STORM WATER CALCULATIONS

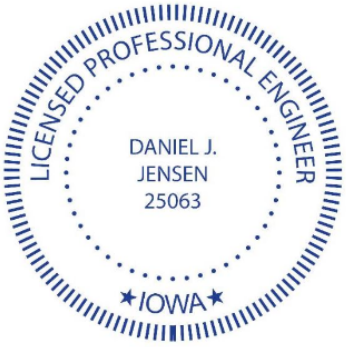
For:

HAR892022C Nutrient Reduction Wetland

Iowa Department of Agriculture and Land Stewardship
IOWA FALLS, Iowa

S-H PROJECT # 2142204310

July 8th, 2026



I hereby certify that the portion of this engineering document was prepared by me or under my direct personal supervision. I am a duly licensed Professional Engineer under the laws of the State of Iowa.

Signature: Dan Jensen

Name: Dan Jensen, P.E.

Date: 07/08/2026

My license renewal date is December 31, 2027.

Pages, sheets, or divisions covered by this certification: All Sheets

Prepared by:

SHIVEHATTERY
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PROJECT SUMMARY

GENERAL

The proposed work includes construction of a wetland to the southeast of Iowa Falls, IA. The location can be more specifically described as the SW ¼ of Section 22, Township 89 North, Range 20 West of the Fifth Principal meridian, Hardin County, Iowa. A dam will be constructed to impound water for the wetland. A drawdown structure on the dam will allow for pool elevation control.

DESIGN STANDARDS, ANALYSIS, AND ASSUMPTIONS

The design procedures and guidelines were obtained from the following resources:

1. "National Engineering Handbook 4 – Hydrology"
2. "NRCS Practice Standard 656, 378, & 410" (as applicable)

DESIGN CRITERIA AND GUIDELINES

IOWA DNR DAM SAFETY

The structure size was reviewed for applicability of Iowa Administrative Code Chapter 73. The thresholds are primarily based on both dam height and water storage volumes. The height of a dam is defined as the vertical distance from the top of the dam to the lowest elevation at the downstream toe of the dam, typically the streambed.

The thresholds for when a Flood Plain Permit from the DNR is required are outlined in 567 Iowa Administrative Code Chapter 73.3 and are listed below with commentary for the HAR892022C Wetland:

Any dam with a height of at least 25 feet and a storage volume of at least 15 acre-ft

- The storage at normal water level is 3.5 ac-ft
- The embankment height is 10 feet.

Any dam with a storage at the top of dam of at least 50 acre-ft and a height of at least 6 feet.

- The storage at the top of dam is 34.9 ac-ft
- The embankment height is 10 feet.

Any high hazard dam (see dam classifications).

- Structures located in areas where damages from a failure would be limited to loss of the dam, loss of livestock, damages to farm out-buildings, agricultural lands, and lesser used roads, and where loss of human life is considered unlikely. Therefore, the structure shall be classified as low hazard

An Iowa DNR Dam Safety or Floodplain Permit is not required for this project.

WATER CONTROL STRUCTURE

The water control structure is a 24" dual wall HDPE riser equipped with stop logs for water elevation control.

PRINCIPAL SPILLWAY AND WATER CONTROL STRUCTURE

The principal spillway structure is a 48" concrete box riser (modified SW-302) equipped with stop logs for water elevation control. A 36'' RCP will enter the structure from the pool area and will exit the manhole structure and daylight downstream of the principal spillway into riprap and existing pond. The stop logs will allow for control of the water level and draining of the wetland for vegetation management/establishment and future maintenance as required. The stop logs will normally be installed to an elevation of 1108.0, 1.0 feet below the rim of the concrete box (1109.0). The outlet pipe is proposed as a 36" reinforced concrete pipe with an upstream invert of 1103.0 and a downstream invert of 1102.3.

The wetland is proposed to meet NRCS CPS 656, which references both CPS 373 and CPS 410. These standards have the principal and auxiliary spillway design storm requirement summarized below:

NRCS CPS 656
- Principal spillway design to comply with CPS 378
- Auxiliary spillway to pass 25-year, 24 hour storm

NRCS CPS 378
- Principal spillway to pass 10-year, 24 hour storm
- Auxiliary spillway to pass 25-year, 24 hour storm

NRCS CPS 410
- Principal spillway to pass 5-year, 24 hour storm
- Auxiliary spillway to pass 10-year, 24 hour storm

Since the structure is low hazard with a drainage area smaller than 250 acres (185 acres), the principal spillway must pass the 10-year, 24-hour storm according to NRCS 656 complying with NRCS 378. In lieu of the 10-year, 24-hour storm, the auxiliary spillway was sized to pass the 25-year, 24-hour storm to meet NRCS 656 requirements. NRCS 656 references both NRCS 378 and 410, the more conservative of the two standards were used for design. Therefore, the principal spillway was designed to pass the 10-year, 24-hour storm producing a rainfall depth of 4.46". The principal spillway storm will produce a wetland discharge of 93 cfs through the principal spillway and a peak water surface elevation of 1109.61'. The auxiliary spillway elevation is proposed at 1111.00'. The auxiliary spillway was designed to pass the 25-year, 24-hour storm producing a rainfall depth of 5.44". The auxiliary spillway storm will produce a wetland discharge of 144 cfs through the principal spillway and a peak water surface elevation of 1110.06'. The top of dam elevation is proposed at 1113.00'.

A cantilever outlet section was selected over a flared end section to extend the outlet beyond the embankment face and discharge above the normal water level of the downstream pond, allowing the pond to provide energy dissipation and reduce erosion potential. The cantilever outlet section outlets to a stabilized outlet location, providing adequate outlet protection while reducing construction complexity and long-term maintenance requirements.

FREEBOARD DESIGN

Per NRCS 378, the structure shall pass the 100-year, 24-hour storm without overtopping the dam. This equates to a storm producing a rainfall depth of 7.12". The 100-year, 24-hour storm will produce a discharge of 270 cfs through the principal spillway and a peak water surface elevation of 1111.14. The top of dam elevation is set at 1113.00.

WATER QUALITY IMPROVEMENT

The wetland drawdown was designed to meet NRCS 656 requirements which states that the wetland will drawdown and return to design operating levels within 48 hours after a 10-year, 24-hour storm. The 10-year, 24-hour storm produced a 28-hour drawdown time.

NRCS 656 also states that to promote emergent vegetation, 50% or more of the pool area shall have depths from 0-24 inches. The wetland design has a depth distribution as follows which meets this requirement.

Depth Range	Area (ac)	Area (percentage)
0-24"	1.59	63.4%
24-36"	0.74	29.6%
Deeper than 36"	0.16	7.0%

SLOPE DESIGN
Side slopes were designed to meet NRCS 656 requirements which reference NRCS 378. Slopes designed with a ratio if three horizontal to one vertical (3:1) or flatter.

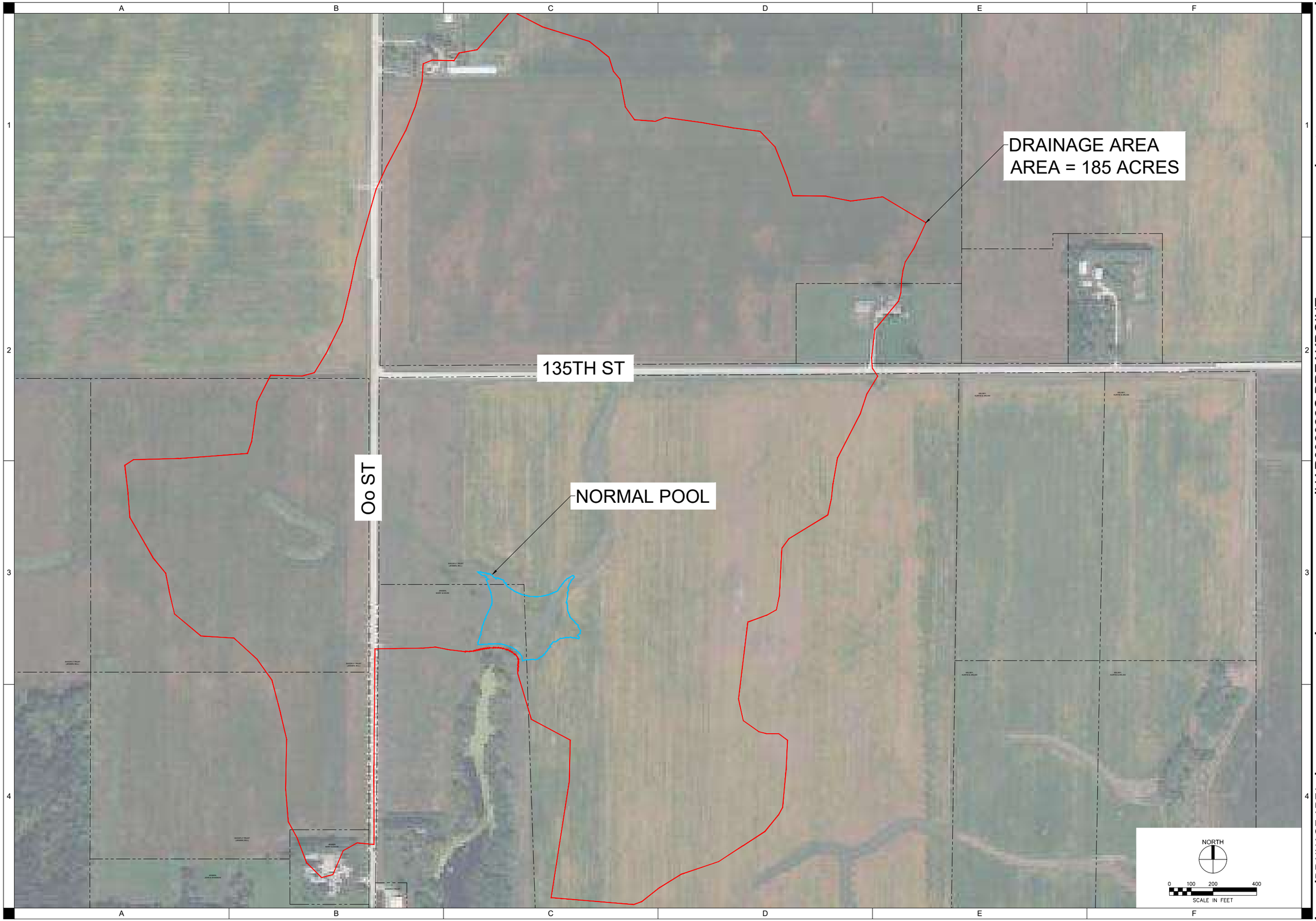
EMBANKMENT DESIGN
Per NRCS 378, top width required for dams with total heights less than 15 feet require a minimum of 10 feet top width. A 16-foot top width was requested by the landowner for this project and will also serve to help balance earthwork. Minimum settlement of 5% of the total height of the dam was accounted for on the final construction elevation of the dam. The construction plans show the 10' high embankment being overbuilt by 5% to account for future settlement. (0.05 x 10' = 0.5 Feet overbuild).

IMPOUNDMENT LIFE
The Impoundment life was calculated using estimated sediment delivery and NRCS standard sheet and rill erosion rate estimates. The erosion rates are based on the Average Annual Soil Erosion by Water on Cropland and CRP Land, 1982, published by USDA and revised in December 2000. This indicated that the erosion rates for the area ranged from 3 to 5 tons per acre per year. Furthermore, sediment delivery was based on NRCS FOTG "Erosion & Sediment Delivery", (Chart I: Estimated sediment delivery for landform regions). The chart indicated a sediment delivery percentage of approximately 8% for a 185-acre drainage area located in the Des Moines Lobe. Finally, the estimated sediment storage is based on the normal pool storage volume of 3.47 ac-ft.

Based on the assumed soil erosion rate (5 T/Ac/yr), delivery ratio (8%), a sediment unit weight of 100 PCF, and sediment capture rate of 70% of delivered sediment, approximately 51.8 tons of sediment per year (1,036 CF) is anticipated to be retained in the wetland. With a total sediment capacity of 3.47 ac-ft, this equates to an expected impoundment life of 145 years.

GEOTECHNICAL INVESTIGATION AND EVALUATION
Excavation of two test pits in the proposed borrow area was completed by the landowner with the engineer present. Test pits showed 6-12 inches of topsoil underlain with suitable organic clay material for embankment construction. Deeper, beyond approximate 4 feet, yellow clay was encounters. The yellow clay material is proposed to be used for the embankment core and core trench.

DRAINAGE AREA MAP



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HAR8920220 WETLAND

IOWA DEPARTMENT OF AGRICULTURE AND LAND STEWARDSHIP

HARDIN COUNTY, IA

DRAWN BY	GHK
APPROVED BY	DJJ
ISSUED FOR	90% REVIEW
ISSUE DATE	10/13/2023
PROJECT NUMBER	2142204310
FIELD BOOK	---

DRAINAGE AREA

EX01

P:\Projects\2142043107\Delivered\Drawings\1_Civil\EX01 DRAINAGE AREA.dwg
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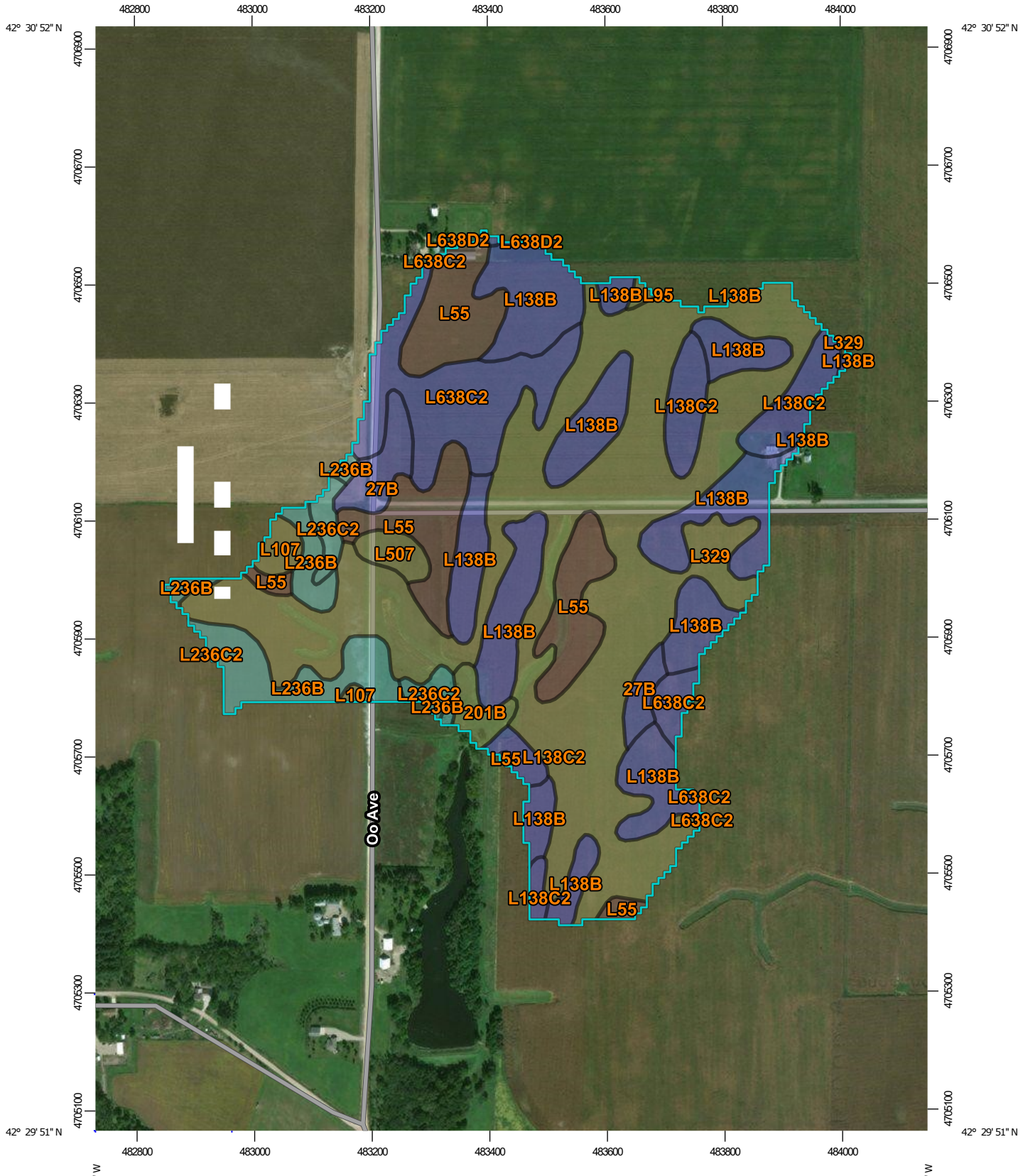
SOIL MAP/LAND CHARACTERISTICS

Hydrologic Soil Group—Hardin County, Iowa
(Jensen_HydrologicSoilGroup)



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 1:15,800.

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: Hardin County, Iowa
Survey Area Data: Version 27, Jun 10, 2020

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

Date(s) aerial images were photographed: Jul 12, 2014—Feb 21, 2017

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

PRINCIPAL SPILLWAY CALCULATIONS

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
27B	Terril loam, 2 to 6 percent slopes	B	4.7	2.7%
201B	Coland-Terril complex, 2 to 5 percent slopes	C/D	2.0	1.1%
L55	Nicollet loam, 1 to 3 percent slopes	B/D	19.5	11.3%
L95	Harps clay loam, Bemis moraine, 0 to 2 percent slopes	C/D	0.3	0.2%
L107	Webster clay loam, Bemis moraine, 0 to 2 percent slopes	C/D	1.7	1.0%
L138B	Clarion loam, Bemis moraine, 2 to 6 percent slopes	B	37.0	21.6%
L138C2	Clarion loam, Bemis moraine, 6 to 10 percent slopes, moderately eroded	B	8.8	5.1%
L236B	Lester loam, Bemis moraine, 2 to 6 percent slopes	C	9.3	5.4%
L236C2	Lester loam, Bemis moraine, 6 to 10 percent slopes, moderately eroded	C	2.6	1.5%
L329	Webster-Nicollet complex, Bemis moraine, 0 to 3 percent slopes	C/D	69.4	40.4%
L507	Canisteo clay loam, Bemis moraine, 0 to 2 percent slopes	C/D	1.8	1.1%
L638C2	Clarion-Storden complex, Bemis moraine, 6 to 10 percent slopes, moderately eroded	B	14.4	8.4%
L638D2	Omsrud-Storden complex, Bemis moraine, 10 to 16 percent slopes, moderately eroded	B	0.1	0.1%
Totals for Area of Interest			**171.7**	**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

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IDALS - HAR892022C

Subsection: Master Network Summary

Catchments Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ac-ft)	Time to Peak (min)	Peak Flow (ft^3/s)
East Tile DA	Post-Development 10 year	10	7.229	762.000	46.09
East Tile DA	Post-Development 25 year	25	11.227	762.000	76.20
East Tile DA	Post-Development 100 year	100	19.096	762.000	135.43
135th DA - East	Post-Development 10 year	10	4.274	762.000	28.34
135th DA - East	Post-Development 25 year	25	6.638	762.000	46.60
135th DA - East	Post-Development 100 year	100	11.290	756.000	82.46
135th DA - West	Post-Development 10 year	10	1.763	759.000	12.91
135th DA - West	Post-Development 25 year	25	2.686	756.000	20.68
135th DA - West	Post-Development 100 year	100	4.478	753.000	35.88
OO Ave DA	Post-Development 10 year	10	2.253	750.000	19.22
OO Ave DA	Post-Development 25 year	25	3.431	747.000	30.88
OO Ave DA	Post-Development 100 year	100	5.721	747.000	53.48
West Tile DA	Post-Development 10 year	10	1.207	744.000	11.75
West Tile DA	Post-Development 25 year	25	1.838	744.000	18.76
West Tile DA	Post-Development 100 year	100	3.064	741.000	32.45

Node Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ac-ft)	Time to Peak (min)	Peak Flow (ft^3/s)
Wetland Outfall	Post-Development 10 year	10	15.173	816.000	47.51
Wetland Outfall	Post-Development 25 year	25	23.533	816.000	79.48
Wetland Outfall	Post-Development 100 year	100	40.546	804.000	143.83

Pond Summary

IDALS - HAR892022C

Subsection: Master Network Summary

Pond Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ac-ft)	Time to Peak (min)	Peak Flow (ft^3/s)	Maximum Water Surface Elevation (ft)	Maximum Pond Storage (ac-ft)
Proposed Wetland (IN)	Post-Development 10 year	10	16.671	768.000	93.21	(N/A)	(N/A)
Proposed Wetland (OUT)	Post-Development 10 year	10	15.173	816.000	47.51	1,109.61	9.057
Proposed Wetland (IN)	Post-Development 25 year	25	25.548	762.000	143.68	(N/A)	(N/A)
Proposed Wetland (OUT)	Post-Development 25 year	25	23.533	816.000	79.48	1,110.06	11.174
Proposed Wetland (IN)	Post-Development 100 year	100	43.003	765.000	269.77	(N/A)	(N/A)
Proposed Wetland (OUT)	Post-Development 100 year	100	40.546	804.000	143.83	1,111.14	17.491
135th Basin - East (IN)	Post-Development 10 year	10	4.319	762.000	30.03	(N/A)	(N/A)
135th Basin - East (OUT)	Post-Development 10 year	10	4.278	780.000	22.45	1,121.26	0.685
135th Basin - East (IN)	Post-Development 25 year	25	6.941	762.000	53.32	(N/A)	(N/A)
135th Basin - East (OUT)	Post-Development 25 year	25	6.886	789.000	30.73	1,122.68	1.486
135th Basin - East (IN)	Post-Development 100 year	100	12.394	756.000	102.18	(N/A)	(N/A)
135th Basin - East (OUT)	Post-Development 100 year	100	12.322	771.000	85.98	1,123.28	2.576
135th Basin - West (IN)	Post-Development 10 year	10	1.763	759.000	12.91	(N/A)	(N/A)
135th Basin - West (OUT)	Post-Development 10 year	10	1.758	762.000	12.61	1,120.79	0.122
135th Basin - West (IN)	Post-Development 25 year	25	2.686	756.000	20.68	(N/A)	(N/A)

IDALS - HAR892022C

Subsection: Master Network Summary

Pond Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ac-ft)	Time to Peak (min)	Peak Flow (ft^3/s)	Maximum Water Surface Elevation (ft)	Maximum Pond Storage (ac-ft)
135th Basin - West (OUT)	Post-Development 25 year	25	2.679	759.000	20.35	1,121.17	0.164
135th Basin - West (IN)	Post-Development 100 year	100	4.478	753.000	35.88	(N/A)	(N/A)
135th Basin - West (OUT)	Post-Development 100 year	100	4.468	756.000	35.46	1,121.64	0.225
OO Ave Basin (IN)	Post-Development 10 year	10	2.253	750.000	19.22	(N/A)	(N/A)
OO Ave Basin (OUT)	Post-Development 10 year	10	2.252	765.000	14.45	1,119.00	0.203
OO Ave Basin (IN)	Post-Development 25 year	25	3.431	747.000	30.88	(N/A)	(N/A)
OO Ave Basin (OUT)	Post-Development 25 year	25	3.431	762.000	24.25	1,119.48	0.444
OO Ave Basin (IN)	Post-Development 100 year	100	5.721	747.000	53.48	(N/A)	(N/A)
OO Ave Basin (OUT)	Post-Development 100 year	100	5.720	750.000	52.22	1,119.63	0.559
West Tile Basin (IN)	Post-Development 10 year	10	1.207	744.000	11.75	(N/A)	(N/A)
West Tile Basin (OUT)	Post-Development 10 year	10	1.199	828.000	1.62	1,119.00	0.518
West Tile Basin (IN)	Post-Development 25 year	25	1.838	744.000	18.76	(N/A)	(N/A)
West Tile Basin (OUT)	Post-Development 25 year	25	1.628	852.000	1.65	1,119.36	1.008
West Tile Basin (IN)	Post-Development 100 year	100	3.064	741.000	32.45	(N/A)	(N/A)
West Tile Basin (OUT)	Post-Development 100 year	100	2.499	792.000	7.40	1,119.64	1.494

IDALS - HAR892022C

Subsection: Time-Depth Curve
Label: MSE3
Scenario: Post-Development 10 year

Return Event: 10 years
Storm Event: 10 year

Time-Depth Curve: 10 year	
Label	10 year
Start Time	0.000 min
Increment	6.000 min
End Time	1,440.000 min
Return Event	10 years

CUMULATIVE RAINFALL (in)
Output Time Increment = 6.000 min
Time on left represents time for first value in each row.

Time (min)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
0.000	0.000000	0.001191	0.002475	0.003840	0.005307
30.000	0.006824	0.008474	0.010213	0.011997	0.013915
60.000	0.015878	0.017974	0.020115	0.022345	0.024708
90.000	0.027117	0.029659	0.032246	0.034922	0.037687
120.000	0.040586	0.043530	0.046562	0.049684	0.052896
150.000	0.056196	0.059586	0.063064	0.066632	0.070290
180.000	0.074036	0.077872	0.081796	0.085810	0.089914
210.000	0.094061	0.098343	0.102714	0.107174	0.111678
240.000	0.116317	0.121044	0.125817	0.130723	0.135673
270.000	0.140758	0.145887	0.151149	0.156457	0.161898
300.000	0.167384	0.172959	0.178668	0.184421	0.190264
330.000	0.196195	0.202261	0.208371	0.214571	0.220859
360.000	0.227237	0.233704	0.240260	0.246906	0.253640
390.000	0.260464	0.267377	0.274379	0.281471	0.288651
420.000	0.295921	0.303235	0.310684	0.318221	0.325848
450.000	0.333519	0.341324	0.349218	0.357157	0.365229
480.000	0.373347	0.381598	0.389893	0.398323	0.406797
510.000	0.415404	0.424057	0.432798	0.441674	0.450594
540.000	0.459603	0.474009	0.488638	0.503489	0.518520
570.000	0.533728	0.549204	0.564814	0.580692	0.596748
600.000	0.612982	0.629440	0.646120	0.663024	0.680061
630.000	0.697366	0.723055	0.752090	0.784559	0.820372
660.000	0.859531	0.902080	0.948018	0.997345	1.050018
690.000	1.106080	1.187698	1.296165	1.447047	1.661127
720.000	2.064489	2.798873	3.012953	3.163835	3.272302
750.000	3.353920	3.409982	3.462655	3.511982	3.557920
780.000	3.600469	3.639628	3.675441	3.707910	3.736945
810.000	3.762634	3.779939	3.796976	3.813880	3.830560
840.000	3.847018	3.863252	3.879308	3.895186	3.910796
870.000	3.926272	3.941480	3.956511	3.971362	3.985991
900.000	4.000397	4.009406	4.018326	4.027202	4.035943
930.000	4.044596	4.053203	4.061677	4.070107	4.078402
960.000	4.086653	4.094771	4.102843	4.110782	4.118676
990.000	4.126481	4.134152	4.141779	4.149316	4.156765

IDALS - HAR892022C

Subsection: Time-Depth Curve
Label: MSE3
Scenario: Post-Development 10 year

Return Event: 10 years
Storm Event: 10 year

CUMULATIVE RAINFALL (in)
Output Time Increment = 6.000 min
Time on left represents time for first value in each row.

Time (min)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
1,020.000	4.164079	4.171349	4.178529	4.185621	4.192623
1,050.000	4.199536	4.206360	4.213094	4.219740	4.226296
1,080.000	4.232763	4.239141	4.245429	4.251629	4.257739
1,110.000	4.263805	4.269736	4.275579	4.281332	4.287041
1,140.000	4.292616	4.298102	4.303543	4.308851	4.314113
1,170.000	4.319242	4.324327	4.329277	4.334183	4.338956
1,200.000	4.343683	4.348322	4.352826	4.357286	4.361657
1,230.000	4.365939	4.370086	4.374190	4.378204	4.382128
1,260.000	4.385964	4.389710	4.393368	4.396936	4.400414
1,290.000	4.403804	4.407104	4.410316	4.413438	4.416470
1,320.000	4.419414	4.422313	4.425078	4.427754	4.430341
1,350.000	4.432883	4.435292	4.437655	4.439885	4.442026
1,380.000	4.444122	4.446085	4.448003	4.449787	4.451526
1,410.000	4.453176	4.454693	4.456160	4.457525	4.458809
1,440.000	4.460000	(N/A)	(N/A)	(N/A)	(N/A)

IDALS - HAR892022C

Subsection: Time-Depth Curve
Label: MSE3
Scenario: Post-Development 100 year

Return Event: 100 years
Storm Event: 100 year

Time-Depth Curve: 100 year	
Label	100 year
Start Time	0.000 min
Increment	6.000 min
End Time	1,440.000 min
Return Event	100 years

CUMULATIVE RAINFALL (in)
Output Time Increment = 6.000 min
Time on left represents time for first value in each row.

Time (min)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
0.000	0.000000	0.001901	0.003952	0.006130	0.008473
30.000	0.010894	0.013528	0.016305	0.019153	0.022214
60.000	0.025347	0.028694	0.032111	0.035671	0.039445
90.000	0.043290	0.047348	0.051478	0.055750	0.060164
120.000	0.064792	0.069491	0.074333	0.079317	0.084443
150.000	0.089712	0.095123	0.100677	0.106373	0.112211
180.000	0.118192	0.124315	0.130581	0.136989	0.143539
210.000	0.150161	0.156996	0.163974	0.171094	0.178285
240.000	0.185690	0.193237	0.200855	0.208687	0.216590
270.000	0.224707	0.232895	0.241297	0.249770	0.258456
300.000	0.267214	0.276114	0.285227	0.294412	0.303739
330.000	0.313209	0.322892	0.332646	0.342543	0.352582
360.000	0.362764	0.373088	0.383554	0.394163	0.404914
390.000	0.415808	0.426844	0.438022	0.449343	0.460806
420.000	0.472412	0.484089	0.495979	0.508012	0.520187
450.000	0.532434	0.544894	0.557496	0.570170	0.583057
480.000	0.596015	0.609187	0.622430	0.635887	0.649415
510.000	0.663157	0.676970	0.690925	0.705094	0.719334
540.000	0.733716	0.756714	0.780067	0.803777	0.827771
570.000	0.852050	0.876757	0.901677	0.927024	0.952656
600.000	0.978573	1.004846	1.031474	1.058459	1.085658
630.000	1.113283	1.154294	1.200646	1.252479	1.309653
660.000	1.372166	1.440091	1.513427	1.592174	1.676262
690.000	1.765760	1.896056	2.069214	2.310084	2.651844
720.000	3.295777	4.468156	4.809916	5.050786	5.223944
750.000	5.354240	5.443738	5.527826	5.606573	5.679909
780.000	5.747834	5.810347	5.867521	5.919354	5.965706
810.000	6.006717	6.034342	6.061541	6.088526	6.115154
840.000	6.141427	6.167344	6.192976	6.218323	6.243243
870.000	6.267950	6.292229	6.316223	6.339933	6.363286
900.000	6.386284	6.400666	6.414906	6.429075	6.443030
930.000	6.456843	6.470585	6.484113	6.497570	6.510813
960.000	6.523985	6.536943	6.549830	6.562504	6.575106
990.000	6.587566	6.599813	6.611988	6.624021	6.635911

IDALS - HAR892022C

Subsection: Time-Depth Curve
Label: MSE3
Scenario: Post-Development 100 year

Return Event: 100 years
Storm Event: 100 year

CUMULATIVE RAINFALL (in)
Output Time Increment = 6.000 min
Time on left represents time for first value in each row.

Time (min)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
1,020.000	6.647588	6.659194	6.670657	6.681978	6.693156
1,050.000	6.704192	6.715086	6.725837	6.736446	6.746912
1,080.000	6.757236	6.767418	6.777457	6.787354	6.797108
1,110.000	6.806791	6.816261	6.825588	6.834773	6.843886
1,140.000	6.852786	6.861544	6.870230	6.878703	6.887105
1,170.000	6.895293	6.903410	6.911313	6.919145	6.926763
1,200.000	6.934310	6.941715	6.948906	6.956026	6.963004
1,230.000	6.969839	6.976461	6.983011	6.989419	6.995685
1,260.000	7.001808	7.007789	7.013627	7.019323	7.024877
1,290.000	7.030288	7.035557	7.040683	7.045667	7.050509
1,320.000	7.055208	7.059836	7.064250	7.068522	7.072652
1,350.000	7.076710	7.080555	7.084329	7.087889	7.091306
1,380.000	7.094653	7.097786	7.100847	7.103695	7.106472
1,410.000	7.109106	7.111527	7.113870	7.116048	7.118099
1,440.000	7.120000	(N/A)	(N/A)	(N/A)	(N/A)

IDALS - HAR892022C

Subsection: Time-Depth Curve
Label: MSE3
Scenario: Post-Development 25 year

Return Event: 25 years
Storm Event: 25 year

Time-Depth Curve: 25 year	
Label	25 year
Start Time	0.000 min
Increment	6.000 min
End Time	1,440.000 min
Return Event	25 years

CUMULATIVE RAINFALL (in)
Output Time Increment = 6.000 min
Time on left represents time for first value in each row.

Time (min)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
0.000	0.000000	0.001452	0.003019	0.004684	0.006474
30.000	0.008323	0.010336	0.012458	0.014634	0.016973
60.000	0.019366	0.021923	0.024534	0.027254	0.030138
90.000	0.033075	0.036176	0.039331	0.042595	0.045968
120.000	0.049504	0.053094	0.056794	0.060602	0.064518
150.000	0.068544	0.072678	0.076922	0.081274	0.085734
180.000	0.090304	0.094982	0.099770	0.104666	0.109670
210.000	0.114730	0.119952	0.125283	0.130723	0.136218
240.000	0.141875	0.147642	0.153462	0.159446	0.165485
270.000	0.171686	0.177942	0.184362	0.190835	0.197472
300.000	0.204163	0.210963	0.217926	0.224944	0.232070
330.000	0.239306	0.246704	0.254157	0.261718	0.269389
360.000	0.277168	0.285056	0.293053	0.301158	0.309373
390.000	0.317696	0.326128	0.334669	0.343318	0.352077
420.000	0.360944	0.369866	0.378950	0.388144	0.397446
450.000	0.406803	0.416323	0.425952	0.435635	0.445482
480.000	0.455382	0.465446	0.475565	0.485846	0.496182
510.000	0.506682	0.517235	0.527898	0.538723	0.549603
540.000	0.560592	0.578163	0.596006	0.614122	0.632454
570.000	0.651005	0.669882	0.688922	0.708288	0.727872
600.000	0.747674	0.767747	0.788093	0.808710	0.829491
630.000	0.850598	0.881933	0.917347	0.956950	1.000634
660.000	1.048397	1.100294	1.156326	1.216493	1.280739
690.000	1.349120	1.448672	1.580973	1.765008	2.026128
720.000	2.518122	3.413872	3.674992	3.859027	3.991328
750.000	4.090880	4.159261	4.223507	4.283674	4.339706
780.000	4.391603	4.439366	4.483050	4.522653	4.558067
810.000	4.589402	4.610509	4.631290	4.651907	4.672253
840.000	4.692326	4.712128	4.731712	4.751078	4.770118
870.000	4.788995	4.807546	4.825878	4.843994	4.861837
900.000	4.879408	4.890397	4.901277	4.912102	4.922765
930.000	4.933318	4.943818	4.954154	4.964435	4.974554
960.000	4.984618	4.994518	5.004365	5.014048	5.023677
990.000	5.033197	5.042554	5.051856	5.061050	5.070134

IDALS - HAR892022C

Subsection: Time-Depth Curve
Label: MSE3
Scenario: Post-Development 25 year

Return Event: 25 years
Storm Event: 25 year

CUMULATIVE RAINFALL (in)
Output Time Increment = 6.000 min
Time on left represents time for first value in each row.

Time (min)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
1,020.000	5.079056	5.087923	5.096682	5.105331	5.113872
1,050.000	5.122304	5.130627	5.138842	5.146947	5.154944
1,080.000	5.162832	5.170611	5.178282	5.185843	5.193296
1,110.000	5.200694	5.207930	5.215056	5.222074	5.229037
1,140.000	5.235837	5.242528	5.249165	5.255638	5.262058
1,170.000	5.268314	5.274515	5.280554	5.286538	5.292358
1,200.000	5.298125	5.303782	5.309277	5.314717	5.320048
1,230.000	5.325270	5.330330	5.335334	5.340230	5.345018
1,260.000	5.349696	5.354266	5.358726	5.363078	5.367322
1,290.000	5.371456	5.375482	5.379398	5.383206	5.386906
1,320.000	5.390496	5.394032	5.397405	5.400669	5.403824
1,350.000	5.406925	5.409862	5.412746	5.415466	5.418077
1,380.000	5.420634	5.423027	5.425366	5.427542	5.429664
1,410.000	5.431677	5.433526	5.435316	5.436981	5.438548
1,440.000	5.440000	(N/A)	(N/A)	(N/A)	(N/A)

IDALS - HAR892022C

Subsection: Time of Concentration Calculations
Label: 135th DA - East
Scenario: Post-Development 10 year

Return Event: 10 years
Storm Event: 10 year

Time of Concentration Results

Segment #1: SCS Lag	
Hydraulic Length	1,995.00 ft
CN	61.000
Slope	0.031 ft/ft
Average Velocity	0.63 ft/s
Segment Time of Concentration	52.920 min

Time of Concentration (Composite)	
Time of Concentration (Composite)	52.920 min

==== SCS Lag

Tc =	0.000877 * (Lf**0.8) * ((1000/CN)-9)**0.7) * (Sf**-0.5)
Where:	Tc= Time of concentration, hours Lf= Flow length, feet CN= SCS Curve Number Sf= Slope, ft/ft

IDALS - HAR892022C

Subsection: Time of Concentration Calculations
Label: 135th DA - East
Scenario: Post-Development 25 year

Return Event: 25 years
Storm Event: 25 year

Time of Concentration Results

Segment #1: SCS Lag	
Hydraulic Length	1,995.00 ft
CN	61.000
Slope	0.031 ft/ft
Average Velocity	0.63 ft/s
Segment Time of Concentration	52.920 min

Time of Concentration (Composite)	
Time of Concentration (Composite)	52.920 min

==== SCS Lag

Tc =	0.000877 * (Lf**0.8) * ((1000/CN)-9)**0.7) * (Sf**-0.5)
Where:	Tc= Time of concentration, hours Lf= Flow length, feet CN= SCS Curve Number Sf= Slope, ft/ft

IDALS - HAR892022C

Subsection: Time of Concentration Calculations
Label: 135th DA - East
Scenario: Post-Development 100 year

Return Event: 100 years
Storm Event: 100 year

Time of Concentration Results

Segment #1: SCS Lag	
Hydraulic Length	1,995.00 ft
CN	61.000
Slope	0.031 ft/ft
Average Velocity	0.63 ft/s
Segment Time of Concentration	52.920 min

Time of Concentration (Composite)	
Time of Concentration (Composite)	52.920 min

==== SCS Lag

Tc =	0.000877 * (Lf**0.8) * ((1000/CN)-9)**0.7) * (Sf**-0.5)
Where:	Tc= Time of concentration, hours Lf= Flow length, feet CN= SCS Curve Number Sf= Slope, ft/ft

IDALS - HAR892022C

Subsection: Time of Concentration Calculations
Label: 135th DA - West
Scenario: Post-Development 10 year

Return Event: 10 years
Storm Event: 10 year

Time of Concentration Results

Segment #1: SCS Lag	
Hydraulic Length	1,940.00 ft
CN	61.000
Slope	0.038 ft/ft
Average Velocity	0.69 ft/s
Segment Time of Concentration	46.988 min

Time of Concentration (Composite)	
Time of Concentration (Composite)	46.988 min

==== SCS Lag

Tc =	0.000877 * (Lf**0.8) * ((1000/CN)-9)**0.7) * (Sf**-0.5)
Where:	Tc= Time of concentration, hours Lf= Flow length, feet CN= SCS Curve Number Sf= Slope, ft/ft

IDALS - HAR892022C

Subsection: Time of Concentration Calculations
Label: 135th DA - West
Scenario: Post-Development 25 year

Return Event: 25 years
Storm Event: 25 year

Time of Concentration Results

Segment #1: SCS Lag	
Hydraulic Length	1,940.00 ft
CN	61.000
Slope	0.038 ft/ft
Average Velocity	0.69 ft/s
Segment Time of Concentration	46.988 min

Time of Concentration (Composite)	
Time of Concentration (Composite)	46.988 min

==== SCS Lag

Tc =	0.000877 * (Lf**0.8) * ((1000/CN)-9)**0.7) * (Sf**-0.5)
Where:	Tc= Time of concentration, hours Lf= Flow length, feet CN= SCS Curve Number Sf= Slope, ft/ft

IDALS - HAR892022C

Subsection: Time of Concentration Calculations
Label: 135th DA - West
Scenario: Post-Development 100 year

Return Event: 100 years
Storm Event: 100 year

Time of Concentration Results

Segment #1: SCS Lag	
Hydraulic Length	1,940.00 ft
CN	61.000
Slope	0.038 ft/ft
Average Velocity	0.69 ft/s
Segment Time of Concentration	46.988 min

Time of Concentration (Composite)	
Time of Concentration (Composite)	46.988 min

==== SCS Lag

Tc =	0.000877 * (Lf**0.8) * ((1000/CN)-9)**0.7) * (Sf**-0.5)
Where:	Tc= Time of concentration, hours Lf= Flow length, feet CN= SCS Curve Number Sf= Slope, ft/ft

IDALS - HAR892022C

Subsection: Time of Concentration Calculations
Label: East Tile DA
Scenario: Post-Development 10 year

Return Event: 10 years
Storm Event: 10 year

Time of Concentration Results

Segment #1: SCS Lag	
Hydraulic Length	2,165.00 ft
CN	61.000
Slope	0.032 ft/ft
Average Velocity	0.65 ft/s
Segment Time of Concentration	55.435 min

Time of Concentration (Composite)	
Time of Concentration (Composite)	55.435 min

==== SCS Lag

Tc =	0.000877 * (Lf**0.8) * ((1000/CN)-9)**0.7) * (Sf**-0.5)
Where:	Tc= Time of concentration, hours Lf= Flow length, feet CN= SCS Curve Number Sf= Slope, ft/ft

IDALS - HAR892022C

Subsection: Time of Concentration Calculations
Label: East Tile DA
Scenario: Post-Development 25 year

Return Event: 25 years
Storm Event: 25 year

Time of Concentration Results

Segment #1: SCS Lag	
Hydraulic Length	2,165.00 ft
CN	61.000
Slope	0.032 ft/ft
Average Velocity	0.65 ft/s
Segment Time of Concentration	55.435 min

Time of Concentration (Composite)	
Time of Concentration (Composite)	55.435 min

==== SCS Lag

Tc =	0.000877 * (Lf**0.8) * ((1000/CN)-9)**0.7) * (Sf**-0.5)
Where:	Tc= Time of concentration, hours Lf= Flow length, feet CN= SCS Curve Number Sf= Slope, ft/ft

IDALS - HAR892022C

Subsection: Time of Concentration Calculations
Label: East Tile DA
Scenario: Post-Development 100 year

Return Event: 100 years
Storm Event: 100 year

Time of Concentration Results

Segment #1: SCS Lag	
Hydraulic Length	2,165.00 ft
CN	61.000
Slope	0.032 ft/ft
Average Velocity	0.65 ft/s
Segment Time of Concentration	55.435 min

Time of Concentration (Composite)	
Time of Concentration (Composite)	55.435 min

==== SCS Lag

Tc =	0.000877 * (Lf**0.8) * ((1000/CN)-9)**0.7) * (Sf**-0.5)
Where:	Tc= Time of concentration, hours Lf= Flow length, feet CN= SCS Curve Number Sf= Slope, ft/ft

IDALS - HAR892022C

Subsection: Time of Concentration Calculations
Label: OO Ave DA
Scenario: Post-Development 10 year

Return Event: 10 years
Storm Event: 10 year

Time of Concentration Results

Segment #1: SCS Lag	
Hydraulic Length	1,402.00 ft
CN	61.000
Slope	0.036 ft/ft
Average Velocity	0.63 ft/s
Segment Time of Concentration	36.880 min

Time of Concentration (Composite)	
Time of Concentration (Composite)	36.880 min

==== SCS Lag

Tc =	0.000877 * (Lf**0.8) * ((1000/CN)-9)**0.7) * (Sf**-0.5)
Where:	Tc= Time of concentration, hours Lf= Flow length, feet CN= SCS Curve Number Sf= Slope, ft/ft

IDALS - HAR892022C

Subsection: Time of Concentration Calculations
Label: OO Ave DA
Scenario: Post-Development 25 year

Return Event: 25 years
Storm Event: 25 year

Time of Concentration Results

Segment #1: SCS Lag	
Hydraulic Length	1,402.00 ft
CN	61.000
Slope	0.036 ft/ft
Average Velocity	0.63 ft/s
Segment Time of Concentration	36.880 min

Time of Concentration (Composite)	
Time of Concentration (Composite)	36.880 min

==== SCS Lag

Tc =	0.000877 * (Lf**0.8) * ((1000/CN)-9)**0.7) * (Sf**-0.5)
Where:	Tc= Time of concentration, hours Lf= Flow length, feet CN= SCS Curve Number Sf= Slope, ft/ft

IDALS - HAR892022C

Subsection: Time of Concentration Calculations
Label: OO Ave DA
Scenario: Post-Development 100 year

Return Event: 100 years
Storm Event: 100 year

Time of Concentration Results

Segment #1: SCS Lag	
Hydraulic Length	1,402.00 ft
CN	61.000
Slope	0.036 ft/ft
Average Velocity	0.63 ft/s
Segment Time of Concentration	36.880 min

Time of Concentration (Composite)	
Time of Concentration (Composite)	36.880 min

==== SCS Lag

Tc =	0.000877 * (Lf**0.8) * ((1000/CN)-9)**0.7) * (Sf**-0.5)
Where:	Tc= Time of concentration, hours Lf= Flow length, feet CN= SCS Curve Number Sf= Slope, ft/ft

IDALS - HAR892022C

Subsection: Time of Concentration Calculations
Label: West Tile DA
Scenario: Post-Development 10 year

Return Event: 10 years
Storm Event: 10 year

Time of Concentration Results

Segment #1: SCS Lag	
Hydraulic Length	1,103.00 ft
CN	61.000
Slope	0.038 ft/ft
Average Velocity	0.62 ft/s
Segment Time of Concentration	29.713 min

Time of Concentration (Composite)	
Time of Concentration (Composite)	29.713 min

IDALS - HAR892022C

Subsection: Time of Concentration Calculations
Label: West Tile DA
Scenario: Post-Development 10 year

Return Event: 10 years
Storm Event: 10 year

==== SCS Lag

Tc =	0.000877 * (Lf**0.8) * ((1000/CN)-9)**0.7) * (Sf**-0.5)
Where:	Tc= Time of concentration, hours Lf= Flow length, feet CN= SCS Curve Number Sf= Slope, ft/ft

IDALS - HAR892022C

Subsection: Time of Concentration Calculations
Label: West Tile DA
Scenario: Post-Development 25 year

Return Event: 25 years
Storm Event: 25 year

Time of Concentration Results

Segment #1: SCS Lag	
Hydraulic Length	1,103.00 ft
CN	61.000
Slope	0.038 ft/ft
Average Velocity	0.62 ft/s
Segment Time of Concentration	29.713 min

Time of Concentration (Composite)	
Time of Concentration (Composite)	29.713 min

==== SCS Lag

Tc =	0.000877 * (Lf**0.8) * ((1000/CN)-9)**0.7) * (Sf**-0.5)
Where:	Tc= Time of concentration, hours Lf= Flow length, feet CN= SCS Curve Number Sf= Slope, ft/ft

IDALS - HAR892022C

Subsection: Time of Concentration Calculations
Label: West Tile DA
Scenario: Post-Development 100 year

Return Event: 100 years
Storm Event: 100 year

Time of Concentration Results

Segment #1: SCS Lag	
Hydraulic Length	1,103.00 ft
CN	61.000
Slope	0.038 ft/ft
Average Velocity	0.62 ft/s
Segment Time of Concentration	29.713 min

Time of Concentration (Composite)	
Time of Concentration (Composite)	29.713 min

IDALS - HAR892022C

Subsection: Time of Concentration Calculations
Label: West Tile DA
Scenario: Post-Development 100 year

Return Event: 100 years
Storm Event: 100 year

==== SCS Lag

Tc =	0.000877 * (Lf**0.8) * ((1000/CN)-9)**0.7) * (Sf**-0.5)
Where:	Tc= Time of concentration, hours Lf= Flow length, feet CN= SCS Curve Number Sf= Slope, ft/ft

IDALS - HAR892022C

Subsection: Unit Hydrograph Summary
Label: 135th DA - East
Scenario: Post-Development 10 year

Return Event: 10 years
Storm Event: 10 year

Storm Event	10 year
Return Event	10 years
Duration	1,440.000 min
Depth	4.460000 in
Time of Concentration (Composite)	52.920 min
Area (User Defined)	48.800 acres

Computational Time Increment	7.056 min
Time to Peak (Computed)	762.043 min
Flow (Peak, Computed)	28.35 ft³/s
Output Increment	3.000 min
Time to Flow (Peak Interpolated Output)	762.000 min
Flow (Peak Interpolated Output)	28.34 ft³/s

Drainage Area	
SCS CN (Composite)	61.000
Area (User Defined)	48.800 acres
Maximum Retention (Pervious)	6.393443 in
Maximum Retention (Pervious, 20 percent)	1.278689 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	1.057024 in
Runoff Volume (Pervious)	4.299 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	4.274 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	52.920 min
Computational Time Increment	7.056 min
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

IDALS - HAR892022C

Subsection: Unit Hydrograph Summary
Label: 135th DA - East
Scenario: Post-Development 10 year

Return Event: 10 years
Storm Event: 10 year

SCS Unit Hydrograph Parameters	
Unit peak, qp	62.69 ft³/s
Unit peak time, Tp	35.280 min
Unit receding limb, Tr	141.119 min
Total unit time, Tb	176.399 min

IDALS - HAR892022C

Subsection: Unit Hydrograph Summary
Label: 135th DA - East
Scenario: Post-Development 25 year

Return Event: 25 years
Storm Event: 25 year

Storm Event	25 year
Return Event	25 years
Duration	1,440.000 min
Depth	5.440000 in
Time of Concentration (Composite)	52.920 min
Area (User Defined)	48.800 acres

Computational Time Increment	7.056 min
Time to Peak (Computed)	762.043 min
Flow (Peak, Computed)	46.61 ft³/s
Output Increment	3.000 min
Time to Flow (Peak Interpolated Output)	762.000 min
Flow (Peak Interpolated Output)	46.60 ft³/s

Drainage Area	
SCS CN (Composite)	61.000
Area (User Defined)	48.800 acres
Maximum Retention (Pervious)	6.393443 in
Maximum Retention (Pervious, 20 percent)	1.278689 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	1.640636 in
Runoff Volume (Pervious)	6.672 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	6.638 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	52.920 min
Computational Time Increment	7.056 min
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

IDALS - HAR892022C

Subsection: Unit Hydrograph Summary
Label: 135th DA - East
Scenario: Post-Development 25 year

Return Event: 25 years
Storm Event: 25 year

SCS Unit Hydrograph Parameters	
Unit peak, qp	62.69 ft³/s
Unit peak time, Tp	35.280 min
Unit receding limb, Tr	141.119 min
Total unit time, Tb	176.399 min

IDALS - HAR892022C

Subsection: Unit Hydrograph Summary
Label: 135th DA - East
Scenario: Post-Development 100 year

Return Event: 100 years
Storm Event: 100 year

Storm Event	100 year
Return Event	100 years
Duration	1,440.000 min
Depth	7.120000 in
Time of Concentration (Composite)	52.920 min
Area (User Defined)	48.800 acres

Computational Time Increment	7.056 min
Time to Peak (Computed)	754.987 min
Flow (Peak, Computed)	82.47 ft³/s
Output Increment	3.000 min
Time to Flow (Peak Interpolated Output)	756.000 min
Flow (Peak Interpolated Output)	82.46 ft³/s

Drainage Area	
SCS CN (Composite)	61.000
Area (User Defined)	48.800 acres
Maximum Retention (Pervious)	6.393443 in
Maximum Retention (Pervious, 20 percent)	1.278689 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	2.788852 in
Runoff Volume (Pervious)	11.341 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	11.290 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	52.920 min
Computational Time Increment	7.056 min
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

IDALS - HAR892022C

Subsection: Unit Hydrograph Summary
Label: 135th DA - East
Scenario: Post-Development 100 year

Return Event: 100 years
Storm Event: 100 year

SCS Unit Hydrograph Parameters	
Unit peak, qp	62.69 ft³/s
Unit peak time, Tp	35.280 min
Unit receding limb, Tr	141.119 min
Total unit time, Tb	176.399 min

IDALS - HAR892022C

Subsection: Unit Hydrograph Summary
Label: 135th DA - West
Scenario: Post-Development 10 year

Return Event: 10 years
Storm Event: 10 year

Storm Event	10 year
Return Event	10 years
Duration	1,440.000 min
Depth	4.460000 in
Time of Concentration (Composite)	46.988 min
Area (User Defined)	18.040 acres

Computational Time Increment	6.265 min
Time to Peak (Computed)	758.080 min
Flow (Peak, Computed)	13.02 ft³/s
Output Increment	3.000 min
Time to Flow (Peak Interpolated Output)	759.000 min
Flow (Peak Interpolated Output)	12.91 ft³/s

Drainage Area	
SCS CN (Composite)	63.000
Area (User Defined)	18.040 acres
Maximum Retention (Pervious)	5.873016 in
Maximum Retention (Pervious, 20 percent)	1.174603 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	1.178570 in
Runoff Volume (Pervious)	1.772 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	1.763 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	46.988 min
Computational Time Increment	6.265 min
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

IDALS - HAR892022C

Subsection: Unit Hydrograph Summary
Label: 135th DA - West
Scenario: Post-Development 10 year

Return Event: 10 years
Storm Event: 10 year

SCS Unit Hydrograph Parameters	
Unit peak, qp	26.10 ft³/s
Unit peak time, Tp	31.326 min
Unit receding limb, Tr	125.302 min
Total unit time, Tb	156.628 min

IDALS - HAR892022C

Subsection: Unit Hydrograph Summary
Label: 135th DA - West
Scenario: Post-Development 25 year

Return Event: 25 years
Storm Event: 25 year

Storm Event	25 year
Return Event	25 years
Duration	1,440.000 min
Depth	5.440000 in
Time of Concentration (Composite)	46.988 min
Area (User Defined)	18.040 acres

Computational Time Increment	6.265 min
Time to Peak (Computed)	758.080 min
Flow (Peak, Computed)	20.72 ft³/s
Output Increment	3.000 min
Time to Flow (Peak Interpolated Output)	756.000 min
Flow (Peak Interpolated Output)	20.68 ft³/s

Drainage Area	
SCS CN (Composite)	63.000
Area (User Defined)	18.040 acres
Maximum Retention (Pervious)	5.873016 in
Maximum Retention (Pervious, 20 percent)	1.174603 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	1.794523 in
Runoff Volume (Pervious)	2.698 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	2.686 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	46.988 min
Computational Time Increment	6.265 min
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

IDALS - HAR892022C

Subsection: Unit Hydrograph Summary
Label: 135th DA - West
Scenario: Post-Development 25 year

Return Event: 25 years
Storm Event: 25 year

SCS Unit Hydrograph Parameters	
Unit peak, qp	26.10 ft³/s
Unit peak time, Tp	31.326 min
Unit receding limb, Tr	125.302 min
Total unit time, Tb	156.628 min

IDALS - HAR892022C

Subsection: Unit Hydrograph Summary
Label: 135th DA - West
Scenario: Post-Development 100 year

Return Event: 100 years
Storm Event: 100 year

Storm Event	100 year
Return Event	100 years
Duration	1,440.000 min
Depth	7.120000 in
Time of Concentration (Composite)	46.988 min
Area (User Defined)	18.040 acres

Computational Time Increment	6.265 min
Time to Peak (Computed)	751.815 min
Flow (Peak, Computed)	35.97 ft³/s
Output Increment	3.000 min
Time to Flow (Peak Interpolated Output)	753.000 min
Flow (Peak Interpolated Output)	35.88 ft³/s

Drainage Area	
SCS CN (Composite)	63.000
Area (User Defined)	18.040 acres
Maximum Retention (Pervious)	5.873016 in
Maximum Retention (Pervious, 20 percent)	1.174603 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	2.990904 in
Runoff Volume (Pervious)	4.496 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	4.478 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	46.988 min
Computational Time Increment	6.265 min
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

IDALS - HAR892022C

Subsection: Unit Hydrograph Summary
Label: 135th DA - West
Scenario: Post-Development 100 year

Return Event: 100 years
Storm Event: 100 year

SCS Unit Hydrograph Parameters	
Unit peak, qp	26.10 ft³/s
Unit peak time, Tp	31.326 min
Unit receding limb, Tr	125.302 min
Total unit time, Tb	156.628 min

IDALS - HAR892022C

Subsection: Unit Hydrograph Summary
Label: East Tile DA
Scenario: Post-Development 10 year

Return Event: 10 years
Storm Event: 10 year

Storm Event	10 year
Return Event	10 years
Duration	1,440.000 min
Depth	4.460000 in
Time of Concentration (Composite)	55.435 min
Area (User Defined)	82.570 acres

Computational Time Increment	7.391 min
Time to Peak (Computed)	761.304 min
Flow (Peak, Computed)	46.16 ft³/s
Output Increment	3.000 min
Time to Flow (Peak Interpolated Output)	762.000 min
Flow (Peak Interpolated Output)	46.09 ft³/s

Drainage Area	
SCS CN (Composite)	61.000
Area (User Defined)	82.570 acres
Maximum Retention (Pervious)	6.393443 in
Maximum Retention (Pervious, 20 percent)	1.278689 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	1.057024 in
Runoff Volume (Pervious)	7.273 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	7.229 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	55.435 min
Computational Time Increment	7.391 min
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

IDALS - HAR892022C

Subsection: Unit Hydrograph Summary
Label: East Tile DA
Scenario: Post-Development 10 year

Return Event: 10 years
Storm Event: 10 year

SCS Unit Hydrograph Parameters	
Unit peak, qp	101.26 ft³/s
Unit peak time, Tp	36.956 min
Unit receding limb, Tr	147.826 min
Total unit time, Tb	184.782 min

IDALS - HAR892022C

Subsection: Unit Hydrograph Summary
Label: East Tile DA
Scenario: Post-Development 25 year

Return Event: 25 years
Storm Event: 25 year

Storm Event	25 year
Return Event	25 years
Duration	1,440.000 min
Depth	5.440000 in
Time of Concentration (Composite)	55.435 min
Area (User Defined)	82.570 acres

Computational Time Increment	7.391 min
Time to Peak (Computed)	761.304 min
Flow (Peak, Computed)	76.46 ft³/s
Output Increment	3.000 min
Time to Flow (Peak Interpolated Output)	762.000 min
Flow (Peak Interpolated Output)	76.20 ft³/s

Drainage Area	
SCS CN (Composite)	61.000
Area (User Defined)	82.570 acres
Maximum Retention (Pervious)	6.393443 in
Maximum Retention (Pervious, 20 percent)	1.278689 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	1.640636 in
Runoff Volume (Pervious)	11.289 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	11.227 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	55.435 min
Computational Time Increment	7.391 min
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

IDALS - HAR892022C

Subsection: Unit Hydrograph Summary
Label: East Tile DA
Scenario: Post-Development 25 year

Return Event: 25 years
Storm Event: 25 year

SCS Unit Hydrograph Parameters	
Unit peak, qp	101.26 ft³/s
Unit peak time, Tp	36.956 min
Unit receding limb, Tr	147.826 min
Total unit time, Tb	184.782 min

IDALS - HAR892022C

Subsection: Unit Hydrograph Summary
Label: East Tile DA
Scenario: Post-Development 100 year

Return Event: 100 years
Storm Event: 100 year

Storm Event	100 year
Return Event	100 years
Duration	1,440.000 min
Depth	7.120000 in
Time of Concentration (Composite)	55.435 min
Area (User Defined)	82.570 acres

Computational Time Increment	7.391 min
Time to Peak (Computed)	761.304 min
Flow (Peak, Computed)	136.13 ft³/s
Output Increment	3.000 min
Time to Flow (Peak Interpolated Output)	762.000 min
Flow (Peak Interpolated Output)	135.43 ft³/s

Drainage Area	
SCS CN (Composite)	61.000
Area (User Defined)	82.570 acres
Maximum Retention (Pervious)	6.393443 in
Maximum Retention (Pervious, 20 percent)	1.278689 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	2.788852 in
Runoff Volume (Pervious)	19.190 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	19.096 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	55.435 min
Computational Time Increment	7.391 min
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

IDALS - HAR892022C

Subsection: Unit Hydrograph Summary
Label: East Tile DA
Scenario: Post-Development 100 year

Return Event: 100 years
Storm Event: 100 year

SCS Unit Hydrograph Parameters	
Unit peak, qp	101.26 ft³/s
Unit peak time, Tp	36.956 min
Unit receding limb, Tr	147.826 min
Total unit time, Tb	184.782 min

IDALS - HAR892022C

Subsection: Unit Hydrograph Summary
Label: OO Ave DA
Scenario: Post-Development 10 year

Return Event: 10 years
Storm Event: 10 year

Storm Event	10 year
Return Event	10 years
Duration	1,440.000 min
Depth	4.460000 in
Time of Concentration (Composite)	36.880 min
Area (User Defined)	23.020 acres

Computational Time Increment	4.917 min
Time to Peak (Computed)	747.431 min
Flow (Peak, Computed)	19.30 ft³/s
Output Increment	3.000 min
Time to Flow (Peak Interpolated Output)	750.000 min
Flow (Peak Interpolated Output)	19.22 ft³/s

Drainage Area	
SCS CN (Composite)	63.000
Area (User Defined)	23.020 acres
Maximum Retention (Pervious)	5.873016 in
Maximum Retention (Pervious, 20 percent)	1.174603 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	1.178570 in
Runoff Volume (Pervious)	2.261 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	2.253 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	36.880 min
Computational Time Increment	4.917 min
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

IDALS - HAR892022C

Subsection: Unit Hydrograph Summary
Label: OO Ave DA
Scenario: Post-Development 10 year

Return Event: 10 years
Storm Event: 10 year

SCS Unit Hydrograph Parameters	
Unit peak, qp	42.43 ft³/s
Unit peak time, Tp	24.587 min
Unit receding limb, Tr	98.346 min
Total unit time, Tb	122.933 min

IDALS - HAR892022C

Subsection: Unit Hydrograph Summary
Label: OO Ave DA
Scenario: Post-Development 25 year

Return Event: 25 years
Storm Event: 25 year

Storm Event	25 year
Return Event	25 years
Duration	1,440.000 min
Depth	5.440000 in
Time of Concentration (Composite)	36.880 min
Area (User Defined)	23.020 acres

Computational Time Increment	4.917 min
Time to Peak (Computed)	747.431 min
Flow (Peak, Computed)	31.05 ft³/s
Output Increment	3.000 min
Time to Flow (Peak Interpolated Output)	747.000 min
Flow (Peak Interpolated Output)	30.88 ft³/s

Drainage Area	
SCS CN (Composite)	63.000
Area (User Defined)	23.020 acres
Maximum Retention (Pervious)	5.873016 in
Maximum Retention (Pervious, 20 percent)	1.174603 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	1.794523 in
Runoff Volume (Pervious)	3.442 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	3.431 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	36.880 min
Computational Time Increment	4.917 min
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

IDALS - HAR892022C

Subsection: Unit Hydrograph Summary
Label: OO Ave DA
Scenario: Post-Development 25 year

Return Event: 25 years
Storm Event: 25 year

SCS Unit Hydrograph Parameters	
Unit peak, qp	42.43 ft³/s
Unit peak time, Tp	24.587 min
Unit receding limb, Tr	98.346 min
Total unit time, Tb	122.933 min

IDALS - HAR892022C

Subsection: Unit Hydrograph Summary
Label: OO Ave DA
Scenario: Post-Development 100 year

Return Event: 100 years
Storm Event: 100 year

Storm Event	100 year
Return Event	100 years
Duration	1,440.000 min
Depth	7.120000 in
Time of Concentration (Composite)	36.880 min
Area (User Defined)	23.020 acres

Computational Time Increment	4.917 min
Time to Peak (Computed)	747.431 min
Flow (Peak, Computed)	53.67 ft³/s
Output Increment	3.000 min
Time to Flow (Peak Interpolated Output)	747.000 min
Flow (Peak Interpolated Output)	53.48 ft³/s

Drainage Area	
SCS CN (Composite)	63.000
Area (User Defined)	23.020 acres
Maximum Retention (Pervious)	5.873016 in
Maximum Retention (Pervious, 20 percent)	1.174603 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	2.990904 in
Runoff Volume (Pervious)	5.738 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	5.721 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	36.880 min
Computational Time Increment	4.917 min
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

IDALS - HAR892022C

Subsection: Unit Hydrograph Summary
Label: OO Ave DA
Scenario: Post-Development 100 year

Return Event: 100 years
Storm Event: 100 year

SCS Unit Hydrograph Parameters	
Unit peak, qp	42.43 ft³/s
Unit peak time, Tp	24.587 min
Unit receding limb, Tr	98.346 min
Total unit time, Tb	122.933 min

IDALS - HAR892022C

Subsection: Unit Hydrograph Summary
Label: West Tile DA
Scenario: Post-Development 10 year

Return Event: 10 years
Storm Event: 10 year

Storm Event	10 year
Return Event	10 years
Duration	1,440.000 min
Depth	4.460000 in
Time of Concentration (Composite)	29.713 min
Area (User Defined)	12.320 acres

Computational Time Increment	3.962 min
Time to Peak (Computed)	744.797 min
Flow (Peak, Computed)	11.81 ft³/s
Output Increment	3.000 min
Time to Flow (Peak Interpolated Output)	744.000 min
Flow (Peak Interpolated Output)	11.75 ft³/s

Drainage Area	
SCS CN (Composite)	63.000
Area (User Defined)	12.320 acres
Maximum Retention (Pervious)	5.873016 in
Maximum Retention (Pervious, 20 percent)	1.174603 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	1.178570 in
Runoff Volume (Pervious)	1.210 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	1.207 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	29.713 min
Computational Time Increment	3.962 min
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

IDALS - HAR892022C

Subsection: Unit Hydrograph Summary
Label: West Tile DA
Scenario: Post-Development 10 year

Return Event: 10 years
Storm Event: 10 year

SCS Unit Hydrograph Parameters	
Unit peak, qp	28.19 ft³/s
Unit peak time, Tp	19.808 min
Unit receding limb, Tr	79.234 min
Total unit time, Tb	99.042 min

IDALS - HAR892022C

Subsection: Unit Hydrograph Summary
Label: West Tile DA
Scenario: Post-Development 25 year

Return Event: 25 years
Storm Event: 25 year

Storm Event	25 year
Return Event	25 years
Duration	1,440.000 min
Depth	5.440000 in
Time of Concentration (Composite)	29.713 min
Area (User Defined)	12.320 acres

Computational Time Increment	3.962 min
Time to Peak (Computed)	744.797 min
Flow (Peak, Computed)	18.79 ft³/s
Output Increment	3.000 min
Time to Flow (Peak Interpolated Output)	744.000 min
Flow (Peak Interpolated Output)	18.76 ft³/s

Drainage Area	
SCS CN (Composite)	63.000
Area (User Defined)	12.320 acres
Maximum Retention (Pervious)	5.873016 in
Maximum Retention (Pervious, 20 percent)	1.174603 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	1.794523 in
Runoff Volume (Pervious)	1.842 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	1.838 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	29.713 min
Computational Time Increment	3.962 min
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

IDALS - HAR892022C

Subsection: Unit Hydrograph Summary
Label: West Tile DA
Scenario: Post-Development 25 year

Return Event: 25 years
Storm Event: 25 year

SCS Unit Hydrograph Parameters	
Unit peak, qp	28.19 ft³/s
Unit peak time, Tp	19.808 min
Unit receding limb, Tr	79.234 min
Total unit time, Tb	99.042 min

IDALS - HAR892022C

Subsection: Unit Hydrograph Summary
Label: West Tile DA
Scenario: Post-Development 100 year

Return Event: 100 years
Storm Event: 100 year

Storm Event	100 year
Return Event	100 years
Duration	1,440.000 min
Depth	7.120000 in
Time of Concentration (Composite)	29.713 min
Area (User Defined)	12.320 acres

Computational Time Increment	3.962 min
Time to Peak (Computed)	740.836 min
Flow (Peak, Computed)	32.46 ft³/s
Output Increment	3.000 min
Time to Flow (Peak Interpolated Output)	741.000 min
Flow (Peak Interpolated Output)	32.45 ft³/s

Drainage Area	
SCS CN (Composite)	63.000
Area (User Defined)	12.320 acres
Maximum Retention (Pervious)	5.873016 in
Maximum Retention (Pervious, 20 percent)	1.174603 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	2.990904 in
Runoff Volume (Pervious)	3.071 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	3.064 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	29.713 min
Computational Time Increment	3.962 min
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

IDALS - HAR892022C

Subsection: Unit Hydrograph Summary
Label: West Tile DA
Scenario: Post-Development 100 year

Return Event: 100 years
Storm Event: 100 year

SCS Unit Hydrograph Parameters	
Unit peak, qp	28.19 ft³/s
Unit peak time, Tp	19.808 min
Unit receding limb, Tr	79.234 min
Total unit time, Tb	99.042 min

IDALS - HAR892022C

Subsection: Addition Summary
Label: Wetland Outfall
Scenario: Post-Development 10 year

Return Event: 10 years
Storm Event: 10 year

Summary for Hydrograph Addition at 'Wetland Outfall'

Upstream Link	Upstream Node
Wetland Outlet	Proposed Wetland

Node Inflows

Inflow Type	Element	Volume (ac-ft)	Time to Peak (min)	Flow (Peak) (ft^3/s)
Flow (From)	Wetland Outlet	15.173	816.000	47.51
Flow (In)	Wetland Outfall	15.173	816.000	47.51

Summary for Hydrograph Addition at 'Wetland Outfall'

Upstream Link	Upstream Node
Wetland Outlet	Proposed Wetland

Node Inflows

Inflow Type	Element	Volume (ac-ft)	Time to Peak (min)	Flow (Peak) (ft^3/s)
Flow (From)	Wetland Outlet	23.533	816.000	79.48
Flow (In)	Wetland Outfall	23.533	816.000	79.48

Summary for Hydrograph Addition at 'Wetland Outfall'

Upstream Link	Upstream Node
Wetland Outlet	Proposed Wetland

Node Inflows

Inflow Type	Element	Volume (ac-ft)	Time to Peak (min)	Flow (Peak) (ft^3/s)
Flow (From)	Wetland Outlet	40.546	804.000	143.83
Flow (In)	Wetland Outfall	40.546	804.000	143.83

IDALS - HAR892022C

Subsection: Time vs. Elevation
Label: Proposed Wetland (OUT)
Scenario: Post-Development 10 year

Return Event: 10 years
Storm Event: 10 year

Time vs. Elevation (ft)

Output Time increment = 3.000 min
Time on left represents time for first value in each row.

Time (min)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
0.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00
15.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00
30.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00
45.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00
60.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00
75.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00
90.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00
105.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00
120.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00
135.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00
150.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00
165.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00
180.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00
195.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00
210.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00
225.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00
240.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00
255.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00
270.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00
285.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00
300.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00
315.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00
330.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00
345.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00
360.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00
375.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00
390.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00
405.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00
420.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00
435.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00
450.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00
465.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00
480.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00
495.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00
510.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00
525.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00
540.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00
555.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00
570.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00
585.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00

IDALS - HAR892022C

Subsection: Time vs. Elevation
Label: Proposed Wetland (OUT)
Scenario: Post-Development 10 year

Return Event: 10 years
Storm Event: 10 year

Time vs. Elevation (ft)

Output Time increment = 3.000 min
Time on left represents time for first value in each row.

Time (min)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
600.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00
615.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00
630.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00
645.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00
660.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00
675.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00
690.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00
705.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00
720.000	1,108.01	1,108.01	1,108.03	1,108.04	1,108.07
735.000	1,108.11	1,108.16	1,108.22	1,108.29	1,108.38
750.000	1,108.47	1,108.57	1,108.66	1,108.75	1,108.85
765.000	1,108.95	1,109.04	1,109.12	1,109.19	1,109.26
780.000	1,109.32	1,109.38	1,109.42	1,109.47	1,109.50
795.000	1,109.53	1,109.55	1,109.57	1,109.59	1,109.60
810.000	1,109.60	1,109.61	1,109.61	1,109.61	1,109.61
825.000	1,109.60	1,109.60	1,109.59	1,109.58	1,109.57
840.000	1,109.56	1,109.55	1,109.54	1,109.53	1,109.51
855.000	1,109.50	1,109.49	1,109.47	1,109.46	1,109.44
870.000	1,109.43	1,109.41	1,109.40	1,109.39	1,109.37
885.000	1,109.36	1,109.35	1,109.33	1,109.32	1,109.31
900.000	1,109.30	1,109.29	1,109.27	1,109.26	1,109.25
915.000	1,109.24	1,109.23	1,109.22	1,109.21	1,109.21
930.000	1,109.20	1,109.19	1,109.18	1,109.17	1,109.16
945.000	1,109.15	1,109.15	1,109.14	1,109.13	1,109.12
960.000	1,109.11	1,109.11	1,109.10	1,109.09	1,109.09
975.000	1,109.08	1,109.07	1,109.07	1,109.06	1,109.06
990.000	1,109.05	1,109.05	1,109.04	1,109.04	1,109.03
1,005.000	1,109.03	1,109.02	1,109.02	1,109.02	1,109.01
1,020.000	1,109.01	1,109.01	1,109.00	1,109.00	1,109.00
1,035.000	1,108.99	1,108.99	1,108.98	1,108.98	1,108.98
1,050.000	1,108.97	1,108.97	1,108.97	1,108.96	1,108.96
1,065.000	1,108.96	1,108.95	1,108.95	1,108.95	1,108.94
1,080.000	1,108.94	1,108.94	1,108.93	1,108.93	1,108.93
1,095.000	1,108.92	1,108.92	1,108.92	1,108.91	1,108.91
1,110.000	1,108.91	1,108.90	1,108.90	1,108.90	1,108.89
1,125.000	1,108.89	1,108.89	1,108.88	1,108.88	1,108.88
1,140.000	1,108.87	1,108.87	1,108.87	1,108.87	1,108.86
1,155.000	1,108.86	1,108.86	1,108.85	1,108.85	1,108.85
1,170.000	1,108.84	1,108.84	1,108.84	1,108.83	1,108.83
1,185.000	1,108.83	1,108.83	1,108.82	1,108.82	1,108.82
1,200.000	1,108.81	1,108.81	1,108.81	1,108.81	1,108.80

IDALS - HAR892022C

Subsection: Time vs. Elevation
Label: Proposed Wetland (OUT)
Scenario: Post-Development 10 year

Return Event: 10 years
Storm Event: 10 year

Time vs. Elevation (ft)

Output Time increment = 3.000 min
Time on left represents time for first value in each row.

Time (min)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
1,215.000	1,108.80	1,108.80	1,108.79	1,108.79	1,108.79
1,230.000	1,108.78	1,108.78	1,108.78	1,108.78	1,108.77
1,245.000	1,108.77	1,108.76	1,108.76	1,108.76	1,108.75
1,260.000	1,108.75	1,108.74	1,108.74	1,108.74	1,108.73
1,275.000	1,108.73	1,108.72	1,108.72	1,108.71	1,108.71
1,290.000	1,108.71	1,108.70	1,108.70	1,108.70	1,108.69
1,305.000	1,108.69	1,108.68	1,108.68	1,108.68	1,108.67
1,320.000	1,108.67	1,108.66	1,108.66	1,108.66	1,108.65
1,335.000	1,108.65	1,108.65	1,108.64	1,108.64	1,108.64
1,350.000	1,108.63	1,108.63	1,108.62	1,108.62	1,108.62
1,365.000	1,108.61	1,108.61	1,108.61	1,108.60	1,108.60
1,380.000	1,108.60	1,108.59	1,108.59	1,108.59	1,108.58
1,395.000	1,108.58	1,108.58	1,108.57	1,108.57	1,108.57
1,410.000	1,108.56	1,108.56	1,108.56	1,108.55	1,108.55
1,425.000	1,108.55	1,108.54	1,108.54	1,108.54	1,108.53
1,440.000	1,108.53	(N/A)	(N/A)	(N/A)	(N/A)

IDALS - HAR892022C

Subsection: Time vs. Elevation
Label: Proposed Wetland (OUT)
Scenario: Post-Development 25 year

Return Event: 25 years
Storm Event: 25 year

Time vs. Elevation (ft)

Output Time increment = 3.000 min
Time on left represents time for first value in each row.

Time (min)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
0.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00
15.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00
30.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00
45.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00
60.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00
75.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00
90.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00
105.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00
120.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00
135.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00
150.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00
165.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00
180.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00
195.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00
210.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00
225.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00
240.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00
255.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00
270.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00
285.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00
300.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00
315.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00
330.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00
345.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00
360.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00
375.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00
390.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00
405.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00
420.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00
435.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00
450.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00
465.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00
480.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00
495.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00
510.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00
525.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00
540.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00
555.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00
570.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00
585.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00

IDALS - HAR892022C

Subsection: Time vs. Elevation
Label: Proposed Wetland (OUT)
Scenario: Post-Development 25 year

Return Event: 25 years
Storm Event: 25 year

Time vs. Elevation (ft)

Output Time increment = 3.000 min
Time on left represents time for first value in each row.

Time (min)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
600.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00
615.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00
630.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00
645.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00
660.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00
675.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00
690.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00
705.000	1,108.00	1,108.01	1,108.01	1,108.01	1,108.02
720.000	1,108.04	1,108.06	1,108.08	1,108.12	1,108.17
735.000	1,108.24	1,108.33	1,108.44	1,108.55	1,108.66
750.000	1,108.79	1,108.93	1,109.06	1,109.19	1,109.31
765.000	1,109.42	1,109.52	1,109.61	1,109.69	1,109.75
780.000	1,109.81	1,109.86	1,109.90	1,109.94	1,109.97
795.000	1,109.99	1,110.01	1,110.03	1,110.04	1,110.05
810.000	1,110.05	1,110.06	1,110.06	1,110.06	1,110.06
825.000	1,110.05	1,110.04	1,110.03	1,110.02	1,110.00
840.000	1,109.99	1,109.96	1,109.94	1,109.92	1,109.90
855.000	1,109.88	1,109.85	1,109.83	1,109.80	1,109.78
870.000	1,109.76	1,109.73	1,109.71	1,109.69	1,109.66
885.000	1,109.64	1,109.62	1,109.60	1,109.58	1,109.57
900.000	1,109.55	1,109.53	1,109.52	1,109.50	1,109.48
915.000	1,109.47	1,109.45	1,109.44	1,109.42	1,109.41
930.000	1,109.39	1,109.38	1,109.36	1,109.35	1,109.34
945.000	1,109.32	1,109.31	1,109.30	1,109.29	1,109.27
960.000	1,109.26	1,109.25	1,109.24	1,109.23	1,109.22
975.000	1,109.21	1,109.20	1,109.19	1,109.18	1,109.17
990.000	1,109.16	1,109.16	1,109.15	1,109.14	1,109.13
1,005.000	1,109.13	1,109.12	1,109.12	1,109.11	1,109.10
1,020.000	1,109.10	1,109.09	1,109.09	1,109.08	1,109.08
1,035.000	1,109.07	1,109.07	1,109.07	1,109.06	1,109.06
1,050.000	1,109.05	1,109.05	1,109.05	1,109.04	1,109.04
1,065.000	1,109.04	1,109.04	1,109.03	1,109.03	1,109.03
1,080.000	1,109.03	1,109.02	1,109.02	1,109.02	1,109.02
1,095.000	1,109.01	1,109.01	1,109.01	1,109.01	1,109.01
1,110.000	1,109.00	1,109.00	1,109.00	1,109.00	1,109.00
1,125.000	1,108.99	1,108.99	1,108.99	1,108.99	1,108.99
1,140.000	1,108.98	1,108.98	1,108.98	1,108.98	1,108.97
1,155.000	1,108.97	1,108.97	1,108.97	1,108.96	1,108.96
1,170.000	1,108.96	1,108.96	1,108.95	1,108.95	1,108.95
1,185.000	1,108.95	1,108.94	1,108.94	1,108.94	1,108.94
1,200.000	1,108.93	1,108.93	1,108.93	1,108.93	1,108.92

IDALS - HAR892022C

Subsection: Time vs. Elevation
Label: Proposed Wetland (OUT)
Scenario: Post-Development 25 year

Return Event: 25 years
Storm Event: 25 year

Time vs. Elevation (ft)

Output Time increment = 3.000 min
Time on left represents time for first value in each row.

Time (min)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
1,215.000	1,108.92	1,108.92	1,108.92	1,108.91	1,108.91
1,230.000	1,108.91	1,108.90	1,108.90	1,108.90	1,108.90
1,245.000	1,108.89	1,108.89	1,108.89	1,108.88	1,108.88
1,260.000	1,108.88	1,108.88	1,108.87	1,108.87	1,108.87
1,275.000	1,108.86	1,108.86	1,108.86	1,108.85	1,108.85
1,290.000	1,108.85	1,108.84	1,108.84	1,108.84	1,108.84
1,305.000	1,108.83	1,108.83	1,108.83	1,108.82	1,108.82
1,320.000	1,108.82	1,108.81	1,108.81	1,108.81	1,108.80
1,335.000	1,108.80	1,108.80	1,108.79	1,108.79	1,108.79
1,350.000	1,108.78	1,108.78	1,108.78	1,108.77	1,108.77
1,365.000	1,108.77	1,108.76	1,108.76	1,108.76	1,108.75
1,380.000	1,108.75	1,108.75	1,108.74	1,108.74	1,108.74
1,395.000	1,108.73	1,108.73	1,108.73	1,108.72	1,108.72
1,410.000	1,108.72	1,108.71	1,108.71	1,108.71	1,108.70
1,425.000	1,108.70	1,108.70	1,108.69	1,108.69	1,108.68
1,440.000	1,108.68	(N/A)	(N/A)	(N/A)	(N/A)

IDALS - HAR892022C

Subsection: Time vs. Elevation
Label: Proposed Wetland (OUT)
Scenario: Post-Development 100 year

Return Event: 100 years
Storm Event: 100 year

Time vs. Elevation (ft)

Output Time increment = 3.000 min
Time on left represents time for first value in each row.

Time (min)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
0.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00
15.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00
30.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00
45.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00
60.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00
75.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00
90.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00
105.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00
120.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00
135.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00
150.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00
165.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00
180.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00
195.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00
210.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00
225.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00
240.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00
255.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00
270.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00
285.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00
300.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00
315.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00
330.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00
345.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00
360.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00
375.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00
390.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00
405.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00
420.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00
435.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00
450.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00
465.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00
480.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00
495.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00
510.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00
525.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00
540.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00
555.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00
570.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00
585.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00

IDALS - HAR892022C

Subsection: Time vs. Elevation
Label: Proposed Wetland (OUT)
Scenario: Post-Development 100 year

Return Event: 100 years
Storm Event: 100 year

Time vs. Elevation (ft)

Output Time increment = 3.000 min
Time on left represents time for first value in each row.

Time (min)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
600.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00
615.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00
630.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00
645.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00
660.000	1,108.00	1,108.00	1,108.00	1,108.00	1,108.00
675.000	1,108.00	1,108.00	1,108.01	1,108.01	1,108.01
690.000	1,108.02	1,108.02	1,108.03	1,108.04	1,108.05
705.000	1,108.06	1,108.08	1,108.10	1,108.12	1,108.15
720.000	1,108.19	1,108.24	1,108.31	1,108.40	1,108.50
735.000	1,108.61	1,108.74	1,108.90	1,109.08	1,109.26
750.000	1,109.44	1,109.62	1,109.77	1,109.93	1,110.08
765.000	1,110.23	1,110.37	1,110.51	1,110.62	1,110.72
780.000	1,110.82	1,110.91	1,110.98	1,111.04	1,111.08
795.000	1,111.11	1,111.13	1,111.13	1,111.14	1,111.13
810.000	1,111.13	1,111.12	1,111.11	1,111.10	1,111.09
825.000	1,111.08	1,111.06	1,111.05	1,111.04	1,111.03
840.000	1,111.02	1,111.01	1,111.00	1,110.99	1,110.97
855.000	1,110.95	1,110.93	1,110.91	1,110.89	1,110.87
870.000	1,110.85	1,110.82	1,110.80	1,110.77	1,110.74
885.000	1,110.71	1,110.68	1,110.65	1,110.62	1,110.59
900.000	1,110.55	1,110.52	1,110.48	1,110.44	1,110.40
915.000	1,110.36	1,110.32	1,110.28	1,110.23	1,110.19
930.000	1,110.15	1,110.11	1,110.07	1,110.03	1,109.99
945.000	1,109.95	1,109.90	1,109.86	1,109.83	1,109.79
960.000	1,109.76	1,109.72	1,109.69	1,109.67	1,109.64
975.000	1,109.61	1,109.59	1,109.57	1,109.55	1,109.53
990.000	1,109.51	1,109.49	1,109.47	1,109.45	1,109.43
1,005.000	1,109.41	1,109.40	1,109.38	1,109.37	1,109.35
1,020.000	1,109.34	1,109.33	1,109.31	1,109.30	1,109.29
1,035.000	1,109.28	1,109.27	1,109.26	1,109.25	1,109.24
1,050.000	1,109.23	1,109.23	1,109.22	1,109.21	1,109.20
1,065.000	1,109.20	1,109.19	1,109.18	1,109.18	1,109.17
1,080.000	1,109.17	1,109.16	1,109.16	1,109.15	1,109.15
1,095.000	1,109.14	1,109.14	1,109.13	1,109.13	1,109.13
1,110.000	1,109.12	1,109.12	1,109.11	1,109.11	1,109.11
1,125.000	1,109.10	1,109.10	1,109.10	1,109.10	1,109.09
1,140.000	1,109.09	1,109.09	1,109.08	1,109.08	1,109.08
1,155.000	1,109.08	1,109.07	1,109.07	1,109.07	1,109.07
1,170.000	1,109.06	1,109.06	1,109.06	1,109.06	1,109.06
1,185.000	1,109.05	1,109.05	1,109.05	1,109.05	1,109.05
1,200.000	1,109.04	1,109.04	1,109.04	1,109.04	1,109.04

IDALS - HAR892022C

Subsection: Time vs. Elevation
Label: Proposed Wetland (OUT)
Scenario: Post-Development 100 year

Return Event: 100 years
Storm Event: 100 year

Time vs. Elevation (ft)

Output Time increment = 3.000 min
Time on left represents time for first value in each row.

Time (min)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
1,215.000	1,109.03	1,109.03	1,109.03	1,109.03	1,109.03
1,230.000	1,109.02	1,109.02	1,109.02	1,109.02	1,109.02
1,245.000	1,109.02	1,109.01	1,109.01	1,109.01	1,109.01
1,260.000	1,109.01	1,109.01	1,109.00	1,109.00	1,109.00
1,275.000	1,109.00	1,109.00	1,108.99	1,108.99	1,108.99
1,290.000	1,108.99	1,108.98	1,108.98	1,108.98	1,108.98
1,305.000	1,108.97	1,108.97	1,108.97	1,108.97	1,108.96
1,320.000	1,108.96	1,108.96	1,108.95	1,108.95	1,108.95
1,335.000	1,108.95	1,108.94	1,108.94	1,108.94	1,108.93
1,350.000	1,108.93	1,108.93	1,108.92	1,108.92	1,108.91
1,365.000	1,108.91	1,108.91	1,108.90	1,108.90	1,108.90
1,380.000	1,108.89	1,108.89	1,108.89	1,108.88	1,108.88
1,395.000	1,108.87	1,108.87	1,108.87	1,108.86	1,108.86
1,410.000	1,108.85	1,108.85	1,108.85	1,108.84	1,108.84
1,425.000	1,108.83	1,108.83	1,108.82	1,108.82	1,108.82
1,440.000	1,108.81	(N/A)	(N/A)	(N/A)	(N/A)

IDALS - HAR892022C

Subsection: Time vs. Volume
Label: Proposed Wetland
Scenario: Post-Development 10 year

Return Event: 10 years
Storm Event: 10 year

Time vs. Volume (ac-ft)

Output Time increment = 3.000 min
Time on left represents time for first value in each row.

Time (min)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)
0.000	3.465	3.465	3.465	3.465	3.465
15.000	3.465	3.465	3.465	3.465	3.465
30.000	3.465	3.465	3.465	3.465	3.465
45.000	3.465	3.465	3.465	3.465	3.465
60.000	3.465	3.465	3.465	3.465	3.465
75.000	3.465	3.465	3.465	3.465	3.465
90.000	3.465	3.465	3.465	3.465	3.465
105.000	3.465	3.465	3.465	3.465	3.465
120.000	3.465	3.465	3.465	3.465	3.465
135.000	3.465	3.465	3.465	3.465	3.465
150.000	3.465	3.465	3.465	3.465	3.465
165.000	3.465	3.465	3.465	3.465	3.465
180.000	3.465	3.465	3.465	3.465	3.465
195.000	3.465	3.465	3.465	3.465	3.465
210.000	3.465	3.465	3.465	3.465	3.465
225.000	3.465	3.465	3.465	3.465	3.465
240.000	3.465	3.465	3.465	3.465	3.465
255.000	3.465	3.465	3.465	3.465	3.465
270.000	3.465	3.465	3.465	3.465	3.465
285.000	3.465	3.465	3.465	3.465	3.465
300.000	3.465	3.465	3.465	3.465	3.465
315.000	3.465	3.465	3.465	3.465	3.465
330.000	3.465	3.465	3.465	3.465	3.465
345.000	3.465	3.465	3.465	3.465	3.465
360.000	3.465	3.465	3.465	3.465	3.465
375.000	3.465	3.465	3.465	3.465	3.465
390.000	3.465	3.465	3.465	3.465	3.465
405.000	3.465	3.465	3.465	3.465	3.465
420.000	3.465	3.465	3.465	3.465	3.465
435.000	3.465	3.465	3.465	3.465	3.465
450.000	3.465	3.465	3.465	3.465	3.465
465.000	3.465	3.465	3.465	3.465	3.465
480.000	3.465	3.465	3.465	3.465	3.465
495.000	3.465	3.465	3.465	3.465	3.465
510.000	3.465	3.465	3.465	3.465	3.465
525.000	3.465	3.465	3.465	3.465	3.465
540.000	3.465	3.465	3.465	3.465	3.465
555.000	3.465	3.465	3.465	3.465	3.465
570.000	3.465	3.465	3.465	3.465	3.465
585.000	3.465	3.465	3.465	3.465	3.465

IDALS - HAR892022C

Subsection: Time vs. Volume
Label: Proposed Wetland
Scenario: Post-Development 10 year

Return Event: 10 years
Storm Event: 10 year

Time vs. Volume (ac-ft)

Output Time increment = 3.000 min
Time on left represents time for first value in each row.

Time (min)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)
600.000	3.465	3.465	3.465	3.465	3.465
615.000	3.465	3.465	3.465	3.465	3.465
630.000	3.465	3.465	3.465	3.465	3.465
645.000	3.465	3.465	3.465	3.465	3.465
660.000	3.465	3.465	3.465	3.465	3.465
675.000	3.465	3.465	3.465	3.465	3.465
690.000	3.465	3.465	3.465	3.465	3.465
705.000	3.465	3.465	3.466	3.469	3.472
720.000	3.481	3.499	3.531	3.578	3.647
735.000	3.743	3.873	4.039	4.245	4.493
750.000	4.783	5.068	5.366	5.689	6.032
765.000	6.390	6.725	7.026	7.311	7.579
780.000	7.827	8.053	8.257	8.439	8.597
795.000	8.716	8.815	8.896	8.957	9.002
810.000	9.032	9.050	9.057	9.054	9.043
825.000	9.024	8.999	8.968	8.931	8.890
840.000	8.845	8.797	8.747	8.695	8.641
855.000	8.587	8.526	8.463	8.400	8.337
870.000	8.275	8.213	8.153	8.095	8.037
885.000	7.981	7.927	7.875	7.824	7.774
900.000	7.727	7.681	7.636	7.593	7.552
915.000	7.512	7.473	7.435	7.397	7.361
930.000	7.325	7.289	7.255	7.221	7.187
945.000	7.155	7.123	7.091	7.061	7.031
960.000	7.003	6.975	6.948	6.922	6.896
975.000	6.872	6.849	6.826	6.804	6.783
990.000	6.763	6.744	6.725	6.708	6.690
1,005.000	6.674	6.658	6.643	6.629	6.615
1,020.000	6.601	6.589	6.576	6.564	6.550
1,035.000	6.537	6.523	6.510	6.496	6.483
1,050.000	6.470	6.457	6.444	6.431	6.418
1,065.000	6.405	6.392	6.379	6.367	6.354
1,080.000	6.342	6.329	6.317	6.305	6.293
1,095.000	6.281	6.269	6.257	6.245	6.233
1,110.000	6.221	6.210	6.198	6.187	6.175
1,125.000	6.164	6.152	6.141	6.130	6.119
1,140.000	6.108	6.096	6.085	6.074	6.063
1,155.000	6.053	6.042	6.031	6.020	6.009
1,170.000	5.999	5.988	5.977	5.967	5.956
1,185.000	5.946	5.935	5.925	5.915	5.904
1,200.000	5.894	5.884	5.874	5.863	5.853

IDALS - HAR892022C

Subsection: Time vs. Volume
Label: Proposed Wetland
Scenario: Post-Development 10 year

Return Event: 10 years
Storm Event: 10 year

Time vs. Volume (ac-ft)

Output Time increment = 3.000 min
Time on left represents time for first value in each row.

Time (min)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)
1,215.000	5.843	5.833	5.823	5.812	5.802
1,230.000	5.792	5.781	5.771	5.760	5.749
1,245.000	5.737	5.723	5.708	5.694	5.679
1,260.000	5.665	5.651	5.637	5.623	5.609
1,275.000	5.595	5.581	5.568	5.554	5.541
1,290.000	5.528	5.514	5.501	5.488	5.475
1,305.000	5.463	5.450	5.437	5.424	5.412
1,320.000	5.399	5.387	5.375	5.362	5.350
1,335.000	5.338	5.326	5.314	5.303	5.291
1,350.000	5.279	5.268	5.256	5.245	5.233
1,365.000	5.222	5.210	5.199	5.188	5.177
1,380.000	5.166	5.155	5.144	5.133	5.122
1,395.000	5.111	5.100	5.090	5.079	5.068
1,410.000	5.058	5.047	5.037	5.026	5.016
1,425.000	5.005	4.995	4.985	4.974	4.964
1,440.000	4.954	(N/A)	(N/A)	(N/A)	(N/A)

IDALS - HAR892022C

Subsection: Time vs. Volume
Label: Proposed Wetland
Scenario: Post-Development 25 year

Return Event: 25 years
Storm Event: 25 year

Time vs. Volume (ac-ft)

Output Time increment = 3.000 min
Time on left represents time for first value in each row.

Time (min)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)
0.000	3.465	3.465	3.465	3.465	3.465
15.000	3.465	3.465	3.465	3.465	3.465
30.000	3.465	3.465	3.465	3.465	3.465
45.000	3.465	3.465	3.465	3.465	3.465
60.000	3.465	3.465	3.465	3.465	3.465
75.000	3.465	3.465	3.465	3.465	3.465
90.000	3.465	3.465	3.465	3.465	3.465
105.000	3.465	3.465	3.465	3.465	3.465
120.000	3.465	3.465	3.465	3.465	3.465
135.000	3.465	3.465	3.465	3.465	3.465
150.000	3.465	3.465	3.465	3.465	3.465
165.000	3.465	3.465	3.465	3.465	3.465
180.000	3.465	3.465	3.465	3.465	3.465
195.000	3.465	3.465	3.465	3.465	3.465
210.000	3.465	3.465	3.465	3.465	3.465
225.000	3.465	3.465	3.465	3.465	3.465
240.000	3.465	3.465	3.465	3.465	3.465
255.000	3.465	3.465	3.465	3.465	3.465
270.000	3.465	3.465	3.465	3.465	3.465
285.000	3.465	3.465	3.465	3.465	3.465
300.000	3.465	3.465	3.465	3.465	3.465
315.000	3.465	3.465	3.465	3.465	3.465
330.000	3.465	3.465	3.465	3.465	3.465
345.000	3.465	3.465	3.465	3.465	3.465
360.000	3.465	3.465	3.465	3.465	3.465
375.000	3.465	3.465	3.465	3.465	3.465
390.000	3.465	3.465	3.465	3.465	3.465
405.000	3.465	3.465	3.465	3.465	3.465
420.000	3.465	3.465	3.465	3.465	3.465
435.000	3.465	3.465	3.465	3.465	3.465
450.000	3.465	3.465	3.465	3.465	3.465
465.000	3.465	3.465	3.465	3.465	3.465
480.000	3.465	3.465	3.465	3.465	3.465
495.000	3.465	3.465	3.465	3.465	3.465
510.000	3.465	3.465	3.465	3.465	3.465
525.000	3.465	3.465	3.465	3.465	3.465
540.000	3.465	3.465	3.465	3.465	3.465
555.000	3.465	3.465	3.465	3.465	3.465
570.000	3.465	3.465	3.465	3.465	3.465
585.000	3.465	3.465	3.465	3.465	3.465

IDALS - HAR892022C

Subsection: Time vs. Volume
Label: Proposed Wetland
Scenario: Post-Development 25 year

Return Event: 25 years
Storm Event: 25 year

Time vs. Volume (ac-ft)

Output Time increment = 3.000 min
Time on left represents time for first value in each row.

Time (min)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)
600.000	3.465	3.465	3.465	3.465	3.465
615.000	3.465	3.465	3.465	3.465	3.465
630.000	3.465	3.465	3.465	3.465	3.465
645.000	3.465	3.465	3.465	3.465	3.465
660.000	3.465	3.465	3.465	3.465	3.465
675.000	3.465	3.465	3.465	3.465	3.465
690.000	3.465	3.465	3.466	3.467	3.469
705.000	3.472	3.477	3.486	3.502	3.524
720.000	3.557	3.606	3.677	3.779	3.920
735.000	4.108	4.353	4.664	5.011	5.382
750.000	5.812	6.303	6.803	7.282	7.765
765.000	8.241	8.684	9.058	9.398	9.703
780.000	9.972	10.205	10.404	10.574	10.718
795.000	10.839	10.931	11.004	11.063	11.109
810.000	11.142	11.164	11.174	11.173	11.159
825.000	11.133	11.094	11.040	10.974	10.899
840.000	10.807	10.707	10.604	10.498	10.389
855.000	10.279	10.168	10.055	9.942	9.829
870.000	9.719	9.611	9.505	9.403	9.304
885.000	9.209	9.117	9.030	8.946	8.866
900.000	8.790	8.718	8.649	8.583	8.512
915.000	8.442	8.375	8.309	8.245	8.182
930.000	8.121	8.061	8.002	7.945	7.889
945.000	7.834	7.781	7.729	7.678	7.630
960.000	7.582	7.536	7.492	7.449	7.408
975.000	7.369	7.331	7.295	7.260	7.227
990.000	7.195	7.164	7.135	7.107	7.080
1,005.000	7.054	7.029	7.006	6.983	6.961
1,020.000	6.940	6.921	6.901	6.883	6.866
1,035.000	6.849	6.833	6.817	6.802	6.788
1,050.000	6.774	6.761	6.749	6.736	6.725
1,065.000	6.713	6.702	6.692	6.682	6.672
1,080.000	6.663	6.653	6.645	6.636	6.628
1,095.000	6.620	6.612	6.604	6.597	6.590
1,110.000	6.583	6.576	6.569	6.562	6.554
1,125.000	6.546	6.538	6.530	6.522	6.513
1,140.000	6.505	6.497	6.488	6.480	6.471
1,155.000	6.462	6.453	6.445	6.436	6.427
1,170.000	6.418	6.408	6.399	6.390	6.381
1,185.000	6.371	6.362	6.352	6.343	6.333
1,200.000	6.324	6.314	6.304	6.294	6.284

IDALS - HAR892022C

Subsection: Time vs. Volume
Label: Proposed Wetland
Scenario: Post-Development 25 year

Return Event: 25 years
Storm Event: 25 year

Time vs. Volume (ac-ft)

Output Time increment = 3.000 min
Time on left represents time for first value in each row.

Time (min)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)
1,215.000	6.274	6.265	6.254	6.244	6.234
1,230.000	6.224	6.214	6.204	6.193	6.183
1,245.000	6.173	6.162	6.152	6.141	6.131
1,260.000	6.120	6.110	6.099	6.088	6.077
1,275.000	6.067	6.056	6.045	6.034	6.023
1,290.000	6.012	6.001	5.990	5.979	5.968
1,305.000	5.957	5.946	5.935	5.924	5.913
1,320.000	5.902	5.890	5.879	5.868	5.856
1,335.000	5.845	5.834	5.822	5.811	5.800
1,350.000	5.788	5.777	5.765	5.754	5.743
1,365.000	5.731	5.720	5.708	5.696	5.685
1,380.000	5.673	5.662	5.650	5.639	5.627
1,395.000	5.615	5.604	5.592	5.581	5.569
1,410.000	5.558	5.546	5.534	5.523	5.511
1,425.000	5.500	5.488	5.477	5.465	5.454
1,440.000	5.442	(N/A)	(N/A)	(N/A)	(N/A)

IDALS - HAR892022C

Subsection: Time vs. Volume
Label: Proposed Wetland
Scenario: Post-Development 100 year

Return Event: 100 years
Storm Event: 100 year

Time vs. Volume (ac-ft)

Output Time increment = 3.000 min
Time on left represents time for first value in each row.

Time (min)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)
0.000	3.465	3.465	3.465	3.465	3.465
15.000	3.465	3.465	3.465	3.465	3.465
30.000	3.465	3.465	3.465	3.465	3.465
45.000	3.465	3.465	3.465	3.465	3.465
60.000	3.465	3.465	3.465	3.465	3.465
75.000	3.465	3.465	3.465	3.465	3.465
90.000	3.465	3.465	3.465	3.465	3.465
105.000	3.465	3.465	3.465	3.465	3.465
120.000	3.465	3.465	3.465	3.465	3.465
135.000	3.465	3.465	3.465	3.465	3.465
150.000	3.465	3.465	3.465	3.465	3.465
165.000	3.465	3.465	3.465	3.465	3.465
180.000	3.465	3.465	3.465	3.465	3.465
195.000	3.465	3.465	3.465	3.465	3.465
210.000	3.465	3.465	3.465	3.465	3.465
225.000	3.465	3.465	3.465	3.465	3.465
240.000	3.465	3.465	3.465	3.465	3.465
255.000	3.465	3.465	3.465	3.465	3.465
270.000	3.465	3.465	3.465	3.465	3.465
285.000	3.465	3.465	3.465	3.465	3.465
300.000	3.465	3.465	3.465	3.465	3.465
315.000	3.465	3.465	3.465	3.465	3.465
330.000	3.465	3.465	3.465	3.465	3.465
345.000	3.465	3.465	3.465	3.465	3.465
360.000	3.465	3.465	3.465	3.465	3.465
375.000	3.465	3.465	3.465	3.465	3.465
390.000	3.465	3.465	3.465	3.465	3.465
405.000	3.465	3.465	3.465	3.465	3.465
420.000	3.465	3.465	3.465	3.465	3.465
435.000	3.465	3.465	3.465	3.465	3.465
450.000	3.465	3.465	3.465	3.465	3.465
465.000	3.465	3.465	3.465	3.465	3.465
480.000	3.465	3.465	3.465	3.465	3.465
495.000	3.465	3.465	3.465	3.465	3.465
510.000	3.465	3.465	3.465	3.465	3.465
525.000	3.465	3.465	3.465	3.465	3.465
540.000	3.465	3.465	3.465	3.465	3.465
555.000	3.465	3.465	3.465	3.465	3.465
570.000	3.465	3.465	3.465	3.465	3.465
585.000	3.465	3.465	3.465	3.465	3.465

IDALS - HAR892022C

Subsection: Time vs. Volume
Label: Proposed Wetland
Scenario: Post-Development 100 year

Return Event: 100 years
Storm Event: 100 year

Time vs. Volume (ac-ft)

Output Time increment = 3.000 min
Time on left represents time for first value in each row.

Time (min)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)
600.000	3.465	3.465	3.465	3.465	3.465
615.000	3.465	3.465	3.465	3.465	3.465
630.000	3.465	3.465	3.465	3.465	3.465
645.000	3.465	3.465	3.465	3.465	3.465
660.000	3.465	3.466	3.467	3.468	3.470
675.000	3.472	3.476	3.481	3.488	3.498
690.000	3.511	3.526	3.545	3.568	3.595
705.000	3.628	3.668	3.717	3.780	3.859
720.000	3.964	4.105	4.293	4.543	4.869
735.000	5.214	5.653	6.206	6.853	7.559
750.000	8.341	9.085	9.806	10.554	11.301
765.000	12.047	12.813	13.571	14.217	14.837
780.000	15.424	15.972	16.475	16.855	17.124
795.000	17.307	17.420	17.477	17.491	17.473
810.000	17.433	17.376	17.308	17.232	17.153
825.000	17.077	17.002	16.929	16.858	16.788
840.000	16.720	16.652	16.584	16.498	16.395
855.000	16.281	16.157	16.025	15.887	15.744
870.000	15.595	15.440	15.280	15.115	14.945
885.000	14.770	14.591	14.407	14.219	14.027
900.000	13.832	13.633	13.417	13.186	12.958
915.000	12.732	12.509	12.289	12.073	11.859
930.000	11.648	11.440	11.236	11.035	10.832
945.000	10.616	10.414	10.224	10.046	9.878
960.000	9.722	9.575	9.437	9.308	9.187
975.000	9.073	8.967	8.867	8.773	8.686
990.000	8.604	8.519	8.435	8.356	8.280
1,005.000	8.209	8.141	8.076	8.015	7.956
1,020.000	7.901	7.848	7.798	7.750	7.705
1,035.000	7.661	7.620	7.581	7.544	7.508
1,050.000	7.474	7.441	7.410	7.381	7.353
1,065.000	7.326	7.300	7.275	7.251	7.229
1,080.000	7.207	7.186	7.166	7.147	7.128
1,095.000	7.110	7.093	7.076	7.060	7.045
1,110.000	7.030	7.016	7.002	6.989	6.976
1,125.000	6.963	6.951	6.939	6.928	6.916
1,140.000	6.906	6.895	6.885	6.875	6.865
1,155.000	6.855	6.846	6.836	6.827	6.818
1,170.000	6.810	6.801	6.793	6.784	6.776
1,185.000	6.768	6.760	6.753	6.745	6.737
1,200.000	6.730	6.722	6.715	6.708	6.701

IDALS - HAR892022C

Subsection: Time vs. Volume
Label: Proposed Wetland
Scenario: Post-Development 100 year

Return Event: 100 years
Storm Event: 100 year

Time vs. Volume (ac-ft)

Output Time increment = 3.000 min
Time on left represents time for first value in each row.

Time (min)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)
1,215.000	6.694	6.686	6.679	6.673	6.666
1,230.000	6.659	6.652	6.645	6.639	6.632
1,245.000	6.625	6.619	6.612	6.606	6.599
1,260.000	6.593	6.586	6.580	6.574	6.567
1,275.000	6.560	6.552	6.544	6.536	6.527
1,290.000	6.518	6.509	6.500	6.491	6.481
1,305.000	6.471	6.461	6.451	6.441	6.430
1,320.000	6.420	6.409	6.398	6.387	6.375
1,335.000	6.364	6.352	6.340	6.328	6.316
1,350.000	6.304	6.292	6.279	6.266	6.253
1,365.000	6.240	6.227	6.214	6.201	6.187
1,380.000	6.174	6.160	6.146	6.133	6.119
1,395.000	6.105	6.090	6.076	6.062	6.047
1,410.000	6.033	6.018	6.003	5.988	5.974
1,425.000	5.959	5.944	5.929	5.913	5.898
1,440.000	5.883	(N/A)	(N/A)	(N/A)	(N/A)

IDALS - HAR892022C

Subsection: Elevation-Area Volume Curve
Label: Proposed Wetland
Scenario: Post-Development 10 year

Return Event: 10 years
Storm Event: 10 year

Elevation (ft)	Planimeter (ft^2)	Area (acres)	A1+A2+sqr (A1*A2) (acres)	Volume (ac-ft)	Volume (Total) (ac-ft)
1,103.00	0.0	0.066	0.000	0.000	0.000
1,104.00	0.0	0.102	0.249	0.083	0.083
1,105.00	0.0	0.166	0.397	0.132	0.215
1,106.00	0.0	0.779	1.305	0.435	0.650
1,107.00	0.0	1.220	2.975	0.992	1.642
1,108.00	0.0	2.502	5.469	1.823	3.465
1,109.00	0.0	3.744	9.306	3.102	6.567
1,110.00	0.0	4.906	12.936	4.312	10.879
1,111.00	0.0	6.534	17.103	5.701	16.580
1,112.00	0.0	8.893	23.049	7.683	24.263
1,113.00	0.0	12.496	31.931	10.644	34.906

IDALS - HAR892022C

Subsection: Elevation-Area Volume Curve
Label: Proposed Wetland
Scenario: Post-Development 25 year

Return Event: 25 years
Storm Event: 25 year

Elevation (ft)	Planimeter (ft^2)	Area (acres)	A1+A2+sqr (A1*A2) (acres)	Volume (ac-ft)	Volume (Total) (ac-ft)
1,103.00	0.0	0.066	0.000	0.000	0.000
1,104.00	0.0	0.102	0.249	0.083	0.083
1,105.00	0.0	0.166	0.397	0.132	0.215
1,106.00	0.0	0.779	1.305	0.435	0.650
1,107.00	0.0	1.220	2.975	0.992	1.642
1,108.00	0.0	2.502	5.469	1.823	3.465
1,109.00	0.0	3.744	9.306	3.102	6.567
1,110.00	0.0	4.906	12.936	4.312	10.879
1,111.00	0.0	6.534	17.103	5.701	16.580
1,112.00	0.0	8.893	23.049	7.683	24.263
1,113.00	0.0	12.496	31.931	10.644	34.906

IDALS - HAR892022C

Subsection: Elevation-Area Volume Curve
Label: Proposed Wetland
Scenario: Post-Development 100 year

Return Event: 100 years
Storm Event: 100 year

Elevation (ft)	Planimeter (ft²)	Area (acres)	A1+A2+sqr (A1*A2) (acres)	Volume (ac-ft)	Volume (Total) (ac-ft)
1,103.00	0.0	0.066	0.000	0.000	0.000
1,104.00	0.0	0.102	0.249	0.083	0.083
1,105.00	0.0	0.166	0.397	0.132	0.215
1,106.00	0.0	0.779	1.305	0.435	0.650
1,107.00	0.0	1.220	2.975	0.992	1.642
1,108.00	0.0	2.502	5.469	1.823	3.465
1,109.00	0.0	3.744	9.306	3.102	6.567
1,110.00	0.0	4.906	12.936	4.312	10.879
1,111.00	0.0	6.534	17.103	5.701	16.580
1,112.00	0.0	8.893	23.049	7.683	24.263
1,113.00	0.0	12.496	31.931	10.644	34.906

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