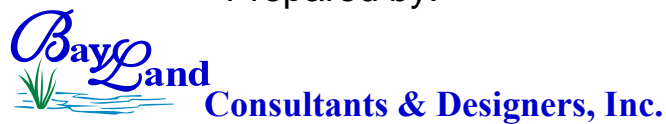

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION HYDROLOGIC AND HYDRAULIC FLOODPLAIN STUDY



FEBRUARY 2024

Prepared by:



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1. INTRODUCTION

This report details the hydrologic and hydraulic analyses for the Cloverfields Neighborhood Flood Mitigation Project located in Queen Anne’s County, Maryland. The report assesses the flow through Cox Creek, that is fed by the surrounding residential area and agricultural area upstream at its headwaters. Over 12,000 LF of stream was assessed. The following hydrologic and hydraulic analyses will be used to delineate the flood inundation within the community.

1.1. Topographic and Land Use Data

Topographic and land use data were obtained from 2017 land use data from the Chesapeake Bay Conservancy, two-foot flown topographic data, a field survey from BayLand Consultants & Designers, Inc (BayLand), and 2019 LiDAR data from Queen Anne’s County.

The land use matrix was broken down into the basic components of Open Space, Impervious Surface, Cropland, and Woods for existing conditions and per Queen Anne’s County Zoning for ultimate conditions.

The ultimate conditions simulate the maximum development possible under the current zoning regulations for the watershed. The study area and the associated sub drainage areas have varying zoning areas dependent on the density of residents. These zoning jurisdictions are: Stevensville Master-Planned Development District (SMPD), Countryside District (CS), Suburban Estate District (SE), and Neighborhood Conservation Districts (NC-1, -15, -20). Following the SCS methodology, a composite curve number was calculated using the SCS curve numbers for the current zoning and the corresponding HSG soil types. The ultimate conditions curve number is shown in Table 3.

The full land use tables can be found in Appendix B. Tables 1 and 2 shows the amount per land uses for the existing and ultimate conditions watershed basins respectively.

Sub Drainage Area	Impervious (Acres)	Woods (Acres)	Cropland (Acres)	Open (Acres)
1	64.36	29.37	173.88	188.02
2	22.68	22.17	48.03	71.44
3	17.65	0.00	0.00	28.81
4	60.24	10.66	3.08	92.42
5	0.00	18.10	0.00	0.09
6	0.00	1.15	0.00	57.11

Table 2 – Ultimate Watersheds Land Use						
Sub Drainage Area	CS (Acres)	NC-1 (Acres)	NC-15 (Acres)	NC-20 (Acres)	SE (Acres)	SMPD (Acres)
1	251.95	0.00	105.83	14.53	6.30	66.89
2	66.85	0.00	55.12	13.70	28.65	0.00
3	0.00	0.00	46.46	0.00	0.00	0.00
4	0.00	0.90	159.70	0.00	3.50	2.30
5	0.00	0.00	0.00	0.00	0.00	9.44
6	0.00	0.00	0.00	0.00	0.00	12.89
7	0.00	0.00	0.00	0.00	0.00	13.88

1.2 Soil Classification

Using the Natural Resource Conservation Service (NRCS) Hydrologic Soil Classification system, soils can be classified according to their ability to decrease surface runoff through infiltration. The classification ranges from Hydrologic Soil Group (HSG) A, which is characterized by high infiltration rates and a low potential for surface runoff, to HSG D which is characterized by low infiltration rates and high surface runoff potential. Hydrologic Soil Classifications for the project area were obtained through the USDA online soil survey website. A soil classification analysis detailing the type and percentage of each soil group within the drainage basin can be found in Appendix B. Table 3 provides the abundance and percentage of each HSG within the project area. The study area is predominated by HSG C and B soils. Type C and D soils are characterized as having low infiltration rates and high runoff potential. There are no Type A or B soils within the drainage areas.

Table 3 – Soil Coverage							
A (Acres)	A (%)	B (Acres)	B (%)	C (Acres)	C (%)	D (Acres)	D (%)
0.0	0.0	0.0	0.0	710.06	78.1	199.20	21.9

2. HYDROLOGIC ANALYSIS

The SCS Technical Release 55 (TR-55) methodology was utilized to compute the runoff curve number (RCN) and time of concentration (Tc) for the drainage areas using land use, soil properties and physiographic characteristics. Table 4 lists the basin’s, RCN and Tc for existing and ultimate conditions. The total amount of sub drainage areas and overall basin size in ultimate conditions differs from existing conditions as ongoing residential development will change flow patterns in the area around existing sub drainage areas 5 and 6.

Table 4 – Drainage Area Characteristics				
Sub Drainage Area	Area (Acres)	Area (Square Miles)	RCN	Tc (Hours)
Existing Conditions				
1	455.63	0.71	81	4.17
2	164.32	0.26	80	1.54
3	46.46	0.07	83	0.66
4	166.40	0.26	85	1.07
5	18.19	0.03	76	1.24
6	58.26	0.09	75	0.76
Ultimate Conditions				
1	445.50	0.70	83	4.17
2	164.32	0.26	81	1.54
3	46.46	0.07	83	0.66
4	166.40	0.26	85	1.07
5	9.44	0.01	91	0.15
6	12.89	0.02	90	0.28
7	13.88	0.02	90	0.23

The SCS Technical Release 20 (TR-20, version 3.30.1) computer program was used to determine peak discharges for the 1-, 2-, 10-, and 100-year events by routing the rainfall runoff through the pre-existing stream channels. The amount of runoff and the speed at which it reached the study point determined the peak discharge and is a function of the land use, soil type, basin size and shape, and pre-storm soil moisture. The TR-20 model is a deterministic hydrologic model that synthesizes a single event runoff hydrograph as a function of a rainfall input and drainage area characteristics. Rainfall depths were obtained from National Oceanic and Atmospheric Administration (NOAA) Atlas 14. The model operates using time varying rainfall to produce a hydrograph that simulates the role of the watershed area, land cover, hydrologic soil types, antecedent runoff conditions, topography, storage basins, the characteristics of the overland, shallow confined, and channel flow paths, and storage attenuation such as that created by flood plains, wetlands, and existing management facilities.

2.1. Peak Discharge & Calibration

Per the Maryland Hydrology Panel Report, a unit hydrograph peak factor of 284 (Delmarva Unit Hydrograph, DUH) is to be utilized in the Eastern Coastal Plain region. The DUH was developed for watersheds in the Delmarva Peninsula where average land slopes are 2 to 5 percent or less, and there is considerable available surface storage in swales and depressions (Welle, 1989). The existing and ultimate conditions models were developed with the Delmarva unit hydrograph (DUH) (Table 5).

Table 5 – Peak Discharge Results							
Land Use Condition	1-YR Peak Discharge (cfs)	2-YR Peak Discharge (cfs)	5-YR Peak Discharge (cfs)	10-YR Peak Discharge (cfs)	25-YR Peak Discharge (cfs)	50-YR Peak Discharge (cfs)	100-YR Peak Discharge (cfs)
Existing (w/ DUH)	96.0	139.3	217.9	290.3	403.3	504.8	621.5
Ultimate (w/ DUH)	103.0	145.1	224.0	292.5	401.3	498.2	609.0

Calibration

Standard hydrologic practice dictates that all deterministic models, including WinTR-20, be calibrated where sufficient actual and measured rainfall and runoff data are locally available. When data is not available, regional regression equations derived from USGS stream flow data may be used as a basis to calibrate the model (Maryland Hydrology Panel Report, 2020).

A search of USGS stream gages within the site vicinity revealed there were no stream gages suitable for calibration analysis. Therefore, peak discharges predicted using the Eastern Coastal Plain Fixed Regional Regression (ECP FRR) equations (Maryland Hydrology Panel Report, Appendix 3, June 2022) were reviewed for suitability as a calibration tool. However, the ECP FRR equations were developed from 35 rural USGS gage stations with drainage areas ranging from 0.91 to 113.8 square miles and the percent A soils by the Dominant Condition method ranging from 0.5 to 82.7 percent based on the October 2021 SSURGO soils data. Since the overall drainage area has no A soils and ~50% of the area is fully developed, the ECP FRR equations were strictly compared to the WinTR-20 peak discharges and were not used as a calibration tool (Table 6). Per Table 6, the WinTR-20 peak discharges with the DUH applied for all storm events are above the upper and lower limit calibration window predicted by the ECP FRR equations.

Table 6 – Peak Discharge Results

Storm Recurrence Interval (yrs)	Regression Peak Discharge (cfs)	Standard Error (%)	Lower Limit (cfs)	Upper Limit (cfs)	Existing Conditions WinTR-20 Peak Discharge (with DUH) (cfs)	Ultimate Conditions WinTR-20 Peak Discharge (with DUH) (cfs)
1	N/A	N/A	N/A	N/A	96.0	103.0
1.25	42.46	46.0	22.93	62.00	N/A	N/A
1.5	54.45	44.1	30.44	78.47	N/A	N/A
2	72.22	42.3	41.67	102.76	139.3	145.1
5	126.86	40.0	76.12	177.60	217.9	224.0
10	171.95	39.2	104.55	239.36	290.3	292.5
25	237.27	39.6	143.31	331.23	403.3	401.3
50	296.08	40.4	176.46	415.69	504.8	498.2
100	363.13	42.1	210.25	516.00	621.5	609.0

Although the ECP FRR equations are not suitable for use as a calibration tool, the WinTR-20 discharges with the DUH offer a more conservative estimate for design. Therefore, it is recommended that the peak flow estimates predicted by existing/ultimate conditions WinTR-20 with the DUH applied be utilized for design.

3. HYDRAULIC ANALYSIS

3.1. Hydraulic Model

A 2-D unsteady flow model was created using the Hydrologic Engineering Center-River Analysis System (HEC-RAS) version 6.1.0 River Analysis System, developed by the U.S. Army Corps of Engineers, to establish inundation boundaries for the Cloverfields Neighborhood Project existing and ultimate conditions. The model was terminated at the tidal interface.

To ensure the most conservative inundation boundaries, the peak discharge of the existing and ultimate conditions from the tributaries that feed into the main stem of Cox Creek (DA02-07) were offset to match the time to peak of main stem of Cox Creek (DA01) based on the HEC-RAS runs for each storm event. Table 7 summarizes the peak existing and ultimate hydrograph timing from the main stem of Cox Creek that the downstream tributaries were offset to; every model run started at 0000 HRS.

Storm Event	Time to Peak (hrs)
EX 1-Year	0554
EX 2-Year	0624
EX 10-Year	0830
EX 100-Year	1054
ULT 1-Year	0554
ULT 2-Year	0642
ULT 10-Year	0854
ULT 100-Year	1154

For the HECRAS model, a Manning's "n" value was assigned per the Chesapeake Bay Watershed Landcover Dataset for Prince George's County. See Table 8 for summary.

Land Cover	Manning's n
Water (1)	0.02
Emergent Wetlands (2)	0.07
Tree Canopy (3)	0.10
Shrubland (4)	0.05
Low Vegetation (5)	0.04
Barren (6)	0.03
Structures (7)	0.02
Impervious Structures (8)	0.02
Impervious Roads (9)	0.02
Tree Canopy over Structures (10)	0.02
Tree Canopy over Impervious Surfaces (11)	0.02
Tree Canopy over Impervious Roads (12)	0.02

3.2. Hydraulic Analysis Results

The flood inundation maps (Appendix D) show the inundation areas for each scenario and condition evaluated. Due to their location within the floodplain, over one hundred homes within the Cox Creek floodplain will be inundated by at least one modeled rain event. Furthermore, adjacent roads and other structures are also inundated. The HEC-RAS model produced flood velocities and overtopping depths at twelve different road crossings: Grollman Road, Love Point Road, Old Love Point Road, Cloverfields Drive, Nichols Manor Drive, Johnny Lane, Ackerman Road, Oakwood Lane, Beech Lane, Kimberly Way, Shi Lane, and Berton Road.

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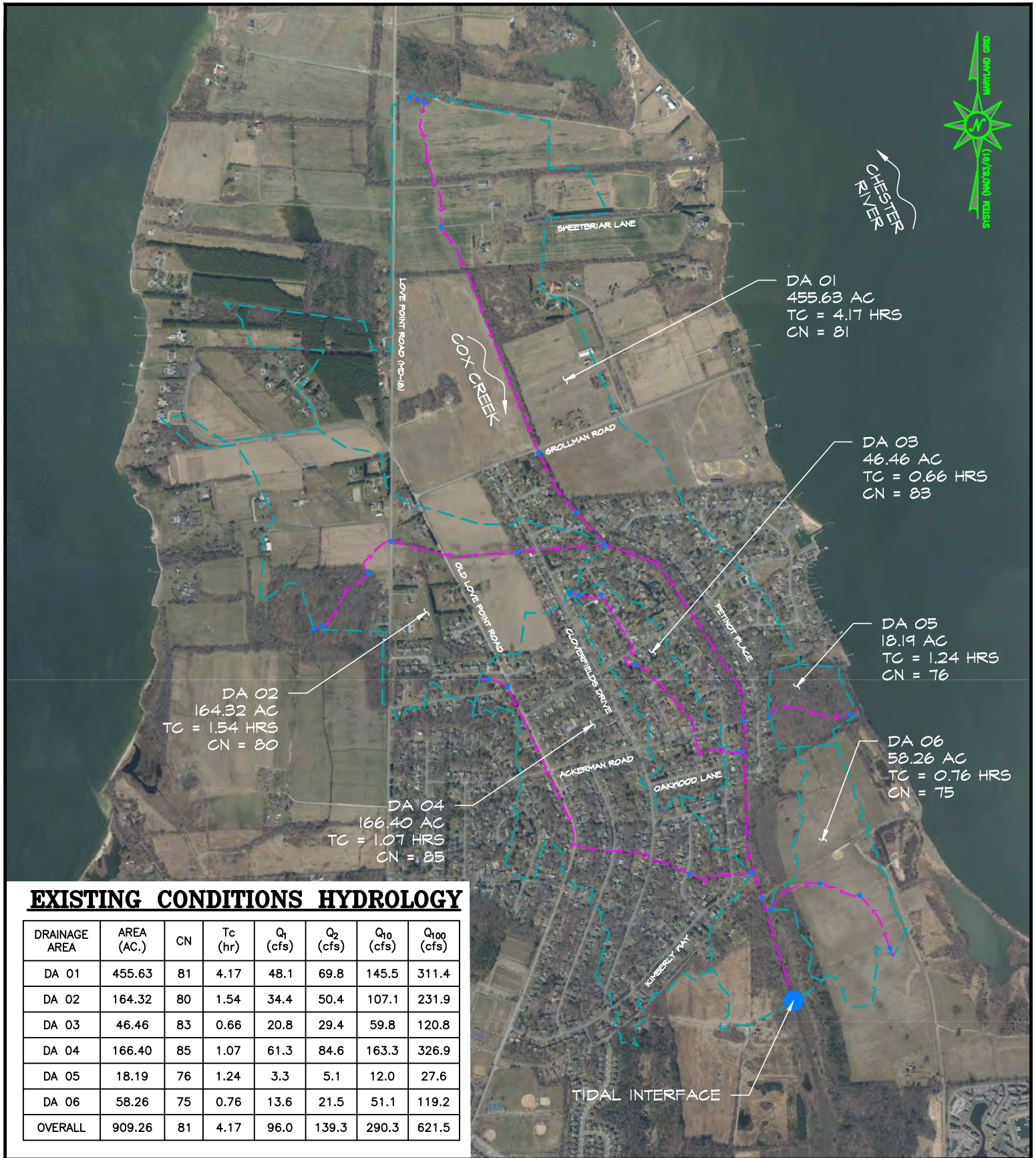
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APPENDIX A

Drainage Areas and Study Points



EXISTING CONDITIONS HYDROLOGY

DRAINAGE AREA	AREA (AC.)	CN	Tc (hr)	Q ₁ (cfs)	Q ₂ (cfs)	Q ₁₀ (cfs)	Q ₁₀₀ (cfs)
DA 01	455.63	81	4.17	48.1	69.8	145.5	311.4
DA 02	164.32	80	1.54	34.4	50.4	107.1	231.9
DA 03	46.46	83	0.66	20.8	29.4	59.8	120.8
DA 04	166.40	85	1.07	61.3	84.6	163.3	326.9
DA 05	18.19	76	1.24	3.3	5.1	12.0	27.6
DA 06	58.26	75	0.76	13.6	21.5	51.1	119.2
OVERALL	909.26	81	4.17	96.0	139.3	290.3	621.5

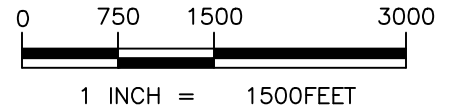


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CLOVERFIELDS NEIGHBORHOOD EXISTING CONDITIONS DRAINAGE AREA MAP



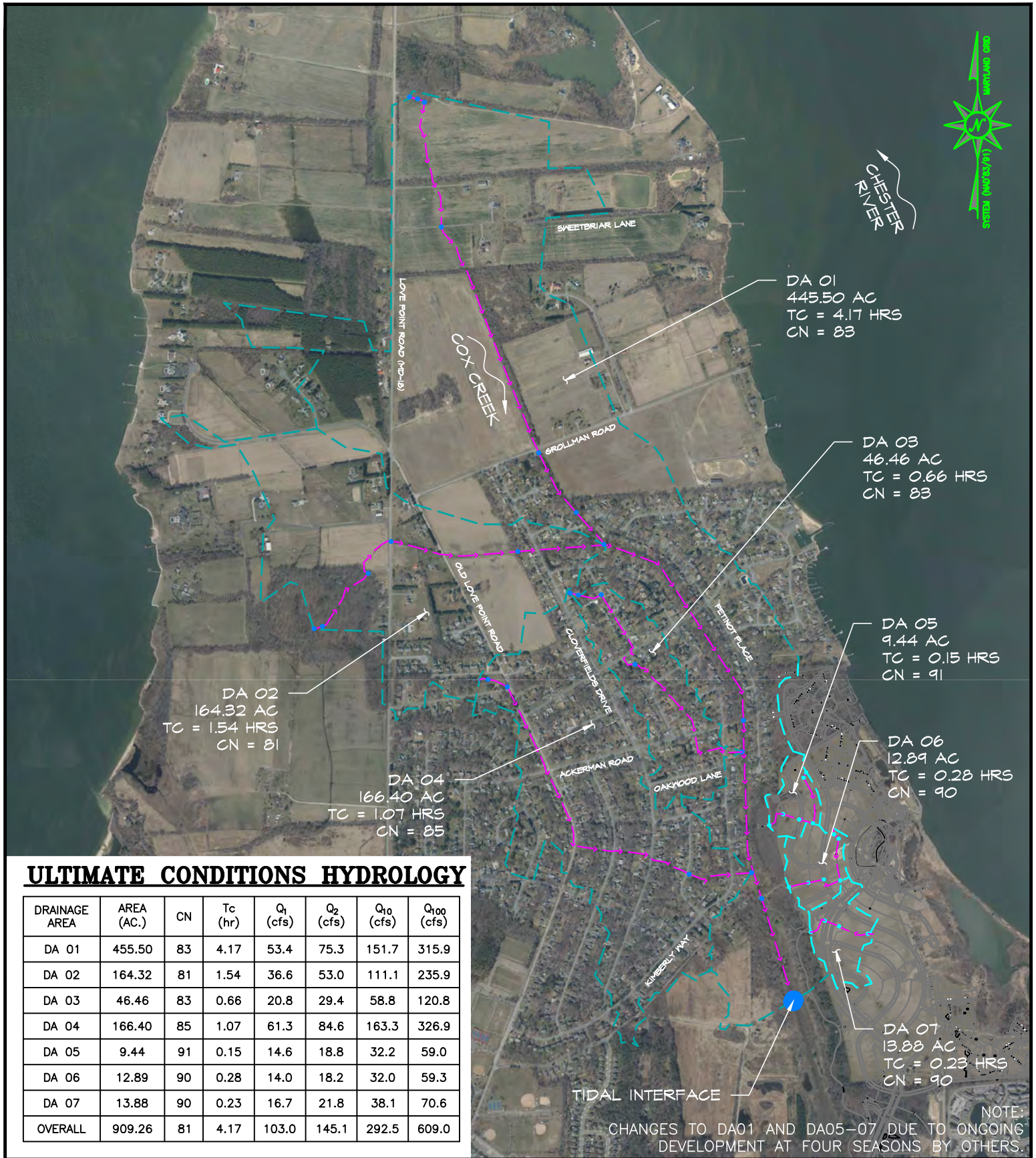
QUEEN ANNE'S COUNTY

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DATE: 12/12/2023

Appendix A - 11
 SCALE: 1" = 1500'

JOB NO: 8_46701



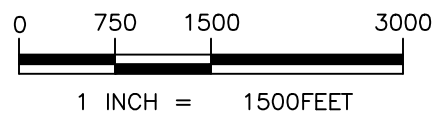
ULTIMATE CONDITIONS HYDROLOGY

DRAINAGE AREA	AREA (AC.)	CN	Tc (hr)	Q ₁ (cfs)	Q ₂ (cfs)	Q ₁₀ (cfs)	Q ₁₀₀ (cfs)
DA 01	455.50	83	4.17	53.4	75.3	151.7	315.9
DA 02	164.32	81	1.54	36.6	53.0	111.1	235.9
DA 03	46.46	83	0.66	20.8	29.4	58.8	120.8
DA 04	166.40	85	1.07	61.3	84.6	163.3	326.9
DA 05	9.44	91	0.15	14.6	18.8	32.2	59.0
DA 06	12.89	90	0.28	14.0	18.2	32.0	59.3
DA 07	13.88	90	0.23	16.7	21.8	38.1	70.6
OVERALL	909.26	81	4.17	103.0	145.1	292.5	609.0

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CLOVERFIELDS NEIGHBORHOOD ULTIMATE CONDITIONS DRAINAGE AREA MAP



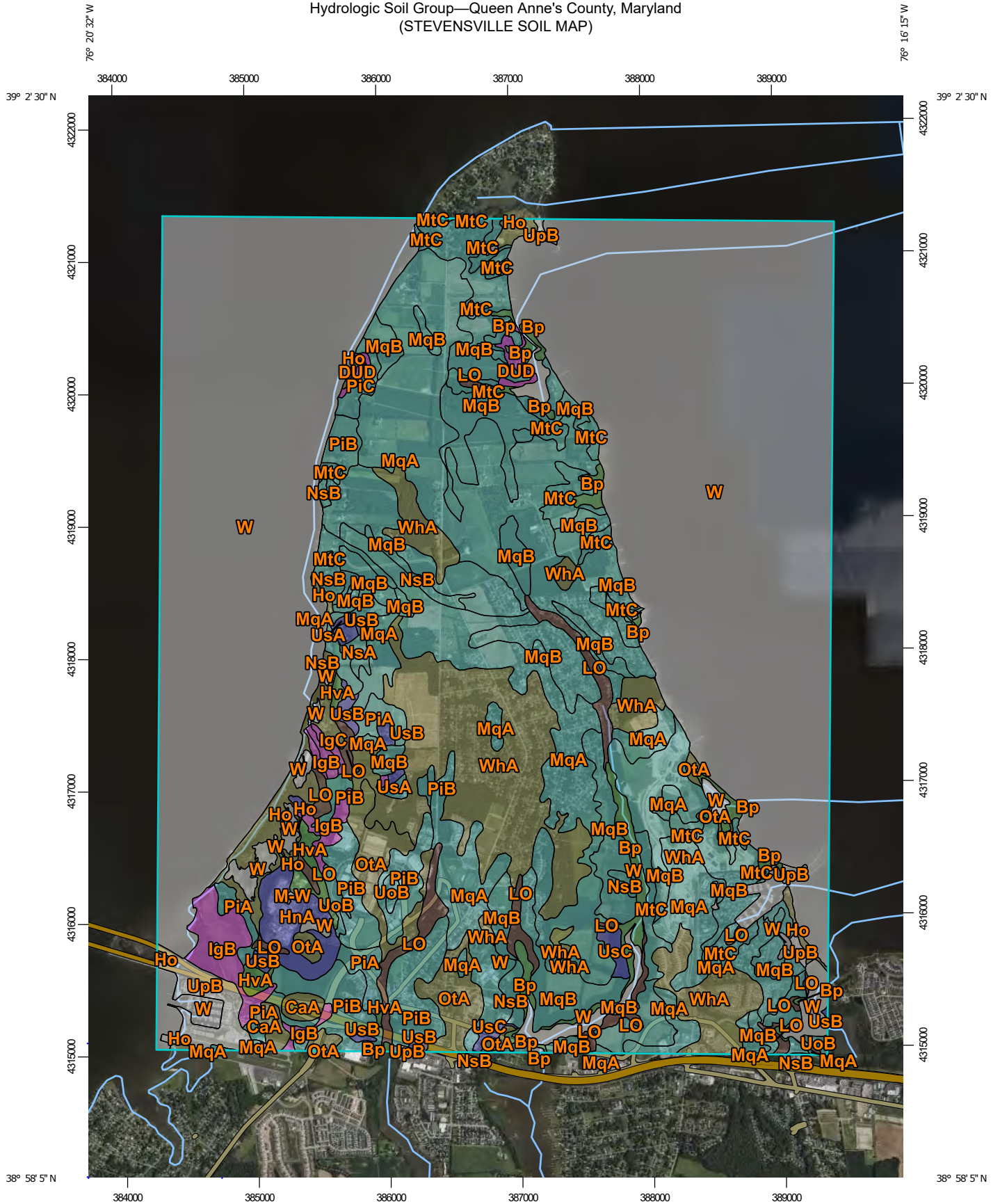
QUEEN ANNE'S COUNTY

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Appendix A - 12 SCALE: 1" = 1500'	JOB NO: 8_46701

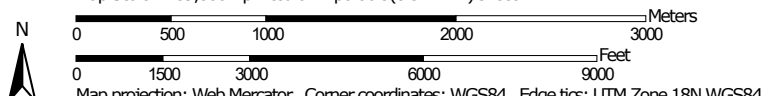
APPENDIX B

USDA Soils/Land Use

Hydrologic Soil Group—Queen Anne's County, Maryland
(STEVENSVILLE SOIL MAP)



Map Scale: 1:39,800 if printed on A portrait (8.5" x 11") sheet.



Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84



Natural Resources
Conservation Service


Web Soil Survey
National Cooperative Soil Survey

11/2/2023
Page 1 of 5

Hydrologic Soil Group—Queen Anne's County, Maryland
(STEVENSVILLE SOIL MAP)

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 1:12,000.

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: Queen Anne's County, Maryland
Survey Area Data: Version 20, Sep 12, 2023

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

Date(s) aerial images were photographed: May 21, 2022—Aug 13, 2022

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.

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
Bp	Bestpitch peat, very frequently flooded, tidal	A/D	93.0	1.2%
CaA	Carmichael loam, 0 to 2 percent slopes	C/D	29.0	0.4%
DUD	Downer and Unicorn soils, 10 to 15 percent slopes	A	16.1	0.2%
HnA	Hammonton sandy loam, 0 to 2 percent slopes	B	69.4	0.9%
HnB	Hammonton sandy loam, 2 to 5 percent slopes	B	2.9	0.0%
Ho	Honga peat, very frequently flooded, tidal	C/D	104.9	1.3%
HvA	Hurlock sandy loam, 0 to 2 percent slopes	A/D	40.0	0.5%
IgB	Ingleside sandy loam, 2 to 5 percent slopes	A	98.5	1.2%
IgC	Ingleside sandy loam, 5 to 10 percent slopes	A	10.2	0.1%
LO	Longmarsh and Indiantown soils, frequently flooded	B/D	125.4	1.6%
M-W	Miscellaneous water		1.2	0.0%
MqA	Mattapex-Butlertown silt loams, 0 to 2 percent slopes	C	1,185.7	14.9%
MqB	Mattapex-Butlertown silt loams, 2 to 5 percent slopes	C	849.5	10.7%
MtC	Mattapex silt loam, 5 to 10 percent slopes	C	169.7	2.1%
NsA	Nassawango silt loam, 0 to 2 percent slopes	C	15.2	0.2%
NsB	Nassawango silt loam, 2 to 5 percent slopes	C	95.1	1.2%
OtA	Othello silt loams, 0 to 2 percent slopes, Mid-Atlantic Coastal Plain	C/D	156.1	2.0%
PiA	Pineyneck silt loam, 0 to 2 percent slopes	C	71.3	0.9%

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
PiB	Pineyneck silt loam, 2 to 5 percent slopes	C	267.1	3.4%
PiC	Pineyneck silt loam, 5 to 10 percent slopes	C	20.7	0.3%
UoB	Unicorn silt loam, 2 to 5 percent slopes	C	20.8	0.3%
UpB	Urban land		75.6	1.0%
UsA	Unicorn-Sassafras loams, 0 to 2 percent slopes	B	4.5	0.1%
UsB	Unicorn-Sassafras loams, 2 to 5 percent slopes	B	25.2	0.3%
UsC	Unicorn-Sassafras loams, 5 to 10 percent slopes	B	23.7	0.3%
W	Water		3,769.0	47.4%
WhA	Whitemarsh silt loam, 0 to 2 percent slopes	C/D	613.5	7.7%
Totals for Area of Interest			7,953.8	100.0%

Description

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.

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

CLOVERFIELD NIEGHBORHOOD FLOOD MITIGATION
LAND USE MATRIX

EXISTING CONDITIONS

DRAINAGE AREA	0	CHECK	OVERALL		
TOTAL DA (ACRES)	921.40	921.40			
	HYDROLOGIC SOIL GROUP				Total
LAND USE	A	B	C	D	
OPEN SPACE	0.00	0.00	563.60	111.42	675.02
IMPERVIOUS	0.00	0.00	115.24	49.69	164.93
MEADOW	0.00	0.00	0.00	0.00	0.00
WOODS	0.00	0.00	43.36	38.09	81.45
SOIL AREAS	A	B	C	D	TOTAL
	0.00	0.00	722.20	199.20	921.40

EXISTING CONDITIONS

DRAINAGE AREA	1	CHECK	SUB DA 1		
TOTAL DA (ACRES)	455.63	455.63			
	HYDROLOGIC SOIL GROUP				Total
LAND USE	A	B	C	D	
OPEN SPACE	0.00	0.00	322.51	39.39	361.90
IMPERVIOUS	0.00	0.00	52.26	12.10	64.36
MEADOW	0.00	0.00	0.00	0.00	0.00
WOODS	0.00	0.00	17.76	11.61	29.37
SOIL AREAS	A	B	C	D	TOTAL
	0.00	0.00	392.53	63.10	455.63

EXISTING CONDITIONS

DRAINAGE AREA	2	CHECK	SUB DA 2		
TOTAL DA (ACRES)	164.32	164.32			
	HYDROLOGIC SOIL GROUP				Total
LAND USE	A	B	C	D	
OPEN SPACE	0.00	0.00	107.27	12.20	119.47
IMPERVIOUS	0.00	0.00	18.97	3.71	22.68
MEADOW	0.00	0.00	0.00	0.00	0.00
WOODS	0.00	0.00	18.08	4.09	22.17
SOIL AREAS	A	B	C	D	TOTAL
	0.00	0.00	144.32	20.00	164.32

EXISTING CONDITIONS

DRAINAGE AREA	3	CHECK	SUB DA 3		
TOTAL DA (ACRES)	46.46	46.46			
	HYDROLOGIC SOIL GROUP				Total
LAND USE	A	B	C	D	
OPEN SPACE	0.00	0.00	28.56	0.25	28.81
IMPERVIOUS	0.00	0.00	17.50	0.15	17.65
MEADOW	0.00	0.00	0.00	0.00	0.00
WOODS	0.00	0.00	0.00	0.00	0.00
SOIL AREAS	A	B	C	D	TOTAL
	0.00	0.00	46.06	0.40	46.46

EXISTING CONDITIONS

DRAINAGE AREA	4	CHECK	SUB DA 4		
TOTAL DA (ACRES)	166.40	166.40			
	HYDROLOGIC SOIL GROUP				Total
LAND USE	A	B	C	D	
OPEN SPACE	0.00	0.00	42.02	53.48	95.50
IMPERVIOUS	0.00	0.00	26.51	33.73	60.24
MEADOW	0.00	0.00	0.00	0.00	0.00
WOODS	0.00	0.00	4.69	5.97	10.66
SOIL AREAS	A	B	C	D	TOTAL
	0.00	0.00	73.22	93.18	166.40

EXISTING CONDITIONS

DRAINAGE AREA	5	CHECK	SUB DA 5		
TOTAL DA (ACRES)	18.19	18.19			
	HYDROLOGIC SOIL GROUP				Total
LAND USE	A	B	C	D	
OPEN SPACE	0.00	0.00	0.09	0.00	0.09
IMPERVIOUS	0.00	0.00	0.00	0.00	0.00
MEADOW	0.00	0.00	0.00	0.00	0.00
WOODS	0.00	0.00	2.12	15.98	18.10
SOIL AREAS	A	B	C	D	TOTAL
	0.00	0.00	2.21	15.98	18.19

EXISTING CONDITIONS

DRAINAGE AREA	6	CHECK	SUB DA 6		
TOTAL DA (ACRES)	70.40	70.40			
	HYDROLOGIC SOIL GROUP				Total
LAND USE	A	B	C	D	
OPEN SPACE	0.00	0.00	63.15	6.10	69.25
IMPERVIOUS	0.00	0.00	0.00	0.00	0.00
MEADOW	0.00	0.00	0.00	0.00	0.00
WOODS	0.00	0.00	0.71	0.44	1.15
SOIL AREAS	A	B	C	D	TOTAL
	0.00	0.00	63.86	6.54	70.40

CLOVERFIELD NIEGHBORHOOD FLOOD MITIGATION
ULTIMATE LAND USE MATRIX

ULTIMATE CONDITIONS

DRAINAGE AREA	0	CHECK	OVERALL		
TOTAL DA (ACRES)	858.89	858.89			
	HYDROLOGIC SOIL GROUP				Total
LAND USE	A	B	C	D	
OPEN SPACE	0.00	0.00	563.60	111.42	675.02
IMPERVIOUS	0.00	0.00	115.24	49.69	164.93
MEADOW	0.00	0.00	0.00	0.00	0.00
WOODS	0.00	0.00	43.36	38.09	81.45
SOIL AREAS	A	B	C	D	TOTAL
	0.00	0.00	722.20	199.20	921.40

ULTIMATE CONDITIONS

DRAINAGE AREA	1	CHECK	SUB DA 1		
TOTAL DA (ACRES)	445.50	445.50			
	HYDROLOGIC SOIL GROUP				Total
LAND USE	A	B	C	D	
CMPD	0.00	0.00	0.00	0.00	0.00
CS	0.00	0.00	233.25	18.70	251.95
NC-1	0.00	0.00	0.00	0.00	0.00
NC-15	0.00	0.00	78.43	27.40	105.83
NC-20	0.00	0.00	11.33	3.20	14.53
SE	0.00	0.00	6.30	0.00	6.30
SMPD	0.00	0.00	54.29	12.60	66.89
SOIL AREAS	A	B	C	D	TOTAL
	0.00	0.00	383.60	61.90	445.50

ULTIMATE CONDITIONS

DRAINAGE AREA	2	CHECK	SUB DA 2		
TOTAL DA (ACRES)	164.32	164.32			
	HYDROLOGIC SOIL GROUP				Total
LAND USE	A	B	C	D	
CMPD	0.00	0.00	0.00	0.00	0.00
CS	0.00	0.00	62.55	4.30	66.85
NC-1	0.00	0.00	0.00	0.00	0.00
NC-15	0.00	0.00	41.92	13.20	55.12
NC-20	0.00	0.00	11.20	2.50	13.70
SE	0.00	0.00	28.65	0.00	28.65
SMPD	0.00	0.00	0.00	0.00	0.00
SOIL AREAS	A	B	C	D	TOTAL
	0.00	0.00	144.32	20.00	164.32

ULTIMATE CONDITIONS

DRAINAGE AREA
TOTAL DA (ACRES)

3		CHECK		SUB DA 3	
46.46		46.46			
HYDROLOGIC SOIL GROUP					Total
LAND USE	A	B	C	D	
CMPD	0.00	0.00	0.00	0.00	0.00
CS	0.00	0.00	0.00	0.00	0.00
NC-1	0.00	0.00	0.00	0.00	0.00
NC-15	0.00	0.00	46.06	0.40	46.46
NC-20	0.00	0.00	0.00	0.00	0.00
SE	0.00	0.00	0.00	0.00	0.00
SMPD	0.00	0.00	0.00	0.00	0.00

SOIL AREAS

A	B	C	D	TOTAL
0.00	0.00	46.06	0.40	46.46

ULTIMATE CONDITIONS

DRAINAGE AREA
TOTAL DA (ACRES)

4		CHECK		SUB DA 4	
166.40		166.40			
HYDROLOGIC SOIL GROUP					Total
LAND USE	A	B	C	D	
CMPD	0.00	0.00	0.00	0.00	0.00
CS	0.00	0.00	0.00	0.00	0.00
NC-1	0.00	0.00	0.70	0.20	0.90
NC-15	0.00	0.00	66.92	92.78	159.70
NC-20	0.00	0.00	0.00	0.00	0.00
SE	0.00	0.00	3.50	0.00	3.50
SMPD	0.00	0.00	2.10	0.20	2.30

SOIL AREAS

A	B	C	D	TOTAL
0.00	0.00	73.22	93.18	166.40

ULTIMATE CONDITIONS

DRAINAGE AREA
TOTAL DA (ACRES)

5		CHECK		SUB DA 5	
9.44		9.44			
HYDROLOGIC SOIL GROUP					Total
LAND USE	A	B	C	D	
CMPD	0.00	0.00	0.00	0.00	0.00
CS	0.00	0.00	0.00	0.00	0.00
NC-1	0.00	0.00	0.00	0.00	0.00
NC-15	0.00	0.00	0.00	0.00	0.00
NC-20	0.00	0.00	0.00	0.00	0.00
SE	0.00	0.00	0.00	0.00	0.00
SMPD	0.00	0.00	6.84	2.60	9.44

SOIL AREAS

A	B	C	D	TOTAL
0.00	0.00	6.84	2.60	9.44

ULTIMATE CONDITIONS

DRAINAGE AREA

TOTAL DA (ACRES)

6	CHECK
12.89	12.89

SUB DA 6

LAND USE

CMPD

CS

NC-1

NC-15

NC-20

SE

SMPD

HYDROLOGIC SOIL GROUP				Total
A	B	C	D	
0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00
0.00	0.00	12.89	0.00	12.89

SOIL AREAS

A	B	C	D	TOTAL
0.00	0.00	12.89	0.00	12.89

ULTIMATE CONDITIONS

DRAINAGE AREA

TOTAL DA (ACRES)

7	CHECK
13.88	13.88

SUB DA 67

LAND USE

CMPD

CS

NC-1

NC-15

NC-20

SE

SMPD

HYDROLOGIC SOIL GROUP				Total
A	B	C	D	
0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00
0.00	0.00	13.88	0.00	13.88

SOIL AREAS

A	B	C	D	TOTAL
0.00	0.00	13.88	0.00	13.88

APPENDIX C

Existing & Ultimate Conditions Hydrologic Parameters

TR-55 DESIGN COMPUTATIONS

By: JPG
 Date: 12/7/2023
 Check: _____
 Date: _____

Project Name: Cloverfields
 County: Queen Annes
 Drainage Area: Overall
 Stream UseClass: I (T = 24 hrs.)

DRAINAGE AREA 01

Existing:
 Proposed:
 Ultimate:

WEIGHTED RUNOFF CURVE NUMBER

Soil Group	Land Use or Zoning		% Imperv.	RCN			Area (Acre)	RCN x Area
	No.	Description		Cover	Figure 2-3	Figure 2-4		
W		Water		100				
A	5	Imperv. - rds paved curb/pipe (incl ROW)	100	98				
B	5	Imperv. - rds paved curb/pipe (incl ROW)	100	98				
C	5	Imperv. - rds paved curb/pipe (incl ROW)	100	98			52.26	5121.48
D	5	Imperv. - rds paved curb/pipe (incl ROW)	100	98			12.10	1185.80
A	26	Row crops - SR + CR - (good)		64				
B	26	Row crops - SR + CR - (good)		75				
C	26	Row crops - SR + CR - (good)		82			165.42	13564.44
D	26	Row crops - SR + CR - (good)		85			8.46	719.10
A	3	Open Space (good) - grass >75%		39				
B	3	Open Space (good) - grass >75%		61				
C	3	Open Space (good) - grass >75%		74			157.09	11624.66
D	3	Open Space (good) - grass >75%		80			30.93	2474.40
A	65	Woods - (good)		30				
B	65	Woods - (good)		55				
C	65	Woods - (good)		70			17.76	1243.20
D	65	Woods - (good)		77			11.61	893.97
				Total Square Miles:	<u>0.71192</u>	Total Acres:	<u>455.63</u>	<u>36827.05</u>
				Weighted RCN:	<u>80.83</u>	Use:	<u>81</u>	

TIME OF CONCENTRATION

ID	Type of Flow	L(ft.)	n	A	WP	Slope (Percent)	Vel. (fps)	Time (Hours)	
Sheet Flow									
A-B	5 Grass - short	100.00	0.150			1.0		0.214	
Shallow Concentrated Flow									
B-C	paved X unpaved	68				2.9	2.77	0.007	
C-D	paved X unpaved	1535				0.2	0.72	0.591	
Concentrated Flow*									
D-E	1 Channel Flow, d (ft) = 0.6	2890	0.040	23.40	63.01	0.2	0.86	0.933	
E-F	1 Channel Flow, d (ft) = 1.0	829	0.040	32.00	57.04	0.1	0.80	0.287	
F-G	1 Channel Flow, d (ft) = 1.2	3291	0.040	24.00	32.12	0.09	0.92	0.993	
G-H	1 Channel Flow, d (ft) = 1.6	2109	0.040	27.52	28.63	0.05	0.81	0.722	
H-I	1 Channel Flow, d (ft) = 1.0	1249	0.040	28.00	40.08	0.08	0.83	0.418	
								Total	4.170

TR-55 DESIGN COMPUTATIONS

By: JPG
 Date: 12/7/2023
 Check: _____
 Date: _____

Project Name: Cloverfields
 County: Queen Annes
 Drainage Area: Overall
 Stream UseClass: I (T = 24 hrs.)

DRAINAGE AREA 02

Existing:
 Proposed:
 Ultimate:

WEIGHTED RUNOFF CURVE NUMBER

Soil Group	Land Use or Zoning		% Imperv.	RCN			Area (Acre)	RCN x Area
	No.	Description		Cover	Figure 2-3	Figure 2-4		
W	Water			100				
A	5	Imperv. - rds paved curb/pipe (incl ROW)	100	98				
B	5	Imperv. - rds paved curb/pipe (incl ROW)	100	98				
C	5	Imperv. - rds paved curb/pipe (incl ROW)	100	98			18.97	1859.06
D	5	Imperv. - rds paved curb/pipe (incl ROW)	100	98			3.71	363.58
A	26	Row crops - SR + CR - (good)		64				
B	26	Row crops - SR + CR - (good)		75				
C	26	Row crops - SR + CR - (good)		82			48.03	3938.46
D	26	Row crops - SR + CR - (good)		85			0.00	0.00
A	3	Open Space (good) - grass >75%		39				
B	3	Open Space (good) - grass >75%		61				
C	3	Open Space (good) - grass >75%		74			59.24	4383.76
D	3	Open Space (good) - grass >75%		80			12.20	976.00
A	65	Woods - (good)		30				
B	65	Woods - (good)		55				
C	65	Woods - (good)		70			18.08	1265.60
D	65	Woods - (good)		77			4.09	314.93
				Total Square Miles:	<u>0.25675</u>	Total Acres:	<u>164.32</u>	<u>13101.39</u>
				Weighted RCN:	<u>79.73</u>	Use:	<u>80</u>	

TIME OF CONCENTRATION

ID	Type of Flow	L(ft.)	n	A	WP	Slope (Percent)	Vel. (fps)	Time (Hours)	
Sheet Flow									
A-B	9 Woods - light	100.00	0.400			0.5		0.619	
Shallow Concentrated Flow									
B-C	paved X unpaved	849				0.2	0.79	0.298	
Concentrated Flow*									
C-D	1 Channel Flow, d (ft) = 0.6	572	0.040	10.20	29.03	1.0	1.85	0.086	
D-E	1 Channel Flow, d (ft) = 0.9	1507	0.040	18.72	31.67	0.2	1.17	0.357	
E-F	1 Channel Flow, d (ft) = 1.1	1019	0.040	12.76	18.38	0.30	1.60	0.177	
								Total	1.540

TR-55 DESIGN COMPUTATIONS

By: JPG
 Date: 12/7/2023
 Check: _____
 Date: _____

Project Name: Cloverfields
 County: Queen Annes
 Drainage Area: Overall
 Stream UseClass: I (T = 24 hrs.)

DRAINAGE AREA 03

Existing:
 Proposed:
 Ultimate:

WEIGHTED RUNOFF CURVE NUMBER

Soil Group	Land Use or Zoning		% Imperv.	RCN			Area (Acre)	RCN x Area
	No.	Description		Cover	Figure 2-3	Figure 2-4		
W	Water			100				
A	5	Imperv. - rds paved curb/pipe (incl ROW)	100	98				
B	5	Imperv. - rds paved curb/pipe (incl ROW)	100	98				
C	5	Imperv. - rds paved curb/pipe (incl ROW)	100	98			17.50	1715.00
D	5	Imperv. - rds paved curb/pipe (incl ROW)	100	98			0.15	14.70
A	26	Row crops - SR + CR - (good)		64				
B	26	Row crops - SR + CR - (good)		75				
C	26	Row crops - SR + CR - (good)		82				
D	26	Row crops - SR + CR - (good)		85				
A	3	Open Space (good) - grass >75%		39				
B	3	Open Space (good) - grass >75%		61				
C	3	Open Space (good) - grass >75%		74			28.56	2113.44
D	3	Open Space (good) - grass >75%		80			0.25	20.00
A	65	Woods - (good)		30				
B	65	Woods - (good)		55				
C	65	Woods - (good)		70				
D	65	Woods - (good)		77				
				Total Square Miles:	<u>0.07259</u>	Total Acres:	<u>46.46</u>	<u>3863.14</u>
				Weighted RCN:	<u>83.15</u>	Use:	<u>83</u>	

TIME OF CONCENTRATION

ID	Type of Flow	L(ft.)	n	A	WP	Slope (Percent)	Vel. (fps)	Time (Hours)	
Sheet Flow									
A-B	5 Grass - short	100.00	0.150			2.0		0.162	
Shallow Concentrated Flow									
B-C	paved X unpaved	289				0.87	1.50	0.053	
Concentrated Flow*									
C-D	1 Channel Flow, d (ft) = 1.0	1121	0.035	7.00	11.25	0.3	1.70	0.183	
D-E	1 Channel Flow, d (ft) = 1.0	1912	0.035	18.00	33.07	0.5	2.01	0.265	
								Total	0.660

TR-55 DESIGN COMPUTATIONS

By: JPG
 Date: 12/7/2023
 Check: _____
 Date: _____

Project Name: Cloverfields
 County: Queen Annes
 Drainage Area: Overall
 Stream UseClass: I (T = 24 hrs.)

DRAINAGE AREA 04

Existing:
 Proposed:
 Ultimate:

WEIGHTED RUNOFF CURVE NUMBER

Soil Group	Land Use or Zoning		% Imperv.	RCN			Area (Acre)	RCN x Area
	No.	Description		Cover	Figure 2-3	Figure 2-4		
W		Water		100				
A	5	Imperv. - rds paved curb/pipe (incl ROW)	100	98				
B	5	Imperv. - rds paved curb/pipe (incl ROW)	100	98				
C	5	Imperv. - rds paved curb/pipe (incl ROW)	100	98			26.51	2597.98
D	5	Imperv. - rds paved curb/pipe (incl ROW)	100	98			33.73	3305.54
A	26	Row crops - SR + CR - (good)		64				
B	26	Row crops - SR + CR - (good)		75				
C	26	Row crops - SR + CR - (good)		82			3.08	252.56
D	26	Row crops - SR + CR - (good)		85			0.00	0.00
A	3	Open Space (good) - grass >75%		39				
B	3	Open Space (good) - grass >75%		61				
C	3	Open Space (good) - grass >75%		74			38.94	2881.56
D	3	Open Space (good) - grass >75%		80			53.48	4278.40
A	65	Woods - (good)		30				
B	65	Woods - (good)		55				
C	65	Woods - (good)		70			4.69	328.30
D	65	Woods - (good)		77			5.97	459.69
				Total Square Miles:	0.26000	Total Acres:	166.40	14104.03
				Weighted RCN:	84.76	Use:	85	

TIME OF CONCENTRATION

ID	Type of Flow	L(ft.)	n	A	WP	Slope (Percent)	Vel. (fps)	Time (Hours)
Sheet Flow								
A-B	5 Grass - short	100.00	0.150			0.5		0.283
Shallow Concentrated Flow								
B-C	paved X unpaved	246				0.41	1.03	0.066
Concentrated Flow*								
C-D	1 Channel Flow, d (ft) = 1.0	3508	0.035	7.00	11.25	0.26	1.58	0.616
D-E	1 Channel Flow, d (ft) = 0.6	771	0.035	9.00	27.03	1.0	2.05	0.105
Total								1.070

TR-55 DESIGN COMPUTATIONS

By: JPG
 Date: 12/7/2023
 Check: _____
 Date: _____

Project Name: Cloverfields
 County: Queen Annes
 Drainage Area: Overall
 Stream UseClass: I (T = 24 hrs.)

DRAINAGE AREA 05

Existing: _____
 Proposed: _____
 Ultimate: _____

WEIGHTED RUNOFF CURVE NUMBER

Soil Group	Land Use or Zoning		% Imperv.	RCN			Area (Acre)	RCN x Area
	No.	Description		Cover	Figure 2-3	Figure 2-4		
W		Water		100				
A	5	Imperv. - rds paved curb/pipe (incl ROW)	100	98				
B	5	Imperv. - rds paved curb/pipe (incl ROW)	100	98				
C	5	Imperv. - rds paved curb/pipe (incl ROW)	100	98				
D	5	Imperv. - rds paved curb/pipe (incl ROW)	100	98				
A	26	Row crops - SR + CR - (good)		64				
B	26	Row crops - SR + CR - (good)		75				
C	26	Row crops - SR + CR - (good)		82				
D	26	Row crops - SR + CR - (good)		85				
A	3	Open Space (good) - grass >75%		39				
B	3	Open Space (good) - grass >75%		61				
C	3	Open Space (good) - grass >75%		74			0.09	6.66
D	3	Open Space (good) - grass >75%		80				
A	65	Woods - (good)		30				
B	65	Woods - (good)		55				
C	65	Woods - (good)		70			2.12	148.40
D	65	Woods - (good)		77			15.98	1230.46
				Total Square Miles:	<u>0.02842</u>	Total Acres:	<u>18.19</u>	<u>1385.52</u>
				Weighted RCN:	<u>76.17</u>	Use:	<u>76</u>	

TIME OF CONCENTRATION

ID	Type of Flow	L(ft.)	n	A	WP	Slope (Percent)	Vel. (fps)	Time (Hours)
Sheet Flow								
A-B	10 Woods - dense	100.00	0.800			0.5		1.078
Shallow Concentrated Flow								
B-C	paved X unpaved	1024				1.17	1.75	0.163
	paved unpaved							
Concentrated Flow*								
Total								1.240

TR-55 DESIGN COMPUTATIONS

By: JPG
 Date: 12/7/2023
 Check: _____
 Date: _____

Project Name: Cloverfields
 County: Queen Annes
 Drainage Area: Overall
 Stream UseClass: I (T = 24 hrs.)

DRAINAGE AREA 06

Existing: _____
 Proposed: _____
 Ultimate: _____

WEIGHTED RUNOFF CURVE NUMBER

Soil Group	Land Use or Zoning		% Imperv.	RCN			Area (Acre)	RCN x Area
	No.	Description		Cover	Figure 2-3	Figure 2-4		
W	Water			100				
A	5	Imperv. - rds paved curb/pipe (incl ROW)	100	98				
B	5	Imperv. - rds paved curb/pipe (incl ROW)	100	98				
C	5	Imperv. - rds paved curb/pipe (incl ROW)	100	98				
D	5	Imperv. - rds paved curb/pipe (incl ROW)	100	98				
A	26	Row crops - SR + CR - (good)		64				
B	26	Row crops - SR + CR - (good)		75				
C	26	Row crops - SR + CR - (good)		82				
D	26	Row crops - SR + CR - (good)		85				
A	3	Open Space (good) - grass >75%		39				
B	3	Open Space (good) - grass >75%		61				
C	3	Open Space (good) - grass >75%		74			51.01	3774.74
D	3	Open Space (good) - grass >75%		80			6.10	488.00
A	65	Woods - (good)		30				
B	65	Woods - (good)		55				
C	65	Woods - (good)		70			0.71	49.70
D	65	Woods - (good)		77			0.44	33.88
				Total Square Miles:	<u>0.09103</u>	Total Acres:	<u>58.26</u>	<u>4346.32</u>
				Weighted RCN:	<u>74.60</u>	Use:	<u>75</u>	

TIME OF CONCENTRATION

ID	Type of Flow	L(ft.)	n	A	WP	Slope (Percent)	Vel. (fps)	Time (Hours)
Sheet Flow								
A-B	5 Grass - short	100.00	0.150			0.5		0.283
Shallow Concentrated Flow								
B-C	paved X unpaved	722				0.21	0.74	0.271
	paved unpaved							
Concentrated Flow*								
C-D	1 Channel Flow, d (ft) = 0.6	515	0.035	7.20	21.04	1.17	2.25	0.063
D-E	1 Channel Flow, d (ft) = 0.6	689	0.035	12.60	39.02	0.4	1.33	0.144
Total								0.760

TR-55 DESIGN COMPUTATIONS

By: JPG
 Date: 12/7/2023
 Check: _____
 Date: _____

Project Name: Cloverfields
 County: Queen Annes
 Drainage Area: Overall
 Stream UseClass: I (T = 24 hrs.)

DRAINAGE AREA 02

Existing:	
Proposed:	
Ultimate:	

WEIGHTED RUNOFF CURVE NUMBER

Soil Group	Land Use or Zoning		% Imperv.	RCN			Area (Acre)	RCN x Area
	No.	Description		Cover	Figure 2-3	Figure 2-4		
W	Water			100				
C	66	Farmsteads		82			62.55	5129.10
D	66	Farmsteads		86			4.30	369.80
C	13	Residential - 1/8 acre or less	65	90			0.00	0.00
D	13	Residential - 1/8 acre or less	65	92			0.00	0.00
C	15	Residential - 1/3 acre	30	81			41.92	3395.52
D	15	Residential - 1/3 acre	30	86			13.20	1135.20
C	16	Residential - 1/2 acre	25	80			11.20	896.00
D	16	Residential - 1/2 acre	25	85			2.50	212.50
C	17	Residential - 1 acre	20	79			0.00	0.00
D	17	Residential - 1 acre	20	84			0.00	0.00
C	18	Residential - 2 acre	12	77			28.65	2206.05
D	18	Residential - 2 acre	12	82			0.00	0.00
Total Square Miles:				0.25675	Total Acres:		164.32	13344.17

Weighted RCN: 81.21 Use: 81

TIME OF CONCENTRATION

ID	Type of Flow		L(ft.)	n	A	WP	Slope (Percent)	Vel. (fps)	Time (Hours)
Sheet Flow									
A-B	9	Woods - light	100.00	0.400			0.5		0.619
Shallow Concentrated Flow									
B-C		paved X unpaved	849				0.2	0.79	0.298
		paved unpaved							
Concentrated Flow*									
C-D	1	Channel Flow, d (ft) = 0.6	572	0.040	10.20	29.03	1.0	1.85	0.086
D-E	1	Channel Flow, d (ft) = 0.9	1507	0.040	18.72	31.67	0.2	1.17	0.357
E-F	1	Channel Flow, d (ft) = 1.1	1019	0.040	12.76	18.38	0.30	1.60	0.177
Total									1.540

TR-55 DESIGN COMPUTATIONS

By: JPG
 Date: 12/7/2023
 Check:
 Date:

Project Name: Cloverfields
 County: Queen Annes
 Drainage Area: Overall
 Stream UseClass: I (T = 24 hrs.)

 DRAINAGE AREA 03

Existing:
 Proposed:
 Ultimate:

WEIGHTED RUNOFF CURVE NUMBER

Soil Group	Land Use or Zoning		% Imperv.	RCN			Area (Acre)	RCN x Area
	No.	Description		Cover	Figure 2-3	Figure 2-4		
W		Water		100				
C	66	Farmsteads		82				
D	66	Farmsteads		86				
C	13	Residential - 1/8 acre or less	65	90				
D	13	Residential - 1/8 acre or less	65	92				
C	15	Residential - 1/3 acre	30	81			46.06	3730.86
D	15	Residential - 1/3 acre	30	86			0.40	34.40
C	16	Residential - 1/2 acre	25	80				
D	16	Residential - 1/2 acre	25	85				
C	17	Residential - 1 acre	20	79				
D	17	Residential - 1 acre	20	84				
C	18	Residential - 2 acre	12	77				
D	18	Residential - 2 acre	12	82				
				Total Square Miles:	<u> 0.07259 </u>	Total Acres:	<u> 46.46 </u>	<u> 3765.26 </u>
				Weighted RCN:	<u> 81.04 </u>	Use:	<u> 81 </u>	

Use: 81
 Use: EX 83, DA fully developed

TIME OF CONCENTRATION

ID	Type of Flow		L(ft.)	n	A	WP	Slope (Percent)	Vel. (fps)	Time (Hours)
	Sheet Flow								
A-B	5	Grass - short	100.00	0.150			2.0		0.162
	Shallow Concentrated Flow								
B-C		paved X unpaved	289				0.87	1.50	0.053
		paved unpaved							
	Concentrated Flow*								
C-D	1	Channel Flow, d (ft) = 1.0	1121	0.035	7.00	11.25	0.3	1.70	0.183
D-E	1	Channel Flow, d (ft) = 1.0	1912	0.035	18.00	33.07	0.5	2.01	0.265
									0.660

TR-55 DESIGN COMPUTATIONS

By: JPG
 Date: 12/7/2023
 Check: _____
 Date: _____

Project Name: Cloverfields
 County: Queen Annes
 Drainage Area: Overall
 Stream UseClass: I (T = 24 hrs.)

DRAINAGE AREA 04

Existing:
 Proposed:
 Ultimate:

WEIGHTED RUNOFF CURVE NUMBER

Soil Group	Land Use or Zoning		% Imperv.	RCN			Area (Acre)	RCN x Area
	No.	Description		Cover	Figure 2-3	Figure 2-4		
W		Water		100				
C	66	Farmsteads		82			0.00	0.00
D	66	Farmsteads		86			0.00	0.00
C	13	Residential - 1/8 acre or less	65	90			2.10	189.00
D	13	Residential - 1/8 acre or less	65	92			0.20	18.40
C	15	Residential - 1/3 acre	30	81			66.92	5420.52
D	15	Residential - 1/3 acre	30	86			92.78	7979.08
C	16	Residential - 1/2 acre	25	80			0.00	0.00
D	16	Residential - 1/2 acre	25	85			0.00	0.00
C	17	Residential - 1 acre	20	79			0.70	55.30
D	17	Residential - 1 acre	20	84			0.20	16.80
C	18	Residential - 2 acre	12	77			3.50	269.50
D	18	Residential - 2 acre	12	82				
Total Square Miles:				0.26000	Total Acres:		166.40	13948.60

Weighted RCN: 83.83
 Use: **84**
 Use: **EX 85, DA fully developed**

TIME OF CONCENTRATION

ID	Type of Flow	L(ft.)	n	A	WP	Slope (Percent)	Vel. (fps)	Time (Hours)
	Sheet Flow							
A-B	5 Grass - short	100.00	0.150			0.5		0.283
	Shallow Concentrated Flow							
B-C	paved X unpaved	246				0.41	1.03	0.066
	paved unpaved							
	Concentrated Flow*							
C-D	1 Channel Flow, d (ft) = 1.0	3508	0.035	7.00	11.25	0.26	1.58	0.616
D-E	1 Channel Flow, d (ft) = 0.6	771	0.035	9.00	27.03	1.0	2.05	0.105
Total								1.070

TR-55 DESIGN COMPUTATIONS

By: JPG
 Date: 12/7/2023
 Check: _____
 Date: _____

Project Name: Cloverfields
 County: Queen Annes
 Drainage Area: Overall
 Stream UseClass: I (T = 24 hrs.)

DRAINAGE AREA 05

Existing: _____
 Proposed: _____
 Ultimate: _____

WEIGHTED RUNOFF CURVE NUMBER

Soil Group	Land Use or Zoning		% Imperv.	RCN			Area (Acre)	RCN x Area
	No.	Description		Cover	Figure 2-3	Figure 2-4		
W	Water			100				
C	66	Farmsteads		82			0.00	0.00
D	66	Farmsteads		86			0.00	0.00
C	13	Residential - 1/8 acre or less	65	90			6.84	615.60
D	13	Residential - 1/8 acre or less	65	92			2.60	239.20
C	15	Residential - 1/3 acre	30	81			0.00	0.00
D	15	Residential - 1/3 acre	30	86			0.00	0.00
C	16	Residential - 1/2 acre	25	80			0.00	0.00
D	16	Residential - 1/2 acre	25	85			0.00	0.00
C	17	Residential - 1 acre	20	79			0.00	0.00
D	17	Residential - 1 acre	20	84			0.00	0.00
C	18	Residential - 2 acre	12	77			0.00	0.00
D	18	Residential - 2 acre	12	82			0.00	0.00
				Total Square Miles:	<u>0.01475</u>	Total Acres:	<u>9.44</u>	<u>854.80</u>
				Weighted RCN:	<u>90.55</u>	Use:	<u>91</u>	

TIME OF CONCENTRATION

ID	Type of Flow	L(ft.)	n	A	WP	Slope (Percent)	Vel. (fps)	Time (Hours)	
	Sheet Flow								
	Shallow Concentrated Flow								
A-B	paved X unpaved	74				2.70	2.65	0.008	
	paved unpaved								
	Concentrated Flow*								
B-C	1 Channel Flow, d (ft) = 1.0	565	0.035	38.00	56.06	0.18	1.39	0.113	
C-D	3 Pipe Flow, D (in) = 18.0	159.5	0.013	1.77	4.71	1.6	7.53	0.006	
D-E	3 Pipe Flow, D (in) = 21.0	191.5	0.013	2.41	5.50	1.45	7.95	0.007	
E-F	1 Channel Flow, d (ft) = 4.0	188	0.011	1501.60	383.04	0.01	3.37	0.016	
								Total	0.150

TR-55 DESIGN COMPUTATIONS

By: <u>JPG</u>	Project Name: <u>Cloverfields</u>	<u>DRAINAGE AREA 06</u>			
Date: <u>12/7/2023</u>	County: <u>Queen Annes</u>				
Check: _____	Drainage Area: <u>Overall</u>	Existing: <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td> </td></tr><tr><td> </td></tr><tr><td style="background-color: #cccccc;"> </td></tr></table>			
Date: _____	Stream UseClass: <u>I (T = 24 hrs.)</u>	Proposed: <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td> </td></tr><tr><td> </td></tr></table>			
		Ultimate: <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td> </td></tr><tr><td> </td></tr></table>			

WEIGHTED RUNOFF CURVE NUMBER

Soil Group	Land Use or Zoning		% Imperv.	RCN			Area (Acre)	RCN x Area
	No.	Description		Cover	Figure 2-3	Figure 2-4		
W	Water			100				
C	66	Farmsteads		82			0.00	0.00
D	66	Farmsteads		86			0.00	0.00
C	13	Residential - 1/8 acre or less	65	90			12.89	1160.10
D	13	Residential - 1/8 acre or less	65	92			0.00	0.00
C	15	Residential - 1/3 acre	30	81			0.00	0.00
D	15	Residential - 1/3 acre	30	86			0.00	0.00
C	16	Residential - 1/2 acre	25	80			0.00	0.00
D	16	Residential - 1/2 acre	25	85			0.00	0.00
C	17	Residential - 1 acre	20	79			0.00	0.00
D	17	Residential - 1 acre	20	84			0.00	0.00
C	18	Residential - 2 acre	12	77			0.00	0.00
D	18	Residential - 2 acre	12	82			0.00	0.00
Total Square Miles:				0.02014	Total Acres:	12.89	1160.10	
Weighted RCN:				90.00	Use:	90		

TIME OF CONCENTRATION

ID	Type of Flow		L(ft.)	n	A	WP	Slope (Percent)	Vel. (fps)	Time (Hours)
	Sheet Flow								
A-B	5	Grass - short	70.00	0.150			0.71		0.185
	Shallow Concentrated Flow								
B-C		paved X unpaved	75				4.00	3.23	0.006
		paved unpaved							
	Concentrated Flow*								
C-D	1	Channel Flow, d (ft) = 0.6	496	0.035	6.36	17.25	1.21	2.41	0.057
D-E	3	Pipe Flow, D (in) = 24.0	171.7	0.013	3.14	6.28	1.5	8.84	0.005
E-F	3	Pipe Flow, D (in) = 36.0	254.9	0.013	7.07	9.42	1.5	11.58	0.006
F-G	1	Channel Flow, d (ft) = 4.0	238	0.011	700.16	183.00	0.01	3.31	0.020
Total									0.280

TR-55 DESIGN COMPUTATIONS

By: JPG
 Date: 12/7/2023
 Check: _____
 Date: _____

Project Name: Cloverfields
 County: Queen Annes
 Drainage Area: Overall
 Stream UseClass: 1 (T = 24 hrs.)

DRAINAGE AREA 07

Existing:

 Proposed:

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 Ultimate:

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WEIGHTED RUNOFF CURVE NUMBER

Soil Group	Land Use or Zoning		% Imperv.	RCN			Area (Acres)	RCN x Area
	No.	Description		Cover	Figure 2-3	Figure 2-4		
W		Water		100				
C	66	Farmsteads		82			0.00	0.00
D	66	Farmsteads		86			0.00	0.00
C	13	Residential - 1/8 acre or less	65	90			13.88	1249.20
D	13	Residential - 1/8 acre or less	65	92			0.00	0.00
C	15	Residential - 1/3 acre	30	81			0.00	0.00
D	15	Residential - 1/3 acre	30	86			0.00	0.00
C	16	Residential - 1/2 acre	25	80			0.00	0.00
D	16	Residential - 1/2 acre	25	85			0.00	0.00
C	17	Residential - 1 acre	20	79			0.00	0.00
D	17	Residential - 1 acre	20	84			0.00	0.00
C	18	Residential - 2 acre	12	77			0.00	0.00
D	18	Residential - 2 acre	12	82			0.00	0.00
				Total Square Miles: <u>0.02169</u>	Total Acres: <u>13.88</u>			
				Weighted RCN: <u>90.00</u>	Use: <u>90</u>			

TIME OF CONCENTRATION

ID	Type of Flow	L(ft.)	n	A	WP	Slope (Percent)	Vel. (fps)	Time (Hours)
	Sheet Flow							
A-B	5 Grass - short	61.00	0.150			0.81		0.157
	Shallow Concentrated Flow							
B-C	paved X unpaved	363				1.38	1.90	0.053
	paved unpaved							
	Concentrated Flow*							
C-D	3 Pipe Flow, D (in) = 15.0	174.75	0.013	1.23	3.93	1.70	6.88	0.007
D-E	1 Channel Flow, d (ft) = 4.0	215	0.011	2140.16	543.00	0.01	3.38	0.018
							Total	0.230

WinTR-20: version 3.30 0 0 .001 0
 Maryland, Queen Annes NOAA-C
 CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
 EXISTING CONDITIONS - SUBDRAINAGE AREA 1

SUB-AREA:
 DA01 OUTLET 0.7119 81. 4.17 Y

STORM ANALYSIS:
 1-yr 2.67 NOAA_C 2 3.24
 2-yr 3.24 NOAA_C 2 3.24
 5-yr 4.22 NOAA_C 2 3.24
 10-yr 5.06 NOAA_C 2 3.24
 25-yr 6.34 NOAA_C 2 3.24
 50-yr 7.46 NOAA_C 2 3.24
 100-yr 8.73 NOAA_C 2 3.24

DIMENSIONLESS UNIT HYDROGRAPH: delmarva
 0.00000 0.11100 0.35600 0.65500 0.89600
 1.00000 0.92900 0.82800 0.73700 0.65600
 0.58400 0.52100 0.46500 0.41500 0.37100
 0.33100 0.29600 0.26500 0.23700 0.21200
 0.19000 0.17000 0.15300 0.13800 0.12300
 0.10900 0.09700 0.08600 0.07600 0.06600
 0.05700 0.04900 0.04100 0.03300 0.02700
 0.02400 0.02100 0.01800 0.01500 0.01300
 0.01200 0.01100 0.00900 0.00800 0.00800
 0.00600 0.00600 0.00500 0.00500 0.00000

RAINFALL DISTRIBUTION:
 NOAA_C 0.1
 0.0 0.00128 0.00231 0.00335 0.00441
 0.00547 0.00654 0.00763 0.00872 0.00982
 0.01093 0.01206 0.01319 0.01433 0.01548
 0.01665 0.01782 0.01900 0.02019 0.02140
 0.02261 0.02383 0.02506 0.02631 0.02756
 0.02882 0.03009 0.03137 0.03267 0.03397
 0.03528 0.03660 0.03793 0.03927 0.04062
 0.04199 0.04336 0.04474 0.04613 0.04753
 0.04894 0.05036 0.05179 0.05324 0.05469
 0.05615 0.05762 0.05910 0.06059 0.06209
 0.06360 0.06512 0.06665 0.06819 0.06974
 0.07130 0.07287 0.07445 0.07604 0.07764
 0.07925 0.08090 0.08259 0.08432 0.08609
 0.08790 0.08975 0.09164 0.09356 0.09553
 0.09754 0.09959 0.10168 0.10380 0.10597
 0.10818 0.11042 0.11271 0.11503 0.11740
 0.11981 0.12225 0.12474 0.12726 0.12982
 0.13243 0.13507 0.13776 0.14048 0.14324
 0.14605 0.14900 0.15210 0.15536 0.15876
 0.16231 0.16602 0.16987 0.17387 0.17803
 0.18233 0.18678 0.19139 0.19614 0.20104

0.20610	0.21173	0.21793	0.22471	0.23206
0.23999	0.24899	0.25907	0.27022	0.28245
0.29550	0.31572	0.33700	0.36618	0.40669
0.47660	0.59331	0.63382	0.66300	0.68428
0.70450	0.71755	0.72978	0.74093	0.75101
0.76001	0.76794	0.77529	0.78207	0.78827
0.79390	0.79896	0.80386	0.80861	0.81322
0.81767	0.82197	0.82613	0.83013	0.83398
0.83769	0.84124	0.84464	0.84790	0.85100
0.85395	0.85676	0.85952	0.86224	0.86493
0.86757	0.87018	0.87274	0.87526	0.87775
0.88019	0.88260	0.88497	0.88729	0.88958
0.89182	0.89403	0.89620	0.89832	0.90041
0.90246	0.90447	0.90644	0.90836	0.91025
0.91210	0.91391	0.91568	0.91741	0.91910
0.92075	0.92236	0.92396	0.92555	0.92713
0.92870	0.93026	0.93181	0.93335	0.93488
0.93640	0.93791	0.93941	0.94090	0.94238
0.94385	0.94531	0.94676	0.94821	0.94964
0.95106	0.95247	0.95387	0.95526	0.95664
0.95801	0.95938	0.96073	0.96207	0.96340
0.96472	0.96603	0.96733	0.96863	0.96991
0.97118	0.97244	0.97369	0.97494	0.97617
0.97739	0.97860	0.97981	0.98100	0.98218
0.98335	0.98452	0.98567	0.98681	0.98794
0.98907	0.99018	0.99128	0.99237	0.99346
0.99453	0.99559	0.99665	0.99769	0.99872
1.0				

GLOBAL OUTPUT:

1

0.1

NY N

NY N

WinTR-20 Printed Page File

End of Input Data List

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
EXISTING CONDITIONS - SUBDRAINAGE AREA 1

Name of printed page file:

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WinTR-20 Version 3.30

Page 1

STORM 1-yr

12/07/2023 13:33

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
EXISTING CONDITIONS - SUBDRAINAGE AREA 1

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Elevation (ft)	Peak Flow Time (hr)	Peak Flow Rate (cfs)	Peak Flow Rate (csm)
DA01	0.712		1.065		14.85	48.1	67.58

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
(hr)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
11.400	0.5	0.5	1.0	1.5	2.0	2.6	3.1
12.100	3.9	5.2	6.6	7.9	9.3	10.6	12.5
12.800	14.6	16.6	18.7	20.8	22.9	25.1	27.3
13.500	29.5	31.7	33.9	35.8	37.4	39.1	40.8
14.200	42.5	44.1	44.9	45.6	46.3	47.0	47.8
14.900	48.1	48.1	48.1	48.1	48.1	48.1	47.8
15.600	47.5	47.2	46.9	46.6	46.3	45.9	45.5
16.300	45.1	44.7	44.4	43.9	43.5	43.1	42.7
17.000	42.3	41.9	41.4	41.0	40.6	40.2	39.8
17.700	39.4	39.0	38.5	38.1	37.7	37.3	36.9
18.400	36.5	36.1	35.8	35.4	35.0	34.6	34.2
19.100	33.8	33.5	33.1	32.7	32.4	32.0	31.6
19.800	31.3	30.9	30.6	30.3	29.9	29.6	29.3
20.500	28.9	28.6	28.3	28.0	27.7	27.4	27.1
21.200	26.9	26.6	26.3	26.0	25.7	25.5	25.2
21.900	25.0	24.7	24.4	24.2	24.0	23.7	23.5
22.600	23.2	23.0	22.8	22.6	22.3	22.1	21.9
23.300	21.7	21.5	21.3	21.1	20.9	20.7	20.5
24.000	20.3	20.1	19.9	19.7	19.5	19.2	19.0
24.700	18.8	18.6	18.4	18.1	17.9	17.6	17.4
25.400	17.1	16.9	16.6	16.3	16.0	15.8	15.5
26.100	15.2	14.9	14.6	14.3	14.1	13.8	13.5
26.800	13.2	13.0	12.7	12.4	12.2	11.9	11.7
27.500	11.4	11.2	10.9	10.7	10.5	10.2	10.0
28.200	9.8	9.6	9.4	9.2	9.0	8.8	8.6
28.900	8.4	8.2	8.0	7.8	7.6	7.5	7.3
29.600	7.1	6.9	6.8	6.6	6.4	6.3	6.1
30.300	6.0	5.8	5.7	5.6	5.4	5.3	5.2
31.000	5.0	4.9	4.8	4.7	4.6	4.5	4.4
31.700	4.3	4.2	4.1	4.0	3.9	3.8	3.7
32.400	3.6	3.6	3.5	3.4	3.3	3.2	3.2
33.100	3.1	3.0	2.9	2.9	2.8	2.8	2.7
33.800	2.6	2.6	2.5	2.5	2.4	2.4	2.3
34.500	2.2	2.2	2.1	2.1	2.0	2.0	2.0
35.200	1.9	1.9	1.8	1.8	1.7	1.7	1.7
35.900	1.6	1.6	1.6	1.5	1.5	1.4	1.4
36.600	1.4	1.3	1.3	1.3	1.2	1.2	1.2
37.300	1.2	1.1	1.1	1.1	1.0	1.0	1.0
38.000	1.0	0.9	0.9	0.9	0.9	0.8	0.8
38.700	0.7	0.7	0.7	0.7	0.6	0.6	0.6
39.400	0.5	0.5	0.5	0.5			

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
EXISTING CONDITIONS - SUBDRAINAGE AREA 1

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Elevation (ft)	Peak Flow Time (hr)	Peak Flow Rate (cfs)	Peak Flow Rate (csm)
OUTLET	0.712		1.065		14.85	48.1	67.58

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
(hr)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
11.400	0.5	0.5	1.0	1.5	2.0	2.6	3.1
12.100	3.9	5.2	6.6	7.9	9.3	10.6	12.5
12.800	14.6	16.6	18.7	20.8	22.9	25.1	27.3
13.500	29.5	31.7	33.9	35.8	37.4	39.1	40.8
14.200	42.5	44.1	44.9	45.6	46.3	47.0	47.8
14.900	48.1	48.1	48.1	48.1	48.1	48.1	47.8
15.600	47.5	47.2	46.9	46.6	46.3	45.9	45.5
16.300	45.1	44.7	44.4	43.9	43.5	43.1	42.7
17.000	42.3	41.9	41.4	41.0	40.6	40.2	39.8
17.700	39.4	39.0	38.5	38.1	37.7	37.3	36.9
18.400	36.5	36.1	35.8	35.4	35.0	34.6	34.2
19.100	33.8	33.5	33.1	32.7	32.4	32.0	31.6
19.800	31.3	30.9	30.6	30.3	29.9	29.6	29.3
20.500	28.9	28.6	28.3	28.0	27.7	27.4	27.1
21.200	26.9	26.6	26.3	26.0	25.7	25.5	25.2
21.900	25.0	24.7	24.4	24.2	24.0	23.7	23.5
22.600	23.2	23.0	22.8	22.6	22.3	22.1	21.9
23.300	21.7	21.5	21.3	21.1	20.9	20.7	20.5
24.000	20.3	20.1	19.9	19.7	19.5	19.2	19.0
24.700	18.8	18.6	18.4	18.1	17.9	17.6	17.4
25.400	17.1	16.9	16.6	16.3	16.0	15.8	15.5
26.100	15.2	14.9	14.6	14.3	14.1	13.8	13.5
26.800	13.2	13.0	12.7	12.4	12.2	11.9	11.7
27.500	11.4	11.2	10.9	10.7	10.5	10.2	10.0
28.200	9.8	9.6	9.4	9.2	9.0	8.8	8.6
28.900	8.4	8.2	8.0	7.8	7.6	7.5	7.3
29.600	7.1	6.9	6.8	6.6	6.4	6.3	6.1
30.300	6.0	5.8	5.7	5.6	5.4	5.3	5.2
31.000	5.0	4.9	4.8	4.7	4.6	4.5	4.4
31.700	4.3	4.2	4.1	4.0	3.9	3.8	3.7
32.400	3.6	3.6	3.5	3.4	3.3	3.2	3.2
33.100	3.1	3.0	2.9	2.9	2.8	2.8	2.7
33.800	2.6	2.6	2.5	2.5	2.4	2.4	2.3
34.500	2.2	2.2	2.1	2.1	2.0	2.0	2.0
35.200	1.9	1.9	1.8	1.8	1.7	1.7	1.7
35.900	1.6	1.6	1.6	1.5	1.5	1.4	1.4
36.600	1.4	1.3	1.3	1.3	1.2	1.2	1.2
37.300	1.2	1.1	1.1	1.1	1.0	1.0	1.0
38.000	1.0	0.9	0.9	0.9	0.9	0.8	0.8
38.700	0.7	0.7	0.7	0.7	0.6	0.6	0.6
39.400	0.5	0.5	0.5	0.5	0.5		

STORM 2-yr

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
EXISTING CONDITIONS - SUBDRAINAGE AREA 1

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Elevation (ft)	Peak Time (hr)	Flow Rate (cfs)	Rate (csm)
DA01	0.712		1.501		15.07	69.8	98.07

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
(hr)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
10.800	0.5	0.6	0.7	0.8	1.0	1.3	1.6
11.500	1.9	2.2	2.5	3.4	4.6	5.9	7.1
12.200	8.4	9.8	12.3	14.7	17.2	19.7	22.2
12.900	25.1	28.3	31.5	34.7	37.9	41.1	44.0
13.600	47.0	49.9	52.9	55.8	58.3	60.2	62.0
14.300	63.9	65.7	67.6	68.1	68.5	68.9	69.2
15.000	69.6	69.7	69.4	69.1	68.7	68.4	68.1
15.700	67.6	67.0	66.5	65.9	65.4	64.8	64.2
16.400	63.6	63.0	62.4	61.7	61.1	60.5	59.8
17.100	59.2	58.6	57.9	57.3	56.7	56.1	55.4
17.800	54.8	54.2	53.6	53.0	52.4	51.8	51.2
18.500	50.7	50.1	49.5	49.0	48.4	47.8	47.3
19.200	46.7	46.2	45.7	45.1	44.6	44.1	43.6
19.900	43.1	42.6	42.1	41.6	41.1	40.6	40.2
20.600	39.7	39.3	38.8	38.4	38.0	37.5	37.1
21.300	36.7	36.3	35.9	35.5	35.1	34.8	34.4
22.000	34.0	33.7	33.3	32.9	32.6	32.3	31.9
22.700	31.6	31.3	30.9	30.6	30.3	30.0	29.7
23.400	29.4	29.1	28.8	28.5	28.3	28.0	27.7
24.100	27.4	27.1	26.8	26.6	26.3	26.0	25.6
24.800	25.3	25.0	24.7	24.4	24.0	23.6	23.3
25.500	22.9	22.6	22.2	21.8	21.4	21.0	20.6
26.200	20.3	19.9	19.5	19.1	18.7	18.3	17.9
26.900	17.6	17.2	16.9	16.5	16.1	15.8	15.5
27.600	15.1	14.8	14.5	14.2	13.9	13.6	13.3
28.300	13.0	12.7	12.4	12.1	11.9	11.6	11.3
29.000	11.1	10.8	10.6	10.3	10.1	9.8	9.6
29.700	9.4	9.1	8.9	8.7	8.4	8.2	8.0
30.400	7.9	7.7	7.5	7.3	7.1	7.0	6.8
31.100	6.6	6.5	6.3	6.2	6.1	5.9	5.8
31.800	5.6	5.5	5.4	5.3	5.1	5.0	4.9
32.500	4.8	4.7	4.6	4.4	4.3	4.2	4.1
33.200	4.1	4.0	3.9	3.8	3.7	3.6	3.5
33.900	3.5	3.4	3.3	3.2	3.2	3.1	3.0
34.600	3.0	2.9	2.8	2.7	2.7	2.6	2.6
35.300	2.5	2.4	2.4	2.3	2.3	2.2	2.2
36.000	2.1	2.1	2.0	2.0	1.9	1.9	1.8
36.700	1.8	1.7	1.7	1.7	1.6	1.6	1.6
37.400	1.5	1.5	1.4	1.4	1.4	1.3	1.3
38.100	1.3	1.2	1.2	1.2	1.1	1.1	1.0
38.800	0.9	0.9	0.8	0.8	0.8	0.7	0.7
39.500	0.7	0.7	0.6	0.6	0.6	0.6	0.5
40.200	0.5	0.5	0.0				

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
EXISTING CONDITIONS - SUBDRAINAGE AREA 1

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Elevation (ft)	Peak Time (hr)	Flow Rate (cfs)	Rate (csm)
OUTLET	0.712		1.501		15.07	69.8	98.07
Line							
Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
10.800	0.5	0.6	0.7	0.8	1.0	1.3	1.6
11.500	1.9	2.2	2.5	3.4	4.6	5.9	7.1
12.200	8.4	9.8	12.3	14.7	17.2	19.7	22.2
12.900	25.1	28.3	31.5	34.7	37.9	41.1	44.0
13.600	47.0	49.9	52.9	55.8	58.3	60.2	62.0
14.300	63.9	65.7	67.6	68.1	68.5	68.9	69.2
15.000	69.6	69.7	69.4	69.1	68.7	68.4	68.1
15.700	67.6	67.0	66.5	65.9	65.4	64.8	64.2
16.400	63.6	63.0	62.4	61.7	61.1	60.5	59.8
17.100	59.2	58.6	57.9	57.3	56.7	56.1	55.4
17.800	54.8	54.2	53.6	53.0	52.4	51.8	51.2
18.500	50.7	50.1	49.5	49.0	48.4	47.8	47.3
19.200	46.7	46.2	45.7	45.1	44.6	44.1	43.6
19.900	43.1	42.6	42.1	41.6	41.1	40.6	40.2
20.600	39.7	39.3	38.8	38.4	38.0	37.5	37.1
21.300	36.7	36.3	35.9	35.5	35.1	34.8	34.4
22.000	34.0	33.7	33.3	32.9	32.6	32.3	31.9
22.700	31.6	31.3	30.9	30.6	30.3	30.0	29.7
23.400	29.4	29.1	28.8	28.5	28.3	28.0	27.7
24.100	27.4	27.1	26.8	26.6	26.3	26.0	25.6
24.800	25.3	25.0	24.7	24.4	24.0	23.6	23.3
25.500	22.9	22.6	22.2	21.8	21.4	21.0	20.6
26.200	20.3	19.9	19.5	19.1	18.7	18.3	17.9
26.900	17.6	17.2	16.9	16.5	16.1	15.8	15.5
27.600	15.1	14.8	14.5	14.2	13.9	13.6	13.3
28.300	13.0	12.7	12.4	12.1	11.9	11.6	11.3
29.000	11.1	10.8	10.6	10.3	10.1	9.8	9.6
29.700	9.4	9.1	8.9	8.7	8.4	8.2	8.0
30.400	7.9	7.7	7.5	7.3	7.1	7.0	6.8
31.100	6.6	6.5	6.3	6.2	6.1	5.9	5.8
31.800	5.6	5.5	5.4	5.3	5.1	5.0	4.9
32.500	4.8	4.7	4.6	4.4	4.3	4.2	4.1
33.200	4.1	4.0	3.9	3.8	3.7	3.6	3.5
33.900	3.5	3.4	3.3	3.2	3.2	3.1	3.0
34.600	3.0	2.9	2.8	2.7	2.7	2.6	2.6
35.300	2.5	2.4	2.4	2.3	2.3	2.2	2.2
36.000	2.1	2.1	2.0	2.0	1.9	1.9	1.8
36.700	1.8	1.7	1.7	1.7	1.6	1.6	1.6
37.400	1.5	1.5	1.4	1.4	1.4	1.3	1.3
38.100	1.3	1.2	1.2	1.2	1.1	1.1	1.0
38.800	0.9	0.9	0.8	0.8	0.8	0.7	0.7
39.500	0.7	0.7	0.6	0.6	0.6	0.6	0.5
40.200	0.5	0.5	0.0				

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
EXISTING CONDITIONS - SUBDRAINAGE AREA 1

STORM 5-yr

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	----- Elevation (ft)	Peak Flow Time (hr)	----- Rate (cfs)	----- Rate (csm)
DA01	0.712		2.308		14.86	109.2	153.41

Line Start Time (hr)	----- Flow (cfs)	Values @ time (cfs)	increment (cfs)	of 0.100 hr (cfs)	----- (cfs)	----- (cfs)
9.600	0.4	0.5	0.6	0.7	0.8	0.9
10.300	1.2	1.3	1.5	1.8	2.0	2.2
11.000	2.8	3.2	3.7	4.1	4.5	5.0
11.700	7.8	9.4	11.0	12.5	14.4	17.8
12.400	24.6	27.9	31.3	35.5	40.2	44.9
13.100	54.4	59.1	63.7	68.4	73.1	77.8
13.800	86.5	89.8	93.1	96.4	99.7	103.0
14.500	105.3	106.4	107.5	108.6	109.1	108.7
15.200	108.0	107.6	107.3	106.5	105.6	104.7
15.900	103.0	102.1	101.1	100.1	99.1	98.1
16.600	96.0	95.0	93.9	92.9	91.8	90.8
17.300	88.7	87.7	86.7	85.7	84.7	83.7
18.000	81.8	80.8	79.8	78.9	78.0	77.0
18.700	75.2	74.3	73.4	72.5	71.6	70.8
19.400	69.0	68.2	67.4	66.6	65.7	64.9
20.100	63.4	62.6	61.9	61.1	60.4	59.7
20.800	58.3	57.6	56.9	56.3	55.6	55.0
21.500	53.7	53.1	52.5	52.0	51.4	50.8
22.200	49.7	49.1	48.6	48.0	47.5	47.0
22.900	46.0	45.5	45.0	44.5	44.0	43.6
23.600	42.7	42.2	41.8	41.3	40.9	40.5
24.300	39.6	39.1	38.7	38.2	37.7	37.3
25.000	36.3	35.8	35.2	34.7	34.2	33.6
25.700	32.5	32.0	31.4	30.9	30.3	29.7
26.400	28.6	28.0	27.4	26.9	26.3	25.8
27.100	24.7	24.2	23.7	23.2	22.7	22.2
27.800	21.2	20.8	20.3	19.9	19.4	19.0
28.500	18.2	17.7	17.3	16.9	16.5	16.2
29.200	15.4	15.0	14.7	14.3	14.0	13.6
29.900	12.9	12.6	12.3	12.0	11.7	11.4
30.600	10.9	10.6	10.4	10.1	9.9	9.7
31.300	9.2	9.0	8.8	8.6	8.4	8.2
32.000	7.8	7.7	7.5	7.3	7.1	7.0
32.700	6.6	6.5	6.3	6.2	6.0	5.9
33.400	5.6	5.5	5.4	5.3	5.1	5.0
34.100	4.8	4.7	4.6	4.5	4.4	4.3
34.800	4.1	4.0	3.9	3.8	3.7	3.6
35.500	3.5	3.4	3.3	3.2	3.2	3.1
36.200	3.0	2.9	2.8	2.7	2.7	2.6
36.900	2.5	2.4	2.4	2.3	2.3	2.2
37.600	2.1	2.0	2.0	1.9	1.9	1.8
38.300	1.7	1.6	1.6	1.5	1.4	1.3

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
EXISTING CONDITIONS - SUBDRAINAGE AREA 1

Line Start Time (hr)	----- Flow Values @ time increment of 0.100 hr -----						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
39.000	1.2	1.2	1.1	1.0	1.0	1.0	0.9
39.700	0.9	0.9	0.8	0.8	0.8	0.8	0.7
40.400	0.7	0.7	0.7	0.6	0.6	0.6	0.6
41.100	0.6	0.5	0.5	0.0			

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	----- Peak Flow -----			
				Elevation (ft)	Time (hr)	Rate (cfs)	Rate (csm)
OUTLET	0.712		2.308		14.86	109.2	153.41

Line Start Time (hr)	----- Flow Values @ time increment of 0.100 hr -----						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
9.600	0.4	0.5	0.6	0.7	0.8	0.9	1.1
10.300	1.2	1.3	1.5	1.8	2.0	2.2	2.5
11.000	2.8	3.2	3.7	4.1	4.5	5.0	6.3
11.700	7.8	9.4	11.0	12.5	14.4	17.8	21.2
12.400	24.6	27.9	31.3	35.5	40.2	44.9	49.7
13.100	54.4	59.1	63.7	68.4	73.1	77.8	82.5
13.800	86.5	89.8	93.1	96.4	99.7	103.0	104.2
14.500	105.3	106.4	107.5	108.6	109.1	108.7	108.3
15.200	108.0	107.6	107.3	106.5	105.6	104.7	103.9
15.900	103.0	102.1	101.1	100.1	99.1	98.1	97.0
16.600	96.0	95.0	93.9	92.9	91.8	90.8	89.8
17.300	88.7	87.7	86.7	85.7	84.7	83.7	82.7
18.000	81.8	80.8	79.8	78.9	78.0	77.0	76.1
18.700	75.2	74.3	73.4	72.5	71.6	70.8	69.9
19.400	69.0	68.2	67.4	66.6	65.7	64.9	64.2
20.100	63.4	62.6	61.9	61.1	60.4	59.7	59.0
20.800	58.3	57.6	56.9	56.3	55.6	55.0	54.4
21.500	53.7	53.1	52.5	52.0	51.4	50.8	50.2
22.200	49.7	49.1	48.6	48.0	47.5	47.0	46.5
22.900	46.0	45.5	45.0	44.5	44.0	43.6	43.1
23.600	42.7	42.2	41.8	41.3	40.9	40.5	40.0
24.300	39.6	39.1	38.7	38.2	37.7	37.3	36.8
25.000	36.3	35.8	35.2	34.7	34.2	33.6	33.1
25.700	32.5	32.0	31.4	30.9	30.3	29.7	29.1
26.400	28.6	28.0	27.4	26.9	26.3	25.8	25.2
27.100	24.7	24.2	23.7	23.2	22.7	22.2	21.7
27.800	21.2	20.8	20.3	19.9	19.4	19.0	18.6
28.500	18.2	17.7	17.3	16.9	16.5	16.2	15.8
29.200	15.4	15.0	14.7	14.3	14.0	13.6	13.3
29.900	12.9	12.6	12.3	12.0	11.7	11.4	11.1
30.600	10.9	10.6	10.4	10.1	9.9	9.7	9.5
31.300	9.2	9.0	8.8	8.6	8.4	8.2	8.0
32.000	7.8	7.7	7.5	7.3	7.1	7.0	6.8
32.700	6.6	6.5	6.3	6.2	6.0	5.9	5.7
33.400	5.6	5.5	5.4	5.3	5.1	5.0	4.9

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
EXISTING CONDITIONS - SUBDRAINAGE AREA 1

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
34.100	4.8	4.7	4.6	4.5	4.4	4.3	4.2
34.800	4.1	4.0	3.9	3.8	3.7	3.6	3.5
35.500	3.5	3.4	3.3	3.2	3.2	3.1	3.0
36.200	3.0	2.9	2.8	2.7	2.7	2.6	2.6
36.900	2.5	2.4	2.4	2.3	2.3	2.2	2.1
37.600	2.1	2.0	2.0	1.9	1.9	1.8	1.8
38.300	1.7	1.6	1.6	1.5	1.4	1.3	1.3
39.000	1.2	1.2	1.1	1.0	1.0	1.0	0.9
39.700	0.9	0.9	0.8	0.8	0.8	0.8	0.7
40.400	0.7	0.7	0.7	0.6	0.6	0.6	0.6
41.100	0.6	0.5	0.5	0.0			

STORM 10-yr

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Peak Flow			
				Elevation (ft)	Time (hr)	Rate (cfs)	Rate (csm)
DA01	0.712		3.038		15.10	145.5	204.34

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
8.700	0.4	0.5	0.6	0.6	0.8	0.9	1.0
9.400	1.1	1.2	1.4	1.6	1.8	2.0	2.2
10.100	2.4	2.7	3.0	3.3	3.6	3.9	4.3
10.800	4.7	5.2	5.7	6.2	6.7	7.6	8.6
11.500	9.5	10.5	11.4	13.2	16.1	19.1	22.0
12.200	25.0	27.9	32.9	38.2	43.6	48.9	54.3
12.900	59.9	66.4	72.9	79.4	85.9	92.4	98.3
13.600	104.0	109.6	115.3	121.0	126.3	129.6	132.8
14.300	136.1	139.4	142.7	144.1	144.4	144.7	144.9
15.000	145.2	145.4	144.4	143.5	142.5	141.5	140.5
15.700	139.3	138.0	136.6	135.3	134.0	132.6	131.2
16.400	129.7	128.3	126.9	125.4	124.0	122.6	121.2
17.100	119.7	118.3	116.9	115.5	114.1	112.8	111.4
17.800	110.1	108.7	107.4	106.1	104.8	103.5	102.2
18.500	101.0	99.8	98.5	97.3	96.1	94.9	93.7
19.200	92.6	91.4	90.3	89.1	88.0	86.9	85.8
19.900	84.8	83.7	82.6	81.6	80.6	79.7	78.7
20.600	77.7	76.8	75.9	75.0	74.1	73.2	72.3
21.300	71.4	70.6	69.8	69.0	68.1	67.3	66.6
22.000	65.8	65.1	64.3	63.6	62.9	62.2	61.5
22.700	60.8	60.1	59.4	58.8	58.1	57.5	56.9
23.400	56.2	55.6	55.0	54.5	53.9	53.3	52.7
24.100	52.1	51.6	51.0	50.4	49.8	49.2	48.6
24.800	48.0	47.3	46.7	46.1	45.4	44.7	44.0
25.500	43.2	42.5	41.8	41.1	40.3	39.6	38.9
26.200	38.1	37.4	36.7	35.9	35.2	34.4	33.7

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
EXISTING CONDITIONS - SUBDRAINAGE AREA 1

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
26.900	33.0	32.4	31.7	31.0	30.3	29.7	29.0
27.600	28.4	27.8	27.2	26.6	26.0	25.4	24.9
28.300	24.3	23.7	23.2	22.7	22.2	21.7	21.2
29.000	20.7	20.2	19.7	19.2	18.8	18.3	17.9
29.700	17.4	17.0	16.6	16.1	15.7	15.3	15.0
30.400	14.6	14.2	13.9	13.5	13.2	12.9	12.6
31.100	12.3	12.0	11.8	11.5	11.2	11.0	10.7
31.800	10.5	10.2	10.0	9.8	9.5	9.3	9.1
32.500	8.9	8.7	8.4	8.2	8.0	7.9	7.7
33.200	7.5	7.3	7.1	7.0	6.8	6.7	6.5
33.900	6.4	6.3	6.1	6.0	5.9	5.7	5.6
34.600	5.5	5.3	5.2	5.1	5.0	4.8	4.7
35.300	4.6	4.5	4.4	4.3	4.2	4.1	4.0
36.000	4.0	3.9	3.8	3.7	3.6	3.5	3.4
36.700	3.3	3.2	3.1	3.1	3.0	2.9	2.9
37.400	2.8	2.7	2.7	2.6	2.5	2.4	2.4
38.100	2.3	2.3	2.2	2.1	2.0	1.9	1.8
38.800	1.7	1.6	1.5	1.4	1.4	1.3	1.3
39.500	1.2	1.2	1.1	1.1	1.0	1.0	1.0
40.200	0.9	0.9	0.9	0.8	0.8	0.8	0.8
40.900	0.7	0.7	0.7	0.7	0.6	0.6	0.6
41.600	0.6	0.6	0.5	0.5	0.5	0.0	

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Elevation (ft)	Peak Flow Time (hr)	Rate (cfs)	Rate (csm)
OUTLET	0.712		3.038		15.10	145.5	204.34

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
8.700	0.4	0.5	0.6	0.6	0.8	0.9	1.0
9.400	1.1	1.2	1.4	1.6	1.8	2.0	2.2
10.100	2.4	2.7	3.0	3.3	3.6	3.9	4.3
10.800	4.7	5.2	5.7	6.2	6.7	7.6	8.6
11.500	9.5	10.5	11.4	13.2	16.1	19.1	22.0
12.200	25.0	27.9	32.9	38.2	43.6	48.9	54.3
12.900	59.9	66.4	72.9	79.4	85.9	92.4	98.3
13.600	104.0	109.6	115.3	121.0	126.3	129.6	132.8
14.300	136.1	139.4	142.7	144.1	144.4	144.7	144.9
15.000	145.2	145.4	144.4	143.5	142.5	141.5	140.5
15.700	139.3	138.0	136.6	135.3	134.0	132.6	131.2
16.400	129.7	128.3	126.9	125.4	124.0	122.6	121.2
17.100	119.7	118.3	116.9	115.5	114.1	112.8	111.4
17.800	110.1	108.7	107.4	106.1	104.8	103.5	102.2
18.500	101.0	99.8	98.5	97.3	96.1	94.9	93.7
19.200	92.6	91.4	90.3	89.1	88.0	86.9	85.8
19.900	84.8	83.7	82.6	81.6	80.6	79.7	78.7

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
EXISTING CONDITIONS - SUBDRAINAGE AREA 1

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
20.600	77.7	76.8	75.9	75.0	74.1	73.2	72.3
21.300	71.4	70.6	69.8	69.0	68.1	67.3	66.6
22.000	65.8	65.1	64.3	63.6	62.9	62.2	61.5
22.700	60.8	60.1	59.4	58.8	58.1	57.5	56.9
23.400	56.2	55.6	55.0	54.5	53.9	53.3	52.7
24.100	52.1	51.6	51.0	50.4	49.8	49.2	48.6
24.800	48.0	47.3	46.7	46.1	45.4	44.7	44.0
25.500	43.2	42.5	41.8	41.1	40.3	39.6	38.9
26.200	38.1	37.4	36.7	35.9	35.2	34.4	33.7
26.900	33.0	32.4	31.7	31.0	30.3	29.7	29.0
27.600	28.4	27.8	27.2	26.6	26.0	25.4	24.9
28.300	24.3	23.7	23.2	22.7	22.2	21.7	21.2
29.000	20.7	20.2	19.7	19.2	18.8	18.3	17.9
29.700	17.4	17.0	16.6	16.1	15.7	15.3	15.0
30.400	14.6	14.2	13.9	13.5	13.2	12.9	12.6
31.100	12.3	12.0	11.8	11.5	11.2	11.0	10.7
31.800	10.5	10.2	10.0	9.8	9.5	9.3	9.1
32.500	8.9	8.7	8.4	8.2	8.0	7.9	7.7
33.200	7.5	7.3	7.1	7.0	6.8	6.7	6.5
33.900	6.4	6.3	6.1	6.0	5.9	5.7	5.6
34.600	5.5	5.3	5.2	5.1	5.0	4.8	4.7
35.300	4.6	4.5	4.4	4.3	4.2	4.1	4.0
36.000	4.0	3.9	3.8	3.7	3.6	3.5	3.4
36.700	3.3	3.2	3.1	3.1	3.0	2.9	2.9
37.400	2.8	2.7	2.7	2.6	2.5	2.4	2.4
38.100	2.3	2.3	2.2	2.1	2.0	1.9	1.8
38.800	1.7	1.6	1.5	1.4	1.4	1.3	1.3
39.500	1.2	1.2	1.1	1.1	1.0	1.0	1.0
40.200	0.9	0.9	0.9	0.8	0.8	0.8	0.8
40.900	0.7	0.7	0.7	0.7	0.6	0.6	0.6
41.600	0.6	0.6	0.5	0.5	0.5	0.0	

STORM 25-yr

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Peak Flow			
				Elevation (ft)	Time (hr)	Rate (cfs)	Rate (csm)
DA01	0.712		4.195		15.12	202.1	283.90

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
7.600	0.4	0.5	0.6	0.7	0.8	0.9	1.0
8.300	1.1	1.3	1.4	1.6	1.8	2.0	2.2
9.000	2.4	2.6	2.9	3.2	3.4	3.7	4.0
9.700	4.4	4.7	5.1	5.5	5.8	6.3	6.9
10.400	7.4	7.9	8.4	9.0	9.8	10.6	11.4
11.100	12.2	13.0	14.3	15.8	17.4	18.9	20.4

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
EXISTING CONDITIONS - SUBDRAINAGE AREA 1

Line Start Time (hr)	----- Flow Values @ time increment of 0.100 hr -----						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
11.800	22.3	26.6	30.9	35.2	39.4	43.7	49.8
12.500	57.3	64.8	72.3	79.8	87.3	96.1	105.0
13.200	113.9	122.8	131.7	139.9	147.5	155.1	162.6
13.900	170.2	177.8	182.3	186.5	190.6	194.8	198.9
14.600	201.7	201.8	201.9	202.0	202.0	202.1	200.9
15.300	199.4	197.8	196.3	194.7	193.1	191.1	189.1
16.000	187.1	185.2	183.2	181.2	179.1	177.0	175.0
16.700	172.9	170.8	168.8	166.8	164.8	162.7	160.7
17.400	158.7	156.8	154.9	152.9	151.0	149.1	147.3
18.100	145.4	143.6	141.8	140.0	138.2	136.5	134.8
18.800	133.0	131.3	129.6	128.0	126.4	124.8	123.2
19.500	121.5	120.0	118.5	117.0	115.5	114.0	112.5
20.200	111.1	109.7	108.3	107.0	105.6	104.3	103.0
20.900	101.8	100.5	99.3	98.0	96.9	95.7	94.6
21.600	93.4	92.3	91.2	90.1	89.1	88.0	87.0
22.300	85.9	84.9	84.0	83.0	82.1	81.1	80.2
23.000	79.3	78.4	77.5	76.6	75.7	74.9	74.1
23.700	73.3	72.5	71.7	70.9	70.1	69.3	68.5
24.400	67.7	66.9	66.1	65.2	64.3	63.5	62.6
25.100	61.7	60.8	59.8	58.9	57.9	57.0	56.0
25.800	55.0	54.0	53.0	52.0	51.0	50.0	49.0
26.500	48.1	47.1	46.1	45.1	44.2	43.3	42.4
27.200	41.5	40.5	39.7	38.8	38.0	37.2	36.3
27.900	35.5	34.7	34.0	33.2	32.5	31.7	31.0
28.600	30.3	29.6	28.9	28.2	27.6	26.9	26.3
29.300	25.7	25.0	24.4	23.8	23.2	22.6	22.1
30.000	21.5	20.9	20.4	19.9	19.4	18.9	18.5
30.700	18.0	17.6	17.2	16.8	16.4	16.0	15.7
31.400	15.3	15.0	14.6	14.3	13.9	13.6	13.3
32.100	13.0	12.7	12.4	12.1	11.8	11.5	11.2
32.800	11.0	10.7	10.4	10.2	10.0	9.7	9.5
33.500	9.3	9.1	8.9	8.7	8.5	8.3	8.1
34.200	8.0	7.8	7.6	7.4	7.3	7.1	6.9
34.900	6.8	6.6	6.4	6.3	6.1	6.0	5.9
35.600	5.7	5.6	5.5	5.4	5.2	5.1	5.0
36.300	4.9	4.8	4.6	4.5	4.4	4.3	4.2
37.000	4.1	4.0	3.9	3.8	3.7	3.6	3.5
37.700	3.4	3.3	3.2	3.1	3.1	3.0	2.9
38.400	2.8	2.7	2.6	2.4	2.3	2.1	2.0
39.100	1.9	1.8	1.7	1.6	1.6	1.5	1.5
39.800	1.4	1.4	1.3	1.3	1.2	1.2	1.1
40.500	1.1	1.1	1.0	1.0	1.0	0.9	0.9
41.200	0.9	0.8	0.8	0.8	0.8	0.7	0.7
41.900	0.7	0.7	0.6	0.6	0.6	0.6	0.6
42.600	0.6	0.5	0.5	0.0			

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
EXISTING CONDITIONS - SUBDRAINAGE AREA 1

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	----- Elevation (ft)	Peak Flow Time (hr)	Rate (cfs)	Rate (csm)
OUTLET	0.712		4.195		15.12	202.1	283.90

Line Start Time (hr)	----- Flow (cfs)	Values @ time increment of 0.100 hr (cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
7.600	0.4	0.5	0.6	0.7	0.8	0.9	1.0
8.300	1.1	1.3	1.4	1.6	1.8	2.0	2.2
9.000	2.4	2.6	2.9	3.2	3.4	3.7	4.0
9.700	4.4	4.7	5.1	5.5	5.8	6.3	6.9
10.400	7.4	7.9	8.4	9.0	9.8	10.6	11.4
11.100	12.2	13.0	14.3	15.8	17.4	18.9	20.4
11.800	22.3	26.6	30.9	35.2	39.4	43.7	49.8
12.500	57.3	64.8	72.3	79.8	87.3	96.1	105.0
13.200	113.9	122.8	131.7	139.9	147.5	155.1	162.6
13.900	170.2	177.8	182.3	186.5	190.6	194.8	198.9
14.600	201.7	201.8	201.9	202.0	202.0	202.1	200.9
15.300	199.4	197.8	196.3	194.7	193.1	191.1	189.1
16.000	187.1	185.2	183.2	181.2	179.1	177.0	175.0
16.700	172.9	170.8	168.8	166.8	164.8	162.7	160.7
17.400	158.7	156.8	154.9	152.9	151.0	149.1	147.3
18.100	145.4	143.6	141.8	140.0	138.2	136.5	134.8
18.800	133.0	131.3	129.6	128.0	126.4	124.8	123.2
19.500	121.5	120.0	118.5	117.0	115.5	114.0	112.5
20.200	111.1	109.7	108.3	107.0	105.6	104.3	103.0
20.900	101.8	100.5	99.3	98.0	96.9	95.7	94.6
21.600	93.4	92.3	91.2	90.1	89.1	88.0	87.0
22.300	85.9	84.9	84.0	83.0	82.1	81.1	80.2
23.000	79.3	78.4	77.5	76.6	75.7	74.9	74.1
23.700	73.3	72.5	71.7	70.9	70.1	69.3	68.5
24.400	67.7	66.9	66.1	65.2	64.3	63.5	62.6
25.100	61.7	60.8	59.8	58.9	57.9	57.0	56.0
25.800	55.0	54.0	53.0	52.0	51.0	50.0	49.0
26.500	48.1	47.1	46.1	45.1	44.2	43.3	42.4
27.200	41.5	40.5	39.7	38.8	38.0	37.2	36.3
27.900	35.5	34.7	34.0	33.2	32.5	31.7	31.0
28.600	30.3	29.6	28.9	28.2	27.6	26.9	26.3
29.300	25.7	25.0	24.4	23.8	23.2	22.6	22.1
30.000	21.5	20.9	20.4	19.9	19.4	18.9	18.5
30.700	18.0	17.6	17.2	16.8	16.4	16.0	15.7
31.400	15.3	15.0	14.6	14.3	13.9	13.6	13.3
32.100	13.0	12.7	12.4	12.1	11.8	11.5	11.2
32.800	11.0	10.7	10.4	10.2	10.0	9.7	9.5
33.500	9.3	9.1	8.9	8.7	8.5	8.3	8.1
34.200	8.0	7.8	7.6	7.4	7.3	7.1	6.9
34.900	6.8	6.6	6.4	6.3	6.1	6.0	5.9
35.600	5.7	5.6	5.5	5.4	5.2	5.1	5.0
36.300	4.9	4.8	4.6	4.5	4.4	4.3	4.2
37.000	4.1	4.0	3.9	3.8	3.7	3.6	3.5
37.700	3.4	3.3	3.2	3.1	3.1	3.0	2.9

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
EXISTING CONDITIONS - SUBDRAINAGE AREA 1

Line Start Time (hr)	----- (cfs)	Flow Values @ (cfs)	time increment (cfs)	of (cfs)	0.100 hr (cfs)	----- (cfs)	(cfs)
38.400	2.8	2.7	2.6	2.4	2.3	2.1	2.0
39.100	1.9	1.8	1.7	1.6	1.6	1.5	1.5
39.800	1.4	1.4	1.3	1.3	1.2	1.2	1.1
40.500	1.1	1.1	1.0	1.0	1.0	0.9	0.9
41.200	0.9	0.8	0.8	0.8	0.8	0.7	0.7
41.900	0.7	0.7	0.6	0.6	0.6	0.6	0.6
42.600	0.6	0.5	0.5	0.5	0.5	0.5	0.5

STORM 50-yr

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	----- Elevation (ft)	Peak Flow Time (hr)	----- Rate (cfs)	Rate (csm)
DA01	0.712		5.234		14.96	252.9	355.29

Line Start Time (hr)	----- (cfs)	Flow Values @ (cfs)	time increment (cfs)	of (cfs)	0.100 hr (cfs)	----- (cfs)	(cfs)
6.800	0.4	0.5	0.6	0.7	0.7	0.9	1.0
7.500	1.1	1.3	1.4	1.6	1.8	2.0	2.2
8.200	2.4	2.6	2.9	3.2	3.4	3.7	4.0
8.900	4.3	4.7	5.1	5.4	5.8	6.2	6.7
9.600	7.1	7.6	8.1	8.6	9.2	9.8	10.5
10.300	11.1	11.8	12.5	13.4	14.3	15.3	16.2
11.000	17.2	18.3	19.9	21.5	23.1	24.7	26.3
11.700	30.2	34.9	39.6	44.2	48.9	54.3	63.0
12.400	71.7	80.3	89.0	97.7	107.7	118.6	129.4
13.100	140.3	151.1	161.9	171.7	181.4	191.2	201.0
13.800	210.8	218.6	224.5	230.5	236.4	242.3	248.3
14.500	249.3	250.1	250.9	251.7	252.5	252.3	250.6
15.200	248.9	247.2	245.5	243.9	241.6	239.1	236.7
15.900	234.3	231.9	229.4	226.8	224.2	221.6	219.0
16.600	216.4	213.9	211.3	208.7	206.1	203.6	201.0
17.300	198.5	196.1	193.6	191.2	188.7	186.4	184.0
18.000	181.7	179.4	177.1	174.8	172.6	170.4	168.2
18.700	166.0	163.8	161.7	159.7	157.6	155.6	153.5
19.400	151.5	149.6	147.7	145.8	143.9	141.9	140.1
20.100	138.3	136.6	134.8	133.1	131.4	129.7	128.1
20.800	126.6	125.0	123.4	121.8	120.4	118.9	117.5
21.500	116.0	114.5	113.2	111.8	110.5	109.2	107.8
22.200	106.5	105.3	104.1	102.9	101.7	100.4	99.3
22.900	98.2	97.0	95.9	94.8	93.7	92.6	91.6
23.600	90.6	89.6	88.5	87.5	86.6	85.6	84.6
24.300	83.6	82.6	81.6	80.5	79.5	78.4	77.4
25.000	76.3	75.1	74.0	72.8	71.7	70.5	69.4
25.700	68.2	67.0	65.8	64.5	63.3	62.1	60.9
26.400	59.7	58.5	57.3	56.1	55.0	53.9	52.7
27.100	51.6	50.5	49.4	48.4	47.3	46.2	45.2

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
EXISTING CONDITIONS - SUBDRAINAGE AREA 1

Line Start Time (hr)	----- (cfs)	Flow Values @ (cfs)	time increment (cfs)	of (cfs)	0.100 hr (cfs)	----- (cfs)	(cfs)
27.800	44.2	43.2	42.3	41.3	40.4	39.4	38.6
28.500	37.7	36.9	36.0	35.2	34.3	33.5	32.8
29.200	32.0	31.2	30.4	29.7	28.9	28.2	27.5
29.900	26.8	26.1	25.4	24.8	24.2	23.6	22.9
30.600	22.4	21.9	21.4	20.9	20.4	19.9	19.5
31.300	19.1	18.6	18.2	17.7	17.3	16.9	16.6
32.000	16.2	15.8	15.4	15.0	14.7	14.3	14.0
32.700	13.6	13.3	13.0	12.7	12.4	12.1	11.8
33.400	11.5	11.3	11.1	10.8	10.6	10.3	10.1
34.100	9.9	9.7	9.5	9.3	9.0	8.8	8.6
34.800	8.4	8.2	8.0	7.8	7.6	7.5	7.3
35.500	7.1	6.9	6.8	6.7	6.5	6.4	6.2
36.200	6.1	5.9	5.8	5.6	5.5	5.3	5.2
36.900	5.1	5.0	4.8	4.7	4.6	4.5	4.4
37.600	4.3	4.1	4.0	3.9	3.8	3.7	3.6
38.300	3.5	3.4	3.2	3.0	2.8	2.6	2.5
39.000	2.4	2.3	2.2	2.1	2.0	1.9	1.8
39.700	1.8	1.7	1.6	1.6	1.5	1.5	1.4
40.400	1.4	1.3	1.3	1.2	1.2	1.2	1.1
41.100	1.1	1.0	1.0	1.0	0.9	0.9	0.9
41.800	0.9	0.8	0.8	0.8	0.7	0.7	0.7
42.500	0.7	0.7	0.6	0.6	0.6	0.6	0.6
43.200	0.5	0.5	0.5	0.0			

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	----- Elevation (ft)	Peak Flow Time (hr)	Rate (cfs)	Rate (csm)
OUTLET	0.712		5.234		14.96	252.9	355.29

Line Start Time (hr)	----- (cfs)	Flow Values @ (cfs)	time increment (cfs)	of (cfs)	0.100 hr (cfs)	----- (cfs)	(cfs)
6.800	0.4	0.5	0.6	0.7	0.7	0.9	1.0
7.500	1.1	1.3	1.4	1.6	1.8	2.0	2.2
8.200	2.4	2.6	2.9	3.2	3.4	3.7	4.0
8.900	4.3	4.7	5.1	5.4	5.8	6.2	6.7
9.600	7.1	7.6	8.1	8.6	9.2	9.8	10.5
10.300	11.1	11.8	12.5	13.4	14.3	15.3	16.2
11.000	17.2	18.3	19.9	21.5	23.1	24.7	26.3
11.700	30.2	34.9	39.6	44.2	48.9	54.3	63.0
12.400	71.7	80.3	89.0	97.7	107.7	118.6	129.4
13.100	140.3	151.1	161.9	171.7	181.4	191.2	201.0
13.800	210.8	218.6	224.5	230.5	236.4	242.3	248.3
14.500	249.3	250.1	250.9	251.7	252.5	252.3	250.6
15.200	248.9	247.2	245.5	243.9	241.6	239.1	236.7
15.900	234.3	231.9	229.4	226.8	224.2	221.6	219.0
16.600	216.4	213.9	211.3	208.7	206.1	203.6	201.0
17.300	198.5	196.1	193.6	191.2	188.7	186.4	184.0

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
EXISTING CONDITIONS - SUBDRAINAGE AREA 1

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
18.000	181.7	179.4	177.1	174.8	172.6	170.4	168.2
18.700	166.0	163.8	161.7	159.7	157.6	155.6	153.5
19.400	151.5	149.6	147.7	145.8	143.9	141.9	140.1
20.100	138.3	136.6	134.8	133.1	131.4	129.7	128.1
20.800	126.6	125.0	123.4	121.8	120.4	118.9	117.5
21.500	116.0	114.5	113.2	111.8	110.5	109.2	107.8
22.200	106.5	105.3	104.1	102.9	101.7	100.4	99.3
22.900	98.2	97.0	95.9	94.8	93.7	92.6	91.6
23.600	90.6	89.6	88.5	87.5	86.6	85.6	84.6
24.300	83.6	82.6	81.6	80.5	79.5	78.4	77.4
25.000	76.3	75.1	74.0	72.8	71.7	70.5	69.4
25.700	68.2	67.0	65.8	64.5	63.3	62.1	60.9
26.400	59.7	58.5	57.3	56.1	55.0	53.9	52.7
27.100	51.6	50.5	49.4	48.4	47.3	46.2	45.2
27.800	44.2	43.2	42.3	41.3	40.4	39.4	38.6
28.500	37.7	36.9	36.0	35.2	34.3	33.5	32.8
29.200	32.0	31.2	30.4	29.7	28.9	28.2	27.5
29.900	26.8	26.1	25.4	24.8	24.2	23.6	22.9
30.600	22.4	21.9	21.4	20.9	20.4	19.9	19.5
31.300	19.1	18.6	18.2	17.7	17.3	16.9	16.6
32.000	16.2	15.8	15.4	15.0	14.7	14.3	14.0
32.700	13.6	13.3	13.0	12.7	12.4	12.1	11.8
33.400	11.5	11.3	11.1	10.8	10.6	10.3	10.1
34.100	9.9	9.7	9.5	9.3	9.0	8.8	8.6
34.800	8.4	8.2	8.0	7.8	7.6	7.5	7.3
35.500	7.1	6.9	6.8	6.7	6.5	6.4	6.2
36.200	6.1	5.9	5.8	5.6	5.5	5.3	5.2
36.900	5.1	5.0	4.8	4.7	4.6	4.5	4.4
37.600	4.3	4.1	4.0	3.9	3.8	3.7	3.6
38.300	3.5	3.4	3.2	3.0	2.8	2.6	2.5
39.000	2.4	2.3	2.2	2.1	2.0	1.9	1.8
39.700	1.8	1.7	1.6	1.6	1.5	1.5	1.4
40.400	1.4	1.3	1.3	1.2	1.2	1.2	1.1
41.100	1.1	1.0	1.0	1.0	0.9	0.9	0.9
41.800	0.9	0.8	0.8	0.8	0.7	0.7	0.7
42.500	0.7	0.7	0.6	0.6	0.6	0.6	0.6
43.200	0.5	0.5	0.5	0.5	0.6	0.6	0.6

STORM 100-yr

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Elevation (ft)	Peak Time (hr)	Flow Rate (cfs)	Rate (csm)
DA01	0.712		6.434		14.90	311.4	437.46

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
EXISTING CONDITIONS - SUBDRAINAGE AREA 1

Line Start Time (hr)	----- Flow Values @ time increment of 0.100 hr -----						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
6.100	0.4	0.5	0.6	0.7	0.8	0.9	1.1
6.800	1.2	1.4	1.5	1.7	1.9	2.1	2.3
7.500	2.6	2.8	3.0	3.3	3.6	3.9	4.3
8.200	4.6	4.9	5.3	5.7	6.1	6.5	7.0
8.900	7.5	8.0	8.5	9.0	9.5	10.1	10.8
9.600	11.4	12.1	12.7	13.4	14.2	15.1	15.9
10.300	16.8	17.6	18.6	19.8	21.0	22.2	23.4
11.000	24.6	26.4	28.4	30.3	32.2	34.1	37.3
11.700	42.7	48.1	53.5	59.0	64.4	73.7	83.9
12.400	94.2	104.4	114.7	125.6	138.7	151.8	164.9
13.100	178.0	191.1	203.4	215.5	227.5	239.6	251.6
13.800	263.1	270.7	278.2	285.8	293.4	300.9	304.9
14.500	306.2	307.5	308.8	310.1	311.4	309.4	307.4
15.200	305.5	303.5	301.5	299.1	296.1	293.1	290.1
15.900	287.1	284.1	280.9	277.7	274.4	271.2	268.0
16.600	264.8	261.5	258.3	255.1	251.9	248.7	245.6
17.300	242.5	239.5	236.4	233.4	230.3	227.4	224.6
18.000	221.7	218.8	215.9	213.1	210.4	207.7	205.0
18.700	202.3	199.6	197.0	194.5	191.9	189.4	186.9
19.400	184.4	182.0	179.7	177.3	174.9	172.6	170.4
20.100	168.2	166.0	163.9	161.7	159.6	157.6	155.7
20.800	153.7	151.7	149.7	147.9	146.1	144.3	142.5
21.500	140.7	138.9	137.3	135.6	134.0	132.3	130.7
22.200	129.1	127.6	126.1	124.6	123.1	121.6	120.2
22.900	118.8	117.4	116.0	114.6	113.3	112.1	110.8
23.600	109.5	108.3	107.0	105.8	104.6	103.4	102.2
24.300	101.0	99.7	98.5	97.2	95.9	94.7	93.4
25.000	92.0	90.6	89.2	87.9	86.5	85.1	83.6
25.700	82.2	80.7	79.3	77.8	76.4	74.9	73.4
26.400	72.0	70.5	69.1	67.7	66.3	64.9	63.5
27.100	62.1	60.8	59.5	58.3	57.0	55.7	54.4
27.800	53.3	52.1	50.9	49.8	48.6	47.5	46.5
28.500	45.4	44.4	43.3	42.3	41.3	40.4	39.4
29.200	38.4	37.5	36.6	35.7	34.8	33.9	33.0
29.900	32.1	31.4	30.6	29.8	29.1	28.3	27.6
30.600	27.0	26.4	25.7	25.1	24.5	24.0	23.4
31.300	22.9	22.4	21.8	21.3	20.9	20.4	19.9
32.000	19.4	18.9	18.5	18.1	17.6	17.2	16.8
32.700	16.4	16.0	15.6	15.3	14.9	14.5	14.2
33.400	13.9	13.6	13.3	13.0	12.7	12.4	12.2
34.100	11.9	11.6	11.4	11.1	10.9	10.6	10.3
34.800	10.1	9.8	9.6	9.4	9.2	8.9	8.7
35.500	8.5	8.4	8.2	8.0	7.8	7.7	7.5
36.200	7.3	7.1	6.9	6.7	6.5	6.4	6.3
36.900	6.1	6.0	5.8	5.7	5.5	5.4	5.2
37.600	5.1	5.0	4.8	4.7	4.6	4.5	4.3
38.300	4.2	4.0	3.7	3.5	3.3	3.1	3.0
39.000	2.8	2.7	2.6	2.5	2.3	2.3	2.2
39.700	2.1	2.0	1.9	1.9	1.8	1.8	1.7
40.400	1.6	1.6	1.5	1.5	1.4	1.4	1.3
41.100	1.3	1.2	1.2	1.2	1.1	1.1	1.1

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
 EXISTING CONDITIONS - SUBDRAINAGE AREA 1

Line Start Time (hr)	----- Flow Values @ time increment of 0.100 hr -----						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
41.800	1.0	1.0	1.0	0.9	0.9	0.9	0.8
42.500	0.8	0.8	0.8	0.7	0.7	0.7	0.7
43.200	0.7	0.6	0.6	0.6	0.6	0.6	0.5
43.900	0.5	0.5	0.0				

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	----- Elevation (ft)	Peak Time (hr)	Flow Rate (cfs)	----- Rate (csm)
OUTLET	0.712		6.434		14.90	311.4	437.46

Line Start Time (hr)	----- Flow Values @ time increment of 0.100 hr -----						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
6.100	0.4	0.5	0.6	0.7	0.8	0.9	1.1
6.800	1.2	1.4	1.5	1.7	1.9	2.1	2.3
7.500	2.6	2.8	3.0	3.3	3.6	3.9	4.3
8.200	4.6	4.9	5.3	5.7	6.1	6.5	7.0
8.900	7.5	8.0	8.5	9.0	9.5	10.1	10.8
9.600	11.4	12.1	12.7	13.4	14.2	15.1	15.9
10.300	16.8	17.6	18.6	19.8	21.0	22.2	23.4
11.000	24.6	26.4	28.4	30.3	32.2	34.1	37.3
11.700	42.7	48.1	53.5	59.0	64.4	73.7	83.9
12.400	94.2	104.4	114.7	125.6	138.7	151.8	164.9
13.100	178.0	191.1	203.4	215.5	227.5	239.6	251.6
13.800	263.1	270.7	278.2	285.8	293.4	300.9	304.9
14.500	306.2	307.5	308.8	310.1	311.4	309.4	307.4
15.200	305.5	303.5	301.5	299.1	296.1	293.1	290.1
15.900	287.1	284.1	280.9	277.7	274.4	271.2	268.0
16.600	264.8	261.5	258.3	255.1	251.9	248.7	245.6
17.300	242.5	239.5	236.4	233.4	230.3	227.4	224.6
18.000	221.7	218.8	215.9	213.1	210.4	207.7	205.0
18.700	202.3	199.6	197.0	194.5	191.9	189.4	186.9
19.400	184.4	182.0	179.7	177.3	174.9	172.6	170.4
20.100	168.2	166.0	163.9	161.7	159.6	157.6	155.7
20.800	153.7	151.7	149.7	147.9	146.1	144.3	142.5
21.500	140.7	138.9	137.3	135.6	134.0	132.3	130.7
22.200	129.1	127.6	126.1	124.6	123.1	121.6	120.2
22.900	118.8	117.4	116.0	114.6	113.3	112.1	110.8
23.600	109.5	108.3	107.0	105.8	104.6	103.4	102.2
24.300	101.0	99.7	98.5	97.2	95.9	94.7	93.4
25.000	92.0	90.6	89.2	87.9	86.5	85.1	83.6
25.700	82.2	80.7	79.3	77.8	76.4	74.9	73.4
26.400	72.0	70.5	69.1	67.7	66.3	64.9	63.5
27.100	62.1	60.8	59.5	58.3	57.0	55.7	54.4
27.800	53.3	52.1	50.9	49.8	48.6	47.5	46.5
28.500	45.4	44.4	43.3	42.3	41.3	40.4	39.4
29.200	38.4	37.5	36.6	35.7	34.8	33.9	33.0
29.900	32.1	31.4	30.6	29.8	29.1	28.3	27.6

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
EXISTING CONDITIONS - SUBDRAINAGE AREA 1

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
30.600	27.0	26.4	25.7	25.1	24.5	24.0	23.4
31.300	22.9	22.4	21.8	21.3	20.9	20.4	19.9
32.000	19.4	18.9	18.5	18.1	17.6	17.2	16.8
32.700	16.4	16.0	15.6	15.3	14.9	14.5	14.2
33.400	13.9	13.6	13.3	13.0	12.7	12.4	12.2
34.100	11.9	11.6	11.4	11.1	10.9	10.6	10.3
34.800	10.1	9.8	9.6	9.4	9.2	8.9	8.7
35.500	8.5	8.4	8.2	8.0	7.8	7.7	7.5
36.200	7.3	7.1	6.9	6.7	6.5	6.4	6.3
36.900	6.1	6.0	5.8	5.7	5.5	5.4	5.2
37.600	5.1	5.0	4.8	4.7	4.6	4.5	4.3
38.300	4.2	4.0	3.7	3.5	3.3	3.1	3.0
39.000	2.8	2.7	2.6	2.5	2.3	2.3	2.2
39.700	2.1	2.0	1.9	1.9	1.8	1.8	1.7
40.400	1.6	1.6	1.5	1.5	1.4	1.4	1.3
41.100	1.3	1.2	1.2	1.2	1.1	1.1	1.1
41.800	1.0	1.0	1.0	0.9	0.9	0.9	0.8
42.500	0.8	0.8	0.8	0.7	0.7	0.7	0.7
43.200	0.7	0.6	0.6	0.6	0.6	0.6	0.5
43.900	0.5	0.5	0.0				

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
EXISTING CONDITIONS - SUBDRAINAGE AREA 1

Area or Reach Identifier	Drainage Area (sq mi)	Peak Flow by Storm				
		1-yr (cfs)	2-yr (cfs)	5-yr (cfs)	10-yr (cfs)	25-yr (cfs)
DA01	0.712	48.1	69.8	109.2	145.5	202.1
OUTLET	0.712	48.1	69.8	109.2	145.5	202.1

Area or Reach Identifier	Drainage Area (sq mi)	Peak Flow by Storm		
		50-yr (cfs)	100-yr (cfs)	(cfs)
DA01	0.712	252.9	311.4	
OUTLET	0.712	252.9	311.4	

WinTR-20: version 3.30 0 0 .001 0
 Maryland, Queen Annes NOAA-C
 CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
 ULTIMATE CONDITIONS - SUBDRAINAGE AREA 1

SUB-AREA:
 DA01 OUTLET 0.6961 83. 4.17 Y

STORM ANALYSIS:
 1-yr 2.67 NOAA_C 2 3.24
 2-yr 3.24 NOAA_C 2 3.24
 5-yr 4.22 NOAA_C 2 3.24
 10-yr 5.06 NOAA_C 2 3.24
 25-yr 6.34 NOAA_C 2 3.24
 50-yr 7.46 NOAA_C 2 3.24
 100-yr 8.73 NOAA_C 2 3.24

DIMENSIONLESS UNIT HYDROGRAPH: delmarva
 0.00000 0.11100 0.35600 0.65500 0.89600
 1.00000 0.92900 0.82800 0.73700 0.65600
 0.58400 0.52100 0.46500 0.41500 0.37100
 0.33100 0.29600 0.26500 0.23700 0.21200
 0.19000 0.17000 0.15300 0.13800 0.12300
 0.10900 0.09700 0.08600 0.07600 0.06600
 0.05700 0.04900 0.04100 0.03300 0.02700
 0.02400 0.02100 0.01800 0.01500 0.01300
 0.01200 0.01100 0.00900 0.00800 0.00800
 0.00600 0.00600 0.00500 0.00500 0.00000

RAINFALL DISTRIBUTION:
 NOAA_C 0.1
 0.0 0.00128 0.00231 0.00335 0.00441
 0.00547 0.00654 0.00763 0.00872 0.00982
 0.01093 0.01206 0.01319 0.01433 0.01548
 0.01665 0.01782 0.01900 0.02019 0.02140
 0.02261 0.02383 0.02506 0.02631 0.02756
 0.02882 0.03009 0.03137 0.03267 0.03397
 0.03528 0.03660 0.03793 0.03927 0.04062
 0.04199 0.04336 0.04474 0.04613 0.04753
 0.04894 0.05036 0.05179 0.05324 0.05469
 0.05615 0.05762 0.05910 0.06059 0.06209
 0.06360 0.06512 0.06665 0.06819 0.06974
 0.07130 0.07287 0.07445 0.07604 0.07764
 0.07925 0.08090 0.08259 0.08432 0.08609
 0.08790 0.08975 0.09164 0.09356 0.09553
 0.09754 0.09959 0.10168 0.10380 0.10597
 0.10818 0.11042 0.11271 0.11503 0.11740
 0.11981 0.12225 0.12474 0.12726 0.12982
 0.13243 0.13507 0.13776 0.14048 0.14324
 0.14605 0.14900 0.15210 0.15536 0.15876
 0.16231 0.16602 0.16987 0.17387 0.17803
 0.18233 0.18678 0.19139 0.19614 0.20104

0.20610	0.21173	0.21793	0.22471	0.23206
0.23999	0.24899	0.25907	0.27022	0.28245
0.29550	0.31572	0.33700	0.36618	0.40669
0.47660	0.59331	0.63382	0.66300	0.68428
0.70450	0.71755	0.72978	0.74093	0.75101
0.76001	0.76794	0.77529	0.78207	0.78827
0.79390	0.79896	0.80386	0.80861	0.81322
0.81767	0.82197	0.82613	0.83013	0.83398
0.83769	0.84124	0.84464	0.84790	0.85100
0.85395	0.85676	0.85952	0.86224	0.86493
0.86757	0.87018	0.87274	0.87526	0.87775
0.88019	0.88260	0.88497	0.88729	0.88958
0.89182	0.89403	0.89620	0.89832	0.90041
0.90246	0.90447	0.90644	0.90836	0.91025
0.91210	0.91391	0.91568	0.91741	0.91910
0.92075	0.92236	0.92396	0.92555	0.92713
0.92870	0.93026	0.93181	0.93335	0.93488
0.93640	0.93791	0.93941	0.94090	0.94238
0.94385	0.94531	0.94676	0.94821	0.94964
0.95106	0.95247	0.95387	0.95526	0.95664
0.95801	0.95938	0.96073	0.96207	0.96340
0.96472	0.96603	0.96733	0.96863	0.96991
0.97118	0.97244	0.97369	0.97494	0.97617
0.97739	0.97860	0.97981	0.98100	0.98218
0.98335	0.98452	0.98567	0.98681	0.98794
0.98907	0.99018	0.99128	0.99237	0.99346
0.99453	0.99559	0.99665	0.99769	0.99872
1.0				

GLOBAL OUTPUT:

1 0.1 NY N NY N

WinTR-20 Printed Page File End of Input Data List

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
 ULTIMATE CONDITIONS - SUBDRAINAGE AREA 1

Name of printed page file:

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WinTR-20 Version 3.30 Page 1 STORM 1-yr 12/07/2023 13:52

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
 ULTIMATE CONDITIONS - SUBDRAINAGE AREA 1

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Elevation (ft)	Peak Time (hr)	Flow Rate (cfs)	Rate (csm)
DA01	0.696		1.186		14.80	53.4	76.73

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
(hr)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
11.000	0.4	0.5	0.6	0.8	0.9	1.1	1.6
11.700	2.1	2.7	3.2	3.7	4.9	6.3	7.7
12.400	9.1	10.4	12.0	14.3	16.5	18.7	20.9
13.100	23.1	25.5	28.0	30.4	32.9	35.3	37.7
13.800	39.6	41.6	43.5	45.5	47.4	48.8	49.7
14.500	50.6	51.6	52.5	53.4	53.4	53.4	53.4
15.200	53.4	53.4	53.2	52.9	52.5	52.2	51.8
15.900	51.5	51.0	50.6	50.1	49.7	49.2	48.8
16.600	48.3	47.8	47.3	46.8	46.3	45.9	45.4
17.300	44.9	44.4	43.9	43.5	43.0	42.5	42.1
18.000	41.6	41.1	40.7	40.2	39.8	39.3	38.9
18.700	38.4	38.0	37.6	37.2	36.7	36.3	35.9
19.400	35.5	35.1	34.7	34.3	33.9	33.5	33.1
20.100	32.7	32.3	32.0	31.6	31.3	30.9	30.6
20.800	30.2	29.9	29.6	29.2	28.9	28.6	28.3
21.500	28.0	27.7	27.4	27.1	26.8	26.5	26.2
22.200	26.0	25.7	25.4	25.2	24.9	24.7	24.4
22.900	24.2	23.9	23.7	23.4	23.2	23.0	22.7
23.600	22.5	22.3	22.1	21.8	21.6	21.4	21.2
24.300	21.0	20.7	20.5	20.3	20.0	19.8	19.5
25.000	19.3	19.0	18.7	18.5	18.2	17.9	17.6
25.700	17.3	17.0	16.7	16.4	16.1	15.8	15.5
26.400	15.2	14.9	14.6	14.3	14.1	13.8	13.5
27.100	13.2	12.9	12.7	12.4	12.1	11.8	11.6
27.800	11.4	11.1	10.9	10.6	10.4	10.2	9.9
28.500	9.7	9.5	9.3	9.1	8.9	8.7	8.5
29.200	8.3	8.1	7.9	7.7	7.5	7.3	7.1
29.900	7.0	6.8	6.6	6.5	6.3	6.2	6.0
30.600	5.9	5.7	5.6	5.4	5.3	5.2	5.1
31.300	5.0	4.9	4.7	4.6	4.5	4.4	4.3
32.000	4.2	4.1	4.0	3.9	3.9	3.8	3.7
32.700	3.6	3.5	3.4	3.3	3.3	3.2	3.1
33.400	3.0	3.0	2.9	2.8	2.8	2.7	2.7
34.100	2.6	2.5	2.5	2.4	2.4	2.3	2.3
34.800	2.2	2.2	2.1	2.1	2.0	2.0	1.9
35.500	1.9	1.8	1.8	1.7	1.7	1.7	1.6
36.200	1.6	1.6	1.5	1.5	1.5	1.4	1.4
36.900	1.3	1.3	1.3	1.2	1.2	1.2	1.2
37.600	1.1	1.1	1.1	1.1	1.0	1.0	1.0
38.300	0.9	0.9	0.9	0.8	0.8	0.8	0.7
39.000	0.7	0.6	0.6	0.6	0.6	0.5	0.5
39.700	0.5	0.0					

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
 ULTIMATE CONDITIONS - SUBDRAINAGE AREA 1

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Elevation (ft)	Peak Flow Time (hr)	Peak Flow Rate (cfs)	Peak Flow Rate (csm)
OUTLET	0.696		1.186		14.80	53.4	76.73

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
11.000	0.4	0.5	0.6	0.8	0.9	1.1	1.6
11.700	2.1	2.7	3.2	3.7	4.9	6.3	7.7
12.400	9.1	10.4	12.0	14.3	16.5	18.7	20.9
13.100	23.1	25.5	28.0	30.4	32.9	35.3	37.7
13.800	39.6	41.6	43.5	45.5	47.4	48.8	49.7
14.500	50.6	51.6	52.5	53.4	53.4	53.4	53.4
15.200	53.4	53.4	53.2	52.9	52.5	52.2	51.8
15.900	51.5	51.0	50.6	50.1	49.7	49.2	48.8
16.600	48.3	47.8	47.3	46.8	46.3	45.9	45.4
17.300	44.9	44.4	43.9	43.5	43.0	42.5	42.1
18.000	41.6	41.1	40.7	40.2	39.8	39.3	38.9
18.700	38.4	38.0	37.6	37.2	36.7	36.3	35.9
19.400	35.5	35.1	34.7	34.3	33.9	33.5	33.1
20.100	32.7	32.3	32.0	31.6	31.3	30.9	30.6
20.800	30.2	29.9	29.6	29.2	28.9	28.6	28.3
21.500	28.0	27.7	27.4	27.1	26.8	26.5	26.2
22.200	26.0	25.7	25.4	25.2	24.9	24.7	24.4
22.900	24.2	23.9	23.7	23.4	23.2	23.0	22.7
23.600	22.5	22.3	22.1	21.8	21.6	21.4	21.2
24.300	21.0	20.7	20.5	20.3	20.0	19.8	19.5
25.000	19.3	19.0	18.7	18.5	18.2	17.9	17.6
25.700	17.3	17.0	16.7	16.4	16.1	15.8	15.5
26.400	15.2	14.9	14.6	14.3	14.1	13.8	13.5
27.100	13.2	12.9	12.7	12.4	12.1	11.8	11.6
27.800	11.4	11.1	10.9	10.6	10.4	10.2	9.9
28.500	9.7	9.5	9.3	9.1	8.9	8.7	8.5
29.200	8.3	8.1	7.9	7.7	7.5	7.3	7.1
29.900	7.0	6.8	6.6	6.5	6.3	6.2	6.0
30.600	5.9	5.7	5.6	5.4	5.3	5.2	5.1
31.300	5.0	4.9	4.7	4.6	4.5	4.4	4.3
32.000	4.2	4.1	4.0	3.9	3.9	3.8	3.7
32.700	3.6	3.5	3.4	3.3	3.3	3.2	3.1
33.400	3.0	3.0	2.9	2.8	2.8	2.7	2.7
34.100	2.6	2.5	2.5	2.4	2.4	2.3	2.3
34.800	2.2	2.2	2.1	2.1	2.0	2.0	1.9
35.500	1.9	1.8	1.8	1.7	1.7	1.7	1.6
36.200	1.6	1.6	1.5	1.5	1.5	1.4	1.4
36.900	1.3	1.3	1.3	1.2	1.2	1.2	1.2
37.600	1.1	1.1	1.1	1.1	1.0	1.0	1.0
38.300	0.9	0.9	0.9	0.8	0.8	0.8	0.7
39.000	0.7	0.6	0.6	0.6	0.6	0.5	0.5
39.700	0.5	0.0					

STORM 2-yr

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
 ULTIMATE CONDITIONS - SUBDRAINAGE AREA 1

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Elevation (ft)	Peak Flow Time (hr)	Peak Flow Rate (cfs)	Peak Flow Rate (csm)
DA01	0.696		1.642		14.94	75.3	108.15

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
(hr)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
10.300	0.5	0.5	0.6	0.7	0.9	1.0	1.1
11.000	1.3	1.5	1.8	2.1	2.4	2.7	3.0
11.700	4.2	5.4	6.6	7.8	9.0	10.8	13.3
12.400	15.8	18.3	20.8	23.3	26.5	29.9	33.2
13.100	36.6	39.9	43.2	46.4	49.6	52.8	56.1
13.800	59.3	61.7	63.9	66.0	68.2	70.3	72.2
14.500	72.8	73.3	73.9	74.5	75.1	75.1	74.8
15.200	74.5	74.2	73.9	73.6	73.0	72.5	71.9
15.900	71.3	70.7	70.1	69.4	68.7	68.0	67.3
16.600	66.6	65.9	65.2	64.5	63.8	63.1	62.4
17.300	61.8	61.1	60.4	59.7	59.0	58.3	57.7
18.000	57.0	56.4	55.7	55.1	54.4	53.8	53.2
18.700	52.5	51.9	51.3	50.7	50.1	49.5	48.9
19.400	48.3	47.8	47.2	46.6	46.1	45.5	45.0
20.100	44.5	43.9	43.4	42.9	42.4	41.9	41.4
20.800	41.0	40.5	40.0	39.6	39.1	38.7	38.3
21.500	37.8	37.4	37.0	36.6	36.2	35.8	35.4
22.200	35.0	34.6	34.3	33.9	33.5	33.2	32.8
22.900	32.5	32.1	31.8	31.5	31.1	30.8	30.5
23.600	30.2	29.9	29.6	29.3	29.0	28.7	28.4
24.300	28.1	27.8	27.4	27.1	26.8	26.4	26.1
25.000	25.8	25.4	25.0	24.6	24.3	23.9	23.5
25.700	23.1	22.7	22.3	21.9	21.5	21.1	20.7
26.400	20.3	19.9	19.5	19.1	18.7	18.3	17.9
27.100	17.6	17.2	16.8	16.5	16.1	15.8	15.4
27.800	15.1	14.8	14.4	14.1	13.8	13.5	13.2
28.500	12.9	12.6	12.3	12.0	11.8	11.5	11.2
29.200	11.0	10.7	10.4	10.2	10.0	9.7	9.5
29.900	9.2	9.0	8.8	8.6	8.4	8.1	7.9
30.600	7.8	7.6	7.4	7.2	7.1	6.9	6.7
31.300	6.6	6.4	6.3	6.1	6.0	5.9	5.7
32.000	5.6	5.5	5.3	5.2	5.1	5.0	4.8
32.700	4.7	4.6	4.5	4.4	4.3	4.2	4.1
33.400	4.0	3.9	3.8	3.8	3.7	3.6	3.5
34.100	3.4	3.4	3.3	3.2	3.1	3.1	3.0
34.800	2.9	2.8	2.8	2.7	2.7	2.6	2.5
35.500	2.5	2.4	2.4	2.3	2.3	2.2	2.2
36.200	2.1	2.1	2.0	2.0	1.9	1.9	1.8
36.900	1.8	1.7	1.7	1.7	1.6	1.6	1.5
37.600	1.5	1.5	1.4	1.4	1.3	1.3	1.3
38.300	1.2	1.2	1.1	1.1	1.0	1.0	0.9
39.000	0.9	0.8	0.8	0.8	0.7	0.7	0.7
39.700	0.7	0.6	0.6	0.6	0.6	0.5	0.5
40.400	0.5	0.0					

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
 ULTIMATE CONDITIONS - SUBDRAINAGE AREA 1

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Elevation (ft)	Peak Flow Time (hr)	Peak Flow Rate (cfs)	Peak Flow Rate (csm)
OUTLET	0.696		1.642		14.94	75.3	108.15

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
(hr)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
10.300	0.5	0.5	0.6	0.7	0.9	1.0	1.1
11.000	1.3	1.5	1.8	2.1	2.4	2.7	3.0
11.700	4.2	5.4	6.6	7.8	9.0	10.8	13.3
12.400	15.8	18.3	20.8	23.3	26.5	29.9	33.2
13.100	36.6	39.9	43.2	46.4	49.6	52.8	56.1
13.800	59.3	61.7	63.9	66.0	68.2	70.3	72.2
14.500	72.8	73.3	73.9	74.5	75.1	75.1	74.8
15.200	74.5	74.2	73.9	73.6	73.0	72.5	71.9
15.900	71.3	70.7	70.1	69.4	68.7	68.0	67.3
16.600	66.6	65.9	65.2	64.5	63.8	63.1	62.4
17.300	61.8	61.1	60.4	59.7	59.0	58.3	57.7
18.000	57.0	56.4	55.7	55.1	54.4	53.8	53.2
18.700	52.5	51.9	51.3	50.7	50.1	49.5	48.9
19.400	48.3	47.8	47.2	46.6	46.1	45.5	45.0
20.100	44.5	43.9	43.4	42.9	42.4	41.9	41.4
20.800	41.0	40.5	40.0	39.6	39.1	38.7	38.3
21.500	37.8	37.4	37.0	36.6	36.2	35.8	35.4
22.200	35.0	34.6	34.3	33.9	33.5	33.2	32.8
22.900	32.5	32.1	31.8	31.5	31.1	30.8	30.5
23.600	30.2	29.9	29.6	29.3	29.0	28.7	28.4
24.300	28.1	27.8	27.4	27.1	26.8	26.4	26.1
25.000	25.8	25.4	25.0	24.6	24.3	23.9	23.5
25.700	23.1	22.7	22.3	21.9	21.5	21.1	20.7
26.400	20.3	19.9	19.5	19.1	18.7	18.3	17.9
27.100	17.6	17.2	16.8	16.5	16.1	15.8	15.4
27.800	15.1	14.8	14.4	14.1	13.8	13.5	13.2
28.500	12.9	12.6	12.3	12.0	11.8	11.5	11.2
29.200	11.0	10.7	10.4	10.2	10.0	9.7	9.5
29.900	9.2	9.0	8.8	8.6	8.4	8.1	7.9
30.600	7.8	7.6	7.4	7.2	7.1	6.9	6.7
31.300	6.6	6.4	6.3	6.1	6.0	5.9	5.7
32.000	5.6	5.5	5.3	5.2	5.1	5.0	4.8
32.700	4.7	4.6	4.5	4.4	4.3	4.2	4.1
33.400	4.0	3.9	3.8	3.8	3.7	3.6	3.5
34.100	3.4	3.4	3.3	3.2	3.1	3.1	3.0
34.800	2.9	2.8	2.8	2.7	2.7	2.6	2.5
35.500	2.5	2.4	2.4	2.3	2.3	2.2	2.2
36.200	2.1	2.1	2.0	2.0	1.9	1.9	1.8
36.900	1.8	1.7	1.7	1.7	1.6	1.6	1.5
37.600	1.5	1.5	1.4	1.4	1.3	1.3	1.3
38.300	1.2	1.2	1.1	1.1	1.0	1.0	0.9
39.000	0.9	0.8	0.8	0.8	0.7	0.7	0.7
39.700	0.7	0.6	0.6	0.6	0.6	0.5	0.5
40.400	0.5	0.0					

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
 ULTIMATE CONDITIONS - SUBDRAINAGE AREA 1

STORM 5-yr

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	----- Elevation (ft)	Peak Flow Time (hr)	----- Rate (cfs)	----- Rate (csm)
DA01	0.696		2.478		14.76	116.2	166.90

Line Start Time (hr)	----- Flow (cfs)	Flow Values @ time (cfs)	Values @ time increment (cfs)	of 0.100 hr (cfs)	----- (cfs)	----- (cfs)
9.100	0.5	0.5	0.6	0.7	0.8	1.0
9.800	1.2	1.3	1.5	1.7	1.8	2.3
10.500	2.5	2.8	3.1	3.4	3.7	4.6
11.200	5.1	5.5	6.0	7.0	8.3	10.7
11.900	11.9	13.5	16.5	19.5	22.5	28.5
12.600	32.5	37.2	41.9	46.6	51.2	61.0
13.300	66.1	71.2	76.3	81.4	86.0	93.9
14.000	97.9	101.9	105.9	107.8	109.6	113.3
14.700	115.1	116.1	115.9	115.6	115.4	115.0
15.400	114.2	113.2	112.3	111.4	110.4	108.3
16.100	107.2	106.1	105.0	103.9	102.8	100.5
16.800	99.3	98.2	97.0	95.9	94.8	92.5
17.500	91.4	90.3	89.3	88.2	87.1	85.0
18.200	84.0	83.0	82.0	81.0	80.0	78.0
18.900	77.1	76.1	75.1	74.2	73.3	71.5
19.600	70.6	69.7	68.8	68.0	67.2	65.5
20.300	64.7	63.9	63.1	62.4	61.6	60.1
21.000	59.4	58.7	58.0	57.4	56.7	55.4
21.700	54.7	54.1	53.5	52.8	52.3	51.1
22.400	50.5	49.9	49.4	48.8	48.3	47.2
23.100	46.7	46.2	45.7	45.2	44.7	43.7
23.800	43.3	42.8	42.3	41.9	41.4	40.5
24.500	40.0	39.5	39.0	38.5	38.0	37.0
25.200	36.4	35.9	35.3	34.7	34.2	33.0
25.900	32.4	31.8	31.2	30.7	30.1	28.9
26.600	28.3	27.7	27.2	26.6	26.0	25.0
27.300	24.4	23.9	23.4	22.9	22.4	21.4
28.000	20.9	20.5	20.0	19.6	19.1	18.3
28.700	17.9	17.5	17.1	16.7	16.3	15.5
29.400	15.1	14.8	14.4	14.0	13.7	13.0
30.100	12.7	12.4	12.0	11.8	11.5	10.9
30.800	10.7	10.4	10.2	9.9	9.7	9.3
31.500	9.1	8.9	8.7	8.5	8.3	7.9
32.200	7.7	7.5	7.3	7.1	7.0	6.7
32.900	6.5	6.3	6.2	6.0	5.9	5.6
33.600	5.5	5.4	5.3	5.2	5.0	4.8
34.300	4.7	4.6	4.5	4.4	4.3	4.1
35.000	4.0	3.9	3.8	3.7	3.6	3.5
35.700	3.4	3.3	3.2	3.2	3.1	3.0
36.400	2.9	2.8	2.8	2.7	2.6	2.5
37.100	2.4	2.4	2.3	2.3	2.2	2.1
37.800	2.0	2.0	1.9	1.9	1.8	1.7

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
 ULTIMATE CONDITIONS - SUBDRAINAGE AREA 1

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
38.500	1.6	1.6	1.5	1.4	1.3	1.3	1.2
39.200	1.1	1.1	1.0	1.0	0.9	0.9	0.9
39.900	0.8	0.8	0.8	0.8	0.7	0.7	0.7
40.600	0.7	0.6	0.6	0.6	0.6	0.6	0.5
41.300	0.5	0.5	0.0				

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Elevation (ft)	Peak Time (hr)	Flow Rate (cfs)	Rate (csm)
OUTLET	0.696		2.478		14.76	116.2	166.90

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
9.100	0.5	0.5	0.6	0.7	0.8	0.9	1.0
9.800	1.2	1.3	1.5	1.7	1.8	2.0	2.3
10.500	2.5	2.8	3.1	3.4	3.7	4.1	4.6
11.200	5.1	5.5	6.0	7.0	8.3	9.5	10.7
11.900	11.9	13.5	16.5	19.5	22.5	25.5	28.5
12.600	32.5	37.2	41.9	46.6	51.2	55.9	61.0
13.300	66.1	71.2	76.3	81.4	86.0	90.0	93.9
14.000	97.9	101.9	105.9	107.8	109.6	111.5	113.3
14.700	115.1	116.1	115.9	115.6	115.4	115.2	115.0
15.400	114.2	113.2	112.3	111.4	110.4	109.4	108.3
16.100	107.2	106.1	105.0	103.9	102.8	101.6	100.5
16.800	99.3	98.2	97.0	95.9	94.8	93.7	92.5
17.500	91.4	90.3	89.3	88.2	87.1	86.1	85.0
18.200	84.0	83.0	82.0	81.0	80.0	79.0	78.0
18.900	77.1	76.1	75.1	74.2	73.3	72.4	71.5
19.600	70.6	69.7	68.8	68.0	67.2	66.3	65.5
20.300	64.7	63.9	63.1	62.4	61.6	60.9	60.1
21.000	59.4	58.7	58.0	57.4	56.7	56.0	55.4
21.700	54.7	54.1	53.5	52.8	52.3	51.7	51.1
22.400	50.5	49.9	49.4	48.8	48.3	47.8	47.2
23.100	46.7	46.2	45.7	45.2	44.7	44.2	43.7
23.800	43.3	42.8	42.3	41.9	41.4	40.9	40.5
24.500	40.0	39.5	39.0	38.5	38.0	37.5	37.0
25.200	36.4	35.9	35.3	34.7	34.2	33.6	33.0
25.900	32.4	31.8	31.2	30.7	30.1	29.5	28.9
26.600	28.3	27.7	27.2	26.6	26.0	25.5	25.0
27.300	24.4	23.9	23.4	22.9	22.4	21.9	21.4
28.000	20.9	20.5	20.0	19.6	19.1	18.7	18.3
28.700	17.9	17.5	17.1	16.7	16.3	15.9	15.5
29.400	15.1	14.8	14.4	14.0	13.7	13.4	13.0
30.100	12.7	12.4	12.0	11.8	11.5	11.2	10.9
30.800	10.7	10.4	10.2	9.9	9.7	9.5	9.3
31.500	9.1	8.9	8.7	8.5	8.3	8.1	7.9
32.200	7.7	7.5	7.3	7.1	7.0	6.8	6.7

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
 ULTIMATE CONDITIONS - SUBDRAINAGE AREA 1

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
32.900	6.5	6.3	6.2	6.0	5.9	5.8	5.6
33.600	5.5	5.4	5.3	5.2	5.0	4.9	4.8
34.300	4.7	4.6	4.5	4.4	4.3	4.2	4.1
35.000	4.0	3.9	3.8	3.7	3.6	3.6	3.5
35.700	3.4	3.3	3.2	3.2	3.1	3.0	3.0
36.400	2.9	2.8	2.8	2.7	2.6	2.5	2.5
37.100	2.4	2.4	2.3	2.3	2.2	2.1	2.1
37.800	2.0	2.0	1.9	1.9	1.8	1.7	1.7
38.500	1.6	1.6	1.5	1.4	1.3	1.3	1.2
39.200	1.1	1.1	1.0	1.0	0.9	0.9	0.9
39.900	0.8	0.8	0.8	0.8	0.7	0.7	0.7
40.600	0.7	0.6	0.6	0.6	0.6	0.6	0.5
41.300	0.5	0.5	0.0				

STORM 10-yr

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Elevation (ft)	Peak Time (hr)	Flow Rate (cfs)	Rate (csm)
DA01	0.696		3.228		15.00	151.7	217.99

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
8.200	0.5	0.5	0.6	0.7	0.8	0.9	1.0
8.900	1.2	1.3	1.5	1.6	1.8	1.9	2.1
9.600	2.4	2.6	2.8	3.1	3.3	3.6	4.0
10.300	4.3	4.6	5.0	5.4	5.9	6.4	6.9
11.000	7.4	8.0	8.8	9.8	10.7	11.6	12.5
11.700	14.1	17.0	19.8	22.7	25.5	28.4	33.2
12.400	38.5	43.9	49.2	54.5	60.1	66.8	73.4
13.100	80.1	86.8	93.4	99.6	105.6	111.6	117.6
13.800	123.6	129.3	132.9	136.5	140.2	143.8	147.4
14.500	149.3	149.8	150.3	150.8	151.2	151.7	150.8
15.200	149.8	148.8	147.9	146.9	145.8	144.4	143.0
15.900	141.6	140.2	138.8	137.3	135.8	134.2	132.7
16.600	131.2	129.7	128.2	126.7	125.2	123.7	122.2
17.300	120.7	119.3	117.8	116.4	114.9	113.5	112.1
18.000	110.8	109.4	108.0	106.7	105.3	104.0	102.7
18.700	101.4	100.1	98.9	97.6	96.4	95.2	94.0
19.400	92.8	91.6	90.5	89.3	88.2	87.1	85.9
20.100	84.9	83.8	82.8	81.8	80.7	79.7	78.8
20.800	77.8	76.9	75.9	75.0	74.1	73.2	72.4
21.500	71.5	70.6	69.8	69.0	68.2	67.4	66.6
22.200	65.8	65.0	64.3	63.6	62.9	62.1	61.4
22.900	60.7	60.1	59.4	58.7	58.0	57.4	56.8
23.600	56.2	55.6	55.0	54.3	53.7	53.2	52.6
24.300	52.0	51.4	50.7	50.1	49.5	48.8	48.2

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
 ULTIMATE CONDITIONS - SUBDRAINAGE AREA 1

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
25.000	47.5	46.8	46.1	45.4	44.7	44.0	43.2
25.700	42.5	41.8	41.0	40.3	39.5	38.8	38.0
26.400	37.3	36.5	35.8	35.0	34.3	33.6	32.9
27.100	32.2	31.5	30.8	30.2	29.5	28.9	28.2
27.800	27.6	27.0	26.4	25.8	25.3	24.7	24.1
28.500	23.6	23.1	22.5	22.0	21.5	21.0	20.5
29.200	20.0	19.5	19.0	18.6	18.1	17.7	17.2
29.900	16.8	16.3	15.9	15.6	15.2	14.8	14.4
30.600	14.0	13.7	13.4	13.1	12.8	12.5	12.2
31.300	11.9	11.7	11.4	11.1	10.9	10.6	10.4
32.000	10.1	9.9	9.7	9.4	9.2	9.0	8.8
32.700	8.6	8.3	8.2	8.0	7.8	7.6	7.4
33.400	7.2	7.1	6.9	6.8	6.6	6.5	6.3
34.100	6.2	6.1	5.9	5.8	5.7	5.5	5.4
34.800	5.3	5.1	5.0	4.9	4.8	4.7	4.6
35.500	4.5	4.4	4.3	4.2	4.1	4.0	3.9
36.200	3.8	3.7	3.6	3.5	3.4	3.3	3.3
36.900	3.2	3.1	3.1	3.0	2.9	2.8	2.8
37.600	2.7	2.6	2.5	2.5	2.4	2.4	2.3
38.300	2.2	2.1	2.0	1.9	1.8	1.7	1.6
39.000	1.5	1.4	1.4	1.3	1.3	1.2	1.2
39.700	1.1	1.1	1.0	1.0	1.0	0.9	0.9
40.400	0.9	0.8	0.8	0.8	0.8	0.7	0.7
41.100	0.7	0.7	0.6	0.6	0.6	0.6	0.6
41.800	0.5	0.5	0.5	0.0			

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Peak Flow			
				Elevation (ft)	Time (hr)	Rate (cfs)	Rate (csm)
OUTLET	0.696		3.228		15.00	151.7	217.99

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
8.200	0.5	0.5	0.6	0.7	0.8	0.9	1.0
8.900	1.2	1.3	1.5	1.6	1.8	1.9	2.1
9.600	2.4	2.6	2.8	3.1	3.3	3.6	4.0
10.300	4.3	4.6	5.0	5.4	5.9	6.4	6.9
11.000	7.4	8.0	8.8	9.8	10.7	11.6	12.5
11.700	14.1	17.0	19.8	22.7	25.5	28.4	33.2
12.400	38.5	43.9	49.2	54.5	60.1	66.8	73.4
13.100	80.1	86.8	93.4	99.6	105.6	111.6	117.6
13.800	123.6	129.3	132.9	136.5	140.2	143.8	147.4
14.500	149.3	149.8	150.3	150.8	151.2	151.7	150.8
15.200	149.8	148.8	147.9	146.9	145.8	144.4	143.0
15.900	141.6	140.2	138.8	137.3	135.8	134.2	132.7
16.600	131.2	129.7	128.2	126.7	125.2	123.7	122.2
17.300	120.7	119.3	117.8	116.4	114.9	113.5	112.1

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
 ULTIMATE CONDITIONS - SUBDRAINAGE AREA 1

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
18.000	110.8	109.4	108.0	106.7	105.3	104.0	102.7
18.700	101.4	100.1	98.9	97.6	96.4	95.2	94.0
19.400	92.8	91.6	90.5	89.3	88.2	87.1	85.9
20.100	84.9	83.8	82.8	81.8	80.7	79.7	78.8
20.800	77.8	76.9	75.9	75.0	74.1	73.2	72.4
21.500	71.5	70.6	69.8	69.0	68.2	67.4	66.6
22.200	65.8	65.0	64.3	63.6	62.9	62.1	61.4
22.900	60.7	60.1	59.4	58.7	58.0	57.4	56.8
23.600	56.2	55.6	55.0	54.3	53.7	53.2	52.6
24.300	52.0	51.4	50.7	50.1	49.5	48.8	48.2
25.000	47.5	46.8	46.1	45.4	44.7	44.0	43.2
25.700	42.5	41.8	41.0	40.3	39.5	38.8	38.0
26.400	37.3	36.5	35.8	35.0	34.3	33.6	32.9
27.100	32.2	31.5	30.8	30.2	29.5	28.9	28.2
27.800	27.6	27.0	26.4	25.8	25.3	24.7	24.1
28.500	23.6	23.1	22.5	22.0	21.5	21.0	20.5
29.200	20.0	19.5	19.0	18.6	18.1	17.7	17.2
29.900	16.8	16.3	15.9	15.6	15.2	14.8	14.4
30.600	14.0	13.7	13.4	13.1	12.8	12.5	12.2
31.300	11.9	11.7	11.4	11.1	10.9	10.6	10.4
32.000	10.1	9.9	9.7	9.4	9.2	9.0	8.8
32.700	8.6	8.3	8.2	8.0	7.8	7.6	7.4
33.400	7.2	7.1	6.9	6.8	6.6	6.5	6.3
34.100	6.2	6.1	5.9	5.8	5.7	5.5	5.4
34.800	5.3	5.1	5.0	4.9	4.8	4.7	4.6
35.500	4.5	4.4	4.3	4.2	4.1	4.0	3.9
36.200	3.8	3.7	3.6	3.5	3.4	3.3	3.3
36.900	3.2	3.1	3.1	3.0	2.9	2.8	2.8
37.600	2.7	2.6	2.5	2.5	2.4	2.4	2.3
38.300	2.2	2.1	2.0	1.9	1.8	1.7	1.6
39.000	1.5	1.4	1.4	1.3	1.3	1.2	1.2
39.700	1.1	1.1	1.0	1.0	1.0	0.9	0.9
40.400	0.9	0.8	0.8	0.8	0.8	0.7	0.7
41.100	0.7	0.7	0.6	0.6	0.6	0.6	0.6
41.800	0.5	0.5	0.5	0.0			

STORM 25-yr

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	----- Elevation (ft)	Peak Flow Time (hr)	----- Rate (cfs)	----- Rate (csm)
DA01	0.696		4.408		15.07	208.1	299.00

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
7.100	0.5	0.5	0.6	0.7	0.8	0.9	1.1
7.800	1.2	1.3	1.5	1.6	1.8	2.0	2.2

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
 ULTIMATE CONDITIONS - SUBDRAINAGE AREA 1

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
8.500	2.4	2.6	2.9	3.1	3.3	3.6	3.9
9.200	4.2	4.5	4.8	5.2	5.6	6.0	6.4
9.900	6.8	7.2	7.7	8.3	8.8	9.4	10.0
10.600	10.5	11.3	12.2	13.0	13.8	14.7	15.7
11.300	17.2	18.7	20.2	21.7	23.3	26.5	30.7
12.000	35.0	39.3	43.6	48.1	55.6	63.1	70.7
12.700	78.2	85.8	94.1	103.1	112.1	121.2	130.2
13.400	139.3	147.1	154.9	162.7	170.5	178.3	184.8
14.100	189.1	193.5	197.8	202.2	206.5	207.5	207.6
14.800	207.7	207.9	208.0	207.7	206.1	204.5	203.0
15.500	201.4	199.8	197.9	195.8	193.8	191.7	189.7
16.200	187.6	185.4	183.3	181.1	179.0	176.8	174.7
16.900	172.6	170.5	168.4	166.3	164.1	162.1	160.1
17.600	158.1	156.1	154.1	152.2	150.3	148.4	146.5
18.300	144.6	142.7	140.9	139.1	137.3	135.5	133.8
19.000	132.0	130.4	128.7	127.0	125.4	123.7	122.1
19.700	120.6	119.0	117.4	115.9	114.4	113.0	111.5
20.400	110.1	108.7	107.3	106.0	104.7	103.4	102.1
21.100	100.8	99.5	98.3	97.2	96.0	94.8	93.6
21.800	92.5	91.4	90.3	89.2	88.2	87.1	86.1
22.500	85.1	84.1	83.1	82.1	81.2	80.3	79.4
23.200	78.4	77.5	76.6	75.8	74.9	74.1	73.3
23.900	72.5	71.6	70.8	70.0	69.2	68.4	67.6
24.600	66.7	65.8	65.0	64.1	63.2	62.3	61.3
25.300	60.4	59.4	58.4	57.5	56.5	55.5	54.5
26.000	53.5	52.5	51.5	50.5	49.5	48.5	47.4
26.700	46.4	45.5	44.6	43.6	42.7	41.8	40.9
27.400	40.0	39.1	38.3	37.4	36.6	35.8	35.0
28.100	34.2	33.5	32.7	31.9	31.2	30.5	29.8
28.800	29.1	28.4	27.8	27.1	26.5	25.8	25.2
29.500	24.6	24.0	23.4	22.8	22.2	21.6	21.0
30.200	20.5	20.0	19.5	19.0	18.5	18.1	17.7
30.900	17.3	16.9	16.5	16.1	15.8	15.4	15.1
31.600	14.7	14.4	14.0	13.7	13.4	13.1	12.8
32.300	12.4	12.1	11.9	11.6	11.3	11.0	10.7
33.000	10.5	10.3	10.0	9.8	9.5	9.3	9.1
33.700	8.9	8.7	8.6	8.4	8.2	8.0	7.8
34.400	7.7	7.5	7.3	7.1	7.0	6.8	6.6
35.100	6.4	6.3	6.2	6.0	5.9	5.7	5.6
35.800	5.5	5.4	5.3	5.2	5.0	4.9	4.8
36.500	4.7	4.5	4.4	4.3	4.2	4.1	4.0
37.200	3.9	3.8	3.7	3.6	3.5	3.4	3.3
37.900	3.2	3.2	3.1	3.0	2.9	2.8	2.7
38.600	2.5	2.4	2.2	2.1	1.9	1.9	1.8
39.300	1.7	1.6	1.6	1.5	1.5	1.4	1.4
40.000	1.3	1.3	1.2	1.2	1.1	1.1	1.1
40.700	1.0	1.0	1.0	0.9	0.9	0.9	0.8
41.400	0.8	0.8	0.8	0.7	0.7	0.7	0.7
42.100	0.6	0.6	0.6	0.6	0.6	0.5	0.5
42.800	0.5	0.0					

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
 ULTIMATE CONDITIONS - SUBDRAINAGE AREA 1

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	----- Elevation (ft)	Peak Flow Time (hr)	Rate (cfs)	Rate (csm)
OUTLET	0.696		4.408		15.07	208.1	299.00

Line Start Time (hr)	----- Flow (cfs)	Values @ time increment (cfs)	of 0.100 hr (cfs)	----- (cfs)	----- (cfs)	----- (cfs)	----- (cfs)
7.100	0.5	0.5	0.6	0.7	0.8	0.9	1.1
7.800	1.2	1.3	1.5	1.6	1.8	2.0	2.2
8.500	2.4	2.6	2.9	3.1	3.3	3.6	3.9
9.200	4.2	4.5	4.8	5.2	5.6	6.0	6.4
9.900	6.8	7.2	7.7	8.3	8.8	9.4	10.0
10.600	10.5	11.3	12.2	13.0	13.8	14.7	15.7
11.300	17.2	18.7	20.2	21.7	23.3	26.5	30.7
12.000	35.0	39.3	43.6	48.1	55.6	63.1	70.7
12.700	78.2	85.8	94.1	103.1	112.1	121.2	130.2
13.400	139.3	147.1	154.9	162.7	170.5	178.3	184.8
14.100	189.1	193.5	197.8	202.2	206.5	207.5	207.6
14.800	207.7	207.9	208.0	207.7	206.1	204.5	203.0
15.500	201.4	199.8	197.9	195.8	193.8	191.7	189.7
16.200	187.6	185.4	183.3	181.1	179.0	176.8	174.7
16.900	172.6	170.5	168.4	166.3	164.1	162.1	160.1
17.600	158.1	156.1	154.1	152.2	150.3	148.4	146.5
18.300	144.6	142.7	140.9	139.1	137.3	135.5	133.8
19.000	132.0	130.4	128.7	127.0	125.4	123.7	122.1
19.700	120.6	119.0	117.4	115.9	114.4	113.0	111.5
20.400	110.1	108.7	107.3	106.0	104.7	103.4	102.1
21.100	100.8	99.5	98.3	97.2	96.0	94.8	93.6
21.800	92.5	91.4	90.3	89.2	88.2	87.1	86.1
22.500	85.1	84.1	83.1	82.1	81.2	80.3	79.4
23.200	78.4	77.5	76.6	75.8	74.9	74.1	73.3
23.900	72.5	71.6	70.8	70.0	69.2	68.4	67.6
24.600	66.7	65.8	65.0	64.1	63.2	62.3	61.3
25.300	60.4	59.4	58.4	57.5	56.5	55.5	54.5
26.000	53.5	52.5	51.5	50.5	49.5	48.5	47.4
26.700	46.4	45.5	44.6	43.6	42.7	41.8	40.9
27.400	40.0	39.1	38.3	37.4	36.6	35.8	35.0
28.100	34.2	33.5	32.7	31.9	31.2	30.5	29.8
28.800	29.1	28.4	27.8	27.1	26.5	25.8	25.2
29.500	24.6	24.0	23.4	22.8	22.2	21.6	21.0
30.200	20.5	20.0	19.5	19.0	18.5	18.1	17.7
30.900	17.3	16.9	16.5	16.1	15.8	15.4	15.1
31.600	14.7	14.4	14.0	13.7	13.4	13.1	12.8
32.300	12.4	12.1	11.9	11.6	11.3	11.0	10.7
33.000	10.5	10.3	10.0	9.8	9.5	9.3	9.1
33.700	8.9	8.7	8.6	8.4	8.2	8.0	7.8
34.400	7.7	7.5	7.3	7.1	7.0	6.8	6.6
35.100	6.4	6.3	6.2	6.0	5.9	5.7	5.6
35.800	5.5	5.4	5.3	5.2	5.0	4.9	4.8
36.500	4.7	4.5	4.4	4.3	4.2	4.1	4.0
37.200	3.9	3.8	3.7	3.6	3.5	3.4	3.3

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
 ULTIMATE CONDITIONS - SUBDRAINAGE AREA 1

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
37.900	3.2	3.2	3.1	3.0	2.9	2.8	2.7
38.600	2.5	2.4	2.2	2.1	1.9	1.9	1.8
39.300	1.7	1.6	1.6	1.5	1.5	1.4	1.4
40.000	1.3	1.3	1.2	1.2	1.1	1.1	1.1
40.700	1.0	1.0	1.0	0.9	0.9	0.9	0.8
41.400	0.8	0.8	0.8	0.7	0.7	0.7	0.7
42.100	0.6	0.6	0.6	0.6	0.6	0.5	0.5
42.800	0.5	0.0					

STORM 50-yr

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Elevation (ft)	Peak Time (hr)	Flow Rate (cfs)	Rate (csm)
DA01	0.696		5.463		14.98	258.4	371.22

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
6.300	0.5	0.5	0.6	0.7	0.8	0.9	1.0
7.000	1.2	1.3	1.4	1.6	1.8	2.0	2.2
7.700	2.4	2.6	2.8	3.1	3.4	3.6	3.9
8.400	4.2	4.5	4.9	5.2	5.6	5.9	6.4
9.100	6.8	7.2	7.6	8.1	8.6	9.2	9.7
9.800	10.3	10.8	11.4	12.1	12.9	13.6	14.3
10.500	15.1	16.0	17.0	18.1	19.1	20.2	21.3
11.200	23.0	24.8	26.5	28.2	30.0	33.5	38.4
11.900	43.3	48.2	53.2	58.1	67.0	76.0	84.9
12.600	93.8	102.8	112.6	123.7	134.7	145.7	156.7
13.300	167.7	177.6	187.4	197.2	207.0	216.7	225.2
14.000	231.0	236.7	242.5	248.3	254.1	255.8	256.3
14.700	256.9	257.4	258.0	258.0	256.2	254.3	252.5
15.400	250.6	248.8	246.5	243.9	241.4	238.9	236.3
16.100	233.8	231.1	228.4	225.7	223.0	220.3	217.6
16.800	215.0	212.3	209.7	207.0	204.3	201.8	199.3
17.500	196.8	194.2	191.7	189.3	186.9	184.5	182.1
18.200	179.7	177.4	175.1	172.9	170.6	168.4	166.1
18.900	163.9	161.9	159.8	157.7	155.6	153.5	151.5
19.600	149.6	147.6	145.7	143.7	141.8	140.0	138.2
20.300	136.4	134.7	132.9	131.2	129.6	128.0	126.3
21.000	124.7	123.1	121.6	120.1	118.7	117.2	115.7
21.700	114.3	112.9	111.6	110.2	108.8	107.5	106.2
22.400	105.0	103.8	102.5	101.3	100.1	98.9	97.8
23.100	96.6	95.5	94.4	93.3	92.3	91.2	90.2
23.800	89.1	88.1	87.1	86.1	85.1	84.1	83.1
24.500	82.1	81.0	79.9	78.9	77.8	76.7	75.5
25.200	74.4	73.2	72.0	70.9	69.7	68.5	67.3
25.900	66.0	64.8	63.6	62.4	61.2	60.0	58.8

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
 ULTIMATE CONDITIONS - SUBDRAINAGE AREA 1

Line Start Time (hr)	----- (cfs)	Flow Values @ (cfs)	time increment (cfs)	of (cfs)	0.100 hr (cfs)	----- (cfs)	(cfs)
26.600	57.5	56.4	55.2	54.1	52.9	51.8	50.6
27.300	49.6	48.5	47.5	46.4	45.4	44.3	43.4
28.000	42.4	41.5	40.5	39.6	38.7	37.8	37.0
28.700	36.1	35.3	34.4	33.6	32.8	32.1	31.3
29.400	30.5	29.7	29.0	28.3	27.6	26.8	26.1
30.100	25.5	24.9	24.2	23.6	23.0	22.4	21.9
30.800	21.4	20.9	20.4	20.0	19.5	19.1	18.6
31.500	18.2	17.8	17.4	17.0	16.6	16.2	15.8
32.200	15.4	15.1	14.7	14.3	14.0	13.6	13.3
32.900	13.0	12.7	12.4	12.1	11.8	11.6	11.3
33.600	11.1	10.8	10.6	10.3	10.1	9.9	9.7
34.300	9.5	9.3	9.0	8.8	8.6	8.4	8.2
35.000	8.0	7.8	7.6	7.5	7.3	7.1	6.9
35.700	6.8	6.7	6.5	6.4	6.2	6.1	5.9
36.400	5.8	5.6	5.5	5.3	5.2	5.1	5.0
37.100	4.8	4.7	4.6	4.5	4.4	4.3	4.1
37.800	4.0	3.9	3.8	3.7	3.6	3.5	3.4
38.500	3.2	3.0	2.8	2.6	2.4	2.3	2.2
39.200	2.2	2.1	2.0	1.9	1.8	1.8	1.7
39.900	1.6	1.6	1.5	1.5	1.4	1.4	1.3
40.600	1.3	1.2	1.2	1.2	1.1	1.1	1.0
41.300	1.0	1.0	0.9	0.9	0.9	0.8	0.8
42.000	0.8	0.8	0.7	0.7	0.7	0.7	0.7
42.700	0.6	0.6	0.6	0.6	0.6	0.5	0.5
43.400	0.5	0.0					

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	----- Elevation (ft)	Peak Flow Time (hr)	Rate (cfs)	Rate (csm)
OUTLET	0.696		5.463		14.98	258.4	371.22

Line Start Time (hr)	----- (cfs)	Flow Values @ (cfs)	time increment (cfs)	of (cfs)	0.100 hr (cfs)	----- (cfs)	(cfs)
6.300	0.5	0.5	0.6	0.7	0.8	0.9	1.0
7.000	1.2	1.3	1.4	1.6	1.8	2.0	2.2
7.700	2.4	2.6	2.8	3.1	3.4	3.6	3.9
8.400	4.2	4.5	4.9	5.2	5.6	5.9	6.4
9.100	6.8	7.2	7.6	8.1	8.6	9.2	9.7
9.800	10.3	10.8	11.4	12.1	12.9	13.6	14.3
10.500	15.1	16.0	17.0	18.1	19.1	20.2	21.3
11.200	23.0	24.8	26.5	28.2	30.0	33.5	38.4
11.900	43.3	48.2	53.2	58.1	67.0	76.0	84.9
12.600	93.8	102.8	112.6	123.7	134.7	145.7	156.7
13.300	167.7	177.6	187.4	197.2	207.0	216.7	225.2
14.000	231.0	236.7	242.5	248.3	254.1	255.8	256.3
14.700	256.9	257.4	258.0	258.0	256.2	254.3	252.5
15.400	250.6	248.8	246.5	243.9	241.4	238.9	236.3

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
 ULTIMATE CONDITIONS - SUBDRAINAGE AREA 1

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
16.100	233.8	231.1	228.4	225.7	223.0	220.3	217.6
16.800	215.0	212.3	209.7	207.0	204.3	201.8	199.3
17.500	196.8	194.2	191.7	189.3	186.9	184.5	182.1
18.200	179.7	177.4	175.1	172.9	170.6	168.4	166.1
18.900	163.9	161.9	159.8	157.7	155.6	153.5	151.5
19.600	149.6	147.6	145.7	143.7	141.8	140.0	138.2
20.300	136.4	134.7	132.9	131.2	129.6	128.0	126.3
21.000	124.7	123.1	121.6	120.1	118.7	117.2	115.7
21.700	114.3	112.9	111.6	110.2	108.8	107.5	106.2
22.400	105.0	103.8	102.5	101.3	100.1	98.9	97.8
23.100	96.6	95.5	94.4	93.3	92.3	91.2	90.2
23.800	89.1	88.1	87.1	86.1	85.1	84.1	83.1
24.500	82.1	81.0	79.9	78.9	77.8	76.7	75.5
25.200	74.4	73.2	72.0	70.9	69.7	68.5	67.3
25.900	66.0	64.8	63.6	62.4	61.2	60.0	58.8
26.600	57.5	56.4	55.2	54.1	52.9	51.8	50.6
27.300	49.6	48.5	47.5	46.4	45.4	44.3	43.4
28.000	42.4	41.5	40.5	39.6	38.7	37.8	37.0
28.700	36.1	35.3	34.4	33.6	32.8	32.1	31.3
29.400	30.5	29.7	29.0	28.3	27.6	26.8	26.1
30.100	25.5	24.9	24.2	23.6	23.0	22.4	21.9
30.800	21.4	20.9	20.4	20.0	19.5	19.1	18.6
31.500	18.2	17.8	17.4	17.0	16.6	16.2	15.8
32.200	15.4	15.1	14.7	14.3	14.0	13.6	13.3
32.900	13.0	12.7	12.4	12.1	11.8	11.6	11.3
33.600	11.1	10.8	10.6	10.3	10.1	9.9	9.7
34.300	9.5	9.3	9.0	8.8	8.6	8.4	8.2
35.000	8.0	7.8	7.6	7.5	7.3	7.1	6.9
35.700	6.8	6.7	6.5	6.4	6.2	6.1	5.9
36.400	5.8	5.6	5.5	5.3	5.2	5.1	5.0
37.100	4.8	4.7	4.6	4.5	4.4	4.3	4.1
37.800	4.0	3.9	3.8	3.7	3.6	3.5	3.4
38.500	3.2	3.0	2.8	2.6	2.4	2.3	2.2
39.200	2.2	2.1	2.0	1.9	1.8	1.8	1.7
39.900	1.6	1.6	1.5	1.5	1.4	1.4	1.3
40.600	1.3	1.2	1.2	1.2	1.1	1.1	1.0
41.300	1.0	1.0	0.9	0.9	0.9	0.8	0.8
42.000	0.8	0.8	0.7	0.7	0.7	0.7	0.7
42.700	0.6	0.6	0.6	0.6	0.6	0.5	0.5
43.400	0.5	0.0					

STORM 100-yr

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	----- Elevation (ft)	Peak Time (hr)	Flow Rate (cfs)	----- Rate (csm)
DA01	0.696		6.677		14.98	315.9	453.78

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
 ULTIMATE CONDITIONS - SUBDRAINAGE AREA 1

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
5.600	0.4	0.5	0.6	0.7	0.8	0.9	1.1
6.300	1.2	1.4	1.5	1.7	1.8	2.1	2.3
7.000	2.5	2.7	2.9	3.2	3.5	3.8	4.1
7.700	4.4	4.7	5.1	5.5	5.9	6.3	6.6
8.400	7.1	7.6	8.0	8.5	9.0	9.5	10.1
9.100	10.7	11.3	11.9	12.4	13.2	13.9	14.6
9.800	15.4	16.1	16.9	17.8	18.8	19.7	20.7
10.500	21.7	22.9	24.2	25.5	26.9	28.2	29.7
11.200	31.8	34.0	36.2	38.4	40.6	45.1	51.1
11.900	57.1	63.2	69.2	75.4	86.3	97.1	108.0
12.600	118.9	129.7	141.8	155.1	168.4	181.7	195.0
13.300	208.4	220.2	232.0	243.7	255.5	267.2	277.3
14.000	284.1	291.0	297.8	304.7	311.5	313.4	313.9
14.700	314.4	315.0	315.5	315.3	313.0	310.6	308.3
15.400	305.9	303.6	300.7	297.5	294.3	291.1	288.0
16.100	284.8	281.5	278.1	274.8	271.5	268.1	264.8
16.800	261.5	258.3	255.0	251.7	248.4	245.3	242.2
17.500	239.1	236.0	232.9	229.8	226.9	224.0	221.1
18.200	218.1	215.2	212.5	209.7	207.0	204.2	201.5
18.900	198.8	196.2	193.6	191.1	188.5	186.0	183.5
19.600	181.1	178.7	176.4	174.0	171.6	169.4	167.3
20.300	165.1	162.9	160.7	158.7	156.7	154.7	152.7
21.000	150.7	148.8	147.0	145.2	143.3	141.5	139.7
21.700	138.0	136.3	134.7	133.0	131.4	129.7	128.2
22.400	126.7	125.1	123.6	122.1	120.7	119.3	117.9
23.100	116.5	115.1	113.7	112.4	111.1	109.9	108.6
23.800	107.3	106.1	104.8	103.6	102.4	101.2	100.0
24.500	98.7	97.4	96.1	94.8	93.5	92.2	90.8
25.200	89.4	88.0	86.6	85.2	83.7	82.2	80.8
25.900	79.3	77.9	76.4	74.9	73.5	72.0	70.5
26.600	69.1	67.7	66.3	64.9	63.5	62.2	60.8
27.300	59.5	58.2	57.0	55.7	54.4	53.2	52.1
28.000	50.9	49.8	48.6	47.5	46.4	45.4	44.4
28.700	43.3	42.3	41.3	40.3	39.4	38.4	37.5
29.400	36.5	35.6	34.8	33.9	33.0	32.1	31.3
30.100	30.5	29.8	29.0	28.3	27.5	26.9	26.3
30.800	25.7	25.1	24.5	23.9	23.4	22.9	22.3
31.500	21.8	21.3	20.8	20.3	19.9	19.4	18.9
32.200	18.5	18.0	17.6	17.2	16.8	16.3	15.9
32.900	15.6	15.2	14.9	14.5	14.1	13.8	13.5
33.600	13.3	13.0	12.7	12.4	12.1	11.9	11.6
34.300	11.3	11.1	10.8	10.6	10.3	10.1	9.8
35.000	9.6	9.3	9.1	8.9	8.7	8.5	8.3
35.700	8.1	8.0	7.8	7.6	7.5	7.3	7.1
36.400	6.9	6.7	6.5	6.4	6.2	6.1	5.9
37.100	5.8	5.7	5.5	5.4	5.2	5.1	4.9
37.800	4.8	4.7	4.6	4.4	4.3	4.2	4.0
38.500	3.8	3.6	3.3	3.1	2.9	2.8	2.7
39.200	2.6	2.4	2.3	2.2	2.2	2.1	2.0
39.900	1.9	1.9	1.8	1.7	1.7	1.6	1.6
40.600	1.5	1.5	1.4	1.4	1.3	1.3	1.2

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
 ULTIMATE CONDITIONS - SUBDRAINAGE AREA 1

Line Start Time (hr)	----- Flow Values @ time increment of 0.100 hr -----						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
41.300	1.2	1.2	1.1	1.1	1.0	1.0	1.0
42.000	0.9	0.9	0.9	0.9	0.8	0.8	0.8
42.700	0.8	0.7	0.7	0.7	0.7	0.6	0.6
43.400	0.6	0.6	0.6	0.5	0.5	0.5	0.0

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	----- Elevation (ft)	Peak Time (hr)	Flow Rate (cfs)	----- Rate (csm)
OUTLET	0.696		6.677		14.98	315.9	453.78

Line Start Time (hr)	----- Flow Values @ time increment of 0.100 hr -----						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
5.600	0.4	0.5	0.6	0.7	0.8	0.9	1.1
6.300	1.2	1.4	1.5	1.7	1.8	2.1	2.3
7.000	2.5	2.7	2.9	3.2	3.5	3.8	4.1
7.700	4.4	4.7	5.1	5.5	5.9	6.3	6.6
8.400	7.1	7.6	8.0	8.5	9.0	9.5	10.1
9.100	10.7	11.3	11.9	12.4	13.2	13.9	14.6
9.800	15.4	16.1	16.9	17.8	18.8	19.7	20.7
10.500	21.7	22.9	24.2	25.5	26.9	28.2	29.7
11.200	31.8	34.0	36.2	38.4	40.6	45.1	51.1
11.900	57.1	63.2	69.2	75.4	86.3	97.1	108.0
12.600	118.9	129.7	141.8	155.1	168.4	181.7	195.0
13.300	208.4	220.2	232.0	243.7	255.5	267.2	277.3
14.000	284.1	291.0	297.8	304.7	311.5	313.4	313.9
14.700	314.4	315.0	315.5	315.3	313.0	310.6	308.3
15.400	305.9	303.6	300.7	297.5	294.3	291.1	288.0
16.100	284.8	281.5	278.1	274.8	271.5	268.1	264.8
16.800	261.5	258.3	255.0	251.7	248.4	245.3	242.2
17.500	239.1	236.0	232.9	229.8	226.9	224.0	221.1
18.200	218.1	215.2	212.5	209.7	207.0	204.2	201.5
18.900	198.8	196.2	193.6	191.1	188.5	186.0	183.5
19.600	181.1	178.7	176.4	174.0	171.6	169.4	167.3
20.300	165.1	162.9	160.7	158.7	156.7	154.7	152.7
21.000	150.7	148.8	147.0	145.2	143.3	141.5	139.7
21.700	138.0	136.3	134.7	133.0	131.4	129.7	128.2
22.400	126.7	125.1	123.6	122.1	120.7	119.3	117.9
23.100	116.5	115.1	113.7	112.4	111.1	109.9	108.6
23.800	107.3	106.1	104.8	103.6	102.4	101.2	100.0
24.500	98.7	97.4	96.1	94.8	93.5	92.2	90.8
25.200	89.4	88.0	86.6	85.2	83.7	82.2	80.8
25.900	79.3	77.9	76.4	74.9	73.5	72.0	70.5
26.600	69.1	67.7	66.3	64.9	63.5	62.2	60.8
27.300	59.5	58.2	57.0	55.7	54.4	53.2	52.1
28.000	50.9	49.8	48.6	47.5	46.4	45.4	44.4
28.700	43.3	42.3	41.3	40.3	39.4	38.4	37.5
29.400	36.5	35.6	34.8	33.9	33.0	32.1	31.3

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
 ULTIMATE CONDITIONS - SUBDRAINAGE AREA 1

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
30.100	30.5	29.8	29.0	28.3	27.5	26.9	26.3
30.800	25.7	25.1	24.5	23.9	23.4	22.9	22.3
31.500	21.8	21.3	20.8	20.3	19.9	19.4	18.9
32.200	18.5	18.0	17.6	17.2	16.8	16.3	15.9
32.900	15.6	15.2	14.9	14.5	14.1	13.8	13.5
33.600	13.3	13.0	12.7	12.4	12.1	11.9	11.6
34.300	11.3	11.1	10.8	10.6	10.3	10.1	9.8
35.000	9.6	9.3	9.1	8.9	8.7	8.5	8.3
35.700	8.1	8.0	7.8	7.6	7.5	7.3	7.1
36.400	6.9	6.7	6.5	6.4	6.2	6.1	5.9
37.100	5.8	5.7	5.5	5.4	5.2	5.1	4.9
37.800	4.8	4.7	4.6	4.4	4.3	4.2	4.0
38.500	3.8	3.6	3.3	3.1	2.9	2.8	2.7
39.200	2.6	2.4	2.3	2.2	2.2	2.1	2.0
39.900	1.9	1.9	1.8	1.7	1.7	1.6	1.6
40.600	1.5	1.5	1.4	1.4	1.3	1.3	1.2
41.300	1.2	1.2	1.1	1.1	1.0	1.0	1.0
42.000	0.9	0.9	0.9	0.9	0.8	0.8	0.8
42.700	0.8	0.7	0.7	0.7	0.7	0.6	0.6
43.400	0.6	0.6	0.6	0.5	0.5	0.5	0.0

Area or Reach Identifier	Drainage Area (sq mi)	Peak Flow by Storm				
		1-yr (cfs)	2-yr (cfs)	5-yr (cfs)	10-yr (cfs)	25-yr (cfs)
DA01	0.696	53.4	75.3	116.2	151.7	208.1
OUTLET	0.696	53.4	75.3	116.2	151.7	208.1

Area or Reach Identifier	Drainage Area (sq mi)	Peak Flow by Storm				
		50-yr (cfs)	100-yr (cfs)	(cfs)	(cfs)	(cfs)
DA01	0.696	258.4	315.9			
OUTLET	0.696	258.4	315.9			

WinTR-20: version 3.30 0 0 .001 0
 Maryland, Queen Annes NOAA-C
 CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
 EXISTING CONDITIONS - SUBDRAINAGE AREA 2

SUB-AREA:
 DA01 OUTLET 0.2568 80. 1.54 Y

STORM ANALYSIS:
 1-yr 2.67 NOAA_C 2 3.24
 2-yr 3.24 NOAA_C 2 3.24
 5-yr 4.22 NOAA_C 2 3.24
 10-yr 5.06 NOAA_C 2 3.24
 25-yr 6.34 NOAA_C 2 3.24
 50-yr 7.46 NOAA_C 2 3.24
 100-yr 8.73 NOAA_C 2 3.24

DIMENSIONLESS UNIT HYDROGRAPH: delmarva
 0.00000 0.11100 0.35600 0.65500 0.89600
 1.00000 0.92900 0.82800 0.73700 0.65600
 0.58400 0.52100 0.46500 0.41500 0.37100
 0.33100 0.29600 0.26500 0.23700 0.21200
 0.19000 0.17000 0.15300 0.13800 0.12300
 0.10900 0.09700 0.08600 0.07600 0.06600
 0.05700 0.04900 0.04100 0.03300 0.02700
 0.02400 0.02100 0.01800 0.01500 0.01300
 0.01200 0.01100 0.00900 0.00800 0.00800
 0.00600 0.00600 0.00500 0.00500 0.00000

RAINFALL DISTRIBUTION:
 NOAA_C 0.1
 0.0 0.00128 0.00231 0.00335 0.00441
 0.00547 0.00654 0.00763 0.00872 0.00982
 0.01093 0.01206 0.01319 0.01433 0.01548
 0.01665 0.01782 0.01900 0.02019 0.02140
 0.02261 0.02383 0.02506 0.02631 0.02756
 0.02882 0.03009 0.03137 0.03267 0.03397
 0.03528 0.03660 0.03793 0.03927 0.04062
 0.04199 0.04336 0.04474 0.04613 0.04753
 0.04894 0.05036 0.05179 0.05324 0.05469
 0.05615 0.05762 0.05910 0.06059 0.06209
 0.06360 0.06512 0.06665 0.06819 0.06974
 0.07130 0.07287 0.07445 0.07604 0.07764
 0.07925 0.08090 0.08259 0.08432 0.08609
 0.08790 0.08975 0.09164 0.09356 0.09553
 0.09754 0.09959 0.10168 0.10380 0.10597
 0.10818 0.11042 0.11271 0.11503 0.11740
 0.11981 0.12225 0.12474 0.12726 0.12982
 0.13243 0.13507 0.13776 0.14048 0.14324
 0.14605 0.14900 0.15210 0.15536 0.15876
 0.16231 0.16602 0.16987 0.17387 0.17803
 0.18233 0.18678 0.19139 0.19614 0.20104

0.20610	0.21173	0.21793	0.22471	0.23206
0.23999	0.24899	0.25907	0.27022	0.28245
0.29550	0.31572	0.33700	0.36618	0.40669
0.47660	0.59331	0.63382	0.66300	0.68428
0.70450	0.71755	0.72978	0.74093	0.75101
0.76001	0.76794	0.77529	0.78207	0.78827
0.79390	0.79896	0.80386	0.80861	0.81322
0.81767	0.82197	0.82613	0.83013	0.83398
0.83769	0.84124	0.84464	0.84790	0.85100
0.85395	0.85676	0.85952	0.86224	0.86493
0.86757	0.87018	0.87274	0.87526	0.87775
0.88019	0.88260	0.88497	0.88729	0.88958
0.89182	0.89403	0.89620	0.89832	0.90041
0.90246	0.90447	0.90644	0.90836	0.91025
0.91210	0.91391	0.91568	0.91741	0.91910
0.92075	0.92236	0.92396	0.92555	0.92713
0.92870	0.93026	0.93181	0.93335	0.93488
0.93640	0.93791	0.93941	0.94090	0.94238
0.94385	0.94531	0.94676	0.94821	0.94964
0.95106	0.95247	0.95387	0.95526	0.95664
0.95801	0.95938	0.96073	0.96207	0.96340
0.96472	0.96603	0.96733	0.96863	0.96991
0.97118	0.97244	0.97369	0.97494	0.97617
0.97739	0.97860	0.97981	0.98100	0.98218
0.98335	0.98452	0.98567	0.98681	0.98794
0.98907	0.99018	0.99128	0.99237	0.99346
0.99453	0.99559	0.99665	0.99769	0.99872
1.0				

GLOBAL OUTPUT:

1 0.1 NY N NY N

WinTR-20 Printed Page File End of Input Data List

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
EXISTING CONDITIONS - SUBDRAINAGE AREA 2

Name of printed page file:

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CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
EXISTING CONDITIONS - SUBDRAINAGE AREA 2

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Elevation (ft)	Peak Time (hr)	Flow Rate (cfs)	Rate (csm)
DA01	0.257		1.008		13.19	34.4	134.09

Line

Start Time (hr)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)
11.300	0.5	0.7	0.9	1.2	1.6	2.1	3.0
12.000	4.3	6.2	8.7	11.9	15.3	19.2	22.9
12.700	26.3	29.4	31.5	33.4	33.9	34.4	34.2
13.400	34.0	33.4	32.9	32.2	31.5	30.7	29.9
14.100	29.1	28.3	27.5	26.8	26.0	25.3	24.6
14.800	23.8	23.2	22.5	21.8	21.2	20.6	20.0
15.500	19.4	18.8	18.3	17.7	17.2	16.7	16.2
16.200	15.8	15.4	15.0	14.6	14.2	13.8	13.5
16.900	13.1	12.8	12.4	12.1	11.8	11.5	11.2
17.600	10.9	10.6	10.3	10.1	9.8	9.5	9.3
18.300	9.0	8.8	8.5	8.3	8.1	7.8	7.6
19.000	7.5	7.3	7.1	7.0	6.8	6.7	6.6
19.700	6.4	6.3	6.2	6.1	6.0	5.9	5.8
20.400	5.8	5.7	5.6	5.5	5.4	5.4	5.3
21.100	5.2	5.2	5.1	5.1	5.0	4.9	4.9
21.800	4.8	4.7	4.7	4.6	4.6	4.5	4.5
22.500	4.4	4.4	4.3	4.3	4.3	4.2	4.2
23.200	4.1	4.1	4.1	4.0	4.0	4.0	3.9
23.900	3.9	3.9	3.8	3.8	3.7	3.6	3.5
24.600	3.4	3.3	3.1	3.0	2.8	2.7	2.5
25.300	2.4	2.2	2.1	2.0	1.9	1.8	1.7
26.000	1.6	1.5	1.4	1.3	1.3	1.2	1.1
26.700	1.1	1.0	0.9	0.9	0.8	0.8	0.7
27.400	0.7	0.7	0.6	0.6	0.5	0.5	0.0

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Elevation (ft)	Peak Time (hr)	Flow Rate (cfs)	Rate (csm)
OUTLET	0.257		1.008		13.19	34.4	134.09

Line

Start Time (hr)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)
11.300	0.5	0.7	0.9	1.2	1.6	2.1	3.0
12.000	4.3	6.2	8.7	11.9	15.3	19.2	22.9
12.700	26.3	29.4	31.5	33.4	33.9	34.4	34.2
13.400	34.0	33.4	32.9	32.2	31.5	30.7	29.9
14.100	29.1	28.3	27.5	26.8	26.0	25.3	24.6
14.800	23.8	23.2	22.5	21.8	21.2	20.6	20.0
15.500	19.4	18.8	18.3	17.7	17.2	16.7	16.2
16.200	15.8	15.4	15.0	14.6	14.2	13.8	13.5

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
EXISTING CONDITIONS - SUBDRAINAGE AREA 2

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
16.900	13.1	12.8	12.4	12.1	11.8	11.5	11.2
17.600	10.9	10.6	10.3	10.1	9.8	9.5	9.3
18.300	9.0	8.8	8.5	8.3	8.1	7.8	7.6
19.000	7.5	7.3	7.1	7.0	6.8	6.7	6.6
19.700	6.4	6.3	6.2	6.1	6.0	5.9	5.8
20.400	5.8	5.7	5.6	5.5	5.4	5.4	5.3
21.100	5.2	5.2	5.1	5.1	5.0	4.9	4.9
21.800	4.8	4.7	4.7	4.6	4.6	4.5	4.5
22.500	4.4	4.4	4.3	4.3	4.3	4.2	4.2
23.200	4.1	4.1	4.1	4.0	4.0	4.0	3.9
23.900	3.9	3.9	3.8	3.8	3.7	3.6	3.5
24.600	3.4	3.3	3.1	3.0	2.8	2.7	2.5
25.300	2.4	2.2	2.1	2.0	1.9	1.8	1.7
26.000	1.6	1.5	1.4	1.3	1.3	1.2	1.1
26.700	1.1	1.0	0.9	0.9	0.8	0.8	0.7
27.400	0.7	0.7	0.6	0.6	0.5	0.5	0.0

STORM 2-yr

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	----- Elevation (ft)	Peak Flow Time (hr)	Rate (cfs)	Rate (csm)
DA01	0.257		1.433		13.17	50.4	196.22

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
10.600	0.4	0.5	0.7	0.8	1.0	1.2	1.4
11.300	1.7	2.1	2.5	3.0	3.7	4.7	5.9
12.000	8.1	10.9	14.8	19.4	24.5	30.0	35.1
12.700	40.0	44.0	47.0	49.2	49.9	50.3	49.9
13.400	49.3	48.4	47.5	46.4	45.3	44.1	42.9
14.100	41.7	40.5	39.3	38.1	37.0	35.9	34.8
14.800	33.8	32.8	31.8	30.8	29.9	29.0	28.1
15.500	27.2	26.4	25.6	24.8	24.1	23.3	22.7
16.200	22.0	21.4	20.8	20.2	19.7	19.1	18.6
16.900	18.1	17.6	17.1	16.6	16.2	15.8	15.3
17.600	14.9	14.5	14.1	13.7	13.3	13.0	12.6
18.300	12.2	11.9	11.5	11.2	10.9	10.6	10.3
19.000	10.1	9.8	9.6	9.4	9.2	9.0	8.8
19.700	8.6	8.5	8.3	8.2	8.0	7.9	7.8
20.400	7.7	7.6	7.4	7.3	7.2	7.2	7.1
21.100	7.0	6.9	6.8	6.7	6.6	6.6	6.5
21.800	6.4	6.3	6.2	6.1	6.0	6.0	5.9
22.500	5.8	5.8	5.7	5.7	5.6	5.6	5.5
23.200	5.5	5.4	5.4	5.3	5.3	5.2	5.2
23.900	5.1	5.1	5.0	5.0	4.9	4.8	4.6
24.600	4.5	4.3	4.1	3.9	3.7	3.5	3.3

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
EXISTING CONDITIONS - SUBDRAINAGE AREA 2

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
25.300	3.1	2.9	2.8	2.6	2.5	2.3	2.2
26.000	2.1	2.0	1.9	1.7	1.7	1.6	1.5
26.700	1.4	1.3	1.2	1.2	1.1	1.0	1.0
27.400	0.9	0.9	0.8	0.8	0.7	0.7	0.6
28.100	0.6	0.6	0.5	0.0			

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Peak Flow			
				Elevation (ft)	Time (hr)	Rate (cfs)	Rate (csm)
OUTLET	0.257		1.433		13.17	50.4	196.22

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
10.600	0.4	0.5	0.7	0.8	1.0	1.2	1.4
11.300	1.7	2.1	2.5	3.0	3.7	4.7	5.9
12.000	8.1	10.9	14.8	19.4	24.5	30.0	35.1
12.700	40.0	44.0	47.0	49.2	49.9	50.3	49.9
13.400	49.3	48.4	47.5	46.4	45.3	44.1	42.9
14.100	41.7	40.5	39.3	38.1	37.0	35.9	34.8
14.800	33.8	32.8	31.8	30.8	29.9	29.0	28.1
15.500	27.2	26.4	25.6	24.8	24.1	23.3	22.7
16.200	22.0	21.4	20.8	20.2	19.7	19.1	18.6
16.900	18.1	17.6	17.1	16.6	16.2	15.8	15.3
17.600	14.9	14.5	14.1	13.7	13.3	13.0	12.6
18.300	12.2	11.9	11.5	11.2	10.9	10.6	10.3
19.000	10.1	9.8	9.6	9.4	9.2	9.0	8.8
19.700	8.6	8.5	8.3	8.2	8.0	7.9	7.8
20.400	7.7	7.6	7.4	7.3	7.2	7.2	7.1
21.100	7.0	6.9	6.8	6.7	6.6	6.6	6.5
21.800	6.4	6.3	6.2	6.1	6.0	6.0	5.9
22.500	5.8	5.8	5.7	5.7	5.6	5.6	5.5
23.200	5.5	5.4	5.4	5.3	5.3	5.2	5.2
23.900	5.1	5.1	5.0	5.0	4.9	4.8	4.6
24.600	4.5	4.3	4.1	3.9	3.7	3.5	3.3
25.300	3.1	2.9	2.8	2.6	2.5	2.3	2.2
26.000	2.1	2.0	1.9	1.7	1.7	1.6	1.5
26.700	1.4	1.3	1.2	1.2	1.1	1.0	1.0
27.400	0.9	0.9	0.8	0.8	0.7	0.7	0.6
28.100	0.6	0.6	0.5	0.0			

STORM 5-yr

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
EXISTING CONDITIONS - SUBDRAINAGE AREA 2

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Elevation (ft)	Peak Time (hr)	Flow Rate (cfs)	Rate (csm)
DA01	0.257		2.225		13.08	80.1	312.07

Line

Start Time (hr)	Flow (cfs)	Values (cfs)	@ time (cfs)	increment (cfs)	of 0.100 (cfs)	hr (cfs)	Flow (cfs)	Rate (cfs)
9.500	0.5	0.6	0.7	0.8	0.9	1.0	1.2	
10.200	1.3	1.5	1.7	2.0	2.2	2.5	2.7	
10.900	3.1	3.4	3.9	4.4	5.0	5.6	6.5	
11.600	7.4	8.7	10.3	12.9	16.2	21.0	27.1	
12.300	34.1	42.2	50.3	58.3	65.6	71.3	76.1	
13.000	78.4	80.1	79.8	79.3	77.9	76.5	74.7	
13.700	72.9	70.9	68.9	66.9	64.9	62.9	61.0	
14.400	59.1	57.2	55.4	53.7	52.0	50.4	48.8	
15.100	47.2	45.7	44.3	42.9	41.5	40.2	38.9	
15.800	37.6	36.5	35.3	34.3	33.2	32.2	31.3	
16.500	30.4	29.5	28.7	27.9	27.1	26.3	25.5	
17.200	24.8	24.1	23.4	22.8	22.1	21.5	20.9	
17.900	20.3	19.7	19.1	18.5	18.0	17.4	16.9	
18.600	16.4	15.9	15.4	15.0	14.6	14.3	13.9	
19.300	13.6	13.3	13.0	12.7	12.5	12.2	12.0	
20.000	11.8	11.6	11.4	11.2	11.1	10.9	10.7	
20.700	10.6	10.4	10.3	10.1	10.0	9.9	9.7	
21.400	9.6	9.5	9.4	9.2	9.1	8.9	8.8	
22.100	8.7	8.6	8.5	8.4	8.3	8.2	8.1	
22.800	8.1	8.0	7.9	7.8	7.8	7.7	7.6	
23.500	7.6	7.5	7.4	7.4	7.3	7.2	7.2	
24.200	7.1	6.9	6.8	6.6	6.4	6.1	5.8	
24.900	5.5	5.2	5.0	4.7	4.4	4.2	3.9	
25.600	3.7	3.5	3.3	3.1	2.9	2.8	2.6	
26.300	2.5	2.3	2.2	2.1	2.0	1.8	1.7	
27.000	1.6	1.5	1.5	1.4	1.3	1.2	1.1	
27.700	1.1	1.0	0.9	0.9	0.8	0.8	0.7	
28.400	0.7	0.6	0.6	0.6	0.5	0.0		

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Elevation (ft)	Peak Time (hr)	Flow Rate (cfs)	Rate (csm)
OUTLET	0.257		2.225		13.08	80.1	312.07

Line

Start Time (hr)	Flow (cfs)	Values (cfs)	@ time (cfs)	increment (cfs)	of 0.100 (cfs)	hr (cfs)	Flow (cfs)	Rate (cfs)
9.500	0.5	0.6	0.7	0.8	0.9	1.0	1.2	
10.200	1.3	1.5	1.7	2.0	2.2	2.5	2.7	
10.900	3.1	3.4	3.9	4.4	5.0	5.6	6.5	
11.600	7.4	8.7	10.3	12.9	16.2	21.0	27.1	

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
EXISTING CONDITIONS - SUBDRAINAGE AREA 2

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
12.300	34.1	42.2	50.3	58.3	65.6	71.3	76.1
13.000	78.4	80.1	79.8	79.3	77.9	76.5	74.7
13.700	72.9	70.9	68.9	66.9	64.9	62.9	61.0
14.400	59.1	57.2	55.4	53.7	52.0	50.4	48.8
15.100	47.2	45.7	44.3	42.9	41.5	40.2	38.9
15.800	37.6	36.5	35.3	34.3	33.2	32.2	31.3
16.500	30.4	29.5	28.7	27.9	27.1	26.3	25.5
17.200	24.8	24.1	23.4	22.8	22.1	21.5	20.9
17.900	20.3	19.7	19.1	18.5	18.0	17.4	16.9
18.600	16.4	15.9	15.4	15.0	14.6	14.3	13.9
19.300	13.6	13.3	13.0	12.7	12.5	12.2	12.0
20.000	11.8	11.6	11.4	11.2	11.1	10.9	10.7
20.700	10.6	10.4	10.3	10.1	10.0	9.9	9.7
21.400	9.6	9.5	9.4	9.2	9.1	8.9	8.8
22.100	8.7	8.6	8.5	8.4	8.3	8.2	8.1
22.800	8.1	8.0	7.9	7.8	7.8	7.7	7.6
23.500	7.6	7.5	7.4	7.4	7.3	7.2	7.2
24.200	7.1	6.9	6.8	6.6	6.4	6.1	5.8
24.900	5.5	5.2	5.0	4.7	4.4	4.2	3.9
25.600	3.7	3.5	3.3	3.1	2.9	2.8	2.6
26.300	2.5	2.3	2.2	2.1	2.0	1.8	1.7
27.000	1.6	1.5	1.5	1.4	1.3	1.2	1.1
27.700	1.1	1.0	0.9	0.9	0.8	0.8	0.7
28.400	0.7	0.6	0.6	0.6	0.5	0.0	

STORM 10-yr

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	----- Elevation (ft)	Peak Time (hr)	Flow Rate (cfs)	----- Rate (csm)
DA01	0.257		2.945		13.22	107.1	417.20

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
8.600	0.5	0.6	0.7	0.8	0.9	1.0	1.1
9.300	1.2	1.4	1.5	1.7	1.9	2.1	2.3
10.000	2.5	2.8	3.1	3.4	3.7	4.0	4.4
10.700	4.8	5.2	5.7	6.3	6.9	7.6	8.5
11.400	9.5	10.7	12.0	13.9	16.0	19.5	23.4
12.100	30.3	37.4	47.6	57.8	68.7	79.6	88.4
12.800	97.1	101.9	106.3	107.0	107.1	105.8	104.1
13.500	101.8	99.4	96.8	94.1	91.4	88.6	85.8
14.200	83.1	80.5	77.9	75.4	73.0	70.6	68.3
14.900	66.1	64.0	61.9	59.9	57.9	56.0	54.2
15.600	52.4	50.7	49.1	47.5	46.0	44.5	43.2
16.300	41.9	40.6	39.4	38.3	37.1	36.1	35.0
17.000	34.0	33.0	32.0	31.1	30.2	29.3	28.5

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
EXISTING CONDITIONS - SUBDRAINAGE AREA 2

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
17.700	27.6	26.8	26.0	25.2	24.5	23.7	23.0
18.400	22.3	21.6	20.9	20.3	19.7	19.1	18.6
19.100	18.2	17.7	17.3	16.9	16.5	16.2	15.8
19.800	15.5	15.2	14.9	14.7	14.4	14.2	14.0
20.500	13.7	13.5	13.3	13.1	13.0	12.8	12.6
21.200	12.4	12.3	12.1	11.9	11.8	11.6	11.4
21.900	11.3	11.1	10.9	10.8	10.6	10.5	10.4
22.600	10.3	10.2	10.1	10.0	9.9	9.8	9.7
23.300	9.6	9.6	9.5	9.4	9.3	9.2	9.2
24.000	9.1	9.0	8.8	8.7	8.5	8.3	8.0
24.700	7.7	7.3	6.9	6.6	6.2	5.9	5.5
25.400	5.2	4.9	4.7	4.4	4.2	3.9	3.7
26.100	3.5	3.3	3.1	2.9	2.8	2.6	2.5
26.800	2.3	2.2	2.1	1.9	1.8	1.7	1.6
27.500	1.5	1.4	1.3	1.3	1.2	1.1	1.0
28.200	1.0	0.9	0.9	0.8	0.7	0.7	0.7
28.900	0.6	0.6	0.5	0.0			

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Elevation (ft)	Peak Time (hr)	Flow Rate (cfs)	Flow Rate (csm)
OUTLET	0.257		2.945		13.22	107.1	417.20

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
8.600	0.5	0.6	0.7	0.8	0.9	1.0	1.1
9.300	1.2	1.4	1.5	1.7	1.9	2.1	2.3
10.000	2.5	2.8	3.1	3.4	3.7	4.0	4.4
10.700	4.8	5.2	5.7	6.3	6.9	7.6	8.5
11.400	9.5	10.7	12.0	13.9	16.0	19.5	23.4
12.100	30.3	37.4	47.6	57.8	68.7	79.6	88.4
12.800	97.1	101.9	106.3	107.0	107.1	105.8	104.1
13.500	101.8	99.4	96.8	94.1	91.4	88.6	85.8
14.200	83.1	80.5	77.9	75.4	73.0	70.6	68.3
14.900	66.1	64.0	61.9	59.9	57.9	56.0	54.2
15.600	52.4	50.7	49.1	47.5	46.0	44.5	43.2
16.300	41.9	40.6	39.4	38.3	37.1	36.1	35.0
17.000	34.0	33.0	32.0	31.1	30.2	29.3	28.5
17.700	27.6	26.8	26.0	25.2	24.5	23.7	23.0
18.400	22.3	21.6	20.9	20.3	19.7	19.1	18.6
19.100	18.2	17.7	17.3	16.9	16.5	16.2	15.8
19.800	15.5	15.2	14.9	14.7	14.4	14.2	14.0
20.500	13.7	13.5	13.3	13.1	13.0	12.8	12.6
21.200	12.4	12.3	12.1	11.9	11.8	11.6	11.4
21.900	11.3	11.1	10.9	10.8	10.6	10.5	10.4
22.600	10.3	10.2	10.1	10.0	9.9	9.8	9.7
23.300	9.6	9.6	9.5	9.4	9.3	9.2	9.2

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
EXISTING CONDITIONS - SUBDRAINAGE AREA 2

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
24.000	9.1	9.0	8.8	8.7	8.5	8.3	8.0
24.700	7.7	7.3	6.9	6.6	6.2	5.9	5.5
25.400	5.2	4.9	4.7	4.4	4.2	3.9	3.7
26.100	3.5	3.3	3.1	2.9	2.8	2.6	2.5
26.800	2.3	2.2	2.1	1.9	1.8	1.7	1.6
27.500	1.5	1.4	1.3	1.3	1.2	1.1	1.0
28.200	1.0	0.9	0.9	0.8	0.7	0.7	0.7
28.900	0.6	0.6	0.5	0.0			

STORM 25-yr

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Elevation (ft)	Peak Time (hr)	Flow Rate (cfs)	Rate (csm)
DA01	0.257		4.089		13.16	150.0	584.23

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
7.500	0.5	0.6	0.7	0.8	0.9	1.0	1.1
8.200	1.3	1.4	1.6	1.7	1.9	2.1	2.3
8.900	2.5	2.7	2.9	3.1	3.4	3.6	3.9
9.600	4.2	4.5	4.8	5.2	5.6	6.0	6.4
10.300	6.9	7.4	7.9	8.5	9.1	9.8	10.6
11.000	11.5	12.4	13.5	14.7	16.3	17.9	20.1
11.700	22.5	26.2	30.3	37.5	46.1	57.7	71.0
12.400	85.5	100.6	114.5	127.2	137.3	144.4	148.8
13.100	149.6	149.2	147.0	144.4	141.0	137.5	133.7
13.800	129.9	125.9	122.0	118.1	114.3	110.6	106.9
14.500	103.4	99.9	96.7	93.4	90.4	87.3	84.5
15.200	81.6	78.9	76.3	73.8	71.3	68.9	66.6
15.900	64.5	62.4	60.4	58.5	56.7	54.9	53.3
16.600	51.7	50.1	48.6	47.1	45.7	44.3	43.0
17.300	41.7	40.5	39.3	38.1	37.0	35.8	34.7
18.000	33.7	32.6	31.6	30.6	29.7	28.7	27.8
18.700	26.9	26.1	25.4	24.7	24.1	23.5	22.9
19.400	22.4	21.9	21.4	20.9	20.5	20.1	19.7
20.100	19.4	19.0	18.7	18.4	18.1	17.8	17.5
20.800	17.3	17.0	16.8	16.6	16.3	16.1	15.9
21.500	15.7	15.5	15.2	15.0	14.7	14.4	14.3
22.200	14.1	13.9	13.7	13.6	13.5	13.3	13.2
22.900	13.1	13.0	12.8	12.7	12.6	12.5	12.4
23.600	12.3	12.2	12.1	12.0	11.8	11.7	11.6
24.300	11.3	11.1	10.8	10.4	10.0	9.5	9.1
25.000	8.6	8.1	7.7	7.2	6.8	6.4	6.1
25.700	5.7	5.4	5.1	4.8	4.5	4.3	4.0
26.400	3.8	3.6	3.4	3.2	3.0	2.8	2.7
27.100	2.5	2.4	2.2	2.1	2.0	1.9	1.7

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
EXISTING CONDITIONS - SUBDRAINAGE AREA 2

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
27.800	1.6	1.5	1.4	1.4	1.3	1.2	1.1
28.500	1.0	1.0	0.9	0.9	0.8	0.7	0.7
29.200	0.6	0.6	0.5	0.5	0.0		

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Elevation (ft)	Peak Flow Time (hr)	Rate (cfs)	Rate Rate (csm)
OUTLET	0.257		4.089		13.16	150.0	584.23

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
7.500	0.5	0.6	0.7	0.8	0.9	1.0	1.1
8.200	1.3	1.4	1.6	1.7	1.9	2.1	2.3
8.900	2.5	2.7	2.9	3.1	3.4	3.6	3.9
9.600	4.2	4.5	4.8	5.2	5.6	6.0	6.4
10.300	6.9	7.4	7.9	8.5	9.1	9.8	10.6
11.000	11.5	12.4	13.5	14.7	16.3	17.9	20.1
11.700	22.5	26.2	30.3	37.5	46.1	57.7	71.0
12.400	85.5	100.6	114.5	127.2	137.3	144.4	148.8
13.100	149.6	149.2	147.0	144.4	141.0	137.5	133.7
13.800	129.9	125.9	122.0	118.1	114.3	110.6	106.9
14.500	103.4	99.9	96.7	93.4	90.4	87.3	84.5
15.200	81.6	78.9	76.3	73.8	71.3	68.9	66.6
15.900	64.5	62.4	60.4	58.5	56.7	54.9	53.3
16.600	51.7	50.1	48.6	47.1	45.7	44.3	43.0
17.300	41.7	40.5	39.3	38.1	37.0	35.8	34.7
18.000	33.7	32.6	31.6	30.6	29.7	28.7	27.8
18.700	26.9	26.1	25.4	24.7	24.1	23.5	22.9
19.400	22.4	21.9	21.4	20.9	20.5	20.1	19.7
20.100	19.4	19.0	18.7	18.4	18.1	17.8	17.5
20.800	17.3	17.0	16.8	16.6	16.3	16.1	15.9
21.500	15.7	15.5	15.2	15.0	14.7	14.4	14.3
22.200	14.1	13.9	13.7	13.6	13.5	13.3	13.2
22.900	13.1	13.0	12.8	12.7	12.6	12.5	12.4
23.600	12.3	12.2	12.1	12.0	11.8	11.7	11.6
24.300	11.3	11.1	10.8	10.4	10.0	9.5	9.1
25.000	8.6	8.1	7.7	7.2	6.8	6.4	6.1
25.700	5.7	5.4	5.1	4.8	4.5	4.3	4.0
26.400	3.8	3.6	3.4	3.2	3.0	2.8	2.7
27.100	2.5	2.4	2.2	2.1	2.0	1.9	1.7
27.800	1.6	1.5	1.4	1.4	1.3	1.2	1.1
28.500	1.0	1.0	0.9	0.9	0.8	0.7	0.7
29.200	0.6	0.6	0.5	0.5	0.0		

STORM 50-yr

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
EXISTING CONDITIONS - SUBDRAINAGE AREA 2

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Elevation (ft)	Peak Time (hr)	Flow Rate (cfs)	Rate (csm)
DA01	0.257		5.121		13.03	188.7	734.79

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
6.700	0.5	0.6	0.7	0.8	0.9	1.0	1.1
7.400	1.3	1.4	1.6	1.7	1.9	2.1	2.3
8.100	2.5	2.7	3.0	3.2	3.4	3.7	3.9
8.800	4.2	4.5	4.8	5.1	5.4	5.7	6.1
9.500	6.4	6.8	7.2	7.7	8.2	8.7	9.3
10.200	9.9	10.5	11.2	11.9	12.7	13.5	14.4
10.900	15.4	16.5	17.8	19.2	20.9	22.8	25.2
11.600	27.7	31.3	35.0	41.6	48.2	60.7	73.1
12.300	90.4	107.9	126.1	144.4	159.0	172.8	180.7
13.000	187.0	188.1	187.3	184.6	181.0	176.8	172.2
13.700	167.4	162.4	157.4	152.3	147.4	142.5	137.8
14.400	133.2	128.7	124.4	120.1	116.1	112.2	108.4
15.100	104.7	101.2	97.8	94.5	91.3	88.2	85.2
15.800	82.4	79.6	77.0	74.5	72.2	69.8	67.7
16.500	65.6	63.6	61.7	59.8	57.9	56.2	54.4
17.200	52.8	51.2	49.6	48.1	46.7	45.2	43.9
17.900	42.5	41.2	39.9	38.6	37.4	36.2	35.0
18.600	33.9	32.8	31.8	30.9	30.0	29.3	28.5
19.300	27.8	27.2	26.5	25.9	25.4	24.8	24.3
20.000	23.9	23.5	23.1	22.7	22.3	21.9	21.5
20.700	21.2	20.9	20.6	20.3	20.0	19.7	19.4
21.400	19.2	18.9	18.7	18.4	18.1	17.8	17.5
22.100	17.2	17.0	16.8	16.6	16.4	16.2	16.1
22.800	15.9	15.8	15.6	15.5	15.3	15.2	15.0
23.500	14.9	14.8	14.6	14.5	14.4	14.2	14.1
24.200	13.9	13.7	13.3	13.0	12.5	12.0	11.5
24.900	10.9	10.3	9.8	9.2	8.7	8.2	7.8
25.600	7.3	6.9	6.5	6.2	5.8	5.5	5.2
26.300	4.9	4.6	4.3	4.1	3.9	3.6	3.4
27.000	3.2	3.0	2.9	2.7	2.5	2.4	2.2
27.700	2.1	2.0	1.9	1.7	1.6	1.5	1.4
28.400	1.3	1.3	1.2	1.1	1.0	1.0	0.9
29.100	0.8	0.8	0.7	0.7	0.6	0.6	0.5
29.800	0.0						

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Elevation (ft)	Peak Time (hr)	Flow Rate (cfs)	Rate (csm)
OUTLET	0.257		5.121		13.03	188.7	734.79

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
EXISTING CONDITIONS - SUBDRAINAGE AREA 2

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
6.700	0.5	0.6	0.7	0.8	0.9	1.0	1.1
7.400	1.3	1.4	1.6	1.7	1.9	2.1	2.3
8.100	2.5	2.7	3.0	3.2	3.4	3.7	3.9
8.800	4.2	4.5	4.8	5.1	5.4	5.7	6.1
9.500	6.4	6.8	7.2	7.7	8.2	8.7	9.3
10.200	9.9	10.5	11.2	11.9	12.7	13.5	14.4
10.900	15.4	16.5	17.8	19.2	20.9	22.8	25.2
11.600	27.7	31.3	35.0	41.6	48.2	60.7	73.1
12.300	90.4	107.9	126.1	144.4	159.0	172.8	180.7
13.000	187.0	188.1	187.3	184.6	181.0	176.8	172.2
13.700	167.4	162.4	157.4	152.3	147.4	142.5	137.8
14.400	133.2	128.7	124.4	120.1	116.1	112.2	108.4
15.100	104.7	101.2	97.8	94.5	91.3	88.2	85.2
15.800	82.4	79.6	77.0	74.5	72.2	69.8	67.7
16.500	65.6	63.6	61.7	59.8	57.9	56.2	54.4
17.200	52.8	51.2	49.6	48.1	46.7	45.2	43.9
17.900	42.5	41.2	39.9	38.6	37.4	36.2	35.0
18.600	33.9	32.8	31.8	30.9	30.0	29.3	28.5
19.300	27.8	27.2	26.5	25.9	25.4	24.8	24.3
20.000	23.9	23.5	23.1	22.7	22.3	21.9	21.5
20.700	21.2	20.9	20.6	20.3	20.0	19.7	19.4
21.400	19.2	18.9	18.7	18.4	18.1	17.8	17.5
22.100	17.2	17.0	16.8	16.6	16.4	16.2	16.1
22.800	15.9	15.8	15.6	15.5	15.3	15.2	15.0
23.500	14.9	14.8	14.6	14.5	14.4	14.2	14.1
24.200	13.9	13.7	13.3	13.0	12.5	12.0	11.5
24.900	10.9	10.3	9.8	9.2	8.7	8.2	7.8
25.600	7.3	6.9	6.5	6.2	5.8	5.5	5.2
26.300	4.9	4.6	4.3	4.1	3.9	3.6	3.4
27.000	3.2	3.0	2.9	2.7	2.5	2.4	2.2
27.700	2.1	2.0	1.9	1.7	1.6	1.5	1.4
28.400	1.3	1.3	1.2	1.1	1.0	1.0	0.9
29.100	0.8	0.8	0.7	0.7	0.6	0.6	0.5
29.800	0.0						

STORM 100-yr

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	----- Elevation (ft)	Peak Flow Time (hr)	----- Rate (cfs)	----- Rate (csm)
DA01	0.257		6.312		13.00	231.9	902.95

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
5.900	0.4	0.5	0.6	0.7	0.8	0.9	1.1
6.600	1.2	1.4	1.5	1.7	1.9	2.0	2.2
7.300	2.4	2.7	2.9	3.1	3.4	3.6	3.9

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
EXISTING CONDITIONS - SUBDRAINAGE AREA 2

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
8.000	4.2	4.5	4.8	5.1	5.4	5.7	6.1
8.700	6.4	6.8	7.2	7.6	8.0	8.4	8.8
9.400	9.3	9.7	10.3	10.8	11.4	12.0	12.7
10.100	13.4	14.2	15.1	15.9	16.9	17.9	18.9
10.800	20.1	21.4	22.8	24.4	26.2	28.3	30.8
11.500	33.7	37.1	41.3	46.7	54.2	63.8	78.2
12.200	94.3	115.3	136.5	159.0	180.7	198.3	215.1
12.900	223.7	231.9	231.4	231.0	226.7	222.4	216.8
13.600	211.1	204.9	198.8	192.5	186.3	180.1	174.1
14.300	168.2	162.5	157.0	151.6	146.5	141.5	136.7
15.000	132.0	127.5	123.2	119.0	114.9	111.0	107.2
15.700	103.5	100.0	96.6	93.5	90.4	87.5	84.6
16.400	82.0	79.4	77.0	74.6	72.3	70.0	67.9
17.100	65.7	63.8	61.8	59.9	58.1	56.3	54.5
17.800	52.8	51.2	49.5	48.0	46.4	44.9	43.5
18.500	42.1	40.7	39.4	38.2	37.0	36.0	35.1
19.200	34.2	33.4	32.6	31.8	31.1	30.4	29.7
19.900	29.1	28.6	28.1	27.6	27.1	26.6	26.2
20.600	25.7	25.4	25.0	24.6	24.3	23.9	23.5
21.300	23.2	22.9	22.6	22.3	21.9	21.6	21.2
22.000	20.8	20.5	20.2	20.0	19.7	19.5	19.3
22.700	19.1	18.9	18.8	18.6	18.4	18.2	18.1
23.400	17.9	17.8	17.6	17.4	17.3	17.1	17.0
24.100	16.8	16.5	16.3	15.9	15.4	14.9	14.3
24.800	13.7	13.0	12.3	11.6	11.0	10.4	9.8
25.500	9.2	8.7	8.2	7.8	7.3	6.9	6.5
26.200	6.2	5.8	5.5	5.2	4.9	4.6	4.3
26.900	4.1	3.8	3.6	3.4	3.2	3.0	2.8
27.600	2.7	2.5	2.4	2.2	2.1	1.9	1.8
28.300	1.7	1.6	1.5	1.4	1.3	1.2	1.1
29.000	1.1	1.0	0.9	0.9	0.8	0.7	0.7
29.700	0.6	0.6	0.5	0.0			

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Elevation (ft)	Peak Flow Time (hr)	Rate (cfs)	Rate (csm)
OUTLET	0.257		6.312		13.00	231.9	902.95

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
5.900	0.4	0.5	0.6	0.7	0.8	0.9	1.1
6.600	1.2	1.4	1.5	1.7	1.9	2.0	2.2
7.300	2.4	2.7	2.9	3.1	3.4	3.6	3.9
8.000	4.2	4.5	4.8	5.1	5.4	5.7	6.1
8.700	6.4	6.8	7.2	7.6	8.0	8.4	8.8
9.400	9.3	9.7	10.3	10.8	11.4	12.0	12.7
10.100	13.4	14.2	15.1	15.9	16.9	17.9	18.9

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
EXISTING CONDITIONS - SUBDRAINAGE AREA 2

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
10.800	20.1	21.4	22.8	24.4	26.2	28.3	30.8
11.500	33.7	37.1	41.3	46.7	54.2	63.8	78.2
12.200	94.3	115.3	136.5	159.0	180.7	198.3	215.1
12.900	223.7	231.9	231.4	231.0	226.7	222.4	216.8
13.600	211.1	204.9	198.8	192.5	186.3	180.1	174.1
14.300	168.2	162.5	157.0	151.6	146.5	141.5	136.7
15.000	132.0	127.5	123.2	119.0	114.9	111.0	107.2
15.700	103.5	100.0	96.6	93.5	90.4	87.5	84.6
16.400	82.0	79.4	77.0	74.6	72.3	70.0	67.9
17.100	65.7	63.8	61.8	59.9	58.1	56.3	54.5
17.800	52.8	51.2	49.5	48.0	46.4	44.9	43.5
18.500	42.1	40.7	39.4	38.2	37.0	36.0	35.1
19.200	34.2	33.4	32.6	31.8	31.1	30.4	29.7
19.900	29.1	28.6	28.1	27.6	27.1	26.6	26.2
20.600	25.7	25.4	25.0	24.6	24.3	23.9	23.5
21.300	23.2	22.9	22.6	22.3	21.9	21.6	21.2
22.000	20.8	20.5	20.2	20.0	19.7	19.5	19.3
22.700	19.1	18.9	18.8	18.6	18.4	18.2	18.1
23.400	17.9	17.8	17.6	17.4	17.3	17.1	17.0
24.100	16.8	16.5	16.3	15.9	15.4	14.9	14.3
24.800	13.7	13.0	12.3	11.6	11.0	10.4	9.8
25.500	9.2	8.7	8.2	7.8	7.3	6.9	6.5
26.200	6.2	5.8	5.5	5.2	4.9	4.6	4.3
26.900	4.1	3.8	3.6	3.4	3.2	3.0	2.8
27.600	2.7	2.5	2.4	2.2	2.1	1.9	1.8
28.300	1.7	1.6	1.5	1.4	1.3	1.2	1.1
29.000	1.1	1.0	0.9	0.9	0.8	0.7	0.7
29.700	0.6	0.6	0.5	0.5			

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
EXISTING CONDITIONS - SUBDRAINAGE AREA 2

Area or Reach Identifier	Drainage Area (sq mi)	----- Peak Flow by Storm -----				
		1-yr (cfs)	2-yr (cfs)	5-yr (cfs)	10-yr (cfs)	25-yr (cfs)
DA01	0.257	34.4	50.4	80.1	107.1	150.0
OUTLET	0.257	34.4	50.4	80.1	107.1	150.0

Area or Reach Identifier	Drainage Area (sq mi)	----- Peak Flow by Storm -----				
		50-yr (cfs)	100-yr (cfs)	(cfs)	(cfs)	(cfs)
DA01	0.257	188.7	231.9			
OUTLET	0.257	188.7	231.9			

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 Maryland, Queen Annes NOAA-C
 CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
 ULTIMATE CONDITIONS - SUBDRAINAGE AREA 2

SUB-AREA:
 DA01 OUTLET 0.2568 81. 1.54 Y

STORM ANALYSIS:
 1-yr 2.67 NOAA_C 2 3.24
 2-yr 3.24 NOAA_C 2 3.24
 5-yr 4.22 NOAA_C 2 3.24
 10-yr 5.06 NOAA_C 2 3.24
 25-yr 6.34 NOAA_C 2 3.24
 50-yr 7.46 NOAA_C 2 3.24
 100-yr 8.73 NOAA_C 2 3.24

DIMENSIONLESS UNIT HYDROGRAPH: delmarva
 0.00000 0.11100 0.35600 0.65500 0.89600
 1.00000 0.92900 0.82800 0.73700 0.65600
 0.58400 0.52100 0.46500 0.41500 0.37100
 0.33100 0.29600 0.26500 0.23700 0.21200
 0.19000 0.17000 0.15300 0.13800 0.12300
 0.10900 0.09700 0.08600 0.07600 0.06600
 0.05700 0.04900 0.04100 0.03300 0.02700
 0.02400 0.02100 0.01800 0.01500 0.01300
 0.01200 0.01100 0.00900 0.00800 0.00800
 0.00600 0.00600 0.00500 0.00500 0.00000

RAINFALL DISTRIBUTION:
 NOAA_C 0.1
 0.0 0.00128 0.00231 0.00335 0.00441
 0.00547 0.00654 0.00763 0.00872 0.00982
 0.01093 0.01206 0.01319 0.01433 0.01548
 0.01665 0.01782 0.01900 0.02019 0.02140
 0.02261 0.02383 0.02506 0.02631 0.02756
 0.02882 0.03009 0.03137 0.03267 0.03397
 0.03528 0.03660 0.03793 0.03927 0.04062
 0.04199 0.04336 0.04474 0.04613 0.04753
 0.04894 0.05036 0.05179 0.05324 0.05469
 0.05615 0.05762 0.05910 0.06059 0.06209
 0.06360 0.06512 0.06665 0.06819 0.06974
 0.07130 0.07287 0.07445 0.07604 0.07764
 0.07925 0.08090 0.08259 0.08432 0.08609
 0.08790 0.08975 0.09164 0.09356 0.09553
 0.09754 0.09959 0.10168 0.10380 0.10597
 0.10818 0.11042 0.11271 0.11503 0.11740
 0.11981 0.12225 0.12474 0.12726 0.12982
 0.13243 0.13507 0.13776 0.14048 0.14324
 0.14605 0.14900 0.15210 0.15536 0.15876
 0.16231 0.16602 0.16987 0.17387 0.17803
 0.18233 0.18678 0.19139 0.19614 0.20104

0.20610	0.21173	0.21793	0.22471	0.23206
0.23999	0.24899	0.25907	0.27022	0.28245
0.29550	0.31572	0.33700	0.36618	0.40669
0.47660	0.59331	0.63382	0.66300	0.68428
0.70450	0.71755	0.72978	0.74093	0.75101
0.76001	0.76794	0.77529	0.78207	0.78827
0.79390	0.79896	0.80386	0.80861	0.81322
0.81767	0.82197	0.82613	0.83013	0.83398
0.83769	0.84124	0.84464	0.84790	0.85100
0.85395	0.85676	0.85952	0.86224	0.86493
0.86757	0.87018	0.87274	0.87526	0.87775
0.88019	0.88260	0.88497	0.88729	0.88958
0.89182	0.89403	0.89620	0.89832	0.90041
0.90246	0.90447	0.90644	0.90836	0.91025
0.91210	0.91391	0.91568	0.91741	0.91910
0.92075	0.92236	0.92396	0.92555	0.92713
0.92870	0.93026	0.93181	0.93335	0.93488
0.93640	0.93791	0.93941	0.94090	0.94238
0.94385	0.94531	0.94676	0.94821	0.94964
0.95106	0.95247	0.95387	0.95526	0.95664
0.95801	0.95938	0.96073	0.96207	0.96340
0.96472	0.96603	0.96733	0.96863	0.96991
0.97118	0.97244	0.97369	0.97494	0.97617
0.97739	0.97860	0.97981	0.98100	0.98218
0.98335	0.98452	0.98567	0.98681	0.98794
0.98907	0.99018	0.99128	0.99237	0.99346
0.99453	0.99559	0.99665	0.99769	0.99872
1.0				

GLOBAL OUTPUT:

1

0.1

NY N

NY N

WinTR-20 Printed Page File

End of Input Data List

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
 ULTIMATE CONDITIONS - SUBDRAINAGE AREA 2

Name of printed page file:

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STORM 1-yr
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CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
 ULTIMATE CONDITIONS - SUBDRAINAGE AREA 2

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Elevation (ft)	Peak Time (hr)	Flow Rate (cfs)	Rate (csm)
DA01	0.257		1.065		13.13	36.6	142.63

Line

Start Time (hr)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)
11.100	0.4	0.6	0.7	1.0	1.2	1.6	2.0
11.800	2.7	3.4	5.2	7.0	10.2	13.4	17.4
12.500	21.4	25.2	29.0	31.8	34.3	35.6	36.4
13.200	36.5	36.4	36.0	35.5	34.8	34.1	33.3
13.900	32.5	31.6	30.8	29.9	29.1	28.2	27.4
14.600	26.6	25.9	25.1	24.4	23.7	23.0	22.3
15.300	21.6	21.0	20.4	19.7	19.2	18.6	18.1
16.000	17.5	17.0	16.5	16.1	15.7	15.2	14.8
16.700	14.4	14.1	13.7	13.3	13.0	12.6	12.3
17.400	12.0	11.7	11.4	11.1	10.8	10.5	10.2
18.100	9.9	9.6	9.4	9.1	8.9	8.6	8.4
18.800	8.1	7.9	7.7	7.6	7.4	7.2	7.1
19.500	6.9	6.8	6.7	6.5	6.4	6.3	6.2
20.200	6.1	6.0	5.9	5.9	5.8	5.7	5.6
20.900	5.6	5.5	5.4	5.3	5.3	5.2	5.2
21.600	5.1	5.0	5.0	4.9	4.8	4.7	4.7
22.300	4.6	4.6	4.5	4.5	4.5	4.4	4.4
23.000	4.3	4.3	4.3	4.2	4.2	4.2	4.1
23.700	4.1	4.1	4.0	4.0	3.9	3.9	3.8
24.400	3.7	3.6	3.5	3.4	3.2	3.1	2.9
25.100	2.7	2.6	2.4	2.3	2.2	2.1	1.9
25.800	1.8	1.7	1.6	1.5	1.4	1.4	1.3
26.500	1.2	1.1	1.1	1.0	1.0	0.9	0.9
27.200	0.8	0.8	0.7	0.7	0.6	0.6	0.6
27.900	0.5	0.0					

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Elevation (ft)	Peak Time (hr)	Flow Rate (cfs)	Rate (csm)
OUTLET	0.257		1.065		13.13	36.6	142.63

Line

Start Time (hr)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)
11.100	0.4	0.6	0.7	1.0	1.2	1.6	2.0
11.800	2.7	3.4	5.2	7.0	10.2	13.4	17.4
12.500	21.4	25.2	29.0	31.8	34.3	35.6	36.4
13.200	36.5	36.4	36.0	35.5	34.8	34.1	33.3
13.900	32.5	31.6	30.8	29.9	29.1	28.2	27.4
14.600	26.6	25.9	25.1	24.4	23.7	23.0	22.3
15.300	21.6	21.0	20.4	19.7	19.2	18.6	18.1

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
 ULTIMATE CONDITIONS - SUBDRAINAGE AREA 2

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
16.000	17.5	17.0	16.5	16.1	15.7	15.2	14.8
16.700	14.4	14.1	13.7	13.3	13.0	12.6	12.3
17.400	12.0	11.7	11.4	11.1	10.8	10.5	10.2
18.100	9.9	9.6	9.4	9.1	8.9	8.6	8.4
18.800	8.1	7.9	7.7	7.6	7.4	7.2	7.1
19.500	6.9	6.8	6.7	6.5	6.4	6.3	6.2
20.200	6.1	6.0	5.9	5.9	5.8	5.7	5.6
20.900	5.6	5.5	5.4	5.3	5.3	5.2	5.2
21.600	5.1	5.0	5.0	4.9	4.8	4.7	4.7
22.300	4.6	4.6	4.5	4.5	4.5	4.4	4.4
23.000	4.3	4.3	4.3	4.2	4.2	4.2	4.1
23.700	4.1	4.1	4.0	4.0	3.9	3.9	3.8
24.400	3.7	3.6	3.5	3.4	3.2	3.1	2.9
25.100	2.7	2.6	2.4	2.3	2.2	2.1	1.9
25.800	1.8	1.7	1.6	1.5	1.4	1.4	1.3
26.500	1.2	1.1	1.1	1.0	1.0	0.9	0.9
27.200	0.8	0.8	0.7	0.7	0.6	0.6	0.6
27.900	0.5	0.0					

STORM 2-yr

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Elevation (ft)	Peak Time (hr)	Flow Rate (cfs)	Rate (csm)
DA01	0.257		1.501		13.27	53.0	206.25

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
10.400	0.5	0.6	0.7	0.8	0.9	1.1	1.3
11.100	1.6	1.8	2.2	2.5	3.1	3.6	4.4
11.800	5.4	7.0	9.0	12.2	16.1	20.9	26.3
12.500	31.8	37.3	42.2	46.4	49.7	51.6	52.9
13.200	52.9	52.7	52.0	51.1	50.0	48.9	47.6
13.900	46.4	45.1	43.8	42.5	41.2	40.0	38.8
14.600	37.6	36.5	35.4	34.3	33.2	32.2	31.2
15.300	30.3	29.3	28.4	27.5	26.7	25.9	25.1
16.000	24.3	23.6	22.9	22.2	21.6	21.0	20.4
16.700	19.9	19.3	18.8	18.3	17.8	17.3	16.8
17.400	16.3	15.9	15.5	15.0	14.6	14.2	13.8
18.100	13.4	13.0	12.7	12.3	11.9	11.6	11.2
18.800	10.9	10.6	10.4	10.1	9.9	9.7	9.5
19.500	9.3	9.1	8.9	8.7	8.6	8.4	8.3
20.200	8.1	8.0	7.9	7.8	7.7	7.5	7.4
20.900	7.3	7.2	7.2	7.1	7.0	6.9	6.8
21.600	6.7	6.6	6.5	6.4	6.3	6.2	6.2
22.300	6.1	6.0	6.0	5.9	5.9	5.8	5.7
23.000	5.7	5.6	5.6	5.5	5.5	5.5	5.4

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
 ULTIMATE CONDITIONS - SUBDRAINAGE AREA 2

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
23.700	5.4	5.3	5.3	5.2	5.2	5.1	5.0
24.400	4.9	4.8	4.6	4.4	4.2	4.0	3.8
25.100	3.6	3.4	3.2	3.0	2.8	2.7	2.5
25.800	2.4	2.3	2.1	2.0	1.9	1.8	1.7
26.500	1.6	1.5	1.4	1.3	1.3	1.2	1.1
27.200	1.0	1.0	0.9	0.9	0.8	0.8	0.7
27.900	0.7	0.6	0.6	0.6	0.5	0.0	

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Elevation (ft)	Peak Time (hr)	Flow Rate (cfs)	Rate (csm)
OUTLET	0.257		1.501		13.27	53.0	206.25

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
10.400	0.5	0.6	0.7	0.8	0.9	1.1	1.3
11.100	1.6	1.8	2.2	2.5	3.1	3.6	4.4
11.800	5.4	7.0	9.0	12.2	16.1	20.9	26.3
12.500	31.8	37.3	42.2	46.4	49.7	51.6	52.9
13.200	52.9	52.7	52.0	51.1	50.0	48.9	47.6
13.900	46.4	45.1	43.8	42.5	41.2	40.0	38.8
14.600	37.6	36.5	35.4	34.3	33.2	32.2	31.2
15.300	30.3	29.3	28.4	27.5	26.7	25.9	25.1
16.000	24.3	23.6	22.9	22.2	21.6	21.0	20.4
16.700	19.9	19.3	18.8	18.3	17.8	17.3	16.8
17.400	16.3	15.9	15.5	15.0	14.6	14.2	13.8
18.100	13.4	13.0	12.7	12.3	11.9	11.6	11.2
18.800	10.9	10.6	10.4	10.1	9.9	9.7	9.5
19.500	9.3	9.1	8.9	8.7	8.6	8.4	8.3
20.200	8.1	8.0	7.9	7.8	7.7	7.5	7.4
20.900	7.3	7.2	7.2	7.1	7.0	6.9	6.8
21.600	6.7	6.6	6.5	6.4	6.3	6.2	6.2
22.300	6.1	6.0	6.0	5.9	5.9	5.8	5.7
23.000	5.7	5.6	5.6	5.5	5.5	5.5	5.4
23.700	5.4	5.3	5.3	5.2	5.2	5.1	5.0
24.400	4.9	4.8	4.6	4.4	4.2	4.0	3.8
25.100	3.6	3.4	3.2	3.0	2.8	2.7	2.5
25.800	2.4	2.3	2.1	2.0	1.9	1.8	1.7
26.500	1.6	1.5	1.4	1.3	1.3	1.2	1.1
27.200	1.0	1.0	0.9	0.9	0.8	0.8	0.7
27.900	0.7	0.6	0.6	0.6	0.5	0.0	

STORM 5-yr

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
 ULTIMATE CONDITIONS - SUBDRAINAGE AREA 2

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Elevation (ft)	Peak Time (hr)	Flow Rate (cfs)	Rate (csm)
DA01	0.257		2.308		13.18	83.6	325.61

Line

Start Time (hr)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)
9.200	0.4	0.5	0.6	0.7	0.8	0.9	1.1
9.900	1.2	1.4	1.6	1.8	2.0	2.2	2.4
10.600	2.7	3.0	3.3	3.7	4.1	4.5	5.1
11.300	5.7	6.4	7.3	8.4	9.6	11.5	13.8
12.000	17.5	22.4	28.7	36.3	44.4	53.2	61.4
12.700	68.8	75.1	79.3	82.5	83.1	83.4	82.3
13.400	81.1	79.4	77.6	75.6	73.6	71.5	69.4
14.100	67.3	65.2	63.2	61.2	59.2	57.3	55.5
14.800	53.8	52.1	50.4	48.8	47.2	45.7	44.2
15.500	42.8	41.4	40.1	38.8	37.6	36.4	35.3
16.200	34.2	33.2	32.2	31.3	30.4	29.5	28.7
16.900	27.8	27.0	26.2	25.5	24.8	24.1	23.4
17.600	22.7	22.0	21.4	20.8	20.2	19.6	19.0
18.300	18.4	17.9	17.3	16.8	16.3	15.8	15.4
19.000	15.0	14.6	14.3	13.9	13.6	13.3	13.0
19.700	12.7	12.5	12.3	12.0	11.8	11.6	11.5
20.400	11.3	11.1	10.9	10.8	10.6	10.5	10.3
21.100	10.2	10.0	9.9	9.8	9.7	9.5	9.4
21.800	9.3	9.1	8.9	8.8	8.7	8.6	8.5
22.500	8.4	8.3	8.3	8.2	8.1	8.0	8.0
23.200	7.9	7.8	7.8	7.7	7.6	7.6	7.5
23.900	7.4	7.4	7.3	7.2	7.1	6.9	6.7
24.600	6.5	6.2	5.9	5.6	5.3	5.0	4.8
25.300	4.5	4.2	4.0	3.8	3.6	3.4	3.2
26.000	3.0	2.8	2.7	2.5	2.4	2.2	2.1
26.700	2.0	1.9	1.8	1.7	1.6	1.5	1.4
27.400	1.3	1.2	1.2	1.1	1.0	1.0	0.9
28.100	0.8	0.8	0.7	0.7	0.7	0.6	0.6
28.800	0.5	0.0					

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Elevation (ft)	Peak Time (hr)	Flow Rate (cfs)	Rate (csm)
OUTLET	0.257		2.308		13.18	83.6	325.61

Line

Start Time (hr)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)
9.200	0.4	0.5	0.6	0.7	0.8	0.9	1.1
9.900	1.2	1.4	1.6	1.8	2.0	2.2	2.4
10.600	2.7	3.0	3.3	3.7	4.1	4.5	5.1

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
 ULTIMATE CONDITIONS - SUBDRAINAGE AREA 2

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
11.300	5.7	6.4	7.3	8.4	9.6	11.5	13.8
12.000	17.5	22.4	28.7	36.3	44.4	53.2	61.4
12.700	68.8	75.1	79.3	82.5	83.1	83.4	82.3
13.400	81.1	79.4	77.6	75.6	73.6	71.5	69.4
14.100	67.3	65.2	63.2	61.2	59.2	57.3	55.5
14.800	53.8	52.1	50.4	48.8	47.2	45.7	44.2
15.500	42.8	41.4	40.1	38.8	37.6	36.4	35.3
16.200	34.2	33.2	32.2	31.3	30.4	29.5	28.7
16.900	27.8	27.0	26.2	25.5	24.8	24.1	23.4
17.600	22.7	22.0	21.4	20.8	20.2	19.6	19.0
18.300	18.4	17.9	17.3	16.8	16.3	15.8	15.4
19.000	15.0	14.6	14.3	13.9	13.6	13.3	13.0
19.700	12.7	12.5	12.3	12.0	11.8	11.6	11.5
20.400	11.3	11.1	10.9	10.8	10.6	10.5	10.3
21.100	10.2	10.0	9.9	9.8	9.7	9.5	9.4
21.800	9.3	9.1	8.9	8.8	8.7	8.6	8.5
22.500	8.4	8.3	8.3	8.2	8.1	8.0	8.0
23.200	7.9	7.8	7.8	7.7	7.6	7.6	7.5
23.900	7.4	7.4	7.3	7.2	7.1	6.9	6.7
24.600	6.5	6.2	5.9	5.6	5.3	5.0	4.8
25.300	4.5	4.2	4.0	3.8	3.6	3.4	3.2
26.000	3.0	2.8	2.7	2.5	2.4	2.2	2.1
26.700	2.0	1.9	1.8	1.7	1.6	1.5	1.4
27.400	1.3	1.2	1.2	1.1	1.0	1.0	0.9
28.100	0.8	0.8	0.7	0.7	0.7	0.6	0.6
28.800	0.5	0.0					

STORM 10-yr

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Peak Flow			
				Elevation (ft)	Time (hr)	Rate (cfs)	Rate (csm)
DA01	0.257		3.038		13.12	111.1	432.75

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
8.300	0.5	0.5	0.6	0.7	0.8	0.9	1.1
9.000	1.2	1.3	1.5	1.6	1.8	1.9	2.1
9.700	2.3	2.5	2.8	3.0	3.3	3.6	3.9
10.400	4.3	4.7	5.1	5.5	6.0	6.5	7.1
11.100	7.8	8.5	9.4	10.5	11.6	13.2	14.9
11.800	17.5	20.4	26.1	32.0	41.5	51.0	62.4
12.500	73.8	84.1	94.3	101.0	107.3	109.5	110.8
13.200	110.1	108.9	106.9	104.6	102.0	99.3	96.5
13.900	93.7	90.9	88.0	85.2	82.5	79.8	77.3
14.600	74.7	72.3	70.0	67.7	65.5	63.4	61.3
15.300	59.3	57.3	55.5	53.6	51.9	50.2	48.6

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
 ULTIMATE CONDITIONS - SUBDRAINAGE AREA 2

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
16.000	47.0	45.6	44.1	42.8	41.5	40.3	39.1
16.700	37.9	36.8	35.7	34.6	33.6	32.6	31.7
17.400	30.8	29.9	29.0	28.1	27.3	26.5	25.7
18.100	24.9	24.1	23.4	22.7	22.0	21.3	20.6
18.800	20.0	19.4	18.9	18.5	18.0	17.6	17.2
19.500	16.8	16.4	16.1	15.8	15.4	15.2	14.9
20.200	14.7	14.4	14.2	13.9	13.7	13.5	13.3
20.900	13.2	13.0	12.8	12.6	12.4	12.3	12.1
21.600	12.0	11.8	11.6	11.4	11.2	11.0	10.9
22.300	10.8	10.7	10.5	10.4	10.3	10.2	10.1
23.000	10.0	10.0	9.9	9.8	9.7	9.6	9.5
23.700	9.4	9.4	9.3	9.2	9.1	9.0	8.8
24.400	8.6	8.4	8.1	7.8	7.4	7.0	6.7
25.100	6.3	5.9	5.6	5.3	5.0	4.7	4.5
25.800	4.2	4.0	3.7	3.5	3.3	3.1	3.0
26.500	2.8	2.6	2.5	2.3	2.2	2.1	2.0
27.200	1.8	1.7	1.6	1.5	1.4	1.4	1.3
27.900	1.2	1.1	1.1	1.0	0.9	0.9	0.8
28.600	0.8	0.7	0.7	0.6	0.6	0.5	0.0

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Elevation (ft)	Peak Flow Time (hr)	Rate (cfs)	Rate (csm)
OUTLET	0.257		3.038		13.12	111.1	432.75

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
8.300	0.5	0.5	0.6	0.7	0.8	0.9	1.1
9.000	1.2	1.3	1.5	1.6	1.8	1.9	2.1
9.700	2.3	2.5	2.8	3.0	3.3	3.6	3.9
10.400	4.3	4.7	5.1	5.5	6.0	6.5	7.1
11.100	7.8	8.5	9.4	10.5	11.6	13.2	14.9
11.800	17.5	20.4	26.1	32.0	41.5	51.0	62.4
12.500	73.8	84.1	94.3	101.0	107.3	109.5	110.8
13.200	110.1	108.9	106.9	104.6	102.0	99.3	96.5
13.900	93.7	90.9	88.0	85.2	82.5	79.8	77.3
14.600	74.7	72.3	70.0	67.7	65.5	63.4	61.3
15.300	59.3	57.3	55.5	53.6	51.9	50.2	48.6
16.000	47.0	45.6	44.1	42.8	41.5	40.3	39.1
16.700	37.9	36.8	35.7	34.6	33.6	32.6	31.7
17.400	30.8	29.9	29.0	28.1	27.3	26.5	25.7
18.100	24.9	24.1	23.4	22.7	22.0	21.3	20.6
18.800	20.0	19.4	18.9	18.5	18.0	17.6	17.2
19.500	16.8	16.4	16.1	15.8	15.4	15.2	14.9
20.200	14.7	14.4	14.2	13.9	13.7	13.5	13.3
20.900	13.2	13.0	12.8	12.6	12.4	12.3	12.1
21.600	12.0	11.8	11.6	11.4	11.2	11.0	10.9

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
 ULTIMATE CONDITIONS - SUBDRAINAGE AREA 2

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
22.300	10.8	10.7	10.5	10.4	10.3	10.2	10.1
23.000	10.0	10.0	9.9	9.8	9.7	9.6	9.5
23.700	9.4	9.4	9.3	9.2	9.1	9.0	8.8
24.400	8.6	8.4	8.1	7.8	7.4	7.0	6.7
25.100	6.3	5.9	5.6	5.3	5.0	4.7	4.5
25.800	4.2	4.0	3.7	3.5	3.3	3.1	3.0
26.500	2.8	2.6	2.5	2.3	2.2	2.1	2.0
27.200	1.8	1.7	1.6	1.5	1.4	1.4	1.3
27.900	1.2	1.1	1.1	1.0	0.9	0.9	0.8
28.600	0.8	0.7	0.7	0.6	0.6	0.5	0.0

STORM 25-yr

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Peak Flow			
				Elevation (ft)	Time (hr)	Rate (cfs)	Rate (csm)
DA01	0.257		4.195		13.06	154.4	601.22

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
7.200	0.5	0.5	0.6	0.7	0.8	1.0	1.1
7.900	1.2	1.4	1.5	1.7	1.8	2.0	2.2
8.600	2.4	2.6	2.8	3.0	3.2	3.4	3.7
9.300	3.9	4.2	4.5	4.8	5.1	5.5	5.9
10.000	6.3	6.7	7.2	7.7	8.2	8.8	9.4
10.700	10.1	10.8	11.6	12.4	13.5	14.6	16.0
11.400	17.4	19.4	21.4	24.3	27.5	32.9	39.2
12.100	48.7	60.0	73.4	88.3	103.0	117.6	130.1
12.800	140.5	148.1	151.9	154.0	152.9	151.2	148.1
13.500	144.9	141.1	137.2	133.2	129.1	125.1	121.0
14.200	117.1	113.2	109.5	105.8	102.3	98.9	95.6
14.900	92.4	89.4	86.3	83.5	80.6	78.0	75.3
15.600	72.8	70.4	68.0	65.8	63.6	61.6	59.6
16.300	57.8	56.0	54.3	52.6	51.1	49.5	48.0
17.000	46.5	45.1	43.8	42.5	41.2	40.0	38.7
17.700	37.6	36.4	35.3	34.2	33.1	32.1	31.1
18.400	30.1	29.2	28.2	27.3	26.5	25.7	25.0
19.100	24.4	23.8	23.2	22.7	22.1	21.6	21.2
19.800	20.7	20.3	20.0	19.6	19.3	18.9	18.6
20.500	18.3	18.0	17.7	17.5	17.2	17.0	16.7
21.200	16.5	16.3	16.1	15.8	15.6	15.4	15.1
21.900	14.9	14.6	14.4	14.2	14.0	13.9	13.7
22.600	13.6	13.5	13.3	13.2	13.1	13.0	12.8
23.300	12.7	12.6	12.5	12.4	12.3	12.2	12.1
24.000	12.0	11.8	11.7	11.5	11.2	10.9	10.5
24.700	10.1	9.6	9.1	8.7	8.2	7.7	7.3
25.400	6.9	6.5	6.1	5.8	5.5	5.2	4.9

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
 ULTIMATE CONDITIONS - SUBDRAINAGE AREA 2

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
26.100	4.6	4.3	4.1	3.9	3.6	3.4	3.2
26.800	3.0	2.9	2.7	2.5	2.4	2.3	2.1
27.500	2.0	1.9	1.8	1.7	1.6	1.5	1.4
28.200	1.3	1.2	1.1	1.1	1.0	0.9	0.9
28.900	0.8	0.7	0.7	0.6	0.6	0.6	0.5
29.600	0.0						

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	----- Elevation (ft)	Peak Time (hr)	Flow Rate (cfs)	----- Rate (csm)
OUTLET	0.257		4.195		13.06	154.4	601.22

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
7.200	0.5	0.5	0.6	0.7	0.8	1.0	1.1
7.900	1.2	1.4	1.5	1.7	1.8	2.0	2.2
8.600	2.4	2.6	2.8	3.0	3.2	3.4	3.7
9.300	3.9	4.2	4.5	4.8	5.1	5.5	5.9
10.000	6.3	6.7	7.2	7.7	8.2	8.8	9.4
10.700	10.1	10.8	11.6	12.4	13.5	14.6	16.0
11.400	17.4	19.4	21.4	24.3	27.5	32.9	39.2
12.100	48.7	60.0	73.4	88.3	103.0	117.6	130.1
12.800	140.5	148.1	151.9	154.0	152.9	151.2	148.1
13.500	144.9	141.1	137.2	133.2	129.1	125.1	121.0
14.200	117.1	113.2	109.5	105.8	102.3	98.9	95.6
14.900	92.4	89.4	86.3	83.5	80.6	78.0	75.3
15.600	72.8	70.4	68.0	65.8	63.6	61.6	59.6
16.300	57.8	56.0	54.3	52.6	51.1	49.5	48.0
17.000	46.5	45.1	43.8	42.5	41.2	40.0	38.7
17.700	37.6	36.4	35.3	34.2	33.1	32.1	31.1
18.400	30.1	29.2	28.2	27.3	26.5	25.7	25.0
19.100	24.4	23.8	23.2	22.7	22.1	21.6	21.2
19.800	20.7	20.3	20.0	19.6	19.3	18.9	18.6
20.500	18.3	18.0	17.7	17.5	17.2	17.0	16.7
21.200	16.5	16.3	16.1	15.8	15.6	15.4	15.1
21.900	14.9	14.6	14.4	14.2	14.0	13.9	13.7
22.600	13.6	13.5	13.3	13.2	13.1	13.0	12.8
23.300	12.7	12.6	12.5	12.4	12.3	12.2	12.1
24.000	12.0	11.8	11.7	11.5	11.2	10.9	10.5
24.700	10.1	9.6	9.1	8.7	8.2	7.7	7.3
25.400	6.9	6.5	6.1	5.8	5.5	5.2	4.9
26.100	4.6	4.3	4.1	3.9	3.6	3.4	3.2
26.800	3.0	2.9	2.7	2.5	2.4	2.3	2.1
27.500	2.0	1.9	1.8	1.7	1.6	1.5	1.4
28.200	1.3	1.2	1.1	1.1	1.0	0.9	0.9
28.900	0.8	0.7	0.7	0.6	0.6	0.6	0.5
29.600	0.0						

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
 ULTIMATE CONDITIONS - SUBDRAINAGE AREA 2

STORM 50-yr

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	----- Elevation (ft)	Peak Flow Time (hr)	----- Rate (cfs)	----- Rate (csm)
DA01	0.257		5.234		13.17	192.2	748.40

Line Start Time (hr)	----- Flow (cfs)	Values @ time (cfs)	increment (cfs)	of 0.100 hr (cfs)	----- (cfs)	----- (cfs)
6.400	0.4	0.5	0.6	0.7	0.8	0.9
7.100	1.2	1.3	1.5	1.7	1.8	2.0
7.800	2.4	2.6	2.8	3.0	3.3	3.5
8.500	4.0	4.3	4.6	4.8	5.1	5.5
9.200	6.1	6.4	6.8	7.2	7.6	8.0
9.900	9.0	9.6	10.2	10.8	11.5	12.2
10.600	13.7	14.6	15.5	16.5	17.7	19.0
11.300	22.2	24.3	26.5	29.4	32.6	37.4
12.000	52.1	63.2	77.9	94.8	113.0	132.0
12.700	165.1	177.6	186.1	191.4	191.9	191.1
13.400	184.4	179.8	175.2	170.2	165.1	160.0
14.100	149.8	144.8	140.0	135.2	130.8	126.3
14.800	117.9	114.0	110.1	106.4	102.7	99.3
15.500	92.7	89.5	86.5	83.5	80.8	78.1
16.200	73.1	70.8	68.6	66.5	64.5	62.5
16.900	58.7	56.9	55.1	53.4	51.8	50.3
17.600	47.2	45.8	44.4	43.0	41.6	40.3
18.300	37.8	36.6	35.4	34.2	33.1	32.1
19.000	30.3	29.5	28.8	28.1	27.4	26.8
19.700	25.6	25.1	24.6	24.1	23.7	23.3
20.400	22.5	22.1	21.7	21.4	21.1	20.8
21.100	20.2	19.9	19.6	19.4	19.1	18.8
21.800	18.3	17.9	17.5	17.3	17.1	16.9
22.500	16.5	16.4	16.2	16.0	15.9	15.7
23.200	15.4	15.3	15.2	15.0	14.9	14.8
23.900	14.5	14.4	14.2	14.0	13.8	13.4
24.600	12.6	12.1	11.6	11.0	10.4	9.8
25.300	8.8	8.3	7.8	7.4	7.0	6.6
26.000	5.9	5.5	5.2	4.9	4.6	4.4
26.700	3.9	3.7	3.4	3.2	3.1	2.9
27.400	2.6	2.4	2.3	2.1	2.0	1.9
28.100	1.6	1.5	1.4	1.4	1.3	1.2
28.800	1.0	1.0	0.9	0.8	0.8	0.7
29.500	0.6	0.6	0.5	0.0		

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	----- Elevation (ft)	Peak Flow Time (hr)	----- Rate (cfs)	----- Rate (csm)
OUTLET	0.257		5.234		13.17	192.2	748.40

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
 ULTIMATE CONDITIONS - SUBDRAINAGE AREA 2

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
6.400	0.4	0.5	0.6	0.7	0.8	0.9	1.1
7.100	1.2	1.3	1.5	1.7	1.8	2.0	2.2
7.800	2.4	2.6	2.8	3.0	3.3	3.5	3.8
8.500	4.0	4.3	4.6	4.8	5.1	5.5	5.8
9.200	6.1	6.4	6.8	7.2	7.6	8.0	8.5
9.900	9.0	9.6	10.2	10.8	11.5	12.2	12.9
10.600	13.7	14.6	15.5	16.5	17.7	19.0	20.6
11.300	22.2	24.3	26.5	29.4	32.6	37.4	42.9
12.000	52.1	63.2	77.9	94.8	113.0	132.0	149.4
12.700	165.1	177.6	186.1	191.4	191.9	191.1	187.9
13.400	184.4	179.8	175.2	170.2	165.1	160.0	154.9
14.100	149.8	144.8	140.0	135.2	130.8	126.3	122.1
14.800	117.9	114.0	110.1	106.4	102.7	99.3	95.9
15.500	92.7	89.5	86.5	83.5	80.8	78.1	75.6
16.200	73.1	70.8	68.6	66.5	64.5	62.5	60.6
16.900	58.7	56.9	55.1	53.4	51.8	50.3	48.7
17.600	47.2	45.8	44.4	43.0	41.6	40.3	39.0
18.300	37.8	36.6	35.4	34.2	33.1	32.1	31.2
19.000	30.3	29.5	28.8	28.1	27.4	26.8	26.2
19.700	25.6	25.1	24.6	24.1	23.7	23.3	22.9
20.400	22.5	22.1	21.7	21.4	21.1	20.8	20.5
21.100	20.2	19.9	19.6	19.4	19.1	18.8	18.5
21.800	18.3	17.9	17.5	17.3	17.1	16.9	16.7
22.500	16.5	16.4	16.2	16.0	15.9	15.7	15.6
23.200	15.4	15.3	15.2	15.0	14.9	14.8	14.6
23.900	14.5	14.4	14.2	14.0	13.8	13.4	13.1
24.600	12.6	12.1	11.6	11.0	10.4	9.8	9.3
25.300	8.8	8.3	7.8	7.4	7.0	6.6	6.2
26.000	5.9	5.5	5.2	4.9	4.6	4.4	4.1
26.700	3.9	3.7	3.4	3.2	3.1	2.9	2.7
27.400	2.6	2.4	2.3	2.1	2.0	1.9	1.8
28.100	1.6	1.5	1.4	1.4	1.3	1.2	1.1
28.800	1.0	1.0	0.9	0.8	0.8	0.7	0.7
29.500	0.6	0.6	0.5	0.0			

STORM 100-yr

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	----- Elevation (ft)	Peak Time (hr)	Flow Rate (cfs)	----- Rate (csm)
DA01	0.257		6.434		13.16	235.9	918.51

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
5.700	0.5	0.6	0.7	0.8	0.9	1.0	1.2
6.400	1.3	1.4	1.6	1.8	1.9	2.1	2.3
7.100	2.5	2.7	3.0	3.2	3.4	3.7	4.0

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
 ULTIMATE CONDITIONS - SUBDRAINAGE AREA 2

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
7.800	4.2	4.5	4.8	5.1	5.4	5.8	6.1
8.500	6.5	6.8	7.2	7.6	8.0	8.4	8.8
9.200	9.2	9.7	10.1	10.6	11.2	11.8	12.4
9.900	13.0	13.8	14.5	15.3	16.2	17.1	18.0
10.600	19.1	20.1	21.4	22.6	24.2	25.7	27.7
11.300	29.8	32.4	35.1	38.9	42.9	48.8	55.6
12.000	67.0	80.6	98.6	119.3	141.3	164.4	185.3
12.700	204.3	219.1	229.2	235.3	235.6	234.4	230.3
13.400	225.8	220.1	214.3	208.0	201.7	195.3	189.0
14.100	182.8	176.6	170.7	164.8	159.2	153.7	148.5
14.800	143.4	138.6	133.8	129.3	124.8	120.5	116.4
15.500	112.4	108.5	104.8	101.2	97.9	94.6	91.5
16.200	88.5	85.7	83.0	80.4	77.9	75.5	73.1
16.900	70.8	68.6	66.5	64.4	62.4	60.5	58.7
17.600	56.9	55.1	53.4	51.6	50.0	48.4	46.9
18.300	45.3	43.9	42.4	41.1	39.7	38.5	37.3
19.000	36.3	35.4	34.5	33.6	32.8	32.0	31.3
19.700	30.6	30.0	29.4	28.8	28.3	27.8	27.3
20.400	26.8	26.4	25.9	25.5	25.2	24.8	24.4
21.100	24.1	23.7	23.4	23.1	22.7	22.4	22.1
21.800	21.7	21.3	20.9	20.6	20.3	20.1	19.9
22.500	19.7	19.4	19.3	19.1	18.9	18.7	18.5
23.200	18.4	18.2	18.0	17.9	17.7	17.6	17.4
23.900	17.2	17.1	16.9	16.7	16.4	16.0	15.5
24.600	15.0	14.4	13.8	13.1	12.4	11.7	11.0
25.300	10.4	9.8	9.3	8.8	8.3	7.8	7.4
26.000	7.0	6.6	6.2	5.8	5.5	5.2	4.9
26.700	4.6	4.4	4.1	3.9	3.6	3.4	3.2
27.400	3.0	2.9	2.7	2.5	2.4	2.2	2.1
28.100	2.0	1.8	1.7	1.6	1.5	1.4	1.3
28.800	1.2	1.1	1.1	1.0	0.9	0.9	0.8
29.500	0.7	0.7	0.6	0.6	0.5	0.0	

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Elevation (ft)	Peak Flow Time (hr)	Rate (cfs)	Rate (csm)
OUTLET	0.257		6.434		13.16	235.9	918.51

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
5.700	0.5	0.6	0.7	0.8	0.9	1.0	1.2
6.400	1.3	1.4	1.6	1.8	1.9	2.1	2.3
7.100	2.5	2.7	3.0	3.2	3.4	3.7	4.0
7.800	4.2	4.5	4.8	5.1	5.4	5.8	6.1
8.500	6.5	6.8	7.2	7.6	8.0	8.4	8.8
9.200	9.2	9.7	10.1	10.6	11.2	11.8	12.4
9.900	13.0	13.8	14.5	15.3	16.2	17.1	18.0

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
 ULTIMATE CONDITIONS - SUBDRAINAGE AREA 2

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
10.600	19.1	20.1	21.4	22.6	24.2	25.7	27.7
11.300	29.8	32.4	35.1	38.9	42.9	48.8	55.6
12.000	67.0	80.6	98.6	119.3	141.3	164.4	185.3
12.700	204.3	219.1	229.2	235.3	235.6	234.4	230.3
13.400	225.8	220.1	214.3	208.0	201.7	195.3	189.0
14.100	182.8	176.6	170.7	164.8	159.2	153.7	148.5
14.800	143.4	138.6	133.8	129.3	124.8	120.5	116.4
15.500	112.4	108.5	104.8	101.2	97.9	94.6	91.5
16.200	88.5	85.7	83.0	80.4	77.9	75.5	73.1
16.900	70.8	68.6	66.5	64.4	62.4	60.5	58.7
17.600	56.9	55.1	53.4	51.6	50.0	48.4	46.9
18.300	45.3	43.9	42.4	41.1	39.7	38.5	37.3
19.000	36.3	35.4	34.5	33.6	32.8	32.0	31.3
19.700	30.6	30.0	29.4	28.8	28.3	27.8	27.3
20.400	26.8	26.4	25.9	25.5	25.2	24.8	24.4
21.100	24.1	23.7	23.4	23.1	22.7	22.4	22.1
21.800	21.7	21.3	20.9	20.6	20.3	20.1	19.9
22.500	19.7	19.4	19.3	19.1	18.9	18.7	18.5
23.200	18.4	18.2	18.0	17.9	17.7	17.6	17.4
23.900	17.2	17.1	16.9	16.7	16.4	16.0	15.5
24.600	15.0	14.4	13.8	13.1	12.4	11.7	11.0
25.300	10.4	9.8	9.3	8.8	8.3	7.8	7.4
26.000	7.0	6.6	6.2	5.8	5.5	5.2	4.9
26.700	4.6	4.4	4.1	3.9	3.6	3.4	3.2
27.400	3.0	2.9	2.7	2.5	2.4	2.2	2.1
28.100	2.0	1.8	1.7	1.6	1.5	1.4	1.3
28.800	1.2	1.1	1.1	1.0	0.9	0.9	0.8
29.500	0.7	0.7	0.6	0.6	0.5	0.0	

Area or Reach Identifier	Drainage Area (sq mi)	Peak Flow by Storm				
		1-yr (cfs)	2-yr (cfs)	5-yr (cfs)	10-yr (cfs)	25-yr (cfs)
DA01	0.257	36.6	53.0	83.6	111.1	154.4
OUTLET	0.257	36.6	53.0	83.6	111.1	154.4

Area or Reach Identifier	Drainage Area (sq mi)	Peak Flow by Storm		
		50-yr (cfs)	100-yr (cfs)	(cfs)
DA01	0.257	192.2	235.9	
OUTLET	0.257	192.2	235.9	

WinTR-20: version 3.30 0 0 .001 0
 Maryland, Queen Annes NOAA-C
 CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
 EXISTING CONDITIONS - SUBDRAINAGE AREA 3

SUB-AREA:
 DA01 OUTLET 0.0726 83. 0.66 Y

STORM ANALYSIS:
 1-yr 2.67 NOAA_C 2 3.24
 2-yr 3.24 NOAA_C 2 3.24
 5-yr 4.22 NOAA_C 2 3.24
 10-yr 5.06 NOAA_C 2 3.24
 25-yr 6.34 NOAA_C 2 3.24
 50-yr 7.46 NOAA_C 2 3.24
 100-yr 8.73 NOAA_C 2 3.24

DIMENSIONLESS UNIT HYDROGRAPH: delmarva
 0.00000 0.11100 0.35600 0.65500 0.89600
 1.00000 0.92900 0.82800 0.73700 0.65600
 0.58400 0.52100 0.46500 0.41500 0.37100
 0.33100 0.29600 0.26500 0.23700 0.21200
 0.19000 0.17000 0.15300 0.13800 0.12300
 0.10900 0.09700 0.08600 0.07600 0.06600
 0.05700 0.04900 0.04100 0.03300 0.02700
 0.02400 0.02100 0.01800 0.01500 0.01300
 0.01200 0.01100 0.00900 0.00800 0.00800
 0.00600 0.00600 0.00500 0.00500 0.00000

RAINFALL DISTRIBUTION:
 NOAA_C 0.1
 0.0 0.00128 0.00231 0.00335 0.00441
 0.00547 0.00654 0.00763 0.00872 0.00982
 0.01093 0.01206 0.01319 0.01433 0.01548
 0.01665 0.01782 0.01900 0.02019 0.02140
 0.02261 0.02383 0.02506 0.02631 0.02756
 0.02882 0.03009 0.03137 0.03267 0.03397
 0.03528 0.03660 0.03793 0.03927 0.04062
 0.04199 0.04336 0.04474 0.04613 0.04753
 0.04894 0.05036 0.05179 0.05324 0.05469
 0.05615 0.05762 0.05910 0.06059 0.06209
 0.06360 0.06512 0.06665 0.06819 0.06974
 0.07130 0.07287 0.07445 0.07604 0.07764
 0.07925 0.08090 0.08259 0.08432 0.08609
 0.08790 0.08975 0.09164 0.09356 0.09553
 0.09754 0.09959 0.10168 0.10380 0.10597
 0.10818 0.11042 0.11271 0.11503 0.11740
 0.11981 0.12225 0.12474 0.12726 0.12982
 0.13243 0.13507 0.13776 0.14048 0.14324
 0.14605 0.14900 0.15210 0.15536 0.15876
 0.16231 0.16602 0.16987 0.17387 0.17803
 0.18233 0.18678 0.19139 0.19614 0.20104

0.20610	0.21173	0.21793	0.22471	0.23206
0.23999	0.24899	0.25907	0.27022	0.28245
0.29550	0.31572	0.33700	0.36618	0.40669
0.47660	0.59331	0.63382	0.66300	0.68428
0.70450	0.71755	0.72978	0.74093	0.75101
0.76001	0.76794	0.77529	0.78207	0.78827
0.79390	0.79896	0.80386	0.80861	0.81322
0.81767	0.82197	0.82613	0.83013	0.83398
0.83769	0.84124	0.84464	0.84790	0.85100
0.85395	0.85676	0.85952	0.86224	0.86493
0.86757	0.87018	0.87274	0.87526	0.87775
0.88019	0.88260	0.88497	0.88729	0.88958
0.89182	0.89403	0.89620	0.89832	0.90041
0.90246	0.90447	0.90644	0.90836	0.91025
0.91210	0.91391	0.91568	0.91741	0.91910
0.92075	0.92236	0.92396	0.92555	0.92713
0.92870	0.93026	0.93181	0.93335	0.93488
0.93640	0.93791	0.93941	0.94090	0.94238
0.94385	0.94531	0.94676	0.94821	0.94964
0.95106	0.95247	0.95387	0.95526	0.95664
0.95801	0.95938	0.96073	0.96207	0.96340
0.96472	0.96603	0.96733	0.96863	0.96991
0.97118	0.97244	0.97369	0.97494	0.97617
0.97739	0.97860	0.97981	0.98100	0.98218
0.98335	0.98452	0.98567	0.98681	0.98794
0.98907	0.99018	0.99128	0.99237	0.99346
0.99453	0.99559	0.99665	0.99769	0.99872
1.0				

GLOBAL OUTPUT:

1 0.1 NY N NY N

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CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
EXISTING CONDITIONS - SUBDRAINAGE AREA 3

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CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
EXISTING CONDITIONS - SUBDRAINAGE AREA 3

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Elevation (ft)	Peak Time (hr)	Flow Rate (cfs)	Rate (csm)
DA01	0.073		1.186		12.50	20.8	286.90

Line

Start Time (hr)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)
10.800	0.4	0.5	0.6	0.7	0.9	1.1	1.3
11.500	1.6	1.9	2.3	3.0	3.9	5.6	8.5
12.200	12.5	16.6	19.6	20.8	20.7	20.1	19.2
12.900	18.2	17.1	16.1	15.1	14.1	13.2	12.4
13.600	11.5	10.8	10.0	9.4	8.8	8.2	7.7
14.300	7.2	6.8	6.4	6.0	5.6	5.3	5.0
15.000	4.7	4.4	4.2	4.0	3.8	3.6	3.4
15.700	3.3	3.2	3.1	3.0	2.9	2.8	2.7
16.400	2.6	2.5	2.5	2.4	2.4	2.3	2.3
17.100	2.2	2.2	2.1	2.1	2.1	2.0	2.0
17.800	1.9	1.9	1.9	1.8	1.8	1.8	1.7
18.500	1.7	1.7	1.6	1.6	1.6	1.6	1.6
19.200	1.5	1.5	1.5	1.5	1.5	1.5	1.5
19.900	1.4	1.4	1.4	1.4	1.4	1.4	1.4
20.600	1.4	1.4	1.4	1.4	1.3	1.3	1.3
21.300	1.3	1.3	1.3	1.3	1.3	1.3	1.3
22.000	1.3	1.2	1.2	1.2	1.2	1.2	1.2
22.700	1.2	1.2	1.2	1.2	1.2	1.1	1.1
23.400	1.1	1.1	1.1	1.1	1.1	1.1	1.1
24.100	1.1	1.0	0.9	0.8	0.7	0.6	0.6
24.800	0.0						

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Elevation (ft)	Peak Time (hr)	Flow Rate (cfs)	Rate (csm)
OUTLET	0.073		1.186		12.50	20.8	286.90

Line

Start Time (hr)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)
10.800	0.4	0.5	0.6	0.7	0.9	1.1	1.3
11.500	1.6	1.9	2.3	3.0	3.9	5.6	8.5
12.200	12.5	16.6	19.6	20.8	20.7	20.1	19.2
12.900	18.2	17.1	16.1	15.1	14.1	13.2	12.4
13.600	11.5	10.8	10.0	9.4	8.8	8.2	7.7
14.300	7.2	6.8	6.4	6.0	5.6	5.3	5.0
15.000	4.7	4.4	4.2	4.0	3.8	3.6	3.4
15.700	3.3	3.2	3.1	3.0	2.9	2.8	2.7
16.400	2.6	2.5	2.5	2.4	2.4	2.3	2.3
17.100	2.2	2.2	2.1	2.1	2.1	2.0	2.0
17.800	1.9	1.9	1.9	1.8	1.8	1.8	1.7

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
EXISTING CONDITIONS - SUBDRAINAGE AREA 3

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
18.500	1.7	1.7	1.6	1.6	1.6	1.6	1.6
19.200	1.5	1.5	1.5	1.5	1.5	1.5	1.5
19.900	1.4	1.4	1.4	1.4	1.4	1.4	1.4
20.600	1.4	1.4	1.4	1.4	1.3	1.3	1.3
21.300	1.3	1.3	1.3	1.3	1.3	1.3	1.3
22.000	1.3	1.2	1.2	1.2	1.2	1.2	1.2
22.700	1.2	1.2	1.2	1.2	1.2	1.1	1.1
23.400	1.1	1.1	1.1	1.1	1.1	1.1	1.1
24.100	1.1	1.0	0.9	0.8	0.7	0.6	0.6
24.800	0.0						

STORM 2-yr

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Elevation (ft)	Peak Flow Time (hr)	Rate (cfs)	Rate (csm)
DA01	0.073		1.642		12.49	29.4	405.16

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
10.100	0.5	0.5	0.6	0.7	0.8	0.8	1.0
10.800	1.1	1.2	1.4	1.6	1.8	2.1	2.4
11.500	2.8	3.3	4.0	5.0	6.4	8.8	12.8
12.200	18.3	23.9	27.9	29.4	29.1	28.1	26.7
12.900	25.2	23.7	22.2	20.8	19.4	18.1	16.9
13.600	15.8	14.7	13.6	12.7	11.9	11.1	10.4
14.300	9.7	9.1	8.5	8.0	7.5	7.0	6.6
15.000	6.2	5.8	5.5	5.2	5.0	4.7	4.5
15.700	4.3	4.2	4.0	3.9	3.8	3.6	3.5
16.400	3.4	3.3	3.2	3.1	3.1	3.0	3.0
17.100	2.9	2.8	2.8	2.7	2.7	2.6	2.6
17.800	2.5	2.5	2.4	2.4	2.3	2.3	2.2
18.500	2.2	2.2	2.1	2.1	2.1	2.1	2.0
19.200	2.0	2.0	2.0	1.9	1.9	1.9	1.9
19.900	1.9	1.9	1.9	1.8	1.8	1.8	1.8
20.600	1.8	1.8	1.8	1.8	1.7	1.7	1.7
21.300	1.7	1.7	1.7	1.7	1.7	1.6	1.6
22.000	1.6	1.6	1.6	1.6	1.6	1.6	1.6
22.700	1.5	1.5	1.5	1.5	1.5	1.5	1.5
23.400	1.5	1.4	1.4	1.4	1.4	1.4	1.4
24.100	1.4	1.3	1.2	1.1	1.0	0.8	0.7
24.800	0.6	0.6	0.0				

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
EXISTING CONDITIONS - SUBDRAINAGE AREA 3

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Elevation (ft)	Peak Time (hr)	Peak Flow Rate (cfs)	Peak Flow Rate (csm)
OUTLET	0.073		1.642		12.49	29.4	405.16

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
(hr)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
10.100	0.5	0.5	0.6	0.7	0.8	0.8	1.0
10.800	1.1	1.2	1.4	1.6	1.8	2.1	2.4
11.500	2.8	3.3	4.0	5.0	6.4	8.8	12.8
12.200	18.3	23.9	27.9	29.4	29.1	28.1	26.7
12.900	25.2	23.7	22.2	20.8	19.4	18.1	16.9
13.600	15.8	14.7	13.6	12.7	11.9	11.1	10.4
14.300	9.7	9.1	8.5	8.0	7.5	7.0	6.6
15.000	6.2	5.8	5.5	5.2	5.0	4.7	4.5
15.700	4.3	4.2	4.0	3.9	3.8	3.6	3.5
16.400	3.4	3.3	3.2	3.1	3.1	3.0	3.0
17.100	2.9	2.8	2.8	2.7	2.7	2.6	2.6
17.800	2.5	2.5	2.4	2.4	2.3	2.3	2.2
18.500	2.2	2.2	2.1	2.1	2.1	2.1	2.0
19.200	2.0	2.0	2.0	1.9	1.9	1.9	1.9
19.900	1.9	1.9	1.9	1.8	1.8	1.8	1.8
20.600	1.8	1.8	1.8	1.8	1.7	1.7	1.7
21.300	1.7	1.7	1.7	1.7	1.7	1.6	1.6
22.000	1.6	1.6	1.6	1.6	1.6	1.6	1.6
22.700	1.5	1.5	1.5	1.5	1.5	1.5	1.5
23.400	1.5	1.4	1.4	1.4	1.4	1.4	1.4
24.100	1.4	1.3	1.2	1.1	1.0	0.8	0.7
24.800	0.6	0.6	0.0				

STORM 5-yr

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Elevation (ft)	Peak Time (hr)	Peak Flow Rate (cfs)	Peak Flow Rate (csm)
DA01	0.073		2.478		12.52	45.0	620.29

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
(hr)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
8.900	0.5	0.5	0.6	0.6	0.7	0.7	0.8
9.600	0.9	1.0	1.0	1.1	1.2	1.4	1.5
10.300	1.6	1.7	1.9	2.0	2.2	2.4	2.7
11.000	2.9	3.3	3.7	4.1	4.7	5.4	6.2
11.700	7.3	8.9	11.0	14.6	20.8	29.1	37.2
12.400	42.9	44.8	44.3	42.6	40.4	38.0	35.6
13.100	33.2	31.0	28.9	26.9	25.0	23.3	21.6
13.800	20.1	18.7	17.4	16.2	15.1	14.1	13.2

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
EXISTING CONDITIONS - SUBDRAINAGE AREA 3

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
14.500	12.4	11.6	10.8	10.1	9.4	8.9	8.4
15.200	7.9	7.4	7.1	6.7	6.4	6.2	5.9
15.900	5.7	5.5	5.3	5.1	4.9	4.8	4.7
16.600	4.5	4.4	4.3	4.2	4.1	4.1	4.0
17.300	3.9	3.8	3.8	3.7	3.6	3.5	3.5
18.000	3.4	3.3	3.3	3.2	3.1	3.1	3.0
18.700	3.0	2.9	2.9	2.9	2.8	2.8	2.8
19.400	2.7	2.7	2.7	2.7	2.6	2.6	2.6
20.100	2.6	2.6	2.5	2.5	2.5	2.5	2.5
20.800	2.5	2.4	2.4	2.4	2.4	2.4	2.4
21.500	2.3	2.3	2.3	2.3	2.3	2.3	2.2
22.200	2.2	2.2	2.2	2.2	2.2	2.1	2.1
22.900	2.1	2.1	2.1	2.1	2.0	2.0	2.0
23.600	2.0	2.0	2.0	1.9	1.9	1.9	1.8
24.300	1.7	1.5	1.3	1.2	1.0	0.9	0.8
25.000	0.7	0.6	0.5	0.0			

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Elevation (ft)	Peak Time (hr)	Flow Rate (cfs)	Rate (csm)
OUTLET	0.073		2.478		12.52	45.0	620.29

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
8.900	0.5	0.5	0.6	0.6	0.7	0.7	0.8
9.600	0.9	1.0	1.0	1.1	1.2	1.4	1.5
10.300	1.6	1.7	1.9	2.0	2.2	2.4	2.7
11.000	2.9	3.3	3.7	4.1	4.7	5.4	6.2
11.700	7.3	8.9	11.0	14.6	20.8	29.1	37.2
12.400	42.9	44.8	44.3	42.6	40.4	38.0	35.6
13.100	33.2	31.0	28.9	26.9	25.0	23.3	21.6
13.800	20.1	18.7	17.4	16.2	15.1	14.1	13.2
14.500	12.4	11.6	10.8	10.1	9.4	8.9	8.4
15.200	7.9	7.4	7.1	6.7	6.4	6.2	5.9
15.900	5.7	5.5	5.3	5.1	4.9	4.8	4.7
16.600	4.5	4.4	4.3	4.2	4.1	4.1	4.0
17.300	3.9	3.8	3.8	3.7	3.6	3.5	3.5
18.000	3.4	3.3	3.3	3.2	3.1	3.1	3.0
18.700	3.0	2.9	2.9	2.9	2.8	2.8	2.8
19.400	2.7	2.7	2.7	2.7	2.6	2.6	2.6
20.100	2.6	2.6	2.5	2.5	2.5	2.5	2.5
20.800	2.5	2.4	2.4	2.4	2.4	2.4	2.4
21.500	2.3	2.3	2.3	2.3	2.3	2.3	2.2
22.200	2.2	2.2	2.2	2.2	2.2	2.1	2.1
22.900	2.1	2.1	2.1	2.1	2.0	2.0	2.0
23.600	2.0	2.0	2.0	1.9	1.9	1.9	1.8
24.300	1.7	1.5	1.3	1.2	1.0	0.9	0.8

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
EXISTING CONDITIONS - SUBDRAINAGE AREA 3

Line Start Time (hr)	----- (cfs)	Flow Values @ (cfs)	time increment (cfs)	of 0.100 hr (cfs)	----- (cfs)	----- (cfs)	----- (cfs)
25.000	0.7	0.6	0.5	0.0			

STORM 10-yr

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	----- Elevation (ft)	Peak Flow Time (hr)	Rate (cfs)	Rate (csm)
DA01	0.073		3.228		12.53	58.8	809.38

Line Start Time (hr)	----- (cfs)	Flow Values @ (cfs)	time increment (cfs)	of 0.100 hr (cfs)	----- (cfs)	----- (cfs)	----- (cfs)
8.000	0.5	0.5	0.6	0.6	0.7	0.7	0.8
8.700	0.9	0.9	1.0	1.1	1.1	1.2	1.3
9.400	1.4	1.5	1.6	1.7	1.8	2.0	2.1
10.100	2.3	2.5	2.6	2.8	3.0	3.2	3.5
10.800	3.8	4.1	4.5	5.0	5.5	6.1	6.9
11.500	7.8	8.9	10.4	12.5	15.4	20.0	28.0
12.200	38.8	49.2	56.3	58.6	57.6	55.3	52.3
12.900	49.1	45.9	42.9	39.9	37.1	34.5	32.1
13.600	29.8	27.6	25.6	23.8	22.2	20.6	19.2
14.300	17.9	16.8	15.7	14.6	13.6	12.7	11.9
15.000	11.2	10.5	9.9	9.4	8.9	8.4	8.1
15.700	7.7	7.4	7.1	6.9	6.6	6.4	6.2
16.400	6.0	5.8	5.7	5.5	5.4	5.3	5.2
17.100	5.1	5.0	4.9	4.8	4.7	4.6	4.5
17.800	4.4	4.3	4.2	4.2	4.1	4.0	3.9
18.500	3.8	3.8	3.7	3.7	3.6	3.6	3.5
19.200	3.5	3.4	3.4	3.4	3.4	3.3	3.3
19.900	3.3	3.2	3.2	3.2	3.2	3.1	3.1
20.600	3.1	3.1	3.1	3.0	3.0	3.0	3.0
21.300	2.9	2.9	2.9	2.9	2.9	2.8	2.8
22.000	2.8	2.8	2.8	2.7	2.7	2.7	2.7
22.700	2.7	2.6	2.6	2.6	2.6	2.5	2.5
23.400	2.5	2.5	2.5	2.4	2.4	2.4	2.4
24.100	2.3	2.2	2.1	1.9	1.6	1.4	1.3
24.800	1.1	1.0	0.8	0.7	0.6	0.6	0.0

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	----- Elevation (ft)	Peak Flow Time (hr)	Rate (cfs)	Rate (csm)
OUTLET	0.073		3.228		12.53	58.8	809.38

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
EXISTING CONDITIONS - SUBDRAINAGE AREA 3

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
8.000	0.5	0.5	0.6	0.6	0.7	0.7	0.8
8.700	0.9	0.9	1.0	1.1	1.1	1.2	1.3
9.400	1.4	1.5	1.6	1.7	1.8	2.0	2.1
10.100	2.3	2.5	2.6	2.8	3.0	3.2	3.5
10.800	3.8	4.1	4.5	5.0	5.5	6.1	6.9
11.500	7.8	8.9	10.4	12.5	15.4	20.0	28.0
12.200	38.8	49.2	56.3	58.6	57.6	55.3	52.3
12.900	49.1	45.9	42.9	39.9	37.1	34.5	32.1
13.600	29.8	27.6	25.6	23.8	22.2	20.6	19.2
14.300	17.9	16.8	15.7	14.6	13.6	12.7	11.9
15.000	11.2	10.5	9.9	9.4	8.9	8.4	8.1
15.700	7.7	7.4	7.1	6.9	6.6	6.4	6.2
16.400	6.0	5.8	5.7	5.5	5.4	5.3	5.2
17.100	5.1	5.0	4.9	4.8	4.7	4.6	4.5
17.800	4.4	4.3	4.2	4.2	4.1	4.0	3.9
18.500	3.8	3.8	3.7	3.7	3.6	3.6	3.5
19.200	3.5	3.4	3.4	3.4	3.4	3.3	3.3
19.900	3.3	3.2	3.2	3.2	3.2	3.1	3.1
20.600	3.1	3.1	3.1	3.0	3.0	3.0	3.0
21.300	2.9	2.9	2.9	2.9	2.9	2.8	2.8
22.000	2.8	2.8	2.8	2.7	2.7	2.7	2.7
22.700	2.7	2.6	2.6	2.6	2.6	2.5	2.5
23.400	2.5	2.5	2.5	2.4	2.4	2.4	2.4
24.100	2.3	2.2	2.1	1.9	1.6	1.4	1.3
24.800	1.1	1.0	0.8	0.7	0.6	0.6	0.0

STORM 25-yr

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	----- Elevation (ft)	Peak Flow Time (hr)	----- Rate (cfs)	----- Rate (csm)
DA01	0.073		4.408		12.46	80.2	1104.19

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
6.900	0.5	0.5	0.6	0.6	0.7	0.8	0.8
7.600	0.9	1.0	1.0	1.1	1.2	1.3	1.3
8.300	1.4	1.5	1.6	1.7	1.8	1.9	2.0
9.000	2.1	2.2	2.3	2.4	2.5	2.7	2.9
9.700	3.0	3.2	3.4	3.7	3.9	4.1	4.4
10.400	4.7	5.0	5.3	5.6	6.0	6.5	7.1
11.100	7.7	8.5	9.4	10.5	11.8	13.4	15.5
11.800	18.4	22.6	29.1	39.9	54.5	68.4	77.4
12.500	79.9	78.2	74.8	70.6	66.2	61.8	57.6
13.200	53.6	49.8	46.2	42.9	39.7	36.8	34.2
13.900	31.7	29.5	27.4	25.5	23.8	22.2	20.7
14.600	19.3	18.0	16.8	15.6	14.6	13.8	13.0

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
EXISTING CONDITIONS - SUBDRAINAGE AREA 3

Line Start Time (hr)	----- Flow Values @ time increment of 0.100 hr -----						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
15.300	12.3	11.6	11.0	10.5	10.1	9.7	9.3
16.000	9.0	8.7	8.3	8.0	7.8	7.5	7.4
16.700	7.2	7.0	6.9	6.7	6.6	6.4	6.3
17.400	6.2	6.1	6.0	5.8	5.7	5.6	5.5
18.100	5.4	5.3	5.2	5.1	5.0	4.9	4.8
18.800	4.7	4.7	4.6	4.6	4.5	4.5	4.4
19.500	4.4	4.3	4.3	4.3	4.2	4.2	4.2
20.200	4.1	4.1	4.1	4.0	4.0	4.0	3.9
20.900	3.9	3.9	3.9	3.8	3.8	3.8	3.8
21.600	3.7	3.7	3.7	3.6	3.6	3.6	3.6
22.300	3.5	3.5	3.5	3.5	3.4	3.4	3.4
23.000	3.3	3.3	3.3	3.3	3.2	3.2	3.2
23.700	3.2	3.1	3.1	3.1	3.0	2.9	2.7
24.400	2.4	2.1	1.9	1.6	1.4	1.2	1.1
25.100	0.9	0.8	0.7	0.6	0.5	0.0	

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	----- Elevation (ft)	Peak Time (hr)	Flow Rate (cfs)	----- Rate (csm)
OUTLET	0.073		4.408		12.46	80.2	1104.19

Line Start Time (hr)	----- Flow Values @ time increment of 0.100 hr -----						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
6.900	0.5	0.5	0.6	0.6	0.7	0.8	0.8
7.600	0.9	1.0	1.0	1.1	1.2	1.3	1.3
8.300	1.4	1.5	1.6	1.7	1.8	1.9	2.0
9.000	2.1	2.2	2.3	2.4	2.5	2.7	2.9
9.700	3.0	3.2	3.4	3.7	3.9	4.1	4.4
10.400	4.7	5.0	5.3	5.6	6.0	6.5	7.1
11.100	7.7	8.5	9.4	10.5	11.8	13.4	15.5
11.800	18.4	22.6	29.1	39.9	54.5	68.4	77.4
12.500	79.9	78.2	74.8	70.6	66.2	61.8	57.6
13.200	53.6	49.8	46.2	42.9	39.7	36.8	34.2
13.900	31.7	29.5	27.4	25.5	23.8	22.2	20.7
14.600	19.3	18.0	16.8	15.6	14.6	13.8	13.0
15.300	12.3	11.6	11.0	10.5	10.1	9.7	9.3
16.000	9.0	8.7	8.3	8.0	7.8	7.5	7.4
16.700	7.2	7.0	6.9	6.7	6.6	6.4	6.3
17.400	6.2	6.1	6.0	5.8	5.7	5.6	5.5
18.100	5.4	5.3	5.2	5.1	5.0	4.9	4.8
18.800	4.7	4.7	4.6	4.6	4.5	4.5	4.4
19.500	4.4	4.3	4.3	4.3	4.2	4.2	4.2
20.200	4.1	4.1	4.1	4.0	4.0	4.0	3.9
20.900	3.9	3.9	3.9	3.8	3.8	3.8	3.8
21.600	3.7	3.7	3.7	3.6	3.6	3.6	3.6
22.300	3.5	3.5	3.5	3.5	3.4	3.4	3.4
23.000	3.3	3.3	3.3	3.3	3.2	3.2	3.2

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
EXISTING CONDITIONS - SUBDRAINAGE AREA 3

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
23.700	3.2	3.1	3.1	3.1	3.0	2.9	2.7
24.400	2.4	2.1	1.9	1.6	1.4	1.2	1.1
25.100	0.9	0.8	0.7	0.6	0.5	0.0	

STORM 50-yr

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Elevation (ft)	Peak Time (hr)	Peak Flow Rate (cfs)	Rate (csm)
DA01	0.073		5.463		12.51	99.1	1364.90

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
6.100	0.5	0.5	0.6	0.6	0.7	0.7	0.8
6.800	0.9	0.9	1.0	1.1	1.2	1.3	1.3
7.500	1.4	1.5	1.6	1.7	1.8	1.9	2.0
8.200	2.1	2.2	2.4	2.5	2.6	2.7	2.8
8.900	3.0	3.1	3.2	3.4	3.5	3.7	3.9
9.600	4.1	4.3	4.6	4.9	5.1	5.4	5.8
10.300	6.1	6.4	6.8	7.2	7.6	8.2	8.8
11.000	9.5	10.3	11.3	12.5	13.9	15.5	17.5
11.700	20.1	23.6	28.6	36.8	50.2	67.6	84.5
12.400	95.6	98.9	96.8	92.4	87.1	81.5	76.0
13.100	70.7	65.7	61.0	56.6	52.5	48.6	45.0
13.800	41.7	38.6	35.9	33.3	31.0	28.9	26.9
14.500	25.1	23.4	21.8	20.3	18.9	17.7	16.7
15.200	15.7	14.8	14.0	13.3	12.7	12.2	11.7
15.900	11.2	10.8	10.4	10.0	9.6	9.3	9.1
16.600	8.8	8.6	8.4	8.2	8.1	7.9	7.7
17.300	7.6	7.4	7.3	7.1	7.0	6.9	6.7
18.000	6.6	6.5	6.3	6.2	6.1	6.0	5.9
18.700	5.8	5.7	5.6	5.5	5.5	5.4	5.4
19.400	5.3	5.2	5.2	5.2	5.1	5.1	5.0
20.100	5.0	4.9	4.9	4.9	4.8	4.8	4.8
20.800	4.7	4.7	4.7	4.6	4.6	4.6	4.5
21.500	4.5	4.5	4.4	4.4	4.4	4.3	4.3
22.200	4.3	4.2	4.2	4.2	4.1	4.1	4.1
22.900	4.0	4.0	4.0	3.9	3.9	3.9	3.8
23.600	3.8	3.8	3.7	3.7	3.7	3.6	3.5
24.300	3.2	2.9	2.5	2.2	1.9	1.7	1.5
25.000	1.3	1.1	1.0	0.9	0.8	0.7	0.6
25.700	0.0						

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
EXISTING CONDITIONS - SUBDRAINAGE AREA 3

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Elevation (ft)	Peak Time (hr)	Peak Flow Rate (cfs)	Peak Flow Rate (csm)
OUTLET	0.073		5.463		12.51	99.1	1364.90

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
6.100	0.5	0.5	0.6	0.6	0.7	0.7	0.8
6.800	0.9	0.9	1.0	1.1	1.2	1.3	1.3
7.500	1.4	1.5	1.6	1.7	1.8	1.9	2.0
8.200	2.1	2.2	2.4	2.5	2.6	2.7	2.8
8.900	3.0	3.1	3.2	3.4	3.5	3.7	3.9
9.600	4.1	4.3	4.6	4.9	5.1	5.4	5.8
10.300	6.1	6.4	6.8	7.2	7.6	8.2	8.8
11.000	9.5	10.3	11.3	12.5	13.9	15.5	17.5
11.700	20.1	23.6	28.6	36.8	50.2	67.6	84.5
12.400	95.6	98.9	96.8	92.4	87.1	81.5	76.0
13.100	70.7	65.7	61.0	56.6	52.5	48.6	45.0
13.800	41.7	38.6	35.9	33.3	31.0	28.9	26.9
14.500	25.1	23.4	21.8	20.3	18.9	17.7	16.7
15.200	15.7	14.8	14.0	13.3	12.7	12.2	11.7
15.900	11.2	10.8	10.4	10.0	9.6	9.3	9.1
16.600	8.8	8.6	8.4	8.2	8.1	7.9	7.7
17.300	7.6	7.4	7.3	7.1	7.0	6.9	6.7
18.000	6.6	6.5	6.3	6.2	6.1	6.0	5.9
18.700	5.8	5.7	5.6	5.5	5.5	5.4	5.4
19.400	5.3	5.2	5.2	5.2	5.1	5.1	5.0
20.100	5.0	4.9	4.9	4.9	4.8	4.8	4.8
20.800	4.7	4.7	4.7	4.6	4.6	4.6	4.5
21.500	4.5	4.5	4.4	4.4	4.4	4.3	4.3
22.200	4.3	4.2	4.2	4.2	4.1	4.1	4.1
22.900	4.0	4.0	4.0	3.9	3.9	3.9	3.8
23.600	3.8	3.8	3.7	3.7	3.7	3.6	3.5
24.300	3.2	2.9	2.5	2.2	1.9	1.7	1.5
25.000	1.3	1.1	1.0	0.9	0.8	0.7	0.6
25.700	0.0						

STORM 100-yr

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Elevation (ft)	Peak Time (hr)	Peak Flow Rate (cfs)	Peak Flow Rate (csm)
DA01	0.073		6.677		12.48	120.8	1663.29

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
EXISTING CONDITIONS - SUBDRAINAGE AREA 3

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
5.400	0.5	0.6	0.6	0.7	0.7	0.8	0.9
6.100	0.9	1.0	1.1	1.2	1.2	1.3	1.4
6.800	1.5	1.6	1.7	1.8	1.9	2.0	2.1
7.500	2.2	2.4	2.5	2.6	2.7	2.9	3.0
8.200	3.1	3.3	3.4	3.6	3.7	3.9	4.0
8.900	4.2	4.3	4.5	4.7	4.9	5.1	5.3
9.600	5.6	5.9	6.2	6.6	6.9	7.3	7.7
10.300	8.1	8.5	9.0	9.5	10.0	10.7	11.4
11.000	12.3	13.4	14.6	16.1	17.8	19.8	22.2
11.700	25.4	29.8	36.3	46.4	62.5	83.6	104.0
12.400	117.1	120.3	117.3	111.8	105.3	98.5	91.8
13.100	85.4	79.3	73.6	68.2	63.2	58.5	54.1
13.800	50.1	46.4	43.1	40.0	37.2	34.6	32.2
14.500	30.0	28.0	26.0	24.3	22.6	21.1	19.9
15.200	18.7	17.6	16.7	15.9	15.1	14.5	13.9
15.900	13.3	12.8	12.4	11.9	11.5	11.1	10.8
16.600	10.5	10.2	10.0	9.8	9.6	9.4	9.2
17.300	9.0	8.8	8.6	8.5	8.3	8.1	8.0
18.000	7.8	7.7	7.5	7.4	7.2	7.1	7.0
18.700	6.9	6.8	6.7	6.6	6.5	6.4	6.4
19.400	6.3	6.2	6.2	6.1	6.1	6.0	6.0
20.100	5.9	5.9	5.8	5.8	5.7	5.7	5.6
20.800	5.6	5.6	5.5	5.5	5.4	5.4	5.4
21.500	5.3	5.3	5.2	5.2	5.2	5.1	5.1
22.200	5.1	5.0	5.0	4.9	4.9	4.9	4.8
22.900	4.8	4.7	4.7	4.7	4.6	4.6	4.6
23.600	4.5	4.5	4.4	4.4	4.4	4.3	4.1
24.300	3.8	3.4	3.0	2.6	2.3	2.0	1.8
25.000	1.5	1.3	1.2	1.0	0.9	0.8	0.7
25.700	0.6	0.0					

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	----- Elevation (ft)	Peak Flow Time (hr)	Rate (cfs)	Rate (csm)
OUTLET	0.073		6.677		12.48	120.8	1663.29

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
5.400	0.5	0.6	0.6	0.7	0.7	0.8	0.9
6.100	0.9	1.0	1.1	1.2	1.2	1.3	1.4
6.800	1.5	1.6	1.7	1.8	1.9	2.0	2.1
7.500	2.2	2.4	2.5	2.6	2.7	2.9	3.0
8.200	3.1	3.3	3.4	3.6	3.7	3.9	4.0
8.900	4.2	4.3	4.5	4.7	4.9	5.1	5.3
9.600	5.6	5.9	6.2	6.6	6.9	7.3	7.7
10.300	8.1	8.5	9.0	9.5	10.0	10.7	11.4
11.000	12.3	13.4	14.6	16.1	17.8	19.8	22.2

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
EXISTING CONDITIONS - SUBDRAINAGE AREA 3

Line Start Time (hr)	----- Flow Values @ time increment of 0.100 hr -----						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
11.700	25.4	29.8	36.3	46.4	62.5	83.6	104.0
12.400	117.1	120.3	117.3	111.8	105.3	98.5	91.8
13.100	85.4	79.3	73.6	68.2	63.2	58.5	54.1
13.800	50.1	46.4	43.1	40.0	37.2	34.6	32.2
14.500	30.0	28.0	26.0	24.3	22.6	21.1	19.9
15.200	18.7	17.6	16.7	15.9	15.1	14.5	13.9
15.900	13.3	12.8	12.4	11.9	11.5	11.1	10.8
16.600	10.5	10.2	10.0	9.8	9.6	9.4	9.2
17.300	9.0	8.8	8.6	8.5	8.3	8.1	8.0
18.000	7.8	7.7	7.5	7.4	7.2	7.1	7.0
18.700	6.9	6.8	6.7	6.6	6.5	6.4	6.4
19.400	6.3	6.2	6.2	6.1	6.1	6.0	6.0
20.100	5.9	5.9	5.8	5.8	5.7	5.7	5.6
20.800	5.6	5.6	5.5	5.5	5.4	5.4	5.4
21.500	5.3	5.3	5.2	5.2	5.2	5.1	5.1
22.200	5.1	5.0	5.0	4.9	4.9	4.9	4.8
22.900	4.8	4.7	4.7	4.7	4.6	4.6	4.6
23.600	4.5	4.5	4.4	4.4	4.4	4.3	4.1
24.300	3.8	3.4	3.0	2.6	2.3	2.0	1.8
25.000	1.5	1.3	1.2	1.0	0.9	0.8	0.7
25.700	0.6	0.0					

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
EXISTING CONDITIONS - SUBDRAINAGE AREA 3

Area or Reach Identifier	Drainage Area (sq mi)	Peak Flow by Storm				
		1-yr (cfs)	2-yr (cfs)	5-yr (cfs)	10-yr (cfs)	25-yr (cfs)
DA01	0.073	20.8	29.4	45.0	58.8	80.2
OUTLET	0.073	20.8	29.4	45.0	58.8	80.2

Area or Reach Identifier	Drainage Area (sq mi)	Peak Flow by Storm		
		50-yr (cfs)	100-yr (cfs)	(cfs)
DA01	0.073	99.1	120.8	
OUTLET	0.073	99.1	120.8	

WinTR-20: version 3.30 0 0 .001 0
 Maryland, Queen Annes NOAA-C
 CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
 ULTIMATE CONDITIONS - SUBDRAINAGE AREA 3

SUB-AREA:
 DA01 OUTLET 0.0726 83. 0.660 Y

STORM ANALYSIS:
 1-yr 2.67 NOAA_C 2 3.24
 2-yr 3.24 NOAA_C 2 3.24
 5-yr 4.22 NOAA_C 2 3.24
 10-yr 5.06 NOAA_C 2 3.24
 25-yr 6.34 NOAA_C 2 3.24
 50-yr 7.46 NOAA_C 2 3.24
 100-yr 8.73 NOAA_C 2 3.24

DIMENSIONLESS UNIT HYDROGRAPH: delmarva
 0.00000 0.11100 0.35600 0.65500 0.89600
 1.00000 0.92900 0.82800 0.73700 0.65600
 0.58400 0.52100 0.46500 0.41500 0.37100
 0.33100 0.29600 0.26500 0.23700 0.21200
 0.19000 0.17000 0.15300 0.13800 0.12300
 0.10900 0.09700 0.08600 0.07600 0.06600
 0.05700 0.04900 0.04100 0.03300 0.02700
 0.02400 0.02100 0.01800 0.01500 0.01300
 0.01200 0.01100 0.00900 0.00800 0.00800
 0.00600 0.00600 0.00500 0.00500 0.00000

RAINFALL DISTRIBUTION:
 NOAA_C 0.1
 0.0 0.00128 0.00231 0.00335 0.00441
 0.00547 0.00654 0.00763 0.00872 0.00982
 0.01093 0.01206 0.01319 0.01433 0.01548
 0.01665 0.01782 0.01900 0.02019 0.02140
 0.02261 0.02383 0.02506 0.02631 0.02756
 0.02882 0.03009 0.03137 0.03267 0.03397
 0.03528 0.03660 0.03793 0.03927 0.04062
 0.04199 0.04336 0.04474 0.04613 0.04753
 0.04894 0.05036 0.05179 0.05324 0.05469
 0.05615 0.05762 0.05910 0.06059 0.06209
 0.06360 0.06512 0.06665 0.06819 0.06974
 0.07130 0.07287 0.07445 0.07604 0.07764
 0.07925 0.08090 0.08259 0.08432 0.08609
 0.08790 0.08975 0.09164 0.09356 0.09553
 0.09754 0.09959 0.10168 0.10380 0.10597
 0.10818 0.11042 0.11271 0.11503 0.11740
 0.11981 0.12225 0.12474 0.12726 0.12982
 0.13243 0.13507 0.13776 0.14048 0.14324
 0.14605 0.14900 0.15210 0.15536 0.15876
 0.16231 0.16602 0.16987 0.17387 0.17803
 0.18233 0.18678 0.19139 0.19614 0.20104

0.20610	0.21173	0.21793	0.22471	0.23206
0.23999	0.24899	0.25907	0.27022	0.28245
0.29550	0.31572	0.33700	0.36618	0.40669
0.47660	0.59331	0.63382	0.66300	0.68428
0.70450	0.71755	0.72978	0.74093	0.75101
0.76001	0.76794	0.77529	0.78207	0.78827
0.79390	0.79896	0.80386	0.80861	0.81322
0.81767	0.82197	0.82613	0.83013	0.83398
0.83769	0.84124	0.84464	0.84790	0.85100
0.85395	0.85676	0.85952	0.86224	0.86493
0.86757	0.87018	0.87274	0.87526	0.87775
0.88019	0.88260	0.88497	0.88729	0.88958
0.89182	0.89403	0.89620	0.89832	0.90041
0.90246	0.90447	0.90644	0.90836	0.91025
0.91210	0.91391	0.91568	0.91741	0.91910
0.92075	0.92236	0.92396	0.92555	0.92713
0.92870	0.93026	0.93181	0.93335	0.93488
0.93640	0.93791	0.93941	0.94090	0.94238
0.94385	0.94531	0.94676	0.94821	0.94964
0.95106	0.95247	0.95387	0.95526	0.95664
0.95801	0.95938	0.96073	0.96207	0.96340
0.96472	0.96603	0.96733	0.96863	0.96991
0.97118	0.97244	0.97369	0.97494	0.97617
0.97739	0.97860	0.97981	0.98100	0.98218
0.98335	0.98452	0.98567	0.98681	0.98794
0.98907	0.99018	0.99128	0.99237	0.99346
0.99453	0.99559	0.99665	0.99769	0.99872
1.0				

GLOBAL OUTPUT:

1 0.1 NY N NY N

WinTR-20 Printed Page File End of Input Data List

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
 ULTIMATE CONDITIONS - SUBDRAINAGE AREA 3

Name of printed page file:

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WinTR-20 Version 3.30 Page 1 STORM 1-yr 12/07/2023 13:59

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
 ULTIMATE CONDITIONS - SUBDRAINAGE AREA 3

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Elevation (ft)	Peak Flow Time (hr)	Peak Flow Rate (cfs)	Peak Flow Rate (csm)
DA01	0.073		1.186		12.50	20.8	286.90

Line

Start Time (hr)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)
10.800	0.4	0.5	0.6	0.7	0.9	1.1	1.3
11.500	1.6	1.9	2.3	3.0	3.9	5.6	8.5
12.200	12.5	16.6	19.6	20.8	20.7	20.1	19.2
12.900	18.2	17.1	16.1	15.1	14.1	13.2	12.4
13.600	11.5	10.8	10.0	9.4	8.8	8.2	7.7
14.300	7.2	6.8	6.4	6.0	5.6	5.3	5.0
15.000	4.7	4.4	4.2	4.0	3.8	3.6	3.4
15.700	3.3	3.2	3.1	3.0	2.9	2.8	2.7
16.400	2.6	2.5	2.5	2.4	2.4	2.3	2.3
17.100	2.2	2.2	2.1	2.1	2.1	2.0	2.0
17.800	1.9	1.9	1.9	1.8	1.8	1.8	1.7
18.500	1.7	1.7	1.6	1.6	1.6	1.6	1.6
19.200	1.5	1.5	1.5	1.5	1.5	1.5	1.5
19.900	1.4	1.4	1.4	1.4	1.4	1.4	1.4
20.600	1.4	1.4	1.4	1.4	1.3	1.3	1.3
21.300	1.3	1.3	1.3	1.3	1.3	1.3	1.3
22.000	1.3	1.2	1.2	1.2	1.2	1.2	1.2
22.700	1.2	1.2	1.2	1.2	1.2	1.1	1.1
23.400	1.1	1.1	1.1	1.1	1.1	1.1	1.1
24.100	1.1	1.0	0.9	0.8	0.7	0.6	0.6
24.800	0.0						

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Elevation (ft)	Peak Flow Time (hr)	Peak Flow Rate (cfs)	Peak Flow Rate (csm)
OUTLET	0.073		1.186		12.50	20.8	286.90

Line

Start Time (hr)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)
10.800	0.4	0.5	0.6	0.7	0.9	1.1	1.3
11.500	1.6	1.9	2.3	3.0	3.9	5.6	8.5
12.200	12.5	16.6	19.6	20.8	20.7	20.1	19.2
12.900	18.2	17.1	16.1	15.1	14.1	13.2	12.4
13.600	11.5	10.8	10.0	9.4	8.8	8.2	7.7
14.300	7.2	6.8	6.4	6.0	5.6	5.3	5.0
15.000	4.7	4.4	4.2	4.0	3.8	3.6	3.4
15.700	3.3	3.2	3.1	3.0	2.9	2.8	2.7
16.400	2.6	2.5	2.5	2.4	2.4	2.3	2.3
17.100	2.2	2.2	2.1	2.1	2.1	2.0	2.0
17.800	1.9	1.9	1.9	1.8	1.8	1.8	1.7

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
 ULTIMATE CONDITIONS - SUBDRAINAGE AREA 3

Line Start Time (hr)	----- Flow Values @ time increment of 0.100 hr -----						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
18.500	1.7	1.7	1.6	1.6	1.6	1.6	1.6
19.200	1.5	1.5	1.5	1.5	1.5	1.5	1.5
19.900	1.4	1.4	1.4	1.4	1.4	1.4	1.4
20.600	1.4	1.4	1.4	1.4	1.3	1.3	1.3
21.300	1.3	1.3	1.3	1.3	1.3	1.3	1.3
22.000	1.3	1.2	1.2	1.2	1.2	1.2	1.2
22.700	1.2	1.2	1.2	1.2	1.2	1.1	1.1
23.400	1.1	1.1	1.1	1.1	1.1	1.1	1.1
24.100	1.1	1.0	0.9	0.8	0.7	0.6	0.6
24.800	0.0						

STORM 2-yr

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	----- Peak Flow ----- Elevation (ft)	Time (hr)	Rate (cfs)	Rate (csm)
DA01	0.073		1.642		12.49	29.4	405.16

Line Start Time (hr)	----- Flow Values @ time increment of 0.100 hr -----						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
10.100	0.5	0.5	0.6	0.7	0.8	0.8	1.0
10.800	1.1	1.2	1.4	1.6	1.8	2.1	2.4
11.500	2.8	3.3	4.0	5.0	6.4	8.8	12.8
12.200	18.3	23.9	27.9	29.4	29.1	28.1	26.7
12.900	25.2	23.7	22.2	20.8	19.4	18.1	16.9
13.600	15.8	14.7	13.6	12.7	11.9	11.1	10.4
14.300	9.7	9.1	8.5	8.0	7.5	7.0	6.6
15.000	6.2	5.8	5.5	5.2	5.0	4.7	4.5
15.700	4.3	4.2	4.0	3.9	3.8	3.6	3.5
16.400	3.4	3.3	3.2	3.1	3.1	3.0	3.0
17.100	2.9	2.8	2.8	2.7	2.7	2.6	2.6
17.800	2.5	2.5	2.4	2.4	2.3	2.3	2.2
18.500	2.2	2.2	2.1	2.1	2.1	2.1	2.0
19.200	2.0	2.0	2.0	1.9	1.9	1.9	1.9
19.900	1.9	1.9	1.9	1.8	1.8	1.8	1.8
20.600	1.8	1.8	1.8	1.8	1.7	1.7	1.7
21.300	1.7	1.7	1.7	1.7	1.7	1.6	1.6
22.000	1.6	1.6	1.6	1.6	1.6	1.6	1.6
22.700	1.5	1.5	1.5	1.5	1.5	1.5	1.5
23.400	1.5	1.4	1.4	1.4	1.4	1.4	1.4
24.100	1.4	1.3	1.2	1.1	1.0	0.8	0.7
24.800	0.6	0.6	0.0				

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
 ULTIMATE CONDITIONS - SUBDRAINAGE AREA 3

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Elevation (ft)	Peak Time (hr)	Peak Flow Rate (cfs)	Peak Flow Rate (csm)
OUTLET	0.073		1.642		12.49	29.4	405.16

Line

Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
10.100	0.5	0.5	0.6	0.7	0.8	0.8	1.0
10.800	1.1	1.2	1.4	1.6	1.8	2.1	2.4
11.500	2.8	3.3	4.0	5.0	6.4	8.8	12.8
12.200	18.3	23.9	27.9	29.4	29.1	28.1	26.7
12.900	25.2	23.7	22.2	20.8	19.4	18.1	16.9
13.600	15.8	14.7	13.6	12.7	11.9	11.1	10.4
14.300	9.7	9.1	8.5	8.0	7.5	7.0	6.6
15.000	6.2	5.8	5.5	5.2	5.0	4.7	4.5
15.700	4.3	4.2	4.0	3.9	3.8	3.6	3.5
16.400	3.4	3.3	3.2	3.1	3.1	3.0	3.0
17.100	2.9	2.8	2.8	2.7	2.7	2.6	2.6
17.800	2.5	2.5	2.4	2.4	2.3	2.3	2.2
18.500	2.2	2.2	2.1	2.1	2.1	2.1	2.0
19.200	2.0	2.0	2.0	1.9	1.9	1.9	1.9
19.900	1.9	1.9	1.9	1.8	1.8	1.8	1.8
20.600	1.8	1.8	1.8	1.8	1.7	1.7	1.7
21.300	1.7	1.7	1.7	1.7	1.7	1.6	1.6
22.000	1.6	1.6	1.6	1.6	1.6	1.6	1.6
22.700	1.5	1.5	1.5	1.5	1.5	1.5	1.5
23.400	1.5	1.4	1.4	1.4	1.4	1.4	1.4
24.100	1.4	1.3	1.2	1.1	1.0	0.8	0.7
24.800	0.6	0.6	0.0				

STORM 5-yr

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Elevation (ft)	Peak Time (hr)	Peak Flow Rate (cfs)	Peak Flow Rate (csm)
DA01	0.073		2.478		12.52	45.0	620.29

Line

Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
8.900	0.5	0.5	0.6	0.6	0.7	0.7	0.8
9.600	0.9	1.0	1.0	1.1	1.2	1.4	1.5
10.300	1.6	1.7	1.9	2.0	2.2	2.4	2.7
11.000	2.9	3.3	3.7	4.1	4.7	5.4	6.2
11.700	7.3	8.9	11.0	14.6	20.8	29.1	37.2
12.400	42.9	44.8	44.3	42.6	40.4	38.0	35.6
13.100	33.2	31.0	28.9	26.9	25.0	23.3	21.6
13.800	20.1	18.7	17.4	16.2	15.1	14.1	13.2

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
 ULTIMATE CONDITIONS - SUBDRAINAGE AREA 3

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
14.500	12.4	11.6	10.8	10.1	9.4	8.9	8.4
15.200	7.9	7.4	7.1	6.7	6.4	6.2	5.9
15.900	5.7	5.5	5.3	5.1	4.9	4.8	4.7
16.600	4.5	4.4	4.3	4.2	4.1	4.1	4.0
17.300	3.9	3.8	3.8	3.7	3.6	3.5	3.5
18.000	3.4	3.3	3.3	3.2	3.1	3.1	3.0
18.700	3.0	2.9	2.9	2.9	2.8	2.8	2.8
19.400	2.7	2.7	2.7	2.7	2.6	2.6	2.6
20.100	2.6	2.6	2.5	2.5	2.5	2.5	2.5
20.800	2.5	2.4	2.4	2.4	2.4	2.4	2.4
21.500	2.3	2.3	2.3	2.3	2.3	2.3	2.2
22.200	2.2	2.2	2.2	2.2	2.2	2.1	2.1
22.900	2.1	2.1	2.1	2.1	2.0	2.0	2.0
23.600	2.0	2.0	2.0	1.9	1.9	1.9	1.8
24.300	1.7	1.5	1.3	1.2	1.0	0.9	0.8
25.000	0.7	0.6	0.5	0.0			

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Elevation (ft)	Peak Time (hr)	Flow Rate (cfs)	Rate (csm)
OUTLET	0.073		2.478		12.52	45.0	620.29

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
8.900	0.5	0.5	0.6	0.6	0.7	0.7	0.8
9.600	0.9	1.0	1.0	1.1	1.2	1.4	1.5
10.300	1.6	1.7	1.9	2.0	2.2	2.4	2.7
11.000	2.9	3.3	3.7	4.1	4.7	5.4	6.2
11.700	7.3	8.9	11.0	14.6	20.8	29.1	37.2
12.400	42.9	44.8	44.3	42.6	40.4	38.0	35.6
13.100	33.2	31.0	28.9	26.9	25.0	23.3	21.6
13.800	20.1	18.7	17.4	16.2	15.1	14.1	13.2
14.500	12.4	11.6	10.8	10.1	9.4	8.9	8.4
15.200	7.9	7.4	7.1	6.7	6.4	6.2	5.9
15.900	5.7	5.5	5.3	5.1	4.9	4.8	4.7
16.600	4.5	4.4	4.3	4.2	4.1	4.1	4.0
17.300	3.9	3.8	3.8	3.7	3.6	3.5	3.5
18.000	3.4	3.3	3.3	3.2	3.1	3.1	3.0
18.700	3.0	2.9	2.9	2.9	2.8	2.8	2.8
19.400	2.7	2.7	2.7	2.7	2.6	2.6	2.6
20.100	2.6	2.6	2.5	2.5	2.5	2.5	2.5
20.800	2.5	2.4	2.4	2.4	2.4	2.4	2.4
21.500	2.3	2.3	2.3	2.3	2.3	2.3	2.2
22.200	2.2	2.2	2.2	2.2	2.2	2.1	2.1
22.900	2.1	2.1	2.1	2.1	2.0	2.0	2.0
23.600	2.0	2.0	2.0	1.9	1.9	1.9	1.8
24.300	1.7	1.5	1.3	1.2	1.0	0.9	0.8

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
 ULTIMATE CONDITIONS - SUBDRAINAGE AREA 3

Line Start Time (hr)	----- (cfs)	Flow Values @ (cfs)	time increment (cfs)	of 0.100 hr (cfs)	----- (cfs)	----- (cfs)	----- (cfs)
25.000	0.7	0.6	0.5	0.0			

STORM 10-yr

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	----- Elevation (ft)	Peak Flow Time (hr)	Rate (cfs)	Rate (csm)
DA01	0.073		3.228		12.53	58.8	809.38

Line Start Time (hr)	----- (cfs)	Flow Values @ (cfs)	time increment (cfs)	of 0.100 hr (cfs)	----- (cfs)	----- (cfs)	----- (cfs)
8.000	0.5	0.5	0.6	0.6	0.7	0.7	0.8
8.700	0.9	0.9	1.0	1.1	1.1	1.2	1.3
9.400	1.4	1.5	1.6	1.7	1.8	2.0	2.1
10.100	2.3	2.5	2.6	2.8	3.0	3.2	3.5
10.800	3.8	4.1	4.5	5.0	5.5	6.1	6.9
11.500	7.8	8.9	10.4	12.5	15.4	20.0	28.0
12.200	38.8	49.2	56.3	58.6	57.6	55.3	52.3
12.900	49.1	45.9	42.9	39.9	37.1	34.5	32.1
13.600	29.8	27.6	25.6	23.8	22.2	20.6	19.2
14.300	17.9	16.8	15.7	14.6	13.6	12.7	11.9
15.000	11.2	10.5	9.9	9.4	8.9	8.4	8.1
15.700	7.7	7.4	7.1	6.9	6.6	6.4	6.2
16.400	6.0	5.8	5.7	5.5	5.4	5.3	5.2
17.100	5.1	5.0	4.9	4.8	4.7	4.6	4.5
17.800	4.4	4.3	4.2	4.2	4.1	4.0	3.9
18.500	3.8	3.8	3.7	3.7	3.6	3.6	3.5
19.200	3.5	3.4	3.4	3.4	3.4	3.3	3.3
19.900	3.3	3.2	3.2	3.2	3.2	3.1	3.1
20.600	3.1	3.1	3.1	3.0	3.0	3.0	3.0
21.300	2.9	2.9	2.9	2.9	2.9	2.8	2.8
22.000	2.8	2.8	2.8	2.7	2.7	2.7	2.7
22.700	2.7	2.6	2.6	2.6	2.6	2.5	2.5
23.400	2.5	2.5	2.5	2.4	2.4	2.4	2.4
24.100	2.3	2.2	2.1	1.9	1.6	1.4	1.3
24.800	1.1	1.0	0.8	0.7	0.6	0.6	0.0

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	----- Elevation (ft)	Peak Flow Time (hr)	Rate (cfs)	Rate (csm)
OUTLET	0.073		3.228		12.53	58.8	809.38

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
 ULTIMATE CONDITIONS - SUBDRAINAGE AREA 3

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
8.000	0.5	0.5	0.6	0.6	0.7	0.7	0.8
8.700	0.9	0.9	1.0	1.1	1.1	1.2	1.3
9.400	1.4	1.5	1.6	1.7	1.8	2.0	2.1
10.100	2.3	2.5	2.6	2.8	3.0	3.2	3.5
10.800	3.8	4.1	4.5	5.0	5.5	6.1	6.9
11.500	7.8	8.9	10.4	12.5	15.4	20.0	28.0
12.200	38.8	49.2	56.3	58.6	57.6	55.3	52.3
12.900	49.1	45.9	42.9	39.9	37.1	34.5	32.1
13.600	29.8	27.6	25.6	23.8	22.2	20.6	19.2
14.300	17.9	16.8	15.7	14.6	13.6	12.7	11.9
15.000	11.2	10.5	9.9	9.4	8.9	8.4	8.1
15.700	7.7	7.4	7.1	6.9	6.6	6.4	6.2
16.400	6.0	5.8	5.7	5.5	5.4	5.3	5.2
17.100	5.1	5.0	4.9	4.8	4.7	4.6	4.5
17.800	4.4	4.3	4.2	4.2	4.1	4.0	3.9
18.500	3.8	3.8	3.7	3.7	3.6	3.6	3.5
19.200	3.5	3.4	3.4	3.4	3.4	3.3	3.3
19.900	3.3	3.2	3.2	3.2	3.2	3.1	3.1
20.600	3.1	3.1	3.1	3.0	3.0	3.0	3.0
21.300	2.9	2.9	2.9	2.9	2.9	2.8	2.8
22.000	2.8	2.8	2.8	2.7	2.7	2.7	2.7
22.700	2.7	2.6	2.6	2.6	2.6	2.5	2.5
23.400	2.5	2.5	2.5	2.4	2.4	2.4	2.4
24.100	2.3	2.2	2.1	1.9	1.6	1.4	1.3
24.800	1.1	1.0	0.8	0.7	0.6	0.6	0.0

STORM 25-yr

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	----- Elevation (ft)	Peak Flow Time (hr)	----- Rate (cfs)	----- Rate (csm)
DA01	0.073		4.408		12.46	80.2	1104.19

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
6.900	0.5	0.5	0.6	0.6	0.7	0.8	0.8
7.600	0.9	1.0	1.0	1.1	1.2	1.3	1.3
8.300	1.4	1.5	1.6	1.7	1.8	1.9	2.0
9.000	2.1	2.2	2.3	2.4	2.5	2.7	2.9
9.700	3.0	3.2	3.4	3.7	3.9	4.1	4.4
10.400	4.7	5.0	5.3	5.6	6.0	6.5	7.1
11.100	7.7	8.5	9.4	10.5	11.8	13.4	15.5
11.800	18.4	22.6	29.1	39.9	54.5	68.4	77.4
12.500	79.9	78.2	74.8	70.6	66.2	61.8	57.6
13.200	53.6	49.8	46.2	42.9	39.7	36.8	34.2
13.900	31.7	29.5	27.4	25.5	23.8	22.2	20.7
14.600	19.3	18.0	16.8	15.6	14.6	13.8	13.0

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
 ULTIMATE CONDITIONS - SUBDRAINAGE AREA 3

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
15.300	12.3	11.6	11.0	10.5	10.1	9.7	9.3
16.000	9.0	8.7	8.3	8.0	7.8	7.5	7.4
16.700	7.2	7.0	6.9	6.7	6.6	6.4	6.3
17.400	6.2	6.1	6.0	5.8	5.7	5.6	5.5
18.100	5.4	5.3	5.2	5.1	5.0	4.9	4.8
18.800	4.7	4.7	4.6	4.6	4.5	4.5	4.4
19.500	4.4	4.3	4.3	4.3	4.2	4.2	4.2
20.200	4.1	4.1	4.1	4.0	4.0	4.0	3.9
20.900	3.9	3.9	3.9	3.8	3.8	3.8	3.8
21.600	3.7	3.7	3.7	3.6	3.6	3.6	3.6
22.300	3.5	3.5	3.5	3.5	3.4	3.4	3.4
23.000	3.3	3.3	3.3	3.3	3.2	3.2	3.2
23.700	3.2	3.1	3.1	3.1	3.0	2.9	2.7
24.400	2.4	2.1	1.9	1.6	1.4	1.2	1.1
25.100	0.9	0.8	0.7	0.6	0.5	0.0	

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Elevation (ft)	Peak Time (hr)	Flow Rate (cfs)	Rate (csm)
OUTLET	0.073		4.408		12.46	80.2	1104.19

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
6.900	0.5	0.5	0.6	0.6	0.7	0.8	0.8
7.600	0.9	1.0	1.0	1.1	1.2	1.3	1.3
8.300	1.4	1.5	1.6	1.7	1.8	1.9	2.0
9.000	2.1	2.2	2.3	2.4	2.5	2.7	2.9
9.700	3.0	3.2	3.4	3.7	3.9	4.1	4.4
10.400	4.7	5.0	5.3	5.6	6.0	6.5	7.1
11.100	7.7	8.5	9.4	10.5	11.8	13.4	15.5
11.800	18.4	22.6	29.1	39.9	54.5	68.4	77.4
12.500	79.9	78.2	74.8	70.6	66.2	61.8	57.6
13.200	53.6	49.8	46.2	42.9	39.7	36.8	34.2
13.900	31.7	29.5	27.4	25.5	23.8	22.2	20.7
14.600	19.3	18.0	16.8	15.6	14.6	13.8	13.0
15.300	12.3	11.6	11.0	10.5	10.1	9.7	9.3
16.000	9.0	8.7	8.3	8.0	7.8	7.5	7.4
16.700	7.2	7.0	6.9	6.7	6.6	6.4	6.3
17.400	6.2	6.1	6.0	5.8	5.7	5.6	5.5
18.100	5.4	5.3	5.2	5.1	5.0	4.9	4.8
18.800	4.7	4.7	4.6	4.6	4.5	4.5	4.4
19.500	4.4	4.3	4.3	4.3	4.2	4.2	4.2
20.200	4.1	4.1	4.1	4.0	4.0	4.0	3.9
20.900	3.9	3.9	3.9	3.8	3.8	3.8	3.8
21.600	3.7	3.7	3.7	3.6	3.6	3.6	3.6
22.300	3.5	3.5	3.5	3.5	3.4	3.4	3.4
23.000	3.3	3.3	3.3	3.3	3.2	3.2	3.2

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
 ULTIMATE CONDITIONS - SUBDRAINAGE AREA 3

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
23.700	3.2	3.1	3.1	3.1	3.0	2.9	2.7
24.400	2.4	2.1	1.9	1.6	1.4	1.2	1.1
25.100	0.9	0.8	0.7	0.6	0.5	0.0	

STORM 50-yr

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Elevation (ft)	Peak Time (hr)	Flow Rate (cfs)	Rate Rate (csm)
DA01	0.073		5.463		12.51	99.1	1364.90

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
6.100	0.5	0.5	0.6	0.6	0.7	0.7	0.8
6.800	0.9	0.9	1.0	1.1	1.2	1.3	1.3
7.500	1.4	1.5	1.6	1.7	1.8	1.9	2.0
8.200	2.1	2.2	2.4	2.5	2.6	2.7	2.8
8.900	3.0	3.1	3.2	3.4	3.5	3.7	3.9
9.600	4.1	4.3	4.6	4.9	5.1	5.4	5.8
10.300	6.1	6.4	6.8	7.2	7.6	8.2	8.8
11.000	9.5	10.3	11.3	12.5	13.9	15.5	17.5
11.700	20.1	23.6	28.6	36.8	50.2	67.6	84.5
12.400	95.6	98.9	96.8	92.4	87.1	81.5	76.0
13.100	70.7	65.7	61.0	56.6	52.5	48.6	45.0
13.800	41.7	38.6	35.9	33.3	31.0	28.9	26.9
14.500	25.1	23.4	21.8	20.3	18.9	17.7	16.7
15.200	15.7	14.8	14.0	13.3	12.7	12.2	11.7
15.900	11.2	10.8	10.4	10.0	9.6	9.3	9.1
16.600	8.8	8.6	8.4	8.2	8.1	7.9	7.7
17.300	7.6	7.4	7.3	7.1	7.0	6.9	6.7
18.000	6.6	6.5	6.3	6.2	6.1	6.0	5.9
18.700	5.8	5.7	5.6	5.5	5.5	5.4	5.4
19.400	5.3	5.2	5.2	5.2	5.1	5.1	5.0
20.100	5.0	4.9	4.9	4.9	4.8	4.8	4.8
20.800	4.7	4.7	4.7	4.6	4.6	4.6	4.5
21.500	4.5	4.5	4.4	4.4	4.4	4.3	4.3
22.200	4.3	4.2	4.2	4.2	4.1	4.1	4.1
22.900	4.0	4.0	4.0	3.9	3.9	3.9	3.8
23.600	3.8	3.8	3.7	3.7	3.7	3.6	3.5
24.300	3.2	2.9	2.5	2.2	1.9	1.7	1.5
25.000	1.3	1.1	1.0	0.9	0.8	0.7	0.6
25.700	0.0						

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
 ULTIMATE CONDITIONS - SUBDRAINAGE AREA 3

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Elevation (ft)	Peak Time (hr)	Peak Flow Rate (cfs)	Peak Flow Rate (csm)
OUTLET	0.073		5.463		12.51	99.1	1364.90

Line Start Time (hr)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)
6.100	0.5	0.5	0.6	0.6	0.7	0.7	0.8
6.800	0.9	0.9	1.0	1.1	1.2	1.3	1.3
7.500	1.4	1.5	1.6	1.7	1.8	1.9	2.0
8.200	2.1	2.2	2.4	2.5	2.6	2.7	2.8
8.900	3.0	3.1	3.2	3.4	3.5	3.7	3.9
9.600	4.1	4.3	4.6	4.9	5.1	5.4	5.8
10.300	6.1	6.4	6.8	7.2	7.6	8.2	8.8
11.000	9.5	10.3	11.3	12.5	13.9	15.5	17.5
11.700	20.1	23.6	28.6	36.8	50.2	67.6	84.5
12.400	95.6	98.9	96.8	92.4	87.1	81.5	76.0
13.100	70.7	65.7	61.0	56.6	52.5	48.6	45.0
13.800	41.7	38.6	35.9	33.3	31.0	28.9	26.9
14.500	25.1	23.4	21.8	20.3	18.9	17.7	16.7
15.200	15.7	14.8	14.0	13.3	12.7	12.2	11.7
15.900	11.2	10.8	10.4	10.0	9.6	9.3	9.1
16.600	8.8	8.6	8.4	8.2	8.1	7.9	7.7
17.300	7.6	7.4	7.3	7.1	7.0	6.9	6.7
18.000	6.6	6.5	6.3	6.2	6.1	6.0	5.9
18.700	5.8	5.7	5.6	5.5	5.5	5.4	5.4
19.400	5.3	5.2	5.2	5.2	5.1	5.1	5.0
20.100	5.0	4.9	4.9	4.9	4.8	4.8	4.8
20.800	4.7	4.7	4.7	4.6	4.6	4.6	4.5
21.500	4.5	4.5	4.4	4.4	4.4	4.3	4.3
22.200	4.3	4.2	4.2	4.2	4.1	4.1	4.1
22.900	4.0	4.0	4.0	3.9	3.9	3.9	3.8
23.600	3.8	3.8	3.7	3.7	3.7	3.6	3.5
24.300	3.2	2.9	2.5	2.2	1.9	1.7	1.5
25.000	1.3	1.1	1.0	0.9	0.8	0.7	0.6
25.700	0.0						

STORM 100-yr

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Elevation (ft)	Peak Time (hr)	Peak Flow Rate (cfs)	Peak Flow Rate (csm)
DA01	0.073		6.677		12.48	120.8	1663.29

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
 ULTIMATE CONDITIONS - SUBDRAINAGE AREA 3

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
5.400	0.5	0.6	0.6	0.7	0.7	0.8	0.9
6.100	0.9	1.0	1.1	1.2	1.2	1.3	1.4
6.800	1.5	1.6	1.7	1.8	1.9	2.0	2.1
7.500	2.2	2.4	2.5	2.6	2.7	2.9	3.0
8.200	3.1	3.3	3.4	3.6	3.7	3.9	4.0
8.900	4.2	4.3	4.5	4.7	4.9	5.1	5.3
9.600	5.6	5.9	6.2	6.6	6.9	7.3	7.7
10.300	8.1	8.5	9.0	9.5	10.0	10.7	11.4
11.000	12.3	13.4	14.6	16.1	17.8	19.8	22.2
11.700	25.4	29.8	36.3	46.4	62.5	83.6	104.0
12.400	117.1	120.3	117.3	111.8	105.3	98.5	91.8
13.100	85.4	79.3	73.6	68.2	63.2	58.5	54.1
13.800	50.1	46.4	43.1	40.0	37.2	34.6	32.2
14.500	30.0	28.0	26.0	24.3	22.6	21.1	19.9
15.200	18.7	17.6	16.7	15.9	15.1	14.5	13.9
15.900	13.3	12.8	12.4	11.9	11.5	11.1	10.8
16.600	10.5	10.2	10.0	9.8	9.6	9.4	9.2
17.300	9.0	8.8	8.6	8.5	8.3	8.1	8.0
18.000	7.8	7.7	7.5	7.4	7.2	7.1	7.0
18.700	6.9	6.8	6.7	6.6	6.5	6.4	6.4
19.400	6.3	6.2	6.2	6.1	6.1	6.0	6.0
20.100	5.9	5.9	5.8	5.8	5.7	5.7	5.6
20.800	5.6	5.6	5.5	5.5	5.4	5.4	5.4
21.500	5.3	5.3	5.2	5.2	5.2	5.1	5.1
22.200	5.1	5.0	5.0	4.9	4.9	4.9	4.8
22.900	4.8	4.7	4.7	4.7	4.6	4.6	4.6
23.600	4.5	4.5	4.4	4.4	4.4	4.3	4.1
24.300	3.8	3.4	3.0	2.6	2.3	2.0	1.8
25.000	1.5	1.3	1.2	1.0	0.9	0.8	0.7
25.700	0.6	0.0					

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Peak Flow Elevation (ft)	Time (hr)	Rate (cfs)	Rate (csm)
OUTLET	0.073		6.677		12.48	120.8	1663.29

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
5.400	0.5	0.6	0.6	0.7	0.7	0.8	0.9
6.100	0.9	1.0	1.1	1.2	1.2	1.3	1.4
6.800	1.5	1.6	1.7	1.8	1.9	2.0	2.1
7.500	2.2	2.4	2.5	2.6	2.7	2.9	3.0
8.200	3.1	3.3	3.4	3.6	3.7	3.9	4.0
8.900	4.2	4.3	4.5	4.7	4.9	5.1	5.3
9.600	5.6	5.9	6.2	6.6	6.9	7.3	7.7
10.300	8.1	8.5	9.0	9.5	10.0	10.7	11.4
11.000	12.3	13.4	14.6	16.1	17.8	19.8	22.2

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
 ULTIMATE CONDITIONS - SUBDRAINAGE AREA 3

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
11.700	25.4	29.8	36.3	46.4	62.5	83.6	104.0
12.400	117.1	120.3	117.3	111.8	105.3	98.5	91.8
13.100	85.4	79.3	73.6	68.2	63.2	58.5	54.1
13.800	50.1	46.4	43.1	40.0	37.2	34.6	32.2
14.500	30.0	28.0	26.0	24.3	22.6	21.1	19.9
15.200	18.7	17.6	16.7	15.9	15.1	14.5	13.9
15.900	13.3	12.8	12.4	11.9	11.5	11.1	10.8
16.600	10.5	10.2	10.0	9.8	9.6	9.4	9.2
17.300	9.0	8.8	8.6	8.5	8.3	8.1	8.0
18.000	7.8	7.7	7.5	7.4	7.2	7.1	7.0
18.700	6.9	6.8	6.7	6.6	6.5	6.4	6.4
19.400	6.3	6.2	6.2	6.1	6.1	6.0	6.0
20.100	5.9	5.9	5.8	5.8	5.7	5.7	5.6
20.800	5.6	5.6	5.5	5.5	5.4	5.4	5.4
21.500	5.3	5.3	5.2	5.2	5.2	5.1	5.1
22.200	5.1	5.0	5.0	4.9	4.9	4.9	4.8
22.900	4.8	4.7	4.7	4.7	4.6	4.6	4.6
23.600	4.5	4.5	4.4	4.4	4.4	4.3	4.1
24.300	3.8	3.4	3.0	2.6	2.3	2.0	1.8
25.000	1.5	1.3	1.2	1.0	0.9	0.8	0.7
25.700	0.6	0.0					

Area or Reach Identifier	Drainage Area (sq mi)	Peak Flow by Storm				
		1-yr (cfs)	2-yr (cfs)	5-yr (cfs)	10-yr (cfs)	25-yr (cfs)
DA01	0.073	20.8	29.4	45.0	58.8	80.2
OUTLET	0.073	20.8	29.4	45.0	58.8	80.2

Area or Reach Identifier	Drainage Area (sq mi)	Peak Flow by Storm				
		50-yr (cfs)	100-yr (cfs)	(cfs)	(cfs)	(cfs)
DA01	0.073	99.1	120.8			
OUTLET	0.073	99.1	120.8			

WinTR-20: version 3.30 0 0 .001 0
 Maryland, Queen Annes NOAA-C
 CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
 EXISTING CONDITIONS - SUBDRAINAGE AREA 4

SUB-AREA:
 DA01 OUTLET 0.26 85. 1.07 Y

STORM ANALYSIS:
 1-yr 2.67 NOAA_C 2 3.24
 2-yr 3.24 NOAA_C 2 3.24
 5-yr 4.22 NOAA_C 2 3.24
 10-yr 5.06 NOAA_C 2 3.24
 25-yr 6.34 NOAA_C 2 3.24
 50-yr 7.46 NOAA_C 2 3.24
 100-yr 8.73 NOAA_C 2 3.24

DIMENSIONLESS UNIT HYDROGRAPH: delmarva
 0.00000 0.11100 0.35600 0.65500 0.89600
 1.00000 0.92900 0.82800 0.73700 0.65600
 0.58400 0.52100 0.46500 0.41500 0.37100
 0.33100 0.29600 0.26500 0.23700 0.21200
 0.19000 0.17000 0.15300 0.13800 0.12300
 0.10900 0.09700 0.08600 0.07600 0.06600
 0.05700 0.04900 0.04100 0.03300 0.02700
 0.02400 0.02100 0.01800 0.01500 0.01300
 0.01200 0.01100 0.00900 0.00800 0.00800
 0.00600 0.00600 0.00500 0.00500 0.00000

RAINFALL DISTRIBUTION:
 NOAA_C 0.1
 0.0 0.00128 0.00231 0.00335 0.00441
 0.00547 0.00654 0.00763 0.00872 0.00982
 0.01093 0.01206 0.01319 0.01433 0.01548
 0.01665 0.01782 0.01900 0.02019 0.02140
 0.02261 0.02383 0.02506 0.02631 0.02756
 0.02882 0.03009 0.03137 0.03267 0.03397
 0.03528 0.03660 0.03793 0.03927 0.04062
 0.04199 0.04336 0.04474 0.04613 0.04753
 0.04894 0.05036 0.05179 0.05324 0.05469
 0.05615 0.05762 0.05910 0.06059 0.06209
 0.06360 0.06512 0.06665 0.06819 0.06974
 0.07130 0.07287 0.07445 0.07604 0.07764
 0.07925 0.08090 0.08259 0.08432 0.08609
 0.08790 0.08975 0.09164 0.09356 0.09553
 0.09754 0.09959 0.10168 0.10380 0.10597
 0.10818 0.11042 0.11271 0.11503 0.11740
 0.11981 0.12225 0.12474 0.12726 0.12982
 0.13243 0.13507 0.13776 0.14048 0.14324
 0.14605 0.14900 0.15210 0.15536 0.15876
 0.16231 0.16602 0.16987 0.17387 0.17803
 0.18233 0.18678 0.19139 0.19614 0.20104

0.20610	0.21173	0.21793	0.22471	0.23206
0.23999	0.24899	0.25907	0.27022	0.28245
0.29550	0.31572	0.33700	0.36618	0.40669
0.47660	0.59331	0.63382	0.66300	0.68428
0.70450	0.71755	0.72978	0.74093	0.75101
0.76001	0.76794	0.77529	0.78207	0.78827
0.79390	0.79896	0.80386	0.80861	0.81322
0.81767	0.82197	0.82613	0.83013	0.83398
0.83769	0.84124	0.84464	0.84790	0.85100
0.85395	0.85676	0.85952	0.86224	0.86493
0.86757	0.87018	0.87274	0.87526	0.87775
0.88019	0.88260	0.88497	0.88729	0.88958
0.89182	0.89403	0.89620	0.89832	0.90041
0.90246	0.90447	0.90644	0.90836	0.91025
0.91210	0.91391	0.91568	0.91741	0.91910
0.92075	0.92236	0.92396	0.92555	0.92713
0.92870	0.93026	0.93181	0.93335	0.93488
0.93640	0.93791	0.93941	0.94090	0.94238
0.94385	0.94531	0.94676	0.94821	0.94964
0.95106	0.95247	0.95387	0.95526	0.95664
0.95801	0.95938	0.96073	0.96207	0.96340
0.96472	0.96603	0.96733	0.96863	0.96991
0.97118	0.97244	0.97369	0.97494	0.97617
0.97739	0.97860	0.97981	0.98100	0.98218
0.98335	0.98452	0.98567	0.98681	0.98794
0.98907	0.99018	0.99128	0.99237	0.99346
0.99453	0.99559	0.99665	0.99769	0.99872
1.0				

GLOBAL OUTPUT:

1

0.1

NY N

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WinTR-20 Printed Page File

End of Input Data List

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
EXISTING CONDITIONS - SUBDRAINAGE AREA 4

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WinTR-20 Version 3.30

Page

STORM 1-yr

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CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
EXISTING CONDITIONS - SUBDRAINAGE AREA 4

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Elevation (ft)	Peak Time (hr)	Flow Rate (cfs)	Rate (csm)
DA01	0.260		1.315		12.77	61.3	235.80

Line

Start Time (hr)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)
9.900	0.5	0.6	0.7	0.8	0.9	1.1	1.2
10.600	1.4	1.6	1.8	2.1	2.4	2.7	3.1
11.300	3.6	4.2	4.9	5.8	6.9	8.4	10.4
12.000	14.2	19.4	26.1	34.6	42.9	50.8	56.5
12.700	59.7	61.2	61.0	59.8	58.3	56.5	54.5
13.400	52.5	50.4	48.3	46.3	44.3	42.3	40.4
14.100	38.6	36.9	35.3	33.8	32.3	30.9	29.6
14.800	28.4	27.2	26.0	25.0	23.9	22.9	21.9
15.500	21.0	20.1	19.3	18.5	17.7	17.0	16.3
16.200	15.7	15.0	14.4	13.9	13.3	12.8	12.4
16.900	11.9	11.6	11.2	10.8	10.5	10.2	9.9
17.600	9.7	9.4	9.2	9.0	8.7	8.5	8.3
18.300	8.1	7.9	7.7	7.6	7.4	7.2	7.0
19.000	6.8	6.7	6.6	6.5	6.4	6.3	6.2
19.700	6.1	6.0	6.0	5.9	5.8	5.8	5.7
20.400	5.7	5.6	5.5	5.5	5.4	5.4	5.4
21.100	5.3	5.3	5.2	5.2	5.1	5.1	5.1
21.800	5.0	5.0	4.9	4.9	4.9	4.8	4.8
22.500	4.8	4.7	4.7	4.7	4.6	4.6	4.5
23.200	4.5	4.5	4.4	4.4	4.4	4.3	4.3
23.900	4.3	4.2	4.2	4.1	4.0	3.8	3.6
24.600	3.4	3.1	2.9	2.6	2.4	2.2	2.1
25.300	1.9	1.8	1.6	1.5	1.4	1.3	1.2
26.000	1.1	1.0	0.9	0.8	0.8	0.7	0.6
26.700	0.6	0.5	0.0				

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Elevation (ft)	Peak Time (hr)	Flow Rate (cfs)	Rate (csm)
OUTLET	0.260		1.315		12.77	61.3	235.80

Line

Start Time (hr)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)
9.900	0.5	0.6	0.7	0.8	0.9	1.1	1.2
10.600	1.4	1.6	1.8	2.1	2.4	2.7	3.1
11.300	3.6	4.2	4.9	5.8	6.9	8.4	10.4
12.000	14.2	19.4	26.1	34.6	42.9	50.8	56.5
12.700	59.7	61.2	61.0	59.8	58.3	56.5	54.5
13.400	52.5	50.4	48.3	46.3	44.3	42.3	40.4
14.100	38.6	36.9	35.3	33.8	32.3	30.9	29.6

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
EXISTING CONDITIONS - SUBDRAINAGE AREA 4

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
14.800	28.4	27.2	26.0	25.0	23.9	22.9	21.9
15.500	21.0	20.1	19.3	18.5	17.7	17.0	16.3
16.200	15.7	15.0	14.4	13.9	13.3	12.8	12.4
16.900	11.9	11.6	11.2	10.8	10.5	10.2	9.9
17.600	9.7	9.4	9.2	9.0	8.7	8.5	8.3
18.300	8.1	7.9	7.7	7.6	7.4	7.2	7.0
19.000	6.8	6.7	6.6	6.5	6.4	6.3	6.2
19.700	6.1	6.0	6.0	5.9	5.8	5.8	5.7
20.400	5.7	5.6	5.5	5.5	5.4	5.4	5.4
21.100	5.3	5.3	5.2	5.2	5.1	5.1	5.1
21.800	5.0	5.0	4.9	4.9	4.9	4.8	4.8
22.500	4.8	4.7	4.7	4.7	4.6	4.6	4.5
23.200	4.5	4.5	4.4	4.4	4.4	4.3	4.3
23.900	4.3	4.2	4.2	4.1	4.0	3.8	3.6
24.600	3.4	3.1	2.9	2.6	2.4	2.2	2.1
25.300	1.9	1.8	1.6	1.5	1.4	1.3	1.2
26.000	1.1	1.0	0.9	0.8	0.8	0.7	0.6
26.700	0.6	0.5	0.0				

STORM 2-yr

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Elevation (ft)	Peak Time (hr)	Flow Rate (cfs)	Rate (csm)
DA01	0.260		1.792		12.81	84.6	325.47

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
9.000	0.5	0.6	0.6	0.7	0.8	1.0	1.1
9.700	1.2	1.4	1.5	1.7	1.9	2.1	2.4
10.400	2.6	2.9	3.2	3.5	3.8	4.2	4.7
11.100	5.2	5.9	6.6	7.5	8.5	9.8	11.4
11.800	13.5	16.8	21.8	28.7	39.2	50.4	61.9
12.500	71.9	78.9	83.4	84.5	83.6	81.9	79.7
13.200	77.0	74.1	71.3	68.4	65.5	62.6	59.8
13.900	57.1	54.5	52.0	49.6	47.4	45.3	43.3
14.600	41.4	39.6	37.9	36.2	34.7	33.2	31.8
15.300	30.4	29.1	27.8	26.6	25.5	24.4	23.4
16.000	22.4	21.5	20.6	19.7	18.9	18.2	17.4
16.700	16.7	16.1	15.6	15.1	14.6	14.1	13.7
17.400	13.3	12.9	12.6	12.2	11.9	11.6	11.3
18.100	11.0	10.8	10.5	10.2	10.0	9.7	9.5
18.800	9.3	9.0	8.8	8.6	8.5	8.3	8.2
19.500	8.1	8.0	7.9	7.8	7.7	7.6	7.5
20.200	7.4	7.3	7.3	7.2	7.1	7.1	7.0
20.900	6.9	6.9	6.8	6.8	6.7	6.6	6.6
21.600	6.5	6.5	6.4	6.4	6.3	6.3	6.2

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
EXISTING CONDITIONS - SUBDRAINAGE AREA 4

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
22.300	6.2	6.1	6.1	6.0	6.0	6.0	5.9
23.000	5.9	5.8	5.8	5.7	5.7	5.6	5.6
23.700	5.5	5.5	5.5	5.4	5.3	5.2	5.1
24.400	4.9	4.6	4.3	4.0	3.7	3.4	3.1
25.100	2.9	2.6	2.4	2.2	2.1	1.9	1.7
25.800	1.6	1.5	1.4	1.2	1.1	1.0	1.0
26.500	0.9	0.8	0.7	0.7	0.6	0.6	0.5
27.200	0.0						

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Elevation (ft)	Peak Flow Time (hr)	Rate (cfs)	Rate (csm)
OUTLET	0.260		1.792		12.81	84.6	325.47

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
9.000	0.5	0.6	0.6	0.7	0.8	1.0	1.1
9.700	1.2	1.4	1.5	1.7	1.9	2.1	2.4
10.400	2.6	2.9	3.2	3.5	3.8	4.2	4.7
11.100	5.2	5.9	6.6	7.5	8.5	9.8	11.4
11.800	13.5	16.8	21.8	28.7	39.2	50.4	61.9
12.500	71.9	78.9	83.4	84.5	83.6	81.9	79.7
13.200	77.0	74.1	71.3	68.4	65.5	62.6	59.8
13.900	57.1	54.5	52.0	49.6	47.4	45.3	43.3
14.600	41.4	39.6	37.9	36.2	34.7	33.2	31.8
15.300	30.4	29.1	27.8	26.6	25.5	24.4	23.4
16.000	22.4	21.5	20.6	19.7	18.9	18.2	17.4
16.700	16.7	16.1	15.6	15.1	14.6	14.1	13.7
17.400	13.3	12.9	12.6	12.2	11.9	11.6	11.3
18.100	11.0	10.8	10.5	10.2	10.0	9.7	9.5
18.800	9.3	9.0	8.8	8.6	8.5	8.3	8.2
19.500	8.1	8.0	7.9	7.8	7.7	7.6	7.5
20.200	7.4	7.3	7.3	7.2	7.1	7.1	7.0
20.900	6.9	6.9	6.8	6.8	6.7	6.6	6.6
21.600	6.5	6.5	6.4	6.4	6.3	6.3	6.2
22.300	6.2	6.1	6.1	6.0	6.0	6.0	5.9
23.000	5.9	5.8	5.8	5.7	5.7	5.6	5.6
23.700	5.5	5.5	5.5	5.4	5.3	5.2	5.1
24.400	4.9	4.6	4.3	4.0	3.7	3.4	3.1
25.100	2.9	2.6	2.4	2.2	2.1	1.9	1.7
25.800	1.6	1.5	1.4	1.2	1.1	1.0	1.0
26.500	0.9	0.8	0.7	0.7	0.6	0.6	0.5
27.200	0.0						

STORM 5-yr

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
EXISTING CONDITIONS - SUBDRAINAGE AREA 4

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Elevation (ft)	Peak Time (hr)	Flow Rate (cfs)	Rate (csm)
DA01	0.260		2.655		12.82	126.5	486.54

Line

Start Time (hr)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)
7.700	0.5	0.6	0.7	0.8	0.9	1.0	1.1
8.400	1.2	1.4	1.5	1.6	1.8	1.9	2.1
9.100	2.3	2.4	2.6	2.8	3.1	3.3	3.6
9.800	3.8	4.1	4.5	4.8	5.2	5.6	6.0
10.500	6.5	7.0	7.5	8.1	8.7	9.5	10.4
11.200	11.4	12.6	14.0	15.8	17.8	20.4	23.7
11.900	28.8	36.1	46.7	61.8	78.1	95.0	109.1
12.600	119.1	125.5	126.3	124.7	121.8	118.1	113.9
13.300	109.5	105.1	100.6	96.2	91.8	87.6	83.5
14.000	79.6	75.8	72.2	68.9	65.7	62.7	59.9
14.700	57.2	54.7	52.3	50.0	47.8	45.7	43.7
15.400	41.7	39.8	38.1	36.4	34.8	33.3	31.9
16.100	30.5	29.2	28.0	26.8	25.6	24.6	23.6
16.800	22.7	21.9	21.1	20.4	19.8	19.2	18.6
17.500	18.0	17.5	17.1	16.6	16.2	15.7	15.3
18.200	15.0	14.6	14.2	13.9	13.5	13.2	12.9
18.900	12.5	12.2	11.9	11.7	11.5	11.3	11.1
19.600	11.0	10.8	10.7	10.6	10.5	10.3	10.2
20.300	10.1	10.0	9.9	9.8	9.7	9.6	9.6
21.000	9.5	9.4	9.3	9.2	9.1	9.1	9.0
21.700	8.9	8.9	8.8	8.7	8.7	8.6	8.5
22.400	8.5	8.4	8.3	8.3	8.2	8.1	8.1
23.100	8.0	7.9	7.9	7.8	7.7	7.7	7.6
23.800	7.6	7.5	7.4	7.3	7.2	7.0	6.7
24.500	6.3	5.9	5.5	5.0	4.7	4.3	3.9
25.200	3.6	3.3	3.1	2.8	2.6	2.4	2.2
25.900	2.0	1.9	1.7	1.6	1.4	1.3	1.2
26.600	1.1	1.0	0.9	0.8	0.8	0.7	0.6
27.300	0.6	0.5	0.0				

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Elevation (ft)	Peak Time (hr)	Flow Rate (cfs)	Rate (csm)
OUTLET	0.260		2.655		12.82	126.5	486.54

Line

Start Time (hr)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)
7.700	0.5	0.6	0.7	0.8	0.9	1.0	1.1
8.400	1.2	1.4	1.5	1.6	1.8	1.9	2.1
9.100	2.3	2.4	2.6	2.8	3.1	3.3	3.6

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
EXISTING CONDITIONS - SUBDRAINAGE AREA 4

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
9.800	3.8	4.1	4.5	4.8	5.2	5.6	6.0
10.500	6.5	7.0	7.5	8.1	8.7	9.5	10.4
11.200	11.4	12.6	14.0	15.8	17.8	20.4	23.7
11.900	28.8	36.1	46.7	61.8	78.1	95.0	109.1
12.600	119.1	125.5	126.3	124.7	121.8	118.1	113.9
13.300	109.5	105.1	100.6	96.2	91.8	87.6	83.5
14.000	79.6	75.8	72.2	68.9	65.7	62.7	59.9
14.700	57.2	54.7	52.3	50.0	47.8	45.7	43.7
15.400	41.7	39.8	38.1	36.4	34.8	33.3	31.9
16.100	30.5	29.2	28.0	26.8	25.6	24.6	23.6
16.800	22.7	21.9	21.1	20.4	19.8	19.2	18.6
17.500	18.0	17.5	17.1	16.6	16.2	15.7	15.3
18.200	15.0	14.6	14.2	13.9	13.5	13.2	12.9
18.900	12.5	12.2	11.9	11.7	11.5	11.3	11.1
19.600	11.0	10.8	10.7	10.6	10.5	10.3	10.2
20.300	10.1	10.0	9.9	9.8	9.7	9.6	9.6
21.000	9.5	9.4	9.3	9.2	9.1	9.1	9.0
21.700	8.9	8.9	8.8	8.7	8.7	8.6	8.5
22.400	8.5	8.4	8.3	8.3	8.2	8.1	8.1
23.100	8.0	7.9	7.9	7.8	7.7	7.7	7.6
23.800	7.6	7.5	7.4	7.3	7.2	7.0	6.7
24.500	6.3	5.9	5.5	5.0	4.7	4.3	3.9
25.200	3.6	3.3	3.1	2.8	2.6	2.4	2.2
25.900	2.0	1.9	1.7	1.6	1.4	1.3	1.2
26.600	1.1	1.0	0.9	0.8	0.8	0.7	0.6
27.300	0.6	0.5	0.0				

STORM 10-yr

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Peak Flow			
				Elevation (ft)	Time (hr)	Rate (cfs)	Rate (csm)
DA01	0.260		3.424		12.82	163.3	627.92

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
6.800	0.5	0.6	0.6	0.7	0.9	1.0	1.1
7.500	1.2	1.4	1.5	1.6	1.8	2.0	2.1
8.200	2.3	2.5	2.7	2.9	3.1	3.3	3.5
8.900	3.8	4.0	4.2	4.5	4.7	5.0	5.3
9.600	5.7	6.0	6.4	6.9	7.3	7.8	8.3
10.300	8.9	9.5	10.1	10.8	11.5	12.3	13.2
11.000	14.2	15.4	16.8	18.5	20.3	22.6	25.4
11.700	28.8	33.2	39.8	49.4	63.1	82.6	103.4
12.400	124.7	142.4	154.8	162.3	163.1	160.6	156.7
13.100	151.8	146.1	140.3	134.5	128.7	122.9	117.2
13.800	111.7	106.4	101.3	96.4	91.9	87.5	83.4

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
EXISTING CONDITIONS - SUBDRAINAGE AREA 4

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
14.500	79.6	75.9	72.5	69.2	66.1	63.2	60.3
15.200	57.7	55.1	52.5	50.2	47.9	45.7	43.7
15.900	41.8	40.0	38.2	36.6	35.0	33.5	32.1
16.600	30.7	29.4	28.3	27.3	26.3	25.4	24.6
17.300	23.8	23.1	22.4	21.8	21.2	20.6	20.1
18.000	19.5	19.0	18.6	18.1	17.6	17.2	16.8
18.700	16.3	15.9	15.5	15.0	14.7	14.5	14.2
19.400	14.0	13.8	13.6	13.4	13.2	13.1	12.9
20.100	12.8	12.6	12.5	12.4	12.2	12.1	12.0
20.800	11.9	11.8	11.7	11.6	11.5	11.4	11.3
21.500	11.2	11.1	11.0	10.9	10.8	10.8	10.7
22.200	10.6	10.5	10.4	10.3	10.3	10.2	10.1
22.900	10.0	9.9	9.9	9.8	9.7	9.6	9.5
23.600	9.5	9.4	9.3	9.2	9.2	9.0	8.9
24.300	8.6	8.2	7.8	7.3	6.7	6.2	5.7
25.000	5.3	4.9	4.5	4.1	3.8	3.5	3.2
25.700	2.9	2.7	2.5	2.3	2.1	1.9	1.8
26.400	1.6	1.5	1.4	1.2	1.1	1.0	0.9
27.100	0.9	0.8	0.7	0.6	0.6	0.5	0.0

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Elevation (ft)	Peak Flow Time (hr)	Rate (cfs)	Rate (csm)
OUTLET	0.260		3.424		12.82	163.3	627.92

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
6.800	0.5	0.6	0.6	0.7	0.9	1.0	1.1
7.500	1.2	1.4	1.5	1.6	1.8	2.0	2.1
8.200	2.3	2.5	2.7	2.9	3.1	3.3	3.5
8.900	3.8	4.0	4.2	4.5	4.7	5.0	5.3
9.600	5.7	6.0	6.4	6.9	7.3	7.8	8.3
10.300	8.9	9.5	10.1	10.8	11.5	12.3	13.2
11.000	14.2	15.4	16.8	18.5	20.3	22.6	25.4
11.700	28.8	33.2	39.8	49.4	63.1	82.6	103.4
12.400	124.7	142.4	154.8	162.3	163.1	160.6	156.7
13.100	151.8	146.1	140.3	134.5	128.7	122.9	117.2
13.800	111.7	106.4	101.3	96.4	91.9	87.5	83.4
14.500	79.6	75.9	72.5	69.2	66.1	63.2	60.3
15.200	57.7	55.1	52.5	50.2	47.9	45.7	43.7
15.900	41.8	40.0	38.2	36.6	35.0	33.5	32.1
16.600	30.7	29.4	28.3	27.3	26.3	25.4	24.6
17.300	23.8	23.1	22.4	21.8	21.2	20.6	20.1
18.000	19.5	19.0	18.6	18.1	17.6	17.2	16.8
18.700	16.3	15.9	15.5	15.0	14.7	14.5	14.2
19.400	14.0	13.8	13.6	13.4	13.2	13.1	12.9
20.100	12.8	12.6	12.5	12.4	12.2	12.1	12.0

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
EXISTING CONDITIONS - SUBDRAINAGE AREA 4

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
20.800	11.9	11.8	11.7	11.6	11.5	11.4	11.3
21.500	11.2	11.1	11.0	10.9	10.8	10.8	10.7
22.200	10.6	10.5	10.4	10.3	10.3	10.2	10.1
22.900	10.0	9.9	9.9	9.8	9.7	9.6	9.5
23.600	9.5	9.4	9.3	9.2	9.2	9.0	8.9
24.300	8.6	8.2	7.8	7.3	6.7	6.2	5.7
25.000	5.3	4.9	4.5	4.1	3.8	3.5	3.2
25.700	2.9	2.7	2.5	2.3	2.1	1.9	1.8
26.400	1.6	1.5	1.4	1.2	1.1	1.0	0.9
27.100	0.9	0.8	0.7	0.6	0.6	0.5	0.0

STORM 25-yr

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Elevation (ft)	Peak Flow Time (hr)	Rate (cfs)	Rate (csm)
DA01	0.260		4.624		12.74	221.2	850.87

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
5.700	0.5	0.5	0.6	0.7	0.8	1.0	1.1
6.400	1.2	1.3	1.5	1.6	1.8	2.0	2.1
7.100	2.3	2.5	2.7	2.9	3.1	3.4	3.6
7.800	3.9	4.1	4.4	4.6	4.9	5.2	5.5
8.500	5.8	6.1	6.4	6.7	7.1	7.4	7.8
9.200	8.1	8.5	8.9	9.4	9.9	10.4	11.0
9.900	11.6	12.3	13.0	13.7	14.5	15.3	16.2
10.600	17.1	18.2	19.3	20.5	22.0	23.7	25.7
11.300	28.0	30.7	33.8	37.5	42.5	48.8	57.0
12.000	70.0	89.2	112.7	140.6	167.8	191.5	210.7
12.700	218.1	220.0	217.2	211.1	204.0	196.3	188.3
13.400	180.2	172.2	164.3	156.6	149.1	141.9	135.0
14.100	128.4	122.2	116.3	110.8	105.6	100.6	96.0
14.800	91.6	87.4	83.4	79.7	76.1	72.6	69.2
15.500	66.0	63.0	60.1	57.4	54.8	52.4	50.1
16.200	47.9	45.7	43.8	41.9	40.0	38.4	36.9
16.900	35.5	34.2	33.1	32.0	30.9	30.0	29.1
17.600	28.2	27.5	26.7	26.0	25.3	24.6	24.0
18.300	23.4	22.8	22.2	21.6	21.1	20.5	20.0
19.000	19.4	19.0	18.6	18.3	18.0	17.7	17.5
19.700	17.2	17.0	16.8	16.6	16.4	16.2	16.1
20.400	15.9	15.7	15.6	15.4	15.3	15.2	15.0
21.100	14.9	14.8	14.6	14.5	14.4	14.3	14.2
21.800	14.0	13.9	13.8	13.7	13.6	13.5	13.4
22.500	13.3	13.2	13.1	13.0	12.9	12.8	12.7
23.200	12.6	12.5	12.4	12.3	12.2	12.1	12.0
23.900	11.9	11.8	11.6	11.4	11.1	10.6	10.0

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
EXISTING CONDITIONS - SUBDRAINAGE AREA 4

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
24.600	9.4	8.7	8.0	7.3	6.8	6.2	5.7
25.300	5.3	4.9	4.5	4.1	3.8	3.5	3.2
26.000	2.9	2.7	2.5	2.3	2.1	1.9	1.7
26.700	1.6	1.5	1.3	1.2	1.1	1.0	0.9
27.400	0.8	0.7	0.7	0.6	0.5	0.0	

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Elevation (ft)	Peak Time (hr)	Flow Rate (cfs)	Rate (csm)
OUTLET	0.260		4.624		12.74	221.2	850.87

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
5.700	0.5	0.5	0.6	0.7	0.8	1.0	1.1
6.400	1.2	1.3	1.5	1.6	1.8	2.0	2.1
7.100	2.3	2.5	2.7	2.9	3.1	3.4	3.6
7.800	3.9	4.1	4.4	4.6	4.9	5.2	5.5
8.500	5.8	6.1	6.4	6.7	7.1	7.4	7.8
9.200	8.1	8.5	8.9	9.4	9.9	10.4	11.0
9.900	11.6	12.3	13.0	13.7	14.5	15.3	16.2
10.600	17.1	18.2	19.3	20.5	22.0	23.7	25.7
11.300	28.0	30.7	33.8	37.5	42.5	48.8	57.0
12.000	70.0	89.2	112.7	140.6	167.8	191.5	210.7
12.700	218.1	220.0	217.2	211.1	204.0	196.3	188.3
13.400	180.2	172.2	164.3	156.6	149.1	141.9	135.0
14.100	128.4	122.2	116.3	110.8	105.6	100.6	96.0
14.800	91.6	87.4	83.4	79.7	76.1	72.6	69.2
15.500	66.0	63.0	60.1	57.4	54.8	52.4	50.1
16.200	47.9	45.7	43.8	41.9	40.0	38.4	36.9
16.900	35.5	34.2	33.1	32.0	30.9	30.0	29.1
17.600	28.2	27.5	26.7	26.0	25.3	24.6	24.0
18.300	23.4	22.8	22.2	21.6	21.1	20.5	20.0
19.000	19.4	19.0	18.6	18.3	18.0	17.7	17.5
19.700	17.2	17.0	16.8	16.6	16.4	16.2	16.1
20.400	15.9	15.7	15.6	15.4	15.3	15.2	15.0
21.100	14.9	14.8	14.6	14.5	14.4	14.3	14.2
21.800	14.0	13.9	13.8	13.7	13.6	13.5	13.4
22.500	13.3	13.2	13.1	13.0	12.9	12.8	12.7
23.200	12.6	12.5	12.4	12.3	12.2	12.1	12.0
23.900	11.9	11.8	11.6	11.4	11.1	10.6	10.0
24.600	9.4	8.7	8.0	7.3	6.8	6.2	5.7
25.300	5.3	4.9	4.5	4.1	3.8	3.5	3.2
26.000	2.9	2.7	2.5	2.3	2.1	1.9	1.7
26.700	1.6	1.5	1.3	1.2	1.1	1.0	0.9
27.400	0.8	0.7	0.7	0.6	0.5	0.0	

STORM 50-yr

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
EXISTING CONDITIONS - SUBDRAINAGE AREA 4

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Elevation (ft)	Peak Time (hr)	Flow Rate (cfs)	Rate (csm)
DA01	0.260		5.693		12.73	271.5	1044.07

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
5.000	0.5	0.6	0.7	0.8	0.9	1.1	1.2
5.700	1.3	1.5	1.7	1.8	2.0	2.2	2.3
6.400	2.5	2.7	2.9	3.1	3.4	3.6	3.8
7.100	4.1	4.4	4.6	4.9	5.2	5.5	5.8
7.800	6.2	6.5	6.8	7.2	7.6	7.9	8.3
8.500	8.7	9.1	9.5	9.9	10.4	10.8	11.2
9.200	11.7	12.2	12.7	13.3	13.9	14.6	15.3
9.900	16.1	17.0	17.9	18.8	19.8	20.9	22.0
10.600	23.2	24.4	25.9	27.5	29.3	31.5	33.9
11.300	36.7	40.2	44.1	48.8	54.8	62.7	73.2
12.000	88.3	112.2	141.0	174.6	207.9	236.2	258.6
12.700	268.5	269.8	266.0	258.5	249.5	239.9	230.0
13.400	220.0	210.1	200.3	190.8	181.6	172.7	164.2
14.100	156.2	148.5	141.2	134.6	128.2	122.1	116.4
14.800	111.1	105.9	101.0	96.5	92.1	87.8	83.7
15.500	79.8	76.1	72.6	69.3	66.2	63.2	60.4
16.200	57.7	55.1	52.7	50.4	48.2	46.1	44.3
16.900	42.6	41.1	39.7	38.4	37.1	35.9	34.9
17.600	33.8	32.9	32.0	31.1	30.3	29.5	28.7
18.300	28.0	27.2	26.5	25.9	25.2	24.5	23.9
19.000	23.2	22.7	22.3	21.9	21.5	21.2	20.9
19.700	20.6	20.3	20.1	19.8	19.6	19.4	19.2
20.400	19.0	18.8	18.6	18.4	18.3	18.1	17.9
21.100	17.8	17.6	17.5	17.3	17.2	17.0	16.9
21.800	16.8	16.6	16.5	16.4	16.2	16.1	16.0
22.500	15.8	15.7	15.6	15.5	15.4	15.2	15.1
23.200	15.0	14.9	14.7	14.6	14.5	14.4	14.3
23.900	14.1	14.0	13.9	13.6	13.2	12.7	12.0
24.600	11.2	10.3	9.5	8.8	8.1	7.4	6.8
25.300	6.3	5.8	5.3	4.9	4.5	4.1	3.8
26.000	3.5	3.2	2.9	2.7	2.5	2.3	2.1
26.700	1.9	1.7	1.6	1.4	1.3	1.2	1.1
27.400	1.0	0.9	0.8	0.7	0.6	0.6	0.5
28.100	0.0						

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Elevation (ft)	Peak Time (hr)	Flow Rate (cfs)	Rate (csm)
OUTLET	0.260		5.693		12.73	271.5	1044.07

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
EXISTING CONDITIONS - SUBDRAINAGE AREA 4

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
5.000	0.5	0.6	0.7	0.8	0.9	1.1	1.2
5.700	1.3	1.5	1.7	1.8	2.0	2.2	2.3
6.400	2.5	2.7	2.9	3.1	3.4	3.6	3.8
7.100	4.1	4.4	4.6	4.9	5.2	5.5	5.8
7.800	6.2	6.5	6.8	7.2	7.6	7.9	8.3
8.500	8.7	9.1	9.5	9.9	10.4	10.8	11.2
9.200	11.7	12.2	12.7	13.3	13.9	14.6	15.3
9.900	16.1	17.0	17.9	18.8	19.8	20.9	22.0
10.600	23.2	24.4	25.9	27.5	29.3	31.5	33.9
11.300	36.7	40.2	44.1	48.8	54.8	62.7	73.2
12.000	88.3	112.2	141.0	174.6	207.9	236.2	258.6
12.700	268.5	269.8	266.0	258.5	249.5	239.9	230.0
13.400	220.0	210.1	200.3	190.8	181.6	172.7	164.2
14.100	156.2	148.5	141.2	134.6	128.2	122.1	116.4
14.800	111.1	105.9	101.0	96.5	92.1	87.8	83.7
15.500	79.8	76.1	72.6	69.3	66.2	63.2	60.4
16.200	57.7	55.1	52.7	50.4	48.2	46.1	44.3
16.900	42.6	41.1	39.7	38.4	37.1	35.9	34.9
17.600	33.8	32.9	32.0	31.1	30.3	29.5	28.7
18.300	28.0	27.2	26.5	25.9	25.2	24.5	23.9
19.000	23.2	22.7	22.3	21.9	21.5	21.2	20.9
19.700	20.6	20.3	20.1	19.8	19.6	19.4	19.2
20.400	19.0	18.8	18.6	18.4	18.3	18.1	17.9
21.100	17.8	17.6	17.5	17.3	17.2	17.0	16.9
21.800	16.8	16.6	16.5	16.4	16.2	16.1	16.0
22.500	15.8	15.7	15.6	15.5	15.4	15.2	15.1
23.200	15.0	14.9	14.7	14.6	14.5	14.4	14.3
23.900	14.1	14.0	13.9	13.6	13.2	12.7	12.0
24.600	11.2	10.3	9.5	8.8	8.1	7.4	6.8
25.300	6.3	5.8	5.3	4.9	4.5	4.1	3.8
26.000	3.5	3.2	2.9	2.7	2.5	2.3	2.1
26.700	1.9	1.7	1.6	1.4	1.3	1.2	1.1
27.400	1.0	0.9	0.8	0.7	0.6	0.6	0.5
28.100	0.0						

STORM 100-yr

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	----- Elevation (ft)	Peak Time (hr)	Flow Rate (cfs)	----- Rate (csm)
DA01	0.260		6.919		12.80	326.9	1257.39

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
4.400	0.5	0.6	0.7	0.8	1.0	1.2	1.3
5.100	1.5	1.7	1.9	2.1	2.3	2.5	2.7
5.800	2.9	3.2	3.4	3.6	3.8	4.1	4.3

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
EXISTING CONDITIONS - SUBDRAINAGE AREA 4

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
6.500	4.6	4.9	5.2	5.5	5.8	6.1	6.4
7.200	6.8	7.1	7.5	7.9	8.3	8.7	9.1
7.900	9.5	10.0	10.4	10.9	11.4	11.8	12.3
8.600	12.8	13.3	13.9	14.4	14.9	15.5	16.1
9.300	16.7	17.3	18.0	18.8	19.7	20.6	21.6
10.000	22.6	23.7	24.9	26.2	27.5	28.8	30.3
10.700	31.9	33.6	35.6	37.9	40.5	43.5	47.1
11.400	51.2	55.9	61.9	69.1	77.8	91.5	111.7
12.100	138.6	176.2	216.7	256.5	291.2	313.0	325.1
12.800	326.9	320.0	311.0	300.3	288.4	276.3	264.2
13.500	252.2	240.5	229.0	217.8	207.1	196.9	187.1
14.200	177.9	169.3	161.1	153.4	146.2	139.3	132.7
14.900	126.6	120.8	115.2	109.9	104.8	99.9	95.2
15.600	90.8	86.6	82.6	78.9	75.3	71.8	68.6
16.300	65.6	62.6	59.8	57.2	54.8	52.5	50.6
17.000	48.8	47.1	45.5	44.1	42.6	41.3	40.2
17.700	39.0	38.0	36.9	35.9	34.9	34.0	33.1
18.400	32.3	31.4	30.6	29.9	29.1	28.2	27.5
19.100	26.8	26.3	25.9	25.5	25.1	24.7	24.4
19.800	24.1	23.8	23.5	23.2	22.9	22.7	22.5
20.500	22.2	22.0	21.8	21.6	21.4	21.2	21.0
21.200	20.8	20.7	20.5	20.3	20.1	20.0	19.8
21.900	19.7	19.5	19.3	19.2	19.0	18.9	18.7
22.600	18.6	18.4	18.3	18.2	18.0	17.9	17.7
23.300	17.6	17.4	17.3	17.1	17.0	16.9	16.7
24.000	16.6	16.4	16.0	15.5	14.9	14.1	13.2
24.700	12.2	11.3	10.4	9.5	8.8	8.1	7.4
25.400	6.9	6.3	5.8	5.3	4.9	4.5	4.1
26.100	3.8	3.5	3.2	2.9	2.7	2.5	2.3
26.800	2.1	1.9	1.7	1.6	1.4	1.3	1.2
27.500	1.0	0.9	0.8	0.8	0.7	0.6	0.5
28.200	0.0						

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Elevation (ft)	Peak Flow Time (hr)	Rate (cfs)	Rate (csm)
OUTLET	0.260		6.919		12.80	326.9	1257.39

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
4.400	0.5	0.6	0.7	0.8	1.0	1.2	1.3
5.100	1.5	1.7	1.9	2.1	2.3	2.5	2.7
5.800	2.9	3.2	3.4	3.6	3.8	4.1	4.3
6.500	4.6	4.9	5.2	5.5	5.8	6.1	6.4
7.200	6.8	7.1	7.5	7.9	8.3	8.7	9.1
7.900	9.5	10.0	10.4	10.9	11.4	11.8	12.3
8.600	12.8	13.3	13.9	14.4	14.9	15.5	16.1

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
EXISTING CONDITIONS - SUBDRAINAGE AREA 4

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
9.300	16.7	17.3	18.0	18.8	19.7	20.6	21.6
10.000	22.6	23.7	24.9	26.2	27.5	28.8	30.3
10.700	31.9	33.6	35.6	37.9	40.5	43.5	47.1
11.400	51.2	55.9	61.9	69.1	77.8	91.5	111.7
12.100	138.6	176.2	216.7	256.5	291.2	313.0	325.1
12.800	326.9	320.0	311.0	300.3	288.4	276.3	264.2
13.500	252.2	240.5	229.0	217.8	207.1	196.9	187.1
14.200	177.9	169.3	161.1	153.4	146.2	139.3	132.7
14.900	126.6	120.8	115.2	109.9	104.8	99.9	95.2
15.600	90.8	86.6	82.6	78.9	75.3	71.8	68.6
16.300	65.6	62.6	59.8	57.2	54.8	52.5	50.6
17.000	48.8	47.1	45.5	44.1	42.6	41.3	40.2
17.700	39.0	38.0	36.9	35.9	34.9	34.0	33.1
18.400	32.3	31.4	30.6	29.9	29.1	28.2	27.5
19.100	26.8	26.3	25.9	25.5	25.1	24.7	24.4
19.800	24.1	23.8	23.5	23.2	22.9	22.7	22.5
20.500	22.2	22.0	21.8	21.6	21.4	21.2	21.0
21.200	20.8	20.7	20.5	20.3	20.1	20.0	19.8
21.900	19.7	19.5	19.3	19.2	19.0	18.9	18.7
22.600	18.6	18.4	18.3	18.2	18.0	17.9	17.7
23.300	17.6	17.4	17.3	17.1	17.0	16.9	16.7
24.000	16.6	16.4	16.0	15.5	14.9	14.1	13.2
24.700	12.2	11.3	10.4	9.5	8.8	8.1	7.4
25.400	6.9	6.3	5.8	5.3	4.9	4.5	4.1
26.100	3.8	3.5	3.2	2.9	2.7	2.5	2.3
26.800	2.1	1.9	1.7	1.6	1.4	1.3	1.2
27.500	1.0	0.9	0.8	0.8	0.7	0.6	0.5
28.200	0.0						

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
EXISTING CONDITIONS - SUBDRAINAGE AREA 4

Area or Reach Identifier	Drainage Area (sq mi)	Peak Flow by Storm				
		1-yr (cfs)	2-yr (cfs)	5-yr (cfs)	10-yr (cfs)	25-yr (cfs)
DA01	0.260	61.3	84.6	126.5	163.3	221.2
OUTLET	0.260	61.3	84.6	126.5	163.3	221.2

Area or Reach Identifier	Drainage Area (sq mi)	Peak Flow by Storm		
		50-yr (cfs)	100-yr (cfs)	(cfs)
DA01	0.260	271.5	326.9	
OUTLET	0.260	271.5	326.9	

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 Maryland, Queen Annes NOAA-C
 CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
 ULTIMATE CONDITIONS - SUBDRAINAGE AREA 4

SUB-AREA:
 DA01 OUTLET 0.26 85. 1.07 Y

STORM ANALYSIS:
 1-yr 2.67 NOAA_C 2 3.24
 2-yr 3.24 NOAA_C 2 3.24
 5-yr 4.22 NOAA_C 2 3.24
 10-yr 5.06 NOAA_C 2 3.24
 25-yr 6.34 NOAA_C 2 3.24
 50-yr 7.46 NOAA_C 2 3.24
 100-yr 8.73 NOAA_C 2 3.24

DIMENSIONLESS UNIT HYDROGRAPH: delmarva
 0.00000 0.11100 0.35600 0.65500 0.89600
 1.00000 0.92900 0.82800 0.73700 0.65600
 0.58400 0.52100 0.46500 0.41500 0.37100
 0.33100 0.29600 0.26500 0.23700 0.21200
 0.19000 0.17000 0.15300 0.13800 0.12300
 0.10900 0.09700 0.08600 0.07600 0.06600
 0.05700 0.04900 0.04100 0.03300 0.02700
 0.02400 0.02100 0.01800 0.01500 0.01300
 0.01200 0.01100 0.00900 0.00800 0.00800
 0.00600 0.00600 0.00500 0.00500 0.00000

RAINFALL DISTRIBUTION:
 NOAA_C 0.1
 0.0 0.00128 0.00231 0.00335 0.00441
 0.00547 0.00654 0.00763 0.00872 0.00982
 0.01093 0.01206 0.01319 0.01433 0.01548
 0.01665 0.01782 0.01900 0.02019 0.02140
 0.02261 0.02383 0.02506 0.02631 0.02756
 0.02882 0.03009 0.03137 0.03267 0.03397
 0.03528 0.03660 0.03793 0.03927 0.04062
 0.04199 0.04336 0.04474 0.04613 0.04753
 0.04894 0.05036 0.05179 0.05324 0.05469
 0.05615 0.05762 0.05910 0.06059 0.06209
 0.06360 0.06512 0.06665 0.06819 0.06974
 0.07130 0.07287 0.07445 0.07604 0.07764
 0.07925 0.08090 0.08259 0.08432 0.08609
 0.08790 0.08975 0.09164 0.09356 0.09553
 0.09754 0.09959 0.10168 0.10380 0.10597
 0.10818 0.11042 0.11271 0.11503 0.11740
 0.11981 0.12225 0.12474 0.12726 0.12982
 0.13243 0.13507 0.13776 0.14048 0.14324
 0.14605 0.14900 0.15210 0.15536 0.15876
 0.16231 0.16602 0.16987 0.17387 0.17803
 0.18233 0.18678 0.19139 0.19614 0.20104

0.20610	0.21173	0.21793	0.22471	0.23206
0.23999	0.24899	0.25907	0.27022	0.28245
0.29550	0.31572	0.33700	0.36618	0.40669
0.47660	0.59331	0.63382	0.66300	0.68428
0.70450	0.71755	0.72978	0.74093	0.75101
0.76001	0.76794	0.77529	0.78207	0.78827
0.79390	0.79896	0.80386	0.80861	0.81322
0.81767	0.82197	0.82613	0.83013	0.83398
0.83769	0.84124	0.84464	0.84790	0.85100
0.85395	0.85676	0.85952	0.86224	0.86493
0.86757	0.87018	0.87274	0.87526	0.87775
0.88019	0.88260	0.88497	0.88729	0.88958
0.89182	0.89403	0.89620	0.89832	0.90041
0.90246	0.90447	0.90644	0.90836	0.91025
0.91210	0.91391	0.91568	0.91741	0.91910
0.92075	0.92236	0.92396	0.92555	0.92713
0.92870	0.93026	0.93181	0.93335	0.93488
0.93640	0.93791	0.93941	0.94090	0.94238
0.94385	0.94531	0.94676	0.94821	0.94964
0.95106	0.95247	0.95387	0.95526	0.95664
0.95801	0.95938	0.96073	0.96207	0.96340
0.96472	0.96603	0.96733	0.96863	0.96991
0.97118	0.97244	0.97369	0.97494	0.97617
0.97739	0.97860	0.97981	0.98100	0.98218
0.98335	0.98452	0.98567	0.98681	0.98794
0.98907	0.99018	0.99128	0.99237	0.99346
0.99453	0.99559	0.99665	0.99769	0.99872
1.0				

GLOBAL OUTPUT:

1

0.1

NY N

NY N

WinTR-20 Printed Page File

End of Input Data List

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
 ULTIMATE CONDITIONS - SUBDRAINAGE AREA 4

Name of printed page file:

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WinTR-20 Version 3.30

Page

STORM 1-yr

1

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CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
 ULTIMATE CONDITIONS - SUBDRAINAGE AREA 4

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Elevation (ft)	Peak Time (hr)	Flow Rate (cfs)	Rate (csm)
DA01	0.260		1.315		12.77	61.3	235.80

Line

Start Time (hr)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)
9.900	0.5	0.6	0.7	0.8	0.9	1.1	1.2
10.600	1.4	1.6	1.8	2.1	2.4	2.7	3.1
11.300	3.6	4.2	4.9	5.8	6.9	8.4	10.4
12.000	14.2	19.4	26.1	34.6	42.9	50.8	56.5
12.700	59.7	61.2	61.0	59.8	58.3	56.5	54.5
13.400	52.5	50.4	48.3	46.3	44.3	42.3	40.4
14.100	38.6	36.9	35.3	33.8	32.3	30.9	29.6
14.800	28.4	27.2	26.0	25.0	23.9	22.9	21.9
15.500	21.0	20.1	19.3	18.5	17.7	17.0	16.3
16.200	15.7	15.0	14.4	13.9	13.3	12.8	12.4
16.900	11.9	11.6	11.2	10.8	10.5	10.2	9.9
17.600	9.7	9.4	9.2	9.0	8.7	8.5	8.3
18.300	8.1	7.9	7.7	7.6	7.4	7.2	7.0
19.000	6.8	6.7	6.6	6.5	6.4	6.3	6.2
19.700	6.1	6.0	6.0	5.9	5.8	5.8	5.7
20.400	5.7	5.6	5.5	5.5	5.4	5.4	5.4
21.100	5.3	5.3	5.2	5.2	5.1	5.1	5.1
21.800	5.0	5.0	4.9	4.9	4.9	4.8	4.8
22.500	4.8	4.7	4.7	4.7	4.6	4.6	4.5
23.200	4.5	4.5	4.4	4.4	4.4	4.3	4.3
23.900	4.3	4.2	4.2	4.1	4.0	3.8	3.6
24.600	3.4	3.1	2.9	2.6	2.4	2.2	2.1
25.300	1.9	1.8	1.6	1.5	1.4	1.3	1.2
26.000	1.1	1.0	0.9	0.8	0.8	0.7	0.6
26.700	0.6	0.5	0.0				

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Elevation (ft)	Peak Time (hr)	Flow Rate (cfs)	Rate (csm)
OUTLET	0.260		1.315		12.77	61.3	235.80

Line

Start Time (hr)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)
9.900	0.5	0.6	0.7	0.8	0.9	1.1	1.2
10.600	1.4	1.6	1.8	2.1	2.4	2.7	3.1
11.300	3.6	4.2	4.9	5.8	6.9	8.4	10.4
12.000	14.2	19.4	26.1	34.6	42.9	50.8	56.5
12.700	59.7	61.2	61.0	59.8	58.3	56.5	54.5
13.400	52.5	50.4	48.3	46.3	44.3	42.3	40.4
14.100	38.6	36.9	35.3	33.8	32.3	30.9	29.6

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
 ULTIMATE CONDITIONS - SUBDRAINAGE AREA 4

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
14.800	28.4	27.2	26.0	25.0	23.9	22.9	21.9
15.500	21.0	20.1	19.3	18.5	17.7	17.0	16.3
16.200	15.7	15.0	14.4	13.9	13.3	12.8	12.4
16.900	11.9	11.6	11.2	10.8	10.5	10.2	9.9
17.600	9.7	9.4	9.2	9.0	8.7	8.5	8.3
18.300	8.1	7.9	7.7	7.6	7.4	7.2	7.0
19.000	6.8	6.7	6.6	6.5	6.4	6.3	6.2
19.700	6.1	6.0	6.0	5.9	5.8	5.8	5.7
20.400	5.7	5.6	5.5	5.5	5.4	5.4	5.4
21.100	5.3	5.3	5.2	5.2	5.1	5.1	5.1
21.800	5.0	5.0	4.9	4.9	4.9	4.8	4.8
22.500	4.8	4.7	4.7	4.7	4.6	4.6	4.5
23.200	4.5	4.5	4.4	4.4	4.4	4.3	4.3
23.900	4.3	4.2	4.2	4.1	4.0	3.8	3.6
24.600	3.4	3.1	2.9	2.6	2.4	2.2	2.1
25.300	1.9	1.8	1.6	1.5	1.4	1.3	1.2
26.000	1.1	1.0	0.9	0.8	0.8	0.7	0.6
26.700	0.6	0.5	0.0				

STORM 2-yr

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Elevation (ft)	Peak Time (hr)	Flow Rate (cfs)	Rate (csm)
DA01	0.260		1.792		12.81	84.6	325.47

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
9.000	0.5	0.6	0.6	0.7	0.8	1.0	1.1
9.700	1.2	1.4	1.5	1.7	1.9	2.1	2.4
10.400	2.6	2.9	3.2	3.5	3.8	4.2	4.7
11.100	5.2	5.9	6.6	7.5	8.5	9.8	11.4
11.800	13.5	16.8	21.8	28.7	39.2	50.4	61.9
12.500	71.9	78.9	83.4	84.5	83.6	81.9	79.7
13.200	77.0	74.1	71.3	68.4	65.5	62.6	59.8
13.900	57.1	54.5	52.0	49.6	47.4	45.3	43.3
14.600	41.4	39.6	37.9	36.2	34.7	33.2	31.8
15.300	30.4	29.1	27.8	26.6	25.5	24.4	23.4
16.000	22.4	21.5	20.6	19.7	18.9	18.2	17.4
16.700	16.7	16.1	15.6	15.1	14.6	14.1	13.7
17.400	13.3	12.9	12.6	12.2	11.9	11.6	11.3
18.100	11.0	10.8	10.5	10.2	10.0	9.7	9.5
18.800	9.3	9.0	8.8	8.6	8.5	8.3	8.2
19.500	8.1	8.0	7.9	7.8	7.7	7.6	7.5
20.200	7.4	7.3	7.3	7.2	7.1	7.1	7.0
20.900	6.9	6.9	6.8	6.8	6.7	6.6	6.6
21.600	6.5	6.5	6.4	6.4	6.3	6.3	6.2

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
 ULTIMATE CONDITIONS - SUBDRAINAGE AREA 4

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
22.300	6.2	6.1	6.1	6.0	6.0	6.0	5.9
23.000	5.9	5.8	5.8	5.7	5.7	5.6	5.6
23.700	5.5	5.5	5.5	5.4	5.3	5.2	5.1
24.400	4.9	4.6	4.3	4.0	3.7	3.4	3.1
25.100	2.9	2.6	2.4	2.2	2.1	1.9	1.7
25.800	1.6	1.5	1.4	1.2	1.1	1.0	1.0
26.500	0.9	0.8	0.7	0.7	0.6	0.6	0.5
27.200	0.0						

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Elevation (ft)	Peak Flow Time (hr)	Rate (cfs)	Rate (csm)
OUTLET	0.260		1.792		12.81	84.6	325.47

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
9.000	0.5	0.6	0.6	0.7	0.8	1.0	1.1
9.700	1.2	1.4	1.5	1.7	1.9	2.1	2.4
10.400	2.6	2.9	3.2	3.5	3.8	4.2	4.7
11.100	5.2	5.9	6.6	7.5	8.5	9.8	11.4
11.800	13.5	16.8	21.8	28.7	39.2	50.4	61.9
12.500	71.9	78.9	83.4	84.5	83.6	81.9	79.7
13.200	77.0	74.1	71.3	68.4	65.5	62.6	59.8
13.900	57.1	54.5	52.0	49.6	47.4	45.3	43.3
14.600	41.4	39.6	37.9	36.2	34.7	33.2	31.8
15.300	30.4	29.1	27.8	26.6	25.5	24.4	23.4
16.000	22.4	21.5	20.6	19.7	18.9	18.2	17.4
16.700	16.7	16.1	15.6	15.1	14.6	14.1	13.7
17.400	13.3	12.9	12.6	12.2	11.9	11.6	11.3
18.100	11.0	10.8	10.5	10.2	10.0	9.7	9.5
18.800	9.3	9.0	8.8	8.6	8.5	8.3	8.2
19.500	8.1	8.0	7.9	7.8	7.7	7.6	7.5
20.200	7.4	7.3	7.3	7.2	7.1	7.1	7.0
20.900	6.9	6.9	6.8	6.8	6.7	6.6	6.6
21.600	6.5	6.5	6.4	6.4	6.3	6.3	6.2
22.300	6.2	6.1	6.1	6.0	6.0	6.0	5.9
23.000	5.9	5.8	5.8	5.7	5.7	5.6	5.6
23.700	5.5	5.5	5.5	5.4	5.3	5.2	5.1
24.400	4.9	4.6	4.3	4.0	3.7	3.4	3.1
25.100	2.9	2.6	2.4	2.2	2.1	1.9	1.7
25.800	1.6	1.5	1.4	1.2	1.1	1.0	1.0
26.500	0.9	0.8	0.7	0.7	0.6	0.6	0.5
27.200	0.0						

STORM 5-yr

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
 ULTIMATE CONDITIONS - SUBDRAINAGE AREA 4

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Elevation (ft)	Peak Time (hr)	Flow Rate (cfs)	Rate (csm)
DA01	0.260		2.655		12.82	126.5	486.54

Line

Start Time (hr)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)
7.700	0.5	0.6	0.7	0.8	0.9	1.0	1.1
8.400	1.2	1.4	1.5	1.6	1.8	1.9	2.1
9.100	2.3	2.4	2.6	2.8	3.1	3.3	3.6
9.800	3.8	4.1	4.5	4.8	5.2	5.6	6.0
10.500	6.5	7.0	7.5	8.1	8.7	9.5	10.4
11.200	11.4	12.6	14.0	15.8	17.8	20.4	23.7
11.900	28.8	36.1	46.7	61.8	78.1	95.0	109.1
12.600	119.1	125.5	126.3	124.7	121.8	118.1	113.9
13.300	109.5	105.1	100.6	96.2	91.8	87.6	83.5
14.000	79.6	75.8	72.2	68.9	65.7	62.7	59.9
14.700	57.2	54.7	52.3	50.0	47.8	45.7	43.7
15.400	41.7	39.8	38.1	36.4	34.8	33.3	31.9
16.100	30.5	29.2	28.0	26.8	25.6	24.6	23.6
16.800	22.7	21.9	21.1	20.4	19.8	19.2	18.6
17.500	18.0	17.5	17.1	16.6	16.2	15.7	15.3
18.200	15.0	14.6	14.2	13.9	13.5	13.2	12.9
18.900	12.5	12.2	11.9	11.7	11.5	11.3	11.1
19.600	11.0	10.8	10.7	10.6	10.5	10.3	10.2
20.300	10.1	10.0	9.9	9.8	9.7	9.6	9.6
21.000	9.5	9.4	9.3	9.2	9.1	9.1	9.0
21.700	8.9	8.9	8.8	8.7	8.7	8.6	8.5
22.400	8.5	8.4	8.3	8.3	8.2	8.1	8.1
23.100	8.0	7.9	7.9	7.8	7.7	7.7	7.6
23.800	7.6	7.5	7.4	7.3	7.2	7.0	6.7
24.500	6.3	5.9	5.5	5.0	4.7	4.3	3.9
25.200	3.6	3.3	3.1	2.8	2.6	2.4	2.2
25.900	2.0	1.9	1.7	1.6	1.4	1.3	1.2
26.600	1.1	1.0	0.9	0.8	0.8	0.7	0.6
27.300	0.6	0.5	0.0				

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Elevation (ft)	Peak Time (hr)	Flow Rate (cfs)	Rate (csm)
OUTLET	0.260		2.655		12.82	126.5	486.54

Line

Start Time (hr)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)
7.700	0.5	0.6	0.7	0.8	0.9	1.0	1.1
8.400	1.2	1.4	1.5	1.6	1.8	1.9	2.1
9.100	2.3	2.4	2.6	2.8	3.1	3.3	3.6

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
 ULTIMATE CONDITIONS - SUBDRAINAGE AREA 4

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
9.800	3.8	4.1	4.5	4.8	5.2	5.6	6.0
10.500	6.5	7.0	7.5	8.1	8.7	9.5	10.4
11.200	11.4	12.6	14.0	15.8	17.8	20.4	23.7
11.900	28.8	36.1	46.7	61.8	78.1	95.0	109.1
12.600	119.1	125.5	126.3	124.7	121.8	118.1	113.9
13.300	109.5	105.1	100.6	96.2	91.8	87.6	83.5
14.000	79.6	75.8	72.2	68.9	65.7	62.7	59.9
14.700	57.2	54.7	52.3	50.0	47.8	45.7	43.7
15.400	41.7	39.8	38.1	36.4	34.8	33.3	31.9
16.100	30.5	29.2	28.0	26.8	25.6	24.6	23.6
16.800	22.7	21.9	21.1	20.4	19.8	19.2	18.6
17.500	18.0	17.5	17.1	16.6	16.2	15.7	15.3
18.200	15.0	14.6	14.2	13.9	13.5	13.2	12.9
18.900	12.5	12.2	11.9	11.7	11.5	11.3	11.1
19.600	11.0	10.8	10.7	10.6	10.5	10.3	10.2
20.300	10.1	10.0	9.9	9.8	9.7	9.6	9.6
21.000	9.5	9.4	9.3	9.2	9.1	9.1	9.0
21.700	8.9	8.9	8.8	8.7	8.7	8.6	8.5
22.400	8.5	8.4	8.3	8.3	8.2	8.1	8.1
23.100	8.0	7.9	7.9	7.8	7.7	7.7	7.6
23.800	7.6	7.5	7.4	7.3	7.2	7.0	6.7
24.500	6.3	5.9	5.5	5.0	4.7	4.3	3.9
25.200	3.6	3.3	3.1	2.8	2.6	2.4	2.2
25.900	2.0	1.9	1.7	1.6	1.4	1.3	1.2
26.600	1.1	1.0	0.9	0.8	0.8	0.7	0.6
27.300	0.6	0.5	0.0				

STORM 10-yr

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Peak Flow			
				Elevation (ft)	Time (hr)	Rate (cfs)	Rate (csm)
DA01	0.260		3.424		12.82	163.3	627.92

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
6.800	0.5	0.6	0.6	0.7	0.9	1.0	1.1
7.500	1.2	1.4	1.5	1.6	1.8	2.0	2.1
8.200	2.3	2.5	2.7	2.9	3.1	3.3	3.5
8.900	3.8	4.0	4.2	4.5	4.7	5.0	5.3
9.600	5.7	6.0	6.4	6.9	7.3	7.8	8.3
10.300	8.9	9.5	10.1	10.8	11.5	12.3	13.2
11.000	14.2	15.4	16.8	18.5	20.3	22.6	25.4
11.700	28.8	33.2	39.8	49.4	63.1	82.6	103.4
12.400	124.7	142.4	154.8	162.3	163.1	160.6	156.7
13.100	151.8	146.1	140.3	134.5	128.7	122.9	117.2
13.800	111.7	106.4	101.3	96.4	91.9	87.5	83.4

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
 ULTIMATE CONDITIONS - SUBDRAINAGE AREA 4

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
14.500	79.6	75.9	72.5	69.2	66.1	63.2	60.3
15.200	57.7	55.1	52.5	50.2	47.9	45.7	43.7
15.900	41.8	40.0	38.2	36.6	35.0	33.5	32.1
16.600	30.7	29.4	28.3	27.3	26.3	25.4	24.6
17.300	23.8	23.1	22.4	21.8	21.2	20.6	20.1
18.000	19.5	19.0	18.6	18.1	17.6	17.2	16.8
18.700	16.3	15.9	15.5	15.0	14.7	14.5	14.2
19.400	14.0	13.8	13.6	13.4	13.2	13.1	12.9
20.100	12.8	12.6	12.5	12.4	12.2	12.1	12.0
20.800	11.9	11.8	11.7	11.6	11.5	11.4	11.3
21.500	11.2	11.1	11.0	10.9	10.8	10.8	10.7
22.200	10.6	10.5	10.4	10.3	10.3	10.2	10.1
22.900	10.0	9.9	9.9	9.8	9.7	9.6	9.5
23.600	9.5	9.4	9.3	9.2	9.2	9.0	8.9
24.300	8.6	8.2	7.8	7.3	6.7	6.2	5.7
25.000	5.3	4.9	4.5	4.1	3.8	3.5	3.2
25.700	2.9	2.7	2.5	2.3	2.1	1.9	1.8
26.400	1.6	1.5	1.4	1.2	1.1	1.0	0.9
27.100	0.9	0.8	0.7	0.6	0.6	0.5	0.0

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Elevation (ft)	Peak Flow Time (hr)	Rate (cfs)	Rate (csm)
OUTLET	0.260		3.424		12.82	163.3	627.92

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
6.800	0.5	0.6	0.6	0.7	0.9	1.0	1.1
7.500	1.2	1.4	1.5	1.6	1.8	2.0	2.1
8.200	2.3	2.5	2.7	2.9	3.1	3.3	3.5
8.900	3.8	4.0	4.2	4.5	4.7	5.0	5.3
9.600	5.7	6.0	6.4	6.9	7.3	7.8	8.3
10.300	8.9	9.5	10.1	10.8	11.5	12.3	13.2
11.000	14.2	15.4	16.8	18.5	20.3	22.6	25.4
11.700	28.8	33.2	39.8	49.4	63.1	82.6	103.4
12.400	124.7	142.4	154.8	162.3	163.1	160.6	156.7
13.100	151.8	146.1	140.3	134.5	128.7	122.9	117.2
13.800	111.7	106.4	101.3	96.4	91.9	87.5	83.4
14.500	79.6	75.9	72.5	69.2	66.1	63.2	60.3
15.200	57.7	55.1	52.5	50.2	47.9	45.7	43.7
15.900	41.8	40.0	38.2	36.6	35.0	33.5	32.1
16.600	30.7	29.4	28.3	27.3	26.3	25.4	24.6
17.300	23.8	23.1	22.4	21.8	21.2	20.6	20.1
18.000	19.5	19.0	18.6	18.1	17.6	17.2	16.8
18.700	16.3	15.9	15.5	15.0	14.7	14.5	14.2
19.400	14.0	13.8	13.6	13.4	13.2	13.1	12.9
20.100	12.8	12.6	12.5	12.4	12.2	12.1	12.0

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
 ULTIMATE CONDITIONS - SUBDRAINAGE AREA 4

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
20.800	11.9	11.8	11.7	11.6	11.5	11.4	11.3
21.500	11.2	11.1	11.0	10.9	10.8	10.8	10.7
22.200	10.6	10.5	10.4	10.3	10.3	10.2	10.1
22.900	10.0	9.9	9.9	9.8	9.7	9.6	9.5
23.600	9.5	9.4	9.3	9.2	9.2	9.0	8.9
24.300	8.6	8.2	7.8	7.3	6.7	6.2	5.7
25.000	5.3	4.9	4.5	4.1	3.8	3.5	3.2
25.700	2.9	2.7	2.5	2.3	2.1	1.9	1.8
26.400	1.6	1.5	1.4	1.2	1.1	1.0	0.9
27.100	0.9	0.8	0.7	0.6	0.6	0.5	0.0

STORM 25-yr

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Peak Flow			
				Elevation (ft)	Time (hr)	Rate (cfs)	Rate (csm)
DA01	0.260		4.624		12.74	221.2	850.87

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
5.700	0.5	0.5	0.6	0.7	0.8	1.0	1.1
6.400	1.2	1.3	1.5	1.6	1.8	2.0	2.1
7.100	2.3	2.5	2.7	2.9	3.1	3.4	3.6
7.800	3.9	4.1	4.4	4.6	4.9	5.2	5.5
8.500	5.8	6.1	6.4	6.7	7.1	7.4	7.8
9.200	8.1	8.5	8.9	9.4	9.9	10.4	11.0
9.900	11.6	12.3	13.0	13.7	14.5	15.3	16.2
10.600	17.1	18.2	19.3	20.5	22.0	23.7	25.7
11.300	28.0	30.7	33.8	37.5	42.5	48.8	57.0
12.000	70.0	89.2	112.7	140.6	167.8	191.5	210.7
12.700	218.1	220.0	217.2	211.1	204.0	196.3	188.3
13.400	180.2	172.2	164.3	156.6	149.1	141.9	135.0
14.100	128.4	122.2	116.3	110.8	105.6	100.6	96.0
14.800	91.6	87.4	83.4	79.7	76.1	72.6	69.2
15.500	66.0	63.0	60.1	57.4	54.8	52.4	50.1
16.200	47.9	45.7	43.8	41.9	40.0	38.4	36.9
16.900	35.5	34.2	33.1	32.0	30.9	30.0	29.1
17.600	28.2	27.5	26.7	26.0	25.3	24.6	24.0
18.300	23.4	22.8	22.2	21.6	21.1	20.5	20.0
19.000	19.4	19.0	18.6	18.3	18.0	17.7	17.5
19.700	17.2	17.0	16.8	16.6	16.4	16.2	16.1
20.400	15.9	15.7	15.6	15.4	15.3	15.2	15.0
21.100	14.9	14.8	14.6	14.5	14.4	14.3	14.2
21.800	14.0	13.9	13.8	13.7	13.6	13.5	13.4
22.500	13.3	13.2	13.1	13.0	12.9	12.8	12.7
23.200	12.6	12.5	12.4	12.3	12.2	12.1	12.0
23.900	11.9	11.8	11.6	11.4	11.1	10.6	10.0

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
 ULTIMATE CONDITIONS - SUBDRAINAGE AREA 4

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
24.600	9.4	8.7	8.0	7.3	6.8	6.2	5.7
25.300	5.3	4.9	4.5	4.1	3.8	3.5	3.2
26.000	2.9	2.7	2.5	2.3	2.1	1.9	1.7
26.700	1.6	1.5	1.3	1.2	1.1	1.0	0.9
27.400	0.8	0.7	0.7	0.6	0.5	0.0	

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Elevation (ft)	Peak Time (hr)	Flow Rate (cfs)	Rate (csm)
OUTLET	0.260		4.624		12.74	221.2	850.87

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
5.700	0.5	0.5	0.6	0.7	0.8	1.0	1.1
6.400	1.2	1.3	1.5	1.6	1.8	2.0	2.1
7.100	2.3	2.5	2.7	2.9	3.1	3.4	3.6
7.800	3.9	4.1	4.4	4.6	4.9	5.2	5.5
8.500	5.8	6.1	6.4	6.7	7.1	7.4	7.8
9.200	8.1	8.5	8.9	9.4	9.9	10.4	11.0
9.900	11.6	12.3	13.0	13.7	14.5	15.3	16.2
10.600	17.1	18.2	19.3	20.5	22.0	23.7	25.7
11.300	28.0	30.7	33.8	37.5	42.5	48.8	57.0
12.000	70.0	89.2	112.7	140.6	167.8	191.5	210.7
12.700	218.1	220.0	217.2	211.1	204.0	196.3	188.3
13.400	180.2	172.2	164.3	156.6	149.1	141.9	135.0
14.100	128.4	122.2	116.3	110.8	105.6	100.6	96.0
14.800	91.6	87.4	83.4	79.7	76.1	72.6	69.2
15.500	66.0	63.0	60.1	57.4	54.8	52.4	50.1
16.200	47.9	45.7	43.8	41.9	40.0	38.4	36.9
16.900	35.5	34.2	33.1	32.0	30.9	30.0	29.1
17.600	28.2	27.5	26.7	26.0	25.3	24.6	24.0
18.300	23.4	22.8	22.2	21.6	21.1	20.5	20.0
19.000	19.4	19.0	18.6	18.3	18.0	17.7	17.5
19.700	17.2	17.0	16.8	16.6	16.4	16.2	16.1
20.400	15.9	15.7	15.6	15.4	15.3	15.2	15.0
21.100	14.9	14.8	14.6	14.5	14.4	14.3	14.2
21.800	14.0	13.9	13.8	13.7	13.6	13.5	13.4
22.500	13.3	13.2	13.1	13.0	12.9	12.8	12.7
23.200	12.6	12.5	12.4	12.3	12.2	12.1	12.0
23.900	11.9	11.8	11.6	11.4	11.1	10.6	10.0
24.600	9.4	8.7	8.0	7.3	6.8	6.2	5.7
25.300	5.3	4.9	4.5	4.1	3.8	3.5	3.2
26.000	2.9	2.7	2.5	2.3	2.1	1.9	1.7
26.700	1.6	1.5	1.3	1.2	1.1	1.0	0.9
27.400	0.8	0.7	0.7	0.6	0.5	0.0	

STORM 50-yr

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
 ULTIMATE CONDITIONS - SUBDRAINAGE AREA 4

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Elevation (ft)	Peak Time (hr)	Flow Rate (cfs)	Rate (csm)
DA01	0.260		5.693		12.73	271.5	1044.07

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
(hr)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
5.000	0.5	0.6	0.7	0.8	0.9	1.1	1.2
5.700	1.3	1.5	1.7	1.8	2.0	2.2	2.3
6.400	2.5	2.7	2.9	3.1	3.4	3.6	3.8
7.100	4.1	4.4	4.6	4.9	5.2	5.5	5.8
7.800	6.2	6.5	6.8	7.2	7.6	7.9	8.3
8.500	8.7	9.1	9.5	9.9	10.4	10.8	11.2
9.200	11.7	12.2	12.7	13.3	13.9	14.6	15.3
9.900	16.1	17.0	17.9	18.8	19.8	20.9	22.0
10.600	23.2	24.4	25.9	27.5	29.3	31.5	33.9
11.300	36.7	40.2	44.1	48.8	54.8	62.7	73.2
12.000	88.3	112.2	141.0	174.6	207.9	236.2	258.6
12.700	268.5	269.8	266.0	258.5	249.5	239.9	230.0
13.400	220.0	210.1	200.3	190.8	181.6	172.7	164.2
14.100	156.2	148.5	141.2	134.6	128.2	122.1	116.4
14.800	111.1	105.9	101.0	96.5	92.1	87.8	83.7
15.500	79.8	76.1	72.6	69.3	66.2	63.2	60.4
16.200	57.7	55.1	52.7	50.4	48.2	46.1	44.3
16.900	42.6	41.1	39.7	38.4	37.1	35.9	34.9
17.600	33.8	32.9	32.0	31.1	30.3	29.5	28.7
18.300	28.0	27.2	26.5	25.9	25.2	24.5	23.9
19.000	23.2	22.7	22.3	21.9	21.5	21.2	20.9
19.700	20.6	20.3	20.1	19.8	19.6	19.4	19.2
20.400	19.0	18.8	18.6	18.4	18.3	18.1	17.9
21.100	17.8	17.6	17.5	17.3	17.2	17.0	16.9
21.800	16.8	16.6	16.5	16.4	16.2	16.1	16.0
22.500	15.8	15.7	15.6	15.5	15.4	15.2	15.1
23.200	15.0	14.9	14.7	14.6	14.5	14.4	14.3
23.900	14.1	14.0	13.9	13.6	13.2	12.7	12.0
24.600	11.2	10.3	9.5	8.8	8.1	7.4	6.8
25.300	6.3	5.8	5.3	4.9	4.5	4.1	3.8
26.000	3.5	3.2	2.9	2.7	2.5	2.3	2.1
26.700	1.9	1.7	1.6	1.4	1.3	1.2	1.1
27.400	1.0	0.9	0.8	0.7	0.6	0.6	0.5
28.100	0.0						

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Elevation (ft)	Peak Time (hr)	Flow Rate (cfs)	Rate (csm)
OUTLET	0.260		5.693		12.73	271.5	1044.07

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
 ULTIMATE CONDITIONS - SUBDRAINAGE AREA 4

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
5.000	0.5	0.6	0.7	0.8	0.9	1.1	1.2
5.700	1.3	1.5	1.7	1.8	2.0	2.2	2.3
6.400	2.5	2.7	2.9	3.1	3.4	3.6	3.8
7.100	4.1	4.4	4.6	4.9	5.2	5.5	5.8
7.800	6.2	6.5	6.8	7.2	7.6	7.9	8.3
8.500	8.7	9.1	9.5	9.9	10.4	10.8	11.2
9.200	11.7	12.2	12.7	13.3	13.9	14.6	15.3
9.900	16.1	17.0	17.9	18.8	19.8	20.9	22.0
10.600	23.2	24.4	25.9	27.5	29.3	31.5	33.9
11.300	36.7	40.2	44.1	48.8	54.8	62.7	73.2
12.000	88.3	112.2	141.0	174.6	207.9	236.2	258.6
12.700	268.5	269.8	266.0	258.5	249.5	239.9	230.0
13.400	220.0	210.1	200.3	190.8	181.6	172.7	164.2
14.100	156.2	148.5	141.2	134.6	128.2	122.1	116.4
14.800	111.1	105.9	101.0	96.5	92.1	87.8	83.7
15.500	79.8	76.1	72.6	69.3	66.2	63.2	60.4
16.200	57.7	55.1	52.7	50.4	48.2	46.1	44.3
16.900	42.6	41.1	39.7	38.4	37.1	35.9	34.9
17.600	33.8	32.9	32.0	31.1	30.3	29.5	28.7
18.300	28.0	27.2	26.5	25.9	25.2	24.5	23.9
19.000	23.2	22.7	22.3	21.9	21.5	21.2	20.9
19.700	20.6	20.3	20.1	19.8	19.6	19.4	19.2
20.400	19.0	18.8	18.6	18.4	18.3	18.1	17.9
21.100	17.8	17.6	17.5	17.3	17.2	17.0	16.9
21.800	16.8	16.6	16.5	16.4	16.2	16.1	16.0
22.500	15.8	15.7	15.6	15.5	15.4	15.2	15.1
23.200	15.0	14.9	14.7	14.6	14.5	14.4	14.3
23.900	14.1	14.0	13.9	13.6	13.2	12.7	12.0
24.600	11.2	10.3	9.5	8.8	8.1	7.4	6.8
25.300	6.3	5.8	5.3	4.9	4.5	4.1	3.8
26.000	3.5	3.2	2.9	2.7	2.5	2.3	2.1
26.700	1.9	1.7	1.6	1.4	1.3	1.2	1.1
27.400	1.0	0.9	0.8	0.7	0.6	0.6	0.5
28.100	0.0						

STORM 100-yr

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	----- Elevation (ft)	Peak Time (hr)	Flow Rate (cfs)	----- Rate (csm)
DA01	0.260		6.919		12.80	326.9	1257.39

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
4.400	0.5	0.6	0.7	0.8	1.0	1.2	1.3
5.100	1.5	1.7	1.9	2.1	2.3	2.5	2.7
5.800	2.9	3.2	3.4	3.6	3.8	4.1	4.3

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
 ULTIMATE CONDITIONS - SUBDRAINAGE AREA 4

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
6.500	4.6	4.9	5.2	5.5	5.8	6.1	6.4
7.200	6.8	7.1	7.5	7.9	8.3	8.7	9.1
7.900	9.5	10.0	10.4	10.9	11.4	11.8	12.3
8.600	12.8	13.3	13.9	14.4	14.9	15.5	16.1
9.300	16.7	17.3	18.0	18.8	19.7	20.6	21.6
10.000	22.6	23.7	24.9	26.2	27.5	28.8	30.3
10.700	31.9	33.6	35.6	37.9	40.5	43.5	47.1
11.400	51.2	55.9	61.9	69.1	77.8	91.5	111.7
12.100	138.6	176.2	216.7	256.5	291.2	313.0	325.1
12.800	326.9	320.0	311.0	300.3	288.4	276.3	264.2
13.500	252.2	240.5	229.0	217.8	207.1	196.9	187.1
14.200	177.9	169.3	161.1	153.4	146.2	139.3	132.7
14.900	126.6	120.8	115.2	109.9	104.8	99.9	95.2
15.600	90.8	86.6	82.6	78.9	75.3	71.8	68.6
16.300	65.6	62.6	59.8	57.2	54.8	52.5	50.6
17.000	48.8	47.1	45.5	44.1	42.6	41.3	40.2
17.700	39.0	38.0	36.9	35.9	34.9	34.0	33.1
18.400	32.3	31.4	30.6	29.9	29.1	28.2	27.5
19.100	26.8	26.3	25.9	25.5	25.1	24.7	24.4
19.800	24.1	23.8	23.5	23.2	22.9	22.7	22.5
20.500	22.2	22.0	21.8	21.6	21.4	21.2	21.0
21.200	20.8	20.7	20.5	20.3	20.1	20.0	19.8
21.900	19.7	19.5	19.3	19.2	19.0	18.9	18.7
22.600	18.6	18.4	18.3	18.2	18.0	17.9	17.7
23.300	17.6	17.4	17.3	17.1	17.0	16.9	16.7
24.000	16.6	16.4	16.0	15.5	14.9	14.1	13.2
24.700	12.2	11.3	10.4	9.5	8.8	8.1	7.4
25.400	6.9	6.3	5.8	5.3	4.9	4.5	4.1
26.100	3.8	3.5	3.2	2.9	2.7	2.5	2.3
26.800	2.1	1.9	1.7	1.6	1.4	1.3	1.2
27.500	1.0	0.9	0.8	0.8	0.7	0.6	0.5
28.200	0.0						

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Elevation (ft)	Peak Flow Time (hr)	Rate (cfs)	Rate (csm)
OUTLET	0.260		6.919		12.80	326.9	1257.39

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
4.400	0.5	0.6	0.7	0.8	1.0	1.2	1.3
5.100	1.5	1.7	1.9	2.1	2.3	2.5	2.7
5.800	2.9	3.2	3.4	3.6	3.8	4.1	4.3
6.500	4.6	4.9	5.2	5.5	5.8	6.1	6.4
7.200	6.8	7.1	7.5	7.9	8.3	8.7	9.1
7.900	9.5	10.0	10.4	10.9	11.4	11.8	12.3
8.600	12.8	13.3	13.9	14.4	14.9	15.5	16.1

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
 ULTIMATE CONDITIONS - SUBDRAINAGE AREA 4

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
9.300	16.7	17.3	18.0	18.8	19.7	20.6	21.6
10.000	22.6	23.7	24.9	26.2	27.5	28.8	30.3
10.700	31.9	33.6	35.6	37.9	40.5	43.5	47.1
11.400	51.2	55.9	61.9	69.1	77.8	91.5	111.7
12.100	138.6	176.2	216.7	256.5	291.2	313.0	325.1
12.800	326.9	320.0	311.0	300.3	288.4	276.3	264.2
13.500	252.2	240.5	229.0	217.8	207.1	196.9	187.1
14.200	177.9	169.3	161.1	153.4	146.2	139.3	132.7
14.900	126.6	120.8	115.2	109.9	104.8	99.9	95.2
15.600	90.8	86.6	82.6	78.9	75.3	71.8	68.6
16.300	65.6	62.6	59.8	57.2	54.8	52.5	50.6
17.000	48.8	47.1	45.5	44.1	42.6	41.3	40.2
17.700	39.0	38.0	36.9	35.9	34.9	34.0	33.1
18.400	32.3	31.4	30.6	29.9	29.1	28.2	27.5
19.100	26.8	26.3	25.9	25.5	25.1	24.7	24.4
19.800	24.1	23.8	23.5	23.2	22.9	22.7	22.5
20.500	22.2	22.0	21.8	21.6	21.4	21.2	21.0
21.200	20.8	20.7	20.5	20.3	20.1	20.0	19.8
21.900	19.7	19.5	19.3	19.2	19.0	18.9	18.7
22.600	18.6	18.4	18.3	18.2	18.0	17.9	17.7
23.300	17.6	17.4	17.3	17.1	17.0	16.9	16.7
24.000	16.6	16.4	16.0	15.5	14.9	14.1	13.2
24.700	12.2	11.3	10.4	9.5	8.8	8.1	7.4
25.400	6.9	6.3	5.8	5.3	4.9	4.5	4.1
26.100	3.8	3.5	3.2	2.9	2.7	2.5	2.3
26.800	2.1	1.9	1.7	1.6	1.4	1.3	1.2
27.500	1.0	0.9	0.8	0.8	0.7	0.6	0.5
28.200	0.0						

Area or Reach Identifier	Drainage Area (sq mi)	Peak Flow by Storm				
		1-yr (cfs)	2-yr (cfs)	5-yr (cfs)	10-yr (cfs)	25-yr (cfs)
DA01	0.260	61.3	84.6	126.5	163.3	221.2
OUTLET	0.260	61.3	84.6	126.5	163.3	221.2

Area or Reach Identifier	Drainage Area (sq mi)	Peak Flow by Storm		
		50-yr (cfs)	100-yr (cfs)	(cfs)
DA01	0.260	271.5	326.9	
OUTLET	0.260	271.5	326.9	

WinTR-20: version 3.30 0 0 .001 0
 Maryland, Queen Annes NOAA-C
 CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
 EXISTING CONDITIONS - SUBDRAINAGE AREA 5

SUB-AREA:
 DA01 OUTLET 0.0284 76. 1.240 Y

STORM ANALYSIS:
 1-yr 2.67 NOAA_C 2 3.24
 2-yr 3.24 NOAA_C 2 3.24
 5-yr 4.22 NOAA_C 2 3.24
 10-yr 5.06 NOAA_C 2 3.24
 25-yr 6.34 NOAA_C 2 3.24
 50-yr 7.46 NOAA_C 2 3.24
 100-yr 8.73 NOAA_C 2 3.24

DIMENSIONLESS UNIT HYDROGRAPH: delmarva
 0.00000 0.11100 0.35600 0.65500 0.89600
 1.00000 0.92900 0.82800 0.73700 0.65600
 0.58400 0.52100 0.46500 0.41500 0.37100
 0.33100 0.29600 0.26500 0.23700 0.21200
 0.19000 0.17000 0.15300 0.13800 0.12300
 0.10900 0.09700 0.08600 0.07600 0.06600
 0.05700 0.04900 0.04100 0.03300 0.02700
 0.02400 0.02100 0.01800 0.01500 0.01300
 0.01200 0.01100 0.00900 0.00800 0.00800
 0.00600 0.00600 0.00500 0.00500 0.00000

RAINFALL DISTRIBUTION:
 NOAA_C 0.1
 0.0 0.00128 0.00231 0.00335 0.00441
 0.00547 0.00654 0.00763 0.00872 0.00982
 0.01093 0.01206 0.01319 0.01433 0.01548
 0.01665 0.01782 0.01900 0.02019 0.02140
 0.02261 0.02383 0.02506 0.02631 0.02756
 0.02882 0.03009 0.03137 0.03267 0.03397
 0.03528 0.03660 0.03793 0.03927 0.04062
 0.04199 0.04336 0.04474 0.04613 0.04753
 0.04894 0.05036 0.05179 0.05324 0.05469
 0.05615 0.05762 0.05910 0.06059 0.06209
 0.06360 0.06512 0.06665 0.06819 0.06974
 0.07130 0.07287 0.07445 0.07604 0.07764
 0.07925 0.08090 0.08259 0.08432 0.08609
 0.08790 0.08975 0.09164 0.09356 0.09553
 0.09754 0.09959 0.10168 0.10380 0.10597
 0.10818 0.11042 0.11271 0.11503 0.11740
 0.11981 0.12225 0.12474 0.12726 0.12982
 0.13243 0.13507 0.13776 0.14048 0.14324
 0.14605 0.14900 0.15210 0.15536 0.15876
 0.16231 0.16602 0.16987 0.17387 0.17803
 0.18233 0.18678 0.19139 0.19614 0.20104

0.20610	0.21173	0.21793	0.22471	0.23206
0.23999	0.24899	0.25907	0.27022	0.28245
0.29550	0.31572	0.33700	0.36618	0.40669
0.47660	0.59331	0.63382	0.66300	0.68428
0.70450	0.71755	0.72978	0.74093	0.75101
0.76001	0.76794	0.77529	0.78207	0.78827
0.79390	0.79896	0.80386	0.80861	0.81322
0.81767	0.82197	0.82613	0.83013	0.83398
0.83769	0.84124	0.84464	0.84790	0.85100
0.85395	0.85676	0.85952	0.86224	0.86493
0.86757	0.87018	0.87274	0.87526	0.87775
0.88019	0.88260	0.88497	0.88729	0.88958
0.89182	0.89403	0.89620	0.89832	0.90041
0.90246	0.90447	0.90644	0.90836	0.91025
0.91210	0.91391	0.91568	0.91741	0.91910
0.92075	0.92236	0.92396	0.92555	0.92713
0.92870	0.93026	0.93181	0.93335	0.93488
0.93640	0.93791	0.93941	0.94090	0.94238
0.94385	0.94531	0.94676	0.94821	0.94964
0.95106	0.95247	0.95387	0.95526	0.95664
0.95801	0.95938	0.96073	0.96207	0.96340
0.96472	0.96603	0.96733	0.96863	0.96991
0.97118	0.97244	0.97369	0.97494	0.97617
0.97739	0.97860	0.97981	0.98100	0.98218
0.98335	0.98452	0.98567	0.98681	0.98794
0.98907	0.99018	0.99128	0.99237	0.99346
0.99453	0.99559	0.99665	0.99769	0.99872
1.0				

GLOBAL OUTPUT:

1 0.1 NY N NY N

WinTR-20 Printed Page File End of Input Data List

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
EXISTING CONDITIONS - SUBDRAINAGE AREA 5

Name of printed page file:

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CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
EXISTING CONDITIONS - SUBDRAINAGE AREA 5

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Elevation (ft)	Peak Flow Time (hr)	Peak Flow Rate (cfs)	Peak Flow Rate (csm)
DA01	0.028		0.800		13.11	3.3	116.45

Line

Start Time (hr)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)
12.000	0.3	0.5	0.9	1.3	1.7	2.2	2.6
12.700	2.9	3.1	3.2	3.3	3.3	3.3	3.2
13.400	3.2	3.1	3.0	2.9	2.8	2.8	2.7
14.100	2.6	2.5	2.4	2.3	2.3	2.2	2.1
14.800	2.0	2.0	1.9	1.8	1.8	1.7	1.7
15.500	1.6	1.6	1.5	1.5	1.4	1.4	1.3
16.200	1.3	1.2	1.2	1.2	1.1	1.1	1.1
16.900	1.0	1.0	1.0	1.0	0.9	0.9	0.9
17.600	0.8	0.8	0.8	0.8	0.8	0.7	0.7
18.300	0.7	0.7	0.7	0.7	0.6	0.6	0.6
19.000	0.6	0.6	0.6	0.6	0.6	0.6	0.6
19.700	0.5	0.5	0.5	0.5	0.5	0.5	0.0

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Elevation (ft)	Peak Flow Time (hr)	Peak Flow Rate (cfs)	Peak Flow Rate (csm)
OUTLET	0.028		0.800		13.11	3.3	116.45

Line

Start Time (hr)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)
12.000	0.3	0.5	0.9	1.3	1.7	2.2	2.6
12.700	2.9	3.1	3.2	3.3	3.3	3.3	3.2
13.400	3.2	3.1	3.0	2.9	2.8	2.8	2.7
14.100	2.6	2.5	2.4	2.3	2.3	2.2	2.1
14.800	2.0	2.0	1.9	1.8	1.8	1.7	1.7
15.500	1.6	1.6	1.5	1.5	1.4	1.4	1.3
16.200	1.3	1.2	1.2	1.2	1.1	1.1	1.1
16.900	1.0	1.0	1.0	1.0	0.9	0.9	0.9
17.600	0.8	0.8	0.8	0.8	0.8	0.7	0.7
18.300	0.7	0.7	0.7	0.7	0.6	0.6	0.6
19.000	0.6	0.6	0.6	0.6	0.6	0.6	0.6
19.700	0.5	0.5	0.5	0.5	0.5	0.5	0.0

STORM 2-yr

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
EXISTING CONDITIONS - SUBDRAINAGE AREA 5

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Elevation (ft)	Peak Flow Time (hr)	Peak Flow Rate (cfs)	Peak Flow Rate (csm)
DA01	0.028		1.180		12.92	5.1	179.76

Line

Start Time (hr)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)
11.900	0.5	0.7	1.1	1.6	2.2	2.9	3.6
12.600	4.2	4.6	4.9	5.1	5.1	5.1	5.0
13.300	4.9	4.8	4.7	4.5	4.4	4.3	4.1
14.000	4.0	3.8	3.7	3.6	3.4	3.3	3.2
14.700	3.1	3.0	2.9	2.8	2.7	2.6	2.5
15.400	2.4	2.3	2.3	2.2	2.1	2.0	2.0
16.100	1.9	1.8	1.8	1.7	1.7	1.6	1.6
16.800	1.5	1.5	1.4	1.4	1.3	1.3	1.3
17.500	1.2	1.2	1.1	1.1	1.1	1.1	1.0
18.200	1.0	1.0	1.0	0.9	0.9	0.9	0.9
18.900	0.9	0.8	0.8	0.8	0.8	0.8	0.8
19.600	0.8	0.7	0.7	0.7	0.7	0.7	0.7
20.300	0.7	0.7	0.7	0.7	0.6	0.6	0.6
21.000	0.6	0.6	0.6	0.6	0.6	0.6	0.6
21.700	0.6	0.6	0.6	0.6	0.6	0.6	0.6
22.400	0.6	0.6	0.5	0.5	0.5	0.5	0.5
23.100	0.5	0.5	0.5	0.5	0.5	0.5	0.5
23.800	0.0						

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Elevation (ft)	Peak Flow Time (hr)	Peak Flow Rate (cfs)	Peak Flow Rate (csm)
OUTLET	0.028		1.180		12.92	5.1	179.76

Line

Start Time (hr)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)
11.900	0.5	0.7	1.1	1.6	2.2	2.9	3.6
12.600	4.2	4.6	4.9	5.1	5.1	5.1	5.0
13.300	4.9	4.8	4.7	4.5	4.4	4.3	4.1
14.000	4.0	3.8	3.7	3.6	3.4	3.3	3.2
14.700	3.1	3.0	2.9	2.8	2.7	2.6	2.5
15.400	2.4	2.3	2.3	2.2	2.1	2.0	2.0
16.100	1.9	1.8	1.8	1.7	1.7	1.6	1.6
16.800	1.5	1.5	1.4	1.4	1.3	1.3	1.3
17.500	1.2	1.2	1.1	1.1	1.1	1.1	1.0
18.200	1.0	1.0	1.0	0.9	0.9	0.9	0.9
18.900	0.9	0.8	0.8	0.8	0.8	0.8	0.8
19.600	0.8	0.7	0.7	0.7	0.7	0.7	0.7
20.300	0.7	0.7	0.7	0.7	0.6	0.6	0.6
21.000	0.6	0.6	0.6	0.6	0.6	0.6	0.6

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
EXISTING CONDITIONS - SUBDRAINAGE AREA 5

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
21.700	0.6	0.6	0.6	0.6	0.6	0.6	0.6
22.400	0.6	0.6	0.5	0.5	0.5	0.5	0.5
23.100	0.5	0.5	0.5	0.5	0.5	0.5	0.5
23.800	0.0						

STORM 5-yr

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Peak Flow			
				Elevation (ft)	Time (hr)	Rate (cfs)	Rate (csm)
DA01	0.028		1.909		12.92	8.6	304.53

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
11.400	0.4	0.5	0.6	0.8	1.0	1.2	1.7
12.100	2.3	3.2	4.2	5.3	6.4	7.3	8.0
12.800	8.4	8.6	8.6	8.5	8.4	8.2	8.0
13.500	7.7	7.5	7.2	7.0	6.7	6.5	6.2
14.200	6.0	5.8	5.5	5.3	5.1	5.0	4.8
14.900	4.6	4.4	4.3	4.1	4.0	3.8	3.7
15.600	3.5	3.4	3.3	3.2	3.1	3.0	2.9
16.300	2.8	2.7	2.6	2.5	2.4	2.3	2.3
17.000	2.2	2.1	2.0	2.0	1.9	1.8	1.8
17.700	1.7	1.7	1.6	1.6	1.5	1.5	1.5
18.400	1.4	1.4	1.4	1.3	1.3	1.3	1.2
19.100	1.2	1.2	1.2	1.2	1.1	1.1	1.1
19.800	1.1	1.1	1.0	1.0	1.0	1.0	1.0
20.500	1.0	1.0	0.9	0.9	0.9	0.9	0.9
21.200	0.9	0.9	0.9	0.9	0.9	0.9	0.9
21.900	0.8	0.8	0.8	0.8	0.8	0.8	0.8
22.600	0.8	0.8	0.8	0.8	0.8	0.8	0.8
23.300	0.8	0.8	0.7	0.7	0.7	0.7	0.7
24.000	0.7	0.7	0.7	0.7	0.7	0.6	0.6
24.700	0.6	0.5	0.0				

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Peak Flow			
				Elevation (ft)	Time (hr)	Rate (cfs)	Rate (csm)
OUTLET	0.028		1.909		12.92	8.6	304.53

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
EXISTING CONDITIONS - SUBDRAINAGE AREA 5

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
11.400	0.4	0.5	0.6	0.8	1.0	1.2	1.7
12.100	2.3	3.2	4.2	5.3	6.4	7.3	8.0
12.800	8.4	8.6	8.6	8.5	8.4	8.2	8.0
13.500	7.7	7.5	7.2	7.0	6.7	6.5	6.2
14.200	6.0	5.8	5.5	5.3	5.1	5.0	4.8
14.900	4.6	4.4	4.3	4.1	4.0	3.8	3.7
15.600	3.5	3.4	3.3	3.2	3.1	3.0	2.9
16.300	2.8	2.7	2.6	2.5	2.4	2.3	2.3
17.000	2.2	2.1	2.0	2.0	1.9	1.8	1.8
17.700	1.7	1.7	1.6	1.6	1.5	1.5	1.5
18.400	1.4	1.4	1.4	1.3	1.3	1.3	1.2
19.100	1.2	1.2	1.2	1.2	1.1	1.1	1.1
19.800	1.1	1.1	1.0	1.0	1.0	1.0	1.0
20.500	1.0	1.0	0.9	0.9	0.9	0.9	0.9
21.200	0.9	0.9	0.9	0.9	0.9	0.9	0.9
21.900	0.8	0.8	0.8	0.8	0.8	0.8	0.8
22.600	0.8	0.8	0.8	0.8	0.8	0.8	0.8
23.300	0.8	0.8	0.7	0.7	0.7	0.7	0.7
24.000	0.7	0.7	0.7	0.7	0.7	0.6	0.6
24.700	0.6	0.5	0.0				

STORM 10-yr

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Elevation (ft)	Peak Time (hr)	Flow Rate (cfs)	Rate Rate (csm)
DA01	0.028		2.585		13.00	12.0	421.54

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
11.000	0.5	0.6	0.6	0.7	0.8	1.0	1.1
11.700	1.3	1.6	2.0	2.5	3.5	4.6	6.0
12.400	7.4	8.9	10.1	11.1	11.7	11.9	12.0
13.100	11.8	11.5	11.2	10.9	10.6	10.2	9.8
13.800	9.5	9.1	8.8	8.4	8.1	7.8	7.5
14.500	7.2	6.9	6.7	6.4	6.2	5.9	5.7
15.200	5.5	5.3	5.1	4.9	4.7	4.5	4.4
15.900	4.2	4.1	3.9	3.8	3.6	3.5	3.4
16.600	3.3	3.2	3.1	2.9	2.8	2.7	2.7
17.300	2.6	2.5	2.4	2.3	2.2	2.2	2.1
18.000	2.1	2.0	1.9	1.9	1.8	1.8	1.8
18.700	1.7	1.7	1.6	1.6	1.6	1.5	1.5
19.400	1.5	1.5	1.4	1.4	1.4	1.4	1.3
20.100	1.3	1.3	1.3	1.2	1.2	1.2	1.2
20.800	1.2	1.2	1.2	1.2	1.1	1.1	1.1
21.500	1.1	1.1	1.1	1.1	1.1	1.1	1.1
22.200	1.1	1.0	1.0	1.0	1.0	1.0	1.0

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
EXISTING CONDITIONS - SUBDRAINAGE AREA 5

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
22.900	1.0	1.0	1.0	1.0	1.0	1.0	0.9
23.600	0.9	0.9	0.9	0.9	0.9	0.9	0.9
24.300	0.9	0.8	0.8	0.8	0.7	0.7	0.6
25.000	0.6	0.5	0.5	0.0			

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Peak Flow			
				Elevation (ft)	Time (hr)	Rate (cfs)	Rate (csm)
OUTLET	0.028		2.585		13.00	12.0	421.54

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
11.000	0.5	0.6	0.6	0.7	0.8	1.0	1.1
11.700	1.3	1.6	2.0	2.5	3.5	4.6	6.0
12.400	7.4	8.9	10.1	11.1	11.7	11.9	12.0
13.100	11.8	11.5	11.2	10.9	10.6	10.2	9.8
13.800	9.5	9.1	8.8	8.4	8.1	7.8	7.5
14.500	7.2	6.9	6.7	6.4	6.2	5.9	5.7
15.200	5.5	5.3	5.1	4.9	4.7	4.5	4.4
15.900	4.2	4.1	3.9	3.8	3.6	3.5	3.4
16.600	3.3	3.2	3.1	2.9	2.8	2.7	2.7
17.300	2.6	2.5	2.4	2.3	2.2	2.2	2.1
18.000	2.1	2.0	1.9	1.9	1.8	1.8	1.8
18.700	1.7	1.7	1.6	1.6	1.6	1.5	1.5
19.400	1.5	1.5	1.4	1.4	1.4	1.4	1.3
20.100	1.3	1.3	1.3	1.2	1.2	1.2	1.2
20.800	1.2	1.2	1.2	1.2	1.1	1.1	1.1
21.500	1.1	1.1	1.1	1.1	1.1	1.1	1.1
22.200	1.1	1.0	1.0	1.0	1.0	1.0	1.0
22.900	1.0	1.0	1.0	1.0	1.0	1.0	0.9
23.600	0.9	0.9	0.9	0.9	0.9	0.9	0.9
24.300	0.9	0.8	0.8	0.8	0.7	0.7	0.6
25.000	0.6	0.5	0.5	0.0			

STORM 25-yr

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Peak Flow			
				Elevation (ft)	Time (hr)	Rate (cfs)	Rate (csm)
DA01	0.028		3.675		12.89	17.2	607.38

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
EXISTING CONDITIONS - SUBDRAINAGE AREA 5

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
10.100	0.5	0.5	0.6	0.6	0.7	0.7	0.8
10.800	0.9	1.0	1.1	1.2	1.3	1.4	1.6
11.500	1.8	2.1	2.4	2.8	3.3	4.3	5.5
12.200	7.2	9.2	11.2	13.2	14.9	16.2	16.9
12.900	17.2	17.1	16.8	16.5	16.0	15.5	15.0
13.600	14.5	13.9	13.4	12.9	12.4	11.9	11.4
14.300	10.9	10.5	10.1	9.7	9.3	8.9	8.6
15.000	8.3	7.9	7.6	7.3	7.0	6.8	6.5
15.700	6.3	6.0	5.8	5.6	5.4	5.2	5.0
16.400	4.8	4.6	4.5	4.3	4.2	4.0	3.9
17.100	3.7	3.6	3.5	3.4	3.2	3.1	3.0
17.800	2.9	2.9	2.8	2.7	2.6	2.5	2.5
18.500	2.4	2.4	2.3	2.3	2.2	2.2	2.1
19.200	2.1	2.0	2.0	2.0	1.9	1.9	1.9
19.900	1.8	1.8	1.7	1.7	1.7	1.7	1.6
20.600	1.6	1.6	1.6	1.6	1.6	1.5	1.5
21.300	1.5	1.5	1.5	1.5	1.5	1.4	1.4
22.000	1.4	1.4	1.4	1.4	1.4	1.4	1.3
22.700	1.3	1.3	1.3	1.3	1.3	1.3	1.3
23.400	1.3	1.3	1.2	1.2	1.2	1.2	1.2
24.100	1.2	1.2	1.1	1.1	1.1	1.0	0.9
24.800	0.9	0.8	0.8	0.7	0.7	0.6	0.6
25.500	0.5	0.5	0.0				

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Elevation (ft)	Peak Flow Time (hr)	Rate (cfs)	Rate (csm)
OUTLET	0.028		3.675		12.89	17.2	607.38

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
10.100	0.5	0.5	0.6	0.6	0.7	0.7	0.8
10.800	0.9	1.0	1.1	1.2	1.3	1.4	1.6
11.500	1.8	2.1	2.4	2.8	3.3	4.3	5.5
12.200	7.2	9.2	11.2	13.2	14.9	16.2	16.9
12.900	17.2	17.1	16.8	16.5	16.0	15.5	15.0
13.600	14.5	13.9	13.4	12.9	12.4	11.9	11.4
14.300	10.9	10.5	10.1	9.7	9.3	8.9	8.6
15.000	8.3	7.9	7.6	7.3	7.0	6.8	6.5
15.700	6.3	6.0	5.8	5.6	5.4	5.2	5.0
16.400	4.8	4.6	4.5	4.3	4.2	4.0	3.9
17.100	3.7	3.6	3.5	3.4	3.2	3.1	3.0
17.800	2.9	2.9	2.8	2.7	2.6	2.5	2.5
18.500	2.4	2.4	2.3	2.3	2.2	2.2	2.1
19.200	2.1	2.0	2.0	2.0	1.9	1.9	1.9
19.900	1.8	1.8	1.7	1.7	1.7	1.7	1.6
20.600	1.6	1.6	1.6	1.6	1.6	1.5	1.5

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
EXISTING CONDITIONS - SUBDRAINAGE AREA 5

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
21.300	1.5	1.5	1.5	1.5	1.5	1.4	1.4
22.000	1.4	1.4	1.4	1.4	1.4	1.4	1.3
22.700	1.3	1.3	1.3	1.3	1.3	1.3	1.3
23.400	1.3	1.3	1.2	1.2	1.2	1.2	1.2
24.100	1.2	1.2	1.1	1.1	1.1	1.0	0.9
24.800	0.9	0.8	0.8	0.7	0.7	0.6	0.6
25.500	0.5	0.5	0.0				

STORM 50-yr

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Peak Flow			
				Elevation (ft)	Time (hr)	Rate (cfs)	Rate (csm)
DA01	0.028		4.669		12.93	22.0	773.82

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
9.400	0.5	0.5	0.6	0.6	0.6	0.7	0.8
10.100	0.8	0.9	0.9	1.0	1.1	1.2	1.3
10.800	1.4	1.5	1.6	1.8	1.9	2.1	2.4
11.500	2.6	3.0	3.4	3.9	4.7	5.9	7.5
12.200	9.8	12.2	14.9	17.3	19.5	20.8	21.7
12.900	21.9	21.7	21.4	20.8	20.2	19.6	18.9
13.600	18.2	17.6	16.9	16.2	15.6	14.9	14.3
14.300	13.7	13.2	12.6	12.1	11.7	11.2	10.7
15.000	10.3	9.9	9.5	9.1	8.8	8.4	8.1
15.700	7.8	7.5	7.2	6.9	6.7	6.4	6.2
16.400	6.0	5.8	5.5	5.3	5.1	5.0	4.8
17.100	4.6	4.4	4.3	4.1	4.0	3.8	3.7
17.800	3.6	3.5	3.4	3.3	3.2	3.1	3.0
18.500	3.0	2.9	2.8	2.8	2.7	2.6	2.6
19.200	2.5	2.5	2.4	2.4	2.3	2.3	2.3
19.900	2.2	2.2	2.1	2.1	2.1	2.0	2.0
20.600	2.0	2.0	1.9	1.9	1.9	1.9	1.9
21.300	1.8	1.8	1.8	1.8	1.8	1.8	1.7
22.000	1.7	1.7	1.7	1.7	1.7	1.7	1.6
22.700	1.6	1.6	1.6	1.6	1.6	1.6	1.5
23.400	1.5	1.5	1.5	1.5	1.5	1.5	1.5
24.100	1.4	1.4	1.4	1.3	1.3	1.2	1.2
24.800	1.1	1.0	0.9	0.9	0.8	0.8	0.7
25.500	0.7	0.6	0.6	0.5	0.0		

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
EXISTING CONDITIONS - SUBDRAINAGE AREA 5

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Elevation (ft)	Peak Flow Time (hr)	Peak Flow Rate (cfs)	Peak Flow Rate (csm)
OUTLET	0.028		4.669		12.93	22.0	773.82

Line

Start Time (hr)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)
9.400	0.5	0.5	0.6	0.6	0.6	0.7	0.8
10.100	0.8	0.9	0.9	1.0	1.1	1.2	1.3
10.800	1.4	1.5	1.6	1.8	1.9	2.1	2.4
11.500	2.6	3.0	3.4	3.9	4.7	5.9	7.5
12.200	9.8	12.2	14.9	17.3	19.5	20.8	21.7
12.900	21.9	21.7	21.4	20.8	20.2	19.6	18.9
13.600	18.2	17.6	16.9	16.2	15.6	14.9	14.3
14.300	13.7	13.2	12.6	12.1	11.7	11.2	10.7
15.000	10.3	9.9	9.5	9.1	8.8	8.4	8.1
15.700	7.8	7.5	7.2	6.9	6.7	6.4	6.2
16.400	6.0	5.8	5.5	5.3	5.1	5.0	4.8
17.100	4.6	4.4	4.3	4.1	4.0	3.8	3.7
17.800	3.6	3.5	3.4	3.3	3.2	3.1	3.0
18.500	3.0	2.9	2.8	2.8	2.7	2.6	2.6
19.200	2.5	2.5	2.4	2.4	2.3	2.3	2.3
19.900	2.2	2.2	2.1	2.1	2.1	2.0	2.0
20.600	2.0	2.0	1.9	1.9	1.9	1.9	1.9
21.300	1.8	1.8	1.8	1.8	1.8	1.8	1.7
22.000	1.7	1.7	1.7	1.7	1.7	1.7	1.6
22.700	1.6	1.6	1.6	1.6	1.6	1.6	1.5
23.400	1.5	1.5	1.5	1.5	1.5	1.5	1.5
24.100	1.4	1.4	1.4	1.3	1.3	1.2	1.2
24.800	1.1	1.0	0.9	0.9	0.8	0.8	0.7
25.500	0.7	0.6	0.6	0.5	0.0		

STORM 100-yr

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Elevation (ft)	Peak Flow Time (hr)	Peak Flow Rate (cfs)	Peak Flow Rate (csm)
DA01	0.028		5.826		12.84	27.6	971.06

Line

Start Time (hr)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)
8.600	0.5	0.5	0.5	0.6	0.6	0.7	0.7
9.300	0.8	0.8	0.9	0.9	1.0	1.0	1.1
10.000	1.2	1.3	1.3	1.4	1.5	1.6	1.8
10.700	1.9	2.0	2.1	2.3	2.5	2.7	3.0
11.400	3.3	3.6	4.1	4.6	5.3	6.3	7.6
12.100	9.8	12.2	15.3	18.5	21.6	24.1	26.1

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
EXISTING CONDITIONS - SUBDRAINAGE AREA 5

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
12.800	27.2	27.5	27.4	26.8	26.1	25.3	24.5
13.500	23.6	22.7	21.9	21.0	20.1	19.3	18.5
14.200	17.7	17.0	16.3	15.6	15.0	14.4	13.8
14.900	13.3	12.7	12.2	11.7	11.3	10.8	10.4
15.600	10.0	9.6	9.2	8.9	8.5	8.2	7.9
16.300	7.6	7.3	7.0	6.8	6.5	6.3	6.0
17.000	5.8	5.6	5.4	5.2	5.0	4.8	4.7
17.700	4.5	4.4	4.2	4.1	4.0	3.9	3.8
18.400	3.7	3.6	3.5	3.4	3.3	3.2	3.2
19.100	3.1	3.0	3.0	2.9	2.9	2.8	2.8
19.800	2.7	2.7	2.6	2.5	2.5	2.5	2.4
20.500	2.4	2.4	2.3	2.3	2.3	2.3	2.2
21.200	2.2	2.2	2.2	2.2	2.1	2.1	2.1
21.900	2.1	2.1	2.1	2.0	2.0	2.0	2.0
22.600	2.0	2.0	1.9	1.9	1.9	1.9	1.9
23.300	1.9	1.8	1.8	1.8	1.8	1.8	1.8
24.000	1.8	1.7	1.7	1.7	1.6	1.5	1.5
24.700	1.4	1.3	1.2	1.1	1.0	1.0	0.9
25.400	0.8	0.8	0.7	0.7	0.6	0.6	0.5
26.100	0.5	0.0					

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Peak Flow			
				Elevation (ft)	Time (hr)	Rate (cfs)	Rate (csm)
OUTLET	0.028		5.826		12.84	27.6	971.06

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
8.600	0.5	0.5	0.5	0.6	0.6	0.7	0.7
9.300	0.8	0.8	0.9	0.9	1.0	1.0	1.1
10.000	1.2	1.3	1.3	1.4	1.5	1.6	1.8
10.700	1.9	2.0	2.1	2.3	2.5	2.7	3.0
11.400	3.3	3.6	4.1	4.6	5.3	6.3	7.6
12.100	9.8	12.2	15.3	18.5	21.6	24.1	26.1
12.800	27.2	27.5	27.4	26.8	26.1	25.3	24.5
13.500	23.6	22.7	21.9	21.0	20.1	19.3	18.5
14.200	17.7	17.0	16.3	15.6	15.0	14.4	13.8
14.900	13.3	12.7	12.2	11.7	11.3	10.8	10.4
15.600	10.0	9.6	9.2	8.9	8.5	8.2	7.9
16.300	7.6	7.3	7.0	6.8	6.5	6.3	6.0
17.000	5.8	5.6	5.4	5.2	5.0	4.8	4.7
17.700	4.5	4.4	4.2	4.1	4.0	3.9	3.8
18.400	3.7	3.6	3.5	3.4	3.3	3.2	3.2
19.100	3.1	3.0	3.0	2.9	2.9	2.8	2.8
19.800	2.7	2.7	2.6	2.5	2.5	2.5	2.4
20.500	2.4	2.4	2.3	2.3	2.3	2.3	2.2
21.200	2.2	2.2	2.2	2.2	2.1	2.1	2.1

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
EXISTING CONDITIONS - SUBDRAINAGE AREA 5

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
21.900	2.1	2.1	2.1	2.0	2.0	2.0	2.0
22.600	2.0	2.0	1.9	1.9	1.9	1.9	1.9
23.300	1.9	1.8	1.8	1.8	1.8	1.8	1.8
24.000	1.8	1.7	1.7	1.7	1.6	1.5	1.5
24.700	1.4	1.3	1.2	1.1	1.0	1.0	0.9
25.400	0.8	0.8	0.7	0.7	0.6	0.6	0.5
26.100	0.5	0.0					

Area or Reach Identifier	Drainage Area (sq mi)	Peak Flow by Storm				
		1-yr (cfs)	2-yr (cfs)	5-yr (cfs)	10-yr (cfs)	25-yr (cfs)
DA01	0.028	3.3	5.1	8.6	12.0	17.2
OUTLET	0.028	3.3	5.1	8.6	12.0	17.2

Area or Reach Identifier	Drainage Area (sq mi)	Peak Flow by Storm		
		50-yr (cfs)	100-yr (cfs)	(cfs)
DA01	0.028	22.0	27.6	
OUTLET	0.028	22.0	27.6	

WinTR-20: version 3.30 0 0 .001 0
 Maryland, Queen Annes NOAA-C
 CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
 ULTIMATE CONDITIONS - SUBDRAINAGE AREA 5

SUB-AREA:
 DA01 OUTLET 0.01475 91. 0.15 Y

STORM ANALYSIS:
 1-yr 2.67 NOAA_C 2 3.24
 2-yr 3.24 NOAA_C 2 3.24
 5-yr 4.22 NOAA_C 2 3.24
 10-yr 5.06 NOAA_C 2 3.24
 25-yr 6.34 NOAA_C 2 3.24
 50-yr 7.46 NOAA_C 2 3.24
 100-yr 8.73 NOAA_C 2 3.24

DIMENSIONLESS UNIT HYDROGRAPH: delmarva
 0.00000 0.11100 0.35600 0.65500 0.89600
 1.00000 0.92900 0.82800 0.73700 0.65600
 0.58400 0.52100 0.46500 0.41500 0.37100
 0.33100 0.29600 0.26500 0.23700 0.21200
 0.19000 0.17000 0.15300 0.13800 0.12300
 0.10900 0.09700 0.08600 0.07600 0.06600
 0.05700 0.04900 0.04100 0.03300 0.02700
 0.02400 0.02100 0.01800 0.01500 0.01300
 0.01200 0.01100 0.00900 0.00800 0.00800
 0.00600 0.00600 0.00500 0.00500 0.00000

RAINFALL DISTRIBUTION:
 NOAA_C 0.1
 0.0 0.00128 0.00231 0.00335 0.00441
 0.00547 0.00654 0.00763 0.00872 0.00982
 0.01093 0.01206 0.01319 0.01433 0.01548
 0.01665 0.01782 0.01900 0.02019 0.02140
 0.02261 0.02383 0.02506 0.02631 0.02756
 0.02882 0.03009 0.03137 0.03267 0.03397
 0.03528 0.03660 0.03793 0.03927 0.04062
 0.04199 0.04336 0.04474 0.04613 0.04753
 0.04894 0.05036 0.05179 0.05324 0.05469
 0.05615 0.05762 0.05910 0.06059 0.06209
 0.06360 0.06512 0.06665 0.06819 0.06974
 0.07130 0.07287 0.07445 0.07604 0.07764
 0.07925 0.08090 0.08259 0.08432 0.08609
 0.08790 0.08975 0.09164 0.09356 0.09553
 0.09754 0.09959 0.10168 0.10380 0.10597
 0.10818 0.11042 0.11271 0.11503 0.11740
 0.11981 0.12225 0.12474 0.12726 0.12982
 0.13243 0.13507 0.13776 0.14048 0.14324
 0.14605 0.14900 0.15210 0.15536 0.15876
 0.16231 0.16602 0.16987 0.17387 0.17803
 0.18233 0.18678 0.19139 0.19614 0.20104

0.20610	0.21173	0.21793	0.22471	0.23206
0.23999	0.24899	0.25907	0.27022	0.28245
0.29550	0.31572	0.33700	0.36618	0.40669
0.47660	0.59331	0.63382	0.66300	0.68428
0.70450	0.71755	0.72978	0.74093	0.75101
0.76001	0.76794	0.77529	0.78207	0.78827
0.79390	0.79896	0.80386	0.80861	0.81322
0.81767	0.82197	0.82613	0.83013	0.83398
0.83769	0.84124	0.84464	0.84790	0.85100
0.85395	0.85676	0.85952	0.86224	0.86493
0.86757	0.87018	0.87274	0.87526	0.87775
0.88019	0.88260	0.88497	0.88729	0.88958
0.89182	0.89403	0.89620	0.89832	0.90041
0.90246	0.90447	0.90644	0.90836	0.91025
0.91210	0.91391	0.91568	0.91741	0.91910
0.92075	0.92236	0.92396	0.92555	0.92713
0.92870	0.93026	0.93181	0.93335	0.93488
0.93640	0.93791	0.93941	0.94090	0.94238
0.94385	0.94531	0.94676	0.94821	0.94964
0.95106	0.95247	0.95387	0.95526	0.95664
0.95801	0.95938	0.96073	0.96207	0.96340
0.96472	0.96603	0.96733	0.96863	0.96991
0.97118	0.97244	0.97369	0.97494	0.97617
0.97739	0.97860	0.97981	0.98100	0.98218
0.98335	0.98452	0.98567	0.98681	0.98794
0.98907	0.99018	0.99128	0.99237	0.99346
0.99453	0.99559	0.99665	0.99769	0.99872
1.0				

GLOBAL OUTPUT:

1

0.1

NY N

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WinTR-20 Printed Page File

End of Input Data List

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
 ULTIMATE CONDITIONS - SUBDRAINAGE AREA 5

Name of printed page file:

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WinTR-20 Version 3.30

Page

STORM 1-yr

1

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CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
 ULTIMATE CONDITIONS - SUBDRAINAGE AREA 5

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Elevation (ft)	Peak Time (hr)	Flow Rate (cfs)	Rate (csm)
DA01	0.015		1.766		12.16	14.6	989.91

Line

Start Time (hr)	Flow (cfs)	Values (cfs)	@ time increment (cfs)	of (cfs)	0.100 hr (cfs)	Flow Rate (cfs)	Rate (cfs)
10.300	0.5	0.5	0.5	0.6	0.6	0.7	0.8
11.000	0.9	1.0	1.1	1.3	1.5	1.7	2.1
11.700	2.7	3.4	4.7	7.4	12.7	13.7	10.9
12.400	8.5	6.8	5.3	4.1	3.4	2.9	2.5
13.100	2.2	2.0	1.8	1.6	1.5	1.3	1.2
13.800	1.2	1.1	1.1	1.0	1.0	1.0	0.9
14.500	0.9	0.9	0.8	0.8	0.8	0.7	0.7
15.200	0.7	0.6	0.6	0.6	0.6	0.6	0.6
15.900	0.6	0.6	0.6	0.6	0.5	0.5	0.5
16.600	0.5	0.5	0.5	0.0			

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Elevation (ft)	Peak Time (hr)	Flow Rate (cfs)	Rate (csm)
OUTLET	0.015		1.766		12.16	14.6	989.91

Line

Start Time (hr)	Flow (cfs)	Values (cfs)	@ time increment (cfs)	of (cfs)	0.100 hr (cfs)	Flow Rate (cfs)	Rate (cfs)
10.300	0.5	0.5	0.5	0.6	0.6	0.7	0.8
11.000	0.9	1.0	1.1	1.3	1.5	1.7	2.1
11.700	2.7	3.4	4.7	7.4	12.7	13.7	10.9
12.400	8.5	6.8	5.3	4.1	3.4	2.9	2.5
13.100	2.2	2.0	1.8	1.6	1.5	1.3	1.2
13.800	1.2	1.1	1.1	1.0	1.0	1.0	0.9
14.500	0.9	0.9	0.8	0.8	0.8	0.7	0.7
15.200	0.7	0.6	0.6	0.6	0.6	0.6	0.6
15.900	0.6	0.6	0.6	0.6	0.5	0.5	0.5
16.600	0.5	0.5	0.5	0.0			

STORM 2-yr

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Elevation (ft)	Peak Time (hr)	Flow Rate (cfs)	Rate (csm)
DA01	0.015		2.296		12.15	18.8	1274.26

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
 ULTIMATE CONDITIONS - SUBDRAINAGE AREA 5

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
9.700	0.5	0.5	0.6	0.6	0.6	0.7	0.7
10.400	0.7	0.8	0.8	0.9	1.0	1.1	1.3
11.100	1.4	1.6	1.8	2.1	2.3	2.9	3.6
11.800	4.6	6.3	9.8	16.5	17.7	14.0	10.9
12.500	8.6	6.7	5.2	4.3	3.6	3.1	2.7
13.200	2.5	2.2	2.0	1.9	1.7	1.6	1.5
13.900	1.4	1.3	1.3	1.2	1.2	1.2	1.1
14.600	1.1	1.0	1.0	1.0	0.9	0.9	0.8
15.300	0.8	0.8	0.8	0.8	0.8	0.7	0.7
16.000	0.7	0.7	0.7	0.7	0.7	0.7	0.6
16.700	0.6	0.6	0.6	0.6	0.6	0.6	0.6
17.400	0.6	0.5	0.5	0.5	0.5	0.5	0.0

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Peak Flow			
				Elevation (ft)	Time (hr)	Rate (cfs)	Rate (csm)
OUTLET	0.015		2.296		12.15	18.8	1274.26

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
9.700	0.5	0.5	0.6	0.6	0.6	0.7	0.7
10.400	0.7	0.8	0.8	0.9	1.0	1.1	1.3
11.100	1.4	1.6	1.8	2.1	2.3	2.9	3.6
11.800	4.6	6.3	9.8	16.5	17.7	14.0	10.9
12.500	8.6	6.7	5.2	4.3	3.6	3.1	2.7
13.200	2.5	2.2	2.0	1.9	1.7	1.6	1.5
13.900	1.4	1.3	1.3	1.2	1.2	1.2	1.1
14.600	1.1	1.0	1.0	1.0	0.9	0.9	0.8
15.300	0.8	0.8	0.8	0.8	0.8	0.7	0.7
16.000	0.7	0.7	0.7	0.7	0.7	0.7	0.6
16.700	0.6	0.6	0.6	0.6	0.6	0.6	0.6
17.400	0.6	0.5	0.5	0.5	0.5	0.5	0.0

STORM 5-yr

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Peak Flow			
				Elevation (ft)	Time (hr)	Rate (cfs)	Rate (csm)
DA01	0.015		3.228		12.15	26.1	1768.39

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
 ULTIMATE CONDITIONS - SUBDRAINAGE AREA 5

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
8.700	0.5	0.5	0.5	0.5	0.6	0.6	0.6
9.400	0.7	0.7	0.8	0.8	0.8	0.9	0.9
10.100	1.0	1.0	1.1	1.2	1.2	1.3	1.4
10.800	1.6	1.7	1.9	2.1	2.4	2.7	3.1
11.500	3.4	4.3	5.3	6.7	9.0	13.9	23.0
12.200	24.4	19.3	14.9	11.8	9.2	7.1	5.8
12.900	4.9	4.2	3.7	3.3	3.0	2.7	2.5
13.600	2.3	2.1	2.0	1.9	1.8	1.7	1.7
14.300	1.6	1.6	1.5	1.4	1.4	1.3	1.3
15.000	1.2	1.2	1.1	1.1	1.1	1.0	1.0
15.700	1.0	1.0	1.0	1.0	0.9	0.9	0.9
16.400	0.9	0.9	0.9	0.9	0.8	0.8	0.8
17.100	0.8	0.8	0.8	0.7	0.7	0.7	0.7
17.800	0.7	0.7	0.7	0.6	0.6	0.6	0.6
18.500	0.6	0.6	0.6	0.6	0.6	0.6	0.6
19.200	0.6	0.6	0.6	0.6	0.6	0.6	0.6
19.900	0.6	0.6	0.5	0.5	0.5	0.5	0.5
20.600	0.5	0.5	0.5	0.5	0.5	0.5	0.5
21.300	0.5	0.5	0.0				

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Elevation (ft)	Peak Flow Time (hr)	Rate (cfs)	Rate (csm)
OUTLET	0.015		3.228		12.15	26.1	1768.39

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
8.700	0.5	0.5	0.5	0.5	0.6	0.6	0.6
9.400	0.7	0.7	0.8	0.8	0.8	0.9	0.9
10.100	1.0	1.0	1.1	1.2	1.2	1.3	1.4
10.800	1.6	1.7	1.9	2.1	2.4	2.7	3.1
11.500	3.4	4.3	5.3	6.7	9.0	13.9	23.0
12.200	24.4	19.3	14.9	11.8	9.2	7.1	5.8
12.900	4.9	4.2	3.7	3.3	3.0	2.7	2.5
13.600	2.3	2.1	2.0	1.9	1.8	1.7	1.7
14.300	1.6	1.6	1.5	1.4	1.4	1.3	1.3
15.000	1.2	1.2	1.1	1.1	1.1	1.0	1.0
15.700	1.0	1.0	1.0	1.0	0.9	0.9	0.9
16.400	0.9	0.9	0.9	0.9	0.8	0.8	0.8
17.100	0.8	0.8	0.8	0.7	0.7	0.7	0.7
17.800	0.7	0.7	0.7	0.6	0.6	0.6	0.6
18.500	0.6	0.6	0.6	0.6	0.6	0.6	0.6
19.200	0.6	0.6	0.6	0.6	0.6	0.6	0.6
19.900	0.6	0.6	0.5	0.5	0.5	0.5	0.5
20.600	0.5	0.5	0.5	0.5	0.5	0.5	0.5
21.300	0.5	0.5	0.0				

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
 ULTIMATE CONDITIONS - SUBDRAINAGE AREA 5

STORM 10-yr

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	----- Elevation (ft)	Peak Flow Time (hr)	----- Rate (cfs)	----- Rate (csm)
DA01	0.015		4.040		12.15	32.2	2186.21

Line Start Time (hr)	----- (cfs)	Flow Values (cfs)	@ time increment (cfs)	of (cfs)	0.100 hr (cfs)	----- (cfs)	(cfs)
7.700	0.5	0.5	0.5	0.5	0.6	0.6	0.6
8.400	0.6	0.6	0.7	0.7	0.7	0.7	0.7
9.100	0.8	0.8	0.9	0.9	1.0	1.0	1.1
9.800	1.1	1.2	1.3	1.3	1.4	1.5	1.5
10.500	1.6	1.7	1.9	2.1	2.3	2.5	2.8
11.200	3.1	3.5	4.0	4.4	5.5	6.8	8.5
11.900	11.4	17.3	28.6	30.2	23.8	18.3	14.5
12.600	11.2	8.6	7.0	6.0	5.2	4.5	4.0
13.300	3.7	3.3	3.0	2.8	2.5	2.4	2.3
14.000	2.2	2.1	2.0	2.0	1.9	1.8	1.8
14.700	1.7	1.6	1.5	1.5	1.4	1.4	1.3
15.400	1.3	1.3	1.2	1.2	1.2	1.2	1.2
16.100	1.1	1.1	1.1	1.1	1.1	1.1	1.0
16.800	1.0	1.0	1.0	1.0	0.9	0.9	0.9
17.500	0.9	0.9	0.9	0.8	0.8	0.8	0.8
18.200	0.8	0.8	0.7	0.7	0.7	0.7	0.7
18.900	0.7	0.7	0.7	0.7	0.7	0.7	0.7
19.600	0.7	0.7	0.7	0.7	0.7	0.7	0.7
20.300	0.7	0.7	0.6	0.6	0.6	0.6	0.6
21.000	0.6	0.6	0.6	0.6	0.6	0.6	0.6
21.700	0.6	0.6	0.6	0.6	0.6	0.6	0.6
22.400	0.6	0.6	0.6	0.5	0.5	0.5	0.5
23.100	0.5	0.5	0.5	0.5	0.5	0.5	0.5
23.800	0.5	0.5	0.5	0.0			

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	----- Elevation (ft)	Peak Flow Time (hr)	----- Rate (cfs)	----- Rate (csm)
OUTLET	0.015		4.040		12.15	32.2	2186.21

Line Start Time (hr)	----- (cfs)	Flow Values (cfs)	@ time increment (cfs)	of (cfs)	0.100 hr (cfs)	----- (cfs)	(cfs)
7.700	0.5	0.5	0.5	0.5	0.6	0.6	0.6
8.400	0.6	0.6	0.7	0.7	0.7	0.7	0.7
9.100	0.8	0.8	0.9	0.9	1.0	1.0	1.1
9.800	1.1	1.2	1.3	1.3	1.4	1.5	1.5
10.500	1.6	1.7	1.9	2.1	2.3	2.5	2.8
11.200	3.1	3.5	4.0	4.4	5.5	6.8	8.5

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
 ULTIMATE CONDITIONS - SUBDRAINAGE AREA 5

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
11.900	11.4	17.3	28.6	30.2	23.8	18.3	14.5
12.600	11.2	8.6	7.0	6.0	5.2	4.5	4.0
13.300	3.7	3.3	3.0	2.8	2.5	2.4	2.3
14.000	2.2	2.1	2.0	2.0	1.9	1.8	1.8
14.700	1.7	1.6	1.5	1.5	1.4	1.4	1.3
15.400	1.3	1.3	1.2	1.2	1.2	1.2	1.2
16.100	1.1	1.1	1.1	1.1	1.1	1.1	1.0
16.800	1.0	1.0	1.0	1.0	0.9	0.9	0.9
17.500	0.9	0.9	0.9	0.8	0.8	0.8	0.8
18.200	0.8	0.8	0.7	0.7	0.7	0.7	0.7
18.900	0.7	0.7	0.7	0.7	0.7	0.7	0.7
19.600	0.7	0.7	0.7	0.7	0.7	0.7	0.7
20.300	0.7	0.7	0.6	0.6	0.6	0.6	0.6
21.000	0.6	0.6	0.6	0.6	0.6	0.6	0.6
21.700	0.6	0.6	0.6	0.6	0.6	0.6	0.6
22.400	0.6	0.6	0.6	0.5	0.5	0.5	0.5
23.100	0.5	0.5	0.5	0.5	0.5	0.5	0.5
23.800	0.5	0.5	0.5	0.0			

STORM 25-yr

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Elevation (ft)	Peak Time (hr)	Flow Rate (cfs)	Rate (csm)
DA01	0.015		5.290		12.15	41.6	2822.67

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
6.600	0.5	0.5	0.5	0.6	0.6	0.6	0.6
7.300	0.6	0.7	0.7	0.7	0.7	0.8	0.8
8.000	0.8	0.8	0.9	0.9	0.9	0.9	1.0
8.700	1.0	1.0	1.1	1.1	1.1	1.2	1.2
9.400	1.3	1.4	1.5	1.5	1.6	1.7	1.8
10.100	1.9	2.0	2.0	2.1	2.2	2.4	2.6
10.800	2.8	3.1	3.4	3.8	4.2	4.8	5.3
11.500	5.9	7.3	9.0	11.2	14.9	22.6	37.0
12.200	38.9	30.6	23.5	18.5	14.4	11.0	9.0
12.900	7.6	6.6	5.8	5.1	4.7	4.2	3.9
13.600	3.5	3.2	3.0	2.9	2.8	2.7	2.6
14.300	2.5	2.4	2.3	2.2	2.1	2.1	2.0
15.000	1.9	1.8	1.7	1.7	1.6	1.6	1.6
15.700	1.5	1.5	1.5	1.5	1.5	1.4	1.4
16.400	1.4	1.4	1.3	1.3	1.3	1.3	1.2
17.100	1.2	1.2	1.2	1.2	1.1	1.1	1.1
17.800	1.1	1.0	1.0	1.0	1.0	1.0	0.9
18.500	0.9	0.9	0.9	0.9	0.9	0.9	0.9
19.200	0.9	0.9	0.9	0.9	0.9	0.9	0.9

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
 ULTIMATE CONDITIONS - SUBDRAINAGE AREA 5

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
19.900	0.9	0.8	0.8	0.8	0.8	0.8	0.8
20.600	0.8	0.8	0.8	0.8	0.8	0.8	0.8
21.300	0.8	0.8	0.8	0.8	0.7	0.7	0.7
22.000	0.7	0.7	0.7	0.7	0.7	0.7	0.7
22.700	0.7	0.7	0.7	0.7	0.7	0.7	0.7
23.400	0.7	0.6	0.6	0.6	0.6	0.6	0.7
24.100	0.5	0.0					

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Peak Elevation (ft)	Flow Time (hr)	Rate (cfs)	Rate (csm)
OUTLET	0.015		5.290		12.15	41.6	2822.67

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
6.600	0.5	0.5	0.5	0.6	0.6	0.6	0.6
7.300	0.6	0.7	0.7	0.7	0.7	0.8	0.8
8.000	0.8	0.8	0.9	0.9	0.9	0.9	1.0
8.700	1.0	1.0	1.1	1.1	1.1	1.2	1.2
9.400	1.3	1.4	1.5	1.5	1.6	1.7	1.8
10.100	1.9	2.0	2.0	2.1	2.2	2.4	2.6
10.800	2.8	3.1	3.4	3.8	4.2	4.8	5.3
11.500	5.9	7.3	9.0	11.2	14.9	22.6	37.0
12.200	38.9	30.6	23.5	18.5	14.4	11.0	9.0
12.900	7.6	6.6	5.8	5.1	4.7	4.2	3.9
13.600	3.5	3.2	3.0	2.9	2.8	2.7	2.6
14.300	2.5	2.4	2.3	2.2	2.1	2.1	2.0
15.000	1.9	1.8	1.7	1.7	1.6	1.6	1.6
15.700	1.5	1.5	1.5	1.5	1.5	1.4	1.4
16.400	1.4	1.4	1.3	1.3	1.3	1.3	1.2
17.100	1.2	1.2	1.2	1.2	1.1	1.1	1.1
17.800	1.1	1.0	1.0	1.0	1.0	1.0	0.9
18.500	0.9	0.9	0.9	0.9	0.9	0.9	0.9
19.200	0.9	0.9	0.9	0.9	0.9	0.9	0.9
19.900	0.9	0.8	0.8	0.8	0.8	0.8	0.8
20.600	0.8	0.8	0.8	0.8	0.8	0.8	0.8
21.300	0.8	0.8	0.8	0.8	0.7	0.7	0.7
22.000	0.7	0.7	0.7	0.7	0.7	0.7	0.7
22.700	0.7	0.7	0.7	0.7	0.7	0.7	0.7
23.400	0.7	0.6	0.6	0.6	0.6	0.6	0.7
24.100	0.5	0.0					

STORM 50-yr

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
 ULTIMATE CONDITIONS - SUBDRAINAGE AREA 5

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Elevation (ft)	Peak Time (hr)	Flow Rate (cfs)	Rate (csm)
DA01	0.015		6.392		12.16	49.9	3380.15

Line

Start Time (hr)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)
5.700	0.5	0.5	0.5	0.5	0.5	0.6	0.6
6.400	0.6	0.6	0.7	0.7	0.7	0.7	0.8
7.100	0.8	0.8	0.9	0.9	0.9	0.9	1.0
7.800	1.0	1.0	1.1	1.1	1.1	1.2	1.2
8.500	1.2	1.3	1.3	1.3	1.3	1.4	1.4
9.200	1.5	1.6	1.7	1.7	1.8	1.9	2.0
9.900	2.1	2.2	2.3	2.4	2.5	2.7	2.8
10.600	2.9	3.2	3.5	3.8	4.2	4.6	5.2
11.300	5.8	6.5	7.2	8.9	10.9	13.6	18.0
12.000	27.2	44.4	46.5	36.5	28.0	22.1	17.1
12.700	13.1	10.7	9.1	7.8	6.8	6.1	5.5
13.400	5.0	4.6	4.2	3.8	3.6	3.4	3.3
14.100	3.2	3.1	3.0	2.8	2.7	2.6	2.5
14.800	2.4	2.3	2.2	2.1	2.0	2.0	1.9
15.500	1.9	1.9	1.8	1.8	1.8	1.7	1.7
16.200	1.7	1.7	1.6	1.6	1.6	1.6	1.5
16.900	1.5	1.5	1.4	1.4	1.4	1.4	1.3
17.600	1.3	1.3	1.3	1.2	1.2	1.2	1.1
18.300	1.1	1.1	1.1	1.1	1.1	1.1	1.1
19.000	1.1	1.1	1.1	1.1	1.0	1.0	1.0
19.700	1.0	1.0	1.0	1.0	1.0	1.0	1.0
20.400	1.0	1.0	1.0	1.0	0.9	0.9	0.9
21.100	0.9	0.9	0.9	0.9	0.9	0.9	0.9
21.800	0.9	0.9	0.9	0.9	0.9	0.8	0.8
22.500	0.8	0.8	0.8	0.8	0.8	0.8	0.8
23.200	0.8	0.8	0.8	0.8	0.8	0.7	0.7
23.900	0.7	0.8	0.6	0.0			

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Elevation (ft)	Peak Time (hr)	Flow Rate (cfs)	Rate (csm)
OUTLET	0.015		6.392		12.16	49.9	3380.15

Line

Start Time (hr)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)
5.700	0.5	0.5	0.5	0.5	0.5	0.6	0.6
6.400	0.6	0.6	0.7	0.7	0.7	0.7	0.8
7.100	0.8	0.8	0.9	0.9	0.9	0.9	1.0
7.800	1.0	1.0	1.1	1.1	1.1	1.2	1.2
8.500	1.2	1.3	1.3	1.3	1.3	1.4	1.4

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
 ULTIMATE CONDITIONS - SUBDRAINAGE AREA 5

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
9.200	1.5	1.6	1.7	1.7	1.8	1.9	2.0
9.900	2.1	2.2	2.3	2.4	2.5	2.7	2.8
10.600	2.9	3.2	3.5	3.8	4.2	4.6	5.2
11.300	5.8	6.5	7.2	8.9	10.9	13.6	18.0
12.000	27.2	44.4	46.5	36.5	28.0	22.1	17.1
12.700	13.1	10.7	9.1	7.8	6.8	6.1	5.5
13.400	5.0	4.6	4.2	3.8	3.6	3.4	3.3
14.100	3.2	3.1	3.0	2.8	2.7	2.6	2.5
14.800	2.4	2.3	2.2	2.1	2.0	2.0	1.9
15.500	1.9	1.9	1.8	1.8	1.8	1.7	1.7
16.200	1.7	1.7	1.6	1.6	1.6	1.6	1.5
16.900	1.5	1.5	1.4	1.4	1.4	1.4	1.3
17.600	1.3	1.3	1.3	1.2	1.2	1.2	1.1
18.300	1.1	1.1	1.1	1.1	1.1	1.1	1.1
19.000	1.1	1.1	1.1	1.1	1.0	1.0	1.0
19.700	1.0	1.0	1.0	1.0	1.0	1.0	1.0
20.400	1.0	1.0	1.0	1.0	0.9	0.9	0.9
21.100	0.9	0.9	0.9	0.9	0.9	0.9	0.9
21.800	0.9	0.9	0.9	0.9	0.9	0.8	0.8
22.500	0.8	0.8	0.8	0.8	0.8	0.8	0.8
23.200	0.8	0.8	0.8	0.8	0.8	0.7	0.7
23.900	0.7	0.8	0.6	0.0			

STORM 100-yr

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Elevation (ft)	Peak Flow Time (hr)	Rate (cfs)	Rate (csm)
DA01	0.015		7.646		12.14	59.0	3997.81

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
4.700	0.5	0.5	0.5	0.5	0.6	0.6	0.6
5.400	0.6	0.6	0.6	0.7	0.7	0.7	0.7
6.100	0.7	0.8	0.8	0.8	0.8	0.9	0.9
6.800	0.9	1.0	1.0	1.0	1.1	1.1	1.1
7.500	1.2	1.2	1.2	1.3	1.3	1.4	1.4
8.200	1.4	1.5	1.5	1.5	1.6	1.6	1.7
8.900	1.7	1.7	1.8	1.9	2.0	2.1	2.2
9.600	2.3	2.4	2.5	2.6	2.8	2.9	3.0
10.300	3.1	3.2	3.4	3.6	3.9	4.3	4.7
11.000	5.1	5.6	6.3	7.1	7.9	8.7	10.7
11.700	13.1	16.2	21.5	32.4	52.6	55.1	43.1
12.400	33.1	26.0	20.1	15.4	12.6	10.7	9.2
13.100	8.0	7.2	6.5	5.9	5.4	4.9	4.5
13.800	4.2	4.0	3.9	3.7	3.6	3.5	3.3
14.500	3.2	3.1	3.0	2.9	2.7	2.6	2.5

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
 ULTIMATE CONDITIONS - SUBDRAINAGE AREA 5

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
15.200	2.4	2.3	2.3	2.2	2.2	2.2	2.1
15.900	2.1	2.1	2.0	2.0	2.0	1.9	1.9
16.600	1.9	1.8	1.8	1.8	1.7	1.7	1.7
17.300	1.6	1.6	1.6	1.5	1.5	1.5	1.4
18.000	1.4	1.4	1.3	1.3	1.3	1.3	1.3
18.700	1.3	1.3	1.3	1.3	1.3	1.2	1.2
19.400	1.2	1.2	1.2	1.2	1.2	1.2	1.2
20.100	1.2	1.2	1.2	1.1	1.1	1.1	1.1
20.800	1.1	1.1	1.1	1.1	1.1	1.1	1.1
21.500	1.1	1.0	1.0	1.0	1.0	1.0	1.0
22.200	1.0	1.0	1.0	1.0	1.0	1.0	1.0
22.900	0.9	0.9	0.9	0.9	0.9	0.9	0.9
23.600	0.9	0.9	0.9	0.9	0.9	0.7	0.0

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Peak Flow			
				Elevation (ft)	Time (hr)	Rate (cfs)	Rate (csm)
OUTLET	0.015		7.646		12.14	59.0	3997.81

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
4.700	0.5	0.5	0.5	0.5	0.6	0.6	0.6
5.400	0.6	0.6	0.6	0.7	0.7	0.7	0.7
6.100	0.7	0.8	0.8	0.8	0.8	0.9	0.9
6.800	0.9	1.0	1.0	1.0	1.1	1.1	1.1
7.500	1.2	1.2	1.2	1.3	1.3	1.4	1.4
8.200	1.4	1.5	1.5	1.5	1.6	1.6	1.7
8.900	1.7	1.7	1.8	1.9	2.0	2.1	2.2
9.600	2.3	2.4	2.5	2.6	2.8	2.9	3.0
10.300	3.1	3.2	3.4	3.6	3.9	4.3	4.7
11.000	5.1	5.6	6.3	7.1	7.9	8.7	10.7
11.700	13.1	16.2	21.5	32.4	52.6	55.1	43.1
12.400	33.1	26.0	20.1	15.4	12.6	10.7	9.2
13.100	8.0	7.2	6.5	5.9	5.4	4.9	4.5
13.800	4.2	4.0	3.9	3.7	3.6	3.5	3.3
14.500	3.2	3.1	3.0	2.9	2.7	2.6	2.5
15.200	2.4	2.3	2.3	2.2	2.2	2.2	2.1
15.900	2.1	2.1	2.0	2.0	2.0	1.9	1.9
16.600	1.9	1.8	1.8	1.8	1.7	1.7	1.7
17.300	1.6	1.6	1.6	1.5	1.5	1.5	1.4
18.000	1.4	1.4	1.3	1.3	1.3	1.3	1.3
18.700	1.3	1.3	1.3	1.3	1.3	1.2	1.2
19.400	1.2	1.2	1.2	1.2	1.2	1.2	1.2
20.100	1.2	1.2	1.2	1.1	1.1	1.1	1.1
20.800	1.1	1.1	1.1	1.1	1.1	1.1	1.1
21.500	1.1	1.0	1.0	1.0	1.0	1.0	1.0
22.200	1.0	1.0	1.0	1.0	1.0	1.0	1.0

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
 ULTIMATE CONDITIONS - SUBDRAINAGE AREA 5

Line	Flow Values @ time increment of 0.100 hr						
Start Time (hr)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
22.900	0.9	0.9	0.9	0.9	0.9	0.9	0.9
23.600	0.9	0.9	0.9	0.9	0.9	0.7	0.0

Area or Reach Identifier	Drainage Area (sq mi)	Peak Flow by Storm				
		1-yr (cfs)	2-yr (cfs)	5-yr (cfs)	10-yr (cfs)	25-yr (cfs)
DA01	0.015	14.6	18.8	26.1	32.2	41.6
OUTLET	0.015	14.6	18.8	26.1	32.2	41.6

Area or Reach Identifier	Drainage Area (sq mi)	Peak Flow by Storm				
		50-yr (cfs)	100-yr (cfs)	(cfs)	(cfs)	(cfs)
DA01	0.015	49.9	59.0			
OUTLET	0.015	49.9	59.0			

WinTR-20: version 3.30 0 0 .001 0
 Maryland, Queen Annes NOAA-C
 CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
 EXISTING CONDITIONS - SUBDRAINAGE AREA 6

SUB-AREA:
 DA01 OUTLET 0.0910 75. 0.76 Y

STORM ANALYSIS:
 1-yr 2.67 NOAA_C 2 3.24
 2-yr 3.24 NOAA_C 2 3.24
 5-yr 4.22 NOAA_C 2 3.24
 10-yr 5.06 NOAA_C 2 3.24
 25-yr 6.34 NOAA_C 2 3.24
 50-yr 7.46 NOAA_C 2 3.24
 100-yr 8.73 NOAA_C 2 3.24

DIMENSIONLESS UNIT HYDROGRAPH: delmarva
 0.00000 0.11100 0.35600 0.65500 0.89600
 1.00000 0.92900 0.82800 0.73700 0.65600
 0.58400 0.52100 0.46500 0.41500 0.37100
 0.33100 0.29600 0.26500 0.23700 0.21200
 0.19000 0.17000 0.15300 0.13800 0.12300
 0.10900 0.09700 0.08600 0.07600 0.06600
 0.05700 0.04900 0.04100 0.03300 0.02700
 0.02400 0.02100 0.01800 0.01500 0.01300
 0.01200 0.01100 0.00900 0.00800 0.00800
 0.00600 0.00600 0.00500 0.00500 0.00000

RAINFALL DISTRIBUTION:
 NOAA_C 0.1
 0.0 0.00128 0.00231 0.00335 0.00441
 0.00547 0.00654 0.00763 0.00872 0.00982
 0.01093 0.01206 0.01319 0.01433 0.01548
 0.01665 0.01782 0.01900 0.02019 0.02140
 0.02261 0.02383 0.02506 0.02631 0.02756
 0.02882 0.03009 0.03137 0.03267 0.03397
 0.03528 0.03660 0.03793 0.03927 0.04062
 0.04199 0.04336 0.04474 0.04613 0.04753
 0.04894 0.05036 0.05179 0.05324 0.05469
 0.05615 0.05762 0.05910 0.06059 0.06209
 0.06360 0.06512 0.06665 0.06819 0.06974
 0.07130 0.07287 0.07445 0.07604 0.07764
 0.07925 0.08090 0.08259 0.08432 0.08609
 0.08790 0.08975 0.09164 0.09356 0.09553
 0.09754 0.09959 0.10168 0.10380 0.10597
 0.10818 0.11042 0.11271 0.11503 0.11740
 0.11981 0.12225 0.12474 0.12726 0.12982
 0.13243 0.13507 0.13776 0.14048 0.14324
 0.14605 0.14900 0.15210 0.15536 0.15876
 0.16231 0.16602 0.16987 0.17387 0.17803
 0.18233 0.18678 0.19139 0.19614 0.20104

0.20610	0.21173	0.21793	0.22471	0.23206
0.23999	0.24899	0.25907	0.27022	0.28245
0.29550	0.31572	0.33700	0.36618	0.40669
0.47660	0.59331	0.63382	0.66300	0.68428
0.70450	0.71755	0.72978	0.74093	0.75101
0.76001	0.76794	0.77529	0.78207	0.78827
0.79390	0.79896	0.80386	0.80861	0.81322
0.81767	0.82197	0.82613	0.83013	0.83398
0.83769	0.84124	0.84464	0.84790	0.85100
0.85395	0.85676	0.85952	0.86224	0.86493
0.86757	0.87018	0.87274	0.87526	0.87775
0.88019	0.88260	0.88497	0.88729	0.88958
0.89182	0.89403	0.89620	0.89832	0.90041
0.90246	0.90447	0.90644	0.90836	0.91025
0.91210	0.91391	0.91568	0.91741	0.91910
0.92075	0.92236	0.92396	0.92555	0.92713
0.92870	0.93026	0.93181	0.93335	0.93488
0.93640	0.93791	0.93941	0.94090	0.94238
0.94385	0.94531	0.94676	0.94821	0.94964
0.95106	0.95247	0.95387	0.95526	0.95664
0.95801	0.95938	0.96073	0.96207	0.96340
0.96472	0.96603	0.96733	0.96863	0.96991
0.97118	0.97244	0.97369	0.97494	0.97617
0.97739	0.97860	0.97981	0.98100	0.98218
0.98335	0.98452	0.98567	0.98681	0.98794
0.98907	0.99018	0.99128	0.99237	0.99346
0.99453	0.99559	0.99665	0.99769	0.99872
1.0				

GLOBAL OUTPUT:

1

0.1

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WinTR-20 Printed Page File

End of Input Data List

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
EXISTING CONDITIONS - SUBDRAINAGE AREA 6

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Page

STORM 1-yr

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CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
EXISTING CONDITIONS - SUBDRAINAGE AREA 6

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Elevation (ft)	Peak Time (hr)	Flow Rate (cfs)	Rate (csm)
DA01	0.091		0.752		12.73	13.6	149.37

Line

Start Time (hr)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)
11.700	0.3	0.5	1.0	1.8	3.4	5.8	8.5
12.400	11.0	12.7	13.4	13.6	13.4	13.1	12.6
13.100	12.1	11.6	11.1	10.6	10.0	9.5	9.0
13.800	8.5	8.1	7.7	7.3	6.9	6.6	6.3
14.500	6.0	5.7	5.4	5.1	4.9	4.7	4.4
15.200	4.2	4.0	3.8	3.6	3.5	3.3	3.2
15.900	3.1	3.0	2.9	2.8	2.7	2.6	2.6
16.600	2.5	2.4	2.4	2.3	2.3	2.2	2.2
17.300	2.1	2.1	2.0	2.0	2.0	1.9	1.9
18.000	1.8	1.8	1.8	1.7	1.7	1.7	1.6
18.700	1.6	1.6	1.6	1.6	1.5	1.5	1.5
19.400	1.5	1.5	1.5	1.4	1.4	1.4	1.4
20.100	1.4	1.4	1.4	1.4	1.4	1.4	1.3
20.800	1.3	1.3	1.3	1.3	1.3	1.3	1.3
21.500	1.3	1.3	1.3	1.3	1.2	1.2	1.2
22.200	1.2	1.2	1.2	1.2	1.2	1.2	1.2
22.900	1.2	1.2	1.1	1.1	1.1	1.1	1.1
23.600	1.1	1.1	1.1	1.1	1.1	1.1	1.0
24.300	1.0	0.9	0.8	0.7	0.6	0.6	0.5
25.000	0.0						

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Elevation (ft)	Peak Time (hr)	Flow Rate (cfs)	Rate (csm)
OUTLET	0.091		0.752		12.73	13.6	149.37

Line

Start Time (hr)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)
11.700	0.3	0.5	1.0	1.8	3.4	5.8	8.5
12.400	11.0	12.7	13.4	13.6	13.4	13.1	12.6
13.100	12.1	11.6	11.1	10.6	10.0	9.5	9.0
13.800	8.5	8.1	7.7	7.3	6.9	6.6	6.3
14.500	6.0	5.7	5.4	5.1	4.9	4.7	4.4
15.200	4.2	4.0	3.8	3.6	3.5	3.3	3.2
15.900	3.1	3.0	2.9	2.8	2.7	2.6	2.6
16.600	2.5	2.4	2.4	2.3	2.3	2.2	2.2
17.300	2.1	2.1	2.0	2.0	2.0	1.9	1.9
18.000	1.8	1.8	1.8	1.7	1.7	1.7	1.6
18.700	1.6	1.6	1.6	1.6	1.5	1.5	1.5
19.400	1.5	1.5	1.5	1.4	1.4	1.4	1.4

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
EXISTING CONDITIONS - SUBDRAINAGE AREA 6

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
20.100	1.4	1.4	1.4	1.4	1.4	1.4	1.3
20.800	1.3	1.3	1.3	1.3	1.3	1.3	1.3
21.500	1.3	1.3	1.3	1.3	1.2	1.2	1.2
22.200	1.2	1.2	1.2	1.2	1.2	1.2	1.2
22.900	1.2	1.2	1.1	1.1	1.1	1.1	1.1
23.600	1.1	1.1	1.1	1.1	1.1	1.1	1.0
24.300	1.0	0.9	0.8	0.7	0.6	0.6	0.5
25.000	0.0						

STORM 2-yr

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Elevation (ft)	Peak Time (hr)	Flow Rate (cfs)	Rate (csm)
DA01	0.091		1.121		12.62	21.5	236.29

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
11.400	0.4	0.6	0.9	1.2	1.8	2.6	4.0
12.100	6.5	10.3	14.5	18.1	20.5	21.4	21.4
12.800	20.9	20.2	19.4	18.6	17.7	16.8	15.9
13.500	15.1	14.3	13.5	12.7	12.0	11.3	10.7
14.200	10.2	9.6	9.1	8.7	8.2	7.8	7.4
14.900	7.0	6.7	6.3	6.0	5.7	5.4	5.1
15.600	4.9	4.7	4.5	4.3	4.2	4.0	3.9
16.300	3.8	3.7	3.6	3.5	3.4	3.3	3.2
17.000	3.1	3.0	3.0	2.9	2.9	2.8	2.7
17.700	2.7	2.6	2.6	2.5	2.5	2.4	2.4
18.400	2.3	2.3	2.3	2.2	2.2	2.2	2.1
19.100	2.1	2.1	2.1	2.0	2.0	2.0	2.0
19.800	2.0	2.0	1.9	1.9	1.9	1.9	1.9
20.500	1.9	1.9	1.8	1.8	1.8	1.8	1.8
21.200	1.8	1.8	1.8	1.7	1.7	1.7	1.7
21.900	1.7	1.7	1.7	1.7	1.6	1.6	1.6
22.600	1.6	1.6	1.6	1.6	1.6	1.6	1.5
23.300	1.5	1.5	1.5	1.5	1.5	1.5	1.5
24.000	1.4	1.4	1.4	1.3	1.2	1.1	1.0
24.700	0.9	0.8	0.7	0.6	0.5	0.0	

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Elevation (ft)	Peak Time (hr)	Flow Rate (cfs)	Rate (csm)
OUTLET	0.091		1.121		12.62	21.5	236.29

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
EXISTING CONDITIONS - SUBDRAINAGE AREA 6

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
11.400	0.4	0.6	0.9	1.2	1.8	2.6	4.0
12.100	6.5	10.3	14.5	18.1	20.5	21.4	21.4
12.800	20.9	20.2	19.4	18.6	17.7	16.8	15.9
13.500	15.1	14.3	13.5	12.7	12.0	11.3	10.7
14.200	10.2	9.6	9.1	8.7	8.2	7.8	7.4
14.900	7.0	6.7	6.3	6.0	5.7	5.4	5.1
15.600	4.9	4.7	4.5	4.3	4.2	4.0	3.9
16.300	3.8	3.7	3.6	3.5	3.4	3.3	3.2
17.000	3.1	3.0	3.0	2.9	2.9	2.8	2.7
17.700	2.7	2.6	2.6	2.5	2.5	2.4	2.4
18.400	2.3	2.3	2.3	2.2	2.2	2.2	2.1
19.100	2.1	2.1	2.1	2.0	2.0	2.0	2.0
19.800	2.0	2.0	1.9	1.9	1.9	1.9	1.9
20.500	1.9	1.9	1.8	1.8	1.8	1.8	1.8
21.200	1.8	1.8	1.8	1.7	1.7	1.7	1.7
21.900	1.7	1.7	1.7	1.7	1.6	1.6	1.6
22.600	1.6	1.6	1.6	1.6	1.6	1.6	1.5
23.300	1.5	1.5	1.5	1.5	1.5	1.5	1.5
24.000	1.4	1.4	1.4	1.3	1.2	1.1	1.0
24.700	0.9	0.8	0.7	0.6	0.5	0.0	

STORM 5-yr

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Elevation (ft)	Peak Flow Time (hr)	Rate (cfs)	Rate (csm)
DA01	0.091		1.833		12.62	36.9	405.54

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
10.600	0.4	0.5	0.7	0.8	1.0	1.2	1.4
11.300	1.7	2.0	2.5	3.0	3.8	4.8	6.3
12.000	8.8	13.3	19.6	26.4	32.2	35.7	36.8
12.700	36.4	35.4	34.0	32.4	30.8	29.2	27.7
13.400	26.1	24.6	23.2	21.8	20.5	19.3	18.2
14.100	17.1	16.2	15.3	14.5	13.7	13.0	12.3
14.800	11.6	11.0	10.4	9.8	9.2	8.7	8.2
15.500	7.8	7.5	7.1	6.8	6.6	6.3	6.1
16.200	5.9	5.7	5.6	5.4	5.3	5.1	5.0
16.900	4.8	4.7	4.6	4.4	4.4	4.3	4.2
17.600	4.1	4.0	3.9	3.8	3.8	3.7	3.6
18.300	3.5	3.5	3.4	3.4	3.3	3.3	3.2
19.000	3.2	3.1	3.1	3.1	3.0	3.0	3.0
19.700	2.9	2.9	2.9	2.9	2.8	2.8	2.8
20.400	2.8	2.8	2.7	2.7	2.7	2.7	2.7
21.100	2.6	2.6	2.6	2.6	2.6	2.5	2.5
21.800	2.5	2.5	2.5	2.5	2.4	2.4	2.4

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
EXISTING CONDITIONS - SUBDRAINAGE AREA 6

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
22.500	2.4	2.4	2.4	2.3	2.3	2.3	2.3
23.200	2.3	2.2	2.2	2.2	2.2	2.2	2.2
23.900	2.1	2.1	2.1	2.0	1.9	1.8	1.6
24.600	1.4	1.3	1.1	1.0	0.9	0.8	0.7
25.300	0.6	0.6	0.0				

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Elevation (ft)	Peak Time (hr)	Flow Rate (cfs)	Rate (csm)
OUTLET	0.091		1.833		12.62	36.9	405.54

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
10.600	0.4	0.5	0.7	0.8	1.0	1.2	1.4
11.300	1.7	2.0	2.5	3.0	3.8	4.8	6.3
12.000	8.8	13.3	19.6	26.4	32.2	35.7	36.8
12.700	36.4	35.4	34.0	32.4	30.8	29.2	27.7
13.400	26.1	24.6	23.2	21.8	20.5	19.3	18.2
14.100	17.1	16.2	15.3	14.5	13.7	13.0	12.3
14.800	11.6	11.0	10.4	9.8	9.2	8.7	8.2
15.500	7.8	7.5	7.1	6.8	6.6	6.3	6.1
16.200	5.9	5.7	5.6	5.4	5.3	5.1	5.0
16.900	4.8	4.7	4.6	4.4	4.4	4.3	4.2
17.600	4.1	4.0	3.9	3.8	3.8	3.7	3.6
18.300	3.5	3.5	3.4	3.4	3.3	3.3	3.2
19.000	3.2	3.1	3.1	3.1	3.0	3.0	3.0
19.700	2.9	2.9	2.9	2.9	2.8	2.8	2.8
20.400	2.8	2.8	2.7	2.7	2.7	2.7	2.7
21.100	2.6	2.6	2.6	2.6	2.6	2.5	2.5
21.800	2.5	2.5	2.5	2.5	2.4	2.4	2.4
22.500	2.4	2.4	2.4	2.3	2.3	2.3	2.3
23.200	2.3	2.2	2.2	2.2	2.2	2.2	2.2
23.900	2.1	2.1	2.1	2.0	1.9	1.8	1.6
24.600	1.4	1.3	1.1	1.0	0.9	0.8	0.7
25.300	0.6	0.6	0.0				

STORM 10-yr

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Elevation (ft)	Peak Time (hr)	Flow Rate (cfs)	Rate (csm)
DA01	0.091		2.498		12.63	51.1	562.02

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
EXISTING CONDITIONS - SUBDRAINAGE AREA 6

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
9.900	0.5	0.6	0.7	0.8	0.9	1.0	1.1
10.600	1.3	1.5	1.7	1.9	2.2	2.5	2.9
11.300	3.3	3.9	4.5	5.4	6.5	8.0	10.2
12.000	13.9	20.1	28.6	37.7	45.3	49.8	51.0
12.700	50.3	48.7	46.7	44.4	42.1	39.8	37.6
13.400	35.4	33.3	31.3	29.4	27.6	26.0	24.4
14.100	23.0	21.6	20.4	19.3	18.2	17.2	16.3
14.800	15.4	14.5	13.7	12.9	12.1	11.4	10.8
15.500	10.2	9.8	9.3	8.9	8.5	8.2	7.9
16.200	7.7	7.4	7.2	7.0	6.8	6.6	6.4
16.900	6.2	6.0	5.9	5.7	5.6	5.5	5.4
17.600	5.3	5.2	5.0	4.9	4.8	4.7	4.7
18.300	4.6	4.5	4.4	4.3	4.2	4.2	4.1
19.000	4.1	4.0	4.0	3.9	3.9	3.8	3.8
19.700	3.8	3.7	3.7	3.7	3.6	3.6	3.6
20.400	3.6	3.5	3.5	3.5	3.4	3.4	3.4
21.100	3.4	3.3	3.3	3.3	3.3	3.3	3.2
21.800	3.2	3.2	3.2	3.1	3.1	3.1	3.1
22.500	3.1	3.0	3.0	3.0	3.0	2.9	2.9
23.200	2.9	2.9	2.8	2.8	2.8	2.8	2.8
23.900	2.7	2.7	2.7	2.6	2.4	2.2	2.0
24.600	1.8	1.6	1.4	1.3	1.1	1.0	0.9
25.300	0.8	0.7	0.6	0.6	0.0		

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Elevation (ft)	Peak Flow Time (hr)	Rate (cfs)	Rate Rate (csm)
OUTLET	0.091		2.498		12.63	51.1	562.02

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
9.900	0.5	0.6	0.7	0.8	0.9	1.0	1.1
10.600	1.3	1.5	1.7	1.9	2.2	2.5	2.9
11.300	3.3	3.9	4.5	5.4	6.5	8.0	10.2
12.000	13.9	20.1	28.6	37.7	45.3	49.8	51.0
12.700	50.3	48.7	46.7	44.4	42.1	39.8	37.6
13.400	35.4	33.3	31.3	29.4	27.6	26.0	24.4
14.100	23.0	21.6	20.4	19.3	18.2	17.2	16.3
14.800	15.4	14.5	13.7	12.9	12.1	11.4	10.8
15.500	10.2	9.8	9.3	8.9	8.5	8.2	7.9
16.200	7.7	7.4	7.2	7.0	6.8	6.6	6.4
16.900	6.2	6.0	5.9	5.7	5.6	5.5	5.4
17.600	5.3	5.2	5.0	4.9	4.8	4.7	4.7
18.300	4.6	4.5	4.4	4.3	4.2	4.2	4.1
19.000	4.1	4.0	4.0	3.9	3.9	3.8	3.8
19.700	3.8	3.7	3.7	3.7	3.6	3.6	3.6
20.400	3.6	3.5	3.5	3.5	3.4	3.4	3.4

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
EXISTING CONDITIONS - SUBDRAINAGE AREA 6

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
21.100	3.4	3.3	3.3	3.3	3.3	3.3	3.2
21.800	3.2	3.2	3.2	3.1	3.1	3.1	3.1
22.500	3.1	3.0	3.0	3.0	3.0	2.9	2.9
23.200	2.9	2.9	2.8	2.8	2.8	2.8	2.8
23.900	2.7	2.7	2.7	2.6	2.4	2.2	2.0
24.600	1.8	1.6	1.4	1.3	1.1	1.0	0.9
25.300	0.8	0.7	0.6	0.6	0.6	0.6	0.6

STORM 25-yr

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Peak Flow			
				Elevation (ft)	Time (hr)	Rate (cfs)	Rate (csm)
DA01	0.091		3.574		12.63	74.0	813.14

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
8.800	0.4	0.5	0.6	0.7	0.7	0.8	0.9
9.500	1.0	1.2	1.3	1.4	1.6	1.7	1.9
10.200	2.1	2.3	2.5	2.8	3.0	3.3	3.6
10.900	4.0	4.4	5.0	5.6	6.3	7.2	8.2
11.600	9.5	11.2	13.5	16.9	22.4	31.3	43.3
12.300	56.1	66.6	72.6	74.0	72.6	70.1	66.9
13.000	63.5	60.0	56.7	53.4	50.2	47.1	44.2
13.700	41.4	38.8	36.4	34.2	32.1	30.2	28.5
14.400	26.8	25.3	23.8	22.5	21.2	20.0	18.8
15.100	17.7	16.6	15.7	14.8	14.0	13.3	12.7
15.800	12.1	11.6	11.2	10.8	10.4	10.1	9.7
16.500	9.5	9.2	8.9	8.6	8.4	8.1	7.9
17.200	7.7	7.5	7.4	7.2	7.1	6.9	6.8
17.900	6.6	6.5	6.4	6.2	6.1	6.0	5.9
18.600	5.8	5.7	5.6	5.5	5.4	5.4	5.3
19.300	5.2	5.2	5.1	5.1	5.0	5.0	4.9
20.000	4.9	4.9	4.8	4.8	4.7	4.7	4.7
20.700	4.6	4.6	4.6	4.5	4.5	4.5	4.4
21.400	4.4	4.4	4.3	4.3	4.3	4.2	4.2
22.100	4.2	4.2	4.1	4.1	4.1	4.0	4.0
22.800	4.0	3.9	3.9	3.9	3.8	3.8	3.8
23.500	3.8	3.7	3.7	3.7	3.6	3.6	3.6
24.200	3.4	3.3	3.0	2.7	2.4	2.1	1.9
24.900	1.7	1.5	1.3	1.2	1.1	0.9	0.8
25.600	0.7	0.7	0.6	0.5	0.6	0.6	0.6

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
EXISTING CONDITIONS - SUBDRAINAGE AREA 6

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Elevation (ft)	Peak Flow Time (hr)	Peak Flow Rate (cfs)	Peak Flow Rate (csm)
OUTLET	0.091		3.574		12.63	74.0	813.14

Line

Start Time (hr)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)
8.800	0.4	0.5	0.6	0.7	0.7	0.8	0.9
9.500	1.0	1.2	1.3	1.4	1.6	1.7	1.9
10.200	2.1	2.3	2.5	2.8	3.0	3.3	3.6
10.900	4.0	4.4	5.0	5.6	6.3	7.2	8.2
11.600	9.5	11.2	13.5	16.9	22.4	31.3	43.3
12.300	56.1	66.6	72.6	74.0	72.6	70.1	66.9
13.000	63.5	60.0	56.7	53.4	50.2	47.1	44.2
13.700	41.4	38.8	36.4	34.2	32.1	30.2	28.5
14.400	26.8	25.3	23.8	22.5	21.2	20.0	18.8
15.100	17.7	16.6	15.7	14.8	14.0	13.3	12.7
15.800	12.1	11.6	11.2	10.8	10.4	10.1	9.7
16.500	9.5	9.2	8.9	8.6	8.4	8.1	7.9
17.200	7.7	7.5	7.4	7.2	7.1	6.9	6.8
17.900	6.6	6.5	6.4	6.2	6.1	6.0	5.9
18.600	5.8	5.7	5.6	5.5	5.4	5.4	5.3
19.300	5.2	5.2	5.1	5.1	5.0	5.0	4.9
20.000	4.9	4.9	4.8	4.8	4.7	4.7	4.7
20.700	4.6	4.6	4.6	4.5	4.5	4.5	4.4
21.400	4.4	4.4	4.3	4.3	4.3	4.2	4.2
22.100	4.2	4.2	4.1	4.1	4.1	4.0	4.0
22.800	4.0	3.9	3.9	3.9	3.8	3.8	3.8
23.500	3.8	3.7	3.7	3.7	3.6	3.6	3.6
24.200	3.4	3.3	3.0	2.7	2.4	2.1	1.9
24.900	1.7	1.5	1.3	1.2	1.1	0.9	0.8
25.600	0.7	0.7	0.6	0.5	0.0		

STORM 50-yr

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Elevation (ft)	Peak Flow Time (hr)	Peak Flow Rate (cfs)	Peak Flow Rate (csm)
DA01	0.091		4.557		12.56	95.1	1044.66

Line

Start Time (hr)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)
8.000	0.5	0.5	0.6	0.7	0.8	0.9	0.9
8.700	1.0	1.1	1.3	1.4	1.5	1.6	1.7
9.400	1.9	2.0	2.2	2.4	2.6	2.8	3.0
10.100	3.3	3.6	3.8	4.1	4.5	4.8	5.2
10.800	5.6	6.1	6.8	7.5	8.3	9.3	10.5

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
EXISTING CONDITIONS - SUBDRAINAGE AREA 6

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
11.500	11.8	13.6	15.8	18.9	23.4	30.6	42.0
12.200	57.0	72.8	85.6	92.9	94.6	92.8	89.3
12.900	85.1	80.6	76.1	71.7	67.5	63.4	59.4
13.600	55.7	52.2	48.8	45.7	42.9	40.2	37.8
14.300	35.6	33.5	31.5	29.7	28.0	26.4	24.8
15.000	23.3	21.9	20.6	19.4	18.2	17.3	16.4
15.700	15.6	14.9	14.3	13.7	13.2	12.8	12.4
16.400	12.0	11.6	11.3	10.9	10.6	10.2	9.9
17.100	9.7	9.4	9.2	9.0	8.8	8.6	8.4
17.800	8.3	8.1	7.9	7.8	7.6	7.5	7.3
18.500	7.2	7.1	6.9	6.8	6.7	6.6	6.6
19.200	6.5	6.4	6.3	6.3	6.2	6.1	6.1
19.900	6.0	6.0	5.9	5.9	5.8	5.8	5.7
20.600	5.7	5.6	5.6	5.6	5.5	5.5	5.4
21.300	5.4	5.4	5.3	5.3	5.3	5.2	5.2
22.000	5.1	5.1	5.1	5.0	5.0	4.9	4.9
22.700	4.9	4.8	4.8	4.8	4.7	4.7	4.6
23.400	4.6	4.6	4.5	4.5	4.5	4.4	4.4
24.100	4.3	4.2	4.0	3.6	3.3	2.9	2.6
24.800	2.3	2.1	1.8	1.6	1.4	1.3	1.1
25.500	1.0	0.9	0.8	0.7	0.6	0.5	0.0

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Elevation (ft)	Peak Flow Time (hr)	Rate (cfs)	Rate (csm)
OUTLET	0.091		4.557		12.56	95.1	1044.66

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
8.000	0.5	0.5	0.6	0.7	0.8	0.9	0.9
8.700	1.0	1.1	1.3	1.4	1.5	1.6	1.7
9.400	1.9	2.0	2.2	2.4	2.6	2.8	3.0
10.100	3.3	3.6	3.8	4.1	4.5	4.8	5.2
10.800	5.6	6.1	6.8	7.5	8.3	9.3	10.5
11.500	11.8	13.6	15.8	18.9	23.4	30.6	42.0
12.200	57.0	72.8	85.6	92.9	94.6	92.8	89.3
12.900	85.1	80.6	76.1	71.7	67.5	63.4	59.4
13.600	55.7	52.2	48.8	45.7	42.9	40.2	37.8
14.300	35.6	33.5	31.5	29.7	28.0	26.4	24.8
15.000	23.3	21.9	20.6	19.4	18.2	17.3	16.4
15.700	15.6	14.9	14.3	13.7	13.2	12.8	12.4
16.400	12.0	11.6	11.3	10.9	10.6	10.2	9.9
17.100	9.7	9.4	9.2	9.0	8.8	8.6	8.4
17.800	8.3	8.1	7.9	7.8	7.6	7.5	7.3
18.500	7.2	7.1	6.9	6.8	6.7	6.6	6.6
19.200	6.5	6.4	6.3	6.3	6.2	6.1	6.1
19.900	6.0	6.0	5.9	5.9	5.8	5.8	5.7

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
EXISTING CONDITIONS - SUBDRAINAGE AREA 6

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
20.600	5.7	5.6	5.6	5.6	5.5	5.5	5.4
21.300	5.4	5.4	5.3	5.3	5.3	5.2	5.2
22.000	5.1	5.1	5.1	5.0	5.0	4.9	4.9
22.700	4.9	4.8	4.8	4.8	4.7	4.7	4.6
23.400	4.6	4.6	4.5	4.5	4.5	4.4	4.4
24.100	4.3	4.2	4.0	3.6	3.3	2.9	2.6
24.800	2.3	2.1	1.8	1.6	1.4	1.3	1.1
25.500	1.0	0.9	0.8	0.7	0.6	0.5	0.0

STORM 100-yr

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Elevation (ft)	Peak Time (hr)	Flow Rate (cfs)	Rate (csm)
DA01	0.091		5.705		12.61	119.2	1310.19

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
7.200	0.4	0.5	0.6	0.7	0.7	0.8	0.9
7.900	1.0	1.1	1.3	1.4	1.5	1.6	1.7
8.600	1.9	2.0	2.1	2.3	2.4	2.6	2.7
9.300	2.9	3.1	3.3	3.6	3.8	4.1	4.4
10.000	4.7	5.0	5.4	5.8	6.2	6.6	7.0
10.700	7.5	8.1	8.8	9.6	10.5	11.6	12.9
11.400	14.4	16.2	18.3	21.2	25.0	30.3	38.7
12.100	53.1	72.8	93.4	109.7	118.4	119.2	116.2
12.800	111.5	106.1	100.3	94.6	89.0	83.6	78.5
13.500	73.5	68.8	64.4	60.2	56.4	52.8	49.5
14.200	46.5	43.7	41.1	38.7	36.4	34.3	32.2
14.900	30.3	28.5	26.8	25.1	23.6	22.2	21.0
15.600	19.9	19.0	18.1	17.3	16.7	16.1	15.5
16.300	15.0	14.5	14.0	13.6	13.2	12.8	12.4
17.000	12.0	11.7	11.4	11.1	10.9	10.6	10.4
17.700	10.2	10.0	9.8	9.6	9.4	9.2	9.0
18.400	8.8	8.6	8.5	8.4	8.2	8.1	8.0
19.100	7.9	7.8	7.7	7.6	7.5	7.5	7.4
19.800	7.3	7.3	7.2	7.1	7.1	7.0	7.0
20.500	6.9	6.8	6.8	6.7	6.7	6.6	6.6
21.200	6.5	6.5	6.5	6.4	6.4	6.3	6.3
21.900	6.2	6.2	6.1	6.1	6.0	6.0	5.9
22.600	5.9	5.9	5.8	5.8	5.7	5.7	5.6
23.300	5.6	5.5	5.5	5.4	5.4	5.4	5.3
24.000	5.3	5.2	5.0	4.7	4.4	3.9	3.5
24.700	3.1	2.8	2.5	2.2	2.0	1.7	1.5
25.400	1.4	1.2	1.1	1.0	0.8	0.7	0.7
26.100	0.6	0.5	0.0				

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
EXISTING CONDITIONS - SUBDRAINAGE AREA 6

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Elevation (ft)	Peak Time (hr)	Flow Rate (cfs)	Rate (csm)
OUTLET	0.091		5.705		12.61	119.2	1310.19

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
(hr)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
7.200	0.4	0.5	0.6	0.7	0.7	0.8	0.9
7.900	1.0	1.1	1.3	1.4	1.5	1.6	1.7
8.600	1.9	2.0	2.1	2.3	2.4	2.6	2.7
9.300	2.9	3.1	3.3	3.6	3.8	4.1	4.4
10.000	4.7	5.0	5.4	5.8	6.2	6.6	7.0
10.700	7.5	8.1	8.8	9.6	10.5	11.6	12.9
11.400	14.4	16.2	18.3	21.2	25.0	30.3	38.7
12.100	53.1	72.8	93.4	109.7	118.4	119.2	116.2
12.800	111.5	106.1	100.3	94.6	89.0	83.6	78.5
13.500	73.5	68.8	64.4	60.2	56.4	52.8	49.5
14.200	46.5	43.7	41.1	38.7	36.4	34.3	32.2
14.900	30.3	28.5	26.8	25.1	23.6	22.2	21.0
15.600	19.9	19.0	18.1	17.3	16.7	16.1	15.5
16.300	15.0	14.5	14.0	13.6	13.2	12.8	12.4
17.000	12.0	11.7	11.4	11.1	10.9	10.6	10.4
17.700	10.2	10.0	9.8	9.6	9.4	9.2	9.0
18.400	8.8	8.6	8.5	8.4	8.2	8.1	8.0
19.100	7.9	7.8	7.7	7.6	7.5	7.5	7.4
19.800	7.3	7.3	7.2	7.1	7.1	7.0	7.0
20.500	6.9	6.8	6.8	6.7	6.7	6.6	6.6
21.200	6.5	6.5	6.5	6.4	6.4	6.3	6.3
21.900	6.2	6.2	6.1	6.1	6.0	6.0	5.9
22.600	5.9	5.9	5.8	5.8	5.7	5.7	5.6
23.300	5.6	5.5	5.5	5.4	5.4	5.4	5.3
24.000	5.3	5.2	5.0	4.7	4.4	3.9	3.5
24.700	3.1	2.8	2.5	2.2	2.0	1.7	1.5
25.400	1.4	1.2	1.1	1.0	0.8	0.7	0.7
26.100	0.6	0.5	0.0				

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
EXISTING CONDITIONS - SUBDRAINAGE AREA 6

Area or Reach Identifier	Drainage Area (sq mi)	----- Peak Flow by Storm -----				
		1-yr (cfs)	2-yr (cfs)	5-yr (cfs)	10-yr (cfs)	25-yr (cfs)
DA01	0.091	13.6	21.5	36.9	51.1	74.0
OUTLET	0.091	13.6	21.5	36.9	51.1	74.0

Area or Reach Identifier	Drainage Area (sq mi)	----- Peak Flow by Storm -----				
		50-yr (cfs)	100-yr (cfs)	(cfs)	(cfs)	(cfs)
DA01	0.091	95.1	119.2			
OUTLET	0.091	95.1	119.2			

0.20610	0.21173	0.21793	0.22471	0.23206
0.23999	0.24899	0.25907	0.27022	0.28245
0.29550	0.31572	0.33700	0.36618	0.40669
0.47660	0.59331	0.63382	0.66300	0.68428
0.70450	0.71755	0.72978	0.74093	0.75101
0.76001	0.76794	0.77529	0.78207	0.78827
0.79390	0.79896	0.80386	0.80861	0.81322
0.81767	0.82197	0.82613	0.83013	0.83398
0.83769	0.84124	0.84464	0.84790	0.85100
0.85395	0.85676	0.85952	0.86224	0.86493
0.86757	0.87018	0.87274	0.87526	0.87775
0.88019	0.88260	0.88497	0.88729	0.88958
0.89182	0.89403	0.89620	0.89832	0.90041
0.90246	0.90447	0.90644	0.90836	0.91025
0.91210	0.91391	0.91568	0.91741	0.91910
0.92075	0.92236	0.92396	0.92555	0.92713
0.92870	0.93026	0.93181	0.93335	0.93488
0.93640	0.93791	0.93941	0.94090	0.94238
0.94385	0.94531	0.94676	0.94821	0.94964
0.95106	0.95247	0.95387	0.95526	0.95664
0.95801	0.95938	0.96073	0.96207	0.96340
0.96472	0.96603	0.96733	0.96863	0.96991
0.97118	0.97244	0.97369	0.97494	0.97617
0.97739	0.97860	0.97981	0.98100	0.98218
0.98335	0.98452	0.98567	0.98681	0.98794
0.98907	0.99018	0.99128	0.99237	0.99346
0.99453	0.99559	0.99665	0.99769	0.99872
1.0				

GLOBAL OUTPUT:

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CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
 ULTIMATE CONDITIONS - SUBDRAINAGE AREA 6

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STORM 1-yr
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CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
 ULTIMATE CONDITIONS - SUBDRAINAGE AREA 6

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Elevation (ft)	Peak Time (hr)	Peak Flow Rate (cfs)	Peak Flow Rate (csm)
DA01	0.020		1.684		12.25	14.0	693.65

Line

Start Time (hr)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)
10.200	0.5	0.5	0.5	0.6	0.6	0.7	0.7
10.900	0.8	0.9	1.0	1.2	1.3	1.5	1.7
11.600	2.1	2.6	3.2	4.3	6.2	10.0	13.6
12.300	13.5	12.1	10.6	9.2	7.9	6.7	5.8
13.000	5.0	4.4	3.8	3.3	2.9	2.6	2.3
13.700	2.1	1.9	1.7	1.6	1.5	1.5	1.4
14.400	1.3	1.3	1.2	1.2	1.1	1.1	1.1
15.100	1.0	1.0	0.9	0.9	0.9	0.9	0.8
15.800	0.8	0.8	0.8	0.8	0.8	0.8	0.7
16.500	0.7	0.7	0.7	0.7	0.7	0.7	0.7
17.200	0.6	0.6	0.6	0.6	0.6	0.6	0.6
17.900	0.6	0.6	0.5	0.5	0.5	0.5	0.5
18.600	0.0						

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Elevation (ft)	Peak Time (hr)	Peak Flow Rate (cfs)	Peak Flow Rate (csm)
OUTLET	0.020		1.684		12.25	14.0	693.65

Line

Start Time (hr)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)
10.200	0.5	0.5	0.5	0.6	0.6	0.7	0.7
10.900	0.8	0.9	1.0	1.2	1.3	1.5	1.7
11.600	2.1	2.6	3.2	4.3	6.2	10.0	13.6
12.300	13.5	12.1	10.6	9.2	7.9	6.7	5.8
13.000	5.0	4.4	3.8	3.3	2.9	2.6	2.3
13.700	2.1	1.9	1.7	1.6	1.5	1.5	1.4
14.400	1.3	1.3	1.2	1.2	1.1	1.1	1.1
15.100	1.0	1.0	0.9	0.9	0.9	0.9	0.8
15.800	0.8	0.8	0.8	0.8	0.8	0.8	0.7
16.500	0.7	0.7	0.7	0.7	0.7	0.7	0.7
17.200	0.6	0.6	0.6	0.6	0.6	0.6	0.6
17.900	0.6	0.6	0.5	0.5	0.5	0.5	0.5
18.600	0.0						

STORM 2-yr

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
 ULTIMATE CONDITIONS - SUBDRAINAGE AREA 6

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Elevation (ft)	Peak Time (hr)	Peak Flow Rate (cfs)	Peak Flow Rate (csm)
DA01	0.020		2.206		12.23	18.2	905.25

Line

Start Time (hr)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)
9.600	0.5	0.5	0.6	0.6	0.6	0.7	0.7
10.300	0.8	0.8	0.9	0.9	1.0	1.1	1.2
11.000	1.3	1.5	1.7	1.9	2.2	2.5	2.9
11.700	3.6	4.4	5.8	8.3	13.1	17.8	17.6
12.400	15.7	13.7	11.9	10.1	8.7	7.5	6.4
13.100	5.6	4.8	4.2	3.7	3.3	2.9	2.6
13.800	2.4	2.2	2.1	1.9	1.8	1.8	1.7
14.500	1.6	1.6	1.5	1.4	1.4	1.3	1.3
15.200	1.2	1.2	1.1	1.1	1.1	1.1	1.0
15.900	1.0	1.0	1.0	1.0	0.9	0.9	0.9
16.600	0.9	0.9	0.9	0.9	0.8	0.8	0.8
17.300	0.8	0.8	0.8	0.8	0.7	0.7	0.7
18.000	0.7	0.7	0.7	0.6	0.6	0.6	0.6
18.700	0.6	0.6	0.6	0.6	0.6	0.6	0.6
19.400	0.6	0.6	0.6	0.6	0.6	0.6	0.6
20.100	0.6	0.6	0.6	0.5	0.5	0.5	0.5
20.800	0.5	0.5	0.5	0.5	0.5	0.5	0.5
21.500	0.5	0.5	0.5	0.0			

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Elevation (ft)	Peak Time (hr)	Peak Flow Rate (cfs)	Peak Flow Rate (csm)
OUTLET	0.020		2.206		12.23	18.2	905.25

Line

Start Time (hr)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)
9.600	0.5	0.5	0.6	0.6	0.6	0.7	0.7
10.300	0.8	0.8	0.9	0.9	1.0	1.1	1.2
11.000	1.3	1.5	1.7	1.9	2.2	2.5	2.9
11.700	3.6	4.4	5.8	8.3	13.1	17.8	17.6
12.400	15.7	13.7	11.9	10.1	8.7	7.5	6.4
13.100	5.6	4.8	4.2	3.7	3.3	2.9	2.6
13.800	2.4	2.2	2.1	1.9	1.8	1.8	1.7
14.500	1.6	1.6	1.5	1.4	1.4	1.3	1.3
15.200	1.2	1.2	1.1	1.1	1.1	1.1	1.0
15.900	1.0	1.0	1.0	1.0	0.9	0.9	0.9
16.600	0.9	0.9	0.9	0.9	0.8	0.8	0.8
17.300	0.8	0.8	0.8	0.8	0.7	0.7	0.7
18.000	0.7	0.7	0.7	0.6	0.6	0.6	0.6
18.700	0.6	0.6	0.6	0.6	0.6	0.6	0.6

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
 ULTIMATE CONDITIONS - SUBDRAINAGE AREA 6

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
19.400	0.6	0.6	0.6	0.6	0.6	0.6	0.6
20.100	0.6	0.6	0.6	0.5	0.5	0.5	0.5
20.800	0.5	0.5	0.5	0.5	0.5	0.5	0.5
21.500	0.5	0.5	0.5	0.0			

STORM 5-yr

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Elevation (ft)	Peak Time (hr)	Flow Rate (cfs)	Rate (csm)
DA01	0.020		3.128		12.25	25.6	1271.09

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
8.400	0.5	0.5	0.5	0.6	0.6	0.6	0.6
9.100	0.6	0.7	0.7	0.8	0.8	0.8	0.9
9.800	1.0	1.0	1.1	1.1	1.2	1.3	1.3
10.500	1.4	1.5	1.6	1.8	1.9	2.1	2.3
11.200	2.6	2.9	3.3	3.7	4.4	5.3	6.6
11.900	8.5	12.0	18.8	25.1	24.6	21.8	19.0
12.600	16.4	14.0	11.9	10.3	8.8	7.6	6.6
13.300	5.7	5.0	4.5	4.0	3.6	3.3	3.0
14.000	2.8	2.6	2.5	2.4	2.3	2.2	2.1
14.700	2.0	1.9	1.9	1.8	1.7	1.6	1.6
15.400	1.5	1.5	1.4	1.4	1.4	1.4	1.3
16.100	1.3	1.3	1.3	1.3	1.2	1.2	1.2
16.800	1.2	1.1	1.1	1.1	1.1	1.1	1.0
17.500	1.0	1.0	1.0	1.0	0.9	0.9	0.9
18.200	0.9	0.9	0.9	0.8	0.8	0.8	0.8
18.900	0.8	0.8	0.8	0.8	0.8	0.8	0.8
19.600	0.8	0.8	0.8	0.8	0.8	0.8	0.7
20.300	0.7	0.7	0.7	0.7	0.7	0.7	0.7
21.000	0.7	0.7	0.7	0.7	0.7	0.7	0.7
21.700	0.7	0.7	0.7	0.7	0.6	0.6	0.6
22.400	0.6	0.6	0.6	0.6	0.6	0.6	0.6
23.100	0.6	0.6	0.6	0.6	0.6	0.6	0.6
23.800	0.6	0.6	0.6	0.5	0.0		

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Elevation (ft)	Peak Time (hr)	Flow Rate (cfs)	Rate (csm)
OUTLET	0.020		3.128		12.25	25.6	1271.09

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
 ULTIMATE CONDITIONS - SUBDRAINAGE AREA 6

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
8.400	0.5	0.5	0.5	0.6	0.6	0.6	0.6
9.100	0.6	0.7	0.7	0.8	0.8	0.8	0.9
9.800	1.0	1.0	1.1	1.1	1.2	1.3	1.3
10.500	1.4	1.5	1.6	1.8	1.9	2.1	2.3
11.200	2.6	2.9	3.3	3.7	4.4	5.3	6.6
11.900	8.5	12.0	18.8	25.1	24.6	21.8	19.0
12.600	16.4	14.0	11.9	10.3	8.8	7.6	6.6
13.300	5.7	5.0	4.5	4.0	3.6	3.3	3.0
14.000	2.8	2.6	2.5	2.4	2.3	2.2	2.1
14.700	2.0	1.9	1.9	1.8	1.7	1.6	1.6
15.400	1.5	1.5	1.4	1.4	1.4	1.4	1.3
16.100	1.3	1.3	1.3	1.3	1.2	1.2	1.2
16.800	1.2	1.1	1.1	1.1	1.1	1.1	1.0
17.500	1.0	1.0	1.0	1.0	0.9	0.9	0.9
18.200	0.9	0.9	0.9	0.8	0.8	0.8	0.8
18.900	0.8	0.8	0.8	0.8	0.8	0.8	0.8
19.600	0.8	0.8	0.8	0.8	0.8	0.8	0.7
20.300	0.7	0.7	0.7	0.7	0.7	0.7	0.7
21.000	0.7	0.7	0.7	0.7	0.7	0.7	0.7
21.700	0.7	0.7	0.7	0.7	0.6	0.6	0.6
22.400	0.6	0.6	0.6	0.6	0.6	0.6	0.6
23.100	0.6	0.6	0.6	0.6	0.6	0.6	0.6
23.800	0.6	0.6	0.6	0.5	0.0		

STORM 10-yr

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Peak Flow			
				Elevation (ft)	Time (hr)	Rate (cfs)	Rate (csm)
DA01	0.020		3.934		12.23	32.0	1586.57

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
7.500	0.5	0.5	0.5	0.6	0.6	0.6	0.6
8.200	0.7	0.7	0.7	0.7	0.8	0.8	0.8
8.900	0.9	0.9	0.9	1.0	1.0	1.1	1.1
9.600	1.2	1.2	1.3	1.4	1.5	1.6	1.6
10.300	1.7	1.8	1.9	2.0	2.2	2.3	2.6
11.000	2.8	3.1	3.5	3.9	4.3	4.9	5.6
11.700	6.9	8.4	10.9	15.2	23.5	31.3	30.7
12.400	27.2	23.6	20.4	17.3	14.7	12.7	10.9
13.100	9.4	8.1	7.0	6.1	5.5	4.9	4.4
13.800	4.0	3.6	3.4	3.2	3.1	2.9	2.8
14.500	2.7	2.6	2.5	2.4	2.3	2.2	2.1
15.200	2.0	1.9	1.9	1.8	1.8	1.7	1.7
15.900	1.7	1.6	1.6	1.6	1.6	1.5	1.5
16.600	1.5	1.5	1.4	1.4	1.4	1.4	1.3

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
 ULTIMATE CONDITIONS - SUBDRAINAGE AREA 6

Line Start Time (hr)	----- Flow Values @ time increment of 0.100 hr -----						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
17.300	1.3	1.3	1.3	1.2	1.2	1.2	1.2
18.000	1.1	1.1	1.1	1.1	1.0	1.0	1.0
18.700	1.0	1.0	1.0	1.0	1.0	1.0	1.0
19.400	1.0	1.0	0.9	0.9	0.9	0.9	0.9
20.100	0.9	0.9	0.9	0.9	0.9	0.9	0.9
20.800	0.9	0.9	0.9	0.9	0.8	0.8	0.8
21.500	0.8	0.8	0.8	0.8	0.8	0.8	0.8
22.200	0.8	0.8	0.8	0.8	0.8	0.8	0.7
22.900	0.7	0.7	0.7	0.7	0.7	0.7	0.7
23.600	0.7	0.7	0.7	0.7	0.7	0.6	0.5
24.300	0.0						

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	----- Peak Flow -----	Elevation (ft)	Time (hr)	Rate (cfs)	Rate (csm)
OUTLET	0.020		3.934			12.23	32.0	1586.57

Line Start Time (hr)	----- Flow Values @ time increment of 0.100 hr -----						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
7.500	0.5	0.5	0.5	0.6	0.6	0.6	0.6
8.200	0.7	0.7	0.7	0.7	0.8	0.8	0.8
8.900	0.9	0.9	0.9	1.0	1.0	1.1	1.1
9.600	1.2	1.2	1.3	1.4	1.5	1.6	1.6
10.300	1.7	1.8	1.9	2.0	2.2	2.3	2.6
11.000	2.8	3.1	3.5	3.9	4.3	4.9	5.6
11.700	6.9	8.4	10.9	15.2	23.5	31.3	30.7
12.400	27.2	23.6	20.4	17.3	14.7	12.7	10.9
13.100	9.4	8.1	7.0	6.1	5.5	4.9	4.4
13.800	4.0	3.6	3.4	3.2	3.1	2.9	2.8
14.500	2.7	2.6	2.5	2.4	2.3	2.2	2.1
15.200	2.0	1.9	1.9	1.8	1.8	1.7	1.7
15.900	1.7	1.6	1.6	1.6	1.6	1.5	1.5
16.600	1.5	1.5	1.4	1.4	1.4	1.4	1.3
17.300	1.3	1.3	1.3	1.2	1.2	1.2	1.2
18.000	1.1	1.1	1.1	1.1	1.0	1.0	1.0
18.700	1.0	1.0	1.0	1.0	1.0	1.0	1.0
19.400	1.0	1.0	0.9	0.9	0.9	0.9	0.9
20.100	0.9	0.9	0.9	0.9	0.9	0.9	0.9
20.800	0.9	0.9	0.9	0.9	0.8	0.8	0.8
21.500	0.8	0.8	0.8	0.8	0.8	0.8	0.8
22.200	0.8	0.8	0.8	0.8	0.8	0.8	0.7
22.900	0.7	0.7	0.7	0.7	0.7	0.7	0.7
23.600	0.7	0.7	0.7	0.7	0.7	0.6	0.5
24.300	0.0						

STORM 25-yr

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
 ULTIMATE CONDITIONS - SUBDRAINAGE AREA 6

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Elevation (ft)	Peak Time (hr)	Flow Rate (cfs)	Rate (csm)
DA01	0.020		5.177		12.24	41.5	2062.42

Line

Start Time (hr)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)
6.400	0.5	0.5	0.5	0.6	0.6	0.6	0.7
7.100	0.7	0.7	0.7	0.8	0.8	0.8	0.9
7.800	0.9	0.9	1.0	1.0	1.0	1.1	1.1
8.500	1.1	1.2	1.2	1.2	1.3	1.3	1.4
9.200	1.4	1.5	1.5	1.6	1.7	1.8	1.9
9.900	2.0	2.1	2.2	2.3	2.4	2.6	2.7
10.600	2.8	3.0	3.3	3.6	3.9	4.3	4.7
11.300	5.3	5.9	6.6	7.6	9.3	11.3	14.4
12.000	20.1	30.9	40.8	39.7	35.1	30.5	26.3
12.700	22.3	19.0	16.3	14.0	12.0	10.3	8.9
13.400	7.9	7.0	6.2	5.6	5.1	4.6	4.3
14.100	4.1	3.9	3.7	3.5	3.4	3.3	3.1
14.800	3.0	2.9	2.8	2.6	2.5	2.4	2.4
15.500	2.3	2.2	2.2	2.2	2.1	2.1	2.0
16.200	2.0	2.0	1.9	1.9	1.9	1.8	1.8
16.900	1.8	1.7	1.7	1.7	1.7	1.6	1.6
17.600	1.6	1.5	1.5	1.5	1.4	1.4	1.4
18.300	1.3	1.3	1.3	1.3	1.3	1.3	1.3
19.000	1.2	1.2	1.2	1.2	1.2	1.2	1.2
19.700	1.2	1.2	1.2	1.2	1.2	1.2	1.1
20.400	1.1	1.1	1.1	1.1	1.1	1.1	1.1
21.100	1.1	1.1	1.1	1.1	1.0	1.0	1.0
21.800	1.0	1.0	1.0	1.0	1.0	1.0	1.0
22.500	1.0	1.0	1.0	0.9	0.9	0.9	0.9
23.200	0.9	0.9	0.9	0.9	0.9	0.9	0.9
23.900	0.9	0.9	0.8	0.6	0.0		

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Elevation (ft)	Peak Time (hr)	Flow Rate (cfs)	Rate (csm)
OUTLET	0.020		5.177		12.24	41.5	2062.42

Line

Start Time (hr)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)
6.400	0.5	0.5	0.5	0.6	0.6	0.6	0.7
7.100	0.7	0.7	0.7	0.8	0.8	0.8	0.9
7.800	0.9	0.9	1.0	1.0	1.0	1.1	1.1
8.500	1.1	1.2	1.2	1.2	1.3	1.3	1.4
9.200	1.4	1.5	1.5	1.6	1.7	1.8	1.9
9.900	2.0	2.1	2.2	2.3	2.4	2.6	2.7

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
 ULTIMATE CONDITIONS - SUBDRAINAGE AREA 6

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
10.600	2.8	3.0	3.3	3.6	3.9	4.3	4.7
11.300	5.3	5.9	6.6	7.6	9.3	11.3	14.4
12.000	20.1	30.9	40.8	39.7	35.1	30.5	26.3
12.700	22.3	19.0	16.3	14.0	12.0	10.3	8.9
13.400	7.9	7.0	6.2	5.6	5.1	4.6	4.3
14.100	4.1	3.9	3.7	3.5	3.4	3.3	3.1
14.800	3.0	2.9	2.8	2.6	2.5	2.4	2.4
15.500	2.3	2.2	2.2	2.2	2.1	2.1	2.0
16.200	2.0	2.0	1.9	1.9	1.9	1.8	1.8
16.900	1.8	1.7	1.7	1.7	1.7	1.6	1.6
17.600	1.6	1.5	1.5	1.5	1.4	1.4	1.4
18.300	1.3	1.3	1.3	1.3	1.3	1.3	1.3
19.000	1.2	1.2	1.2	1.2	1.2	1.2	1.2
19.700	1.2	1.2	1.2	1.2	1.2	1.2	1.1
20.400	1.1	1.1	1.1	1.1	1.1	1.1	1.1
21.100	1.1	1.1	1.1	1.1	1.0	1.0	1.0
21.800	1.0	1.0	1.0	1.0	1.0	1.0	1.0
22.500	1.0	1.0	1.0	0.9	0.9	0.9	0.9
23.200	0.9	0.9	0.9	0.9	0.9	0.9	0.9
23.900	0.9	0.9	0.8	0.6	0.0		

STORM 50-yr

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Elevation (ft)	Peak Time (hr)	Flow Rate (cfs)	Rate Rate (csm)
DA01	0.020		6.274		12.25	49.8	2473.96

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
5.400	0.5	0.5	0.5	0.6	0.6	0.6	0.6
6.100	0.6	0.7	0.7	0.7	0.7	0.8	0.8
6.800	0.8	0.9	0.9	0.9	1.0	1.0	1.0
7.500	1.1	1.1	1.2	1.2	1.2	1.3	1.3
8.200	1.4	1.4	1.4	1.5	1.5	1.6	1.6
8.900	1.7	1.7	1.8	1.8	1.9	2.0	2.1
9.600	2.2	2.3	2.4	2.6	2.7	2.8	3.0
10.300	3.1	3.2	3.4	3.5	3.8	4.1	4.4
11.000	4.8	5.3	5.9	6.6	7.3	8.1	9.4
11.700	11.4	13.8	17.6	24.4	37.3	49.0	47.6
12.400	42.1	36.5	31.4	26.6	22.6	19.4	16.7
13.100	14.3	12.3	10.6	9.3	8.3	7.4	6.7
13.800	6.0	5.5	5.1	4.9	4.6	4.4	4.2
14.500	4.0	3.9	3.7	3.6	3.4	3.3	3.1
15.200	3.0	2.9	2.8	2.7	2.7	2.6	2.6
15.900	2.5	2.5	2.4	2.4	2.3	2.3	2.3
16.600	2.2	2.2	2.1	2.1	2.1	2.0	2.0

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
 ULTIMATE CONDITIONS - SUBDRAINAGE AREA 6

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
17.300	2.0	1.9	1.9	1.8	1.8	1.8	1.7
18.000	1.7	1.7	1.6	1.6	1.6	1.5	1.5
18.700	1.5	1.5	1.5	1.5	1.5	1.5	1.4
19.400	1.4	1.4	1.4	1.4	1.4	1.4	1.4
20.100	1.4	1.4	1.4	1.3	1.3	1.3	1.3
20.800	1.3	1.3	1.3	1.3	1.3	1.3	1.3
21.500	1.2	1.2	1.2	1.2	1.2	1.2	1.2
22.200	1.2	1.2	1.2	1.1	1.1	1.1	1.1
22.900	1.1	1.1	1.1	1.1	1.1	1.1	1.1
23.600	1.0	1.0	1.0	1.0	1.0	1.0	0.8
24.300	0.5	0.0					

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Elevation (ft)	Peak Time (hr)	Flow Rate (cfs)	Rate (csm)
OUTLET	0.020		6.274		12.25	49.8	2473.96

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
5.400	0.5	0.5	0.5	0.6	0.6	0.6	0.6
6.100	0.6	0.7	0.7	0.7	0.7	0.8	0.8
6.800	0.8	0.9	0.9	0.9	1.0	1.0	1.0
7.500	1.1	1.1	1.2	1.2	1.2	1.3	1.3
8.200	1.4	1.4	1.4	1.5	1.5	1.6	1.6
8.900	1.7	1.7	1.8	1.8	1.9	2.0	2.1
9.600	2.2	2.3	2.4	2.6	2.7	2.8	3.0
10.300	3.1	3.2	3.4	3.5	3.8	4.1	4.4
11.000	4.8	5.3	5.9	6.6	7.3	8.1	9.4
11.700	11.4	13.8	17.6	24.4	37.3	49.0	47.6
12.400	42.1	36.5	31.4	26.6	22.6	19.4	16.7
13.100	14.3	12.3	10.6	9.3	8.3	7.4	6.7
13.800	6.0	5.5	5.1	4.9	4.6	4.4	4.2
14.500	4.0	3.9	3.7	3.6	3.4	3.3	3.1
15.200	3.0	2.9	2.8	2.7	2.7	2.6	2.6
15.900	2.5	2.5	2.4	2.4	2.3	2.3	2.3
16.600	2.2	2.2	2.1	2.1	2.1	2.0	2.0
17.300	2.0	1.9	1.9	1.8	1.8	1.8	1.7
18.000	1.7	1.7	1.6	1.6	1.6	1.5	1.5
18.700	1.5	1.5	1.5	1.5	1.5	1.5	1.4
19.400	1.4	1.4	1.4	1.4	1.4	1.4	1.4
20.100	1.4	1.4	1.4	1.3	1.3	1.3	1.3
20.800	1.3	1.3	1.3	1.3	1.3	1.3	1.3
21.500	1.2	1.2	1.2	1.2	1.2	1.2	1.2
22.200	1.2	1.2	1.2	1.1	1.1	1.1	1.1
22.900	1.1	1.1	1.1	1.1	1.1	1.1	1.1
23.600	1.0	1.0	1.0	1.0	1.0	1.0	0.8
24.300	0.5	0.0					

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
 ULTIMATE CONDITIONS - SUBDRAINAGE AREA 6

STORM 100-yr

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	----- Elevation (ft)	Peak Flow Time (hr)	----- Rate (cfs)	----- Rate (csm)
DA01	0.020		7.525		12.24	59.3	2945.41

Line Start Time (hr)	----- Flow (cfs)	----- Flow (cfs)	----- Values @ time (cfs)	----- increment (cfs)	----- of 0.100 hr (cfs)	----- Flow (cfs)	----- Flow (cfs)
4.500	0.5	0.5	0.5	0.6	0.6	0.6	0.6
5.200	0.7	0.7	0.7	0.7	0.7	0.8	0.8
5.900	0.8	0.8	0.9	0.9	0.9	1.0	1.0
6.600	1.0	1.1	1.1	1.1	1.2	1.2	1.3
7.300	1.3	1.4	1.4	1.5	1.5	1.6	1.6
8.000	1.7	1.7	1.8	1.8	1.8	1.9	1.9
8.700	2.0	2.1	2.1	2.2	2.2	2.3	2.4
9.400	2.5	2.6	2.8	2.9	3.0	3.2	3.3
10.100	3.5	3.7	3.8	4.0	4.2	4.4	4.6
10.800	5.0	5.5	5.9	6.5	7.2	8.0	8.9
11.500	9.9	11.4	13.7	16.7	21.1	29.2	44.4
12.200	58.4	56.6	50.0	43.3	37.3	31.5	26.8
12.900	23.0	19.7	16.9	14.5	12.5	11.0	9.8
13.600	8.7	7.8	7.1	6.5	6.1	5.7	5.4
14.300	5.2	5.0	4.8	4.6	4.4	4.2	4.0
15.000	3.9	3.7	3.5	3.4	3.3	3.2	3.1
15.700	3.1	3.0	2.9	2.9	2.8	2.8	2.8
16.400	2.7	2.7	2.6	2.6	2.5	2.5	2.4
17.100	2.4	2.4	2.3	2.3	2.2	2.2	2.1
17.800	2.1	2.0	2.0	2.0	1.9	1.9	1.8
18.500	1.8	1.8	1.8	1.8	1.8	1.7	1.7
19.200	1.7	1.7	1.7	1.7	1.7	1.7	1.6
19.900	1.6	1.6	1.6	1.6	1.6	1.6	1.6
20.600	1.6	1.6	1.5	1.5	1.5	1.5	1.5
21.300	1.5	1.5	1.5	1.4	1.4	1.4	1.4
22.000	1.4	1.4	1.4	1.4	1.4	1.3	1.3
22.700	1.3	1.3	1.3	1.3	1.3	1.3	1.3
23.400	1.2	1.2	1.2	1.2	1.2	1.2	1.2
24.100	1.1	0.9	0.6	0.0			

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	----- Elevation (ft)	Peak Flow Time (hr)	----- Rate (cfs)	----- Rate (csm)
OUTLET	0.020		7.525		12.24	59.3	2945.41

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
 ULTIMATE CONDITIONS - SUBDRAINAGE AREA 6

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
4.500	0.5	0.5	0.5	0.6	0.6	0.6	0.6
5.200	0.7	0.7	0.7	0.7	0.7	0.8	0.8
5.900	0.8	0.8	0.9	0.9	0.9	1.0	1.0
6.600	1.0	1.1	1.1	1.1	1.2	1.2	1.3
7.300	1.3	1.4	1.4	1.5	1.5	1.6	1.6
8.000	1.7	1.7	1.8	1.8	1.8	1.9	1.9
8.700	2.0	2.1	2.1	2.2	2.2	2.3	2.4
9.400	2.5	2.6	2.8	2.9	3.0	3.2	3.3
10.100	3.5	3.7	3.8	4.0	4.2	4.4	4.6
10.800	5.0	5.5	5.9	6.5	7.2	8.0	8.9
11.500	9.9	11.4	13.7	16.7	21.1	29.2	44.4
12.200	58.4	56.6	50.0	43.3	37.3	31.5	26.8
12.900	23.0	19.7	16.9	14.5	12.5	11.0	9.8
13.600	8.7	7.8	7.1	6.5	6.1	5.7	5.4
14.300	5.2	5.0	4.8	4.6	4.4	4.2	4.0
15.000	3.9	3.7	3.5	3.4	3.3	3.2	3.1
15.700	3.1	3.0	2.9	2.9	2.8	2.8	2.8
16.400	2.7	2.7	2.6	2.6	2.5	2.5	2.4
17.100	2.4	2.4	2.3	2.3	2.2	2.2	2.1
17.800	2.1	2.0	2.0	2.0	1.9	1.9	1.8
18.500	1.8	1.8	1.8	1.8	1.8	1.7	1.7
19.200	1.7	1.7	1.7	1.7	1.7	1.7	1.6
19.900	1.6	1.6	1.6	1.6	1.6	1.6	1.6
20.600	1.6	1.6	1.5	1.5	1.5	1.5	1.5
21.300	1.5	1.5	1.5	1.4	1.4	1.4	1.4
22.000	1.4	1.4	1.4	1.4	1.4	1.3	1.3
22.700	1.3	1.3	1.3	1.3	1.3	1.3	1.3
23.400	1.2	1.2	1.2	1.2	1.2	1.2	1.2
24.100	1.1	0.9	0.6	0.0			

Area or Reach Identifier	Drainage Area (sq mi)	Peak Flow by Storm				
		1-yr (cfs)	2-yr (cfs)	5-yr (cfs)	10-yr (cfs)	25-yr (cfs)
DA01	0.020	14.0	18.2	25.6	32.0	41.5
OUTLET	0.020	14.0	18.2	25.6	32.0	41.5

Area or Reach Identifier	Drainage Area (sq mi)	Peak Flow by Storm		
		50-yr (cfs)	100-yr (cfs)	
DA01	0.020	49.8	59.3	
OUTLET	0.020	49.8	59.3	

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 Maryland, Queen Annes NOAA-C
 CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
 ULTIMATE CONDITIONS - SUBDRAINAGE AREA 7

SUB-AREA:
 DA01 OUTLET 0.0217 90. 0.23 Y

STORM ANALYSIS:
 1-yr 2.67 NOAA_C 2 3.24
 2-yr 3.24 NOAA_C 2 3.24
 5-yr 4.22 NOAA_C 2 3.24
 10-yr 5.06 NOAA_C 2 3.24
 25-yr 6.34 NOAA_C 2 3.24
 50-yr 7.46 NOAA_C 2 3.24
 100-yr 8.73 NOAA_C 2 3.24

DIMENSIONLESS UNIT HYDROGRAPH: delmarva
 0.00000 0.11100 0.35600 0.65500 0.89600
 1.00000 0.92900 0.82800 0.73700 0.65600
 0.58400 0.52100 0.46500 0.41500 0.37100
 0.33100 0.29600 0.26500 0.23700 0.21200
 0.19000 0.17000 0.15300 0.13800 0.12300
 0.10900 0.09700 0.08600 0.07600 0.06600
 0.05700 0.04900 0.04100 0.03300 0.02700
 0.02400 0.02100 0.01800 0.01500 0.01300
 0.01200 0.01100 0.00900 0.00800 0.00800
 0.00600 0.00600 0.00500 0.00500 0.00000

RAINFALL DISTRIBUTION:
 NOAA_C 0.1
 0.0 0.00128 0.00231 0.00335 0.00441
 0.00547 0.00654 0.00763 0.00872 0.00982
 0.01093 0.01206 0.01319 0.01433 0.01548
 0.01665 0.01782 0.01900 0.02019 0.02140
 0.02261 0.02383 0.02506 0.02631 0.02756
 0.02882 0.03009 0.03137 0.03267 0.03397
 0.03528 0.03660 0.03793 0.03927 0.04062
 0.04199 0.04336 0.04474 0.04613 0.04753
 0.04894 0.05036 0.05179 0.05324 0.05469
 0.05615 0.05762 0.05910 0.06059 0.06209
 0.06360 0.06512 0.06665 0.06819 0.06974
 0.07130 0.07287 0.07445 0.07604 0.07764
 0.07925 0.08090 0.08259 0.08432 0.08609
 0.08790 0.08975 0.09164 0.09356 0.09553
 0.09754 0.09959 0.10168 0.10380 0.10597
 0.10818 0.11042 0.11271 0.11503 0.11740
 0.11981 0.12225 0.12474 0.12726 0.12982
 0.13243 0.13507 0.13776 0.14048 0.14324
 0.14605 0.14900 0.15210 0.15536 0.15876
 0.16231 0.16602 0.16987 0.17387 0.17803
 0.18233 0.18678 0.19139 0.19614 0.20104

0.20610	0.21173	0.21793	0.22471	0.23206
0.23999	0.24899	0.25907	0.27022	0.28245
0.29550	0.31572	0.33700	0.36618	0.40669
0.47660	0.59331	0.63382	0.66300	0.68428
0.70450	0.71755	0.72978	0.74093	0.75101
0.76001	0.76794	0.77529	0.78207	0.78827
0.79390	0.79896	0.80386	0.80861	0.81322
0.81767	0.82197	0.82613	0.83013	0.83398
0.83769	0.84124	0.84464	0.84790	0.85100
0.85395	0.85676	0.85952	0.86224	0.86493
0.86757	0.87018	0.87274	0.87526	0.87775
0.88019	0.88260	0.88497	0.88729	0.88958
0.89182	0.89403	0.89620	0.89832	0.90041
0.90246	0.90447	0.90644	0.90836	0.91025
0.91210	0.91391	0.91568	0.91741	0.91910
0.92075	0.92236	0.92396	0.92555	0.92713
0.92870	0.93026	0.93181	0.93335	0.93488
0.93640	0.93791	0.93941	0.94090	0.94238
0.94385	0.94531	0.94676	0.94821	0.94964
0.95106	0.95247	0.95387	0.95526	0.95664
0.95801	0.95938	0.96073	0.96207	0.96340
0.96472	0.96603	0.96733	0.96863	0.96991
0.97118	0.97244	0.97369	0.97494	0.97617
0.97739	0.97860	0.97981	0.98100	0.98218
0.98335	0.98452	0.98567	0.98681	0.98794
0.98907	0.99018	0.99128	0.99237	0.99346
0.99453	0.99559	0.99665	0.99769	0.99872
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GLOBAL OUTPUT:

1

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WinTR-20 Printed Page File

End of Input Data List

CLOVERFIELDS NEIGHBORHOOD FLODO MITIGATION PROJECT
 ULTIMATE CONDITIONS - SUBDRAINAGE AREA 7

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WinTR-20 Version 3.30

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STORM 1-yr

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CLOVERFIELDS NEIGHBORHOOD FLODO MITIGATION PROJECT
 ULTIMATE CONDITIONS - SUBDRAINAGE AREA 7

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Elevation (ft)	Peak Flow Time (hr)	Peak Flow Rate (cfs)	Peak Flow Rate (csm)
DA01	0.022		1.684		12.22	16.7	767.49

Line

Start Time (hr)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)
10.100	0.5	0.5	0.6	0.6	0.6	0.7	0.8
10.800	0.8	0.9	1.1	1.2	1.3	1.5	1.8
11.500	2.0	2.4	3.1	3.9	5.2	7.7	12.7
12.200	16.6	15.2	13.1	11.1	9.4	7.8	6.5
12.900	5.5	4.7	4.0	3.5	3.1	2.8	2.5
13.600	2.2	2.0	1.9	1.7	1.7	1.6	1.5
14.300	1.5	1.4	1.3	1.3	1.2	1.2	1.1
15.000	1.1	1.1	1.0	1.0	0.9	0.9	0.9
15.700	0.9	0.9	0.9	0.8	0.8	0.8	0.8
16.400	0.8	0.8	0.8	0.8	0.7	0.7	0.7
17.100	0.7	0.7	0.7	0.7	0.6	0.6	0.6
17.800	0.6	0.6	0.6	0.6	0.6	0.6	0.5
18.500	0.5	0.5	0.5	0.5	0.5	0.5	0.5
19.200	0.5	0.5	0.5	0.0			

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Elevation (ft)	Peak Flow Time (hr)	Peak Flow Rate (cfs)	Peak Flow Rate (csm)
OUTLET	0.022		1.684		12.22	16.7	767.49

Line

Start Time (hr)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)
10.100	0.5	0.5	0.6	0.6	0.6	0.7	0.8
10.800	0.8	0.9	1.1	1.2	1.3	1.5	1.8
11.500	2.0	2.4	3.1	3.9	5.2	7.7	12.7
12.200	16.6	15.2	13.1	11.1	9.4	7.8	6.5
12.900	5.5	4.7	4.0	3.5	3.1	2.8	2.5
13.600	2.2	2.0	1.9	1.7	1.7	1.6	1.5
14.300	1.5	1.4	1.3	1.3	1.2	1.2	1.1
15.000	1.1	1.1	1.0	1.0	0.9	0.9	0.9
15.700	0.9	0.9	0.9	0.8	0.8	0.8	0.8
16.400	0.8	0.8	0.8	0.8	0.7	0.7	0.7
17.100	0.7	0.7	0.7	0.7	0.6	0.6	0.6
17.800	0.6	0.6	0.6	0.6	0.6	0.6	0.5
18.500	0.5	0.5	0.5	0.5	0.5	0.5	0.5
19.200	0.5	0.5	0.5	0.0			

STORM 2-yr

CLOVERFIELDS NEIGHBORHOOD FLODO MITIGATION PROJECT
 ULTIMATE CONDITIONS - SUBDRAINAGE AREA 7

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Elevation (ft)	Peak Time (hr)	Flow Rate (cfs)	Rate (csm)
DA01	0.022		2.206		12.19	21.8	1002.63

Line

Start Time (hr)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)
9.400	0.5	0.5	0.5	0.6	0.6	0.7	0.7
10.100	0.8	0.8	0.9	0.9	1.0	1.0	1.1
10.800	1.2	1.4	1.5	1.7	1.9	2.2	2.5
11.500	2.8	3.4	4.2	5.3	7.0	10.3	16.8
12.200	21.7	19.8	16.9	14.3	12.1	10.0	8.3
12.900	7.0	6.0	5.1	4.4	3.9	3.5	3.1
13.600	2.8	2.5	2.3	2.2	2.1	2.0	1.9
14.300	1.8	1.8	1.7	1.6	1.6	1.5	1.4
15.000	1.4	1.3	1.3	1.2	1.2	1.2	1.1
15.700	1.1	1.1	1.1	1.1	1.0	1.0	1.0
16.400	1.0	1.0	1.0	0.9	0.9	0.9	0.9
17.100	0.9	0.9	0.8	0.8	0.8	0.8	0.8
17.800	0.8	0.7	0.7	0.7	0.7	0.7	0.7
18.500	0.7	0.7	0.7	0.7	0.7	0.6	0.6
19.200	0.6	0.6	0.6	0.6	0.6	0.6	0.6
19.900	0.6	0.6	0.6	0.6	0.6	0.6	0.6
20.600	0.6	0.6	0.6	0.6	0.6	0.6	0.6
21.300	0.6	0.5	0.5	0.5	0.5	0.5	0.5
22.000	0.5	0.5	0.5	0.5	0.5	0.5	0.0

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Elevation (ft)	Peak Time (hr)	Flow Rate (cfs)	Rate (csm)
OUTLET	0.022		2.206		12.19	21.8	1002.63

Line

Start Time (hr)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)
9.400	0.5	0.5	0.5	0.6	0.6	0.7	0.7
10.100	0.8	0.8	0.9	0.9	1.0	1.0	1.1
10.800	1.2	1.4	1.5	1.7	1.9	2.2	2.5
11.500	2.8	3.4	4.2	5.3	7.0	10.3	16.8
12.200	21.7	19.8	16.9	14.3	12.1	10.0	8.3
12.900	7.0	6.0	5.1	4.4	3.9	3.5	3.1
13.600	2.8	2.5	2.3	2.2	2.1	2.0	1.9
14.300	1.8	1.8	1.7	1.6	1.6	1.5	1.4
15.000	1.4	1.3	1.3	1.2	1.2	1.2	1.1
15.700	1.1	1.1	1.1	1.1	1.0	1.0	1.0
16.400	1.0	1.0	1.0	0.9	0.9	0.9	0.9
17.100	0.9	0.9	0.8	0.8	0.8	0.8	0.8
17.800	0.8	0.7	0.7	0.7	0.7	0.7	0.7

CLOVERFIELDS NEIGHBORHOOD FLODO MITIGATION PROJECT
 ULTIMATE CONDITIONS - SUBDRAINAGE AREA 7

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
18.500	0.7	0.7	0.7	0.7	0.7	0.6	0.6
19.200	0.6	0.6	0.6	0.6	0.6	0.6	0.6
19.900	0.6	0.6	0.6	0.6	0.6	0.6	0.6
20.600	0.6	0.6	0.6	0.6	0.6	0.6	0.6
21.300	0.6	0.5	0.5	0.5	0.5	0.5	0.5
22.000	0.5	0.5	0.5	0.5	0.5	0.5	0.0

STORM 5-yr

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Peak Flow			
				Elevation (ft)	Time (hr)	Rate (cfs)	Rate (csm)
DA01	0.022		3.128		12.20	30.6	1407.92

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
8.200	0.5	0.5	0.5	0.6	0.6	0.6	0.6
8.900	0.7	0.7	0.7	0.7	0.8	0.8	0.9
9.600	0.9	1.0	1.1	1.1	1.2	1.3	1.3
10.300	1.4	1.5	1.6	1.7	1.8	2.0	2.2
11.000	2.4	2.7	3.0	3.4	3.8	4.3	5.1
11.700	6.3	7.8	10.3	14.9	23.9	30.5	27.7
12.400	23.6	19.9	16.7	13.8	11.5	9.6	8.1
13.100	6.9	6.0	5.3	4.7	4.2	3.8	3.4
13.800	3.2	3.0	2.8	2.7	2.6	2.5	2.4
14.500	2.3	2.2	2.1	2.0	1.9	1.9	1.8
15.200	1.7	1.6	1.6	1.6	1.5	1.5	1.5
15.900	1.4	1.4	1.4	1.4	1.4	1.3	1.3
16.600	1.3	1.3	1.2	1.2	1.2	1.2	1.2
17.300	1.1	1.1	1.1	1.1	1.0	1.0	1.0
18.000	1.0	1.0	0.9	0.9	0.9	0.9	0.9
18.700	0.9	0.9	0.9	0.9	0.9	0.9	0.8
19.400	0.8	0.8	0.8	0.8	0.8	0.8	0.8
20.100	0.8	0.8	0.8	0.8	0.8	0.8	0.8
20.800	0.8	0.8	0.8	0.8	0.7	0.7	0.7
21.500	0.7	0.7	0.7	0.7	0.7	0.7	0.7
22.200	0.7	0.7	0.7	0.7	0.7	0.7	0.7
22.900	0.7	0.6	0.6	0.6	0.6	0.6	0.6
23.600	0.6	0.6	0.6	0.6	0.6	0.6	0.0

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Peak Flow			
				Elevation (ft)	Time (hr)	Rate (cfs)	Rate (csm)
OUTLET	0.022		3.128		12.20	30.6	1407.92

CLOVERFIELDS NEIGHBORHOOD FLODO MITIGATION PROJECT
 ULTIMATE CONDITIONS - SUBDRAINAGE AREA 7

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
8.200	0.5	0.5	0.5	0.6	0.6	0.6	0.6
8.900	0.7	0.7	0.7	0.7	0.8	0.8	0.9
9.600	0.9	1.0	1.1	1.1	1.2	1.3	1.3
10.300	1.4	1.5	1.6	1.7	1.8	2.0	2.2
11.000	2.4	2.7	3.0	3.4	3.8	4.3	5.1
11.700	6.3	7.8	10.3	14.9	23.9	30.5	27.7
12.400	23.6	19.9	16.7	13.8	11.5	9.6	8.1
13.100	6.9	6.0	5.3	4.7	4.2	3.8	3.4
13.800	3.2	3.0	2.8	2.7	2.6	2.5	2.4
14.500	2.3	2.2	2.1	2.0	1.9	1.9	1.8
15.200	1.7	1.6	1.6	1.6	1.5	1.5	1.5
15.900	1.4	1.4	1.4	1.4	1.4	1.3	1.3
16.600	1.3	1.3	1.2	1.2	1.2	1.2	1.2
17.300	1.1	1.1	1.1	1.1	1.0	1.0	1.0
18.000	1.0	1.0	0.9	0.9	0.9	0.9	0.9
18.700	0.9	0.9	0.9	0.9	0.9	0.9	0.8
19.400	0.8	0.8	0.8	0.8	0.8	0.8	0.8
20.100	0.8	0.8	0.8	0.8	0.8	0.8	0.8
20.800	0.8	0.8	0.8	0.8	0.7	0.7	0.7
21.500	0.7	0.7	0.7	0.7	0.7	0.7	0.7
22.200	0.7	0.7	0.7	0.7	0.7	0.7	0.7
22.900	0.7	0.6	0.6	0.6	0.6	0.6	0.6
23.600	0.6	0.6	0.6	0.6	0.6	0.6	0.0

STORM 10-yr

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Peak Flow			
				Elevation (ft)	Time (hr)	Rate (cfs)	Rate (csm)
DA01	0.022		3.934		12.20	38.1	1755.80

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
7.200	0.5	0.5	0.5	0.6	0.6	0.6	0.6
7.900	0.7	0.7	0.7	0.7	0.8	0.8	0.8
8.600	0.8	0.9	0.9	0.9	1.0	1.0	1.1
9.300	1.1	1.2	1.2	1.3	1.4	1.5	1.6
10.000	1.6	1.7	1.8	1.9	2.0	2.1	2.2
10.700	2.4	2.6	2.9	3.2	3.5	3.9	4.4
11.400	5.0	5.6	6.6	8.1	10.0	13.1	18.9
12.100	30.0	38.1	34.4	29.2	24.6	20.6	17.0
12.800	14.1	11.8	10.0	8.5	7.4	6.5	5.8
13.500	5.2	4.6	4.2	3.9	3.6	3.4	3.3
14.200	3.1	3.0	2.9	2.8	2.7	2.6	2.5
14.900	2.4	2.3	2.2	2.1	2.0	1.9	1.9
15.600	1.9	1.8	1.8	1.8	1.7	1.7	1.7
16.300	1.7	1.6	1.6	1.6	1.5	1.5	1.5

CLOVERFIELDS NEIGHBORHOOD FLODO MITIGATION PROJECT
 ULTIMATE CONDITIONS - SUBDRAINAGE AREA 7

Line Start Time (hr)	----- Flow Values @ time increment of 0.100 hr -----						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
17.000	1.5	1.4	1.4	1.4	1.4	1.3	1.3
17.700	1.3	1.2	1.2	1.2	1.2	1.1	1.1
18.400	1.1	1.1	1.1	1.1	1.1	1.1	1.1
19.100	1.0	1.0	1.0	1.0	1.0	1.0	1.0
19.800	1.0	1.0	1.0	1.0	1.0	1.0	1.0
20.500	1.0	0.9	0.9	0.9	0.9	0.9	0.9
21.200	0.9	0.9	0.9	0.9	0.9	0.9	0.9
21.900	0.9	0.9	0.8	0.8	0.8	0.8	0.8
22.600	0.8	0.8	0.8	0.8	0.8	0.8	0.8
23.300	0.8	0.8	0.8	0.7	0.7	0.7	0.7
24.000	0.7	0.7	0.0				

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	----- Peak Elevation (ft)	Flow Time (hr)	Rate (cfs)	Rate (csm)
OUTLET	0.022		3.934		12.20	38.1	1755.80

Line Start Time (hr)	----- Flow Values @ time increment of 0.100 hr -----						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
7.200	0.5	0.5	0.5	0.6	0.6	0.6	0.6
7.900	0.7	0.7	0.7	0.7	0.8	0.8	0.8
8.600	0.8	0.9	0.9	0.9	1.0	1.0	1.1
9.300	1.1	1.2	1.2	1.3	1.4	1.5	1.6
10.000	1.6	1.7	1.8	1.9	2.0	2.1	2.2
10.700	2.4	2.6	2.9	3.2	3.5	3.9	4.4
11.400	5.0	5.6	6.6	8.1	10.0	13.1	18.9
12.100	30.0	38.1	34.4	29.2	24.6	20.6	17.0
12.800	14.1	11.8	10.0	8.5	7.4	6.5	5.8
13.500	5.2	4.6	4.2	3.9	3.6	3.4	3.3
14.200	3.1	3.0	2.9	2.8	2.7	2.6	2.5
14.900	2.4	2.3	2.2	2.1	2.0	1.9	1.9
15.600	1.9	1.8	1.8	1.8	1.7	1.7	1.7
16.300	1.7	1.6	1.6	1.6	1.5	1.5	1.5
17.000	1.5	1.4	1.4	1.4	1.4	1.3	1.3
17.700	1.3	1.2	1.2	1.2	1.2	1.1	1.1
18.400	1.1	1.1	1.1	1.1	1.1	1.1	1.1
19.100	1.0	1.0	1.0	1.0	1.0	1.0	1.0
19.800	1.0	1.0	1.0	1.0	1.0	1.0	1.0
20.500	1.0	0.9	0.9	0.9	0.9	0.9	0.9
21.200	0.9	0.9	0.9	0.9	0.9	0.9	0.9
21.900	0.9	0.9	0.8	0.8	0.8	0.8	0.8
22.600	0.8	0.8	0.8	0.8	0.8	0.8	0.8
23.300	0.8	0.8	0.8	0.7	0.7	0.7	0.7
24.000	0.7	0.7	0.0				

STORM 25-yr

CLOVERFIELDS NEIGHBORHOOD FLODO MITIGATION PROJECT
 ULTIMATE CONDITIONS - SUBDRAINAGE AREA 7

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Elevation (ft)	Peak Time (hr)	Flow Rate (cfs)	Rate (csm)
DA01	0.022		5.177		12.21	49.4	2274.46

Line

Start Time (hr)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)
6.100	0.5	0.5	0.5	0.6	0.6	0.6	0.6
6.800	0.7	0.7	0.7	0.8	0.8	0.8	0.8
7.500	0.9	0.9	1.0	1.0	1.0	1.1	1.1
8.200	1.1	1.2	1.2	1.2	1.3	1.3	1.4
8.900	1.4	1.4	1.5	1.5	1.6	1.7	1.8
9.600	1.9	2.0	2.1	2.2	2.4	2.5	2.6
10.300	2.7	2.8	3.0	3.1	3.4	3.7	4.0
11.000	4.4	4.9	5.4	6.1	6.8	7.6	8.9
11.700	10.9	13.4	17.4	24.8	39.1	49.3	44.6
12.400	37.8	31.7	26.6	21.8	18.1	15.2	12.8
13.100	10.9	9.4	8.3	7.4	6.6	5.9	5.3
13.800	4.9	4.6	4.4	4.2	4.0	3.8	3.7
14.500	3.5	3.4	3.3	3.1	3.0	2.9	2.8
15.200	2.6	2.6	2.5	2.4	2.4	2.3	2.3
15.900	2.2	2.2	2.2	2.1	2.1	2.1	2.0
16.600	2.0	2.0	1.9	1.9	1.9	1.8	1.8
17.300	1.8	1.7	1.7	1.7	1.6	1.6	1.6
18.000	1.5	1.5	1.5	1.4	1.4	1.4	1.4
18.700	1.4	1.4	1.3	1.3	1.3	1.3	1.3
19.400	1.3	1.3	1.3	1.3	1.3	1.3	1.3
20.100	1.2	1.2	1.2	1.2	1.2	1.2	1.2
20.800	1.2	1.2	1.2	1.2	1.1	1.1	1.1
21.500	1.1	1.1	1.1	1.1	1.1	1.1	1.1
22.200	1.1	1.1	1.0	1.0	1.0	1.0	1.0
22.900	1.0	1.0	1.0	1.0	1.0	1.0	1.0
23.600	0.9	0.9	0.9	0.9	0.9	0.9	0.6
24.300	0.0						

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Elevation (ft)	Peak Time (hr)	Flow Rate (cfs)	Rate (csm)
OUTLET	0.022		5.177		12.21	49.4	2274.46

Line

Start Time (hr)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)
6.100	0.5	0.5	0.5	0.6	0.6	0.6	0.6
6.800	0.7	0.7	0.7	0.8	0.8	0.8	0.8
7.500	0.9	0.9	1.0	1.0	1.0	1.1	1.1
8.200	1.1	1.2	1.2	1.2	1.3	1.3	1.4
8.900	1.4	1.4	1.5	1.5	1.6	1.7	1.8

CLOVERFIELDS NEIGHBORHOOD FLODO MITIGATION PROJECT
 ULTIMATE CONDITIONS - SUBDRAINAGE AREA 7

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
9.600	1.9	2.0	2.1	2.2	2.4	2.5	2.6
10.300	2.7	2.8	3.0	3.1	3.4	3.7	4.0
11.000	4.4	4.9	5.4	6.1	6.8	7.6	8.9
11.700	10.9	13.4	17.4	24.8	39.1	49.3	44.6
12.400	37.8	31.7	26.6	21.8	18.1	15.2	12.8
13.100	10.9	9.4	8.3	7.4	6.6	5.9	5.3
13.800	4.9	4.6	4.4	4.2	4.0	3.8	3.7
14.500	3.5	3.4	3.3	3.1	3.0	2.9	2.8
15.200	2.6	2.6	2.5	2.4	2.4	2.3	2.3
15.900	2.2	2.2	2.2	2.1	2.1	2.1	2.0
16.600	2.0	2.0	1.9	1.9	1.9	1.8	1.8
17.300	1.8	1.7	1.7	1.7	1.6	1.6	1.6
18.000	1.5	1.5	1.5	1.4	1.4	1.4	1.4
18.700	1.4	1.4	1.3	1.3	1.3	1.3	1.3
19.400	1.3	1.3	1.3	1.3	1.3	1.3	1.3
20.100	1.2	1.2	1.2	1.2	1.2	1.2	1.2
20.800	1.2	1.2	1.2	1.2	1.1	1.1	1.1
21.500	1.1	1.1	1.1	1.1	1.1	1.1	1.1
22.200	1.1	1.1	1.0	1.0	1.0	1.0	1.0
22.900	1.0	1.0	1.0	1.0	1.0	1.0	1.0
23.600	0.9	0.9	0.9	0.9	0.9	0.9	0.6
24.300	0.0						

STORM 50-yr

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Elevation (ft)	Peak Flow Time (hr)	Rate (cfs)	Rate (csm)
DA01	0.022		6.275		12.21	59.4	2735.42

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
5.100	0.5	0.5	0.5	0.5	0.6	0.6	0.6
5.800	0.6	0.7	0.7	0.7	0.7	0.7	0.8
6.500	0.8	0.8	0.9	0.9	1.0	1.0	1.0
7.200	1.1	1.1	1.2	1.2	1.2	1.3	1.3
7.900	1.4	1.4	1.5	1.5	1.5	1.6	1.6
8.600	1.7	1.7	1.8	1.8	1.9	1.9	2.0
9.300	2.1	2.2	2.3	2.4	2.6	2.7	2.8
10.000	3.0	3.1	3.3	3.4	3.6	3.7	3.9
10.700	4.2	4.6	5.0	5.5	6.0	6.7	7.5
11.400	8.4	9.3	10.9	13.4	16.4	21.1	30.1
12.100	47.2	59.2	53.4	45.3	38.0	31.8	26.1
12.800	21.6	18.1	15.3	13.0	11.2	9.9	8.8
13.500	7.8	7.0	6.3	5.9	5.5	5.2	4.9
14.200	4.7	4.5	4.4	4.2	4.0	3.9	3.7
14.900	3.6	3.4	3.3	3.1	3.0	2.9	2.9

CLOVERFIELDS NEIGHBORHOOD FLODO MITIGATION PROJECT
 ULTIMATE CONDITIONS - SUBDRAINAGE AREA 7

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
15.600	2.8	2.8	2.7	2.7	2.6	2.6	2.5
16.300	2.5	2.4	2.4	2.4	2.3	2.3	2.2
17.000	2.2	2.2	2.1	2.1	2.0	2.0	2.0
17.700	1.9	1.9	1.8	1.8	1.8	1.7	1.7
18.400	1.7	1.7	1.6	1.6	1.6	1.6	1.6
19.100	1.6	1.6	1.6	1.5	1.5	1.5	1.5
19.800	1.5	1.5	1.5	1.5	1.5	1.5	1.4
20.500	1.4	1.4	1.4	1.4	1.4	1.4	1.4
21.200	1.4	1.4	1.3	1.3	1.3	1.3	1.3
21.900	1.3	1.3	1.3	1.3	1.3	1.2	1.2
22.600	1.2	1.2	1.2	1.2	1.2	1.2	1.2
23.300	1.1	1.1	1.1	1.1	1.1	1.1	1.1
24.000	1.1	1.0	0.7	0.0			

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Peak Flow			
				Elevation (ft)	Time (hr)	Rate (cfs)	Rate (csm)
OUTLET	0.022		6.275		12.21	59.4	2735.42

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
5.100	0.5	0.5	0.5	0.5	0.6	0.6	0.6
5.800	0.6	0.7	0.7	0.7	0.7	0.7	0.8
6.500	0.8	0.8	0.9	0.9	1.0	1.0	1.0
7.200	1.1	1.1	1.2	1.2	1.2	1.3	1.3
7.900	1.4	1.4	1.5	1.5	1.5	1.6	1.6
8.600	1.7	1.7	1.8	1.8	1.9	1.9	2.0
9.300	2.1	2.2	2.3	2.4	2.6	2.7	2.8
10.000	3.0	3.1	3.3	3.4	3.6	3.7	3.9
10.700	4.2	4.6	5.0	5.5	6.0	6.7	7.5
11.400	8.4	9.3	10.9	13.4	16.4	21.1	30.1
12.100	47.2	59.2	53.4	45.3	38.0	31.8	26.1
12.800	21.6	18.1	15.3	13.0	11.2	9.9	8.8
13.500	7.8	7.0	6.3	5.9	5.5	5.2	4.9
14.200	4.7	4.5	4.4	4.2	4.0	3.9	3.7
14.900	3.6	3.4	3.3	3.1	3.0	2.9	2.9
15.600	2.8	2.8	2.7	2.7	2.6	2.6	2.5
16.300	2.5	2.4	2.4	2.4	2.3	2.3	2.2
17.000	2.2	2.2	2.1	2.1	2.0	2.0	2.0
17.700	1.9	1.9	1.8	1.8	1.8	1.7	1.7
18.400	1.7	1.7	1.6	1.6	1.6	1.6	1.6
19.100	1.6	1.6	1.6	1.5	1.5	1.5	1.5
19.800	1.5	1.5	1.5	1.5	1.5	1.5	1.4
20.500	1.4	1.4	1.4	1.4	1.4	1.4	1.4
21.200	1.4	1.4	1.3	1.3	1.3	1.3	1.3
21.900	1.3	1.3	1.3	1.3	1.3	1.2	1.2
22.600	1.2	1.2	1.2	1.2	1.2	1.2	1.2

CLOVERFIELDS NEIGHBORHOOD FLODO MITIGATION PROJECT
 ULTIMATE CONDITIONS - SUBDRAINAGE AREA 7

Line Start Time (hr)	----- (cfs)	Flow Values @ (cfs)	time increment (cfs)	of (cfs)	0.100 hr (cfs)	----- (cfs)	(cfs)
23.300	1.1	1.1	1.1	1.1	1.1	1.1	1.1
24.000	1.1	1.0	0.7	0.0			

STORM 100-yr

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	----- Elevation (ft)	Peak Flow Time (hr)	Rate (cfs)	Rate (csm)
DA01	0.022		7.525		12.20	70.6	3254.82

Line Start Time (hr)	----- (cfs)	Flow Values @ (cfs)	time increment (cfs)	of (cfs)	0.100 hr (cfs)	----- (cfs)	(cfs)
4.300	0.5	0.5	0.5	0.6	0.6	0.6	0.6
5.000	0.7	0.7	0.7	0.7	0.8	0.8	0.8
5.700	0.8	0.9	0.9	0.9	0.9	1.0	1.0
6.400	1.1	1.1	1.1	1.2	1.2	1.3	1.3
7.100	1.4	1.4	1.5	1.5	1.6	1.6	1.7
7.800	1.7	1.8	1.8	1.9	1.9	2.0	2.0
8.500	2.1	2.1	2.2	2.2	2.3	2.4	2.4
9.200	2.5	2.6	2.8	2.9	3.1	3.2	3.4
9.900	3.5	3.7	3.9	4.1	4.2	4.4	4.6
10.600	4.8	5.2	5.6	6.1	6.7	7.4	8.2
11.300	9.1	10.2	11.3	13.2	16.2	19.6	25.4
12.000	36.1	56.2	70.6	63.4	53.6	44.9	37.6
12.700	30.8	25.6	21.4	18.0	15.3	13.2	11.6
13.400	10.3	9.2	8.2	7.5	6.9	6.5	6.1
14.100	5.8	5.6	5.4	5.1	5.0	4.8	4.6
14.800	4.4	4.2	4.0	3.9	3.7	3.6	3.5
15.500	3.4	3.3	3.2	3.2	3.1	3.1	3.0
16.200	3.0	2.9	2.9	2.8	2.8	2.7	2.7
16.900	2.6	2.6	2.5	2.5	2.5	2.4	2.4
17.600	2.3	2.3	2.2	2.2	2.1	2.1	2.0
18.300	2.0	2.0	1.9	1.9	1.9	1.9	1.9
19.000	1.9	1.9	1.8	1.8	1.8	1.8	1.8
19.700	1.8	1.8	1.8	1.7	1.7	1.7	1.7
20.400	1.7	1.7	1.7	1.7	1.6	1.6	1.6
21.100	1.6	1.6	1.6	1.6	1.6	1.6	1.5
21.800	1.5	1.5	1.5	1.5	1.5	1.5	1.5
22.500	1.4	1.4	1.4	1.4	1.4	1.4	1.4
23.200	1.4	1.3	1.3	1.3	1.3	1.3	1.3
23.900	1.3	1.3	1.2	0.8	0.6	0.0	

CLOVERFIELDS NEIGHBORHOOD FLODO MITIGATION PROJECT
 ULTIMATE CONDITIONS - SUBDRAINAGE AREA 7

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Elevation (ft)	Peak Time (hr)	Flow Rate (cfs)	Rate (csm)
OUTLET	0.022		7.525		12.20	70.6	3254.82

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
4.300	0.5	0.5	0.5	0.6	0.6	0.6	0.6
5.000	0.7	0.7	0.7	0.7	0.8	0.8	0.8
5.700	0.8	0.9	0.9	0.9	0.9	1.0	1.0
6.400	1.1	1.1	1.1	1.2	1.2	1.3	1.3
7.100	1.4	1.4	1.5	1.5	1.6	1.6	1.7
7.800	1.7	1.8	1.8	1.9	1.9	2.0	2.0
8.500	2.1	2.1	2.2	2.2	2.3	2.4	2.4
9.200	2.5	2.6	2.8	2.9	3.1	3.2	3.4
9.900	3.5	3.7	3.9	4.1	4.2	4.4	4.6
10.600	4.8	5.2	5.6	6.1	6.7	7.4	8.2
11.300	9.1	10.2	11.3	13.2	16.2	19.6	25.4
12.000	36.1	56.2	70.6	63.4	53.6	44.9	37.6
12.700	30.8	25.6	21.4	18.0	15.3	13.2	11.6
13.400	10.3	9.2	8.2	7.5	6.9	6.5	6.1
14.100	5.8	5.6	5.4	5.1	5.0	4.8	4.6
14.800	4.4	4.2	4.0	3.9	3.7	3.6	3.5
15.500	3.4	3.3	3.2	3.2	3.1	3.1	3.0
16.200	3.0	2.9	2.9	2.8	2.8	2.7	2.7
16.900	2.6	2.6	2.5	2.5	2.5	2.4	2.4
17.600	2.3	2.3	2.2	2.2	2.1	2.1	2.0
18.300	2.0	2.0	1.9	1.9	1.9	1.9	1.9
19.000	1.9	1.9	1.8	1.8	1.8	1.8	1.8
19.700	1.8	1.8	1.8	1.7	1.7	1.7	1.7
20.400	1.7	1.7	1.7	1.7	1.6	1.6	1.6
21.100	1.6	1.6	1.6	1.6	1.6	1.6	1.5
21.800	1.5	1.5	1.5	1.5	1.5	1.5	1.5
22.500	1.4	1.4	1.4	1.4	1.4	1.4	1.4
23.200	1.4	1.3	1.3	1.3	1.3	1.3	1.3
23.900	1.3	1.3	1.2	0.8	0.6	0.0	

CLOVERFIELDS NEIGHBORHOOD FLOOD MITIGATION PROJECT
 ULTIMATE CONDITIONS - SUBDRAINAGE AREA 7

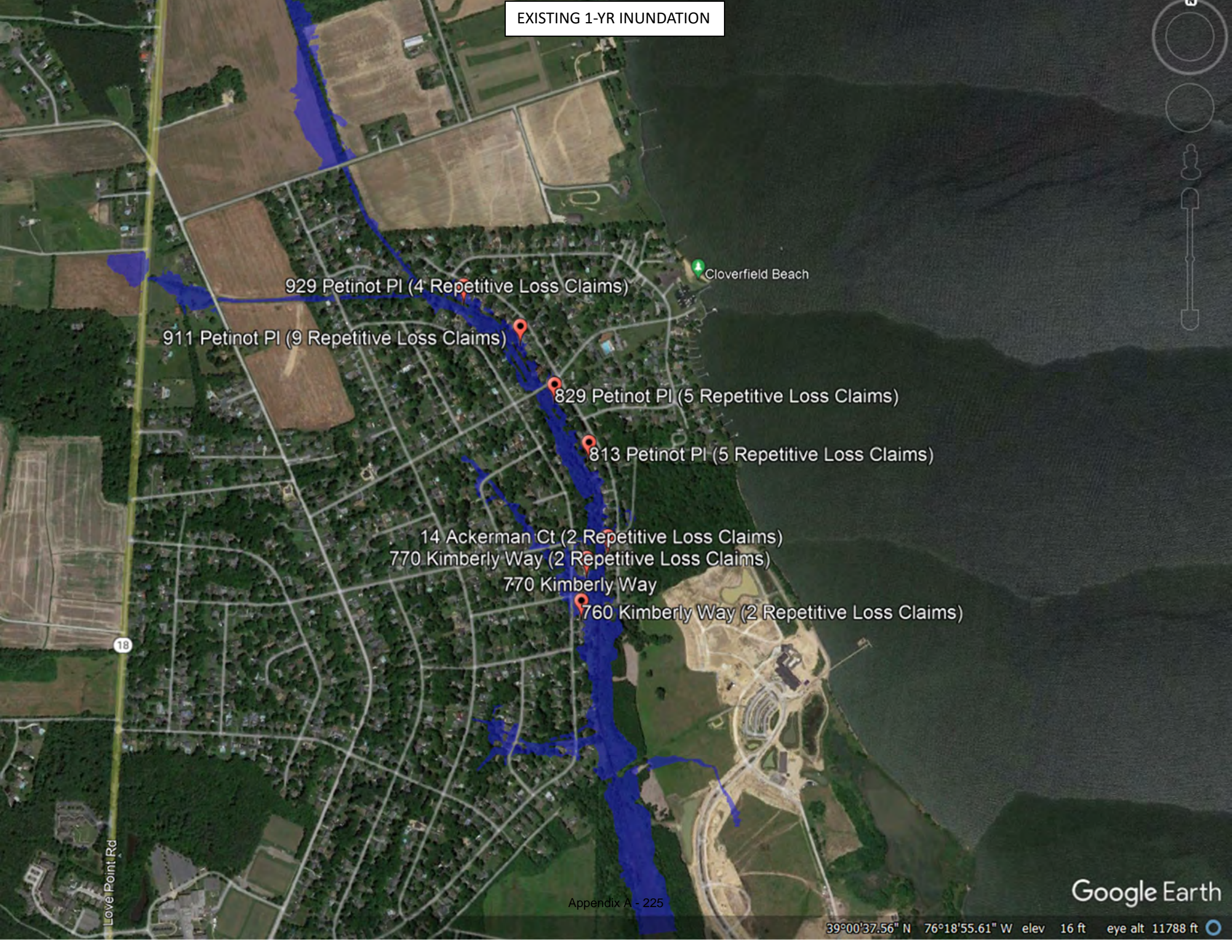
Area or Reach Identifier	Drainage Area (sq mi)	----- Peak Flow by Storm -----				
		1-yr (cfs)	2-yr (cfs)	5-yr (cfs)	10-yr (cfs)	25-yr (cfs)
DA01	0.022	16.7	21.8	30.6	38.1	49.4
OUTLET	0.022	16.7	21.8	30.6	38.1	49.4

Area or Reach Identifier	Drainage Area (sq mi)	----- Peak Flow by Storm -----				
		50-yr (cfs)	100-yr (cfs)	(cfs)	(cfs)	(cfs)
DA01	0.022	59.4	70.6			
OUTLET	0.022	59.4	70.6			

APPENDIX D

Existing & Ultimate Conditions Inundation Boundaries

EXISTING 1-YR INUNDATION



929 Petinot Pl (4 Repetitive Loss Claims)

911 Petinot Pl (9 Repetitive Loss Claims)

829 Petinot Pl (5 Repetitive Loss Claims)

813 Petinot Pl (5 Repetitive Loss Claims)

14 Ackerman Ct (2 Repetitive Loss Claims)

770 Kimberly Way (2 Repetitive Loss Claims)

770 Kimberly Way

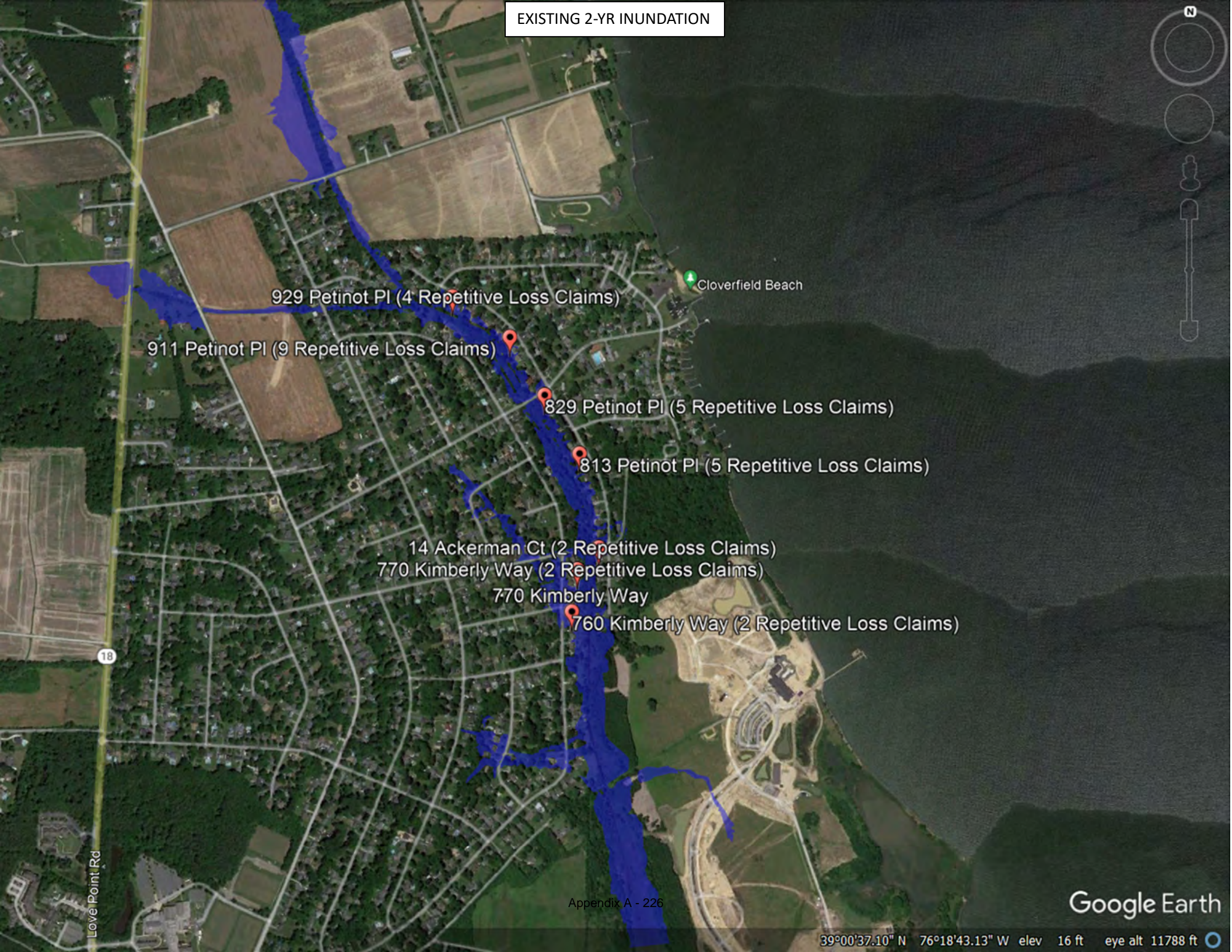
760 Kimberly Way (2 Repetitive Loss Claims)

Cloverfield Beach

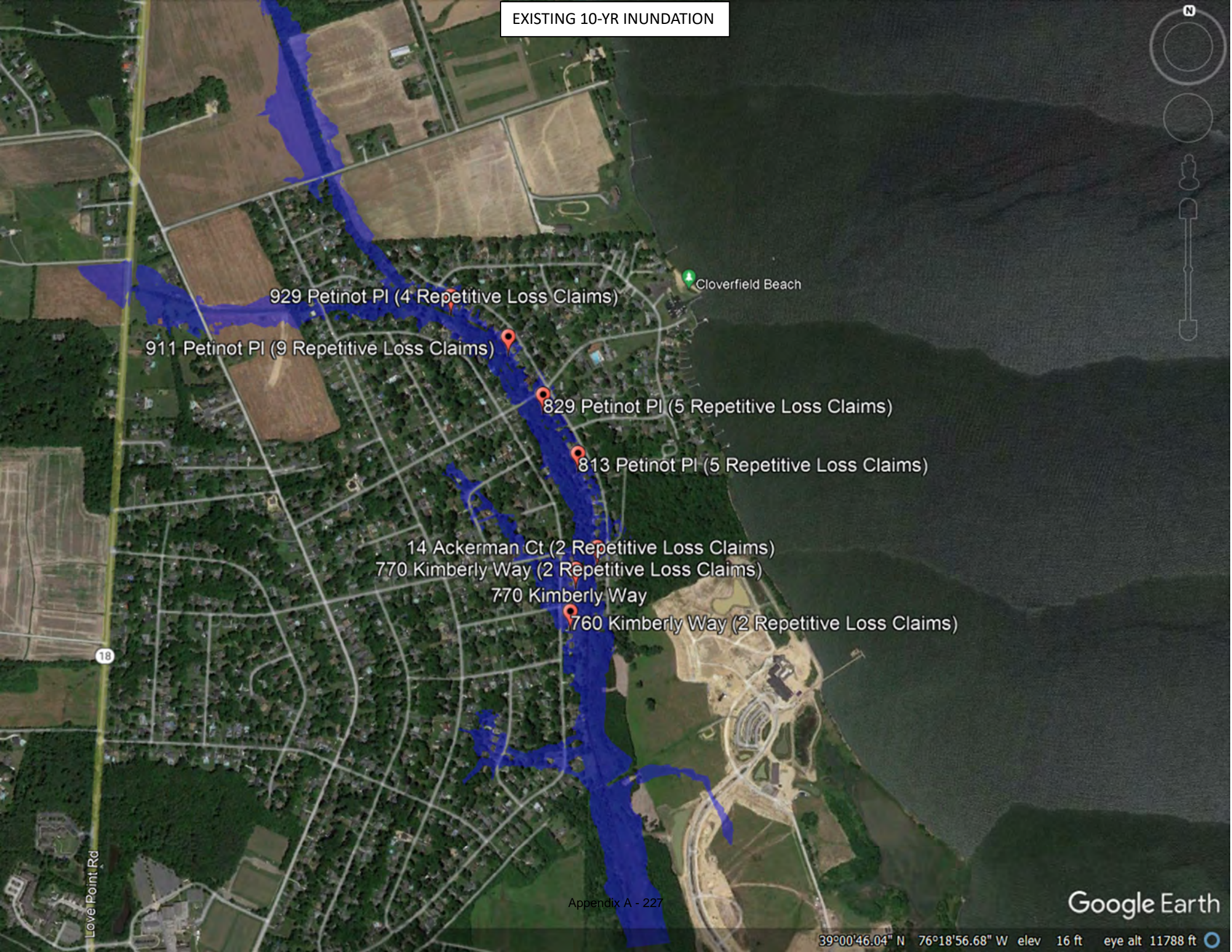
18

Love Point Rd

EXISTING 2-YR INUNDATION



EXISTING 10-YR INUNDATION



929 Petinot PI (4 Repetitive Loss Claims)

Cloverfield Beach

911 Petinot PI (9 Repetitive Loss Claims)

829 Petinot PI (5 Repetitive Loss Claims)

813 Petinot PI (5 Repetitive Loss Claims)

14 Ackerman Ct (2 Repetitive Loss Claims)

770 Kimberly Way (2 Repetitive Loss Claims)

770 Kimberly Way

760 Kimberly Way (2 Repetitive Loss Claims)

18

Love Point Rd

EXISTING 100-YR INUNDATION



Cloverfield Beach

929 Petinot PI (4 Repetitive Loss Claims)

911 Petinot PI (9 Repetitive Loss Claims)

829 Petinot PI (5 Repetitive Loss Claims)

813 Petinot PI (5 Repetitive Loss Claims)

14 Ackerman Ct (2 Repetitive Loss Claims)

770 Kimberly Way (2 Repetitive Loss Claims)

770 Kimberly Way

760 Kimberly Way (2 Repetitive Loss Claims)

18

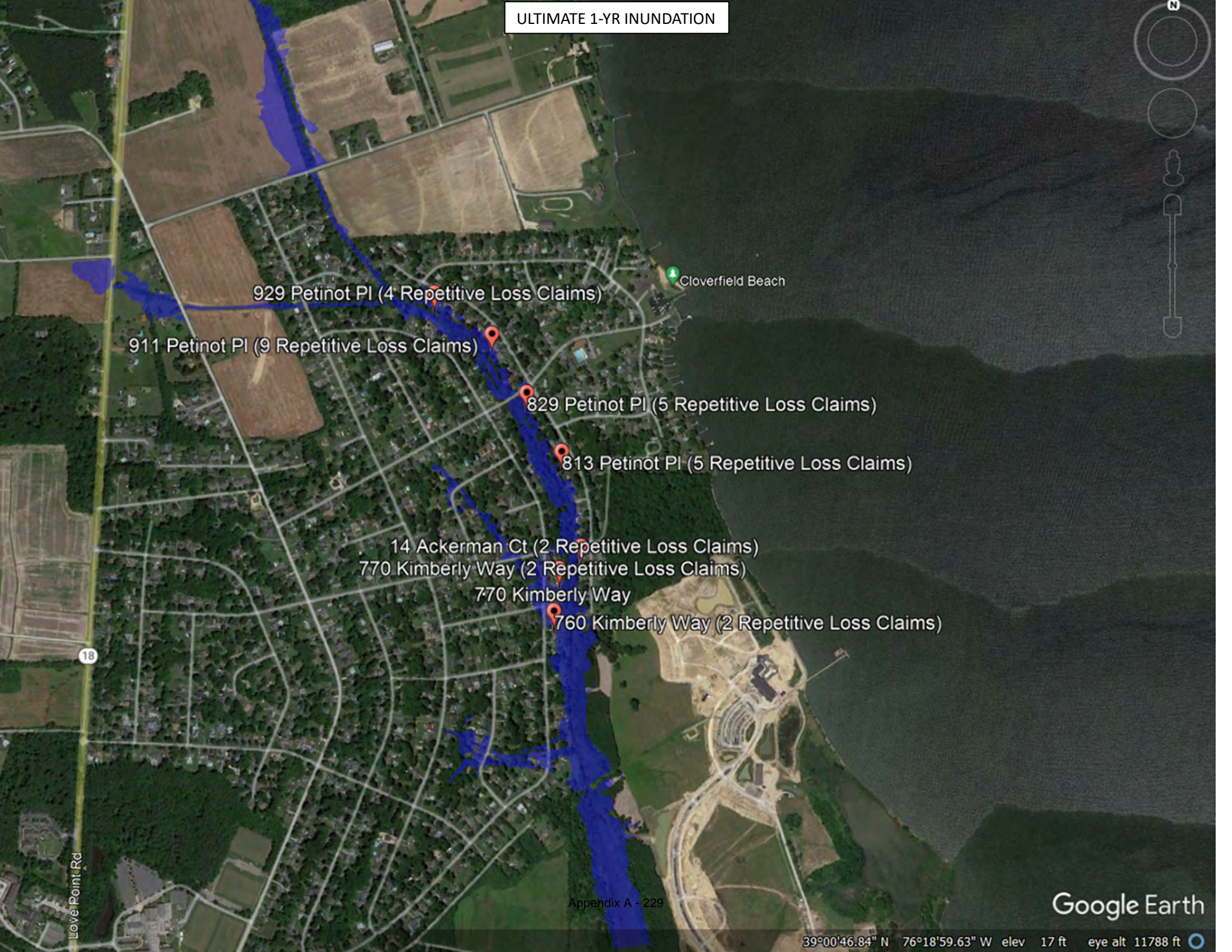
Love Point Rd

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Google Earth

39°00'46.07" N 76°18'55.57" W elev 16 ft eye alt 11788 ft

ULTIMATE 1-YR INUNDATION



929 Petinot PI (4 Repetitive Loss Claims)

Cloverfield Beach

911 Petinot PI (9 Repetitive Loss Claims)

829 Petinot PI (5 Repetitive Loss Claims)

813 Petinot PI (5 Repetitive Loss Claims)

14 Ackerman Ct (2 Repetitive Loss Claims)

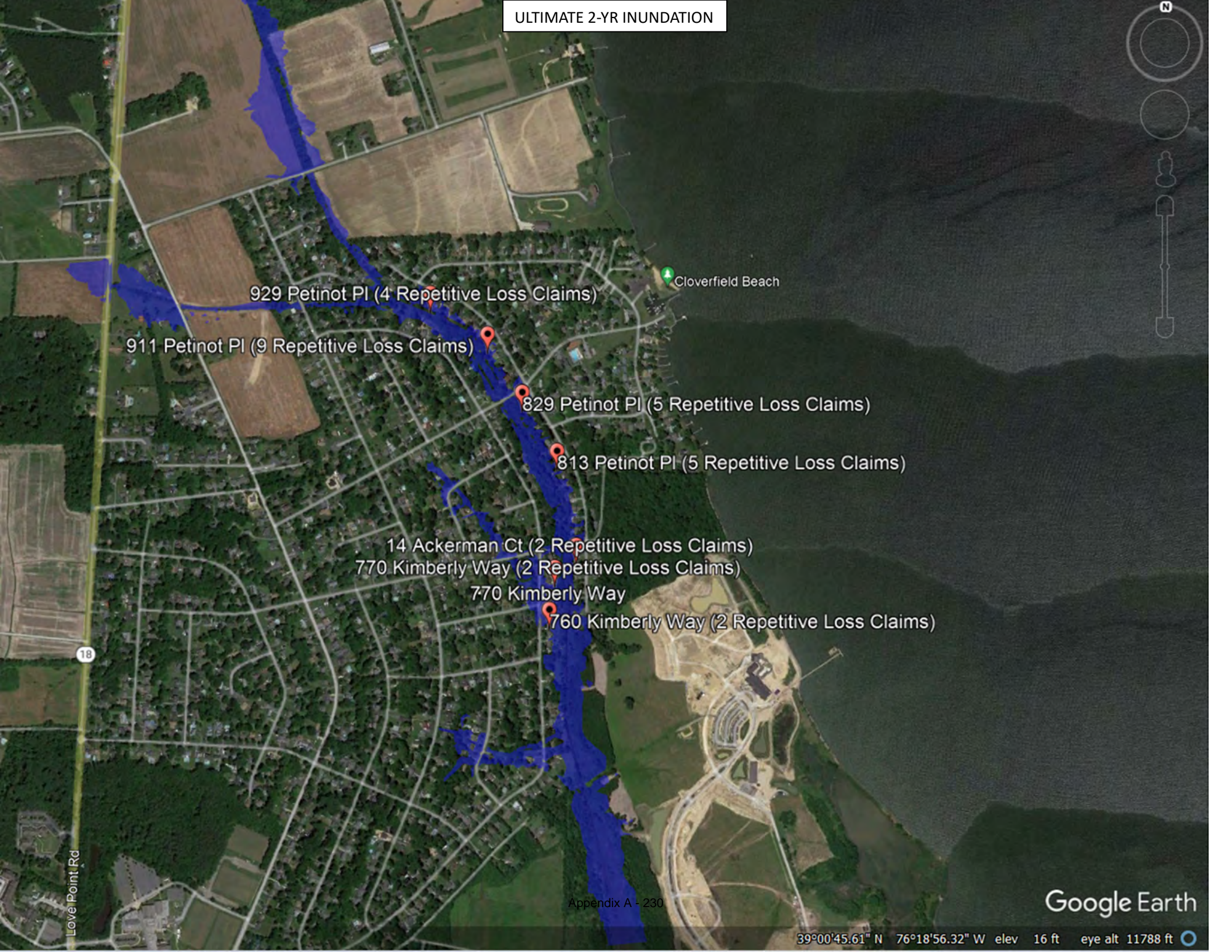
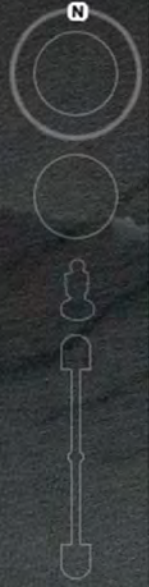
770 Kimberly Way (2 Repetitive Loss Claims)

770 Kimberly Way

760 Kimberly Way (2 Repetitive Loss Claims)

18

Love Point Rd



929 Petinot Pl (4 Repetitive Loss Claims)

Cloverfield Beach

911 Petinot Pl (9 Repetitive Loss Claims)

829 Petinot Pl (5 Repetitive Loss Claims)

813 Petinot Pl (5 Repetitive Loss Claims)

14 Ackerman Ct (2 Repetitive Loss Claims)

770 Kimberly Way (2 Repetitive Loss Claims)

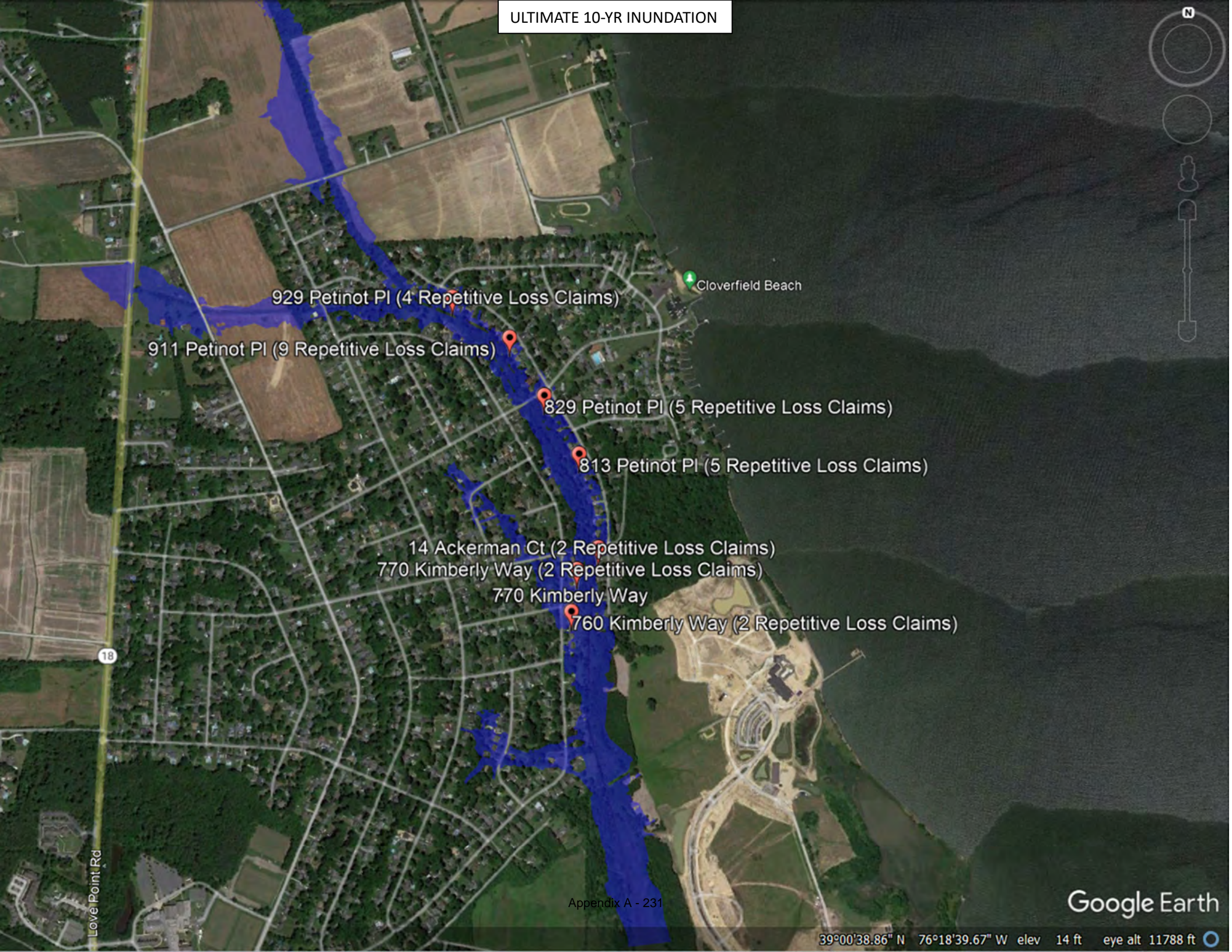
770 Kimberly Way

760 Kimberly Way (2 Repetitive Loss Claims)

18

Love Point Rd

ULTIMATE 10-YR INUNDATION



929 Petinot PI (4 Repetitive Loss Claims)

Cloverfield Beach

911 Petinot PI (9 Repetitive Loss Claims)

829 Petinot PI (5 Repetitive Loss Claims)

813 Petinot PI (5 Repetitive Loss Claims)

14 Ackerman Ct (2 Repetitive Loss Claims)

770 Kimberly Way (2 Repetitive Loss Claims)

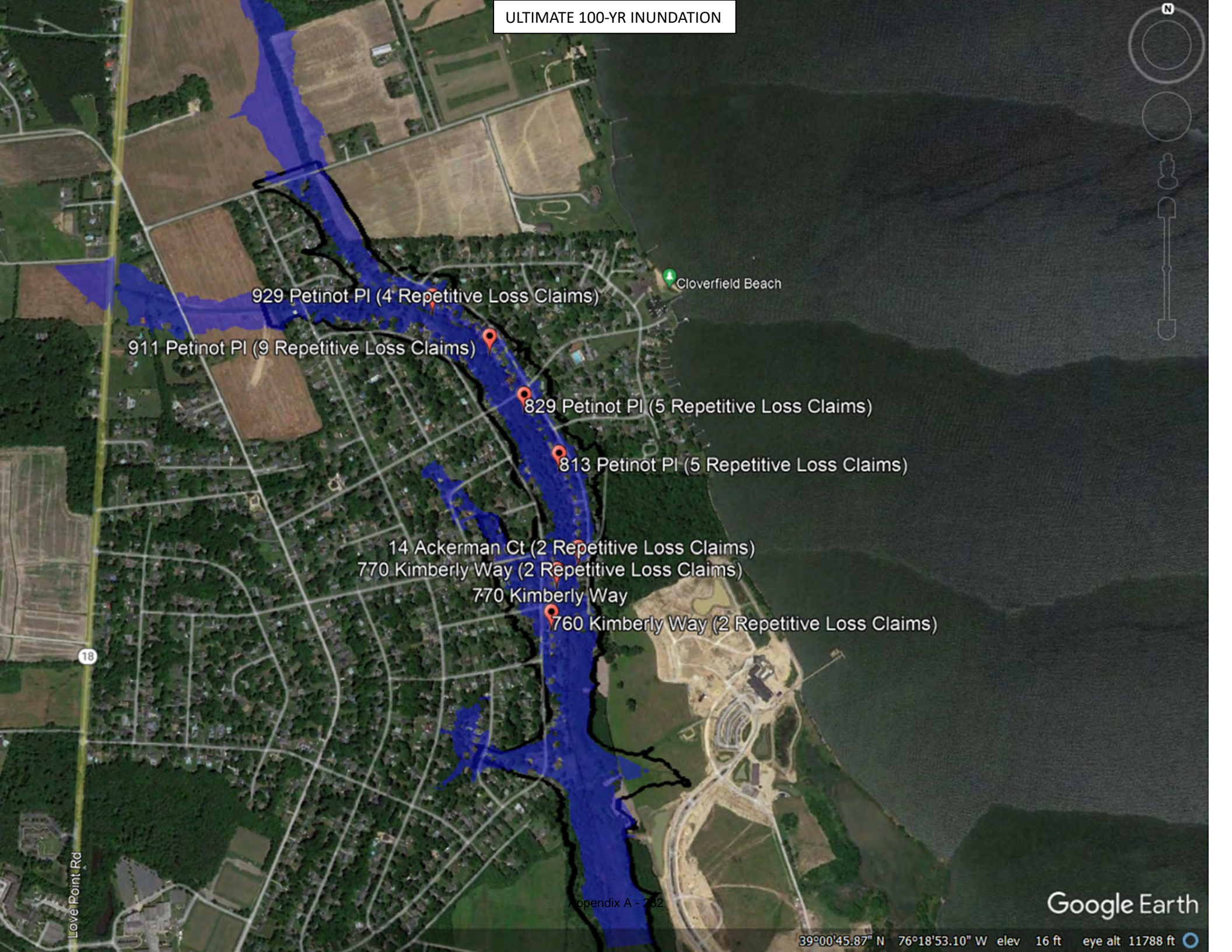
770 Kimberly Way

760 Kimberly Way (2 Repetitive Loss Claims)

18

Love Point Rd

ULTIMATE 100-YR INUNDATION



929 Petinot PI (4 Repetitive Loss Claims)

911 Petinot PI (9 Repetitive Loss Claims)

829 Petinot PI (5 Repetitive Loss Claims)

813 Petinot PI (5 Repetitive Loss Claims)

14 Ackerman Ct (2 Repetitive Loss Claims)

770 Kimberly Way (2 Repetitive Loss Claims)

770 Kimberly Way

760 Kimberly Way (2 Repetitive Loss Claims)

Cloverfield Beach

18

Love Point Rd

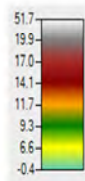
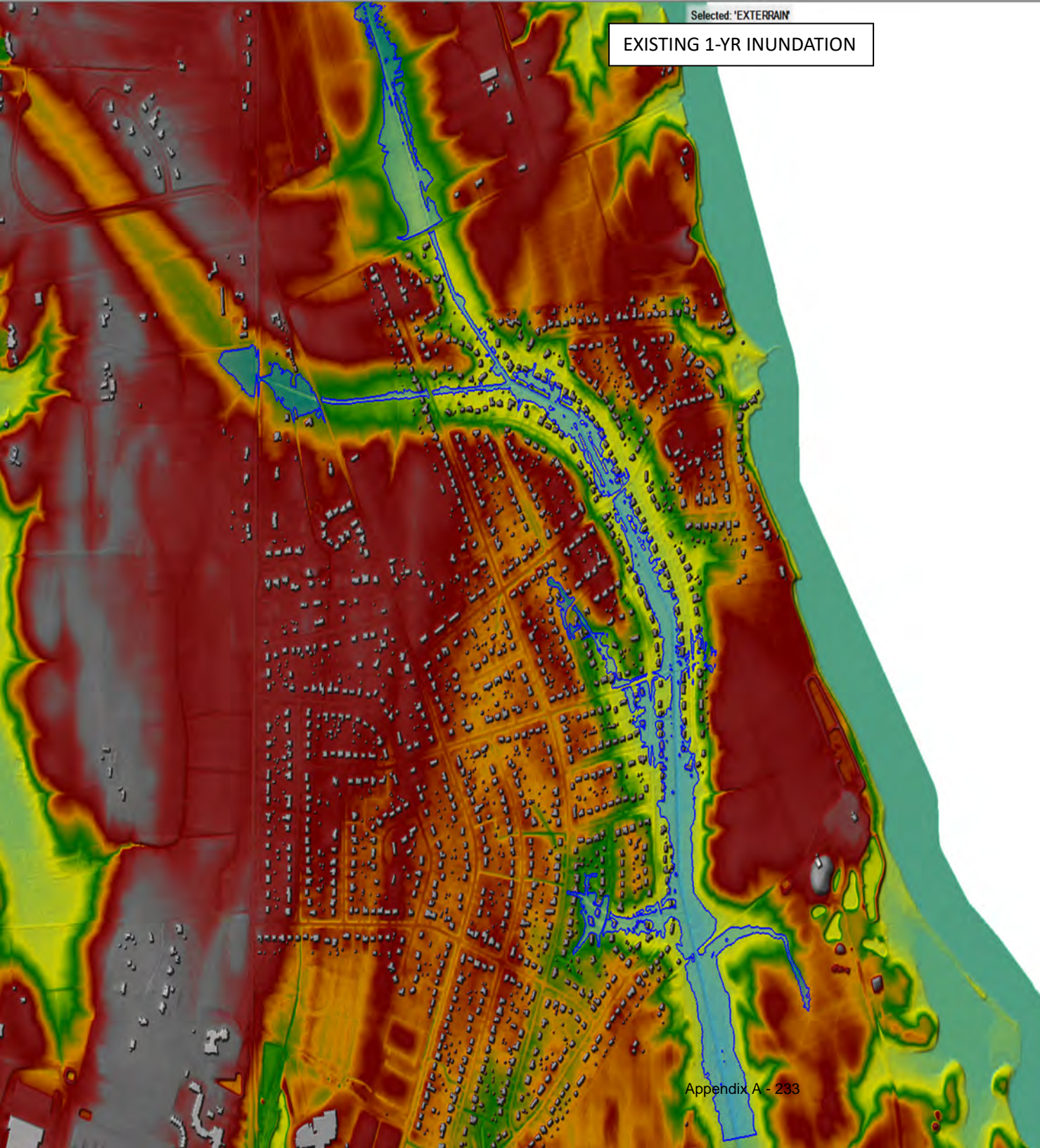
Appendix A - 232

Google Earth

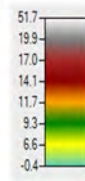
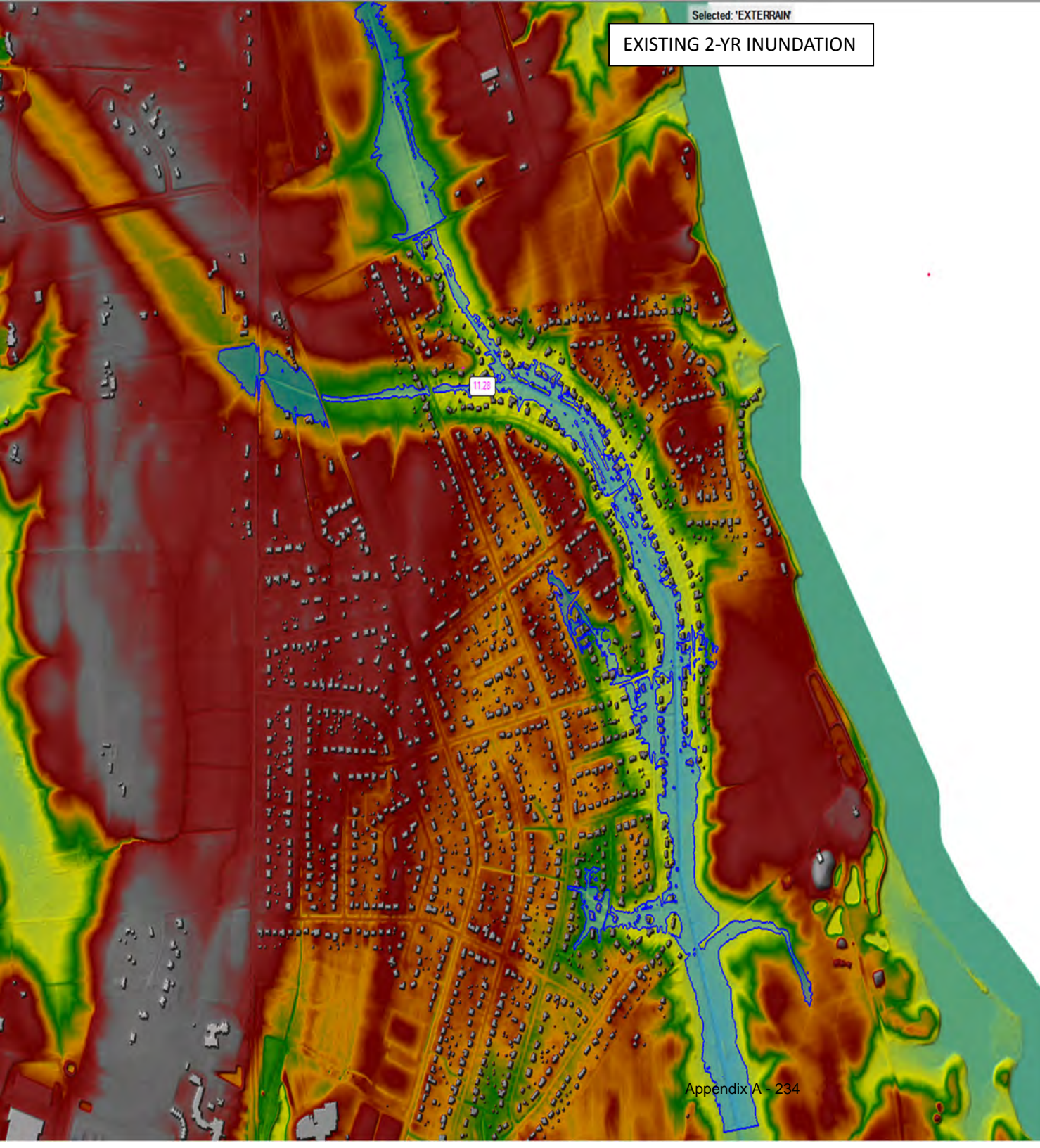
39°00'45.87" N 76°18'53.10" W elev 16 ft eye alt 11788 ft

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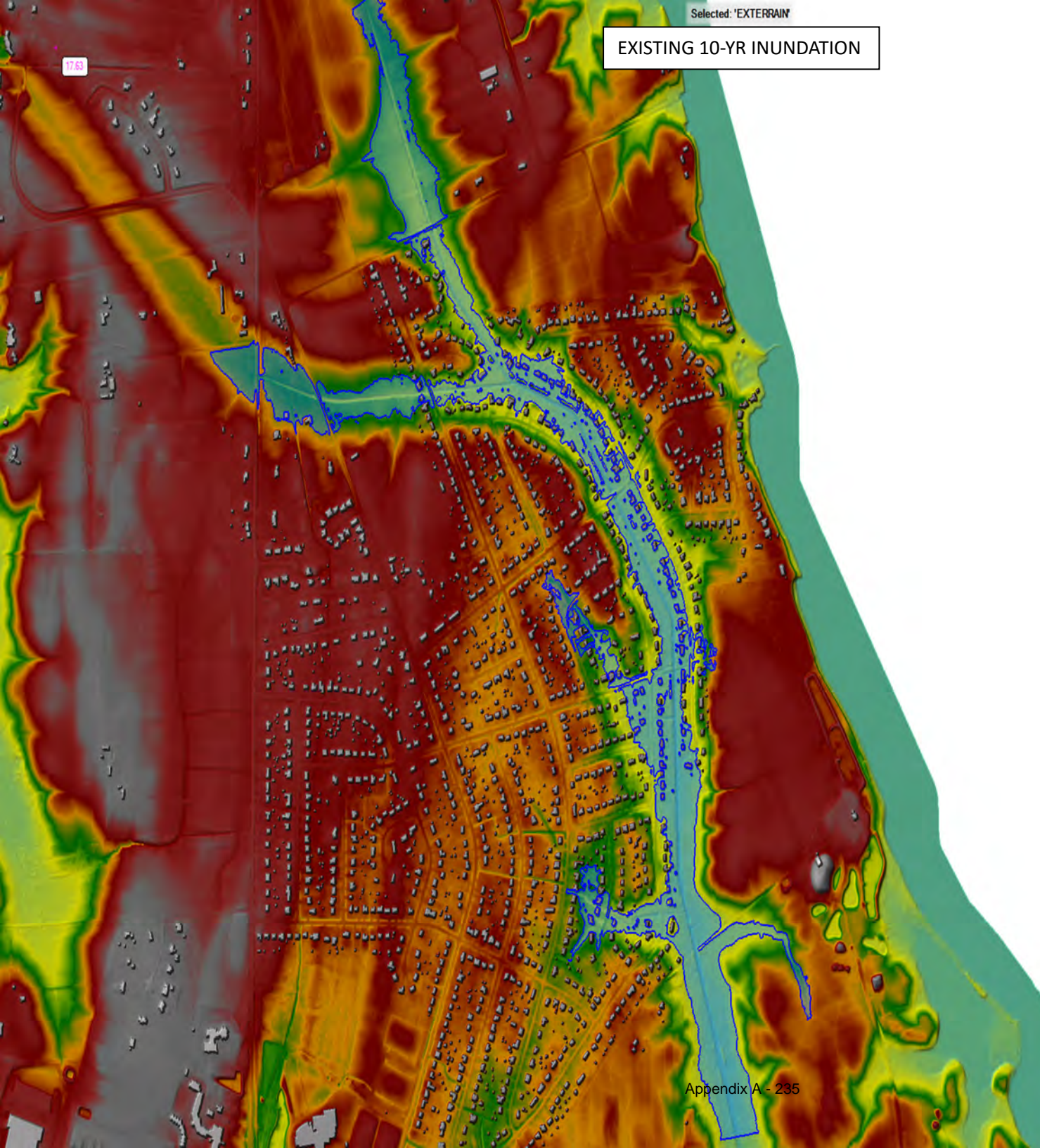
EXISTING 1-YR INUNDATION



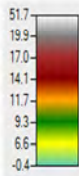
EXISTING 2-YR INUNDATION



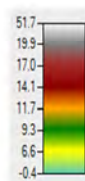
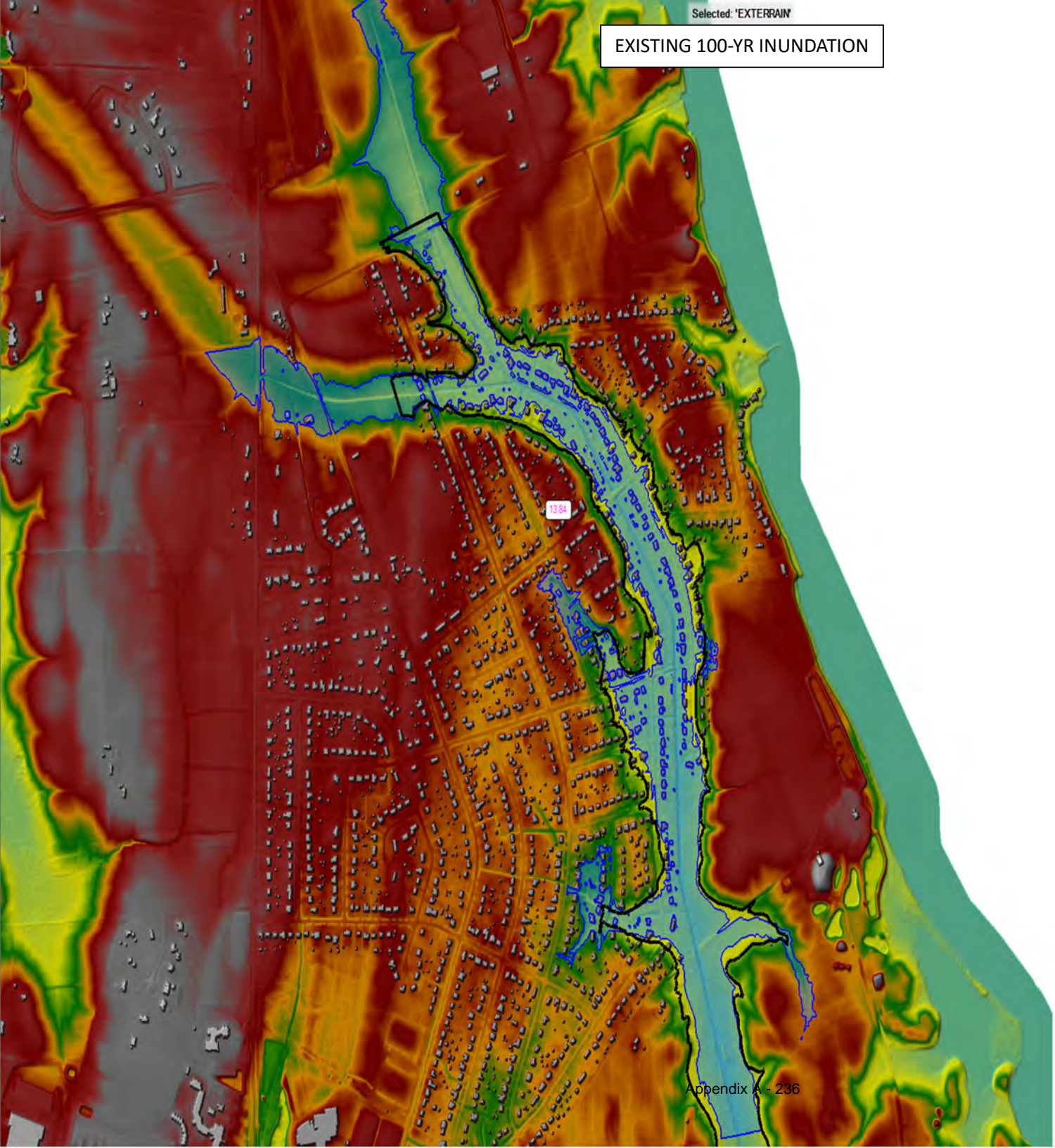
EXISTING 10-YR INUNDATION



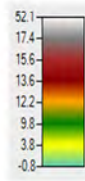
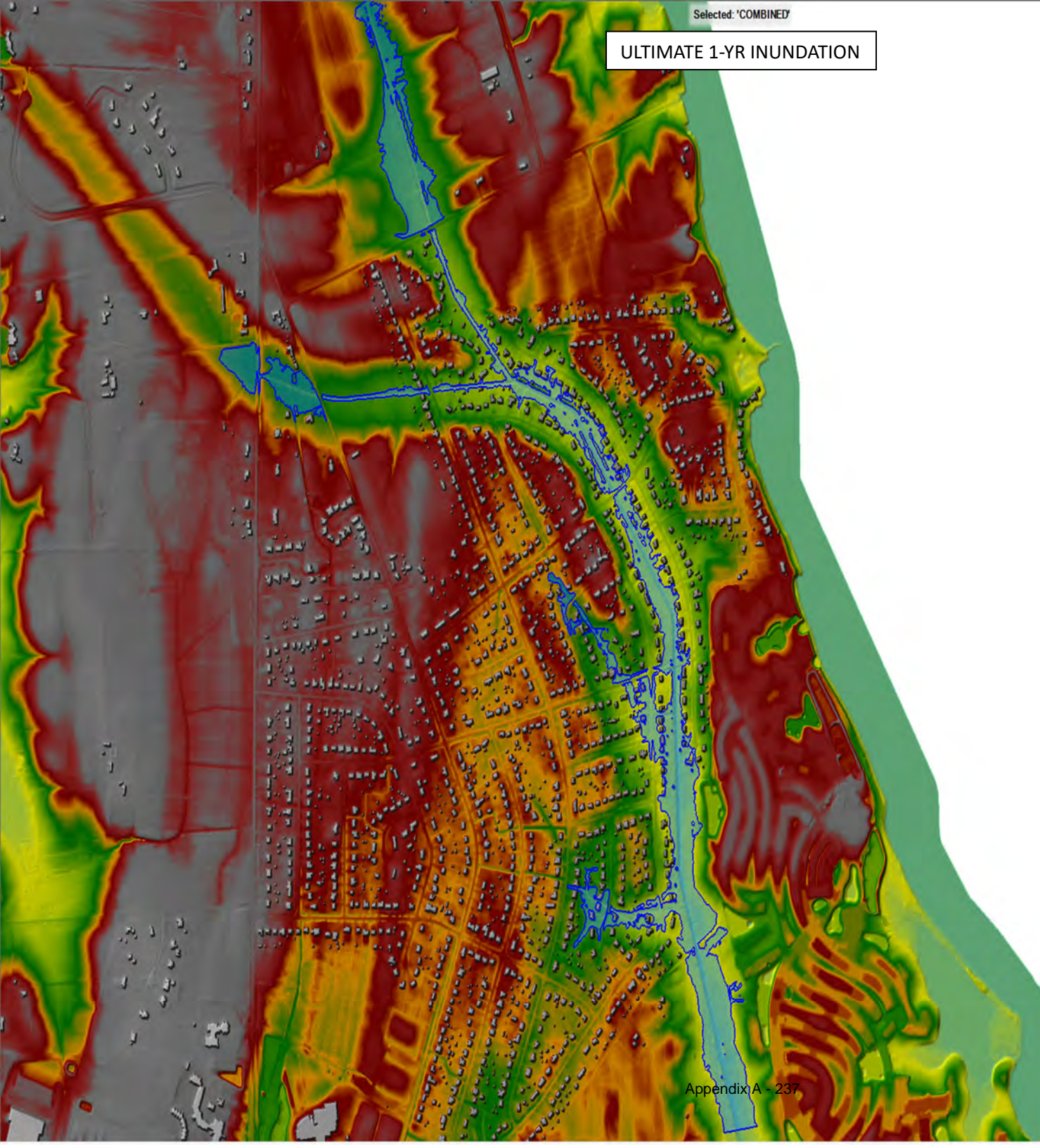
17.63



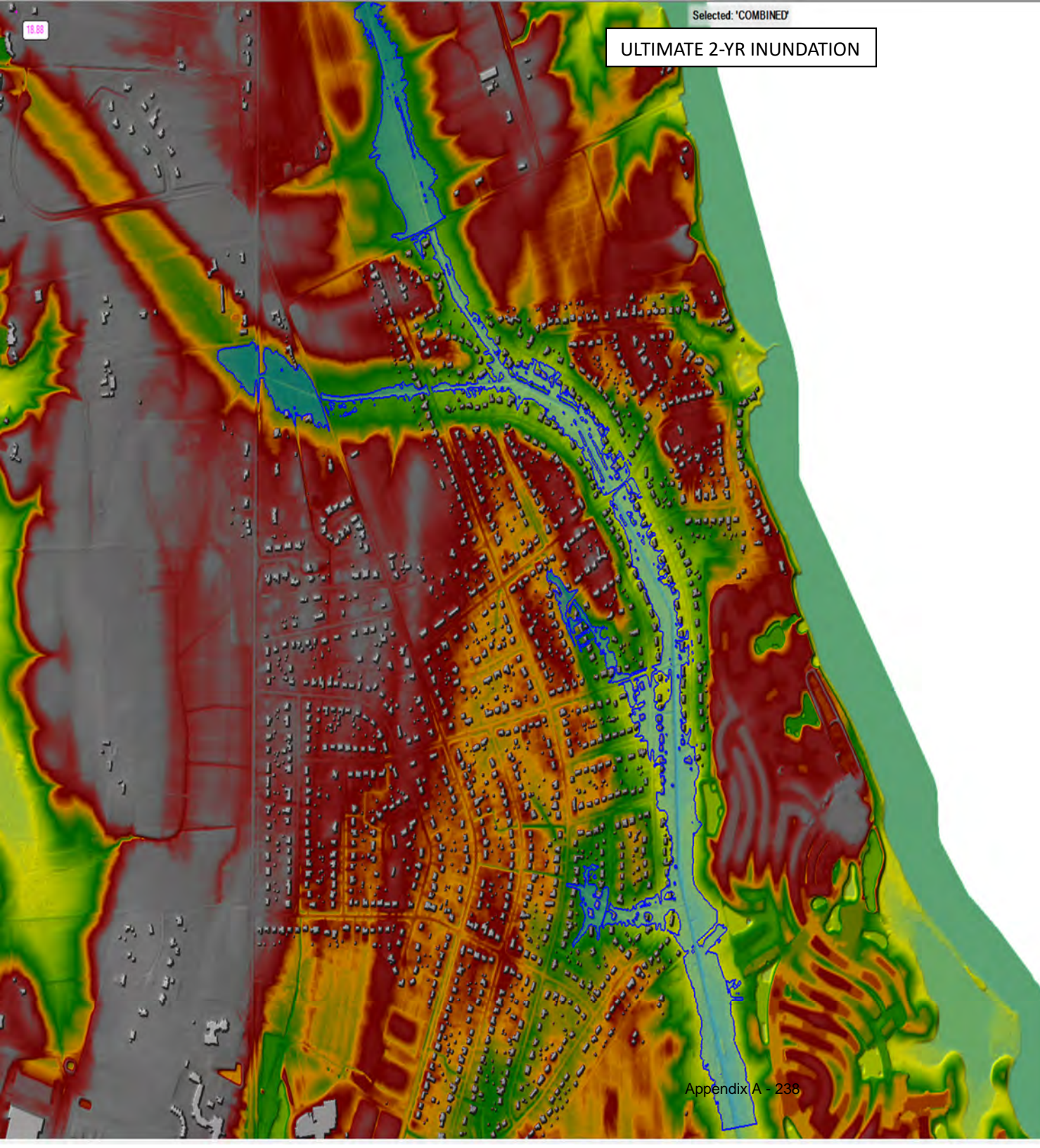
EXISTING 100-YR INUNDATION



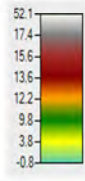
ULTIMATE 1-YR INUNDATION



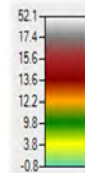
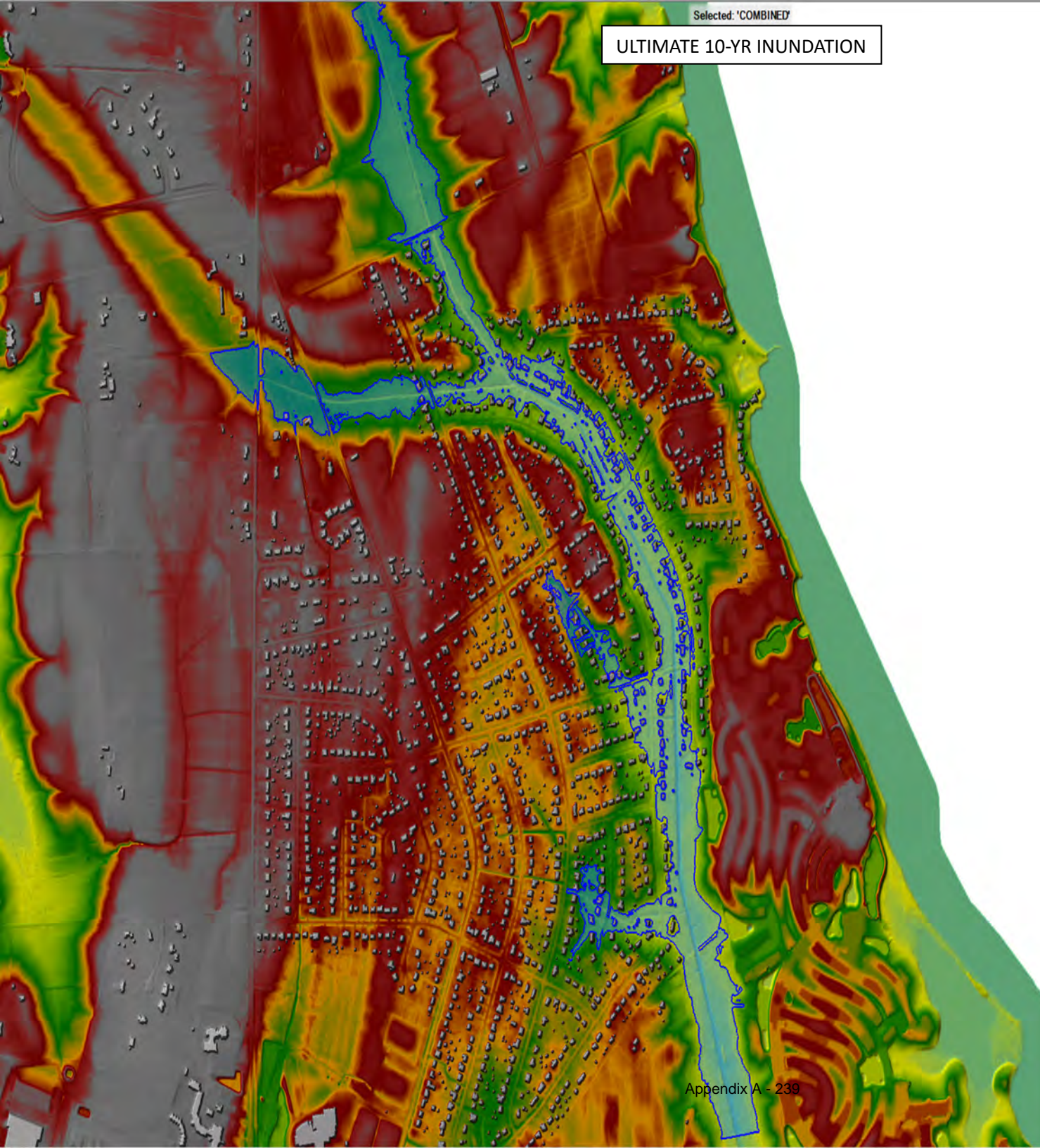
ULTIMATE 2-YR INUNDATION



19.88



ULTIMATE 10-YR INUNDATION



ULTIMATE 100-YR INUNDATION

