	
SCS CN (Composite)	80.000
Area (User Defined)	53.178 acres
Maximum Retention (Pervious)	2.5 in
Maximum Retention (Pervious, 20 percent)	0.5 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	1.6 in
Runoff Volume (Pervious)	7.252 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	7.167 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.764 hours
Computational Time Increment	0.102 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 1A
Scenario: Pre-Development 1 YR

Return Event: 1 years
Storm Event: 1 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	78.86 ft³/s
Unit peak time, Tp	0.509 hours
Unit receding limb, Tr	2.037 hours
Total unit time, Tb	2.547 hours

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 1A
Scenario: Post-Development 2 YR

Return Event: 2 years
Storm Event: 2 YR

Storm Event	2 YR
Return Event	2 years
Duration	24.000 hours
Depth	3.9 in
Time of Concentration (Composite)	0.318 hours
Area (User Defined)	55.053 acres

Computational Time Increment	0.042 hours
Time to Peak (Computed)	12.074 hours
Flow (Peak, Computed)	148.50 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.100 hours
Flow (Peak Interpolated Output)	145.30 ft³/s

Drainage Area	
SCS CN (Composite)	86.000
Area (User Defined)	55.053 acres
Maximum Retention (Pervious)	1.6 in
Maximum Retention (Pervious, 20 percent)	0.3 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	2.5 in
Runoff Volume (Pervious)	11.350 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	11.301 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.318 hours
Computational Time Increment	0.042 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 1A
Scenario: Post-Development 2 YR

Return Event: 2 years
Storm Event: 2 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	196.31 ft³/s
Unit peak time, Tp	0.212 hours
Unit receding limb, Tr	0.847 hours
Total unit time, Tb	1.059 hours

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 1A
Scenario: Pre-Development 2 YR

Return Event: 2 years
Storm Event: 2 YR

Storm Event	2 YR
Return Event	2 years
Duration	24.000 hours
Depth	3.9 in
Time of Concentration (Composite)	0.764 hours
Area (User Defined)	53.178 acres

Computational Time Increment	0.102 hours
Time to Peak (Computed)	12.326 hours
Flow (Peak, Computed)	67.11 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.350 hours
Flow (Peak Interpolated Output)	66.68 ft³/s

Drainage Area	
SCS CN (Composite)	80.000
Area (User Defined)	53.178 acres
Maximum Retention (Pervious)	2.5 in
Maximum Retention (Pervious, 20 percent)	0.5 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	2.0 in
Runoff Volume (Pervious)	8.756 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	8.658 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.764 hours
Computational Time Increment	0.102 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 1A
Scenario: Pre-Development 2 YR

Return Event: 2 years
Storm Event: 2 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	78.86 ft³/s
Unit peak time, Tp	0.509 hours
Unit receding limb, Tr	2.037 hours
Total unit time, Tb	2.547 hours

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 1A
Scenario: Post-Development 5 YR

Return Event: 5 years
Storm Event: 5 YR

Storm Event	5 YR
Return Event	5 years
Duration	24.000 hours
Depth	4.7 in
Time of Concentration (Composite)	0.318 hours
Area (User Defined)	55.053 acres

Computational Time Increment	0.042 hours
Time to Peak (Computed)	12.074 hours
Flow (Peak, Computed)	187.45 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.050 hours
Flow (Peak Interpolated Output)	183.66 ft³/s

Drainage Area	
SCS CN (Composite)	86.000
Area (User Defined)	55.053 acres
Maximum Retention (Pervious)	1.6 in
Maximum Retention (Pervious, 20 percent)	0.3 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	3.1 in
Runoff Volume (Pervious)	14.414 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	14.354 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.318 hours
Computational Time Increment	0.042 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 1A
Scenario: Post-Development 5 YR

Return Event: 5 years
Storm Event: 5 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	196.31 ft³/s
Unit peak time, Tp	0.212 hours
Unit receding limb, Tr	0.847 hours
Total unit time, Tb	1.059 hours

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 1A
Scenario: Pre-Development 5 YR

Return Event: 5 years
Storm Event: 5 YR

Storm Event	5 YR
Return Event	5 years
Duration	24.000 hours
Depth	4.7 in
Time of Concentration (Composite)	0.764 hours
Area (User Defined)	53.178 acres

Computational Time Increment	0.102 hours
Time to Peak (Computed)	12.326 hours
Flow (Peak, Computed)	88.67 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.350 hours
Flow (Peak Interpolated Output)	88.00 ft³/s

Drainage Area	
SCS CN (Composite)	80.000
Area (User Defined)	53.178 acres
Maximum Retention (Pervious)	2.5 in
Maximum Retention (Pervious, 20 percent)	0.5 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	2.6 in
Runoff Volume (Pervious)	11.477 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	11.355 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.764 hours
Computational Time Increment	0.102 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 1A
Scenario: Pre-Development 5 YR

Return Event: 5 years
Storm Event: 5 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	78.86 ft³/s
Unit peak time, Tp	0.509 hours
Unit receding limb, Tr	2.037 hours
Total unit time, Tb	2.547 hours

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 1A
Scenario: Post-Development 10 YR

Return Event: 10 years
Storm Event: 10 YR

Storm Event	10 YR
Return Event	10 years
Duration	24.000 hours
Depth	5.3 in
Time of Concentration (Composite)	0.318 hours
Area (User Defined)	55.053 acres

Computational Time Increment	0.042 hours
Time to Peak (Computed)	12.074 hours
Flow (Peak, Computed)	222.82 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.050 hours
Flow (Peak Interpolated Output)	218.64 ft³/s

Drainage Area	
SCS CN (Composite)	86.000
Area (User Defined)	55.053 acres
Maximum Retention (Pervious)	1.6 in
Maximum Retention (Pervious, 20 percent)	0.3 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	3.8 in
Runoff Volume (Pervious)	17.238 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	17.168 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.318 hours
Computational Time Increment	0.042 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 1A
Scenario: Post-Development 10 YR

Return Event: 10 years
Storm Event: 10 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	196.31 ft³/s
Unit peak time, Tp	0.212 hours
Unit receding limb, Tr	0.847 hours
Total unit time, Tb	1.059 hours

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 1A
Scenario: Pre-Development 10 YR

Return Event: 10 years
Storm Event: 10 YR

Storm Event	10 YR
Return Event	10 years
Duration	24.000 hours
Depth	5.3 in
Time of Concentration (Composite)	0.764 hours
Area (User Defined)	53.178 acres

Computational Time Increment	0.102 hours
Time to Peak (Computed)	12.326 hours
Flow (Peak, Computed)	108.68 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.350 hours
Flow (Peak Interpolated Output)	107.76 ft³/s

Drainage Area	
SCS CN (Composite)	80.000
Area (User Defined)	53.178 acres
Maximum Retention (Pervious)	2.5 in
Maximum Retention (Pervious, 20 percent)	0.5 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	3.2 in
Runoff Volume (Pervious)	14.026 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	13.883 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.764 hours
Computational Time Increment	0.102 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 1A
Scenario: Pre-Development 10 YR

Return Event: 10 years
Storm Event: 10 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	78.86 ft³/s
Unit peak time, Tp	0.509 hours
Unit receding limb, Tr	2.037 hours
Total unit time, Tb	2.547 hours

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 1A
Scenario: Post-Development 25 YR

Return Event: 25 years
Storm Event: 25 YR

Storm Event	25 YR
Return Event	25 years
Duration	24.000 hours
Depth	6.3 in
Time of Concentration (Composite)	0.318 hours
Area (User Defined)	55.053 acres

Computational Time Increment	0.042 hours
Time to Peak (Computed)	12.074 hours
Flow (Peak, Computed)	274.29 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.050 hours
Flow (Peak Interpolated Output)	269.59 ft³/s

Drainage Area	
SCS CN (Composite)	86.000
Area (User Defined)	55.053 acres
Maximum Retention (Pervious)	1.6 in
Maximum Retention (Pervious, 20 percent)	0.3 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	4.7 in
Runoff Volume (Pervious)	21.409 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	21.326 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.318 hours
Computational Time Increment	0.042 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 1A
Scenario: Post-Development 25 YR

Return Event: 25 years
Storm Event: 25 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	196.31 ft³/s
Unit peak time, Tp	0.212 hours
Unit receding limb, Tr	0.847 hours
Total unit time, Tb	1.059 hours

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 1A
Scenario: Pre-Development 25 YR

Return Event: 25 years
Storm Event: 25 YR

Storm Event	25 YR
Return Event	25 years
Duration	24.000 hours
Depth	6.3 in
Time of Concentration (Composite)	0.764 hours
Area (User Defined)	53.178 acres

Computational Time Increment	0.102 hours
Time to Peak (Computed)	12.326 hours
Flow (Peak, Computed)	138.29 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.350 hours
Flow (Peak Interpolated Output)	137.01 ft³/s

Drainage Area	
SCS CN (Composite)	80.000
Area (User Defined)	53.178 acres
Maximum Retention (Pervious)	2.5 in
Maximum Retention (Pervious, 20 percent)	0.5 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	4.0 in
Runoff Volume (Pervious)	17.840 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	17.666 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.764 hours
Computational Time Increment	0.102 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 1A
Scenario: Pre-Development 25 YR

Return Event: 25 years
Storm Event: 25 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	78.86 ft³/s
Unit peak time, Tp	0.509 hours
Unit receding limb, Tr	2.037 hours
Total unit time, Tb	2.547 hours

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 1A
Scenario: Post-Development 50 YR

Return Event: 50 years
Storm Event: 50 YR

Storm Event	50 YR
Return Event	50 years
Duration	24.000 hours
Depth	7.1 in
Time of Concentration (Composite)	0.318 hours
Area (User Defined)	55.053 acres

Computational Time Increment	0.042 hours
Time to Peak (Computed)	12.074 hours
Flow (Peak, Computed)	317.10 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.050 hours
Flow (Peak Interpolated Output)	311.98 ft³/s

Drainage Area	
SCS CN (Composite)	86.000
Area (User Defined)	55.053 acres
Maximum Retention (Pervious)	1.6 in
Maximum Retention (Pervious, 20 percent)	0.3 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	5.4 in
Runoff Volume (Pervious)	24.926 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	24.831 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.318 hours
Computational Time Increment	0.042 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 1A
Scenario: Post-Development 50 YR

Return Event: 50 years
Storm Event: 50 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	196.31 ft³/s
Unit peak time, Tp	0.212 hours
Unit receding limb, Tr	0.847 hours
Total unit time, Tb	1.059 hours

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 1A
Scenario: Pre-Development 50 YR

Return Event: 50 years
Storm Event: 50 YR

Storm Event	50 YR
Return Event	50 years
Duration	24.000 hours
Depth	7.1 in
Time of Concentration (Composite)	0.764 hours
Area (User Defined)	53.178 acres

Computational Time Increment	0.102 hours
Time to Peak (Computed)	12.326 hours
Flow (Peak, Computed)	163.24 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.350 hours
Flow (Peak Interpolated Output)	161.64 ft³/s

Drainage Area	
SCS CN (Composite)	80.000
Area (User Defined)	53.178 acres
Maximum Retention (Pervious)	2.5 in
Maximum Retention (Pervious, 20 percent)	0.5 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	4.8 in
Runoff Volume (Pervious)	21.090 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	20.890 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.764 hours
Computational Time Increment	0.102 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 1A
Scenario: Pre-Development 50 YR

Return Event: 50 years
Storm Event: 50 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	78.86 ft³/s
Unit peak time, Tp	0.509 hours
Unit receding limb, Tr	2.037 hours
Total unit time, Tb	2.547 hours

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 1A
Scenario: Post-Development 100 YR

Return Event: 100 years
Storm Event: 100 YR

Storm Event	100 YR
Return Event	100 years
Duration	24.000 hours
Depth	7.9 in
Time of Concentration (Composite)	0.318 hours
Area (User Defined)	55.053 acres

Computational Time Increment	0.042 hours
Time to Peak (Computed)	12.074 hours
Flow (Peak, Computed)	361.92 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.050 hours
Flow (Peak Interpolated Output)	356.37 ft³/s

Drainage Area	
SCS CN (Composite)	86.000
Area (User Defined)	55.053 acres
Maximum Retention (Pervious)	1.6 in
Maximum Retention (Pervious, 20 percent)	0.3 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	6.2 in
Runoff Volume (Pervious)	28.647 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	28.540 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.318 hours
Computational Time Increment	0.042 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 1A
Scenario: Post-Development 100 YR

Return Event: 100 years
Storm Event: 100 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	196.31 ft³/s
Unit peak time, Tp	0.212 hours
Unit receding limb, Tr	0.847 hours
Total unit time, Tb	1.059 hours

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 1A
Scenario: Pre-Development 100 YR

Return Event: 100 years
Storm Event: 100 YR

Storm Event	100 YR
Return Event	100 years
Duration	24.000 hours
Depth	7.9 in
Time of Concentration (Composite)	0.764 hours
Area (User Defined)	53.178 acres

Computational Time Increment	0.102 hours
Time to Peak (Computed)	12.326 hours
Flow (Peak, Computed)	189.58 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.350 hours
Flow (Peak Interpolated Output)	187.63 ft³/s

Drainage Area	
SCS CN (Composite)	80.000
Area (User Defined)	53.178 acres
Maximum Retention (Pervious)	2.5 in
Maximum Retention (Pervious, 20 percent)	0.5 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	5.5 in
Runoff Volume (Pervious)	24.554 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	24.327 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.764 hours
Computational Time Increment	0.102 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 1A
Scenario: Pre-Development 100 YR

Return Event: 100 years
Storm Event: 100 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	78.86 ft³/s
Unit peak time, Tp	0.509 hours
Unit receding limb, Tr	2.037 hours
Total unit time, Tb	2.547 hours

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 1B
Scenario: Post-Development 1 YR

Return Event: 1 years
Storm Event: 1 YR

Storm Event	1 YR
Return Event	1 years
Duration	24.000 hours
Depth	3.5 in
Time of Concentration (Composite)	0.289 hours
Area (User Defined)	25.538 acres

Computational Time Increment	0.039 hours
Time to Peak (Computed)	12.058 hours
Flow (Peak, Computed)	61.09 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.050 hours
Flow (Peak Interpolated Output)	60.58 ft³/s

Drainage Area	
SCS CN (Composite)	86.000
Area (User Defined)	25.538 acres
Maximum Retention (Pervious)	1.6 in
Maximum Retention (Pervious, 20 percent)	0.3 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	2.1 in
Runoff Volume (Pervious)	4.466 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	4.449 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.289 hours
Computational Time Increment	0.039 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 1B
Scenario: Post-Development 1 YR

Return Event: 1 years
Storm Event: 1 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	100.15 ft³/s
Unit peak time, Tp	0.193 hours
Unit receding limb, Tr	0.771 hours
Total unit time, Tb	0.963 hours

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 1B
Scenario: Pre-Development 1 YR

Return Event: 1 years
Storm Event: 1 YR

Storm Event	1 YR
Return Event	1 years
Duration	24.000 hours
Depth	3.5 in
Time of Concentration (Composite)	0.624 hours
Area (User Defined)	21.660 acres

Computational Time Increment	0.083 hours
Time to Peak (Computed)	12.306 hours
Flow (Peak, Computed)	25.50 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.300 hours
Flow (Peak Interpolated Output)	25.49 ft³/s

Drainage Area	
SCS CN (Composite)	80.000
Area (User Defined)	21.660 acres
Maximum Retention (Pervious)	2.5 in
Maximum Retention (Pervious, 20 percent)	0.5 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	1.6 in
Runoff Volume (Pervious)	2.954 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	2.926 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.624 hours
Computational Time Increment	0.083 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 1B
Scenario: Pre-Development 1 YR

Return Event: 1 years
Storm Event: 1 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	39.36 ft³/s
Unit peak time, Tp	0.416 hours
Unit receding limb, Tr	1.663 hours
Total unit time, Tb	2.079 hours

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 1B
Scenario: Post-Development 2 YR

Return Event: 2 years
Storm Event: 2 YR

Storm Event	2 YR
Return Event	2 years
Duration	24.000 hours
Depth	3.9 in
Time of Concentration (Composite)	0.289 hours
Area (User Defined)	25.538 acres

Computational Time Increment	0.039 hours
Time to Peak (Computed)	12.058 hours
Flow (Peak, Computed)	71.82 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.050 hours
Flow (Peak Interpolated Output)	71.27 ft³/s

Drainage Area	
SCS CN (Composite)	86.000
Area (User Defined)	25.538 acres
Maximum Retention (Pervious)	1.6 in
Maximum Retention (Pervious, 20 percent)	0.3 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	2.5 in
Runoff Volume (Pervious)	5.265 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	5.246 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.289 hours
Computational Time Increment	0.039 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 1B
Scenario: Post-Development 2 YR

Return Event: 2 years
Storm Event: 2 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	100.15 ft³/s
Unit peak time, Tp	0.193 hours
Unit receding limb, Tr	0.771 hours
Total unit time, Tb	0.963 hours

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 1B
Scenario: Pre-Development 2 YR

Return Event: 2 years
Storm Event: 2 YR

Storm Event	2 YR
Return Event	2 years
Duration	24.000 hours
Depth	3.9 in
Time of Concentration (Composite)	0.624 hours
Area (User Defined)	21.660 acres

Computational Time Increment	0.083 hours
Time to Peak (Computed)	12.222 hours
Flow (Peak, Computed)	31.02 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.250 hours
Flow (Peak Interpolated Output)	30.99 ft³/s

Drainage Area	
SCS CN (Composite)	80.000
Area (User Defined)	21.660 acres
Maximum Retention (Pervious)	2.5 in
Maximum Retention (Pervious, 20 percent)	0.5 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	2.0 in
Runoff Volume (Pervious)	3.566 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	3.534 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.624 hours
Computational Time Increment	0.083 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 1B
Scenario: Pre-Development 2 YR

Return Event: 2 years
Storm Event: 2 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	39.36 ft³/s
Unit peak time, Tp	0.416 hours
Unit receding limb, Tr	1.663 hours
Total unit time, Tb	2.079 hours

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 1B
Scenario: Post-Development 5 YR

Return Event: 5 years
Storm Event: 5 YR

Storm Event	5 YR
Return Event	5 years
Duration	24.000 hours
Depth	4.7 in
Time of Concentration (Composite)	0.289 hours
Area (User Defined)	25.538 acres

Computational Time Increment	0.039 hours
Time to Peak (Computed)	12.058 hours
Flow (Peak, Computed)	90.62 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.050 hours
Flow (Peak Interpolated Output)	89.99 ft³/s

Drainage Area	
SCS CN (Composite)	86.000
Area (User Defined)	25.538 acres
Maximum Retention (Pervious)	1.6 in
Maximum Retention (Pervious, 20 percent)	0.3 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	3.1 in
Runoff Volume (Pervious)	6.686 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	6.663 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.289 hours
Computational Time Increment	0.039 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 1B
Scenario: Post-Development 5 YR

Return Event: 5 years
Storm Event: 5 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	100.15 ft³/s
Unit peak time, Tp	0.193 hours
Unit receding limb, Tr	0.771 hours
Total unit time, Tb	0.963 hours

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 1B
Scenario: Pre-Development 5 YR

Return Event: 5 years
Storm Event: 5 YR

Storm Event	5 YR
Return Event	5 years
Duration	24.000 hours
Depth	4.7 in
Time of Concentration (Composite)	0.624 hours
Area (User Defined)	21.660 acres

Computational Time Increment	0.083 hours
Time to Peak (Computed)	12.222 hours
Flow (Peak, Computed)	41.01 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.250 hours
Flow (Peak Interpolated Output)	40.89 ft³/s

Drainage Area	
SCS CN (Composite)	80.000
Area (User Defined)	21.660 acres
Maximum Retention (Pervious)	2.5 in
Maximum Retention (Pervious, 20 percent)	0.5 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	2.6 in
Runoff Volume (Pervious)	4.675 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	4.635 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.624 hours
Computational Time Increment	0.083 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 1B
Scenario: Pre-Development 5 YR

Return Event: 5 years
Storm Event: 5 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	39.36 ft³/s
Unit peak time, Tp	0.416 hours
Unit receding limb, Tr	1.663 hours
Total unit time, Tb	2.079 hours

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 1B
Scenario: Post-Development 10 YR

Return Event: 10 years
Storm Event: 10 YR

Storm Event	10 YR
Return Event	10 years
Duration	24.000 hours
Depth	5.3 in
Time of Concentration (Composite)	0.289 hours
Area (User Defined)	25.538 acres

Computational Time Increment	0.039 hours
Time to Peak (Computed)	12.058 hours
Flow (Peak, Computed)	107.68 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.050 hours
Flow (Peak Interpolated Output)	107.00 ft³/s

Drainage Area	
SCS CN (Composite)	86.000
Area (User Defined)	25.538 acres
Maximum Retention (Pervious)	1.6 in
Maximum Retention (Pervious, 20 percent)	0.3 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	3.8 in
Runoff Volume (Pervious)	7.996 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	7.969 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.289 hours
Computational Time Increment	0.039 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 1B
Scenario: Post-Development 10 YR

Return Event: 10 years
Storm Event: 10 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	100.15 ft³/s
Unit peak time, Tp	0.193 hours
Unit receding limb, Tr	0.771 hours
Total unit time, Tb	0.963 hours

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 1B
Scenario: Pre-Development 10 YR

Return Event: 10 years
Storm Event: 10 YR

Storm Event	10 YR
Return Event	10 years
Duration	24.000 hours
Depth	5.3 in
Time of Concentration (Composite)	0.624 hours
Area (User Defined)	21.660 acres

Computational Time Increment	0.083 hours
Time to Peak (Computed)	12.222 hours
Flow (Peak, Computed)	50.28 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.250 hours
Flow (Peak Interpolated Output)	50.08 ft³/s

Drainage Area	
SCS CN (Composite)	80.000
Area (User Defined)	21.660 acres
Maximum Retention (Pervious)	2.5 in
Maximum Retention (Pervious, 20 percent)	0.5 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	3.2 in
Runoff Volume (Pervious)	5.713 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	5.666 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.624 hours
Computational Time Increment	0.083 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 1B
Scenario: Pre-Development 10 YR

Return Event: 10 years
Storm Event: 10 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	39.36 ft³/s
Unit peak time, Tp	0.416 hours
Unit receding limb, Tr	1.663 hours
Total unit time, Tb	2.079 hours

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 1B
Scenario: Post-Development 25 YR

Return Event: 25 years
Storm Event: 25 YR

Storm Event	25 YR
Return Event	25 years
Duration	24.000 hours
Depth	6.3 in
Time of Concentration (Composite)	0.289 hours
Area (User Defined)	25.538 acres

Computational Time Increment	0.039 hours
Time to Peak (Computed)	12.058 hours
Flow (Peak, Computed)	132.51 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.050 hours
Flow (Peak Interpolated Output)	131.75 ft³/s

Drainage Area	
SCS CN (Composite)	86.000
Area (User Defined)	25.538 acres
Maximum Retention (Pervious)	1.6 in
Maximum Retention (Pervious, 20 percent)	0.3 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	4.7 in
Runoff Volume (Pervious)	9.931 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	9.899 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.289 hours
Computational Time Increment	0.039 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 1B
Scenario: Post-Development 25 YR

Return Event: 25 years
Storm Event: 25 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	100.15 ft³/s
Unit peak time, Tp	0.193 hours
Unit receding limb, Tr	0.771 hours
Total unit time, Tb	0.963 hours

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 1B
Scenario: Pre-Development 25 YR

Return Event: 25 years
Storm Event: 25 YR

Storm Event	25 YR
Return Event	25 years
Duration	24.000 hours
Depth	6.3 in
Time of Concentration (Composite)	0.624 hours
Area (User Defined)	21.660 acres

Computational Time Increment	0.083 hours
Time to Peak (Computed)	12.222 hours
Flow (Peak, Computed)	64.01 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.250 hours
Flow (Peak Interpolated Output)	63.66 ft³/s

Drainage Area	
SCS CN (Composite)	80.000
Area (User Defined)	21.660 acres
Maximum Retention (Pervious)	2.5 in
Maximum Retention (Pervious, 20 percent)	0.5 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	4.0 in
Runoff Volume (Pervious)	7.267 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	7.210 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.624 hours
Computational Time Increment	0.083 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 1B
Scenario: Pre-Development 25 YR

Return Event: 25 years
Storm Event: 25 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	39.36 ft³/s
Unit peak time, Tp	0.416 hours
Unit receding limb, Tr	1.663 hours
Total unit time, Tb	2.079 hours

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 1B
Scenario: Post-Development 50 YR

Return Event: 50 years
Storm Event: 50 YR

Storm Event	50 YR
Return Event	50 years
Duration	24.000 hours
Depth	7.1 in
Time of Concentration (Composite)	0.289 hours
Area (User Defined)	25.538 acres

Computational Time Increment	0.039 hours
Time to Peak (Computed)	12.058 hours
Flow (Peak, Computed)	153.16 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.050 hours
Flow (Peak Interpolated Output)	152.34 ft³/s

Drainage Area	
SCS CN (Composite)	86.000
Area (User Defined)	25.538 acres
Maximum Retention (Pervious)	1.6 in
Maximum Retention (Pervious, 20 percent)	0.3 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	5.4 in
Runoff Volume (Pervious)	11.563 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	11.526 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.289 hours
Computational Time Increment	0.039 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 1B
Scenario: Post-Development 50 YR

Return Event: 50 years
Storm Event: 50 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	100.15 ft³/s
Unit peak time, Tp	0.193 hours
Unit receding limb, Tr	0.771 hours
Total unit time, Tb	0.963 hours

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 1B
Scenario: Pre-Development 50 YR

Return Event: 50 years
Storm Event: 50 YR

Storm Event	50 YR
Return Event	50 years
Duration	24.000 hours
Depth	7.1 in
Time of Concentration (Composite)	0.624 hours
Area (User Defined)	21.660 acres

Computational Time Increment	0.083 hours
Time to Peak (Computed)	12.222 hours
Flow (Peak, Computed)	75.58 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.250 hours
Flow (Peak Interpolated Output)	75.10 ft³/s

Drainage Area	
SCS CN (Composite)	80.000
Area (User Defined)	21.660 acres
Maximum Retention (Pervious)	2.5 in
Maximum Retention (Pervious, 20 percent)	0.5 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	4.8 in
Runoff Volume (Pervious)	8.590 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	8.525 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.624 hours
Computational Time Increment	0.083 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 1B
Scenario: Pre-Development 50 YR

Return Event: 50 years
Storm Event: 50 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	39.36 ft³/s
Unit peak time, Tp	0.416 hours
Unit receding limb, Tr	1.663 hours
Total unit time, Tb	2.079 hours

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 1B
Scenario: Post-Development 100 YR

Return Event: 100 years
Storm Event: 100 YR

Storm Event	100 YR
Return Event	100 years
Duration	24.000 hours
Depth	7.9 in
Time of Concentration (Composite)	0.289 hours
Area (User Defined)	25.538 acres

Computational Time Increment	0.039 hours
Time to Peak (Computed)	12.058 hours
Flow (Peak, Computed)	174.78 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.050 hours
Flow (Peak Interpolated Output)	173.89 ft³/s

Drainage Area	
SCS CN (Composite)	86.000
Area (User Defined)	25.538 acres
Maximum Retention (Pervious)	1.6 in
Maximum Retention (Pervious, 20 percent)	0.3 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	6.2 in
Runoff Volume (Pervious)	13.289 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	13.247 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.289 hours
Computational Time Increment	0.039 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 1B
Scenario: Post-Development 100 YR

Return Event: 100 years
Storm Event: 100 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	100.15 ft³/s
Unit peak time, Tp	0.193 hours
Unit receding limb, Tr	0.771 hours
Total unit time, Tb	0.963 hours

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 1B
Scenario: Pre-Development 100 YR

Return Event: 100 years
Storm Event: 100 YR

Storm Event	100 YR
Return Event	100 years
Duration	24.000 hours
Depth	7.9 in
Time of Concentration (Composite)	0.624 hours
Area (User Defined)	21.660 acres

Computational Time Increment	0.083 hours
Time to Peak (Computed)	12.222 hours
Flow (Peak, Computed)	87.78 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.250 hours
Flow (Peak Interpolated Output)	87.17 ft³/s

Drainage Area	
SCS CN (Composite)	80.000
Area (User Defined)	21.660 acres
Maximum Retention (Pervious)	2.5 in
Maximum Retention (Pervious, 20 percent)	0.5 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	5.5 in
Runoff Volume (Pervious)	10.001 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	9.927 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.624 hours
Computational Time Increment	0.083 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 1B
Scenario: Pre-Development 100 YR

Return Event: 100 years
Storm Event: 100 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	39.36 ft³/s
Unit peak time, Tp	0.416 hours
Unit receding limb, Tr	1.663 hours
Total unit time, Tb	2.079 hours

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 2A
Scenario: Post-Development 1 YR

Return Event: 1 years
Storm Event: 1 YR

Storm Event	1 YR
Return Event	1 years
Duration	24.000 hours
Depth	3.5 in
Time of Concentration (Composite)	0.238 hours
Area (User Defined)	0.530 acres

Computational Time Increment	0.032 hours
Time to Peak (Computed)	12.048 hours
Flow (Peak, Computed)	1.07 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.050 hours
Flow (Peak Interpolated Output)	1.07 ft³/s

Drainage Area	
SCS CN (Composite)	80.000
Area (User Defined)	0.530 acres
Maximum Retention (Pervious)	2.5 in
Maximum Retention (Pervious, 20 percent)	0.5 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	1.6 in
Runoff Volume (Pervious)	0.072 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	0.072 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.238 hours
Computational Time Increment	0.032 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 2A
Scenario: Post-Development 1 YR

Return Event: 1 years
Storm Event: 1 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	2.53 ft³/s
Unit peak time, Tp	0.159 hours
Unit receding limb, Tr	0.634 hours
Total unit time, Tb	0.793 hours

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 2A
Scenario: Pre-Development 1 YR

Return Event: 1 years
Storm Event: 1 YR

Storm Event	1 YR
Return Event	1 years
Duration	24.000 hours
Depth	3.5 in
Time of Concentration (Composite)	0.312 hours
Area (User Defined)	0.650 acres

Computational Time Increment	0.042 hours
Time to Peak (Computed)	12.062 hours
Flow (Peak, Computed)	1.16 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.100 hours
Flow (Peak Interpolated Output)	1.15 ft³/s

Drainage Area	
SCS CN (Composite)	80.000
Area (User Defined)	0.650 acres
Maximum Retention (Pervious)	2.5 in
Maximum Retention (Pervious, 20 percent)	0.5 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	1.6 in
Runoff Volume (Pervious)	0.089 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	0.088 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.312 hours
Computational Time Increment	0.042 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 2A
Scenario: Pre-Development 1 YR

Return Event: 1 years
Storm Event: 1 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	2.36 ft³/s
Unit peak time, Tp	0.208 hours
Unit receding limb, Tr	0.832 hours
Total unit time, Tb	1.040 hours

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 2A
Scenario: Post-Development 2 YR

Return Event: 2 years
Storm Event: 2 YR

Storm Event	2 YR
Return Event	2 years
Duration	24.000 hours
Depth	3.9 in
Time of Concentration (Composite)	0.238 hours
Area (User Defined)	0.530 acres

Computational Time Increment	0.032 hours
Time to Peak (Computed)	12.048 hours
Flow (Peak, Computed)	1.29 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.050 hours
Flow (Peak Interpolated Output)	1.29 ft³/s

Drainage Area	
SCS CN (Composite)	80.000
Area (User Defined)	0.530 acres
Maximum Retention (Pervious)	2.5 in
Maximum Retention (Pervious, 20 percent)	0.5 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	2.0 in
Runoff Volume (Pervious)	0.087 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	0.087 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.238 hours
Computational Time Increment	0.032 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 2A
Scenario: Post-Development 2 YR

Return Event: 2 years
Storm Event: 2 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	2.53 ft³/s
Unit peak time, Tp	0.159 hours
Unit receding limb, Tr	0.634 hours
Total unit time, Tb	0.793 hours

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 2A
Scenario: Pre-Development 2 YR

Return Event: 2 years
Storm Event: 2 YR

Storm Event	2 YR
Return Event	2 years
Duration	24.000 hours
Depth	3.9 in
Time of Concentration (Composite)	0.312 hours
Area (User Defined)	0.650 acres

Computational Time Increment	0.042 hours
Time to Peak (Computed)	12.062 hours
Flow (Peak, Computed)	1.41 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.100 hours
Flow (Peak Interpolated Output)	1.40 ft³/s

Drainage Area	
SCS CN (Composite)	80.000
Area (User Defined)	0.650 acres
Maximum Retention (Pervious)	2.5 in
Maximum Retention (Pervious, 20 percent)	0.5 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	2.0 in
Runoff Volume (Pervious)	0.107 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	0.107 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.312 hours
Computational Time Increment	0.042 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 2A
Scenario: Pre-Development 2 YR

Return Event: 2 years
Storm Event: 2 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	2.36 ft³/s
Unit peak time, Tp	0.208 hours
Unit receding limb, Tr	0.832 hours
Total unit time, Tb	1.040 hours

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 2A
Scenario: Post-Development 5 YR

Return Event: 5 years
Storm Event: 5 YR

Storm Event	5 YR
Return Event	5 years
Duration	24.000 hours
Depth	4.7 in
Time of Concentration (Composite)	0.238 hours
Area (User Defined)	0.530 acres

Computational Time Increment	0.032 hours
Time to Peak (Computed)	12.048 hours
Flow (Peak, Computed)	1.69 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.050 hours
Flow (Peak Interpolated Output)	1.69 ft³/s

Drainage Area	
SCS CN (Composite)	80.000
Area (User Defined)	0.530 acres
Maximum Retention (Pervious)	2.5 in
Maximum Retention (Pervious, 20 percent)	0.5 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	2.6 in
Runoff Volume (Pervious)	0.114 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	0.114 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.238 hours
Computational Time Increment	0.032 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 2A
Scenario: Post-Development 5 YR

Return Event: 5 years
Storm Event: 5 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	2.53 ft³/s
Unit peak time, Tp	0.159 hours
Unit receding limb, Tr	0.634 hours
Total unit time, Tb	0.793 hours

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 2A
Scenario: Pre-Development 5 YR

Return Event: 5 years
Storm Event: 5 YR

Storm Event	5 YR
Return Event	5 years
Duration	24.000 hours
Depth	4.7 in
Time of Concentration (Composite)	0.312 hours
Area (User Defined)	0.650 acres

Computational Time Increment	0.042 hours
Time to Peak (Computed)	12.062 hours
Flow (Peak, Computed)	1.85 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.100 hours
Flow (Peak Interpolated Output)	1.83 ft³/s

Drainage Area	
SCS CN (Composite)	80.000
Area (User Defined)	0.650 acres
Maximum Retention (Pervious)	2.5 in
Maximum Retention (Pervious, 20 percent)	0.5 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	2.6 in
Runoff Volume (Pervious)	0.140 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	0.140 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.312 hours
Computational Time Increment	0.042 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 2A
Scenario: Pre-Development 5 YR

Return Event: 5 years
Storm Event: 5 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	2.36 ft³/s
Unit peak time, Tp	0.208 hours
Unit receding limb, Tr	0.832 hours
Total unit time, Tb	1.040 hours

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 2A
Scenario: Post-Development 10 YR

Return Event: 10 years
Storm Event: 10 YR

Storm Event	10 YR
Return Event	10 years
Duration	24.000 hours
Depth	5.3 in
Time of Concentration (Composite)	0.238 hours
Area (User Defined)	0.530 acres

Computational Time Increment	0.032 hours
Time to Peak (Computed)	12.048 hours
Flow (Peak, Computed)	2.06 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.050 hours
Flow (Peak Interpolated Output)	2.05 ft³/s

Drainage Area	
SCS CN (Composite)	80.000
Area (User Defined)	0.530 acres
Maximum Retention (Pervious)	2.5 in
Maximum Retention (Pervious, 20 percent)	0.5 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	3.2 in
Runoff Volume (Pervious)	0.140 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	0.139 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.238 hours
Computational Time Increment	0.032 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 2A
Scenario: Post-Development 10 YR

Return Event: 10 years
Storm Event: 10 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	2.53 ft³/s
Unit peak time, Tp	0.159 hours
Unit receding limb, Tr	0.634 hours
Total unit time, Tb	0.793 hours

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 2A
Scenario: Pre-Development 10 YR

Return Event: 10 years
Storm Event: 10 YR

Storm Event	10 YR
Return Event	10 years
Duration	24.000 hours
Depth	5.3 in
Time of Concentration (Composite)	0.312 hours
Area (User Defined)	0.650 acres

Computational Time Increment	0.042 hours
Time to Peak (Computed)	12.062 hours
Flow (Peak, Computed)	2.26 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.100 hours
Flow (Peak Interpolated Output)	2.23 ft³/s

Drainage Area	
SCS CN (Composite)	80.000
Area (User Defined)	0.650 acres
Maximum Retention (Pervious)	2.5 in
Maximum Retention (Pervious, 20 percent)	0.5 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	3.2 in
Runoff Volume (Pervious)	0.171 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	0.171 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.312 hours
Computational Time Increment	0.042 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 2A
Scenario: Pre-Development 10 YR

Return Event: 10 years
Storm Event: 10 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	2.36 ft³/s
Unit peak time, Tp	0.208 hours
Unit receding limb, Tr	0.832 hours
Total unit time, Tb	1.040 hours

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 2A
Scenario: Post-Development 25 YR

Return Event: 25 years
Storm Event: 25 YR

Storm Event	25 YR
Return Event	25 years
Duration	24.000 hours
Depth	6.3 in
Time of Concentration (Composite)	0.238 hours
Area (User Defined)	0.530 acres

Computational Time Increment	0.032 hours
Time to Peak (Computed)	12.017 hours
Flow (Peak, Computed)	2.60 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.050 hours
Flow (Peak Interpolated Output)	2.59 ft³/s

Drainage Area	
SCS CN (Composite)	80.000
Area (User Defined)	0.530 acres
Maximum Retention (Pervious)	2.5 in
Maximum Retention (Pervious, 20 percent)	0.5 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	4.0 in
Runoff Volume (Pervious)	0.178 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	0.177 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.238 hours
Computational Time Increment	0.032 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 2A
Scenario: Post-Development 25 YR

Return Event: 25 years
Storm Event: 25 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	2.53 ft³/s
Unit peak time, Tp	0.159 hours
Unit receding limb, Tr	0.634 hours
Total unit time, Tb	0.793 hours

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 2A
Scenario: Pre-Development 25 YR

Return Event: 25 years
Storm Event: 25 YR

Storm Event	25 YR
Return Event	25 years
Duration	24.000 hours
Depth	6.3 in
Time of Concentration (Composite)	0.312 hours
Area (User Defined)	0.650 acres

Computational Time Increment	0.042 hours
Time to Peak (Computed)	12.062 hours
Flow (Peak, Computed)	2.86 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.050 hours
Flow (Peak Interpolated Output)	2.82 ft³/s

Drainage Area	
SCS CN (Composite)	80.000
Area (User Defined)	0.650 acres
Maximum Retention (Pervious)	2.5 in
Maximum Retention (Pervious, 20 percent)	0.5 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	4.0 in
Runoff Volume (Pervious)	0.218 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	0.217 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.312 hours
Computational Time Increment	0.042 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 2A
Scenario: Pre-Development 25 YR

Return Event: 25 years
Storm Event: 25 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	2.36 ft³/s
Unit peak time, Tp	0.208 hours
Unit receding limb, Tr	0.832 hours
Total unit time, Tb	1.040 hours

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 2A
Scenario: Post-Development 50 YR

Return Event: 50 years
Storm Event: 50 YR

Storm Event	50 YR
Return Event	50 years
Duration	24.000 hours
Depth	7.1 in
Time of Concentration (Composite)	0.238 hours
Area (User Defined)	0.530 acres

Computational Time Increment	0.032 hours
Time to Peak (Computed)	12.017 hours
Flow (Peak, Computed)	3.06 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.050 hours
Flow (Peak Interpolated Output)	3.04 ft³/s

Drainage Area	
SCS CN (Composite)	80.000
Area (User Defined)	0.530 acres
Maximum Retention (Pervious)	2.5 in
Maximum Retention (Pervious, 20 percent)	0.5 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	4.8 in
Runoff Volume (Pervious)	0.210 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	0.210 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.238 hours
Computational Time Increment	0.032 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 2A
Scenario: Post-Development 50 YR

Return Event: 50 years
Storm Event: 50 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	2.53 ft³/s
Unit peak time, Tp	0.159 hours
Unit receding limb, Tr	0.634 hours
Total unit time, Tb	0.793 hours

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 2A
Scenario: Pre-Development 50 YR

Return Event: 50 years
Storm Event: 50 YR

Storm Event	50 YR
Return Event	50 years
Duration	24.000 hours
Depth	7.1 in
Time of Concentration (Composite)	0.312 hours
Area (User Defined)	0.650 acres

Computational Time Increment	0.042 hours
Time to Peak (Computed)	12.062 hours
Flow (Peak, Computed)	3.37 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.050 hours
Flow (Peak Interpolated Output)	3.32 ft³/s

Drainage Area	
SCS CN (Composite)	80.000
Area (User Defined)	0.650 acres
Maximum Retention (Pervious)	2.5 in
Maximum Retention (Pervious, 20 percent)	0.5 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	4.8 in
Runoff Volume (Pervious)	0.258 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	0.257 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.312 hours
Computational Time Increment	0.042 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 2A
Scenario: Pre-Development 50 YR

Return Event: 50 years
Storm Event: 50 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	2.36 ft³/s
Unit peak time, Tp	0.208 hours
Unit receding limb, Tr	0.832 hours
Total unit time, Tb	1.040 hours

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 2A
Scenario: Post-Development 100 YR

Return Event: 100 years
Storm Event: 100 YR

Storm Event	100 YR
Return Event	100 years
Duration	24.000 hours
Depth	7.9 in
Time of Concentration (Composite)	0.238 hours
Area (User Defined)	0.530 acres

Computational Time Increment	0.032 hours
Time to Peak (Computed)	12.017 hours
Flow (Peak, Computed)	3.55 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.050 hours
Flow (Peak Interpolated Output)	3.51 ft³/s

Drainage Area	
SCS CN (Composite)	80.000
Area (User Defined)	0.530 acres
Maximum Retention (Pervious)	2.5 in
Maximum Retention (Pervious, 20 percent)	0.5 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	5.5 in
Runoff Volume (Pervious)	0.245 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	0.244 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.238 hours
Computational Time Increment	0.032 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 2A
Scenario: Post-Development 100 YR

Return Event: 100 years
Storm Event: 100 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	2.53 ft³/s
Unit peak time, Tp	0.159 hours
Unit receding limb, Tr	0.634 hours
Total unit time, Tb	0.793 hours

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 2A
Scenario: Pre-Development 100 YR

Return Event: 100 years
Storm Event: 100 YR

Storm Event	100 YR
Return Event	100 years
Duration	24.000 hours
Depth	7.9 in
Time of Concentration (Composite)	0.312 hours
Area (User Defined)	0.650 acres

Computational Time Increment	0.042 hours
Time to Peak (Computed)	12.062 hours
Flow (Peak, Computed)	3.91 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.050 hours
Flow (Peak Interpolated Output)	3.85 ft³/s

Drainage Area	
SCS CN (Composite)	80.000
Area (User Defined)	0.650 acres
Maximum Retention (Pervious)	2.5 in
Maximum Retention (Pervious, 20 percent)	0.5 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	5.5 in
Runoff Volume (Pervious)	0.300 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	0.299 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.312 hours
Computational Time Increment	0.042 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 2A
Scenario: Pre-Development 100 YR

Return Event: 100 years
Storm Event: 100 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	2.36 ft³/s
Unit peak time, Tp	0.208 hours
Unit receding limb, Tr	0.832 hours
Total unit time, Tb	1.040 hours

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 2B
Scenario: Post-Development 1 YR

Return Event: 1 years
Storm Event: 1 YR

Storm Event	1 YR
Return Event	1 years
Duration	24.000 hours
Depth	3.5 in
Time of Concentration (Composite)	0.149 hours
Area (User Defined)	0.490 acres

Computational Time Increment	0.020 hours
Time to Peak (Computed)	11.991 hours
Flow (Peak, Computed)	1.12 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.000 hours
Flow (Peak Interpolated Output)	1.11 ft³/s

Drainage Area	
SCS CN (Composite)	80.000
Area (User Defined)	0.490 acres
Maximum Retention (Pervious)	2.5 in
Maximum Retention (Pervious, 20 percent)	0.5 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	1.6 in
Runoff Volume (Pervious)	0.067 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	0.067 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.149 hours
Computational Time Increment	0.020 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 2B
Scenario: Post-Development 1 YR

Return Event: 1 years
Storm Event: 1 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	3.72 ft³/s
Unit peak time, Tp	0.100 hours
Unit receding limb, Tr	0.398 hours
Total unit time, Tb	0.498 hours

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 2B
Scenario: Pre-Development 1 YR

Return Event: 1 years
Storm Event: 1 YR

Storm Event	1 YR
Return Event	1 years
Duration	24.000 hours
Depth	3.5 in
Time of Concentration (Composite)	0.394 hours
Area (User Defined)	0.970 acres

Computational Time Increment	0.053 hours
Time to Peak (Computed)	12.138 hours
Flow (Peak, Computed)	1.54 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.150 hours
Flow (Peak Interpolated Output)	1.52 ft³/s

Drainage Area	
SCS CN (Composite)	80.000
Area (User Defined)	0.970 acres
Maximum Retention (Pervious)	2.5 in
Maximum Retention (Pervious, 20 percent)	0.5 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	1.6 in
Runoff Volume (Pervious)	0.132 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	0.131 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.394 hours
Computational Time Increment	0.053 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 2B
Scenario: Pre-Development 1 YR

Return Event: 1 years
Storm Event: 1 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	2.79 ft³/s
Unit peak time, Tp	0.263 hours
Unit receding limb, Tr	1.051 hours
Total unit time, Tb	1.314 hours

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 2B
Scenario: Post-Development 2 YR

Return Event: 2 years
Storm Event: 2 YR

Storm Event	2 YR
Return Event	2 years
Duration	24.000 hours
Depth	3.9 in
Time of Concentration (Composite)	0.149 hours
Area (User Defined)	0.490 acres

Computational Time Increment	0.020 hours
Time to Peak (Computed)	11.971 hours
Flow (Peak, Computed)	1.36 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.000 hours
Flow (Peak Interpolated Output)	1.34 ft³/s

Drainage Area	
SCS CN (Composite)	80.000
Area (User Defined)	0.490 acres
Maximum Retention (Pervious)	2.5 in
Maximum Retention (Pervious, 20 percent)	0.5 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	2.0 in
Runoff Volume (Pervious)	0.081 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	0.081 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.149 hours
Computational Time Increment	0.020 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 2B
Scenario: Post-Development 2 YR

Return Event: 2 years
Storm Event: 2 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	3.72 ft³/s
Unit peak time, Tp	0.100 hours
Unit receding limb, Tr	0.398 hours
Total unit time, Tb	0.498 hours

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 2B
Scenario: Pre-Development 2 YR

Return Event: 2 years
Storm Event: 2 YR

Storm Event	2 YR
Return Event	2 years
Duration	24.000 hours
Depth	3.9 in
Time of Concentration (Composite)	0.394 hours
Area (User Defined)	0.970 acres

Computational Time Increment	0.053 hours
Time to Peak (Computed)	12.138 hours
Flow (Peak, Computed)	1.86 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.150 hours
Flow (Peak Interpolated Output)	1.84 ft³/s

Drainage Area	
SCS CN (Composite)	80.000
Area (User Defined)	0.970 acres
Maximum Retention (Pervious)	2.5 in
Maximum Retention (Pervious, 20 percent)	0.5 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	2.0 in
Runoff Volume (Pervious)	0.160 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	0.159 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.394 hours
Computational Time Increment	0.053 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 2B
Scenario: Pre-Development 2 YR

Return Event: 2 years
Storm Event: 2 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	2.79 ft³/s
Unit peak time, Tp	0.263 hours
Unit receding limb, Tr	1.051 hours
Total unit time, Tb	1.314 hours

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 2B
Scenario: Post-Development 5 YR

Return Event: 5 years
Storm Event: 5 YR

Storm Event	5 YR
Return Event	5 years
Duration	24.000 hours
Depth	4.7 in
Time of Concentration (Composite)	0.149 hours
Area (User Defined)	0.490 acres

Computational Time Increment	0.020 hours
Time to Peak (Computed)	11.971 hours
Flow (Peak, Computed)	1.78 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.000 hours
Flow (Peak Interpolated Output)	1.75 ft³/s

Drainage Area	
SCS CN (Composite)	80.000
Area (User Defined)	0.490 acres
Maximum Retention (Pervious)	2.5 in
Maximum Retention (Pervious, 20 percent)	0.5 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	2.6 in
Runoff Volume (Pervious)	0.106 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	0.106 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.149 hours
Computational Time Increment	0.020 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 2B
Scenario: Post-Development 5 YR

Return Event: 5 years
Storm Event: 5 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	3.72 ft³/s
Unit peak time, Tp	0.100 hours
Unit receding limb, Tr	0.398 hours
Total unit time, Tb	0.498 hours

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 2B
Scenario: Pre-Development 5 YR

Return Event: 5 years
Storm Event: 5 YR

Storm Event	5 YR
Return Event	5 years
Duration	24.000 hours
Depth	4.7 in
Time of Concentration (Composite)	0.394 hours
Area (User Defined)	0.970 acres

Computational Time Increment	0.053 hours
Time to Peak (Computed)	12.138 hours
Flow (Peak, Computed)	2.44 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.100 hours
Flow (Peak Interpolated Output)	2.41 ft³/s

Drainage Area	
SCS CN (Composite)	80.000
Area (User Defined)	0.970 acres
Maximum Retention (Pervious)	2.5 in
Maximum Retention (Pervious, 20 percent)	0.5 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	2.6 in
Runoff Volume (Pervious)	0.209 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	0.208 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.394 hours
Computational Time Increment	0.053 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 2B
Scenario: Pre-Development 5 YR

Return Event: 5 years
Storm Event: 5 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	2.79 ft³/s
Unit peak time, Tp	0.263 hours
Unit receding limb, Tr	1.051 hours
Total unit time, Tb	1.314 hours

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 2B
Scenario: Post-Development 10 YR

Return Event: 10 years
Storm Event: 10 YR

Storm Event	10 YR
Return Event	10 years
Duration	24.000 hours
Depth	5.3 in
Time of Concentration (Composite)	0.149 hours
Area (User Defined)	0.490 acres

Computational Time Increment	0.020 hours
Time to Peak (Computed)	11.971 hours
Flow (Peak, Computed)	2.16 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	11.950 hours
Flow (Peak Interpolated Output)	2.13 ft³/s

Drainage Area	
SCS CN (Composite)	80.000
Area (User Defined)	0.490 acres
Maximum Retention (Pervious)	2.5 in
Maximum Retention (Pervious, 20 percent)	0.5 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	3.2 in
Runoff Volume (Pervious)	0.129 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	0.129 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.149 hours
Computational Time Increment	0.020 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 2B
Scenario: Post-Development 10 YR

Return Event: 10 years
Storm Event: 10 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	3.72 ft³/s
Unit peak time, Tp	0.100 hours
Unit receding limb, Tr	0.398 hours
Total unit time, Tb	0.498 hours

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 2B
Scenario: Pre-Development 10 YR

Return Event: 10 years
Storm Event: 10 YR

Storm Event	10 YR
Return Event	10 years
Duration	24.000 hours
Depth	5.3 in
Time of Concentration (Composite)	0.394 hours
Area (User Defined)	0.970 acres

Computational Time Increment	0.053 hours
Time to Peak (Computed)	12.138 hours
Flow (Peak, Computed)	2.98 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.100 hours
Flow (Peak Interpolated Output)	2.95 ft³/s

Drainage Area	
SCS CN (Composite)	80.000
Area (User Defined)	0.970 acres
Maximum Retention (Pervious)	2.5 in
Maximum Retention (Pervious, 20 percent)	0.5 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	3.2 in
Runoff Volume (Pervious)	0.256 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	0.254 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.394 hours
Computational Time Increment	0.053 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 2B
Scenario: Pre-Development 10 YR

Return Event: 10 years
Storm Event: 10 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	2.79 ft³/s
Unit peak time, Tp	0.263 hours
Unit receding limb, Tr	1.051 hours
Total unit time, Tb	1.314 hours

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 2B
Scenario: Post-Development 25 YR

Return Event: 25 years
Storm Event: 25 YR

Storm Event	25 YR
Return Event	25 years
Duration	24.000 hours
Depth	6.3 in
Time of Concentration (Composite)	0.149 hours
Area (User Defined)	0.490 acres

Computational Time Increment	0.020 hours
Time to Peak (Computed)	11.971 hours
Flow (Peak, Computed)	2.74 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	11.950 hours
Flow (Peak Interpolated Output)	2.70 ft³/s

Drainage Area	
SCS CN (Composite)	80.000
Area (User Defined)	0.490 acres
Maximum Retention (Pervious)	2.5 in
Maximum Retention (Pervious, 20 percent)	0.5 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	4.0 in
Runoff Volume (Pervious)	0.164 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	0.164 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.149 hours
Computational Time Increment	0.020 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 2B
Scenario: Post-Development 25 YR

Return Event: 25 years
Storm Event: 25 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	3.72 ft³/s
Unit peak time, Tp	0.100 hours
Unit receding limb, Tr	0.398 hours
Total unit time, Tb	0.498 hours

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 2B
Scenario: Pre-Development 25 YR

Return Event: 25 years
Storm Event: 25 YR

Storm Event	25 YR
Return Event	25 years
Duration	24.000 hours
Depth	6.3 in
Time of Concentration (Composite)	0.394 hours
Area (User Defined)	0.970 acres

Computational Time Increment	0.053 hours
Time to Peak (Computed)	12.138 hours
Flow (Peak, Computed)	3.78 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.100 hours
Flow (Peak Interpolated Output)	3.75 ft³/s

Drainage Area	
SCS CN (Composite)	80.000
Area (User Defined)	0.970 acres
Maximum Retention (Pervious)	2.5 in
Maximum Retention (Pervious, 20 percent)	0.5 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	4.0 in
Runoff Volume (Pervious)	0.325 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	0.324 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.394 hours
Computational Time Increment	0.053 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 2B
Scenario: Pre-Development 25 YR

Return Event: 25 years
Storm Event: 25 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	2.79 ft³/s
Unit peak time, Tp	0.263 hours
Unit receding limb, Tr	1.051 hours
Total unit time, Tb	1.314 hours

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 2B
Scenario: Post-Development 50 YR

Return Event: 50 years
Storm Event: 50 YR

Storm Event	50 YR
Return Event	50 years
Duration	24.000 hours
Depth	7.1 in
Time of Concentration (Composite)	0.149 hours
Area (User Defined)	0.490 acres

Computational Time Increment	0.020 hours
Time to Peak (Computed)	11.971 hours
Flow (Peak, Computed)	3.22 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	11.950 hours
Flow (Peak Interpolated Output)	3.18 ft³/s

Drainage Area	
SCS CN (Composite)	80.000
Area (User Defined)	0.490 acres
Maximum Retention (Pervious)	2.5 in
Maximum Retention (Pervious, 20 percent)	0.5 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	4.8 in
Runoff Volume (Pervious)	0.194 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	0.194 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.149 hours
Computational Time Increment	0.020 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 2B
Scenario: Post-Development 50 YR

Return Event: 50 years
Storm Event: 50 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	3.72 ft³/s
Unit peak time, Tp	0.100 hours
Unit receding limb, Tr	0.398 hours
Total unit time, Tb	0.498 hours

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 2B
Scenario: Pre-Development 50 YR

Return Event: 50 years
Storm Event: 50 YR

Storm Event	50 YR
Return Event	50 years
Duration	24.000 hours
Depth	7.1 in
Time of Concentration (Composite)	0.394 hours
Area (User Defined)	0.970 acres

Computational Time Increment	0.053 hours
Time to Peak (Computed)	12.138 hours
Flow (Peak, Computed)	4.45 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.100 hours
Flow (Peak Interpolated Output)	4.42 ft³/s

Drainage Area	
SCS CN (Composite)	80.000
Area (User Defined)	0.970 acres
Maximum Retention (Pervious)	2.5 in
Maximum Retention (Pervious, 20 percent)	0.5 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	4.8 in
Runoff Volume (Pervious)	0.385 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	0.383 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.394 hours
Computational Time Increment	0.053 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 2B
Scenario: Pre-Development 50 YR

Return Event: 50 years
Storm Event: 50 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	2.79 ft³/s
Unit peak time, Tp	0.263 hours
Unit receding limb, Tr	1.051 hours
Total unit time, Tb	1.314 hours

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 2B
Scenario: Post-Development 100 YR

Return Event: 100 years
Storm Event: 100 YR

Storm Event	100 YR
Return Event	100 years
Duration	24.000 hours
Depth	7.9 in
Time of Concentration (Composite)	0.149 hours
Area (User Defined)	0.490 acres

Computational Time Increment	0.020 hours
Time to Peak (Computed)	11.971 hours
Flow (Peak, Computed)	3.72 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	11.950 hours
Flow (Peak Interpolated Output)	3.69 ft³/s

Drainage Area	
SCS CN (Composite)	80.000
Area (User Defined)	0.490 acres
Maximum Retention (Pervious)	2.5 in
Maximum Retention (Pervious, 20 percent)	0.5 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	5.5 in
Runoff Volume (Pervious)	0.226 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	0.226 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.149 hours
Computational Time Increment	0.020 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 2B
Scenario: Post-Development 100 YR

Return Event: 100 years
Storm Event: 100 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	3.72 ft³/s
Unit peak time, Tp	0.100 hours
Unit receding limb, Tr	0.398 hours
Total unit time, Tb	0.498 hours

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 2B
Scenario: Pre-Development 100 YR

Return Event: 100 years
Storm Event: 100 YR

Storm Event	100 YR
Return Event	100 years
Duration	24.000 hours
Depth	7.9 in
Time of Concentration (Composite)	0.394 hours
Area (User Defined)	0.970 acres

Computational Time Increment	0.053 hours
Time to Peak (Computed)	12.138 hours
Flow (Peak, Computed)	5.15 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.100 hours
Flow (Peak Interpolated Output)	5.13 ft³/s

Drainage Area	
SCS CN (Composite)	80.000
Area (User Defined)	0.970 acres
Maximum Retention (Pervious)	2.5 in
Maximum Retention (Pervious, 20 percent)	0.5 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	5.5 in
Runoff Volume (Pervious)	0.448 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	0.446 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.394 hours
Computational Time Increment	0.053 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 2B
Scenario: Pre-Development 100 YR

Return Event: 100 years
Storm Event: 100 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	2.79 ft³/s
Unit peak time, Tp	0.263 hours
Unit receding limb, Tr	1.051 hours
Total unit time, Tb	1.314 hours

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 2C
Scenario: Post-Development 1 YR

Return Event: 1 years
Storm Event: 1 YR

Storm Event	1 YR
Return Event	1 years
Duration	24.000 hours
Depth	3.5 in
Time of Concentration (Composite)	0.185 hours
Area (User Defined)	6.630 acres

Computational Time Increment	0.025 hours
Time to Peak (Computed)	11.988 hours
Flow (Peak, Computed)	19.10 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.000 hours
Flow (Peak Interpolated Output)	19.09 ft³/s

Drainage Area	
SCS CN (Composite)	87.000
Area (User Defined)	6.630 acres
Maximum Retention (Pervious)	1.5 in
Maximum Retention (Pervious, 20 percent)	0.3 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	2.2 in
Runoff Volume (Pervious)	1.206 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	1.203 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.185 hours
Computational Time Increment	0.025 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 2C
Scenario: Post-Development 1 YR

Return Event: 1 years
Storm Event: 1 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	40.61 ft³/s
Unit peak time, Tp	0.123 hours
Unit receding limb, Tr	0.493 hours
Total unit time, Tb	0.617 hours

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 2C
Scenario: Pre-Development 1 YR

Return Event: 1 years
Storm Event: 1 YR

Storm Event	1 YR
Return Event	1 years
Duration	24.000 hours
Depth	3.5 in
Time of Concentration (Composite)	0.563 hours
Area (User Defined)	7.880 acres

Computational Time Increment	0.075 hours
Time to Peak (Computed)	12.225 hours
Flow (Peak, Computed)	10.13 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.250 hours
Flow (Peak Interpolated Output)	9.97 ft³/s

Drainage Area	
SCS CN (Composite)	80.000
Area (User Defined)	7.880 acres
Maximum Retention (Pervious)	2.5 in
Maximum Retention (Pervious, 20 percent)	0.5 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	1.6 in
Runoff Volume (Pervious)	1.075 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	1.065 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.563 hours
Computational Time Increment	0.075 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 2C
Scenario: Pre-Development 1 YR

Return Event: 1 years
Storm Event: 1 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	15.87 ft³/s
Unit peak time, Tp	0.375 hours
Unit receding limb, Tr	1.500 hours
Total unit time, Tb	1.875 hours

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 2C
Scenario: Post-Development 2 YR

Return Event: 2 years
Storm Event: 2 YR

Storm Event	2 YR
Return Event	2 years
Duration	24.000 hours
Depth	3.9 in
Time of Concentration (Composite)	0.185 hours
Area (User Defined)	6.630 acres

Computational Time Increment	0.025 hours
Time to Peak (Computed)	11.988 hours
Flow (Peak, Computed)	22.34 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.000 hours
Flow (Peak Interpolated Output)	22.31 ft³/s

Drainage Area	
SCS CN (Composite)	87.000
Area (User Defined)	6.630 acres
Maximum Retention (Pervious)	1.5 in
Maximum Retention (Pervious, 20 percent)	0.3 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	2.6 in
Runoff Volume (Pervious)	1.416 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	1.413 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.185 hours
Computational Time Increment	0.025 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 2C
Scenario: Post-Development 2 YR

Return Event: 2 years
Storm Event: 2 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	40.61 ft³/s
Unit peak time, Tp	0.123 hours
Unit receding limb, Tr	0.493 hours
Total unit time, Tb	0.617 hours

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 2C
Scenario: Pre-Development 2 YR

Return Event: 2 years
Storm Event: 2 YR

Storm Event	2 YR
Return Event	2 years
Duration	24.000 hours
Depth	3.9 in
Time of Concentration (Composite)	0.563 hours
Area (User Defined)	7.880 acres

Computational Time Increment	0.075 hours
Time to Peak (Computed)	12.225 hours
Flow (Peak, Computed)	12.31 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.200 hours
Flow (Peak Interpolated Output)	12.11 ft³/s

Drainage Area	
SCS CN (Composite)	80.000
Area (User Defined)	7.880 acres
Maximum Retention (Pervious)	2.5 in
Maximum Retention (Pervious, 20 percent)	0.5 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	2.0 in
Runoff Volume (Pervious)	1.297 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	1.287 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.563 hours
Computational Time Increment	0.075 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 2C
Scenario: Pre-Development 2 YR

Return Event: 2 years
Storm Event: 2 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	15.87 ft³/s
Unit peak time, Tp	0.375 hours
Unit receding limb, Tr	1.500 hours
Total unit time, Tb	1.875 hours

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 2C
Scenario: Post-Development 5 YR

Return Event: 5 years
Storm Event: 5 YR

Storm Event	5 YR
Return Event	5 years
Duration	24.000 hours
Depth	4.7 in
Time of Concentration (Composite)	0.185 hours
Area (User Defined)	6.630 acres

Computational Time Increment	0.025 hours
Time to Peak (Computed)	11.988 hours
Flow (Peak, Computed)	28.01 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.000 hours
Flow (Peak Interpolated Output)	27.93 ft³/s

Drainage Area	
SCS CN (Composite)	87.000
Area (User Defined)	6.630 acres
Maximum Retention (Pervious)	1.5 in
Maximum Retention (Pervious, 20 percent)	0.3 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	3.2 in
Runoff Volume (Pervious)	1.789 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	1.785 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.185 hours
Computational Time Increment	0.025 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 2C
Scenario: Post-Development 5 YR

Return Event: 5 years
Storm Event: 5 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	40.61 ft³/s
Unit peak time, Tp	0.123 hours
Unit receding limb, Tr	0.493 hours
Total unit time, Tb	0.617 hours

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 2C
Scenario: Pre-Development 5 YR

Return Event: 5 years
Storm Event: 5 YR

Storm Event	5 YR
Return Event	5 years
Duration	24.000 hours
Depth	4.7 in
Time of Concentration (Composite)	0.563 hours
Area (User Defined)	7.880 acres

Computational Time Increment	0.075 hours
Time to Peak (Computed)	12.225 hours
Flow (Peak, Computed)	16.22 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.200 hours
Flow (Peak Interpolated Output)	15.98 ft³/s

Drainage Area	
SCS CN (Composite)	80.000
Area (User Defined)	7.880 acres
Maximum Retention (Pervious)	2.5 in
Maximum Retention (Pervious, 20 percent)	0.5 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	2.6 in
Runoff Volume (Pervious)	1.701 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	1.688 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.563 hours
Computational Time Increment	0.075 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 2C
Scenario: Pre-Development 5 YR

Return Event: 5 years
Storm Event: 5 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	15.87 ft³/s
Unit peak time, Tp	0.375 hours
Unit receding limb, Tr	1.500 hours
Total unit time, Tb	1.875 hours

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 2C
Scenario: Post-Development 10 YR

Return Event: 10 years
Storm Event: 10 YR

Storm Event	10 YR
Return Event	10 years
Duration	24.000 hours
Depth	5.3 in
Time of Concentration (Composite)	0.185 hours
Area (User Defined)	6.630 acres

Computational Time Increment	0.025 hours
Time to Peak (Computed)	11.988 hours
Flow (Peak, Computed)	33.14 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.000 hours
Flow (Peak Interpolated Output)	33.02 ft³/s

Drainage Area	
SCS CN (Composite)	87.000
Area (User Defined)	6.630 acres
Maximum Retention (Pervious)	1.5 in
Maximum Retention (Pervious, 20 percent)	0.3 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	3.9 in
Runoff Volume (Pervious)	2.133 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	2.128 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.185 hours
Computational Time Increment	0.025 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 2C
Scenario: Post-Development 10 YR

Return Event: 10 years
Storm Event: 10 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	40.61 ft³/s
Unit peak time, Tp	0.123 hours
Unit receding limb, Tr	0.493 hours
Total unit time, Tb	0.617 hours

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 2C
Scenario: Pre-Development 10 YR

Return Event: 10 years
Storm Event: 10 YR

Storm Event	10 YR
Return Event	10 years
Duration	24.000 hours
Depth	5.3 in
Time of Concentration (Composite)	0.563 hours
Area (User Defined)	7.880 acres

Computational Time Increment	0.075 hours
Time to Peak (Computed)	12.225 hours
Flow (Peak, Computed)	19.83 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.200 hours
Flow (Peak Interpolated Output)	19.58 ft³/s

Drainage Area	
SCS CN (Composite)	80.000
Area (User Defined)	7.880 acres
Maximum Retention (Pervious)	2.5 in
Maximum Retention (Pervious, 20 percent)	0.5 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	3.2 in
Runoff Volume (Pervious)	2.078 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	2.063 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.563 hours
Computational Time Increment	0.075 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 2C
Scenario: Pre-Development 10 YR

Return Event: 10 years
Storm Event: 10 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	15.87 ft³/s
Unit peak time, Tp	0.375 hours
Unit receding limb, Tr	1.500 hours
Total unit time, Tb	1.875 hours

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 2C
Scenario: Post-Development 25 YR

Return Event: 25 years
Storm Event: 25 YR

Storm Event	25 YR
Return Event	25 years
Duration	24.000 hours
Depth	6.3 in
Time of Concentration (Composite)	0.185 hours
Area (User Defined)	6.630 acres

Computational Time Increment	0.025 hours
Time to Peak (Computed)	11.988 hours
Flow (Peak, Computed)	40.59 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.000 hours
Flow (Peak Interpolated Output)	40.40 ft³/s

Drainage Area	
SCS CN (Composite)	87.000
Area (User Defined)	6.630 acres
Maximum Retention (Pervious)	1.5 in
Maximum Retention (Pervious, 20 percent)	0.3 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	4.8 in
Runoff Volume (Pervious)	2.639 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	2.633 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.185 hours
Computational Time Increment	0.025 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 2C
Scenario: Post-Development 25 YR

Return Event: 25 years
Storm Event: 25 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	40.61 ft³/s
Unit peak time, Tp	0.123 hours
Unit receding limb, Tr	0.493 hours
Total unit time, Tb	0.617 hours

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 2C
Scenario: Pre-Development 25 YR

Return Event: 25 years
Storm Event: 25 YR

Storm Event	25 YR
Return Event	25 years
Duration	24.000 hours
Depth	6.3 in
Time of Concentration (Composite)	0.563 hours
Area (User Defined)	7.880 acres

Computational Time Increment	0.075 hours
Time to Peak (Computed)	12.225 hours
Flow (Peak, Computed)	25.18 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.200 hours
Flow (Peak Interpolated Output)	24.89 ft³/s

Drainage Area	
SCS CN (Composite)	80.000
Area (User Defined)	7.880 acres
Maximum Retention (Pervious)	2.5 in
Maximum Retention (Pervious, 20 percent)	0.5 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	4.0 in
Runoff Volume (Pervious)	2.644 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	2.625 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.563 hours
Computational Time Increment	0.075 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 2C
Scenario: Pre-Development 25 YR

Return Event: 25 years
Storm Event: 25 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	15.87 ft³/s
Unit peak time, Tp	0.375 hours
Unit receding limb, Tr	1.500 hours
Total unit time, Tb	1.875 hours

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 2C
Scenario: Post-Development 50 YR

Return Event: 50 years
Storm Event: 50 YR

Storm Event	50 YR
Return Event	50 years
Duration	24.000 hours
Depth	7.1 in
Time of Concentration (Composite)	0.185 hours
Area (User Defined)	6.630 acres

Computational Time Increment	0.025 hours
Time to Peak (Computed)	11.988 hours
Flow (Peak, Computed)	46.78 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.000 hours
Flow (Peak Interpolated Output)	46.53 ft³/s

Drainage Area	
SCS CN (Composite)	87.000
Area (User Defined)	6.630 acres
Maximum Retention (Pervious)	1.5 in
Maximum Retention (Pervious, 20 percent)	0.3 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	5.5 in
Runoff Volume (Pervious)	3.065 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	3.058 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.185 hours
Computational Time Increment	0.025 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 2C
Scenario: Post-Development 50 YR

Return Event: 50 years
Storm Event: 50 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	40.61 ft³/s
Unit peak time, Tp	0.123 hours
Unit receding limb, Tr	0.493 hours
Total unit time, Tb	0.617 hours

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 2C
Scenario: Pre-Development 50 YR

Return Event: 50 years
Storm Event: 50 YR

Storm Event	50 YR
Return Event	50 years
Duration	24.000 hours
Depth	7.1 in
Time of Concentration (Composite)	0.563 hours
Area (User Defined)	7.880 acres

Computational Time Increment	0.075 hours
Time to Peak (Computed)	12.225 hours
Flow (Peak, Computed)	29.68 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.200 hours
Flow (Peak Interpolated Output)	29.37 ft³/s

Drainage Area	
SCS CN (Composite)	80.000
Area (User Defined)	7.880 acres
Maximum Retention (Pervious)	2.5 in
Maximum Retention (Pervious, 20 percent)	0.5 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	4.8 in
Runoff Volume (Pervious)	3.125 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	3.104 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.563 hours
Computational Time Increment	0.075 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 2C
Scenario: Pre-Development 50 YR

Return Event: 50 years
Storm Event: 50 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	15.87 ft³/s
Unit peak time, Tp	0.375 hours
Unit receding limb, Tr	1.500 hours
Total unit time, Tb	1.875 hours

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 2C
Scenario: Post-Development 100 YR

Return Event: 100 years
Storm Event: 100 YR

Storm Event	100 YR
Return Event	100 years
Duration	24.000 hours
Depth	7.9 in
Time of Concentration (Composite)	0.185 hours
Area (User Defined)	6.630 acres

Computational Time Increment	0.025 hours
Time to Peak (Computed)	11.988 hours
Flow (Peak, Computed)	53.25 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.000 hours
Flow (Peak Interpolated Output)	52.95 ft³/s

Drainage Area	
SCS CN (Composite)	87.000
Area (User Defined)	6.630 acres
Maximum Retention (Pervious)	1.5 in
Maximum Retention (Pervious, 20 percent)	0.3 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	6.4 in
Runoff Volume (Pervious)	3.515 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	3.508 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.185 hours
Computational Time Increment	0.025 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 2C
Scenario: Post-Development 100 YR

Return Event: 100 years
Storm Event: 100 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	40.61 ft³/s
Unit peak time, Tp	0.123 hours
Unit receding limb, Tr	0.493 hours
Total unit time, Tb	0.617 hours

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 2C
Scenario: Pre-Development 100 YR

Return Event: 100 years
Storm Event: 100 YR

Storm Event	100 YR
Return Event	100 years
Duration	24.000 hours
Depth	7.9 in
Time of Concentration (Composite)	0.563 hours
Area (User Defined)	7.880 acres

Computational Time Increment	0.075 hours
Time to Peak (Computed)	12.225 hours
Flow (Peak, Computed)	34.43 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.200 hours
Flow (Peak Interpolated Output)	34.09 ft³/s

Drainage Area	
SCS CN (Composite)	80.000
Area (User Defined)	7.880 acres
Maximum Retention (Pervious)	2.5 in
Maximum Retention (Pervious, 20 percent)	0.5 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	5.5 in
Runoff Volume (Pervious)	3.638 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	3.614 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.563 hours
Computational Time Increment	0.075 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 2C
Scenario: Pre-Development 100 YR

Return Event: 100 years
Storm Event: 100 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	15.87 ft³/s
Unit peak time, Tp	0.375 hours
Unit receding limb, Tr	1.500 hours
Total unit time, Tb	1.875 hours

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 3A
Scenario: Post-Development 1 YR

Return Event: 1 years
Storm Event: 1 YR

Storm Event	1 YR
Return Event	1 years
Duration	24.000 hours
Depth	3.5 in
Time of Concentration (Composite)	0.128 hours
Area (User Defined)	0.205 acres

Computational Time Increment	0.017 hours
Time to Peak (Computed)	11.965 hours
Flow (Peak, Computed)	0.48 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	11.950 hours
Flow (Peak Interpolated Output)	0.48 ft³/s

Drainage Area	
SCS CN (Composite)	80.000
Area (User Defined)	0.205 acres
Maximum Retention (Pervious)	2.5 in
Maximum Retention (Pervious, 20 percent)	0.5 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	1.6 in
Runoff Volume (Pervious)	0.028 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	0.028 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.128 hours
Computational Time Increment	0.017 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 3A
Scenario: Post-Development 1 YR

Return Event: 1 years
Storm Event: 1 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	1.81 ft³/s
Unit peak time, Tp	0.085 hours
Unit receding limb, Tr	0.342 hours
Total unit time, Tb	0.427 hours

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 3A
Scenario: Pre-Development 1 YR

Return Event: 1 years
Storm Event: 1 YR

Storm Event	1 YR
Return Event	1 years
Duration	24.000 hours
Depth	3.5 in
Time of Concentration (Composite)	0.279 hours
Area (User Defined)	0.260 acres

Computational Time Increment	0.037 hours
Time to Peak (Computed)	12.060 hours
Flow (Peak, Computed)	0.49 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.050 hours
Flow (Peak Interpolated Output)	0.49 ft³/s

Drainage Area	
SCS CN (Composite)	80.000
Area (User Defined)	0.260 acres
Maximum Retention (Pervious)	2.5 in
Maximum Retention (Pervious, 20 percent)	0.5 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	1.6 in
Runoff Volume (Pervious)	0.035 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	0.035 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.279 hours
Computational Time Increment	0.037 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 3A
Scenario: Pre-Development 1 YR

Return Event: 1 years
Storm Event: 1 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	1.06 ft³/s
Unit peak time, Tp	0.186 hours
Unit receding limb, Tr	0.744 hours
Total unit time, Tb	0.931 hours

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 3A
Scenario: Post-Development 2 YR

Return Event: 2 years
Storm Event: 2 YR

Storm Event	2 YR
Return Event	2 years
Duration	24.000 hours
Depth	3.9 in
Time of Concentration (Composite)	0.128 hours
Area (User Defined)	0.205 acres

Computational Time Increment	0.017 hours
Time to Peak (Computed)	11.965 hours
Flow (Peak, Computed)	0.59 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	11.950 hours
Flow (Peak Interpolated Output)	0.58 ft³/s

Drainage Area	
SCS CN (Composite)	80.000
Area (User Defined)	0.205 acres
Maximum Retention (Pervious)	2.5 in
Maximum Retention (Pervious, 20 percent)	0.5 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	2.0 in
Runoff Volume (Pervious)	0.034 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	0.034 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.128 hours
Computational Time Increment	0.017 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 3A
Scenario: Post-Development 2 YR

Return Event: 2 years
Storm Event: 2 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	1.81 ft³/s
Unit peak time, Tp	0.085 hours
Unit receding limb, Tr	0.342 hours
Total unit time, Tb	0.427 hours

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 3A
Scenario: Pre-Development 2 YR

Return Event: 2 years
Storm Event: 2 YR

Storm Event	2 YR
Return Event	2 years
Duration	24.000 hours
Depth	3.9 in
Time of Concentration (Composite)	0.279 hours
Area (User Defined)	0.260 acres

Computational Time Increment	0.037 hours
Time to Peak (Computed)	12.060 hours
Flow (Peak, Computed)	0.60 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.050 hours
Flow (Peak Interpolated Output)	0.59 ft³/s

Drainage Area	
SCS CN (Composite)	80.000
Area (User Defined)	0.260 acres
Maximum Retention (Pervious)	2.5 in
Maximum Retention (Pervious, 20 percent)	0.5 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	2.0 in
Runoff Volume (Pervious)	0.043 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	0.043 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.279 hours
Computational Time Increment	0.037 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 3A
Scenario: Pre-Development 2 YR

Return Event: 2 years
Storm Event: 2 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	1.06 ft³/s
Unit peak time, Tp	0.186 hours
Unit receding limb, Tr	0.744 hours
Total unit time, Tb	0.931 hours

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 3A
Scenario: Post-Development 5 YR

Return Event: 5 years
Storm Event: 5 YR

Storm Event	5 YR
Return Event	5 years
Duration	24.000 hours
Depth	4.7 in
Time of Concentration (Composite)	0.128 hours
Area (User Defined)	0.205 acres

Computational Time Increment	0.017 hours
Time to Peak (Computed)	11.948 hours
Flow (Peak, Computed)	0.77 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	11.950 hours
Flow (Peak Interpolated Output)	0.77 ft³/s

Drainage Area	
SCS CN (Composite)	80.000
Area (User Defined)	0.205 acres
Maximum Retention (Pervious)	2.5 in
Maximum Retention (Pervious, 20 percent)	0.5 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	2.6 in
Runoff Volume (Pervious)	0.044 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	0.044 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.128 hours
Computational Time Increment	0.017 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 3A
Scenario: Post-Development 5 YR

Return Event: 5 years
Storm Event: 5 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	1.81 ft³/s
Unit peak time, Tp	0.085 hours
Unit receding limb, Tr	0.342 hours
Total unit time, Tb	0.427 hours

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 3A
Scenario: Pre-Development 5 YR

Return Event: 5 years
Storm Event: 5 YR

Storm Event	5 YR
Return Event	5 years
Duration	24.000 hours
Depth	4.7 in
Time of Concentration (Composite)	0.279 hours
Area (User Defined)	0.260 acres

Computational Time Increment	0.037 hours
Time to Peak (Computed)	12.060 hours
Flow (Peak, Computed)	0.78 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.050 hours
Flow (Peak Interpolated Output)	0.78 ft³/s

Drainage Area	
SCS CN (Composite)	80.000
Area (User Defined)	0.260 acres
Maximum Retention (Pervious)	2.5 in
Maximum Retention (Pervious, 20 percent)	0.5 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	2.6 in
Runoff Volume (Pervious)	0.056 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	0.056 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.279 hours
Computational Time Increment	0.037 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 3A
Scenario: Pre-Development 5 YR

Return Event: 5 years
Storm Event: 5 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	1.06 ft³/s
Unit peak time, Tp	0.186 hours
Unit receding limb, Tr	0.744 hours
Total unit time, Tb	0.931 hours

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 3A
Scenario: Post-Development 10 YR

Return Event: 10 years
Storm Event: 10 YR

Storm Event	10 YR
Return Event	10 years
Duration	24.000 hours
Depth	5.3 in
Time of Concentration (Composite)	0.128 hours
Area (User Defined)	0.205 acres

Computational Time Increment	0.017 hours
Time to Peak (Computed)	11.948 hours
Flow (Peak, Computed)	0.94 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	11.950 hours
Flow (Peak Interpolated Output)	0.94 ft³/s

Drainage Area	
SCS CN (Composite)	80.000
Area (User Defined)	0.205 acres
Maximum Retention (Pervious)	2.5 in
Maximum Retention (Pervious, 20 percent)	0.5 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	3.2 in
Runoff Volume (Pervious)	0.054 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	0.054 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.128 hours
Computational Time Increment	0.017 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 3A
Scenario: Post-Development 10 YR

Return Event: 10 years
Storm Event: 10 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	1.81 ft³/s
Unit peak time, Tp	0.085 hours
Unit receding limb, Tr	0.342 hours
Total unit time, Tb	0.427 hours

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 3A
Scenario: Pre-Development 10 YR

Return Event: 10 years
Storm Event: 10 YR

Storm Event	10 YR
Return Event	10 years
Duration	24.000 hours
Depth	5.3 in
Time of Concentration (Composite)	0.279 hours
Area (User Defined)	0.260 acres

Computational Time Increment	0.037 hours
Time to Peak (Computed)	12.060 hours
Flow (Peak, Computed)	0.95 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.050 hours
Flow (Peak Interpolated Output)	0.95 ft³/s

Drainage Area	
SCS CN (Composite)	80.000
Area (User Defined)	0.260 acres
Maximum Retention (Pervious)	2.5 in
Maximum Retention (Pervious, 20 percent)	0.5 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	3.2 in
Runoff Volume (Pervious)	0.069 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	0.068 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.279 hours
Computational Time Increment	0.037 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 3A
Scenario: Pre-Development 10 YR

Return Event: 10 years
Storm Event: 10 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	1.06 ft³/s
Unit peak time, Tp	0.186 hours
Unit receding limb, Tr	0.744 hours
Total unit time, Tb	0.931 hours

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 3A
Scenario: Post-Development 25 YR

Return Event: 25 years
Storm Event: 25 YR

Storm Event	25 YR
Return Event	25 years
Duration	24.000 hours
Depth	6.3 in
Time of Concentration (Composite)	0.128 hours
Area (User Defined)	0.205 acres

Computational Time Increment	0.017 hours
Time to Peak (Computed)	11.948 hours
Flow (Peak, Computed)	1.19 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	11.950 hours
Flow (Peak Interpolated Output)	1.18 ft³/s

Drainage Area	
SCS CN (Composite)	80.000
Area (User Defined)	0.205 acres
Maximum Retention (Pervious)	2.5 in
Maximum Retention (Pervious, 20 percent)	0.5 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	4.0 in
Runoff Volume (Pervious)	0.069 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	0.069 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.128 hours
Computational Time Increment	0.017 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 3A
Scenario: Post-Development 25 YR

Return Event: 25 years
Storm Event: 25 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	1.81 ft³/s
Unit peak time, Tp	0.085 hours
Unit receding limb, Tr	0.342 hours
Total unit time, Tb	0.427 hours

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 3A
Scenario: Pre-Development 25 YR

Return Event: 25 years
Storm Event: 25 YR

Storm Event	25 YR
Return Event	25 years
Duration	24.000 hours
Depth	6.3 in
Time of Concentration (Composite)	0.279 hours
Area (User Defined)	0.260 acres

Computational Time Increment	0.037 hours
Time to Peak (Computed)	12.060 hours
Flow (Peak, Computed)	1.21 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.050 hours
Flow (Peak Interpolated Output)	1.20 ft³/s

Drainage Area	
SCS CN (Composite)	80.000
Area (User Defined)	0.260 acres
Maximum Retention (Pervious)	2.5 in
Maximum Retention (Pervious, 20 percent)	0.5 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	4.0 in
Runoff Volume (Pervious)	0.087 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	0.087 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.279 hours
Computational Time Increment	0.037 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 3A
Scenario: Pre-Development 25 YR

Return Event: 25 years
Storm Event: 25 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	1.06 ft³/s
Unit peak time, Tp	0.186 hours
Unit receding limb, Tr	0.744 hours
Total unit time, Tb	0.931 hours

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 3A
Scenario: Post-Development 50 YR

Return Event: 50 years
Storm Event: 50 YR

Storm Event	50 YR
Return Event	50 years
Duration	24.000 hours
Depth	7.1 in
Time of Concentration (Composite)	0.128 hours
Area (User Defined)	0.205 acres

Computational Time Increment	0.017 hours
Time to Peak (Computed)	11.948 hours
Flow (Peak, Computed)	1.39 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	11.950 hours
Flow (Peak Interpolated Output)	1.39 ft³/s

Drainage Area	
SCS CN (Composite)	80.000
Area (User Defined)	0.205 acres
Maximum Retention (Pervious)	2.5 in
Maximum Retention (Pervious, 20 percent)	0.5 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	4.8 in
Runoff Volume (Pervious)	0.081 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	0.081 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.128 hours
Computational Time Increment	0.017 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 3A
Scenario: Post-Development 50 YR

Return Event: 50 years
Storm Event: 50 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	1.81 ft³/s
Unit peak time, Tp	0.085 hours
Unit receding limb, Tr	0.342 hours
Total unit time, Tb	0.427 hours

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 3A
Scenario: Pre-Development 50 YR

Return Event: 50 years
Storm Event: 50 YR

Storm Event	50 YR
Return Event	50 years
Duration	24.000 hours
Depth	7.1 in
Time of Concentration (Composite)	0.279 hours
Area (User Defined)	0.260 acres

Computational Time Increment	0.037 hours
Time to Peak (Computed)	12.060 hours
Flow (Peak, Computed)	1.42 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.050 hours
Flow (Peak Interpolated Output)	1.41 ft³/s

Drainage Area	
SCS CN (Composite)	80.000
Area (User Defined)	0.260 acres
Maximum Retention (Pervious)	2.5 in
Maximum Retention (Pervious, 20 percent)	0.5 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	4.8 in
Runoff Volume (Pervious)	0.103 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	0.103 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.279 hours
Computational Time Increment	0.037 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 3A
Scenario: Pre-Development 50 YR

Return Event: 50 years
Storm Event: 50 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	1.06 ft³/s
Unit peak time, Tp	0.186 hours
Unit receding limb, Tr	0.744 hours
Total unit time, Tb	0.931 hours

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 3A
Scenario: Post-Development 100 YR

Return Event: 100 years
Storm Event: 100 YR

Storm Event	100 YR
Return Event	100 years
Duration	24.000 hours
Depth	7.9 in
Time of Concentration (Composite)	0.128 hours
Area (User Defined)	0.205 acres

Computational Time Increment	0.017 hours
Time to Peak (Computed)	11.948 hours
Flow (Peak, Computed)	1.61 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	11.950 hours
Flow (Peak Interpolated Output)	1.61 ft³/s

Drainage Area	
SCS CN (Composite)	80.000
Area (User Defined)	0.205 acres
Maximum Retention (Pervious)	2.5 in
Maximum Retention (Pervious, 20 percent)	0.5 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	5.5 in
Runoff Volume (Pervious)	0.095 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	0.095 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.128 hours
Computational Time Increment	0.017 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 3A
Scenario: Post-Development 100 YR

Return Event: 100 years
Storm Event: 100 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	1.81 ft³/s
Unit peak time, Tp	0.085 hours
Unit receding limb, Tr	0.342 hours
Total unit time, Tb	0.427 hours

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 3A
Scenario: Pre-Development 100 YR

Return Event: 100 years
Storm Event: 100 YR

Storm Event	100 YR
Return Event	100 years
Duration	24.000 hours
Depth	7.9 in
Time of Concentration (Composite)	0.279 hours
Area (User Defined)	0.260 acres

Computational Time Increment	0.037 hours
Time to Peak (Computed)	12.060 hours
Flow (Peak, Computed)	1.77 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.050 hours
Flow (Peak Interpolated Output)	1.76 ft³/s

Drainage Area	
SCS CN (Composite)	80.000
Area (User Defined)	0.260 acres
Maximum Retention (Pervious)	2.5 in
Maximum Retention (Pervious, 20 percent)	0.5 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	5.5 in
Runoff Volume (Pervious)	0.129 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	0.129 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.279 hours
Computational Time Increment	0.037 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 3A
Scenario: Pre-Development 100 YR

Return Event: 100 years
Storm Event: 100 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	1.14 ft³/s
Unit peak time, Tp	0.186 hours
Unit receding limb, Tr	0.744 hours
Total unit time, Tb	0.931 hours

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 3B
Scenario: Post-Development 1 YR

Return Event: 1 years
Storm Event: 1 YR

Storm Event	1 YR
Return Event	1 years
Duration	24.000 hours
Depth	3.5 in
Time of Concentration (Composite)	0.406 hours
Area (User Defined)	2.080 acres

Computational Time Increment	0.054 hours
Time to Peak (Computed)	12.141 hours
Flow (Peak, Computed)	4.50 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.150 hours
Flow (Peak Interpolated Output)	4.45 ft³/s

Drainage Area	
SCS CN (Composite)	88.000
Area (User Defined)	2.080 acres
Maximum Retention (Pervious)	1.4 in
Maximum Retention (Pervious, 20 percent)	0.3 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	2.3 in
Runoff Volume (Pervious)	0.393 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	0.391 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.406 hours
Computational Time Increment	0.054 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 3B
Scenario: Post-Development 1 YR

Return Event: 1 years
Storm Event: 1 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	5.80 ft³/s
Unit peak time, Tp	0.271 hours
Unit receding limb, Tr	1.084 hours
Total unit time, Tb	1.355 hours

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 3B
Scenario: Pre-Development 1 YR

Return Event: 1 years
Storm Event: 1 YR

Storm Event	1 YR
Return Event	1 years
Duration	24.000 hours
Depth	3.5 in
Time of Concentration (Composite)	0.542 hours
Area (User Defined)	3.320 acres

Computational Time Increment	0.072 hours
Time to Peak (Computed)	12.212 hours
Flow (Peak, Computed)	4.57 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.200 hours
Flow (Peak Interpolated Output)	4.53 ft³/s

Drainage Area	
SCS CN (Composite)	81.000
Area (User Defined)	3.320 acres
Maximum Retention (Pervious)	2.3 in
Maximum Retention (Pervious, 20 percent)	0.5 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	1.7 in
Runoff Volume (Pervious)	0.473 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	0.469 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.542 hours
Computational Time Increment	0.072 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 3B
Scenario: Pre-Development 1 YR

Return Event: 1 years
Storm Event: 1 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	6.94 ft³/s
Unit peak time, Tp	0.361 hours
Unit receding limb, Tr	1.445 hours
Total unit time, Tb	1.807 hours

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 3B
Scenario: Post-Development 2 YR

Return Event: 2 years
Storm Event: 2 YR

Storm Event	2 YR
Return Event	2 years
Duration	24.000 hours
Depth	3.9 in
Time of Concentration (Composite)	0.406 hours
Area (User Defined)	2.080 acres

Computational Time Increment	0.054 hours
Time to Peak (Computed)	12.141 hours
Flow (Peak, Computed)	5.24 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.100 hours
Flow (Peak Interpolated Output)	5.19 ft³/s

Drainage Area	
SCS CN (Composite)	88.000
Area (User Defined)	2.080 acres
Maximum Retention (Pervious)	1.4 in
Maximum Retention (Pervious, 20 percent)	0.3 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	2.7 in
Runoff Volume (Pervious)	0.460 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	0.458 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.406 hours
Computational Time Increment	0.054 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 3B
Scenario: Post-Development 2 YR

Return Event: 2 years
Storm Event: 2 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	5.80 ft³/s
Unit peak time, Tp	0.271 hours
Unit receding limb, Tr	1.084 hours
Total unit time, Tb	1.355 hours

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 3B
Scenario: Pre-Development 2 YR

Return Event: 2 years
Storm Event: 2 YR

Storm Event	2 YR
Return Event	2 years
Duration	24.000 hours
Depth	3.9 in
Time of Concentration (Composite)	0.542 hours
Area (User Defined)	3.320 acres

Computational Time Increment	0.072 hours
Time to Peak (Computed)	12.212 hours
Flow (Peak, Computed)	5.53 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.200 hours
Flow (Peak Interpolated Output)	5.48 ft³/s

Drainage Area	
SCS CN (Composite)	81.000
Area (User Defined)	3.320 acres
Maximum Retention (Pervious)	2.3 in
Maximum Retention (Pervious, 20 percent)	0.5 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	2.1 in
Runoff Volume (Pervious)	0.568 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	0.564 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.542 hours
Computational Time Increment	0.072 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 3B
Scenario: Pre-Development 2 YR

Return Event: 2 years
Storm Event: 2 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	6.94 ft³/s
Unit peak time, Tp	0.361 hours
Unit receding limb, Tr	1.445 hours
Total unit time, Tb	1.807 hours

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 3B
Scenario: Post-Development 5 YR

Return Event: 5 years
Storm Event: 5 YR

Storm Event	5 YR
Return Event	5 years
Duration	24.000 hours
Depth	4.7 in
Time of Concentration (Composite)	0.406 hours
Area (User Defined)	2.080 acres

Computational Time Increment	0.054 hours
Time to Peak (Computed)	12.141 hours
Flow (Peak, Computed)	6.54 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.100 hours
Flow (Peak Interpolated Output)	6.49 ft³/s

Drainage Area	
SCS CN (Composite)	88.000
Area (User Defined)	2.080 acres
Maximum Retention (Pervious)	1.4 in
Maximum Retention (Pervious, 20 percent)	0.3 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	3.3 in
Runoff Volume (Pervious)	0.579 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	0.576 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.406 hours
Computational Time Increment	0.054 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 3B
Scenario: Post-Development 5 YR

Return Event: 5 years
Storm Event: 5 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	5.80 ft³/s
Unit peak time, Tp	0.271 hours
Unit receding limb, Tr	1.084 hours
Total unit time, Tb	1.355 hours

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 3B
Scenario: Pre-Development 5 YR

Return Event: 5 years
Storm Event: 5 YR

Storm Event	5 YR
Return Event	5 years
Duration	24.000 hours
Depth	4.7 in
Time of Concentration (Composite)	0.542 hours
Area (User Defined)	3.320 acres

Computational Time Increment	0.072 hours
Time to Peak (Computed)	12.212 hours
Flow (Peak, Computed)	7.23 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.200 hours
Flow (Peak Interpolated Output)	7.17 ft³/s

Drainage Area	
SCS CN (Composite)	81.000
Area (User Defined)	3.320 acres
Maximum Retention (Pervious)	2.3 in
Maximum Retention (Pervious, 20 percent)	0.5 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	2.7 in
Runoff Volume (Pervious)	0.741 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	0.736 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.542 hours
Computational Time Increment	0.072 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 3B
Scenario: Pre-Development 5 YR

Return Event: 5 years
Storm Event: 5 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	6.94 ft³/s
Unit peak time, Tp	0.361 hours
Unit receding limb, Tr	1.445 hours
Total unit time, Tb	1.807 hours

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 3B
Scenario: Post-Development 10 YR

Return Event: 10 years
Storm Event: 10 YR

Storm Event	10 YR
Return Event	10 years
Duration	24.000 hours
Depth	5.3 in
Time of Concentration (Composite)	0.406 hours
Area (User Defined)	2.080 acres

Computational Time Increment	0.054 hours
Time to Peak (Computed)	12.141 hours
Flow (Peak, Computed)	7.71 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.100 hours
Flow (Peak Interpolated Output)	7.66 ft³/s

Drainage Area	
SCS CN (Composite)	88.000
Area (User Defined)	2.080 acres
Maximum Retention (Pervious)	1.4 in
Maximum Retention (Pervious, 20 percent)	0.3 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	4.0 in
Runoff Volume (Pervious)	0.687 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	0.684 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.406 hours
Computational Time Increment	0.054 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 3B
Scenario: Post-Development 10 YR

Return Event: 10 years
Storm Event: 10 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	5.80 ft³/s
Unit peak time, Tp	0.271 hours
Unit receding limb, Tr	1.084 hours
Total unit time, Tb	1.355 hours

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 3B
Scenario: Pre-Development 10 YR

Return Event: 10 years
Storm Event: 10 YR

Storm Event	10 YR
Return Event	10 years
Duration	24.000 hours
Depth	5.3 in
Time of Concentration (Composite)	0.542 hours
Area (User Defined)	3.320 acres

Computational Time Increment	0.072 hours
Time to Peak (Computed)	12.212 hours
Flow (Peak, Computed)	8.79 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.200 hours
Flow (Peak Interpolated Output)	8.74 ft³/s

Drainage Area	
SCS CN (Composite)	81.000
Area (User Defined)	3.320 acres
Maximum Retention (Pervious)	2.3 in
Maximum Retention (Pervious, 20 percent)	0.5 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	3.3 in
Runoff Volume (Pervious)	0.902 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	0.896 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.542 hours
Computational Time Increment	0.072 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 3B
Scenario: Pre-Development 10 YR

Return Event: 10 years
Storm Event: 10 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	6.94 ft³/s
Unit peak time, Tp	0.361 hours
Unit receding limb, Tr	1.445 hours
Total unit time, Tb	1.807 hours

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 3B
Scenario: Post-Development 25 YR

Return Event: 25 years
Storm Event: 25 YR

Storm Event	25 YR
Return Event	25 years
Duration	24.000 hours
Depth	6.3 in
Time of Concentration (Composite)	0.406 hours
Area (User Defined)	2.080 acres

Computational Time Increment	0.054 hours
Time to Peak (Computed)	12.141 hours
Flow (Peak, Computed)	9.42 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.100 hours
Flow (Peak Interpolated Output)	9.37 ft³/s

Drainage Area	
SCS CN (Composite)	88.000
Area (User Defined)	2.080 acres
Maximum Retention (Pervious)	1.4 in
Maximum Retention (Pervious, 20 percent)	0.3 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	4.9 in
Runoff Volume (Pervious)	0.847 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	0.843 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.406 hours
Computational Time Increment	0.054 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 3B
Scenario: Post-Development 25 YR

Return Event: 25 years
Storm Event: 25 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	5.80 ft³/s
Unit peak time, Tp	0.271 hours
Unit receding limb, Tr	1.084 hours
Total unit time, Tb	1.355 hours

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 3B
Scenario: Pre-Development 25 YR

Return Event: 25 years
Storm Event: 25 YR

Storm Event	25 YR
Return Event	25 years
Duration	24.000 hours
Depth	6.3 in
Time of Concentration (Composite)	0.542 hours
Area (User Defined)	3.320 acres

Computational Time Increment	0.072 hours
Time to Peak (Computed)	12.212 hours
Flow (Peak, Computed)	11.11 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.200 hours
Flow (Peak Interpolated Output)	11.04 ft³/s

Drainage Area	
SCS CN (Composite)	81.000
Area (User Defined)	3.320 acres
Maximum Retention (Pervious)	2.3 in
Maximum Retention (Pervious, 20 percent)	0.5 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	4.1 in
Runoff Volume (Pervious)	1.143 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	1.135 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.542 hours
Computational Time Increment	0.072 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 3B
Scenario: Pre-Development 25 YR

Return Event: 25 years
Storm Event: 25 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	6.94 ft³/s
Unit peak time, Tp	0.361 hours
Unit receding limb, Tr	1.445 hours
Total unit time, Tb	1.807 hours

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 3B
Scenario: Post-Development 50 YR

Return Event: 50 years
Storm Event: 50 YR

Storm Event	50 YR
Return Event	50 years
Duration	24.000 hours
Depth	7.1 in
Time of Concentration (Composite)	0.406 hours
Area (User Defined)	2.080 acres

Computational Time Increment	0.054 hours
Time to Peak (Computed)	12.141 hours
Flow (Peak, Computed)	10.83 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.100 hours
Flow (Peak Interpolated Output)	10.79 ft³/s

Drainage Area	
SCS CN (Composite)	88.000
Area (User Defined)	2.080 acres
Maximum Retention (Pervious)	1.4 in
Maximum Retention (Pervious, 20 percent)	0.3 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	5.7 in
Runoff Volume (Pervious)	0.981 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	0.977 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.406 hours
Computational Time Increment	0.054 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 3B
Scenario: Post-Development 50 YR

Return Event: 50 years
Storm Event: 50 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	5.80 ft³/s
Unit peak time, Tp	0.271 hours
Unit receding limb, Tr	1.084 hours
Total unit time, Tb	1.355 hours

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 3B
Scenario: Pre-Development 50 YR

Return Event: 50 years
Storm Event: 50 YR

Storm Event	50 YR
Return Event	50 years
Duration	24.000 hours
Depth	7.1 in
Time of Concentration (Composite)	0.542 hours
Area (User Defined)	3.320 acres

Computational Time Increment	0.072 hours
Time to Peak (Computed)	12.212 hours
Flow (Peak, Computed)	13.05 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.200 hours
Flow (Peak Interpolated Output)	12.98 ft³/s

Drainage Area	
SCS CN (Composite)	81.000
Area (User Defined)	3.320 acres
Maximum Retention (Pervious)	2.3 in
Maximum Retention (Pervious, 20 percent)	0.5 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	4.9 in
Runoff Volume (Pervious)	1.347 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	1.339 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.542 hours
Computational Time Increment	0.072 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 3B
Scenario: Pre-Development 50 YR

Return Event: 50 years
Storm Event: 50 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	6.94 ft³/s
Unit peak time, Tp	0.361 hours
Unit receding limb, Tr	1.445 hours
Total unit time, Tb	1.807 hours

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 3B
Scenario: Post-Development 100 YR

Return Event: 100 years
Storm Event: 100 YR

Storm Event	100 YR
Return Event	100 years
Duration	24.000 hours
Depth	7.9 in
Time of Concentration (Composite)	0.406 hours
Area (User Defined)	2.080 acres

Computational Time Increment	0.054 hours
Time to Peak (Computed)	12.141 hours
Flow (Peak, Computed)	12.31 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.100 hours
Flow (Peak Interpolated Output)	12.27 ft³/s

Drainage Area	
SCS CN (Composite)	88.000
Area (User Defined)	2.080 acres
Maximum Retention (Pervious)	1.4 in
Maximum Retention (Pervious, 20 percent)	0.3 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	6.5 in
Runoff Volume (Pervious)	1.123 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	1.118 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.406 hours
Computational Time Increment	0.054 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 3B
Scenario: Post-Development 100 YR

Return Event: 100 years
Storm Event: 100 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	5.80 ft³/s
Unit peak time, Tp	0.271 hours
Unit receding limb, Tr	1.084 hours
Total unit time, Tb	1.355 hours

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 3B
Scenario: Pre-Development 100 YR

Return Event: 100 years
Storm Event: 100 YR

Storm Event	100 YR
Return Event	100 years
Duration	24.000 hours
Depth	7.9 in
Time of Concentration (Composite)	0.542 hours
Area (User Defined)	3.320 acres

Computational Time Increment	0.072 hours
Time to Peak (Computed)	12.212 hours
Flow (Peak, Computed)	15.09 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.200 hours
Flow (Peak Interpolated Output)	15.02 ft³/s

Drainage Area	
SCS CN (Composite)	81.000
Area (User Defined)	3.320 acres
Maximum Retention (Pervious)	2.3 in
Maximum Retention (Pervious, 20 percent)	0.5 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	5.7 in
Runoff Volume (Pervious)	1.565 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	1.555 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.542 hours
Computational Time Increment	0.072 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 3B
Scenario: Pre-Development 100 YR

Return Event: 100 years
Storm Event: 100 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	6.94 ft³/s
Unit peak time, Tp	0.361 hours
Unit receding limb, Tr	1.445 hours
Total unit time, Tb	1.807 hours

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 4
Scenario: Post-Development 1 YR

Return Event: 1 years
Storm Event: 1 YR

Storm Event	1 YR
Return Event	1 years
Duration	24.000 hours
Depth	3.5 in
Time of Concentration (Composite)	0.704 hours
Area (User Defined)	9.056 acres

Computational Time Increment	0.094 hours
Time to Peak (Computed)	12.295 hours
Flow (Peak, Computed)	10.44 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.300 hours
Flow (Peak Interpolated Output)	10.42 ft³/s

Drainage Area	
SCS CN (Composite)	81.000
Area (User Defined)	9.056 acres
Maximum Retention (Pervious)	2.3 in
Maximum Retention (Pervious, 20 percent)	0.5 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	1.7 in
Runoff Volume (Pervious)	1.289 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	1.276 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.704 hours
Computational Time Increment	0.094 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 4
Scenario: Post-Development 1 YR

Return Event: 1 years
Storm Event: 1 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	14.58 ft³/s
Unit peak time, Tp	0.469 hours
Unit receding limb, Tr	1.877 hours
Total unit time, Tb	2.346 hours

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 4
Scenario: Pre-Development 1 YR

Return Event: 1 years
Storm Event: 1 YR

Storm Event	1 YR
Return Event	1 years
Duration	24.000 hours
Depth	3.5 in
Time of Concentration (Composite)	0.704 hours
Area (User Defined)	9.798 acres

Computational Time Increment	0.094 hours
Time to Peak (Computed)	12.295 hours
Flow (Peak, Computed)	10.76 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.300 hours
Flow (Peak Interpolated Output)	10.74 ft³/s

Drainage Area	
SCS CN (Composite)	80.000
Area (User Defined)	9.798 acres
Maximum Retention (Pervious)	2.5 in
Maximum Retention (Pervious, 20 percent)	0.5 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	1.6 in
Runoff Volume (Pervious)	1.336 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	1.322 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.704 hours
Computational Time Increment	0.094 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 4
Scenario: Pre-Development 1 YR

Return Event: 1 years
Storm Event: 1 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	15.77 ft³/s
Unit peak time, Tp	0.469 hours
Unit receding limb, Tr	1.877 hours
Total unit time, Tb	2.346 hours

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 4
Scenario: Post-Development 2 YR

Return Event: 2 years
Storm Event: 2 YR

Storm Event	2 YR
Return Event	2 years
Duration	24.000 hours
Depth	3.9 in
Time of Concentration (Composite)	0.704 hours
Area (User Defined)	9.056 acres

Computational Time Increment	0.094 hours
Time to Peak (Computed)	12.295 hours
Flow (Peak, Computed)	12.63 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.300 hours
Flow (Peak Interpolated Output)	12.61 ft³/s

Drainage Area	
SCS CN (Composite)	81.000
Area (User Defined)	9.056 acres
Maximum Retention (Pervious)	2.3 in
Maximum Retention (Pervious, 20 percent)	0.5 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	2.1 in
Runoff Volume (Pervious)	1.550 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	1.535 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.704 hours
Computational Time Increment	0.094 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 4
Scenario: Post-Development 2 YR

Return Event: 2 years
Storm Event: 2 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	14.58 ft³/s
Unit peak time, Tp	0.469 hours
Unit receding limb, Tr	1.877 hours
Total unit time, Tb	2.346 hours

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 4
Scenario: Pre-Development 2 YR

Return Event: 2 years
Storm Event: 2 YR

Storm Event	2 YR
Return Event	2 years
Duration	24.000 hours
Depth	3.9 in
Time of Concentration (Composite)	0.704 hours
Area (User Defined)	9.798 acres

Computational Time Increment	0.094 hours
Time to Peak (Computed)	12.295 hours
Flow (Peak, Computed)	13.10 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.300 hours
Flow (Peak Interpolated Output)	13.07 ft³/s

Drainage Area	
SCS CN (Composite)	80.000
Area (User Defined)	9.798 acres
Maximum Retention (Pervious)	2.5 in
Maximum Retention (Pervious, 20 percent)	0.5 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	2.0 in
Runoff Volume (Pervious)	1.613 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	1.597 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.704 hours
Computational Time Increment	0.094 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 4
Scenario: Pre-Development 2 YR

Return Event: 2 years
Storm Event: 2 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	15.77 ft³/s
Unit peak time, Tp	0.469 hours
Unit receding limb, Tr	1.877 hours
Total unit time, Tb	2.346 hours

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 4
Scenario: Post-Development 5 YR

Return Event: 5 years
Storm Event: 5 YR

Storm Event	5 YR
Return Event	5 years
Duration	24.000 hours
Depth	4.7 in
Time of Concentration (Composite)	0.704 hours
Area (User Defined)	9.056 acres

Computational Time Increment	0.094 hours
Time to Peak (Computed)	12.295 hours
Flow (Peak, Computed)	16.55 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.300 hours
Flow (Peak Interpolated Output)	16.52 ft³/s

Drainage Area	
SCS CN (Composite)	81.000
Area (User Defined)	9.056 acres
Maximum Retention (Pervious)	2.3 in
Maximum Retention (Pervious, 20 percent)	0.5 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	2.7 in
Runoff Volume (Pervious)	2.021 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	2.003 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.704 hours
Computational Time Increment	0.094 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 4
Scenario: Post-Development 5 YR

Return Event: 5 years
Storm Event: 5 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	14.58 ft³/s
Unit peak time, Tp	0.469 hours
Unit receding limb, Tr	1.877 hours
Total unit time, Tb	2.346 hours

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 4
Scenario: Pre-Development 5 YR

Return Event: 5 years
Storm Event: 5 YR

Storm Event	5 YR
Return Event	5 years
Duration	24.000 hours
Depth	4.7 in
Time of Concentration (Composite)	0.704 hours
Area (User Defined)	9.798 acres

Computational Time Increment	0.094 hours
Time to Peak (Computed)	12.295 hours
Flow (Peak, Computed)	17.30 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.300 hours
Flow (Peak Interpolated Output)	17.26 ft³/s

Drainage Area	
SCS CN (Composite)	80.000
Area (User Defined)	9.798 acres
Maximum Retention (Pervious)	2.5 in
Maximum Retention (Pervious, 20 percent)	0.5 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	2.6 in
Runoff Volume (Pervious)	2.115 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	2.095 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.704 hours
Computational Time Increment	0.094 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 4
Scenario: Pre-Development 5 YR

Return Event: 5 years
Storm Event: 5 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	15.77 ft³/s
Unit peak time, Tp	0.469 hours
Unit receding limb, Tr	1.877 hours
Total unit time, Tb	2.346 hours

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 4
Scenario: Post-Development 10 YR

Return Event: 10 years
Storm Event: 10 YR

Storm Event	10 YR
Return Event	10 years
Duration	24.000 hours
Depth	5.3 in
Time of Concentration (Composite)	0.704 hours
Area (User Defined)	9.056 acres

Computational Time Increment	0.094 hours
Time to Peak (Computed)	12.295 hours
Flow (Peak, Computed)	20.18 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.300 hours
Flow (Peak Interpolated Output)	20.13 ft³/s

Drainage Area	
SCS CN (Composite)	81.000
Area (User Defined)	9.056 acres
Maximum Retention (Pervious)	2.3 in
Maximum Retention (Pervious, 20 percent)	0.5 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	3.3 in
Runoff Volume (Pervious)	2.461 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	2.439 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.704 hours
Computational Time Increment	0.094 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 4
Scenario: Post-Development 10 YR

Return Event: 10 years
Storm Event: 10 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	14.58 ft³/s
Unit peak time, Tp	0.469 hours
Unit receding limb, Tr	1.877 hours
Total unit time, Tb	2.346 hours

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 4
Scenario: Pre-Development 10 YR

Return Event: 10 years
Storm Event: 10 YR

Storm Event	10 YR
Return Event	10 years
Duration	24.000 hours
Depth	5.3 in
Time of Concentration (Composite)	0.704 hours
Area (User Defined)	9.798 acres

Computational Time Increment	0.094 hours
Time to Peak (Computed)	12.295 hours
Flow (Peak, Computed)	21.19 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.300 hours
Flow (Peak Interpolated Output)	21.14 ft³/s

Drainage Area	
SCS CN (Composite)	80.000
Area (User Defined)	9.798 acres
Maximum Retention (Pervious)	2.5 in
Maximum Retention (Pervious, 20 percent)	0.5 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	3.2 in
Runoff Volume (Pervious)	2.584 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	2.561 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.704 hours
Computational Time Increment	0.094 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 4
Scenario: Pre-Development 10 YR

Return Event: 10 years
Storm Event: 10 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	15.77 ft³/s
Unit peak time, Tp	0.469 hours
Unit receding limb, Tr	1.877 hours
Total unit time, Tb	2.346 hours

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 4
Scenario: Post-Development 25 YR

Return Event: 25 years
Storm Event: 25 YR

Storm Event	25 YR
Return Event	25 years
Duration	24.000 hours
Depth	6.3 in
Time of Concentration (Composite)	0.704 hours
Area (User Defined)	9.056 acres

Computational Time Increment	0.094 hours
Time to Peak (Computed)	12.295 hours
Flow (Peak, Computed)	25.53 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.300 hours
Flow (Peak Interpolated Output)	25.46 ft³/s

Drainage Area	
SCS CN (Composite)	81.000
Area (User Defined)	9.056 acres
Maximum Retention (Pervious)	2.3 in
Maximum Retention (Pervious, 20 percent)	0.5 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	4.1 in
Runoff Volume (Pervious)	3.117 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	3.091 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.704 hours
Computational Time Increment	0.094 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 4
Scenario: Post-Development 25 YR

Return Event: 25 years
Storm Event: 25 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	14.58 ft³/s
Unit peak time, Tp	0.469 hours
Unit receding limb, Tr	1.877 hours
Total unit time, Tb	2.346 hours

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 4
Scenario: Pre-Development 25 YR

Return Event: 25 years
Storm Event: 25 YR

Storm Event	25 YR
Return Event	25 years
Duration	24.000 hours
Depth	6.3 in
Time of Concentration (Composite)	0.704 hours
Area (User Defined)	9.798 acres

Computational Time Increment	0.094 hours
Time to Peak (Computed)	12.295 hours
Flow (Peak, Computed)	26.94 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.300 hours
Flow (Peak Interpolated Output)	26.87 ft³/s

Drainage Area	
SCS CN (Composite)	80.000
Area (User Defined)	9.798 acres
Maximum Retention (Pervious)	2.5 in
Maximum Retention (Pervious, 20 percent)	0.5 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	4.0 in
Runoff Volume (Pervious)	3.287 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	3.259 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.704 hours
Computational Time Increment	0.094 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 4
Scenario: Pre-Development 25 YR

Return Event: 25 years
Storm Event: 25 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	15.77 ft³/s
Unit peak time, Tp	0.469 hours
Unit receding limb, Tr	1.877 hours
Total unit time, Tb	2.346 hours

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 4
Scenario: Post-Development 50 YR

Return Event: 50 years
Storm Event: 50 YR

Storm Event	50 YR
Return Event	50 years
Duration	24.000 hours
Depth	7.1 in
Time of Concentration (Composite)	0.704 hours
Area (User Defined)	9.056 acres

Computational Time Increment	0.094 hours
Time to Peak (Computed)	12.295 hours
Flow (Peak, Computed)	30.02 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.300 hours
Flow (Peak Interpolated Output)	29.94 ft³/s

Drainage Area	
SCS CN (Composite)	81.000
Area (User Defined)	9.056 acres
Maximum Retention (Pervious)	2.3 in
Maximum Retention (Pervious, 20 percent)	0.5 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	4.9 in
Runoff Volume (Pervious)	3.675 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	3.646 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.704 hours
Computational Time Increment	0.094 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 4
Scenario: Post-Development 50 YR

Return Event: 50 years
Storm Event: 50 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	14.58 ft³/s
Unit peak time, Tp	0.469 hours
Unit receding limb, Tr	1.877 hours
Total unit time, Tb	2.346 hours

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 4
Scenario: Pre-Development 50 YR

Return Event: 50 years
Storm Event: 50 YR

Storm Event	50 YR
Return Event	50 years
Duration	24.000 hours
Depth	7.1 in
Time of Concentration (Composite)	0.704 hours
Area (User Defined)	9.798 acres

Computational Time Increment	0.094 hours
Time to Peak (Computed)	12.295 hours
Flow (Peak, Computed)	31.79 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.300 hours
Flow (Peak Interpolated Output)	31.71 ft³/s

Drainage Area	
SCS CN (Composite)	80.000
Area (User Defined)	9.798 acres
Maximum Retention (Pervious)	2.5 in
Maximum Retention (Pervious, 20 percent)	0.5 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	4.8 in
Runoff Volume (Pervious)	3.886 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	3.854 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.704 hours
Computational Time Increment	0.094 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 4
Scenario: Pre-Development 50 YR

Return Event: 50 years
Storm Event: 50 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	15.77 ft³/s
Unit peak time, Tp	0.469 hours
Unit receding limb, Tr	1.877 hours
Total unit time, Tb	2.346 hours

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 4
Scenario: Post-Development 100 YR

Return Event: 100 years
Storm Event: 100 YR

Storm Event	100 YR
Return Event	100 years
Duration	24.000 hours
Depth	7.9 in
Time of Concentration (Composite)	0.704 hours
Area (User Defined)	9.056 acres

Computational Time Increment	0.094 hours
Time to Peak (Computed)	12.295 hours
Flow (Peak, Computed)	34.76 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.300 hours
Flow (Peak Interpolated Output)	34.66 ft³/s

Drainage Area	
SCS CN (Composite)	81.000
Area (User Defined)	9.056 acres
Maximum Retention (Pervious)	2.3 in
Maximum Retention (Pervious, 20 percent)	0.5 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	5.7 in
Runoff Volume (Pervious)	4.269 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	4.236 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.704 hours
Computational Time Increment	0.094 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 4
Scenario: Post-Development 100 YR

Return Event: 100 years
Storm Event: 100 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	14.58 ft³/s
Unit peak time, Tp	0.469 hours
Unit receding limb, Tr	1.877 hours
Total unit time, Tb	2.346 hours

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 4
Scenario: Pre-Development 100 YR

Return Event: 100 years
Storm Event: 100 YR

Storm Event	100 YR
Return Event	100 years
Duration	24.000 hours
Depth	7.9 in
Time of Concentration (Composite)	0.704 hours
Area (User Defined)	9.798 acres

Computational Time Increment	0.094 hours
Time to Peak (Computed)	12.295 hours
Flow (Peak, Computed)	36.91 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.300 hours
Flow (Peak Interpolated Output)	36.80 ft³/s

Drainage Area	
SCS CN (Composite)	80.000
Area (User Defined)	9.798 acres
Maximum Retention (Pervious)	2.5 in
Maximum Retention (Pervious, 20 percent)	0.5 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	5.5 in
Runoff Volume (Pervious)	4.524 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	4.488 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.704 hours
Computational Time Increment	0.094 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Elkins Subdivision Drainage

Subsection: Unit Hydrograph Summary
Label: ONSITE 4
Scenario: Pre-Development 100 YR

Return Event: 100 years
Storm Event: 100 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	15.77 ft³/s
Unit peak time, Tp	0.469 hours
Unit receding limb, Tr	1.877 hours
Total unit time, Tb	2.346 hours

Elkins Subdivision Drainage

Subsection: Addition Summary
Label: STUDY POINT 1
Scenario: Post-Development 1 YR

Return Event: 1 years
Storm Event: 1 YR

Summary for Hydrograph Addition at 'STUDY POINT 1'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	ONSITE 1A
<Catchment to Outflow Node>	ONSITE 1B
<Catchment to Outflow Node>	OFFSITE 1

Node Inflows

Inflow Type	Element	Volume (ac-ft)	Time to Peak (hours)	Flow (Peak) (ft^3/s)
Flow (From)	ONSITE 1A	9.584	12.100	123.74
Flow (From)	ONSITE 1B	4.449	12.050	60.58
Flow (From)	OFFSITE 1	122.408	12.400	868.48
Flow (In)	STUDY POINT 1	136.441	12.400	925.51

Elkins Subdivision Drainage

Subsection: Addition Summary
Label: STUDY POINT 1
Scenario: Pre-Development 1 YR

Return Event: 1 years
Storm Event: 1 YR

Summary for Hydrograph Addition at 'STUDY POINT 1'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	OFFSITE 1
<Catchment to Outflow Node>	ONSITE 1A
<Catchment to Outflow Node>	ONSITE 1B

Node Inflows

Inflow Type	Element	Volume (ac-ft)	Time to Peak (hours)	Flow (Peak) (ft^3/s)
Flow (From)	OFFSITE 1	122.408	12.400	868.48
Flow (From)	ONSITE 1A	7.167	12.350	54.80
Flow (From)	ONSITE 1B	2.926	12.300	25.49
Flow (In)	STUDY POINT 1	132.501	12.400	945.63

Elkins Subdivision Drainage

Subsection: Addition Summary
Label: STUDY POINT 1
Scenario: Post-Development 2 YR

Return Event: 2 years
Storm Event: 2 YR

Summary for Hydrograph Addition at 'STUDY POINT 1'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	ONSITE 1A
<Catchment to Outflow Node>	ONSITE 1B
<Catchment to Outflow Node>	OFFSITE 1

Node Inflows

Inflow Type	Element	Volume (ac-ft)	Time to Peak (hours)	Flow (Peak) (ft^3/s)
Flow (From)	ONSITE 1A	11.301	12.100	145.30
Flow (From)	ONSITE 1B	5.246	12.050	71.27
Flow (From)	OFFSITE 1	148.499	12.400	1,063.41
Flow (In)	STUDY POINT 1	165.046	12.400	1,129.71

Elkins Subdivision Drainage

Subsection: Addition Summary
Label: STUDY POINT 1
Scenario: Pre-Development 2 YR

Return Event: 2 years
Storm Event: 2 YR

Summary for Hydrograph Addition at 'STUDY POINT 1'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	OFFSITE 1
<Catchment to Outflow Node>	ONSITE 1A
<Catchment to Outflow Node>	ONSITE 1B

Node Inflows

Inflow Type	Element	Volume (ac-ft)	Time to Peak (hours)	Flow (Peak) (ft^3/s)
Flow (From)	OFFSITE 1	148.499	12.400	1,063.41
Flow (From)	ONSITE 1A	8.658	12.350	66.68
Flow (From)	ONSITE 1B	3.534	12.250	30.99
Flow (In)	STUDY POINT 1	160.691	12.400	1,156.94

Elkins Subdivision Drainage

Subsection: Addition Summary
Label: STUDY POINT 1
Scenario: Post-Development 5 YR

Return Event: 5 years
Storm Event: 5 YR

Summary for Hydrograph Addition at 'STUDY POINT 1'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	ONSITE 1A
<Catchment to Outflow Node>	ONSITE 1B
<Catchment to Outflow Node>	OFFSITE 1

Node Inflows

Inflow Type	Element	Volume (ac-ft)	Time to Peak (hours)	Flow (Peak) (ft^3/s)
Flow (From)	ONSITE 1A	14.354	12.050	183.66
Flow (From)	ONSITE 1B	6.663	12.050	89.99
Flow (From)	OFFSITE 1	195.885	12.400	1,414.70
Flow (In)	STUDY POINT 1	216.902	12.400	1,497.16

Elkins Subdivision Drainage

Subsection: Addition Summary
Label: STUDY POINT 1
Scenario: Pre-Development 5 YR

Return Event: 5 years
Storm Event: 5 YR

Summary for Hydrograph Addition at 'STUDY POINT 1'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	OFFSITE 1
<Catchment to Outflow Node>	ONSITE 1A
<Catchment to Outflow Node>	ONSITE 1B

Node Inflows

Inflow Type	Element	Volume (ac-ft)	Time to Peak (hours)	Flow (Peak) (ft^3/s)
Flow (From)	OFFSITE 1	195.885	12.400	1,414.70
Flow (From)	ONSITE 1A	11.355	12.350	88.00
Flow (From)	ONSITE 1B	4.635	12.250	40.89
Flow (In)	STUDY POINT 1	211.875	12.400	1,537.57

Elkins Subdivision Drainage

Subsection: Addition Summary
Label: STUDY POINT 1
Scenario: Post-Development 10 YR

Return Event: 10 years
Storm Event: 10 YR

Summary for Hydrograph Addition at 'STUDY POINT 1'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	ONSITE 1A
<Catchment to Outflow Node>	ONSITE 1B
<Catchment to Outflow Node>	OFFSITE 1

Node Inflows

Inflow Type	Element	Volume (ac-ft)	Time to Peak (hours)	Flow (Peak) (ft^3/s)
Flow (From)	ONSITE 1A	17.168	12.050	218.64
Flow (From)	ONSITE 1B	7.969	12.050	107.00
Flow (From)	OFFSITE 1	240.412	12.400	1,741.68
Flow (In)	STUDY POINT 1	265.550	12.400	1,838.73

Elkins Subdivision Drainage

Subsection: Addition Summary
Label: STUDY POINT 1
Scenario: Pre-Development 10 YR

Return Event: 10 years
Storm Event: 10 YR

Summary for Hydrograph Addition at 'STUDY POINT 1'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	OFFSITE 1
<Catchment to Outflow Node>	ONSITE 1A
<Catchment to Outflow Node>	ONSITE 1B

Node Inflows

Inflow Type	Element	Volume (ac-ft)	Time to Peak (hours)	Flow (Peak) (ft³/s)
Flow (From)	OFFSITE 1	240.412	12.400	1,741.68
Flow (From)	ONSITE 1A	13.883	12.350	107.76
Flow (From)	ONSITE 1B	5.666	12.250	50.08
Flow (In)	STUDY POINT 1	259.961	12.400	1,891.69

Elkins Subdivision Drainage

Subsection: Addition Summary
Label: STUDY POINT 1
Scenario: Post-Development 25 YR

Return Event: 25 years
Storm Event: 25 YR

Summary for Hydrograph Addition at 'STUDY POINT 1'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	ONSITE 1A
<Catchment to Outflow Node>	ONSITE 1B
<Catchment to Outflow Node>	OFFSITE 1

Node Inflows

Inflow Type	Element	Volume (ac-ft)	Time to Peak (hours)	Flow (Peak) (ft^3/s)
Flow (From)	ONSITE 1A	21.326	12.050	269.59
Flow (From)	ONSITE 1B	9.899	12.050	131.75
Flow (From)	OFFSITE 1	307.238	12.400	2,227.08
Flow (In)	STUDY POINT 1	338.463	12.400	2,345.28

Elkins Subdivision Drainage

Subsection: Addition Summary
Label: STUDY POINT 1
Scenario: Pre-Development 25 YR

Return Event: 25 years
Storm Event: 25 YR

Summary for Hydrograph Addition at 'STUDY POINT 1'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	OFFSITE 1
<Catchment to Outflow Node>	ONSITE 1A
<Catchment to Outflow Node>	ONSITE 1B

Node Inflows

Inflow Type	Element	Volume (ac-ft)	Time to Peak (hours)	Flow (Peak) (ft^3/s)
Flow (From)	OFFSITE 1	307.238	12.400	2,227.08
Flow (From)	ONSITE 1A	17.666	12.350	137.01
Flow (From)	ONSITE 1B	7.210	12.250	63.66
Flow (In)	STUDY POINT 1	332.114	12.400	2,417.18

Elkins Subdivision Drainage

Subsection: Addition Summary
Label: STUDY POINT 1
Scenario: Post-Development 50 YR

Return Event: 50 years
Storm Event: 50 YR

Summary for Hydrograph Addition at 'STUDY POINT 1'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	ONSITE 1A
<Catchment to Outflow Node>	ONSITE 1B
<Catchment to Outflow Node>	OFFSITE 1

Node Inflows

Inflow Type	Element	Volume (ac-ft)	Time to Peak (hours)	Flow (Peak) (ft^3/s)
Flow (From)	ONSITE 1A	24.831	12.050	311.98
Flow (From)	ONSITE 1B	11.526	12.050	152.34
Flow (From)	OFFSITE 1	364.301	12.400	2,636.93
Flow (In)	STUDY POINT 1	400.658	12.400	2,772.68

Elkins Subdivision Drainage

Subsection: Addition Summary
Label: STUDY POINT 1
Scenario: Pre-Development 50 YR

Return Event: 50 years
Storm Event: 50 YR

Summary for Hydrograph Addition at 'STUDY POINT 1'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	OFFSITE 1
<Catchment to Outflow Node>	ONSITE 1A
<Catchment to Outflow Node>	ONSITE 1B

Node Inflows

Inflow Type	Element	Volume (ac-ft)	Time to Peak (hours)	Flow (Peak) (ft^3/s)
Flow (From)	OFFSITE 1	364.301	12.400	2,636.93
Flow (From)	ONSITE 1A	20.890	12.350	161.64
Flow (From)	ONSITE 1B	8.525	12.250	75.10
Flow (In)	STUDY POINT 1	393.717	12.400	2,860.73

Elkins Subdivision Drainage

Subsection: Addition Summary
Label: STUDY POINT 1
Scenario: Post-Development 100 YR

Return Event: 100 years
Storm Event: 100 YR

Summary for Hydrograph Addition at 'STUDY POINT 1'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	ONSITE 1A
<Catchment to Outflow Node>	ONSITE 1B
<Catchment to Outflow Node>	OFFSITE 1

Node Inflows

Inflow Type	Element	Volume (ac-ft)	Time to Peak (hours)	Flow (Peak) (ft^3/s)
Flow (From)	ONSITE 1A	28.540	12.050	356.37
Flow (From)	ONSITE 1B	13.247	12.050	173.89
Flow (From)	OFFSITE 1	425.214	12.400	3,070.18
Flow (In)	STUDY POINT 1	467.002	12.400	3,224.28

Elkins Subdivision Drainage

Subsection: Addition Summary
Label: STUDY POINT 1
Scenario: Pre-Development 100 YR

Return Event: 100 years
Storm Event: 100 YR

Summary for Hydrograph Addition at 'STUDY POINT 1'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	OFFSITE 1
<Catchment to Outflow Node>	ONSITE 1A
<Catchment to Outflow Node>	ONSITE 1B

Node Inflows

Inflow Type	Element	Volume (ac-ft)	Time to Peak (hours)	Flow (Peak) (ft³/s)
Flow (From)	OFFSITE 1	425.214	12.400	3,070.18
Flow (From)	ONSITE 1A	24.327	12.350	187.63
Flow (From)	ONSITE 1B	9.927	12.250	87.17
Flow (In)	STUDY POINT 1	459.469	12.400	3,329.50

Elkins Subdivision Drainage

Subsection: Time vs. Elevation
Label: PO-3 (OUT)
Scenario: Post-Development 1 YR

Return Event: 1 years
Storm Event: 1 YR

Time vs. Elevation (ft)

Output Time increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
0.000	0.00	0.00	0.00	0.00	0.00
0.250	0.00	0.00	0.00	0.00	0.00
0.500	0.00	0.00	0.00	0.00	0.00
0.750	0.00	0.00	0.00	0.00	0.00
1.000	0.00	0.00	0.00	0.00	0.00
1.250	0.00	0.00	0.00	0.00	0.00
1.500	0.00	0.00	0.00	0.00	0.00
1.750	0.00	0.00	0.00	0.00	0.00
2.000	0.00	0.00	0.00	0.00	0.00
2.250	0.00	0.00	0.00	0.00	0.00
2.500	0.00	0.00	0.00	0.00	0.00
2.750	0.00	0.00	0.00	0.00	0.00
3.000	0.00	0.00	0.00	0.00	0.00
3.250	0.00	0.00	0.00	0.00	0.00
3.500	0.00	0.00	0.00	0.00	0.00
3.750	0.00	0.00	0.00	0.00	0.00
4.000	0.00	0.00	0.00	0.00	0.00
4.250	0.00	0.00	0.00	0.00	0.00
4.500	0.00	0.00	0.00	0.00	0.00
4.750	0.00	0.00	0.00	0.00	0.00
5.000	0.00	0.00	0.00	0.00	0.00
5.250	0.00	0.00	0.00	0.00	0.00
5.500	0.00	0.00	0.00	0.00	0.00
5.750	0.00	0.00	0.00	0.00	0.00
6.000	0.00	0.00	0.00	0.00	0.00
6.250	0.00	0.00	0.00	0.00	0.00
6.500	0.00	0.00	0.00	0.00	0.00
6.750	0.00	0.00	0.00	0.00	0.00
7.000	0.00	0.00	0.00	0.00	0.00
7.250	0.00	0.00	0.00	0.00	0.00
7.500	0.00	0.00	0.01	0.01	0.01
7.750	0.01	0.01	0.01	0.01	0.01
8.000	0.01	0.01	0.01	0.01	0.01
8.250	0.01	0.01	0.01	0.01	0.01
8.500	0.01	0.01	0.01	0.02	0.02
8.750	0.02	0.02	0.02	0.02	0.02
9.000	0.02	0.02	0.02	0.02	0.02
9.250	0.03	0.03	0.03	0.03	0.03
9.500	0.03	0.03	0.03	0.03	0.03
9.750	0.03	0.04	0.04	0.04	0.04

Elkins Subdivision Drainage

Subsection: Time vs. Elevation
Label: PO-3 (OUT)
Scenario: Post-Development 1 YR

Return Event: 1 years
Storm Event: 1 YR

Time vs. Elevation (ft)

Output Time increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
10.000	0.04	0.04	0.04	0.04	0.05
10.250	0.05	0.05	0.05	0.05	0.06
10.500	0.06	0.06	0.06	0.07	0.07
10.750	0.07	0.07	0.08	0.08	0.08
11.000	0.09	0.09	0.10	0.10	0.11
11.250	0.11	0.12	0.12	0.13	0.14
11.500	0.15	0.16	0.17	0.19	0.22
11.750	0.28	0.35	0.45	0.59	0.77
12.000	0.95	1.11	1.21	1.24	1.22
12.250	1.18	1.13	1.07	1.02	0.96
12.500	0.91	0.86	0.81	0.77	0.73
12.750	0.69	0.66	0.63	0.60	0.58
13.000	0.55	0.53	0.52	0.50	0.48
13.250	0.46	0.45	0.43	0.42	0.41
13.500	0.39	0.38	0.37	0.36	0.34
13.750	0.33	0.32	0.31	0.30	0.30
14.000	0.29	0.28	0.27	0.26	0.26
14.250	0.25	0.24	0.24	0.23	0.22
14.500	0.22	0.21	0.21	0.20	0.20
14.750	0.20	0.19	0.19	0.18	0.18
15.000	0.18	0.17	0.17	0.17	0.17
15.250	0.16	0.16	0.16	0.15	0.15
15.500	0.15	0.15	0.15	0.14	0.14
15.750	0.14	0.14	0.13	0.13	0.13
16.000	0.13	0.13	0.13	0.12	0.12
16.250	0.12	0.12	0.12	0.12	0.11
16.500	0.11	0.11	0.11	0.11	0.11
16.750	0.11	0.11	0.11	0.10	0.10
17.000	0.10	0.10	0.10	0.10	0.10
17.250	0.10	0.10	0.10	0.10	0.10
17.500	0.09	0.09	0.09	0.09	0.09
17.750	0.09	0.09	0.09	0.09	0.09
18.000	0.09	0.09	0.09	0.09	0.09
18.250	0.09	0.08	0.08	0.08	0.08
18.500	0.08	0.08	0.08	0.08	0.08
18.750	0.08	0.08	0.08	0.08	0.08
19.000	0.08	0.08	0.08	0.08	0.07
19.250	0.07	0.07	0.07	0.07	0.07
19.500	0.07	0.07	0.07	0.07	0.07
19.750	0.07	0.07	0.07	0.07	0.07
20.000	0.07	0.07	0.06	0.06	0.06

Elkins Subdivision Drainage

Subsection: Time vs. Elevation
Label: PO-3 (OUT)
Scenario: Post-Development 1 YR

Return Event: 1 years
Storm Event: 1 YR

Time vs. Elevation (ft)

Output Time increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
20.250	0.06	0.06	0.06	0.06	0.06
20.500	0.06	0.06	0.06	0.06	0.06
20.750	0.06	0.06	0.06	0.06	0.06
21.000	0.06	0.06	0.06	0.06	0.06
21.250	0.06	0.06	0.06	0.06	0.06
21.500	0.06	0.06	0.06	0.06	0.06
21.750	0.06	0.06	0.06	0.06	0.05
22.000	0.05	0.05	0.05	0.05	0.05
22.250	0.05	0.05	0.05	0.05	0.05
22.500	0.05	0.05	0.05	0.05	0.05
22.750	0.05	0.05	0.05	0.05	0.05
23.000	0.05	0.05	0.05	0.05	0.05
23.250	0.05	0.05	0.05	0.05	0.05
23.500	0.05	0.05	0.05	0.05	0.05
23.750	0.05	0.05	0.05	0.05	0.05
24.000	0.05	(N/A)	(N/A)	(N/A)	(N/A)

Elkins Subdivision Drainage

Subsection: Time vs. Elevation
Label: PO-3 (OUT)
Scenario: Post-Development 2 YR

Return Event: 2 years
Storm Event: 2 YR

Time vs. Elevation (ft)

Output Time increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
0.000	0.00	0.00	0.00	0.00	0.00
0.250	0.00	0.00	0.00	0.00	0.00
0.500	0.00	0.00	0.00	0.00	0.00
0.750	0.00	0.00	0.00	0.00	0.00
1.000	0.00	0.00	0.00	0.00	0.00
1.250	0.00	0.00	0.00	0.00	0.00
1.500	0.00	0.00	0.00	0.00	0.00
1.750	0.00	0.00	0.00	0.00	0.00
2.000	0.00	0.00	0.00	0.00	0.00
2.250	0.00	0.00	0.00	0.00	0.00
2.500	0.00	0.00	0.00	0.00	0.00
2.750	0.00	0.00	0.00	0.00	0.00
3.000	0.00	0.00	0.00	0.00	0.00
3.250	0.00	0.00	0.00	0.00	0.00
3.500	0.00	0.00	0.00	0.00	0.00
3.750	0.00	0.00	0.00	0.00	0.00
4.000	0.00	0.00	0.00	0.00	0.00
4.250	0.00	0.00	0.00	0.00	0.00
4.500	0.00	0.00	0.00	0.00	0.00
4.750	0.00	0.00	0.00	0.00	0.00
5.000	0.00	0.00	0.00	0.00	0.00
5.250	0.00	0.00	0.00	0.00	0.00
5.500	0.00	0.00	0.00	0.00	0.00
5.750	0.00	0.00	0.00	0.00	0.00
6.000	0.00	0.00	0.00	0.00	0.00
6.250	0.00	0.00	0.00	0.00	0.00
6.500	0.00	0.00	0.00	0.00	0.00
6.750	0.00	0.00	0.00	0.00	0.00
7.000	0.01	0.01	0.01	0.01	0.01
7.250	0.01	0.01	0.01	0.01	0.01
7.500	0.01	0.01	0.01	0.01	0.01
7.750	0.01	0.01	0.01	0.01	0.01
8.000	0.01	0.02	0.02	0.02	0.02
8.250	0.02	0.02	0.02	0.02	0.02
8.500	0.02	0.02	0.02	0.02	0.02
8.750	0.03	0.03	0.03	0.03	0.03
9.000	0.03	0.03	0.03	0.03	0.04
9.250	0.04	0.04	0.04	0.04	0.04
9.500	0.04	0.04	0.04	0.05	0.05
9.750	0.05	0.05	0.05	0.05	0.05

Elkins Subdivision Drainage

Subsection: Time vs. Elevation
Label: PO-3 (OUT)
Scenario: Post-Development 2 YR

Return Event: 2 years
Storm Event: 2 YR

Time vs. Elevation (ft)

Output Time increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
10.000	0.05	0.06	0.06	0.06	0.06
10.250	0.06	0.07	0.07	0.07	0.07
10.500	0.08	0.08	0.08	0.08	0.09
10.750	0.09	0.09	0.10	0.10	0.11
11.000	0.11	0.12	0.12	0.13	0.13
11.250	0.14	0.15	0.15	0.16	0.17
11.500	0.18	0.19	0.21	0.24	0.28
11.750	0.34	0.43	0.55	0.70	0.90
12.000	1.10	1.28	1.38	1.42	1.39
12.250	1.34	1.27	1.20	1.13	1.07
12.500	1.01	0.96	0.90	0.85	0.81
12.750	0.76	0.73	0.69	0.66	0.63
13.000	0.60	0.58	0.56	0.54	0.52
13.250	0.50	0.49	0.47	0.46	0.44
13.500	0.43	0.42	0.41	0.39	0.38
13.750	0.37	0.36	0.35	0.34	0.33
14.000	0.32	0.31	0.30	0.29	0.29
14.250	0.28	0.27	0.26	0.26	0.25
14.500	0.25	0.24	0.24	0.23	0.23
14.750	0.22	0.22	0.21	0.21	0.20
15.000	0.20	0.20	0.19	0.19	0.19
15.250	0.18	0.18	0.18	0.18	0.17
15.500	0.17	0.17	0.17	0.16	0.16
15.750	0.16	0.16	0.15	0.15	0.15
16.000	0.15	0.15	0.14	0.14	0.14
16.250	0.14	0.14	0.13	0.13	0.13
16.500	0.13	0.13	0.13	0.13	0.12
16.750	0.12	0.12	0.12	0.12	0.12
17.000	0.12	0.12	0.12	0.11	0.11
17.250	0.11	0.11	0.11	0.11	0.11
17.500	0.11	0.11	0.11	0.11	0.10
17.750	0.10	0.10	0.10	0.10	0.10
18.000	0.10	0.10	0.10	0.10	0.10
18.250	0.10	0.10	0.10	0.10	0.09
18.500	0.09	0.09	0.09	0.09	0.09
18.750	0.09	0.09	0.09	0.09	0.09
19.000	0.09	0.09	0.09	0.09	0.09
19.250	0.08	0.08	0.08	0.08	0.08
19.500	0.08	0.08	0.08	0.08	0.08
19.750	0.08	0.08	0.08	0.08	0.08
20.000	0.08	0.07	0.07	0.07	0.07

Elkins Subdivision Drainage

Subsection: Time vs. Elevation
Label: PO-3 (OUT)
Scenario: Post-Development 2 YR

Return Event: 2 years
Storm Event: 2 YR

Time vs. Elevation (ft)

Output Time increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
20.250	0.07	0.07	0.07	0.07	0.07
20.500	0.07	0.07	0.07	0.07	0.07
20.750	0.07	0.07	0.07	0.07	0.07
21.000	0.07	0.07	0.07	0.07	0.07
21.250	0.07	0.07	0.06	0.06	0.06
21.500	0.06	0.06	0.06	0.06	0.06
21.750	0.06	0.06	0.06	0.06	0.06
22.000	0.06	0.06	0.06	0.06	0.06
22.250	0.06	0.06	0.06	0.06	0.06
22.500	0.06	0.06	0.06	0.06	0.06
22.750	0.06	0.06	0.06	0.06	0.06
23.000	0.06	0.06	0.06	0.06	0.06
23.250	0.06	0.06	0.06	0.06	0.06
23.500	0.06	0.06	0.06	0.06	0.06
23.750	0.06	0.06	0.06	0.06	0.06
24.000	0.06	(N/A)	(N/A)	(N/A)	(N/A)

Elkins Subdivision Drainage

Subsection: Time vs. Elevation
Label: PO-3 (OUT)
Scenario: Post-Development 5 YR

Return Event: 5 years
Storm Event: 5 YR

Time vs. Elevation (ft)

Output Time increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
0.000	0.00	0.00	0.00	0.00	0.00
0.250	0.00	0.00	0.00	0.00	0.00
0.500	0.00	0.00	0.00	0.00	0.00
0.750	0.00	0.00	0.00	0.00	0.00
1.000	0.00	0.00	0.00	0.00	0.00
1.250	0.00	0.00	0.00	0.00	0.00
1.500	0.00	0.00	0.00	0.00	0.00
1.750	0.00	0.00	0.00	0.00	0.00
2.000	0.00	0.00	0.00	0.00	0.00
2.250	0.00	0.00	0.00	0.00	0.00
2.500	0.00	0.00	0.00	0.00	0.00
2.750	0.00	0.00	0.00	0.00	0.00
3.000	0.00	0.00	0.00	0.00	0.00
3.250	0.00	0.00	0.00	0.00	0.00
3.500	0.00	0.00	0.00	0.00	0.00
3.750	0.00	0.00	0.00	0.00	0.00
4.000	0.00	0.00	0.00	0.00	0.00
4.250	0.00	0.00	0.00	0.00	0.00
4.500	0.00	0.00	0.00	0.00	0.00
4.750	0.00	0.00	0.00	0.00	0.00
5.000	0.00	0.00	0.00	0.00	0.00
5.250	0.00	0.00	0.00	0.00	0.00
5.500	0.00	0.00	0.00	0.00	0.00
5.750	0.00	0.00	0.00	0.00	0.00
6.000	0.00	0.00	0.00	0.00	0.01
6.250	0.01	0.01	0.01	0.01	0.01
6.500	0.01	0.01	0.01	0.01	0.01
6.750	0.01	0.01	0.01	0.01	0.01
7.000	0.01	0.01	0.01	0.02	0.02
7.250	0.02	0.02	0.02	0.02	0.02
7.500	0.02	0.02	0.02	0.02	0.02
7.750	0.02	0.02	0.02	0.03	0.03
8.000	0.03	0.03	0.03	0.03	0.03
8.250	0.03	0.03	0.03	0.03	0.03
8.500	0.04	0.04	0.04	0.04	0.04
8.750	0.04	0.04	0.04	0.05	0.05
9.000	0.05	0.05	0.05	0.05	0.06
9.250	0.06	0.06	0.06	0.06	0.06
9.500	0.06	0.07	0.07	0.07	0.07
9.750	0.07	0.07	0.07	0.08	0.08

Elkins Subdivision Drainage

Subsection: Time vs. Elevation
Label: PO-3 (OUT)
Scenario: Post-Development 5 YR

Return Event: 5 years
Storm Event: 5 YR

Time vs. Elevation (ft)

Output Time increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
10.000	0.08	0.08	0.09	0.09	0.09
10.250	0.09	0.10	0.10	0.10	0.11
10.500	0.11	0.11	0.12	0.12	0.12
10.750	0.13	0.13	0.14	0.14	0.15
11.000	0.16	0.16	0.17	0.18	0.18
11.250	0.19	0.20	0.21	0.22	0.24
11.500	0.25	0.26	0.28	0.32	0.37
11.750	0.45	0.56	0.70	0.89	1.12
12.000	1.36	1.56	1.68	1.70	1.66
12.250	1.59	1.50	1.41	1.33	1.25
12.500	1.17	1.10	1.04	0.98	0.93
12.750	0.88	0.83	0.79	0.75	0.72
13.000	0.69	0.66	0.63	0.61	0.58
13.250	0.57	0.55	0.53	0.52	0.50
13.500	0.49	0.47	0.46	0.45	0.44
13.750	0.43	0.41	0.40	0.39	0.38
14.000	0.37	0.36	0.35	0.34	0.34
14.250	0.33	0.32	0.31	0.30	0.30
14.500	0.29	0.29	0.28	0.27	0.27
14.750	0.26	0.26	0.25	0.25	0.25
15.000	0.24	0.24	0.23	0.23	0.23
15.250	0.22	0.22	0.22	0.21	0.21
15.500	0.21	0.20	0.20	0.20	0.19
15.750	0.19	0.19	0.19	0.18	0.18
16.000	0.18	0.18	0.17	0.17	0.17
16.250	0.17	0.16	0.16	0.16	0.16
16.500	0.16	0.16	0.15	0.15	0.15
16.750	0.15	0.15	0.15	0.14	0.14
17.000	0.14	0.14	0.14	0.14	0.14
17.250	0.14	0.14	0.13	0.13	0.13
17.500	0.13	0.13	0.13	0.13	0.13
17.750	0.13	0.13	0.12	0.12	0.12
18.000	0.12	0.12	0.12	0.12	0.12
18.250	0.12	0.12	0.12	0.12	0.11
18.500	0.11	0.11	0.11	0.11	0.11
18.750	0.11	0.11	0.11	0.11	0.11
19.000	0.11	0.11	0.10	0.10	0.10
19.250	0.10	0.10	0.10	0.10	0.10
19.500	0.10	0.10	0.10	0.10	0.10
19.750	0.10	0.09	0.09	0.09	0.09
20.000	0.09	0.09	0.09	0.09	0.09

Elkins Subdivision Drainage

Subsection: Time vs. Elevation
Label: PO-3 (OUT)
Scenario: Post-Development 5 YR

Return Event: 5 years
Storm Event: 5 YR

Time vs. Elevation (ft)

Output Time increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
20.250	0.09	0.09	0.09	0.09	0.09
20.500	0.08	0.08	0.08	0.08	0.08
20.750	0.08	0.08	0.08	0.08	0.08
21.000	0.08	0.08	0.08	0.08	0.08
21.250	0.08	0.08	0.08	0.08	0.08
21.500	0.08	0.08	0.08	0.08	0.08
21.750	0.08	0.08	0.08	0.08	0.08
22.000	0.08	0.08	0.08	0.08	0.08
22.250	0.07	0.07	0.07	0.07	0.07
22.500	0.07	0.07	0.07	0.07	0.07
22.750	0.07	0.07	0.07	0.07	0.07
23.000	0.07	0.07	0.07	0.07	0.07
23.250	0.07	0.07	0.07	0.07	0.07
23.500	0.07	0.07	0.07	0.07	0.07
23.750	0.07	0.07	0.07	0.07	0.07
24.000	0.07	(N/A)	(N/A)	(N/A)	(N/A)

Elkins Subdivision Drainage

Subsection: Time vs. Elevation
Label: PO-3 (OUT)
Scenario: Post-Development 10 YR

Return Event: 10 years
Storm Event: 10 YR

Time vs. Elevation (ft)

Output Time increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
0.000	0.00	0.00	0.00	0.00	0.00
0.250	0.00	0.00	0.00	0.00	0.00
0.500	0.00	0.00	0.00	0.00	0.00
0.750	0.00	0.00	0.00	0.00	0.00
1.000	0.00	0.00	0.00	0.00	0.00
1.250	0.00	0.00	0.00	0.00	0.00
1.500	0.00	0.00	0.00	0.00	0.00
1.750	0.00	0.00	0.00	0.00	0.00
2.000	0.00	0.00	0.00	0.00	0.00
2.250	0.00	0.00	0.00	0.00	0.00
2.500	0.00	0.00	0.00	0.00	0.00
2.750	0.00	0.00	0.00	0.00	0.00
3.000	0.00	0.00	0.00	0.00	0.00
3.250	0.00	0.00	0.00	0.00	0.00
3.500	0.00	0.00	0.00	0.00	0.00
3.750	0.00	0.00	0.00	0.00	0.00
4.000	0.00	0.00	0.00	0.00	0.00
4.250	0.00	0.00	0.00	0.00	0.00
4.500	0.00	0.00	0.00	0.00	0.00
4.750	0.00	0.00	0.00	0.00	0.00
5.000	0.00	0.00	0.00	0.00	0.00
5.250	0.00	0.00	0.00	0.00	0.00
5.500	0.00	0.00	0.01	0.01	0.01
5.750	0.01	0.01	0.01	0.01	0.01
6.000	0.01	0.01	0.01	0.01	0.01
6.250	0.01	0.01	0.01	0.01	0.02
6.500	0.02	0.02	0.02	0.02	0.02
6.750	0.02	0.02	0.02	0.02	0.02
7.000	0.02	0.02	0.02	0.03	0.03
7.250	0.03	0.03	0.03	0.03	0.03
7.500	0.03	0.03	0.03	0.03	0.03
7.750	0.04	0.04	0.04	0.04	0.04
8.000	0.04	0.04	0.04	0.04	0.04
8.250	0.04	0.05	0.05	0.05	0.05
8.500	0.05	0.05	0.05	0.06	0.06
8.750	0.06	0.06	0.06	0.06	0.07
9.000	0.07	0.07	0.07	0.07	0.08
9.250	0.08	0.08	0.08	0.08	0.08
9.500	0.09	0.09	0.09	0.09	0.09
9.750	0.10	0.10	0.10	0.10	0.10

Elkins Subdivision Drainage

Subsection: Time vs. Elevation
Label: PO-3 (OUT)
Scenario: Post-Development 10 YR

Return Event: 10 years
Storm Event: 10 YR

Time vs. Elevation (ft)

Output Time increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
10.000	0.11	0.11	0.11	0.11	0.12
10.250	0.12	0.12	0.13	0.13	0.14
10.500	0.14	0.14	0.15	0.15	0.16
10.750	0.17	0.17	0.18	0.18	0.19
11.000	0.20	0.21	0.21	0.22	0.23
11.250	0.24	0.25	0.27	0.28	0.29
11.500	0.31	0.33	0.35	0.39	0.46
11.750	0.55	0.67	0.84	1.06	1.32
12.000	1.59	1.80	1.93	1.95	1.90
12.250	1.80	1.70	1.59	1.49	1.40
12.500	1.31	1.23	1.15	1.09	1.03
12.750	0.97	0.92	0.87	0.83	0.79
13.000	0.75	0.72	0.69	0.66	0.64
13.250	0.62	0.60	0.58	0.56	0.54
13.500	0.53	0.52	0.50	0.49	0.48
13.750	0.47	0.46	0.45	0.43	0.42
14.000	0.41	0.40	0.39	0.39	0.38
14.250	0.37	0.36	0.35	0.34	0.34
14.500	0.33	0.32	0.32	0.31	0.31
14.750	0.30	0.29	0.29	0.29	0.28
15.000	0.28	0.27	0.27	0.26	0.26
15.250	0.26	0.25	0.25	0.24	0.24
15.500	0.24	0.23	0.23	0.23	0.22
15.750	0.22	0.22	0.22	0.21	0.21
16.000	0.21	0.20	0.20	0.20	0.20
16.250	0.19	0.19	0.19	0.19	0.18
16.500	0.18	0.18	0.18	0.18	0.17
16.750	0.17	0.17	0.17	0.17	0.17
17.000	0.16	0.16	0.16	0.16	0.16
17.250	0.16	0.16	0.16	0.15	0.15
17.500	0.15	0.15	0.15	0.15	0.15
17.750	0.15	0.15	0.14	0.14	0.14
18.000	0.14	0.14	0.14	0.14	0.14
18.250	0.14	0.14	0.14	0.13	0.13
18.500	0.13	0.13	0.13	0.13	0.13
18.750	0.13	0.13	0.13	0.13	0.12
19.000	0.12	0.12	0.12	0.12	0.12
19.250	0.12	0.12	0.12	0.12	0.12
19.500	0.11	0.11	0.11	0.11	0.11
19.750	0.11	0.11	0.11	0.11	0.11
20.000	0.11	0.10	0.10	0.10	0.10

Elkins Subdivision Drainage

Subsection: Time vs. Elevation
Label: PO-3 (OUT)
Scenario: Post-Development 10 YR

Return Event: 10 years
Storm Event: 10 YR

Time vs. Elevation (ft)

Output Time increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
20.250	0.10	0.10	0.10	0.10	0.10
20.500	0.10	0.10	0.10	0.10	0.10
20.750	0.10	0.10	0.09	0.09	0.09
21.000	0.09	0.09	0.09	0.09	0.09
21.250	0.09	0.09	0.09	0.09	0.09
21.500	0.09	0.09	0.09	0.09	0.09
21.750	0.09	0.09	0.09	0.09	0.09
22.000	0.09	0.09	0.09	0.09	0.09
22.250	0.09	0.09	0.09	0.09	0.09
22.500	0.09	0.09	0.09	0.09	0.09
22.750	0.08	0.08	0.08	0.08	0.08
23.000	0.08	0.08	0.08	0.08	0.08
23.250	0.08	0.08	0.08	0.08	0.08
23.500	0.08	0.08	0.08	0.08	0.08
23.750	0.08	0.08	0.08	0.08	0.08
24.000	0.08	(N/A)	(N/A)	(N/A)	(N/A)

Elkins Subdivision Drainage

Subsection: Time vs. Elevation
Label: PO-3 (OUT)
Scenario: Post-Development 25 YR

Return Event: 25 years
Storm Event: 25 YR

Time vs. Elevation (ft)

Output Time increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
0.000	0.00	0.00	0.00	0.00	0.00
0.250	0.00	0.00	0.00	0.00	0.00
0.500	0.00	0.00	0.00	0.00	0.00
0.750	0.00	0.00	0.00	0.00	0.00
1.000	0.00	0.00	0.00	0.00	0.00
1.250	0.00	0.00	0.00	0.00	0.00
1.500	0.00	0.00	0.00	0.00	0.00
1.750	0.00	0.00	0.00	0.00	0.00
2.000	0.00	0.00	0.00	0.00	0.00
2.250	0.00	0.00	0.00	0.00	0.00
2.500	0.00	0.00	0.00	0.00	0.00
2.750	0.00	0.00	0.00	0.00	0.00
3.000	0.00	0.00	0.00	0.00	0.00
3.250	0.00	0.00	0.00	0.00	0.00
3.500	0.00	0.00	0.00	0.00	0.00
3.750	0.00	0.00	0.00	0.00	0.00
4.000	0.00	0.00	0.00	0.00	0.00
4.250	0.00	0.00	0.00	0.00	0.00
4.500	0.00	0.00	0.00	0.00	0.00
4.750	0.00	0.00	0.00	0.00	0.01
5.000	0.01	0.01	0.01	0.01	0.01
5.250	0.01	0.01	0.01	0.01	0.01
5.500	0.01	0.01	0.01	0.01	0.02
5.750	0.02	0.02	0.02	0.02	0.02
6.000	0.02	0.02	0.02	0.02	0.02
6.250	0.03	0.03	0.03	0.03	0.03
6.500	0.03	0.03	0.03	0.03	0.03
6.750	0.03	0.04	0.04	0.04	0.04
7.000	0.04	0.04	0.04	0.04	0.04
7.250	0.04	0.05	0.05	0.05	0.05
7.500	0.05	0.05	0.05	0.05	0.05
7.750	0.06	0.06	0.06	0.06	0.06
8.000	0.06	0.06	0.06	0.06	0.07
8.250	0.07	0.07	0.07	0.07	0.07
8.500	0.07	0.08	0.08	0.08	0.08
8.750	0.08	0.09	0.09	0.09	0.09
9.000	0.10	0.10	0.10	0.10	0.11
9.250	0.11	0.11	0.11	0.12	0.12
9.500	0.12	0.12	0.12	0.13	0.13
9.750	0.13	0.13	0.14	0.14	0.14

Elkins Subdivision Drainage

Subsection: Time vs. Elevation
Label: PO-3 (OUT)
Scenario: Post-Development 25 YR

Return Event: 25 years
Storm Event: 25 YR

Time vs. Elevation (ft)

Output Time increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
10.000	0.15	0.15	0.15	0.16	0.16
10.250	0.16	0.17	0.17	0.18	0.18
10.500	0.19	0.19	0.20	0.21	0.21
10.750	0.22	0.23	0.24	0.24	0.25
11.000	0.26	0.27	0.28	0.29	0.30
11.250	0.32	0.33	0.35	0.36	0.38
11.500	0.40	0.42	0.46	0.51	0.58
11.750	0.69	0.84	1.03	1.28	1.59
12.000	1.90	2.14	2.27	2.28	2.21
12.250	2.09	1.96	1.83	1.71	1.60
12.500	1.49	1.40	1.31	1.23	1.15
12.750	1.09	1.03	0.98	0.93	0.89
13.000	0.84	0.81	0.77	0.74	0.71
13.250	0.69	0.66	0.64	0.62	0.60
13.500	0.59	0.57	0.56	0.54	0.53
13.750	0.52	0.51	0.50	0.49	0.48
14.000	0.47	0.46	0.45	0.44	0.43
14.250	0.42	0.41	0.40	0.40	0.39
14.500	0.38	0.38	0.37	0.36	0.36
14.750	0.35	0.35	0.34	0.33	0.33
15.000	0.32	0.32	0.32	0.31	0.31
15.250	0.30	0.30	0.29	0.29	0.29
15.500	0.28	0.28	0.27	0.27	0.27
15.750	0.26	0.26	0.26	0.25	0.25
16.000	0.25	0.24	0.24	0.24	0.23
16.250	0.23	0.23	0.22	0.22	0.22
16.500	0.22	0.21	0.21	0.21	0.21
16.750	0.21	0.20	0.20	0.20	0.20
17.000	0.20	0.20	0.19	0.19	0.19
17.250	0.19	0.19	0.19	0.19	0.18
17.500	0.18	0.18	0.18	0.18	0.18
17.750	0.18	0.17	0.17	0.17	0.17
18.000	0.17	0.17	0.17	0.17	0.17
18.250	0.16	0.16	0.16	0.16	0.16
18.500	0.16	0.16	0.16	0.16	0.15
18.750	0.15	0.15	0.15	0.15	0.15
19.000	0.15	0.15	0.15	0.14	0.14
19.250	0.14	0.14	0.14	0.14	0.14
19.500	0.14	0.14	0.14	0.13	0.13
19.750	0.13	0.13	0.13	0.13	0.13
20.000	0.13	0.13	0.12	0.12	0.12

Elkins Subdivision Drainage

Subsection: Time vs. Elevation
Label: PO-3 (OUT)
Scenario: Post-Development 25 YR

Return Event: 25 years
Storm Event: 25 YR

Time vs. Elevation (ft)

Output Time increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
20.250	0.12	0.12	0.12	0.12	0.12
20.500	0.12	0.12	0.12	0.12	0.11
20.750	0.11	0.11	0.11	0.11	0.11
21.000	0.11	0.11	0.11	0.11	0.11
21.250	0.11	0.11	0.11	0.11	0.11
21.500	0.11	0.11	0.11	0.11	0.11
21.750	0.11	0.11	0.11	0.11	0.11
22.000	0.11	0.10	0.10	0.10	0.10
22.250	0.10	0.10	0.10	0.10	0.10
22.500	0.10	0.10	0.10	0.10	0.10
22.750	0.10	0.10	0.10	0.10	0.10
23.000	0.10	0.10	0.10	0.10	0.10
23.250	0.10	0.10	0.10	0.10	0.10
23.500	0.10	0.10	0.10	0.10	0.10
23.750	0.10	0.10	0.10	0.10	0.10
24.000	0.10	(N/A)	(N/A)	(N/A)	(N/A)

Elkins Subdivision Drainage

Subsection: Time vs. Elevation
Label: PO-3 (OUT)
Scenario: Post-Development 50 YR

Return Event: 50 years
Storm Event: 50 YR

Time vs. Elevation (ft)

Output Time increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
0.000	0.00	0.00	0.00	0.00	0.00
0.250	0.00	0.00	0.00	0.00	0.00
0.500	0.00	0.00	0.00	0.00	0.00
0.750	0.00	0.00	0.00	0.00	0.00
1.000	0.00	0.00	0.00	0.00	0.00
1.250	0.00	0.00	0.00	0.00	0.00
1.500	0.00	0.00	0.00	0.00	0.00
1.750	0.00	0.00	0.00	0.00	0.00
2.000	0.00	0.00	0.00	0.00	0.00
2.250	0.00	0.00	0.00	0.00	0.00
2.500	0.00	0.00	0.00	0.00	0.00
2.750	0.00	0.00	0.00	0.00	0.00
3.000	0.00	0.00	0.00	0.00	0.00
3.250	0.00	0.00	0.00	0.00	0.00
3.500	0.00	0.00	0.00	0.00	0.00
3.750	0.00	0.00	0.00	0.00	0.00
4.000	0.00	0.00	0.00	0.00	0.00
4.250	0.00	0.00	0.00	0.00	0.00
4.500	0.01	0.01	0.01	0.01	0.01
4.750	0.01	0.01	0.01	0.01	0.01
5.000	0.01	0.01	0.01	0.02	0.02
5.250	0.02	0.02	0.02	0.02	0.02
5.500	0.02	0.02	0.02	0.02	0.03
5.750	0.03	0.03	0.03	0.03	0.03
6.000	0.03	0.03	0.03	0.04	0.04
6.250	0.04	0.04	0.04	0.04	0.04
6.500	0.04	0.04	0.05	0.05	0.05
6.750	0.05	0.05	0.05	0.05	0.05
7.000	0.05	0.06	0.06	0.06	0.06
7.250	0.06	0.06	0.06	0.06	0.07
7.500	0.07	0.07	0.07	0.07	0.07
7.750	0.07	0.07	0.08	0.08	0.08
8.000	0.08	0.08	0.08	0.08	0.09
8.250	0.09	0.09	0.09	0.09	0.09
8.500	0.10	0.10	0.10	0.10	0.11
8.750	0.11	0.11	0.11	0.12	0.12
9.000	0.12	0.12	0.13	0.13	0.13
9.250	0.14	0.14	0.14	0.15	0.15
9.500	0.15	0.15	0.16	0.16	0.16
9.750	0.16	0.17	0.17	0.17	0.18

Elkins Subdivision Drainage

Subsection: Time vs. Elevation
Label: PO-3 (OUT)
Scenario: Post-Development 50 YR

Return Event: 50 years
Storm Event: 50 YR

Time vs. Elevation (ft)

Output Time increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
10.000	0.18	0.18	0.19	0.19	0.20
10.250	0.20	0.21	0.21	0.22	0.22
10.500	0.23	0.24	0.24	0.25	0.26
10.750	0.27	0.28	0.29	0.30	0.31
11.000	0.32	0.33	0.34	0.35	0.37
11.250	0.38	0.40	0.42	0.44	0.46
11.500	0.48	0.51	0.54	0.59	0.67
11.750	0.80	0.97	1.18	1.47	1.80
12.000	2.14	2.40	2.54	2.54	2.46
12.250	2.32	2.17	2.02	1.88	1.75
12.500	1.63	1.53	1.43	1.34	1.25
12.750	1.18	1.12	1.06	1.01	0.96
13.000	0.92	0.88	0.84	0.80	0.77
13.250	0.74	0.72	0.69	0.67	0.65
13.500	0.63	0.62	0.60	0.58	0.57
13.750	0.56	0.55	0.53	0.52	0.51
14.000	0.51	0.50	0.49	0.48	0.47
14.250	0.46	0.45	0.44	0.44	0.43
14.500	0.42	0.42	0.41	0.40	0.40
14.750	0.39	0.38	0.38	0.37	0.37
15.000	0.36	0.36	0.35	0.35	0.34
15.250	0.34	0.33	0.33	0.33	0.32
15.500	0.32	0.31	0.31	0.31	0.30
15.750	0.30	0.29	0.29	0.29	0.28
16.000	0.28	0.28	0.27	0.27	0.26
16.250	0.26	0.26	0.26	0.25	0.25
16.500	0.25	0.24	0.24	0.24	0.24
16.750	0.23	0.23	0.23	0.23	0.23
17.000	0.22	0.22	0.22	0.22	0.22
17.250	0.22	0.21	0.21	0.21	0.21
17.500	0.21	0.21	0.20	0.20	0.20
17.750	0.20	0.20	0.20	0.20	0.19
18.000	0.19	0.19	0.19	0.19	0.19
18.250	0.19	0.19	0.18	0.18	0.18
18.500	0.18	0.18	0.18	0.18	0.18
18.750	0.17	0.17	0.17	0.17	0.17
19.000	0.17	0.17	0.17	0.16	0.16
19.250	0.16	0.16	0.16	0.16	0.16
19.500	0.16	0.15	0.15	0.15	0.15
19.750	0.15	0.15	0.15	0.15	0.15
20.000	0.14	0.14	0.14	0.14	0.14

Elkins Subdivision Drainage

Subsection: Time vs. Elevation
Label: PO-3 (OUT)
Scenario: Post-Development 50 YR

Return Event: 50 years
Storm Event: 50 YR

Time vs. Elevation (ft)

Output Time increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
20.250	0.14	0.14	0.14	0.14	0.13
20.500	0.13	0.13	0.13	0.13	0.13
20.750	0.13	0.13	0.13	0.13	0.13
21.000	0.13	0.13	0.13	0.13	0.13
21.250	0.12	0.12	0.12	0.12	0.12
21.500	0.12	0.12	0.12	0.12	0.12
21.750	0.12	0.12	0.12	0.12	0.12
22.000	0.12	0.12	0.12	0.12	0.12
22.250	0.12	0.12	0.12	0.12	0.12
22.500	0.12	0.12	0.12	0.12	0.12
22.750	0.12	0.12	0.11	0.11	0.11
23.000	0.11	0.11	0.11	0.11	0.11
23.250	0.11	0.11	0.11	0.11	0.11
23.500	0.11	0.11	0.11	0.11	0.11
23.750	0.11	0.11	0.11	0.11	0.11
24.000	0.11	(N/A)	(N/A)	(N/A)	(N/A)

Elkins Subdivision Drainage

Subsection: Time vs. Elevation
Label: PO-3 (OUT)
Scenario: Post-Development 100 YR

Return Event: 100 years
Storm Event: 100 YR

Time vs. Elevation (ft)

Output Time increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
0.000	0.00	0.00	0.00	0.00	0.00
0.250	0.00	0.00	0.00	0.00	0.00
0.500	0.00	0.00	0.00	0.00	0.00
0.750	0.00	0.00	0.00	0.00	0.00
1.000	0.00	0.00	0.00	0.00	0.00
1.250	0.00	0.00	0.00	0.00	0.00
1.500	0.00	0.00	0.00	0.00	0.00
1.750	0.00	0.00	0.00	0.00	0.00
2.000	0.00	0.00	0.00	0.00	0.00
2.250	0.00	0.00	0.00	0.00	0.00
2.500	0.00	0.00	0.00	0.00	0.00
2.750	0.00	0.00	0.00	0.00	0.00
3.000	0.00	0.00	0.00	0.00	0.00
3.250	0.00	0.00	0.00	0.00	0.00
3.500	0.00	0.00	0.00	0.00	0.00
3.750	0.00	0.00	0.00	0.00	0.00
4.000	0.00	0.00	0.01	0.01	0.01
4.250	0.01	0.01	0.01	0.01	0.01
4.500	0.01	0.01	0.01	0.01	0.02
4.750	0.02	0.02	0.02	0.02	0.02
5.000	0.02	0.02	0.02	0.02	0.03
5.250	0.03	0.03	0.03	0.03	0.03
5.500	0.03	0.03	0.03	0.04	0.04
5.750	0.04	0.04	0.04	0.04	0.04
6.000	0.04	0.05	0.05	0.05	0.05
6.250	0.05	0.05	0.05	0.06	0.06
6.500	0.06	0.06	0.06	0.06	0.06
6.750	0.06	0.07	0.07	0.07	0.07
7.000	0.07	0.07	0.07	0.08	0.08
7.250	0.08	0.08	0.08	0.08	0.08
7.500	0.09	0.09	0.09	0.09	0.09
7.750	0.09	0.09	0.10	0.10	0.10
8.000	0.10	0.10	0.10	0.11	0.11
8.250	0.11	0.11	0.11	0.11	0.12
8.500	0.12	0.12	0.12	0.13	0.13
8.750	0.13	0.14	0.14	0.14	0.15
9.000	0.15	0.15	0.16	0.16	0.16
9.250	0.17	0.17	0.17	0.18	0.18
9.500	0.18	0.19	0.19	0.19	0.19
9.750	0.20	0.20	0.20	0.21	0.21

Elkins Subdivision Drainage

Subsection: Time vs. Elevation
Label: PO-3 (OUT)
Scenario: Post-Development 100 YR

Return Event: 100 years
Storm Event: 100 YR

Time vs. Elevation (ft)

Output Time increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
10.000	0.22	0.22	0.23	0.23	0.24
10.250	0.24	0.25	0.25	0.26	0.27
10.500	0.28	0.28	0.29	0.30	0.31
10.750	0.32	0.33	0.34	0.35	0.36
11.000	0.37	0.39	0.40	0.42	0.43
11.250	0.45	0.47	0.49	0.51	0.53
11.500	0.56	0.58	0.62	0.68	0.77
11.750	0.91	1.09	1.33	1.64	2.02
12.000	2.38	2.66	2.80	2.80	2.70
12.250	2.54	2.37	2.20	2.05	1.90
12.500	1.77	1.65	1.54	1.44	1.35
12.750	1.27	1.20	1.14	1.08	1.03
13.000	0.98	0.94	0.90	0.86	0.83
13.250	0.80	0.77	0.75	0.72	0.70
13.500	0.68	0.66	0.64	0.63	0.61
13.750	0.60	0.58	0.57	0.56	0.55
14.000	0.54	0.53	0.52	0.51	0.50
14.250	0.50	0.49	0.48	0.47	0.47
14.500	0.46	0.45	0.45	0.44	0.43
14.750	0.43	0.42	0.42	0.41	0.41
15.000	0.40	0.40	0.39	0.39	0.38
15.250	0.38	0.37	0.37	0.36	0.36
15.500	0.35	0.35	0.35	0.34	0.34
15.750	0.33	0.33	0.33	0.32	0.32
16.000	0.31	0.31	0.30	0.30	0.30
16.250	0.29	0.29	0.29	0.28	0.28
16.500	0.28	0.27	0.27	0.27	0.27
16.750	0.26	0.26	0.26	0.26	0.25
17.000	0.25	0.25	0.25	0.25	0.24
17.250	0.24	0.24	0.24	0.24	0.24
17.500	0.23	0.23	0.23	0.23	0.23
17.750	0.23	0.22	0.22	0.22	0.22
18.000	0.22	0.22	0.21	0.21	0.21
18.250	0.21	0.21	0.21	0.21	0.20
18.500	0.20	0.20	0.20	0.20	0.20
18.750	0.20	0.19	0.19	0.19	0.19
19.000	0.19	0.19	0.19	0.19	0.18
19.250	0.18	0.18	0.18	0.18	0.18
19.500	0.18	0.17	0.17	0.17	0.17
19.750	0.17	0.17	0.17	0.16	0.16
20.000	0.16	0.16	0.16	0.16	0.16

Elkins Subdivision Drainage

Subsection: Time vs. Elevation
Label: PO-3 (OUT)
Scenario: Post-Development 100 YR

Return Event: 100 years
Storm Event: 100 YR

Time vs. Elevation (ft)

Output Time increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
20.250	0.16	0.15	0.15	0.15	0.15
20.500	0.15	0.15	0.15	0.15	0.15
20.750	0.15	0.15	0.15	0.14	0.14
21.000	0.14	0.14	0.14	0.14	0.14
21.250	0.14	0.14	0.14	0.14	0.14
21.500	0.14	0.14	0.14	0.14	0.14
21.750	0.14	0.14	0.14	0.14	0.13
22.000	0.13	0.13	0.13	0.13	0.13
22.250	0.13	0.13	0.13	0.13	0.13
22.500	0.13	0.13	0.13	0.13	0.13
22.750	0.13	0.13	0.13	0.13	0.13
23.000	0.13	0.13	0.13	0.13	0.13
23.250	0.13	0.13	0.13	0.13	0.13
23.500	0.13	0.13	0.13	0.12	0.12
23.750	0.12	0.12	0.12	0.12	0.12
24.000	0.12	(N/A)	(N/A)	(N/A)	(N/A)

Elkins Subdivision Drainage

Subsection: Outlet Input Data
Label: overall
Scenario: Post-Development 1 YR

Return Event: 1 years
Storm Event: 1 YR

Requested Pond Water Surface Elevations	
Minimum (Headwater)	0.00 ft
Increment (Headwater)	0.50 ft
Maximum (Headwater)	4.00 ft

Outlet Connectivity

Structure Type	Outlet ID	Direction	Outfall	E1 (ft)	E2 (ft)
Rectangular Weir	Weir - 1	Forward	TW	0.00	4.00
Tailwater Settings	Tailwater			(N/A)	(N/A)

Elkins Subdivision Drainage

Subsection: Outlet Input Data
Label: overall
Scenario: Post-Development 1 YR

Return Event: 1 years
Storm Event: 1 YR

Structure ID: Weir - 1 Structure Type: Rectangular Weir	
Number of Openings	1
Elevation	0.00 ft
Weir Length	2.25 ft
Weir Coefficient	3.00 (ft^0.5)/s

Structure ID: TW Structure Type: TW Setup, DS Channel	
Tailwater Type	Free Outfall

Convergence Tolerances	
Maximum Iterations	30
Tailwater Tolerance (Minimum)	0.01 ft
Tailwater Tolerance (Maximum)	0.50 ft
Headwater Tolerance (Minimum)	0.01 ft
Headwater Tolerance (Maximum)	0.50 ft
Flow Tolerance (Minimum)	0.001 ft³/s
Flow Tolerance (Maximum)	10.000 ft³/s

Elkins Subdivision Drainage

Subsection: Individual Outlet Curves
Label: overall
Scenario: Post-Development 1 YR

Return Event: 1 years
Storm Event: 1 YR

RATING TABLE FOR ONE OUTLET TYPE
Structure ID = Weir - 1 (Rectangular Weir)

Upstream ID = (Pond Water Surface)
Downstream ID = Tailwater (Pond Outfall)

Water Surface Elevation (ft)	Flow (ft^3/s)	Tailwater Elevation (ft)	Convergence Error (ft)
0.00	0.00	(N/A)	0.00
0.50	2.39	(N/A)	0.00
1.00	6.75	(N/A)	0.00
1.50	12.40	(N/A)	0.00
2.00	19.09	(N/A)	0.00
2.50	26.68	(N/A)	0.00
3.00	35.07	(N/A)	0.00
3.50	44.20	(N/A)	0.00
4.00	54.00	(N/A)	0.00

Computation Messages
H=.00; Htw=.00; Qfree=.00;
H=.50; Htw=.00; Qfree=2.39;
H=1.00; Htw=.00; Qfree=6.75;
H=1.50; Htw=.00; Qfree=12.40;
H=2.00; Htw=.00; Qfree=19.09;
H=2.50; Htw=.00; Qfree=26.68;
H=3.00; Htw=.00; Qfree=35.07;
H=3.50; Htw=.00; Qfree=44.20;
H=4.00; Htw=.00; Qfree=54.00;

Elkins Subdivision Drainage

Subsection: Composite Rating Curve
Label: overall
Scenario: Post-Development 1 YR

Return Event: 1 years
Storm Event: 1 YR

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft^3/s)	Tailwater Elevation (ft)	Convergence Error (ft)
0.00	0.00	(N/A)	0.00
0.50	2.39	(N/A)	0.00
1.00	6.75	(N/A)	0.00
1.50	12.40	(N/A)	0.00
2.00	19.09	(N/A)	0.00
2.50	26.68	(N/A)	0.00
3.00	35.07	(N/A)	0.00
3.50	44.20	(N/A)	0.00
4.00	54.00	(N/A)	0.00

Contributing Structures
Weir - 1
Weir - 1
Weir - 1
Weir - 1
Weir - 1
Weir - 1
Weir - 1
Weir - 1
Weir - 1

Elkins Subdivision Drainage

Subsection: Outlet Input Data
Label: overall
Scenario: Post-Development 2 YR

Return Event: 2 years
Storm Event: 2 YR

Requested Pond Water Surface Elevations	
Minimum (Headwater)	0.00 ft
Increment (Headwater)	0.50 ft
Maximum (Headwater)	4.00 ft

Outlet Connectivity

Structure Type	Outlet ID	Direction	Outfall	E1 (ft)	E2 (ft)
Rectangular Weir	Weir - 1	Forward	TW	0.00	4.00
Tailwater Settings	Tailwater			(N/A)	(N/A)

Elkins Subdivision Drainage

Subsection: Outlet Input Data
Label: overall
Scenario: Post-Development 2 YR

Return Event: 2 years
Storm Event: 2 YR

Structure ID: Weir - 1 Structure Type: Rectangular Weir	
Number of Openings	1
Elevation	0.00 ft
Weir Length	2.25 ft
Weir Coefficient	3.00 (ft^0.5)/s

Structure ID: TW Structure Type: TW Setup, DS Channel	
Tailwater Type	Free Outfall

Convergence Tolerances	
Maximum Iterations	30
Tailwater Tolerance (Minimum)	0.01 ft
Tailwater Tolerance (Maximum)	0.50 ft
Headwater Tolerance (Minimum)	0.01 ft
Headwater Tolerance (Maximum)	0.50 ft
Flow Tolerance (Minimum)	0.001 ft³/s
Flow Tolerance (Maximum)	10.000 ft³/s

Elkins Subdivision Drainage

Subsection: Individual Outlet Curves
Label: overall
Scenario: Post-Development 2 YR

Return Event: 2 years
Storm Event: 2 YR

RATING TABLE FOR ONE OUTLET TYPE
Structure ID = ()

Upstream ID =
Downstream ID =

Water Surface Elevation (ft)	Flow (ft^3/s)	Tailwater Elevation (ft)	Convergence Error (ft)
Contributing Structures			

Elkins Subdivision Drainage

Subsection: Composite Rating Curve
Label: overall
Scenario: Post-Development 2 YR

Return Event: 2 years
Storm Event: 2 YR

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft^3/s)	Tailwater Elevation (ft)	Convergence Error (ft)
0.00	0.00	(N/A)	0.00
0.50	2.39	(N/A)	0.00
1.00	6.75	(N/A)	0.00
1.50	12.40	(N/A)	0.00
2.00	19.09	(N/A)	0.00
2.50	26.68	(N/A)	0.00
3.00	35.07	(N/A)	0.00
3.50	44.20	(N/A)	0.00
4.00	54.00	(N/A)	0.00

Contributing Structures
Weir - 1
Weir - 1
Weir - 1
Weir - 1
Weir - 1
Weir - 1
Weir - 1
Weir - 1
Weir - 1

Elkins Subdivision Drainage

Subsection: Outlet Input Data
Label: overall
Scenario: Post-Development 5 YR

Return Event: 5 years
Storm Event: 5 YR

Requested Pond Water Surface Elevations	
Minimum (Headwater)	0.00 ft
Increment (Headwater)	0.50 ft
Maximum (Headwater)	4.00 ft

Outlet Connectivity

Structure Type	Outlet ID	Direction	Outfall	E1 (ft)	E2 (ft)
Rectangular Weir	Weir - 1	Forward	TW	0.00	4.00
Tailwater Settings	Tailwater			(N/A)	(N/A)

Elkins Subdivision Drainage

Subsection: Outlet Input Data
Label: overall
Scenario: Post-Development 5 YR

Return Event: 5 years
Storm Event: 5 YR

Structure ID: Weir - 1 Structure Type: Rectangular Weir	
Number of Openings	1
Elevation	0.00 ft
Weir Length	2.25 ft
Weir Coefficient	3.00 (ft^0.5)/s

Structure ID: TW Structure Type: TW Setup, DS Channel	
Tailwater Type	Free Outfall

Convergence Tolerances	
Maximum Iterations	30
Tailwater Tolerance (Minimum)	0.01 ft
Tailwater Tolerance (Maximum)	0.50 ft
Headwater Tolerance (Minimum)	0.01 ft
Headwater Tolerance (Maximum)	0.50 ft
Flow Tolerance (Minimum)	0.001 ft³/s
Flow Tolerance (Maximum)	10.000 ft³/s

Elkins Subdivision Drainage

Subsection: Individual Outlet Curves
Label: overall
Scenario: Post-Development 5 YR

Return Event: 5 years
Storm Event: 5 YR

RATING TABLE FOR ONE OUTLET TYPE
Structure ID = ()

Upstream ID =
Downstream ID =

Water Surface Elevation (ft)	Flow (ft^3/s)	Tailwater Elevation (ft)	Convergence Error (ft)
Contributing Structures			

Elkins Subdivision Drainage

Subsection: Composite Rating Curve
Label: overall
Scenario: Post-Development 5 YR

Return Event: 5 years
Storm Event: 5 YR

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft^3/s)	Tailwater Elevation (ft)	Convergence Error (ft)
0.00	0.00	(N/A)	0.00
0.50	2.39	(N/A)	0.00
1.00	6.75	(N/A)	0.00
1.50	12.40	(N/A)	0.00
2.00	19.09	(N/A)	0.00
2.50	26.68	(N/A)	0.00
3.00	35.07	(N/A)	0.00
3.50	44.20	(N/A)	0.00
4.00	54.00	(N/A)	0.00

Contributing Structures
Weir - 1
Weir - 1
Weir - 1
Weir - 1
Weir - 1
Weir - 1
Weir - 1
Weir - 1
Weir - 1

Elkins Subdivision Drainage

Subsection: Outlet Input Data
Label: overall
Scenario: Post-Development 10 YR

Return Event: 10 years
Storm Event: 10 YR

Requested Pond Water Surface Elevations	
Minimum (Headwater)	0.00 ft
Increment (Headwater)	0.50 ft
Maximum (Headwater)	4.00 ft

Outlet Connectivity

Structure Type	Outlet ID	Direction	Outfall	E1 (ft)	E2 (ft)
Rectangular Weir	Weir - 1	Forward	TW	0.00	4.00
Tailwater Settings	Tailwater			(N/A)	(N/A)

Elkins Subdivision Drainage

Subsection: Outlet Input Data
Label: overall
Scenario: Post-Development 10 YR

Return Event: 10 years
Storm Event: 10 YR

Structure ID: Weir - 1 Structure Type: Rectangular Weir	
Number of Openings	1
Elevation	0.00 ft
Weir Length	2.25 ft
Weir Coefficient	3.00 (ft^0.5)/s

Structure ID: TW Structure Type: TW Setup, DS Channel	
Tailwater Type	Free Outfall

Convergence Tolerances	
Maximum Iterations	30
Tailwater Tolerance (Minimum)	0.01 ft
Tailwater Tolerance (Maximum)	0.50 ft
Headwater Tolerance (Minimum)	0.01 ft
Headwater Tolerance (Maximum)	0.50 ft
Flow Tolerance (Minimum)	0.001 ft³/s
Flow Tolerance (Maximum)	10.000 ft³/s

Elkins Subdivision Drainage

Subsection: Individual Outlet Curves
Label: overall
Scenario: Post-Development 10 YR

Return Event: 10 years
Storm Event: 10 YR

RATING TABLE FOR ONE OUTLET TYPE
Structure ID = ()

Upstream ID =
Downstream ID =

Water Surface Elevation (ft)	Flow (ft^3/s)	Tailwater Elevation (ft)	Convergence Error (ft)
Contributing Structures			

Elkins Subdivision Drainage

Subsection: Composite Rating Curve
Label: overall
Scenario: Post-Development 10 YR

Return Event: 10 years
Storm Event: 10 YR

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft^3/s)	Tailwater Elevation (ft)	Convergence Error (ft)
0.00	0.00	(N/A)	0.00
0.50	2.39	(N/A)	0.00
1.00	6.75	(N/A)	0.00
1.50	12.40	(N/A)	0.00
2.00	19.09	(N/A)	0.00
2.50	26.68	(N/A)	0.00
3.00	35.07	(N/A)	0.00
3.50	44.20	(N/A)	0.00
4.00	54.00	(N/A)	0.00

Contributing Structures
Weir - 1
Weir - 1
Weir - 1
Weir - 1
Weir - 1
Weir - 1
Weir - 1
Weir - 1
Weir - 1

Elkins Subdivision Drainage

Subsection: Outlet Input Data
Label: overall
Scenario: Post-Development 25 YR

Return Event: 25 years
Storm Event: 25 YR

Requested Pond Water Surface Elevations	
Minimum (Headwater)	0.00 ft
Increment (Headwater)	0.50 ft
Maximum (Headwater)	4.00 ft

Outlet Connectivity

Structure Type	Outlet ID	Direction	Outfall	E1 (ft)	E2 (ft)
Rectangular Weir	Weir - 1	Forward	TW	0.00	4.00
Tailwater Settings	Tailwater			(N/A)	(N/A)

Elkins Subdivision Drainage

Subsection: Outlet Input Data
Label: overall
Scenario: Post-Development 25 YR

Return Event: 25 years
Storm Event: 25 YR

Structure ID: Weir - 1 Structure Type: Rectangular Weir	
Number of Openings	1
Elevation	0.00 ft
Weir Length	2.25 ft
Weir Coefficient	3.00 (ft^0.5)/s

Structure ID: TW Structure Type: TW Setup, DS Channel	
Tailwater Type	Free Outfall

Convergence Tolerances	
Maximum Iterations	30
Tailwater Tolerance (Minimum)	0.01 ft
Tailwater Tolerance (Maximum)	0.50 ft
Headwater Tolerance (Minimum)	0.01 ft
Headwater Tolerance (Maximum)	0.50 ft
Flow Tolerance (Minimum)	0.001 ft³/s
Flow Tolerance (Maximum)	10.000 ft³/s

Elkins Subdivision Drainage

Subsection: Individual Outlet Curves
Label: overall
Scenario: Post-Development 25 YR

Return Event: 25 years
Storm Event: 25 YR

RATING TABLE FOR ONE OUTLET TYPE
Structure ID = ()

Upstream ID =
Downstream ID =

Water Surface Elevation (ft)	Flow (ft^3/s)	Tailwater Elevation (ft)	Convergence Error (ft)
Contributing Structures			

Elkins Subdivision Drainage

Subsection: Composite Rating Curve
Label: overall
Scenario: Post-Development 25 YR

Return Event: 25 years
Storm Event: 25 YR

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft^3/s)	Tailwater Elevation (ft)	Convergence Error (ft)
0.00	0.00	(N/A)	0.00
0.50	2.39	(N/A)	0.00
1.00	6.75	(N/A)	0.00
1.50	12.40	(N/A)	0.00
2.00	19.09	(N/A)	0.00
2.50	26.68	(N/A)	0.00
3.00	35.07	(N/A)	0.00
3.50	44.20	(N/A)	0.00
4.00	54.00	(N/A)	0.00

Contributing Structures
Weir - 1
Weir - 1
Weir - 1
Weir - 1
Weir - 1
Weir - 1
Weir - 1
Weir - 1
Weir - 1

Elkins Subdivision Drainage

Subsection: Outlet Input Data
Label: overall
Scenario: Post-Development 50 YR

Return Event: 50 years
Storm Event: 50 YR

Requested Pond Water Surface Elevations	
Minimum (Headwater)	0.00 ft
Increment (Headwater)	0.50 ft
Maximum (Headwater)	4.00 ft

Outlet Connectivity

Structure Type	Outlet ID	Direction	Outfall	E1 (ft)	E2 (ft)
Rectangular Weir	Weir - 1	Forward	TW	0.00	4.00
Tailwater Settings	Tailwater			(N/A)	(N/A)

Elkins Subdivision Drainage

Subsection: Outlet Input Data
Label: overall
Scenario: Post-Development 50 YR

Return Event: 50 years
Storm Event: 50 YR

Structure ID: Weir - 1 Structure Type: Rectangular Weir	
Number of Openings	1
Elevation	0.00 ft
Weir Length	2.25 ft
Weir Coefficient	3.00 (ft^0.5)/s

Structure ID: TW Structure Type: TW Setup, DS Channel	
Tailwater Type	Free Outfall

Convergence Tolerances	
Maximum Iterations	30
Tailwater Tolerance (Minimum)	0.01 ft
Tailwater Tolerance (Maximum)	0.50 ft
Headwater Tolerance (Minimum)	0.01 ft
Headwater Tolerance (Maximum)	0.50 ft
Flow Tolerance (Minimum)	0.001 ft³/s
Flow Tolerance (Maximum)	10.000 ft³/s

Elkins Subdivision Drainage

Subsection: Individual Outlet Curves
Label: overall
Scenario: Post-Development 50 YR

Return Event: 50 years
Storm Event: 50 YR

RATING TABLE FOR ONE OUTLET TYPE
Structure ID = ()

Upstream ID =
Downstream ID =

Water Surface Elevation (ft)	Flow (ft^3/s)	Tailwater Elevation (ft)	Convergence Error (ft)
Contributing Structures			

Elkins Subdivision Drainage

Subsection: Composite Rating Curve
Label: overall
Scenario: Post-Development 50 YR

Return Event: 50 years
Storm Event: 50 YR

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft^3/s)	Tailwater Elevation (ft)	Convergence Error (ft)
0.00	0.00	(N/A)	0.00
0.50	2.39	(N/A)	0.00
1.00	6.75	(N/A)	0.00
1.50	12.40	(N/A)	0.00
2.00	19.09	(N/A)	0.00
2.50	26.68	(N/A)	0.00
3.00	35.07	(N/A)	0.00
3.50	44.20	(N/A)	0.00
4.00	54.00	(N/A)	0.00

Contributing Structures
Weir - 1
Weir - 1
Weir - 1
Weir - 1
Weir - 1
Weir - 1
Weir - 1
Weir - 1
Weir - 1

Elkins Subdivision Drainage

Subsection: Outlet Input Data
Label: overall
Scenario: Post-Development 100 YR

Return Event: 100 years
Storm Event: 100 YR

Requested Pond Water Surface Elevations	
Minimum (Headwater)	0.00 ft
Increment (Headwater)	0.50 ft
Maximum (Headwater)	4.00 ft

Outlet Connectivity

Structure Type	Outlet ID	Direction	Outfall	E1 (ft)	E2 (ft)
Rectangular Weir	Weir - 1	Forward	TW	0.00	4.00
Tailwater Settings	Tailwater			(N/A)	(N/A)

Elkins Subdivision Drainage

Subsection: Outlet Input Data
Label: overall
Scenario: Post-Development 100 YR

Return Event: 100 years
Storm Event: 100 YR

Structure ID: Weir - 1 Structure Type: Rectangular Weir	
Number of Openings	1
Elevation	0.00 ft
Weir Length	2.25 ft
Weir Coefficient	3.00 (ft^0.5)/s

Structure ID: TW Structure Type: TW Setup, DS Channel	
Tailwater Type	Free Outfall

Convergence Tolerances	
Maximum Iterations	30
Tailwater Tolerance (Minimum)	0.01 ft
Tailwater Tolerance (Maximum)	0.50 ft
Headwater Tolerance (Minimum)	0.01 ft
Headwater Tolerance (Maximum)	0.50 ft
Flow Tolerance (Minimum)	0.001 ft³/s
Flow Tolerance (Maximum)	10.000 ft³/s

Elkins Subdivision Drainage

Subsection: Individual Outlet Curves
Label: overall
Scenario: Post-Development 100 YR

Return Event: 100 years
Storm Event: 100 YR

RATING TABLE FOR ONE OUTLET TYPE
Structure ID = ()

Upstream ID =
Downstream ID =

Water Surface Elevation (ft)	Flow (ft^3/s)	Tailwater Elevation (ft)	Convergence Error (ft)
Contributing Structures			

Elkins Subdivision Drainage

Subsection: Composite Rating Curve
Label: overall
Scenario: Post-Development 100 YR

Return Event: 100 years
Storm Event: 100 YR

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft^3/s)	Tailwater Elevation (ft)	Convergence Error (ft)
0.00	0.00	(N/A)	0.00
0.50	2.39	(N/A)	0.00
1.00	6.75	(N/A)	0.00
1.50	12.40	(N/A)	0.00
2.00	19.09	(N/A)	0.00
2.50	26.68	(N/A)	0.00
3.00	35.07	(N/A)	0.00
3.50	44.20	(N/A)	0.00
4.00	54.00	(N/A)	0.00

Contributing Structures
Weir - 1
Weir - 1
Weir - 1
Weir - 1
Weir - 1
Weir - 1
Weir - 1
Weir - 1
Weir - 1

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Existing Pond Redesign- Interconnected Ponds

Project Summary	
Title	
Engineer	
Company	
Date	9/25/2019

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Existing Pond Redesign- Interconnected Ponds

Subsection: Modified Rational Grand Summary

Modified Rational Method

Q = CiA * Units Conversion; Where conversion = 43560 / (12 * 3600)

Frequency (years)	Area (acres)	Adjusted C Coefficient	Duration (hours)	Intensity (in/h)	Flow (Peak) (ft^3/s)	Flow (Allowable) (ft^3/s)	Volume (inflow) (ac-ft)	Volume (Storage) (ac-ft)
100	22.300	0.610	0.500	5.024	68.90	40.90	2.847	1.186
100	24.780	0.610	0.500	5.024	76.57	73.61	3.164	0.210
100	25.850	0.610	0.667	4.312	68.56	43.36	3.778	1.458
100	25.683	0.610	0.528	4.882	77.13	74.35	3.366	0.121
2	22.300	0.610	0.500	2.424	33.25	19.79	1.374	0.571
2	24.780	0.610	0.500	2.424	36.94	35.65	1.527	0.099
2	25.850	0.610	0.667	2.062	32.79	20.82	1.807	0.695
2	25.683	0.610	0.528	2.352	37.15	35.69	1.621	0.064
5	22.300	0.610	0.500	3.033	41.60	24.73	1.719	0.715
5	24.780	0.610	0.500	3.033	46.23	44.53	1.910	0.125
5	25.850	0.610	0.667	2.591	41.20	26.11	2.270	0.875
5	25.683	0.610	0.528	2.945	46.52	44.77	2.030	0.077
10	22.300	0.610	0.500	3.464	47.51	28.23	1.963	0.817
10	24.780	0.610	0.500	3.464	52.80	50.82	2.182	0.144
10	25.850	0.610	0.667	2.965	47.14	29.85	2.597	1.002
10	25.683	0.610	0.528	3.365	53.15	51.18	2.319	0.086
25	22.300	0.610	0.500	4.072	55.86	33.17	2.308	0.961
25	24.780	0.610	0.500	4.072	62.07	59.71	2.565	0.170
25	25.850	0.610	0.667	3.490	55.50	35.12	3.058	1.180
25	25.683	0.610	0.528	3.957	62.51	60.22	2.728	0.100
50	22.300	0.610	0.500	4.544	62.33	37.00	2.575	1.072
50	24.780	0.610	0.500	4.544	69.26	66.60	2.862	0.190
50	25.850	0.610	0.667	3.898	61.97	39.20	3.414	1.318
50	25.683	0.610	0.528	4.416	69.75	67.22	3.044	0.111

Existing Pond Redesign- Interconnected Ponds

Subsection: Master Network Summary

Catchments Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ac-ft)	Time to Peak (hours)	Peak Flow (ft^3/s)
SF-1 RE-DESIGN	Post-Development 2 YEAR	2	1.527	0.450	36.94
SF-1 RE-DESIGN	Post-Development 5 YEAR	5	1.910	0.450	46.23
SF-1 RE-DESIGN	Post-Development 10 YEAR	10	2.182	0.450	52.80
SF-1 RE-DESIGN	Post-Development 25 YEAR	25	2.565	0.450	62.07
SF-1 RE-DESIGN	Post-Development 50 YEAR	50	2.862	0.450	69.26
SF-1 RE-DESIGN	Post-Development 100 YEAR	100	3.164	0.450	76.57
SF-2 RE-DESIGN	Post-Development 2 YEAR	2	1.618	0.550	35.60
SF-2 RE-DESIGN	Post-Development 5 YEAR	5	2.027	0.550	44.59
SF-2 RE-DESIGN	Post-Development 10 YEAR	10	2.315	0.550	50.94
SF-2 RE-DESIGN	Post-Development 25 YEAR	25	2.723	0.550	59.90
SF-2 RE-DESIGN	Post-Development 50 YEAR	50	3.039	0.550	66.85
SF-2 RE-DESIGN	Post-Development 100 YEAR	100	3.360	0.550	73.91
SF-2 EX	Post-Development 2 YEAR	2	1.804	0.550	32.79
SF-2 EX	Post-Development 5 YEAR	5	2.267	0.550	41.20
SF-2 EX	Post-Development 10 YEAR	10	2.594	0.550	47.14
SF-2 EX	Post-Development 25 YEAR	25	3.054	0.550	55.50
SF-2 EX	Post-Development 50 YEAR	50	3.410	0.550	61.97
SF-2 EX	Post-Development 100 YEAR	100	3.773	0.550	68.56
SF-1 EX	Post-Development 2 YEAR	2	1.374	0.450	33.25
SF-1 EX	Post-Development 5 YEAR	5	1.719	0.450	41.60
SF-1 EX	Post-Development 10 YEAR	10	1.963	0.450	47.51
SF-1 EX	Post-Development 25 YEAR	25	2.308	0.450	55.86
SF-1 EX	Post-Development 50 YEAR	50	2.575	0.450	62.33

Existing Pond Redesign- Interconnected Ponds

Subsection: Master Network Summary

Catchments Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ac-ft)	Time to Peak (hours)	Peak Flow (ft^3/s)
SF-1 EX	Post-Development 100 YEAR	100	2.847	0.450	68.90

Node Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ac-ft)	Time to Peak (hours)	Peak Flow (ft^3/s)
OUTFALL	Post-Development 2 YEAR	2	0.327	1.300	6.38
OUTFALL	Post-Development 2 YEAR	2	-1.621	0.100	-21.69
OUTFALL	Post-Development 5 YEAR	5	0.555	1.200	12.63
OUTFALL	Post-Development 5 YEAR	5	-2.095	0.100	-30.48
OUTFALL	Post-Development 10 YEAR	10	0.734	1.150	15.98
OUTFALL	Post-Development 10 YEAR	10	-2.453	0.100	-37.30
OUTFALL	Post-Development 25 YEAR	25	1.011	1.100	21.28
OUTFALL	Post-Development 25 YEAR	25	-2.983	0.100	-47.61
OUTFALL	Post-Development 50 YEAR	50	1.146	1.050	25.97
OUTFALL	Post-Development 50 YEAR	50	-3.385	0.100	-55.60
OUTFALL	Post-Development 100 YEAR	100	1.324	1.050	28.52
OUTFALL	Post-Development 100 YEAR	100	-3.721	0.100	-62.66
O-5	Post-Development 2 YEAR	2	1.866	0.750	25.60
O-5	Post-Development 2 YEAR	2	-0.362	0.100	-26.03
O-5	Post-Development 5 YEAR	5	2.249	0.750	31.27
O-5	Post-Development 5 YEAR	5	-0.528	0.100	-39.03
O-5	Post-Development 10 YEAR	10	2.444	0.750	35.59
O-5	Post-Development 10 YEAR	10	-0.711	0.000	-52.75
O-5	Post-Development 25 YEAR	25	2.676	0.750	40.76

Existing Pond Redesign- Interconnected Ponds

Subsection: Master Network Summary

Node Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ac-ft)	Time to Peak (hours)	Peak Flow (ft³/s)
O-5	Post-Development 25 YEAR	25	-1.020	0.000	-72.39
O-5	Post-Development 50 YEAR	50	2.919	0.750	44.96
O-5	Post-Development 50 YEAR	50	-1.229	0.000	-86.74
O-5	Post-Development 100 YEAR	100	3.190	0.750	47.88
O-5	Post-Development 100 YEAR	100	-1.430	0.000	-101.14

Pond Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ac-ft)	Time to Peak (hours)	Peak Flow (ft³/s)	Maximum Water Surface Elevation (ft)	Maximum Pond Storage (ac-ft)
POND RE-DESIGN (IN)	Post-Development 2 YEAR	2	3.047	0.500	54.52	(N/A)	(N/A)
POND RE-DESIGN (OUT)	Post-Development 2 YEAR	2	0.327	1.300	6.38	1,217.17	4.406
POND RE-DESIGN (Reverse)	Post-Development 2 YEAR	2	-1.621	0.100	-21.69	(N/A)	(N/A)
POND RE-DESIGN (IN)	Post-Development 5 YEAR	5	3.733	0.500	66.79	(N/A)	(N/A)
POND RE-DESIGN (OUT)	Post-Development 5 YEAR	5	0.555	1.200	12.63	1,217.50	5.395
POND RE-DESIGN (Reverse)	Post-Development 5 YEAR	5	-2.095	0.100	-30.48	(N/A)	(N/A)
POND RE-DESIGN (IN)	Post-Development 10 YEAR	10	4.218	0.500	75.62	(N/A)	(N/A)
POND RE-DESIGN (OUT)	Post-Development 10 YEAR	10	0.734	1.150	15.98	1,217.74	6.089
POND RE-DESIGN (Reverse)	Post-Development 10 YEAR	10	-2.453	0.100	-37.30	(N/A)	(N/A)

Existing Pond Redesign- Interconnected Ponds

Subsection: Master Network Summary

Pond Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ac-ft)	Time to Peak (hours)	Peak Flow (ft^3/s)	Maximum Water Surface Elevation (ft)	Maximum Pond Storage (ac-ft)
POND RE-DESIGN (IN)	Post-Development 25 YEAR	25	4.902	0.500	88.11	(N/A)	(N/A)
POND RE-DESIGN (OUT)	Post-Development 25 YEAR	25	1.011	1.100	21.28	1,218.06	7.053
POND RE-DESIGN (Reverse)	Post-Development 25 YEAR	25	-2.983	0.100	-47.61	(N/A)	(N/A)
POND RE-DESIGN (IN)	Post-Development 50 YEAR	50	5.357	0.500	97.90	(N/A)	(N/A)
POND RE-DESIGN (OUT)	Post-Development 50 YEAR	50	1.146	1.050	25.97	1,218.29	7.768
POND RE-DESIGN (Reverse)	Post-Development 50 YEAR	50	-3.385	0.100	-55.60	(N/A)	(N/A)
POND RE-DESIGN (IN)	Post-Development 100 YEAR	100	5.832	0.500	107.77	(N/A)	(N/A)
POND RE-DESIGN (OUT)	Post-Development 100 YEAR	100	1.324	1.050	28.52	1,218.50	8.416
POND RE-DESIGN (Reverse)	Post-Development 100 YEAR	100	-3.721	0.100	-62.66	(N/A)	(N/A)
POND EX (IN)	Post-Development 2 YEAR	2	1.937	0.650	26.86	(N/A)	(N/A)
POND EX (OUT)	Post-Development 2 YEAR	2	1.866	0.750	25.60	1,217.87	0.434
POND EX (Reverse)	Post-Development 2 YEAR	2	-0.362	0.100	-26.03	(N/A)	(N/A)
POND EX (IN)	Post-Development 5 YEAR	5	2.321	0.650	33.26	(N/A)	(N/A)
POND EX (OUT)	Post-Development 5 YEAR	5	2.249	0.750	31.27	1,218.15	0.603
POND EX (Reverse)	Post-Development 5 YEAR	5	-0.528	0.100	-39.03	(N/A)	(N/A)

Existing Pond Redesign- Interconnected Ponds

Subsection: Master Network Summary

Pond Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ac-ft)	Time to Peak (hours)	Peak Flow (ft^3/s)	Maximum Water Surface Elevation (ft)	Maximum Pond Storage (ac-ft)
POND EX (IN)	Post-Development 10 YEAR	10	2.515	0.700	37.11	(N/A)	(N/A)
POND EX (OUT)	Post-Development 10 YEAR	10	2.444	0.750	35.59	1,218.36	0.758
POND EX (Reverse)	Post-Development 10 YEAR	10	-0.711	0.000	-52.75	(N/A)	(N/A)
POND EX (IN)	Post-Development 25 YEAR	25	2.731	0.700	42.43	(N/A)	(N/A)
POND EX (Reverse)	Post-Development 25 YEAR	25	-0.006	0.150	-1.77	(N/A)	(N/A)
POND EX (OUT)	Post-Development 25 YEAR	25	2.676	0.750	40.76	1,218.67	0.997
POND EX (Reverse)	Post-Development 25 YEAR	25	-1.020	0.000	-72.39	(N/A)	(N/A)
POND EX (IN)	Post-Development 50 YEAR	50	2.971	0.700	47.12	(N/A)	(N/A)
POND EX (Reverse)	Post-Development 50 YEAR	50	-0.013	0.150	-2.85	(N/A)	(N/A)
POND EX (OUT)	Post-Development 50 YEAR	50	2.919	0.750	44.96	1,218.88	1.157
POND EX (Reverse)	Post-Development 50 YEAR	50	-1.229	0.000	-86.74	(N/A)	(N/A)
POND EX (IN)	Post-Development 100 YEAR	100	3.240	0.700	50.33	(N/A)	(N/A)
POND EX (Reverse)	Post-Development 100 YEAR	100	-0.020	0.150	-3.88	(N/A)	(N/A)
POND EX (OUT)	Post-Development 100 YEAR	100	3.190	0.750	47.88	1,219.09	1.328
POND EX (Reverse)	Post-Development 100 YEAR	100	-1.430	0.000	-101.14	(N/A)	(N/A)

Existing Pond Redesign- Interconnected Ponds

Subsection: Master Network Summary

Pond Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ac-ft)	Time to Peak (hours)	Peak Flow (ft^3/s)	Maximum Water Surface Elevation (ft)	Maximum Pond Storage (ac-ft)
DRY POND (IN)	Post-Development 2 YEAR	2	1.618	0.550	35.60	(N/A)	(N/A)
DRY POND (OUT)	Post-Development 2 YEAR	2	1.520	0.750	22.37	1,218.29	0.609
DRY POND (IN)	Post-Development 5 YEAR	5	2.027	0.550	44.59	(N/A)	(N/A)
DRY POND (OUT)	Post-Development 5 YEAR	5	1.823	0.750	27.25	1,218.53	0.787
DRY POND (IN)	Post-Development 10 YEAR	10	2.315	0.550	50.94	(N/A)	(N/A)
DRY POND (OUT)	Post-Development 10 YEAR	10	2.036	0.750	30.75	1,218.70	0.914
DRY POND (IN)	Post-Development 25 YEAR	25	2.723	0.550	59.90	(N/A)	(N/A)
DRY POND (OUT)	Post-Development 25 YEAR	25	2.337	0.750	35.43	1,218.95	1.097
DRY POND (IN)	Post-Development 50 YEAR	50	3.039	0.550	66.85	(N/A)	(N/A)
DRY POND (OUT)	Post-Development 50 YEAR	50	2.495	0.750	37.89	1,219.11	1.253
DRY POND (IN)	Post-Development 100 YEAR	100	3.360	0.550	73.91	(N/A)	(N/A)
DRY POND (OUT)	Post-Development 100 YEAR	100	2.668	0.700	39.78	1,219.27	1.436
POND EX 2 (IN)	Post-Development 2 YEAR	2	1.804	0.550	32.79	(N/A)	(N/A)
POND EX 2 (OUT)	Post-Development 2 YEAR	2	0.997	1.000	15.17	1,218.08	1.762
POND EX 2 (Reverse)	Post-Development 2 YEAR	2	-0.427	0.350	-12.75	(N/A)	(N/A)

Existing Pond Redesign- Interconnected Ponds

Subsection: Master Network Summary

Pond Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ac-ft)	Time to Peak (hours)	Peak Flow (ft^3/s)	Maximum Water Surface Elevation (ft)	Maximum Pond Storage (ac-ft)
POND EX 2 (IN)	Post-Development 5 YEAR	5	2.267	0.550	41.20	(N/A)	(N/A)
POND EX 2 (OUT)	Post-Development 5 YEAR	5	1.229	1.000	18.63	1,218.39	2.307
POND EX 2 (Reverse)	Post-Development 5 YEAR	5	-0.616	0.350	-18.39	(N/A)	(N/A)
POND EX 2 (IN)	Post-Development 10 YEAR	10	2.594	0.550	47.14	(N/A)	(N/A)
POND EX 2 (OUT)	Post-Development 10 YEAR	10	1.337	1.000	21.24	1,218.61	2.713
POND EX 2 (Reverse)	Post-Development 10 YEAR	10	-0.772	0.350	-22.62	(N/A)	(N/A)
POND EX 2 (IN)	Post-Development 25 YEAR	25	3.054	0.550	55.50	(N/A)	(N/A)
POND EX 2 (OUT)	Post-Development 25 YEAR	25	1.472	1.000	23.56	1,218.98	3.364
POND EX 2 (Reverse)	Post-Development 25 YEAR	25	-1.033	0.350	-29.61	(N/A)	(N/A)
POND EX 2 (IN)	Post-Development 50 YEAR	50	3.410	0.550	61.97	(N/A)	(N/A)
POND EX 2 (OUT)	Post-Development 50 YEAR	50	1.600	1.000	24.61	1,219.22	3.843
POND EX 2 (Reverse)	Post-Development 50 YEAR	50	-1.194	0.350	-34.22	(N/A)	(N/A)
POND EX 2 (IN)	Post-Development 100 YEAR	100	3.773	0.550	68.56	(N/A)	(N/A)
POND EX 2 (OUT)	Post-Development 100 YEAR	100	1.735	1.000	25.65	1,219.45	4.324
POND EX 2 (Reverse)	Post-Development 100 YEAR	100	-1.337	0.350	-38.31	(N/A)	(N/A)

Existing Pond Redesign- Interconnected Ponds

Subsection: I-D-F from a, b, n coeff.
Return Event: 2 years
Label: IDF Curve Equation - 1
Storm Event: IDF Curve Equation - 1 - 2 Year
Scenario: Post-Development 2 YEAR

I-D-F Curve

Time (hours)	Intensity (in/h)
0.017	7.574
0.033	6.851
0.050	6.282
0.067	5.820
0.083	5.436
0.100	5.110
0.117	4.831
0.133	4.587
0.150	4.373
0.167	4.182
0.183	4.012
0.200	3.858
0.217	3.718
0.233	3.591
0.250	3.474
0.267	3.367
0.283	3.268
0.300	3.175
0.317	3.090
0.333	3.009
0.350	2.934
0.367	2.864
0.383	2.798
0.400	2.735
0.417	2.676
0.433	2.620
0.450	2.568
0.467	2.517
0.483	2.469
0.500	2.424
0.517	2.380
0.533	2.339
0.550	2.299
0.567	2.261
0.583	2.224
0.600	2.189
0.617	2.156
0.633	2.123
0.650	2.092
0.667	2.062
0.683	2.033
0.700	2.006
0.717	1.979

Existing Pond Redesign- Interconnected Ponds

Subsection: I-D-F from a, b, n coeff.
Return Event: 2 years
Label: IDF Curve Equation - 1
Storm Event: IDF Curve Equation - 1 - 2 Year
Scenario: Post-Development 2 YEAR

I-D-F Curve

Time (hours)	Intensity (in/h)
0.733	1.953
0.750	1.927
0.767	1.903
0.783	1.879
0.800	1.857
0.817	1.834
0.833	1.813
0.850	1.792
0.867	1.772
0.883	1.752
0.900	1.733
0.917	1.714
0.933	1.696
0.950	1.679
0.967	1.662
0.983	1.645
1.000	1.629
1.017	1.613
1.033	1.597
1.050	1.582
1.067	1.567
1.083	1.553
1.100	1.539
1.117	1.525
1.133	1.512
1.150	1.498
1.167	1.486
1.183	1.473
1.200	1.461
1.217	1.449
1.233	1.437
1.250	1.425
1.267	1.414
1.283	1.403
1.300	1.392
1.317	1.381
1.333	1.371
1.350	1.361
1.367	1.351
1.383	1.341
1.400	1.331
1.417	1.322
1.433	1.312

Existing Pond Redesign- Interconnected Ponds

Subsection: I-D-F from a, b, n coeff.
Return Event: 2 years
Label: IDF Curve Equation - 1
Storm Event: IDF Curve Equation - 1 - 2 Year
Scenario: Post-Development 2 YEAR

I-D-F Curve

Time (hours)	Intensity (in/h)
1.450	1.303
1.467	1.294
1.483	1.285
1.500	1.276
1.517	1.268
1.533	1.260
1.550	1.251
1.567	1.243
1.583	1.235
1.600	1.227
1.617	1.220
1.633	1.212
1.650	1.204
1.667	1.197
1.683	1.190
1.700	1.183
1.717	1.176
1.733	1.169
1.750	1.162
1.767	1.155
1.783	1.149
1.800	1.142
1.817	1.136
1.833	1.129
1.850	1.123
1.867	1.117
1.883	1.111
1.900	1.105
1.917	1.099
1.933	1.093
1.950	1.087
1.967	1.082
1.983	1.076
2.000	1.070
2.017	1.065
2.033	1.060
2.050	1.054
2.067	1.049
2.083	1.044
2.100	1.039
2.117	1.034
2.133	1.029
2.150	1.024

Existing Pond Redesign- Interconnected Ponds

Subsection: I-D-F from a, b, n coeff.
Return Event: 2 years
Label: IDF Curve Equation - 1
Storm Event: IDF Curve Equation - 1 - 2 Year
Scenario: Post-Development 2 YEAR

I-D-F Curve

Time (hours)	Intensity (in/h)
2.167	1.019
2.183	1.014
2.200	1.009
2.217	1.005
2.233	1.000
2.250	0.995
2.267	0.991
2.283	0.986
2.300	0.982
2.317	0.978
2.333	0.973
2.350	0.969
2.367	0.965
2.383	0.960
2.400	0.956
2.417	0.952
2.433	0.948
2.450	0.944
2.467	0.940
2.483	0.936
2.500	0.932
2.517	0.929
2.533	0.925
2.550	0.921
2.567	0.917
2.583	0.914
2.600	0.910
2.617	0.906
2.633	0.903
2.650	0.899
2.667	0.896
2.683	0.892
2.700	0.889
2.717	0.885
2.733	0.882
2.750	0.879
2.767	0.876
2.783	0.872
2.800	0.869
2.817	0.866
2.833	0.863
2.850	0.859
2.867	0.856

Existing Pond Redesign- Interconnected Ponds

Subsection: I-D-F from a, b, n coeff.
Return Event: 2 years
Label: IDF Curve Equation - 1
Storm Event: IDF Curve Equation - 1 - 2 Year
Scenario: Post-Development 2 YEAR

I-D-F Curve

Time (hours)	Intensity (in/h)
2.883	0.853
2.900	0.850
2.917	0.847
2.933	0.844
2.950	0.841
2.967	0.838
2.983	0.835
3.000	0.832
3.017	0.830
3.033	0.827
3.050	0.824
3.067	0.821
3.083	0.818
3.100	0.816
3.117	0.813
3.133	0.810
3.150	0.807
3.167	0.805
3.183	0.802
3.200	0.800
3.217	0.797
3.233	0.794
3.250	0.792
3.267	0.789
3.283	0.787
3.300	0.784
3.317	0.782
3.333	0.779
3.350	0.777
3.367	0.775
3.383	0.772
3.400	0.770
3.417	0.767
3.433	0.765
3.450	0.763
3.467	0.760
3.483	0.758
3.500	0.756
3.517	0.754
3.533	0.751
3.550	0.749
3.567	0.747
3.583	0.745

Existing Pond Redesign- Interconnected Ponds

Subsection: I-D-F from a, b, n coeff.
Return Event: 2 years
Label: IDF Curve Equation - 1
Storm Event: IDF Curve Equation - 1 - 2 Year
Scenario: Post-Development 2 YEAR

I-D-F Curve

Time (hours)	Intensity (in/h)
3.600	0.743
3.617	0.741
3.633	0.738
3.650	0.736
3.667	0.734
3.683	0.732
3.700	0.730
3.717	0.728
3.733	0.726
3.750	0.724
3.767	0.722
3.783	0.720
3.800	0.718
3.817	0.716
3.833	0.714
3.850	0.712
3.867	0.710
3.883	0.708
3.900	0.706
3.917	0.704
3.933	0.703
3.950	0.701
3.967	0.699
3.983	0.697
4.000	0.695
4.017	0.693
4.033	0.692
4.050	0.690
4.067	0.688
4.083	0.686
4.100	0.684
4.117	0.683
4.133	0.681
4.150	0.679
4.167	0.678
4.183	0.676
4.200	0.674
4.217	0.673
4.233	0.671
4.250	0.669
4.267	0.668
4.283	0.666
4.300	0.664

Existing Pond Redesign- Interconnected Ponds

Subsection: I-D-F from a, b, n coeff.
Return Event: 2 years
Label: IDF Curve Equation - 1
Storm Event: IDF Curve Equation - 1 - 2 Year
Scenario: Post-Development 2 YEAR

I-D-F Curve

Time (hours)	Intensity (in/h)
4.317	0.663
4.333	0.661
4.350	0.659
4.367	0.658
4.383	0.656
4.400	0.655
4.417	0.653
4.433	0.652
4.450	0.650
4.467	0.649
4.483	0.647
4.500	0.646
4.517	0.644
4.533	0.643
4.550	0.641
4.567	0.640
4.583	0.638
4.600	0.637
4.617	0.635
4.633	0.634
4.650	0.632
4.667	0.631
4.683	0.630
4.700	0.628
4.717	0.627
4.733	0.625
4.750	0.624
4.767	0.623
4.783	0.621
4.800	0.620
4.817	0.618
4.833	0.617
4.850	0.616
4.867	0.614
4.883	0.613
4.900	0.612
4.917	0.611
4.933	0.609
4.950	0.608
4.967	0.607
4.983	0.605
5.000	0.604
5.017	0.603

Existing Pond Redesign- Interconnected Ponds

Subsection: I-D-F from a, b, n coeff.
Return Event: 2 years
Label: IDF Curve Equation - 1
Storm Event: IDF Curve Equation - 1 - 2 Year
Scenario: Post-Development 2 YEAR

I-D-F Curve

Time (hours)	Intensity (in/h)
5.033	0.602
5.050	0.600
5.067	0.599
5.083	0.598
5.100	0.597
5.117	0.595
5.133	0.594
5.150	0.593
5.167	0.592
5.183	0.591
5.200	0.589
5.217	0.588
5.233	0.587
5.250	0.586
5.267	0.585
5.283	0.583
5.300	0.582
5.317	0.581
5.333	0.580
5.350	0.579
5.367	0.578
5.383	0.577
5.400	0.575
5.417	0.574
5.433	0.573
5.450	0.572
5.467	0.571
5.483	0.570
5.500	0.569
5.517	0.568
5.533	0.567
5.550	0.566
5.567	0.565
5.583	0.563
5.600	0.562
5.617	0.561
5.633	0.560
5.650	0.559
5.667	0.558
5.683	0.557
5.700	0.556
5.717	0.555
5.733	0.554

Existing Pond Redesign- Interconnected Ponds

Subsection: I-D-F from a, b, n coeff.
Return Event: 2 years
Label: IDF Curve Equation - 1
Storm Event: IDF Curve Equation - 1 - 2 Year
Scenario: Post-Development 2 YEAR

I-D-F Curve

Time (hours)	Intensity (in/h)
5.750	0.553
5.767	0.552
5.783	0.551
5.800	0.550
5.817	0.549
5.833	0.548
5.850	0.547
5.867	0.546
5.883	0.545
5.900	0.544
5.917	0.543
5.933	0.542
5.950	0.541
5.967	0.540
5.983	0.539
6.000	0.538
6.167	0.529
6.333	0.520
6.500	0.512
6.667	0.504
6.833	0.496
7.000	0.488
7.167	0.481
7.333	0.474
7.500	0.467
7.667	0.461
7.833	0.455
8.000	0.449
8.167	0.443
8.333	0.437
8.500	0.432
8.667	0.426
8.833	0.421
9.000	0.416
9.167	0.412
9.333	0.407
9.500	0.402
9.667	0.398
9.833	0.394
10.000	0.389
10.167	0.385
10.333	0.381
10.500	0.377

Existing Pond Redesign- Interconnected Ponds

Subsection: I-D-F from a, b, n coeff.
Return Event: 2 years
Label: IDF Curve Equation - 1
Storm Event: IDF Curve Equation - 1 - 2 Year
Scenario: Post-Development 2 YEAR

I-D-F Curve

Time (hours)	Intensity (in/h)
10.667	0.374
10.833	0.370
11.000	0.366
11.167	0.363
11.333	0.360
11.500	0.356
11.667	0.353
11.833	0.350
12.000	0.347
12.167	0.344
12.333	0.341
12.500	0.338
12.667	0.335
12.833	0.332
13.000	0.330
13.167	0.327
13.333	0.324
13.500	0.322
13.667	0.319
13.833	0.317
14.000	0.314
14.167	0.312
14.333	0.310
14.500	0.307
14.667	0.305
14.833	0.303
15.000	0.301
15.167	0.299
15.333	0.297
15.500	0.295
15.667	0.293
15.833	0.291
16.000	0.289
16.167	0.287
16.333	0.285
16.500	0.283
16.667	0.281
16.833	0.279
17.000	0.278
17.167	0.276
17.333	0.274
17.500	0.273
17.667	0.271

Existing Pond Redesign- Interconnected Ponds

Subsection: I-D-F from a, b, n coeff.
Return Event: 2 years
Label: IDF Curve Equation - 1
Storm Event: IDF Curve Equation - 1 - 2 Year
Scenario: Post-Development 2 YEAR

I-D-F Curve

Time (hours)	Intensity (in/h)
17.833	0.269
18.000	0.268
18.167	0.266
18.333	0.265
18.500	0.263
18.667	0.262
18.833	0.260
19.000	0.259
19.167	0.257
19.333	0.256
19.500	0.254
19.667	0.253
19.833	0.252
20.000	0.250
20.167	0.249
20.333	0.248
20.500	0.246
20.667	0.245
20.833	0.244
21.000	0.243
21.167	0.241
21.333	0.240
21.500	0.239
21.667	0.238
21.833	0.237
22.000	0.236
22.167	0.234
22.333	0.233
22.500	0.232
22.667	0.231
22.833	0.230
23.000	0.229
23.167	0.228
23.333	0.227
23.500	0.226
23.667	0.225
23.833	0.224
24.000	0.223

Existing Pond Redesign- Interconnected Ponds

Subsection: I-D-F from a, b, n coeff.
Return Event: 5 years
Label: IDF Curve Equation - 1
Storm Event: IDF Curve Equation - 1 - 5 Year
Scenario: Post-Development 5 YEAR

I-D-F Curve

Time (hours)	Intensity (in/h)
0.017	9.261
0.033	8.387
0.050	7.700
0.067	7.142
0.083	6.679
0.100	6.287
0.117	5.949
0.133	5.655
0.150	5.397
0.167	5.166
0.183	4.960
0.200	4.774
0.217	4.605
0.233	4.451
0.250	4.310
0.267	4.179
0.283	4.059
0.300	3.947
0.317	3.843
0.333	3.746
0.350	3.654
0.367	3.569
0.383	3.488
0.400	3.412
0.417	3.341
0.433	3.273
0.450	3.208
0.467	3.147
0.483	3.088
0.500	3.033
0.517	2.980
0.533	2.929
0.550	2.881
0.567	2.834
0.583	2.790
0.600	2.747
0.617	2.706
0.633	2.666
0.650	2.628
0.667	2.591
0.683	2.556
0.700	2.522
0.717	2.489

Existing Pond Redesign- Interconnected Ponds

Subsection: I-D-F from a, b, n coeff.
Return Event: 5 years
Label: IDF Curve Equation - 1
Storm Event: IDF Curve Equation - 1 - 5 Year
Scenario: Post-Development 5 YEAR

I-D-F Curve

Time (hours)	Intensity (in/h)
0.733	2.457
0.750	2.426
0.767	2.396
0.783	2.367
0.800	2.339
0.817	2.312
0.833	2.286
0.850	2.260
0.867	2.235
0.883	2.211
0.900	2.187
0.917	2.165
0.933	2.142
0.950	2.121
0.967	2.100
0.983	2.079
1.000	2.059
1.017	2.039
1.033	2.020
1.050	2.002
1.067	1.984
1.083	1.966
1.100	1.948
1.117	1.931
1.133	1.915
1.150	1.899
1.167	1.883
1.183	1.867
1.200	1.852
1.217	1.837
1.233	1.823
1.250	1.808
1.267	1.794
1.283	1.781
1.300	1.767
1.317	1.754
1.333	1.741
1.350	1.729
1.367	1.716
1.383	1.704
1.400	1.692
1.417	1.680
1.433	1.669

Existing Pond Redesign- Interconnected Ponds

Subsection: I-D-F from a, b, n coeff.
Return Event: 5 years
Label: IDF Curve Equation - 1
Storm Event: IDF Curve Equation - 1 - 5 Year
Scenario: Post-Development 5 YEAR

I-D-F Curve

Time (hours)	Intensity (in/h)
1.450	1.657
1.467	1.646
1.483	1.635
1.500	1.624
1.517	1.614
1.533	1.603
1.550	1.593
1.567	1.583
1.583	1.573
1.600	1.564
1.617	1.554
1.633	1.545
1.650	1.535
1.667	1.526
1.683	1.517
1.700	1.508
1.717	1.499
1.733	1.491
1.750	1.482
1.767	1.474
1.783	1.466
1.800	1.458
1.817	1.450
1.833	1.442
1.850	1.434
1.867	1.426
1.883	1.419
1.900	1.411
1.917	1.404
1.933	1.397
1.950	1.390
1.967	1.383
1.983	1.376
2.000	1.369
2.017	1.362
2.033	1.355
2.050	1.349
2.067	1.342
2.083	1.336
2.100	1.329
2.117	1.323
2.133	1.317
2.150	1.311

Existing Pond Redesign- Interconnected Ponds

Subsection: I-D-F from a, b, n coeff.
Return Event: 5 years
Label: IDF Curve Equation - 1
Storm Event: IDF Curve Equation - 1 - 5 Year
Scenario: Post-Development 5 YEAR

I-D-F Curve

Time (hours)	Intensity (in/h)
2.167	1.305
2.183	1.299
2.200	1.293
2.217	1.287
2.233	1.281
2.250	1.275
2.267	1.270
2.283	1.264
2.300	1.259
2.317	1.253
2.333	1.248
2.350	1.242
2.367	1.237
2.383	1.232
2.400	1.227
2.417	1.222
2.433	1.217
2.450	1.212
2.467	1.207
2.483	1.202
2.500	1.197
2.517	1.192
2.533	1.187
2.550	1.183
2.567	1.178
2.583	1.173
2.600	1.169
2.617	1.164
2.633	1.160
2.650	1.155
2.667	1.151
2.683	1.147
2.700	1.142
2.717	1.138
2.733	1.134
2.750	1.130
2.767	1.126
2.783	1.122
2.800	1.118
2.817	1.114
2.833	1.110
2.850	1.106
2.867	1.102

Existing Pond Redesign- Interconnected Ponds

Subsection: I-D-F from a, b, n coeff.
Return Event: 5 years
Label: IDF Curve Equation - 1
Storm Event: IDF Curve Equation - 1 - 5 Year
Scenario: Post-Development 5 YEAR

I-D-F Curve

Time (hours)	Intensity (in/h)
2.883	1.098
2.900	1.094
2.917	1.090
2.933	1.086
2.950	1.083
2.967	1.079
2.983	1.075
3.000	1.072
3.017	1.068
3.033	1.065
3.050	1.061
3.067	1.058
3.083	1.054
3.100	1.051
3.117	1.047
3.133	1.044
3.150	1.040
3.167	1.037
3.183	1.034
3.200	1.031
3.217	1.027
3.233	1.024
3.250	1.021
3.267	1.018
3.283	1.015
3.300	1.011
3.317	1.008
3.333	1.005
3.350	1.002
3.367	0.999
3.383	0.996
3.400	0.993
3.417	0.990
3.433	0.987
3.450	0.984
3.467	0.982
3.483	0.979
3.500	0.976
3.517	0.973
3.533	0.970
3.550	0.967
3.567	0.965
3.583	0.962

Existing Pond Redesign- Interconnected Ponds

Subsection: I-D-F from a, b, n coeff.
Return Event: 5 years
Label: IDF Curve Equation - 1
Storm Event: IDF Curve Equation - 1 - 5 Year
Scenario: Post-Development 5 YEAR

I-D-F Curve

Time (hours)	Intensity (in/h)
3.600	0.959
3.617	0.957
3.633	0.954
3.650	0.951
3.667	0.949
3.683	0.946
3.700	0.943
3.717	0.941
3.733	0.938
3.750	0.936
3.767	0.933
3.783	0.931
3.800	0.928
3.817	0.926
3.833	0.923
3.850	0.921
3.867	0.918
3.883	0.916
3.900	0.914
3.917	0.911
3.933	0.909
3.950	0.906
3.967	0.904
3.983	0.902
4.000	0.900
4.017	0.897
4.033	0.895
4.050	0.893
4.067	0.891
4.083	0.888
4.100	0.886
4.117	0.884
4.133	0.882
4.150	0.880
4.167	0.877
4.183	0.875
4.200	0.873
4.217	0.871
4.233	0.869
4.250	0.867
4.267	0.865
4.283	0.863
4.300	0.861

Existing Pond Redesign- Interconnected Ponds

Subsection: I-D-F from a, b, n coeff.
Return Event: 5 years
Label: IDF Curve Equation - 1
Storm Event: IDF Curve Equation - 1 - 5 Year
Scenario: Post-Development 5 YEAR

I-D-F Curve

Time (hours)	Intensity (in/h)
4.317	0.859
4.333	0.857
4.350	0.855
4.367	0.853
4.383	0.851
4.400	0.849
4.417	0.847
4.433	0.845
4.450	0.843
4.467	0.841
4.483	0.839
4.500	0.837
4.517	0.835
4.533	0.833
4.550	0.831
4.567	0.830
4.583	0.828
4.600	0.826
4.617	0.824
4.633	0.822
4.650	0.820
4.667	0.819
4.683	0.817
4.700	0.815
4.717	0.813
4.733	0.812
4.750	0.810
4.767	0.808
4.783	0.806
4.800	0.805
4.817	0.803
4.833	0.801
4.850	0.800
4.867	0.798
4.883	0.796
4.900	0.795
4.917	0.793
4.933	0.791
4.950	0.790
4.967	0.788
4.983	0.786
5.000	0.785
5.017	0.783

Existing Pond Redesign- Interconnected Ponds

Subsection: I-D-F from a, b, n coeff.
Return Event: 5 years
Label: IDF Curve Equation - 1
Storm Event: IDF Curve Equation - 1 - 5 Year
Scenario: Post-Development 5 YEAR

I-D-F Curve

Time (hours)	Intensity (in/h)
5.033	0.782
5.050	0.780
5.067	0.778
5.083	0.777
5.100	0.775
5.117	0.774
5.133	0.772
5.150	0.771
5.167	0.769
5.183	0.768
5.200	0.766
5.217	0.765
5.233	0.763
5.250	0.762
5.267	0.760
5.283	0.759
5.300	0.757
5.317	0.756
5.333	0.754
5.350	0.753
5.367	0.751
5.383	0.750
5.400	0.749
5.417	0.747
5.433	0.746
5.450	0.744
5.467	0.743
5.483	0.742
5.500	0.740
5.517	0.739
5.533	0.737
5.550	0.736
5.567	0.735
5.583	0.733
5.600	0.732
5.617	0.731
5.633	0.729
5.650	0.728
5.667	0.727
5.683	0.725
5.700	0.724
5.717	0.723
5.733	0.721

Existing Pond Redesign- Interconnected Ponds

Subsection: I-D-F from a, b, n coeff.
Return Event: 5 years
Label: IDF Curve Equation - 1
Storm Event: IDF Curve Equation - 1 - 5 Year
Scenario: Post-Development 5 YEAR

I-D-F Curve

Time (hours)	Intensity (in/h)
5.750	0.720
5.767	0.719
5.783	0.718
5.800	0.716
5.817	0.715
5.833	0.714
5.850	0.713
5.867	0.711
5.883	0.710
5.900	0.709
5.917	0.708
5.933	0.706
5.950	0.705
5.967	0.704
5.983	0.703
6.000	0.702
6.167	0.690
6.333	0.679
6.500	0.668
6.667	0.658
6.833	0.648
7.000	0.638
7.167	0.629
7.333	0.620
7.500	0.612
7.667	0.603
7.833	0.595
8.000	0.588
8.167	0.580
8.333	0.573
8.500	0.566
8.667	0.559
8.833	0.553
9.000	0.546
9.167	0.540
9.333	0.534
9.500	0.529
9.667	0.523
9.833	0.517
10.000	0.512
10.167	0.507
10.333	0.502
10.500	0.497

Existing Pond Redesign- Interconnected Ponds

Subsection: I-D-F from a, b, n coeff. Return Event: 5 years

Label: IDF Curve Equation - 1 Storm Event: IDF Curve Equation - 1 - 5 Year

Scenario: Post-Development 5 YEAR

I-D-F Curve

Time (hours)	Intensity (in/h)
10.667	0.492
10.833	0.487
11.000	0.483
11.167	0.478
11.333	0.474
11.500	0.470
11.667	0.465
11.833	0.461
12.000	0.457
12.167	0.454
12.333	0.450
12.500	0.446
12.667	0.442
12.833	0.439
13.000	0.435
13.167	0.432
13.333	0.429
13.500	0.425
13.667	0.422
13.833	0.419
14.000	0.416
14.167	0.413
14.333	0.410
14.500	0.407
14.667	0.404
14.833	0.401
15.000	0.398
15.167	0.396
15.333	0.393
15.500	0.390
15.667	0.388
15.833	0.385
16.000	0.383
16.167	0.380
16.333	0.378
16.500	0.376
16.667	0.373
16.833	0.371
17.000	0.369
17.167	0.366
17.333	0.364
17.500	0.362
17.667	0.360

Existing Pond Redesign- Interconnected Ponds

Subsection: I-D-F from a, b, n coeff.
Return Event: 5 years
Label: IDF Curve Equation - 1
Storm Event: IDF Curve Equation - 1 - 5 Year
Scenario: Post-Development 5 YEAR

I-D-F Curve

Time (hours)	Intensity (in/h)
17.833	0.358
18.000	0.356
18.167	0.354
18.333	0.352
18.500	0.350
18.667	0.348
18.833	0.346
19.000	0.344
19.167	0.342
19.333	0.340
19.500	0.339
19.667	0.337
19.833	0.335
20.000	0.333
20.167	0.332
20.333	0.330
20.500	0.328
20.667	0.327
20.833	0.325
21.000	0.323
21.167	0.322
21.333	0.320
21.500	0.319
21.667	0.317
21.833	0.316
22.000	0.314
22.167	0.313
22.333	0.311
22.500	0.310
22.667	0.308
22.833	0.307
23.000	0.306
23.167	0.304
23.333	0.303
23.500	0.302
23.667	0.300
23.833	0.299
24.000	0.298

Existing Pond Redesign- Interconnected Ponds

Subsection: I-D-F from a, b, n coeff.

Return Event: 10 years

Label: IDF Curve Equation - 1

Storm Event: IDF Curve Equation - 1 - 10 Year

Scenario: Post-Development 10 YEAR

I-D-F Curve

Time (hours)	Intensity (in/h)
0.017	10.445
0.033	9.470
0.050	8.702
0.067	8.079
0.083	7.561
0.100	7.122
0.117	6.744
0.133	6.414
0.150	6.124
0.167	5.865
0.183	5.634
0.200	5.425
0.217	5.235
0.233	5.062
0.250	4.903
0.267	4.756
0.283	4.620
0.300	4.495
0.317	4.377
0.333	4.268
0.350	4.165
0.367	4.069
0.383	3.978
0.400	3.892
0.417	3.811
0.433	3.734
0.450	3.662
0.467	3.592
0.483	3.527
0.500	3.464
0.517	3.404
0.533	3.347
0.550	3.292
0.567	3.239
0.583	3.189
0.600	3.141
0.617	3.094
0.633	3.049
0.650	3.006
0.667	2.965
0.683	2.925
0.700	2.886

Existing Pond Redesign- Interconnected Ponds

Subsection: I-D-F from a, b, n coeff.

Return Event: 10 years

Label: IDF Curve Equation - 1

Storm Event: IDF Curve Equation - 1 - 10 Year

Scenario: Post-Development 10 YEAR

I-D-F Curve

Time (hours)	Intensity (in/h)
0.717	2.849
0.733	2.813
0.750	2.778
0.767	2.744
0.783	2.711
0.800	2.679
0.817	2.649
0.833	2.619
0.850	2.590
0.867	2.561
0.883	2.534
0.900	2.507
0.917	2.482
0.933	2.456
0.950	2.432
0.967	2.408
0.983	2.385
1.000	2.362
1.017	2.340
1.033	2.318
1.050	2.297
1.067	2.276
1.083	2.256
1.100	2.236
1.117	2.217
1.133	2.198
1.150	2.180
1.167	2.162
1.183	2.144
1.200	2.127
1.217	2.110
1.233	2.094
1.250	2.077
1.267	2.062
1.283	2.046
1.300	2.031
1.317	2.016
1.333	2.001
1.350	1.987
1.367	1.973
1.383	1.959
1.400	1.945

Existing Pond Redesign- Interconnected Ponds

Subsection: I-D-F from a, b, n coeff.

Return Event: 10 years

Label: IDF Curve Equation - 1

Storm Event: IDF Curve Equation - 1 - 10 Year

Scenario: Post-Development 10 YEAR

I-D-F Curve

Time (hours)	Intensity (in/h)
1.417	1.932
1.433	1.919
1.450	1.906
1.467	1.893
1.483	1.881
1.500	1.868
1.517	1.856
1.533	1.844
1.550	1.833
1.567	1.821
1.583	1.810
1.600	1.799
1.617	1.788
1.633	1.777
1.650	1.767
1.667	1.756
1.683	1.746
1.700	1.736
1.717	1.726
1.733	1.716
1.750	1.707
1.767	1.697
1.783	1.688
1.800	1.679
1.817	1.670
1.833	1.661
1.850	1.652
1.867	1.643
1.883	1.634
1.900	1.626
1.917	1.617
1.933	1.609
1.950	1.601
1.967	1.593
1.983	1.585
2.000	1.577
2.017	1.570
2.033	1.562
2.050	1.554
2.067	1.547
2.083	1.540
2.100	1.532

Existing Pond Redesign- Interconnected Ponds

Subsection: I-D-F from a, b, n coeff.

Return Event: 10 years

Label: IDF Curve Equation - 1

Storm Event: IDF Curve Equation - 1 - 10 Year

Scenario: Post-Development 10 YEAR

I-D-F Curve

Time (hours)	Intensity (in/h)
2.117	1.525
2.133	1.518
2.150	1.511
2.167	1.504
2.183	1.497
2.200	1.491
2.217	1.484
2.233	1.477
2.250	1.471
2.267	1.464
2.283	1.458
2.300	1.452
2.317	1.445
2.333	1.439
2.350	1.433
2.367	1.427
2.383	1.421
2.400	1.415
2.417	1.409
2.433	1.404
2.450	1.398
2.467	1.392
2.483	1.387
2.500	1.381
2.517	1.376
2.533	1.370
2.550	1.365
2.567	1.360
2.583	1.354
2.600	1.349
2.617	1.344
2.633	1.339
2.650	1.334
2.667	1.329
2.683	1.324
2.700	1.319
2.717	1.314
2.733	1.310
2.750	1.305
2.767	1.300
2.783	1.295
2.800	1.291

Existing Pond Redesign- Interconnected Ponds

Subsection: I-D-F from a, b, n coeff.

Label: IDF Curve Equation - 1

Scenario: Post-Development 10 YEAR

Return Event: 10 years

Storm Event: IDF Curve Equation - 1 - 10 Year

I-D-F Curve

Time (hours)	Intensity (in/h)
2.817	1.286
2.833	1.282
2.850	1.277
2.867	1.273
2.883	1.268
2.900	1.264
2.917	1.260
2.933	1.255
2.950	1.251
2.967	1.247
2.983	1.243
3.000	1.238
3.017	1.234
3.033	1.230
3.050	1.226
3.067	1.222
3.083	1.218
3.100	1.214
3.117	1.210
3.133	1.207
3.150	1.203
3.167	1.199
3.183	1.195
3.200	1.191
3.217	1.188
3.233	1.184
3.250	1.180
3.267	1.177
3.283	1.173
3.300	1.170
3.317	1.166
3.333	1.162
3.350	1.159
3.367	1.156
3.383	1.152
3.400	1.149
3.417	1.145
3.433	1.142
3.450	1.139
3.467	1.135
3.483	1.132
3.500	1.129

Existing Pond Redesign- Interconnected Ponds

Subsection: I-D-F from a, b, n coeff.

Return Event: 10 years

Label: IDF Curve Equation - 1

Storm Event: IDF Curve Equation - 1 - 10 Year

Scenario: Post-Development 10 YEAR

I-D-F Curve

Time (hours)	Intensity (in/h)
3.517	1.126
3.533	1.122
3.550	1.119
3.567	1.116
3.583	1.113
3.600	1.110
3.617	1.107
3.633	1.104
3.650	1.101
3.667	1.098
3.683	1.095
3.700	1.092
3.717	1.089
3.733	1.086
3.750	1.083
3.767	1.080
3.783	1.077
3.800	1.074
3.817	1.071
3.833	1.069
3.850	1.066
3.867	1.063
3.883	1.060
3.900	1.058
3.917	1.055
3.933	1.052
3.950	1.049
3.967	1.047
3.983	1.044
4.000	1.042
4.017	1.039
4.033	1.036
4.050	1.034
4.067	1.031
4.083	1.029
4.100	1.026
4.117	1.024
4.133	1.021
4.150	1.019
4.167	1.016
4.183	1.014
4.200	1.011

Existing Pond Redesign- Interconnected Ponds

Subsection: I-D-F from a, b, n coeff.

Return Event: 10 years

Label: IDF Curve Equation - 1

Storm Event: IDF Curve Equation - 1 - 10 Year

Scenario: Post-Development 10 YEAR

I-D-F Curve

Time (hours)	Intensity (in/h)
4.217	1.009
4.233	1.006
4.250	1.004
4.267	1.002
4.283	0.999
4.300	0.997
4.317	0.995
4.333	0.992
4.350	0.990
4.367	0.988
4.383	0.985
4.400	0.983
4.417	0.981
4.433	0.979
4.450	0.977
4.467	0.974
4.483	0.972
4.500	0.970
4.517	0.968
4.533	0.966
4.550	0.963
4.567	0.961
4.583	0.959
4.600	0.957
4.617	0.955
4.633	0.953
4.650	0.951
4.667	0.949
4.683	0.947
4.700	0.945
4.717	0.943
4.733	0.941
4.750	0.939
4.767	0.937
4.783	0.935
4.800	0.933
4.817	0.931
4.833	0.929
4.850	0.927
4.867	0.925
4.883	0.923
4.900	0.921

Existing Pond Redesign- Interconnected Ponds

Subsection: I-D-F from a, b, n coeff.

Return Event: 10 years

Label: IDF Curve Equation - 1

Storm Event: IDF Curve Equation - 1 - 10 Year

Scenario: Post-Development 10 YEAR

I-D-F Curve

Time (hours)	Intensity (in/h)
4.917	0.919
4.933	0.917
4.950	0.916
4.967	0.914
4.983	0.912
5.000	0.910
5.017	0.908
5.033	0.906
5.050	0.904
5.067	0.903
5.083	0.901
5.100	0.899
5.117	0.897
5.133	0.896
5.150	0.894
5.167	0.892
5.183	0.890
5.200	0.889
5.217	0.887
5.233	0.885
5.250	0.883
5.267	0.882
5.283	0.880
5.300	0.878
5.317	0.877
5.333	0.875
5.350	0.873
5.367	0.872
5.383	0.870
5.400	0.868
5.417	0.867
5.433	0.865
5.450	0.864
5.467	0.862
5.483	0.860
5.500	0.859
5.517	0.857
5.533	0.856
5.550	0.854
5.567	0.853
5.583	0.851
5.600	0.849

Existing Pond Redesign- Interconnected Ponds

Subsection: I-D-F from a, b, n coeff.

Return Event: 10 years

Label: IDF Curve Equation - 1

Storm Event: IDF Curve Equation - 1 - 10 Year

Scenario: Post-Development 10 YEAR

I-D-F Curve

Time (hours)	Intensity (in/h)
5.617	0.848
5.633	0.846
5.650	0.845
5.667	0.843
5.683	0.842
5.700	0.840
5.717	0.839
5.733	0.837
5.750	0.836
5.767	0.834
5.783	0.833
5.800	0.832
5.817	0.830
5.833	0.829
5.850	0.827
5.867	0.826
5.883	0.824
5.900	0.823
5.917	0.822
5.933	0.820
5.950	0.819
5.967	0.817
5.983	0.816
6.000	0.815
6.167	0.801
6.333	0.788
6.500	0.776
6.667	0.764
6.833	0.753
7.000	0.742
7.167	0.731
7.333	0.721
7.500	0.711
7.667	0.702
7.833	0.693
8.000	0.684
8.167	0.675
8.333	0.667
8.500	0.659
8.667	0.651
8.833	0.644
9.000	0.636

Existing Pond Redesign- Interconnected Ponds

Subsection: I-D-F from a, b, n coeff.

Return Event: 10 years

Label: IDF Curve Equation - 1

Storm Event: IDF Curve Equation - 1 - 10 Year

Scenario: Post-Development 10 YEAR

I-D-F Curve

Time (hours)	Intensity (in/h)
9.167	0.629
9.333	0.622
9.500	0.616
9.667	0.609
9.833	0.603
10.000	0.597
10.167	0.591
10.333	0.585
10.500	0.579
10.667	0.574
10.833	0.568
11.000	0.563
11.167	0.558
11.333	0.553
11.500	0.548
11.667	0.543
11.833	0.538
12.000	0.534
12.167	0.529
12.333	0.525
12.500	0.521
12.667	0.516
12.833	0.512
13.000	0.508
13.167	0.504
13.333	0.500
13.500	0.497
13.667	0.493
13.833	0.489
14.000	0.486
14.167	0.482
14.333	0.479
14.500	0.475
14.667	0.472
14.833	0.469
15.000	0.466
15.167	0.462
15.333	0.459
15.500	0.456
15.667	0.453
15.833	0.450
16.000	0.447

Existing Pond Redesign- Interconnected Ponds

Subsection: I-D-F from a, b, n coeff.

Return Event: 10 years

Label: IDF Curve Equation - 1

Storm Event: IDF Curve Equation - 1 - 10 Year

Scenario: Post-Development 10 YEAR

I-D-F Curve

Time (hours)	Intensity (in/h)
16.167	0.445
16.333	0.442
16.500	0.439
16.667	0.436
16.833	0.434
17.000	0.431
17.167	0.429
17.333	0.426
17.500	0.424
17.667	0.421
17.833	0.419
18.000	0.416
18.167	0.414
18.333	0.412
18.500	0.409
18.667	0.407
18.833	0.405
19.000	0.403
19.167	0.401
19.333	0.398
19.500	0.396
19.667	0.394
19.833	0.392
20.000	0.390
20.167	0.388
20.333	0.386
20.500	0.384
20.667	0.382
20.833	0.381
21.000	0.379
21.167	0.377
21.333	0.375
21.500	0.373
21.667	0.372
21.833	0.370
22.000	0.368
22.167	0.366
22.333	0.365
22.500	0.363
22.667	0.361
22.833	0.360
23.000	0.358

Existing Pond Redesign- Interconnected Ponds

Subsection: I-D-F from a, b, n coeff.

Label: IDF Curve Equation - 1

Scenario: Post-Development 10 YEAR

Return Event: 10 years

Storm Event: IDF Curve Equation - 1 - 10 Year

I-D-F Curve

Time (hours)	Intensity (in/h)
23.167	0.357
23.333	0.355
23.500	0.353
23.667	0.352
23.833	0.350
24.000	0.349

Existing Pond Redesign- Interconnected Ponds

Subsection: I-D-F from a, b, n coeff.

Return Event: 25 years

Label: IDF Curve Equation - 1

Storm Event: IDF Curve Equation - 1 - 25 Year

Scenario: Post-Development 25 YEAR

I-D-F Curve

Time (hours)	Intensity (in/h)
0.017	12.234
0.033	11.087
0.050	10.187
0.067	9.457
0.083	8.850
0.100	8.337
0.117	7.896
0.133	7.511
0.150	7.172
0.167	6.871
0.183	6.601
0.200	6.357
0.217	6.136
0.233	5.934
0.250	5.749
0.267	5.578
0.283	5.420
0.300	5.273
0.317	5.137
0.333	5.009
0.350	4.889
0.367	4.777
0.383	4.671
0.400	4.572
0.417	4.477
0.433	4.388
0.450	4.303
0.467	4.222
0.483	4.146
0.500	4.072
0.517	4.003
0.533	3.936
0.550	3.872
0.567	3.811
0.583	3.752
0.600	3.695
0.617	3.641
0.633	3.589
0.650	3.539
0.667	3.490
0.683	3.444
0.700	3.399

Existing Pond Redesign- Interconnected Ponds

Subsection: I-D-F from a, b, n coeff.

Return Event: 25 years

Label: IDF Curve Equation - 1

Storm Event: IDF Curve Equation - 1 - 25 Year

Scenario: Post-Development 25 YEAR

I-D-F Curve

Time (hours)	Intensity (in/h)
0.717	3.355
0.733	3.313
0.750	3.272
0.767	3.233
0.783	3.194
0.800	3.157
0.817	3.121
0.833	3.087
0.850	3.053
0.867	3.020
0.883	2.988
0.900	2.957
0.917	2.926
0.933	2.897
0.950	2.868
0.967	2.840
0.983	2.813
1.000	2.787
1.017	2.761
1.033	2.735
1.050	2.711
1.067	2.687
1.083	2.663
1.100	2.640
1.117	2.618
1.133	2.596
1.150	2.574
1.167	2.553
1.183	2.532
1.200	2.512
1.217	2.493
1.233	2.473
1.250	2.454
1.267	2.436
1.283	2.418
1.300	2.400
1.317	2.382
1.333	2.365
1.350	2.348
1.367	2.332
1.383	2.315
1.400	2.299

Existing Pond Redesign- Interconnected Ponds

Subsection: I-D-F from a, b, n coeff.

Return Event: 25 years

Label: IDF Curve Equation - 1

Storm Event: IDF Curve Equation - 1 - 25 Year

Scenario: Post-Development 25 YEAR

I-D-F Curve

Time (hours)	Intensity (in/h)
1.417	2.284
1.433	2.268
1.450	2.253
1.467	2.239
1.483	2.224
1.500	2.210
1.517	2.196
1.533	2.182
1.550	2.168
1.567	2.155
1.583	2.141
1.600	2.128
1.617	2.116
1.633	2.103
1.650	2.091
1.667	2.079
1.683	2.067
1.700	2.055
1.717	2.043
1.733	2.032
1.750	2.020
1.767	2.009
1.783	1.998
1.800	1.987
1.817	1.977
1.833	1.966
1.850	1.956
1.867	1.946
1.883	1.936
1.900	1.926
1.917	1.916
1.933	1.906
1.950	1.897
1.967	1.887
1.983	1.878
2.000	1.869
2.017	1.860
2.033	1.851
2.050	1.842
2.067	1.833
2.083	1.824
2.100	1.816

Existing Pond Redesign- Interconnected Ponds

Subsection: I-D-F from a, b, n coeff.

Label: IDF Curve Equation - 1

Scenario: Post-Development 25 YEAR

Return Event: 25 years

Storm Event: IDF Curve Equation - 1 - 25 Year

I-D-F Curve

Time (hours)	Intensity (in/h)
2.117	1.808
2.133	1.799
2.150	1.791
2.167	1.783
2.183	1.775
2.200	1.767
2.217	1.759
2.233	1.751
2.250	1.744
2.267	1.736
2.283	1.729
2.300	1.721
2.317	1.714
2.333	1.707
2.350	1.700
2.367	1.693
2.383	1.686
2.400	1.679
2.417	1.672
2.433	1.665
2.450	1.658
2.467	1.652
2.483	1.645
2.500	1.639
2.517	1.632
2.533	1.626
2.550	1.620
2.567	1.613
2.583	1.607
2.600	1.601
2.617	1.595
2.633	1.589
2.650	1.583
2.667	1.577
2.683	1.572
2.700	1.566
2.717	1.560
2.733	1.555
2.750	1.549
2.767	1.543
2.783	1.538
2.800	1.532

Existing Pond Redesign- Interconnected Ponds

Subsection: I-D-F from a, b, n coeff.

Label: IDF Curve Equation - 1

Scenario: Post-Development 25 YEAR

Return Event: 25 years

Storm Event: IDF Curve Equation - 1 - 25 Year

I-D-F Curve

Time (hours)	Intensity (in/h)
2.817	1.527
2.833	1.522
2.850	1.517
2.867	1.511
2.883	1.506
2.900	1.501
2.917	1.496
2.933	1.491
2.950	1.486
2.967	1.481
2.983	1.476
3.000	1.471
3.017	1.466
3.033	1.461
3.050	1.457
3.067	1.452
3.083	1.447
3.100	1.443
3.117	1.438
3.133	1.434
3.150	1.429
3.167	1.425
3.183	1.420
3.200	1.416
3.217	1.411
3.233	1.407
3.250	1.403
3.267	1.398
3.283	1.394
3.300	1.390
3.317	1.386
3.333	1.382
3.350	1.378
3.367	1.374
3.383	1.370
3.400	1.366
3.417	1.362
3.433	1.358
3.450	1.354
3.467	1.350
3.483	1.346
3.500	1.342

Existing Pond Redesign- Interconnected Ponds

Subsection: I-D-F from a, b, n coeff.

Label: IDF Curve Equation - 1

Scenario: Post-Development 25 YEAR

Return Event: 25 years

Storm Event: IDF Curve Equation - 1 - 25 Year

I-D-F Curve

Time (hours)	Intensity (in/h)
3.517	1.338
3.533	1.335
3.550	1.331
3.567	1.327
3.583	1.324
3.600	1.320
3.617	1.316
3.633	1.313
3.650	1.309
3.667	1.306
3.683	1.302
3.700	1.298
3.717	1.295
3.733	1.292
3.750	1.288
3.767	1.285
3.783	1.281
3.800	1.278
3.817	1.275
3.833	1.271
3.850	1.268
3.867	1.265
3.883	1.262
3.900	1.258
3.917	1.255
3.933	1.252
3.950	1.249
3.967	1.246
3.983	1.243
4.000	1.239
4.017	1.236
4.033	1.233
4.050	1.230
4.067	1.227
4.083	1.224
4.100	1.221
4.117	1.218
4.133	1.215
4.150	1.212
4.167	1.210
4.183	1.207
4.200	1.204

Existing Pond Redesign- Interconnected Ponds

Subsection: I-D-F from a, b, n coeff.

Label: IDF Curve Equation - 1

Scenario: Post-Development 25 YEAR

Return Event: 25 years

Storm Event: IDF Curve Equation - 1 - 25 Year

I-D-F Curve

Time (hours)	Intensity (in/h)
4.217	1.201
4.233	1.198
4.250	1.195
4.267	1.193
4.283	1.190
4.300	1.187
4.317	1.184
4.333	1.182
4.350	1.179
4.367	1.176
4.383	1.173
4.400	1.171
4.417	1.168
4.433	1.166
4.450	1.163
4.467	1.160
4.483	1.158
4.500	1.155
4.517	1.153
4.533	1.150
4.550	1.148
4.567	1.145
4.583	1.143
4.600	1.140
4.617	1.138
4.633	1.135
4.650	1.133
4.667	1.130
4.683	1.128
4.700	1.125
4.717	1.123
4.733	1.121
4.750	1.118
4.767	1.116
4.783	1.114
4.800	1.111
4.817	1.109
4.833	1.107
4.850	1.104
4.867	1.102
4.883	1.100
4.900	1.098

Existing Pond Redesign- Interconnected Ponds

Subsection: I-D-F from a, b, n coeff.

Return Event: 25 years

Label: IDF Curve Equation - 1

Storm Event: IDF Curve Equation - 1 - 25 Year

Scenario: Post-Development 25 YEAR

I-D-F Curve

Time (hours)	Intensity (in/h)
4.917	1.095
4.933	1.093
4.950	1.091
4.967	1.089
4.983	1.087
5.000	1.085
5.017	1.082
5.033	1.080
5.050	1.078
5.067	1.076
5.083	1.074
5.100	1.072
5.117	1.070
5.133	1.068
5.150	1.065
5.167	1.063
5.183	1.061
5.200	1.059
5.217	1.057
5.233	1.055
5.250	1.053
5.267	1.051
5.283	1.049
5.300	1.047
5.317	1.045
5.333	1.043
5.350	1.041
5.367	1.039
5.383	1.037
5.400	1.036
5.417	1.034
5.433	1.032
5.450	1.030
5.467	1.028
5.483	1.026
5.500	1.024
5.517	1.022
5.533	1.021
5.550	1.019
5.567	1.017
5.583	1.015
5.600	1.013

Existing Pond Redesign- Interconnected Ponds

Subsection: I-D-F from a, b, n coeff.

Return Event: 25 years

Label: IDF Curve Equation - 1

Storm Event: IDF Curve Equation - 1 - 25 Year

Scenario: Post-Development 25 YEAR

I-D-F Curve

Time (hours)	Intensity (in/h)
5.617	1.011
5.633	1.010
5.650	1.008
5.667	1.006
5.683	1.004
5.700	1.002
5.717	1.001
5.733	0.999
5.750	0.997
5.767	0.996
5.783	0.994
5.800	0.992
5.817	0.990
5.833	0.989
5.850	0.987
5.867	0.985
5.883	0.984
5.900	0.982
5.917	0.980
5.933	0.979
5.950	0.977
5.967	0.975
5.983	0.974
6.000	0.972
6.167	0.956
6.333	0.941
6.500	0.926
6.667	0.912
6.833	0.899
7.000	0.886
7.167	0.873
7.333	0.861
7.500	0.850
7.667	0.839
7.833	0.828
8.000	0.817
8.167	0.807
8.333	0.798
8.500	0.788
8.667	0.779
8.833	0.770
9.000	0.761

Existing Pond Redesign- Interconnected Ponds

Subsection: I-D-F from a, b, n coeff.

Return Event: 25 years

Label: IDF Curve Equation - 1

Storm Event: IDF Curve Equation - 1 - 25 Year

Scenario: Post-Development 25 YEAR

I-D-F Curve

Time (hours)	Intensity (in/h)
9.167	0.753
9.333	0.745
9.500	0.737
9.667	0.729
9.833	0.722
10.000	0.714
10.167	0.707
10.333	0.700
10.500	0.694
10.667	0.687
10.833	0.681
11.000	0.674
11.167	0.668
11.333	0.662
11.500	0.657
11.667	0.651
11.833	0.645
12.000	0.640
12.167	0.635
12.333	0.629
12.500	0.624
12.667	0.619
12.833	0.614
13.000	0.610
13.167	0.605
13.333	0.600
13.500	0.596
13.667	0.591
13.833	0.587
14.000	0.583
14.167	0.579
14.333	0.575
14.500	0.571
14.667	0.567
14.833	0.563
15.000	0.559
15.167	0.555
15.333	0.552
15.500	0.548
15.667	0.544
15.833	0.541
16.000	0.538

Existing Pond Redesign- Interconnected Ponds

Subsection: I-D-F from a, b, n coeff.

Return Event: 25 years

Label: IDF Curve Equation - 1

Storm Event: IDF Curve Equation - 1 - 25 Year

Scenario: Post-Development 25 YEAR

I-D-F Curve

Time (hours)	Intensity (in/h)
16.167	0.534
16.333	0.531
16.500	0.528
16.667	0.524
16.833	0.521
17.000	0.518
17.167	0.515
17.333	0.512
17.500	0.509
17.667	0.506
17.833	0.503
18.000	0.501
18.167	0.498
18.333	0.495
18.500	0.492
18.667	0.490
18.833	0.487
19.000	0.484
19.167	0.482
19.333	0.479
19.500	0.477
19.667	0.474
19.833	0.472
20.000	0.470
20.167	0.467
20.333	0.465
20.500	0.463
20.667	0.460
20.833	0.458
21.000	0.456
21.167	0.454
21.333	0.451
21.500	0.449
21.667	0.447
21.833	0.445
22.000	0.443
22.167	0.441
22.333	0.439
22.500	0.437
22.667	0.435
22.833	0.433
23.000	0.431

Existing Pond Redesign- Interconnected Ponds

Subsection: I-D-F from a, b, n coeff.

Label: IDF Curve Equation - 1

Scenario: Post-Development 25 YEAR

Return Event: 25 years

Storm Event: IDF Curve Equation - 1 - 25 Year

I-D-F Curve

Time (hours)	Intensity (in/h)
23.167	0.429
23.333	0.428
23.500	0.426
23.667	0.424
23.833	0.422
24.000	0.420

Existing Pond Redesign- Interconnected Ponds

Subsection: I-D-F from a, b, n coeff.

Return Event: 50 years

Label: IDF Curve Equation - 1

Storm Event: IDF Curve Equation - 1 - 50 Year

Scenario: Post-Development 50 YEAR

I-D-F Curve

Time (hours)	Intensity (in/h)
0.017	13.577
0.033	12.310
0.050	11.315
0.067	10.508
0.083	9.838
0.100	9.270
0.117	8.781
0.133	8.355
0.150	7.980
0.167	7.647
0.183	7.348
0.200	7.078
0.217	6.833
0.233	6.609
0.250	6.404
0.267	6.214
0.283	6.039
0.300	5.877
0.317	5.725
0.333	5.583
0.350	5.451
0.367	5.326
0.383	5.209
0.400	5.098
0.417	4.993
0.433	4.894
0.450	4.800
0.467	4.710
0.483	4.625
0.500	4.544
0.517	4.466
0.533	4.392
0.550	4.321
0.567	4.253
0.583	4.188
0.600	4.125
0.617	4.065
0.633	4.007
0.650	3.951
0.667	3.898
0.683	3.846
0.700	3.796

Existing Pond Redesign- Interconnected Ponds

Subsection: I-D-F from a, b, n coeff.

Return Event: 50 years

Label: IDF Curve Equation - 1

Storm Event: IDF Curve Equation - 1 - 50 Year

Scenario: Post-Development 50 YEAR

I-D-F Curve

Time (hours)	Intensity (in/h)
0.717	3.747
0.733	3.700
0.750	3.655
0.767	3.611
0.783	3.569
0.800	3.527
0.817	3.487
0.833	3.449
0.850	3.411
0.867	3.374
0.883	3.339
0.900	3.304
0.917	3.271
0.933	3.238
0.950	3.206
0.967	3.175
0.983	3.145
1.000	3.115
1.017	3.086
1.033	3.058
1.050	3.031
1.067	3.004
1.083	2.978
1.100	2.952
1.117	2.927
1.133	2.903
1.150	2.879
1.167	2.855
1.183	2.832
1.200	2.810
1.217	2.788
1.233	2.766
1.250	2.745
1.267	2.725
1.283	2.704
1.300	2.685
1.317	2.665
1.333	2.646
1.350	2.627
1.367	2.609
1.383	2.591
1.400	2.573

Existing Pond Redesign- Interconnected Ponds

Subsection: I-D-F from a, b, n coeff.

Return Event: 50 years

Label: IDF Curve Equation - 1

Storm Event: IDF Curve Equation - 1 - 50 Year

Scenario: Post-Development 50 YEAR

I-D-F Curve

Time (hours)	Intensity (in/h)
1.417	2.556
1.433	2.538
1.450	2.522
1.467	2.505
1.483	2.489
1.500	2.473
1.517	2.457
1.533	2.442
1.550	2.427
1.567	2.412
1.583	2.397
1.600	2.383
1.617	2.368
1.633	2.354
1.650	2.341
1.667	2.327
1.683	2.314
1.700	2.300
1.717	2.287
1.733	2.275
1.750	2.262
1.767	2.250
1.783	2.237
1.800	2.225
1.817	2.214
1.833	2.202
1.850	2.190
1.867	2.179
1.883	2.168
1.900	2.157
1.917	2.146
1.933	2.135
1.950	2.124
1.967	2.114
1.983	2.103
2.000	2.093
2.017	2.083
2.033	2.073
2.050	2.063
2.067	2.053
2.083	2.044
2.100	2.034

Existing Pond Redesign- Interconnected Ponds

Subsection: I-D-F from a, b, n coeff.

Return Event: 50 years

Label: IDF Curve Equation - 1

Storm Event: IDF Curve Equation - 1 - 50 Year

Scenario: Post-Development 50 YEAR

I-D-F Curve

Time (hours)	Intensity (in/h)
2.117	2.025
2.133	2.016
2.150	2.007
2.167	1.997
2.183	1.989
2.200	1.980
2.217	1.971
2.233	1.962
2.250	1.954
2.267	1.945
2.283	1.937
2.300	1.929
2.317	1.921
2.333	1.913
2.350	1.905
2.367	1.897
2.383	1.889
2.400	1.881
2.417	1.874
2.433	1.866
2.450	1.859
2.467	1.851
2.483	1.844
2.500	1.837
2.517	1.830
2.533	1.822
2.550	1.815
2.567	1.809
2.583	1.802
2.600	1.795
2.617	1.788
2.633	1.781
2.650	1.775
2.667	1.768
2.683	1.762
2.700	1.755
2.717	1.749
2.733	1.743
2.750	1.737
2.767	1.730
2.783	1.724
2.800	1.718

Existing Pond Redesign- Interconnected Ponds

Subsection: I-D-F from a, b, n coeff.

Return Event: 50 years

Label: IDF Curve Equation - 1

Storm Event: IDF Curve Equation - 1 - 50 Year

Scenario: Post-Development 50 YEAR

I-D-F Curve

Time (hours)	Intensity (in/h)
2.817	1.712
2.833	1.706
2.850	1.700
2.867	1.695
2.883	1.689
2.900	1.683
2.917	1.677
2.933	1.672
2.950	1.666
2.967	1.661
2.983	1.655
3.000	1.650
3.017	1.644
3.033	1.639
3.050	1.634
3.067	1.628
3.083	1.623
3.100	1.618
3.117	1.613
3.133	1.608
3.150	1.603
3.167	1.598
3.183	1.593
3.200	1.588
3.217	1.583
3.233	1.578
3.250	1.573
3.267	1.569
3.283	1.564
3.300	1.559
3.317	1.555
3.333	1.550
3.350	1.545
3.367	1.541
3.383	1.536
3.400	1.532
3.417	1.528
3.433	1.523
3.450	1.519
3.467	1.514
3.483	1.510
3.500	1.506

Existing Pond Redesign- Interconnected Ponds

Subsection: I-D-F from a, b, n coeff.

Return Event: 50 years

Label: IDF Curve Equation - 1

Storm Event: IDF Curve Equation - 1 - 50 Year

Scenario: Post-Development 50 YEAR

I-D-F Curve

Time (hours)	Intensity (in/h)
3.517	1.502
3.533	1.497
3.550	1.493
3.567	1.489
3.583	1.485
3.600	1.481
3.617	1.477
3.633	1.473
3.650	1.469
3.667	1.465
3.683	1.461
3.700	1.457
3.717	1.453
3.733	1.449
3.750	1.445
3.767	1.442
3.783	1.438
3.800	1.434
3.817	1.430
3.833	1.427
3.850	1.423
3.867	1.419
3.883	1.416
3.900	1.412
3.917	1.409
3.933	1.405
3.950	1.402
3.967	1.398
3.983	1.395
4.000	1.391
4.017	1.388
4.033	1.384
4.050	1.381
4.067	1.378
4.083	1.374
4.100	1.371
4.117	1.368
4.133	1.364
4.150	1.361
4.167	1.358
4.183	1.355
4.200	1.351

Existing Pond Redesign- Interconnected Ponds

Subsection: I-D-F from a, b, n coeff.

Return Event: 50 years

Label: IDF Curve Equation - 1

Storm Event: IDF Curve Equation - 1 - 50 Year

Scenario: Post-Development 50 YEAR

I-D-F Curve

Time (hours)	Intensity (in/h)
4.217	1.348
4.233	1.345
4.250	1.342
4.267	1.339
4.283	1.336
4.300	1.333
4.317	1.329
4.333	1.326
4.350	1.323
4.367	1.320
4.383	1.317
4.400	1.314
4.417	1.311
4.433	1.309
4.450	1.306
4.467	1.303
4.483	1.300
4.500	1.297
4.517	1.294
4.533	1.291
4.550	1.288
4.567	1.286
4.583	1.283
4.600	1.280
4.617	1.277
4.633	1.275
4.650	1.272
4.667	1.269
4.683	1.266
4.700	1.264
4.717	1.261
4.733	1.258
4.750	1.256
4.767	1.253
4.783	1.251
4.800	1.248
4.817	1.245
4.833	1.243
4.850	1.240
4.867	1.238
4.883	1.235
4.900	1.233

Existing Pond Redesign- Interconnected Ponds

Subsection: I-D-F from a, b, n coeff.

Return Event: 50 years

Label: IDF Curve Equation - 1

Storm Event: IDF Curve Equation - 1 - 50 Year

Scenario: Post-Development 50 YEAR

I-D-F Curve

Time (hours)	Intensity (in/h)
4.917	1.230
4.933	1.228
4.950	1.225
4.967	1.223
4.983	1.220
5.000	1.218
5.017	1.216
5.033	1.213
5.050	1.211
5.067	1.208
5.083	1.206
5.100	1.204
5.117	1.201
5.133	1.199
5.150	1.197
5.167	1.194
5.183	1.192
5.200	1.190
5.217	1.188
5.233	1.185
5.250	1.183
5.267	1.181
5.283	1.179
5.300	1.176
5.317	1.174
5.333	1.172
5.350	1.170
5.367	1.168
5.383	1.165
5.400	1.163
5.417	1.161
5.433	1.159
5.450	1.157
5.467	1.155
5.483	1.153
5.500	1.151
5.517	1.149
5.533	1.146
5.550	1.144
5.567	1.142
5.583	1.140
5.600	1.138

Existing Pond Redesign- Interconnected Ponds

Subsection: I-D-F from a, b, n coeff.

Return Event: 50 years

Label: IDF Curve Equation - 1

Storm Event: IDF Curve Equation - 1 - 50 Year

Scenario: Post-Development 50 YEAR

I-D-F Curve

Time (hours)	Intensity (in/h)
5.617	1.136
5.633	1.134
5.650	1.132
5.667	1.130
5.683	1.128
5.700	1.126
5.717	1.124
5.733	1.122
5.750	1.120
5.767	1.119
5.783	1.117
5.800	1.115
5.817	1.113
5.833	1.111
5.850	1.109
5.867	1.107
5.883	1.105
5.900	1.103
5.917	1.101
5.933	1.100
5.950	1.098
5.967	1.096
5.983	1.094
6.000	1.092
6.167	1.075
6.333	1.058
6.500	1.041
6.667	1.026
6.833	1.010
7.000	0.996
7.167	0.982
7.333	0.969
7.500	0.956
7.667	0.943
7.833	0.931
8.000	0.919
8.167	0.908
8.333	0.897
8.500	0.886
8.667	0.876
8.833	0.866
9.000	0.857

Existing Pond Redesign- Interconnected Ponds

Subsection: I-D-F from a, b, n coeff.

Return Event: 50 years

Label: IDF Curve Equation - 1

Storm Event: IDF Curve Equation - 1 - 50 Year

Scenario: Post-Development 50 YEAR

I-D-F Curve

Time (hours)	Intensity (in/h)
9.167	0.847
9.333	0.838
9.500	0.829
9.667	0.821
9.833	0.812
10.000	0.804
10.167	0.796
10.333	0.788
10.500	0.781
10.667	0.773
10.833	0.766
11.000	0.759
11.167	0.752
11.333	0.746
11.500	0.739
11.667	0.733
11.833	0.727
12.000	0.720
12.167	0.715
12.333	0.709
12.500	0.703
12.667	0.697
12.833	0.692
13.000	0.687
13.167	0.681
13.333	0.676
13.500	0.671
13.667	0.666
13.833	0.661
14.000	0.657
14.167	0.652
14.333	0.647
14.500	0.643
14.667	0.638
14.833	0.634
15.000	0.630
15.167	0.626
15.333	0.622
15.500	0.618
15.667	0.614
15.833	0.610
16.000	0.606

Existing Pond Redesign- Interconnected Ponds

Subsection: I-D-F from a, b, n coeff.

Return Event: 50 years

Label: IDF Curve Equation - 1

Storm Event: IDF Curve Equation - 1 - 50 Year

Scenario: Post-Development 50 YEAR

I-D-F Curve

Time (hours)	Intensity (in/h)
16.167	0.602
16.333	0.598
16.500	0.595
16.667	0.591
16.833	0.588
17.000	0.584
17.167	0.581
17.333	0.577
17.500	0.574
17.667	0.571
17.833	0.567
18.000	0.564
18.167	0.561
18.333	0.558
18.500	0.555
18.667	0.552
18.833	0.549
19.000	0.546
19.167	0.543
19.333	0.540
19.500	0.538
19.667	0.535
19.833	0.532
20.000	0.529
20.167	0.527
20.333	0.524
20.500	0.522
20.667	0.519
20.833	0.517
21.000	0.514
21.167	0.512
21.333	0.509
21.500	0.507
21.667	0.505
21.833	0.502
22.000	0.500
22.167	0.498
22.333	0.495
22.500	0.493
22.667	0.491
22.833	0.489
23.000	0.487

Existing Pond Redesign- Interconnected Ponds

Subsection: I-D-F from a, b, n coeff.

Label: IDF Curve Equation - 1

Scenario: Post-Development 50 YEAR

Return Event: 50 years

Storm Event: IDF Curve Equation - 1 - 50 Year

I-D-F Curve

Time (hours)	Intensity (in/h)
23.167	0.485
23.333	0.482
23.500	0.480
23.667	0.478
23.833	0.476
24.000	0.474

Existing Pond Redesign- Interconnected Ponds

Subsection: I-D-F from a, b, n coeff.

Return Event: 100 years

Label: IDF Curve Equation - 1

Storm Event: IDF Curve Equation - 1 - 100 Year

Scenario: Post-Development 100 YEAR

I-D-F Curve

Time (hours)	Intensity (in/h)
0.017	14.929
0.033	13.543
0.050	12.453
0.067	11.569
0.083	10.834
0.100	10.212
0.117	9.676
0.133	9.209
0.150	8.798
0.167	8.432
0.183	8.104
0.200	7.808
0.217	7.539
0.233	7.293
0.250	7.067
0.267	6.860
0.283	6.667
0.300	6.488
0.317	6.322
0.333	6.166
0.350	6.021
0.367	5.884
0.383	5.755
0.400	5.633
0.417	5.518
0.433	5.409
0.450	5.305
0.467	5.207
0.483	5.113
0.500	5.024
0.517	4.938
0.533	4.857
0.550	4.779
0.567	4.704
0.583	4.632
0.600	4.563
0.617	4.497
0.633	4.433
0.650	4.371
0.667	4.312
0.683	4.255
0.700	4.200

Existing Pond Redesign- Interconnected Ponds

Subsection: I-D-F from a, b, n coeff.

Return Event: 100 years

Label: IDF Curve Equation - 1

Storm Event: IDF Curve Equation - 1 - 100 Year

Scenario: Post-Development 100 YEAR

I-D-F Curve

Time (hours)	Intensity (in/h)
0.717	4.146
0.733	4.095
0.750	4.045
0.767	3.997
0.783	3.950
0.800	3.905
0.817	3.861
0.833	3.818
0.850	3.776
0.867	3.736
0.883	3.697
0.900	3.659
0.917	3.622
0.933	3.586
0.950	3.550
0.967	3.516
0.983	3.483
1.000	3.450
1.017	3.418
1.033	3.388
1.050	3.357
1.067	3.328
1.083	3.299
1.100	3.271
1.117	3.243
1.133	3.216
1.150	3.190
1.167	3.164
1.183	3.139
1.200	3.114
1.217	3.090
1.233	3.066
1.250	3.043
1.267	3.020
1.283	2.997
1.300	2.976
1.317	2.954
1.333	2.933
1.350	2.912
1.367	2.892
1.383	2.872
1.400	2.853

Existing Pond Redesign- Interconnected Ponds

Subsection: I-D-F from a, b, n coeff.

Return Event: 100 years

Label: IDF Curve Equation - 1

Storm Event: IDF Curve Equation - 1 - 100 Year

Scenario: Post-Development 100 YEAR

I-D-F Curve

Time (hours)	Intensity (in/h)
1.417	2.833
1.433	2.814
1.450	2.796
1.467	2.778
1.483	2.760
1.500	2.742
1.517	2.725
1.533	2.708
1.550	2.691
1.567	2.675
1.583	2.658
1.600	2.642
1.617	2.627
1.633	2.611
1.650	2.596
1.667	2.581
1.683	2.566
1.700	2.552
1.717	2.537
1.733	2.523
1.750	2.509
1.767	2.496
1.783	2.482
1.800	2.469
1.817	2.456
1.833	2.443
1.850	2.430
1.867	2.418
1.883	2.405
1.900	2.393
1.917	2.381
1.933	2.369
1.950	2.357
1.967	2.346
1.983	2.334
2.000	2.323
2.017	2.312
2.033	2.301
2.050	2.290
2.067	2.279
2.083	2.268
2.100	2.258

Existing Pond Redesign- Interconnected Ponds

Subsection: I-D-F from a, b, n coeff.

Return Event: 100 years

Label: IDF Curve Equation - 1

Storm Event: IDF Curve Equation - 1 - 100 Year

Scenario: Post-Development 100 YEAR

I-D-F Curve

Time (hours)	Intensity (in/h)
2.117	2.248
2.133	2.237
2.150	2.227
2.167	2.217
2.183	2.207
2.200	2.198
2.217	2.188
2.233	2.178
2.250	2.169
2.267	2.160
2.283	2.151
2.300	2.141
2.317	2.132
2.333	2.124
2.350	2.115
2.367	2.106
2.383	2.097
2.400	2.089
2.417	2.081
2.433	2.072
2.450	2.064
2.467	2.056
2.483	2.048
2.500	2.040
2.517	2.032
2.533	2.024
2.550	2.016
2.567	2.009
2.583	2.001
2.600	1.993
2.617	1.986
2.633	1.979
2.650	1.971
2.667	1.964
2.683	1.957
2.700	1.950
2.717	1.943
2.733	1.936
2.750	1.929
2.767	1.922
2.783	1.915
2.800	1.909

Existing Pond Redesign- Interconnected Ponds

Subsection: I-D-F from a, b, n coeff.

Return Event: 100 years

Label: IDF Curve Equation - 1

Storm Event: IDF Curve Equation - 1 - 100 Year

Scenario: Post-Development 100 YEAR

I-D-F Curve

Time (hours)	Intensity (in/h)
2.817	1.902
2.833	1.896
2.850	1.889
2.867	1.883
2.883	1.876
2.900	1.870
2.917	1.864
2.933	1.857
2.950	1.851
2.967	1.845
2.983	1.839
3.000	1.833
3.017	1.827
3.033	1.821
3.050	1.815
3.067	1.809
3.083	1.804
3.100	1.798
3.117	1.792
3.133	1.787
3.150	1.781
3.167	1.776
3.183	1.770
3.200	1.765
3.217	1.759
3.233	1.754
3.250	1.749
3.267	1.743
3.283	1.738
3.300	1.733
3.317	1.728
3.333	1.723
3.350	1.718
3.367	1.713
3.383	1.708
3.400	1.703
3.417	1.698
3.433	1.693
3.450	1.688
3.467	1.683
3.483	1.679
3.500	1.674

Existing Pond Redesign- Interconnected Ponds

Subsection: I-D-F from a, b, n coeff.

Return Event: 100 years

Label: IDF Curve Equation - 1

Storm Event: IDF Curve Equation - 1 - 100 Year

Scenario: Post-Development 100 YEAR

I-D-F Curve

Time (hours)	Intensity (in/h)
3.517	1.669
3.533	1.665
3.550	1.660
3.567	1.655
3.583	1.651
3.600	1.646
3.617	1.642
3.633	1.637
3.650	1.633
3.667	1.629
3.683	1.624
3.700	1.620
3.717	1.616
3.733	1.611
3.750	1.607
3.767	1.603
3.783	1.599
3.800	1.595
3.817	1.590
3.833	1.586
3.850	1.582
3.867	1.578
3.883	1.574
3.900	1.570
3.917	1.566
3.933	1.562
3.950	1.559
3.967	1.555
3.983	1.551
4.000	1.547
4.017	1.543
4.033	1.539
4.050	1.536
4.067	1.532
4.083	1.528
4.100	1.525
4.117	1.521
4.133	1.517
4.150	1.514
4.167	1.510
4.183	1.506
4.200	1.503

Existing Pond Redesign- Interconnected Ponds

Subsection: I-D-F from a, b, n coeff.

Return Event: 100 years

Label: IDF Curve Equation - 1

Storm Event: IDF Curve Equation - 1 - 100 Year

Scenario: Post-Development 100 YEAR

I-D-F Curve

Time (hours)	Intensity (in/h)
4.217	1.499
4.233	1.496
4.250	1.492
4.267	1.489
4.283	1.486
4.300	1.482
4.317	1.479
4.333	1.475
4.350	1.472
4.367	1.469
4.383	1.465
4.400	1.462
4.417	1.459
4.433	1.456
4.450	1.452
4.467	1.449
4.483	1.446
4.500	1.443
4.517	1.440
4.533	1.436
4.550	1.433
4.567	1.430
4.583	1.427
4.600	1.424
4.617	1.421
4.633	1.418
4.650	1.415
4.667	1.412
4.683	1.409
4.700	1.406
4.717	1.403
4.733	1.400
4.750	1.397
4.767	1.394
4.783	1.391
4.800	1.389
4.817	1.386
4.833	1.383
4.850	1.380
4.867	1.377
4.883	1.374
4.900	1.372

Existing Pond Redesign- Interconnected Ponds

Subsection: I-D-F from a, b, n coeff.

Return Event: 100 years

Label: IDF Curve Equation - 1

Storm Event: IDF Curve Equation - 1 - 100 Year

Scenario: Post-Development 100 YEAR

I-D-F Curve

Time (hours)	Intensity (in/h)
4.917	1.369
4.933	1.366
4.950	1.363
4.967	1.361
4.983	1.358
5.000	1.355
5.017	1.353
5.033	1.350
5.050	1.347
5.067	1.345
5.083	1.342
5.100	1.340
5.117	1.337
5.133	1.334
5.150	1.332
5.167	1.329
5.183	1.327
5.200	1.324
5.217	1.322
5.233	1.319
5.250	1.317
5.267	1.314
5.283	1.312
5.300	1.309
5.317	1.307
5.333	1.304
5.350	1.302
5.367	1.300
5.383	1.297
5.400	1.295
5.417	1.292
5.433	1.290
5.450	1.288
5.467	1.285
5.483	1.283
5.500	1.281
5.517	1.278
5.533	1.276
5.550	1.274
5.567	1.272
5.583	1.269
5.600	1.267

Existing Pond Redesign- Interconnected Ponds

Subsection: I-D-F from a, b, n coeff.

Return Event: 100 years

Label: IDF Curve Equation - 1

Storm Event: IDF Curve Equation - 1 - 100 Year

Scenario: Post-Development 100 YEAR

I-D-F Curve

Time (hours)	Intensity (in/h)
5.617	1.265
5.633	1.263
5.650	1.260
5.667	1.258
5.683	1.256
5.700	1.254
5.717	1.252
5.733	1.249
5.750	1.247
5.767	1.245
5.783	1.243
5.800	1.241
5.817	1.239
5.833	1.237
5.850	1.235
5.867	1.233
5.883	1.230
5.900	1.228
5.917	1.226
5.933	1.224
5.950	1.222
5.967	1.220
5.983	1.218
6.000	1.216
6.167	1.196
6.333	1.178
6.500	1.160
6.667	1.142
6.833	1.125
7.000	1.109
7.167	1.094
7.333	1.079
7.500	1.065
7.667	1.051
7.833	1.037
8.000	1.024
8.167	1.012
8.333	1.000
8.500	0.988
8.667	0.977
8.833	0.966
9.000	0.955

Existing Pond Redesign- Interconnected Ponds

Subsection: I-D-F from a, b, n coeff.

Return Event: 100 years

Label: IDF Curve Equation - 1

Storm Event: IDF Curve Equation - 1 - 100 Year

Scenario: Post-Development 100 YEAR

I-D-F Curve

Time (hours)	Intensity (in/h)
9.167	0.944
9.333	0.934
9.500	0.924
9.667	0.915
9.833	0.906
10.000	0.897
10.167	0.888
10.333	0.879
10.500	0.871
10.667	0.863
10.833	0.855
11.000	0.847
11.167	0.839
11.333	0.832
11.500	0.825
11.667	0.817
11.833	0.811
12.000	0.804
12.167	0.797
12.333	0.791
12.500	0.784
12.667	0.778
12.833	0.772
13.000	0.766
13.167	0.760
13.333	0.755
13.500	0.749
13.667	0.744
13.833	0.738
14.000	0.733
14.167	0.728
14.333	0.723
14.500	0.718
14.667	0.713
14.833	0.708
15.000	0.703
15.167	0.699
15.333	0.694
15.500	0.689
15.667	0.685
15.833	0.681
16.000	0.676

Existing Pond Redesign- Interconnected Ponds

Subsection: I-D-F from a, b, n coeff.

Return Event: 100 years

Label: IDF Curve Equation - 1

Storm Event: IDF Curve Equation - 1 - 100 Year

Scenario: Post-Development 100 YEAR

I-D-F Curve

Time (hours)	Intensity (in/h)
16.167	0.672
16.333	0.668
16.500	0.664
16.667	0.660
16.833	0.656
17.000	0.652
17.167	0.648
17.333	0.645
17.500	0.641
17.667	0.637
17.833	0.634
18.000	0.630
18.167	0.627
18.333	0.623
18.500	0.620
18.667	0.617
18.833	0.613
19.000	0.610
19.167	0.607
19.333	0.604
19.500	0.601
19.667	0.598
19.833	0.595
20.000	0.592
20.167	0.589
20.333	0.586
20.500	0.583
20.667	0.580
20.833	0.577
21.000	0.575
21.167	0.572
21.333	0.569
21.500	0.566
21.667	0.564
21.833	0.561
22.000	0.559
22.167	0.556
22.333	0.554
22.500	0.551
22.667	0.549
22.833	0.546
23.000	0.544

Existing Pond Redesign- Interconnected Ponds

Subsection: I-D-F from a, b, n coeff.

Label: IDF Curve Equation - 1

Scenario: Post-Development 100 YEAR

Return Event: 100 years

Storm Event: IDF Curve Equation - 1 - 100 Year

I-D-F Curve

Time (hours)	Intensity (in/h)
23.167	0.542
23.333	0.539
23.500	0.537
23.667	0.535
23.833	0.532
24.000	0.530

Existing Pond Redesign- Interconnected Ponds

Subsection: Time of Concentration Calculations (Pre-Development)

Return Event: 2 years

Label: SF-1 EX

Storm Event: IDF Curve Equation - 1 - 2 Year

Scenario: Post-Development 2 YEAR

Time of Concentration Results (Pre-Development)

Segment #1: TR-55 Sheet Flow	
Hydraulic Length	170.00 ft
Manning's n	(N/A)
Slope	0.069 ft/ft
2 Year 24 Hour Depth	4.1 in
Average Velocity	0.24 ft/s
Segment Time of Concentration	0.196 hours

Segment #2: TR-55 Shallow Concentrated Flow	
Hydraulic Length	1,497.00 ft
Is Paved?	False
Slope	0.010 ft/ft
Average Velocity	1.61 ft/s
Segment Time of Concentration	0.258 hours

Time of Concentration (Composite)	
Time of Concentration (Composite)	0.453 hours

Existing Pond Redesign- Interconnected Ponds

Subsection: Time of Concentration Calculations (Pre-Development)

Return Event: 2 years

Label: SF-1 EX

Storm Event: IDF Curve Equation - 1 - 2 Year

Scenario: Post-Development 2 YEAR

==== SCS Channel Flow

Tc = R = Qa / Wp
V = (1.49 * (R**(2/3)) * (Sf**-0.5)) / n

(Lf / V) / 3600

Where:
R= Hydraulic radius
Aq= Flow area, square feet
Wp= Wetted perimeter, feet
V= Velocity, ft/sec
Sf= Slope, ft/ft
n= Manning's n
Tc= Time of concentration, hours
Lf= Flow length, feet

==== SCS TR-55 Shallow Concentration Flow

Tc = Unpaved surface:
V = 16.1345 * (Sf**0.5)

Paved Surface:
V = 20.3282 * (Sf**0.5)

(Lf / V) / 3600

Where:
V= Velocity, ft/sec
Sf= Slope, ft/ft
Tc= Time of concentration, hours
Lf= Flow length, feet

Existing Pond Redesign- Interconnected Ponds

Subsection: Time of Concentration Calculations (Pre-Development)

Return Event: 2 years

Label: SF-1 RE-DESIGN

Storm Event: IDF Curve Equation - 1 - 2 Year

Scenario: Post-Development 2 YEAR

Time of Concentration Results (Pre-Development)

Segment #1: TR-55 Sheet Flow	
Hydraulic Length	170.00 ft
Manning's n	(N/A)
Slope	0.069 ft/ft
2 Year 24 Hour Depth	4.1 in
Average Velocity	0.24 ft/s
Segment Time of Concentration	0.196 hours

Segment #2: TR-55 Shallow Concentrated Flow	
Hydraulic Length	680.00 ft
Is Paved?	False
Slope	0.008 ft/ft
Average Velocity	1.40 ft/s
Segment Time of Concentration	0.135 hours

Segment #3: TR-55 Channel Flow	
Flow Area	3.1 ft²
Hydraulic Length	525.00 ft
Manning's n	(N/A)
Slope	0.002 ft/ft
Wetted Perimeter	6.28 ft
Average Velocity	1.73 ft/s
Segment Time of Concentration	0.084 hours

Segment #4: TR-55 Channel Flow	
Flow Area	6.4 ft²
Hydraulic Length	60.00 ft
Manning's n	(N/A)
Slope	0.002 ft/ft
Wetted Perimeter	10.17 ft
Average Velocity	3.76 ft/s
Segment Time of Concentration	0.004 hours

Segment #5: TR-55 Channel Flow	
Flow Area	5.5 ft²
Hydraulic Length	97.00 ft

Existing Pond Redesign- Interconnected Ponds

Subsection: Time of Concentration Calculations (Pre-Development)

Return Event: 2 years

Label: SF-1 RE-DESIGN

Storm Event: IDF Curve Equation - 1 - 2 Year

Scenario: Post-Development 2 YEAR

Segment #5: TR-55 Channel Flow	
Manning's n	(N/A)
Slope	0.004 ft/ft
Wetted Perimeter	9.67 ft
Average Velocity	4.98 ft/s
Segment Time of Concentration	0.005 hours

Segment #6: TR-55 Channel Flow	
Flow Area	6.3 ft²
Hydraulic Length	135.00 ft
Manning's n	(N/A)
Slope	0.004 ft/ft
Wetted Perimeter	12.56 ft
Average Velocity	2.48 ft/s
Segment Time of Concentration	0.015 hours

Time of Concentration (Composite)	
Time of Concentration (Composite)	0.440 hours

Existing Pond Redesign- Interconnected Ponds

Subsection: Time of Concentration Calculations (Pre-Development)
Return Event: 2 years
Label: SF-1 RE-DESIGN
Storm Event: IDF Curve Equation - 1 - 2 Year
Scenario: Post-Development 2 YEAR

==== SCS Channel Flow

Tc = R = Qa / Wp
V = (1.49 * (R**(2/3)) * (Sf**-0.5)) / n

(Lf / V) / 3600

Where:
R= Hydraulic radius
Aq= Flow area, square feet
Wp= Wetted perimeter, feet
V= Velocity, ft/sec
Sf= Slope, ft/ft
n= Manning's n
Tc= Time of concentration, hours
Lf= Flow length, feet

==== SCS TR-55 Shallow Concentration Flow

Tc = Unpaved surface:
V = 16.1345 * (Sf**0.5)

Paved Surface:
V = 20.3282 * (Sf**0.5)

(Lf / V) / 3600

Where:
V= Velocity, ft/sec
Sf= Slope, ft/ft
Tc= Time of concentration, hours
Lf= Flow length, feet

==== SCS TR-55 Sheet Flow

Tc = (0.007 * ((n * Lf)**0.8)) / ((P**0.5) * (Sf**0.4))

Where:
Tc= Time of concentration, hours
n= Manning's n
Lf= Flow length, feet
P= 2yr, 24hr Rain depth, inches
Sf= Slope, %

Existing Pond Redesign- Interconnected Ponds

Subsection: Time of Concentration Calculations (Pre-Development)

Return Event: 2 years

Label: SF-2 EX

Storm Event: IDF Curve Equation - 1 - 2 Year

Scenario: Post-Development 2 YEAR

Time of Concentration Results (Pre-Development)

Segment #1: TR-55 Sheet Flow	
Hydraulic Length	200.00 ft
Manning's n	(N/A)
Slope	0.030 ft/ft
2 Year 24 Hour Depth	4.1 in
Average Velocity	0.18 ft/s
Segment Time of Concentration	0.311 hours

Segment #2: TR-55 Shallow Concentrated Flow	
Hydraulic Length	1,605.00 ft
Is Paved?	False
Slope	0.010 ft/ft
Average Velocity	1.61 ft/s
Segment Time of Concentration	0.276 hours

Time of Concentration (Composite)	
Time of Concentration (Composite)	0.587 hours

Existing Pond Redesign- Interconnected Ponds

Subsection: Time of Concentration Calculations (Pre-Development)

Return Event: 2 years

Label: SF-2 EX

Storm Event: IDF Curve Equation - 1 - 2 Year

Scenario: Post-Development 2 YEAR

==== SCS Channel Flow

Tc = R = Qa / Wp
V = (1.49 * (R**(2/3)) * (Sf**-0.5)) / n

(Lf / V) / 3600

Where:
R= Hydraulic radius
Aq= Flow area, square feet
Wp= Wetted perimeter, feet
V= Velocity, ft/sec
Sf= Slope, ft/ft
n= Manning's n
Tc= Time of concentration, hours
Lf= Flow length, feet

==== SCS TR-55 Shallow Concentration Flow

Tc = Unpaved surface:
V = 16.1345 * (Sf**0.5)

Paved Surface:
V = 20.3282 * (Sf**0.5)

(Lf / V) / 3600

Where:
V= Velocity, ft/sec
Sf= Slope, ft/ft
Tc= Time of concentration, hours
Lf= Flow length, feet

Existing Pond Redesign- Interconnected Ponds

Subsection: Time of Concentration Calculations (Pre-Development)

Return Event: 2 years

Label: SF-2 RE-DESIGN

Storm Event: IDF Curve Equation - 1 - 2 Year

Scenario: Post-Development 2 YEAR

Time of Concentration Results (Pre-Development)

Segment #1: TR-55 Sheet Flow	
Hydraulic Length	200.00 ft
Manning's n	(N/A)
Slope	0.030 ft/ft
2 Year 24 Hour Depth	4.1 in
Average Velocity	0.18 ft/s
Segment Time of Concentration	0.311 hours

Segment #2: TR-55 Shallow Concentrated Flow	
Hydraulic Length	985.00 ft
Is Paved?	True
Slope	0.008 ft/ft
Average Velocity	1.76 ft/s
Segment Time of Concentration	0.155 hours

Segment #3: TR-55 Channel Flow	
Flow Area	4.3 ft²
Hydraulic Length	325.00 ft
Manning's n	(N/A)
Slope	0.002 ft/ft
Wetted Perimeter	7.33 ft
Average Velocity	1.95 ft/s
Segment Time of Concentration	0.046 hours

Segment #4: TR-55 Channel Flow	
Flow Area	12.6 ft²
Hydraulic Length	80.00 ft
Manning's n	(N/A)
Slope	0.003 ft/ft
Wetted Perimeter	12.57 ft
Average Velocity	0.34 ft/s
Segment Time of Concentration	0.065 hours

Segment #5: TR-55 Channel Flow	
Flow Area	11.0 ft²
Hydraulic Length	85.00 ft

Subsection: Time of Concentration Calculations (Pre-Development)

Return Event: 2 years

Label: SF-2 RE-DESIGN

Storm Event: IDF Curve Equation - 1 - 2 Year

Scenario: Post-Development 2 YEAR

Segment #5: TR-55 Channel Flow	
Manning's n	(N/A)
Slope	0.003 ft/ft
Wetted Perimeter	19.33 ft
Average Velocity	4.31 ft/s
Segment Time of Concentration	0.005 hours

Segment #6: TR-55 Channel Flow	
Flow Area	11.9 ft²
Hydraulic Length	130.00 ft
Manning's n	(N/A)
Slope	0.005 ft/ft
Wetted Perimeter	19.67 ft
Average Velocity	5.80 ft/s
Segment Time of Concentration	0.006 hours

Time of Concentration (Composite)	
Time of Concentration (Composite)	0.590 hours

Existing Pond Redesign- Interconnected Ponds

Subsection: Time of Concentration Calculations (Pre-Development)
Return Event: 2 years
Label: SF-2 RE-DESIGN
Storm Event: IDF Curve Equation - 1 - 2 Year
Scenario: Post-Development 2 YEAR

==== SCS Channel Flow

Tc = R = Qa / Wp
V = (1.49 * (R**(2/3)) * (Sf**-0.5)) / n

(Lf / V) / 3600

Where:
R= Hydraulic radius
Aq= Flow area, square feet
Wp= Wetted perimeter, feet
V= Velocity, ft/sec
Sf= Slope, ft/ft
n= Manning's n
Tc= Time of concentration, hours
Lf= Flow length, feet

==== SCS TR-55 Shallow Concentration Flow

Tc = Unpaved surface:
V = 16.1345 * (Sf**0.5)

Paved Surface:
V = 20.3282 * (Sf**0.5)

(Lf / V) / 3600

Where:
V= Velocity, ft/sec
Sf= Slope, ft/ft
Tc= Time of concentration, hours
Lf= Flow length, feet

==== SCS TR-55 Sheet Flow

Tc = (0.007 * ((n * Lf)**0.8)) / ((P**0.5) * (Sf**0.4))

Where:
Tc= Time of concentration, hours
n= Manning's n
Lf= Flow length, feet
P= 2yr, 24hr Rain depth, inches
Sf= Slope, %

Existing Pond Redesign- Interconnected Ponds

Subsection: Outlet Input Data
Return Event: 2 years
Label: AS BUILT OUTLET STRUCTURE
Storm Event: IDF Curve Equation - 1 - 2 Year
Scenario: Post-Development 2 YEAR

Requested Pond Water Surface Elevations	
Minimum (Headwater)	1,215.60 ft
Increment (Headwater)	0.50 ft
Maximum (Headwater)	1,220.00 ft

Outlet Connectivity

Structure Type	Outlet ID	Direction	Outfall	E1 (ft)	E2 (ft)
Culvert-Circular	Culvert - 4	Forward + Reverse	TW	1,215.76	1,220.00
Culvert-Circular	Culvert - 2	Forward + Reverse	TW	1,216.84	1,220.00
Culvert-Circular	Culvert - 1	Forward + Reverse	TW	1,216.90	1,220.00
Culvert-Circular	Culvert - 3	Forward + Reverse	TW	1,216.92	1,220.00
Tailwater Settings	Tailwater			(N/A)	(N/A)

Existing Pond Redesign- Interconnected Ponds

Subsection: Outlet Input Data — Return Event: 2 years

Label: AS BUILT OUTLET STRUCTURE — Storm Event: IDF Curve Equation - 1 - 2 Year

Scenario: Post-Development 2 YEAR

Structure ID: Culvert - 1 Structure Type: Culvert-Circular	
Number of Barrels	1
Diameter	36.0 in
Length	26.00 ft
Length (Computed Barrel)	26.00 ft
Slope (Computed)	0.011 ft/ft

Outlet Control Data	
Manning's n	0.013
Ke	0.200
Kb	0.007
Kr	0.000
Convergence Tolerance	0.00 ft

Inlet Control Data	
Equation Form	Form 1
K	0.0045
M	2.0000
C	0.0317
Y	0.6900
T1 ratio (HW/D)	1.090
T2 ratio (HW/D)	1.192
Slope Correction Factor	-0.500

Use unsubmerged inlet control 0 equation below T1 elevation.
Use submerged inlet control 0 equation above T2 elevation

In transition zone between unsubmerged and submerged inlet control,
interpolate between flows at T1 & T2...

T1 Elevation	1,220.17 ft	T1 Flow	42.85 ft³/s
T2 Elevation	1,220.48 ft	T2 Flow	48.97 ft³/s

Existing Pond Redesign- Interconnected Ponds

Subsection: Outlet Input Data — Return Event: 2 years

Label: AS BUILT OUTLET STRUCTURE — Storm Event: IDF Curve Equation - 1 - 2 Year

Scenario: Post-Development 2 YEAR

Structure ID: Culvert - 2 Structure Type: Culvert-Circular	
Number of Barrels	1
Diameter	36.0 in
Length	26.00 ft
Length (Computed Barrel)	26.00 ft
Slope (Computed)	0.011 ft/ft

Outlet Control Data	
Manning's n	0.013
Ke	0.200
Kb	0.007
Kr	0.000
Convergence Tolerance	0.00 ft

Inlet Control Data	
Equation Form	Form 1
K	0.0045
M	2.0000
C	0.0317
Y	0.6900
T1 ratio (HW/D)	1.090
T2 ratio (HW/D)	1.192
Slope Correction Factor	-0.500

Use unsubmerged inlet control 0 equation below T1 elevation.
Use submerged inlet control 0 equation above T2 elevation

In transition zone between unsubmerged and submerged inlet control,
interpolate between flows at T1 & T2...

T1 Elevation	1,220.11 ft	T1 Flow	42.85 ft³/s
T2 Elevation	1,220.42 ft	T2 Flow	48.97 ft³/s

Existing Pond Redesign- Interconnected Ponds

Subsection: Outlet Input Data — Return Event: 2 years

Label: AS BUILT OUTLET STRUCTURE — Storm Event: IDF Curve Equation - 1 - 2 Year

Scenario: Post-Development 2 YEAR

Structure ID: Culvert - 3 Structure Type: Culvert-Circular	
Number of Barrels	1
Diameter	36.0 in
Length	26.00 ft
Length (Computed Barrel)	26.00 ft
Slope (Computed)	0.013 ft/ft

Outlet Control Data	
Manning's n	0.013
Ke	0.200
Kb	0.007
Kr	0.000
Convergence Tolerance	0.00 ft

Inlet Control Data	
Equation Form	Form 1
K	0.0045
M	2.0000
C	0.0317
Y	0.6900
T1 ratio (HW/D)	1.089
T2 ratio (HW/D)	1.191
Slope Correction Factor	-0.500

Use unsubmerged inlet control 0 equation below T1 elevation.
Use submerged inlet control 0 equation above T2 elevation

In transition zone between unsubmerged and submerged inlet control,
interpolate between flows at T1 & T2...

T1 Elevation	1,220.19 ft	T1 Flow	42.85 ft³/s
T2 Elevation	1,220.49 ft	T2 Flow	48.97 ft³/s

Existing Pond Redesign- Interconnected Ponds

Subsection: Outlet Input Data
Label: AS BUILT OUTLET STRUCTURE
Scenario: Post-Development 2 YEAR

Return Event: 2 years
Storm Event: IDF Curve Equation - 1 - 2 Year

Structure ID: Culvert - 4 Structure Type: Culvert-Circular	
Number of Barrels	1
Diameter	36.0 in
Length	26.00 ft
Length (Computed Barrel)	26.00 ft
Slope (Computed)	-0.003 ft/ft

Outlet Control Data	
Manning's n	0.013
Ke	0.200
Kb	0.007
Kr	0.000
Convergence Tolerance	0.00 ft

Inlet Control Data	
Equation Form	Form 1
K	0.0045
M	2.0000
C	0.0317
Y	0.6900
T1 ratio (HW/D)	1.097
T2 ratio (HW/D)	1.199
Slope Correction Factor	-0.500

Use unsubmerged inlet control 0 equation below T1 elevation.
Use submerged inlet control 0 equation above T2 elevation

In transition zone between unsubmerged and submerged inlet control,
interpolate between flows at T1 & T2...

T1 Elevation	1,219.05 ft	T1 Flow	42.85 ft³/s
T2 Elevation	1,219.36 ft	T2 Flow	48.97 ft³/s

Existing Pond Redesign- Interconnected Ponds

Subsection: Outlet Input Data
Return Event: 5 years
Label: AS BUILT OUTLET STRUCTURE
Storm Event: IDF Curve Equation - 1 - 5 Year
Scenario: Post-Development 5 YEAR

Requested Pond Water Surface Elevations	
Minimum (Headwater)	1,215.60 ft
Increment (Headwater)	0.50 ft
Maximum (Headwater)	1,220.00 ft

Outlet Connectivity

Structure Type	Outlet ID	Direction	Outfall	E1 (ft)	E2 (ft)
Culvert-Circular	Culvert - 4	Forward + Reverse	TW	1,215.76	1,220.00
Culvert-Circular	Culvert - 2	Forward + Reverse	TW	1,216.84	1,220.00
Culvert-Circular	Culvert - 1	Forward + Reverse	TW	1,216.90	1,220.00
Culvert-Circular	Culvert - 3	Forward + Reverse	TW	1,216.92	1,220.00
Tailwater Settings	Tailwater			(N/A)	(N/A)

Existing Pond Redesign- Interconnected Ponds

Subsection: Outlet Input Data — Return Event: 5 years

Label: AS BUILT OUTLET STRUCTURE — Storm Event: IDF Curve Equation - 1 - 5 Year

Scenario: Post-Development 5 YEAR

Structure ID: Culvert - 1 Structure Type: Culvert-Circular	
Number of Barrels	1
Diameter	36.0 in
Length	26.00 ft
Length (Computed Barrel)	26.00 ft
Slope (Computed)	0.011 ft/ft

Outlet Control Data	
Manning's n	0.013
Ke	0.200
Kb	0.007
Kr	0.000
Convergence Tolerance	0.00 ft

Inlet Control Data	
Equation Form	Form 1
K	0.0045
M	2.0000
C	0.0317
Y	0.6900
T1 ratio (HW/D)	1.090
T2 ratio (HW/D)	1.192
Slope Correction Factor	-0.500

Use unsubmerged inlet control 0 equation below T1 elevation.
Use submerged inlet control 0 equation above T2 elevation

In transition zone between unsubmerged and submerged inlet control,
interpolate between flows at T1 & T2...

T1 Elevation	1,220.17 ft	T1 Flow	42.85 ft³/s
T2 Elevation	1,220.48 ft	T2 Flow	48.97 ft³/s

Existing Pond Redesign- Interconnected Ponds

Subsection: Outlet Input Data — Return Event: 5 years
Label: AS BUILT OUTLET STRUCTURE — Storm Event: IDF Curve Equation - 1 - 5 Year
Scenario: Post-Development 5 YEAR

Structure ID: Culvert - 2 Structure Type: Culvert-Circular	
Number of Barrels	1
Diameter	36.0 in
Length	26.00 ft
Length (Computed Barrel)	26.00 ft
Slope (Computed)	0.011 ft/ft

Outlet Control Data	
Manning's n	0.013
Ke	0.200
Kb	0.007
Kr	0.000
Convergence Tolerance	0.00 ft

Inlet Control Data	
Equation Form	Form 1
K	0.0045
M	2.0000
C	0.0317
Y	0.6900
T1 ratio (HW/D)	1.090
T2 ratio (HW/D)	1.192
Slope Correction Factor	-0.500

Use unsubmerged inlet control 0 equation below T1 elevation.
Use submerged inlet control 0 equation above T2 elevation

In transition zone between unsubmerged and submerged inlet control,
interpolate between flows at T1 & T2...

T1 Elevation	1,220.11 ft	T1 Flow	42.85 ft³/s
T2 Elevation	1,220.42 ft	T2 Flow	48.97 ft³/s

Existing Pond Redesign- Interconnected Ponds

Subsection: Outlet Input Data — Return Event: 5 years

Label: AS BUILT OUTLET STRUCTURE — Storm Event: IDF Curve Equation - 1 - 5 Year

Scenario: Post-Development 5 YEAR

Structure ID: Culvert - 3 Structure Type: Culvert-Circular	
Number of Barrels	1
Diameter	36.0 in
Length	26.00 ft
Length (Computed Barrel)	26.00 ft
Slope (Computed)	0.013 ft/ft

Outlet Control Data	
Manning's n	0.013
Ke	0.200
Kb	0.007
Kr	0.000
Convergence Tolerance	0.00 ft

Inlet Control Data	
Equation Form	Form 1
K	0.0045
M	2.0000
C	0.0317
Y	0.6900
T1 ratio (HW/D)	1.089
T2 ratio (HW/D)	1.191
Slope Correction Factor	-0.500

Use unsubmerged inlet control 0 equation below T1 elevation.
Use submerged inlet control 0 equation above T2 elevation

In transition zone between unsubmerged and submerged inlet control,
interpolate between flows at T1 & T2...

T1 Elevation	1,220.19 ft	T1 Flow	42.85 ft³/s
T2 Elevation	1,220.49 ft	T2 Flow	48.97 ft³/s

Existing Pond Redesign- Interconnected Ponds

Subsection: Outlet Input Data — Return Event: 5 years
Label: AS BUILT OUTLET STRUCTURE — Storm Event: IDF Curve Equation - 1 - 5 Year
Scenario: Post-Development 5 YEAR

Structure ID: Culvert - 4 Structure Type: Culvert-Circular	
Number of Barrels	1
Diameter	36.0 in
Length	26.00 ft
Length (Computed Barrel)	26.00 ft
Slope (Computed)	-0.003 ft/ft

Outlet Control Data	
Manning's n	0.013
Ke	0.200
Kb	0.007
Kr	0.000
Convergence Tolerance	0.00 ft

Inlet Control Data	
Equation Form	Form 1
K	0.0045
M	2.0000
C	0.0317
Y	0.6900
T1 ratio (HW/D)	1.097
T2 ratio (HW/D)	1.199
Slope Correction Factor	-0.500

Use unsubmerged inlet control 0 equation below T1 elevation.
Use submerged inlet control 0 equation above T2 elevation

In transition zone between unsubmerged and submerged inlet control,
interpolate between flows at T1 & T2...

T1 Elevation	1,219.05 ft	T1 Flow	42.85 ft³/s
T2 Elevation	1,219.36 ft	T2 Flow	48.97 ft³/s

Existing Pond Redesign- Interconnected Ponds

Subsection: Outlet Input Data

Return Event: 10 years

Label: AS BUILT OUTLET STRUCTURE

Storm Event: IDF Curve Equation - 1 - 10 Year

Scenario: Post-Development 10 YEAR

Requested Pond Water Surface Elevations	
Minimum (Headwater)	1,215.60 ft
Increment (Headwater)	0.50 ft
Maximum (Headwater)	1,220.00 ft

Outlet Connectivity

Structure Type	Outlet ID	Direction	Outfall	E1 (ft)	E2 (ft)
Culvert-Circular	Culvert - 4	Forward + Reverse	TW	1,215.76	1,220.00
Culvert-Circular	Culvert - 2	Forward + Reverse	TW	1,216.84	1,220.00
Culvert-Circular	Culvert - 1	Forward + Reverse	TW	1,216.90	1,220.00
Culvert-Circular	Culvert - 3	Forward + Reverse	TW	1,216.92	1,220.00
Tailwater Settings	Tailwater			(N/A)	(N/A)

Existing Pond Redesign- Interconnected Ponds

Subsection: Outlet Input Data

Return Event: 10 years

Label: AS BUILT OUTLET STRUCTURE

Storm Event: IDF Curve Equation - 1 - 10 Year

Scenario: Post-Development 10 YEAR

Structure ID: Culvert - 1 Structure Type: Culvert-Circular	
Number of Barrels	1
Diameter	36.0 in
Length	26.00 ft
Length (Computed Barrel)	26.00 ft
Slope (Computed)	0.011 ft/ft

Outlet Control Data	
Manning's n	0.013
Ke	0.200
Kb	0.007
Kr	0.000
Convergence Tolerance	0.00 ft

Inlet Control Data	
Equation Form	Form 1
K	0.0045
M	2.0000
C	0.0317
Y	0.6900
T1 ratio (HW/D)	1.090
T2 ratio (HW/D)	1.192
Slope Correction Factor	-0.500

Use unsubmerged inlet control 0 equation below T1 elevation.
Use submerged inlet control 0 equation above T2 elevation

In transition zone between unsubmerged and submerged inlet control,
interpolate between flows at T1 & T2...

T1 Elevation	1,220.17 ft	T1 Flow	42.85 ft³/s
T2 Elevation	1,220.48 ft	T2 Flow	48.97 ft³/s

Existing Pond Redesign- Interconnected Ponds

Subsection: Outlet Input Data

Return Event: 10 years

Label: AS BUILT OUTLET STRUCTURE

Storm Event: IDF Curve Equation - 1 - 10 Year

Scenario: Post-Development 10 YEAR

Structure ID: Culvert - 2 Structure Type: Culvert-Circular	
Number of Barrels	1
Diameter	36.0 in
Length	26.00 ft
Length (Computed Barrel)	26.00 ft
Slope (Computed)	0.011 ft/ft

Outlet Control Data	
Manning's n	0.013
Ke	0.200
Kb	0.007
Kr	0.000
Convergence Tolerance	0.00 ft

Inlet Control Data	
Equation Form	Form 1
K	0.0045
M	2.0000
C	0.0317
Y	0.6900
T1 ratio (HW/D)	1.090
T2 ratio (HW/D)	1.192
Slope Correction Factor	-0.500

Use unsubmerged inlet control 0 equation below T1 elevation.
Use submerged inlet control 0 equation above T2 elevation

In transition zone between unsubmerged and submerged inlet control,
interpolate between flows at T1 & T2...

T1 Elevation	1,220.11 ft	T1 Flow	42.85 ft³/s
T2 Elevation	1,220.42 ft	T2 Flow	48.97 ft³/s

Existing Pond Redesign- Interconnected Ponds

Subsection: Outlet Input Data

Return Event: 10 years

Label: AS BUILT OUTLET STRUCTURE

Storm Event: IDF Curve Equation - 1 - 10 Year

Scenario: Post-Development 10 YEAR

Structure ID: Culvert - 3 Structure Type: Culvert-Circular	
Number of Barrels	1
Diameter	36.0 in
Length	26.00 ft
Length (Computed Barrel)	26.00 ft
Slope (Computed)	0.013 ft/ft

Outlet Control Data	
Manning's n	0.013
Ke	0.200
Kb	0.007
Kr	0.000
Convergence Tolerance	0.00 ft

Inlet Control Data	
Equation Form	Form 1
K	0.0045
M	2.0000
C	0.0317
Y	0.6900
T1 ratio (HW/D)	1.089
T2 ratio (HW/D)	1.191
Slope Correction Factor	-0.500

Use unsubmerged inlet control 0 equation below T1 elevation.
Use submerged inlet control 0 equation above T2 elevation

In transition zone between unsubmerged and submerged inlet control,
interpolate between flows at T1 & T2...

T1 Elevation	1,220.19 ft	T1 Flow	42.85 ft³/s
T2 Elevation	1,220.49 ft	T2 Flow	48.97 ft³/s

Existing Pond Redesign- Interconnected Ponds

Subsection: Outlet Input Data

Return Event: 10 years

Label: AS BUILT OUTLET STRUCTURE

Storm Event: IDF Curve Equation - 1 - 10 Year

Scenario: Post-Development 10 YEAR

Structure ID: Culvert - 4 Structure Type: Culvert-Circular	
Number of Barrels	1
Diameter	36.0 in
Length	26.00 ft
Length (Computed Barrel)	26.00 ft
Slope (Computed)	-0.003 ft/ft

Outlet Control Data	
Manning's n	0.013
Ke	0.200
Kb	0.007
Kr	0.000
Convergence Tolerance	0.00 ft

Inlet Control Data	
Equation Form	Form 1
K	0.0045
M	2.0000
C	0.0317
Y	0.6900
T1 ratio (HW/D)	1.097
T2 ratio (HW/D)	1.199
Slope Correction Factor	-0.500

Use unsubmerged inlet control 0 equation below T1 elevation.
Use submerged inlet control 0 equation above T2 elevation

In transition zone between unsubmerged and submerged inlet control,
interpolate between flows at T1 & T2...

T1 Elevation	1,219.05 ft	T1 Flow	42.85 ft³/s
T2 Elevation	1,219.36 ft	T2 Flow	48.97 ft³/s

Existing Pond Redesign- Interconnected Ponds

Subsection: Outlet Input Data

Return Event: 25 years

Label: AS BUILT OUTLET STRUCTURE

Storm Event: IDF Curve Equation - 1 - 25 Year

Scenario: Post-Development 25 YEAR

Requested Pond Water Surface Elevations	
Minimum (Headwater)	1,215.60 ft
Increment (Headwater)	0.50 ft
Maximum (Headwater)	1,220.00 ft

Outlet Connectivity

Structure Type	Outlet ID	Direction	Outfall	E1 (ft)	E2 (ft)
Culvert-Circular	Culvert - 4	Forward + Reverse	TW	1,215.76	1,220.00
Culvert-Circular	Culvert - 2	Forward + Reverse	TW	1,216.84	1,220.00
Culvert-Circular	Culvert - 1	Forward + Reverse	TW	1,216.90	1,220.00
Culvert-Circular	Culvert - 3	Forward + Reverse	TW	1,216.92	1,220.00
Tailwater Settings	Tailwater			(N/A)	(N/A)

Existing Pond Redesign- Interconnected Ponds

Subsection: Outlet Input Data
Return Event: 25 years

Label: AS BUILT OUTLET STRUCTURE
Storm Event: IDF Curve Equation - 1 - 25 Year

Scenario: Post-Development 25 YEAR

Structure ID: Culvert - 1 Structure Type: Culvert-Circular	
Number of Barrels	1
Diameter	36.0 in
Length	26.00 ft
Length (Computed Barrel)	26.00 ft
Slope (Computed)	0.011 ft/ft

Outlet Control Data	
Manning's n	0.013
Ke	0.200
Kb	0.007
Kr	0.000
Convergence Tolerance	0.00 ft

Inlet Control Data	
Equation Form	Form 1
K	0.0045
M	2.0000
C	0.0317
Y	0.6900
T1 ratio (HW/D)	1.090
T2 ratio (HW/D)	1.192
Slope Correction Factor	-0.500

Use unsubmerged inlet control 0 equation below T1 elevation.
Use submerged inlet control 0 equation above T2 elevation

In transition zone between unsubmerged and submerged inlet control,
interpolate between flows at T1 & T2...

T1 Elevation	1,220.17 ft	T1 Flow	42.85 ft³/s
T2 Elevation	1,220.48 ft	T2 Flow	48.97 ft³/s

Existing Pond Redesign- Interconnected Ponds

Subsection: Outlet Input Data
Return Event: 25 years

Label: AS BUILT OUTLET STRUCTURE
Storm Event: IDF Curve Equation - 1 - 25 Year

Scenario: Post-Development 25 YEAR

Structure ID: Culvert - 2 Structure Type: Culvert-Circular	
Number of Barrels	1
Diameter	36.0 in
Length	26.00 ft
Length (Computed Barrel)	26.00 ft
Slope (Computed)	0.011 ft/ft

Outlet Control Data	
Manning's n	0.013
Ke	0.200
Kb	0.007
Kr	0.000
Convergence Tolerance	0.00 ft

Inlet Control Data	
Equation Form	Form 1
K	0.0045
M	2.0000
C	0.0317
Y	0.6900
T1 ratio (HW/D)	1.090
T2 ratio (HW/D)	1.192
Slope Correction Factor	-0.500

Use unsubmerged inlet control 0 equation below T1 elevation.
Use submerged inlet control 0 equation above T2 elevation

In transition zone between unsubmerged and submerged inlet control,
interpolate between flows at T1 & T2...

T1 Elevation	1,220.11 ft	T1 Flow	42.85 ft³/s
T2 Elevation	1,220.42 ft	T2 Flow	48.97 ft³/s

Existing Pond Redesign- Interconnected Ponds

Subsection: Outlet Input Data

Return Event: 25 years

Label: AS BUILT OUTLET STRUCTURE

Storm Event: IDF Curve Equation - 1 - 25 Year

Scenario: Post-Development 25 YEAR

Structure ID: Culvert - 3 Structure Type: Culvert-Circular	
Number of Barrels	1
Diameter	36.0 in
Length	26.00 ft
Length (Computed Barrel)	26.00 ft
Slope (Computed)	0.013 ft/ft

Outlet Control Data	
Manning's n	0.013
Ke	0.200
Kb	0.007
Kr	0.000
Convergence Tolerance	0.00 ft

Inlet Control Data	
Equation Form	Form 1
K	0.0045
M	2.0000
C	0.0317
Y	0.6900
T1 ratio (HW/D)	1.089
T2 ratio (HW/D)	1.191
Slope Correction Factor	-0.500

Use unsubmerged inlet control 0 equation below T1 elevation.
Use submerged inlet control 0 equation above T2 elevation

In transition zone between unsubmerged and submerged inlet control,
interpolate between flows at T1 & T2...

T1 Elevation	1,220.19 ft	T1 Flow	42.85 ft³/s
T2 Elevation	1,220.49 ft	T2 Flow	48.97 ft³/s

Existing Pond Redesign- Interconnected Ponds

Subsection: Outlet Input Data

Return Event: 25 years

Label: AS BUILT OUTLET STRUCTURE

Storm Event: IDF Curve Equation - 1 - 25 Year

Scenario: Post-Development 25 YEAR

Structure ID: Culvert - 4 Structure Type: Culvert-Circular	
Number of Barrels	1
Diameter	36.0 in
Length	26.00 ft
Length (Computed Barrel)	26.00 ft
Slope (Computed)	-0.003 ft/ft

Outlet Control Data	
Manning's n	0.013
Ke	0.200
Kb	0.007
Kr	0.000
Convergence Tolerance	0.00 ft

Inlet Control Data	
Equation Form	Form 1
K	0.0045
M	2.0000
C	0.0317
Y	0.6900
T1 ratio (HW/D)	1.097
T2 ratio (HW/D)	1.199
Slope Correction Factor	-0.500

Use unsubmerged inlet control 0 equation below T1 elevation.
Use submerged inlet control 0 equation above T2 elevation

In transition zone between unsubmerged and submerged inlet control,
interpolate between flows at T1 & T2...

T1 Elevation	1,219.05 ft	T1 Flow	42.85 ft³/s
T2 Elevation	1,219.36 ft	T2 Flow	48.97 ft³/s

Existing Pond Redesign- Interconnected Ponds

Subsection: Outlet Input Data

Return Event: 50 years

Label: AS BUILT OUTLET STRUCTURE

Storm Event: IDF Curve Equation - 1 - 50 Year

Scenario: Post-Development 50 YEAR

Requested Pond Water Surface Elevations	
Minimum (Headwater)	1,215.60 ft
Increment (Headwater)	0.50 ft
Maximum (Headwater)	1,220.00 ft

Outlet Connectivity

Structure Type	Outlet ID	Direction	Outfall	E1 (ft)	E2 (ft)
Culvert-Circular	Culvert - 4	Forward + Reverse	TW	1,215.76	1,220.00
Culvert-Circular	Culvert - 2	Forward + Reverse	TW	1,216.84	1,220.00
Culvert-Circular	Culvert - 1	Forward + Reverse	TW	1,216.90	1,220.00
Culvert-Circular	Culvert - 3	Forward + Reverse	TW	1,216.92	1,220.00
Tailwater Settings	Tailwater			(N/A)	(N/A)

Existing Pond Redesign- Interconnected Ponds

Subsection: Outlet Input Data

Return Event: 50 years

Label: AS BUILT OUTLET STRUCTURE

Storm Event: IDF Curve Equation - 1 - 50 Year

Scenario: Post-Development 50 YEAR

Structure ID: Culvert - 1 Structure Type: Culvert-Circular	
Number of Barrels	1
Diameter	36.0 in
Length	26.00 ft
Length (Computed Barrel)	26.00 ft
Slope (Computed)	0.011 ft/ft

Outlet Control Data	
Manning's n	0.013
Ke	0.200
Kb	0.007
Kr	0.000
Convergence Tolerance	0.00 ft

Inlet Control Data	
Equation Form	Form 1
K	0.0045
M	2.0000
C	0.0317
Y	0.6900
T1 ratio (HW/D)	1.090
T2 ratio (HW/D)	1.192
Slope Correction Factor	-0.500

Use unsubmerged inlet control 0 equation below T1 elevation.
Use submerged inlet control 0 equation above T2 elevation

In transition zone between unsubmerged and submerged inlet control,
interpolate between flows at T1 & T2...

T1 Elevation	1,220.17 ft	T1 Flow	42.85 ft³/s
T2 Elevation	1,220.48 ft	T2 Flow	48.97 ft³/s

Existing Pond Redesign- Interconnected Ponds

Subsection: Outlet Input Data
Return Event: 50 years

Label: AS BUILT OUTLET STRUCTURE
Storm Event: IDF Curve Equation - 1 - 50 Year

Scenario: Post-Development 50 YEAR

Structure ID: Culvert - 2 Structure Type: Culvert-Circular	
Number of Barrels	1
Diameter	36.0 in
Length	26.00 ft
Length (Computed Barrel)	26.00 ft
Slope (Computed)	0.011 ft/ft

Outlet Control Data	
Manning's n	0.013
Ke	0.200
Kb	0.007
Kr	0.000
Convergence Tolerance	0.00 ft

Inlet Control Data	
Equation Form	Form 1
K	0.0045
M	2.0000
C	0.0317
Y	0.6900
T1 ratio (HW/D)	1.090
T2 ratio (HW/D)	1.192
Slope Correction Factor	-0.500

Use unsubmerged inlet control 0 equation below T1 elevation.
Use submerged inlet control 0 equation above T2 elevation

In transition zone between unsubmerged and submerged inlet control,
interpolate between flows at T1 & T2...

T1 Elevation	1,220.11 ft	T1 Flow	42.85 ft³/s
T2 Elevation	1,220.42 ft	T2 Flow	48.97 ft³/s

Existing Pond Redesign- Interconnected Ponds

Subsection: Outlet Input Data

Return Event: 50 years

Label: AS BUILT OUTLET STRUCTURE

Storm Event: IDF Curve Equation - 1 - 50 Year

Scenario: Post-Development 50 YEAR

Structure ID: Culvert - 3 Structure Type: Culvert-Circular	
Number of Barrels	1
Diameter	36.0 in
Length	26.00 ft
Length (Computed Barrel)	26.00 ft
Slope (Computed)	0.013 ft/ft

Outlet Control Data	
Manning's n	0.013
Ke	0.200
Kb	0.007
Kr	0.000
Convergence Tolerance	0.00 ft

Inlet Control Data	
Equation Form	Form 1
K	0.0045
M	2.0000
C	0.0317
Y	0.6900
T1 ratio (HW/D)	1.089
T2 ratio (HW/D)	1.191
Slope Correction Factor	-0.500

Use unsubmerged inlet control 0 equation below T1 elevation.
Use submerged inlet control 0 equation above T2 elevation

In transition zone between unsubmerged and submerged inlet control,
interpolate between flows at T1 & T2...

T1 Elevation	1,220.19 ft	T1 Flow	42.85 ft³/s
T2 Elevation	1,220.49 ft	T2 Flow	48.97 ft³/s

Existing Pond Redesign- Interconnected Ponds

Subsection: Outlet Input Data

Return Event: 50 years

Label: AS BUILT OUTLET STRUCTURE

Storm Event: IDF Curve Equation - 1 - 50 Year

Scenario: Post-Development 50 YEAR

Structure ID: Culvert - 4 Structure Type: Culvert-Circular	
Number of Barrels	1
Diameter	36.0 in
Length	26.00 ft
Length (Computed Barrel)	26.00 ft
Slope (Computed)	-0.003 ft/ft

Outlet Control Data	
Manning's n	0.013
Ke	0.200
Kb	0.007
Kr	0.000
Convergence Tolerance	0.00 ft

Inlet Control Data	
Equation Form	Form 1
K	0.0045
M	2.0000
C	0.0317
Y	0.6900
T1 ratio (HW/D)	1.097
T2 ratio (HW/D)	1.199
Slope Correction Factor	-0.500

Use unsubmerged inlet control 0 equation below T1 elevation.
Use submerged inlet control 0 equation above T2 elevation

In transition zone between unsubmerged and submerged inlet control,
interpolate between flows at T1 & T2...

T1 Elevation	1,219.05 ft	T1 Flow	42.85 ft³/s
T2 Elevation	1,219.36 ft	T2 Flow	48.97 ft³/s

Existing Pond Redesign- Interconnected Ponds

Subsection: Outlet Input Data

Return Event: 100 years

Label: AS BUILT OUTLET STRUCTURE

Storm Event: IDF Curve Equation - 1 - 100 Year

Scenario: Post-Development 100 YEAR

Requested Pond Water Surface Elevations	
Minimum (Headwater)	1,215.60 ft
Increment (Headwater)	0.50 ft
Maximum (Headwater)	1,220.00 ft

Outlet Connectivity

Structure Type	Outlet ID	Direction	Outfall	E1 (ft)	E2 (ft)
Culvert-Circular	Culvert - 4	Forward + Reverse	TW	1,215.76	1,220.00
Culvert-Circular	Culvert - 2	Forward + Reverse	TW	1,216.84	1,220.00
Culvert-Circular	Culvert - 1	Forward + Reverse	TW	1,216.90	1,220.00
Culvert-Circular	Culvert - 3	Forward + Reverse	TW	1,216.92	1,220.00
Tailwater Settings	Tailwater			(N/A)	(N/A)

Existing Pond Redesign- Interconnected Ponds

Subsection: Outlet Input Data
Return Event: 100 years

Label: AS BUILT OUTLET STRUCTURE
Storm Event: IDF Curve Equation - 1 - 100 Year

Scenario: Post-Development 100 YEAR

Structure ID: Culvert - 1 Structure Type: Culvert-Circular	
Number of Barrels	1
Diameter	36.0 in
Length	26.00 ft
Length (Computed Barrel)	26.00 ft
Slope (Computed)	0.011 ft/ft

Outlet Control Data	
Manning's n	0.013
Ke	0.200
Kb	0.007
Kr	0.000
Convergence Tolerance	0.00 ft

Inlet Control Data	
Equation Form	Form 1
K	0.0045
M	2.0000
C	0.0317
Y	0.6900
T1 ratio (HW/D)	1.090
T2 ratio (HW/D)	1.192
Slope Correction Factor	-0.500

Use unsubmerged inlet control 0 equation below T1 elevation.
Use submerged inlet control 0 equation above T2 elevation

In transition zone between unsubmerged and submerged inlet control,
interpolate between flows at T1 & T2...

T1 Elevation	1,220.17 ft	T1 Flow	42.85 ft³/s
T2 Elevation	1,220.48 ft	T2 Flow	48.97 ft³/s

Existing Pond Redesign- Interconnected Ponds

Subsection: Outlet Input Data
Return Event: 100 years

Label: AS BUILT OUTLET STRUCTURE
Storm Event: IDF Curve Equation - 1 - 100 Year

Scenario: Post-Development 100 YEAR

Structure ID: Culvert - 2 Structure Type: Culvert-Circular	
Number of Barrels	1
Diameter	36.0 in
Length	26.00 ft
Length (Computed Barrel)	26.00 ft
Slope (Computed)	0.011 ft/ft

Outlet Control Data	
Manning's n	0.013
Ke	0.200
Kb	0.007
Kr	0.000
Convergence Tolerance	0.00 ft

Inlet Control Data	
Equation Form	Form 1
K	0.0045
M	2.0000
C	0.0317
Y	0.6900
T1 ratio (HW/D)	1.090
T2 ratio (HW/D)	1.192
Slope Correction Factor	-0.500

Use unsubmerged inlet control 0 equation below T1 elevation.
Use submerged inlet control 0 equation above T2 elevation

In transition zone between unsubmerged and submerged inlet control,
interpolate between flows at T1 & T2...

T1 Elevation	1,220.11 ft	T1 Flow	42.85 ft³/s
T2 Elevation	1,220.42 ft	T2 Flow	48.97 ft³/s

Existing Pond Redesign- Interconnected Ponds

Subsection: Outlet Input Data
Return Event: 100 years

Label: AS BUILT OUTLET STRUCTURE
Storm Event: IDF Curve Equation - 1 - 100 Year

Scenario: Post-Development 100 YEAR

Structure ID: Culvert - 3 Structure Type: Culvert-Circular	
Number of Barrels	1
Diameter	36.0 in
Length	26.00 ft
Length (Computed Barrel)	26.00 ft
Slope (Computed)	0.013 ft/ft

Outlet Control Data	
Manning's n	0.013
Ke	0.200
Kb	0.007
Kr	0.000
Convergence Tolerance	0.00 ft

Inlet Control Data	
Equation Form	Form 1
K	0.0045
M	2.0000
C	0.0317
Y	0.6900
T1 ratio (HW/D)	1.089
T2 ratio (HW/D)	1.191
Slope Correction Factor	-0.500

Use unsubmerged inlet control 0 equation below T1 elevation.
Use submerged inlet control 0 equation above T2 elevation

In transition zone between unsubmerged and submerged inlet control,
interpolate between flows at T1 & T2...

T1 Elevation	1,220.19 ft	T1 Flow	42.85 ft³/s
T2 Elevation	1,220.49 ft	T2 Flow	48.97 ft³/s

Existing Pond Redesign- Interconnected Ponds

Subsection: Outlet Input Data
Return Event: 100 years

Label: AS BUILT OUTLET STRUCTURE
Storm Event: IDF Curve Equation - 1 - 100 Year

Scenario: Post-Development 100 YEAR

Structure ID: Culvert - 4 Structure Type: Culvert-Circular	
Number of Barrels	1
Diameter	36.0 in
Length	26.00 ft
Length (Computed Barrel)	26.00 ft
Slope (Computed)	-0.003 ft/ft

Outlet Control Data	
Manning's n	0.013
Ke	0.200
Kb	0.007
Kr	0.000
Convergence Tolerance	0.00 ft

Inlet Control Data	
Equation Form	Form 1
K	0.0045
M	2.0000
C	0.0317
Y	0.6900
T1 ratio (HW/D)	1.097
T2 ratio (HW/D)	1.199
Slope Correction Factor	-0.500

Use unsubmerged inlet control 0 equation below T1 elevation.
Use submerged inlet control 0 equation above T2 elevation

In transition zone between unsubmerged and submerged inlet control,
interpolate between flows at T1 & T2...

T1 Elevation	1,219.05 ft	T1 Flow	42.85 ft³/s
T2 Elevation	1,219.36 ft	T2 Flow	48.97 ft³/s

Existing Pond Redesign- Interconnected Ponds

Subsection: Outlet Input Data
Label: CULVERS UNDER MACY EX
Scenario: Post-Development 2 YEAR

Return Event: 2 years
Storm Event: IDF Curve Equation - 1 - 2 Year

Requested Pond Water Surface Elevations	
Minimum (Headwater)	1,216.12 ft
Increment (Headwater)	0.50 ft
Maximum (Headwater)	1,220.00 ft

Outlet Connectivity

Structure Type	Outlet ID	Direction	Outfall	E1 (ft)	E2 (ft)
Culvert-Circular	Culvert - 1	Forward + Reverse	TW	1,216.12	1,220.00
Culvert-Circular	Culvert - 2	Forward + Reverse	TW	1,216.23	1,220.00
Tailwater Settings	Tailwater			(N/A)	(N/A)

Existing Pond Redesign- Interconnected Ponds

Subsection: Outlet Input Data
Label: CULVERS UNDER MACY EX
Scenario: Post-Development 2 YEAR

Return Event: 2 years
Storm Event: IDF Curve Equation - 1 - 2 Year

Structure ID: Culvert - 1 Structure Type: Culvert-Circular	
Number of Barrels	1
Diameter	30.0 in
Length	80.34 ft
Length (Computed Barrel)	80.34 ft
Slope (Computed)	-0.005 ft/ft

Outlet Control Data	
Manning's n	0.024
Ke	0.200
Kb	0.031
Kr	0.000
Convergence Tolerance	0.00 ft

Inlet Control Data	
Equation Form	Form 1
K	0.0045
M	2.0000
C	0.0317
Y	0.6900
T1 ratio (HW/D)	1.098
T2 ratio (HW/D)	1.200
Slope Correction Factor	-0.500

Use unsubmerged inlet control 0 equation below T1 elevation.
Use submerged inlet control 0 equation above T2 elevation

In transition zone between unsubmerged and submerged inlet control,
interpolate between flows at T1 & T2...

T1 Elevation	1,218.86 ft	T1 Flow	27.16 ft³/s
T2 Elevation	1,219.12 ft	T2 Flow	31.05 ft³/s

Existing Pond Redesign- Interconnected Ponds

Subsection: Outlet Input Data — Return Event: 2 years
Label: CULVERS UNDER MACY EX — Storm Event: IDF Curve Equation - 1 - 2 Year
Scenario: Post-Development 2 YEAR

Structure ID: Culvert - 2 Structure Type: Culvert-Circular	
Number of Barrels	1
Diameter	30.0 in
Length	80.34 ft
Length (Computed Barrel)	80.34 ft
Slope (Computed)	0.001 ft/ft

Outlet Control Data	
Manning's n	0.024
Ke	0.200
Kb	0.031
Kr	0.000
Convergence Tolerance	0.00 ft

Inlet Control Data	
Equation Form	Form 1
K	0.0045
M	2.0000
C	0.0317
Y	0.6900
T1 ratio (HW/D)	1.095
T2 ratio (HW/D)	1.197
Slope Correction Factor	-0.500

Use unsubmerged inlet control 0 equation below T1 elevation.
Use submerged inlet control 0 equation above T2 elevation

In transition zone between unsubmerged and submerged inlet control,
interpolate between flows at T1 & T2...

T1 Elevation	1,218.97 ft	T1 Flow	27.16 ft³/s
T2 Elevation	1,219.22 ft	T2 Flow	31.05 ft³/s

Existing Pond Redesign- Interconnected Ponds

Subsection: Outlet Input Data
Label: CULVERS UNDER MACY EX
Scenario: Post-Development 5 YEAR

Return Event: 5 years
Storm Event: IDF Curve Equation - 1 - 5 Year

Requested Pond Water Surface Elevations	
Minimum (Headwater)	1,216.12 ft
Increment (Headwater)	0.50 ft
Maximum (Headwater)	1,220.00 ft

Outlet Connectivity

Structure Type	Outlet ID	Direction	Outfall	E1 (ft)	E2 (ft)
Culvert-Circular	Culvert - 1	Forward + Reverse	TW	1,216.12	1,220.00
Culvert-Circular	Culvert - 2	Forward + Reverse	TW	1,216.23	1,220.00
Tailwater Settings	Tailwater			(N/A)	(N/A)

Existing Pond Redesign- Interconnected Ponds

Subsection: Outlet Input Data — Return Event: 5 years
Label: CULVERS UNDER MACY EX — Storm Event: IDF Curve Equation - 1 - 5 Year
Scenario: Post-Development 5 YEAR

Structure ID: Culvert - 1 Structure Type: Culvert-Circular	
Number of Barrels	1
Diameter	30.0 in
Length	80.34 ft
Length (Computed Barrel)	80.34 ft
Slope (Computed)	-0.005 ft/ft

Outlet Control Data	
Manning's n	0.024
Ke	0.200
Kb	0.031
Kr	0.000
Convergence Tolerance	0.00 ft

Inlet Control Data	
Equation Form	Form 1
K	0.0045
M	2.0000
C	0.0317
Y	0.6900
T1 ratio (HW/D)	1.098
T2 ratio (HW/D)	1.200
Slope Correction Factor	-0.500

Use unsubmerged inlet control 0 equation below T1 elevation.
Use submerged inlet control 0 equation above T2 elevation

In transition zone between unsubmerged and submerged inlet control,
interpolate between flows at T1 & T2...

T1 Elevation	1,218.86 ft	T1 Flow	27.16 ft³/s
T2 Elevation	1,219.12 ft	T2 Flow	31.05 ft³/s

Existing Pond Redesign- Interconnected Ponds

Subsection: Outlet Input Data
Return Event: 5 years
Label: CULVERS UNDER MACY EX
Storm Event: IDF Curve Equation - 1 - 5 Year
Scenario: Post-Development 5 YEAR

Structure ID: Culvert - 2 Structure Type: Culvert-Circular	
Number of Barrels	1
Diameter	30.0 in
Length	80.34 ft
Length (Computed Barrel)	80.34 ft
Slope (Computed)	0.001 ft/ft

Outlet Control Data	
Manning's n	0.024
Ke	0.200
Kb	0.031
Kr	0.000
Convergence Tolerance	0.00 ft

Inlet Control Data	
Equation Form	Form 1
K	0.0045
M	2.0000
C	0.0317
Y	0.6900
T1 ratio (HW/D)	1.095
T2 ratio (HW/D)	1.197
Slope Correction Factor	-0.500

Use unsubmerged inlet control 0 equation below T1 elevation.
Use submerged inlet control 0 equation above T2 elevation

In transition zone between unsubmerged and submerged inlet control,
interpolate between flows at T1 & T2...

T1 Elevation	1,218.97 ft	T1 Flow	27.16 ft³/s
T2 Elevation	1,219.22 ft	T2 Flow	31.05 ft³/s

Existing Pond Redesign- Interconnected Ponds

Subsection: Outlet Input Data

Return Event: 10 years

Label: CULVERS UNDER MACY EX

Storm Event: IDF Curve Equation - 1 - 10 Year

Scenario: Post-Development 10 YEAR

Requested Pond Water Surface Elevations	
Minimum (Headwater)	1,216.12 ft
Increment (Headwater)	0.50 ft
Maximum (Headwater)	1,220.00 ft

Outlet Connectivity

Structure Type	Outlet ID	Direction	Outfall	E1 (ft)	E2 (ft)
Culvert-Circular	Culvert - 1	Forward + Reverse	TW	1,216.12	1,220.00
Culvert-Circular	Culvert - 2	Forward + Reverse	TW	1,216.23	1,220.00
Tailwater Settings	Tailwater			(N/A)	(N/A)

Existing Pond Redesign- Interconnected Ponds

Subsection: Outlet Input Data
Return Event: 10 years

Label: CULVERS UNDER MACY EX
Storm Event: IDF Curve Equation - 1 - 10 Year

Scenario: Post-Development 10 YEAR

Structure ID: Culvert - 1 Structure Type: Culvert-Circular	
Number of Barrels	1
Diameter	30.0 in
Length	80.34 ft
Length (Computed Barrel)	80.34 ft
Slope (Computed)	-0.005 ft/ft

Outlet Control Data	
Manning's n	0.024
Ke	0.200
Kb	0.031
Kr	0.000
Convergence Tolerance	0.00 ft

Inlet Control Data	
Equation Form	Form 1
K	0.0045
M	2.0000
C	0.0317
Y	0.6900
T1 ratio (HW/D)	1.098
T2 ratio (HW/D)	1.200
Slope Correction Factor	-0.500

Use unsubmerged inlet control 0 equation below T1 elevation.
Use submerged inlet control 0 equation above T2 elevation

In transition zone between unsubmerged and submerged inlet control,
interpolate between flows at T1 & T2...

T1 Elevation	1,218.86 ft	T1 Flow	27.16 ft³/s
T2 Elevation	1,219.12 ft	T2 Flow	31.05 ft³/s

Existing Pond Redesign- Interconnected Ponds

Subsection: Outlet Input Data

Return Event: 10 years

Label: CULVERS UNDER MACY EX

Storm Event: IDF Curve Equation - 1 - 10 Year

Scenario: Post-Development 10 YEAR

Structure ID: Culvert - 2 Structure Type: Culvert-Circular	
Number of Barrels	1
Diameter	30.0 in
Length	80.34 ft
Length (Computed Barrel)	80.34 ft
Slope (Computed)	0.001 ft/ft

Outlet Control Data	
Manning's n	0.024
Ke	0.200
Kb	0.031
Kr	0.000
Convergence Tolerance	0.00 ft

Inlet Control Data	
Equation Form	Form 1
K	0.0045
M	2.0000
C	0.0317
Y	0.6900
T1 ratio (HW/D)	1.095
T2 ratio (HW/D)	1.197
Slope Correction Factor	-0.500

Use unsubmerged inlet control 0 equation below T1 elevation.
Use submerged inlet control 0 equation above T2 elevation

In transition zone between unsubmerged and submerged inlet control,
interpolate between flows at T1 & T2...

T1 Elevation	1,218.97 ft	T1 Flow	27.16 ft³/s
T2 Elevation	1,219.22 ft	T2 Flow	31.05 ft³/s

Existing Pond Redesign- Interconnected Ponds

Subsection: Outlet Input Data

Return Event: 25 years

Label: CULVERS UNDER MACY EX

Storm Event: IDF Curve Equation - 1 - 25 Year

Scenario: Post-Development 25 YEAR

Requested Pond Water Surface Elevations	
Minimum (Headwater)	1,216.12 ft
Increment (Headwater)	0.50 ft
Maximum (Headwater)	1,220.00 ft

Outlet Connectivity

Structure Type	Outlet ID	Direction	Outfall	E1 (ft)	E2 (ft)
Culvert-Circular	Culvert - 1	Forward + Reverse	TW	1,216.12	1,220.00
Culvert-Circular	Culvert - 2	Forward + Reverse	TW	1,216.23	1,220.00
Tailwater Settings	Tailwater			(N/A)	(N/A)

Existing Pond Redesign- Interconnected Ponds

Subsection: Outlet Input Data
Return Event: 25 years

Label: CULVERS UNDER MACY EX
Storm Event: IDF Curve Equation - 1 - 25 Year

Scenario: Post-Development 25 YEAR

Structure ID: Culvert - 1 Structure Type: Culvert-Circular	
Number of Barrels	1
Diameter	30.0 in
Length	80.34 ft
Length (Computed Barrel)	80.34 ft
Slope (Computed)	-0.005 ft/ft

Outlet Control Data	
Manning's n	0.024
Ke	0.200
Kb	0.031
Kr	0.000
Convergence Tolerance	0.00 ft

Inlet Control Data	
Equation Form	Form 1
K	0.0045
M	2.0000
C	0.0317
Y	0.6900
T1 ratio (HW/D)	1.098
T2 ratio (HW/D)	1.200
Slope Correction Factor	-0.500

Use unsubmerged inlet control 0 equation below T1 elevation.
Use submerged inlet control 0 equation above T2 elevation

In transition zone between unsubmerged and submerged inlet control,
interpolate between flows at T1 & T2...

T1 Elevation	1,218.86 ft	T1 Flow	27.16 ft³/s
T2 Elevation	1,219.12 ft	T2 Flow	31.05 ft³/s

Existing Pond Redesign- Interconnected Ponds

Subsection: Outlet Input Data
Return Event: 25 years

Label: CULVERS UNDER MACY EX
Storm Event: IDF Curve Equation - 1 - 25 Year

Scenario: Post-Development 25 YEAR

Structure ID: Culvert - 2 Structure Type: Culvert-Circular	
Number of Barrels	1
Diameter	30.0 in
Length	80.34 ft
Length (Computed Barrel)	80.34 ft
Slope (Computed)	0.001 ft/ft

Outlet Control Data	
Manning's n	0.024
Ke	0.200
Kb	0.031
Kr	0.000
Convergence Tolerance	0.00 ft

Inlet Control Data	
Equation Form	Form 1
K	0.0045
M	2.0000
C	0.0317
Y	0.6900
T1 ratio (HW/D)	1.095
T2 ratio (HW/D)	1.197
Slope Correction Factor	-0.500

Use unsubmerged inlet control 0 equation below T1 elevation.
Use submerged inlet control 0 equation above T2 elevation

In transition zone between unsubmerged and submerged inlet control,
interpolate between flows at T1 & T2...

T1 Elevation	1,218.97 ft	T1 Flow	27.16 ft³/s
T2 Elevation	1,219.22 ft	T2 Flow	31.05 ft³/s

Existing Pond Redesign- Interconnected Ponds

Subsection: Outlet Input Data

Return Event: 50 years

Label: CULVERS UNDER MACY EX

Storm Event: IDF Curve Equation - 1 - 50 Year

Scenario: Post-Development 50 YEAR

Requested Pond Water Surface Elevations	
Minimum (Headwater)	1,216.12 ft
Increment (Headwater)	0.50 ft
Maximum (Headwater)	1,220.00 ft

Outlet Connectivity

Structure Type	Outlet ID	Direction	Outfall	E1 (ft)	E2 (ft)
Culvert-Circular	Culvert - 1	Forward + Reverse	TW	1,216.12	1,220.00
Culvert-Circular	Culvert - 2	Forward + Reverse	TW	1,216.23	1,220.00
Tailwater Settings	Tailwater			(N/A)	(N/A)

Existing Pond Redesign- Interconnected Ponds

Subsection: Outlet Input Data
Return Event: 50 years

Label: CULVERS UNDER MACY EX
Storm Event: IDF Curve Equation - 1 - 50 Year

Scenario: Post-Development 50 YEAR

Structure ID: Culvert - 1 Structure Type: Culvert-Circular	
Number of Barrels	1
Diameter	30.0 in
Length	80.34 ft
Length (Computed Barrel)	80.34 ft
Slope (Computed)	-0.005 ft/ft

Outlet Control Data	
Manning's n	0.024
Ke	0.200
Kb	0.031
Kr	0.000
Convergence Tolerance	0.00 ft

Inlet Control Data	
Equation Form	Form 1
K	0.0045
M	2.0000
C	0.0317
Y	0.6900
T1 ratio (HW/D)	1.098
T2 ratio (HW/D)	1.200
Slope Correction Factor	-0.500

Use unsubmerged inlet control 0 equation below T1 elevation.
Use submerged inlet control 0 equation above T2 elevation

In transition zone between unsubmerged and submerged inlet control,
interpolate between flows at T1 & T2...

T1 Elevation	1,218.86 ft	T1 Flow	27.16 ft³/s
T2 Elevation	1,219.12 ft	T2 Flow	31.05 ft³/s

Existing Pond Redesign- Interconnected Ponds

Subsection: Outlet Input Data
Return Event: 50 years

Label: CULVERS UNDER MACY EX
Storm Event: IDF Curve Equation - 1 - 50 Year

Scenario: Post-Development 50 YEAR

Structure ID: Culvert - 2 Structure Type: Culvert-Circular	
Number of Barrels	1
Diameter	30.0 in
Length	80.34 ft
Length (Computed Barrel)	80.34 ft
Slope (Computed)	0.001 ft/ft

Outlet Control Data	
Manning's n	0.024
Ke	0.200
Kb	0.031
Kr	0.000
Convergence Tolerance	0.00 ft

Inlet Control Data	
Equation Form	Form 1
K	0.0045
M	2.0000
C	0.0317
Y	0.6900
T1 ratio (HW/D)	1.095
T2 ratio (HW/D)	1.197
Slope Correction Factor	-0.500

Use unsubmerged inlet control 0 equation below T1 elevation.
Use submerged inlet control 0 equation above T2 elevation

In transition zone between unsubmerged and submerged inlet control,
interpolate between flows at T1 & T2...

T1 Elevation	1,218.97 ft	T1 Flow	27.16 ft³/s
T2 Elevation	1,219.22 ft	T2 Flow	31.05 ft³/s

Existing Pond Redesign- Interconnected Ponds

Subsection: Outlet Input Data

Return Event: 100 years

Label: CULVERS UNDER MACY EX

Storm Event: IDF Curve Equation - 1 - 100 Year

Scenario: Post-Development 100 YEAR

Requested Pond Water Surface Elevations	
Minimum (Headwater)	1,216.12 ft
Increment (Headwater)	0.50 ft
Maximum (Headwater)	1,220.00 ft

Outlet Connectivity

Structure Type	Outlet ID	Direction	Outfall	E1 (ft)	E2 (ft)
Culvert-Circular	Culvert - 1	Forward + Reverse	TW	1,216.12	1,220.00
Culvert-Circular	Culvert - 2	Forward + Reverse	TW	1,216.23	1,220.00
Tailwater Settings	Tailwater			(N/A)	(N/A)

Existing Pond Redesign- Interconnected Ponds

Subsection: Outlet Input Data
Return Event: 100 years

Label: CULVERS UNDER MACY EX
Storm Event: IDF Curve Equation - 1 - 100 Year

Scenario: Post-Development 100 YEAR

Structure ID: Culvert - 1 Structure Type: Culvert-Circular	
Number of Barrels	1
Diameter	30.0 in
Length	80.34 ft
Length (Computed Barrel)	80.34 ft
Slope (Computed)	-0.005 ft/ft

Outlet Control Data	
Manning's n	0.024
Ke	0.200
Kb	0.031
Kr	0.000
Convergence Tolerance	0.00 ft

Inlet Control Data	
Equation Form	Form 1
K	0.0045
M	2.0000
C	0.0317
Y	0.6900
T1 ratio (HW/D)	1.098
T2 ratio (HW/D)	1.200
Slope Correction Factor	-0.500

Use unsubmerged inlet control 0 equation below T1 elevation.
Use submerged inlet control 0 equation above T2 elevation

In transition zone between unsubmerged and submerged inlet control,
interpolate between flows at T1 & T2...

T1 Elevation	1,218.86 ft	T1 Flow	27.16 ft³/s
T2 Elevation	1,219.12 ft	T2 Flow	31.05 ft³/s

Existing Pond Redesign- Interconnected Ponds

Subsection: Outlet Input Data
Return Event: 100 years

Label: CULVERS UNDER MACY EX
Storm Event: IDF Curve Equation - 1 - 100 Year

Scenario: Post-Development 100 YEAR

Structure ID: Culvert - 2 Structure Type: Culvert-Circular	
Number of Barrels	1
Diameter	30.0 in
Length	80.34 ft
Length (Computed Barrel)	80.34 ft
Slope (Computed)	0.001 ft/ft

Outlet Control Data	
Manning's n	0.024
Ke	0.200
Kb	0.031
Kr	0.000
Convergence Tolerance	0.00 ft

Inlet Control Data	
Equation Form	Form 1
K	0.0045
M	2.0000
C	0.0317
Y	0.6900
T1 ratio (HW/D)	1.095
T2 ratio (HW/D)	1.197
Slope Correction Factor	-0.500

Use unsubmerged inlet control 0 equation below T1 elevation.
Use submerged inlet control 0 equation above T2 elevation

In transition zone between unsubmerged and submerged inlet control,
interpolate between flows at T1 & T2...

T1 Elevation	1,218.97 ft	T1 Flow	27.16 ft³/s
T2 Elevation	1,219.22 ft	T2 Flow	31.05 ft³/s

Existing Pond Redesign- Interconnected Ponds

Subsection: Outlet Input Data
Label: CULVERT
Scenario: Post-Development 2 YEAR

Return Event: 2 years
Storm Event: IDF Curve Equation - 1 - 2 Year

Requested Pond Water Surface Elevations	
Minimum (Headwater)	1,215.60 ft
Increment (Headwater)	0.50 ft
Maximum (Headwater)	1,220.00 ft

Outlet Connectivity

Structure Type	Outlet ID	Direction	Outfall	E1 (ft)	E2 (ft)
Culvert-Circular	Culvert-1	Forward + Reverse	TW	1,215.60	1,220.00
Tailwater Settings	Tailwater			(N/A)	(N/A)

Existing Pond Redesign- Interconnected Ponds

Subsection: Outlet Input Data — Return Event: 2 years

Label: CULVERT — Storm Event: IDF Curve Equation - 1 - 2 Year

Scenario: Post-Development 2 YEAR

Structure ID: Culvert-1 Structure Type: Culvert-Circular	
Number of Barrels	2
Diameter	36.0 in
Length	60.00 ft
Length (Computed Barrel)	60.00 ft
Slope (Computed)	0.005 ft/ft

Outlet Control Data	
Manning's n	0.013
Ke	0.200
Kb	0.007
Kr	0.000
Convergence Tolerance	0.00 ft

Inlet Control Data	
Equation Form	Form 1
K	0.0045
M	2.0000
C	0.0317
Y	0.6900
T1 ratio (HW/D)	1.093
T2 ratio (HW/D)	1.195
Slope Correction Factor	-0.500

Use unsubmerged inlet control 0 equation below T1 elevation.
Use submerged inlet control 0 equation above T2 elevation

In transition zone between unsubmerged and submerged inlet control,
interpolate between flows at T1 & T2...

T1 Elevation	1,218.88 ft	T1 Flow	42.85 ft³/s
T2 Elevation	1,219.19 ft	T2 Flow	48.97 ft³/s

Existing Pond Redesign- Interconnected Ponds

Subsection: Outlet Input Data
Return Event: 5 years
Label: CULVERT
Storm Event: IDF Curve Equation - 1 - 5 Year
Scenario: Post-Development 5 YEAR

Requested Pond Water Surface Elevations	
Minimum (Headwater)	1,215.60 ft
Increment (Headwater)	0.50 ft
Maximum (Headwater)	1,220.00 ft

Outlet Connectivity

Structure Type	Outlet ID	Direction	Outfall	E1 (ft)	E2 (ft)
Culvert-Circular	Culvert-1	Forward + Reverse	TW	1,215.60	1,220.00
Tailwater Settings	Tailwater			(N/A)	(N/A)

Existing Pond Redesign- Interconnected Ponds

Subsection: Outlet Input Data
Return Event: 5 years
Label: CULVERT
Storm Event: IDF Curve Equation - 1 - 5 Year
Scenario: Post-Development 5 YEAR

Structure ID: Culvert-1 Structure Type: Culvert-Circular	
Number of Barrels	2
Diameter	36.0 in
Length	60.00 ft
Length (Computed Barrel)	60.00 ft
Slope (Computed)	0.005 ft/ft

Outlet Control Data	
Manning's n	0.013
Ke	0.200
Kb	0.007
Kr	0.000
Convergence Tolerance	0.00 ft

Inlet Control Data	
Equation Form	Form 1
K	0.0045
M	2.0000
C	0.0317
Y	0.6900
T1 ratio (HW/D)	1.093
T2 ratio (HW/D)	1.195
Slope Correction Factor	-0.500

Use unsubmerged inlet control 0 equation below T1 elevation.
Use submerged inlet control 0 equation above T2 elevation

In transition zone between unsubmerged and submerged inlet control,
interpolate between flows at T1 & T2...

T1 Elevation	1,218.88 ft	T1 Flow	42.85 ft³/s
T2 Elevation	1,219.19 ft	T2 Flow	48.97 ft³/s

Existing Pond Redesign- Interconnected Ponds

Subsection: Outlet Input Data

Return Event: 10 years

Label: CULVERT

Storm Event: IDF Curve Equation - 1 - 10 Year

Scenario: Post-Development 10 YEAR

Requested Pond Water Surface Elevations	
Minimum (Headwater)	1,215.60 ft
Increment (Headwater)	0.50 ft
Maximum (Headwater)	1,220.00 ft

Outlet Connectivity

Structure Type	Outlet ID	Direction	Outfall	E1 (ft)	E2 (ft)
Culvert-Circular	Culvert-1	Forward + Reverse	TW	1,215.60	1,220.00
Tailwater Settings	Tailwater			(N/A)	(N/A)

Existing Pond Redesign- Interconnected Ponds

Subsection: Outlet Input Data
Return Event: 10 years

Label: CULVERT
Storm Event: IDF Curve Equation - 1 - 10 Year

Scenario: Post-Development 10 YEAR

Structure ID: Culvert-1 Structure Type: Culvert-Circular	
Number of Barrels	2
Diameter	36.0 in
Length	60.00 ft
Length (Computed Barrel)	60.00 ft
Slope (Computed)	0.005 ft/ft

Outlet Control Data	
Manning's n	0.013
Ke	0.200
Kb	0.007
Kr	0.000
Convergence Tolerance	0.00 ft

Inlet Control Data	
Equation Form	Form 1
K	0.0045
M	2.0000
C	0.0317
Y	0.6900
T1 ratio (HW/D)	1.093
T2 ratio (HW/D)	1.195
Slope Correction Factor	-0.500

Use unsubmerged inlet control 0 equation below T1 elevation.
Use submerged inlet control 0 equation above T2 elevation

In transition zone between unsubmerged and submerged inlet control,
interpolate between flows at T1 & T2...

T1 Elevation	1,218.88 ft	T1 Flow	42.85 ft³/s
T2 Elevation	1,219.19 ft	T2 Flow	48.97 ft³/s

Existing Pond Redesign- Interconnected Ponds

Subsection: Outlet Input Data

Return Event: 25 years

Label: CULVERT

Storm Event: IDF Curve Equation - 1 - 25 Year

Scenario: Post-Development 25 YEAR

Requested Pond Water Surface Elevations	
Minimum (Headwater)	1,215.60 ft
Increment (Headwater)	0.50 ft
Maximum (Headwater)	1,220.00 ft

Outlet Connectivity

Structure Type	Outlet ID	Direction	Outfall	E1 (ft)	E2 (ft)
Culvert-Circular	Culvert-1	Forward + Reverse	TW	1,215.60	1,220.00
Tailwater Settings	Tailwater			(N/A)	(N/A)

Existing Pond Redesign- Interconnected Ponds

Subsection: Outlet Input Data
Return Event: 25 years

Label: CULVERT
Storm Event: IDF Curve Equation - 1 - 25 Year

Scenario: Post-Development 25 YEAR

Structure ID: Culvert-1 Structure Type: Culvert-Circular	
Number of Barrels	2
Diameter	36.0 in
Length	60.00 ft
Length (Computed Barrel)	60.00 ft
Slope (Computed)	0.005 ft/ft

Outlet Control Data	
Manning's n	0.013
Ke	0.200
Kb	0.007
Kr	0.000
Convergence Tolerance	0.00 ft

Inlet Control Data	
Equation Form	Form 1
K	0.0045
M	2.0000
C	0.0317
Y	0.6900
T1 ratio (HW/D)	1.093
T2 ratio (HW/D)	1.195
Slope Correction Factor	-0.500

Use unsubmerged inlet control 0 equation below T1 elevation.
Use submerged inlet control 0 equation above T2 elevation

In transition zone between unsubmerged and submerged inlet control,
interpolate between flows at T1 & T2...

T1 Elevation	1,218.88 ft	T1 Flow	42.85 ft³/s
T2 Elevation	1,219.19 ft	T2 Flow	48.97 ft³/s

Existing Pond Redesign- Interconnected Ponds

Subsection: Outlet Input Data

Return Event: 50 years

Label: CULVERT

Storm Event: IDF Curve Equation - 1 - 50 Year

Scenario: Post-Development 50 YEAR

Requested Pond Water Surface Elevations	
Minimum (Headwater)	1,215.60 ft
Increment (Headwater)	0.50 ft
Maximum (Headwater)	1,220.00 ft

Outlet Connectivity

Structure Type	Outlet ID	Direction	Outfall	E1 (ft)	E2 (ft)
Culvert-Circular	Culvert-1	Forward + Reverse	TW	1,215.60	1,220.00
Tailwater Settings	Tailwater			(N/A)	(N/A)

Existing Pond Redesign- Interconnected Ponds

Subsection: Outlet Input Data
Return Event: 50 years

Label: CULVERT
Storm Event: IDF Curve Equation - 1 - 50 Year

Scenario: Post-Development 50 YEAR

Structure ID: Culvert-1 Structure Type: Culvert-Circular	
Number of Barrels	2
Diameter	36.0 in
Length	60.00 ft
Length (Computed Barrel)	60.00 ft
Slope (Computed)	0.005 ft/ft

Outlet Control Data	
Manning's n	0.013
Ke	0.200
Kb	0.007
Kr	0.000
Convergence Tolerance	0.00 ft

Inlet Control Data	
Equation Form	Form 1
K	0.0045
M	2.0000
C	0.0317
Y	0.6900
T1 ratio (HW/D)	1.093
T2 ratio (HW/D)	1.195
Slope Correction Factor	-0.500

Use unsubmerged inlet control 0 equation below T1 elevation.
Use submerged inlet control 0 equation above T2 elevation

In transition zone between unsubmerged and submerged inlet control,
interpolate between flows at T1 & T2...

T1 Elevation	1,218.88 ft	T1 Flow	42.85 ft³/s
T2 Elevation	1,219.19 ft	T2 Flow	48.97 ft³/s

Existing Pond Redesign- Interconnected Ponds

Subsection: Outlet Input Data

Return Event: 100 years

Label: CULVERT

Storm Event: IDF Curve Equation - 1 - 100 Year

Scenario: Post-Development 100 YEAR

Requested Pond Water Surface Elevations	
Minimum (Headwater)	1,215.60 ft
Increment (Headwater)	0.50 ft
Maximum (Headwater)	1,220.00 ft

Outlet Connectivity

Structure Type	Outlet ID	Direction	Outfall	E1 (ft)	E2 (ft)
Culvert-Circular	Culvert-1	Forward + Reverse	TW	1,215.60	1,220.00
Tailwater Settings	Tailwater			(N/A)	(N/A)

Existing Pond Redesign- Interconnected Ponds

Subsection: Outlet Input Data
Return Event: 100 years

Label: CULVERT
Storm Event: IDF Curve Equation - 1 - 100 Year

Scenario: Post-Development 100 YEAR

Structure ID: Culvert-1 Structure Type: Culvert-Circular	
Number of Barrels	2
Diameter	36.0 in
Length	60.00 ft
Length (Computed Barrel)	60.00 ft
Slope (Computed)	0.005 ft/ft

Outlet Control Data	
Manning's n	0.013
Ke	0.200
Kb	0.007
Kr	0.000
Convergence Tolerance	0.00 ft

Inlet Control Data	
Equation Form	Form 1
K	0.0045
M	2.0000
C	0.0317
Y	0.6900
T1 ratio (HW/D)	1.093
T2 ratio (HW/D)	1.195
Slope Correction Factor	-0.500

Use unsubmerged inlet control 0 equation below T1 elevation.
Use submerged inlet control 0 equation above T2 elevation

In transition zone between unsubmerged and submerged inlet control,
interpolate between flows at T1 & T2...

T1 Elevation	1,218.88 ft	T1 Flow	42.85 ft³/s
T2 Elevation	1,219.19 ft	T2 Flow	48.97 ft³/s

Existing Pond Redesign- Interconnected Ponds

Subsection: Outlet Input Data
Return Event: 2 years
Label: EX CULVERTS UNDER MACY LN
Storm Event: IDF Curve Equation - 1 - 2 Year
Scenario: Post-Development 2 YEAR

Requested Pond Water Surface Elevations	
Minimum (Headwater)	1,216.12 ft
Increment (Headwater)	0.50 ft
Maximum (Headwater)	1,220.00 ft

Outlet Connectivity

Structure Type	Outlet ID	Direction	Outfall	E1 (ft)	E2 (ft)
Culvert-Circular	Culvert - 2	Forward + Reverse	TW	1,216.12	1,220.30
Culvert-Circular	Culvert - 1	Forward + Reverse	TW	1,216.23	1,220.30
Tailwater Settings	Tailwater			(N/A)	(N/A)

Existing Pond Redesign- Interconnected Ponds

Subsection: Outlet Input Data — Return Event: 2 years

Label: EX CULVERTS UNDER MACY LN — Storm Event: IDF Curve Equation - 1 - 2 Year

Scenario: Post-Development 2 YEAR

Structure ID: Culvert - 1 Structure Type: Culvert-Circular	
Number of Barrels	1
Diameter	30.0 in
Length	80.34 ft
Length (Computed Barrel)	80.34 ft
Slope (Computed)	0.001 ft/ft

Outlet Control Data	
Manning's n	0.024
Ke	0.200
Kb	0.031
Kr	0.000
Convergence Tolerance	0.00 ft

Inlet Control Data	
Equation Form	Form 1
K	0.0045
M	2.0000
C	0.0317
Y	0.6900
T1 ratio (HW/D)	1.095
T2 ratio (HW/D)	1.197
Slope Correction Factor	-0.500

Use unsubmerged inlet control 0 equation below T1 elevation.
Use submerged inlet control 0 equation above T2 elevation

In transition zone between unsubmerged and submerged inlet control,
interpolate between flows at T1 & T2...

T1 Elevation	1,218.97 ft	T1 Flow	27.16 ft³/s
T2 Elevation	1,219.22 ft	T2 Flow	31.05 ft³/s

Existing Pond Redesign- Interconnected Ponds

Subsection: Outlet Input Data — Return Event: 2 years
Label: EX CULVERTS UNDER MACY LN — Storm Event: IDF Curve Equation - 1 - 2 Year
Scenario: Post-Development 2 YEAR

Structure ID: Culvert - 2 Structure Type: Culvert-Circular	
Number of Barrels	1
Diameter	30.0 in
Length	80.34 ft
Length (Computed Barrel)	80.34 ft
Slope (Computed)	-0.005 ft/ft

Outlet Control Data	
Manning's n	0.024
Ke	0.200
Kb	0.031
Kr	0.000
Convergence Tolerance	0.00 ft

Inlet Control Data	
Equation Form	Form 1
K	0.0045
M	2.0000
C	0.0317
Y	0.6900
T1 ratio (HW/D)	1.098
T2 ratio (HW/D)	1.200
Slope Correction Factor	-0.500

Use unsubmerged inlet control 0 equation below T1 elevation.
Use submerged inlet control 0 equation above T2 elevation

In transition zone between unsubmerged and submerged inlet control,
interpolate between flows at T1 & T2...

T1 Elevation	1,218.86 ft	T1 Flow	27.16 ft³/s
T2 Elevation	1,219.12 ft	T2 Flow	31.05 ft³/s

Existing Pond Redesign- Interconnected Ponds

Subsection: Outlet Input Data
Return Event: 5 years
Label: EX CULVERTS UNDER MACY LN
Storm Event: IDF Curve Equation - 1 - 5 Year
Scenario: Post-Development 5 YEAR

Requested Pond Water Surface Elevations	
Minimum (Headwater)	1,216.12 ft
Increment (Headwater)	0.50 ft
Maximum (Headwater)	1,220.00 ft

Outlet Connectivity

Structure Type	Outlet ID	Direction	Outfall	E1 (ft)	E2 (ft)
Culvert-Circular	Culvert - 2	Forward + Reverse	TW	1,216.12	1,220.30
Culvert-Circular	Culvert - 1	Forward + Reverse	TW	1,216.23	1,220.30
Tailwater Settings	Tailwater			(N/A)	(N/A)

Existing Pond Redesign- Interconnected Ponds

Subsection: Outlet Input Data — Return Event: 5 years

Label: EX CULVERTS UNDER MACY LN — Storm Event: IDF Curve Equation - 1 - 5 Year

Scenario: Post-Development 5 YEAR

Structure ID: Culvert - 1 Structure Type: Culvert-Circular	
Number of Barrels	1
Diameter	30.0 in
Length	80.34 ft
Length (Computed Barrel)	80.34 ft
Slope (Computed)	0.001 ft/ft

Outlet Control Data	
Manning's n	0.024
Ke	0.200
Kb	0.031
Kr	0.000
Convergence Tolerance	0.00 ft

Inlet Control Data	
Equation Form	Form 1
K	0.0045
M	2.0000
C	0.0317
Y	0.6900
T1 ratio (HW/D)	1.095
T2 ratio (HW/D)	1.197
Slope Correction Factor	-0.500

Use unsubmerged inlet control 0 equation below T1 elevation.
Use submerged inlet control 0 equation above T2 elevation

In transition zone between unsubmerged and submerged inlet control,
interpolate between flows at T1 & T2...

T1 Elevation	1,218.97 ft	T1 Flow	27.16 ft³/s
T2 Elevation	1,219.22 ft	T2 Flow	31.05 ft³/s

Existing Pond Redesign- Interconnected Ponds

Subsection: Outlet Input Data — Return Event: 5 years
Label: EX CULVERTS UNDER MACY LN — Storm Event: IDF Curve Equation - 1 - 5 Year
Scenario: Post-Development 5 YEAR

Structure ID: Culvert - 2 Structure Type: Culvert-Circular	
Number of Barrels	1
Diameter	30.0 in
Length	80.34 ft
Length (Computed Barrel)	80.34 ft
Slope (Computed)	-0.005 ft/ft

Outlet Control Data	
Manning's n	0.024
Ke	0.200
Kb	0.031
Kr	0.000
Convergence Tolerance	0.00 ft

Inlet Control Data	
Equation Form	Form 1
K	0.0045
M	2.0000
C	0.0317
Y	0.6900
T1 ratio (HW/D)	1.098
T2 ratio (HW/D)	1.200
Slope Correction Factor	-0.500

Use unsubmerged inlet control 0 equation below T1 elevation.
Use submerged inlet control 0 equation above T2 elevation

In transition zone between unsubmerged and submerged inlet control,
interpolate between flows at T1 & T2...

T1 Elevation	1,218.86 ft	T1 Flow	27.16 ft³/s
T2 Elevation	1,219.12 ft	T2 Flow	31.05 ft³/s

Existing Pond Redesign- Interconnected Ponds

Subsection: Outlet Input Data

Return Event: 10 years

Label: EX CULVERTS UNDER MACY LN

Storm Event: IDF Curve Equation - 1 - 10 Year

Scenario: Post-Development 10 YEAR

Requested Pond Water Surface Elevations	
Minimum (Headwater)	1,216.12 ft
Increment (Headwater)	0.50 ft
Maximum (Headwater)	1,220.00 ft

Outlet Connectivity

Structure Type	Outlet ID	Direction	Outfall	E1 (ft)	E2 (ft)
Culvert-Circular	Culvert - 2	Forward + Reverse	TW	1,216.12	1,220.30
Culvert-Circular	Culvert - 1	Forward + Reverse	TW	1,216.23	1,220.30
Tailwater Settings	Tailwater			(N/A)	(N/A)

Existing Pond Redesign- Interconnected Ponds

Subsection: Outlet Input Data
Return Event: 10 years

Label: EX CULVERTS UNDER MACY LN
Storm Event: IDF Curve Equation - 1 - 10 Year

Scenario: Post-Development 10 YEAR

Structure ID: Culvert - 1 Structure Type: Culvert-Circular	
Number of Barrels	1
Diameter	30.0 in
Length	80.34 ft
Length (Computed Barrel)	80.34 ft
Slope (Computed)	0.001 ft/ft

Outlet Control Data	
Manning's n	0.024
Ke	0.200
Kb	0.031
Kr	0.000
Convergence Tolerance	0.00 ft

Inlet Control Data	
Equation Form	Form 1
K	0.0045
M	2.0000
C	0.0317
Y	0.6900
T1 ratio (HW/D)	1.095
T2 ratio (HW/D)	1.197
Slope Correction Factor	-0.500

Use unsubmerged inlet control 0 equation below T1 elevation.
Use submerged inlet control 0 equation above T2 elevation

In transition zone between unsubmerged and submerged inlet control,
interpolate between flows at T1 & T2...

T1 Elevation	1,218.97 ft	T1 Flow	27.16 ft³/s
T2 Elevation	1,219.22 ft	T2 Flow	31.05 ft³/s

Existing Pond Redesign- Interconnected Ponds

Subsection: Outlet Input Data
Return Event: 10 years

Label: EX CULVERTS UNDER MACY LN
Storm Event: IDF Curve Equation - 1 - 10 Year

Scenario: Post-Development 10 YEAR

Structure ID: Culvert - 2 Structure Type: Culvert-Circular	
Number of Barrels	1
Diameter	30.0 in
Length	80.34 ft
Length (Computed Barrel)	80.34 ft
Slope (Computed)	-0.005 ft/ft

Outlet Control Data	
Manning's n	0.024
Ke	0.200
Kb	0.031
Kr	0.000
Convergence Tolerance	0.00 ft

Inlet Control Data	
Equation Form	Form 1
K	0.0045
M	2.0000
C	0.0317
Y	0.6900
T1 ratio (HW/D)	1.098
T2 ratio (HW/D)	1.200
Slope Correction Factor	-0.500

Use unsubmerged inlet control 0 equation below T1 elevation.
Use submerged inlet control 0 equation above T2 elevation

In transition zone between unsubmerged and submerged inlet control,
interpolate between flows at T1 & T2...

T1 Elevation	1,218.86 ft	T1 Flow	27.16 ft³/s
T2 Elevation	1,219.12 ft	T2 Flow	31.05 ft³/s

Existing Pond Redesign- Interconnected Ponds

Subsection: Outlet Input Data

Return Event: 25 years

Label: EX CULVERTS UNDER MACY LN

Storm Event: IDF Curve Equation - 1 - 25 Year

Scenario: Post-Development 25 YEAR

Requested Pond Water Surface Elevations	
Minimum (Headwater)	1,216.12 ft
Increment (Headwater)	0.50 ft
Maximum (Headwater)	1,220.00 ft

Outlet Connectivity

Structure Type	Outlet ID	Direction	Outfall	E1 (ft)	E2 (ft)
Culvert-Circular	Culvert - 2	Forward + Reverse	TW	1,216.12	1,220.30
Culvert-Circular	Culvert - 1	Forward + Reverse	TW	1,216.23	1,220.30
Tailwater Settings	Tailwater			(N/A)	(N/A)

Existing Pond Redesign- Interconnected Ponds

Subsection: Outlet Input Data
Return Event: 25 years

Label: EX CULVERTS UNDER MACY LN
Storm Event: IDF Curve Equation - 1 - 25 Year

Scenario: Post-Development 25 YEAR

Structure ID: Culvert - 1 Structure Type: Culvert-Circular	
Number of Barrels	1
Diameter	30.0 in
Length	80.34 ft
Length (Computed Barrel)	80.34 ft
Slope (Computed)	0.001 ft/ft

Outlet Control Data	
Manning's n	0.024
Ke	0.200
Kb	0.031
Kr	0.000
Convergence Tolerance	0.00 ft

Inlet Control Data	
Equation Form	Form 1
K	0.0045
M	2.0000
C	0.0317
Y	0.6900
T1 ratio (HW/D)	1.095
T2 ratio (HW/D)	1.197
Slope Correction Factor	-0.500

Use unsubmerged inlet control 0 equation below T1 elevation.
Use submerged inlet control 0 equation above T2 elevation

In transition zone between unsubmerged and submerged inlet control,
interpolate between flows at T1 & T2...

T1 Elevation	1,218.97 ft	T1 Flow	27.16 ft³/s
T2 Elevation	1,219.22 ft	T2 Flow	31.05 ft³/s

Existing Pond Redesign- Interconnected Ponds

Subsection: Outlet Input Data
Return Event: 25 years

Label: EX CULVERTS UNDER MACY LN
Storm Event: IDF Curve Equation - 1 - 25 Year

Scenario: Post-Development 25 YEAR

Structure ID: Culvert - 2 Structure Type: Culvert-Circular	
Number of Barrels	1
Diameter	30.0 in
Length	80.34 ft
Length (Computed Barrel)	80.34 ft
Slope (Computed)	-0.005 ft/ft

Outlet Control Data	
Manning's n	0.024
Ke	0.200
Kb	0.031
Kr	0.000
Convergence Tolerance	0.00 ft

Inlet Control Data	
Equation Form	Form 1
K	0.0045
M	2.0000
C	0.0317
Y	0.6900
T1 ratio (HW/D)	1.098
T2 ratio (HW/D)	1.200
Slope Correction Factor	-0.500

Use unsubmerged inlet control 0 equation below T1 elevation.
Use submerged inlet control 0 equation above T2 elevation

In transition zone between unsubmerged and submerged inlet control,
interpolate between flows at T1 & T2...

T1 Elevation	1,218.86 ft	T1 Flow	27.16 ft³/s
T2 Elevation	1,219.12 ft	T2 Flow	31.05 ft³/s

Existing Pond Redesign- Interconnected Ponds

Subsection: Outlet Input Data

Return Event: 50 years

Label: EX CULVERTS UNDER MACY LN

Storm Event: IDF Curve Equation - 1 - 50 Year

Scenario: Post-Development 50 YEAR

Requested Pond Water Surface Elevations	
Minimum (Headwater)	1,216.12 ft
Increment (Headwater)	0.50 ft
Maximum (Headwater)	1,220.00 ft

Outlet Connectivity

Structure Type	Outlet ID	Direction	Outfall	E1 (ft)	E2 (ft)
Culvert-Circular	Culvert - 2	Forward + Reverse	TW	1,216.12	1,220.30
Culvert-Circular	Culvert - 1	Forward + Reverse	TW	1,216.23	1,220.30
Tailwater Settings	Tailwater			(N/A)	(N/A)

Existing Pond Redesign- Interconnected Ponds

Subsection: Outlet Input Data
Return Event: 50 years

Label: EX CULVERTS UNDER MACY LN
Storm Event: IDF Curve Equation - 1 - 50 Year

Scenario: Post-Development 50 YEAR

Structure ID: Culvert - 1 Structure Type: Culvert-Circular	
Number of Barrels	1
Diameter	30.0 in
Length	80.34 ft
Length (Computed Barrel)	80.34 ft
Slope (Computed)	0.001 ft/ft

Outlet Control Data	
Manning's n	0.024
Ke	0.200
Kb	0.031
Kr	0.000
Convergence Tolerance	0.00 ft

Inlet Control Data	
Equation Form	Form 1
K	0.0045
M	2.0000
C	0.0317
Y	0.6900
T1 ratio (HW/D)	1.095
T2 ratio (HW/D)	1.197
Slope Correction Factor	-0.500

Use unsubmerged inlet control 0 equation below T1 elevation.
Use submerged inlet control 0 equation above T2 elevation

In transition zone between unsubmerged and submerged inlet control,
interpolate between flows at T1 & T2...

T1 Elevation	1,218.97 ft	T1 Flow	27.16 ft³/s
T2 Elevation	1,219.22 ft	T2 Flow	31.05 ft³/s

Existing Pond Redesign- Interconnected Ponds

Subsection: Outlet Input Data
Return Event: 50 years

Label: EX CULVERTS UNDER MACY LN
Storm Event: IDF Curve Equation - 1 - 50 Year

Scenario: Post-Development 50 YEAR

Structure ID: Culvert - 2 Structure Type: Culvert-Circular	
Number of Barrels	1
Diameter	30.0 in
Length	80.34 ft
Length (Computed Barrel)	80.34 ft
Slope (Computed)	-0.005 ft/ft

Outlet Control Data	
Manning's n	0.024
Ke	0.200
Kb	0.031
Kr	0.000
Convergence Tolerance	0.00 ft

Inlet Control Data	
Equation Form	Form 1
K	0.0045
M	2.0000
C	0.0317
Y	0.6900
T1 ratio (HW/D)	1.098
T2 ratio (HW/D)	1.200
Slope Correction Factor	-0.500

Use unsubmerged inlet control 0 equation below T1 elevation.
Use submerged inlet control 0 equation above T2 elevation

In transition zone between unsubmerged and submerged inlet control,
interpolate between flows at T1 & T2...

T1 Elevation	1,218.86 ft	T1 Flow	27.16 ft³/s
T2 Elevation	1,219.12 ft	T2 Flow	31.05 ft³/s

Existing Pond Redesign- Interconnected Ponds

Subsection: Outlet Input Data

Return Event: 100 years

Label: EX CULVERTS UNDER MACY LN

Storm Event: IDF Curve Equation - 1 - 100 Year

Scenario: Post-Development 100 YEAR

Requested Pond Water Surface Elevations	
Minimum (Headwater)	1,216.12 ft
Increment (Headwater)	0.50 ft
Maximum (Headwater)	1,220.00 ft

Outlet Connectivity

Structure Type	Outlet ID	Direction	Outfall	E1 (ft)	E2 (ft)
Culvert-Circular	Culvert - 2	Forward + Reverse	TW	1,216.12	1,220.30
Culvert-Circular	Culvert - 1	Forward + Reverse	TW	1,216.23	1,220.30
Tailwater Settings	Tailwater			(N/A)	(N/A)

Existing Pond Redesign- Interconnected Ponds

Subsection: Outlet Input Data
Return Event: 100 years

Label: EX CULVERTS UNDER MACY LN
Storm Event: IDF Curve Equation - 1 - 100 Year

Scenario: Post-Development 100 YEAR

Structure ID: Culvert - 1 Structure Type: Culvert-Circular	
Number of Barrels	1
Diameter	30.0 in
Length	80.34 ft
Length (Computed Barrel)	80.34 ft
Slope (Computed)	0.001 ft/ft

Outlet Control Data	
Manning's n	0.024
Ke	0.200
Kb	0.031
Kr	0.000
Convergence Tolerance	0.00 ft

Inlet Control Data	
Equation Form	Form 1
K	0.0045
M	2.0000
C	0.0317
Y	0.6900
T1 ratio (HW/D)	1.095
T2 ratio (HW/D)	1.197
Slope Correction Factor	-0.500

Use unsubmerged inlet control 0 equation below T1 elevation.
Use submerged inlet control 0 equation above T2 elevation

In transition zone between unsubmerged and submerged inlet control,
interpolate between flows at T1 & T2...

T1 Elevation	1,218.97 ft	T1 Flow	27.16 ft³/s
T2 Elevation	1,219.22 ft	T2 Flow	31.05 ft³/s

Existing Pond Redesign- Interconnected Ponds

Subsection: Outlet Input Data
Return Event: 100 years

Label: EX CULVERTS UNDER MACY LN
Storm Event: IDF Curve Equation - 1 - 100 Year

Scenario: Post-Development 100 YEAR

Structure ID: Culvert - 2 Structure Type: Culvert-Circular	
Number of Barrels	1
Diameter	30.0 in
Length	80.34 ft
Length (Computed Barrel)	80.34 ft
Slope (Computed)	-0.005 ft/ft

Outlet Control Data	
Manning's n	0.024
Ke	0.200
Kb	0.031
Kr	0.000
Convergence Tolerance	0.00 ft

Inlet Control Data	
Equation Form	Form 1
K	0.0045
M	2.0000
C	0.0317
Y	0.6900
T1 ratio (HW/D)	1.098
T2 ratio (HW/D)	1.200
Slope Correction Factor	-0.500

Use unsubmerged inlet control 0 equation below T1 elevation.
Use submerged inlet control 0 equation above T2 elevation

In transition zone between unsubmerged and submerged inlet control,
interpolate between flows at T1 & T2...

T1 Elevation	1,218.86 ft	T1 Flow	27.16 ft³/s
T2 Elevation	1,219.12 ft	T2 Flow	31.05 ft³/s

Existing Pond Redesign- Interconnected Ponds

Subsection: Interconnected Pond Routing Summary
Label: DRY POND
Scenario: Post-Development 2 YEAR

Return Event: 2 years
Storm Event: IDF Curve Equation - 1 - 2 Year

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions			Calculation Tolerances		
Elevation (Starting Water Surface Computed)	1,216.12	ft	Flow Tolerance (Minimum)	0.000	ft³/s
Volume (Starting)	0.000	ac-ft	Maximum Iterations	35	
Outflow (Starting)	0.00	ft³/s	ICPM Time Step	0.050	hours

	Maximum Storage		
	Time to Peak (hours)	Elevation (ft)	Volume (ac-ft)
	0.750	1,218.29	0.609

	Forward Flow Peaks		Reverse Flow Peaks	
	Time to Peak (hours)	Flow (Peak) (ft³/s)	Time to Peak (hours)	Flow (Peak) (ft³/s)
Pond Inflow....	0.550	35.60	0.000	0.00
Pond Outflow...	0.750	22.37	0.000	0.00

	Total Volume In		Total Volume Out	
	Volume (ac-ft)	Direction	Volume (ac-ft)	Direction
Pond Inflow....	1.618	Forward	0.000	Reverse
Pond Outflow...	0.000	Reverse	1.520	Forward

Mass Balance (ac-ft)	
Volume (Initial ICPM)	0.000 ac-ft
Volume (Total In ICPM)	1.618 ac-ft
Volume (Total Out ICPM)	1.520 ac-ft
Volume (Ending)	0.097 ac-ft
Elevation (Ending)	1,217.13 ft
Difference	0.001 ac-ft
Percent of Inflow Volume (Interconnected Pond Mass Balance)	0.1 %

Existing Pond Redesign- Interconnected Ponds

Subsection: Interconnected Pond Routing Summary
Label: DRY POND
Scenario: Post-Development 5 YEAR

Return Event: 5 years
Storm Event: IDF Curve Equation - 1 - 5 Year

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions			Calculation Tolerances		
Elevation (Starting Water Surface Computed)	1,216.12	ft	Flow Tolerance (Minimum)	0.000	ft³/s
Volume (Starting)	0.000	ac-ft	Maximum Iterations	35	
Outflow (Starting)	0.00	ft³/s	ICPM Time Step	0.050	hours

	Maximum Storage		
	Time to Peak (hours)	Elevation (ft)	Volume (ac-ft)
	0.750	1,218.53	0.787

	Forward Flow Peaks		Reverse Flow Peaks	
	Time to Peak (hours)	Flow (Peak) (ft³/s)	Time to Peak (hours)	Flow (Peak) (ft³/s)
Pond Inflow....	0.550	44.59	0.000	0.00
Pond Outflow...	0.750	27.25	0.000	0.00

	Total Volume In		Total Volume Out	
	Volume (ac-ft)	Direction	Volume (ac-ft)	Direction
Pond Inflow....	2.027	Forward	0.000	Reverse
Pond Outflow...	0.000	Reverse	1.823	Forward

Mass Balance (ac-ft)	
Volume (Initial ICPM)	0.000 ac-ft
Volume (Total In ICPM)	2.027 ac-ft
Volume (Total Out ICPM)	1.823 ac-ft
Volume (Ending)	0.204 ac-ft
Elevation (Ending)	1,217.44 ft
Difference	0.000 ac-ft
Percent of Inflow Volume (Interconnected Pond Mass Balance)	0.0 %

Existing Pond Redesign- Interconnected Ponds

Subsection: Interconnected Pond Routing Summary

Label: DRY POND

Scenario: Post-Development 10 YEAR

Return Event: 10 years

Storm Event: IDF Curve Equation - 1 - 10 Year

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions			Calculation Tolerances		
Elevation (Starting Water Surface Computed)	1,216.12	ft	Flow Tolerance (Minimum)	0.000	ft³/s
Volume (Starting)	0.000	ac-ft	Maximum Iterations	35	
Outflow (Starting)	0.00	ft³/s	ICPM Time Step	0.050	hours

	Maximum Storage		
	Time to Peak (hours)	Elevation (ft)	Volume (ac-ft)
	0.750	1,218.70	0.914

	Forward Flow Peaks		Reverse Flow Peaks	
	Time to Peak (hours)	Flow (Peak) (ft³/s)	Time to Peak (hours)	Flow (Peak) (ft³/s)
Pond Inflow....	0.550	50.94	0.000	0.00
Pond Outflow...	0.750	30.75	0.000	0.00

	Total Volume In		Total Volume Out	
	Volume (ac-ft)	Direction	Volume (ac-ft)	Direction
Pond Inflow....	2.315	Forward	0.000	Reverse
Pond Outflow...	0.000	Reverse	2.036	Forward

Mass Balance (ac-ft)	
Volume (Initial ICPM)	0.000 ac-ft
Volume (Total In ICPM)	2.315 ac-ft
Volume (Total Out ICPM)	2.036 ac-ft
Volume (Ending)	0.279 ac-ft
Elevation (Ending)	1,217.66 ft
Difference	0.000 ac-ft
Percent of Inflow Volume (Interconnected Pond Mass Balance)	0.0 %

Existing Pond Redesign- Interconnected Ponds

Subsection: Interconnected Pond Routing Summary

Label: DRY POND

Scenario: Post-Development 25 YEAR

Return Event: 25 years

Storm Event: IDF Curve Equation - 1 - 25 Year

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions			Calculation Tolerances		
Elevation (Starting Water Surface Computed)	1,216.12	ft	Flow Tolerance (Minimum)	0.000	ft³/s
Volume (Starting)	0.000	ac-ft	Maximum Iterations	35	
Outflow (Starting)	0.00	ft³/s	ICPM Time Step	0.050	hours

	Maximum Storage		
	Time to Peak (hours)	Elevation (ft)	Volume (ac-ft)
	0.750	1,218.95	1.097

	Forward Flow Peaks		Reverse Flow Peaks	
	Time to Peak (hours)	Flow (Peak) (ft³/s)	Time to Peak (hours)	Flow (Peak) (ft³/s)
Pond Inflow....	0.550	59.90	0.000	0.00
Pond Outflow...	0.750	35.43	0.000	0.00

	Total Volume In		Total Volume Out	
	Volume (ac-ft)	Direction	Volume (ac-ft)	Direction
Pond Inflow....	2.723	Forward	0.000	Reverse
Pond Outflow...	0.000	Reverse	2.337	Forward

Mass Balance (ac-ft)	
Volume (Initial ICPM)	0.000 ac-ft
Volume (Total In ICPM)	2.723 ac-ft
Volume (Total Out ICPM)	2.337 ac-ft
Volume (Ending)	0.386 ac-ft
Elevation (Ending)	1,217.97 ft
Difference	0.000 ac-ft
Percent of Inflow Volume (Interconnected Pond Mass Balance)	0.0 %

Existing Pond Redesign- Interconnected Ponds

Subsection: Interconnected Pond Routing Summary

Return Event: 50 years

Label: DRY POND

Storm Event: IDF Curve Equation - 1 - 50 Year

Scenario: Post-Development 50 YEAR

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions			Calculation Tolerances		
Elevation (Starting Water Surface Computed)	1,216.12	ft	Flow Tolerance (Minimum)	0.000	ft³/s
Volume (Starting)	0.000	ac-ft	Maximum Iterations	35	
Outflow (Starting)	0.00	ft³/s	ICPM Time Step	0.050	hours

	Maximum Storage		
	Time to Peak (hours)	Elevation (ft)	Volume (ac-ft)
	0.750	1,219.11	1.253

	Forward Flow Peaks		Reverse Flow Peaks	
	Time to Peak (hours)	Flow (Peak) (ft³/s)	Time to Peak (hours)	Flow (Peak) (ft³/s)
Pond Inflow....	0.550	66.85	0.000	0.00
Pond Outflow...	0.750	37.89	0.000	0.00

	Total Volume In		Total Volume Out	
	Volume (ac-ft)	Direction	Volume (ac-ft)	Direction
Pond Inflow....	3.039	Forward	0.000	Reverse
Pond Outflow...	0.000	Reverse	2.495	Forward

Mass Balance (ac-ft)	
Volume (Initial ICPM)	0.000 ac-ft
Volume (Total In ICPM)	3.039 ac-ft
Volume (Total Out ICPM)	2.495 ac-ft
Volume (Ending)	0.544 ac-ft
Elevation (Ending)	1,218.20 ft
Difference	0.000 ac-ft
Percent of Inflow Volume (Interconnected Pond Mass Balance)	0.0 %

Existing Pond Redesign- Interconnected Ponds

Subsection: Interconnected Pond Routing Summary

Label: DRY POND

Scenario: Post-Development 100 YEAR

Return Event: 100 years

Storm Event: IDF Curve Equation - 1 - 100 Year

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions			Calculation Tolerances		
Elevation (Starting Water Surface Computed)	1,216.12	ft	Flow Tolerance (Minimum)	0.000	ft³/s
Volume (Starting)	0.000	ac-ft	Maximum Iterations	35	
Outflow (Starting)	0.00	ft³/s	ICPM Time Step	0.050	hours

	Maximum Storage		
	Time to Peak (hours)	Elevation (ft)	Volume (ac-ft)
	0.800	1,219.27	1.436

	Forward Flow Peaks		Reverse Flow Peaks	
	Time to Peak (hours)	Flow (Peak) (ft³/s)	Time to Peak (hours)	Flow (Peak) (ft³/s)
Pond Inflow....	0.550	73.91	0.000	0.00
Pond Outflow...	0.700	39.78	0.000	0.00

	Total Volume In		Total Volume Out	
	Volume (ac-ft)	Direction	Volume (ac-ft)	Direction
Pond Inflow....	3.360	Forward	0.000	Reverse
Pond Outflow...	0.000	Reverse	2.668	Forward

Mass Balance (ac-ft)	
Volume (Initial ICPM)	0.000 ac-ft
Volume (Total In ICPM)	3.360 ac-ft
Volume (Total Out ICPM)	2.668 ac-ft
Volume (Ending)	0.691 ac-ft
Elevation (Ending)	1,218.40 ft
Difference	0.000 ac-ft
Percent of Inflow Volume (Interconnected Pond Mass Balance)	0.0 %

Existing Pond Redesign- Interconnected Ponds

Subsection: Interconnected Pond Routing Summary
Label: POND EX
Scenario: Post-Development 2 YEAR

Return Event: 2 years
Storm Event: IDF Curve Equation - 1 - 2 Year

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions			Calculation Tolerances		
Elevation (Starting Water Surface Computed)	1,215.60	ft	Flow Tolerance (Minimum)	0.000	ft³/s
Volume (Starting)	0.000	ac-ft	Maximum Iterations	35	
Outflow (Starting)	-27.42	ft³/s	ICPM Time Step	0.050	hours

	Maximum Storage		
	Time to Peak (hours)	Elevation (ft)	Volume (ac-ft)
	0.750	1,217.87	0.434

	Forward Flow Peaks		Reverse Flow Peaks	
	Time to Peak (hours)	Flow (Peak) (ft³/s)	Time to Peak (hours)	Flow (Peak) (ft³/s)
Pond Inflow....	0.650	26.86	0.000	0.00
Pond Outflow...	0.750	25.60	0.100	-26.03

	Total Volume In		Total Volume Out	
	Volume (ac-ft)	Direction	Volume (ac-ft)	Direction
Pond Inflow....	1.937	Forward	0.000	Reverse
Pond Outflow...	0.362	Reverse	1.866	Forward

Mass Balance (ac-ft)	
Volume (Initial ICPM)	0.000 ac-ft
Volume (Total In ICPM)	2.299 ac-ft
Volume (Total Out ICPM)	1.866 ac-ft
Volume (Ending)	0.375 ac-ft
Elevation (Ending)	1,217.72 ft
Difference	0.058 ac-ft
Percent of Inflow Volume (Interconnected Pond Mass Balance)	2.5 %

Existing Pond Redesign- Interconnected Ponds

Subsection: Interconnected Pond Routing Summary
Label: POND EX
Scenario: Post-Development 5 YEAR

Return Event: 5 years
Storm Event: IDF Curve Equation - 1 - 5 Year

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions			Calculation Tolerances		
Elevation (Starting Water Surface Computed)	1,215.60	ft	Flow Tolerance (Minimum)	0.000	ft³/s
Volume (Starting)	0.000	ac-ft	Maximum Iterations	35	
Outflow (Starting)	-41.60	ft³/s	ICPM Time Step	0.050	hours

	Maximum Storage		
	Time to Peak (hours)	Elevation (ft)	Volume (ac-ft)
	0.750	1,218.15	0.603

	Forward Flow Peaks		Reverse Flow Peaks	
	Time to Peak (hours)	Flow (Peak) (ft³/s)	Time to Peak (hours)	Flow (Peak) (ft³/s)
Pond Inflow....	0.650	33.26	0.000	0.00
Pond Outflow...	0.750	31.27	0.100	-39.03

	Total Volume In		Total Volume Out	
	Volume (ac-ft)	Direction	Volume (ac-ft)	Direction
Pond Inflow....	2.321	Forward	0.000	Reverse
Pond Outflow...	0.528	Reverse	2.249	Forward

Mass Balance (ac-ft)	
Volume (Initial ICPM)	0.000 ac-ft
Volume (Total In ICPM)	2.849 ac-ft
Volume (Total Out ICPM)	2.249 ac-ft
Volume (Ending)	0.510 ac-ft
Elevation (Ending)	1,218.03 ft
Difference	0.090 ac-ft
Percent of Inflow Volume (Interconnected Pond Mass Balance)	3.1 %

Existing Pond Redesign- Interconnected Ponds

Subsection: Interconnected Pond Routing Summary

Label: POND EX

Scenario: Post-Development 10 YEAR

Return Event: 10 years

Storm Event: IDF Curve Equation - 1 - 10 Year

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions			Calculation Tolerances		
Elevation (Starting Water Surface Computed)	1,215.60	ft	Flow Tolerance (Minimum)	0.000	ft³/s
Volume (Starting)	0.000	ac-ft	Maximum Iterations	35	
Outflow (Starting)	-52.75	ft³/s	ICPM Time Step	0.050	hours

Maximum Storage		
Time to Peak (hours)	Elevation (ft)	Volume (ac-ft)
0.750	1,218.36	0.758

	Forward Flow Peaks		Reverse Flow Peaks	
	Time to Peak (hours)	Flow (Peak) (ft³/s)	Time to Peak (hours)	Flow (Peak) (ft³/s)
Pond Inflow....	0.700	37.11	0.000	0.00
Pond Outflow...	0.750	35.59	0.000	-52.75

	Total Volume In		Total Volume Out	
	Volume (ac-ft)	Direction	Volume (ac-ft)	Direction
Pond Inflow....	2.515	Forward	0.000	Reverse
Pond Outflow...	0.711	Reverse	2.444	Forward

Mass Balance (ac-ft)	
Volume (Initial ICPM)	0.000 ac-ft
Volume (Total In ICPM)	3.226 ac-ft
Volume (Total Out ICPM)	2.444 ac-ft
Volume (Ending)	0.669 ac-ft
Elevation (Ending)	1,218.24 ft
Difference	0.112 ac-ft
Percent of Inflow Volume (Interconnected Pond Mass Balance)	3.5 %

Existing Pond Redesign- Interconnected Ponds

Subsection: Interconnected Pond Routing Summary

Label: POND EX

Scenario: Post-Development 25 YEAR

Return Event: 25 years

Storm Event: IDF Curve Equation - 1 - 25 Year

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions			Calculation Tolerances		
Elevation (Starting Water Surface Computed)	1,215.60	ft	Flow Tolerance (Minimum)	0.000	ft³/s
Volume (Starting)	0.000	ac-ft	Maximum Iterations	35	
Outflow (Starting)	-72.39	ft³/s	ICPM Time Step	0.050	hours

	Maximum Storage		
	Time to Peak (hours)	Elevation (ft)	Volume (ac-ft)
	0.750	1,218.67	0.997

	Forward Flow Peaks		Reverse Flow Peaks	
	Time to Peak (hours)	Flow (Peak) (ft³/s)	Time to Peak (hours)	Flow (Peak) (ft³/s)
Pond Inflow....	0.700	42.43	0.150	-1.77
Pond Outflow...	0.750	40.76	0.000	-72.39

	Total Volume In		Total Volume Out	
	Volume (ac-ft)	Direction	Volume (ac-ft)	Direction
Pond Inflow....	2.731	Forward	0.006	Reverse
Pond Outflow...	1.020	Reverse	2.676	Forward

Mass Balance (ac-ft)	
Volume (Initial ICPM)	0.000 ac-ft
Volume (Total In ICPM)	3.751 ac-ft
Volume (Total Out ICPM)	2.682 ac-ft
Volume (Ending)	0.919 ac-ft
Elevation (Ending)	1,218.57 ft
Difference	0.149 ac-ft
Percent of Inflow Volume (Interconnected Pond Mass Balance)	4.0 %

Existing Pond Redesign- Interconnected Ponds

Subsection: Interconnected Pond Routing Summary

Label: POND EX

Scenario: Post-Development 50 YEAR

Return Event: 50 years

Storm Event: IDF Curve Equation - 1 - 50 Year

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions			Calculation Tolerances		
Elevation (Starting Water Surface Computed)	1,215.60	ft	Flow Tolerance (Minimum)	0.000	ft³/s
Volume (Starting)	0.000	ac-ft	Maximum Iterations	35	
Outflow (Starting)	-86.74	ft³/s	ICPM Time Step	0.050	hours

	Maximum Storage		
	Time to Peak (hours)	Elevation (ft)	Volume (ac-ft)
	0.750	1,218.88	1.157

	Forward Flow Peaks		Reverse Flow Peaks	
	Time to Peak (hours)	Flow (Peak) (ft³/s)	Time to Peak (hours)	Flow (Peak) (ft³/s)
Pond Inflow....	0.700	47.12	0.150	-2.85
Pond Outflow...	0.750	44.96	0.000	-86.74

	Total Volume In		Total Volume Out	
	Volume (ac-ft)	Direction	Volume (ac-ft)	Direction
Pond Inflow....	2.971	Forward	0.013	Reverse
Pond Outflow...	1.229	Reverse	2.919	Forward

Mass Balance (ac-ft)	
Volume (Initial ICPM)	0.000 ac-ft
Volume (Total In ICPM)	4.200 ac-ft
Volume (Total Out ICPM)	2.933 ac-ft
Volume (Ending)	1.085 ac-ft
Elevation (Ending)	1,218.79 ft
Difference	0.182 ac-ft
Percent of Inflow Volume (Interconnected Pond Mass Balance)	4.3 %

Existing Pond Redesign- Interconnected Ponds

Subsection: Interconnected Pond Routing Summary

Label: POND EX

Scenario: Post-Development 100 YEAR

Return Event: 100 years

Storm Event: IDF Curve Equation - 1 - 100 Year

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions			Calculation Tolerances		
Elevation (Starting Water Surface Computed)	1,215.60	ft	Flow Tolerance (Minimum)	0.000	ft³/s
Volume (Starting)	0.000	ac-ft	Maximum Iterations	35	
Outflow (Starting)	-101.14	ft³/s	ICPM Time Step	0.050	hours

	Maximum Storage		
	Time to Peak (hours)	Elevation (ft)	Volume (ac-ft)
	0.750	1,219.09	1.328

	Forward Flow Peaks		Reverse Flow Peaks	
	Time to Peak (hours)	Flow (Peak) (ft³/s)	Time to Peak (hours)	Flow (Peak) (ft³/s)
Pond Inflow....	0.700	50.33	0.150	-3.88
Pond Outflow...	0.750	47.88	0.000	-101.14

	Total Volume In		Total Volume Out	
	Volume (ac-ft)	Direction	Volume (ac-ft)	Direction
Pond Inflow....	3.240	Forward	0.020	Reverse
Pond Outflow...	1.430	Reverse	3.190	Forward

Mass Balance (ac-ft)	
Volume (Initial ICPM)	0.000 ac-ft
Volume (Total In ICPM)	4.670 ac-ft
Volume (Total Out ICPM)	3.210 ac-ft
Volume (Ending)	1.244 ac-ft
Elevation (Ending)	1,219.00 ft
Difference	0.216 ac-ft
Percent of Inflow Volume (Interconnected Pond Mass Balance)	4.6 %

Existing Pond Redesign- Interconnected Ponds

Subsection: Interconnected Pond Routing Summary
Label: POND EX 2
Scenario: Post-Development 2 YEAR

Return Event: 2 years
Storm Event: IDF Curve Equation - 1 - 2 Year

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions			Calculation Tolerances		
Elevation (Starting Water Surface Computed)	1,216.12	ft	Flow Tolerance (Minimum)	0.000	ft³/s
Volume (Starting)	0.000	ac-ft	Maximum Iterations	35	
Outflow (Starting)	0.00	ft³/s	ICPM Time Step	0.050	hours

	Maximum Storage		
	Time to Peak (hours)	Elevation (ft)	Volume (ac-ft)
	0.950	1,218.08	1.762

	Forward Flow Peaks		Reverse Flow Peaks	
	Time to Peak (hours)	Flow (Peak) (ft³/s)	Time to Peak (hours)	Flow (Peak) (ft³/s)
Pond Inflow....	0.550	32.79	0.000	0.00
Pond Outflow...	1.000	15.17	0.350	-12.75

	Total Volume In		Total Volume Out	
	Volume (ac-ft)	Direction	Volume (ac-ft)	Direction
Pond Inflow....	1.804	Forward	0.000	Reverse
Pond Outflow...	0.427	Reverse	0.997	Forward

Mass Balance (ac-ft)	
Volume (Initial ICPM)	0.000 ac-ft
Volume (Total In ICPM)	2.231 ac-ft
Volume (Total Out ICPM)	0.997 ac-ft
Volume (Ending)	1.241 ac-ft
Elevation (Ending)	1,217.72 ft
Difference	-0.007 ac-ft
Percent of Inflow Volume (Interconnected Pond Mass Balance)	0.3 %

Existing Pond Redesign- Interconnected Ponds

Subsection: Interconnected Pond Routing Summary
Label: POND EX 2
Scenario: Post-Development 5 YEAR

Return Event: 5 years
Storm Event: IDF Curve Equation - 1 - 5 Year

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions			Calculation Tolerances		
Elevation (Starting Water Surface Computed)	1,216.12	ft	Flow Tolerance (Minimum)	0.000	ft³/s
Volume (Starting)	0.000	ac-ft	Maximum Iterations	35	
Outflow (Starting)	0.00	ft³/s	ICPM Time Step	0.050	hours

Maximum Storage		
Time to Peak (hours)	Elevation (ft)	Volume (ac-ft)
0.950	1,218.39	2.307

	Forward Flow Peaks		Reverse Flow Peaks	
	Time to Peak (hours)	Flow (Peak) (ft³/s)	Time to Peak (hours)	Flow (Peak) (ft³/s)
Pond Inflow....	0.550	41.20	0.000	0.00
Pond Outflow...	1.000	18.63	0.350	-18.39

	Total Volume In		Total Volume Out	
	Volume (ac-ft)	Direction	Volume (ac-ft)	Direction
Pond Inflow....	2.267	Forward	0.000	Reverse
Pond Outflow...	0.616	Reverse	1.229	Forward

Mass Balance (ac-ft)	
Volume (Initial ICPM)	0.000 ac-ft
Volume (Total In ICPM)	2.883 ac-ft
Volume (Total Out ICPM)	1.229 ac-ft
Volume (Ending)	1.665 ac-ft
Elevation (Ending)	1,218.03 ft
Difference	-0.011 ac-ft
Percent of Inflow Volume (Interconnected Pond Mass Balance)	0.4 %

Existing Pond Redesign- Interconnected Ponds

Subsection: Interconnected Pond Routing Summary

Label: POND EX 2

Scenario: Post-Development 10 YEAR

Return Event: 10 years

Storm Event: IDF Curve Equation - 1 - 10 Year

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions			Calculation Tolerances		
Elevation (Starting Water Surface Computed)	1,216.12	ft	Flow Tolerance (Minimum)	0.000	ft³/s
Volume (Starting)	0.000	ac-ft	Maximum Iterations	35	
Outflow (Starting)	0.00	ft³/s	ICPM Time Step	0.050	hours

	Maximum Storage		
	Time to Peak (hours)	Elevation (ft)	Volume (ac-ft)
	0.950	1,218.61	2.713

	Forward Flow Peaks		Reverse Flow Peaks	
	Time to Peak (hours)	Flow (Peak) (ft³/s)	Time to Peak (hours)	Flow (Peak) (ft³/s)
Pond Inflow....	0.550	47.14	0.000	0.00
Pond Outflow...	1.000	21.24	0.350	-22.62

	Total Volume In		Total Volume Out	
	Volume (ac-ft)	Direction	Volume (ac-ft)	Direction
Pond Inflow....	2.594	Forward	0.000	Reverse
Pond Outflow...	0.772	Reverse	1.337	Forward

Mass Balance (ac-ft)	
Volume (Initial ICPM)	0.000 ac-ft
Volume (Total In ICPM)	3.365 ac-ft
Volume (Total Out ICPM)	1.337 ac-ft
Volume (Ending)	2.042 ac-ft
Elevation (Ending)	1,218.24 ft
Difference	-0.014 ac-ft
Percent of Inflow Volume (Interconnected Pond Mass Balance)	0.4 %

Existing Pond Redesign- Interconnected Ponds

Subsection: Interconnected Pond Routing Summary

Label: POND EX 2

Scenario: Post-Development 25 YEAR

Return Event: 25 years

Storm Event: IDF Curve Equation - 1 - 25 Year

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions			Calculation Tolerances		
Elevation (Starting Water Surface Computed)	1,216.12	ft	Flow Tolerance (Minimum)	0.000	ft³/s
Volume (Starting)	0.000	ac-ft	Maximum Iterations	35	
Outflow (Starting)	0.00	ft³/s	ICPM Time Step	0.050	hours

	Maximum Storage		
	Time to Peak (hours)	Elevation (ft)	Volume (ac-ft)
	0.950	1,218.98	3.364

	Forward Flow Peaks		Reverse Flow Peaks	
	Time to Peak (hours)	Flow (Peak) (ft³/s)	Time to Peak (hours)	Flow (Peak) (ft³/s)
Pond Inflow....	0.550	55.50	0.000	0.00
Pond Outflow...	1.000	23.56	0.350	-29.61

	Total Volume In		Total Volume Out	
	Volume (ac-ft)	Direction	Volume (ac-ft)	Direction
Pond Inflow....	3.054	Forward	0.000	Reverse
Pond Outflow...	1.033	Reverse	1.472	Forward

Mass Balance (ac-ft)	
Volume (Initial ICPM)	0.000 ac-ft
Volume (Total In ICPM)	4.086 ac-ft
Volume (Total Out ICPM)	1.472 ac-ft
Volume (Ending)	2.635 ac-ft
Elevation (Ending)	1,218.57 ft
Difference	-0.020 ac-ft
Percent of Inflow Volume (Interconnected Pond Mass Balance)	0.5 %

Existing Pond Redesign- Interconnected Ponds

Subsection: Interconnected Pond Routing Summary

Label: POND EX 2

Scenario: Post-Development 50 YEAR

Return Event: 50 years

Storm Event: IDF Curve Equation - 1 - 50 Year

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions			Calculation Tolerances		
Elevation (Starting Water Surface Computed)	1,216.12	ft	Flow Tolerance (Minimum)	0.000	ft³/s
Volume (Starting)	0.000	ac-ft	Maximum Iterations	35	
Outflow (Starting)	0.00	ft³/s	ICPM Time Step	0.050	hours

	Maximum Storage		
	Time to Peak (hours)	Elevation (ft)	Volume (ac-ft)
	1.000	1,219.22	3.843

	Forward Flow Peaks		Reverse Flow Peaks	
	Time to Peak (hours)	Flow (Peak) (ft³/s)	Time to Peak (hours)	Flow (Peak) (ft³/s)
Pond Inflow....	0.550	61.97	0.000	0.00
Pond Outflow...	1.000	24.61	0.350	-34.22

	Total Volume In		Total Volume Out	
	Volume (ac-ft)	Direction	Volume (ac-ft)	Direction
Pond Inflow....	3.410	Forward	0.000	Reverse
Pond Outflow...	1.194	Reverse	1.600	Forward

Mass Balance (ac-ft)	
Volume (Initial ICPM)	0.000 ac-ft
Volume (Total In ICPM)	4.604 ac-ft
Volume (Total Out ICPM)	1.600 ac-ft
Volume (Ending)	3.029 ac-ft
Elevation (Ending)	1,218.79 ft
Difference	-0.025 ac-ft
Percent of Inflow Volume (Interconnected Pond Mass Balance)	0.5 %

Existing Pond Redesign- Interconnected Ponds

Subsection: Interconnected Pond Routing Summary

Label: POND EX 2

Scenario: Post-Development 100 YEAR

Return Event: 100 years

Storm Event: IDF Curve Equation - 1 - 100 Year

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions			Calculation Tolerances		
Elevation (Starting Water Surface Computed)	1,216.12	ft	Flow Tolerance (Minimum)	0.000	ft³/s
Volume (Starting)	0.000	ac-ft	Maximum Iterations	35	
Outflow (Starting)	0.00	ft³/s	ICPM Time Step	0.050	hours

	Maximum Storage		
	Time to Peak (hours)	Elevation (ft)	Volume (ac-ft)
	1.000	1,219.45	4.324

	Forward Flow Peaks		Reverse Flow Peaks	
	Time to Peak (hours)	Flow (Peak) (ft³/s)	Time to Peak (hours)	Flow (Peak) (ft³/s)
Pond Inflow....	0.550	68.56	0.000	0.00
Pond Outflow...	1.000	25.65	0.350	-38.31

	Total Volume In		Total Volume Out	
	Volume (ac-ft)	Direction	Volume (ac-ft)	Direction
Pond Inflow....	3.773	Forward	0.000	Reverse
Pond Outflow...	1.337	Reverse	1.735	Forward

Mass Balance (ac-ft)	
Volume (Initial ICPM)	0.000 ac-ft
Volume (Total In ICPM)	5.110 ac-ft
Volume (Total Out ICPM)	1.735 ac-ft
Volume (Ending)	3.406 ac-ft
Elevation (Ending)	1,219.00 ft
Difference	-0.031 ac-ft
Percent of Inflow Volume (Interconnected Pond Mass Balance)	0.6 %

Existing Pond Redesign- Interconnected Ponds

Subsection: Interconnected Pond Routing Summary
Label: POND RE-DESIGN
Scenario: Post-Development 2 YEAR

Return Event: 2 years
Storm Event: IDF Curve Equation - 1 - 2 Year

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions			Calculation Tolerances		
Elevation (Starting Water Surface Computed)	1,215.60	ft	Flow Tolerance (Minimum)	0.000	ft³/s
Volume (Starting)	0.000	ac-ft	Maximum Iterations	35	
Outflow (Starting)	-21.69	ft³/s	ICPM Time Step	0.050	hours

	Maximum Storage		
	Time to Peak (hours)	Elevation (ft)	Volume (ac-ft)
	1.300	1,217.17	4.406

	Forward Flow Peaks		Reverse Flow Peaks	
	Time to Peak (hours)	Flow (Peak) (ft³/s)	Time to Peak (hours)	Flow (Peak) (ft³/s)
Pond Inflow....	0.500	54.52	0.000	0.00
Pond Outflow...	1.300	6.38	0.100	-21.69

	Total Volume In		Total Volume Out	
	Volume (ac-ft)	Direction	Volume (ac-ft)	Direction
Pond Inflow....	3.047	Forward	0.000	Reverse
Pond Outflow...	1.621	Reverse	0.327	Forward

Mass Balance (ac-ft)	
Volume (Initial ICPM)	0.000 ac-ft
Volume (Total In ICPM)	4.667 ac-ft
Volume (Total Out ICPM)	0.327 ac-ft
Volume (Ending)	4.295 ac-ft
Elevation (Ending)	1,217.13 ft
Difference	0.045 ac-ft
Percent of Inflow Volume (Interconnected Pond Mass Balance)	1.0 %

Existing Pond Redesign- Interconnected Ponds

Subsection: Interconnected Pond Routing Summary
Label: POND RE-DESIGN
Scenario: Post-Development 5 YEAR

Return Event: 5 years
Storm Event: IDF Curve Equation - 1 - 5 Year

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions			Calculation Tolerances		
Elevation (Starting Water Surface Computed)	1,215.60	ft	Flow Tolerance (Minimum)	0.000	ft³/s
Volume (Starting)	0.000	ac-ft	Maximum Iterations	35	
Outflow (Starting)	-30.48	ft³/s	ICPM Time Step	0.050	hours

	Maximum Storage		
	Time to Peak (hours)	Elevation (ft)	Volume (ac-ft)
	1.200	1,217.50	5.395

	Forward Flow Peaks		Reverse Flow Peaks	
	Time to Peak (hours)	Flow (Peak) (ft³/s)	Time to Peak (hours)	Flow (Peak) (ft³/s)
Pond Inflow....	0.500	66.79	0.000	0.00
Pond Outflow...	1.200	12.63	0.100	-30.48

	Total Volume In		Total Volume Out	
	Volume (ac-ft)	Direction	Volume (ac-ft)	Direction
Pond Inflow....	3.733	Forward	0.000	Reverse
Pond Outflow...	2.095	Reverse	0.555	Forward

Mass Balance (ac-ft)	
Volume (Initial ICPM)	0.000 ac-ft
Volume (Total In ICPM)	5.828 ac-ft
Volume (Total Out ICPM)	0.555 ac-ft
Volume (Ending)	5.210 ac-ft
Elevation (Ending)	1,217.44 ft
Difference	0.063 ac-ft
Percent of Inflow Volume (Interconnected Pond Mass Balance)	1.1 %

Existing Pond Redesign- Interconnected Ponds

Subsection: Interconnected Pond Routing Summary

Label: POND RE-DESIGN

Scenario: Post-Development 10 YEAR

Return Event: 10 years

Storm Event: IDF Curve Equation - 1 - 10 Year

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions			Calculation Tolerances		
Elevation (Starting Water Surface Computed)	1,215.60	ft	Flow Tolerance (Minimum)	0.000	ft³/s
Volume (Starting)	0.000	ac-ft	Maximum Iterations	35	
Outflow (Starting)	-37.30	ft³/s	ICPM Time Step	0.050	hours

	Maximum Storage		
	Time to Peak (hours)	Elevation (ft)	Volume (ac-ft)
	1.150	1,217.74	6.089

	Forward Flow Peaks		Reverse Flow Peaks	
	Time to Peak (hours)	Flow (Peak) (ft³/s)	Time to Peak (hours)	Flow (Peak) (ft³/s)
Pond Inflow....	0.500	75.62	0.000	0.00
Pond Outflow...	1.150	15.98	0.100	-37.30

	Total Volume In		Total Volume Out	
	Volume (ac-ft)	Direction	Volume (ac-ft)	Direction
Pond Inflow....	4.218	Forward	0.000	Reverse
Pond Outflow...	2.453	Reverse	0.734	Forward

Mass Balance (ac-ft)	
Volume (Initial ICPM)	0.000 ac-ft
Volume (Total In ICPM)	6.671 ac-ft
Volume (Total Out ICPM)	0.734 ac-ft
Volume (Ending)	5.860 ac-ft
Elevation (Ending)	1,217.66 ft
Difference	0.077 ac-ft
Percent of Inflow Volume (Interconnected Pond Mass Balance)	1.2 %

Existing Pond Redesign- Interconnected Ponds

Subsection: Interconnected Pond Routing Summary

Label: POND RE-DESIGN

Scenario: Post-Development 25 YEAR

Return Event: 25 years

Storm Event: IDF Curve Equation - 1 - 25 Year

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions			Calculation Tolerances		
Elevation (Starting Water Surface Computed)	1,215.60	ft	Flow Tolerance (Minimum)	0.000	ft³/s
Volume (Starting)	0.000	ac-ft	Maximum Iterations	35	
Outflow (Starting)	-47.61	ft³/s	ICPM Time Step	0.050	hours

	Maximum Storage		
	Time to Peak (hours)	Elevation (ft)	Volume (ac-ft)
	1.100	1,218.06	7.053

	Forward Flow Peaks		Reverse Flow Peaks	
	Time to Peak (hours)	Flow (Peak) (ft³/s)	Time to Peak (hours)	Flow (Peak) (ft³/s)
Pond Inflow....	0.500	88.11	0.000	0.00
Pond Outflow...	1.100	21.28	0.100	-47.61

	Total Volume In		Total Volume Out	
	Volume (ac-ft)	Direction	Volume (ac-ft)	Direction
Pond Inflow....	4.902	Forward	0.000	Reverse
Pond Outflow...	2.983	Reverse	1.011	Forward

Mass Balance (ac-ft)	
Volume (Initial ICPM)	0.000 ac-ft
Volume (Total In ICPM)	7.886 ac-ft
Volume (Total Out ICPM)	1.011 ac-ft
Volume (Ending)	6.775 ac-ft
Elevation (Ending)	1,217.97 ft
Difference	0.099 ac-ft
Percent of Inflow Volume (Interconnected Pond Mass Balance)	1.3 %

Existing Pond Redesign- Interconnected Ponds

Subsection: Interconnected Pond Routing Summary

Label: POND RE-DESIGN

Scenario: Post-Development 50 YEAR

Return Event: 50 years

Storm Event: IDF Curve Equation - 1 - 50 Year

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions			Calculation Tolerances		
Elevation (Starting Water Surface Computed)	1,215.60	ft	Flow Tolerance (Minimum)	0.000	ft³/s
Volume (Starting)	0.000	ac-ft	Maximum Iterations	35	
Outflow (Starting)	-55.60	ft³/s	ICPM Time Step	0.050	hours

	Maximum Storage		
	Time to Peak (hours)	Elevation (ft)	Volume (ac-ft)
	1.050	1,218.29	7.768

	Forward Flow Peaks		Reverse Flow Peaks	
	Time to Peak (hours)	Flow (Peak) (ft³/s)	Time to Peak (hours)	Flow (Peak) (ft³/s)
Pond Inflow....	0.500	97.90	0.000	0.00
Pond Outflow...	1.050	25.97	0.100	-55.60

	Total Volume In		Total Volume Out	
	Volume (ac-ft)	Direction	Volume (ac-ft)	Direction
Pond Inflow....	5.357	Forward	0.000	Reverse
Pond Outflow...	3.385	Reverse	1.146	Forward

Mass Balance (ac-ft)	
Volume (Initial ICPM)	0.000 ac-ft
Volume (Total In ICPM)	8.742 ac-ft
Volume (Total Out ICPM)	1.146 ac-ft
Volume (Ending)	7.481 ac-ft
Elevation (Ending)	1,218.20 ft
Difference	0.115 ac-ft
Percent of Inflow Volume (Interconnected Pond Mass Balance)	1.3 %

Existing Pond Redesign- Interconnected Ponds

Subsection: Interconnected Pond Routing Summary

Label: POND RE-DESIGN

Scenario: Post-Development 100 YEAR

Return Event: 100 years

Storm Event: IDF Curve Equation - 1 - 100 Year

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions			Calculation Tolerances		
Elevation (Starting Water Surface Computed)	1,215.60	ft	Flow Tolerance (Minimum)	0.000	ft³/s
Volume (Starting)	0.000	ac-ft	Maximum Iterations	35	
Outflow (Starting)	-62.66	ft³/s	ICPM Time Step	0.050	hours

	Maximum Storage		
	Time to Peak (hours)	Elevation (ft)	Volume (ac-ft)
	1.050	1,218.50	8.416

	Forward Flow Peaks		Reverse Flow Peaks	
	Time to Peak (hours)	Flow (Peak) (ft³/s)	Time to Peak (hours)	Flow (Peak) (ft³/s)
Pond Inflow....	0.500	107.77	0.000	0.00
Pond Outflow...	1.050	28.52	0.100	-62.66

	Total Volume In		Total Volume Out	
	Volume (ac-ft)	Direction	Volume (ac-ft)	Direction
Pond Inflow....	5.832	Forward	0.000	Reverse
Pond Outflow...	3.721	Reverse	1.324	Forward

Mass Balance (ac-ft)	
Volume (Initial ICPM)	0.000 ac-ft
Volume (Total In ICPM)	9.553 ac-ft
Volume (Total Out ICPM)	1.324 ac-ft
Volume (Ending)	8.099 ac-ft
Elevation (Ending)	1,218.40 ft
Difference	0.129 ac-ft
Percent of Inflow Volume (Interconnected Pond Mass Balance)	1.4 %

Existing Pond Redesign- Interconnected Ponds

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Existing Pond Redesign- Interconnected Ponds

Project Summary	
Title	
Engineer	
Company	
Date	9/25/2019

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Existing Pond Redesign- Interconnected Ponds

Subsection: Modified Rational Grand Summary

Modified Rational Method

Q = CiA * Units Conversion; Where conversion = 43560 / (12 * 3600)

Frequency (years)	Area (acres)	Adjusted C Coefficient	Duration (hours)	Intensity (in/h)	Flow (Peak) (ft^3/s)	Flow (Allowable) (ft^3/s)	Volume (inflow) (ac-ft)	Volume (Storage) (ac-ft)
100	22.300	0.610	0.500	5.024	68.90	40.90	2.847	1.186
100	24.780	0.610	0.500	5.024	76.57	73.61	3.164	0.210
100	25.850	0.610	0.667	4.312	68.56	43.36	3.778	1.458
100	25.683	0.610	0.528	4.882	77.13	74.35	3.366	0.121
2	22.300	0.610	0.500	2.424	33.25	19.79	1.374	0.571
2	24.780	0.610	0.500	2.424	36.94	35.65	1.527	0.099
2	25.850	0.610	0.667	2.062	32.79	20.82	1.807	0.695
2	25.683	0.610	0.528	2.352	37.15	35.69	1.621	0.064
5	22.300	0.610	0.500	3.033	41.60	24.73	1.719	0.715
5	24.780	0.610	0.500	3.033	46.23	44.53	1.910	0.125
5	25.850	0.610	0.667	2.591	41.20	26.11	2.270	0.875
5	25.683	0.610	0.528	2.945	46.52	44.77	2.030	0.077
10	22.300	0.610	0.500	3.464	47.51	28.23	1.963	0.817
10	24.780	0.610	0.500	3.464	52.80	50.82	2.182	0.144
10	25.850	0.610	0.667	2.965	47.14	29.85	2.597	1.002
10	25.683	0.610	0.528	3.365	53.15	51.18	2.319	0.086
25	22.300	0.610	0.500	4.072	55.86	33.17	2.308	0.961
25	24.780	0.610	0.500	4.072	62.07	59.71	2.565	0.170
25	25.850	0.610	0.667	3.490	55.50	35.12	3.058	1.180
25	25.683	0.610	0.528	3.957	62.51	60.22	2.728	0.100
50	22.300	0.610	0.500	4.544	62.33	37.00	2.575	1.072
50	24.780	0.610	0.500	4.544	69.26	66.60	2.862	0.190
50	25.850	0.610	0.667	3.898	61.97	39.20	3.414	1.318
50	25.683	0.610	0.528	4.416	69.75	67.22	3.044	0.111

Existing Pond Redesign- Interconnected Ponds

Subsection: Master Network Summary

Catchments Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ac-ft)	Time to Peak (hours)	Peak Flow (ft^3/s)
SF-1 RE-DESIGN	Post-Development 2 YEAR	2	1.527	0.450	36.94
SF-1 RE-DESIGN	Post-Development 5 YEAR	5	1.910	0.450	46.23
SF-1 RE-DESIGN	Post-Development 10 YEAR	10	2.182	0.450	52.80
SF-1 RE-DESIGN	Post-Development 25 YEAR	25	2.565	0.450	62.07
SF-1 RE-DESIGN	Post-Development 50 YEAR	50	2.862	0.450	69.26
SF-1 RE-DESIGN	Post-Development 100 YEAR	100	3.164	0.450	76.57
SF-2 RE-DESIGN	Post-Development 2 YEAR	2	1.618	0.550	35.60
SF-2 RE-DESIGN	Post-Development 5 YEAR	5	2.027	0.550	44.59
SF-2 RE-DESIGN	Post-Development 10 YEAR	10	2.315	0.550	50.94
SF-2 RE-DESIGN	Post-Development 25 YEAR	25	2.723	0.550	59.90
SF-2 RE-DESIGN	Post-Development 50 YEAR	50	3.039	0.550	66.85
SF-2 RE-DESIGN	Post-Development 100 YEAR	100	3.360	0.550	73.91
SF-2 EX	Post-Development 2 YEAR	2	1.804	0.550	32.79
SF-2 EX	Post-Development 5 YEAR	5	2.267	0.550	41.20
SF-2 EX	Post-Development 10 YEAR	10	2.594	0.550	47.14
SF-2 EX	Post-Development 25 YEAR	25	3.054	0.550	55.50
SF-2 EX	Post-Development 50 YEAR	50	3.410	0.550	61.97
SF-2 EX	Post-Development 100 YEAR	100	3.773	0.550	68.56
SF-1 EX	Post-Development 2 YEAR	2	1.374	0.450	33.25
SF-1 EX	Post-Development 5 YEAR	5	1.719	0.450	41.60
SF-1 EX	Post-Development 10 YEAR	10	1.963	0.450	47.51
SF-1 EX	Post-Development 25 YEAR	25	2.308	0.450	55.86
SF-1 EX	Post-Development 50 YEAR	50	2.575	0.450	62.33

Existing Pond Redesign- Interconnected Ponds

Subsection: Master Network Summary

Catchments Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ac-ft)	Time to Peak (hours)	Peak Flow (ft^3/s)
SF-1 EX	Post-Development 100 YEAR	100	2.847	0.450	68.90

Node Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ac-ft)	Time to Peak (hours)	Peak Flow (ft^3/s)
OUTFALL	Post-Development 2 YEAR	2	0.327	1.300	6.38
OUTFALL	Post-Development 2 YEAR	2	-1.621	0.100	-21.69
OUTFALL	Post-Development 5 YEAR	5	0.555	1.200	12.63
OUTFALL	Post-Development 5 YEAR	5	-2.095	0.100	-30.48
OUTFALL	Post-Development 10 YEAR	10	0.734	1.150	15.98
OUTFALL	Post-Development 10 YEAR	10	-2.453	0.100	-37.30
OUTFALL	Post-Development 25 YEAR	25	1.011	1.100	21.28
OUTFALL	Post-Development 25 YEAR	25	-2.983	0.100	-47.61
OUTFALL	Post-Development 50 YEAR	50	1.146	1.050	25.97
OUTFALL	Post-Development 50 YEAR	50	-3.385	0.100	-55.60
OUTFALL	Post-Development 100 YEAR	100	1.324	1.050	28.52
OUTFALL	Post-Development 100 YEAR	100	-3.721	0.100	-62.66
O-5	Post-Development 2 YEAR	2	1.866	0.750	25.60
O-5	Post-Development 2 YEAR	2	-0.362	0.100	-26.03
O-5	Post-Development 5 YEAR	5	2.249	0.750	31.27
O-5	Post-Development 5 YEAR	5	-0.528	0.100	-39.03
O-5	Post-Development 10 YEAR	10	2.444	0.750	35.59
O-5	Post-Development 10 YEAR	10	-0.711	0.000	-52.75
O-5	Post-Development 25 YEAR	25	2.676	0.750	40.76

Existing Pond Redesign- Interconnected Ponds

Subsection: Master Network Summary

Node Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ac-ft)	Time to Peak (hours)	Peak Flow (ft³/s)
O-5	Post-Development 25 YEAR	25	-1.020	0.000	-72.39
O-5	Post-Development 50 YEAR	50	2.919	0.750	44.96
O-5	Post-Development 50 YEAR	50	-1.229	0.000	-86.74
O-5	Post-Development 100 YEAR	100	3.190	0.750	47.88
O-5	Post-Development 100 YEAR	100	-1.430	0.000	-101.14

Pond Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ac-ft)	Time to Peak (hours)	Peak Flow (ft³/s)	Maximum Water Surface Elevation (ft)	Maximum Pond Storage (ac-ft)
POND RE-DESIGN (IN)	Post-Development 2 YEAR	2	3.047	0.500	54.52	(N/A)	(N/A)
POND RE-DESIGN (OUT)	Post-Development 2 YEAR	2	0.327	1.300	6.38	1,217.17	4.406
POND RE-DESIGN (Reverse)	Post-Development 2 YEAR	2	-1.621	0.100	-21.69	(N/A)	(N/A)
POND RE-DESIGN (IN)	Post-Development 5 YEAR	5	3.733	0.500	66.79	(N/A)	(N/A)
POND RE-DESIGN (OUT)	Post-Development 5 YEAR	5	0.555	1.200	12.63	1,217.50	5.395
POND RE-DESIGN (Reverse)	Post-Development 5 YEAR	5	-2.095	0.100	-30.48	(N/A)	(N/A)
POND RE-DESIGN (IN)	Post-Development 10 YEAR	10	4.218	0.500	75.62	(N/A)	(N/A)
POND RE-DESIGN (OUT)	Post-Development 10 YEAR	10	0.734	1.150	15.98	1,217.74	6.089
POND RE-DESIGN (Reverse)	Post-Development 10 YEAR	10	-2.453	0.100	-37.30	(N/A)	(N/A)

Existing Pond Redesign- Interconnected Ponds

Subsection: Master Network Summary

Pond Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ac-ft)	Time to Peak (hours)	Peak Flow (ft^3/s)	Maximum Water Surface Elevation (ft)	Maximum Pond Storage (ac-ft)
POND RE-DESIGN (IN)	Post-Development 25 YEAR	25	4.902	0.500	88.11	(N/A)	(N/A)
POND RE-DESIGN (OUT)	Post-Development 25 YEAR	25	1.011	1.100	21.28	1,218.06	7.053
POND RE-DESIGN (Reverse)	Post-Development 25 YEAR	25	-2.983	0.100	-47.61	(N/A)	(N/A)
POND RE-DESIGN (IN)	Post-Development 50 YEAR	50	5.357	0.500	97.90	(N/A)	(N/A)
POND RE-DESIGN (OUT)	Post-Development 50 YEAR	50	1.146	1.050	25.97	1,218.29	7.768
POND RE-DESIGN (Reverse)	Post-Development 50 YEAR	50	-3.385	0.100	-55.60	(N/A)	(N/A)
POND RE-DESIGN (IN)	Post-Development 100 YEAR	100	5.832	0.500	107.77	(N/A)	(N/A)
POND RE-DESIGN (OUT)	Post-Development 100 YEAR	100	1.324	1.050	28.52	1,218.50	8.416
POND RE-DESIGN (Reverse)	Post-Development 100 YEAR	100	-3.721	0.100	-62.66	(N/A)	(N/A)
POND EX (IN)	Post-Development 2 YEAR	2	1.937	0.650	26.86	(N/A)	(N/A)
POND EX (OUT)	Post-Development 2 YEAR	2	1.866	0.750	25.60	1,217.87	0.434
POND EX (Reverse)	Post-Development 2 YEAR	2	-0.362	0.100	-26.03	(N/A)	(N/A)
POND EX (IN)	Post-Development 5 YEAR	5	2.321	0.650	33.26	(N/A)	(N/A)
POND EX (OUT)	Post-Development 5 YEAR	5	2.249	0.750	31.27	1,218.15	0.603
POND EX (Reverse)	Post-Development 5 YEAR	5	-0.528	0.100	-39.03	(N/A)	(N/A)

Existing Pond Redesign- Interconnected Ponds

Subsection: Master Network Summary

Pond Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ac-ft)	Time to Peak (hours)	Peak Flow (ft^3/s)	Maximum Water Surface Elevation (ft)	Maximum Pond Storage (ac-ft)
POND EX (IN)	Post-Development 10 YEAR	10	2.515	0.700	37.11	(N/A)	(N/A)
POND EX (OUT)	Post-Development 10 YEAR	10	2.444	0.750	35.59	1,218.36	0.758
POND EX (Reverse)	Post-Development 10 YEAR	10	-0.711	0.000	-52.75	(N/A)	(N/A)
POND EX (IN)	Post-Development 25 YEAR	25	2.731	0.700	42.43	(N/A)	(N/A)
POND EX (Reverse)	Post-Development 25 YEAR	25	-0.006	0.150	-1.77	(N/A)	(N/A)
POND EX (OUT)	Post-Development 25 YEAR	25	2.676	0.750	40.76	1,218.67	0.997
POND EX (Reverse)	Post-Development 25 YEAR	25	-1.020	0.000	-72.39	(N/A)	(N/A)
POND EX (IN)	Post-Development 50 YEAR	50	2.971	0.700	47.12	(N/A)	(N/A)
POND EX (Reverse)	Post-Development 50 YEAR	50	-0.013	0.150	-2.85	(N/A)	(N/A)
POND EX (OUT)	Post-Development 50 YEAR	50	2.919	0.750	44.96	1,218.88	1.157
POND EX (Reverse)	Post-Development 50 YEAR	50	-1.229	0.000	-86.74	(N/A)	(N/A)
POND EX (IN)	Post-Development 100 YEAR	100	3.240	0.700	50.33	(N/A)	(N/A)
POND EX (Reverse)	Post-Development 100 YEAR	100	-0.020	0.150	-3.88	(N/A)	(N/A)
POND EX (OUT)	Post-Development 100 YEAR	100	3.190	0.750	47.88	1,219.09	1.328
POND EX (Reverse)	Post-Development 100 YEAR	100	-1.430	0.000	-101.14	(N/A)	(N/A)

Existing Pond Redesign- Interconnected Ponds

Subsection: Master Network Summary

Pond Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ac-ft)	Time to Peak (hours)	Peak Flow (ft^3/s)	Maximum Water Surface Elevation (ft)	Maximum Pond Storage (ac-ft)
DRY POND (IN)	Post-Development 2 YEAR	2	1.618	0.550	35.60	(N/A)	(N/A)
DRY POND (OUT)	Post-Development 2 YEAR	2	1.520	0.750	22.37	1,218.29	0.609
DRY POND (IN)	Post-Development 5 YEAR	5	2.027	0.550	44.59	(N/A)	(N/A)
DRY POND (OUT)	Post-Development 5 YEAR	5	1.823	0.750	27.25	1,218.53	0.787
DRY POND (IN)	Post-Development 10 YEAR	10	2.315	0.550	50.94	(N/A)	(N/A)
DRY POND (OUT)	Post-Development 10 YEAR	10	2.036	0.750	30.75	1,218.70	0.914
DRY POND (IN)	Post-Development 25 YEAR	25	2.723	0.550	59.90	(N/A)	(N/A)
DRY POND (OUT)	Post-Development 25 YEAR	25	2.337	0.750	35.43	1,218.95	1.097
DRY POND (IN)	Post-Development 50 YEAR	50	3.039	0.550	66.85	(N/A)	(N/A)
DRY POND (OUT)	Post-Development 50 YEAR	50	2.495	0.750	37.89	1,219.11	1.253
DRY POND (IN)	Post-Development 100 YEAR	100	3.360	0.550	73.91	(N/A)	(N/A)
DRY POND (OUT)	Post-Development 100 YEAR	100	2.668	0.700	39.78	1,219.27	1.436
POND EX 2 (IN)	Post-Development 2 YEAR	2	1.804	0.550	32.79	(N/A)	(N/A)
POND EX 2 (OUT)	Post-Development 2 YEAR	2	0.997	1.000	15.17	1,218.08	1.762
POND EX 2 (Reverse)	Post-Development 2 YEAR	2	-0.427	0.350	-12.75	(N/A)	(N/A)

Existing Pond Redesign- Interconnected Ponds

Subsection: Master Network Summary

Pond Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ac-ft)	Time to Peak (hours)	Peak Flow (ft^3/s)	Maximum Water Surface Elevation (ft)	Maximum Pond Storage (ac-ft)
POND EX 2 (IN)	Post-Development 5 YEAR	5	2.267	0.550	41.20	(N/A)	(N/A)
POND EX 2 (OUT)	Post-Development 5 YEAR	5	1.229	1.000	18.63	1,218.39	2.307
POND EX 2 (Reverse)	Post-Development 5 YEAR	5	-0.616	0.350	-18.39	(N/A)	(N/A)
POND EX 2 (IN)	Post-Development 10 YEAR	10	2.594	0.550	47.14	(N/A)	(N/A)
POND EX 2 (OUT)	Post-Development 10 YEAR	10	1.337	1.000	21.24	1,218.61	2.713
POND EX 2 (Reverse)	Post-Development 10 YEAR	10	-0.772	0.350	-22.62	(N/A)	(N/A)
POND EX 2 (IN)	Post-Development 25 YEAR	25	3.054	0.550	55.50	(N/A)	(N/A)
POND EX 2 (OUT)	Post-Development 25 YEAR	25	1.472	1.000	23.56	1,218.98	3.364
POND EX 2 (Reverse)	Post-Development 25 YEAR	25	-1.033	0.350	-29.61	(N/A)	(N/A)
POND EX 2 (IN)	Post-Development 50 YEAR	50	3.410	0.550	61.97	(N/A)	(N/A)
POND EX 2 (OUT)	Post-Development 50 YEAR	50	1.600	1.000	24.61	1,219.22	3.843
POND EX 2 (Reverse)	Post-Development 50 YEAR	50	-1.194	0.350	-34.22	(N/A)	(N/A)
POND EX 2 (IN)	Post-Development 100 YEAR	100	3.773	0.550	68.56	(N/A)	(N/A)
POND EX 2 (OUT)	Post-Development 100 YEAR	100	1.735	1.000	25.65	1,219.45	4.324
POND EX 2 (Reverse)	Post-Development 100 YEAR	100	-1.337	0.350	-38.31	(N/A)	(N/A)

Existing Pond Redesign- Interconnected Ponds

Subsection: C and Area (Pre-Development) Return Event: 2 years

Label: SF-1 EX Storm Event: IDF Curve Equation - 1 - 2 Year

Scenario: Post-Development 2 YEAR

C and Area Results (Pre-Development)

Soil/Surface Description	C Coefficient	Area (acres)	Area (Adjusted) (acres)
	0.350	21.930	(N/A)
Weighted C & Total Area --->	0.350	21.930	7.676

Existing Pond Redesign- Interconnected Ponds

Subsection: C and Area (Post-Development) Return Event: 2 years
Label: SF-1 EX Storm Event: IDF Curve Equation - 1 - 2 Year
Scenario: Post-Development 2 YEAR

C and Area Results

Soil/Surface Description	C Coefficient	Area (acres)	Area (Adjusted) (acres)
	0.610	22.300	(N/A)
Weighted C & Total Area --->	0.610	22.300	13.603

Existing Pond Redesign- Interconnected Ponds

Subsection: Rational Pre-Development Peak Flow
Return Event: 2 years
Label: SF-1 EX
Storm Event: IDF Curve Equation - 1 - 2 Year
Scenario: Post-Development 2 YEAR

Summary of Rational Method Peak Discharges
--- Pre-Development Conditions ---

Q = CiA * Unit Conversion; Where Conversion = 43560 / (12 * 3600)

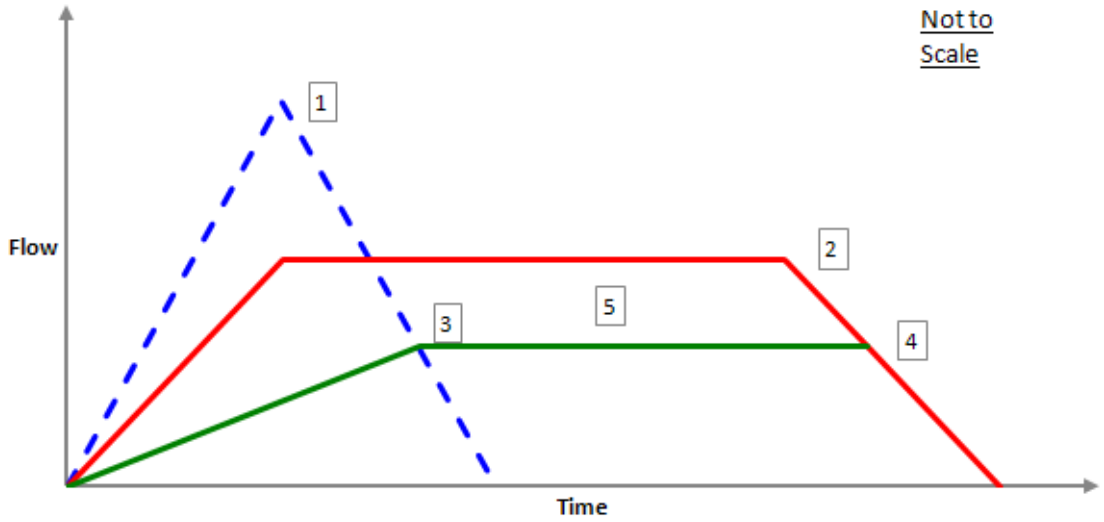
Frequency (years)	C Coefficient	C Adjustment Factor	C Coefficient (Final)	Intensity (in/h)	Area (acres)	Flow (Peak) (ft^3/s)
2	0.350	1.000	0.350	2.557	21.930	19.79

Existing Pond Redesign- Interconnected Ponds

Subsection: Modified Rational Graph
Label: SF-1 EX
Scenario: Post-Development 2 YEAR

Return Event: 2 years
Storm Event: IDF Curve Equation - 1 - 2 Year

Method Type	Method T
Time of Duration (Modified Rational, Critical)	0.500 hours



[1]			[2]		
Time of Concentration (Modified Rational, Composite)	0.440	hours	Time of Duration (Modified Rational, Critical)	0.500	hours
Intensity (Modified Rational, Peak)	2.599	in/h	Intensity (Modified Rational, Critical)	2.424	in/h
Flow (Modified Rational, Peak)	35.65	ft³/s	Flow (Modified Rational, Critical)	33.25	ft³/s

[3]	
First Outflow Breakpoint (Modified Rational, Method T)	0.678 hours
Flow (Modified Rational, Allowable)	19.79 ft³/s

[4]			[5]		
Second Outflow Breakpoint (Modified Rational)	0.636	hours	Storage (Modified Rational, Estimated)	0.571	ac-ft
Flow (Modified Rational, Allowable)	19.79	ft³/s			

Existing Pond Redesign- Interconnected Ponds

Subsection: Modified Rational Storm Calculations
Return Event: 2 years
Label: SF-1 EX
Storm Event: IDF Curve Equation - 1 - 2 Year
Scenario: Post-Development 2 YEAR

Modified Rational Method
--- Summary for Single Storm Frequency ---

Q = CiA * Units Conversion; Where Conversion = 43560 / (12 * 3600)

C Coefficient (Weighted)	C Coefficient (Adjusted)	Duration (hours)	Intensity (in/h)	Area (acres)	Flow (Peak) (ft^3/s)	Volume (Inflow) (ac-ft)	Volume (Storage) (ac-ft)
0.610	0.610	0.440	2.599	22.300	35.65	1.296	0.577
							Storage Maximum
0.610	0.610	0.500	2.424	22.300	33.25	1.374	0.571
0.610	0.610	0.667	2.062	22.300	28.29	1.559	0.520
0.610	0.610	0.833	1.813	22.300	24.87	1.713	0.436
0.610	0.610	1.000	1.629	22.300	22.34	1.846	0.330
0.610	0.610	2.000	1.070	22.300	14.68	(N/A)	(N/A)

Existing Pond Redesign- Interconnected Ponds

Subsection: Modified Rational Hydrograph
Return Event: 2 years
Label: SF-1 EX
Storm Event: IDF Curve Equation - 1 - 2 Year
Scenario: Post-Development 2 YEAR

Modified Rational Method

Q = CiA * Unit Conversion; Where Conversion = 43560 / (12 * 3600)

Frequency (years)	C Coefficient	C Adjustment Factor	C Coefficient (Final)	Intensity (in/h)	Area (acres)	Flow (Peak) (ft³/s)
2	1.000	1.000	0.610	2.424	22.300	33.25

Peak Discharge	33.25 ft³/s
Time to Peak	0.500 hours
Hydrograph Volume	2.284 ac-ft

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)
0.050	3.78	7.56	11.33	15.11	18.89
0.300	22.67	26.45	30.22	33.25	33.25
0.550	29.47	25.69	21.91	18.13	14.36
0.800	10.58	6.80	3.02	0.00	(N/A)

Existing Pond Redesign- Interconnected Ponds

Subsection: C and Area (Pre-Development) Return Event: 5 years

Label: SF-1 EX Storm Event: IDF Curve Equation - 1 - 5 Year

Scenario: Post-Development 5 YEAR

C and Area Results (Pre-Development)

Soil/Surface Description	C Coefficient	Area (acres)	Area (Adjusted) (acres)
	0.350	21.930	(N/A)
Weighted C & Total Area --->	0.350	21.930	7.676

Existing Pond Redesign- Interconnected Ponds

Subsection: C and Area (Post-Development) Return Event: 5 years
Label: SF-1 EX Storm Event: IDF Curve Equation - 1 - 5 Year
Scenario: Post-Development 5 YEAR

C and Area Results

Soil/Surface Description	C Coefficient	Area (acres)	Area (Adjusted) (acres)
	0.610	22.300	(N/A)
Weighted C & Total Area --->	0.610	22.300	13.603

Existing Pond Redesign- Interconnected Ponds

Subsection: Rational Pre-Development Peak Flow
Return Event: 5 years
Label: SF-1 EX
Storm Event: IDF Curve Equation - 1 - 5 Year
Scenario: Post-Development 5 YEAR

Summary of Rational Method Peak Discharges
--- Pre-Development Conditions ---

Q = CiA * Unit Conversion; Where Conversion = 43560 / (12 * 3600)

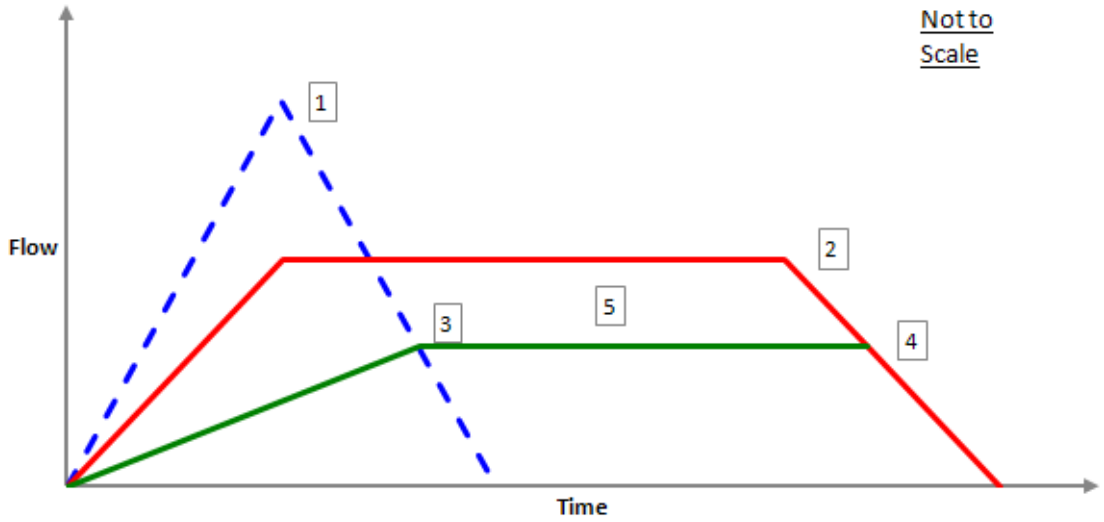
Frequency (years)	C Coefficient	C Adjustment Factor	C Coefficient (Final)	Intensity (in/h)	Area (acres)	Flow (Peak) (ft^3/s)
5	0.350	1.000	0.350	3.195	21.930	24.73

Existing Pond Redesign- Interconnected Ponds

Subsection: Modified Rational Graph
Label: SF-1 EX
Scenario: Post-Development 5 YEAR

Return Event: 5 years
Storm Event: IDF Curve Equation - 1 - 5 Year

Method Type	Method T
Time of Duration (Modified Rational, Critical)	0.500 hours



[1]			[2]		
Time of Concentration (Modified Rational, Composite)	0.440	hours	Time of Duration (Modified Rational, Critical)	0.500	hours
Intensity (Modified Rational, Peak)	3.246	in/h	Intensity (Modified Rational, Critical)	3.033	in/h
Flow (Modified Rational, Peak)	44.53	ft³/s	Flow (Modified Rational, Critical)	41.60	ft³/s

[3]	
First Outflow Breakpoint (Modified Rational, Method T)	0.678 hours
Flow (Modified Rational, Allowable)	24.73 ft³/s

[4]			[5]		
Second Outflow Breakpoint (Modified Rational)	0.636	hours	Storage (Modified Rational, Estimated)	0.715	ac-ft
Flow (Modified Rational, Allowable)	24.73	ft³/s			

Existing Pond Redesign- Interconnected Ponds

Subsection: Modified Rational Storm Calculations
Return Event: 5 years
Label: SF-1 EX
Storm Event: IDF Curve Equation - 1 - 5 Year
Scenario: Post-Development 5 YEAR

Modified Rational Method
--- Summary for Single Storm Frequency ---

Q = CiA * Units Conversion; Where Conversion = 43560 / (12 * 3600)

C Coefficient (Weighted)	C Coefficient (Adjusted)	Duration (hours)	Intensity (in/h)	Area (acres)	Flow (Peak) (ft^3/s)	Volume (Inflow) (ac-ft)	Volume (Storage) (ac-ft)
0.610	0.610	0.440	3.246	22.300	44.53	1.619	0.720
							Storage Maximum
0.610	0.610	0.500	3.033	22.300	41.60	1.719	0.715
0.610	0.610	0.667	2.591	22.300	35.54	1.958	0.659
0.610	0.610	0.833	2.286	22.300	31.35	2.159	0.561
0.610	0.610	1.000	2.059	22.300	28.24	2.334	0.434
0.610	0.610	2.000	1.369	22.300	18.77	(N/A)	(N/A)

Existing Pond Redesign- Interconnected Ponds

Subsection: Modified Rational Hydrograph
Return Event: 5 years
Label: SF-1 EX
Storm Event: IDF Curve Equation - 1 - 5 Year
Scenario: Post-Development 5 YEAR

Modified Rational Method

Q = CiA * Unit Conversion; Where Conversion = 43560 / (12 * 3600)

Frequency (years)	C Coefficient	C Adjustment Factor	C Coefficient (Final)	Intensity (in/h)	Area (acres)	Flow (Peak) (ft³/s)
5	1.000	1.000	0.610	3.033	22.300	41.60

Peak Discharge	41.60 ft³/s
Time to Peak	0.500 hours
Hydrograph Volume	2.858 ac-ft

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)
0.050	4.73	9.45	14.18	18.91	23.64
0.300	28.36	33.09	37.82	41.60	41.60
0.550	36.87	32.15	27.42	22.69	17.96
0.800	13.24	8.51	3.78	0.00	(N/A)

Existing Pond Redesign- Interconnected Ponds

Subsection: C and Area (Pre-Development)

Return Event: 10 years

Label: SF-1 EX

Storm Event: IDF Curve Equation - 1 - 10 Year

Scenario: Post-Development 10 YEAR

C and Area Results (Pre-Development)

Soil/Surface Description	C Coefficient	Area (acres)	Area (Adjusted) (acres)
	0.350	21.930	(N/A)
Weighted C & Total Area --->	0.350	21.930	7.676

Existing Pond Redesign- Interconnected Ponds

Subsection: C and Area (Post-Development)

Return Event: 10 years

Label: SF-1 EX

Storm Event: IDF Curve Equation - 1 - 10 Year

Scenario: Post-Development 10 YEAR

C and Area Results

Soil/Surface Description	C Coefficient	Area (acres)	Area (Adjusted) (acres)
	0.610	22.300	(N/A)
Weighted C & Total Area --->	0.610	22.300	13.603

Existing Pond Redesign- Interconnected Ponds

Subsection: Rational Pre-Development Peak Flow

Return Event: 10 years

Label: SF-1 EX

Storm Event: IDF Curve Equation - 1 - 10 Year

Scenario: Post-Development 10 YEAR

Summary of Rational Method Peak Discharges
--- Pre-Development Conditions ---

Q = CiA * Unit Conversion; Where Conversion = 43560 / (12 * 3600)

Frequency (years)	C Coefficient	C Adjustment Factor	C Coefficient (Final)	Intensity (in/h)	Area (acres)	Flow (Peak) (ft^3/s)
10	0.350	1.000	0.350	3.647	21.930	28.23

Existing Pond Redesign- Interconnected Ponds

Subsection: Modified Rational Graph

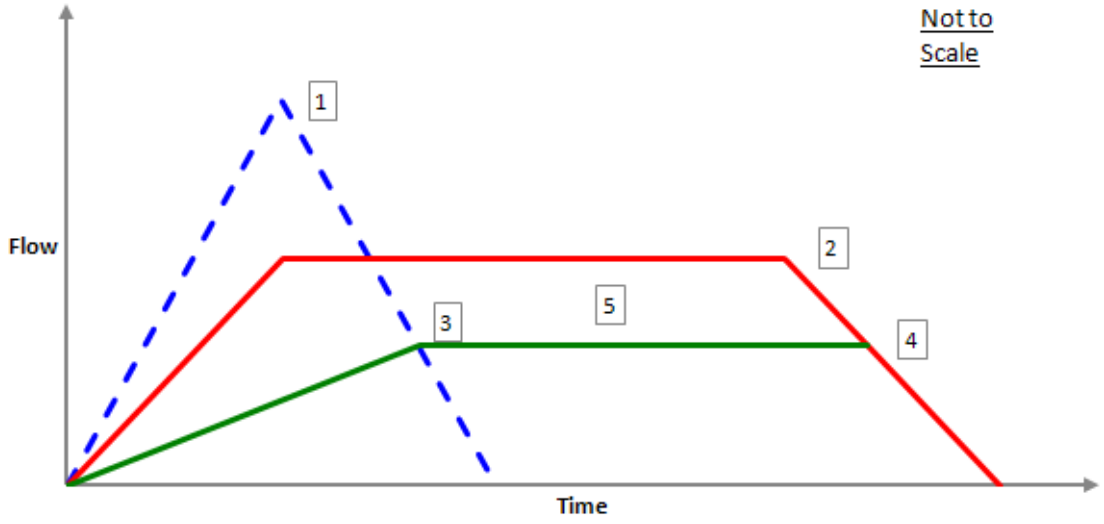
Label: SF-1 EX

Scenario: Post-Development 10 YEAR

Return Event: 10 years

Storm Event: IDF Curve Equation - 1 - 10 Year

Method Type	Method T
Time of Duration (Modified Rational, Critical)	0.500 hours



[1]			[2]		
Time of Concentration (Modified Rational, Composite)	0.440	hours	Time of Duration (Modified Rational, Critical)	0.500	hours
Intensity (Modified Rational, Peak)	3.705	in/h	Intensity (Modified Rational, Critical)	3.464	in/h
Flow (Modified Rational, Peak)	50.82	ft³/s	Flow (Modified Rational, Critical)	47.51	ft³/s

[3]	
First Outflow Breakpoint (Modified Rational, Method T)	0.679 hours
Flow (Modified Rational, Allowable)	28.23 ft³/s

[4]			[5]		
Second Outflow Breakpoint (Modified Rational)	0.636	hours	Storage (Modified Rational, Estimated)	0.817	ac-ft
Flow (Modified Rational, Allowable)	28.23	ft³/s			

Existing Pond Redesign- Interconnected Ponds

Subsection: Modified Rational Storm Calculations
Return Event: 10 years

Label: SF-1 EX
Storm Event: IDF Curve Equation - 1 - 10 Year

Scenario: Post-Development 10 YEAR

Modified Rational Method
--- Summary for Single Storm Frequency ---

Q = CiA * Units Conversion; Where Conversion = 43560 / (12 * 3600)

C Coefficient (Weighted)	C Coefficient (Adjusted)	Duration (hours)	Intensity (in/h)	Area (acres)	Flow (Peak) (ft^3/s)	Volume (Inflow) (ac-ft)	Volume (Storage) (ac-ft)
0.610	0.610	0.440	3.705	22.300	50.82	1.848	0.822
							Storage Maximum
0.610	0.610	0.500	3.464	22.300	47.51	1.963	0.817
0.610	0.610	0.667	2.965	22.300	40.67	2.241	0.757
0.610	0.610	0.833	2.619	22.300	35.92	2.474	0.648
0.610	0.610	1.000	2.362	22.300	32.40	2.677	0.507
0.610	0.610	2.000	1.577	22.300	21.63	(N/A)	(N/A)

Existing Pond Redesign- Interconnected Ponds

Subsection: Modified Rational Hydrograph

Return Event: 10 years

Label: SF-1 EX

Storm Event: IDF Curve Equation - 1 - 10 Year

Scenario: Post-Development 10 YEAR

Modified Rational Method

Q = CiA * Unit Conversion; Where Conversion = 43560 / (12 * 3600)

Frequency (years)	C Coefficient	C Adjustment Factor	C Coefficient (Final)	Intensity (in/h)	Area (acres)	Flow (Peak) (ft³/s)
10	1.000	1.000	0.610	3.464	22.300	47.51

Peak Discharge	47.51 ft³/s
Time to Peak	0.500 hours
Hydrograph Volume	3.264 ac-ft

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)
0.050	5.40	10.80	16.20	21.60	27.00
0.300	32.39	37.79	43.19	47.51	47.51
0.550	42.11	36.71	31.31	25.92	20.52
0.800	15.12	9.72	4.32	0.00	(N/A)

Existing Pond Redesign- Interconnected Ponds

Subsection: C and Area (Pre-Development)

Return Event: 25 years

Label: SF-1 EX

Storm Event: IDF Curve Equation - 1 - 25 Year

Scenario: Post-Development 25 YEAR

C and Area Results (Pre-Development)

Soil/Surface Description	C Coefficient	Area (acres)	Area (Adjusted) (acres)
	0.350	21.930	(N/A)
Weighted C & Total Area --->	0.350	21.930	7.676

Existing Pond Redesign- Interconnected Ponds

Subsection: C and Area (Post-Development)

Return Event: 25 years

Label: SF-1 EX

Storm Event: IDF Curve Equation - 1 - 25 Year

Scenario: Post-Development 25 YEAR

C and Area Results

Soil/Surface Description	C Coefficient	Area (acres)	Area (Adjusted) (acres)
	0.610	22.300	(N/A)
Weighted C & Total Area --->	0.610	22.300	13.603

Existing Pond Redesign- Interconnected Ponds

Subsection: Rational Pre-Development Peak Flow

Return Event: 25 years

Label: SF-1 EX

Storm Event: IDF Curve Equation - 1 - 25 Year

Scenario: Post-Development 25 YEAR

Summary of Rational Method Peak Discharges
--- Pre-Development Conditions ---

Q = CiA * Unit Conversion; Where Conversion = 43560 / (12 * 3600)

Frequency (years)	C Coefficient	C Adjustment Factor	C Coefficient (Final)	Intensity (in/h)	Area (acres)	Flow (Peak) (ft^3/s)
25	0.350	1.000	0.350	4.286	21.930	33.17

Existing Pond Redesign- Interconnected Ponds

Subsection: Modified Rational Graph

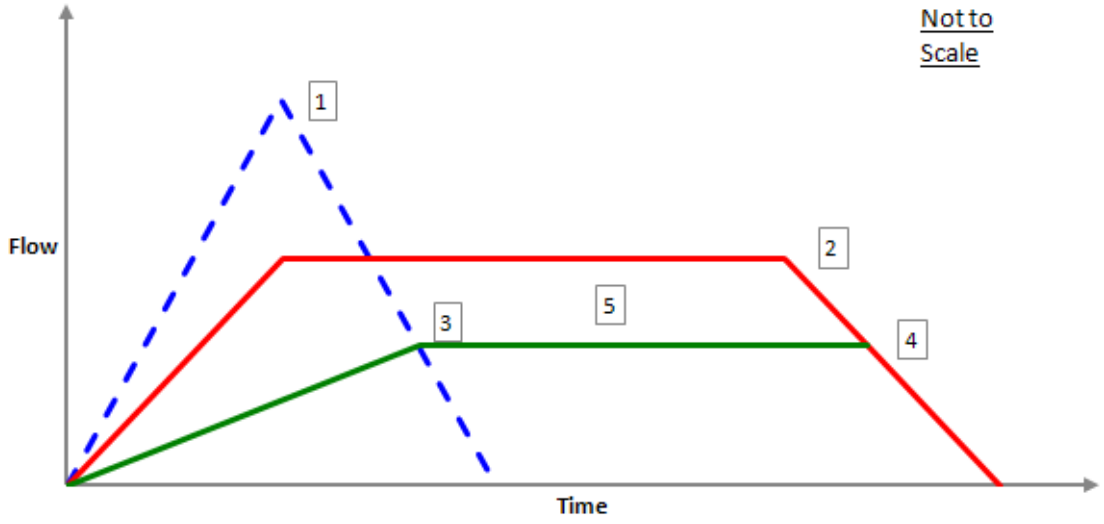
Label: SF-1 EX

Scenario: Post-Development 25 YEAR

Return Event: 25 years

Storm Event: IDF Curve Equation - 1 - 25 Year

Method Type	Method T
Time of Duration (Modified Rational, Critical)	0.500 hours



[1]			[2]		
Time of Concentration (Modified Rational, Composite)	0.440	hours	Time of Duration (Modified Rational, Critical)	0.500	hours
Intensity (Modified Rational, Peak)	4.353	in/h	Intensity (Modified Rational, Critical)	4.072	in/h
Flow (Modified Rational, Peak)	59.71	ft³/s	Flow (Modified Rational, Critical)	55.86	ft³/s

[3]	
First Outflow Breakpoint (Modified Rational, Method T)	0.679 hours
Flow (Modified Rational, Allowable)	33.17 ft³/s

[4]			[5]		
Second Outflow Breakpoint (Modified Rational)	0.636	hours	Storage (Modified Rational, Estimated)	0.961	ac-ft
Flow (Modified Rational, Allowable)	33.17	ft³/s			

Existing Pond Redesign- Interconnected Ponds

Subsection: Modified Rational Storm Calculations
Return Event: 25 years

Label: SF-1 EX
Storm Event: IDF Curve Equation - 1 - 25 Year

Scenario: Post-Development 25 YEAR

Modified Rational Method
--- Summary for Single Storm Frequency ---

Q = CiA * Units Conversion; Where Conversion = 43560 / (12 * 3600)

C Coefficient (Weighted)	C Coefficient (Adjusted)	Duration (hours)	Intensity (in/h)	Area (acres)	Flow (Peak) (ft^3/s)	Volume (Inflow) (ac-ft)	Volume (Storage) (ac-ft)
0.610	0.610	0.440	4.353	22.300	59.71	2.171	0.965
							Storage Maximum
0.610	0.610	0.500	4.072	22.300	55.86	2.308	0.961
0.610	0.610	0.667	3.490	22.300	47.88	2.638	0.893
0.610	0.610	0.833	3.087	22.300	42.34	2.916	0.769
0.610	0.610	1.000	2.787	22.300	38.22	3.159	0.606
0.610	0.610	2.000	1.869	22.300	25.63	(N/A)	(N/A)

Existing Pond Redesign- Interconnected Ponds

Subsection: Modified Rational Hydrograph

Return Event: 25 years

Label: SF-1 EX

Storm Event: IDF Curve Equation - 1 - 25 Year

Scenario: Post-Development 25 YEAR

Modified Rational Method

Q = CiA * Unit Conversion; Where Conversion = 43560 / (12 * 3600)

Frequency (years)	C Coefficient	C Adjustment Factor	C Coefficient (Final)	Intensity (in/h)	Area (acres)	Flow (Peak) (ft³/s)
25	1.000	1.000	0.610	4.072	22.300	55.86

Peak Discharge	55.86 ft³/s
Time to Peak	0.500 hours
Hydrograph Volume	3.837 ac-ft

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)
0.050	6.35	12.70	19.04	25.39	31.74
0.300	38.09	44.43	50.78	55.86	55.86
0.550	49.51	43.16	36.82	30.47	24.12
0.800	17.77	11.43	5.08	0.00	(N/A)

Existing Pond Redesign- Interconnected Ponds

Subsection: C and Area (Pre-Development)

Return Event: 50 years

Label: SF-1 EX

Storm Event: IDF Curve Equation - 1 - 50 Year

Scenario: Post-Development 50 YEAR

C and Area Results (Pre-Development)

Soil/Surface Description	C Coefficient	Area (acres)	Area (Adjusted) (acres)
	0.350	21.930	(N/A)
Weighted C & Total Area --->	0.350	21.930	7.676

Existing Pond Redesign- Interconnected Ponds

Subsection: C and Area (Post-Development)

Return Event: 50 years

Label: SF-1 EX

Storm Event: IDF Curve Equation - 1 - 50 Year

Scenario: Post-Development 50 YEAR

C and Area Results

Soil/Surface Description	C Coefficient	Area (acres)	Area (Adjusted) (acres)
	0.610	22.300	(N/A)
Weighted C & Total Area --->	0.610	22.300	13.603

Existing Pond Redesign- Interconnected Ponds

Subsection: Rational Pre-Development Peak Flow

Return Event: 50 years

Label: SF-1 EX

Storm Event: IDF Curve Equation - 1 - 50 Year

Scenario: Post-Development 50 YEAR

Summary of Rational Method Peak Discharges
--- Pre-Development Conditions ---

Q = CiA * Unit Conversion; Where Conversion = 43560 / (12 * 3600)

Frequency (years)	C Coefficient	C Adjustment Factor	C Coefficient (Final)	Intensity (in/h)	Area (acres)	Flow (Peak) (ft^3/s)
50	0.350	1.000	0.350	4.781	21.930	37.00

Existing Pond Redesign- Interconnected Ponds

Subsection: Modified Rational Graph

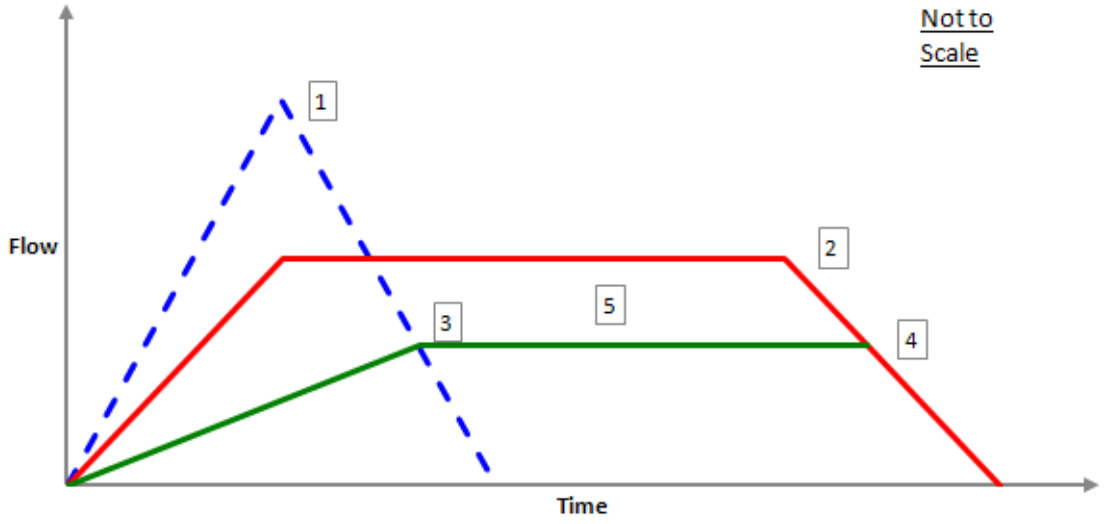
Label: SF-1 EX

Scenario: Post-Development 50 YEAR

Return Event: 50 years

Storm Event: IDF Curve Equation - 1 - 50 Year

Method Type	Method T
Time of Duration (Modified Rational, Critical)	0.500 hours



[1]			[2]		
Time of Concentration (Modified Rational, Composite)	0.440	hours	Time of Duration (Modified Rational, Critical)	0.500	hours
Intensity (Modified Rational, Peak)	4.856	in/h	Intensity (Modified Rational, Critical)	4.544	in/h
Flow (Modified Rational, Peak)	66.60	ft³/s	Flow (Modified Rational, Critical)	62.33	ft³/s

[3]	
First Outflow Breakpoint (Modified Rational, Method T)	0.679 hours
Flow (Modified Rational, Allowable)	37.00 ft³/s

[4]			[5]		
Second Outflow Breakpoint (Modified Rational)	0.636	hours	Storage (Modified Rational, Estimated)	1.072	ac-ft
Flow (Modified Rational, Allowable)	37.00	ft³/s			

Existing Pond Redesign- Interconnected Ponds

Subsection: Modified Rational Storm Calculations
Return Event: 50 years

Label: SF-1 EX
Storm Event: IDF Curve Equation - 1 - 50 Year

Scenario: Post-Development 50 YEAR

Modified Rational Method
--- Summary for Single Storm Frequency ---

Q = CiA * Units Conversion; Where Conversion = 43560 / (12 * 3600)

C Coefficient (Weighted)	C Coefficient (Adjusted)	Duration (hours)	Intensity (in/h)	Area (acres)	Flow (Peak) (ft^3/s)	Volume (Inflow) (ac-ft)	Volume (Storage) (ac-ft)
0.610	0.610	0.440	4.856	22.300	66.60	2.422	1.076
							Storage Maximum
0.610	0.610	0.500	4.544	22.300	62.33	2.575	1.072
0.610	0.610	0.667	3.898	22.300	53.46	2.945	0.999
0.610	0.610	0.833	3.449	22.300	47.30	3.258	0.862
0.610	0.610	1.000	3.115	22.300	42.73	3.531	0.682
0.610	0.610	2.000	2.093	22.300	28.71	(N/A)	(N/A)

Existing Pond Redesign- Interconnected Ponds

Subsection: Modified Rational Hydrograph

Return Event: 50 years

Label: SF-1 EX

Storm Event: IDF Curve Equation - 1 - 50 Year

Scenario: Post-Development 50 YEAR

Modified Rational Method

Q = CiA * Unit Conversion; Where Conversion = 43560 / (12 * 3600)

Frequency (years)	C Coefficient	C Adjustment Factor	C Coefficient (Final)	Intensity (in/h)	Area (acres)	Flow (Peak) (ft³/s)
50	1.000	1.000	0.610	4.544	22.300	62.33

Peak Discharge	62.33 ft³/s
Time to Peak	0.500 hours
Hydrograph Volume	4.282 ac-ft

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)
0.050	7.08	14.17	21.25	28.33	35.41
0.300	42.50	49.58	56.66	62.33	62.33
0.550	55.24	48.16	41.08	34.00	26.91
0.800	19.83	12.75	5.67	0.00	(N/A)

Existing Pond Redesign- Interconnected Ponds

Subsection: C and Area (Pre-Development)

Return Event: 100 years

Label: SF-1 EX

Storm Event: IDF Curve Equation - 1 - 100 Year

Scenario: Post-Development 100 YEAR

C and Area Results (Pre-Development)

Soil/Surface Description	C Coefficient	Area (acres)	Area (Adjusted) (acres)
	0.350	21.930	(N/A)
Weighted C & Total Area --->	0.350	21.930	7.676

Existing Pond Redesign- Interconnected Ponds

Subsection: C and Area (Post-Development)

Return Event: 100 years

Label: SF-1 EX

Storm Event: IDF Curve Equation - 1 - 100 Year

Scenario: Post-Development 100 YEAR

C and Area Results

Soil/Surface Description	C Coefficient	Area (acres)	Area (Adjusted) (acres)
	0.610	22.300	(N/A)
Weighted C & Total Area --->	0.610	22.300	13.603

Existing Pond Redesign- Interconnected Ponds

Subsection: Rational Pre-Development Peak Flow

Return Event: 100 years

Label: SF-1 EX

Storm Event: IDF Curve Equation - 1 - 100 Year

Scenario: Post-Development 100 YEAR

Summary of Rational Method Peak Discharges
--- Pre-Development Conditions ---

Q = CiA * Unit Conversion; Where Conversion = 43560 / (12 * 3600)

Frequency (years)	C Coefficient	C Adjustment Factor	C Coefficient (Final)	Intensity (in/h)	Area (acres)	Flow (Peak) (ft^3/s)
100	0.350	1.000	0.350	5.284	21.930	40.90

Existing Pond Redesign- Interconnected Ponds

Subsection: Modified Rational Graph

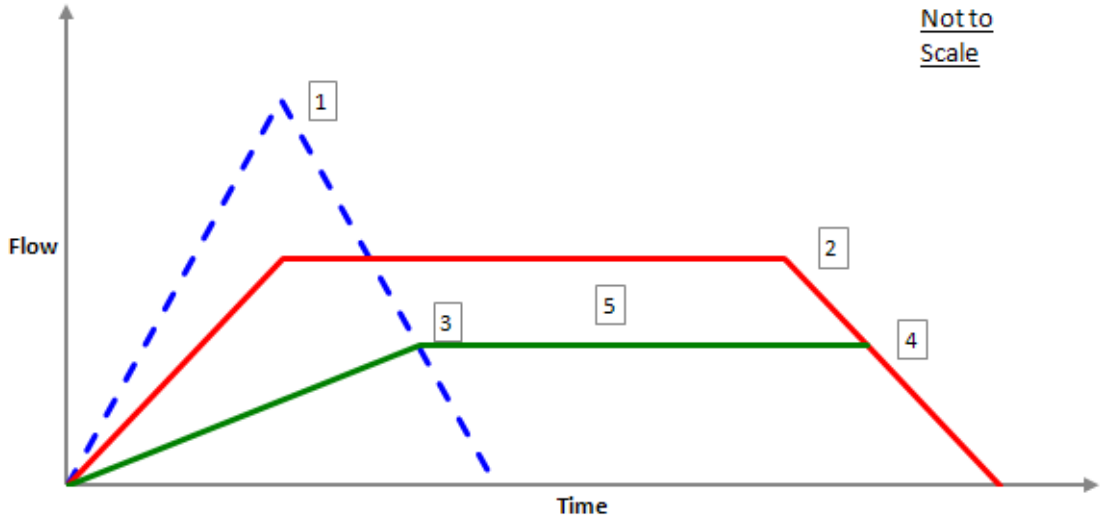
Label: SF-1 EX

Scenario: Post-Development 100 YEAR

Return Event: 100 years

Storm Event: IDF Curve Equation - 1 - 100 Year

Method Type	Method T
Time of Duration (Modified Rational, Critical)	0.500 hours



[1]			[2]		
Time of Concentration (Modified Rational, Composite)	0.440	hours	Time of Duration (Modified Rational, Critical)	0.500	hours
Intensity (Modified Rational, Peak)	5.367	in/h	Intensity (Modified Rational, Critical)	5.024	in/h
Flow (Modified Rational, Peak)	73.61	ft³/s	Flow (Modified Rational, Critical)	68.90	ft³/s

[3]	
First Outflow Breakpoint (Modified Rational, Method T)	0.679 hours
Flow (Modified Rational, Allowable)	40.90 ft³/s

[4]			[5]		
Second Outflow Breakpoint (Modified Rational)	0.636	hours	Storage (Modified Rational, Estimated)	1.186	ac-ft
Flow (Modified Rational, Allowable)	40.90	ft³/s			

Existing Pond Redesign- Interconnected Ponds

Subsection: Modified Rational Storm Calculations
Return Event: 100 years

Label: SF-1 EX
Storm Event: IDF Curve Equation - 1 - 100 Year

Scenario: Post-Development 100 YEAR

Modified Rational Method
--- Summary for Single Storm Frequency ---

Q = CiA * Units Conversion; Where Conversion = 43560 / (12 * 3600)

C Coefficient (Weighted)	C Coefficient (Adjusted)	Duration (hours)	Intensity (in/h)	Area (acres)	Flow (Peak) (ft^3/s)	Volume (Inflow) (ac-ft)	Volume (Storage) (ac-ft)
0.610	0.610	0.440	5.367	22.300	73.61	2.677	1.190
							Storage Maximum
0.610	0.610	0.500	5.024	22.300	68.90	2.847	1.186
0.610	0.610	0.667	4.312	22.300	59.15	3.259	1.107
0.610	0.610	0.833	3.818	22.300	52.37	3.607	0.958
0.610	0.610	1.000	3.450	22.300	47.33	3.911	0.761
0.610	0.610	2.000	2.323	22.300	31.86	(N/A)	(N/A)

Existing Pond Redesign- Interconnected Ponds

Subsection: Modified Rational Hydrograph

Return Event: 100 years

Label: SF-1 EX

Storm Event: IDF Curve Equation - 1 - 100 Year

Scenario: Post-Development 100 YEAR

Modified Rational Method

Q = CiA * Unit Conversion; Where Conversion = 43560 / (12 * 3600)

Frequency (years)	C Coefficient	C Adjustment Factor	C Coefficient (Final)	Intensity (in/h)	Area (acres)	Flow (Peak) (ft³/s)
100	1.000	1.000	0.610	5.024	22.300	68.90

Peak Discharge	68.90 ft³/s
Time to Peak	0.500 hours
Hydrograph Volume	4.734 ac-ft

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)
0.050	7.83	15.66	23.49	31.32	39.15
0.300	46.98	54.81	62.64	68.90	68.90
0.550	61.07	53.24	45.41	37.58	29.75
0.800	21.92	14.09	6.26	0.00	(N/A)

Existing Pond Redesign- Interconnected Ponds

Subsection: C and Area (Pre-Development) Return Event: 2 years

Label: SF-1 RE-DESIGN Storm Event: IDF Curve Equation - 1 - 2 Year

Scenario: Post-Development 2 YEAR

C and Area Results (Pre-Development)

Soil/Surface Description	C Coefficient	Area (acres)	Area (Adjusted) (acres)
	0.610	22.300	(N/A)
Weighted C & Total Area --->	0.610	22.300	13.603

Existing Pond Redesign- Interconnected Ponds

Subsection: C and Area (Post-Development) Return Event: 2 years
Label: SF-1 RE-DESIGN Storm Event: IDF Curve Equation - 1 - 2 Year
Scenario: Post-Development 2 YEAR

C and Area Results

Soil/Surface Description	C Coefficient	Area (acres)	Area (Adjusted) (acres)
	0.610	24.780	(N/A)
Weighted C & Total Area --->	0.610	24.780	15.116

Existing Pond Redesign- Interconnected Ponds

Subsection: Rational Pre-Development Peak Flow
Return Event: 2 years
Label: SF-1 RE-DESIGN
Storm Event: IDF Curve Equation - 1 - 2 Year
Scenario: Post-Development 2 YEAR

Summary of Rational Method Peak Discharges
--- Pre-Development Conditions ---

Q = CiA * Unit Conversion; Where Conversion = 43560 / (12 * 3600)

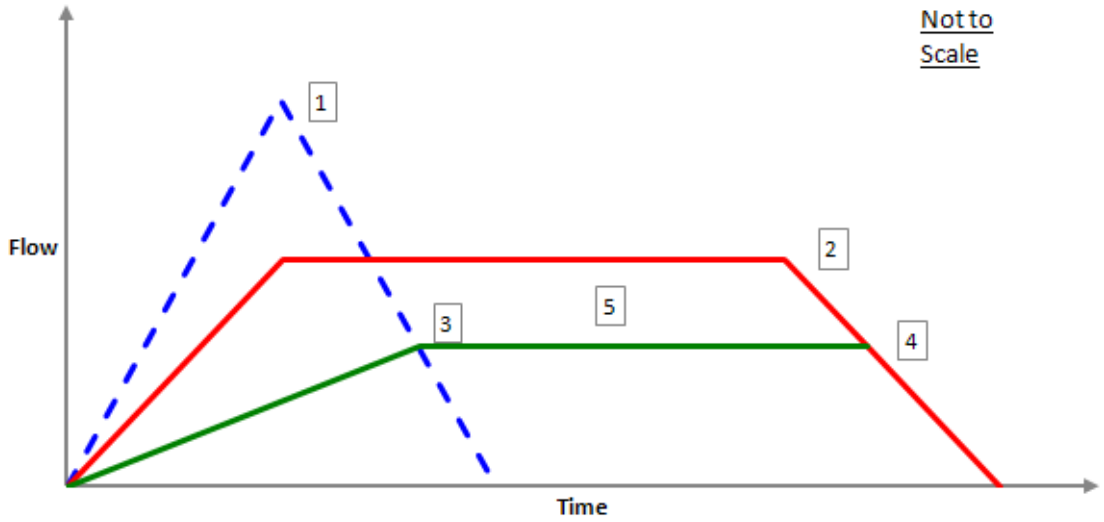
Frequency (years)	C Coefficient	C Adjustment Factor	C Coefficient (Final)	Intensity (in/h)	Area (acres)	Flow (Peak) (ft^3/s)
2	0.610	1.000	0.610	2.599	22.300	35.65

Existing Pond Redesign- Interconnected Ponds

Subsection: Modified Rational Graph
Label: SF-1 RE-DESIGN
Scenario: Post-Development 2 YEAR

Return Event: 2 years
Storm Event: IDF Curve Equation - 1 - 2 Year

Method Type	Method T
Time of Duration (Modified Rational, Critical)	0.500 hours



[1]			[2]		
Time of Concentration (Modified Rational, Composite)	0.435	hours	Time of Duration (Modified Rational, Critical)	0.500	hours
Intensity (Modified Rational, Peak)	2.615	in/h	Intensity (Modified Rational, Critical)	2.424	in/h
Flow (Modified Rational, Peak)	39.86	ft³/s	Flow (Modified Rational, Critical)	36.94	ft³/s

[3]	
First Outflow Breakpoint (Modified Rational, Method T)	0.515 hours
Flow (Modified Rational, Allowable)	35.65 ft³/s

[4]			[5]		
Second Outflow Breakpoint (Modified Rational)	0.481	hours	Storage (Modified Rational, Estimated)	0.099	ac-ft
Flow (Modified Rational, Allowable)	35.65	ft³/s			

Existing Pond Redesign- Interconnected Ponds

Subsection: Modified Rational Storm Calculations
Return Event: 2 years
Label: SF-1 RE-DESIGN
Storm Event: IDF Curve Equation - 1 - 2 Year
Scenario: Post-Development 2 YEAR

Modified Rational Method
--- Summary for Single Storm Frequency ---

Q = CiA * Units Conversion; Where Conversion = 43560 / (12 * 3600)

C Coefficient (Weighted)	C Coefficient (Adjusted)	Duration (hours)	Intensity (in/h)	Area (acres)	Flow (Peak) (ft^3/s)	Volume (Inflow) (ac-ft)	Volume (Storage) (ac-ft)
0.610	0.610	0.435	2.615	24.780	39.86	1.433	0.151
							Storage Maximum
0.610	0.610	0.500	2.424	24.780	36.94	1.527	0.099
0.610	0.610	0.667	2.062	24.780	31.43	(N/A)	(N/A)

Existing Pond Redesign- Interconnected Ponds

Subsection: Modified Rational Hydrograph
Label: SF-1 RE-DESIGN
Scenario: Post-Development 2 YEAR

Return Event: 2 years
Storm Event: IDF Curve Equation - 1 - 2 Year

Modified Rational Method

Q = CiA * Unit Conversion; Where Conversion = 43560 / (12 * 3600)

Frequency (years)	C Coefficient	C Adjustment Factor	C Coefficient (Final)	Intensity (in/h)	Area (acres)	Flow (Peak) (ft³/s)
2	1.000	1.000	0.610	2.424	24.780	36.94

Peak Discharge	36.94 ft³/s
Time to Peak	0.500 hours
Hydrograph Volume	2.421 ac-ft

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)
0.050	4.25	8.49	12.74	16.99	21.23
0.300	25.48	29.72	33.97	36.94	36.94
0.550	32.70	28.45	24.20	19.96	15.71
0.800	11.46	7.22	2.97	0.00	(N/A)

Existing Pond Redesign- Interconnected Ponds

Subsection: C and Area (Pre-Development) Return Event: 5 years

Label: SF-1 RE-DESIGN Storm Event: IDF Curve Equation - 1 - 5 Year

Scenario: Post-Development 5 YEAR

C and Area Results (Pre-Development)

Soil/Surface Description	C Coefficient	Area (acres)	Area (Adjusted) (acres)
	0.610	22.300	(N/A)
Weighted C & Total Area --->	0.610	22.300	13.603

Existing Pond Redesign- Interconnected Ponds

Subsection: C and Area (Post-Development) Return Event: 5 years
Label: SF-1 RE-DESIGN Storm Event: IDF Curve Equation - 1 - 5 Year
Scenario: Post-Development 5 YEAR

C and Area Results

Soil/Surface Description	C Coefficient	Area (acres)	Area (Adjusted) (acres)
	0.610	24.780	(N/A)
Weighted C & Total Area --->	0.610	24.780	15.116

Existing Pond Redesign- Interconnected Ponds

Subsection: Rational Pre-Development Peak Flow
Return Event: 5 years
Label: SF-1 RE-DESIGN
Storm Event: IDF Curve Equation - 1 - 5 Year
Scenario: Post-Development 5 YEAR

Summary of Rational Method Peak Discharges
--- Pre-Development Conditions ---

Q = CiA * Unit Conversion; Where Conversion = 43560 / (12 * 3600)

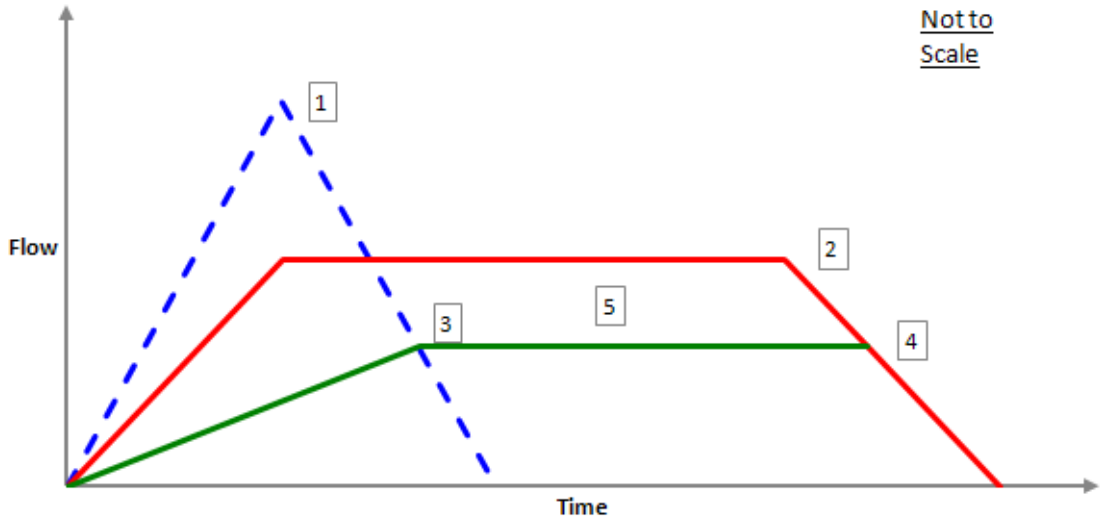
Frequency (years)	C Coefficient	C Adjustment Factor	C Coefficient (Final)	Intensity (in/h)	Area (acres)	Flow (Peak) (ft^3/s)
5	0.610	1.000	0.610	3.246	22.300	44.53

Existing Pond Redesign- Interconnected Ponds

Subsection: Modified Rational Graph
Label: SF-1 RE-DESIGN
Scenario: Post-Development 5 YEAR

Return Event: 5 years
Storm Event: IDF Curve Equation - 1 - 5 Year

Method Type	Method T
Time of Duration (Modified Rational, Critical)	0.500 hours



[1]			[2]		
Time of Concentration (Modified Rational, Composite)	0.435	hours	Time of Duration (Modified Rational, Critical)	0.500	hours
Intensity (Modified Rational, Peak)	3.266	in/h	Intensity (Modified Rational, Critical)	3.033	in/h
Flow (Modified Rational, Peak)	49.78	ft³/s	Flow (Modified Rational, Critical)	46.23	ft³/s

[3]	
First Outflow Breakpoint (Modified Rational, Method T)	0.516 hours
Flow (Modified Rational, Allowable)	44.53 ft³/s

[4]			[5]		
Second Outflow Breakpoint (Modified Rational)	0.481	hours	Storage (Modified Rational, Estimated)	0.125	ac-ft
Flow (Modified Rational, Allowable)	44.53	ft³/s			

Existing Pond Redesign- Interconnected Ponds

Subsection: Modified Rational Storm Calculations
Return Event: 5 years
Label: SF-1 RE-DESIGN
Storm Event: IDF Curve Equation - 1 - 5 Year
Scenario: Post-Development 5 YEAR

Modified Rational Method
--- Summary for Single Storm Frequency ---

Q = CiA * Units Conversion; Where Conversion = 43560 / (12 * 3600)

C Coefficient (Weighted)	C Coefficient (Adjusted)	Duration (hours)	Intensity (in/h)	Area (acres)	Flow (Peak) (ft^3/s)	Volume (Inflow) (ac-ft)	Volume (Storage) (ac-ft)
0.610	0.610	0.435	3.266	24.780	49.78	1.790	0.189
							Storage Maximum
0.610	0.610	0.500	3.033	24.780	46.23	1.910	0.125
0.610	0.610	0.667	2.591	24.780	39.50	(N/A)	(N/A)

Existing Pond Redesign- Interconnected Ponds

Subsection: Modified Rational Hydrograph
Label: SF-1 RE-DESIGN
Scenario: Post-Development 5 YEAR

Return Event: 5 years
Storm Event: IDF Curve Equation - 1 - 5 Year

Modified Rational Method

Q = CiA * Unit Conversion; Where Conversion = 43560 / (12 * 3600)

Frequency (years)	C Coefficient	C Adjustment Factor	C Coefficient (Final)	Intensity (in/h)	Area (acres)	Flow (Peak) (ft³/s)
5	1.000	1.000	0.610	3.033	24.780	46.23

Peak Discharge	46.23 ft³/s
Time to Peak	0.500 hours
Hydrograph Volume	3.029 ac-ft

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)
0.050	5.31	10.63	15.94	21.25	26.57
0.300	31.88	37.19	42.51	46.23	46.23
0.550	40.91	35.60	30.29	24.97	19.66
0.800	14.35	9.03	3.72	0.00	(N/A)

Existing Pond Redesign- Interconnected Ponds

Subsection: C and Area (Pre-Development)

Return Event: 10 years

Label: SF-1 RE-DESIGN

Storm Event: IDF Curve Equation - 1 - 10 Year

Scenario: Post-Development 10 YEAR

C and Area Results (Pre-Development)

Soil/Surface Description	C Coefficient	Area (acres)	Area (Adjusted) (acres)
	0.610	22.300	(N/A)
Weighted C & Total Area --->	0.610	22.300	13.603

Existing Pond Redesign- Interconnected Ponds

Subsection: C and Area (Post-Development)

Return Event: 10 years

Label: SF-1 RE-DESIGN

Storm Event: IDF Curve Equation - 1 - 10 Year

Scenario: Post-Development 10 YEAR

C and Area Results

Soil/Surface Description	C Coefficient	Area (acres)	Area (Adjusted) (acres)
	0.610	24.780	(N/A)
Weighted C & Total Area --->	0.610	24.780	15.116

Existing Pond Redesign- Interconnected Ponds

Subsection: Rational Pre-Development Peak Flow

Return Event: 10 years

Label: SF-1 RE-DESIGN

Storm Event: IDF Curve Equation - 1 - 10 Year

Scenario: Post-Development 10 YEAR

Summary of Rational Method Peak Discharges
--- Pre-Development Conditions ---

Q = CiA * Unit Conversion; Where Conversion = 43560 / (12 * 3600)

Frequency (years)	C Coefficient	C Adjustment Factor	C Coefficient (Final)	Intensity (in/h)	Area (acres)	Flow (Peak) (ft^3/s)
10	0.610	1.000	0.610	3.705	22.300	50.82

Existing Pond Redesign- Interconnected Ponds

Subsection: Modified Rational Graph

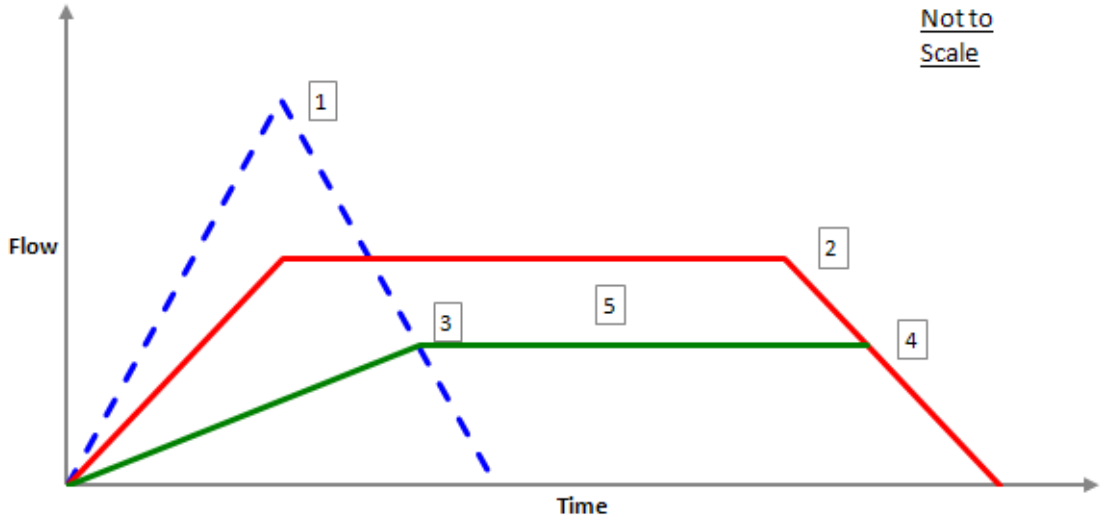
Label: SF-1 RE-DESIGN

Scenario: Post-Development 10 YEAR

Return Event: 10 years

Storm Event: IDF Curve Equation - 1 - 10 Year

Method Type	Method T
Time of Duration (Modified Rational, Critical)	0.500 hours



[1]			[2]		
Time of Concentration (Modified Rational, Composite)	0.435	hours	Time of Duration (Modified Rational, Critical)	0.500	hours
Intensity (Modified Rational, Peak)	3.727	in/h	Intensity (Modified Rational, Critical)	3.464	in/h
Flow (Modified Rational, Peak)	56.81	ft³/s	Flow (Modified Rational, Critical)	52.80	ft³/s

[3]	
First Outflow Breakpoint (Modified Rational, Method T)	0.516 hours
Flow (Modified Rational, Allowable)	50.82 ft³/s

[4]			[5]		
Second Outflow Breakpoint (Modified Rational)	0.481	hours	Storage (Modified Rational, Estimated)	0.144	ac-ft
Flow (Modified Rational, Allowable)	50.82	ft³/s			

Existing Pond Redesign- Interconnected Ponds

Subsection: Modified Rational Storm Calculations
Return Event: 10 years

Label: SF-1 RE-DESIGN
Storm Event: IDF Curve Equation - 1 - 10 Year

Scenario: Post-Development 10 YEAR

Modified Rational Method
--- Summary for Single Storm Frequency ---

Q = CiA * Units Conversion; Where Conversion = 43560 / (12 * 3600)

C Coefficient (Weighted)	C Coefficient (Adjusted)	Duration (hours)	Intensity (in/h)	Area (acres)	Flow (Peak) (ft^3/s)	Volume (Inflow) (ac-ft)	Volume (Storage) (ac-ft)
0.610	0.610	0.435	3.727	24.780	56.81	2.042	0.215
							Storage Maximum
0.610	0.610	0.500	3.464	24.780	52.80	2.182	0.144
0.610	0.610	0.667	2.965	24.780	45.19	(N/A)	(N/A)

Existing Pond Redesign- Interconnected Ponds

Subsection: Modified Rational Hydrograph

Return Event: 10 years

Label: SF-1 RE-DESIGN

Storm Event: IDF Curve Equation - 1 - 10 Year

Scenario: Post-Development 10 YEAR

Modified Rational Method

Q = CiA * Unit Conversion; Where Conversion = 43560 / (12 * 3600)

Frequency (years)	C Coefficient	C Adjustment Factor	C Coefficient (Final)	Intensity (in/h)	Area (acres)	Flow (Peak) (ft³/s)
10	1.000	1.000	0.610	3.464	24.780	52.80

Peak Discharge	52.80 ft³/s
Time to Peak	0.500 hours
Hydrograph Volume	3.459 ac-ft

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)
0.050	6.07	12.14	18.21	24.27	30.34
0.300	36.41	42.48	48.55	52.80	52.80
0.550	46.73	40.66	34.59	28.52	22.45
0.800	16.38	10.32	4.25	0.00	(N/A)

Existing Pond Redesign- Interconnected Ponds

Subsection: C and Area (Pre-Development)

Return Event: 25 years

Label: SF-1 RE-DESIGN

Storm Event: IDF Curve Equation - 1 - 25 Year

Scenario: Post-Development 25 YEAR

C and Area Results (Pre-Development)

Soil/Surface Description	C Coefficient	Area (acres)	Area (Adjusted) (acres)
	0.610	22.300	(N/A)
Weighted C & Total Area --->	0.610	22.300	13.603

Existing Pond Redesign- Interconnected Ponds

Subsection: C and Area (Post-Development)

Return Event: 25 years

Label: SF-1 RE-DESIGN

Storm Event: IDF Curve Equation - 1 - 25 Year

Scenario: Post-Development 25 YEAR

C and Area Results

Soil/Surface Description	C Coefficient	Area (acres)	Area (Adjusted) (acres)
	0.610	24.780	(N/A)
Weighted C & Total Area --->	0.610	24.780	15.116

Existing Pond Redesign- Interconnected Ponds

Subsection: Rational Pre-Development Peak Flow

Return Event: 25 years

Label: SF-1 RE-DESIGN

Storm Event: IDF Curve Equation - 1 - 25 Year

Scenario: Post-Development 25 YEAR

Summary of Rational Method Peak Discharges
--- Pre-Development Conditions ---

Q = CiA * Unit Conversion; Where Conversion = 43560 / (12 * 3600)

Frequency (years)	C Coefficient	C Adjustment Factor	C Coefficient (Final)	Intensity (in/h)	Area (acres)	Flow (Peak) (ft^3/s)
25	0.610	1.000	0.610	4.353	22.300	59.71

Existing Pond Redesign- Interconnected Ponds

Subsection: Modified Rational Graph

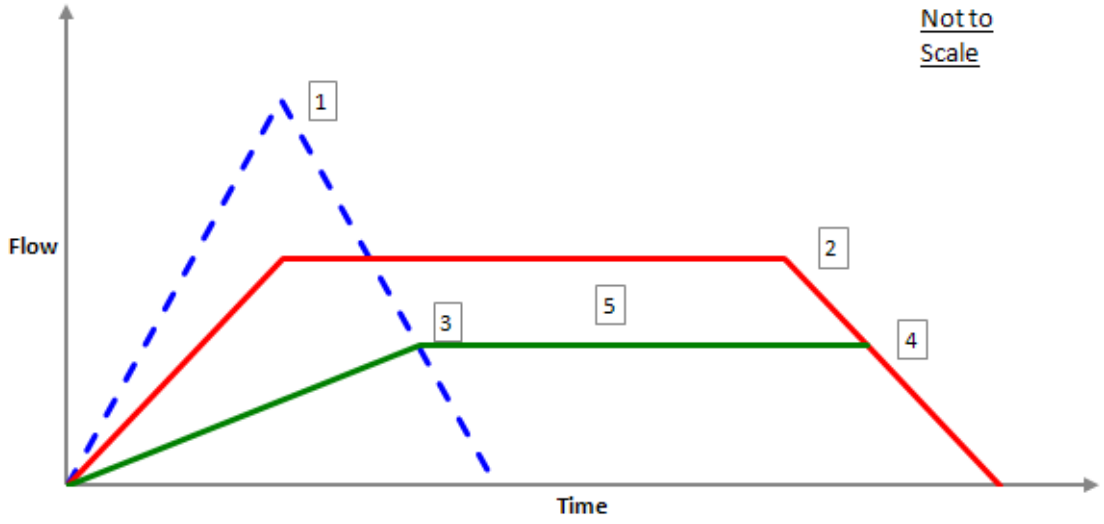
Label: SF-1 RE-DESIGN

Scenario: Post-Development 25 YEAR

Return Event: 25 years

Storm Event: IDF Curve Equation - 1 - 25 Year

Method Type	Method T
Time of Duration (Modified Rational, Critical)	0.500 hours



[1]			[2]		
Time of Concentration (Modified Rational, Composite)	0.435	hours	Time of Duration (Modified Rational, Critical)	0.500	hours
Intensity (Modified Rational, Peak)	4.379	in/h	Intensity (Modified Rational, Critical)	4.072	in/h
Flow (Modified Rational, Peak)	66.74	ft³/s	Flow (Modified Rational, Critical)	62.07	ft³/s

[3]	
First Outflow Breakpoint (Modified Rational, Method T)	0.517 hours
Flow (Modified Rational, Allowable)	59.71 ft³/s

[4]			[5]		
Second Outflow Breakpoint (Modified Rational)	0.481	hours	Storage (Modified Rational, Estimated)	0.170	ac-ft
Flow (Modified Rational, Allowable)	59.71	ft³/s			

Existing Pond Redesign- Interconnected Ponds

Subsection: Modified Rational Storm Calculations
Return Event: 25 years

Label: SF-1 RE-DESIGN
Storm Event: IDF Curve Equation - 1 - 25 Year

Scenario: Post-Development 25 YEAR

Modified Rational Method
--- Summary for Single Storm Frequency ---

Q = CiA * Units Conversion; Where Conversion = 43560 / (12 * 3600)

C Coefficient (Weighted)	C Coefficient (Adjusted)	Duration (hours)	Intensity (in/h)	Area (acres)	Flow (Peak) (ft^3/s)	Volume (Inflow) (ac-ft)	Volume (Storage) (ac-ft)
0.610	0.610	0.435	4.379	24.780	66.74	2.400	0.253
							Storage Maximum
0.610	0.610	0.500	4.072	24.780	62.07	2.565	0.170
0.610	0.610	0.667	3.490	24.780	53.20	(N/A)	(N/A)

Existing Pond Redesign- Interconnected Ponds

Subsection: Modified Rational Hydrograph

Return Event: 25 years

Label: SF-1 RE-DESIGN

Storm Event: IDF Curve Equation - 1 - 25 Year

Scenario: Post-Development 25 YEAR

Modified Rational Method

Q = CiA * Unit Conversion; Where Conversion = 43560 / (12 * 3600)

Frequency (years)	C Coefficient	C Adjustment Factor	C Coefficient (Final)	Intensity (in/h)	Area (acres)	Flow (Peak) (ft³/s)
25	1.000	1.000	0.610	4.072	24.780	62.07

Peak Discharge	62.07 ft³/s
Time to Peak	0.500 hours
Hydrograph Volume	4.067 ac-ft

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)
0.050	7.13	14.27	21.40	28.54	35.67
0.300	42.81	49.94	57.08	62.07	62.07
0.550	54.94	47.80	40.67	33.53	26.40
0.800	19.26	12.13	4.99	0.00	(N/A)

Existing Pond Redesign- Interconnected Ponds

Subsection: C and Area (Pre-Development)

Return Event: 50 years

Label: SF-1 RE-DESIGN

Storm Event: IDF Curve Equation - 1 - 50 Year

Scenario: Post-Development 50 YEAR

C and Area Results (Pre-Development)

Soil/Surface Description	C Coefficient	Area (acres)	Area (Adjusted) (acres)
	0.610	22.300	(N/A)
Weighted C & Total Area --->	0.610	22.300	13.603

Existing Pond Redesign- Interconnected Ponds

Subsection: C and Area (Post-Development)

Label: SF-1 RE-DESIGN

Scenario: Post-Development 50 YEAR

Return Event: 50 years

Storm Event: IDF Curve Equation - 1 - 50 Year

C and Area Results

Soil/Surface Description	C Coefficient	Area (acres)	Area (Adjusted) (acres)
	0.610	24.780	(N/A)
Weighted C & Total Area --->	0.610	24.780	15.116

Existing Pond Redesign- Interconnected Ponds

Subsection: Rational Pre-Development Peak Flow

Return Event: 50 years

Label: SF-1 RE-DESIGN

Storm Event: IDF Curve Equation - 1 - 50 Year

Scenario: Post-Development 50 YEAR

Summary of Rational Method Peak Discharges
--- Pre-Development Conditions ---

Q = CiA * Unit Conversion; Where Conversion = 43560 / (12 * 3600)

Frequency (years)	C Coefficient	C Adjustment Factor	C Coefficient (Final)	Intensity (in/h)	Area (acres)	Flow (Peak) (ft^3/s)
50	0.610	1.000	0.610	4.856	22.300	66.60

Existing Pond Redesign- Interconnected Ponds

Subsection: Modified Rational Graph

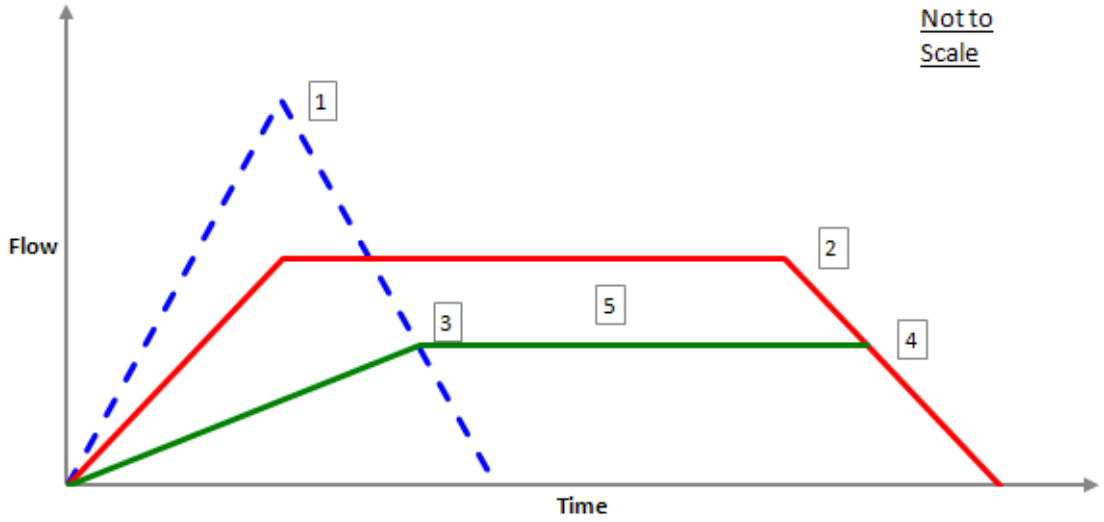
Label: SF-1 RE-DESIGN

Scenario: Post-Development 50 YEAR

Return Event: 50 years

Storm Event: IDF Curve Equation - 1 - 50 Year

Method Type	Method T
Time of Duration (Modified Rational, Critical)	0.500 hours



[1]			[2]		
Time of Concentration (Modified Rational, Composite)	0.435	hours	Time of Duration (Modified Rational, Critical)	0.500	hours
Intensity (Modified Rational, Peak)	4.884	in/h	Intensity (Modified Rational, Critical)	4.544	in/h
Flow (Modified Rational, Peak)	74.45	ft³/s	Flow (Modified Rational, Critical)	69.26	ft³/s

[3]	
First Outflow Breakpoint (Modified Rational, Method T)	0.517 hours
Flow (Modified Rational, Allowable)	66.60 ft³/s

[4]			[5]		
Second Outflow Breakpoint (Modified Rational)	0.481	hours	Storage (Modified Rational, Estimated)	0.190	ac-ft
Flow (Modified Rational, Allowable)	66.60	ft³/s			

Existing Pond Redesign- Interconnected Ponds

Subsection: Modified Rational Storm Calculations
Return Event: 50 years

Label: SF-1 RE-DESIGN
Storm Event: IDF Curve Equation - 1 - 50 Year

Scenario: Post-Development 50 YEAR

Modified Rational Method
--- Summary for Single Storm Frequency ---

Q = CiA * Units Conversion; Where Conversion = 43560 / (12 * 3600)

C Coefficient (Weighted)	C Coefficient (Adjusted)	Duration (hours)	Intensity (in/h)	Area (acres)	Flow (Peak) (ft^3/s)	Volume (Inflow) (ac-ft)	Volume (Storage) (ac-ft)
0.610	0.610	0.435	4.884	24.780	74.45	2.676	0.282
							Storage Maximum
0.610	0.610	0.500	4.544	24.780	69.26	2.862	0.190
0.610	0.610	0.667	3.898	24.780	59.41	(N/A)	(N/A)

Existing Pond Redesign- Interconnected Ponds

Subsection: Modified Rational Hydrograph

Return Event: 50 years

Label: SF-1 RE-DESIGN

Storm Event: IDF Curve Equation - 1 - 50 Year

Scenario: Post-Development 50 YEAR

Modified Rational Method

Q = CiA * Unit Conversion; Where Conversion = 43560 / (12 * 3600)

Frequency (years)	C Coefficient	C Adjustment Factor	C Coefficient (Final)	Intensity (in/h)	Area (acres)	Flow (Peak) (ft³/s)
50	1.000	1.000	0.610	4.544	24.780	69.26

Peak Discharge	69.26 ft³/s
Time to Peak	0.500 hours
Hydrograph Volume	4.538 ac-ft

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)
0.050	7.96	15.92	23.88	31.84	39.80
0.300	47.76	55.72	63.69	69.26	69.26
0.550	61.30	53.34	45.38	37.42	29.45
0.800	21.49	13.53	5.57	0.00	(N/A)

Existing Pond Redesign- Interconnected Ponds

Subsection: C and Area (Pre-Development)

Return Event: 100 years

Label: SF-1 RE-DESIGN

Storm Event: IDF Curve Equation - 1 - 100 Year

Scenario: Post-Development 100 YEAR

C and Area Results (Pre-Development)

Soil/Surface Description	C Coefficient	Area (acres)	Area (Adjusted) (acres)
	0.610	22.300	(N/A)
Weighted C & Total Area --->	0.610	22.300	13.603

Existing Pond Redesign- Interconnected Ponds

Subsection: C and Area (Post-Development)

Return Event: 100 years

Label: SF-1 RE-DESIGN

Storm Event: IDF Curve Equation - 1 - 100 Year

Scenario: Post-Development 100 YEAR

C and Area Results

Soil/Surface Description	C Coefficient	Area (acres)	Area (Adjusted) (acres)
	0.610	24.780	(N/A)
Weighted C & Total Area --->	0.610	24.780	15.116

Existing Pond Redesign- Interconnected Ponds

Subsection: Rational Pre-Development Peak Flow

Return Event: 100 years

Label: SF-1 RE-DESIGN

Storm Event: IDF Curve Equation - 1 - 100 Year

Scenario: Post-Development 100 YEAR

Summary of Rational Method Peak Discharges
--- Pre-Development Conditions ---

Q = CiA * Unit Conversion; Where Conversion = 43560 / (12 * 3600)

Frequency (years)	C Coefficient	C Adjustment Factor	C Coefficient (Final)	Intensity (in/h)	Area (acres)	Flow (Peak) (ft^3/s)
100	0.610	1.000	0.610	5.367	22.300	73.61

Existing Pond Redesign- Interconnected Ponds

Subsection: Modified Rational Graph

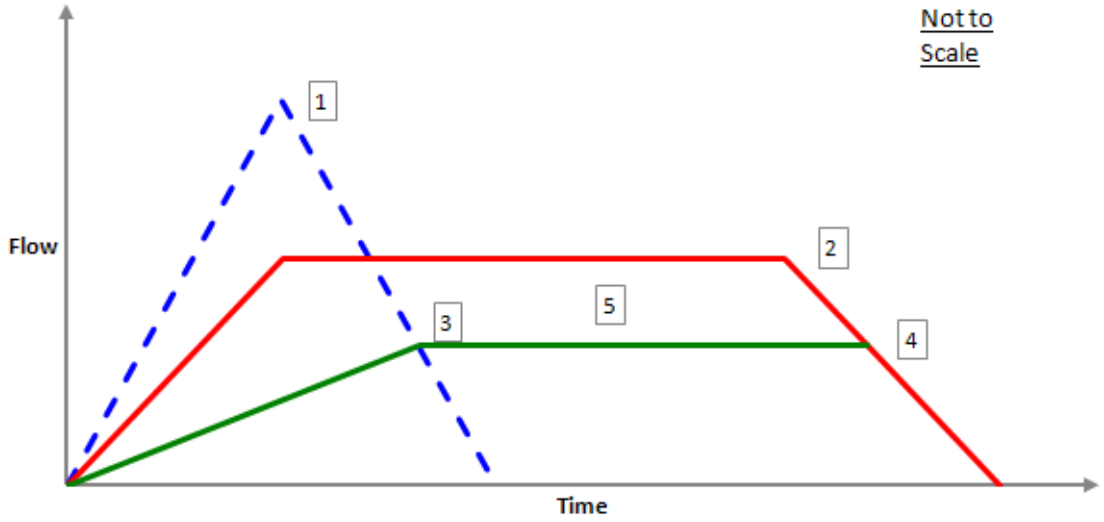
Label: SF-1 RE-DESIGN

Scenario: Post-Development 100 YEAR

Return Event: 100 years

Storm Event: IDF Curve Equation - 1 - 100 Year

Method Type	Method T
Time of Duration (Modified Rational, Critical)	0.500 hours



[1]			[2]		
Time of Concentration (Modified Rational, Composite)	0.435	hours	Time of Duration (Modified Rational, Critical)	0.500	hours
Intensity (Modified Rational, Peak)	5.398	in/h	Intensity (Modified Rational, Critical)	5.024	in/h
Flow (Modified Rational, Peak)	82.27	ft³/s	Flow (Modified Rational, Critical)	76.57	ft³/s

[3]	
First Outflow Breakpoint (Modified Rational, Method T)	0.517 hours
Flow (Modified Rational, Allowable)	73.61 ft³/s

[4]			[5]		
Second Outflow Breakpoint (Modified Rational)	0.481	hours	Storage (Modified Rational, Estimated)	0.210	ac-ft
Flow (Modified Rational, Allowable)	73.61	ft³/s			

Existing Pond Redesign- Interconnected Ponds

Subsection: Modified Rational Storm Calculations
Return Event: 100 years

Label: SF-1 RE-DESIGN
Storm Event: IDF Curve Equation - 1 - 100 Year

Scenario: Post-Development 100 YEAR

Modified Rational Method
--- Summary for Single Storm Frequency ---

Q = CiA * Units Conversion; Where Conversion = 43560 / (12 * 3600)

C Coefficient (Weighted)	C Coefficient (Adjusted)	Duration (hours)	Intensity (in/h)	Area (acres)	Flow (Peak) (ft^3/s)	Volume (Inflow) (ac-ft)	Volume (Storage) (ac-ft)
0.610	0.610	0.435	5.398	24.780	82.27	2.958	0.312
							Storage Maximum
0.610	0.610	0.500	5.024	24.780	76.57	3.164	0.210
0.610	0.610	0.667	4.312	24.780	65.72	(N/A)	(N/A)

Existing Pond Redesign- Interconnected Ponds

Subsection: Modified Rational Hydrograph

Return Event: 100 years

Label: SF-1 RE-DESIGN

Storm Event: IDF Curve Equation - 1 - 100 Year

Scenario: Post-Development 100 YEAR

Modified Rational Method

Q = CiA * Unit Conversion; Where Conversion = 43560 / (12 * 3600)

Frequency (years)	C Coefficient	C Adjustment Factor	C Coefficient (Final)	Intensity (in/h)	Area (acres)	Flow (Peak) (ft³/s)
100	1.000	1.000	0.610	5.024	24.780	76.57

Peak Discharge	76.57 ft³/s
Time to Peak	0.500 hours
Hydrograph Volume	5.017 ac-ft

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)
0.050	8.80	17.60	26.40	35.20	44.00
0.300	52.81	61.61	70.41	76.57	76.57
0.550	67.77	58.97	50.16	41.36	32.56
0.800	23.76	14.96	6.16	0.00	(N/A)

Existing Pond Redesign- Interconnected Ponds

Subsection: C and Area (Pre-Development) Return Event: 2 years

Label: SF-2 EX Storm Event: IDF Curve Equation - 1 - 2 Year

Scenario: Post-Development 2 YEAR

C and Area Results (Pre-Development)

Soil/Surface Description	C Coefficient	Area (acres)	Area (Adjusted) (acres)
	0.350	26.623	(N/A)
Weighted C & Total Area --->	0.350	26.623	9.318

Existing Pond Redesign- Interconnected Ponds

Subsection: C and Area (Post-Development) Return Event: 2 years
Label: SF-2 EX Storm Event: IDF Curve Equation - 1 - 2 Year
Scenario: Post-Development 2 YEAR

C and Area Results

Soil/Surface Description	C Coefficient	Area (acres)	Area (Adjusted) (acres)
	0.610	25.850	(N/A)
Weighted C & Total Area --->	0.610	25.850	15.769

Existing Pond Redesign- Interconnected Ponds

Subsection: Rational Pre-Development Peak Flow
Return Event: 2 years
Label: SF-2 EX
Storm Event: IDF Curve Equation - 1 - 2 Year
Scenario: Post-Development 2 YEAR

Summary of Rational Method Peak Discharges
--- Pre-Development Conditions ---

Q = CiA * Unit Conversion; Where Conversion = 43560 / (12 * 3600)

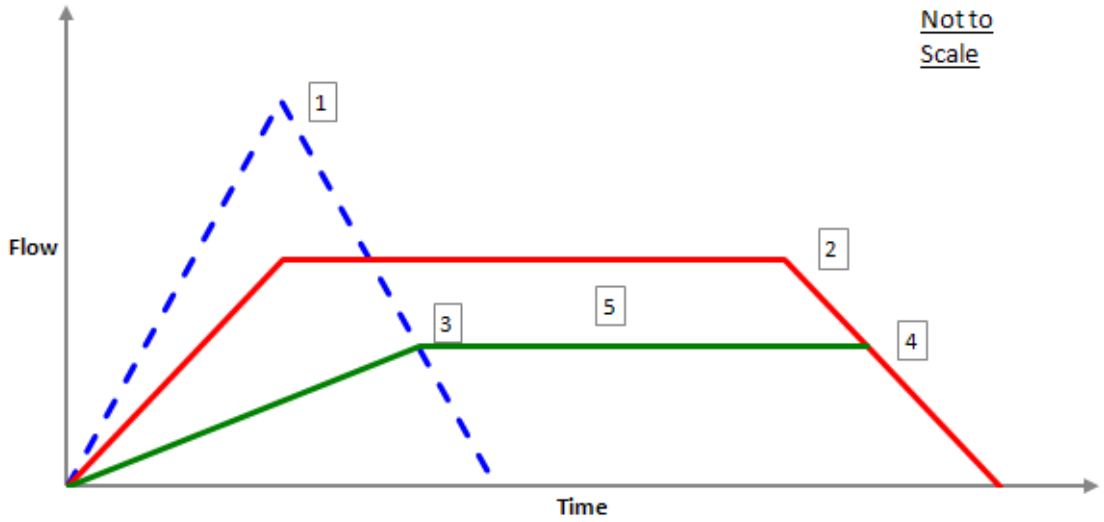
Frequency (years)	C Coefficient	C Adjustment Factor	C Coefficient (Final)	Intensity (in/h)	Area (acres)	Flow (Peak) (ft^3/s)
2	0.350	1.000	0.350	2.216	26.623	20.82

Existing Pond Redesign- Interconnected Ponds

Subsection: Modified Rational Graph
Label: SF-2 EX
Scenario: Post-Development 2 YEAR

Return Event: 2 years
Storm Event: IDF Curve Equation - 1 - 2 Year

Method Type	Method T
Time of Duration (Modified Rational, Critical)	0.667 hours



[1]			[2]		
Time of Concentration (Modified Rational, Composite)	0.528	hours	Time of Duration (Modified Rational, Critical)	0.667	hours
Intensity (Modified Rational, Peak)	2.352	in/h	Intensity (Modified Rational, Critical)	2.062	in/h
Flow (Modified Rational, Peak)	37.39	ft³/s	Flow (Modified Rational, Critical)	32.79	ft³/s

[3]	
First Outflow Breakpoint (Modified Rational, Method T)	0.859 hours
Flow (Modified Rational, Allowable)	20.82 ft³/s

[4]			[5]		
Second Outflow Breakpoint (Modified Rational)	0.762	hours	Storage (Modified Rational, Estimated)	0.695	ac-ft
Flow (Modified Rational, Allowable)	20.82	ft³/s			

Existing Pond Redesign- Interconnected Ponds

Subsection: Modified Rational Storm Calculations
Return Event: 2 years
Label: SF-2 EX
Storm Event: IDF Curve Equation - 1 - 2 Year
Scenario: Post-Development 2 YEAR

Modified Rational Method
--- Summary for Single Storm Frequency ---

Q = CiA * Units Conversion; Where Conversion = 43560 / (12 * 3600)

C Coefficient (Weighted)	C Coefficient (Adjusted)	Duration (hours)	Intensity (in/h)	Area (acres)	Flow (Peak) (ft^3/s)	Volume (Inflow) (ac-ft)	Volume (Storage) (ac-ft)
0.610	0.610	0.528	2.352	25.850	37.39	1.632	0.723
							Storage Maximum
0.610	0.610	0.667	2.062	25.850	32.79	1.807	0.695
0.610	0.610	0.833	1.813	25.850	28.83	1.985	0.627
0.610	0.610	1.000	1.629	25.850	25.89	2.140	0.532
0.610	0.610	2.000	1.070	25.850	17.02	(N/A)	(N/A)

Existing Pond Redesign- Interconnected Ponds

Subsection: Modified Rational Hydrograph
Return Event: 2 years
Label: SF-2 EX
Storm Event: IDF Curve Equation - 1 - 2 Year
Scenario: Post-Development 2 YEAR

Modified Rational Method

Q = CiA * Unit Conversion; Where Conversion = 43560 / (12 * 3600)

Frequency (years)	C Coefficient	C Adjustment Factor	C Coefficient (Final)	Intensity (in/h)	Area (acres)	Flow (Peak) (ft³/s)
2	1.000	1.000	0.610	2.062	25.850	32.79

Peak Discharge	32.79 ft³/s
Time to Peak	0.650 hours
Hydrograph Volume	2.623 ac-ft

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)
0.050	3.11	6.21	9.32	12.42	15.53
0.300	18.63	21.74	24.84	27.95	31.05
0.550	32.79	32.79	32.79	30.72	27.62
0.800	24.51	21.41	18.30	15.19	12.09
1.050	8.98	5.88	2.77	0.00	(N/A)

Existing Pond Redesign- Interconnected Ponds

Subsection: C and Area (Pre-Development) Return Event: 5 years

Label: SF-2 EX Storm Event: IDF Curve Equation - 1 - 5 Year

Scenario: Post-Development 5 YEAR

C and Area Results (Pre-Development)

Soil/Surface Description	C Coefficient	Area (acres)	Area (Adjusted) (acres)
	0.350	26.623	(N/A)
Weighted C & Total Area --->	0.350	26.623	9.318

Existing Pond Redesign- Interconnected Ponds

Subsection: C and Area (Post-Development) Return Event: 5 years
Label: SF-2 EX Storm Event: IDF Curve Equation - 1 - 5 Year
Scenario: Post-Development 5 YEAR

C and Area Results

Soil/Surface Description	C Coefficient	Area (acres)	Area (Adjusted) (acres)
	0.610	25.850	(N/A)
Weighted C & Total Area --->	0.610	25.850	15.769

Existing Pond Redesign- Interconnected Ponds

Subsection: Rational Pre-Development Peak Flow
Return Event: 5 years
Label: SF-2 EX
Storm Event: IDF Curve Equation - 1 - 5 Year
Scenario: Post-Development 5 YEAR

Summary of Rational Method Peak Discharges
--- Pre-Development Conditions ---

Q = CiA * Unit Conversion; Where Conversion = 43560 / (12 * 3600)

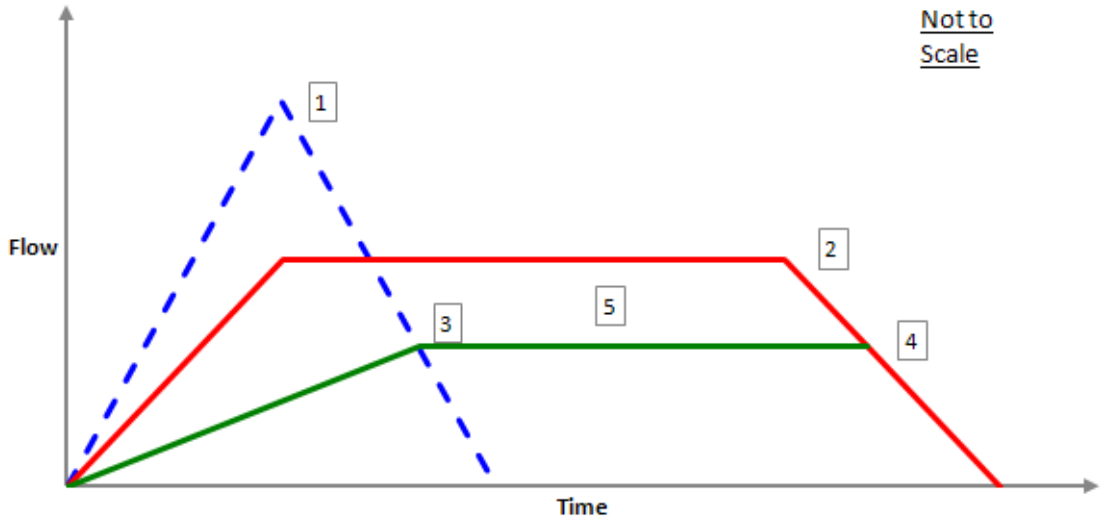
Frequency (years)	C Coefficient	C Adjustment Factor	C Coefficient (Final)	Intensity (in/h)	Area (acres)	Flow (Peak) (ft^3/s)
5	0.350	1.000	0.350	2.779	26.623	26.11

Existing Pond Redesign- Interconnected Ponds

Subsection: Modified Rational Graph
Label: SF-2 EX
Scenario: Post-Development 5 YEAR

Return Event: 5 years
Storm Event: IDF Curve Equation - 1 - 5 Year

Method Type	Method T
Time of Duration (Modified Rational, Critical)	0.667 hours



[1]			[2]		
Time of Concentration (Modified Rational, Composite)	0.528	hours	Time of Duration (Modified Rational, Critical)	0.667	hours
Intensity (Modified Rational, Peak)	2.945	in/h	Intensity (Modified Rational, Critical)	2.591	in/h
Flow (Modified Rational, Peak)	46.83	ft³/s	Flow (Modified Rational, Critical)	41.20	ft³/s

[3]	
First Outflow Breakpoint (Modified Rational, Method T)	0.860 hours
Flow (Modified Rational, Allowable)	26.11 ft³/s

[4]			[5]		
Second Outflow Breakpoint (Modified Rational)	0.762	hours	Storage (Modified Rational, Estimated)	0.875	ac-ft
Flow (Modified Rational, Allowable)	26.11	ft³/s			

Existing Pond Redesign- Interconnected Ponds

Subsection: Modified Rational Storm Calculations
Return Event: 5 years
Label: SF-2 EX
Storm Event: IDF Curve Equation - 1 - 5 Year
Scenario: Post-Development 5 YEAR

Modified Rational Method
--- Summary for Single Storm Frequency ---

Q = CiA * Units Conversion; Where Conversion = 43560 / (12 * 3600)

C Coefficient (Weighted)	C Coefficient (Adjusted)	Duration (hours)	Intensity (in/h)	Area (acres)	Flow (Peak) (ft^3/s)	Volume (Inflow) (ac-ft)	Volume (Storage) (ac-ft)
0.610	0.610	0.528	2.945	25.850	46.83	2.043	0.904
							Storage Maximum
0.610	0.610	0.667	2.591	25.850	41.20	2.270	0.875
0.610	0.610	0.833	2.286	25.850	36.34	2.503	0.796
0.610	0.610	1.000	2.059	25.850	32.74	2.706	0.684
0.610	0.610	2.000	1.369	25.850	21.76	(N/A)	(N/A)

Existing Pond Redesign- Interconnected Ponds

Subsection: Modified Rational Hydrograph
Return Event: 5 years
Label: SF-2 EX
Storm Event: IDF Curve Equation - 1 - 5 Year
Scenario: Post-Development 5 YEAR

Modified Rational Method

Q = CiA * Unit Conversion; Where Conversion = 43560 / (12 * 3600)

Frequency (years)	C Coefficient	C Adjustment Factor	C Coefficient (Final)	Intensity (in/h)	Area (acres)	Flow (Peak) (ft³/s)
5	1.000	1.000	0.610	2.591	25.850	41.20

Peak Discharge	41.20 ft³/s
Time to Peak	0.650 hours
Hydrograph Volume	3.296 ac-ft

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)
0.050	3.90	7.80	11.70	15.61	19.51
0.300	23.41	27.31	31.21	35.11	39.02
0.550	41.20	41.20	41.20	38.60	34.70
0.800	30.80	26.90	22.99	19.09	15.19
1.050	11.29	7.39	3.49	0.00	(N/A)

Existing Pond Redesign- Interconnected Ponds

Subsection: C and Area (Pre-Development)

Return Event: 10 years

Label: SF-2 EX

Storm Event: IDF Curve Equation - 1 - 10 Year

Scenario: Post-Development 10 YEAR

C and Area Results (Pre-Development)

Soil/Surface Description	C Coefficient	Area (acres)	Area (Adjusted) (acres)
	0.350	26.623	(N/A)
Weighted C & Total Area --->	0.350	26.623	9.318

Existing Pond Redesign- Interconnected Ponds

Subsection: C and Area (Post-Development)

Return Event: 10 years

Label: SF-2 EX

Storm Event: IDF Curve Equation - 1 - 10 Year

Scenario: Post-Development 10 YEAR

C and Area Results

Soil/Surface Description	C Coefficient	Area (acres)	Area (Adjusted) (acres)
	0.610	25.850	(N/A)
Weighted C & Total Area --->	0.610	25.850	15.769

Existing Pond Redesign- Interconnected Ponds

Subsection: Rational Pre-Development Peak Flow

Return Event: 10 years

Label: SF-2 EX

Storm Event: IDF Curve Equation - 1 - 10 Year

Scenario: Post-Development 10 YEAR

Summary of Rational Method Peak Discharges
--- Pre-Development Conditions ---

Q = CiA * Unit Conversion; Where Conversion = 43560 / (12 * 3600)

Frequency (years)	C Coefficient	C Adjustment Factor	C Coefficient (Final)	Intensity (in/h)	Area (acres)	Flow (Peak) (ft^3/s)
10	0.350	1.000	0.350	3.177	26.623	29.85

Existing Pond Redesign- Interconnected Ponds

Subsection: Modified Rational Graph

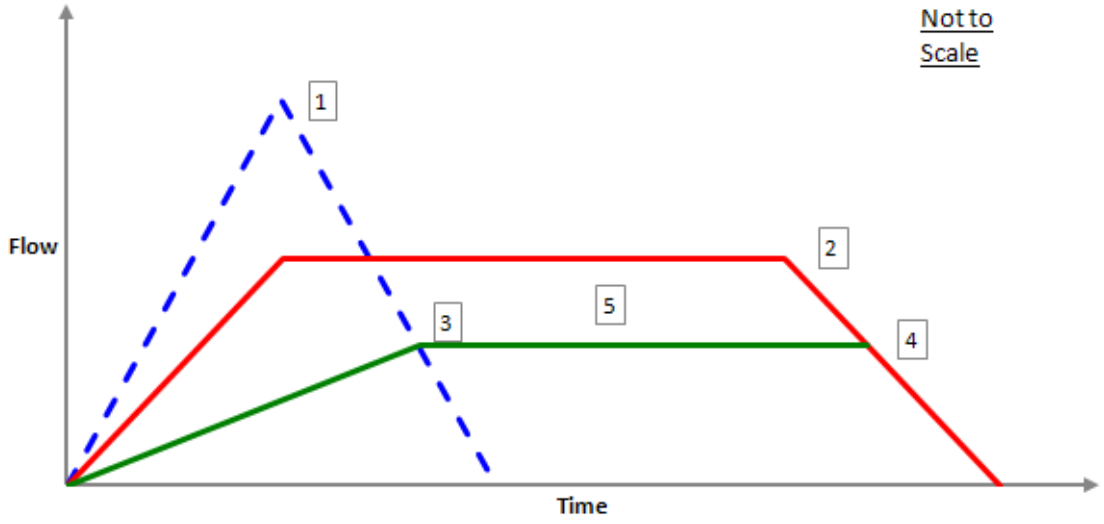
Label: SF-2 EX

Scenario: Post-Development 10 YEAR

Return Event: 10 years

Storm Event: IDF Curve Equation - 1 - 10 Year

Method Type	Method T
Time of Duration (Modified Rational, Critical)	0.667 hours



[1]			[2]		
Time of Concentration (Modified Rational, Composite)	0.528	hours	Time of Duration (Modified Rational, Critical)	0.667	hours
Intensity (Modified Rational, Peak)	3.365	in/h	Intensity (Modified Rational, Critical)	2.965	in/h
Flow (Modified Rational, Peak)	53.50	ft³/s	Flow (Modified Rational, Critical)	47.14	ft³/s

[3]	
First Outflow Breakpoint (Modified Rational, Method T)	0.860 hours
Flow (Modified Rational, Allowable)	29.85 ft³/s

[4]			[5]		
Second Outflow Breakpoint (Modified Rational)	0.761	hours	Storage (Modified Rational, Estimated)	1.002	ac-ft
Flow (Modified Rational, Allowable)	29.85	ft³/s			

Existing Pond Redesign- Interconnected Ponds

Subsection: Modified Rational Storm Calculations
Return Event: 10 years

Label: SF-2 EX
Storm Event: IDF Curve Equation - 1 - 10 Year

Scenario: Post-Development 10 YEAR

Modified Rational Method
--- Summary for Single Storm Frequency ---

Q = CiA * Units Conversion; Where Conversion = 43560 / (12 * 3600)

C Coefficient (Weighted)	C Coefficient (Adjusted)	Duration (hours)	Intensity (in/h)	Area (acres)	Flow (Peak) (ft^3/s)	Volume (Inflow) (ac-ft)	Volume (Storage) (ac-ft)
0.610	0.610	0.528	3.365	25.850	53.50	2.334	1.032
							Storage Maximum
0.610	0.610	0.667	2.965	25.850	47.14	2.597	1.002
0.610	0.610	0.833	2.619	25.850	41.64	2.868	0.915
0.610	0.610	1.000	2.362	25.850	37.55	3.103	0.791
0.610	0.610	2.000	1.577	25.850	25.08	(N/A)	(N/A)

Existing Pond Redesign- Interconnected Ponds

Subsection: Modified Rational Hydrograph

Return Event: 10 years

Label: SF-2 EX

Storm Event: IDF Curve Equation - 1 - 10 Year

Scenario: Post-Development 10 YEAR

Modified Rational Method

Q = CiA * Unit Conversion; Where Conversion = 43560 / (12 * 3600)

Frequency (years)	C Coefficient	C Adjustment Factor	C Coefficient (Final)	Intensity (in/h)	Area (acres)	Flow (Peak) (ft³/s)
10	1.000	1.000	0.610	2.965	25.850	47.14

Peak Discharge	47.14 ft³/s
Time to Peak	0.650 hours
Hydrograph Volume	3.771 ac-ft

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)
0.050	4.46	8.93	13.39	17.86	22.32
0.300	26.78	31.25	35.71	40.18	44.64
0.550	47.14	47.14	47.14	44.16	39.70
0.800	35.24	30.77	26.31	21.84	17.38
1.050	12.92	8.45	3.99	0.00	(N/A)

Existing Pond Redesign- Interconnected Ponds

Subsection: C and Area (Pre-Development)

Return Event: 25 years

Label: SF-2 EX

Storm Event: IDF Curve Equation - 1 - 25 Year

Scenario: Post-Development 25 YEAR

C and Area Results (Pre-Development)

Soil/Surface Description	C Coefficient	Area (acres)	Area (Adjusted) (acres)
	0.350	26.623	(N/A)
Weighted C & Total Area --->	0.350	26.623	9.318

Existing Pond Redesign- Interconnected Ponds

Subsection: C and Area (Post-Development)

Return Event: 25 years

Label: SF-2 EX

Storm Event: IDF Curve Equation - 1 - 25 Year

Scenario: Post-Development 25 YEAR

C and Area Results

Soil/Surface Description	C Coefficient	Area (acres)	Area (Adjusted) (acres)
	0.610	25.850	(N/A)
Weighted C & Total Area --->	0.610	25.850	15.769

Existing Pond Redesign- Interconnected Ponds

Subsection: Rational Pre-Development Peak Flow
Return Event: 25 years

Label: SF-2 EX
Storm Event: IDF Curve Equation - 1 - 25 Year

Scenario: Post-Development 25 YEAR

Summary of Rational Method Peak Discharges
--- Pre-Development Conditions ---

Q = CiA * Unit Conversion; Where Conversion = 43560 / (12 * 3600)

Frequency (years)	C Coefficient	C Adjustment Factor	C Coefficient (Final)	Intensity (in/h)	Area (acres)	Flow (Peak) (ft^3/s)
25	0.350	1.000	0.350	3.738	26.623	35.12

Existing Pond Redesign- Interconnected Ponds

Subsection: Modified Rational Graph

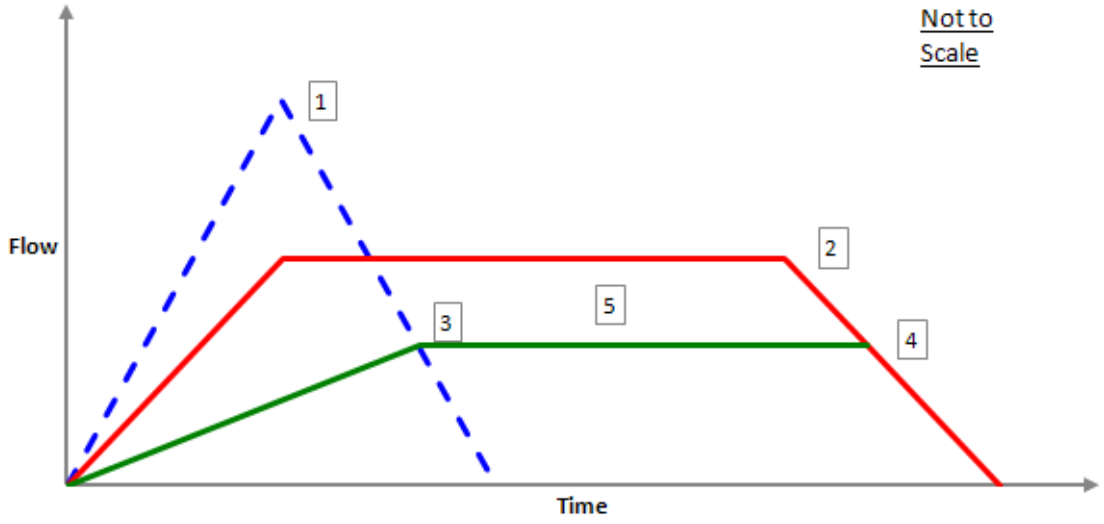
Label: SF-2 EX

Scenario: Post-Development 25 YEAR

Return Event: 25 years

Storm Event: IDF Curve Equation - 1 - 25 Year

Method Type	Method T
Time of Duration (Modified Rational, Critical)	0.667 hours



[1]			[2]		
Time of Concentration (Modified Rational, Composite)	0.528	hours	Time of Duration (Modified Rational, Critical)	0.667	hours
Intensity (Modified Rational, Peak)	3.957	in/h	Intensity (Modified Rational, Critical)	3.490	in/h
Flow (Modified Rational, Peak)	62.91	ft³/s	Flow (Modified Rational, Critical)	55.50	ft³/s

[3]	
First Outflow Breakpoint (Modified Rational, Method T)	0.861 hours
Flow (Modified Rational, Allowable)	35.12 ft³/s

[4]			[5]		
Second Outflow Breakpoint (Modified Rational)	0.761	hours	Storage (Modified Rational, Estimated)	1.180	ac-ft
Flow (Modified Rational, Allowable)	35.12	ft³/s			

Existing Pond Redesign- Interconnected Ponds

Subsection: Modified Rational Storm Calculations
Return Event: 25 years

Label: SF-2 EX
Storm Event: IDF Curve Equation - 1 - 25 Year

Scenario: Post-Development 25 YEAR

Modified Rational Method
--- Summary for Single Storm Frequency ---

Q = CiA * Units Conversion; Where Conversion = 43560 / (12 * 3600)

C Coefficient (Weighted)	C Coefficient (Adjusted)	Duration (hours)	Intensity (in/h)	Area (acres)	Flow (Peak) (ft^3/s)	Volume (Inflow) (ac-ft)	Volume (Storage) (ac-ft)
0.610	0.610	0.528	3.957	25.850	62.91	2.745	1.213
							Storage Maximum
0.610	0.610	0.667	3.490	25.850	55.50	3.058	1.180
0.610	0.610	0.833	3.087	25.850	49.08	3.380	1.082
0.610	0.610	1.000	2.787	25.850	44.31	3.662	0.939
0.610	0.610	2.000	1.869	25.850	29.71	(N/A)	(N/A)

Existing Pond Redesign- Interconnected Ponds

Subsection: Modified Rational Hydrograph

Return Event: 25 years

Label: SF-2 EX

Storm Event: IDF Curve Equation - 1 - 25 Year

Scenario: Post-Development 25 YEAR

Modified Rational Method

Q = CiA * Unit Conversion; Where Conversion = 43560 / (12 * 3600)

Frequency (years)	C Coefficient	C Adjustment Factor	C Coefficient (Final)	Intensity (in/h)	Area (acres)	Flow (Peak) (ft³/s)
25	1.000	1.000	0.610	3.490	25.850	55.50

Peak Discharge	55.50 ft³/s
Time to Peak	0.650 hours
Hydrograph Volume	4.440 ac-ft

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)
0.050	5.26	10.51	15.77	21.02	26.28
0.300	31.53	36.79	42.04	47.30	52.55
0.550	55.50	55.50	55.50	51.99	46.74
0.800	41.48	36.23	30.97	25.72	20.46
1.050	15.21	9.95	4.69	0.00	(N/A)

Existing Pond Redesign- Interconnected Ponds

Subsection: C and Area (Pre-Development)

Return Event: 50 years

Label: SF-2 EX

Storm Event: IDF Curve Equation - 1 - 50 Year

Scenario: Post-Development 50 YEAR

C and Area Results (Pre-Development)

Soil/Surface Description	C Coefficient	Area (acres)	Area (Adjusted) (acres)
	0.350	26.623	(N/A)
Weighted C & Total Area --->	0.350	26.623	9.318

Existing Pond Redesign- Interconnected Ponds

Subsection: C and Area (Post-Development)

Return Event: 50 years

Label: SF-2 EX

Storm Event: IDF Curve Equation - 1 - 50 Year

Scenario: Post-Development 50 YEAR

C and Area Results

Soil/Surface Description	C Coefficient	Area (acres)	Area (Adjusted) (acres)
	0.610	25.850	(N/A)
Weighted C & Total Area --->	0.610	25.850	15.769

Existing Pond Redesign- Interconnected Ponds

Subsection: Rational Pre-Development Peak Flow
Return Event: 50 years

Label: SF-2 EX
Storm Event: IDF Curve Equation - 1 - 50 Year

Scenario: Post-Development 50 YEAR

Summary of Rational Method Peak Discharges
--- Pre-Development Conditions ---

Q = CiA * Unit Conversion; Where Conversion = 43560 / (12 * 3600)

Frequency (years)	C Coefficient	C Adjustment Factor	C Coefficient (Final)	Intensity (in/h)	Area (acres)	Flow (Peak) (ft^3/s)
50	0.350	1.000	0.350	4.173	26.623	39.20

Existing Pond Redesign- Interconnected Ponds

Subsection: Modified Rational Graph

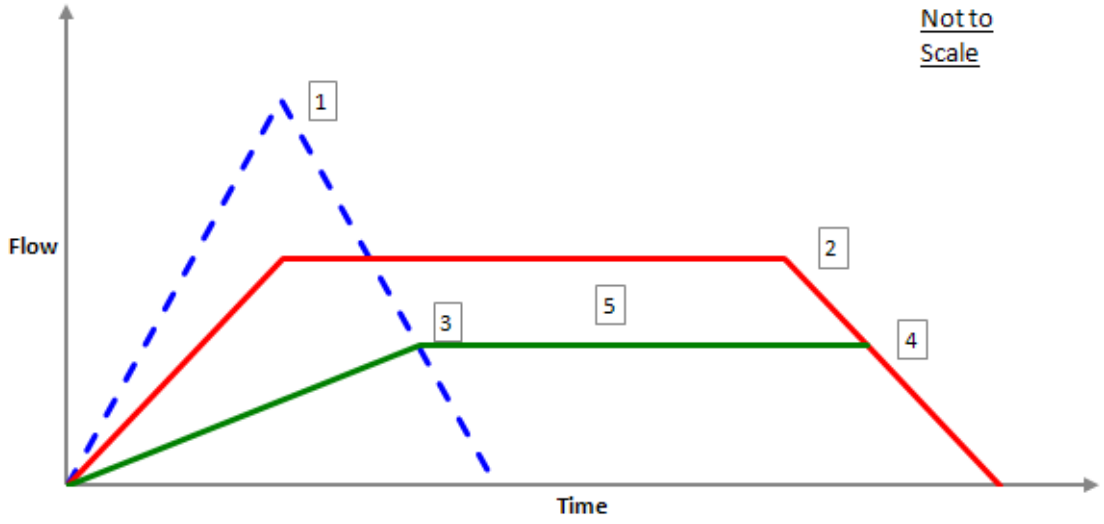
Label: SF-2 EX

Scenario: Post-Development 50 YEAR

Return Event: 50 years

Storm Event: IDF Curve Equation - 1 - 50 Year

Method Type	Method T
Time of Duration (Modified Rational, Critical)	0.667 hours



[1]			[2]		
Time of Concentration (Modified Rational, Composite)	0.528	hours	Time of Duration (Modified Rational, Critical)	0.667	hours
Intensity (Modified Rational, Peak)	4.416	in/h	Intensity (Modified Rational, Critical)	3.898	in/h
Flow (Modified Rational, Peak)	70.21	ft³/s	Flow (Modified Rational, Critical)	61.97	ft³/s

[3]	
First Outflow Breakpoint (Modified Rational, Method T)	0.861 hours
Flow (Modified Rational, Allowable)	39.20 ft³/s

[4]			[5]		
Second Outflow Breakpoint (Modified Rational)	0.761	hours	Storage (Modified Rational, Estimated)	1.318	ac-ft
Flow (Modified Rational, Allowable)	39.20	ft³/s			

Existing Pond Redesign- Interconnected Ponds

Subsection: Modified Rational Storm Calculations
Return Event: 50 years

Label: SF-2 EX
Storm Event: IDF Curve Equation - 1 - 50 Year

Scenario: Post-Development 50 YEAR

Modified Rational Method
--- Summary for Single Storm Frequency ---

Q = CiA * Units Conversion; Where Conversion = 43560 / (12 * 3600)

C Coefficient (Weighted)	C Coefficient (Adjusted)	Duration (hours)	Intensity (in/h)	Area (acres)	Flow (Peak) (ft^3/s)	Volume (Inflow) (ac-ft)	Volume (Storage) (ac-ft)
0.610	0.610	0.528	4.416	25.850	70.21	3.064	1.353
							Storage Maximum
0.610	0.610	0.667	3.898	25.850	61.97	3.414	1.318
0.610	0.610	0.833	3.449	25.850	54.83	3.776	1.210
0.610	0.610	1.000	3.115	25.850	49.53	4.093	1.053
0.610	0.610	2.000	2.093	25.850	33.28	(N/A)	(N/A)

Existing Pond Redesign- Interconnected Ponds

Subsection: Modified Rational Hydrograph

Return Event: 50 years

Label: SF-2 EX

Storm Event: IDF Curve Equation - 1 - 50 Year

Scenario: Post-Development 50 YEAR

Modified Rational Method

Q = CiA * Unit Conversion; Where Conversion = 43560 / (12 * 3600)

Frequency (years)	C Coefficient	C Adjustment Factor	C Coefficient (Final)	Intensity (in/h)	Area (acres)	Flow (Peak) (ft³/s)
50	1.000	1.000	0.610	3.898	25.850	61.97

Peak Discharge	61.97 ft³/s
Time to Peak	0.650 hours
Hydrograph Volume	4.957 ac-ft

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)
0.050	5.87	11.74	17.61	23.47	29.34
0.300	35.21	41.08	46.95	52.82	58.68
0.550	61.97	61.97	61.97	58.06	52.19
0.800	46.32	40.45	34.58	28.72	22.85
1.050	16.98	11.11	5.24	0.00	(N/A)

Existing Pond Redesign- Interconnected Ponds

Subsection: C and Area (Pre-Development)

Return Event: 100 years

Label: SF-2 EX

Storm Event: IDF Curve Equation - 1 - 100 Year

Scenario: Post-Development 100 YEAR

C and Area Results (Pre-Development)

Soil/Surface Description	C Coefficient	Area (acres)	Area (Adjusted) (acres)
	0.350	26.623	(N/A)
Weighted C & Total Area --->	0.350	26.623	9.318

Existing Pond Redesign- Interconnected Ponds

Subsection: C and Area (Post-Development)

Return Event: 100 years

Label: SF-2 EX

Storm Event: IDF Curve Equation - 1 - 100 Year

Scenario: Post-Development 100 YEAR

C and Area Results

Soil/Surface Description	C Coefficient	Area (acres)	Area (Adjusted) (acres)
	0.610	25.850	(N/A)
Weighted C & Total Area --->	0.610	25.850	15.769

Existing Pond Redesign- Interconnected Ponds

Subsection: Rational Pre-Development Peak Flow
Return Event: 100 years

Label: SF-2 EX
Storm Event: IDF Curve Equation - 1 - 100 Year

Scenario: Post-Development 100 YEAR

Summary of Rational Method Peak Discharges
--- Pre-Development Conditions ---

Q = CiA * Unit Conversion; Where Conversion = 43560 / (12 * 3600)

Frequency (years)	C Coefficient	C Adjustment Factor	C Coefficient (Final)	Intensity (in/h)	Area (acres)	Flow (Peak) (ft^3/s)
100	0.350	1.000	0.350	4.615	26.623	43.36

Existing Pond Redesign- Interconnected Ponds

Subsection: Modified Rational Graph

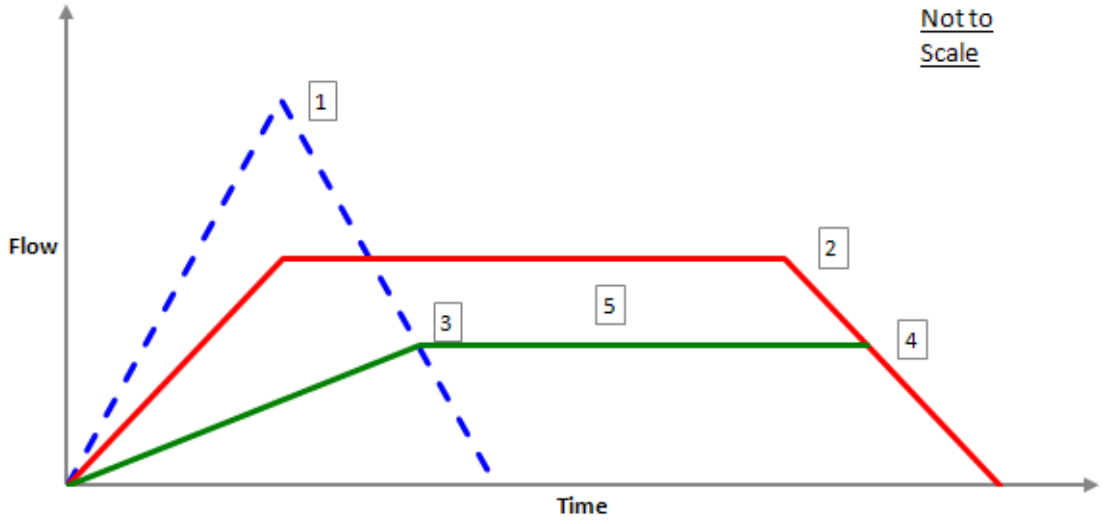
Return Event: 100 years

Label: SF-2 EX

Storm Event: IDF Curve Equation - 1 - 100 Year

Scenario: Post-Development 100 YEAR

Method Type	Method T
Time of Duration (Modified Rational, Critical)	0.667 hours



[1]			[2]		
Time of Concentration (Modified Rational, Composite)	0.528	hours	Time of Duration (Modified Rational, Critical)	0.667	hours
Intensity (Modified Rational, Peak)	4.882	in/h	Intensity (Modified Rational, Critical)	4.312	in/h
Flow (Modified Rational, Peak)	77.63	ft³/s	Flow (Modified Rational, Critical)	68.56	ft³/s

[3]	
First Outflow Breakpoint (Modified Rational, Method T)	0.861 hours
Flow (Modified Rational, Allowable)	43.36 ft³/s

[4]			[5]		
Second Outflow Breakpoint (Modified Rational)	0.761	hours	Storage (Modified Rational, Estimated)	1.458	ac-ft
Flow (Modified Rational, Allowable)	43.36	ft³/s			

Existing Pond Redesign- Interconnected Ponds

Subsection: Modified Rational Storm Calculations
Return Event: 100 years

Label: SF-2 EX
Storm Event: IDF Curve Equation - 1 - 100 Year

Scenario: Post-Development 100 YEAR

Modified Rational Method
--- Summary for Single Storm Frequency ---

Q = CiA * Units Conversion; Where Conversion = 43560 / (12 * 3600)

C Coefficient (Weighted)	C Coefficient (Adjusted)	Duration (hours)	Intensity (in/h)	Area (acres)	Flow (Peak) (ft^3/s)	Volume (Inflow) (ac-ft)	Volume (Storage) (ac-ft)
0.610	0.610	0.528	4.882	25.850	77.63	3.387	1.495
							Storage Maximum
0.610	0.610	0.667	4.312	25.850	68.56	3.778	1.458
0.610	0.610	0.833	3.818	25.850	60.70	4.181	1.342
0.610	0.610	1.000	3.450	25.850	54.86	4.534	1.170
0.610	0.610	2.000	2.323	25.850	36.93	(N/A)	(N/A)

Existing Pond Redesign- Interconnected Ponds

Subsection: Modified Rational Hydrograph

Return Event: 100 years

Label: SF-2 EX

Storm Event: IDF Curve Equation - 1 - 100 Year

Scenario: Post-Development 100 YEAR

Modified Rational Method

Q = CiA * Unit Conversion; Where Conversion = 43560 / (12 * 3600)

Frequency (years)	C Coefficient	C Adjustment Factor	C Coefficient (Final)	Intensity (in/h)	Area (acres)	Flow (Peak) (ft³/s)
100	1.000	1.000	0.610	4.312	25.850	68.56

Peak Discharge	68.56 ft³/s
Time to Peak	0.650 hours
Hydrograph Volume	5.485 ac-ft

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)
0.050	6.49	12.99	19.48	25.97	32.46
0.300	38.96	45.45	51.94	58.43	64.93
0.550	68.56	68.56	68.56	64.23	57.74
0.800	51.25	44.76	38.26	31.77	25.28
1.050	18.79	12.29	5.80	0.00	(N/A)

Existing Pond Redesign- Interconnected Ponds

Subsection: C and Area (Pre-Development) Return Event: 2 years

Label: SF-2 RE-DESIGN Storm Event: IDF Curve Equation - 1 - 2 Year

Scenario: Post-Development 2 YEAR

C and Area Results (Pre-Development)

Soil/Surface Description	C Coefficient	Area (acres)	Area (Adjusted) (acres)
	0.610	26.250	(N/A)
Weighted C & Total Area --->	0.610	26.250	16.013

Existing Pond Redesign- Interconnected Ponds

Subsection: C and Area (Post-Development) Return Event: 2 years
Label: SF-2 RE-DESIGN Storm Event: IDF Curve Equation - 1 - 2 Year
Scenario: Post-Development 2 YEAR

C and Area Results

Soil/Surface Description	C Coefficient	Area (acres)	Area (Adjusted) (acres)
	0.610	25.683	(N/A)
Weighted C & Total Area --->	0.610	25.683	15.667

Existing Pond Redesign- Interconnected Ponds

Subsection: Rational Pre-Development Peak Flow
Return Event: 2 years
Label: SF-2 RE-DESIGN
Storm Event: IDF Curve Equation - 1 - 2 Year
Scenario: Post-Development 2 YEAR

Summary of Rational Method Peak Discharges
--- Pre-Development Conditions ---

Q = CiA * Unit Conversion; Where Conversion = 43560 / (12 * 3600)

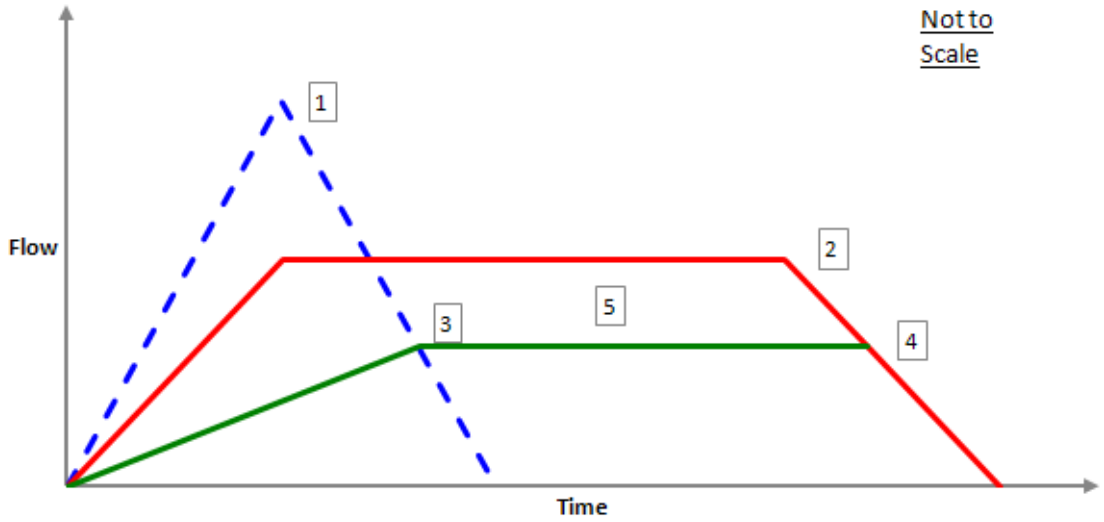
Frequency (years)	C Coefficient	C Adjustment Factor	C Coefficient (Final)	Intensity (in/h)	Area (acres)	Flow (Peak) (ft^3/s)
2	0.610	1.000	0.610	2.211	26.250	35.69

Existing Pond Redesign- Interconnected Ponds

Subsection: Modified Rational Graph
Label: SF-2 RE-DESIGN
Scenario: Post-Development 2 YEAR

Return Event: 2 years
Storm Event: IDF Curve Equation - 1 - 2 Year

Method Type	Method T
Time of Duration (Modified Rational, Critical)	0.528 hours



[1]			[2]		
Time of Concentration (Modified Rational, Composite)	0.528	hours	Time of Duration (Modified Rational, Critical)	0.528	hours
Intensity (Modified Rational, Peak)	2.352	in/h	Intensity (Modified Rational, Critical)	2.352	in/h
Flow (Modified Rational, Peak)	37.15	ft³/s	Flow (Modified Rational, Critical)	37.15	ft³/s

[3]	
First Outflow Breakpoint (Modified Rational, Method T)	0.000 hours
Flow (Modified Rational, Allowable)	35.69 ft³/s

[4]			[5]		
Second Outflow Breakpoint (Modified Rational)	0.549	hours	Storage (Modified Rational, Estimated)	0.064	ac-ft
Flow (Modified Rational, Allowable)	35.69	ft³/s			

Existing Pond Redesign- Interconnected Ponds

Subsection: Modified Rational Storm Calculations
Return Event: 2 years
Label: SF-2 RE-DESIGN
Storm Event: IDF Curve Equation - 1 - 2 Year
Scenario: Post-Development 2 YEAR

C Coefficient (Weighted)	C Coefficient (Adjusted)	Duration (hours)	Intensity (in/h)	Area (acres)	Flow (Peak) (ft^3/s)	Volume (Inflow) (ac-ft)	Volume (Storage) (ac-ft)
0.610	0.610	0.667	2.062	25.683	32.58	(N/A)	(N/A)

Existing Pond Redesign- Interconnected Ponds

Subsection: Modified Rational Hydrograph
Return Event: 2 years
Label: SF-2 RE-DESIGN
Storm Event: IDF Curve Equation - 1 - 2 Year
Scenario: Post-Development 2 YEAR

Modified Rational Method

Q = CiA * Unit Conversion; Where Conversion = 43560 / (12 * 3600)

Frequency (years)	C Coefficient	C Adjustment Factor	C Coefficient (Final)	Intensity (in/h)	Area (acres)	Flow (Peak) (ft³/s)
2	1.000	1.000	0.610	2.352	25.683	37.15

Peak Discharge	35.60 ft³/s
Time to Peak	0.550 hours
Hydrograph Volume	1.738 ac-ft

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)
0.050	3.52	7.04	10.55	14.07	17.59
0.300	21.11	24.63	28.15	31.66	35.18
0.550	35.60	32.09	28.57	25.05	21.53
0.800	18.01	14.50	10.98	7.46	3.94
1.050	0.42	0.00	(N/A)	(N/A)	(N/A)

Existing Pond Redesign- Interconnected Ponds

Subsection: C and Area (Pre-Development) Return Event: 5 years

Label: SF-2 RE-DESIGN Storm Event: IDF Curve Equation - 1 - 5 Year

Scenario: Post-Development 5 YEAR

C and Area Results (Pre-Development)

Soil/Surface Description	C Coefficient	Area (acres)	Area (Adjusted) (acres)
	0.610	26.250	(N/A)
Weighted C & Total Area --->	0.610	26.250	16.013

Existing Pond Redesign- Interconnected Ponds

Subsection: C and Area (Post-Development) Return Event: 5 years
Label: SF-2 RE-DESIGN Storm Event: IDF Curve Equation - 1 - 5 Year
Scenario: Post-Development 5 YEAR

C and Area Results

Soil/Surface Description	C Coefficient	Area (acres)	Area (Adjusted) (acres)
	0.610	25.683	(N/A)
Weighted C & Total Area --->	0.610	25.683	15.667

Existing Pond Redesign- Interconnected Ponds

Subsection: Rational Pre-Development Peak Flow
Return Event: 5 years
Label: SF-2 RE-DESIGN
Storm Event: IDF Curve Equation - 1 - 5 Year
Scenario: Post-Development 5 YEAR

Summary of Rational Method Peak Discharges
--- Pre-Development Conditions ---

Q = CiA * Unit Conversion; Where Conversion = 43560 / (12 * 3600)

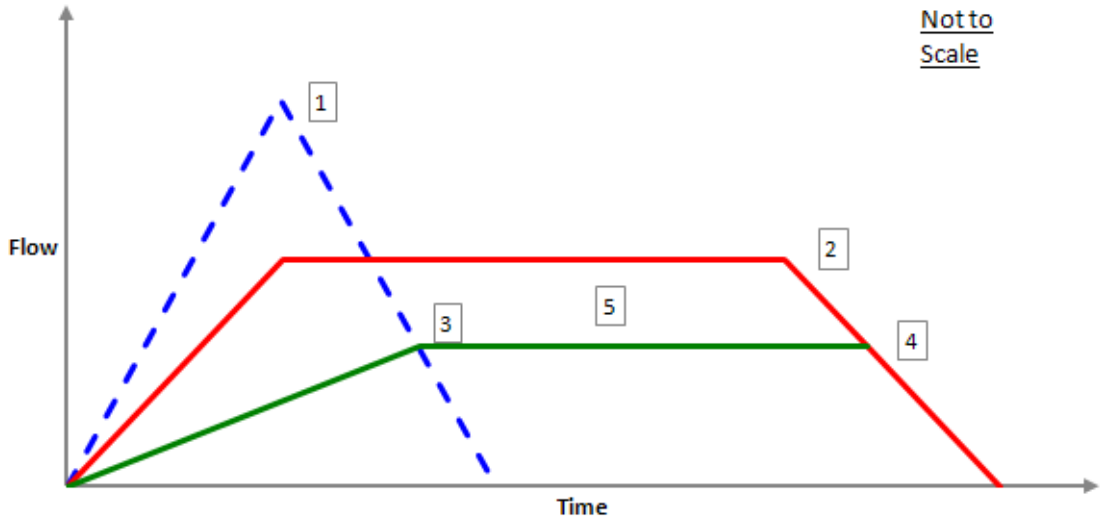
Frequency (years)	C Coefficient	C Adjustment Factor	C Coefficient (Final)	Intensity (in/h)	Area (acres)	Flow (Peak) (ft^3/s)
5	0.610	1.000	0.610	2.773	26.250	44.77

Existing Pond Redesign- Interconnected Ponds

Subsection: Modified Rational Graph
Label: SF-2 RE-DESIGN
Scenario: Post-Development 5 YEAR

Return Event: 5 years
Storm Event: IDF Curve Equation - 1 - 5 Year

Method Type	Method T
Time of Duration (Modified Rational, Critical)	0.528 hours



[1]			[2]		
Time of Concentration (Modified Rational, Composite)	0.528	hours	Time of Duration (Modified Rational, Critical)	0.528	hours
Intensity (Modified Rational, Peak)	2.945	in/h	Intensity (Modified Rational, Critical)	2.945	in/h
Flow (Modified Rational, Peak)	46.52	ft³/s	Flow (Modified Rational, Critical)	46.52	ft³/s

[3]	
First Outflow Breakpoint (Modified Rational, Method T)	0.000 hours
Flow (Modified Rational, Allowable)	44.77 ft³/s

[4]			[5]		
Second Outflow Breakpoint (Modified Rational)	0.548	hours	Storage (Modified Rational, Estimated)	0.077	ac-ft
Flow (Modified Rational, Allowable)	44.77	ft³/s			

Existing Pond Redesign- Interconnected Ponds

Subsection: Modified Rational Storm Calculations
Return Event: 5 years
Label: SF-2 RE-DESIGN
Storm Event: IDF Curve Equation - 1 - 5 Year
Scenario: Post-Development 5 YEAR

C Coefficient (Weighted)	C Coefficient (Adjusted)	Duration (hours)	Intensity (in/h)	Area (acres)	Flow (Peak) (ft^3/s)	Volume (Inflow) (ac-ft)	Volume (Storage) (ac-ft)
0.610	0.610	0.667	2.591	25.683	40.93	(N/A)	(N/A)

Existing Pond Redesign- Interconnected Ponds

Subsection: Modified Rational Hydrograph
Label: SF-2 RE-DESIGN
Scenario: Post-Development 5 YEAR

Return Event: 5 years
Storm Event: IDF Curve Equation - 1 - 5 Year

Modified Rational Method

Q = CiA * Unit Conversion; Where Conversion = 43560 / (12 * 3600)

Frequency (years)	C Coefficient	C Adjustment Factor	C Coefficient (Final)	Intensity (in/h)	Area (acres)	Flow (Peak) (ft³/s)
5	1.000	1.000	0.610	2.945	25.683	46.52

Peak Discharge	44.59 ft³/s
Time to Peak	0.550 hours
Hydrograph Volume	2.176 ac-ft

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)
0.050	4.41	8.81	13.22	17.62	22.03
0.300	26.43	30.84	35.25	39.65	44.06
0.550	44.59	40.18	35.77	31.37	26.96
0.800	22.56	18.15	13.75	9.34	4.93
1.050	0.53	0.00	(N/A)	(N/A)	(N/A)

Existing Pond Redesign- Interconnected Ponds

Subsection: C and Area (Pre-Development)

Return Event: 10 years

Label: SF-2 RE-DESIGN

Storm Event: IDF Curve Equation - 1 - 10 Year

Scenario: Post-Development 10 YEAR

C and Area Results (Pre-Development)

Soil/Surface Description	C Coefficient	Area (acres)	Area (Adjusted) (acres)
	0.610	26.250	(N/A)
Weighted C & Total Area --->	0.610	26.250	16.013

Existing Pond Redesign- Interconnected Ponds

Subsection: C and Area (Post-Development)

Return Event: 10 years

Label: SF-2 RE-DESIGN

Storm Event: IDF Curve Equation - 1 - 10 Year

Scenario: Post-Development 10 YEAR

C and Area Results

Soil/Surface Description	C Coefficient	Area (acres)	Area (Adjusted) (acres)
	0.610	25.683	(N/A)
Weighted C & Total Area --->	0.610	25.683	15.667

Existing Pond Redesign- Interconnected Ponds

Subsection: Rational Pre-Development Peak Flow

Return Event: 10 years

Label: SF-2 RE-DESIGN

Storm Event: IDF Curve Equation - 1 - 10 Year

Scenario: Post-Development 10 YEAR

Summary of Rational Method Peak Discharges
--- Pre-Development Conditions ---

Q = CiA * Unit Conversion; Where Conversion = 43560 / (12 * 3600)

Frequency (years)	C Coefficient	C Adjustment Factor	C Coefficient (Final)	Intensity (in/h)	Area (acres)	Flow (Peak) (ft^3/s)
10	0.610	1.000	0.610	3.170	26.250	51.18

Existing Pond Redesign- Interconnected Ponds

Subsection: Modified Rational Graph

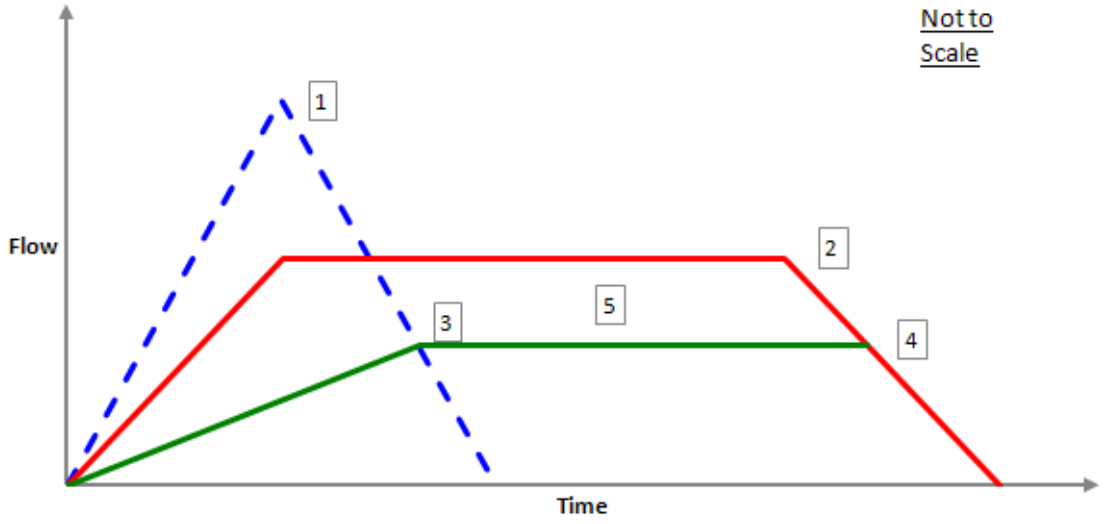
Label: SF-2 RE-DESIGN

Scenario: Post-Development 10 YEAR

Return Event: 10 years

Storm Event: IDF Curve Equation - 1 - 10 Year

Method Type	Method T
Time of Duration (Modified Rational, Critical)	0.528 hours



[1]			[2]		
Time of Concentration (Modified Rational, Composite)	0.528	hours	Time of Duration (Modified Rational, Critical)	0.528	hours
Intensity (Modified Rational, Peak)	3.365	in/h	Intensity (Modified Rational, Critical)	3.365	in/h
Flow (Modified Rational, Peak)	53.15	ft³/s	Flow (Modified Rational, Critical)	53.15	ft³/s

[3]	
First Outflow Breakpoint (Modified Rational, Method T)	0.000 hours
Flow (Modified Rational, Allowable)	51.18 ft³/s

[4]			[5]		
Second Outflow Breakpoint (Modified Rational)	0.548	hours	Storage (Modified Rational, Estimated)	0.086	ac-ft
Flow (Modified Rational, Allowable)	51.18	ft³/s			

Existing Pond Redesign- Interconnected Ponds

Subsection: Modified Rational Storm Calculations

Return Event: 10 years

Label: SF-2 RE-DESIGN

Storm Event: IDF Curve Equation - 1 - 10 Year

Scenario: Post-Development 10 YEAR

C Coefficient (Weighted)	C Coefficient (Adjusted)	Duration (hours)	Intensity (in/h)	Area (acres)	Flow (Peak) (ft^3/s)	Volume (Inflow) (ac-ft)	Volume (Storage) (ac-ft)
0.610	0.610	0.667	2.965	25.683	46.83	(N/A)	(N/A)

Existing Pond Redesign- Interconnected Ponds

Subsection: Modified Rational Hydrograph

Return Event: 10 years

Label: SF-2 RE-DESIGN

Storm Event: IDF Curve Equation - 1 - 10 Year

Scenario: Post-Development 10 YEAR

Modified Rational Method

Q = CiA * Unit Conversion; Where Conversion = 43560 / (12 * 3600)

Frequency (years)	C Coefficient	C Adjustment Factor	C Coefficient (Final)	Intensity (in/h)	Area (acres)	Flow (Peak) (ft³/s)
10	1.000	1.000	0.610	3.365	25.683	53.15

Peak Discharge	50.94 ft³/s
Time to Peak	0.550 hours
Hydrograph Volume	2.486 ac-ft

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)
0.050	5.03	10.07	15.10	20.13	25.17
0.300	30.20	35.23	40.27	45.30	50.33
0.550	50.94	45.90	40.87	35.84	30.80
0.800	25.77	20.74	15.70	10.67	5.64
1.050	0.60	0.00	(N/A)	(N/A)	(N/A)

Existing Pond Redesign- Interconnected Ponds

Subsection: C and Area (Pre-Development)

Return Event: 25 years

Label: SF-2 RE-DESIGN

Storm Event: IDF Curve Equation - 1 - 25 Year

Scenario: Post-Development 25 YEAR

C and Area Results (Pre-Development)

Soil/Surface Description	C Coefficient	Area (acres)	Area (Adjusted) (acres)
	0.610	26.250	(N/A)
Weighted C & Total Area --->	0.610	26.250	16.013

Existing Pond Redesign- Interconnected Ponds

Subsection: C and Area (Post-Development)

Return Event: 25 years

Label: SF-2 RE-DESIGN

Storm Event: IDF Curve Equation - 1 - 25 Year

Scenario: Post-Development 25 YEAR

C and Area Results

Soil/Surface Description	C Coefficient	Area (acres)	Area (Adjusted) (acres)
	0.610	25.683	(N/A)
Weighted C & Total Area --->	0.610	25.683	15.667

Existing Pond Redesign- Interconnected Ponds

Subsection: Rational Pre-Development Peak Flow

Return Event: 25 years

Label: SF-2 RE-DESIGN

Storm Event: IDF Curve Equation - 1 - 25 Year

Scenario: Post-Development 25 YEAR

Summary of Rational Method Peak Discharges
--- Pre-Development Conditions ---

Q = CiA * Unit Conversion; Where Conversion = 43560 / (12 * 3600)

Frequency (years)	C Coefficient	C Adjustment Factor	C Coefficient (Final)	Intensity (in/h)	Area (acres)	Flow (Peak) (ft^3/s)
25	0.610	1.000	0.610	3.730	26.250	60.22

Existing Pond Redesign- Interconnected Ponds

Subsection: Modified Rational Graph

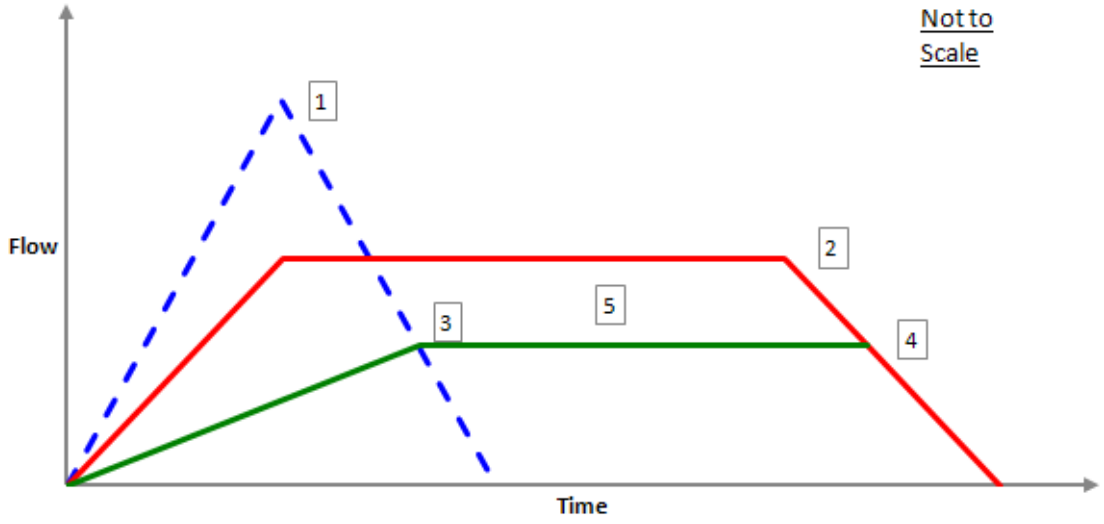
Label: SF-2 RE-DESIGN

Scenario: Post-Development 25 YEAR

Return Event: 25 years

Storm Event: IDF Curve Equation - 1 - 25 Year

Method Type	Method T
Time of Duration (Modified Rational, Critical)	0.528 hours



[1]			[2]		
Time of Concentration (Modified Rational, Composite)	0.528	hours	Time of Duration (Modified Rational, Critical)	0.528	hours
Intensity (Modified Rational, Peak)	3.957	in/h	Intensity (Modified Rational, Critical)	3.957	in/h
Flow (Modified Rational, Peak)	62.51	ft³/s	Flow (Modified Rational, Critical)	62.51	ft³/s

[3]	
First Outflow Breakpoint (Modified Rational, Method T)	0.000 hours
Flow (Modified Rational, Allowable)	60.22 ft³/s

[4]			[5]		
Second Outflow Breakpoint (Modified Rational)	0.547	hours	Storage (Modified Rational, Estimated)	0.100	ac-ft
Flow (Modified Rational, Allowable)	60.22	ft³/s			

Existing Pond Redesign- Interconnected Ponds

Subsection: Modified Rational Storm Calculations

Return Event: 25 years

Label: SF-2 RE-DESIGN

Storm Event: IDF Curve Equation - 1 - 25 Year

Scenario: Post-Development 25 YEAR

C Coefficient (Weighted)	C Coefficient (Adjusted)	Duration (hours)	Intensity (in/h)	Area (acres)	Flow (Peak) (ft^3/s)	Volume (Inflow) (ac-ft)	Volume (Storage) (ac-ft)
0.610	0.610	0.667	3.490	25.683	55.14	(N/A)	(N/A)

Existing Pond Redesign- Interconnected Ponds

Subsection: Modified Rational Hydrograph

Return Event: 25 years

Label: SF-2 RE-DESIGN

Storm Event: IDF Curve Equation - 1 - 25 Year

Scenario: Post-Development 25 YEAR

Modified Rational Method

Q = CiA * Unit Conversion; Where Conversion = 43560 / (12 * 3600)

Frequency (years)	C Coefficient	C Adjustment Factor	C Coefficient (Final)	Intensity (in/h)	Area (acres)	Flow (Peak) (ft³/s)
25	1.000	1.000	0.610	3.957	25.683	62.51

Peak Discharge	59.90 ft³/s
Time to Peak	0.550 hours
Hydrograph Volume	2.923 ac-ft

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)
0.050	5.92	11.84	17.76	23.68	29.60
0.300	35.51	41.43	47.35	53.27	59.19
0.550	59.90	53.98	48.06	42.14	36.23
0.800	30.31	24.39	18.47	12.55	6.63
1.050	0.71	0.00	(N/A)	(N/A)	(N/A)

Existing Pond Redesign- Interconnected Ponds

Subsection: C and Area (Pre-Development)

Return Event: 50 years

Label: SF-2 RE-DESIGN

Storm Event: IDF Curve Equation - 1 - 50 Year

Scenario: Post-Development 50 YEAR

C and Area Results (Pre-Development)

Soil/Surface Description	C Coefficient	Area (acres)	Area (Adjusted) (acres)
	0.610	26.250	(N/A)
Weighted C & Total Area --->	0.610	26.250	16.013

Existing Pond Redesign- Interconnected Ponds

Subsection: C and Area (Post-Development)

Return Event: 50 years

Label: SF-2 RE-DESIGN

Storm Event: IDF Curve Equation - 1 - 50 Year

Scenario: Post-Development 50 YEAR

C and Area Results

Soil/Surface Description	C Coefficient	Area (acres)	Area (Adjusted) (acres)
	0.610	25.683	(N/A)
Weighted C & Total Area --->	0.610	25.683	15.667

Existing Pond Redesign- Interconnected Ponds

Subsection: Rational Pre-Development Peak Flow

Return Event: 50 years

Label: SF-2 RE-DESIGN

Storm Event: IDF Curve Equation - 1 - 50 Year

Scenario: Post-Development 50 YEAR

Summary of Rational Method Peak Discharges
--- Pre-Development Conditions ---

Q = CiA * Unit Conversion; Where Conversion = 43560 / (12 * 3600)

Frequency (years)	C Coefficient	C Adjustment Factor	C Coefficient (Final)	Intensity (in/h)	Area (acres)	Flow (Peak) (ft^3/s)
50	0.610	1.000	0.610	4.163	26.250	67.22

Existing Pond Redesign- Interconnected Ponds

Subsection: Modified Rational Graph

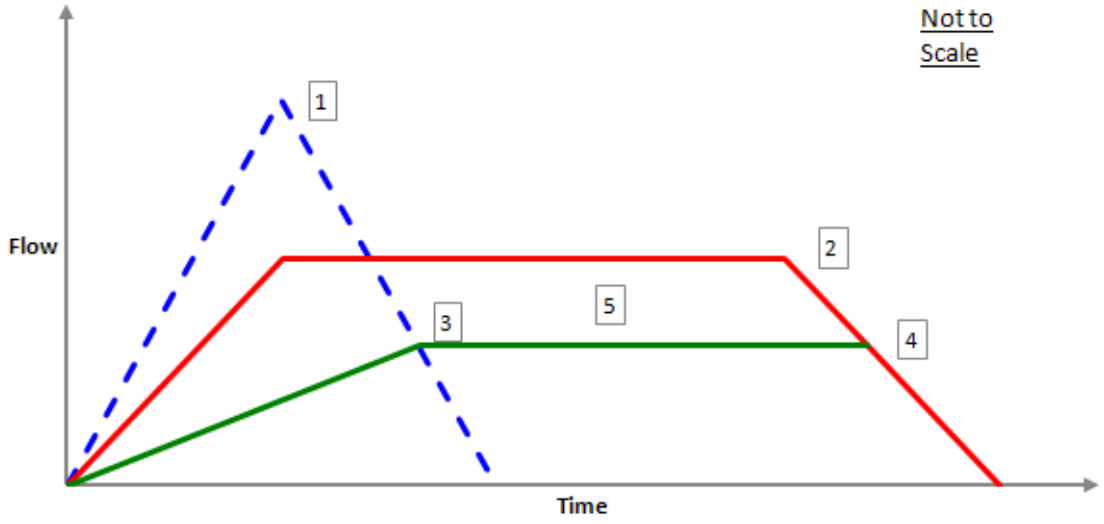
Label: SF-2 RE-DESIGN

Scenario: Post-Development 50 YEAR

Return Event: 50 years

Storm Event: IDF Curve Equation - 1 - 50 Year

Method Type	Method T
Time of Duration (Modified Rational, Critical)	0.528 hours



[1]			[2]		
Time of Concentration (Modified Rational, Composite)	0.528	hours	Time of Duration (Modified Rational, Critical)	0.528	hours
Intensity (Modified Rational, Peak)	4.416	in/h	Intensity (Modified Rational, Critical)	4.416	in/h
Flow (Modified Rational, Peak)	69.75	ft³/s	Flow (Modified Rational, Critical)	69.75	ft³/s

[3]	
First Outflow Breakpoint (Modified Rational, Method T)	0.000 hours
Flow (Modified Rational, Allowable)	67.22 ft³/s

[4]			[5]		
Second Outflow Breakpoint (Modified Rational)	0.547	hours	Storage (Modified Rational, Estimated)	0.111	ac-ft
Flow (Modified Rational, Allowable)	67.22	ft³/s			

Existing Pond Redesign- Interconnected Ponds

Subsection: Modified Rational Storm Calculations

Return Event: 50 years

Label: SF-2 RE-DESIGN

Storm Event: IDF Curve Equation - 1 - 50 Year

Scenario: Post-Development 50 YEAR

C Coefficient (Weighted)	C Coefficient (Adjusted)	Duration (hours)	Intensity (in/h)	Area (acres)	Flow (Peak) (ft^3/s)	Volume (Inflow) (ac-ft)	Volume (Storage) (ac-ft)
0.610	0.610	0.667	3.898	25.683	61.57	(N/A)	(N/A)

Existing Pond Redesign- Interconnected Ponds

Subsection: Modified Rational Hydrograph

Return Event: 50 years

Label: SF-2 RE-DESIGN

Storm Event: IDF Curve Equation - 1 - 50 Year

Scenario: Post-Development 50 YEAR

Modified Rational Method

Q = CiA * Unit Conversion; Where Conversion = 43560 / (12 * 3600)

Frequency (years)	C Coefficient	C Adjustment Factor	C Coefficient (Final)	Intensity (in/h)	Area (acres)	Flow (Peak) (ft³/s)
50	1.000	1.000	0.610	4.416	25.683	69.75

Peak Discharge	66.85 ft³/s
Time to Peak	0.550 hours
Hydrograph Volume	3.262 ac-ft

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)
0.050	6.61	13.21	19.82	26.42	33.03
0.300	39.63	46.24	52.84	59.45	66.06
0.550	66.85	60.24	53.64	47.03	40.43
0.800	33.82	27.21	20.61	14.00	7.40
1.050	0.79	0.00	(N/A)	(N/A)	(N/A)

Existing Pond Redesign- Interconnected Ponds

Subsection: C and Area (Pre-Development)

Return Event: 100 years

Label: SF-2 RE-DESIGN

Storm Event: IDF Curve Equation - 1 - 100 Year

Scenario: Post-Development 100 YEAR

C and Area Results (Pre-Development)

Soil/Surface Description	C Coefficient	Area (acres)	Area (Adjusted) (acres)
	0.610	26.250	(N/A)
Weighted C & Total Area --->	0.610	26.250	16.013

Existing Pond Redesign- Interconnected Ponds

Subsection: C and Area (Post-Development)

Return Event: 100 years

Label: SF-2 RE-DESIGN

Storm Event: IDF Curve Equation - 1 - 100 Year

Scenario: Post-Development 100 YEAR

C and Area Results

Soil/Surface Description	C Coefficient	Area (acres)	Area (Adjusted) (acres)
	0.610	25.683	(N/A)
Weighted C & Total Area --->	0.610	25.683	15.667

Existing Pond Redesign- Interconnected Ponds

Subsection: Rational Pre-Development Peak Flow

Return Event: 100 years

Label: SF-2 RE-DESIGN

Storm Event: IDF Curve Equation - 1 - 100 Year

Scenario: Post-Development 100 YEAR

Summary of Rational Method Peak Discharges
--- Pre-Development Conditions ---

Q = CiA * Unit Conversion; Where Conversion = 43560 / (12 * 3600)

Frequency (years)	C Coefficient	C Adjustment Factor	C Coefficient (Final)	Intensity (in/h)	Area (acres)	Flow (Peak) (ft^3/s)
100	0.610	1.000	0.610	4.605	26.250	74.35

Existing Pond Redesign- Interconnected Ponds

Subsection: Modified Rational Graph

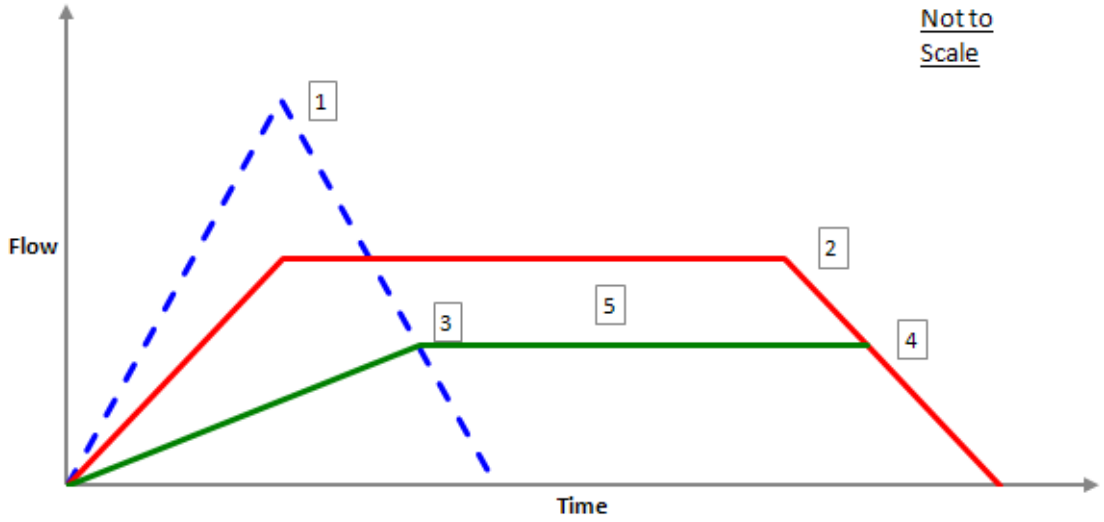
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Scenario: Post-Development 100 YEAR

Return Event: 100 years

Storm Event: IDF Curve Equation - 1 - 100 Year

Method Type	Method T
Time of Duration (Modified Rational, Critical)	0.528 hours



[1]			[2]		
Time of Concentration (Modified Rational, Composite)	0.528	hours	Time of Duration (Modified Rational, Critical)	0.528	hours
Intensity (Modified Rational, Peak)	4.882	in/h	Intensity (Modified Rational, Critical)	4.882	in/h
Flow (Modified Rational, Peak)	77.13	ft³/s	Flow (Modified Rational, Critical)	77.13	ft³/s

[3]	
First Outflow Breakpoint (Modified Rational, Method T)	0.000 hours
Flow (Modified Rational, Allowable)	74.35 ft³/s

[4]			[5]		
Second Outflow Breakpoint (Modified Rational)	0.547	hours	Storage (Modified Rational, Estimated)	0.121	ac-ft
Flow (Modified Rational, Allowable)	74.35	ft³/s			

Existing Pond Redesign- Interconnected Ponds

Subsection: Modified Rational Storm Calculations

Return Event: 100 years

Label: SF-2 RE-DESIGN

Storm Event: IDF Curve Equation - 1 - 100 Year

Scenario: Post-Development 100 YEAR

C Coefficient (Weighted)	C Coefficient (Adjusted)	Duration (hours)	Intensity (in/h)	Area (acres)	Flow (Peak) (ft^3/s)	Volume (Inflow) (ac-ft)	Volume (Storage) (ac-ft)
0.610	0.610	0.667	4.312	25.683	68.12	(N/A)	(N/A)

Existing Pond Redesign- Interconnected Ponds

Subsection: Modified Rational Hydrograph

Return Event: 100 years

Label: SF-2 RE-DESIGN

Storm Event: IDF Curve Equation - 1 - 100 Year

Scenario: Post-Development 100 YEAR

Modified Rational Method

Q = CiA * Unit Conversion; Where Conversion = 43560 / (12 * 3600)

Frequency (years)	C Coefficient	C Adjustment Factor	C Coefficient (Final)	Intensity (in/h)	Area (acres)	Flow (Peak) (ft³/s)
100	1.000	1.000	0.610	4.882	25.683	77.13

Peak Discharge	73.91 ft³/s
Time to Peak	0.550 hours
Hydrograph Volume	3.607 ac-ft

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)
0.050	7.30	14.61	21.91	29.21	36.52
0.300	43.82	51.13	58.43	65.73	73.04
0.550	73.91	66.61	59.31	52.00	44.70
0.800	37.39	30.09	22.79	15.48	8.18
1.050	0.88	0.00	(N/A)	(N/A)	(N/A)

Existing Pond Redesign- Interconnected Ponds

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