PEARCE FARM – CD PKG 1

ROLESVILLE, NORTH CAROLINA

STORM DRAINAGE CALCULATIONS

PROJECT NUMBER: AGN23001
DESIGNED BY: W. T. O'DANIEL, PE

DATE: DECEMBER 2, 2024

NORTH CAROLINA PROFESSIONAL SEAL 22630 ENGINEER WILLIAM T. O'DANIEL

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NC LIC. # C-0293

PEARCE FARM – CD PKG 1

STORM DRAINAGE SYSTEM CALCULATIONS

GENERAL DESCRIPTION

Pearce Farm is a proposed residential development located between Forestville Road and Burlington Mills Road in Rolesville, NC. This 224-acre site will consist of single-family lots, along with the associated infrastructure. The total development will consist of approximately 559 lots, including various types of single-family housing, seven stormwater control measures, sidewalks, roadways, greenway trails, and associated infrastructure and various amenities.

The Pearce Farm development is located within the Neuse River basin with the site's stormwater runoff draining into Toms Creek. The proposed development shall be subject to erosion control requirements set forth in the Rolesville Land Development Ordinance and Wake County standards.

CALCULATION METHODOLOGY

- Rainfall data for the Rolesville, NC region was taken from NOAA Atlas 14. This data describes a depth-duration-frequency (DDF) table describing rainfall depth versus time for varying return periods in the Rolesville, NC area. These rainfall depths are entered into the "Stormwater Studio" application to determine design flows associated with the storm drainage system. Please reference the rainfall data section within this report for additional information.

- The time of concentration was calculated using the Kirpich Method.

- The existing on-site topography used in the analysis is from a field survey by BNK.

- For each individual storm drainage inlet, a drainage area was measured as well as assigning impervious surface percentage. From this impervious percentage, a rational c factor was calculated based on 0.95 for impervious areas. For drainage areas with a combination of both pervious (Open Space and Lawns, C=0.35) and impervious areas, a composite "c" factor was interpolated.

- The pipes were sized using "Stormwater Studio 2021 Ver. 3.0.0.25". This program accepts the input data from each inlet, as well as physical characteristics of the storm system to be designed, and calculates flow rates and pipe sizes throughout the system. The final results of this program as well as calculated pipe sizes and hydraulic grade lines may be found in the appropriate section of this report. The minimum pipe size was 15" unless otherwise shown on the plans. Pipe material is RCP or HDPE as indicated on the plans.

- The inlet types included for this project are primarily NCDOT type combination catch basins with curb inlets and grates. The calculations include an analysis to determine gutter spread at these inlets based on a 4-in per hour rainfall intensity.

- The storm water network was analyzed for the 10-year storm event using a starting time of concentration of 5 minutes.

- The various inlet types are shown on the stormwater detail sheets, within the plan set. Flared end sections or Endwalls are used at discharge points. Headwalls or structures are used at inlet points. Velocity dissipators are provided at discharge points to prevent erosion and scour in these areas. The dissipators have been sized using the NYDOT method.

- For Wall Drains, the pipes were sized using “Studio Express” by “Hydrology Studio Ver. 1.0.0.10”. This program accepts the input data from each inlet, as well as physical characteristics of the storm system to be designed, and calculates flow rates and pipe sizes throughout the system. The final results of this program as well as calculated pipe sizes may be found in the appropriate section of this report. The minimum pipe size is 8” unless otherwise shown on the plans. Pipe material is PVC as indicated on the plans.

PRECIPITATION FREQUENCY DATA TABLES

NOAA Atlas 14, Volume 2, Version 3
Location name: Wake Forest, North Carolina, USA*
Latitude: 35.9206°, Longitude: -78.5002°
Elevation: 329 ft**
* source: ESRI Maps
** source: USGS

POINT PRECIPITATION FREQUENCY ESTIMATES

G.M. Bonnin, D. Martin, B. Lin, T. Parzybok, M.Yekta, and D. Riley

NOAA, National Weather Service, Silver Spring, Maryland

PF_tabular | PF_graphical | Maps_&_aerials

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches/hour)[1]

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	4.84 (4.43-5.28)	5.62 (5.15-6.14)	6.42 (5.88-7.00)	7.19 (6.58-7.84)	7.97 (7.26-8.69)	8.58 (7.79-9.35)	9.12 (8.23-9.94)	9.60 (8.60-10.5)	10.1 (9.01-11.1)	10.6 (9.35-11.6)
10-min	3.86 (3.54-4.22)	4.49 (4.12-4.91)	5.14 (4.71-5.60)	5.75 (5.26-6.27)	6.35 (5.78-6.92)	6.83 (6.20-7.45)	7.25 (6.53-7.90)	7.61 (6.82-8.30)	8.02 (7.12-8.75)	8.35 (7.36-9.13)
15-min	3.22 (2.95-3.52)	3.77 (3.45-4.12)	4.33 (3.97-4.73)	4.85 (4.44-5.29)	5.37 (4.89-5.85)	5.77 (5.23-6.28)	6.11 (5.51-6.65)	6.40 (5.74-6.98)	6.72 (5.98-7.34)	6.98 (6.16-7.64)
30-min	2.21 (2.02-2.41)	2.60 (2.38-2.84)	3.08 (2.82-3.36)	3.51 (3.21-3.83)	3.97 (3.62-4.33)	4.34 (3.94-4.73)	4.68 (4.22-5.10)	4.98 (4.47-5.44)	5.35 (4.76-5.84)	5.65 (4.98-6.18)
60-min	1.38 (1.26-1.50)	1.63 (1.50-1.78)	1.97 (1.81-2.15)	2.29 (2.09-2.49)	2.65 (2.41-2.88)	2.94 (2.67-3.21)	3.22 (2.90-3.51)	3.49 (3.13-3.81)	3.84 (3.41-4.19)	4.13 (3.64-4.51)
2-hr	0.803 (0.730-0.886)	0.957 (0.874-1.05)	1.17 (1.06-1.28)	1.37 (1.24-1.50)	1.61 (1.45-1.76)	1.81 (1.63-1.98)	2.01 (1.79-2.20)	2.21 (1.96-2.42)	2.47 (2.17-2.71)	2.70 (2.35-2.96)
3-hr	0.566 (0.515-0.627)	0.675 (0.617-0.745)	0.828 (0.754-0.913)	0.977 (0.887-1.07)	1.16 (1.04-1.27)	1.32 (1.18-1.45)	1.48 (1.31-1.62)	1.64 (1.45-1.80)	1.86 (1.62-2.04)	2.06 (1.78-2.26)
6-hr	0.341 (0.311-0.376)	0.406 (0.372-0.447)	0.499 (0.455-0.548)	0.589 (0.536-0.647)	0.702 (0.635-0.768)	0.802 (0.721-0.876)	0.903 (0.804-0.985)	1.01 (0.889-1.10)	1.15 (1.00-1.25)	1.28 (1.10-1.40)
12-hr	0.200 (0.183-0.220)	0.238 (0.219-0.261)	0.294 (0.269-0.322)	0.349 (0.318-0.382)	0.419 (0.379-0.457)	0.482 (0.433-0.524)	0.546 (0.486-0.592)	0.614 (0.540-0.666)	0.708 (0.613-0.768)	0.794 (0.678-0.862)
24-hr	0.119 (0.110-0.128)	0.143 (0.134-0.154)	0.180 (0.168-0.194)	0.209 (0.194-0.225)	0.249 (0.230-0.267)	0.280 (0.259-0.301)	0.312 (0.287-0.336)	0.345 (0.317-0.371)	0.391 (0.357-0.421)	0.426 (0.388-0.460)
2-day	0.069 (0.064-0.074)	0.083 (0.077-0.089)	0.103 (0.096-0.111)	0.119 (0.111-0.128)	0.141 (0.131-0.152)	0.158 (0.146-0.170)	0.176 (0.162-0.189)	0.194 (0.178-0.209)	0.218 (0.200-0.236)	0.238 (0.216-0.257)
3-day	0.048 (0.045-0.052)	0.058 (0.054-0.062)	0.072 (0.067-0.077)	0.083 (0.078-0.089)	0.098 (0.091-0.105)	0.110 (0.102-0.118)	0.123 (0.113-0.131)	0.135 (0.124-0.145)	0.152 (0.139-0.164)	0.166 (0.151-0.179)
4-day	0.038 (0.036-0.041)	0.046 (0.043-0.049)	0.057 (0.053-0.061)	0.065 (0.061-0.070)	0.077 (0.072-0.082)	0.086 (0.080-0.092)	0.096 (0.089-0.103)	0.106 (0.097-0.113)	0.119 (0.109-0.128)	0.130 (0.118-0.139)
7-day	0.025 (0.024-0.027)	0.030 (0.028-0.032)	0.037 (0.034-0.039)	0.042 (0.039-0.045)	0.049 (0.046-0.053)	0.055 (0.051-0.059)	0.061 (0.057-0.065)	0.067 (0.062-0.072)	0.075 (0.069-0.081)	0.082 (0.075-0.088)
10-day	0.020 (0.019-0.021)	0.024 (0.022-0.025)	0.029 (0.027-0.031)	0.033 (0.031-0.035)	0.038 (0.035-0.040)	0.042 (0.039-0.045)	0.046 (0.043-0.049)	0.050 (0.047-0.054)	0.056 (0.052-0.060)	0.060 (0.056-0.065)
20-day	0.013 (0.012-0.014)	0.016 (0.015-0.017)	0.019 (0.017-0.020)	0.021 (0.020-0.022)	0.024 (0.023-0.026)	0.027 (0.025-0.028)	0.029 (0.027-0.031)	0.032 (0.029-0.034)	0.035 (0.032-0.038)	0.038 (0.035-0.040)
30-day	0.011 (0.010-0.012)	0.013 (0.012-0.014)	0.015 (0.014-0.016)	0.017 (0.016-0.018)	0.019 (0.018-0.020)	0.021 (0.019-0.022)	0.022 (0.021-0.024)	0.024 (0.022-0.026)	0.026 (0.024-0.028)	0.028 (0.026-0.030)
45-day	0.009 (0.009-0.010)	0.011 (0.010-0.011)	0.012 (0.012-0.013)	0.014 (0.013-0.014)	0.015 (0.014-0.016)	0.017 (0.016-0.018)	0.018 (0.017-0.019)	0.019 (0.018-0.020)	0.021 (0.019-0.022)	0.022 (0.020-0.023)
60-day	0.008 (0.008-0.009)	0.010 (0.009-0.010)	0.011 (0.010-0.012)	0.012 (0.011-0.013)	0.013 (0.013-0.014)	0.014 (0.013-0.015)	0.015 (0.014-0.016)	0.016 (0.015-0.017)	0.017 (0.016-0.018)	0.018 (0.017-0.019)

[1] Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.

Please refer to NOAA Atlas 14 document for more information.

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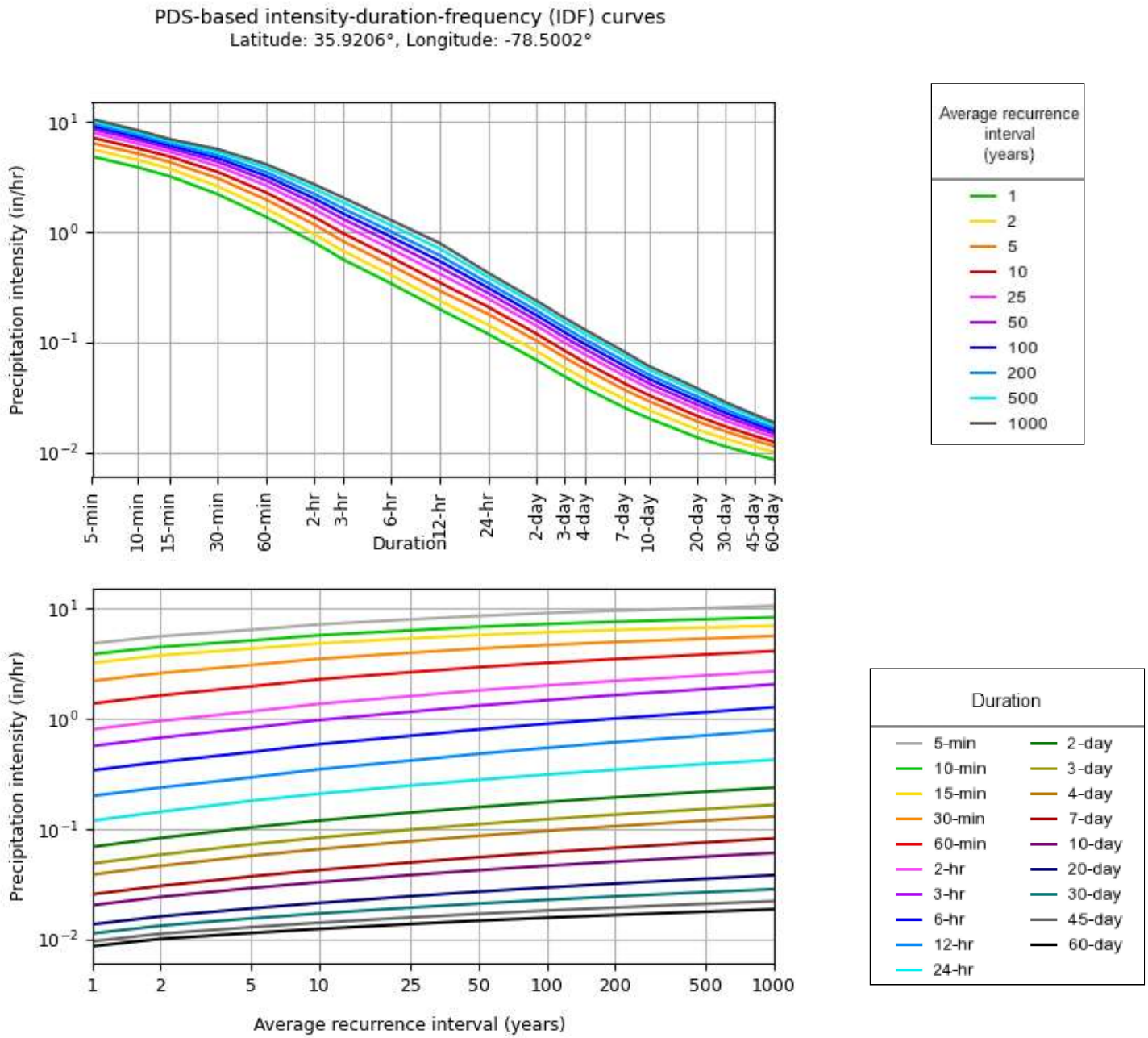
PF graphical



NOAA Atlas 14, Volume 2, Version 3 Created (GMT): Mon Dec 2 16:07:19 2024

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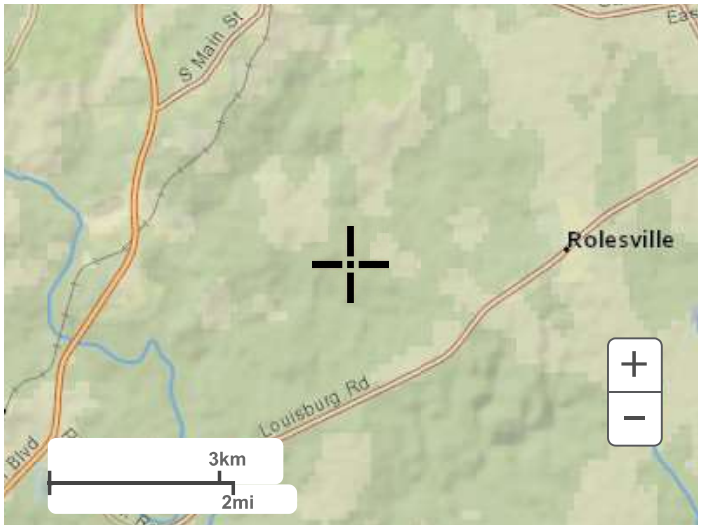
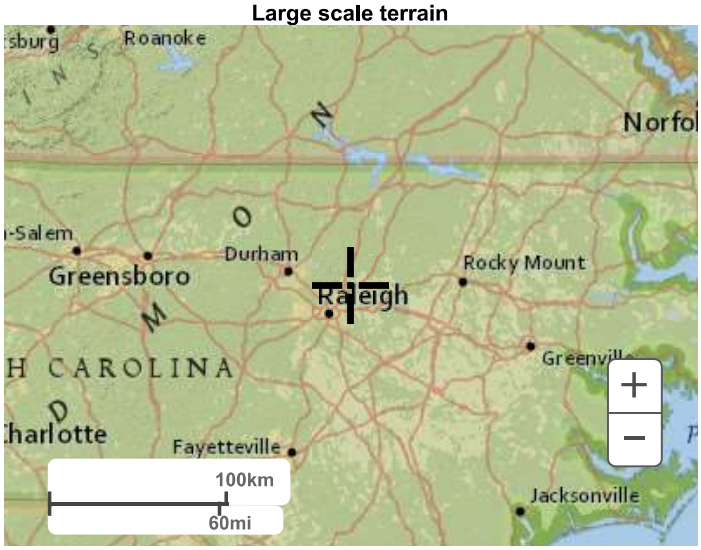
Maps & aerials

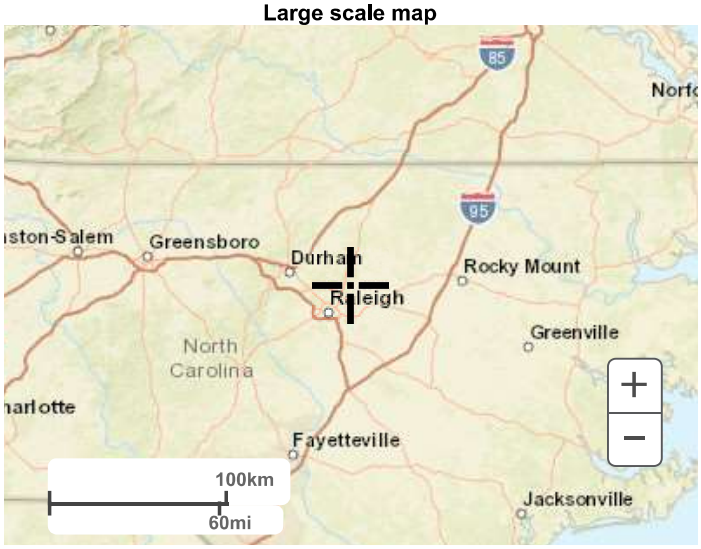
Small scale terrain



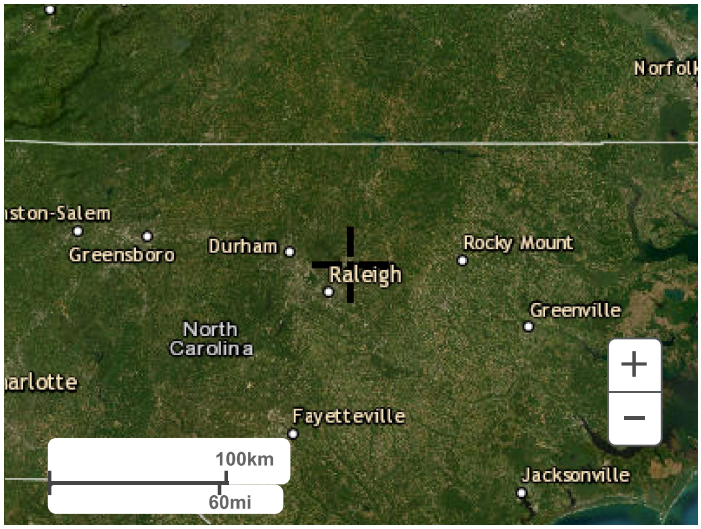
Large scale terrain



Large scale map



Large scale aerial



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National Oceanic and Atmospheric Administration
National Weather Service
National Water Center
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Silver Spring, MD 20910
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Disclaimer

IDF Report

Stormwater Studio 2024 v 3.0.0.35

IDF filename: Pearce Farm IDF.idf

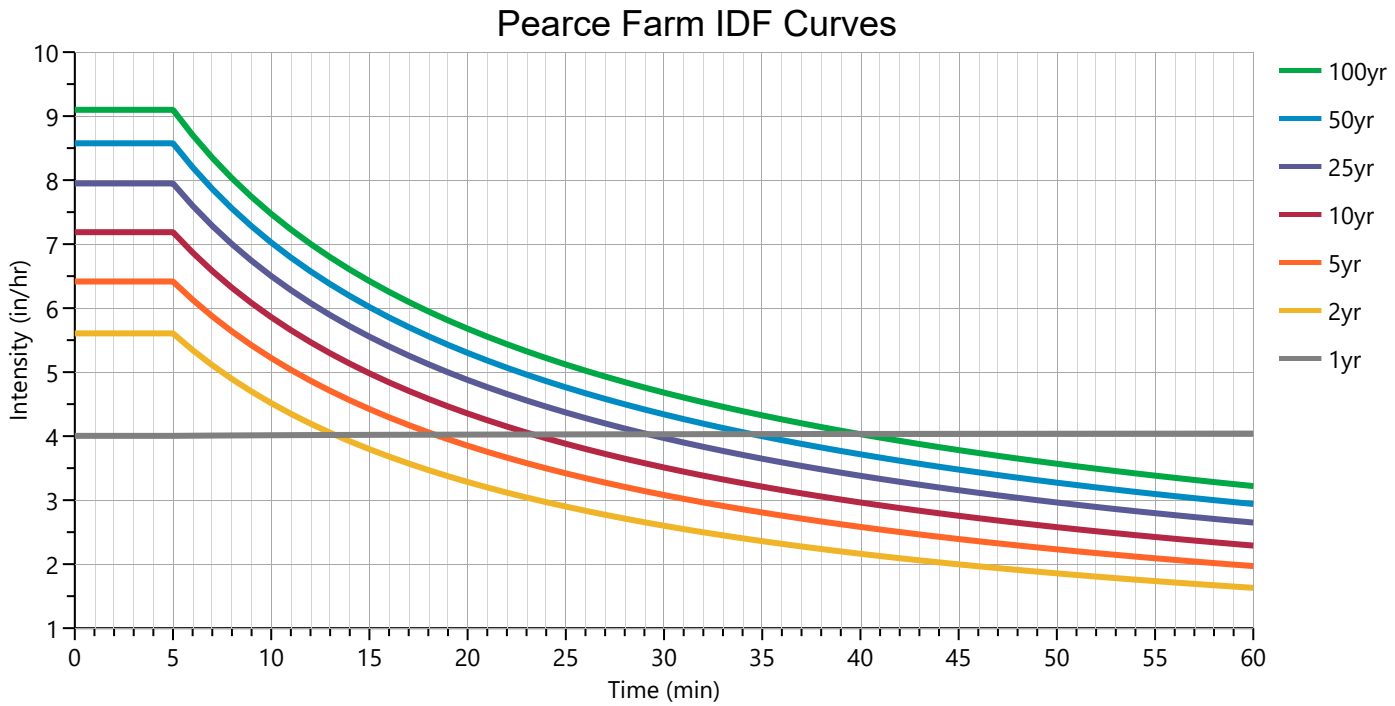
12-02-2024

Equation Coefficients	Intensity = B / (Tc + D)^E (in/hr)								
	1-yr	2-yr	3-yr	5-yr	10-yr	25-yr	50-yr	100-yr	
B	3.9811	71.7923	0.0000	74.3298	67.8360	60.6704	56.9292	52.9729	
D	0.1000	13.0000	0.0000	13.1000	12.0000	10.9000	10.1000	9.4000	
E	-0.0036	0.8822	0.0000	0.8459	0.7923	0.7347	0.6973	0.6605	

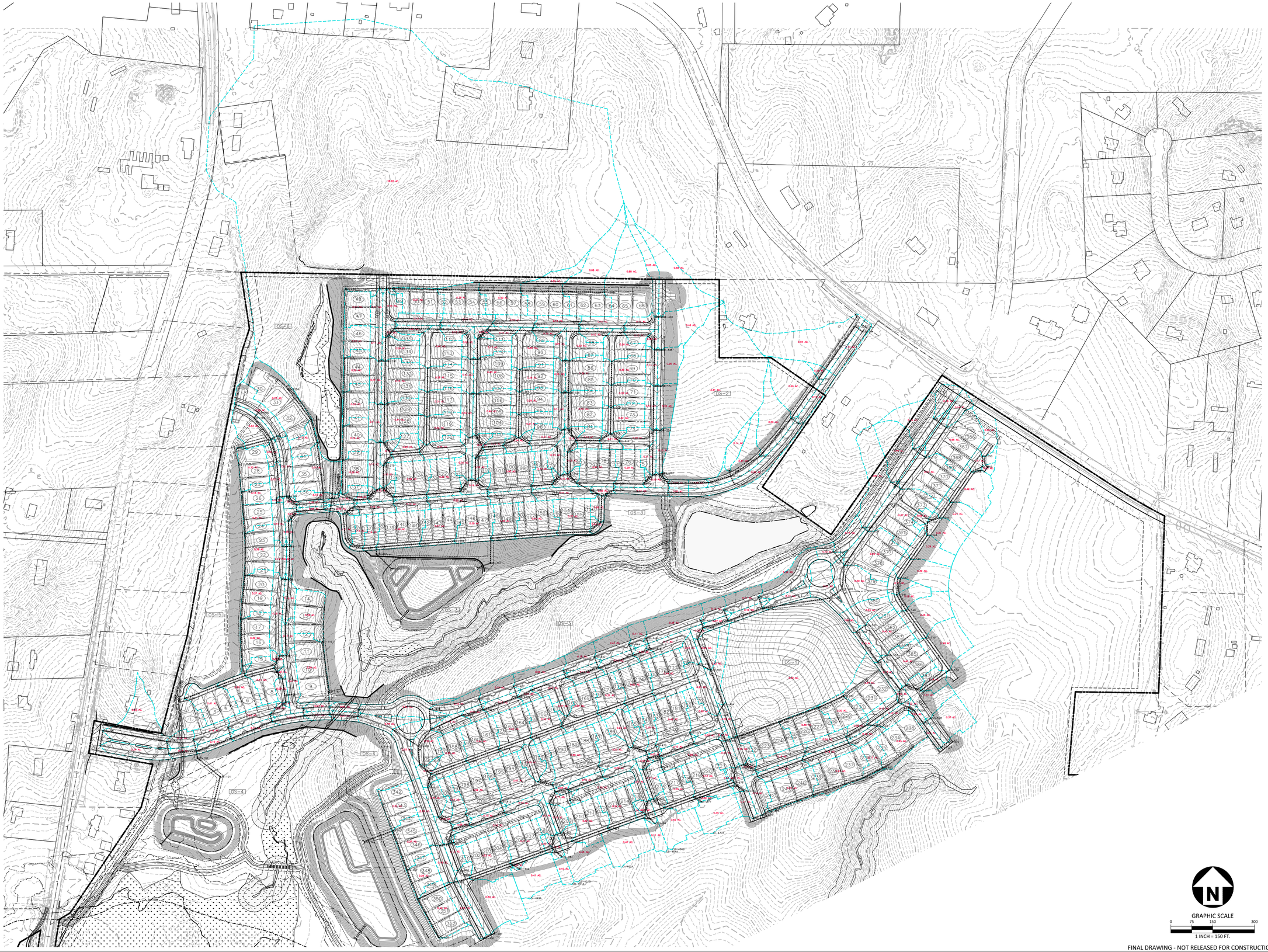
Minimum Tc = 5 minutes

Tc (min)	Intensity Values (in/hr)								
	1-yr	2-yr	3-yr	5-yr	10-yr	25-yr	50-yr	100-yr	
Cf	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
5	4.00	5.61	0	6.42	7.19	7.95	8.58	9.10	
10	4.01	4.52	0	5.22	5.86	6.50	7.02	7.47	
15	4.02	3.80	0	4.42	4.98	5.55	6.02	6.42	
20	4.02	3.28	0	3.85	4.35	4.88	5.30	5.68	
25	4.03	2.90	0	3.42	3.88	4.37	4.76	5.12	
30	4.03	2.60	0	3.08	3.51	3.97	4.34	4.68	
35	4.03	2.36	0	2.81	3.21	3.65	4.00	4.32	
40	4.03	2.16	0	2.58	2.96	3.38	3.72	4.03	
45	4.04	2.00	0	2.39	2.76	3.16	3.48	3.78	
50	4.04	1.86	0	2.23	2.58	2.96	3.27	3.57	
55	4.04	1.74	0	2.09	2.42	2.80	3.10	3.38	
60	4.04	1.63	0	1.97	2.29	2.65	2.94	3.22	

Cf = Correction Factor applied to Rational Method runoff coefficient.



DRAINAGE AREA MAP



FINAL DRAWING - NOT RELEASED FOR CONSTRUCTION

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AGNC
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PEARCE FARM - PHASES 1-3
CONSTRUCTION DRAWINGS - PACKAGE 1
BURLINGTON MILLS ROAD
TOWN OF ROLESVILLE, NORTH CAROLINA

CID-24-08

REVISIONS

NO. DATE

PLAN INFORMATION

PROJECT NO.	AGN23001
FILENAME	AGN23001-DA1
CHECKED BY	.
DRAWN BY	.
SCALE	1"=150'
DATE	12. 02. 2024

SHEET

DRAINAGE AREA MAP

1 OF 1

X:\Projects\AGN\AGN23001\04-Production\Engineering\Construction Drawings\Current Drawings\AGN23001-DA1.dwg, 12/2/2024 10:34:49 AM, Sherrill Williams

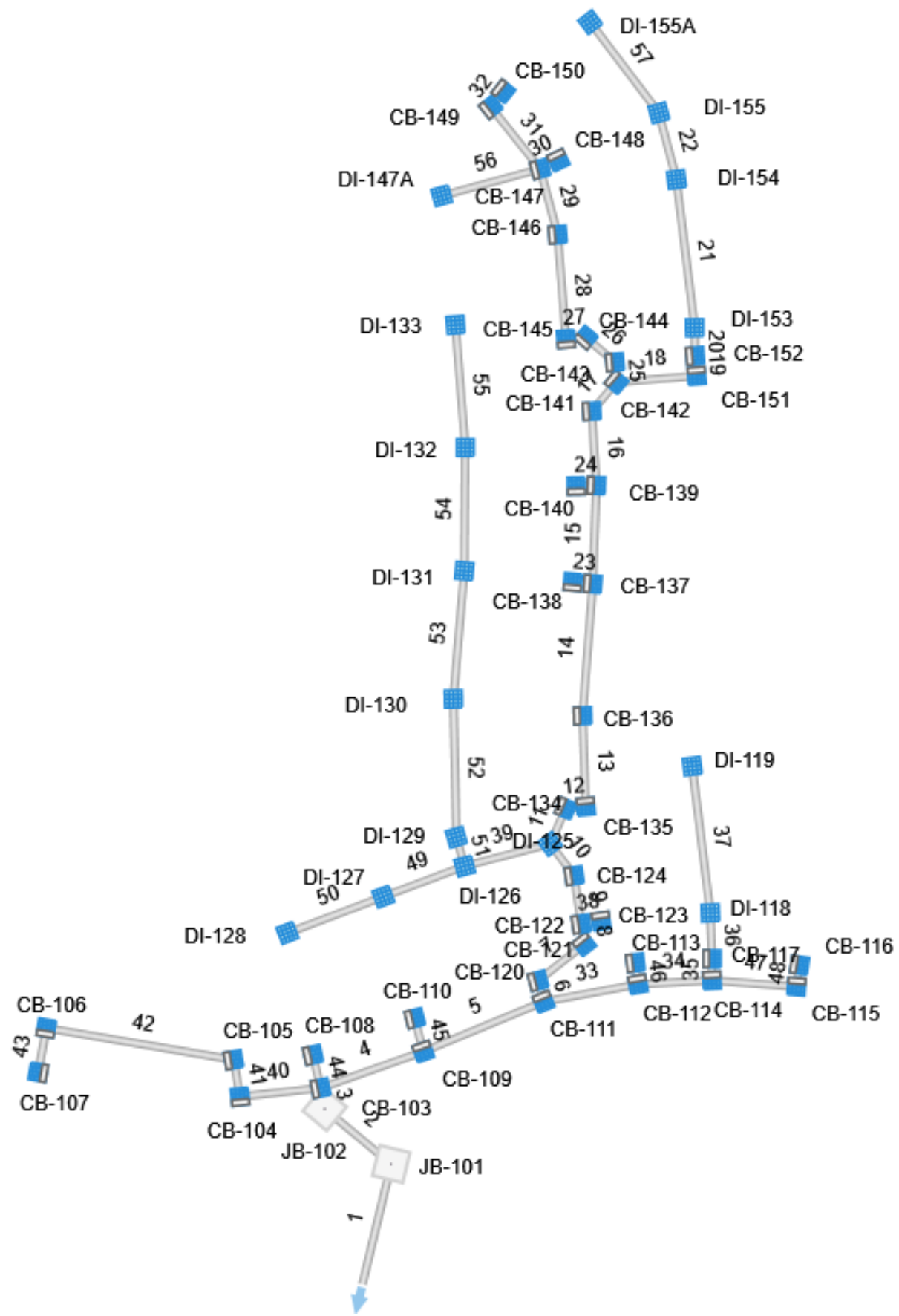
SYSTEM 100 – REPORTS AND PROFILES

Plan View

Stormwater Studio 2024 v 3.0.0.35

Project Name: Storm System 100

11-19-2024



Storm Sewer Tabulation

Stormwater Studio 2024 v 3.0.0.35

Project Name: Storm System 100

11-22-2024

Line ID	Length	Drng Area		Rational	C x A		Tc		Intensity	Total Q	Capacity	Velocity	Line		Invert Elev		HGL Elev		Surface Elev		Line No
		Incr	Total		Incr	Total	Inlet	Syst					Size	Slope	Up	Dn	Up	Dn	Up	Dn	
	(ft)	(ac)	(ac)	(C)			(min)	(min)	(in/hr)	(cfs)	(cfs)	(ft/s)	(in)	(%)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	
100-101	149.04	0.000	10.750	0.00	0.00	7.49	5.0	9.36	6.00	44.88	166.06	3.89	48	1.34	254.99	253.00	258.16	258.09	271.69	257.00	1
101-102	105.40	0.000	10.750	0.00	0.00	7.49	0.0	9.16	6.04	45.22	129.31	4.95	48	0.81	255.95	255.09	258.31	258.41	267.48	271.69	2
102-103	25.78	0.100	10.750	0.80	0.08	7.49	5.0	9.12	6.05	45.30	143.65	5.47	48	1.00	256.30	256.05	258.64	258.75	271.94	267.48	3
103-109	132.94	0.120	9.430	0.80	0.10	6.55	5.0	8.86	6.11	40.04	130.63	7.53	48	0.83	260.70	259.60	262.57	261.26	272.92	271.94	4
109-111	158.72	0.090	9.110	0.80	0.07	6.30	5.0	8.53	6.19	38.97	117.24	6.28	48	0.67	261.85	260.80	263.70	262.94	278.54	272.92	5
111-120	26.50	0.060	7.190	0.80	0.05	4.97	5.0	8.47	6.20	30.85	86.30	6.78	42	0.74	262.45	262.25	264.15	263.91	278.54	278.54	6
120-121	71.68	0.010	7.130	0.85	0.01	4.93	5.0	8.33	6.24	30.73	60.85	6.57	36	0.83	263.15	262.55	264.91	264.57	280.39	278.54	7
121-122	25.09	0.080	7.120	0.80	0.06	4.92	5.0	8.28	6.25	30.73	66.69	7.33	36	1.00	263.50	263.25	265.26	264.92	280.31	280.39	8
122-124	59.62	0.020	6.810	0.85	0.02	4.67	5.0	8.16	6.28	29.32	61.46	7.27	36	0.85	264.10	263.60	265.83	265.21	280.72	280.31	9
124-125	48.51	0.050	6.790	0.65	0.03	4.65	5.0	8.06	6.30	29.33	60.18	7.21	36	0.81	264.60	264.20	266.32	265.84	280.63	280.72	10
125-134	47.11	0.280	4.210	0.80	0.22	2.98	5.0	7.99	6.32	18.81	72.74	7.96	30	3.15	276.19	274.70	277.63	275.76	282.63	280.63	11
134-135	24.50	0.110	3.930	0.80	0.09	2.75	5.0	7.94	6.33	17.43	37.51	6.32	30	0.84	276.50	276.30	277.90	277.64	282.63	282.63	12
135-136	110.83	0.140	3.820	0.80	0.11	2.66	5.0	7.80	6.37	16.97	86.64	8.94	30	4.46	281.55	276.60	282.92	277.44	287.51	282.63	13
136-137	161.14	0.060	3.680	0.85	0.05	2.55	5.0	7.54	6.43	16.42	64.63	7.98	30	2.48	285.65	281.65	287.00	282.57	295.25	287.51	14
137-139	120.02	0.050	3.500	0.85	0.04	2.41	5.0	7.23	6.52	15.68	31.77	5.46	30	0.60	286.47	285.75	287.79	287.28	300.91	295.25	15
139-141	90.82	0.040	3.310	0.85	0.03	2.25	5.0	7.02	6.58	14.80	39.16	5.31	30	0.91	287.40	286.57	288.68	288.07	304.31	300.91	16
141-142	46.32	0.060	3.270	0.85	0.05	2.22	5.0	6.90	6.61	14.64	35.81	6.02	30	0.76	287.85	287.50	289.13	288.70	305.61	304.31	17
142-151	98.12	0.080	1.710	0.80	0.06	1.10	5.0	6.63	6.69	7.32	9.49	5.74	18	0.82	288.85	288.05	289.88	289.05	309.69	305.61	18
151-152	24.50	0.120	1.630	0.75	0.09	1.03	5.0	6.55	6.71	6.91	9.37	5.53	18	0.80	289.15	288.95	290.15	289.94	309.69	309.69	19
152-153	34.30	0.100	1.510	0.50	0.05	0.94	5.0	6.44	6.74	6.34	8.08	3.84	18	0.59	289.45	289.25	290.72	290.64	303.17	309.69	20
153-154	182.03	0.510	1.410	0.60	0.31	0.89	5.0	5.84	6.92	6.16	8.17	5.24	18	0.60	290.65	289.55	291.60	290.49	298.59	303.17	21
154-155	83.99	0.170	0.900	0.65	0.11	0.59	5.0	5.53	7.01	4.10	8.10	3.49	18	0.60	291.25	290.75	292.05	291.95	297.97	298.59	22

Notes: IDF File = Pearce Farm IDF.idf, Return Period = 10-yrs.

Project File: Storm System 100.sws

Storm Sewer Tabulation

Stormwater Studio 2024 v 3.0.0.35

Project Name: Storm System 100

11-22-2024

Line ID	Length	Drng Area		Rational	C x A		Tc		Intensity	Total Q	Capacity	Velocity	Line		Invert Elev		HGL Elev		Surface Elev		Line No
		Incr	Total		Incr	Total	Inlet	Syst					Size	Slope	Up	Dn	Up	Dn	Up	Dn	
	(ft)	(ac)	(ac)	(C)			(min)	(min)	(in/hr)	(cfs)	(cfs)	(ft/s)	(in)	(%)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	
137-138	24.50	0.120	0.120	0.80	0.10	0.10	5.0	5.00	7.19	0.69	6.46	2.88	15	1.00	290.50	290.26	290.83	290.55	295.25	295.25	23
139-140	24.50	0.140	0.140	0.80	0.11	0.11	5.0	5.00	7.19	0.80	6.46	3.01	15	1.00	296.16	295.92	296.52	296.23	300.91	300.91	24
142-143	24.50	0.060	1.500	0.80	0.05	1.07	5.0	6.36	6.76	7.24	9.37	5.62	18	0.80	289.20	289.00	290.23	290.02	305.61	305.61	25
143-144	46.32	0.050	1.440	0.80	0.04	1.02	5.0	6.23	6.80	6.95	9.80	4.84	18	0.87	289.70	289.30	290.71	290.63	305.05	305.61	26
144-145	24.50	0.020	1.390	0.80	0.02	0.98	5.0	6.16	6.82	6.70	9.61	4.57	18	0.84	290.00	289.80	291.08	291.07	305.05	305.05	27
145-146	127.68	0.120	1.370	0.80	0.10	0.97	5.0	5.78	6.94	6.70	9.28	5.53	18	0.78	291.10	290.10	292.09	291.06	301.75	305.05	28
146-147	82.81	0.090	1.250	0.80	0.07	0.87	5.0	5.51	7.02	6.11	8.19	5.21	18	0.61	291.70	291.20	292.65	292.14	298.81	301.75	29
147-148	24.50	0.220	0.220	0.80	0.18	0.18	5.0	5.00	7.19	1.26	6.46	3.43	15	1.00	294.06	293.82	294.51	294.22	298.81	298.81	30
147-149	96.52	0.330	0.610	0.65	0.21	0.42	5.0	5.10	7.16	3.04	5.48	3.13	15	0.72	292.50	291.80	293.27	293.08	297.49	298.81	31
149-150	24.50	0.280	0.280	0.75	0.21	0.21	5.0	5.00	7.19	1.51	6.46	1.71	15	1.00	292.84	292.60	293.58	293.59	297.49	297.49	32
111-112	117.03	0.070	1.830	0.80	0.06	1.25	5.0	6.07	6.85	8.56	22.62	5.75	24	1.00	272.32	271.15	273.36	272.04	282.34	278.54	33
112-114	90.28	0.070	1.690	0.80	0.06	1.14	5.0	5.83	6.92	7.88	22.62	5.55	24	1.00	273.32	272.42	274.32	273.28	285.27	282.34	34
114-117	26.50	0.080	1.050	0.80	0.06	0.65	5.0	5.75	6.94	4.49	10.50	4.87	18	1.00	274.09	273.82	274.90	274.57	285.27	285.27	35
117-118	55.96	0.580	0.970	0.60	0.35	0.58	5.0	5.59	7.00	4.07	10.50	4.81	18	1.00	274.75	274.19	275.52	274.87	279.75	285.27	36
118-119	180.20	0.390	0.390	0.60	0.23	0.23	5.0	5.00	7.19	1.68	4.29	4.41	12	1.45	277.86	275.25	278.41	275.69	282.36	279.75	37
122-123	24.50	0.230	0.230	0.80	0.18	0.18	5.0	5.00	7.19	1.32	6.46	3.48	15	1.00	275.56	275.32	276.02	275.73	280.31	280.31	38
125-126	107.76	0.310	2.530	0.65	0.20	1.64	5.0	6.65	6.68	10.98	17.53	3.65	24	0.60	265.45	264.80	267.17	266.96	278.20	280.63	39
103-104	98.60	0.080	1.060	0.80	0.06	0.72	5.0	6.25	6.79	4.92	8.16	2.93	18	0.60	258.05	257.45	259.32	259.14	270.60	271.94	40
104-105	45.59	0.120	0.980	0.80	0.10	0.66	5.0	6.11	6.83	4.51	9.79	3.62	18	0.87	258.55	258.15	259.39	259.41	270.36	270.60	41
105-106	231.69	0.620	0.860	0.60	0.37	0.56	5.0	5.27	7.10	4.00	8.18	4.51	18	0.61	260.05	258.65	260.82	259.39	264.81	270.36	42
106-107	54.75	0.240	0.240	0.80	0.19	0.19	5.0	5.00	7.19	1.38	4.76	1.72	15	0.54	260.45	260.15	261.12	261.10	264.91	264.81	43
103-108	41.50	0.160	0.160	0.80	0.13	0.13	5.0	5.00	7.19	0.92	6.46	3.17	15	1.00	267.19	266.78	267.57	267.11	271.94	271.94	44

Notes: IDF File = Pearce Farm IDF.idf, Return Period = 10-yrs.

Project File: Storm System 100.sws

Storm Sewer Tabulation

Stormwater Studio 2024 v 3.0.0.35

Project Name: Storm System 100

11-22-2024

Line ID	Length	Drng Area		Rational	C x A		Tc		Intensity	Total Q	Capacity	Velocity	Line		Invert Elev		HGL Elev		Surface Elev		Line No
		Incr	Total		Incr	Total	Inlet	Syst					Size	Slope	Up	Dn	Up	Dn	Up	Dn	
	(ft)	(ac)	(ac)	(C)			(min)	(min)	(in/hr)	(cfs)	(cfs)	(ft/s)	(in)	(%)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	
109-110	41.91	0.200	0.200	0.80	0.16	0.16	5.0	5.00	7.19	1.15	10.56	4.04	15	2.67	269.29	268.17	269.72	268.47	274.04	272.92	45
112-113	26.50	0.070	0.070	0.80	0.06	0.06	5.0	5.00	7.19	0.40	6.46	2.47	15	1.00	277.58	277.32	277.83	277.54	282.33	282.34	46
114-115	103.40	0.180	0.570	0.80	0.14	0.44	5.0	5.09	7.16	3.12	9.60	5.45	15	2.21	282.80	280.52	283.51	281.04	287.81	285.27	47
115-116	26.54	0.390	0.390	0.75	0.29	0.29	5.0	5.00	7.19	2.10	6.46	4.00	15	1.00	283.17	282.90	283.75	283.43	287.82	287.81	48
126-127	105.93	0.300	0.710	0.65	0.20	0.46	5.0	5.52	7.02	3.24	8.89	2.19	18	0.72	266.45	265.70	267.47	267.39	275.09	278.20	49
127-128	124.97	0.410	0.410	0.65	0.27	0.27	5.0	5.00	7.19	1.92	5.32	3.80	15	0.68	267.55	266.70	268.11	267.23	271.38	275.09	50
126-128	36.69	0.390	1.510	0.65	0.25	0.98	5.0	6.60	6.69	6.57	27.94	7.83	18	7.08	276.80	274.20	277.77	274.78	280.60	278.20	51
129-130	168.62	0.370	1.120	0.65	0.24	0.73	5.0	6.29	6.78	4.94	19.31	6.72	18	3.38	282.60	276.90	283.45	277.43	286.27	280.60	52
130-131	156.50	0.380	0.750	0.65	0.25	0.49	5.0	6.00	6.87	3.35	13.76	6.62	15	4.54	289.95	282.85	290.68	283.29	293.39	286.27	53
131-132	150.33	0.210	0.370	0.65	0.14	0.24	5.0	5.70	6.96	1.67	8.16	5.82	12	5.25	298.10	290.20	298.65	290.52	301.43	293.39	54
132-133	150.00	0.160	0.160	0.65	0.10	0.10	5.0	5.00	7.19	0.75	3.56	2.12	12	1.00	299.70	298.20	300.07	298.85	302.77	301.43	55
147-147A	124.43	0.330	0.330	0.60	0.20	0.20	5.0	5.00	7.19	1.42	6.14	2.26	15	0.90	293.12	292.00	293.60	293.12	296.37	298.81	56
155-155A	138.58	0.730	0.730	0.65	0.47	0.47	5.0	5.00	7.19	3.41	4.92	4.33	15	0.58	292.30	291.50	293.06	292.27	295.55	297.97	57

Notes: IDF File = Pearce Farm IDF.idf, Return Period = 10-yrs.

Project File: Storm System 100.sws

Energy Grade Line Calculations

Stormwater Studio 2024 v 3.0.0.35

Project Name: Storm System 100

11-22-2024

Line No	Line Size	Q	Downstream							Length	Upstream							Pipe		Junction		
			Invert Elev	Depth	Area	HGL Elev	Vel	Vel Head	EGL Elev		Invert Elev	Depth	Area	HGL Elev	Vel	Vel Head	EGL Elev	n Value	Enrgy Loss	HGLa Elev	EGLa Elev	Enrgy Loss
	(in)	(cfs)	(ft)	(ft)	(sqft)	(ft)	(ft/s)	(ft)	(ft)	(ft)	(ft)	(ft)	(sqft)	(ft)	(ft/s)	(ft)	(ft)		(ft)	(ft)	(ft)	(ft)
1	48	44.88	253.00	4.00	12.56	258.09	3.57	0.20	258.29	149.04	254.99	3.17	10.69	258.16	4.20	0.27	258.44	0.013	0.149	258.30	258.58	0.14
2	48	45.22	255.09	3.32	11.16	258.41	4.05	0.26	258.67	105.40	255.95	2.37	7.74	258.31	5.84	0.53	258.84	0.013	0.174	258.49	259.02	0.17
3	48	45.30	256.05	2.70	9.04	258.75	5.01	0.39	259.14	25.78	256.30	2.34	7.63	258.64	5.93	0.55	259.19	0.013	0.050	258.66	259.21	0.02
4	48	40.04	259.60	1.66‡	4.93	261.26	8.12	1.03	262.22	132.94	260.70	1.87²	5.77	262.57	6.94	0.75	263.32	0.013	1.099	262.57	263.32	0.00
5	48	38.97	260.80	2.14	6.86	262.94	5.68	0.50	263.44	158.72	261.85	1.85²	5.67	263.70	6.87	0.73	264.43	0.013	0.992	263.70	264.43	0.00
6	42	30.85	262.25	1.65‡	4.47	263.91	6.90	0.74	264.69	26.50	262.45	1.70²	4.64	264.15	6.65	0.69	264.84	0.013	0.143	264.15	264.84	0.00
7	36	30.73	262.55	2.03	5.08	264.57	6.05	0.57	265.14	71.68	263.15	1.77²	4.33	264.91	7.10	0.78	265.70	0.013	0.552	264.91	265.70	0.00
8	36	30.73	263.25	1.68‡	4.07	264.92	7.55	0.89	265.84	25.09	263.50	1.77²	4.33	265.26	7.10	0.78	266.05	0.013	0.209	265.26	266.05	0.00
9	36	29.32	263.60	1.61‡	3.87	265.21	7.58	0.89	266.18	59.62	264.10	1.73	4.21	265.83	6.97	0.75	266.58	0.013	0.406	265.90	266.65	0.07
10	36	29.33	264.20	1.63‡	3.93	265.84	7.45	0.86	266.78	48.51	264.60	1.73²	4.21	266.32	6.97	0.75	267.08	0.013	0.296	266.32	267.08	0.00
11	30	18.81	274.70	1.06‡	1.97	275.76	9.54	1.42	276.78	47.11	276.19	1.45²	2.95	277.63	6.37	0.63	278.27	0.013	1.482	277.63	278.27	0.00
12	30	17.43	276.30	1.34‡	2.69	277.64	6.49	0.65	278.37	24.50	276.50	1.40	2.83	277.90	6.15	0.59	278.49	0.013	0.124	277.94	278.52	0.03
13	30	16.97	276.60	0.84‡	1.44	277.44	11.76	2.15	278.62	110.83	281.55	1.38²	2.77	282.92	6.12	0.58	283.51	0.013	4.884	282.92	283.51	0.00
14	30	16.42	281.65	0.93‡	1.66	282.57	9.91	1.53	283.60	161.14	285.65	1.35²	2.71	287.00	6.05	0.57	287.57	0.013	3.967	287.00	287.57	0.00
15	30	15.68	285.75	1.53	3.15	287.28	4.97	0.38	287.66	120.02	286.47	1.32²	2.64	287.79	5.94	0.55	288.34	0.013	0.677	287.79	288.34	0.00
16	30	14.80	286.57	1.50	3.08	288.07	4.80	0.36	288.43	90.82	287.40	1.29²	2.54	288.68	5.82	0.53	289.21	0.013	0.779	288.68	289.21	0.00
17	30	14.64	287.50	1.21‡	2.34	288.70	6.25	0.61	289.30	46.32	287.85	1.28²	2.53	289.13	5.80	0.52	289.65	0.013	0.353	289.13	289.65	0.00
18	18	7.32	288.05	1.00‡	1.26	289.05	5.83	0.53	289.75	98.12	288.85	1.03²	1.30	289.88	5.64	0.49	290.38	0.013	0.624	289.88	290.38	0.00
19	18	6.91	288.95	0.99‡	1.24	289.94	5.57	0.48	290.47	24.50	289.15	1.01	1.26	290.15	5.48	0.47	290.62	0.013	0.154	290.31	290.77	0.15
20	18	6.34	289.25	1.39	1.71	290.64	3.71	0.21	290.85	34.30	289.45	1.27	1.60	290.72	3.98	0.25	290.96	0.013	0.114	290.75	290.99	0.03
21	18	6.16	289.55	0.95‡	1.17	290.49	5.25	0.43	291.07	182.03	290.65	0.95²	1.18	291.60	5.24	0.43	292.02	0.013	0.958	291.60	292.02	0.00
22	18	4.10	290.75	1.20	1.51	291.95	2.71	0.11	292.06	83.99	291.25	0.80	0.96	292.05	4.26	0.28	292.33	0.013	0.273	292.11	292.39	0.06

Notes: Return Period = 10-yrs. ² Critical depth. ‡ Supercritical.

Project File: Storm System 100.sws

Energy Grade Line Calculations

Stormwater Studio 2024 v 3.0.0.35

Project Name: Storm System 100

11-22-2024

Line No	Line Size	Q	Downstream							Length	Upstream							Pipe		Junction		
			Invert Elev	Depth	Area	HGL Elev	Vel	Vel Head	EGL Elev		Invert Elev	Depth	Area	HGL Elev	Vel	Vel Head	EGL Elev	n Value	Enrgy Loss	HGLa Elev	EGLa Elev	Enrgy Loss
	(in)	(cfs)	(ft)	(ft)	(sqft)	(ft)	(ft/s)	(ft)	(ft)	(ft)	(ft)	(ft)	(sqft)	(ft)	(ft/s)	(ft)	(ft)		(ft)	(ft)	(ft)	(ft)
23	15	0.69	290.26	0.30‡	0.22	290.55	3.12	0.15	290.70	24.50	290.50	0.33²	0.26	290.83	2.64	0.11	290.94	0.013	0.245	290.83	290.94	0.00
24	15	0.80	295.92	0.32‡	0.25	296.23	3.25	0.16	296.39	24.50	296.16	0.36²	0.29	296.52	2.76	0.12	296.64	0.013	0.245	296.52	296.64	0.00
25	18	7.24	289.00	1.02‡	1.28	290.02	5.65	0.50	290.52	24.50	289.20	1.03	1.29	290.23	5.59	0.49	290.71	0.013	0.195	290.33	290.81	0.10
26	18	6.95	289.30	1.33	1.66	290.63	4.19	0.27	290.90	46.32	289.70	1.01	1.27	290.71	5.49	0.47	291.18	0.013	0.276	290.79	291.26	0.08
27	18	6.70	289.80	1.27	1.60	291.07	4.19	0.27	291.34	24.50	290.00	1.07	1.36	291.08	4.95	0.38	291.46	0.013	0.114	291.12	291.50	0.04
28	18	6.70	290.10	0.96‡	1.19	291.06	5.63	0.49	291.59	127.68	291.10	0.99²	1.23	292.09	5.43	0.46	292.55	0.013	0.960	292.09	292.55	0.00
29	18	6.11	291.20	0.94‡	1.17	292.14	5.23	0.43	292.62	82.81	291.70	0.95	1.18	292.65	5.20	0.42	293.07	0.013	0.450	292.72	293.14	0.07
30	15	1.26	293.82	0.40‡	0.34	294.22	3.68	0.21	294.42	24.50	294.06	0.45²	0.40	294.51	3.18	0.16	294.67	0.013	0.245	294.51	294.67	0.00
31	15	3.04	291.80	1.25	1.23	293.08	2.48	0.10	293.18	96.52	292.50	0.78	0.80	293.27	3.79	0.22	293.50	0.013	0.320	293.39	293.61	0.11
32	15	1.51	292.60	0.99	1.05	293.59	1.44	0.03	293.62	24.50	292.84	0.74	0.76	293.58	1.99	0.06	293.64	0.013	0.023	293.63	293.69	0.05
33	24	8.56	271.15	0.89‡	1.36	272.04	6.30	0.62	272.61	117.03	272.32	1.04²	1.64	273.36	5.21	0.42	273.78	0.013	1.170	273.36	273.78	0.00
34	24	7.88	272.42	0.86‡	1.30	273.28	6.06	0.57	273.84	90.28	273.32	0.99²	1.56	274.32	5.05	0.40	274.71	0.013	0.871	274.32	274.71	0.00
35	18	4.49	273.82	0.75‡	0.88	274.57	5.11	0.41	274.96	26.50	274.09	0.81²	0.97	274.90	4.62	0.33	275.23	0.013	0.265	274.90	275.23	0.00
36	18	4.07	274.19	0.69‡	0.79	274.87	5.17	0.42	275.27	55.96	274.75	0.77²	0.91	275.52	4.46	0.31	275.83	0.013	0.555	275.52	275.83	0.00
37	12	1.68	275.25	0.44‡	0.34	275.69	5.02	0.39	276.02	180.20	277.86	0.55²	0.44	278.41	3.80	0.22	278.63	0.013	2.612	278.41	278.63	0.00
38	15	1.32	275.32	0.41‡	0.35	275.73	3.74	0.22	275.94	24.50	275.56	0.46²	0.41	276.02	3.22	0.16	276.18	0.013	0.245	276.02	276.18	0.00
39	24	10.98	264.80	2.00	3.14	266.96	3.50	0.19	267.15	107.76	265.45	1.73	2.88	267.17	3.81	0.23	267.40	0.013	0.244	267.20	267.42	0.02
40	18	4.92	257.45	1.50	1.77	259.14	2.78	0.12	259.26	98.60	258.05	1.27	1.60	259.32	3.08	0.15	259.47	0.013	0.209	259.35	259.49	0.03
41	18	4.51	258.15	1.26	1.59	259.41	2.84	0.13	259.54	45.59	258.55	0.84	1.02	259.39	4.40	0.30	259.69	0.013	0.153	259.50	259.80	0.11
42	18	4.00	258.65	0.74‡	0.87	259.39	4.59	0.33	259.84	231.69	260.05	0.76²	0.90	260.82	4.43	0.30	261.12	0.013	1.277	260.82	261.12	0.00
43	15	1.38	260.15	0.95	1.00	261.10	1.38	0.03	261.13	54.75	260.45	0.67	0.67	261.12	2.07	0.07	261.18	0.013	0.054	261.16	261.23	0.04
44	15	0.92	266.78	0.34‡	0.27	267.11	3.46	0.19	267.29	41.50	267.19	0.38²	0.32	267.57	2.88	0.13	267.70	0.013	0.415	267.57	267.70	0.00

Notes: Return Period = 10-yrs. ² Critical depth. ‡ Supercritical.

Project File: Storm System 100.sws

Energy Grade Line Calculations

Stormwater Studio 2024 v 3.0.0.35

Project Name: Storm System 100

11-22-2024

Line No	Line Size	Q	Downstream							Length	Upstream							Pipe		Junction		
			Invert Elev	Depth	Area	HGL Elev	Vel	Vel Head	EGL Elev		Invert Elev	Depth	Area	HGL Elev	Vel	Vel Head	EGL Elev	n Value	Enrgy Loss	HGLa Elev	EGLa Elev	Enrgy Loss
	(in)	(cfs)	(ft)	(ft)	(sqft)	(ft)	(ft/s)	(ft)	(ft)	(ft)	(ft)	(ft)	(sqft)	(ft)	(ft/s)	(ft)	(ft)		(ft)	(ft)	(ft)	(ft)
45	15	1.15	268.17	0.30‡	0.23	268.47	5.00	0.39	268.75	41.91	269.29	0.43²	0.37	269.72	3.08	0.15	269.87	0.013	1.120	269.72	269.87	0.00
46	15	0.40	277.32	0.22‡	0.15	277.54	2.69	0.11	277.65	26.50	277.58	0.25²	0.18	277.83	2.25	0.08	277.91	0.013	0.265	277.83	277.91	0.00
47	15	3.12	280.52	0.52‡	0.48	281.04	6.54	0.66	281.52	103.40	282.80	0.71²	0.72	283.51	4.36	0.30	283.81	0.013	2.285	283.51	283.81	0.00
48	15	2.10	282.90	0.53‡	0.49	283.43	4.27	0.28	283.83	26.54	283.17	0.58	0.56	283.75	3.74	0.22	283.97	0.013	0.138	283.85	284.07	0.09
49	18	3.24	265.70	1.50	1.77	267.39	1.83	0.05	267.44	105.93	266.45	1.01	1.27	267.47	2.55	0.10	267.57	0.013	0.129	267.54	267.64	0.07
50	15	1.92	266.70	0.52‡	0.49	267.23	3.95	0.24	267.66	124.97	267.55	0.55²	0.52	268.11	3.65	0.21	268.32	0.013	0.655	268.11	268.32	0.00
51	18	6.57	274.20	0.59‡	0.64	274.78	10.27	1.64	275.63	36.69	276.80	0.98²	1.22	277.77	5.38	0.45	278.22	0.013	2.597	277.77	278.22	0.00
52	18	4.94	276.90	0.54‡	0.57	277.43	8.65	1.16	278.28	168.62	282.60	0.85²	1.03	283.45	4.79	0.36	283.80	0.013	5.528	283.45	283.80	0.00
53	15	3.35	282.85	0.44‡	0.38	283.29	8.76	1.19	283.92	156.50	289.95	0.73²	0.75	290.68	4.48	0.31	290.99	0.013	7.074	290.68	290.99	0.00
54	12	1.67	290.20	0.32‡	0.21	290.52	7.85	0.96	291.03	150.33	298.10	0.55²	0.44	298.65	3.79	0.22	298.87	0.013	7.847	298.65	298.87	0.00
55	12	0.75	298.20	0.65	0.54	298.85	1.38	0.03	298.88	150.00	299.70	0.37²	0.26	300.07	2.86	0.13	300.19	0.013	1.312	300.07	300.19	0.00
56	15	1.42	292.00	1.12	1.16	293.12	1.22	0.02	293.15	124.43	293.12	0.48²	0.43	293.60	3.30	0.17	293.77	0.013	0.624	293.60	293.77	0.00
57	15	3.41	291.50	0.77	0.79	292.27	4.30	0.29	292.56	138.58	292.30	0.76	0.78	293.06	4.36	0.30	293.36	0.013	0.805	293.24	293.53	0.17

Notes: Return Period = 10-yrs. ² Critical depth. ‡ Supercritical.

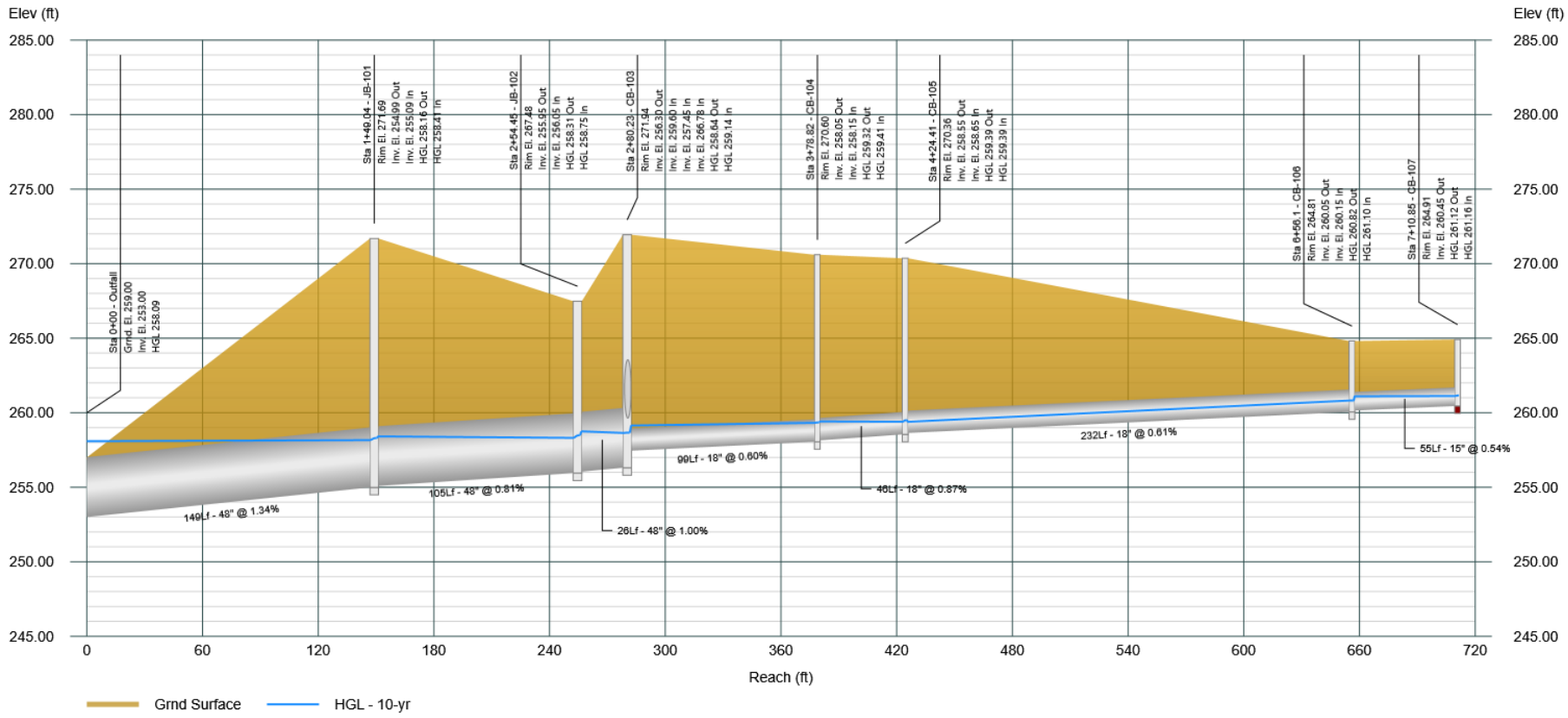
Project File: Storm System 100.sws

Profile View

Stormwater Studio 2024 v 3.0.0.35

Project Name: Storm System 100

11-22-2024



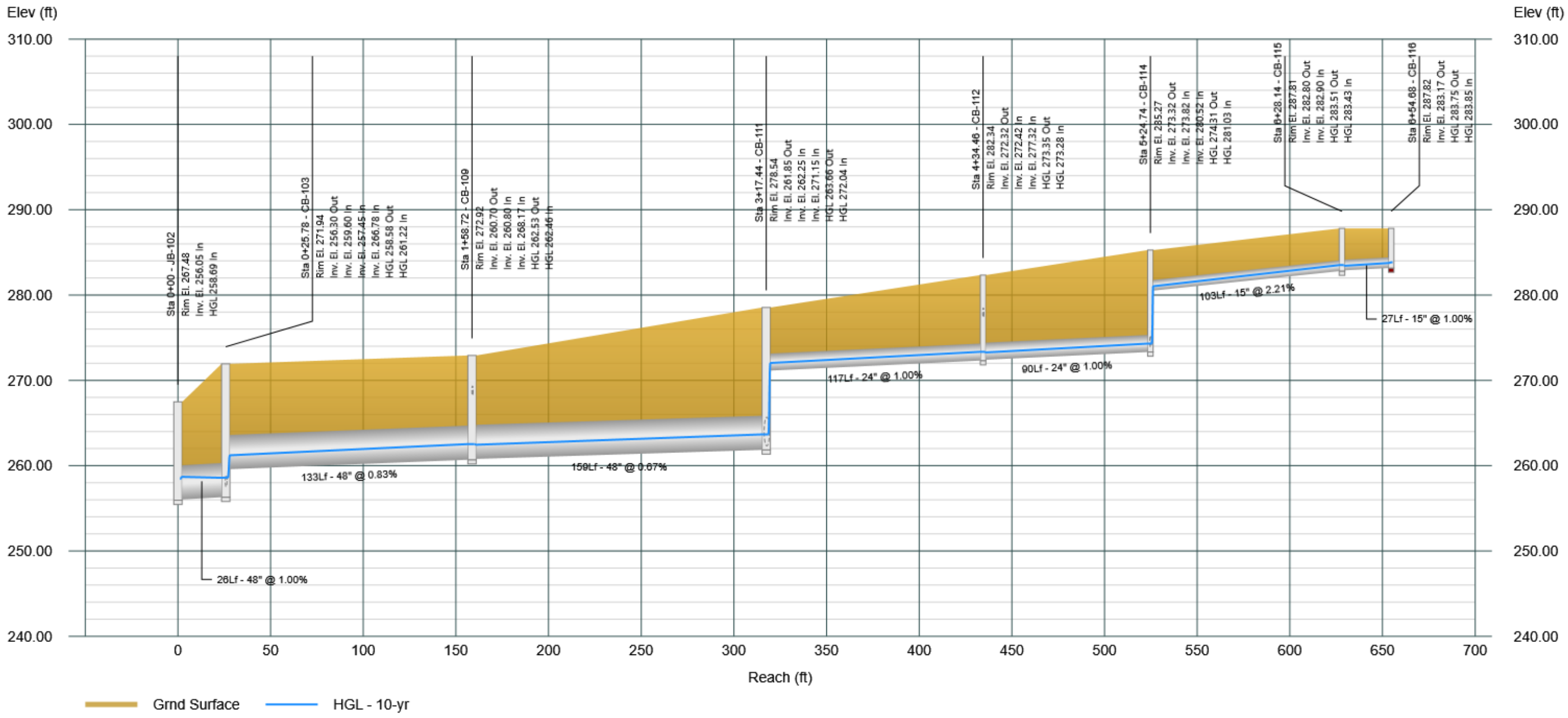
Project File: Storm System 100.sws

Profile View

Stormwater Studio 2024 v 3.0.0.35

Project Name: Storm System 100

11-19-2024



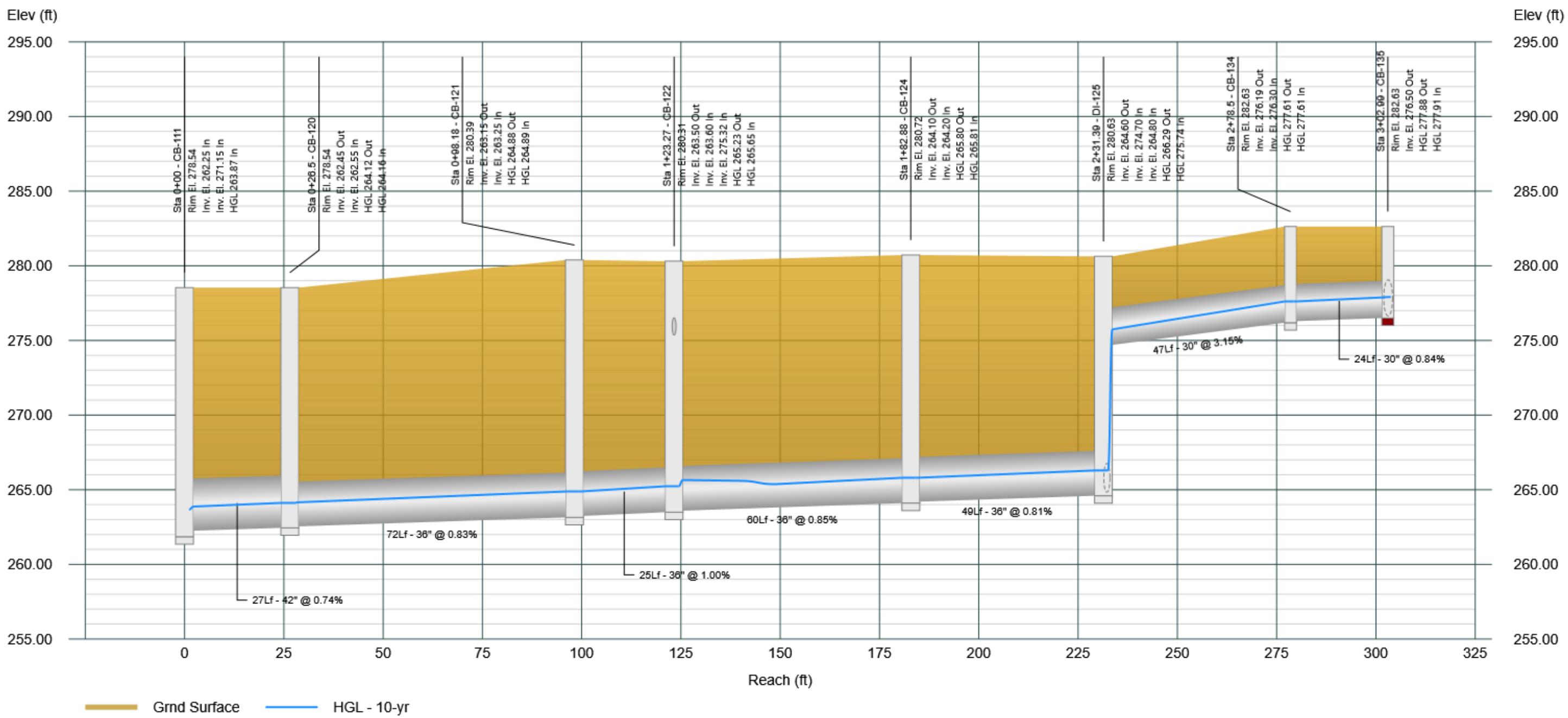
Project File: Storm System 100.sws

Profile View

Stormwater Studio 2024 v 3.0.0.35

Project Name: Storm System 100

11-19-2024

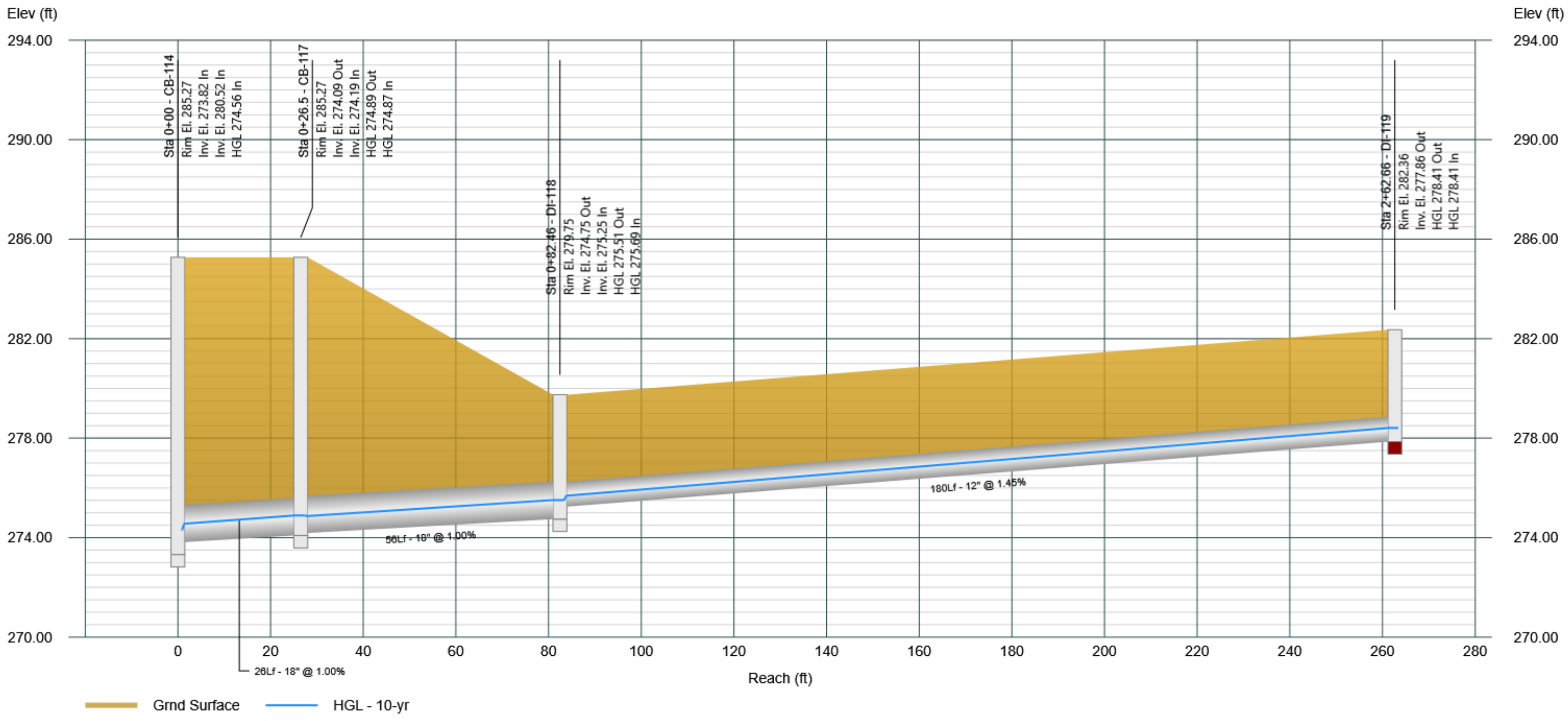


Profile View

Stormwater Studio 2024 v 3.0.0.35

Project Name: Storm System 100

11-19-2024

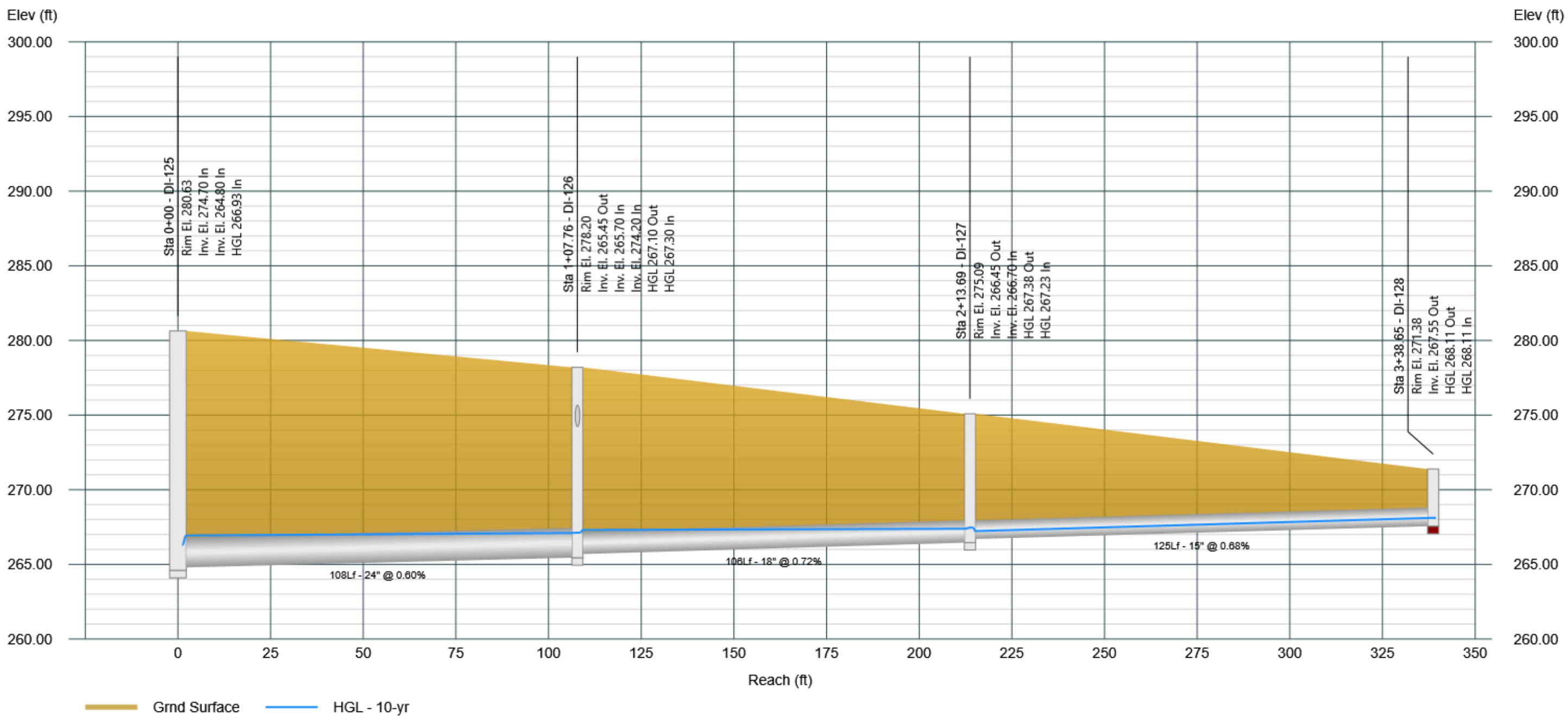


Profile View

Stormwater Studio 2024 v 3.0.0.35

Project Name: Storm System 100

11-19-2024

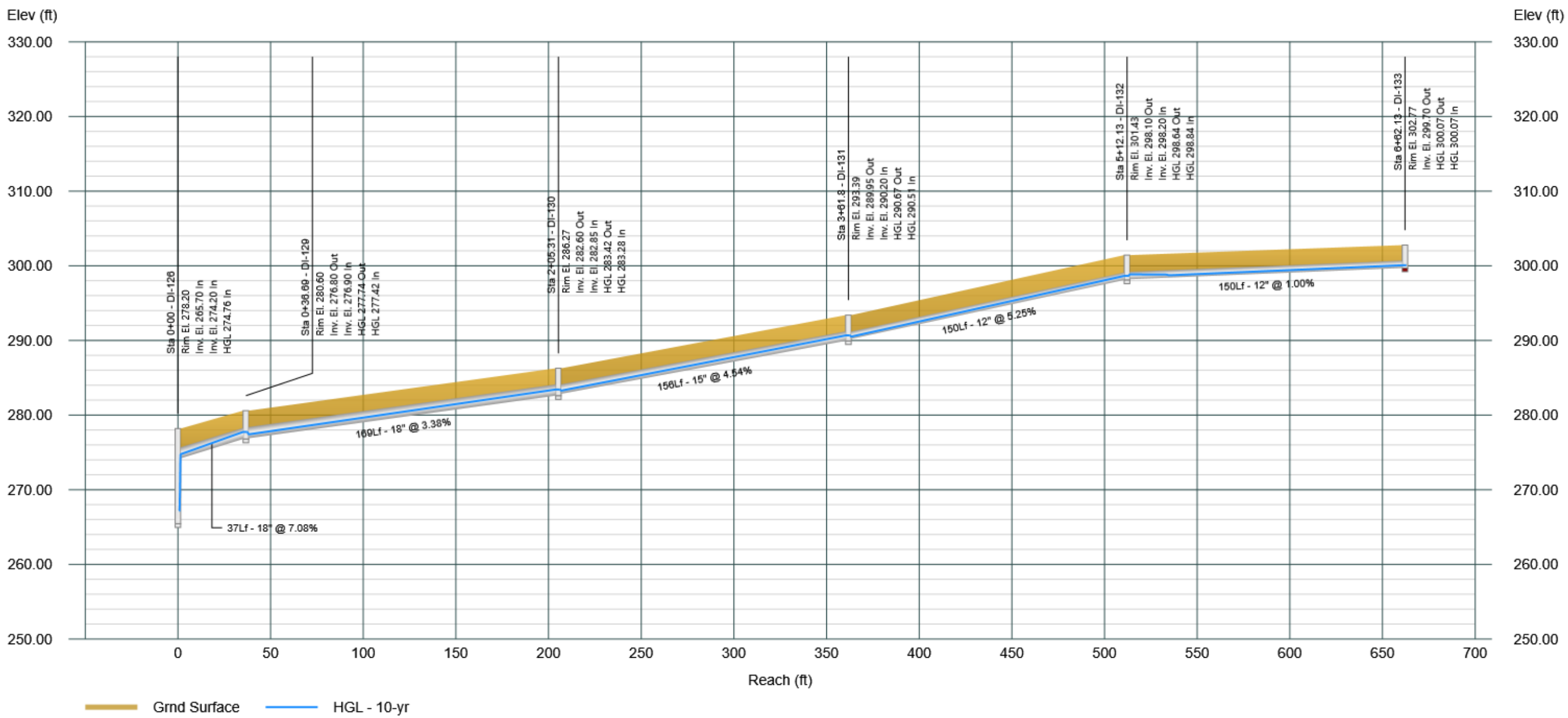


Profile View

Stormwater Studio 2024 v 3.0.0.35

Project Name: Storm System 100

11-19-2024

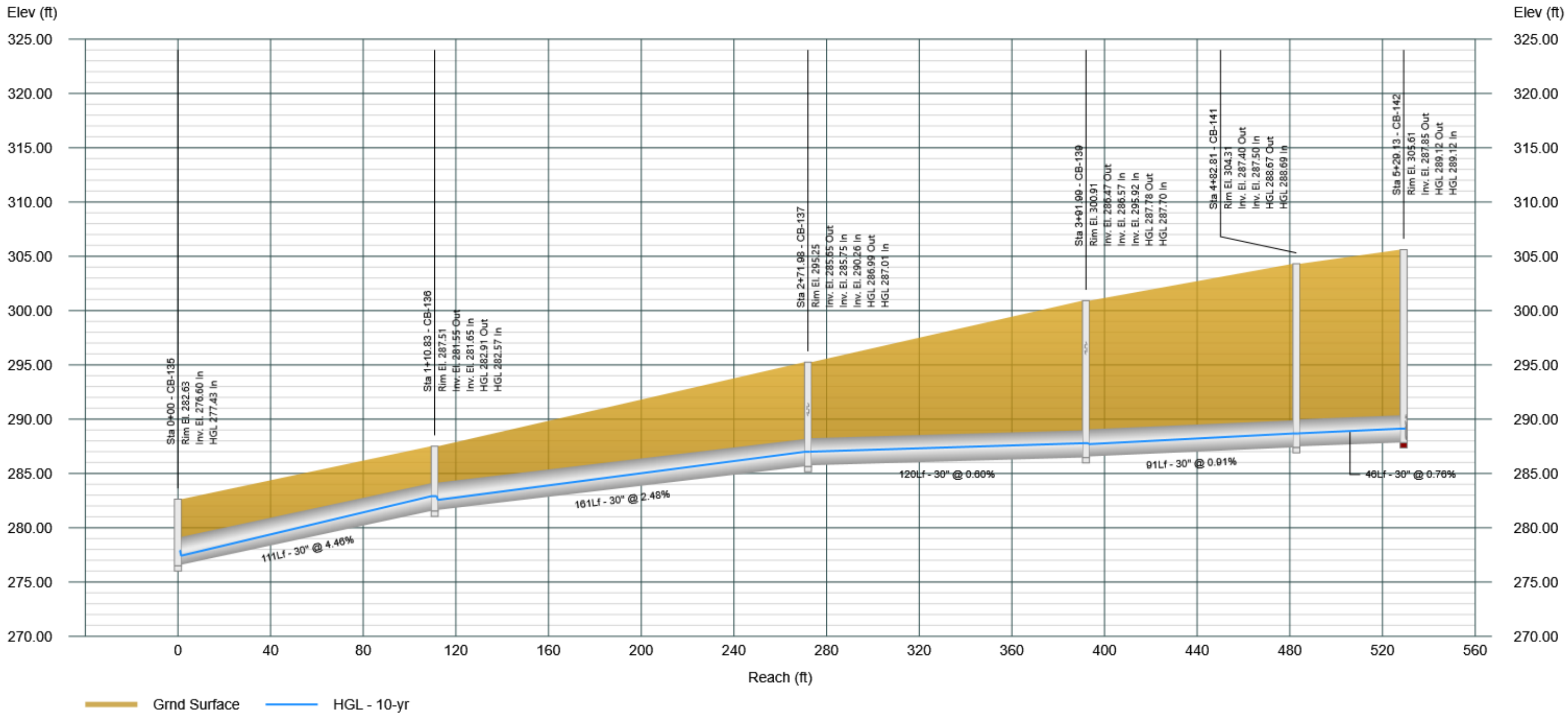


Profile View

Stormwater Studio 2024 v 3.0.0.35

Project Name: Storm System 100

11-19-2024

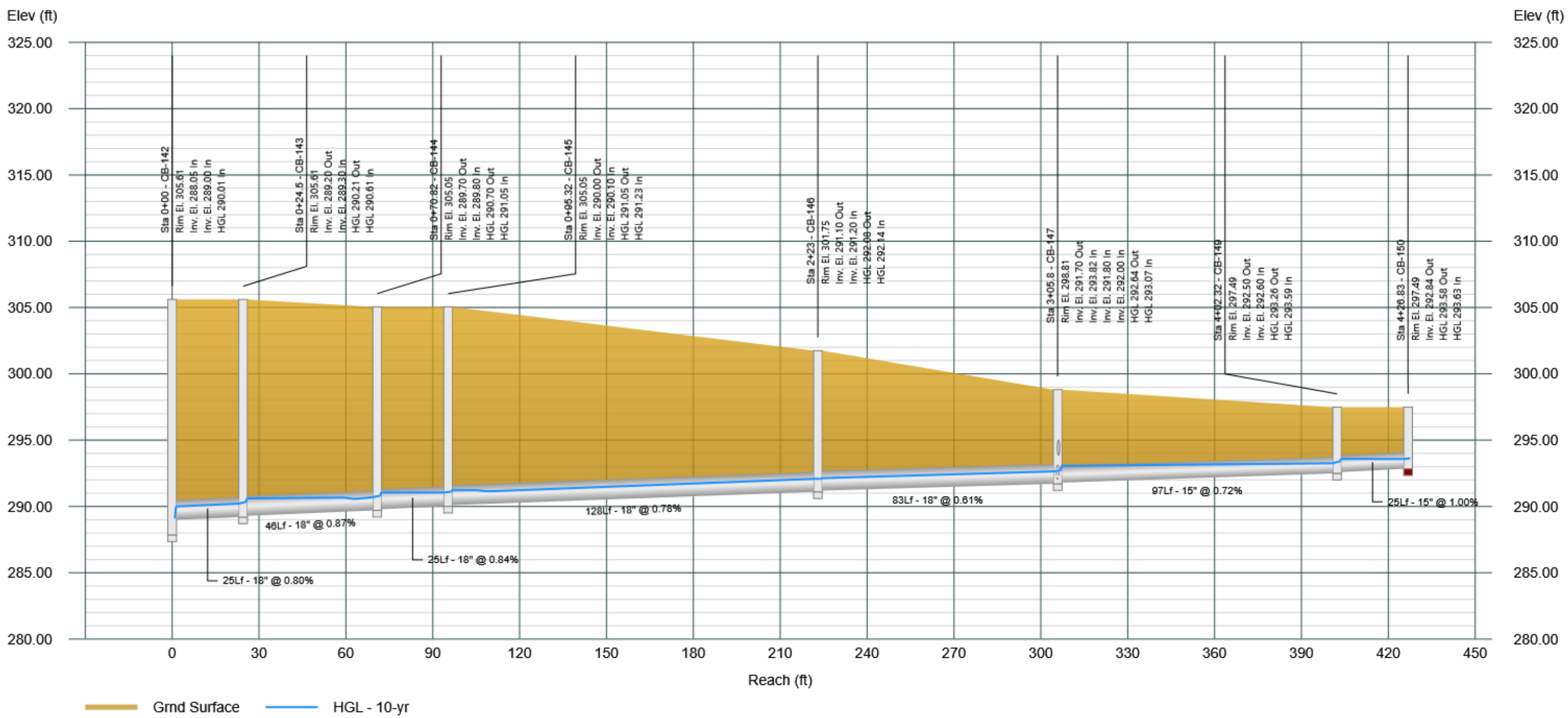


Profile View

Stormwater Studio 2024 v 3.0.0.35

Project Name: Storm System 100

11-19-2024

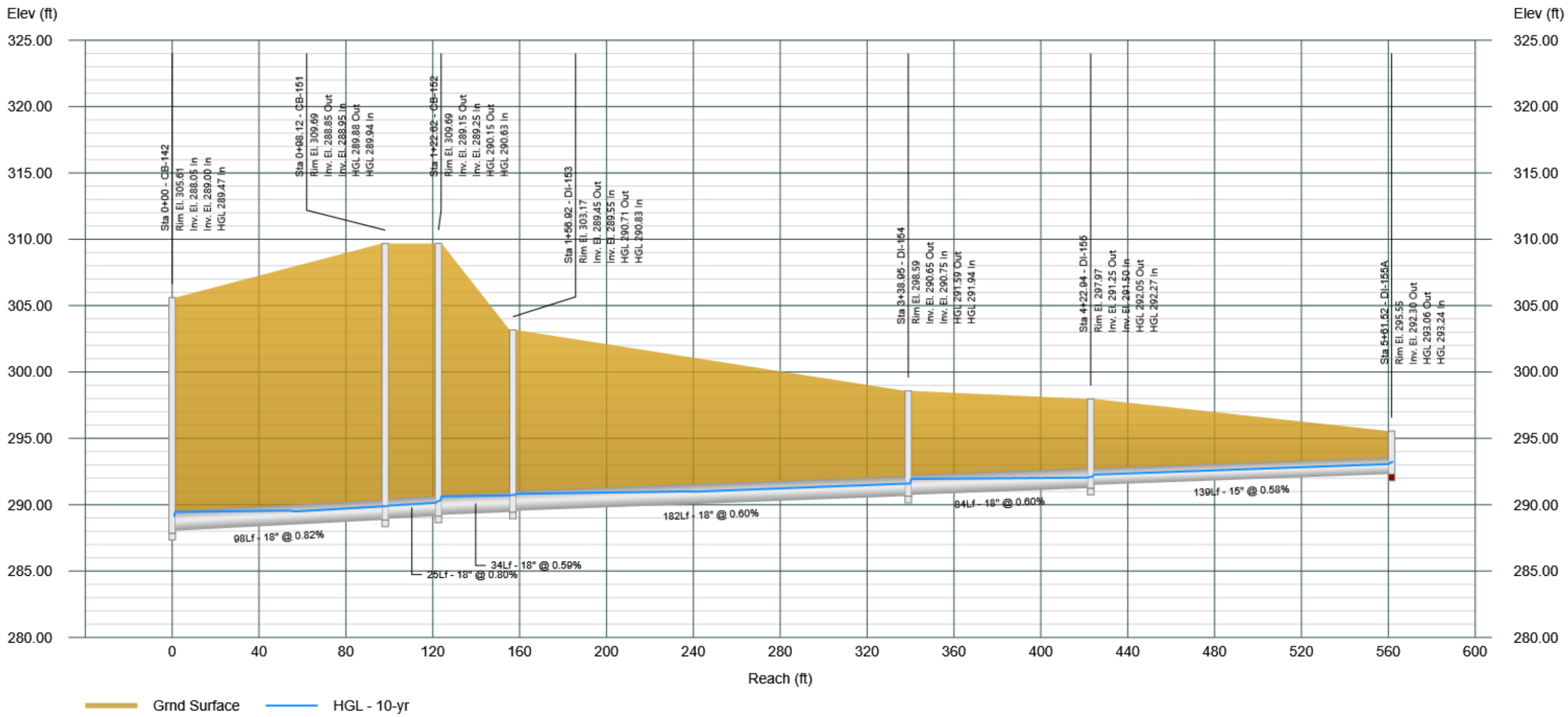


Profile View

Stormwater Studio 2024 v 3.0.0.35

Project Name: Storm System 100

11-19-2024



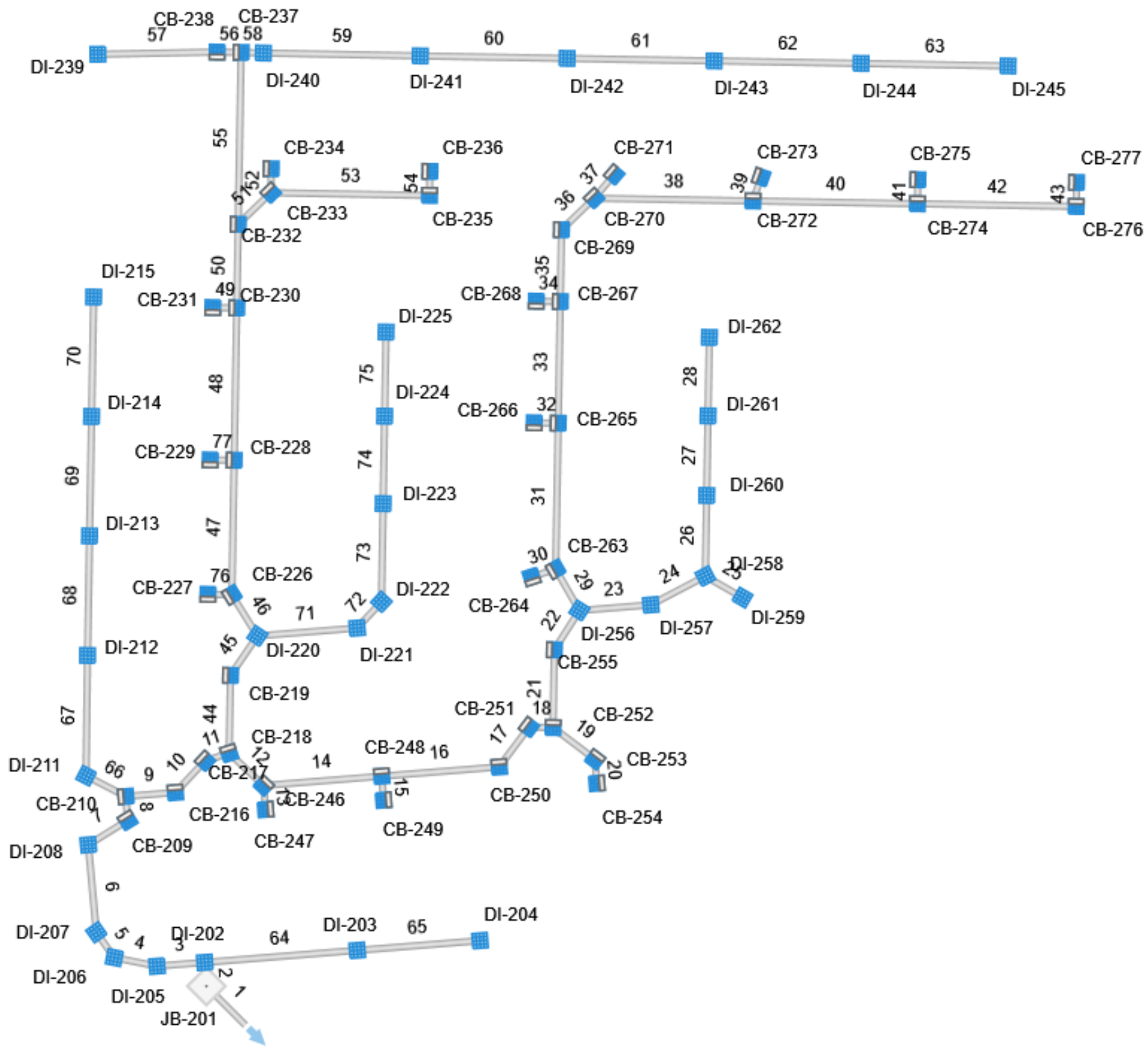
SYSTEM 200 – REPORTS AND PROFILES

Plan View

Stormwater Studio 2024 v 3.0.0.35

Project Name: Storm System 200

11-19-2024



Storm Sewer Tabulation

Stormwater Studio 2024 v 3.0.0.35

Project Name: Storm System 200

11-22-2024

Line ID	Length	Drng Area		Rational	C x A		Tc		Intensity	Total Q	Capacity	Velocity	Line		Invert Elev		HGL Elev		Surface Elev		Line No
		Incr	Total		Incr	Total	Inlet	Syst					Size	Slope	Up	Dn	Up	Dn	Up	Dn	
	(ft)	(ac)	(ac)	(C)			(min)	(min)	(in/hr)	(cfs)	(cfs)	(ft/s)	(in)	(%)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	
200-201	75.97	0.000	17.895	0.00	0.00	11.96	0.0	8.99	6.08	72.69	386.57	12.77	48	7.24	283.50	278.00	286.02	279.50	306.60	282.00	1
201-202	24.30	0.480	17.895	0.65	0.31	11.96	5.0	8.98	6.08	72.74	454.25	11.56	48	10.00	301.53	299.10	304.06	300.79	313.33	306.60	2
202-205	48.82	0.140	16.665	0.65	0.09	11.16	5.0	8.90	6.10	68.07	143.64	8.84	48	1.00	302.25	301.76	304.69	304.04	312.33	313.33	3
205-206	44.45	0.130	16.525	0.65	0.08	11.07	5.0	8.83	6.12	67.70	143.64	8.79	48	1.00	302.80	302.35	305.23	304.64	311.69	312.33	4
206-207	31.70	0.110	16.395	0.65	0.07	10.98	5.0	8.78	6.13	67.31	143.64	8.68	48	1.00	303.21	302.90	305.64	305.21	311.56	311.69	5
207-208	89.70	0.005	16.285	0.80	0.00	10.91	5.0	8.64	6.16	67.24	143.65	9.02	48	1.00	304.21	303.31	306.64	305.49	312.52	311.56	6
208-209	47.29	0.140	16.280	0.80	0.11	10.91	5.0	8.56	6.18	67.40	143.65	8.81	48	1.00	304.78	304.31	307.21	306.58	314.99	312.52	7
209-210	24.50	0.040	16.140	0.80	0.03	10.79	5.0	8.52	6.19	66.83	110.47	7.04	48	0.59	305.03	304.88	307.77	307.80	314.99	314.99	8
210-216	50.75	0.120	14.860	0.75	0.09	9.96	5.0	8.43	6.21	61.84	143.65	8.53	48	1.00	305.64	305.13	307.97	307.29	316.26	314.99	9
216-217	44.25	0.170	14.740	0.80	0.14	9.87	5.0	8.36	6.23	61.45	143.65	8.49	48	1.00	306.18	305.74	308.50	307.90	317.42	316.26	10
217-218	25.89	0.100	14.570	0.75	0.08	9.73	5.0	8.32	6.24	60.70	143.65	8.32	48	1.00	306.54	306.28	308.84	308.49	317.59	317.42	11
218-246	48.28	0.380	6.300	0.70	0.27	4.49	5.0	8.23	6.26	28.10	66.69	7.23	36	1.00	311.31	310.82	312.99	312.37	318.05	317.59	12
246-247	24.50	0.120	0.120	0.80	0.10	0.10	5.0	5.00	7.19	0.69	6.46	1.55	15	1.00	313.30	313.06	313.70	313.71	318.05	318.05	13
246-248	120.85	0.320	5.800	0.70	0.22	4.13	5.0	8.03	6.31	26.03	89.06	8.06	36	1.78	313.71	311.55	315.33	312.79	320.45	318.05	14
248-249	24.50	0.220	0.220	0.80	0.18	0.18	5.0	5.00	7.19	1.26	6.46	3.43	15	1.00	315.70	315.46	316.15	315.86	320.45	320.45	15
248-250	120.27	0.140	5.260	0.75	0.11	3.73	5.0	7.84	6.36	23.69	92.03	7.88	36	1.90	316.24	313.95	317.79	315.11	322.84	320.45	16
250-251	50.75	0.160	5.120	0.75	0.12	3.62	5.0	7.75	6.38	23.10	84.40	7.19	36	1.60	317.15	316.34	318.68	317.62	324.21	322.84	17
251-252	24.50	0.100	4.960	0.75	0.08	3.50	5.0	7.70	6.39	22.38	66.70	6.55	36	1.00	317.50	317.25	319.01	318.67	324.21	324.21	18
252-253	53.73	0.500	0.660	0.65	0.33	0.45	5.0	5.11	7.15	3.24	5.83	4.57	15	0.81	319.69	319.25	320.41	319.93	324.78	324.21	19
253-254	24.50	0.160	0.160	0.80	0.13	0.13	5.0	5.00	7.19	0.92	6.46	1.17	15	1.00	320.03	319.79	320.69	320.70	324.78	324.78	20
252-255	79.38	0.090	4.200	0.75	0.07	2.97	5.0	7.58	6.43	19.10	102.09	7.48	36	2.34	319.57	317.71	320.96	318.73	326.07	324.21	21
255-256	47.58	0.120	4.110	0.75	0.09	2.90	5.0	7.49	6.45	18.73	29.05	7.90	24	1.65	321.35	320.57	322.89	321.88	327.06	326.07	22

Notes: IDF File = Pearce Farm IDF.idf, Return Period = 10-yrs.

Project File: Storm System 200.sws

Storm Sewer Tabulation

Stormwater Studio 2024 v 3.0.0.35

Project Name: Storm System 200

11-22-2024

Line ID	Length	Drng Area		Rational	C x A		Tc		Intensity	Total Q	Capacity	Velocity	Line		Invert Elev		HGL Elev		Surface Elev		Line No
		Incr	Total		Incr	Total	Inlet	Syst					Size	Slope	Up	Dn	Up	Dn	Up	Dn	
	(ft)	(ac)	(ac)	(C)			(min)	(min)	(in/hr)	(cfs)	(cfs)	(ft/s)	(in)	(%)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	
256-257	73.10	0.140	1.520	0.75	0.11	1.02	5.0	5.77	6.94	7.10	14.94	6.56	18	2.02	324.14	322.66	325.16	323.45	328.64	327.06	23
257-258	62.86	0.210	1.380	0.70	0.15	0.92	5.0	5.65	6.98	6.41	16.96	6.59	18	2.61	325.88	324.24	326.85	324.95	330.43	328.64	24
258-259	43.79	0.210	0.210	0.70	0.15	0.15	5.0	5.00	7.19	1.06	6.46	1.24	15	1.00	326.67	326.23	327.34	327.34	330.82	330.43	25
258-260	82.41	0.290	0.960	0.65	0.19	0.62	5.0	5.45	7.04	4.39	14.40	3.69	18	1.88	327.58	326.03	328.38	327.27	331.98	330.43	26
260-261	81.22	0.280	0.670	0.65	0.18	0.44	5.0	5.24	7.11	3.10	8.25	5.09	15	1.63	329.15	327.83	329.86	328.39	333.50	331.98	27
261-262	80.18	0.390	0.390	0.65	0.25	0.25	5.0	5.00	7.19	1.82	8.85	2.81	15	1.88	330.76	329.25	331.30	330.11	335.01	333.50	28
256-263	48.63	0.490	2.470	0.65	0.32	1.79	5.0	7.37	6.48	11.61	20.16	4.46	24	0.79	322.16	321.77	323.55	323.55	327.86	327.06	29
263-264	25.89	0.160	0.160	0.80	0.13	0.13	5.0	5.00	7.19	0.92	6.46	0.84	15	1.00	323.05	322.79	323.99	323.99	327.70	327.86	30
263-265	149.02	0.400	1.820	0.65	0.26	1.35	5.0	7.05	6.57	8.83	28.43	4.37	24	1.58	324.72	322.36	325.77	323.87	330.46	327.86	31
265-266	24.50	0.120	0.120	0.80	0.10	0.10	5.0	5.00	7.19	0.69	6.46	1.28	15	1.00	325.71	325.47	326.18	326.19	330.46	330.46	32
265-267	124.14	0.170	1.300	0.65	0.11	0.99	5.0	6.76	6.65	6.57	13.04	6.19	18	1.54	327.38	325.46	328.35	326.25	332.62	330.46	33
267-268	24.50	0.090	0.090	0.80	0.07	0.07	5.0	5.00	7.19	0.52	6.46	0.48	15	1.00	327.87	327.63	328.80	328.80	332.62	332.62	34
267-269	73.35	0.050	1.040	0.75	0.04	0.81	5.0	6.59	6.70	5.40	13.54	5.77	18	1.66	328.84	327.62	329.73	328.33	333.94	332.62	35
269-270	46.32	0.100	0.990	0.80	0.08	0.77	5.0	6.50	6.72	5.17	20.41	6.48	18	3.78	330.69	328.94	331.56	329.53	335.69	333.94	36
270-271	31.70	0.150	0.150	0.80	0.12	0.12	5.0	5.00	7.19	0.86	7.25	1.21	15	1.26	331.34	330.94	331.91	331.92	336.09	335.69	37
270-272	162.00	0.100	0.740	0.75	0.08	0.57	5.0	6.12	6.83	3.89	8.98	5.77	15	1.93	334.07	330.94	334.86	331.53	338.92	335.69	38
272-273	25.79	0.160	0.160	0.75	0.12	0.12	5.0	5.00	7.19	0.86	6.46	0.94	15	1.00	334.43	334.17	335.21	335.21	339.08	338.92	39
272-274	168.00	0.100	0.480	0.75	0.08	0.37	5.0	5.66	6.97	2.61	8.78	3.31	15	1.85	337.28	334.17	337.92	335.15	342.27	338.92	40
274-275	24.50	0.160	0.160	0.80	0.13	0.13	5.0	5.00	7.19	0.92	6.46	1.48	15	1.00	337.62	337.38	338.15	338.17	342.27	342.27	41
274-276	162.00	0.100	0.220	0.75	0.08	0.17	5.0	5.12	7.15	1.22	8.62	2.60	15	1.78	340.41	337.52	340.85	338.13	345.50	342.27	42
276-277	24.50	0.120	0.120	0.80	0.10	0.10	5.0	5.00	7.19	0.69	6.46	2.88	15	1.00	340.75	340.51	341.08	340.80	345.50	345.50	43
218-219	79.38	0.100	8.170	0.75	0.08	5.17	5.0	8.08	6.30	32.54	149.54	8.27	42	2.21	312.20	310.45	313.95	311.77	319.39	317.59	44

Notes: IDF File = Pearce Farm IDF.idf, Return Period = 10-yrs.

Project File: Storm System 200.sws

Storm Sewer Tabulation

Stormwater Studio 2024 v 3.0.0.35

Project Name: Storm System 200

11-22-2024

Line ID	Length	Drng Area		Rational	C x A		Tc		Intensity	Total Q	Capacity	Velocity	Line		Invert Elev		HGL Elev		Surface Elev		Line No
		Incr	Total		Incr	Total	Inlet	Syst					Size	Slope	Up	Dn	Up	Dn	Up	Dn	
	(ft)	(ac)	(ac)	(C)			(min)	(min)	(in/hr)	(cfs)	(cfs)	(ft/s)	(in)	(%)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	
219-220	48.76	0.200	8.070	0.70	0.14	5.09	5.0	8.00	6.32	32.17	77.45	7.85	36	1.35	313.55	312.89	315.36	314.48	320.43	319.39	45
220-226	49.48	0.410	6.300	0.65	0.27	3.93	5.0	7.88	6.35	24.96	52.35	4.57	36	0.62	313.95	313.65	315.98	315.98	321.22	320.43	46
227-228	137.27	0.440	5.750	0.65	0.29	3.55	5.0	7.56	6.43	22.85	55.27	5.31	36	0.69	315.00	314.05	316.52	316.18	323.56	321.22	47
228-230	155.52	0.240	5.150	0.65	0.16	3.14	5.0	7.18	6.53	20.50	54.76	5.35	36	0.67	316.15	315.10	317.59	316.91	326.19	323.56	48
230-231	24.50	0.110	0.110	0.80	0.09	0.09	5.0	5.00	7.19	0.63	6.46	2.81	15	1.00	321.44	321.20	321.76	321.48	326.19	326.19	49
230-232	85.43	0.090	4.800	0.75	0.07	2.90	5.0	6.97	6.59	19.08	32.74	6.53	30	0.64	317.20	316.65	318.66	318.07	327.59	326.19	50
232-233	46.32	0.080	0.530	0.80	0.06	0.42	5.0	5.56	7.00	2.93	6.46	4.54	15	1.00	323.24	322.77	323.92	323.39	328.23	327.59	51
233-234	24.50	0.160	0.160	0.80	0.13	0.13	5.0	5.00	7.19	0.92	6.46	1.29	15	1.00	323.58	323.34	324.19	324.19	328.23	328.23	52
233-235	162.00	0.100	0.290	0.75	0.08	0.23	5.0	5.10	7.15	1.62	9.84	4.58	15	2.32	327.25	323.48	327.75	323.83	332.34	328.23	53
235-236	24.50	0.190	0.190	0.80	0.15	0.15	5.0	5.00	7.19	1.09	6.46	3.28	15	1.00	327.59	327.35	328.01	327.72	332.34	332.34	54
232-237	175.43	0.150	4.180	0.75	0.11	2.41	5.0	6.52	6.72	16.18	33.27	6.26	30	0.66	318.45	317.30	319.79	318.56	324.63	327.59	55
237-238	24.50	0.120	0.390	0.80	0.10	0.27	5.0	5.58	7.00	1.90	9.37	1.18	18	0.80	319.15	318.95	320.35	320.35	324.63	324.63	56
238-239	121.74	0.270	0.270	0.65	0.18	0.18	5.0	5.00	7.19	1.26	5.26	2.04	15	0.66	320.05	319.25	320.52	320.37	323.21	324.63	57
237-240	22.69	0.310	3.640	0.65	0.20	2.02	5.0	6.49	6.72	13.61	112.22	7.77	30	7.49	321.35	319.65	322.58	320.46	326.26	324.63	58
240-241	160.07	0.360	3.330	0.65	0.23	1.82	5.0	6.23	6.80	12.40	35.78	7.77	24	2.50	325.85	321.85	327.10	322.71	330.24	326.26	59
241-242	150.00	0.400	2.970	0.65	0.26	1.59	5.0	5.94	6.89	10.94	31.43	7.07	24	1.93	328.85	325.95	330.02	326.82	333.26	330.24	60
242-243	150.00	0.550	2.570	0.50	0.28	1.33	5.0	5.65	6.98	9.27	31.17	6.66	24	1.90	331.80	328.95	332.88	329.75	336.25	333.26	61
243-244	150.00	0.880	2.020	0.55	0.48	1.05	5.0	5.35	7.07	7.45	32.25	6.32	24	2.03	334.95	331.90	335.92	332.59	339.24	336.25	62
244-245	150.00	1.140	1.140	0.50	0.57	0.57	5.0	5.00	7.19	4.10	14.85	5.64	18	2.00	338.45	335.45	339.22	336.01	342.23	339.24	63
202-203	156.11	0.370	0.750	0.65	0.24	0.49	5.0	5.36	7.07	3.45	9.25	5.61	15	2.05	312.19	308.98	312.93	309.53	316.54	313.33	64
203-204	125.70	0.380	0.380	0.65	0.25	0.25	5.0	5.00	7.19	1.78	9.25	2.69	15	2.05	314.87	312.29	315.40	313.21	319.12	316.54	65
210-211	45.65	0.260	1.240	0.65	0.17	0.81	5.0	6.35	6.76	5.45	9.28	5.11	18	0.78	310.60	310.24	311.49	311.10	314.50	314.99	66

Notes: IDF File = Pearce Farm IDF.idf, Return Period = 10-yrs.

Project File: Storm System 200.sws

Storm Sewer Tabulation

Stormwater Studio 2024 v 3.0.0.35

Project Name: Storm System 200

11-22-2024

Line ID	Length	Drng Area		Rational	C x A		Tc		Intensity	Total Q	Capacity	Velocity	Line		Invert Elev		HGL Elev		Surface Elev		Line No
		Incr	Total		Incr	Total	Inlet	Syst					Size	Slope	Up	Dn	Up	Dn	Up	Dn	
	(ft)	(ac)	(ac)	(C)			(min)	(min)	(in/hr)	(cfs)	(cfs)	(ft/s)	(in)	(%)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	
211-212	122.82	0.260	0.980	0.65	0.17	0.64	5.0	6.10	6.84	4.36	17.61	6.14	18	2.81	314.15	310.70	314.95	311.23	317.95	314.50	67
212-213	122.00	0.260	0.720	0.65	0.17	0.47	5.0	5.80	6.93	3.24	9.03	5.43	15	1.96	316.79	314.40	317.51	314.94	320.34	317.95	68
213-214	122.00	0.260	0.460	0.65	0.17	0.30	5.0	5.44	7.04	2.11	4.63	4.85	12	1.69	319.10	317.04	319.72	317.53	322.40	320.34	69
214-215	122.00	0.200	0.200	0.65	0.13	0.13	5.0	5.00	7.19	0.93	4.63	2.27	12	1.69	321.26	319.20	321.67	319.96	324.46	322.40	70
220-221	102.09	0.250	1.570	0.65	0.16	1.02	5.0	5.80	6.93	7.07	15.08	6.66	18	2.06	318.03	315.93	319.05	316.70	322.63	320.43	71
221-222	36.46	0.320	1.320	0.65	0.21	0.86	5.0	5.73	6.95	5.96	16.80	6.22	18	2.56	319.07	318.13	320.00	318.84	323.67	322.63	72
222-223	100.33	0.310	1.000	0.65	0.20	0.65	5.0	5.49	7.03	4.57	13.87	3.91	18	1.75	320.92	319.17	321.73	320.31	325.42	323.67	73
223-224	89.26	0.290	0.690	0.65	0.19	0.45	5.0	5.26	7.10	3.19	8.53	5.22	15	1.75	322.73	321.17	323.44	321.72	326.98	325.42	74
224-225	85.90	0.400	0.400	0.65	0.26	0.26	5.0	5.00	7.19	1.87	8.53	2.83	15	1.75	324.33	322.83	324.87	323.70	328.48	326.98	75
226-227	24.50	0.140	0.140	0.80	0.11	0.11	5.0	5.00	7.19	0.80	6.46	3.01	15	1.00	316.47	316.23	316.83	316.54	321.22	321.22	76
228-229	24.50	0.160	0.160	0.80	0.13	0.13	5.0	5.00	7.19	0.92	1.21	3.70	8	1.00	319.39	319.15	319.85	319.59	323.56	323.56	77

Notes: IDF File = Pearce Farm IDF.idf, Return Period = 10-yrs.

Project File: Storm System 200.sws

Energy Grade Line Calculations

Stormwater Studio 2024 v 3.0.0.35

Project Name: Storm System 200

11-22-2024

Line No	Line Size	Q	Downstream							Length	Upstream							Pipe		Junction		
			Invert Elev	Depth	Area	HGL Elev	Vel	Vel Head	EGL Elev		Invert Elev	Depth	Area	HGL Elev	Vel	Vel Head	EGL Elev	n Value	Enrgy Loss	HGLa Elev	EGLa Elev	Enrgy Loss
	(in)	(cfs)	(ft)	(ft)	(sqft)	(ft)	(ft/s)	(ft)	(ft)	(ft)	(ft)	(ft)	(sqft)	(ft)	(ft/s)	(ft)	(ft)		(ft)	(ft)	(ft)	(ft)
1	48	72.69	278.00	1.50‡	4.32	279.50	16.83	4.41	283.12	75.97	283.50	2.52²	8.35	286.02	8.71	1.18	287.20	0.013	4.082	286.02	287.20	0.00
2	48	72.74	299.10	1.69‡	5.05	300.79	14.41	3.23	302.81	24.30	301.53	2.52²	8.35	304.06	8.71	1.18	305.24	0.013	2.430	304.06	305.24	0.00
3	48	68.07	301.76	2.28‡	7.39	304.04	9.21	1.32	305.44	48.82	302.25	2.44²	8.03	304.69	8.48	1.12	305.81	0.013	0.370	304.69	305.81	0.00
4	48	67.70	302.35	2.29‡	7.43	304.64	9.11	1.29	306.01	44.45	302.80	2.43²	8.00	305.23	8.46	1.11	306.34	0.013	0.328	305.23	306.34	0.00
5	48	67.31	302.90	2.32‡	7.55	305.21	8.92	1.24	306.55	31.70	303.21	2.43²	7.98	305.64	8.44	1.11	306.75	0.013	0.201	305.64	306.75	0.00
6	48	67.24	303.31	2.18‡	6.99	305.49	9.61	1.44	306.95	89.70	304.21	2.43²	7.97	306.64	8.43	1.11	307.74	0.013	0.792	306.64	307.74	0.00
7	48	67.40	304.31	2.27‡	7.35	306.58	9.17	1.31	307.95	47.29	304.78	2.43²	7.98	307.21	8.44	1.11	308.32	0.013	0.374	307.21	308.32	0.00
8	48	66.83	304.88	2.92	9.82	307.80	6.81	0.72	308.52	24.50	305.03	2.74	9.18	307.77	7.28	0.82	308.59	0.013	0.074	307.82	308.64	0.05
9	48	61.84	305.13	2.16‡	6.92	307.29	8.94	1.24	308.81	50.75	305.64	2.34	7.62	307.97	8.12	1.02	309.00	0.013	0.183	308.03	309.06	0.06
10	48	61.45	305.74	2.17‡	6.96	307.90	8.84	1.21	309.24	44.25	306.18	2.32²	7.55	308.50	8.14	1.03	309.53	0.013	0.292	308.50	309.53	0.00
11	48	60.70	306.28	2.21‡	7.11	308.49	8.53	1.13	309.71	25.89	306.54	2.30²	7.50	308.84	8.10	1.02	309.86	0.013	0.152	308.84	309.86	0.00
12	36	28.10	310.82	1.55‡	3.69	312.37	7.62	0.90	313.24	48.28	311.31	1.69²	4.10	312.99	6.85	0.73	313.72	0.013	0.483	312.99	313.72	0.00
13	15	0.69	313.06	0.66	0.65	313.71	1.05	0.02	313.73	24.50	313.30	0.40	0.34	313.70	2.05	0.07	313.76	0.013	0.033	313.75	313.82	0.06
14	36	26.03	311.55	1.24‡	2.75	312.79	9.46	1.39	313.86	120.85	313.71	1.63²	3.91	315.33	6.65	0.69	316.02	0.013	2.155	315.33	316.02	0.00
15	15	1.26	315.46	0.40‡	0.34	315.86	3.68	0.21	316.06	24.50	315.70	0.45²	0.40	316.15	3.18	0.16	316.31	0.013	0.245	316.15	316.31	0.00
16	36	23.69	313.95	1.16‡	2.54	315.11	9.34	1.36	316.14	120.27	316.24	1.55²	3.69	317.79	6.42	0.64	318.43	0.013	2.290	317.79	318.43	0.00
17	36	23.10	316.34	1.28‡	2.88	317.62	8.01	1.00	318.54	50.75	317.15	1.53²	3.63	318.68	6.36	0.63	319.31	0.013	0.775	318.68	319.31	0.00
18	36	22.38	317.25	1.42‡	3.28	318.67	6.82	0.72	319.42	24.50	317.50	1.51²	3.56	319.01	6.29	0.62	319.62	0.013	0.202	319.01	319.62	0.00
19	15	3.24	319.25	0.68‡	0.69	319.93	4.72	0.35	320.27	53.73	319.69	0.72²	0.73	320.41	4.42	0.30	320.71	0.013	0.437	320.41	320.71	0.00
20	15	0.92	319.79	0.92	0.96	320.70	0.96	0.01	320.71	24.50	320.03	0.66	0.66	320.69	1.39	0.03	320.72	0.013	0.010	320.71	320.74	0.02
21	36	19.10	317.71	1.02‡	2.12	318.73	9.01	1.26	319.71	79.38	319.57	1.39	3.21	320.96	5.94	0.55	321.51	0.013	1.800	320.99	321.54	0.03
22	24	18.73	320.57	1.31‡	2.19	321.88	8.56	1.14	322.92	47.58	321.35	1.53²	2.58	322.89	7.25	0.82	323.70	0.013	0.785	322.89	323.70	0.00

Notes: Return Period = 10-yrs. ² Critical depth. ‡ Supercritical.

Project File: Storm System 200.sws

Energy Grade Line Calculations

Stormwater Studio 2024 v 3.0.0.35

Project Name: Storm System 200

11-22-2024

Line No	Line Size	Q	Downstream							Length	Upstream							Pipe		Junction		
			Invert Elev	Depth	Area	HGL Elev	Vel	Vel Head	EGL Elev		Invert Elev	Depth	Area	HGL Elev	Vel	Vel Head	EGL Elev	n Value	Enrgy Loss	HGLa Elev	EGLa Elev	Enrgy Loss
	(in)	(cfs)	(ft)	(ft)	(sqft)	(ft)	(ft/s)	(ft)	(ft)	(ft)	(ft)	(ft)	(sqft)	(ft)	(ft/s)	(ft)	(ft)		(ft)	(ft)	(ft)	(ft)
23	18	7.10	322.66	0.79‡	0.94	323.45	7.56	0.89	324.16	73.10	324.14	1.02²	1.28	325.16	5.57	0.48	325.64	0.013	1.479	325.16	325.64	0.00
24	18	6.41	324.24	0.70‡	0.82	324.95	7.86	0.96	325.72	62.86	325.88	0.97	1.20	326.85	5.32	0.44	327.29	0.013	1.567	326.91	327.35	0.07
25	15	1.06	326.23	1.11	1.16	327.34	0.91	0.01	327.36	43.79	326.67	0.68	0.68	327.34	1.56	0.04	327.38	0.013	0.024	327.35	327.39	0.01
26	18	4.39	326.03	1.24	1.57	327.27	2.80	0.12	327.39	82.41	327.58	0.80²	0.96	328.38	4.58	0.33	328.70	0.013	1.309	328.38	328.70	0.00
27	15	3.10	327.83	0.56‡	0.53	328.39	5.83	0.53	328.83	81.22	329.15	0.70²	0.71	329.86	4.35	0.29	330.15	0.013	1.317	329.86	330.15	0.00
28	15	1.82	329.25	0.85	0.89	330.11	2.04	0.06	330.17	80.18	330.76	0.54²	0.51	331.30	3.59	0.20	331.50	0.013	1.328	331.30	331.50	0.00
29	24	11.61	321.77	1.77	2.94	323.55	3.95	0.24	323.79	48.63	322.16	1.39	2.34	323.55	4.97	0.38	323.94	0.013	0.150	323.61	324.00	0.06
30	15	0.92	322.79	1.20	1.21	323.99	0.76	0.01	324.00	25.89	323.05	0.94	0.99	323.99	0.93	0.01	324.00	0.013	0.005	324.00	324.01	0.01
31	24	8.83	322.36	1.51	2.54	323.87	3.48	0.19	324.06	149.02	324.72	1.05²	1.68	325.77	5.27	0.43	326.20	0.013	2.144	325.77	326.20	0.00
32	15	0.69	325.47	0.73	0.74	326.19	0.93	0.01	326.20	24.50	325.71	0.47	0.42	326.18	1.63	0.04	326.22	0.013	0.019	326.21	326.25	0.03
33	18	6.57	325.46	0.79‡	0.94	326.25	7.00	0.76	326.89	124.14	327.38	0.98²	1.22	328.35	5.38	0.45	328.80	0.013	1.915	328.35	328.80	0.00
34	15	0.52	327.63	1.18	1.20	328.80	0.43	0.00	328.81	24.50	327.87	0.93	0.98	328.80	0.53	0.00	328.81	0.013	0.002	328.81	328.81	0.00
35	18	5.40	327.62	0.71‡	0.82	328.33	6.58	0.67	328.89	73.35	328.84	0.89²	1.09	329.73	4.96	0.38	330.11	0.013	1.220	329.73	330.11	0.00
36	18	5.17	328.94	0.59‡	0.64	329.53	8.08	1.02	330.18	46.32	330.69	0.87²	1.06	331.56	4.88	0.37	331.93	0.013	1.750	331.56	331.93	0.00
37	15	0.86	330.94	0.98	1.03	331.92	0.83	0.01	331.93	31.70	331.34	0.57	0.55	331.91	1.58	0.04	331.95	0.013	0.018	331.94	331.98	0.03
38	15	3.89	330.94	0.59‡	0.57	331.53	6.78	0.71	332.09	162.00	334.07	0.79²	0.82	334.86	4.76	0.35	335.21	0.013	3.125	334.86	335.21	0.00
39	15	0.86	334.17	1.04	1.09	335.21	0.79	0.01	335.22	25.79	334.43	0.78	0.80	335.21	1.08	0.02	335.22	0.013	0.006	335.22	335.23	0.01
40	15	2.61	334.17	0.98	1.03	335.15	2.54	0.10	335.25	168.00	337.28	0.65²	0.64	337.92	4.07	0.26	338.18	0.013	2.934	337.92	338.18	0.00
41	15	0.92	337.38	0.79	0.82	338.17	1.12	0.02	338.19	24.50	337.62	0.53	0.50	338.15	1.84	0.05	338.21	0.013	0.021	338.19	338.24	0.03
42	15	1.22	337.52	0.61	0.59	338.13	2.05	0.07	338.20	162.00	340.41	0.44²	0.39	340.85	3.14	0.15	341.00	0.013	2.806	340.85	341.00	0.00
43	15	0.69	340.51	0.30‡	0.22	340.80	3.12	0.15	341.01	24.50	340.75	0.33²	0.26	341.08	2.64	0.11	341.19	0.013	0.180	341.08	341.19	0.00
44	42	32.54	310.45	1.32‡	3.34	311.77	9.76	1.48	312.91	79.38	312.20	1.75²	4.80	313.95	6.78	0.71	314.66	0.013	1.754	313.95	314.66	0.00

Notes: Return Period = 10-yrs. ² Critical depth. ‡ Supercritical.

Project File: Storm System 200.sws

Energy Grade Line Calculations

Stormwater Studio 2024 v 3.0.0.35

Project Name: Storm System 200

11-22-2024

Line No	Line Size	Q	Downstream							Length	Upstream							Pipe		Junction		
			Invert Elev	Depth	Area	HGL Elev	Vel	Vel Head	EGL Elev		Invert Elev	Depth	Area	HGL Elev	Vel	Vel Head	EGL Elev	n Value	Enrgy Loss	HGLa Elev	EGLa Elev	Enrgy Loss
	(in)	(cfs)	(ft)	(ft)	(sqft)	(ft)	(ft/s)	(ft)	(ft)	(ft)	(ft)	(ft)	(sqft)	(ft)	(ft/s)	(ft)	(ft)		(ft)	(ft)	(ft)	(ft)
45	36	32.17	312.89	1.59‡	3.80	314.48	8.47	1.11	315.51	48.76	313.55	1.81²	4.45	315.36	7.23	0.81	316.17	0.013	0.658	315.36	316.17	0.00
46	36	24.96	313.65	2.34	5.90	315.98	4.23	0.28	316.26	49.48	313.95	2.02	5.07	315.98	4.92	0.38	316.35	0.013	0.092	316.00	316.37	0.02
47	36	22.85	314.05	2.12	5.35	316.18	4.27	0.28	316.46	137.27	315.00	1.52²	3.61	316.52	6.34	0.62	317.14	0.013	0.684	316.52	317.14	0.00
48	36	20.50	315.10	1.81	4.46	316.91	4.60	0.33	317.24	155.52	316.15	1.44²	3.36	317.59	6.09	0.58	318.17	0.013	0.930	317.59	318.17	0.00
49	15	0.63	321.20	0.28‡	0.21	321.48	3.05	0.14	321.62	24.50	321.44	0.32²	0.25	321.76	2.57	0.10	321.86	0.013	0.245	321.76	321.86	0.00
50	30	19.08	316.65	1.42‡	2.87	318.07	6.64	0.69	318.75	85.43	317.20	1.46²	2.98	318.66	6.41	0.64	319.29	0.013	0.544	318.66	319.29	0.00
51	15	2.93	322.77	0.62‡	0.61	323.39	4.82	0.36	323.74	46.32	323.24	0.69²	0.69	323.92	4.26	0.28	324.20	0.013	0.463	323.92	324.20	0.00
52	15	0.92	323.34	0.86	0.90	324.19	1.03	0.02	324.21	24.50	323.58	0.61	0.59	324.19	1.56	0.04	324.22	0.013	0.015	324.21	324.25	0.03
53	15	1.62	323.48	0.35‡	0.28	323.83	5.71	0.51	324.23	162.00	327.25	0.51²	0.47	327.75	3.45	0.19	327.94	0.013	3.714	327.75	327.94	0.00
54	15	1.09	327.35	0.38‡	0.31	327.72	3.52	0.19	327.96	24.50	327.59	0.42²	0.36	328.01	3.03	0.14	328.15	0.013	0.196	328.01	328.15	0.00
55	30	16.18	317.30	1.26‡	2.48	318.56	6.51	0.66	319.38	175.43	318.45	1.34²	2.69	319.79	6.01	0.56	320.36	0.013	0.976	319.79	320.36	0.00
56	18	1.90	318.95	1.39	1.71	320.35	1.11	0.02	320.36	24.50	319.15	1.20	1.52	320.35	1.25	0.02	320.37	0.013	0.008	320.35	320.38	0.01
57	15	1.26	319.25	1.12	1.16	320.37	1.09	0.02	320.38	121.74	320.05	0.47	0.42	320.52	2.99	0.14	320.66	0.013	0.277	320.58	320.72	0.06
58	30	13.61	319.65	0.81‡	1.37	320.46	9.90	1.52	321.38	22.69	321.35	1.23²	2.41	322.58	5.64	0.50	323.08	0.013	1.699	322.58	323.08	0.00
59	24	12.40	321.85	0.86‡	1.30	322.71	9.53	1.41	323.66	160.07	325.85	1.25²	2.06	327.10	6.02	0.56	327.66	0.013	4.006	327.10	327.66	0.00
60	24	10.94	325.95	0.86‡	1.30	326.82	8.41	1.10	327.75	150.00	328.85	1.17²	1.91	330.02	5.72	0.51	330.53	0.013	2.782	330.02	330.53	0.00
61	24	9.27	328.95	0.80‡	1.16	329.75	7.96	0.98	330.60	150.00	331.80	1.08²	1.73	332.88	5.37	0.45	333.33	0.013	2.725	332.88	333.33	0.00
62	24	7.45	331.90	0.69‡	0.97	332.59	7.69	0.92	333.38	150.00	334.95	0.97²	1.50	335.92	4.95	0.38	336.30	0.013	2.917	335.92	336.30	0.00
63	18	4.10	335.45	0.56‡	0.60	336.01	6.80	0.72	336.53	150.00	338.45	0.77²	0.92	339.22	4.47	0.31	339.53	0.013	2.999	339.22	339.53	0.00
64	15	3.45	308.98	0.55‡	0.52	309.53	6.68	0.69	310.04	156.11	312.19	0.74²	0.76	312.93	4.53	0.32	313.25	0.013	3.207	312.93	313.25	0.00
65	15	1.78	312.29	0.93	0.98	313.21	1.82	0.05	313.27	125.70	314.87	0.53²	0.50	315.40	3.56	0.20	315.60	0.013	2.332	315.40	315.60	0.00
66	18	5.45	310.24	0.85‡	1.04	311.10	5.25	0.43	311.52	45.65	310.60	0.89²	1.09	311.49	4.98	0.39	311.88	0.013	0.357	311.49	311.88	0.00

Notes: Return Period = 10-yrs. ² Critical depth. ‡ Supercritical.

Project File: Storm System 200.sws

Energy Grade Line Calculations

Stormwater Studio 2024 v 3.0.0.35

Project Name: Storm System 200

11-22-2024

Line No	Line Size	Q	Downstream							Length	Upstream							Pipe		Junction		
			Invert Elev	Depth	Area	HGL Elev	Vel	Vel Head	EGL Elev		Invert Elev	Depth	Area	HGL Elev	Vel	Vel Head	EGL Elev	n Value	Enrgy Loss	HGLa Elev	EGLa Elev	Enrgy Loss
	(in)	(cfs)	(ft)	(ft)	(sqft)	(ft)	(ft/s)	(ft)	(ft)	(ft)	(ft)	(ft)	(sqft)	(ft)	(ft/s)	(ft)	(ft)		(ft)	(ft)	(ft)	(ft)
67	18	4.36	310.70	0.53‡	0.57	311.23	7.70	0.92	311.93	122.82	314.15	0.80²	0.95	314.95	4.57	0.32	315.28	0.013	3.350	314.95	315.28	0.00
68	15	3.24	314.40	0.54‡	0.50	314.94	6.43	0.64	315.43	122.00	316.79	0.72²	0.73	317.51	4.43	0.30	317.82	0.013	2.384	317.51	317.82	0.00
69	12	2.11	317.04	0.49‡	0.38	317.53	5.54	0.48	317.93	122.00	319.10	0.62²	0.51	319.72	4.15	0.27	319.98	0.013	2.050	319.72	319.98	0.00
70	12	0.93	319.20	0.76	0.64	319.96	1.45	0.03	319.99	122.00	321.26	0.41²	0.30	321.67	3.08	0.15	321.82	0.013	1.822	321.67	321.82	0.00
71	18	7.07	315.93	0.77‡	0.91	316.70	7.76	0.94	317.42	102.09	318.03	1.02²	1.27	319.05	5.56	0.48	319.53	0.013	2.105	319.05	319.53	0.00
72	18	5.96	318.13	0.71‡	0.82	318.84	7.27	0.82	319.60	36.46	319.07	0.93²	1.15	320.00	5.17	0.42	320.41	0.013	0.815	320.00	320.41	0.00
73	18	4.57	319.17	1.14	1.44	320.31	3.17	0.16	320.46	100.33	320.92	0.82²	0.98	321.73	4.65	0.34	322.07	0.013	1.607	321.73	322.07	0.00
74	15	3.19	321.17	0.56‡	0.53	321.72	6.04	0.57	322.20	89.26	322.73	0.71²	0.72	323.44	4.39	0.30	323.74	0.013	1.544	323.44	323.74	0.00
75	15	1.87	322.83	0.87	0.91	323.70	2.05	0.07	323.76	85.90	324.33	0.55²	0.52	324.87	3.62	0.20	325.08	0.013	1.314	324.87	325.08	0.00
76	15	0.80	316.23	0.32‡	0.25	316.54	3.25	0.16	316.70	24.50	316.47	0.36²	0.29	316.83	2.76	0.12	316.95	0.013	0.245	316.83	316.95	0.00
77	8	0.92	319.15	0.44‡	0.25	319.59	3.75	0.22	319.81	24.50	319.39	0.45	0.25	319.85	3.64	0.21	320.05	0.013	0.245	320.19	320.39	0.34

Notes: Return Period = 10-yrs. ² Critical depth. ‡ Supercritical.

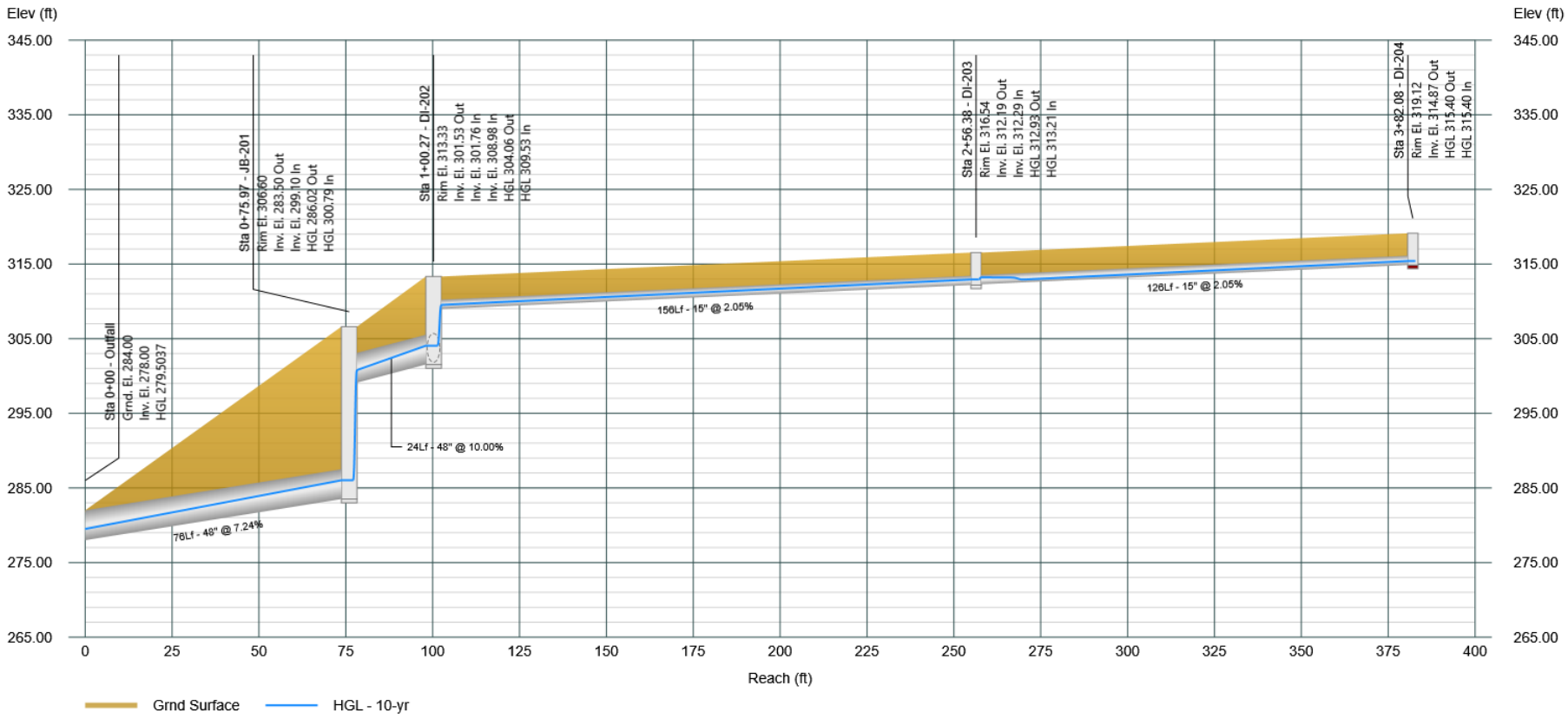
Project File: Storm System 200.sws

Profile View

Stormwater Studio 2024 v 3.0.0.35

Project Name: Storm System 200

11-22-2024

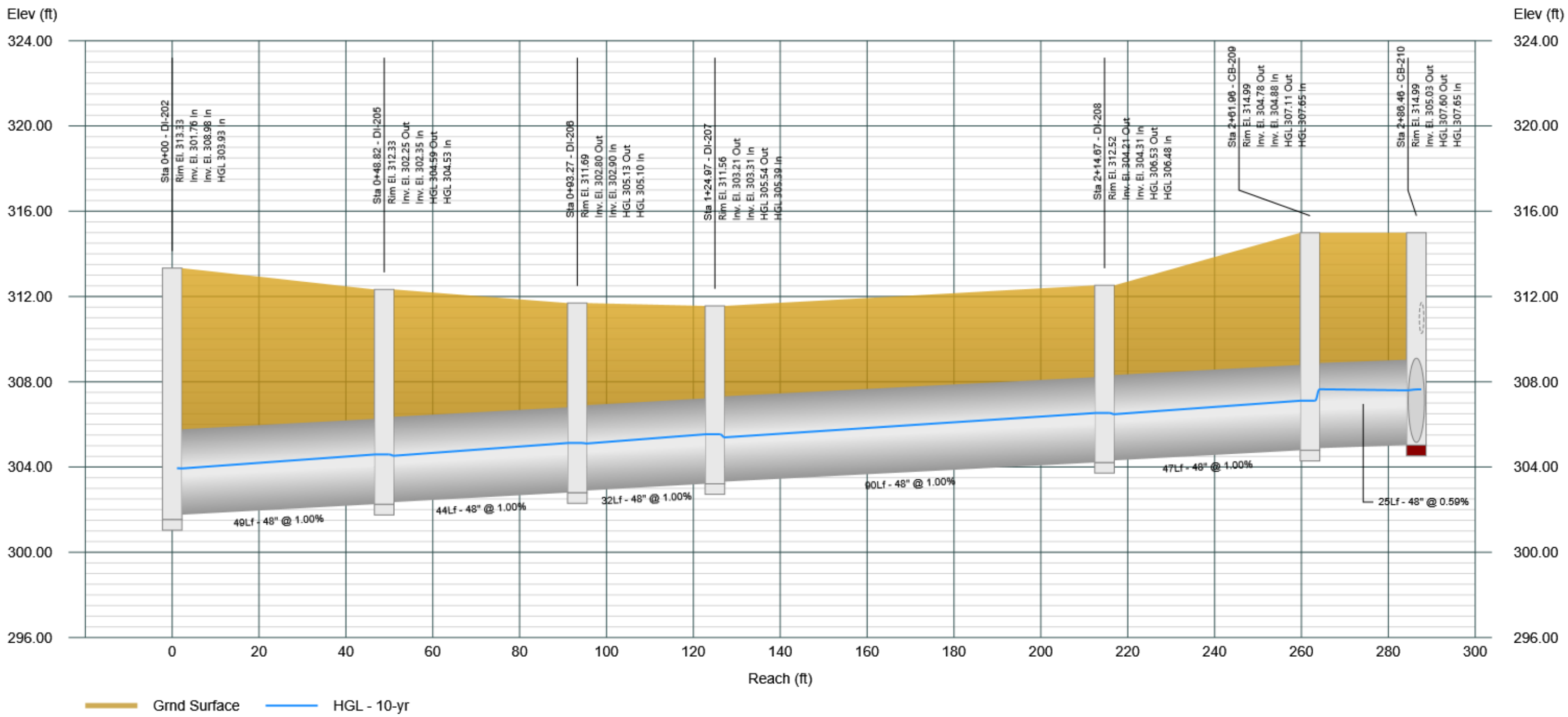


Profile View

Stormwater Studio 2024 v 3.0.0.35

Project Name: Storm System 200

11-19-2024

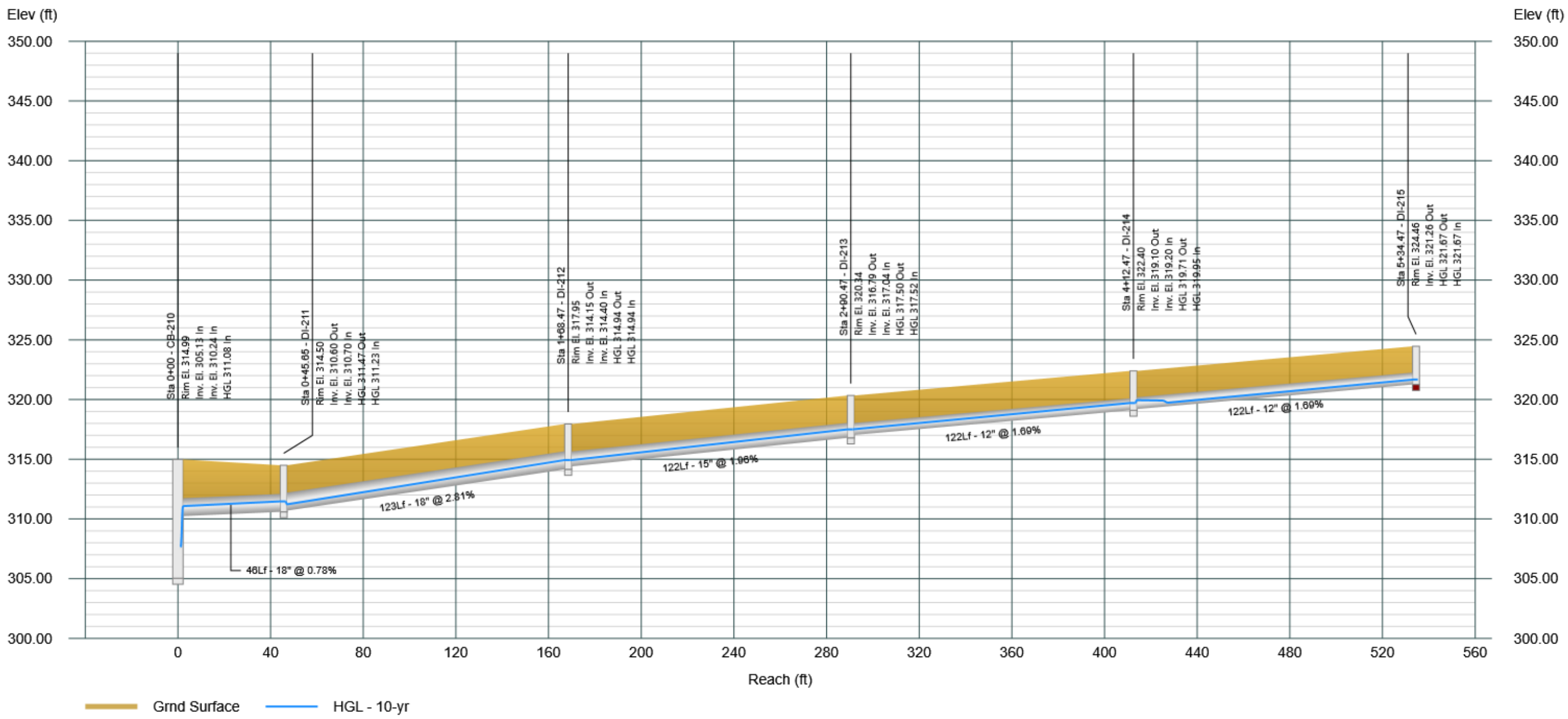


Profile View

Stormwater Studio 2024 v 3.0.0.35

Project Name: Storm System 200

11-19-2024

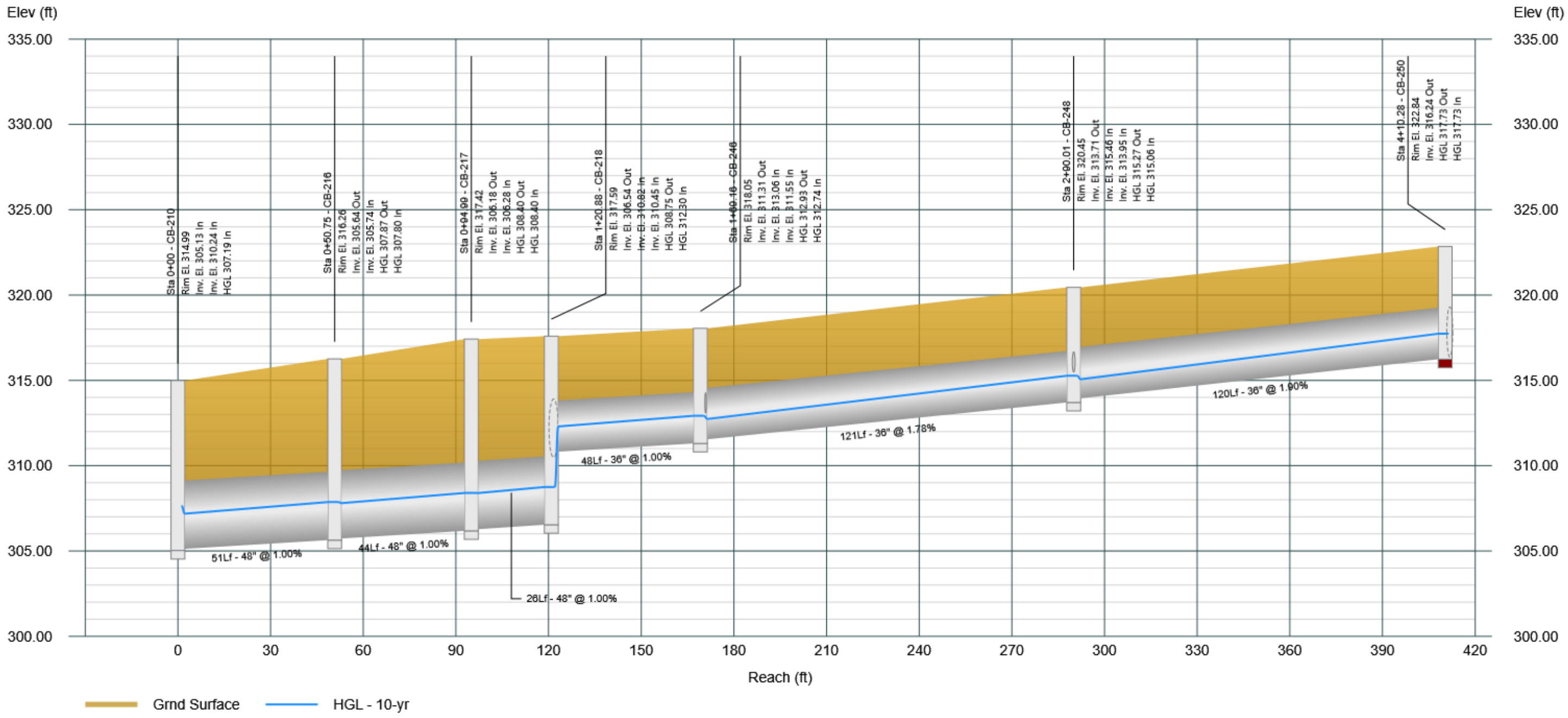


Profile View

Stormwater Studio 2024 v 3.0.0.35

Project Name: Storm System 200

11-19-2024

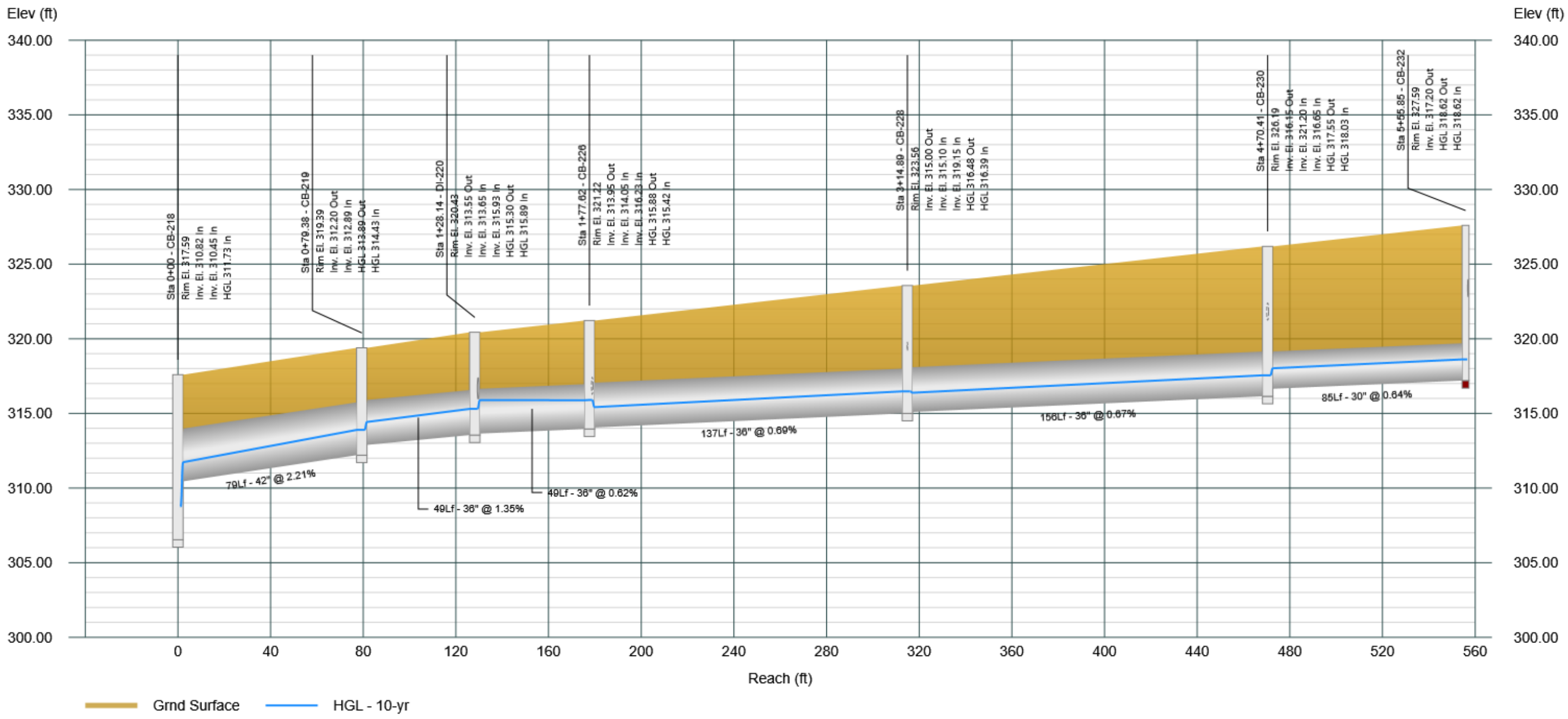


Profile View

Stormwater Studio 2024 v 3.0.0.35

Project Name: Storm System 200

11-19-2024

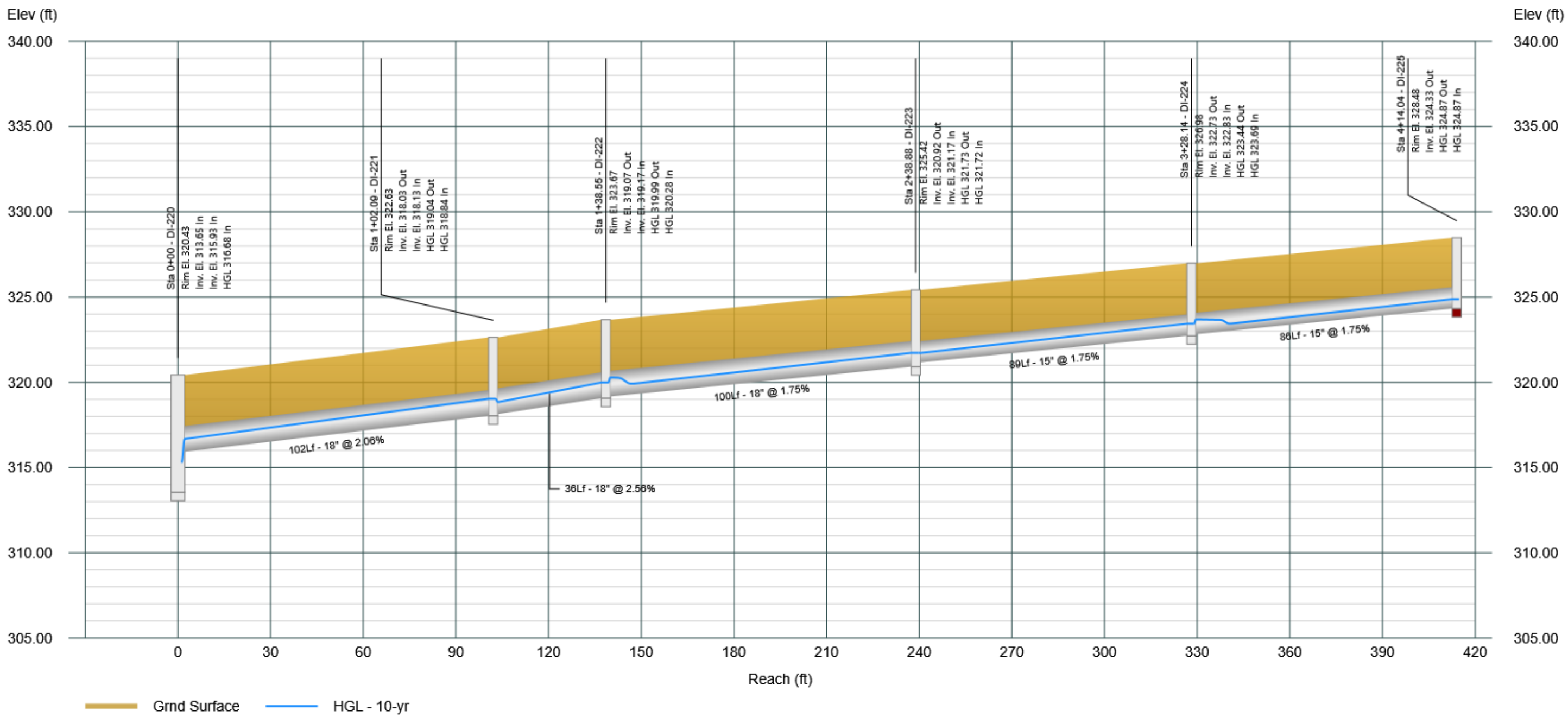


Profile View

Stormwater Studio 2024 v 3.0.0.35

Project Name: Storm System 200

11-19-2024

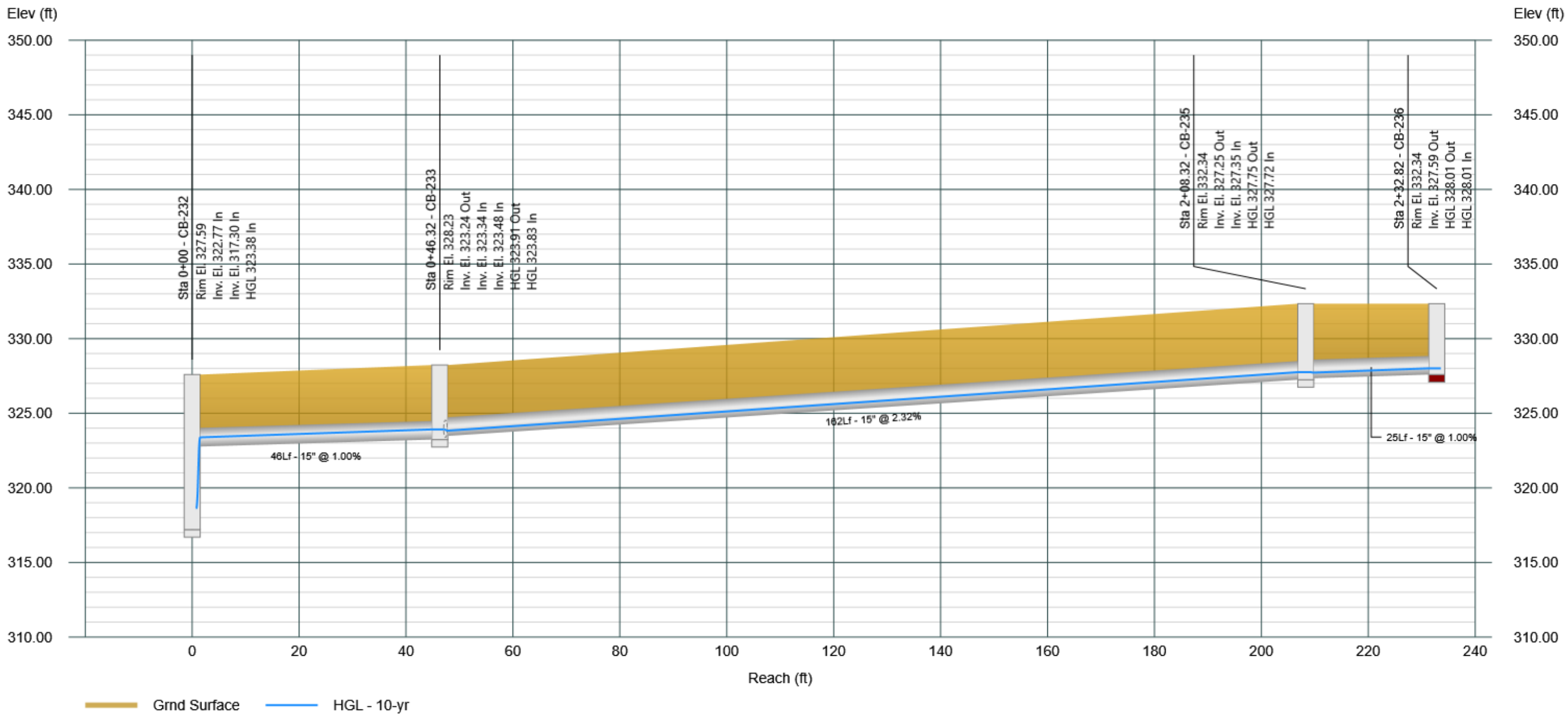


Profile View

Stormwater Studio 2024 v 3.0.0.35

Project Name: Storm System 200

11-19-2024

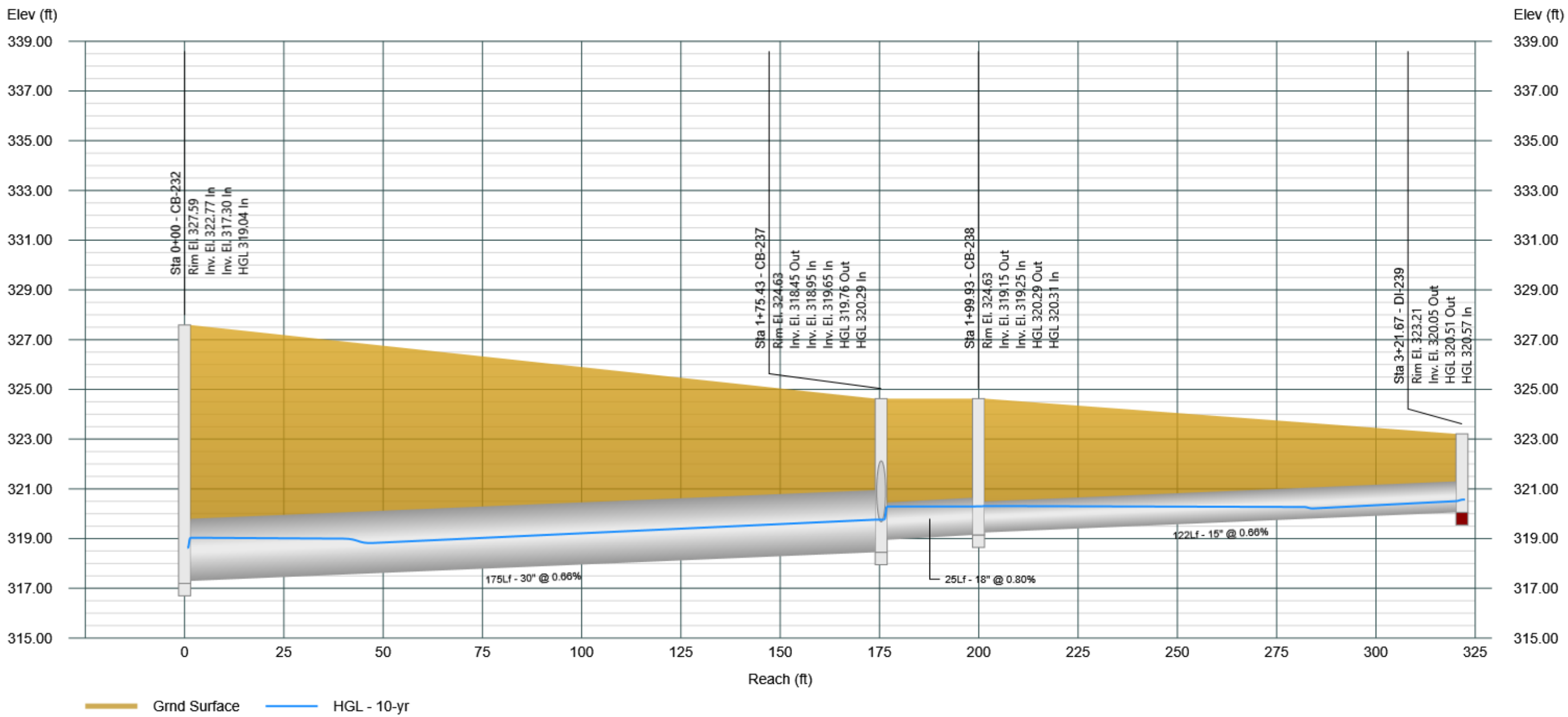


Profile View

Stormwater Studio 2024 v 3.0.0.35

Project Name: Storm System 200

11-19-2024

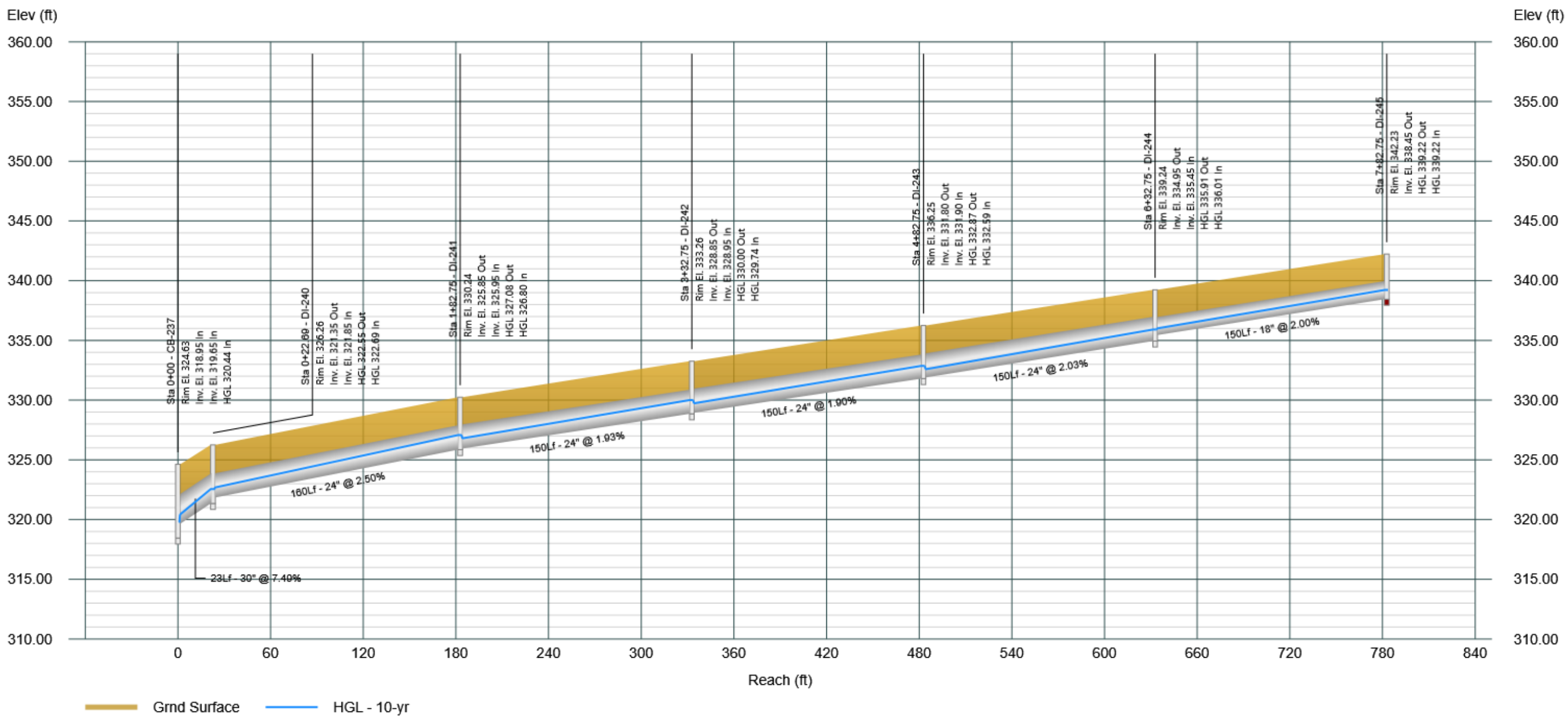


Profile View

Stormwater Studio 2024 v 3.0.0.35

Project Name: Storm System 200

11-19-2024

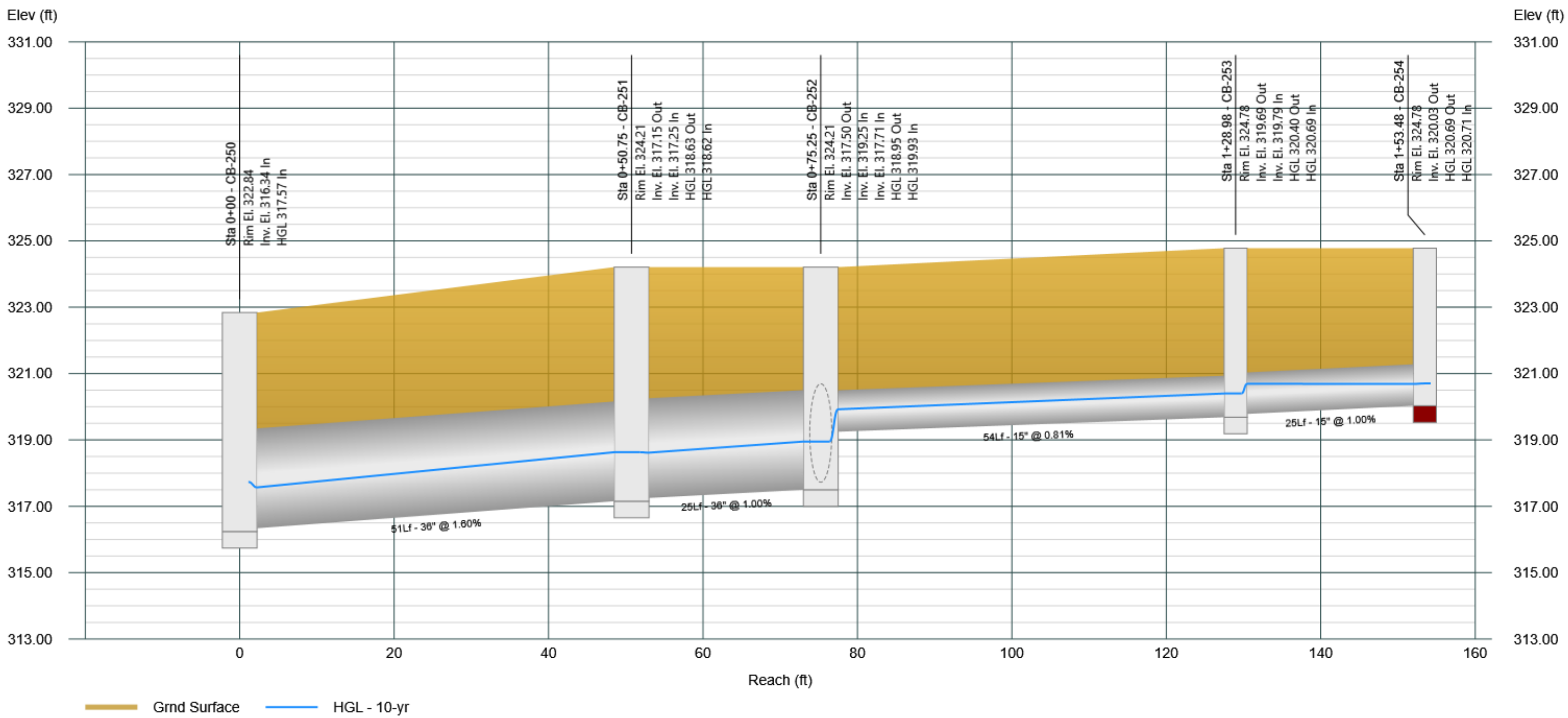


Profile View

Stormwater Studio 2024 v 3.0.0.35

Project Name: Storm System 200

11-19-2024

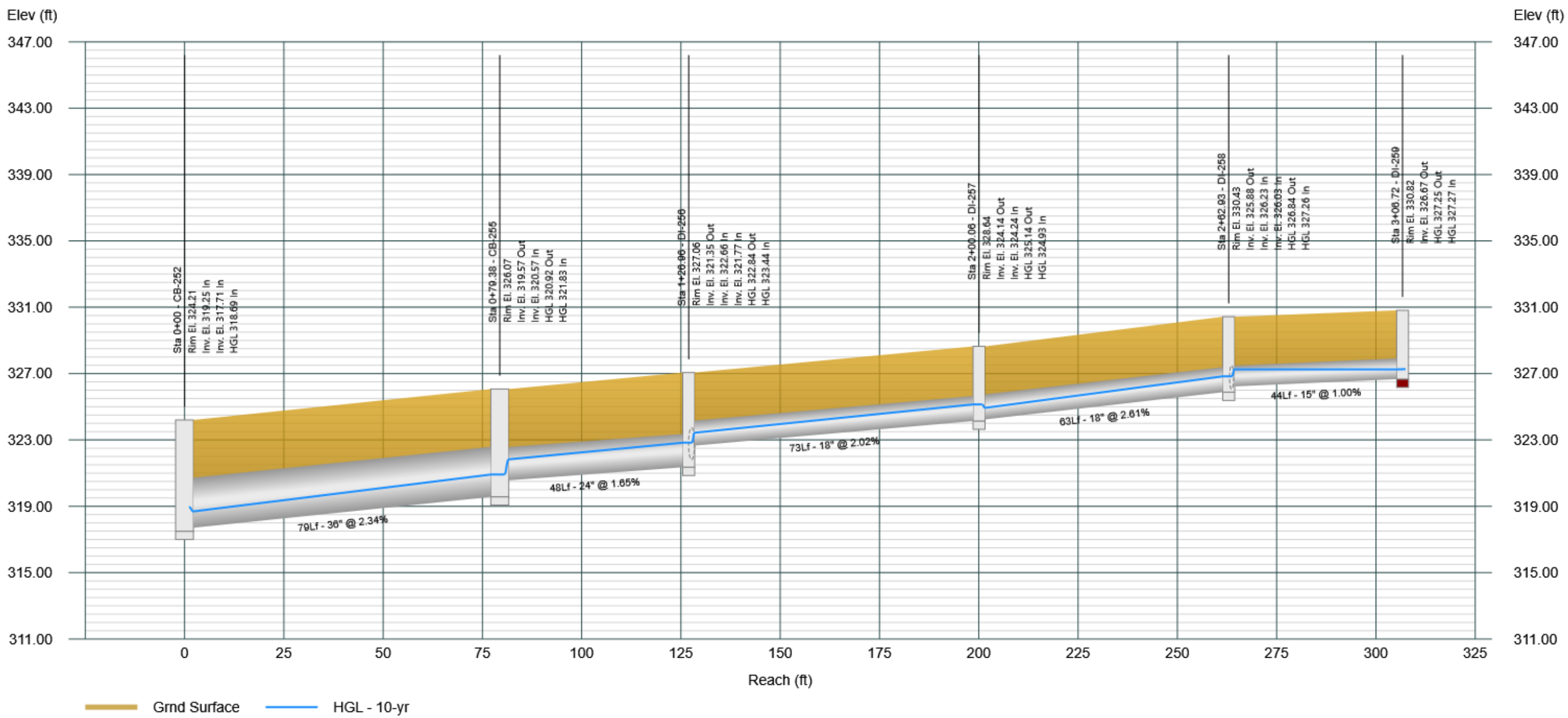


Profile View

Stormwater Studio 2024 v 3.0.0.35

Project Name: Storm System 200

11-19-2024

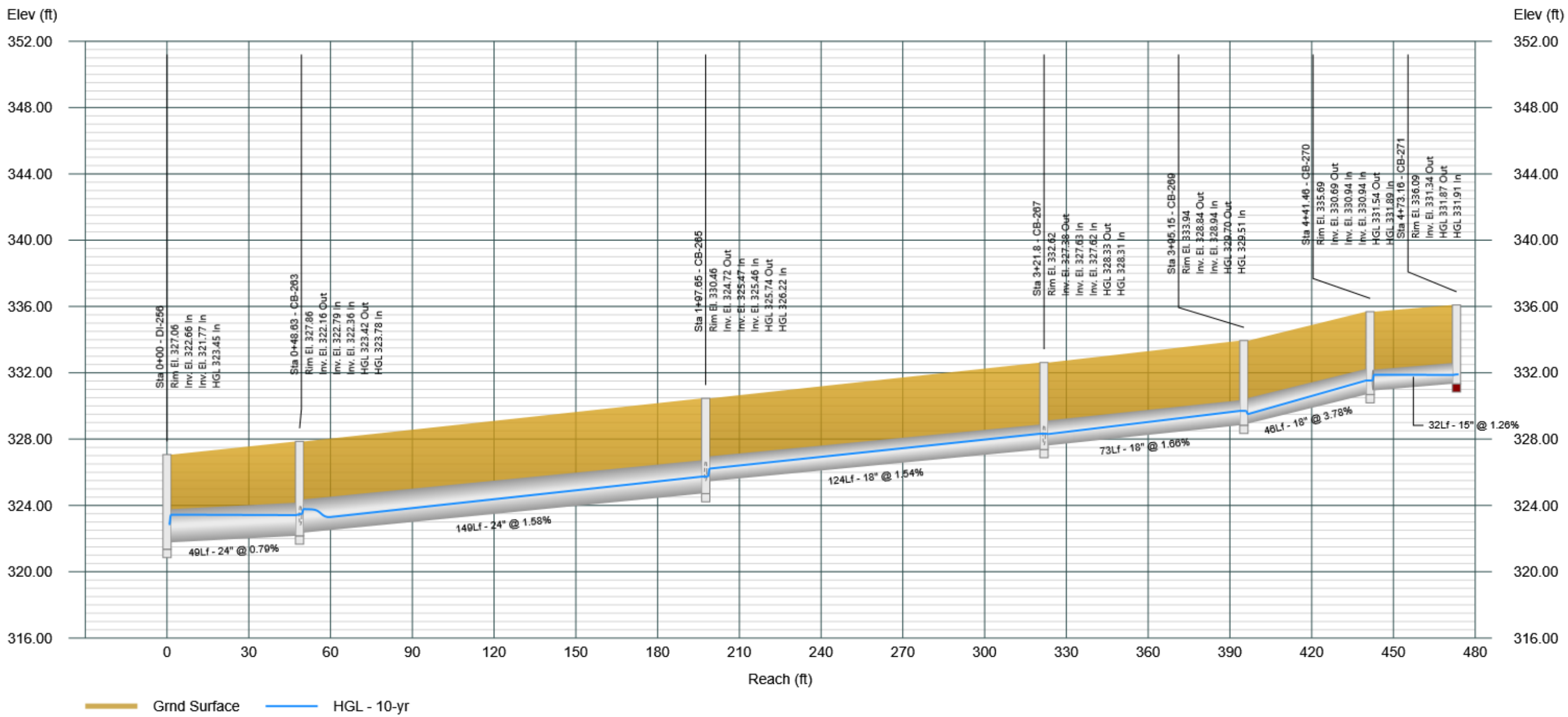


Profile View

Stormwater Studio 2024 v 3.0.0.35

Project Name: Storm System 200

11-19-2024

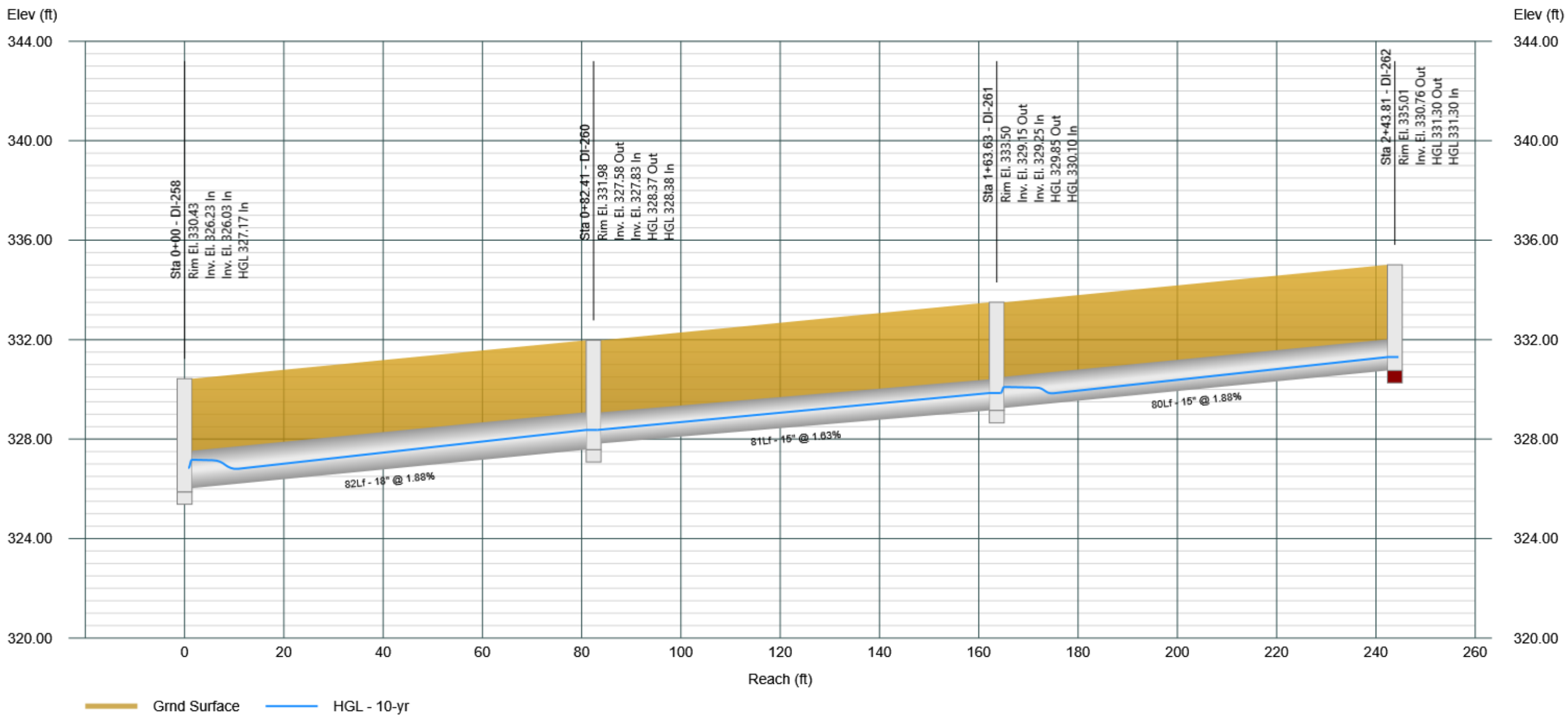


Profile View

Stormwater Studio 2024 v 3.0.0.35

Project Name: Storm System 200

11-19-2024

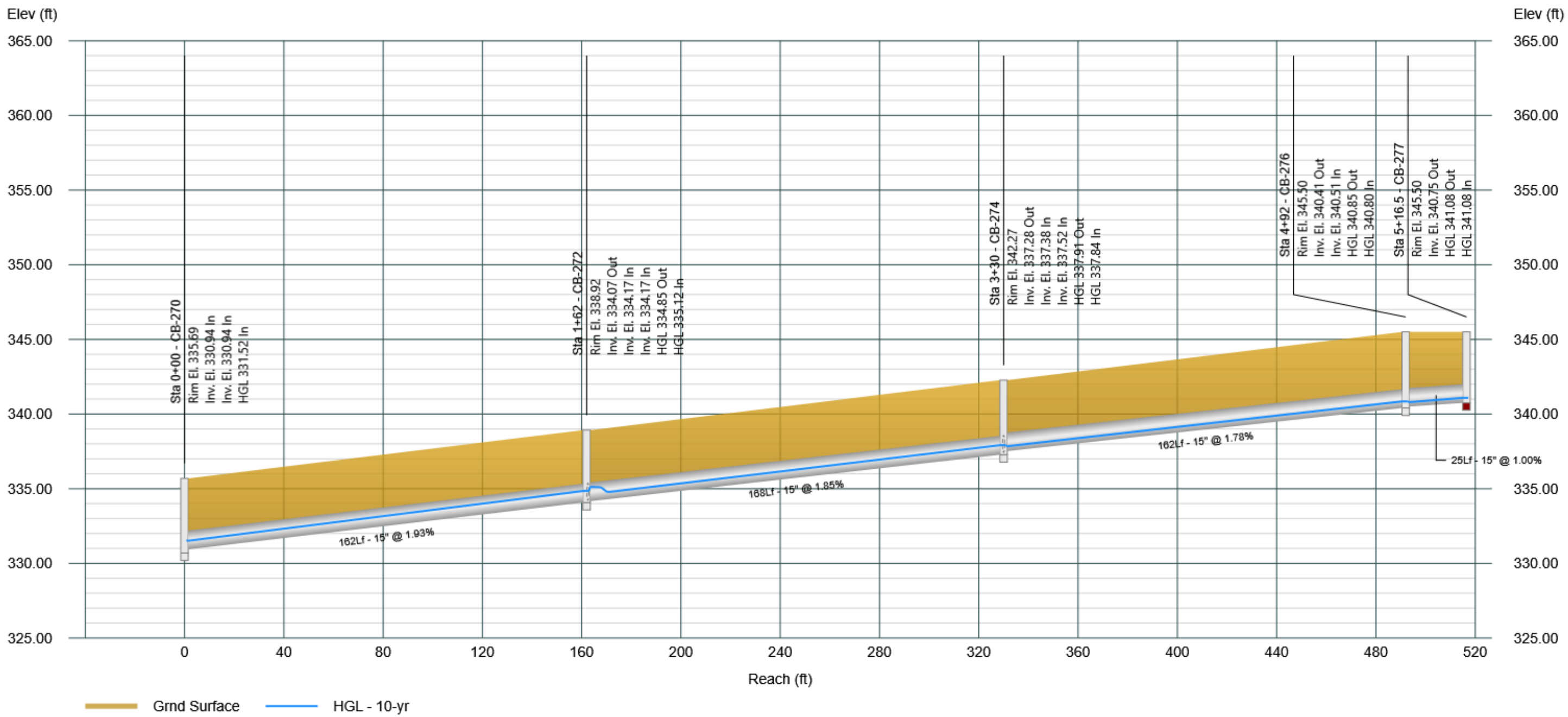


Profile View

Stormwater Studio 2024 v 3.0.0.35

Project Name: Storm System 200

11-19-2024



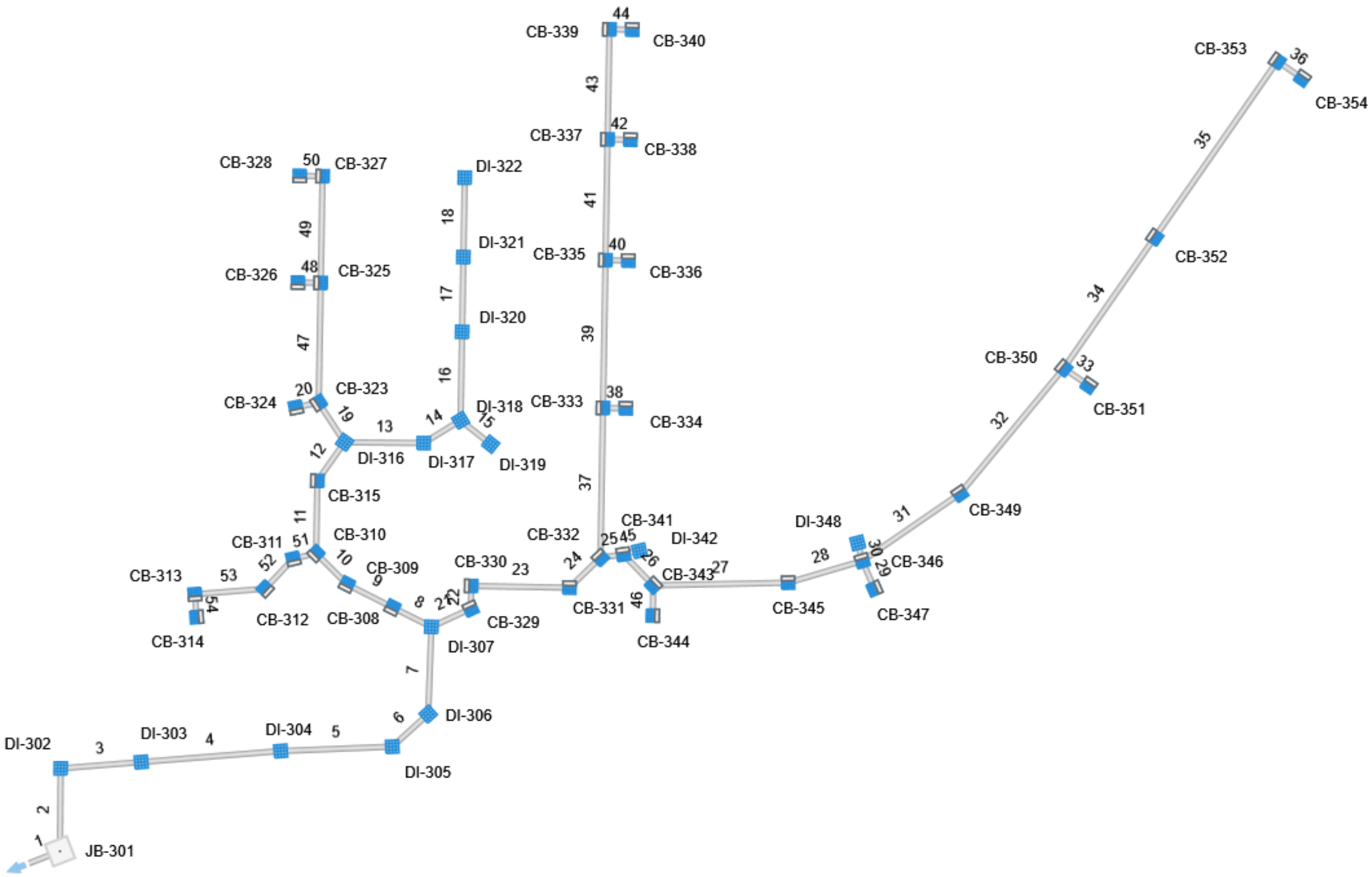
SYSTEM 300 – REPORTS AND PROFILES

Plan View

Stormwater Studio 2024 v 3.0.0.35

Project Name: Storm System 300

11-19-2024



Storm Sewer Tabulation

Stormwater Studio 2024 v 3.0.0.35

Project Name: Storm System 300

11-22-2024

Line ID	Length	Drng Area		Rational	C x A		Tc		Intensity	Total Q	Capacity	Velocity	Line		Invert Elev		HGL Elev		Surface Elev		Line No
		Incr	Total		Incr	Total	Inlet	Syst					Size	Slope	Up	Dn	Up	Dn	Up	Dn	
	(ft)	(ac)	(ac)	(C)			(min)	(min)	(in/hr)	(cfs)	(cfs)	(ft/s)	(in)	(%)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	
300-301	49.71	0.000	15.370	0.00	0.00	11.10	0.0	8.92	6.10	67.65	263.03	12.34	42	6.84	281.60	278.20	284.12	279.82	295.33	282.00	1
301-302	89.07	0.260	15.370	0.70	0.18	11.10	5.0	8.86	6.11	67.81	317.08	14.48	42	9.93	297.20	288.35	299.72	289.70	321.81	295.33	2
302-303	86.82	0.410	15.110	0.65	0.27	10.91	5.0	8.77	6.13	66.94	163.69	10.97	42	2.65	314.30	312.00	316.80	313.86	323.59	321.81	3
303-304	150.36	0.370	14.700	0.65	0.24	10.65	5.0	8.51	6.19	65.95	90.01	9.33	42	0.80	315.60	314.40	318.09	316.74	326.68	323.59	4
304-305	119.96	0.040	14.330	0.75	0.03	10.41	5.0	8.30	6.24	64.97	91.84	9.29	42	0.83	316.70	315.70	319.17	318.02	329.14	326.68	5
305-306	52.10	0.090	14.290	0.75	0.07	10.38	5.0	8.21	6.27	65.02	88.27	7.83	42	0.77	317.20	316.80	319.82	319.87	330.27	329.14	6
306-307	93.88	0.010	14.200	0.85	0.01	10.31	5.0	8.07	6.30	64.97	101.14	9.45	42	1.01	318.25	317.30	320.72	319.55	332.13	330.27	7
307-308	46.59	0.050	4.260	0.80	0.04	2.95	5.0	6.43	6.74	19.86	58.29	3.12	36	0.76	319.50	319.15	321.88	321.88	332.13	332.13	8
308-309	54.90	0.410	4.210	0.65	0.27	2.91	5.0	6.31	6.78	19.70	60.32	3.80	36	0.82	320.05	319.60	321.91	321.95	331.16	332.13	9
309-310	46.99	0.090	3.800	0.80	0.07	2.64	5.0	6.20	6.81	17.97	65.26	4.79	36	0.96	320.60	320.15	321.95	322.07	330.77	331.16	10
310-315	78.04	0.100	3.070	0.75	0.08	2.09	5.0	6.08	6.85	14.28	34.82	7.77	24	2.37	327.12	325.27	328.46	326.26	332.72	330.77	11
315-316	50.74	0.140	2.970	0.70	0.10	2.01	5.0	5.99	6.87	13.82	33.15	7.36	24	2.15	328.31	327.22	329.63	328.25	333.91	332.72	12
316-317	84.88	0.110	1.470	0.75	0.08	0.98	5.0	5.81	6.93	6.76	14.38	6.41	18	1.88	330.50	328.91	331.49	329.68	335.60	333.91	13
317-318	46.64	0.320	1.360	0.65	0.21	0.89	5.0	5.72	6.95	6.22	15.61	6.22	18	2.21	331.63	330.60	332.58	331.34	336.89	335.60	14
318-319	41.18	0.200	0.200	0.70	0.14	0.14	5.0	5.00	7.19	1.01	6.46	1.13	15	1.00	332.29	331.88	333.00	333.00	337.04	336.89	15
318-320	95.13	0.280	0.840	0.65	0.18	0.55	5.0	5.49	7.03	3.84	14.86	5.42	18	2.00	334.30	332.40	335.05	332.95	338.79	336.89	16
320-321	80.41	0.300	0.560	0.65	0.20	0.36	5.0	5.28	7.10	2.58	8.79	4.91	15	1.85	336.05	334.55	336.69	335.05	340.41	338.79	17
321-322	85.37	0.260	0.260	0.65	0.17	0.17	5.0	5.00	7.19	1.21	9.11	2.33	15	1.99	337.85	336.15	338.29	336.92	342.12	340.41	18
316-323	50.87	0.400	1.360	0.65	0.26	0.94	5.0	5.84	6.92	6.48	10.50	4.74	18	1.00	329.32	328.81	330.29	330.06	334.69	333.91	19
323-324	25.12	0.140	0.140	0.80	0.11	0.11	5.0	5.00	7.19	0.80	6.46	0.76	15	1.00	329.82	329.57	330.73	330.73	334.57	334.69	20
307-329	46.59	0.120	9.930	0.80	0.10	7.36	5.0	7.99	6.32	46.49	143.64	7.73	48	1.00	323.51	323.04	325.53	324.90	333.80	332.13	21
329-330	24.50	0.290	9.810	0.65	0.19	7.26	5.0	7.95	6.33	45.96	143.65	7.53	48	1.00	323.85	323.61	325.86	325.52	333.80	333.80	22

Notes: IDF File = Pearce Farm IDF.idf, Return Period = 10-yrs.

Project File: Storm System 300.sws

Storm Sewer Tabulation

Stormwater Studio 2024 v 3.0.0.35

Project Name: Storm System 300

11-22-2024

Line ID	Length	Drng Area		Rational	C x A		Tc		Intensity	Total Q	Capacity	Velocity	Line		Invert Elev		HGL Elev		Surface Elev		Line No
		Incr	Total		Incr	Total	Inlet	Syst					Size	Slope	Up	Dn	Up	Dn	Up	Dn	
	(ft)	(ac)	(ac)	(C)			(min)	(min)	(in/hr)	(cfs)	(cfs)	(ft/s)	(in)	(%)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	
330-331	105.61	0.100	9.520	0.75	0.08	7.07	5.0	7.76	6.38	45.10	143.65	7.95	48	1.00	325.01	323.95	327.00	325.68	335.89	333.80	23
331-332	46.32	0.110	9.420	0.75	0.08	7.00	5.0	7.68	6.40	44.76	143.64	6.66	48	1.00	325.57	325.11	327.55	327.38	337.22	335.89	24
332-341	24.82	0.130	7.120	0.75	0.10	5.40	5.0	7.64	6.41	34.64	100.60	7.19	42	1.00	328.40	328.15	330.20	329.86	337.30	337.22	25
341-343	46.32	0.050	3.580	0.85	0.04	2.75	5.0	7.53	6.44	17.70	38.27	4.06	30	0.87	328.90	328.50	330.82	330.82	337.60	337.30	26
343-345	144.91	0.050	3.480	0.80	0.04	2.66	5.0	7.16	6.54	17.41	32.31	6.35	30	0.62	329.90	329.00	331.30	330.34	337.56	337.60	27
345-346	83.12	0.370	3.430	0.75	0.28	2.62	5.0	6.96	6.59	17.30	34.59	5.90	30	0.71	330.60	330.00	331.99	331.50	336.59	337.56	28
346-347	32.50	0.390	0.390	0.80	0.31	0.31	5.0	5.00	7.19	2.24	6.46	2.73	15	1.00	331.84	331.52	332.51	332.53	336.59	336.59	29
346-348	19.98	0.250	0.250	0.75	0.19	0.19	5.0	5.00	7.19	1.35	20.42	5.29	15	10.00	333.84	331.84	334.30	332.10	338.81	336.59	30
346-349	127.38	0.500	2.420	0.75	0.38	1.85	5.0	6.72	6.66	12.30	29.79	7.13	24	1.73	333.30	331.09	334.54	332.05	338.90	336.59	31
349-350	175.09	0.600	1.920	0.75	0.45	1.47	5.0	6.43	6.74	9.92	39.15	7.56	24	3.00	338.65	333.40	339.76	334.13	344.45	338.90	32
350-351	32.50	0.150	0.150	0.85	0.13	0.13	5.0	5.00	7.19	0.92	6.25	1.50	15	0.94	339.70	339.40	340.21	340.22	344.45	344.45	33
350-352	171.29	0.060	1.170	0.75	0.05	0.89	5.0	5.91	6.90	6.17	8.95	5.33	18	0.73	340.65	339.40	341.60	340.32	349.36	344.45	34
352-353	230.78	0.940	1.110	0.75	0.71	0.85	5.0	5.17	7.13	6.06	8.46	5.19	18	0.65	342.25	340.75	343.19	341.69	347.47	349.36	35
353-354	32.50	0.170	0.170	0.85	0.14	0.14	5.0	5.00	7.19	1.04	5.13	0.85	15	0.63	342.70	342.50	343.91	343.90	347.47	347.47	36
332-333	161.00	0.160	2.190	0.80	0.13	1.51	5.0	5.94	6.89	10.39	30.90	6.92	24	1.87	334.73	331.72	335.87	332.56	340.47	337.22	37
333-334	24.50	0.230	0.230	0.75	0.17	0.17	5.0	5.00	7.19	1.24	6.46	1.75	15	1.00	335.72	335.48	336.32	336.34	340.47	340.47	38
333-335	158.88	0.130	1.800	0.80	0.10	1.21	5.0	5.62	6.99	8.44	31.16	6.50	24	1.90	337.99	334.97	339.01	335.72	343.73	340.47	39
335-336	24.50	0.250	0.250	0.75	0.19	0.19	5.0	5.00	7.19	1.35	6.46	2.68	15	1.00	338.98	338.74	339.44	339.38	343.73	343.73	40
335-337	129.89	0.050	1.420	0.75	0.04	0.92	5.0	5.35	7.07	6.49	14.35	6.40	18	1.87	341.16	338.73	342.13	339.47	346.40	343.73	41
337-338	24.50	0.460	0.460	0.65	0.30	0.30	5.0	5.00	7.19	2.15	6.46	2.07	15	1.00	341.65	341.41	342.54	342.54	346.40	346.40	42
337-339	118.39	0.230	0.910	0.75	0.17	0.58	5.0	5.08	7.16	4.16	15.52	5.70	18	2.18	343.99	341.40	344.76	341.96	349.23	346.40	43
339-340	24.50	0.680	0.680	0.60	0.41	0.41	5.0	5.00	7.19	2.93	6.46	4.48	15	1.00	344.48	344.24	345.17	344.87	349.23	349.23	44

Notes: IDF File = Pearce Farm IDF.idf, Return Period = 10-yrs.

Project File: Storm System 300.sws

Storm Sewer Tabulation

Stormwater Studio 2024 v 3.0.0.35

Project Name: Storm System 300

11-22-2024

Line ID	Length	Drng Area		Rational	C x A		Tc		Intensity	Total Q	Capacity	Velocity	Line		Invert Elev		HGL Elev		Surface Elev		Line No
		Incr	Total		Incr	Total	Inlet	Syst					Size	Slope	Up	Dn	Up	Dn	Up	Dn	
	(ft)	(ac)	(ac)	(C)			(min)	(min)	(in/hr)	(cfs)	(cfs)	(ft/s)	(in)	(%)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	
341-342	17.86	3.410	3.410	0.75	2.56	2.56	5.0	5.00	7.19	18.38	66.69	6.05	36	1.00	329.24	329.06	330.62	330.36	336.74	337.30	45
343-344	32.50	0.050	0.050	0.85	0.04	0.04	5.0	5.00	7.19	0.31	6.46	2.32	15	1.00	332.85	332.53	333.07	332.72	337.60	337.60	46
323-325	128.73	0.380	0.820	0.65	0.25	0.56	5.0	5.52	7.02	3.96	13.87	5.38	18	1.74	331.94	329.69	332.69	330.26	337.18	334.69	47
325-326	24.50	0.120	0.120	0.80	0.10	0.10	5.0	5.00	7.19	0.69	6.46	1.07	15	1.00	332.43	332.19	332.99	332.99	337.18	337.18	48
325-327	114.74	0.230	0.320	0.65	0.15	0.22	5.0	5.15	7.14	1.58	8.41	4.21	15	1.70	334.40	332.45	334.90	332.83	339.40	337.18	49
327-328	24.50	0.090	0.090	0.80	0.07	0.07	5.0	5.00	7.19	0.52	5.14	1.18	15	0.63	334.65	334.50	335.07	335.07	339.40	339.40	50
310-311	25.28	0.130	0.640	0.75	0.10	0.48	5.0	5.54	7.01	3.38	6.46	3.85	15	1.00	321.63	321.37	322.36	322.37	330.64	330.77	51
311-312	44.25	0.120	0.510	0.75	0.09	0.38	5.0	5.39	7.06	2.71	6.46	3.33	15	1.00	322.17	321.73	322.83	322.75	329.42	330.64	52
312-313	75.64	0.180	0.390	0.70	0.13	0.29	5.0	5.12	7.15	2.10	6.46	3.04	15	1.00	322.93	322.17	323.51	323.04	327.92	329.42	53
313-314	24.50	0.210	0.210	0.80	0.17	0.17	5.0	5.00	7.19	1.21	4.97	2.16	15	0.59	323.17	323.03	323.69	323.69	327.92	327.92	54

Notes: IDF File = Pearce Farm IDF.idf, Return Period = 10-yrs.

Project File: Storm System 300.sws

Energy Grade Line Calculations

Stormwater Studio 2024 v 3.0.0.35

Project Name: Storm System 300

11-22-2024

Line No	Line Size	Q	Downstream							Length	Upstream							Pipe		Junction		
			Invert Elev	Depth	Area	HGL Elev	Vel	Vel Head	EGL Elev		Invert Elev	Depth	Area	HGL Elev	Vel	Vel Head	EGL Elev	n Value	Enrgy Loss	HGLa Elev	EGLa Elev	Enrgy Loss
	(in)	(cfs)	(ft)	(ft)	(sqft)	(ft)	(ft/s)	(ft)	(ft)	(ft)	(ft)	(ft)	(sqft)	(ft)	(ft/s)	(ft)	(ft)		(ft)	(ft)	(ft)	(ft)
1	42	67.65	278.20	1.62‡	4.35	279.82	15.56	3.77	283.37	49.71	281.60	2.52²	7.41	284.12	9.13	1.30	285.41	0.013	2.043	284.12	285.41	0.00
2	42	67.81	288.35	1.35‡	3.42	289.70	19.82	6.11	292.17	89.07	297.20	2.52²	7.42	299.72	9.14	1.30	301.02	0.013	8.847	299.72	301.02	0.00
3	42	66.94	312.00	1.86‡	5.20	313.86	12.86	2.57	315.79	86.82	314.30	2.51²	7.37	316.80	9.08	1.28	318.08	0.013	2.298	316.80	318.08	0.00
4	42	65.95	314.40	2.34‡	6.84	316.74	9.65	1.45	318.37	150.36	315.60	2.49²	7.31	318.09	9.02	1.27	319.35	0.013	0.982	318.09	319.35	0.00
5	42	64.97	315.70	2.32‡	6.76	318.02	9.62	1.44	319.63	119.96	316.70	2.47²	7.25	319.17	8.96	1.25	320.41	0.013	0.786	319.17	320.41	0.00
6	42	65.02	316.80	3.07	8.95	319.87	7.26	0.82	320.69	52.10	317.20	2.62	7.74	319.82	8.40	1.10	320.92	0.013	0.229	319.89	320.99	0.07
7	42	64.97	317.30	2.25‡	6.53	319.55	9.94	1.54	321.27	93.88	318.25	2.47²	7.25	320.72	8.96	1.25	321.96	0.013	0.698	320.72	321.96	0.00
8	36	19.86	319.15	2.73	6.76	321.88	2.94	0.13	322.02	46.59	319.50	2.38	6.01	321.88	3.30	0.17	322.05	0.013	0.039	321.89	322.06	0.01
9	36	19.70	319.60	2.35	5.93	321.95	3.32	0.17	322.12	54.90	320.05	1.86	4.61	321.91	4.28	0.28	322.20	0.013	0.076	321.94	322.22	0.02
10	36	17.97	320.15	1.92	4.77	322.07	3.77	0.22	322.29	46.99	320.60	1.35²	3.09	321.95	5.82	0.53	322.48	0.013	0.190	321.95	322.48	0.00
11	24	14.28	325.27	0.99‡	1.56	326.26	9.16	1.30	327.24	78.04	327.12	1.34²	2.23	328.46	6.39	0.63	329.09	0.013	1.850	328.46	329.09	0.00
12	24	13.82	327.22	1.03‡	1.64	328.25	8.43	1.10	329.21	50.74	328.31	1.32²	2.19	329.63	6.30	0.62	330.24	0.013	1.033	329.63	330.24	0.00
13	18	6.76	328.91	0.77‡	0.92	329.68	7.38	0.85	330.36	84.88	330.50	0.99²	1.24	331.49	5.45	0.46	331.95	0.013	1.592	331.49	331.95	0.00
14	18	6.22	330.60	0.74‡	0.87	331.34	7.18	0.80	332.03	46.64	331.63	0.95²	1.18	332.58	5.26	0.43	333.01	0.013	0.983	332.58	333.01	0.00
15	15	1.01	331.88	1.12	1.16	333.00	0.87	0.01	333.02	41.18	332.29	0.71	0.72	333.00	1.39	0.03	333.03	0.013	0.018	333.01	333.04	0.01
16	18	3.84	332.40	0.55‡	0.59	332.95	6.49	0.65	333.44	95.13	334.30	0.75²	0.88	335.05	4.36	0.30	335.35	0.013	1.905	335.05	335.35	0.00
17	15	2.58	334.55	0.49‡	0.45	335.05	5.77	0.52	335.46	80.41	336.05	0.64²	0.64	336.69	4.06	0.26	336.94	0.013	1.482	336.69	336.94	0.00
18	15	1.21	336.15	0.78	0.80	336.92	1.52	0.04	336.96	85.37	337.85	0.44²	0.39	338.29	3.14	0.15	338.44	0.013	1.483	338.29	338.44	0.00
19	18	6.48	328.81	1.25	1.57	330.06	4.12	0.26	330.32	50.87	329.32	0.97²	1.21	330.29	5.35	0.45	330.74	0.013	0.412	330.29	330.74	0.00
20	15	0.80	329.57	1.16	1.19	330.73	0.68	0.01	330.74	25.12	329.82	0.91	0.96	330.73	0.84	0.01	330.74	0.013	0.004	330.74	330.75	0.01
21	48	46.49	323.04	1.86‡	5.72	324.90	8.13	1.03	325.89	46.59	323.51	2.02²	6.35	325.53	7.32	0.83	326.36	0.013	0.466	325.53	326.36	0.00
22	48	45.96	323.61	1.91‡	5.92	325.52	7.77	0.94	326.50	24.50	323.85	2.01²	6.30	325.86	7.29	0.83	326.69	0.013	0.184	325.86	326.69	0.00

Notes: Return Period = 10-yrs. ² Critical depth. ‡ Supercritical.

Project File: Storm System 300.sws

Energy Grade Line Calculations

Stormwater Studio 2024 v 3.0.0.35

Project Name: Storm System 300

11-22-2024

Line No	Line Size	Q	Downstream							Length	Upstream							Pipe		Junction		
			Invert Elev	Depth	Area	HGL Elev	Vel	Vel Head	EGL Elev		Invert Elev	Depth	Area	HGL Elev	Vel	Vel Head	EGL Elev	n Value	Enrgy Loss	HGLa Elev	EGLa Elev	Enrgy Loss
	(in)	(cfs)	(ft)	(ft)	(sqft)	(ft)	(ft/s)	(ft)	(ft)	(ft)	(ft)	(ft)	(sqft)	(ft)	(ft/s)	(ft)	(ft)		(ft)	(ft)	(ft)	(ft)
23	48	45.10	323.95	1.73‡	5.20	325.68	8.67	1.17	326.83	105.61	325.01	1.99²	6.23	327.00	7.24	0.82	327.81	0.013	0.986	327.00	327.81	0.00
24	48	44.76	325.11	2.27	7.34	327.38	6.10	0.58	327.95	46.32	325.57	1.98²	6.20	327.55	7.22	0.81	328.36	0.013	0.409	327.55	328.36	0.00
25	42	34.64	328.15	1.70‡	4.65	329.86	7.45	0.86	330.70	24.82	328.40	1.80²	4.99	330.20	6.94	0.75	330.95	0.013	0.248	330.20	330.95	0.00
26	30	17.70	328.50	2.31	4.74	330.82	3.73	0.22	331.03	46.32	328.90	1.91	4.03	330.82	4.39	0.30	331.12	0.013	0.087	330.83	331.13	0.01
27	30	17.41	329.00	1.34‡	2.67	330.34	6.52	0.66	331.22	144.91	329.90	1.39²	2.82	331.30	6.19	0.59	331.89	0.013	0.673	331.30	331.89	0.00
28	30	17.30	330.00	1.50	3.07	331.50	5.63	0.49	332.00	83.12	330.60	1.39²	2.80	331.99	6.17	0.59	332.58	0.013	0.581	331.99	332.58	0.00
29	15	2.24	331.52	1.02	1.07	332.53	2.10	0.07	332.60	32.50	331.84	0.67	0.67	332.51	3.36	0.18	332.68	0.013	0.084	332.63	332.80	0.12
30	15	1.35	331.84	0.26‡	0.18	332.10	7.34	0.84	332.59	19.98	333.84	0.46²	0.42	334.30	3.24	0.16	334.47	0.013	1.872	334.30	334.47	0.00
31	24	12.30	331.09	0.96‡	1.49	332.05	8.26	1.06	332.89	127.38	333.30	1.24²	2.05	334.54	6.00	0.56	335.10	0.013	2.211	334.54	335.10	0.00
32	24	9.92	333.40	0.73‡	1.03	334.13	9.61	1.43	335.17	175.09	338.65	1.12²	1.80	339.76	5.51	0.47	340.23	0.013	5.061	339.76	340.23	0.00
33	15	0.92	339.40	0.83	0.86	340.22	1.07	0.02	340.24	32.50	339.70	0.51	0.47	340.21	1.94	0.06	340.27	0.013	0.032	340.25	340.31	0.04
34	18	6.17	339.40	0.92‡	1.14	340.32	5.43	0.46	340.78	171.29	340.65	0.95²	1.18	341.60	5.24	0.43	342.02	0.013	1.243	341.60	342.02	0.00
35	18	6.06	340.75	0.94‡	1.16	341.69	5.21	0.42	342.11	230.78	342.25	0.94	1.17	343.19	5.18	0.42	343.61	0.013	1.498	343.49	343.91	0.30
36	15	1.04	342.50	1.25	1.23	343.90	0.85	0.01	343.91	32.50	342.70	1.21	1.21	343.91	0.86	0.01	343.92	0.013	0.007	343.91	343.93	0.01
37	24	10.39	331.72	0.84‡	1.26	332.56	8.24	1.05	333.35	161.00	334.73	1.14²	1.85	335.87	5.61	0.49	336.36	0.013	3.005	335.87	336.36	0.00
38	15	1.24	335.48	0.86	0.90	336.34	1.37	0.03	336.37	24.50	335.72	0.60	0.59	336.32	2.12	0.07	336.39	0.013	0.027	336.37	336.44	0.05
39	24	8.44	334.97	0.75‡	1.08	335.72	7.82	0.95	336.42	158.88	337.99	1.03²	1.63	339.01	5.18	0.42	339.43	0.013	3.010	339.01	339.43	0.00
40	15	1.35	338.74	0.64	0.64	339.38	2.11	0.07	339.45	24.50	338.98	0.46²	0.42	339.44	3.24	0.16	339.61	0.013	0.159	339.44	339.61	0.00
41	18	6.49	338.73	0.74‡	0.87	339.47	7.44	0.86	340.15	129.89	341.16	0.97²	1.21	342.13	5.35	0.45	342.57	0.013	2.425	342.13	342.57	0.00
42	15	2.15	341.41	1.13	1.17	342.54	1.84	0.05	342.59	24.50	341.65	0.89	0.94	342.54	2.30	0.08	342.62	0.013	0.031	342.58	342.66	0.04
43	18	4.16	341.40	0.56‡	0.60	341.96	6.90	0.74	342.62	118.39	343.99	0.78²	0.93	344.76	4.49	0.31	345.08	0.013	2.461	344.76	345.08	0.00
44	15	2.93	344.24	0.63‡	0.62	344.87	4.69	0.34	345.21	24.50	344.48	0.69²	0.69	345.17	4.26	0.28	345.45	0.013	0.239	345.17	345.45	0.00

Notes: Return Period = 10-yrs. ² Critical depth. ‡ Supercritical.

Project File: Storm System 300.sws

Energy Grade Line Calculations

Stormwater Studio 2024 v 3.0.0.35

Project Name: Storm System 300

11-22-2024

Line No	Line Size	Q	Downstream							Length	Upstream							Pipe		Junction		
			Invert Elev	Depth	Area	HGL Elev	Vel	Vel Head	EGL Elev		Invert Elev	Depth	Area	HGL Elev	Vel	Vel Head	EGL Elev	n Value	Enrgy Loss	HGLa Elev	EGLa Elev	Enrgy Loss
	(in)	(cfs)	(ft)	(ft)	(sqft)	(ft)	(ft/s)	(ft)	(ft)	(ft)	(ft)	(ft)	(sqft)	(ft)	(ft/s)	(ft)	(ft)		(ft)	(ft)	(ft)	(ft)
45	36	18.38	329.06	1.30‡	2.93	330.36	6.28	0.61	331.04	17.86	329.24	1.37	3.16	330.62	5.82	0.53	331.14	0.013	0.106	330.83	331.35	0.21
46	15	0.31	332.53	0.19‡	0.12	332.72	2.56	0.10	332.81	32.50	332.85	0.22²	0.15	333.07	2.08	0.07	333.14	0.013	0.325	333.07	333.14	0.00
47	18	3.96	329.69	0.57‡	0.62	330.26	6.36	0.63	330.78	128.73	331.94	0.76²	0.90	332.69	4.41	0.30	333.00	0.013	2.217	332.69	333.00	0.00
48	15	0.69	332.19	0.81	0.84	332.99	0.83	0.01	333.00	24.50	332.43	0.56	0.53	332.99	1.31	0.03	333.01	0.013	0.011	333.00	333.03	0.02
49	15	1.58	332.45	0.38‡	0.32	332.83	4.99	0.39	333.13	114.74	334.40	0.50²	0.46	334.90	3.42	0.18	335.08	0.013	1.945	334.90	335.08	0.00
50	15	0.52	334.50	0.58	0.55	335.07	0.94	0.01	335.08	24.50	334.65	0.42	0.36	335.07	1.43	0.03	335.10	0.013	0.018	335.09	335.12	0.02
51	15	3.38	321.37	0.99	1.05	322.37	3.23	0.16	322.53	25.28	321.63	0.74	0.75	322.36	4.47	0.31	322.68	0.013	0.147	322.50	322.82	0.14
52	15	2.71	321.73	1.02	1.08	322.75	2.52	0.10	322.85	44.25	322.17	0.66²	0.66	322.83	4.13	0.27	323.09	0.013	0.244	322.83	323.09	0.00
53	15	2.10	322.17	0.87	0.91	323.04	2.31	0.08	323.12	75.64	322.93	0.58²	0.56	323.51	3.77	0.22	323.73	0.013	0.608	323.51	323.73	0.00
54	15	1.21	323.03	0.66	0.66	323.69	1.82	0.05	323.74	24.50	323.17	0.52	0.49	323.69	2.49	0.10	323.79	0.013	0.047	323.75	323.84	0.05

Notes: Return Period = 10-yrs. ² Critical depth. ‡ Supercritical.

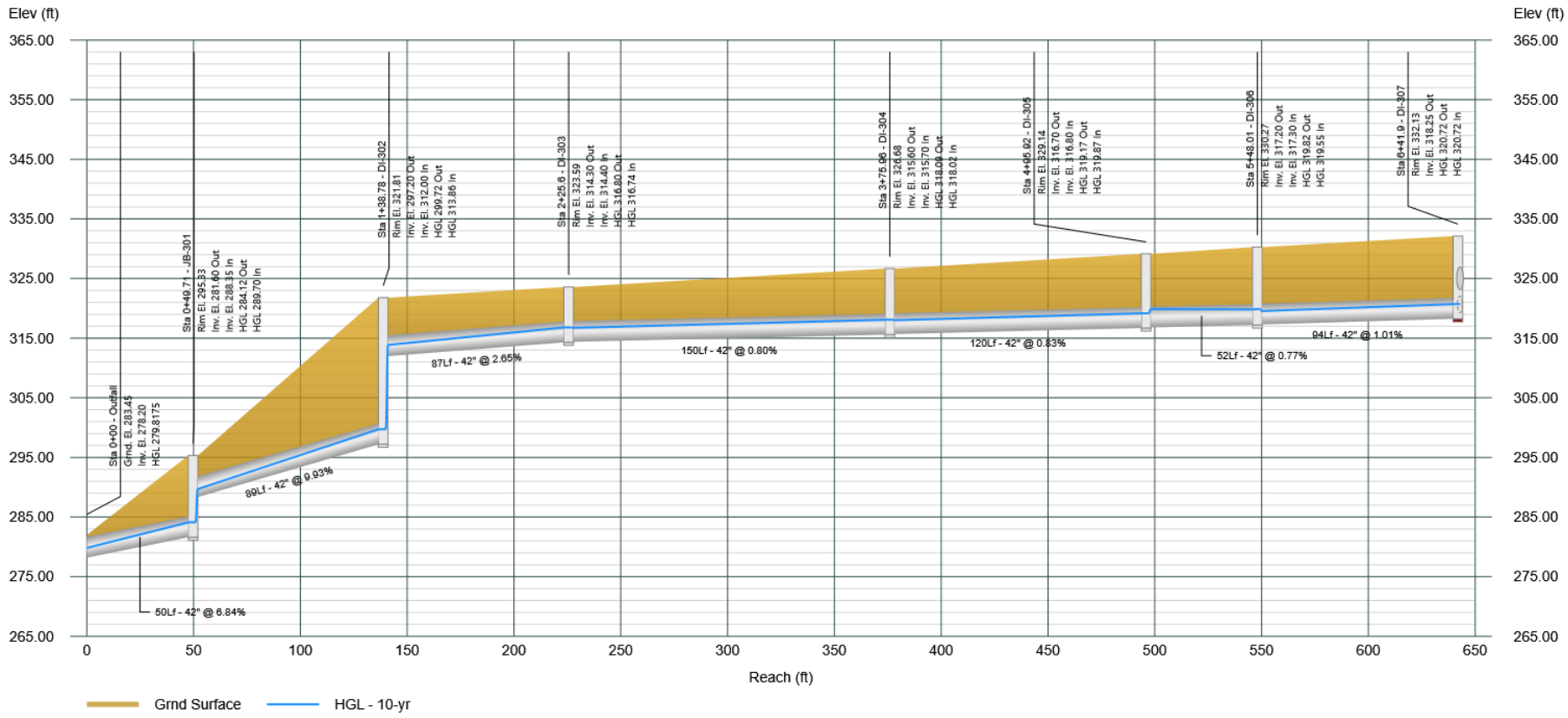
Project File: Storm System 300.sws

Profile View

Stormwater Studio 2024 v 3.0.0.35

Project Name: Storm System 300

11-22-2024

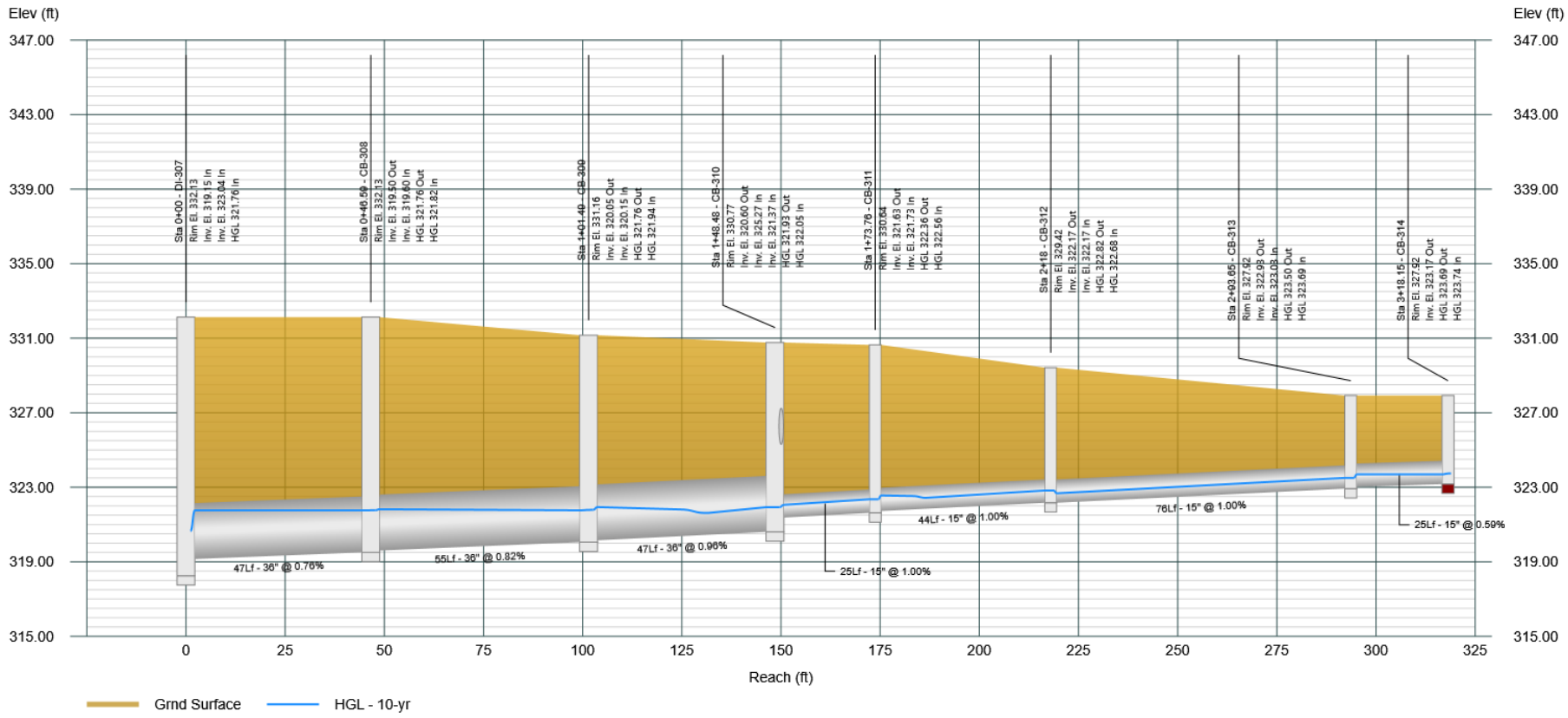


Profile View

Stormwater Studio 2024 v 3.0.0.35

Project Name: Storm System 300

11-19-2024



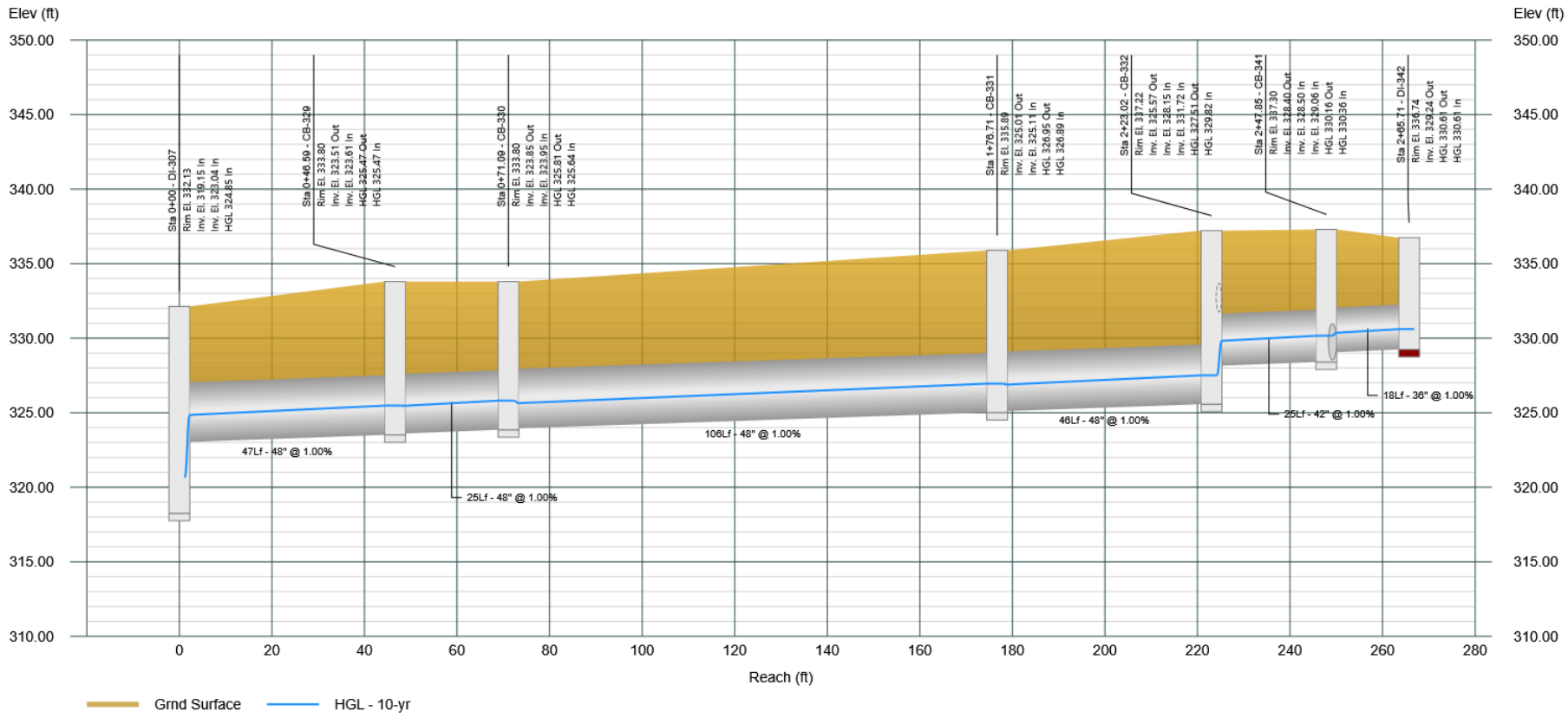
Project File: Storm System 300.sws

Profile View

Stormwater Studio 2024 v 3.0.0.35

Project Name: Storm System 300

11-19-2024



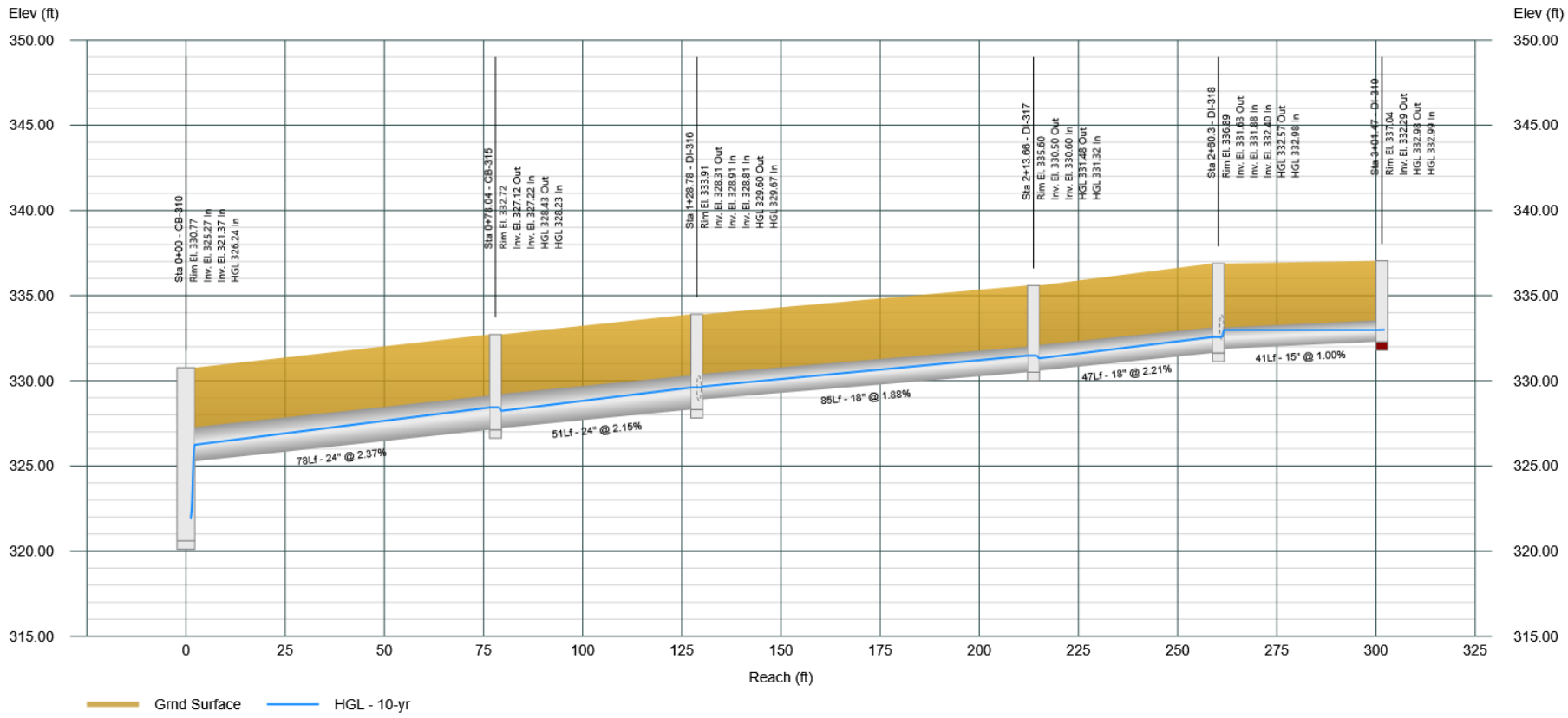
Project File: Storm System 300.sws

Profile View

Stormwater Studio 2024 v 3.0.0.35

Project Name: Storm System 300

11-19-2024



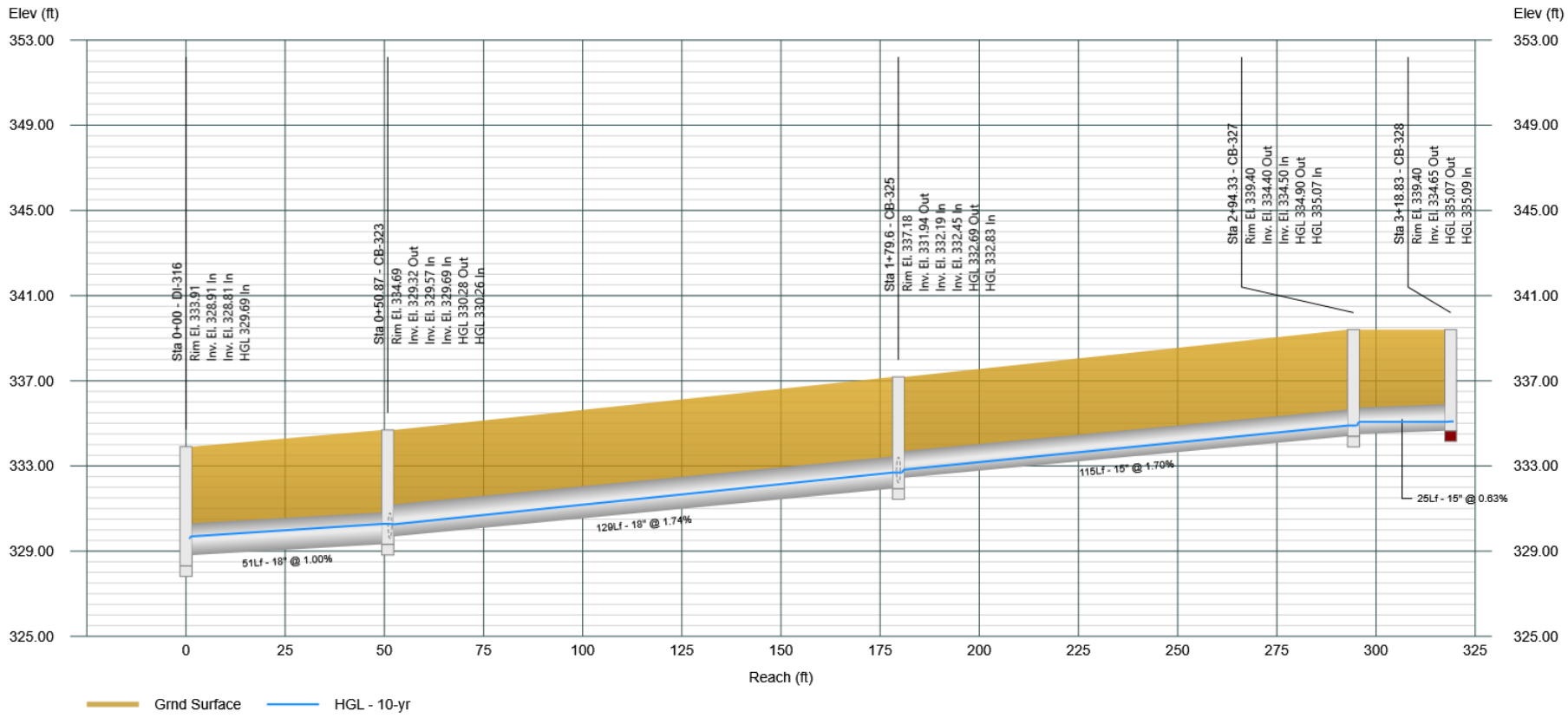
Project File: Storm System 300.sws

Profile View

Stormwater Studio 2024 v 3.0.0.35

Project Name: Storm System 300

11-19-2024



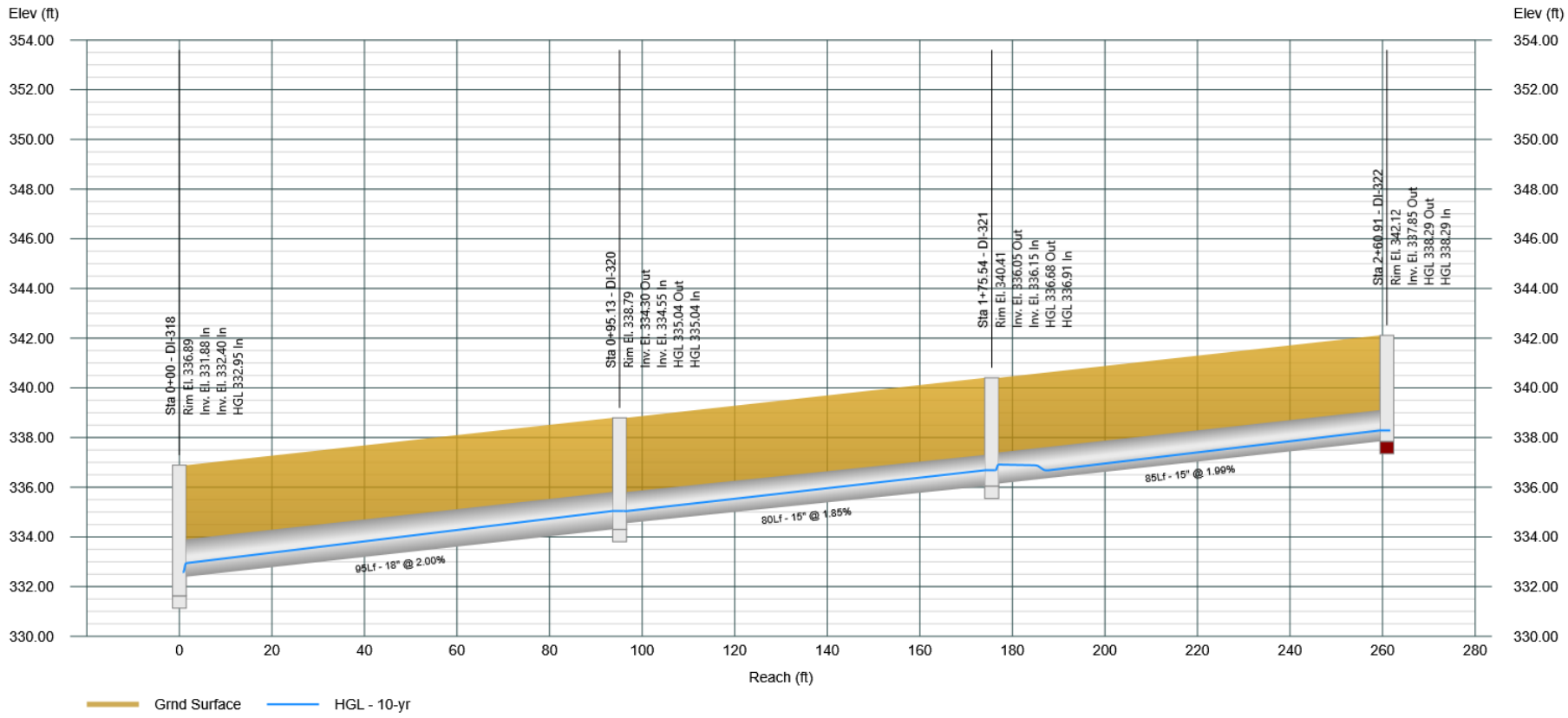
Project File: Storm System 300.sws

Profile View

Stormwater Studio 2024 v 3.0.0.35

Project Name: Storm System 300

11-19-2024



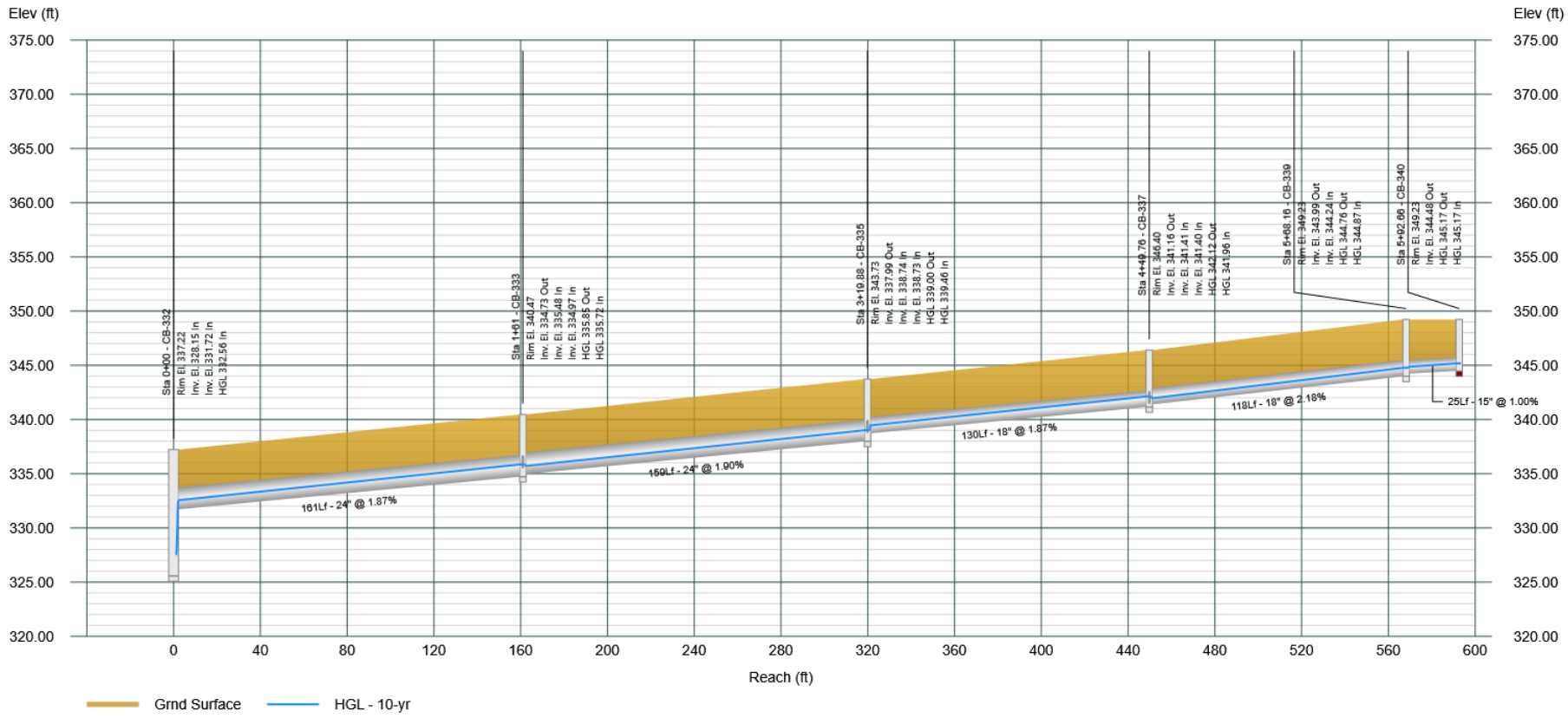
Project File: Storm System 300.sws

Profile View

Stormwater Studio 2024 v 3.0.0.35

Project Name: Storm System 300

11-19-2024



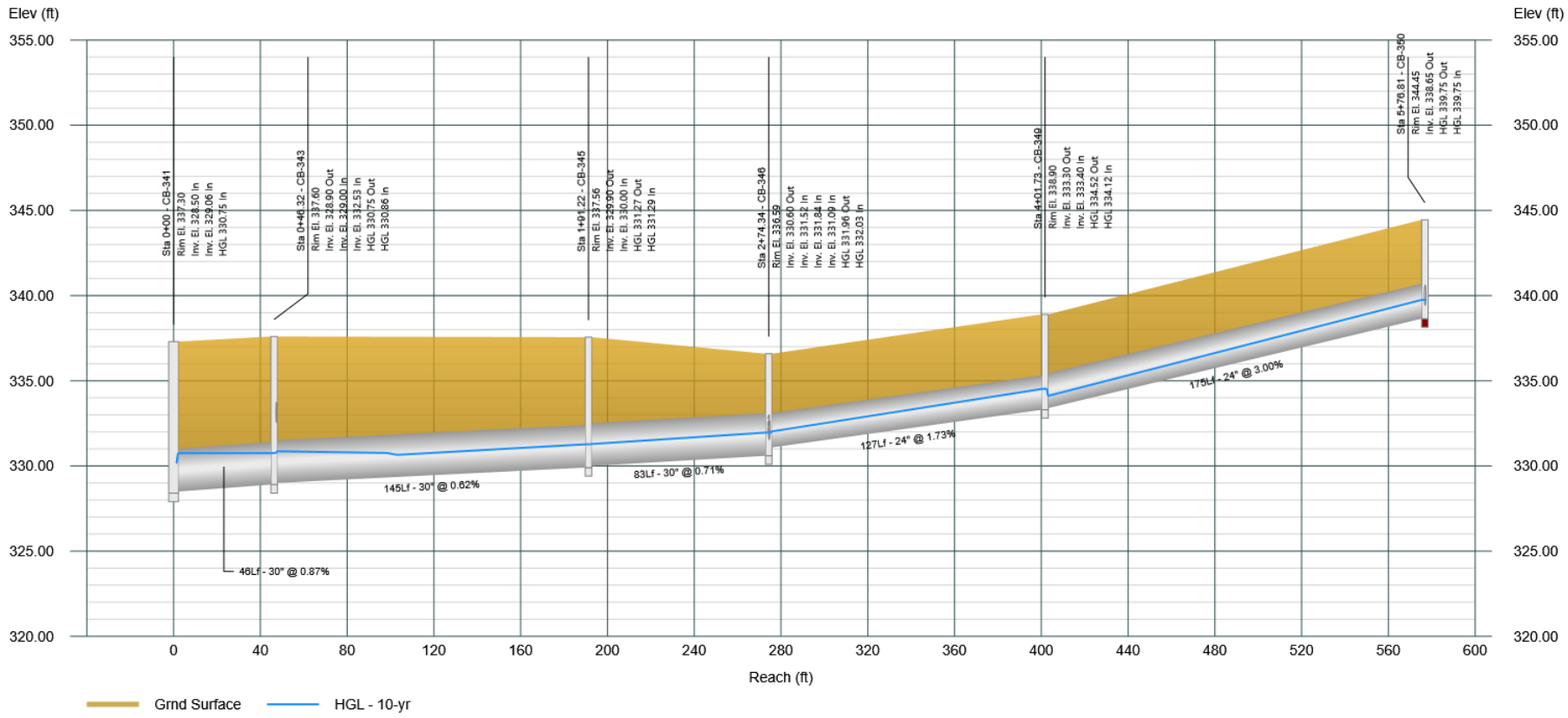
Project File: Storm System 300.sws

Profile View

Stormwater Studio 2024 v 3.0.0.35

Project Name: Storm System 300

11-19-2024



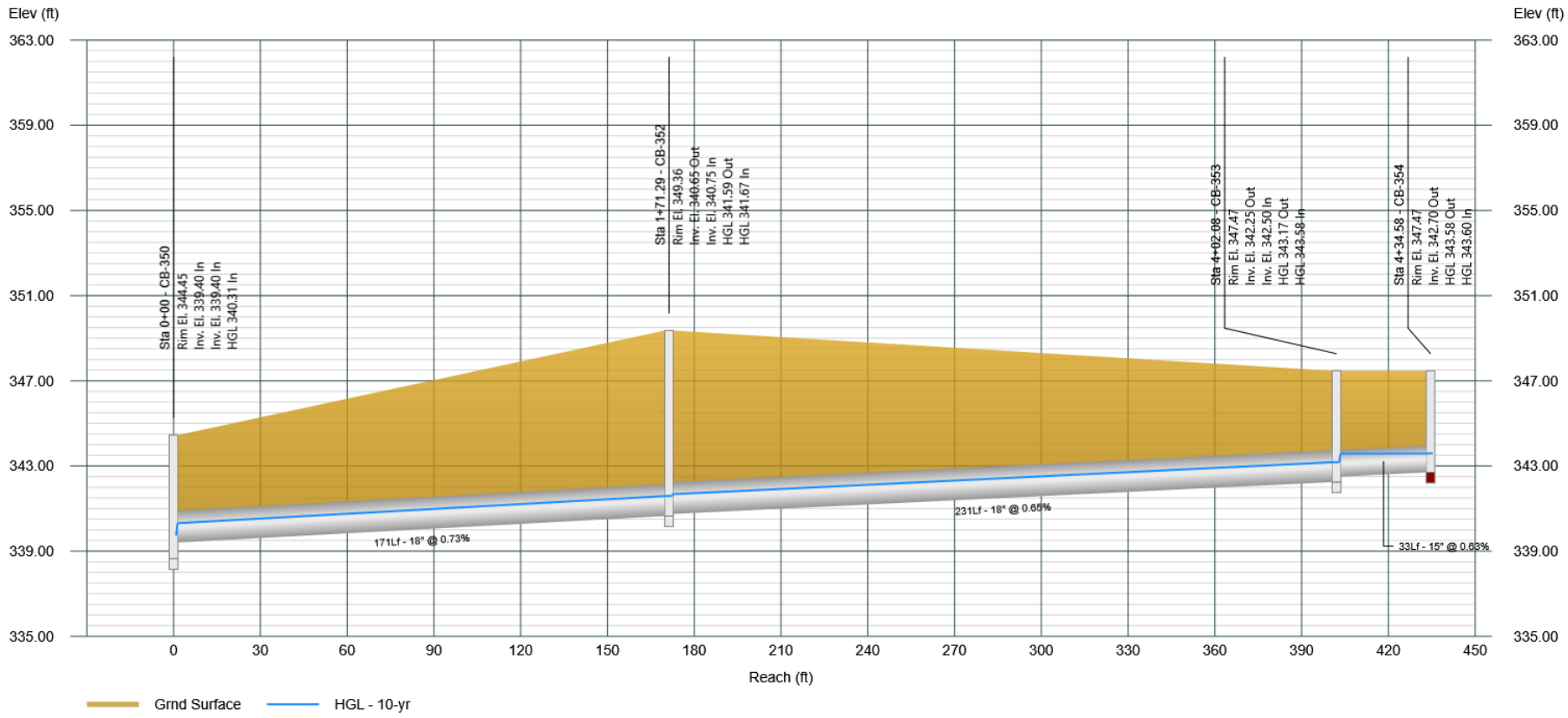
Project File: Storm System 300.sws

Profile View

Stormwater Studio 2024 v 3.0.0.35

Project Name: Storm System 300

11-19-2024



Project File: Storm System 300.sws

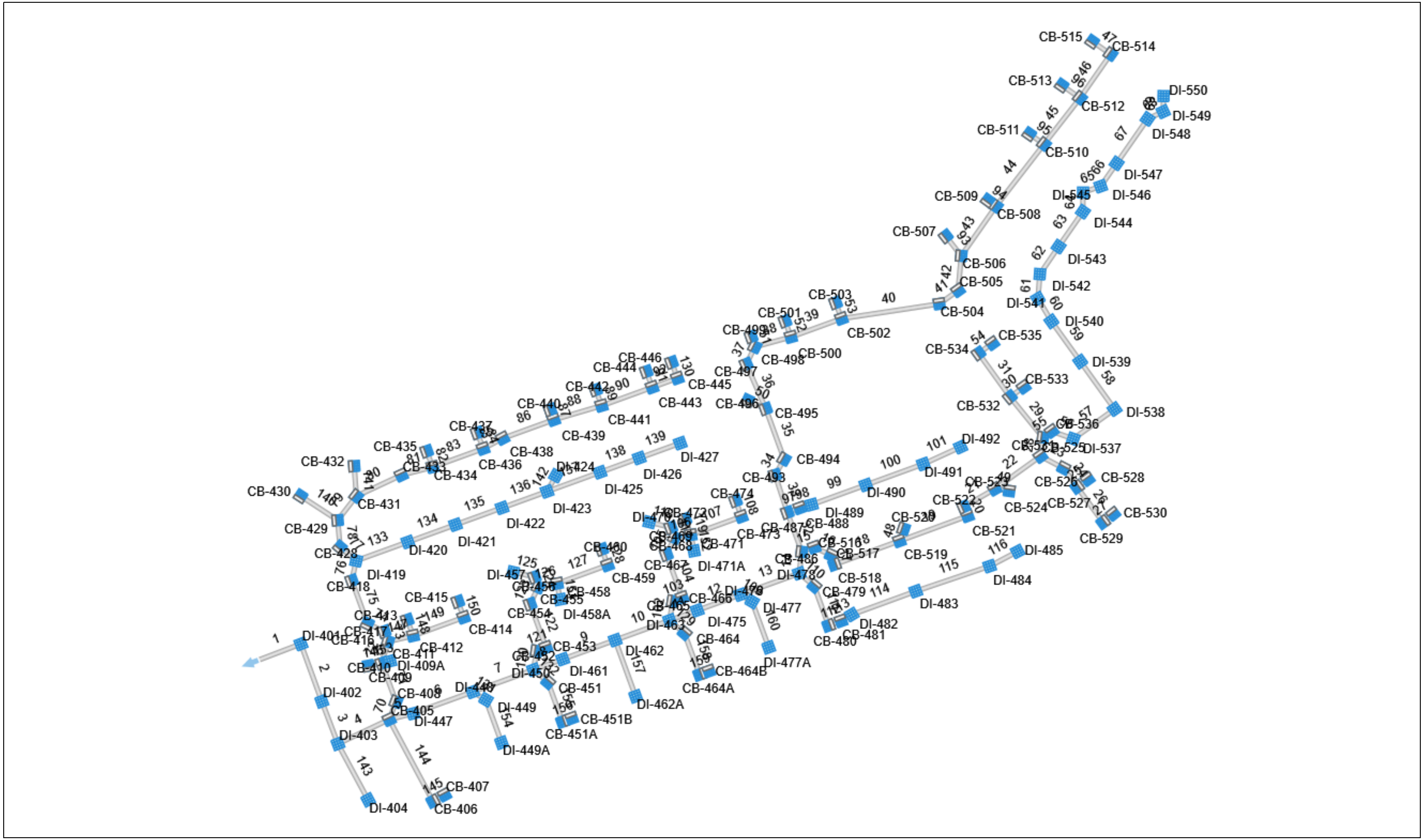
SYSTEM 400 – REPORTS AND PROFILES

Plan View

Stormwater Studio 2024 v 3.0.0.35

Project Name: Storm System 400

11-19-2024



Storm Sewer Tabulation

Stormwater Studio 2024 v 3.0.0.35

Project Name: Storm System 400

11-22-2024

Line ID	Length	Drng Area		Rational	C x A		Tc		Intensity	Total Q	Capacity	Velocity	Line		Invert Elev		HGL Elev		Surface Elev		Line No
		Incr	Total		Incr	Total	Inlet	Syst					Size	Slope	Up	Dn	Up	Dn	Up	Dn	
	(ft)	(ac)	(ac)	(C)			(min)	(min)	(in/hr)	(cfs)	(cfs)	(ft/s)	(in)	(%)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	
400-401	111.24	0.320	43.010	0.65	0.21	29.37	5.0	11.25	5.61	164.68	661.88	15.60	60	6.46	263.68	256.50	267.26	258.66	287.57	261.00	1
401-402	150.00	0.370	42.690	0.65	0.24	29.16	5.0	11.05	5.65	164.62	260.47	11.64	60	1.00	269.87	268.37	273.45	271.59	285.76	287.57	2
402-403	111.45	0.260	42.320	0.65	0.17	28.92	5.0	10.91	5.67	164.09	196.66	12.20	54	1.00	271.59	270.47	275.26	273.91	284.68	285.76	3
403-405	139.39	0.160	41.600	0.80	0.13	28.45	5.0	10.72	5.71	162.46	196.66	10.68	54	1.00	273.18	271.79	277.06	276.45	286.49	284.68	4
405-447	60.42	0.530	31.010	0.65	0.34	21.17	5.0	10.64	5.73	121.27	196.67	10.54	54	1.00	275.29	274.69	278.45	277.66	286.67	286.49	5
447-448	155.23	0.370	30.480	0.65	0.24	20.83	5.0	10.42	5.77	120.22	196.67	10.83	54	1.00	279.95	278.39	283.09	281.20	291.00	286.67	6
448-450	159.00	0.030	29.690	0.80	0.02	20.32	5.0	10.20	5.82	118.18	196.66	10.77	54	1.00	281.64	280.05	284.75	282.82	292.87	291.00	7
450-461	76.20	0.420	26.830	0.65	0.27	18.40	5.0	10.09	5.84	107.46	196.66	10.12	54	1.00	284.83	284.07	287.81	286.81	293.29	292.87	8
461-462	136.77	0.340	26.410	0.65	0.22	18.13	5.0	9.89	5.88	106.62	196.66	10.33	54	1.00	286.30	284.93	289.26	287.56	297.82	293.29	9
462-463	142.06	0.030	25.600	0.80	0.02	17.60	5.0	9.69	5.93	104.29	196.66	10.25	54	1.00	288.13	286.71	291.06	289.31	299.75	297.82	10
463-475	72.18	0.350	23.020	0.65	0.23	15.82	5.0	9.58	5.95	94.13	143.64	10.17	48	1.00	292.58	291.86	295.45	294.53	299.95	299.75	11
475-476	112.56	0.430	22.670	0.65	0.28	15.60	5.0	9.41	5.99	93.35	143.65	10.28	48	1.00	293.81	292.68	296.66	295.27	304.28	299.95	12
476-478	153.34	0.020	21.870	0.85	0.02	15.07	5.0	9.18	6.04	91.01	133.95	10.09	48	0.87	295.24	293.91	298.06	296.50	307.15	304.28	13
478-486	53.21	0.130	19.940	0.75	0.10	13.76	5.0	9.09	6.06	83.37	133.02	9.46	48	0.86	297.85	297.40	300.55	299.99	307.70	307.15	14
486-516	32.50	0.120	6.900	0.75	0.09	4.81	5.0	9.03	6.07	29.22	41.01	7.88	30	1.00	300.65	300.32	302.46	302.05	307.70	307.70	15
516-517	45.61	0.190	6.780	0.80	0.15	4.72	5.0	8.93	6.10	28.78	36.24	6.68	30	0.78	301.11	300.75	303.02	302.98	307.55	307.70	16
517-518	24.50	0.170	6.590	0.80	0.14	4.57	5.0	8.88	6.11	27.90	41.01	6.11	30	1.00	301.45	301.21	303.54	303.53	307.55	307.55	17
518-519	169.60	0.180	6.420	0.80	0.14	4.43	5.0	8.64	6.16	27.33	62.11	6.59	30	2.29	305.44	301.55	307.19	303.90	311.74	307.55	18
519-521	178.11	0.120	6.080	0.80	0.10	4.16	5.0	8.38	6.22	25.90	64.99	9.32	30	2.51	310.21	305.74	311.91	306.92	316.83	311.74	19
521-522	24.50	0.090	5.960	0.80	0.07	4.07	5.0	8.33	6.24	25.35	41.01	7.38	30	1.00	310.56	310.31	312.25	311.93	316.83	316.83	20
522-523	87.69	0.130	5.870	0.80	0.10	3.99	5.0	8.17	6.28	25.06	45.45	7.84	30	1.23	311.83	310.76	313.51	312.21	319.44	316.83	21
523-525	138.11	0.040	5.620	0.80	0.03	3.79	5.0	7.87	6.35	24.09	36.28	7.32	30	0.78	313.02	311.93	314.66	313.47	322.91	319.44	22

Notes: IDF File = Pearce Farm IDF.idf, Return Period = 10-yrs.

Project File: Storm System 400.sws

Storm Sewer Tabulation

Stormwater Studio 2024 v 3.0.0.35

Project Name: Storm System 400

11-22-2024

Line ID	Length	Drng Area		Rational	C x A		Tc		Intensity	Total Q	Capacity	Velocity	Line		Invert Elev		HGL Elev		Surface Elev		Line No
		Incr	Total		Incr	Total	Inlet	Syst					Size	Slope	Up	Dn	Up	Dn	Up	Dn	
	(ft)	(ac)	(ac)	(C)			(min)	(min)	(in/hr)	(cfs)	(cfs)	(ft/s)	(in)	(%)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	
525-526	63.62	0.020	0.810	0.85	0.02	0.58	5.0	5.74	6.95	4.02	9.64	3.18	18	0.84	314.55	314.02	315.39	315.37	323.07	322.91	23
526-527	57.02	0.040	0.790	0.80	0.03	0.56	5.0	5.55	7.01	3.93	5.69	4.85	15	0.78	315.25	314.80	316.04	315.58	322.28	323.07	24
527-528	32.50	0.310	0.310	0.75	0.23	0.23	5.0	5.00	7.19	1.67	6.46	3.76	15	1.00	318.03	317.71	318.55	318.17	322.28	322.28	25
527-529	107.29	0.070	0.440	0.80	0.06	0.30	5.0	5.12	7.15	2.12	5.48	3.94	15	0.72	316.15	315.37	316.73	315.92	320.82	322.28	26
529-530	32.50	0.370	0.370	0.65	0.24	0.24	5.0	5.00	7.19	1.73	6.46	3.81	15	1.00	316.57	316.25	317.10	316.71	320.82	320.82	27
525-531	46.34	0.100	4.770	0.80	0.08	3.18	5.0	7.79	6.37	20.29	29.08	8.16	24	1.65	318.10	317.34	319.70	318.72	324.37	322.91	28
531-532	128.23	0.100	0.810	0.80	0.08	0.55	5.0	5.65	6.98	3.83	12.03	3.40	18	1.31	320.97	319.28	321.71	320.52	325.98	324.37	29
532-533	41.50	0.430	0.430	0.65	0.28	0.28	5.0	5.00	7.19	2.01	6.46	4.01	15	1.00	321.73	321.32	322.30	321.82	325.98	325.98	30
533-534	132.00	0.050	0.280	0.80	0.04	0.19	5.0	5.18	7.13	1.35	7.58	2.47	15	1.38	323.03	321.21	323.49	321.98	327.79	325.98	31
486-487	102.89	0.020	12.910	0.80	0.02	8.85	5.0	8.15	6.28	55.61	90.92	8.72	42	0.82	299.24	298.40	301.52	300.53	309.29	307.70	32
487-493	96.66	0.270	7.280	0.75	0.20	4.95	5.0	7.98	6.32	31.32	77.15	8.04	36	1.34	304.08	302.79	305.87	304.28	310.84	309.29	33
493-494	44.66	0.250	7.010	0.75	0.19	4.75	5.0	7.90	6.34	30.14	66.70	6.13	36	1.00	304.53	304.08	306.28	306.37	311.13	310.84	34
494-495	132.00	0.200	6.760	0.70	0.14	4.56	5.0	7.68	6.40	29.21	81.06	8.12	36	1.48	306.58	304.63	308.30	306.00	313.18	311.13	35
495-497	119.27	0.050	6.440	0.80	0.04	4.33	5.0	7.49	6.45	27.94	56.70	8.88	30	1.91	309.46	307.18	311.23	308.54	315.56	313.18	36
497-498	47.39	0.040	6.390	0.85	0.03	4.29	5.0	7.43	6.46	27.76	71.12	9.01	30	3.01	310.99	309.56	312.75	310.88	317.25	315.56	37
498-500	91.69	0.100	6.210	0.85	0.09	4.15	5.0	7.28	6.50	27.02	54.09	8.52	30	1.74	312.85	311.25	314.58	312.64	319.26	317.25	38
500-502	132.00	0.170	5.900	0.85	0.14	3.91	5.0	7.12	6.55	25.62	74.24	9.65	30	3.28	317.59	313.26	319.28	314.38	324.00	319.26	39
502-504	242.49	0.310	5.370	0.70	0.22	3.50	5.0	6.69	6.67	23.31	49.35	8.14	30	1.45	321.51	318.00	323.12	319.27	328.28	324.00	40
504-505	56.90	0.500	5.060	0.70	0.35	3.28	5.0	6.58	6.70	21.98	41.01	6.06	30	1.00	322.18	321.61	323.75	323.56	328.28	328.28	41
505-506	84.98	0.590	4.560	0.65	0.38	2.93	5.0	6.45	6.73	19.73	67.72	8.25	30	2.73	324.60	322.28	326.08	323.34	330.61	328.28	42
506-508	148.69	0.670	3.700	0.65	0.44	2.36	5.0	6.22	6.80	16.04	33.92	8.26	24	2.25	328.46	325.11	329.87	326.14	334.06	330.61	43
508-510	192.67	0.530	2.430	0.65	0.34	1.56	5.0	5.86	6.91	10.80	32.03	4.60	24	2.00	332.42	328.56	333.59	330.46	337.86	334.06	44

Notes: IDF File = Pearce Farm IDF.idf, Return Period = 10-yrs.

Project File: Storm System 400.sws

Storm Sewer Tabulation

Stormwater Studio 2024 v 3.0.0.35

Project Name: Storm System 400

11-22-2024

Line ID	Length	Drng Area		Rational	C x A		Tc		Intensity	Total Q	Capacity	Velocity	Line		Invert Elev		HGL Elev		Surface Elev		Line No
		Incr	Total		Incr	Total	Inlet	Syst					Size	Slope	Up	Dn	Up	Dn	Up	Dn	
	(ft)	(ac)	(ac)	(C)			(min)	(min)	(in/hr)	(cfs)	(cfs)	(ft/s)	(in)	(%)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	
510-512	143.66	0.660	1.410	0.65	0.43	0.92	5.0	5.56	7.01	6.47	14.27	6.41	18	1.85	335.51	332.86	336.49	333.60	340.57	337.86	45
512-514	131.10	0.140	0.300	0.75	0.11	0.23	5.0	5.25	7.10	1.60	12.93	2.42	15	4.01	341.07	335.82	341.58	336.91	345.87	340.57	46
514-515	54.75	0.160	0.160	0.75	0.12	0.12	5.0	5.00	7.19	0.86	6.46	2.11	15	1.00	341.72	341.17	342.09	341.80	345.97	345.87	47
519-520	31.52	0.160	0.160	0.80	0.13	0.13	5.0	5.00	7.19	0.92	8.68	2.39	15	1.81	308.06	307.49	308.44	308.01	312.31	311.74	48
523-524	35.70	0.120	0.120	0.80	0.10	0.10	5.0	5.00	7.19	0.69	9.30	3.28	15	2.07	315.93	315.19	316.26	315.44	320.18	319.44	49
495-496	48.11	0.120	0.120	0.75	0.09	0.09	5.0	5.00	7.19	0.65	8.01	3.10	15	1.54	309.67	308.93	309.99	309.18	313.92	313.18	50
498-499	26.50	0.140	0.140	0.75	0.11	0.11	5.0	5.00	7.19	0.75	6.46	1.04	15	1.00	313.00	312.74	313.61	313.62	317.25	317.25	51
500-501	41.50	0.210	0.210	0.75	0.16	0.16	5.0	5.00	7.19	1.13	6.46	2.18	15	1.00	315.01	314.60	315.44	315.42	319.26	319.26	52
502-503	41.50	0.360	0.360	0.75	0.27	0.27	5.0	5.00	7.19	1.94	6.46	3.38	15	1.00	319.75	319.34	320.31	319.97	324.00	324.00	53
534-535	41.50	0.230	0.230	0.65	0.15	0.15	5.0	5.00	7.19	1.07	6.46	3.32	15	1.00	323.54	323.13	323.95	323.49	327.79	327.79	54
531-536	26.50	0.400	3.860	0.65	0.26	2.55	5.0	7.73	6.39	16.32	22.62	5.19	24	1.00	318.47	318.20	320.46	320.33	324.37	324.37	55
536-537	55.99	0.140	3.460	0.80	0.11	2.29	5.0	7.59	6.42	14.74	20.50	4.75	24	0.82	319.03	318.57	320.91	320.71	324.13	324.37	56
537-538	124.82	0.490	3.320	0.65	0.32	2.18	5.0	7.39	6.48	14.14	34.29	5.44	24	2.30	322.00	319.13	323.33	321.09	327.10	324.13	57
538-539	144.17	0.460	2.830	0.65	0.30	1.86	5.0	7.08	6.56	12.23	25.42	5.19	24	1.26	323.92	322.10	325.16	323.75	329.02	327.10	58
539-540	121.40	0.190	2.370	0.65	0.12	1.57	5.0	6.80	6.64	10.38	25.29	6.36	24	1.25	325.53	324.02	326.68	324.96	330.63	329.02	59
540-541	64.52	0.110	2.180	0.70	0.08	1.44	5.0	6.66	6.68	9.62	26.20	6.11	24	1.34	326.50	325.63	327.60	326.56	331.50	330.63	60
541-542	60.48	0.390	2.070	0.65	0.25	1.36	5.0	6.52	6.72	9.16	11.61	6.60	18	1.22	327.74	327.00	328.90	328.05	332.34	331.50	61
542-543	81.65	0.280	1.680	0.65	0.18	1.11	5.0	6.33	6.77	7.52	12.55	4.98	18	1.43	329.01	327.84	330.05	329.34	333.61	332.34	62
543-544	104.45	0.310	1.400	0.65	0.20	0.93	5.0	6.10	6.84	6.35	13.77	4.62	18	1.72	330.90	329.11	331.87	330.40	335.50	333.61	63
544-545	47.24	0.060	1.090	0.80	0.05	0.73	5.0	6.00	6.87	5.00	16.18	4.08	18	2.37	332.12	331.00	332.98	332.18	336.71	335.50	64
545-546	46.08	0.270	1.030	0.65	0.18	0.68	5.0	5.85	6.91	4.70	9.29	4.87	18	0.78	332.59	332.22	333.41	333.01	337.09	336.71	65
546-547	68.30	0.420	0.760	0.65	0.27	0.50	5.0	5.69	6.96	3.51	9.23	5.49	15	2.04	334.23	332.84	334.98	333.41	338.58	337.09	66

Notes: IDF File = Pearce Farm IDF.idf, Return Period = 10-yrs.

Project File: Storm System 400.sws

Storm Sewer Tabulation

Stormwater Studio 2024 v 3.0.0.35

Project Name: Storm System 400

11-22-2024

Line ID	Length	Drng Area		Rational	C x A		Tc		Intensity	Total Q	Capacity	Velocity	Line		Invert Elev		HGL Elev		Surface Elev		Line No
		Incr	Total		Incr	Total	Inlet	Syst					Size	Slope	Up	Dn	Up	Dn	Up	Dn	
	(ft)	(ac)	(ac)	(C)			(min)	(min)	(in/hr)	(cfs)	(cfs)	(ft/s)	(in)	(%)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	
547-548	133.03	0.110	0.340	0.70	0.08	0.23	5.0	5.30	7.09	1.64	9.39	2.55	15	2.11	337.14	334.33	337.66	335.28	341.49	338.58	67
548-549	42.30	0.030	0.230	0.80	0.02	0.15	5.0	5.17	7.13	1.10	10.00	3.91	15	2.40	338.26	337.24	338.68	337.55	342.62	341.49	68
549-550	38.33	0.200	0.200	0.65	0.13	0.13	5.0	5.00	7.19	0.93	6.46	3.18	15	1.00	338.74	338.36	339.13	338.70	342.99	342.62	69
405-408	46.43	0.120	9.400	0.80	0.10	6.45	5.0	7.94	6.33	40.82	66.69	7.44	36	1.00	276.87	276.40	278.90	278.75	286.89	286.49	70
408-409	101.07	0.150	9.280	0.75	0.11	6.35	5.0	7.76	6.38	40.50	66.69	7.06	36	1.00	277.88	276.87	279.91	279.51	289.66	286.89	71
409-411	55.06	0.050	8.490	0.85	0.04	5.87	5.0	7.66	6.41	37.59	66.69	8.09	36	1.00	278.53	277.98	280.48	279.78	289.22	289.66	72
411-416	26.50	0.190	7.050	0.65	0.12	4.89	5.0	7.61	6.42	31.40	66.69	5.28	36	1.00	278.89	278.63	281.11	281.15	289.22	289.22	73
416-417	45.61	0.150	6.860	0.70	0.11	4.77	5.0	7.52	6.44	30.72	66.70	6.13	36	1.00	279.45	278.99	281.22	281.35	289.34	289.22	74
417-418	112.50	0.110	6.710	0.75	0.08	4.66	5.0	7.29	6.50	30.32	60.48	6.48	36	0.82	280.48	279.55	282.23	281.59	290.58	289.34	75
418-419	49.73	0.350	6.600	0.65	0.23	4.58	5.0	7.20	6.53	29.90	66.70	6.45	36	1.00	281.07	280.58	282.82	282.61	291.00	290.58	76
419-428	51.49	0.110	3.430	0.70	0.08	2.52	5.0	7.08	6.56	16.53	41.01	6.47	30	1.00	281.99	281.47	283.35	282.70	290.53	291.00	77
428-429	66.72	0.320	3.320	0.75	0.24	2.44	5.0	6.94	6.60	16.13	41.02	6.47	30	1.00	282.75	282.09	284.10	283.29	289.61	290.53	78
429-431	74.60	0.140	2.750	0.75	0.11	2.02	5.0	6.80	6.63	13.38	60.79	6.95	30	2.20	285.25	283.61	286.47	284.52	291.75	289.61	79
431-433	121.93	0.090	2.420	0.75	0.07	1.77	5.0	6.62	6.69	11.83	40.50	7.99	24	3.21	290.16	286.25	291.38	287.05	295.76	291.75	80
433-434	79.15	0.160	2.330	0.75	0.12	1.70	5.0	6.47	6.73	11.45	33.29	7.09	24	2.17	291.98	290.26	293.17	291.16	297.57	295.76	81
434-435	41.50	0.180	0.180	0.75	0.14	0.14	5.0	5.00	7.19	0.97	6.46	3.21	15	1.00	293.32	292.91	293.72	293.25	297.57	297.57	82
434-436	132.00	0.070	1.990	0.75	0.05	1.45	5.0	6.23	6.80	9.84	33.73	7.00	24	2.22	295.02	292.08	296.13	292.87	300.62	297.57	83
436-437	41.50	0.260	0.260	0.75	0.20	0.20	5.0	5.00	7.19	1.40	6.46	3.02	15	1.00	296.37	295.96	296.84	296.50	300.62	300.62	84
436-438	54.30	0.220	1.660	0.75	0.17	1.20	5.0	6.13	6.83	8.19	36.32	6.42	24	2.58	296.52	295.12	297.53	295.86	302.02	300.62	85
438-439	133.21	0.140	1.440	0.75	0.11	1.03	5.0	5.87	6.91	7.14	15.27	6.79	18	2.11	300.00	297.18	301.02	297.94	305.10	302.02	86
439-440	26.50	0.180	0.180	0.60	0.11	0.11	5.0	5.00	7.19	0.78	6.46	1.02	15	1.00	300.85	300.59	301.49	301.49	305.10	305.10	87
439-441	122.20	0.160	1.120	0.75	0.12	0.82	5.0	5.61	6.99	5.74	15.51	6.32	18	2.18	302.77	300.10	303.68	300.77	307.78	305.10	88

Notes: IDF File = Pearce Farm IDF.idf, Return Period = 10-yrs.

Project File: Storm System 400.sws

Storm Sewer Tabulation

Stormwater Studio 2024 v 3.0.0.35

Project Name: Storm System 400

11-22-2024

Line ID	Length	Drng Area		Rational	C x A		Tc		Intensity	Total Q	Capacity	Velocity	Line		Invert Elev		HGL Elev		Surface Elev		Line No
		Incr	Total		Incr	Total	Inlet	Syst					Size	Slope	Up	Dn	Up	Dn	Up	Dn	
	(ft)	(ac)	(ac)	(C)			(min)	(min)	(in/hr)	(cfs)	(cfs)	(ft/s)	(in)	(%)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	
441-442	41.50	0.230	0.230	0.75	0.17	0.17	5.0	5.00	7.19	1.24	6.46	1.89	15	1.00	303.53	303.12	304.05	304.07	307.78	307.78	89
441-443	132.00	0.070	0.730	0.75	0.05	0.53	5.0	5.31	7.08	3.74	9.65	5.84	15	2.23	305.98	303.03	306.75	303.59	310.83	307.78	90
443-444	41.50	0.110	0.110	0.75	0.08	0.08	5.0	5.00	7.19	0.59	6.46	0.94	15	1.00	306.58	306.17	307.09	307.09	310.83	310.83	91
443-445	66.00	0.170	0.550	0.75	0.13	0.39	5.0	5.15	7.14	2.81	9.78	5.23	15	2.30	307.60	306.08	308.27	306.57	312.36	310.83	92
506-507	61.28	0.270	0.270	0.70	0.19	0.19	5.0	5.00	7.19	1.36	6.46	2.37	15	1.00	326.46	325.85	326.93	326.72	330.71	330.61	93
508-509	24.50	0.600	0.600	0.60	0.36	0.36	5.0	5.00	7.19	2.59	6.46	4.27	15	1.00	329.81	329.57	330.46	330.16	334.06	334.06	94
510-511	43.73	0.490	0.490	0.60	0.29	0.29	5.0	5.00	7.19	2.11	6.46	4.08	15	1.00	333.61	333.17	334.19	333.69	337.86	337.86	95
512-513	54.58	0.450	0.450	0.60	0.27	0.27	5.0	5.00	7.19	1.94	6.46	4.00	15	1.00	336.41	335.86	336.97	336.36	340.66	340.57	96
487-488	32.50	0.090	5.610	0.85	0.08	3.88	5.0	5.89	6.90	26.81	66.70	3.83	36	1.00	299.66	299.34	302.52	302.48	309.29	309.29	97
488-489	29.90	4.390	5.520	0.70	3.07	3.81	5.0	5.83	6.92	26.35	41.01	6.00	30	1.00	300.46	300.16	302.42	302.44	305.56	309.29	98
489-490	141.44	0.360	1.130	0.65	0.23	0.73	5.0	5.53	7.01	5.15	15.87	3.89	18	2.28	304.79	301.56	305.66	303.20	308.89	305.56	99
490-491	150.00	0.300	0.770	0.65	0.20	0.50	5.0	5.21	7.12	3.56	10.87	6.09	15	2.83	309.39	305.14	310.15	305.65	313.24	308.89	100
491-492	100.48	0.470	0.470	0.65	0.31	0.31	5.0	5.00	7.19	2.20	12.91	5.57	15	4.00	313.51	309.49	314.10	309.86	317.16	313.24	101
463-465	48.16	0.110	1.930	0.70	0.08	1.32	5.0	6.20	6.81	8.98	22.62	5.67	24	1.00	294.60	294.11	295.66	295.07	300.54	299.75	102
465-466	24.50	0.170	1.820	0.70	0.12	1.24	5.0	6.14	6.83	8.48	22.62	5.44	24	1.00	295.03	294.79	296.06	295.74	300.54	300.54	103
466-467	112.50	0.050	1.650	0.75	0.04	1.12	5.0	5.90	6.90	7.75	28.35	6.01	24	1.57	296.90	295.13	297.88	295.90	302.59	300.54	104
467-468	45.96	0.030	1.600	0.80	0.02	1.09	5.0	5.78	6.94	7.53	22.62	5.36	24	1.00	297.46	297.00	298.43	297.87	304.35	302.59	105
468-471	40.45	0.100	1.190	0.85	0.09	0.82	5.0	5.66	6.97	5.68	10.50	5.33	18	1.00	299.32	298.92	300.23	299.76	306.58	304.35	106
471-473	132.00	0.060	0.350	0.80	0.05	0.24	5.0	5.17	7.13	1.69	6.46	3.89	15	1.00	302.92	301.60	303.43	302.04	307.68	306.58	107
473-474	41.50	0.290	0.290	0.65	0.19	0.19	5.0	5.00	7.19	1.35	6.46	3.56	15	1.00	303.43	303.02	303.90	303.43	307.68	307.68	108
476-477	33.28	0.020	0.370	0.85	0.02	0.24	5.0	5.48	7.03	1.72	6.46	2.71	15	1.00	297.58	297.24	298.10	298.09	304.81	304.28	109
478-479	48.37	0.100	1.910	0.80	0.08	1.29	5.0	6.41	6.75	8.72	22.62	3.10	24	1.00	297.92	297.44	299.44	299.42	306.27	307.15	110

Notes: IDF File = Pearce Farm IDF.idf, Return Period = 10-yrs.

Project File: Storm System 400.sws

Storm Sewer Tabulation

Stormwater Studio 2024 v 3.0.0.35

Project Name: Storm System 400

11-22-2024

Line ID	Length	Drng Area		Rational	C x A		Tc		Intensity	Total Q	Capacity	Velocity	Line		Invert Elev		HGL Elev		Surface Elev		Line No
		Incr	Total		Incr	Total	Inlet	Syst					Size	Slope	Up	Dn	Up	Dn	Up	Dn	
	(ft)	(ac)	(ac)	(C)			(min)	(min)	(in/hr)	(cfs)	(cfs)	(ft/s)	(in)	(%)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	
479-480	103.10	0.110	1.810	0.80	0.09	1.21	5.0	6.13	6.83	8.28	9.93	6.08	18	0.89	299.35	298.42	300.44	299.49	304.38	306.27	111
480-481	32.50	0.190	1.700	0.75	0.14	1.12	5.0	6.04	6.86	7.71	9.30	4.98	18	0.78	299.70	299.45	300.85	300.77	304.38	304.38	112
481-482	30.78	0.420	1.510	0.65	0.27	0.98	5.0	5.99	6.87	6.74	21.18	6.94	18	4.07	301.05	299.80	302.04	300.49	305.64	304.38	113
482-483	167.06	0.470	1.090	0.65	0.31	0.71	5.0	5.64	6.98	4.94	16.24	6.20	18	2.39	305.15	301.15	306.00	301.75	309.66	305.64	114
483-484	191.26	0.170	0.620	0.65	0.11	0.40	5.0	5.20	7.12	2.87	10.55	5.63	15	2.67	310.50	305.40	311.18	305.85	314.86	309.66	115
484-485	77.55	0.450	0.450	0.65	0.29	0.29	5.0	5.00	7.19	2.10	9.84	4.83	15	2.32	312.40	310.60	312.98	311.02	316.63	314.86	116
468-469	26.50	0.160	0.380	0.65	0.10	0.25	5.0	5.23	7.11	1.76	6.46	3.80	15	1.00	298.68	298.42	299.21	298.90	304.35	304.35	117
469-470	54.24	0.220	0.220	0.65	0.14	0.14	5.0	5.00	7.19	1.03	6.46	2.39	15	1.00	299.33	298.78	299.73	299.37	303.58	304.35	118
471-472	41.50	0.490	0.490	0.65	0.32	0.32	5.0	5.00	7.19	2.29	6.46	4.18	15	1.00	300.77	300.36	301.38	300.90	305.02	306.58	119
450-452	46.93	0.120	2.190	0.75	0.09	1.45	5.0	6.19	6.81	9.90	22.62	5.87	24	1.00	287.71	287.24	288.82	288.25	293.66	292.87	120
452-453	24.50	0.120	2.070	0.75	0.09	1.36	5.0	6.13	6.83	9.31	22.61	5.62	24	1.00	288.05	287.81	289.13	288.82	293.66	293.66	121
453-454	113.50	0.110	1.950	0.75	0.08	1.27	5.0	5.88	6.91	8.79	27.15	6.17	24	1.44	289.79	288.15	290.84	288.99	295.36	293.66	122
454-455	45.96	0.030	1.840	0.80	0.02	1.19	5.0	5.76	6.94	8.26	22.62	5.52	24	1.00	290.35	289.89	291.37	290.80	297.01	295.36	123
455-456	26.50	0.680	0.870	0.65	0.44	0.58	5.0	5.23	7.11	4.16	10.50	4.74	18	1.00	291.11	290.85	291.89	291.56	297.01	297.01	124
456-457	53.58	0.190	0.190	0.75	0.14	0.14	5.0	5.00	7.19	1.02	6.46	3.31	15	1.00	291.90	291.36	292.30	291.71	296.15	297.01	125
455-458	46.99	0.100	0.940	0.85	0.09	0.58	5.0	5.62	6.99	4.07	10.50	4.79	18	1.00	292.36	291.89	293.13	292.58	299.37	297.01	126
458-459	132.00	0.090	0.590	0.80	0.07	0.40	5.0	5.14	7.14	2.83	5.68	4.38	15	0.77	295.78	294.76	296.45	295.39	300.54	299.37	127
459-460	41.50	0.500	0.500	0.65	0.33	0.33	5.0	5.00	7.19	2.34	6.46	3.53	15	1.00	296.29	295.88	296.90	296.60	300.54	300.54	128
463-464	48.16	0.090	0.620	0.80	0.07	0.43	5.0	5.50	7.02	3.04	6.46	2.83	15	1.00	291.56	291.08	292.47	292.41	299.01	299.75	129
445-446	41.50	0.380	0.380	0.70	0.27	0.27	5.0	5.00	7.19	1.91	6.46	3.94	15	1.00	308.11	307.70	308.66	308.19	312.36	312.36	130
448-449	38.00	0.010	0.420	0.75	0.01	0.27	5.0	5.46	7.04	1.93	6.46	3.95	15	1.00	284.45	284.07	285.01	284.57	291.34	291.00	131
450-451	46.93	0.080	0.640	0.75	0.06	0.44	5.0	5.46	7.04	3.09	6.46	2.75	15	1.00	285.36	284.89	286.34	286.27	292.42	292.87	132

Notes: IDF File = Pearce Farm IDF.idf, Return Period = 10-yrs.

Project File: Storm System 400.sws

Storm Sewer Tabulation

Stormwater Studio 2024 v 3.0.0.35

Project Name: Storm System 400

11-22-2024

Line ID	Length	Drng Area		Rational	C x A		Tc		Intensity	Total Q	Capacity	Velocity	Line		Invert Elev		HGL Elev		Surface Elev		Line No
		Incr	Total		Incr	Total	Inlet	Syst					Size	Slope	Up	Dn	Up	Dn	Up	Dn	
	(ft)	(ac)	(ac)	(C)			(min)	(min)	(in/hr)	(cfs)	(cfs)	(ft/s)	(in)	(%)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	
419-420	134.83	0.440	2.820	0.65	0.29	1.83	5.0	6.52	6.71	12.31	39.32	8.03	24	3.02	290.08	286.00	291.32	286.83	295.18	291.00	133
420-421	124.24	0.420	2.380	0.65	0.27	1.55	5.0	6.29	6.78	10.49	32.56	7.00	24	2.07	292.75	290.18	293.90	291.02	297.85	295.18	134
421-422	121.52	0.350	1.960	0.65	0.23	1.27	5.0	6.06	6.85	8.73	33.19	6.67	24	2.15	295.47	292.85	296.51	293.60	300.47	297.85	135
422-423	117.45	0.390	1.610	0.65	0.25	1.05	5.0	5.82	6.92	7.24	15.10	6.76	18	2.07	298.40	295.97	299.42	296.74	303.00	300.47	136
423-425	138.12	0.310	1.150	0.65	0.20	0.75	5.0	5.53	7.02	5.24	15.15	4.05	18	2.08	301.37	298.50	302.24	299.81	305.97	303.00	137
425-426	102.40	0.400	0.840	0.65	0.26	0.55	5.0	5.29	7.09	3.87	15.41	3.64	18	2.15	303.67	301.47	304.42	302.53	308.17	305.97	138
426-427	106.98	0.440	0.440	0.65	0.29	0.29	5.0	5.00	7.19	2.06	9.47	4.77	15	2.15	306.23	303.92	306.80	304.34	310.48	308.17	139
429-430	108.52	0.250	0.250	0.75	0.19	0.19	5.0	5.00	7.19	1.35	5.49	2.31	15	0.72	284.49	283.70	284.95	284.64	288.74	289.61	140
431-432	74.10	0.190	0.190	0.75	0.14	0.14	5.0	5.00	7.19	1.02	6.46	3.33	15	1.00	287.24	286.50	287.65	286.85	291.49	291.75	141
423-424	44.33	0.070	0.070	0.65	0.05	0.05	5.0	5.00	7.19	0.33	10.29	1.20	15	2.54	299.87	298.75	300.10	299.91	304.12	303.00	142
403-404	156.29	0.460	0.460	0.65	0.30	0.30	5.0	5.00	7.19	2.15	5.94	4.08	15	0.85	278.52	277.20	279.11	277.72	282.77	284.68	143
405-406	227.32	0.230	1.030	0.80	0.18	0.70	5.0	5.10	7.15	5.04	9.01	3.83	18	0.74	278.86	277.18	279.72	279.02	283.78	286.49	144
406-407	32.50	0.800	0.800	0.65	0.52	0.52	5.0	5.00	7.19	3.74	10.50	3.47	18	1.00	279.28	278.96	280.02	280.07	283.78	283.78	145
409-410	32.93	0.280	0.280	0.80	0.22	0.22	5.0	5.00	7.19	1.61	6.46	3.71	15	1.00	283.41	283.08	283.92	283.54	288.16	289.66	146
411-412	63.18	0.100	1.390	0.80	0.08	0.93	5.0	5.45	7.04	6.57	12.75	6.01	18	1.47	285.14	284.20	286.11	285.02	290.15	289.22	147
412-413	41.50	0.520	0.520	0.65	0.34	0.34	5.0	5.00	7.19	2.43	6.46	3.10	15	1.00	285.90	285.49	286.53	286.51	290.15	290.15	148
412-414	132.00	0.100	0.770	0.80	0.08	0.52	5.0	5.13	7.14	3.68	9.11	5.67	15	1.99	288.03	285.40	288.79	285.97	292.79	290.15	149
414-415	41.50	0.670	0.670	0.65	0.44	0.44	5.0	5.00	7.19	3.13	6.46	4.63	15	1.00	288.54	288.13	289.25	288.77	292.79	292.79	150
458-458A	39.76	0.250	0.250	0.40	0.10	0.10	5.0	5.00	7.19	0.72	6.46	1.41	15	1.00	293.00	292.61	293.42	293.43	297.25	299.37	151
471-471A	39.76	0.250	0.250	0.70	0.18	0.18	5.0	5.00	7.19	1.26	6.46	1.89	15	1.00	300.07	299.67	300.61	300.62	304.32	306.58	152
409-409A	20.90	0.360	0.360	0.40	0.14	0.14	5.0	5.00	7.19	1.03	6.46	3.21	15	1.00	284.23	284.02	284.63	284.38	288.48	289.66	153
Line 154	112.05	0.410	0.410	0.65	0.27	0.27	5.0	5.00	7.19	1.92	5.53	3.83	15	0.73	285.37	284.55	285.92	285.07	289.62	291.34	154

Notes: IDF File = Pearce Farm IDF.idf, Return Period = 10-yrs.

Project File: Storm System 400.sws

Storm Sewer Tabulation

Stormwater Studio 2024 v 3.0.0.35

Project Name: Storm System 400

11-22-2024

Line ID	Length	Drng Area		Rational	C x A		Tc		Intensity	Total Q	Capacity	Velocity	Line		Invert Elev		HGL Elev		Surface Elev		Line No
		Incr	Total		Incr	Total	Inlet	Syst					Size	Slope	Up	Dn	Up	Dn	Up	Dn	
	(ft)	(ac)	(ac)	(C)			(min)	(min)	(in/hr)	(cfs)	(cfs)	(ft/s)	(in)	(%)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	
Line 155	102.96	0.100	0.560	0.80	0.08	0.38	5.0	5.09	7.16	2.71	5.80	3.39	15	0.81	286.29	285.46	286.94	286.43	290.88	292.42	155
Line 156	24.50	0.460	0.460	0.65	0.30	0.30	5.0	5.00	7.19	2.15	6.46	4.05	15	1.00	286.63	286.39	287.22	286.92	290.88	290.88	156
Line 157	146.76	0.470	0.470	0.65	0.31	0.31	5.0	5.00	7.19	2.20	5.76	4.06	15	0.80	291.57	290.40	292.16	290.95	295.82	297.82	157
Line 158	108.06	0.110	0.530	0.80	0.09	0.36	5.0	5.09	7.16	2.58	5.49	4.19	15	0.72	292.45	291.66	293.09	292.28	297.04	299.01	158
Line 159	24.50	0.420	0.420	0.65	0.27	0.27	5.0	5.00	7.19	1.96	6.46	3.19	15	1.00	292.79	292.55	293.35	293.26	297.04	297.04	159
Line 160	119.36	0.350	0.350	0.65	0.23	0.23	5.0	5.00	7.19	1.63	5.89	3.74	15	0.83	298.67	297.68	299.18	298.13	302.92	304.81	160

Notes: IDF File = Pearce Farm IDF.idf, Return Period = 10-yrs.

Project File: Storm System 400.sws

Energy Grade Line Calculations

Stormwater Studio 2024 v 3.0.0.35

Project Name: Storm System 400

11-22-2024

Line No	Line Size	Q	Downstream							Length	Upstream							Pipe		Junction		
			Invert Elev	Depth	Area	HGL Elev	Vel	Vel Head	EGL Elev		Invert Elev	Depth	Area	HGL Elev	Vel	Vel Head	EGL Elev	n Value	Enrgy Loss	HGLa Elev	EGLa Elev	Enrgy Loss
	(in)	(cfs)	(ft)	(ft)	(sqft)	(ft)	(ft/s)	(ft)	(ft)	(ft)	(ft)	(ft)	(sqft)	(ft)	(ft/s)	(ft)	(ft)		(ft)	(ft)	(ft)	(ft)
1	60	164.68	256.50	2.16‡	8.13	258.66	20.26	6.38	262.58	111.24	263.68	3.58²	15.05	267.26	10.94	1.86	269.13	0.013	6.542	267.26	269.13	0.00
2	60	164.62	268.37	3.21‡	13.33	271.59	12.35	2.37	273.81	150.00	269.87	3.58²	15.05	273.45	10.94	1.86	275.31	0.013	1.500	273.45	275.31	0.00
3	54	164.09	270.47	3.43‡	13.02	273.91	12.60	2.47	276.32	111.45	271.59	3.67²	13.90	275.26	11.80	2.17	277.43	0.013	1.110	275.26	277.43	0.00
4	54	162.46	271.79	4.50	15.90	276.45	10.22	1.62	278.08	139.39	273.18	3.88	14.58	277.06	11.14	1.93	278.99	0.013	0.915	277.16	279.09	0.10
5	54	121.27	274.69	2.97‡	11.12	277.66	10.90	1.85	279.45	60.42	275.29	3.16²	11.93	278.45	10.17	1.61	280.06	0.013	0.606	278.45	280.06	0.00
6	54	120.22	278.39	2.80‡	10.42	281.20	11.53	2.07	283.13	155.23	279.95	3.15²	11.87	283.09	10.13	1.59	284.69	0.013	1.552	283.09	284.69	0.00
7	54	118.18	280.05	2.77‡	10.28	282.82	11.50	2.05	285.02	159.00	281.64	3.12²	11.76	284.75	10.05	1.57	286.32	0.013	1.302	284.75	286.32	0.00
8	54	107.46	284.07	2.74‡	10.14	286.81	10.60	1.75	288.49	76.20	284.83	2.97²	11.15	287.81	9.64	1.44	289.25	0.013	0.762	287.81	289.25	0.00
9	54	106.62	284.93	2.63‡	9.65	287.56	11.05	1.90	289.53	136.77	286.30	2.96²	11.10	289.26	9.60	1.43	290.70	0.013	1.167	289.26	290.70	0.00
10	54	104.29	286.71	2.60‡	9.50	289.31	10.98	1.87	291.19	142.06	288.13	2.93²	10.96	291.06	9.51	1.41	292.47	0.013	1.284	291.06	292.47	0.00
11	48	94.13	291.86	2.67‡	8.90	294.53	10.58	1.74	296.21	72.18	292.58	2.87²	9.65	295.45	9.76	1.48	296.93	0.013	0.722	295.45	296.93	0.00
12	48	93.35	292.68	2.59‡	8.61	295.27	10.85	1.83	297.27	112.56	293.81	2.86²	9.61	296.66	9.72	1.47	298.13	0.013	0.864	296.66	298.13	0.00
13	48	91.01	293.91	2.59‡	8.61	296.50	10.57	1.74	298.45	153.34	295.24	2.82²	9.47	298.06	9.61	1.43	299.50	0.013	1.043	298.06	299.50	0.00
14	48	83.37	297.40	2.59‡	8.61	299.99	9.69	1.46	301.42	53.21	297.85	2.70²	9.03	300.55	9.24	1.33	301.88	0.013	0.456	300.55	301.88	0.00
15	30	29.22	300.32	1.73‡	3.62	302.05	8.06	1.01	303.05	32.50	300.65	1.81²	3.80	302.46	7.69	0.92	303.38	0.013	0.325	302.46	303.38	0.00
16	30	28.78	300.75	2.23	4.62	302.98	6.22	0.60	303.58	45.61	301.11	1.91	4.03	303.02	7.14	0.79	303.81	0.013	0.229	303.08	303.87	0.06
17	30	27.90	301.21	2.33	4.76	303.53	5.86	0.53	304.07	24.50	301.45	2.09	4.39	303.54	6.36	0.63	304.17	0.013	0.104	303.59	304.21	0.04
18	30	27.33	301.55	2.35	4.78	303.90	5.71	0.51	304.40	169.60	305.44	1.75²	3.66	307.19	7.46	0.87	308.05	0.013	3.649	307.19	308.05	0.00
19	30	25.90	305.74	1.18‡	2.28	306.92	11.36	2.01	308.34	178.11	310.21	1.70²	3.56	311.91	7.28	0.82	312.74	0.013	4.394	311.91	312.74	0.00
20	30	25.35	310.31	1.61‡	3.35	311.93	7.57	0.89	312.90	24.50	310.56	1.69	3.53	312.25	7.19	0.80	313.05	0.013	0.152	312.30	313.10	0.05
21	30	25.06	310.76	1.45‡	2.95	312.21	8.50	1.12	313.26	87.69	311.83	1.67²	3.49	313.51	7.18	0.80	314.31	0.013	1.053	313.51	314.31	0.00
22	30	24.09	311.93	1.54‡	3.17	313.47	7.59	0.90	314.46	138.11	313.02	1.64²	3.41	314.66	7.06	0.77	315.43	0.013	0.973	314.66	315.43	0.00

Notes: Return Period = 10-yrs. ² Critical depth. ‡ Supercritical.

Project File: Storm System 400.sws

Energy Grade Line Calculations

Stormwater Studio 2024 v 3.0.0.35

Project Name: Storm System 400

11-22-2024

Line No	Line Size	Q	Downstream							Length	Upstream							Pipe		Junction		
			Invert Elev	Depth	Area	HGL Elev	Vel	Vel Head	EGL Elev		Invert Elev	Depth	Area	HGL Elev	Vel	Vel Head	EGL Elev	n Value	Enrgy Loss	HGLa Elev	EGLa Elev	Enrgy Loss
	(in)	(cfs)	(ft)	(ft)	(sqft)	(ft)	(ft/s)	(ft)	(ft)	(ft)	(ft)	(ft)	(sqft)	(ft)	(ft/s)	(ft)	(ft)		(ft)	(ft)	(ft)	(ft)
23	18	4.02	314.02	1.36	1.68	315.37	2.39	0.09	315.46	63.62	314.55	0.84	1.01	315.39	3.97	0.24	315.63	0.013	0.170	315.40	315.65	0.02
24	15	3.93	314.80	0.77‡	0.80	315.58	4.93	0.38	315.95	57.02	315.25	0.80	0.83	316.04	4.76	0.35	316.39	0.013	0.443	316.09	316.44	0.05
25	15	1.67	317.71	0.46‡	0.41	318.17	4.03	0.25	318.41	32.50	318.03	0.52²	0.48	318.55	3.48	0.19	318.74	0.013	0.325	318.55	318.74	0.00
26	15	2.12	315.37	0.55‡	0.52	315.92	4.11	0.26	316.46	107.29	316.15	0.58²	0.56	316.73	3.78	0.22	316.95	0.013	0.486	316.73	316.95	0.00
27	15	1.73	316.25	0.47‡	0.42	316.71	4.10	0.26	316.97	32.50	316.57	0.53²	0.49	317.10	3.52	0.19	317.29	0.013	0.316	317.10	317.29	0.00
28	24	20.29	317.34	1.38‡	2.31	318.72	8.78	1.20	319.82	46.34	318.10	1.60²	2.69	319.70	7.55	0.89	320.58	0.013	0.766	319.70	320.58	0.00
29	18	3.83	319.28	1.24	1.56	320.52	2.45	0.09	320.62	128.23	320.97	0.75²	0.88	321.71	4.36	0.30	322.01	0.013	1.390	321.71	322.01	0.00
30	15	2.01	321.32	0.51‡	0.47	321.82	4.31	0.29	322.10	41.50	321.73	0.57²	0.54	322.30	3.71	0.21	322.51	0.013	0.408	322.30	322.51	0.00
31	15	1.35	321.21	0.77	0.79	321.98	1.70	0.04	322.02	132.00	323.03	0.47²	0.42	323.49	3.25	0.16	323.65	0.013	1.633	323.49	323.65	0.00
32	42	55.61	298.40	2.13‡	6.13	300.53	9.07	1.28	302.08	102.89	299.24	2.28²	6.65	301.52	8.36	1.09	302.61	0.013	0.527	301.52	302.61	0.00
33	36	31.32	302.79	1.49‡	3.51	304.28	8.93	1.24	305.37	96.66	304.08	1.78²	4.38	305.87	7.15	0.79	306.66	0.013	1.293	305.87	306.66	0.00
34	36	30.14	304.08	2.28	5.78	306.37	5.22	0.42	306.79	44.66	304.53	1.75²	4.28	306.28	7.04	0.77	307.05	0.013	0.259	306.28	307.05	0.00
35	36	29.21	304.63	1.37‡	3.15	306.00	9.28	1.34	307.18	132.00	306.58	1.72²	4.20	308.30	6.96	0.75	309.05	0.013	1.873	308.30	309.05	0.00
36	30	27.94	307.18	1.36‡	2.73	308.54	10.23	1.63	309.83	119.27	309.46	1.77²	3.71	311.23	7.54	0.88	312.11	0.013	2.280	311.23	312.11	0.00
37	30	27.76	309.56	1.32‡	2.64	310.88	10.52	1.72	312.30	47.39	310.99	1.76²	3.69	312.75	7.51	0.88	313.62	0.013	1.324	312.75	313.62	0.00
38	30	27.02	311.25	1.39‡	2.81	312.64	9.62	1.44	313.93	91.69	312.85	1.74²	3.64	314.58	7.42	0.86	315.44	0.013	1.513	314.58	315.44	0.00
39	30	25.62	313.26	1.12‡	2.12	314.38	12.06	2.26	315.79	132.00	317.59	1.69²	3.54	319.28	7.25	0.82	320.09	0.013	4.302	319.28	320.09	0.00
40	30	23.31	318.00	1.27‡	2.50	319.27	9.33	1.35	320.40	242.49	321.51	1.61²	3.35	323.12	6.96	0.75	323.88	0.013	3.477	323.12	323.88	0.00
41	30	21.98	321.61	1.95	4.11	323.56	5.34	0.44	324.01	56.90	322.18	1.57²	3.24	323.75	6.79	0.72	324.46	0.013	0.456	323.75	324.46	0.00
42	30	19.73	322.28	1.06‡	1.97	323.34	10.01	1.56	324.57	84.98	324.60	1.48²	3.04	326.08	6.50	0.66	326.74	0.013	2.166	326.08	326.74	0.00
43	24	16.04	325.11	1.03‡	1.64	326.14	9.79	1.49	327.23	148.69	328.46	1.42²	2.38	329.87	6.73	0.70	330.58	0.013	3.345	329.87	330.58	0.00
44	24	10.80	328.56	1.90	3.08	330.46	3.50	0.19	330.65	192.67	332.42	1.16²	1.90	333.59	5.69	0.50	334.09	0.013	3.440	333.59	334.09	0.00

Notes: Return Period = 10-yrs. ² Critical depth. ‡ Supercritical.

Project File: Storm System 400.sws

Energy Grade Line Calculations

Stormwater Studio 2024 v 3.0.0.35

Project Name: Storm System 400

11-22-2024

Line No	Line Size	Q	Downstream							Length	Upstream							Pipe		Junction		
			Invert Elev	Depth	Area	HGL Elev	Vel	Vel Head	EGL Elev		Invert Elev	Depth	Area	HGL Elev	Vel	Vel Head	EGL Elev	n Value	Enrgy Loss	HGLa Elev	EGLa Elev	Enrgy Loss
	(in)	(cfs)	(ft)	(ft)	(sqft)	(ft)	(ft/s)	(ft)	(ft)	(ft)	(ft)	(ft)	(sqft)	(ft)	(ft/s)	(ft)	(ft)		(ft)	(ft)	(ft)	(ft)
45	18	6.47	332.86	0.74‡	0.87	333.60	7.48	0.87	334.29	143.66	335.51	0.97²	1.21	336.49	5.35	0.44	336.93	0.013	2.642	336.49	336.93	0.00
46	15	1.60	335.82	1.09	1.14	336.91	1.41	0.03	336.94	131.10	341.07	0.51	0.47	341.58	3.43	0.18	341.76	0.013	4.820	341.64	341.82	0.06
47	15	0.86	341.17	0.63	0.62	341.80	1.40	0.03	341.83	54.75	341.72	0.37²	0.31	342.09	2.82	0.12	342.22	0.013	0.386	342.09	342.22	0.00
48	15	0.92	307.49	0.52	0.48	308.01	1.91	0.06	308.07	31.52	308.06	0.38²	0.32	308.44	2.88	0.13	308.57	0.013	0.507	308.44	308.57	0.00
49	15	0.69	315.19	0.25‡	0.18	315.44	3.92	0.24	315.63	35.70	315.93	0.33²	0.26	316.26	2.64	0.11	316.37	0.013	0.740	316.26	316.37	0.00
50	15	0.65	308.93	0.25‡	0.18	309.18	3.62	0.20	309.36	48.11	309.67	0.32²	0.25	309.99	2.59	0.10	310.10	0.013	0.740	309.99	310.10	0.00
51	15	0.75	312.74	0.88	0.92	313.62	0.82	0.01	313.63	26.50	313.00	0.61	0.60	313.61	1.26	0.02	313.64	0.013	0.011	313.63	313.66	0.02
52	15	1.13	314.60	0.83	0.86	315.42	1.32	0.03	315.45	41.50	315.01	0.43	0.37	315.44	3.04	0.14	315.58	0.013	0.135	315.53	315.68	0.10
53	15	1.94	319.34	0.64	0.63	319.97	3.09	0.15	320.12	41.50	319.75	0.56²	0.53	320.31	3.67	0.21	320.52	0.013	0.396	320.31	320.52	0.00
54	15	1.07	323.13	0.36‡	0.30	323.49	3.62	0.20	323.68	41.50	323.54	0.41²	0.36	323.95	3.02	0.14	324.10	0.013	0.414	323.95	324.10	0.00
55	24	16.32	318.20	2.00	3.14	320.33	5.19	0.42	320.75	26.50	318.47	2.00	3.14	320.46	5.19	0.42	320.88	0.013	0.132	320.49	320.91	0.03
56	24	14.74	318.57	2.00	3.14	320.71	4.69	0.34	321.05	55.99	319.03	1.89	3.07	320.91	4.80	0.36	321.27	0.013	0.221	320.92	321.28	0.01
57	24	14.14	319.13	1.96	3.13	321.09	4.52	0.32	321.41	124.82	322.00	1.33²	2.22	323.33	6.36	0.63	323.96	0.013	2.549	323.33	323.96	0.00
58	24	12.23	322.10	1.65	2.78	323.75	4.40	0.30	324.05	144.17	323.92	1.24²	2.04	325.16	5.98	0.56	325.71	0.013	1.661	325.16	325.71	0.00
59	24	10.38	324.02	0.94‡	1.46	324.96	7.12	0.79	325.79	121.40	325.53	1.14²	1.85	326.68	5.61	0.49	327.16	0.013	1.375	326.68	327.16	0.00
60	24	9.62	325.63	0.92‡	1.42	326.56	6.78	0.71	327.24	64.52	326.50	1.10²	1.77	327.60	5.44	0.46	328.06	0.013	0.819	327.60	328.06	0.00
61	18	9.16	327.00	1.05‡	1.32	328.05	6.92	0.74	328.77	60.48	327.74	1.16²	1.46	328.90	6.27	0.61	329.51	0.013	0.740	328.90	329.51	0.00
62	18	7.52	327.84	1.50	1.77	329.34	4.26	0.28	329.62	81.65	329.01	1.05²	1.32	330.05	5.71	0.51	330.56	0.013	0.942	330.05	330.56	0.00
63	18	6.35	329.11	1.29	1.62	330.40	3.93	0.24	330.64	104.45	330.90	0.96²	1.20	331.87	5.31	0.44	332.30	0.013	1.666	331.87	332.30	0.00
64	18	5.00	331.00	1.18	1.49	332.18	3.35	0.17	332.36	47.24	332.12	0.85²	1.04	332.98	4.81	0.36	333.34	0.013	0.981	332.98	333.34	0.00
65	18	4.70	332.22	0.78‡	0.93	333.01	5.03	0.39	333.40	46.08	332.59	0.83²	1.00	333.41	4.70	0.34	333.76	0.013	0.360	333.41	333.76	0.00
66	15	3.51	332.84	0.57‡	0.55	333.41	6.42	0.64	333.91	68.30	334.23	0.75²	0.77	334.98	4.57	0.32	335.30	0.013	1.392	334.98	335.30	0.00

Notes: Return Period = 10-yrs. ² Critical depth. ‡ Supercritical.

Project File: Storm System 400.sws

Energy Grade Line Calculations

Stormwater Studio 2024 v 3.0.0.35

Project Name: Storm System 400

11-22-2024

Line No	Line Size	Q	Downstream							Length	Upstream							Pipe		Junction		
			Invert Elev	Depth	Area	HGL Elev	Vel	Vel Head	EGL Elev		Invert Elev	Depth	Area	HGL Elev	Vel	Vel Head	EGL Elev	n Value	Enrgy Loss	HGLa Elev	EGLa Elev	Enrgy Loss
	(in)	(cfs)	(ft)	(ft)	(sqft)	(ft)	(ft/s)	(ft)	(ft)	(ft)	(ft)	(ft)	(sqft)	(ft)	(ft/s)	(ft)	(ft)		(ft)	(ft)	(ft)	(ft)
67	15	1.64	334.33	0.95	1.00	335.28	1.64	0.04	335.32	133.03	337.14	0.51²	0.47	337.66	3.46	0.19	337.84	0.013	2.523	337.66	337.84	0.00
68	15	1.10	337.24	0.30‡	0.23	337.55	4.78	0.35	337.86	42.30	338.26	0.42²	0.36	338.68	3.04	0.14	338.82	0.013	0.963	338.68	338.82	0.00
69	15	0.93	338.36	0.34‡	0.27	338.70	3.48	0.19	338.88	38.33	338.74	0.39²	0.32	339.13	2.89	0.13	339.26	0.013	0.378	339.13	339.26	0.00
70	36	40.82	276.40	2.34	5.92	278.75	6.89	0.74	279.49	46.43	276.87	2.04²	5.11	278.90	7.99	0.99	279.90	0.013	0.412	278.90	279.90	0.00
71	36	40.50	276.87	2.64	6.58	279.51	6.15	0.59	280.09	101.07	277.88	2.03²	5.09	279.91	7.96	0.99	280.89	0.013	0.799	279.91	280.89	0.00
72	36	37.59	277.98	1.80‡	4.44	279.78	8.46	1.11	281.07	55.06	278.53	1.95²	4.88	280.48	7.71	0.92	281.41	0.013	0.342	280.48	281.41	0.00
73	36	31.40	278.63	2.52	6.35	281.15	4.95	0.38	281.53	26.50	278.89	2.22	5.60	281.11	5.61	0.49	281.60	0.013	0.065	281.14	281.63	0.03
74	36	30.72	278.99	2.35	5.95	281.35	5.17	0.41	281.76	45.61	279.45	1.77²	4.33	281.22	7.09	0.78	282.00	0.013	0.238	281.22	282.00	0.00
75	36	30.32	279.55	2.04	5.13	281.59	5.91	0.54	282.14	112.50	280.48	1.76²	4.30	282.23	7.06	0.77	283.01	0.013	0.867	282.23	283.01	0.00
76	36	29.90	280.58	2.03	5.09	282.61	5.87	0.54	283.14	49.73	281.07	1.74²	4.26	282.82	7.02	0.77	283.58	0.013	0.440	282.82	283.58	0.00
77	30	16.53	281.47	1.23‡	2.41	282.70	6.87	0.73	283.66	51.49	281.99	1.36²	2.73	283.35	6.06	0.57	283.92	0.013	0.254	283.35	283.92	0.00
78	30	16.13	282.09	1.20‡	2.33	283.29	6.93	0.75	284.02	66.72	282.75	1.34²	2.68	284.10	6.01	0.56	284.66	0.013	0.643	284.10	284.66	0.00
79	30	13.38	283.61	0.91‡	1.61	284.52	8.29	1.07	285.32	74.60	285.25	1.22²	2.39	286.47	5.61	0.49	286.96	0.013	1.639	286.47	286.96	0.00
80	24	11.83	286.25	0.80‡	1.17	287.05	10.07	1.58	288.01	121.93	290.16	1.22²	2.00	291.38	5.90	0.54	291.92	0.013	3.910	291.38	291.92	0.00
81	24	11.45	290.26	0.90‡	1.37	291.16	8.36	1.09	292.01	79.15	291.98	1.20²	1.96	293.17	5.83	0.53	293.70	0.013	1.688	293.17	293.70	0.00
82	15	0.97	292.91	0.34‡	0.27	293.25	3.53	0.19	293.71	41.50	293.32	0.40	0.34	293.72	2.89	0.13	293.85	0.013	0.139	293.81	293.94	0.09
83	24	9.84	292.08	0.79‡	1.16	292.87	8.51	1.13	293.78	132.00	295.02	1.11²	1.79	296.13	5.49	0.47	296.59	0.013	2.819	296.13	296.59	0.00
84	15	1.40	295.96	0.54	0.51	296.50	2.75	0.12	296.61	41.50	296.37	0.47²	0.43	296.84	3.29	0.17	297.01	0.013	0.398	296.84	297.01	0.00
85	24	8.19	295.12	0.74‡	1.06	295.86	7.72	0.93	296.66	54.30	296.52	1.01²	1.60	297.53	5.12	0.41	297.94	0.013	1.286	297.53	297.94	0.00
86	18	7.14	297.18	0.76‡	0.89	297.94	7.99	0.99	298.68	133.21	300.00	1.02²	1.28	301.02	5.58	0.48	301.50	0.013	2.815	301.02	301.50	0.00
87	15	0.78	300.59	0.91	0.96	301.49	0.81	0.01	301.50	26.50	300.85	0.64	0.63	301.49	1.23	0.02	301.51	0.013	0.010	301.51	301.53	0.02
88	18	5.74	300.10	0.67‡	0.76	300.77	7.55	0.89	301.56	122.20	302.77	0.91²	1.13	303.68	5.09	0.40	304.08	0.013	2.517	303.68	304.08	0.00

Notes: Return Period = 10-yrs. ² Critical depth. ‡ Supercritical.

Project File: Storm System 400.sws

Energy Grade Line Calculations

Stormwater Studio 2024 v 3.0.0.35

Project Name: Storm System 400

11-22-2024

Line No	Line Size	Q	Downstream							Length	Upstream							Pipe		Junction		
			Invert Elev	Depth	Area	HGL Elev	Vel	Vel Head	EGL Elev		Invert Elev	Depth	Area	HGL Elev	Vel	Vel Head	EGL Elev	n Value	Enrgy Loss	HGLa Elev	EGLa Elev	Enrgy Loss
	(in)	(cfs)	(ft)	(ft)	(sqft)	(ft)	(ft/s)	(ft)	(ft)	(ft)	(ft)	(ft)	(sqft)	(ft)	(ft/s)	(ft)	(ft)		(ft)	(ft)	(ft)	(ft)
89	15	1.24	303.12	0.95	1.00	304.07	1.24	0.02	304.09	41.50	303.53	0.52	0.49	304.05	2.54	0.10	304.15	0.013	0.065	304.11	304.21	0.06
90	15	3.74	303.03	0.56‡	0.54	303.59	7.00	0.76	304.15	132.00	305.98	0.77²	0.80	306.75	4.69	0.34	307.09	0.013	2.945	306.75	307.09	0.00
91	15	0.59	306.17	0.92	0.97	307.09	0.61	0.01	307.09	41.50	306.58	0.51	0.47	307.09	1.27	0.03	307.11	0.013	0.018	307.11	307.14	0.03
92	15	2.81	306.08	0.49‡	0.45	306.57	6.27	0.61	307.13	66.00	307.60	0.67²	0.67	308.27	4.19	0.27	308.54	0.013	1.409	308.27	308.54	0.00
93	15	1.36	325.85	0.87	0.91	326.72	1.49	0.03	326.75	61.28	326.46	0.47²	0.42	326.93	3.25	0.16	327.09	0.013	0.341	326.93	327.09	0.00
94	15	2.59	329.57	0.59‡	0.57	330.16	4.51	0.32	330.61	24.50	329.81	0.65	0.64	330.46	4.04	0.25	330.71	0.013	0.099	330.59	330.84	0.13
95	15	2.11	333.17	0.52‡	0.48	333.69	4.39	0.30	334.12	43.73	333.61	0.58²	0.56	334.19	3.78	0.22	334.41	0.013	0.297	334.19	334.41	0.00
96	15	1.94	335.86	0.49‡	0.45	336.36	4.34	0.29	336.95	54.58	336.41	0.56²	0.53	336.97	3.67	0.21	337.18	0.013	0.229	336.97	337.18	0.00
97	36	26.81	299.34	3.00	7.07	302.48	3.79	0.22	302.70	32.50	299.66	2.85	6.94	302.52	3.86	0.23	302.75	0.013	0.049	302.53	302.76	0.01
98	30	26.35	300.16	2.28	4.70	302.44	5.61	0.49	302.93	29.90	300.46	1.96	4.12	302.42	6.39	0.63	303.06	0.013	0.121	302.64	303.28	0.22
99	18	5.15	301.56	1.50	1.77	303.20	2.92	0.13	303.33	141.44	304.79	0.87²	1.06	305.66	4.87	0.37	306.03	0.013	2.699	305.66	306.03	0.00
100	15	3.56	305.14	0.51‡	0.47	305.65	7.58	0.89	306.23	150.00	309.39	0.76²	0.78	310.15	4.59	0.33	310.47	0.013	4.247	310.15	310.47	0.00
101	15	2.20	309.49	0.37‡	0.30	309.86	7.31	0.83	310.50	100.48	313.51	0.59²	0.57	314.10	3.83	0.23	314.33	0.013	3.831	314.10	314.33	0.00
102	24	8.98	294.11	0.96‡	1.49	295.07	6.03	0.57	295.61	48.16	294.60	1.06²	1.69	295.66	5.30	0.44	296.09	0.013	0.482	295.66	296.09	0.00
103	24	8.48	294.79	0.96‡	1.49	295.74	5.70	0.50	296.26	24.50	295.03	1.03²	1.63	296.06	5.19	0.42	296.48	0.013	0.220	296.06	296.48	0.00
104	24	7.75	295.13	0.77‡	1.11	295.90	7.00	0.76	296.54	112.50	296.90	0.99²	1.54	297.88	5.02	0.39	298.28	0.013	1.733	297.88	298.28	0.00
105	24	7.53	297.00	0.87‡	1.31	297.87	5.75	0.51	298.35	45.96	297.46	0.97²	1.52	298.43	4.97	0.38	298.81	0.013	0.460	298.43	298.81	0.00
106	18	5.68	298.92	0.84‡	1.02	299.76	5.59	0.49	300.23	40.45	299.32	0.91²	1.12	300.23	5.07	0.40	300.63	0.013	0.404	300.23	300.63	0.00
107	15	1.69	301.60	0.45‡	0.39	302.04	4.29	0.29	302.30	132.00	302.92	0.52²	0.48	303.43	3.49	0.19	303.62	0.013	1.320	303.43	303.62	0.00
108	15	1.35	303.02	0.41‡	0.35	303.43	3.87	0.23	303.65	41.50	303.43	0.47²	0.42	303.90	3.25	0.16	304.06	0.013	0.412	303.90	304.06	0.00
109	15	1.72	297.24	0.85	0.89	298.09	1.93	0.06	298.15	33.28	297.58	0.53	0.49	298.10	3.49	0.19	298.29	0.013	0.142	298.12	298.31	0.02
110	24	8.72	297.44	1.98	3.14	299.42	2.78	0.12	299.54	48.37	297.92	1.51	2.55	299.44	3.41	0.18	299.62	0.013	0.076	299.45	299.63	0.01

Notes: Return Period = 10-yrs. ² Critical depth. ‡ Supercritical.

Project File: Storm System 400.sws

Energy Grade Line Calculations

Stormwater Studio 2024 v 3.0.0.35

Project Name: Storm System 400

11-22-2024

Line No	Line Size	Q	Downstream							Length	Upstream							Pipe		Junction		
			Invert Elev	Depth	Area	HGL Elev	Vel	Vel Head	EGL Elev		Invert Elev	Depth	Area	HGL Elev	Vel	Vel Head	EGL Elev	n Value	Enrgy Loss	HGLa Elev	EGLa Elev	Enrgy Loss
	(in)	(cfs)	(ft)	(ft)	(sqft)	(ft)	(ft/s)	(ft)	(ft)	(ft)	(ft)	(ft)	(sqft)	(ft)	(ft/s)	(ft)	(ft)		(ft)	(ft)	(ft)	(ft)
111	18	8.28	298.42	1.06‡	1.34	299.49	6.19	0.59	300.08	103.10	299.35	1.10²	1.39	300.44	5.97	0.55	301.00	0.013	0.921	300.44	301.00	0.00
112	18	7.71	299.45	1.33	1.65	300.77	4.66	0.34	301.11	32.50	299.70	1.15	1.46	300.85	5.29	0.44	301.29	0.013	0.178	300.93	301.37	0.08
113	18	6.74	299.80	0.69‡	0.80	300.49	8.45	1.11	301.45	30.78	301.05	0.99²	1.24	302.04	5.44	0.46	302.50	0.013	1.052	302.04	302.50	0.00
114	18	4.94	301.15	0.59‡	0.65	301.75	7.61	0.90	302.55	167.06	305.15	0.85²	1.03	306.00	4.79	0.36	306.35	0.013	3.799	306.00	306.35	0.00
115	15	2.87	305.40	0.46‡	0.41	305.85	7.05	0.77	306.40	191.26	310.50	0.68²	0.68	311.18	4.22	0.28	311.46	0.013	5.062	311.18	311.46	0.00
116	15	2.10	310.60	0.42‡	0.36	311.02	5.88	0.54	311.49	77.55	312.40	0.58²	0.56	312.98	3.77	0.22	313.20	0.013	1.716	312.98	313.20	0.00
117	15	1.76	298.42	0.48‡	0.43	298.90	4.06	0.26	299.14	26.50	298.68	0.53²	0.50	299.21	3.54	0.20	299.41	0.013	0.265	299.21	299.41	0.00
118	15	1.03	298.78	0.59	0.57	299.37	1.81	0.05	299.42	54.24	299.33	0.41²	0.35	299.73	2.98	0.14	299.87	0.013	0.446	299.73	299.87	0.00
119	15	2.29	300.36	0.54‡	0.51	300.90	4.47	0.31	301.20	41.50	300.77	0.61²	0.59	301.38	3.88	0.23	301.61	0.013	0.415	301.38	301.61	0.00
120	24	9.90	287.24	1.01‡	1.59	288.25	6.23	0.60	288.82	46.93	287.71	1.11²	1.80	288.82	5.50	0.47	289.29	0.013	0.469	288.82	289.29	0.00
121	24	9.31	287.81	1.01‡	1.59	288.82	5.86	0.53	289.37	24.50	288.05	1.08²	1.73	289.13	5.38	0.45	289.58	0.013	0.217	289.13	289.58	0.00
122	24	8.79	288.15	0.83‡	1.24	288.99	7.08	0.78	289.65	113.50	289.79	1.05²	1.67	290.84	5.26	0.43	291.27	0.013	1.616	290.84	291.27	0.00
123	24	8.26	289.89	0.91‡	1.40	290.80	5.90	0.54	291.33	45.96	290.35	1.02²	1.61	291.37	5.14	0.41	291.78	0.013	0.443	291.37	291.78	0.00
124	18	4.16	290.85	0.72‡	0.83	291.56	4.99	0.39	291.94	26.50	291.11	0.78²	0.93	291.89	4.49	0.31	292.20	0.013	0.263	291.89	292.20	0.00
125	15	1.02	291.36	0.35‡	0.28	291.71	3.64	0.21	292.21	53.58	291.90	0.41²	0.34	292.30	2.97	0.14	292.44	0.013	0.229	292.30	292.44	0.00
126	18	4.07	291.89	0.69‡	0.79	292.58	5.13	0.41	292.96	46.99	292.36	0.77²	0.91	293.13	4.45	0.31	293.43	0.013	0.470	293.13	293.43	0.00
127	15	2.83	294.76	0.63‡	0.62	295.39	4.57	0.32	295.70	132.00	295.78	0.67²	0.67	296.45	4.20	0.27	296.72	0.013	1.020	296.45	296.72	0.00
128	15	2.34	295.88	0.73	0.74	296.60	3.15	0.15	296.76	41.50	296.29	0.61²	0.60	296.90	3.91	0.24	297.14	0.013	0.382	296.90	297.14	0.00
129	15	3.04	291.08	1.25	1.23	292.41	2.48	0.10	292.51	48.16	291.56	0.91	0.96	292.47	3.18	0.16	292.63	0.013	0.123	292.51	292.66	0.03
130	15	1.91	307.70	0.49‡	0.45	308.19	4.24	0.28	308.56	41.50	308.11	0.55²	0.52	308.66	3.65	0.21	308.87	0.013	0.307	308.66	308.87	0.00
131	15	1.93	284.07	0.50‡	0.46	284.57	4.24	0.28	284.83	38.00	284.45	0.56²	0.53	285.01	3.66	0.21	285.21	0.013	0.380	285.01	285.21	0.00
132	15	3.09	284.89	1.25	1.23	286.27	2.52	0.10	286.36	46.93	285.36	0.98	1.03	286.34	2.99	0.14	286.48	0.013	0.111	286.36	286.50	0.03

Notes: Return Period = 10-yrs. ² Critical depth. ‡ Supercritical.

Project File: Storm System 400.sws

Energy Grade Line Calculations

Stormwater Studio 2024 v 3.0.0.35

Project Name: Storm System 400

11-22-2024

Line No	Line Size	Q	Downstream							Length	Upstream							Pipe		Junction		
			Invert Elev	Depth	Area	HGL Elev	Vel	Vel Head	EGL Elev		Invert Elev	Depth	Area	HGL Elev	Vel	Vel Head	EGL Elev	n Value	Enrgy Loss	HGLa Elev	EGLa Elev	Enrgy Loss
	(in)	(cfs)	(ft)	(ft)	(sqft)	(ft)	(ft/s)	(ft)	(ft)	(ft)	(ft)	(ft)	(sqft)	(ft)	(ft/s)	(ft)	(ft)		(ft)	(ft)	(ft)	(ft)
133	24	12.31	286.00	0.83‡	1.22	286.83	10.06	1.57	287.80	134.83	290.08	1.24²	2.05	291.32	6.00	0.56	291.88	0.013	4.075	291.32	291.88	0.00
134	24	10.49	290.18	0.84‡	1.25	291.02	8.38	1.09	291.96	124.24	292.75	1.15²	1.86	293.90	5.63	0.49	294.39	0.013	2.433	293.90	294.39	0.00
135	24	8.73	292.85	0.75‡	1.08	293.60	8.08	1.02	294.45	121.52	295.47	1.05²	1.66	296.51	5.25	0.43	296.94	0.013	2.487	296.51	296.94	0.00
136	18	7.24	295.97	0.77‡	0.92	296.74	7.90	0.97	297.48	117.45	298.40	1.03²	1.29	299.42	5.62	0.49	299.91	0.013	2.429	299.42	299.91	0.00
137	18	5.24	298.50	1.31	1.64	299.81	3.20	0.16	299.97	138.12	301.37	0.87²	1.07	302.24	4.91	0.37	302.62	0.013	2.650	302.24	302.62	0.00
138	18	3.87	301.47	1.06	1.33	302.53	2.91	0.13	302.66	102.40	303.67	0.75²	0.89	304.42	4.37	0.30	304.72	0.013	2.065	304.42	304.72	0.00
139	15	2.06	303.92	0.41‡	0.35	304.34	5.81	0.52	304.75	106.98	306.23	0.57²	0.55	306.80	3.74	0.22	307.02	0.013	2.267	306.80	307.02	0.00
140	15	1.35	283.70	0.93	0.98	284.64	1.37	0.03	284.67	108.52	284.49	0.46²	0.42	284.95	3.24	0.16	285.12	0.013	0.450	284.95	285.12	0.00
141	15	1.02	286.50	0.35‡	0.28	286.85	3.68	0.21	287.04	74.10	287.24	0.41²	0.34	287.65	2.97	0.14	287.78	0.013	0.741	287.65	287.78	0.00
142	15	0.33	298.75	1.17	1.19	299.91	0.27	0.00	299.91	44.33	299.87	0.23²	0.15	300.10	2.12	0.07	300.17	0.013	0.256	300.10	300.17	0.00
143	15	2.15	277.20	0.53‡	0.49	277.72	4.36	0.30	278.01	156.29	278.52	0.59²	0.57	279.11	3.80	0.22	279.33	0.013	1.323	279.11	279.33	0.00
144	18	5.04	277.18	1.50	1.77	279.02	2.85	0.13	279.14	227.32	278.86	0.86	1.05	279.72	4.80	0.36	280.07	0.013	0.929	279.79	280.15	0.07
145	18	3.74	278.96	1.12	1.41	280.07	2.65	0.11	280.18	32.50	279.28	0.74	0.87	280.02	4.29	0.29	280.31	0.013	0.126	280.14	280.43	0.12
146	15	1.61	283.08	0.45‡	0.40	283.54	3.99	0.25	283.77	32.93	283.41	0.51²	0.47	283.92	3.44	0.18	284.10	0.013	0.329	283.92	284.10	0.00
147	18	6.57	284.20	0.82‡	0.99	285.02	6.64	0.69	285.63	63.18	285.14	0.98²	1.22	286.11	5.38	0.45	286.56	0.013	0.932	286.11	286.56	0.00
148	15	2.43	285.49	1.03	1.08	286.51	2.25	0.08	286.59	41.50	285.90	0.63	0.62	286.53	3.94	0.24	286.77	0.013	0.178	286.65	286.89	0.13
149	15	3.68	285.40	0.57‡	0.55	285.97	6.69	0.70	286.62	132.00	288.03	0.77²	0.79	288.79	4.66	0.34	289.13	0.013	2.511	288.79	289.13	0.00
150	15	3.13	288.13	0.65‡	0.64	288.77	4.89	0.37	289.18	41.50	288.54	0.71²	0.72	289.25	4.36	0.30	289.54	0.013	0.368	289.25	289.54	0.00
151	15	0.72	292.61	0.82	0.85	293.43	0.84	0.01	293.44	39.76	293.00	0.42	0.36	293.42	1.99	0.06	293.49	0.013	0.047	293.46	293.52	0.04
152	15	1.26	299.67	0.94	0.99	300.62	1.27	0.02	300.64	39.76	300.07	0.53	0.50	300.61	2.51	0.10	300.70	0.013	0.062	300.67	300.76	0.06
153	15	1.03	284.02	0.37‡	0.30	284.38	3.45	0.18	284.56	20.90	284.23	0.41²	0.35	284.63	2.98	0.14	284.77	0.013	0.209	284.63	284.77	0.00
154	15	1.92	284.55	0.52‡	0.48	285.07	4.01	0.25	285.31	112.05	285.37	0.55²	0.52	285.92	3.65	0.21	286.13	0.013	0.817	285.92	286.13	0.00

Notes: Return Period = 10-yrs. ² Critical depth. ‡ Supercritical.

Project File: Storm System 400.sws

Energy Grade Line Calculations

Stormwater Studio 2024 v 3.0.0.35

Project Name: Storm System 400

11-22-2024

Line No	Line Size	Q	Downstream							Length	Upstream							Pipe		Junction		
			Invert Elev	Depth	Area	HGL Elev	Vel	Vel Head	EGL Elev		Invert Elev	Depth	Area	HGL Elev	Vel	Vel Head	EGL Elev	n Value	Enrgy Loss	HGLa Elev	EGLa Elev	Enrgy Loss
	(in)	(cfs)	(ft)	(ft)	(sqft)	(ft)	(ft/s)	(ft)	(ft)	(ft)	(ft)	(ft)	(sqft)	(ft)	(ft/s)	(ft)	(ft)		(ft)	(ft)	(ft)	(ft)
155	15	2.71	285.46	0.97	1.02	286.43	2.65	0.11	286.54	102.96	286.29	0.66²	0.66	286.94	4.13	0.27	287.21	0.013	0.673	286.94	287.21	0.00
156	15	2.15	286.39	0.53‡	0.50	286.92	4.29	0.29	287.24	24.50	286.63	0.59²	0.57	287.22	3.80	0.22	287.44	0.013	0.200	287.22	287.44	0.00
157	15	2.20	290.40	0.54‡	0.51	290.95	4.29	0.29	291.22	146.76	291.57	0.59²	0.57	292.16	3.83	0.23	292.39	0.013	1.168	292.16	292.39	0.00
158	15	2.58	291.66	0.61‡	0.60	292.28	4.33	0.29	292.70	108.06	292.45	0.64²	0.64	293.09	4.06	0.26	293.34	0.013	0.648	293.09	293.34	0.00
159	15	1.96	292.55	0.71	0.73	293.26	2.70	0.11	293.37	24.50	292.79	0.56²	0.53	293.35	3.68	0.21	293.56	0.013	0.187	293.35	293.56	0.00
160	15	1.63	297.68	0.46‡	0.41	298.13	4.02	0.25	298.39	119.36	298.67	0.51²	0.47	299.18	3.46	0.19	299.37	0.013	0.982	299.18	299.37	0.00

Notes: Return Period = 10-yrs. ² Critical depth. ‡ Supercritical.

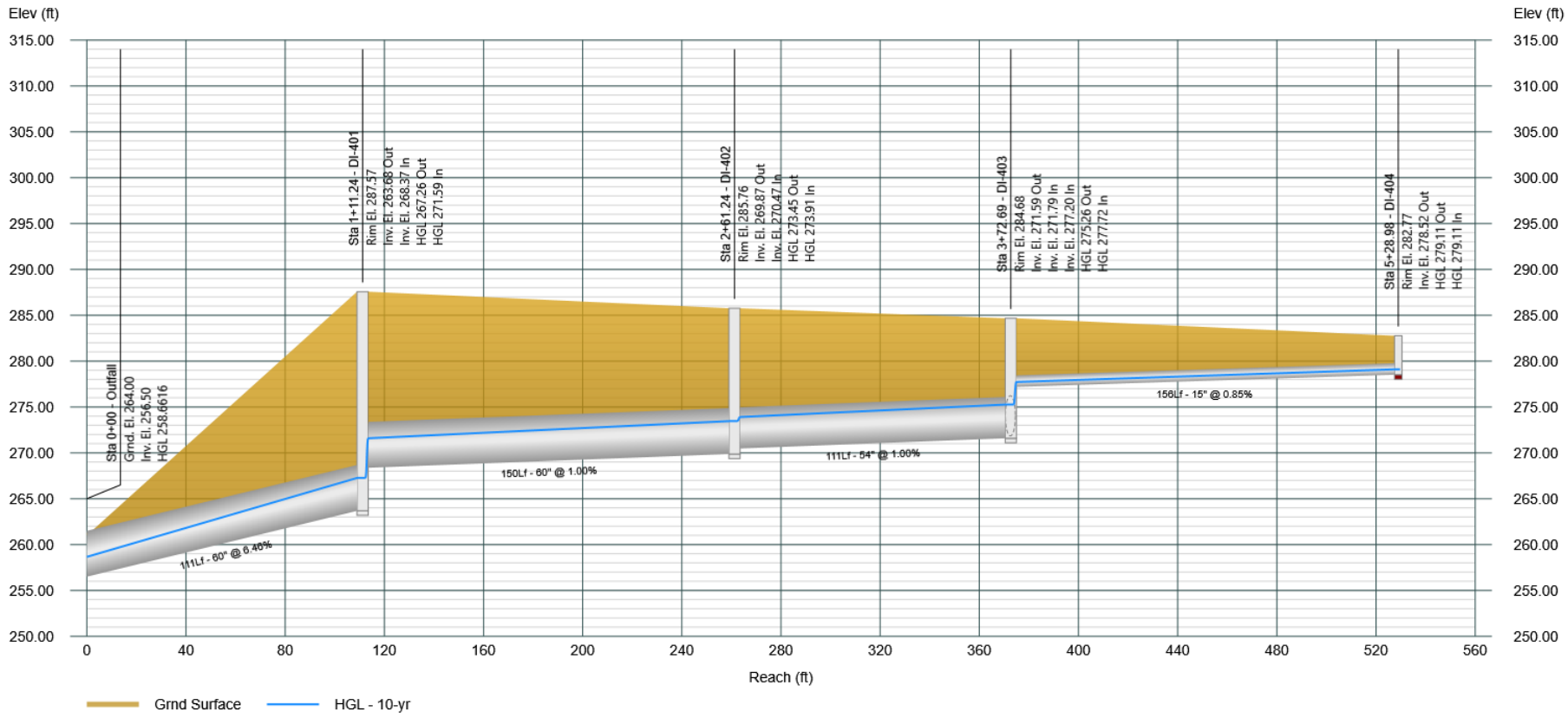
Project File: Storm System 400.sws

Profile View

Stormwater Studio 2024 v 3.0.0.35

Project Name: Storm System 400

11-22-2024



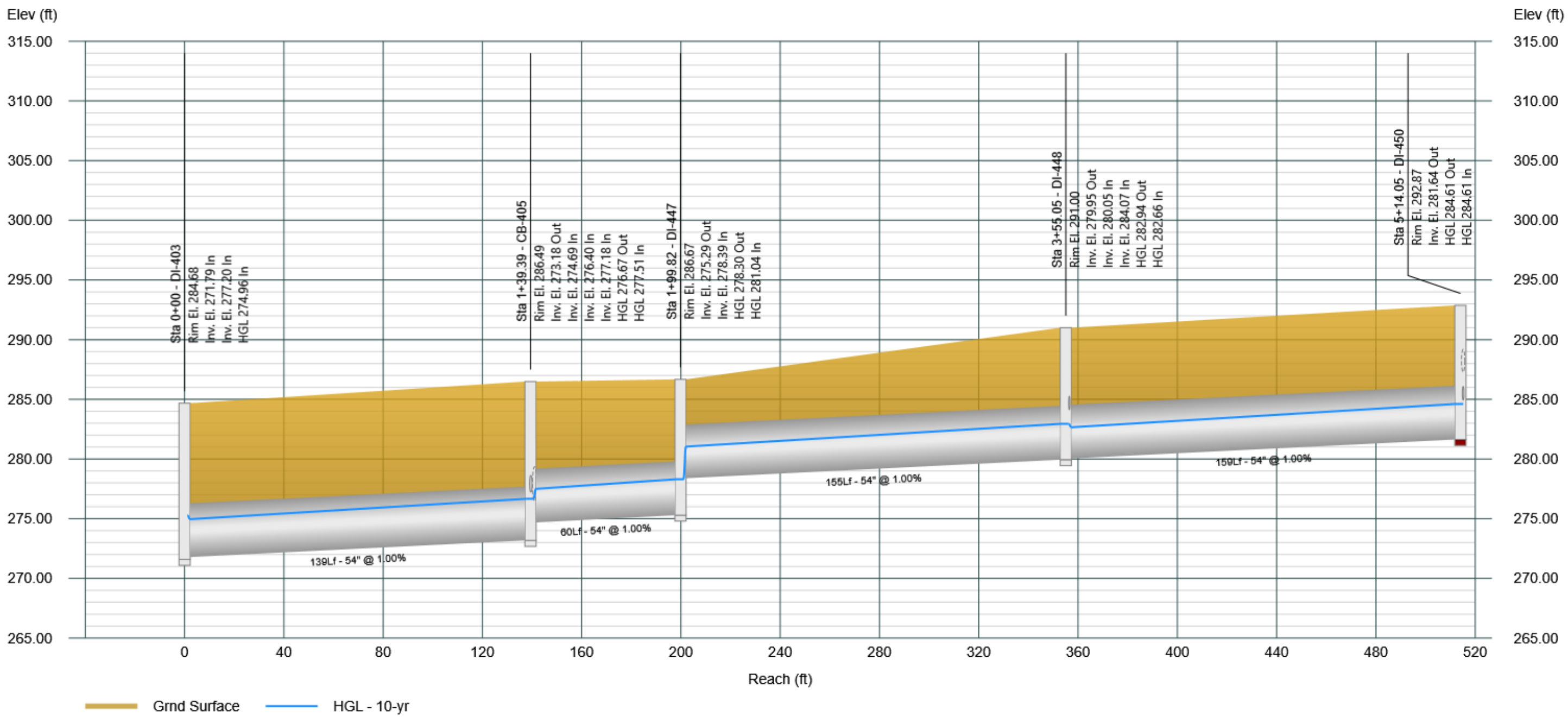
Project File: Storm System 400.sws

Profile View

Stormwater Studio 2024 v 3.0.0.35

Project Name: Storm System 400

11-19-2024

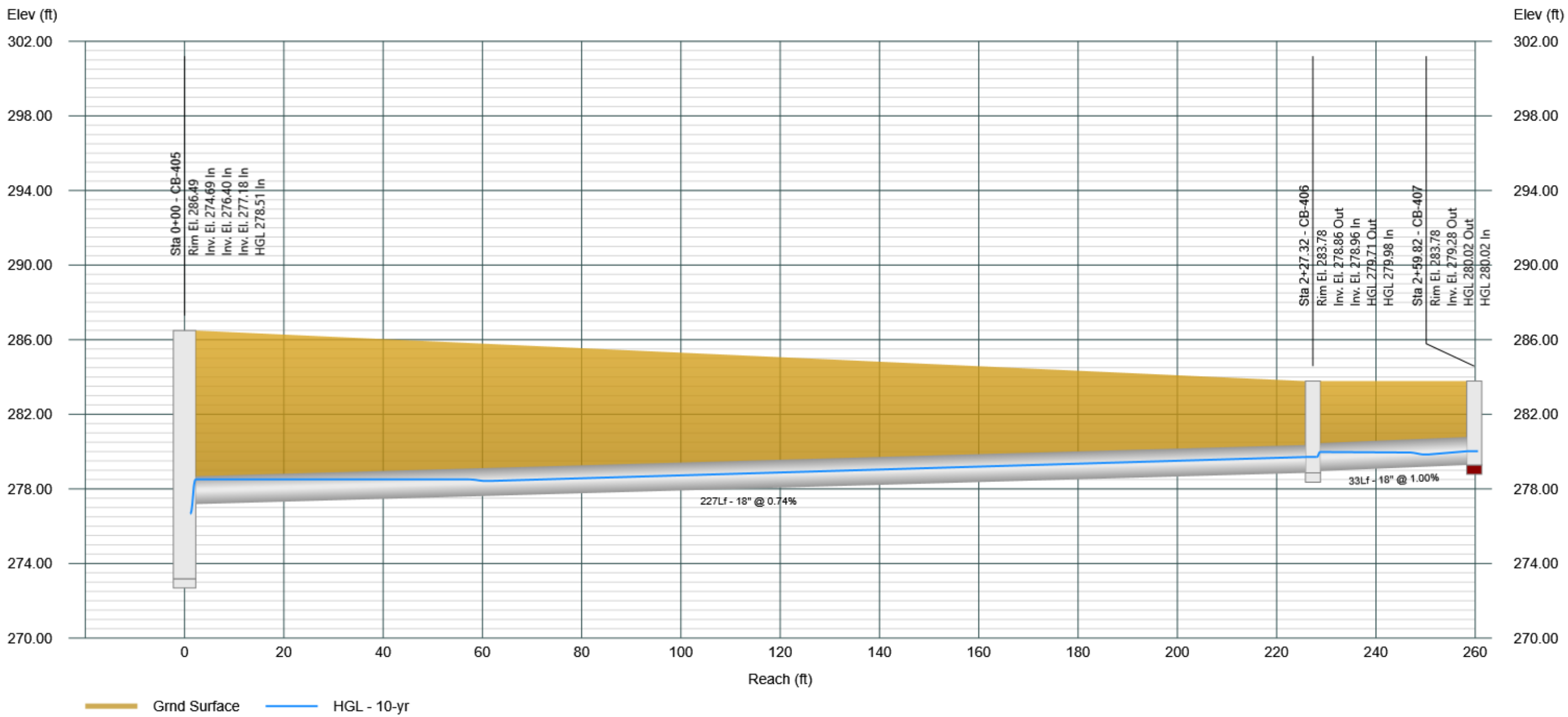


Profile View

Stormwater Studio 2024 v 3.0.0.35

Project Name: Storm System 400

11-19-2024

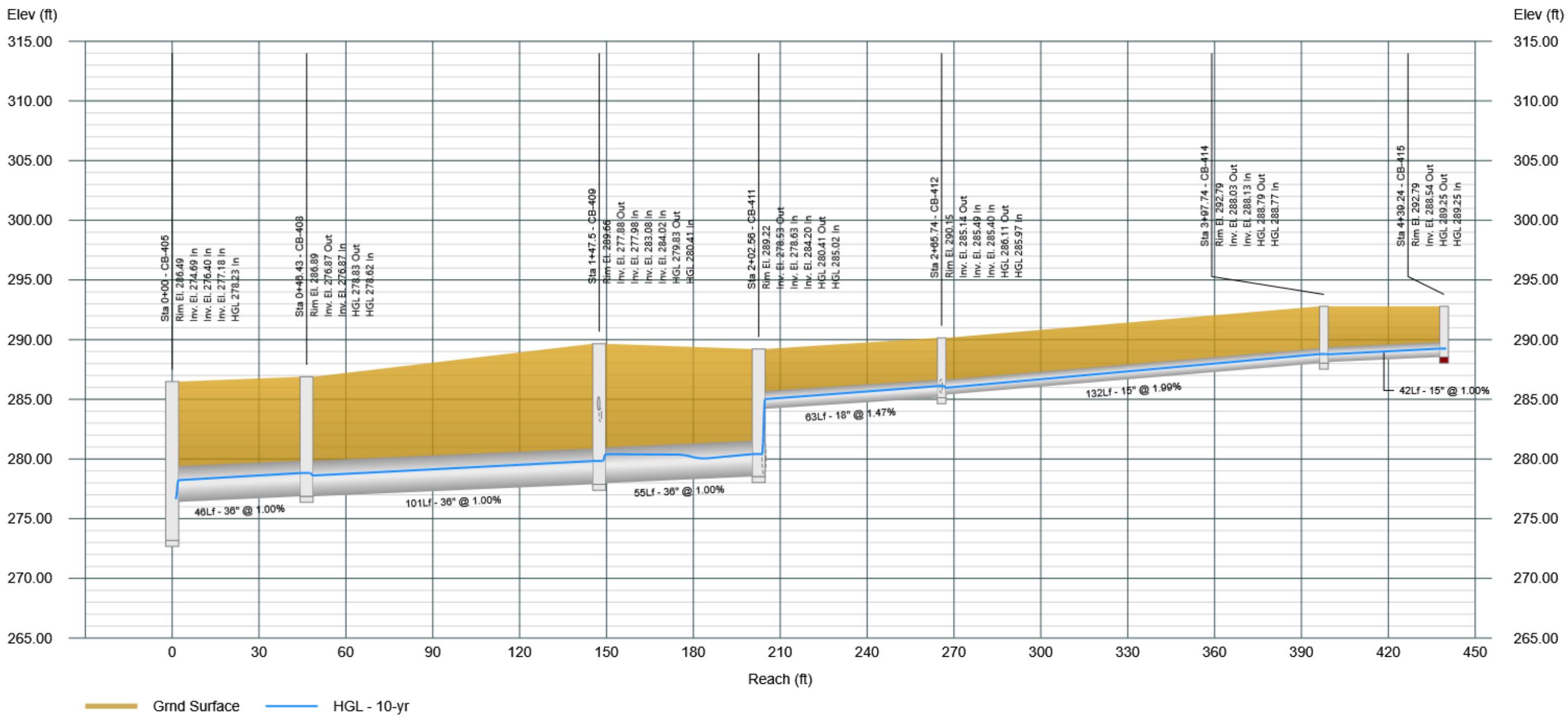


Profile View

Stormwater Studio 2024 v 3.0.0.35

Project Name: Storm System 400

11-19-2024

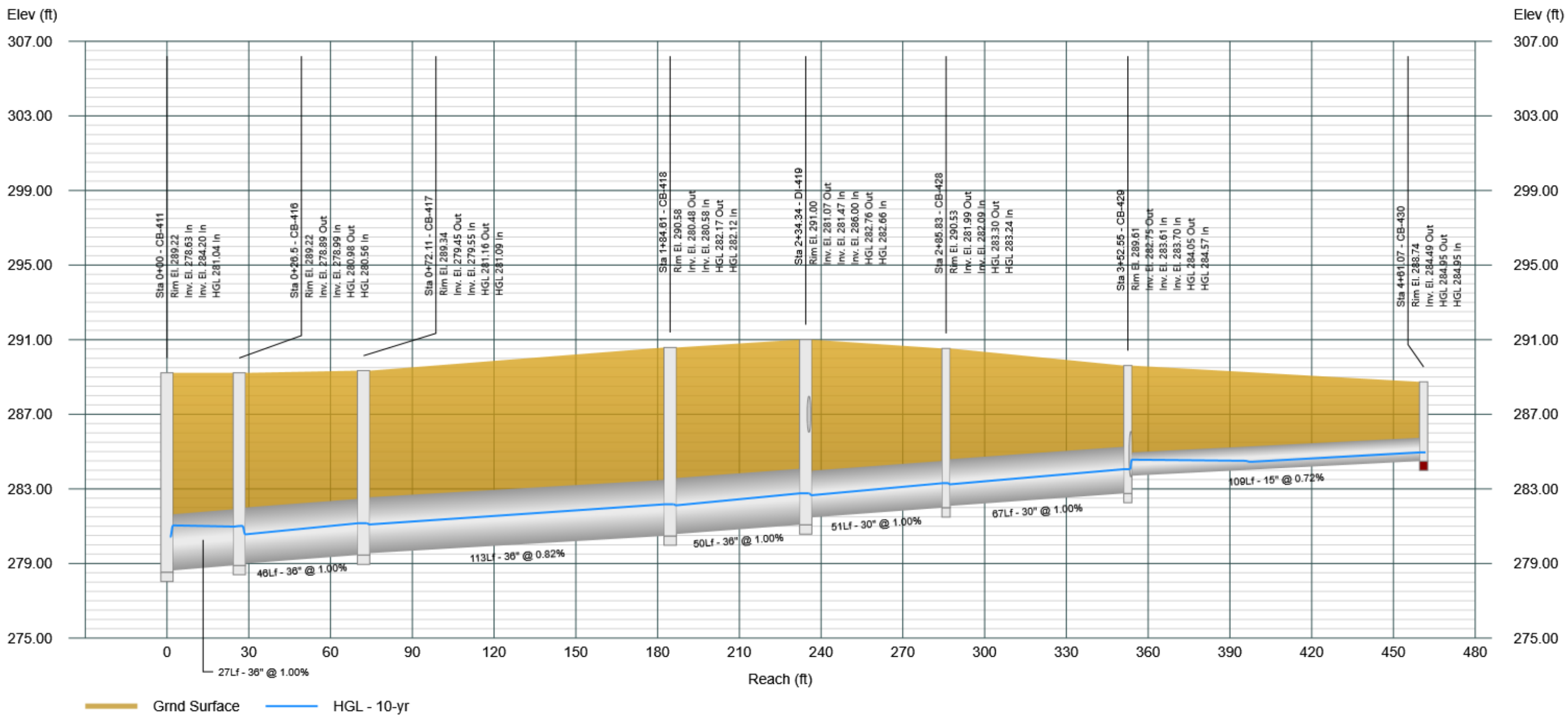


Profile View

Stormwater Studio 2024 v 3.0.0.35

Project Name: Storm System 400

11-19-2024

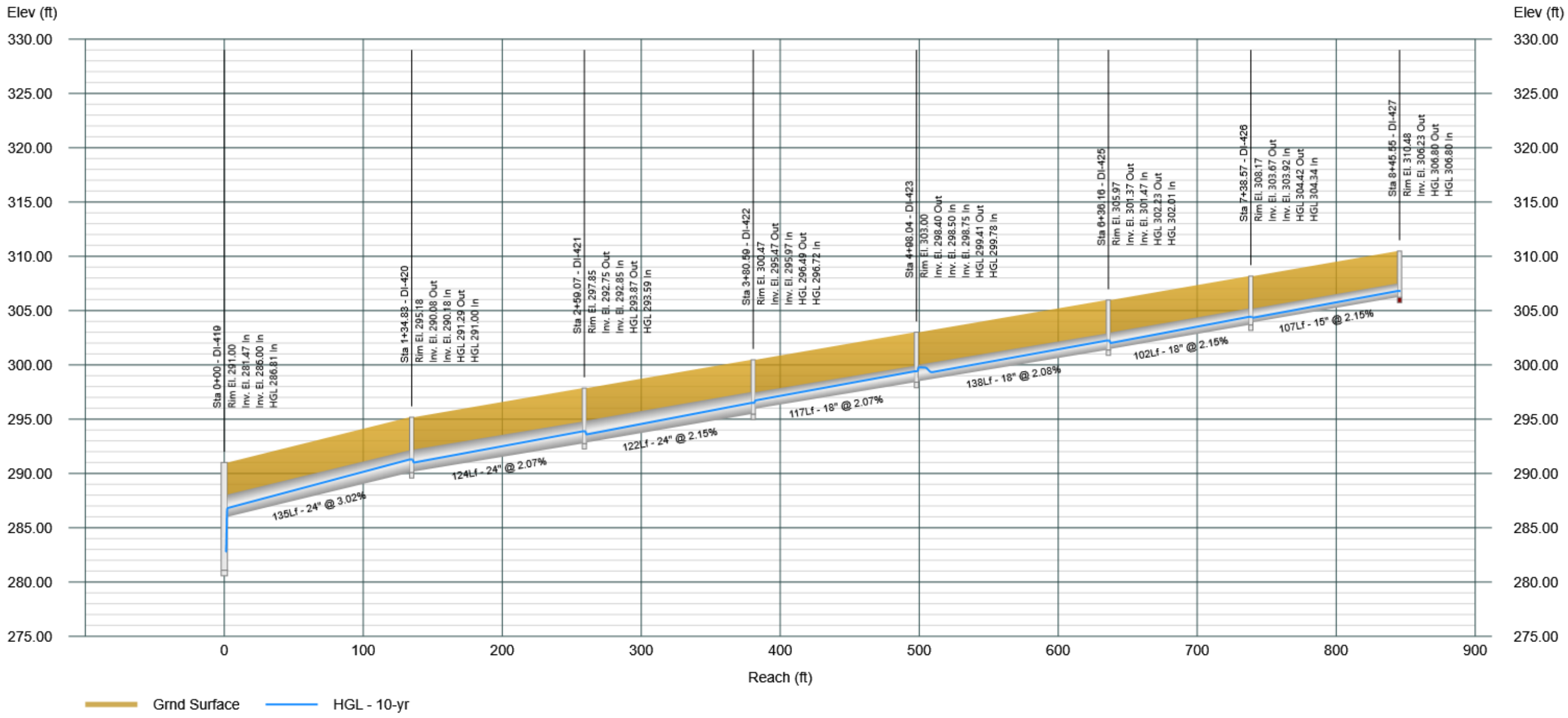


Profile View

Stormwater Studio 2024 v 3.0.0.35

Project Name: Storm System 400

11-19-2024

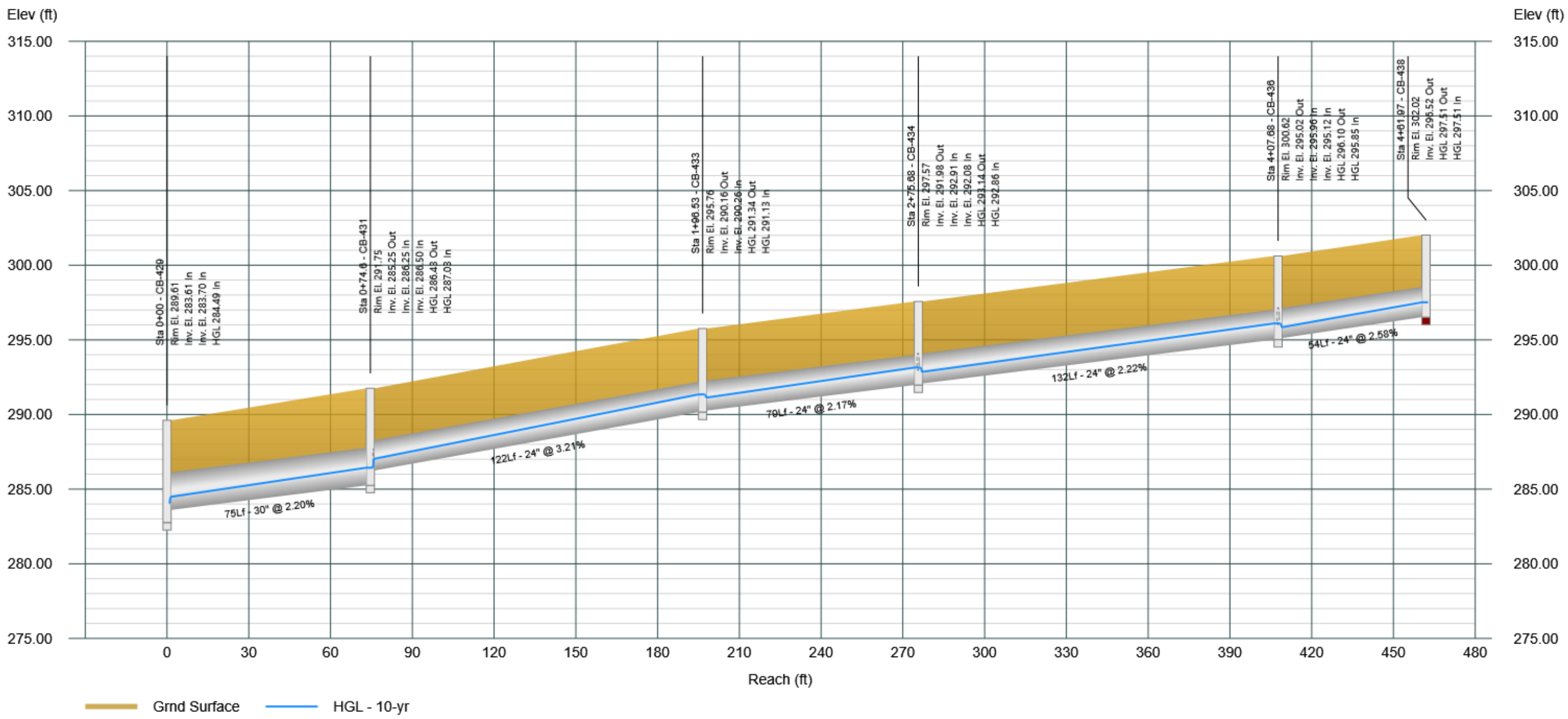


Profile View

Stormwater Studio 2024 v 3.0.0.35

Project Name: Storm System 400

11-19-2024

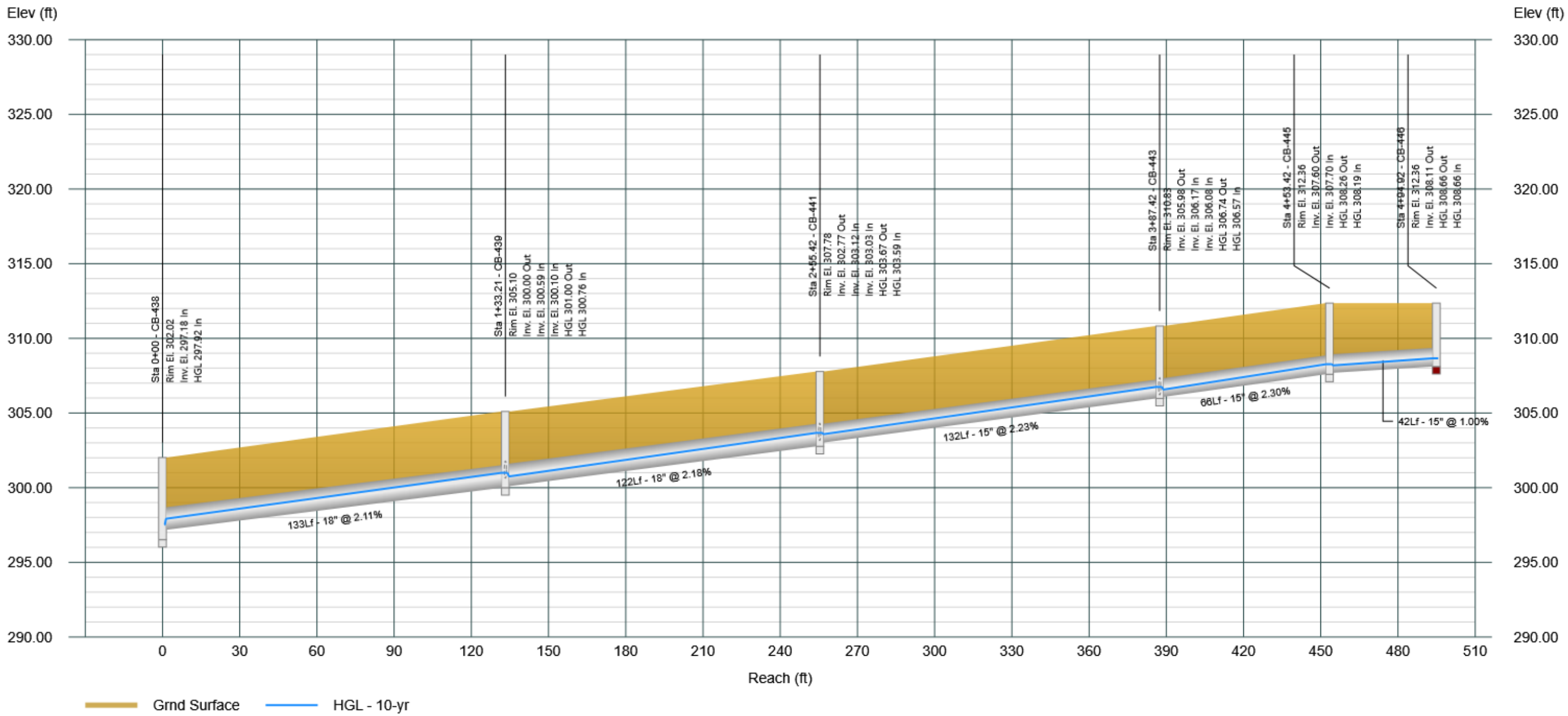


Profile View

Stormwater Studio 2024 v 3.0.0.35

Project Name: Storm System 400

11-19-2024

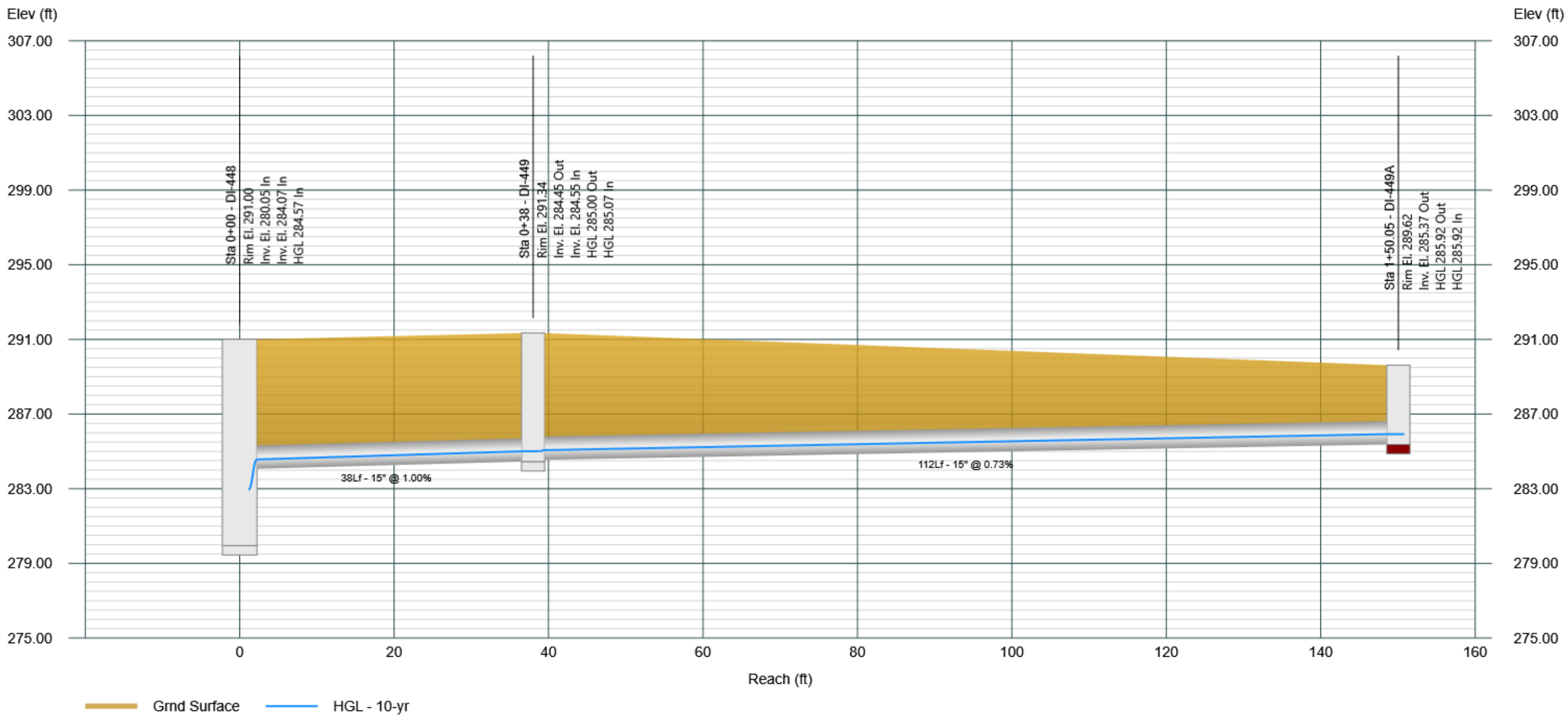


Profile View

Stormwater Studio 2024 v 3.0.0.35

Project Name: Storm System 400

11-19-2024

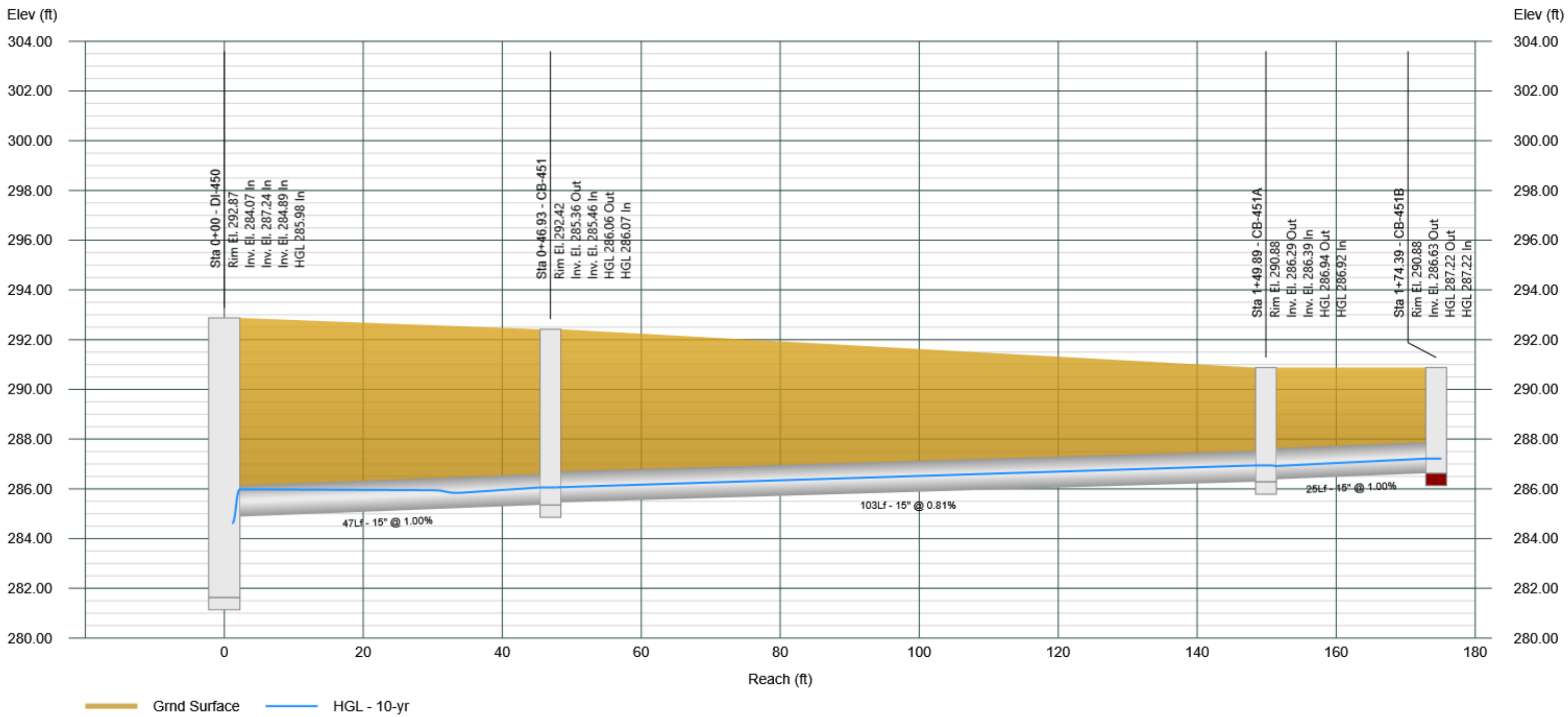


Profile View

Stormwater Studio 2024 v 3.0.0.35

Project Name: Storm System 400

11-19-2024



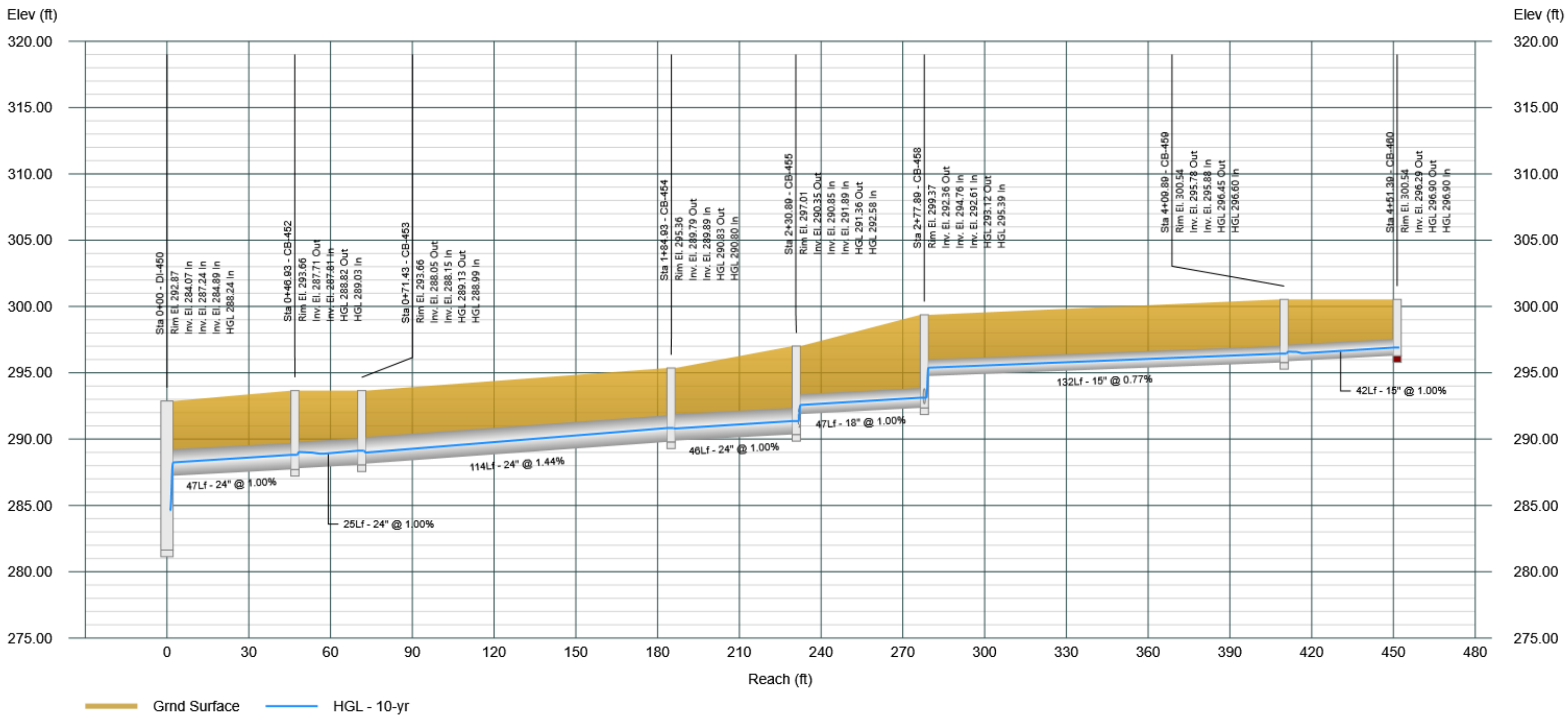
Project File: Storm System 400.sws

Profile View

Stormwater Studio 2024 v 3.0.0.35

Project Name: Storm System 400

11-19-2024

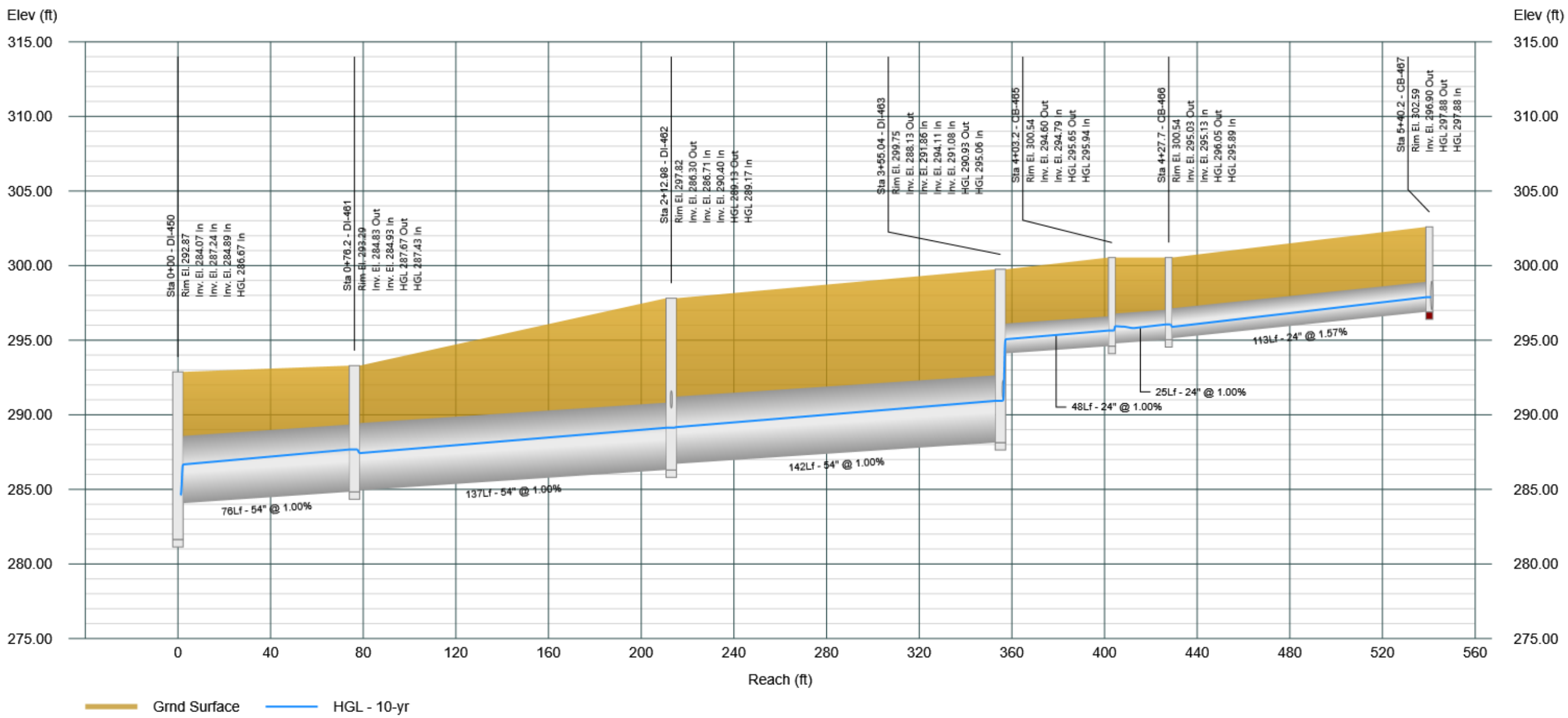


Profile View

Stormwater Studio 2024 v 3.0.0.35

Project Name: Storm System 400

11-19-2024

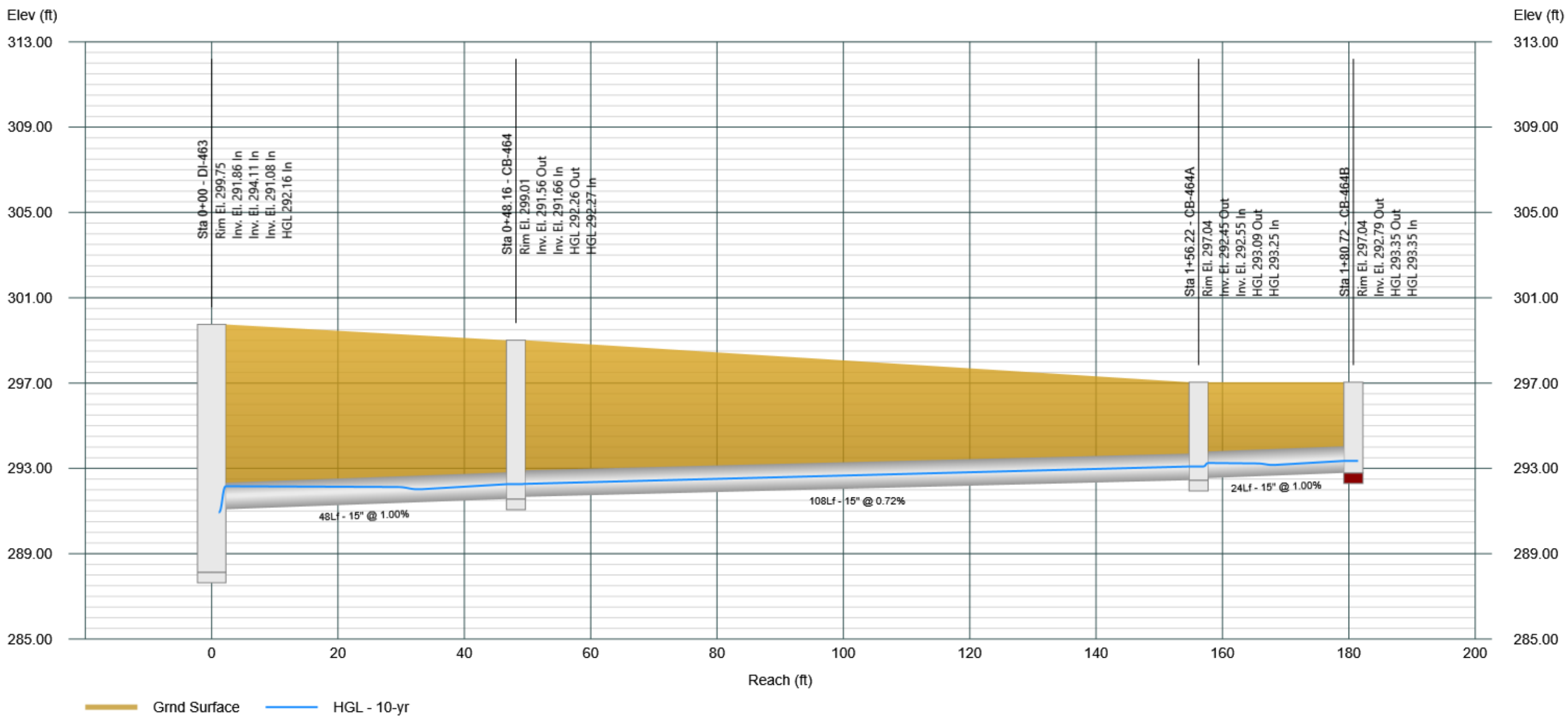


Profile View

Stormwater Studio 2024 v 3.0.0.35

Project Name: Storm System 400

11-19-2024



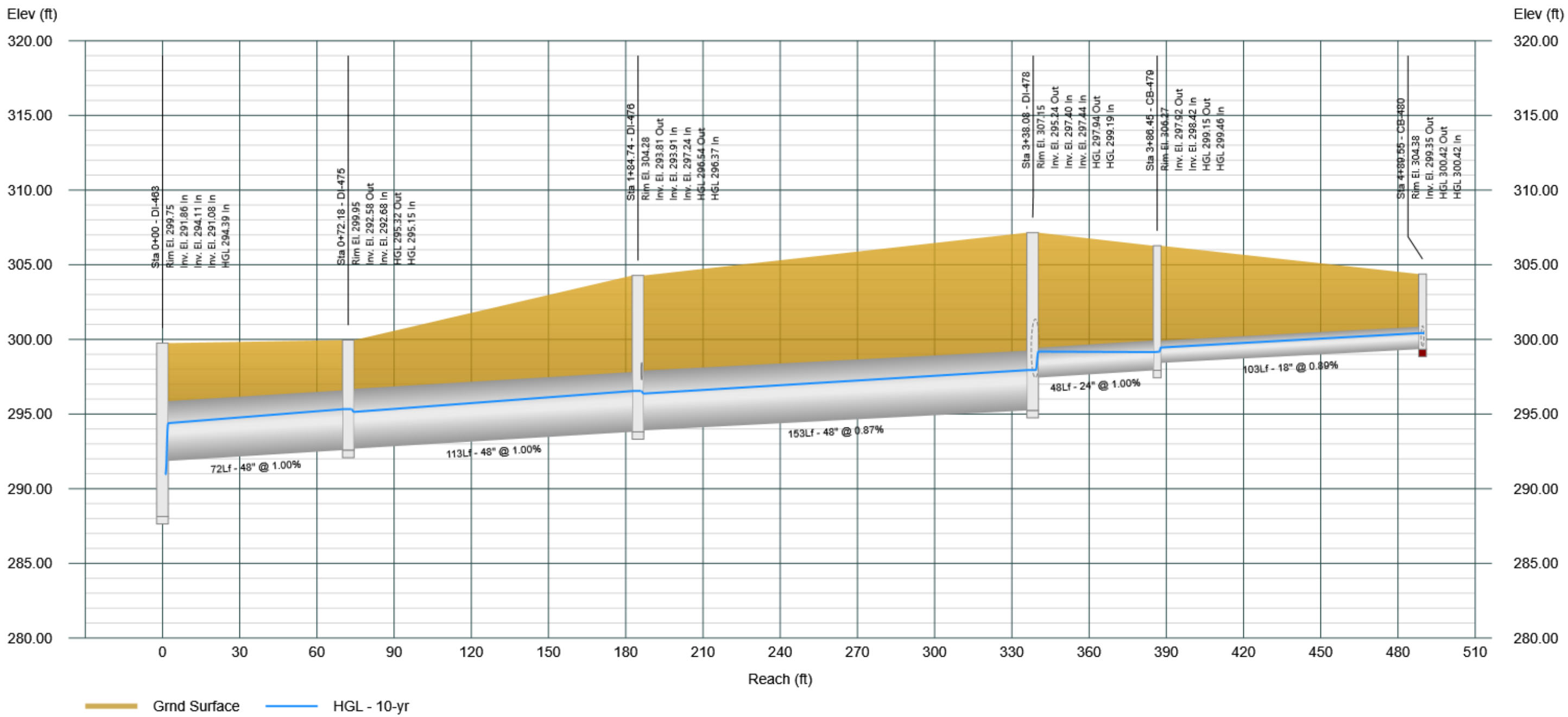
Project File: Storm System 400.sws

Profile View

Stormwater Studio 2024 v 3.0.0.35

Project Name: Storm System 400

11-19-2024

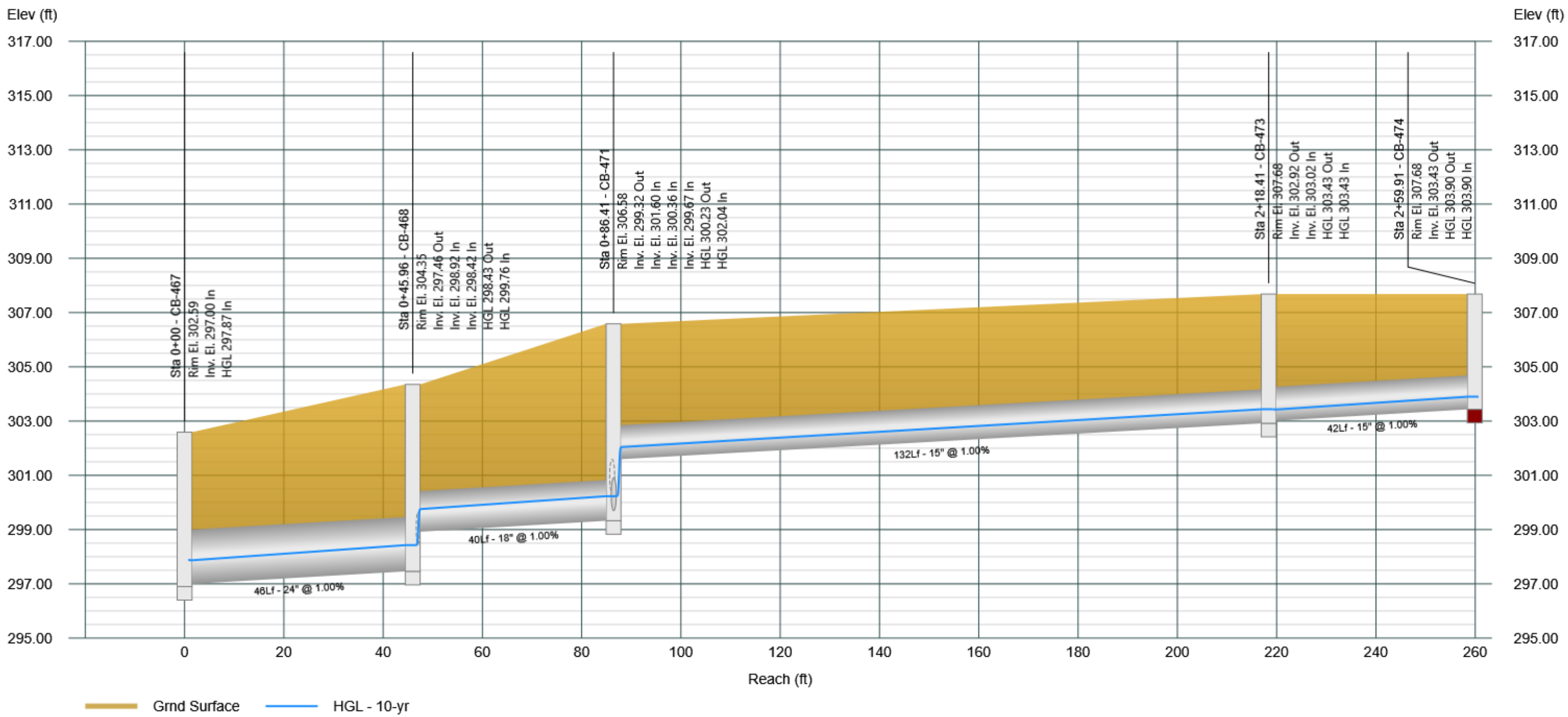


Profile View

Stormwater Studio 2024 v 3.0.0.35

Project Name: Storm System 400

11-19-2024

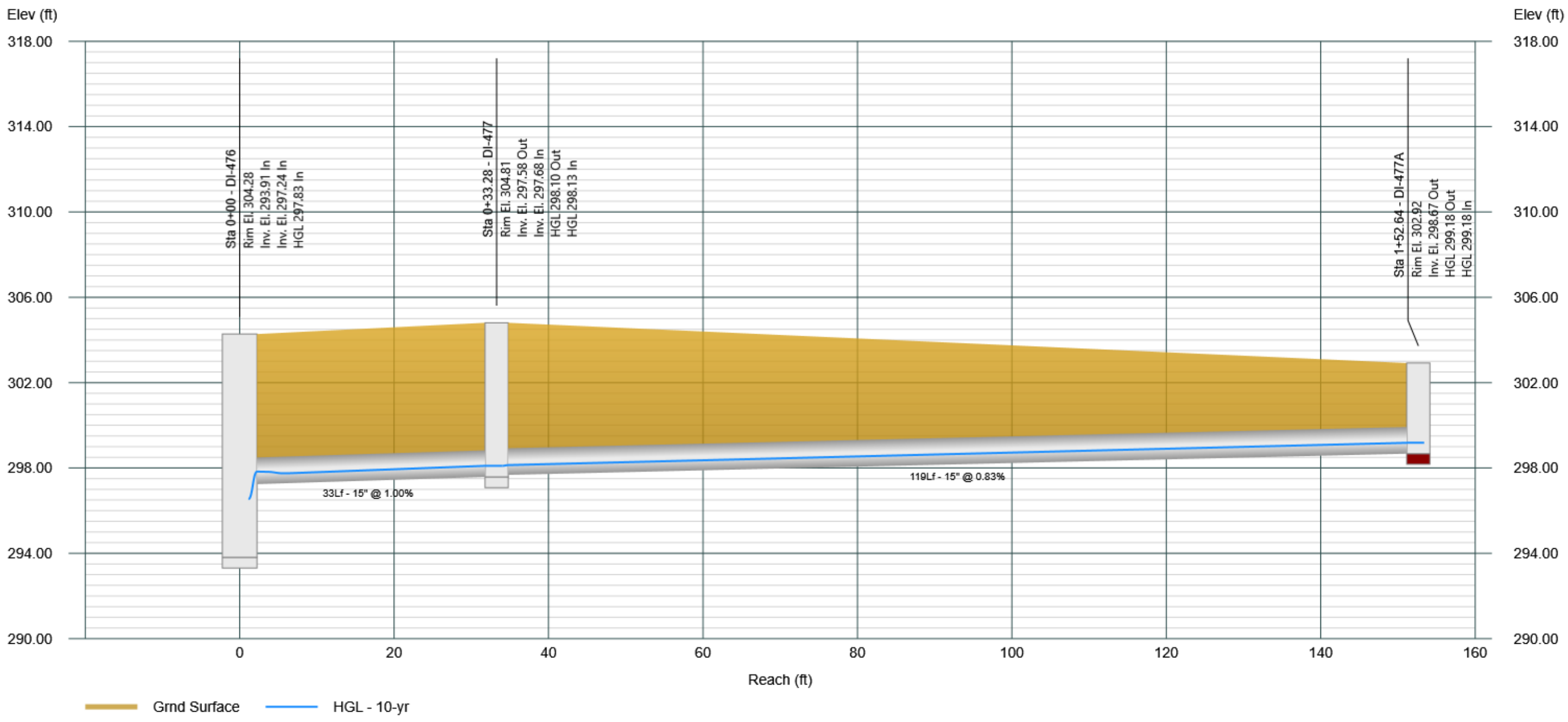


Profile View

Stormwater Studio 2024 v 3.0.0.35

Project Name: Storm System 400

11-19-2024

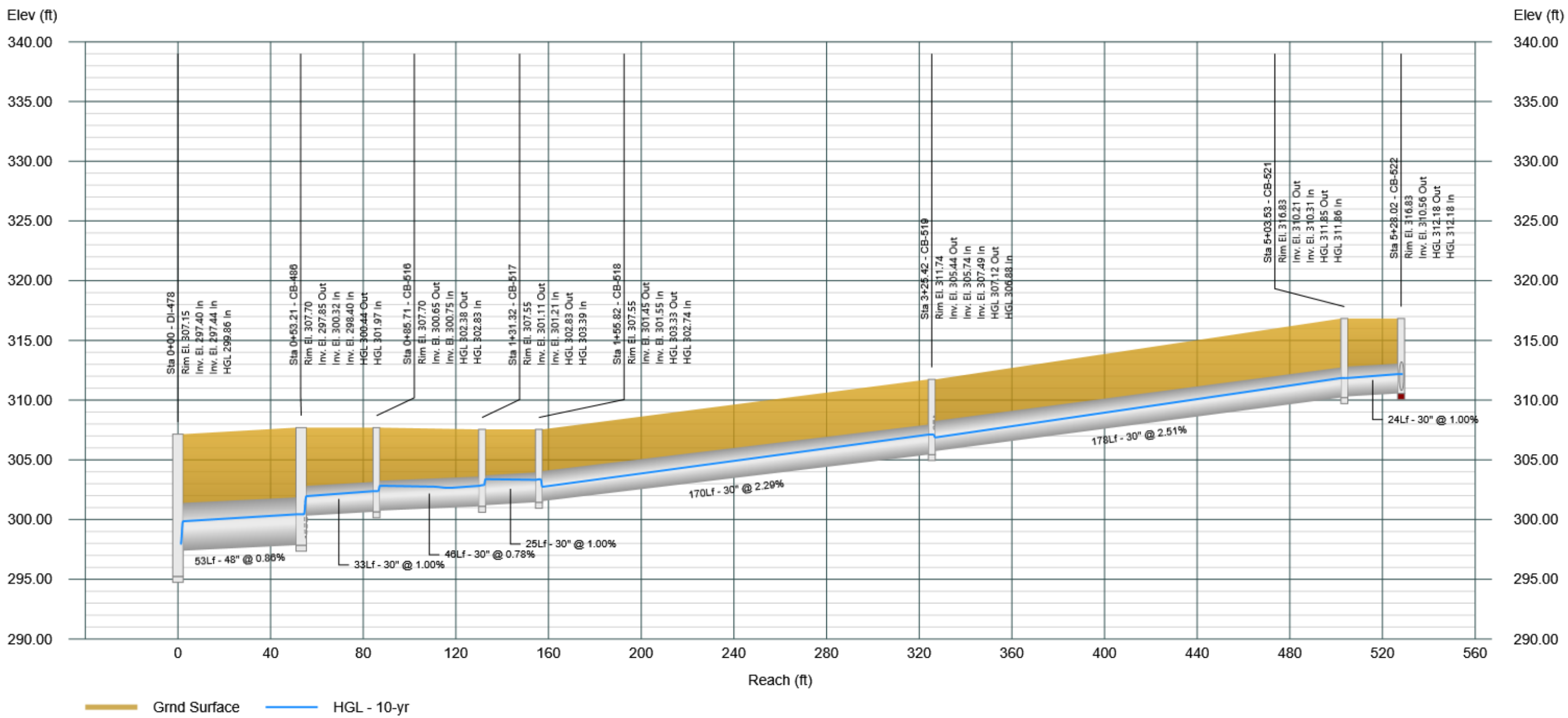


Profile View

Stormwater Studio 2024 v 3.0.0.35

Project Name: Storm System 400

11-19-2024

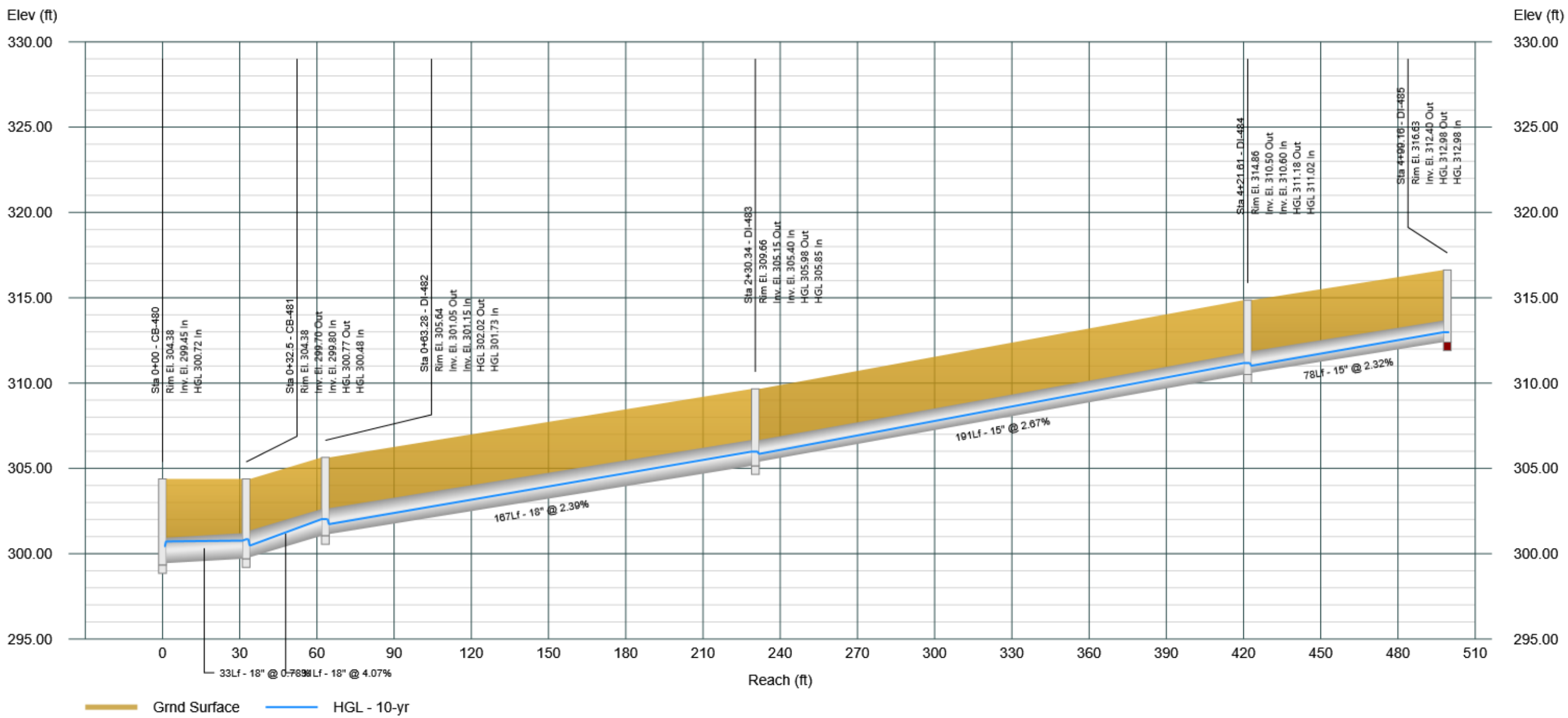


Profile View

Stormwater Studio 2024 v 3.0.0.35

Project Name: Storm System 400

11-19-2024

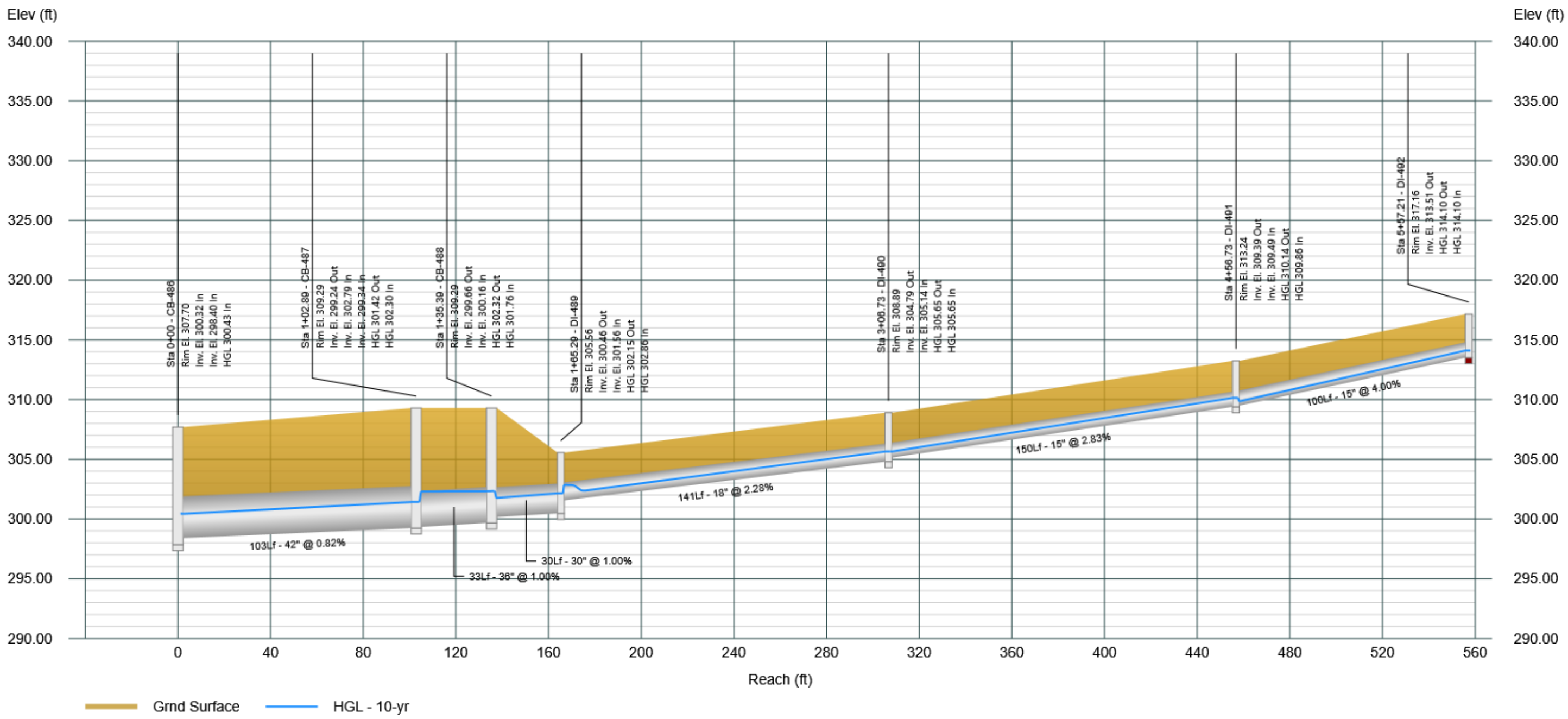


Profile View

Stormwater Studio 2024 v 3.0.0.35

Project Name: Storm System 400

11-19-2024

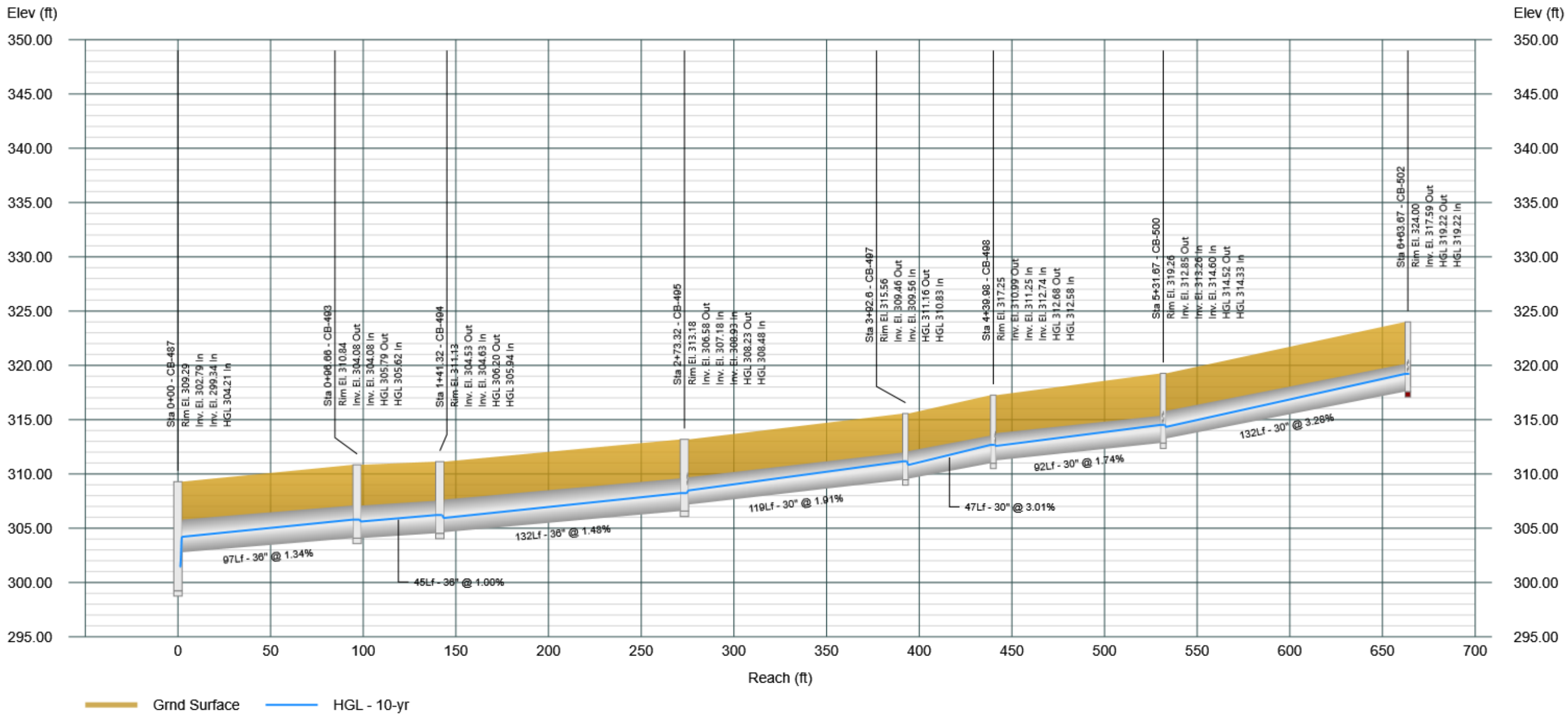


Profile View

Stormwater Studio 2024 v 3.0.0.35

Project Name: Storm System 400

11-19-2024

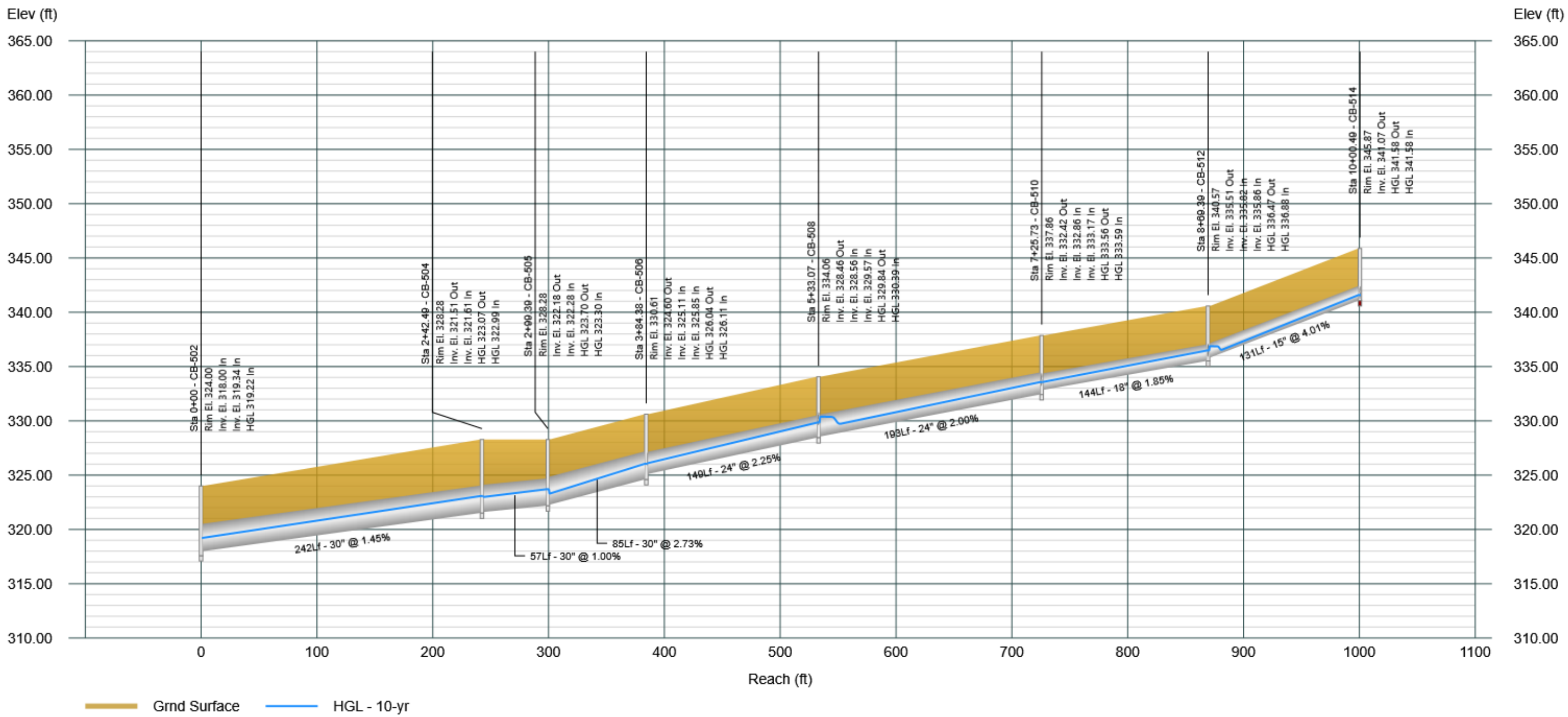


Profile View

Stormwater Studio 2024 v 3.0.0.35

Project Name: Storm System 400

11-19-2024

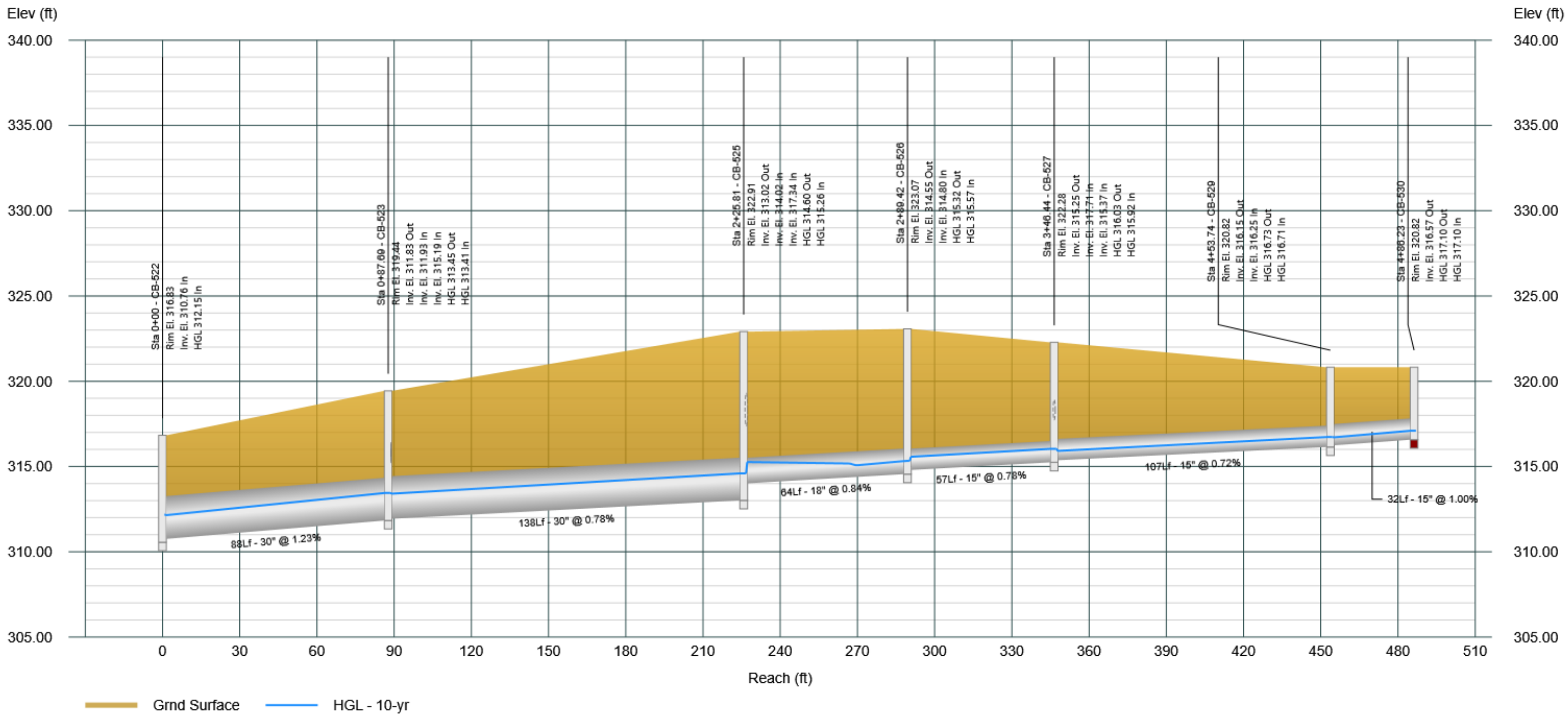


Profile View

Stormwater Studio 2024 v 3.0.0.35

Project Name: Storm System 400

11-19-2024

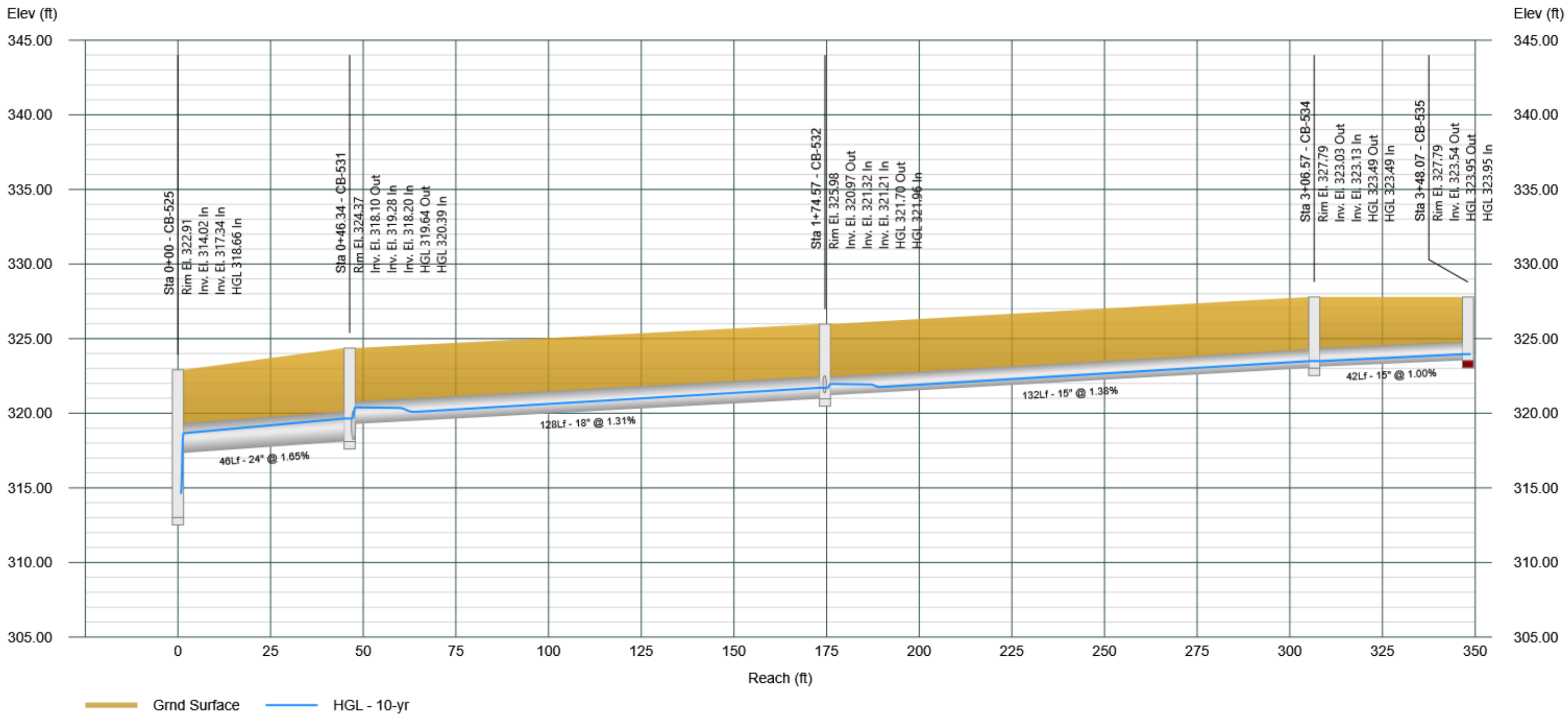


Profile View

Stormwater Studio 2024 v 3.0.0.35

Project Name: Storm System 400

11-19-2024

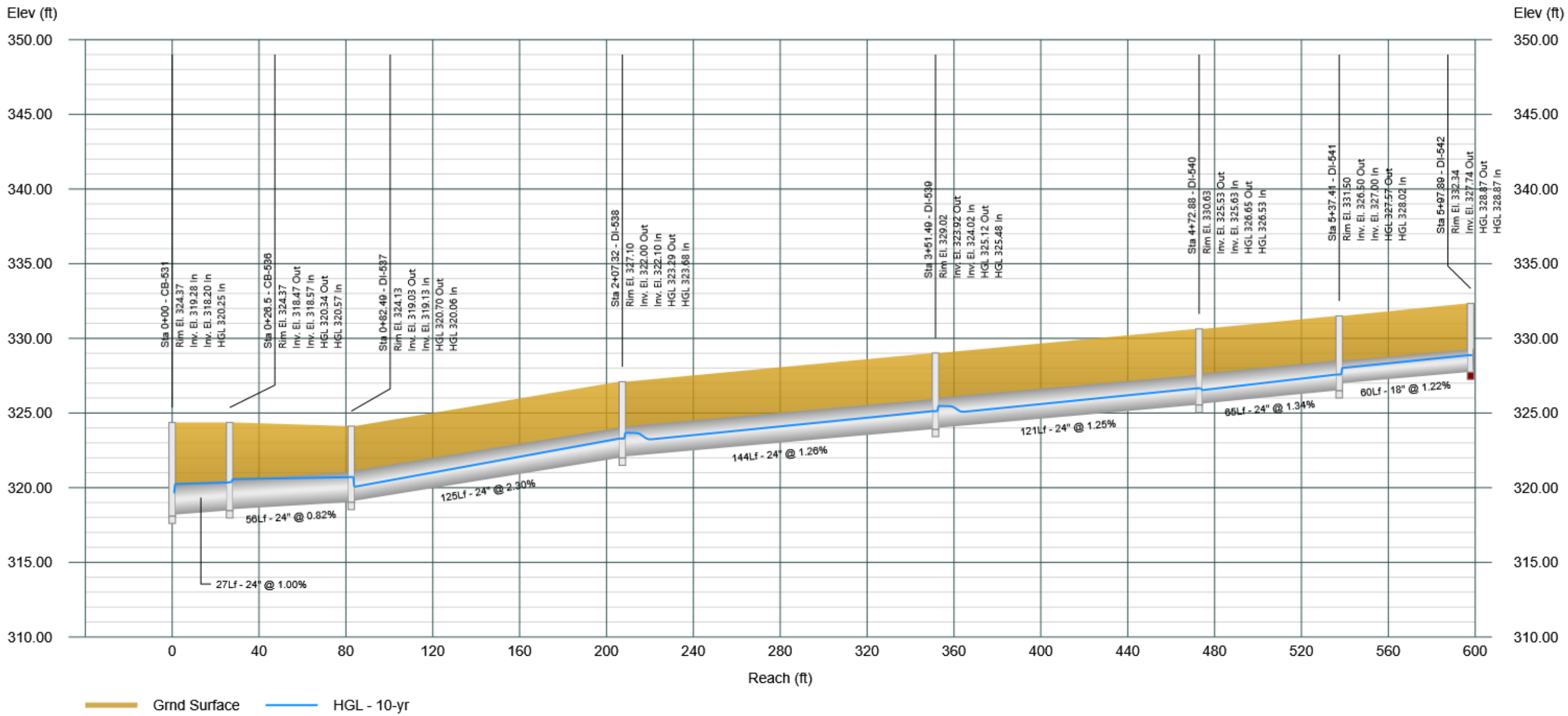


Profile View

Stormwater Studio 2024 v 3.0.0.35

Project Name: Storm System 400

11-19-2024

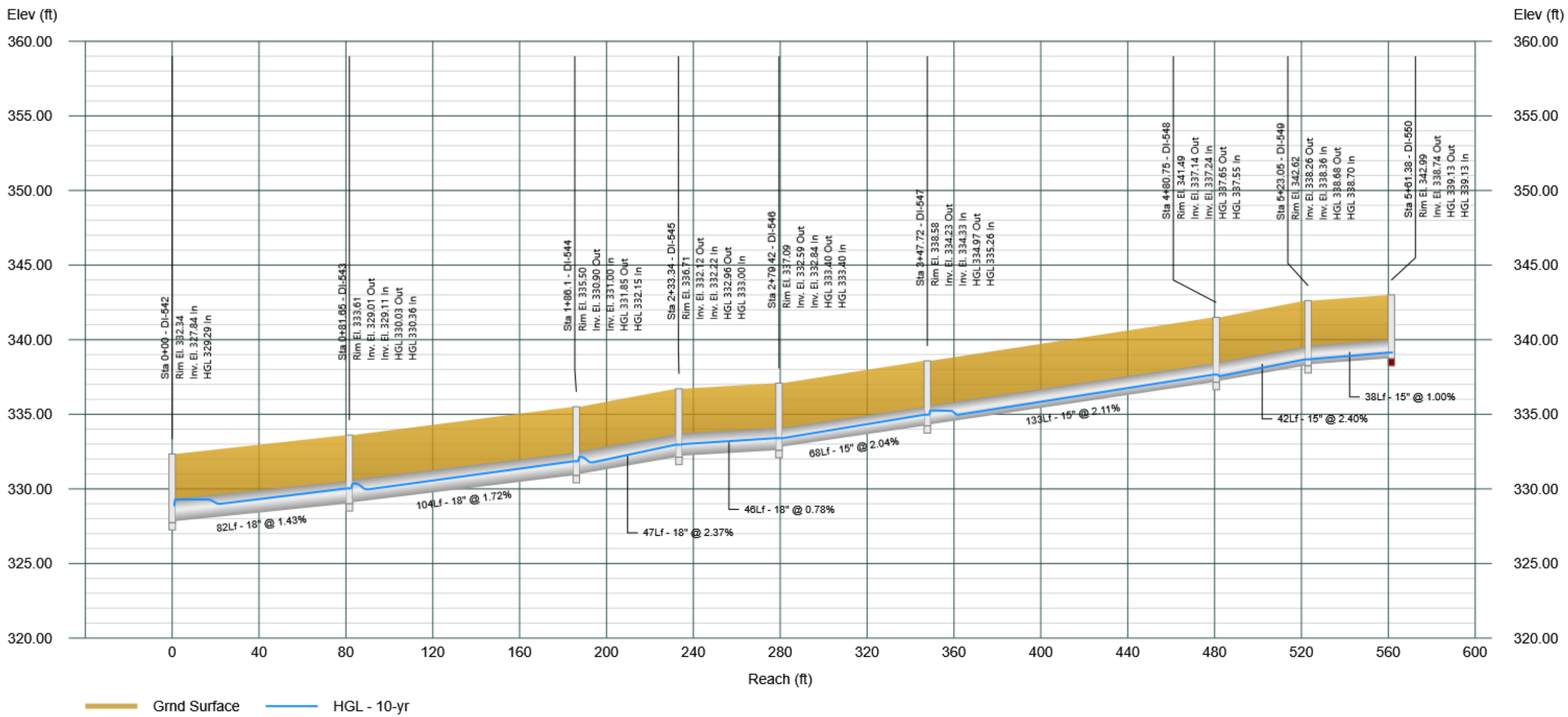


Profile View

Stormwater Studio 2024 v 3.0.0.35

Project Name: Storm System 400

11-19-2024



SYSTEM 600 – REPORTS AND PROFILES

Plan View

Stormwater Studio 2024 v 3.0.0.35

Project Name: Storm System 100

11-25-2024

Project File: Storm System 600.sws

Storm Sewer Tabulation

Stormwater Studio 2024 v 3.0.0.35

Project Name: Storm System 100

11-25-2024

Line ID	Length	Drng Area		Rational	C x A		Tc		Intensity	Total Q	Capacity	Velocity	Line		Invert Elev		HGL Elev		Surface Elev		Line No
		Incr	Total		Incr	Total	Inlet	Syst					Size	Slope	Up	Dn	Up	Dn	Up	Dn	
	(ft)	(ac)	(ac)	(C)			(min)	(min)	(in/hr)	(cfs)	(cfs)	(ft/s)	(in)	(%)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	
600-601	82.35	0.000	28.850	0.00	0.00	17.31	0.0	5.12	7.15	123.74	240.05	13.07	48	2.79	280.80	278.50	284.09	281.00	311.26	300.00	1
601-602	137.05	28.850	28.850	0.60	17.31	17.31	5.0	5.00	7.19	124.40	248.46	13.77	48	2.99	285.00	280.90	288.30	283.24	311.00	311.26	2

Notes: IDF File = Pearce Farm IDF.idf, Return Period = 10-yrs.

Project File: Storm System 600.sws

Energy Grade Line Calculations

Stormwater Studio 2024 v 3.0.0.35

Project Name: Storm System 100

11-25-2024

Line No	Line Size	Q	Downstream							Length	Upstream							Pipe		Junction		
			Invert Elev	Depth	Area	HGL Elev	Vel	Vel Head	EGL Elev		Invert Elev	Depth	Area	HGL Elev	Vel	Vel Head	EGL Elev	n Value	Enrgy Loss	HGLa Elev	EGLa Elev	Enrgy Loss
	(in)	(cfs)	(ft)	(ft)	(sqft)	(ft)	(ft/s)	(ft)	(ft)	(ft)	(ft)	(ft)	(sqft)	(ft)	(ft/s)	(ft)	(ft)		(ft)	(ft)	(ft)	(ft)
1	48	123.74	278.50	2.50‡	8.27	281.00	14.96	3.48	283.74	82.35	280.80	3.29²	11.06	284.09	11.19	1.95	286.04	0.013	2.300	284.09	286.04	0.00
2	48	124.40	280.90	2.34‡	7.62	283.24	16.32	4.14	286.65	137.05	285.00	3.30²	11.09	288.30	11.22	1.96	290.26	0.013	3.611	290.81ic	290.81	0.55

Notes: Return Period = 10-yrs. ² Critical depth. ‡ Supercritical. ic Inlet Control

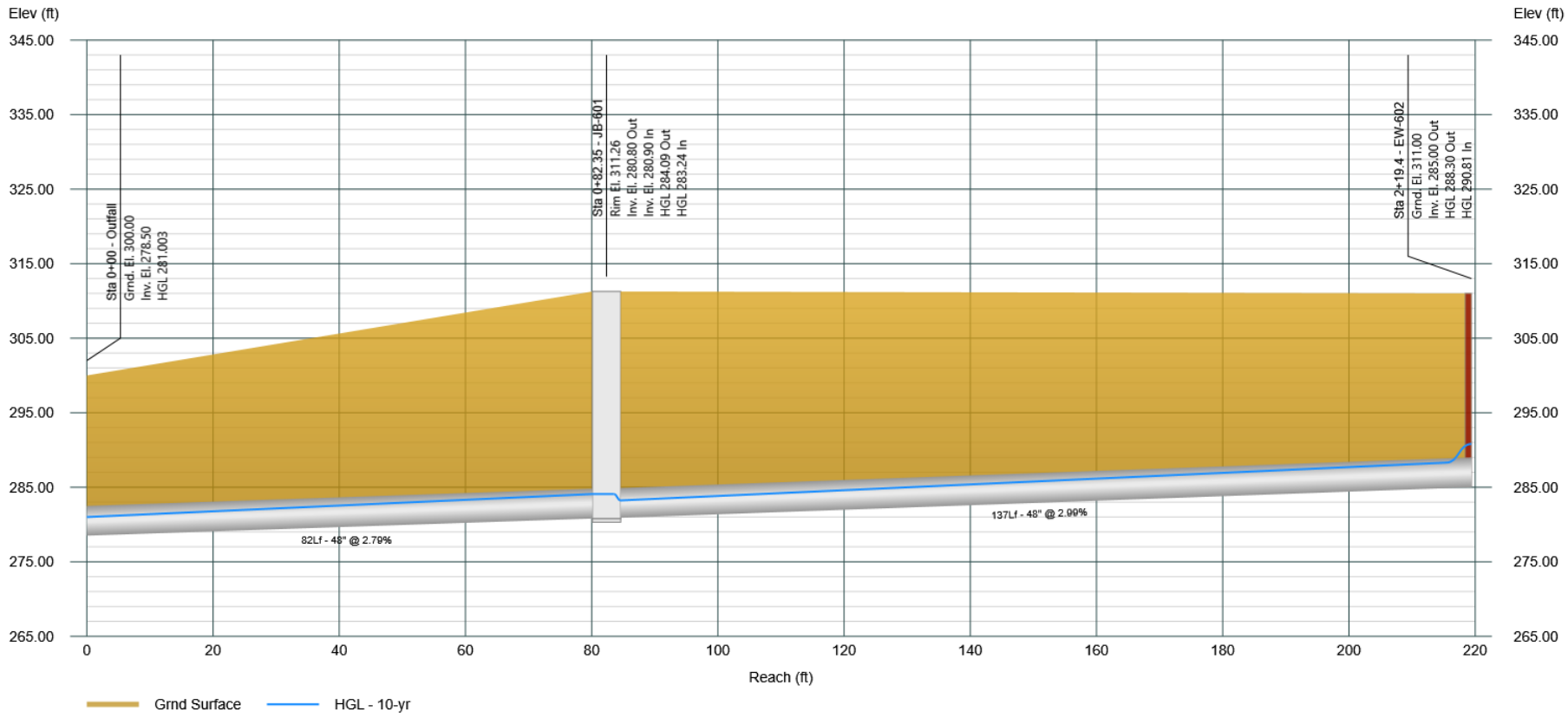
Project File: Storm System 600.sws

Profile View

Stormwater Studio 2024 v 3.0.0.35

Project Name: Storm System 100

11-25-2024



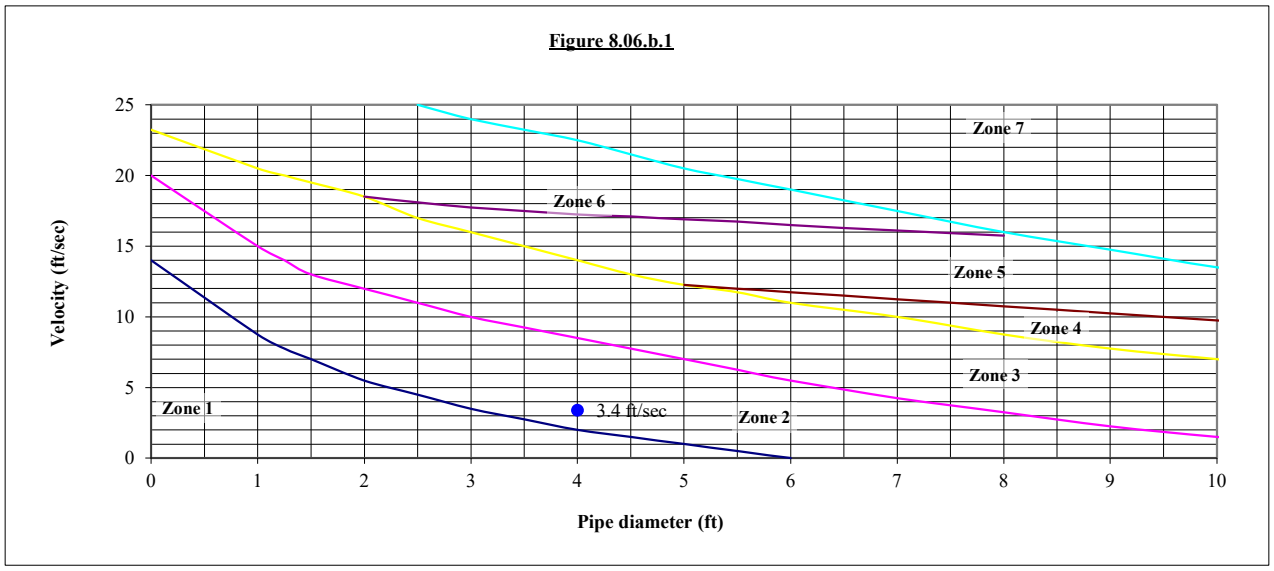
Project File: Storm System 600.sws

VELOCITY DISSIPATOR CALCULATIONS

DESIGN OF RIPRAP OUTLET PROTECTION WORKSHEET

Project:	Pearce Farm - CD Package 1	Date:	11/22/2024
Project Number:	AGN-23001	Calculated By:	WTO
Outlet Number:	EW-100		

Outlet flowrate =	42.68	cfs
Pipe diameter =	48	inches
Number of pipes =	1	
Pipe separation =	0	feet
Outlet Velocity =	3.4	ft/sec



Zone from graph above = 2

Outlet pipe diameter	48 in.	Length =	24.0 ft.
Outlet flowrate	42.7 cfs	Width =	13.6 ft.
Outlet velocity	3.4 ft/sec	Stone diameter =	6 in.
Material =	Class B	Thickness =	18 in.

Zone	Material	Diameter	Thickness	Length	Width
1	Class A	3	12	4 x D(o)	3 x D(o)
2	Class B	6	18	6 x D(o)	3 x D(o)
3	Class I	13	24	8 x D(o)	3 x D(o)
4	Class I	13	24	8 x D(o)	3 x D(o)
5	Class II	23	36	10 x D(o)	3 x D(o)
6	Class II	23	36	10 x D(o)	3 x D(o)
7	Special study required				

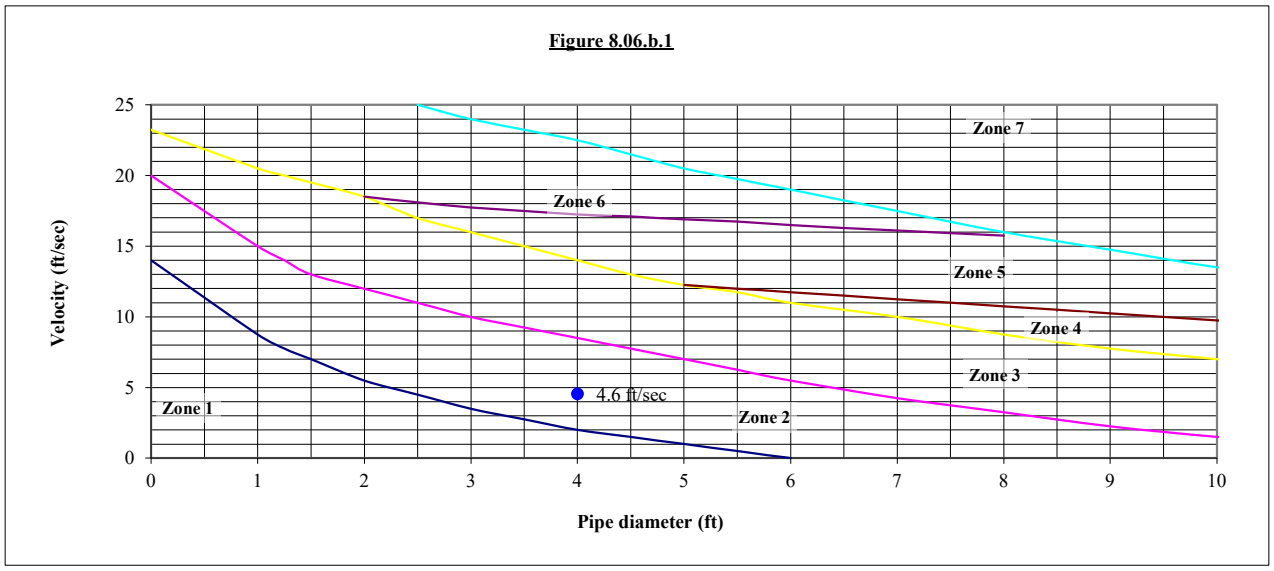
1. Calculations based on NY DOT method - Pages 8.06.05 through 8.06.06 in NC Erosion Control Manual

2. Outlet velocity based on full-flow velocity

DESIGN OF RIPRAP OUTLET PROTECTION WORKSHEET

Project:	Pearce Farm - CD Package 1	Date:	11/22/2024
Project Number:	AGN-23001	Calculated By:	WTO
Outlet Number:	EW-200		

Outlet flowrate =	66.39	cfs
Pipe diameter =	48	inches
Number of pipes =	1	
Pipe separation =	0	feet
Outlet Velocity =	4.56	ft/sec



Zone from graph above = 2

Outlet pipe diameter	48 in.	Length =	24.0 ft.
Outlet flowrate	66.4 cfs	Width =	13.6 ft.
Outlet velocity	4.6 ft/sec	Stone diameter =	6 in.
Material =	Class B	Thickness =	18 in.

Zone	Material	Diameter	Thickness	Length	Width
1	Class A	3	12	4 x D(o)	3 x D(o)
2	Class B	6	18	6 x D(o)	3 x D(o)
3	Class I	13	24	8 x D(o)	3 x D(o)
4	Class I	13	24	8 x D(o)	3 x D(o)
5	Class II	23	36	10 x D(o)	3 x D(o)
6	Class II	23	36	10 x D(o)	3 x D(o)
7	Special study required				

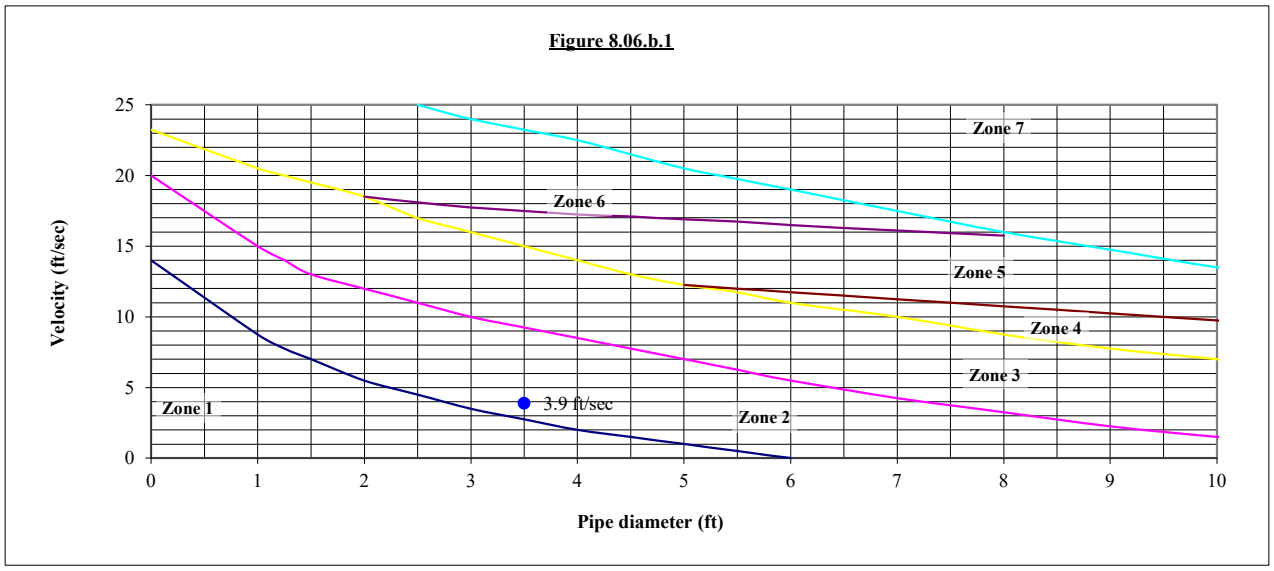
1. Calculations based on NY DOT method - Pages 8.06.05 through 8.06.06 in NC Erosion Control Manual

2. Outlet velocity based on full-flow velocity

DESIGN OF RIPRAP OUTLET PROTECTION WORKSHEET

Project:	Pearce Farm - CD Package 1	Date:	11/22/2024
Project Number:	AGN-23001	Calculated By:	WTO
Outlet Number:	EW-300		

Outlet flowrate =	63.54	cfs
Pipe diameter =	42	inches
Number of pipes =	1	
Pipe separation =	0	feet
Outlet Velocity =	3.9	ft/sec



Zone from graph above = 2

Outlet pipe diameter	42 in.	Length =	21.0 ft.
Outlet flowrate	63.5 cfs	Width =	11.9 ft.
Outlet velocity	3.9 ft/sec	Stone diameter =	6 in.
Material =	Class B	Thickness =	18 in.

Zone	Material	Diameter	Thickness	Length	Width
1	Class A	3	12	4 x D(o)	3 x D(o)
2	Class B	6	18	6 x D(o)	3 x D(o)
3	Class I	13	24	8 x D(o)	3 x D(o)
4	Class I	13	24	8 x D(o)	3 x D(o)
5	Class II	23	36	10 x D(o)	3 x D(o)
6	Class II	23	36	10 x D(o)	3 x D(o)
7	Special study required				

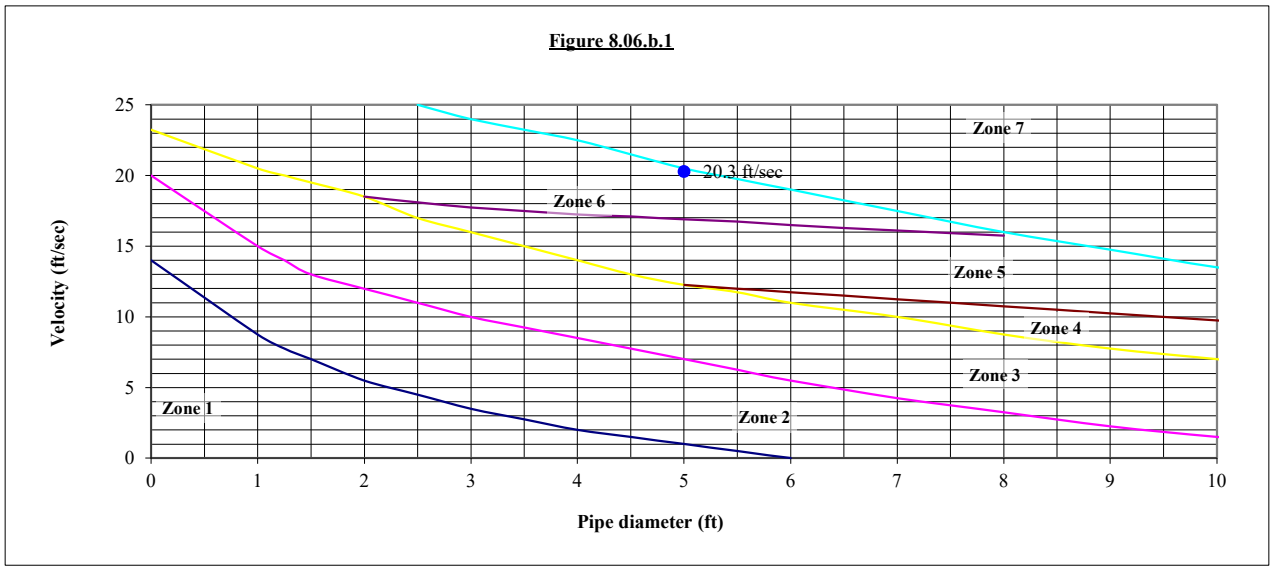
1. Calculations based on NY DOT method - Pages 8.06.05 through 8.06.06 in NC Erosion Control Manual

2. Outlet velocity based on full-flow velocity

DESIGN OF RIPRAP OUTLET PROTECTION WORKSHEET

Project:	Pearce Farm - CD Package 1	Date:	11/22/2024
Project Number:	AGN-23001	Calculated By:	WTO
Outlet Number:	EW-400		

Outlet flowrate =	164	cfs
Pipe diameter =	60	inches
Number of pipes =	1	
Pipe separation =	0	feet
Outlet Velocity =	20.3	ft/sec



Zone from graph above = 6

Outlet pipe diameter	60 in.	Length =	50.0 ft.
Outlet flowrate	164.0 cfs	Width =	25.0 ft.
Outlet velocity	20.3 ft/sec	Stone diameter =	23 in.
Material =	Class II	Thickness =	36 in.

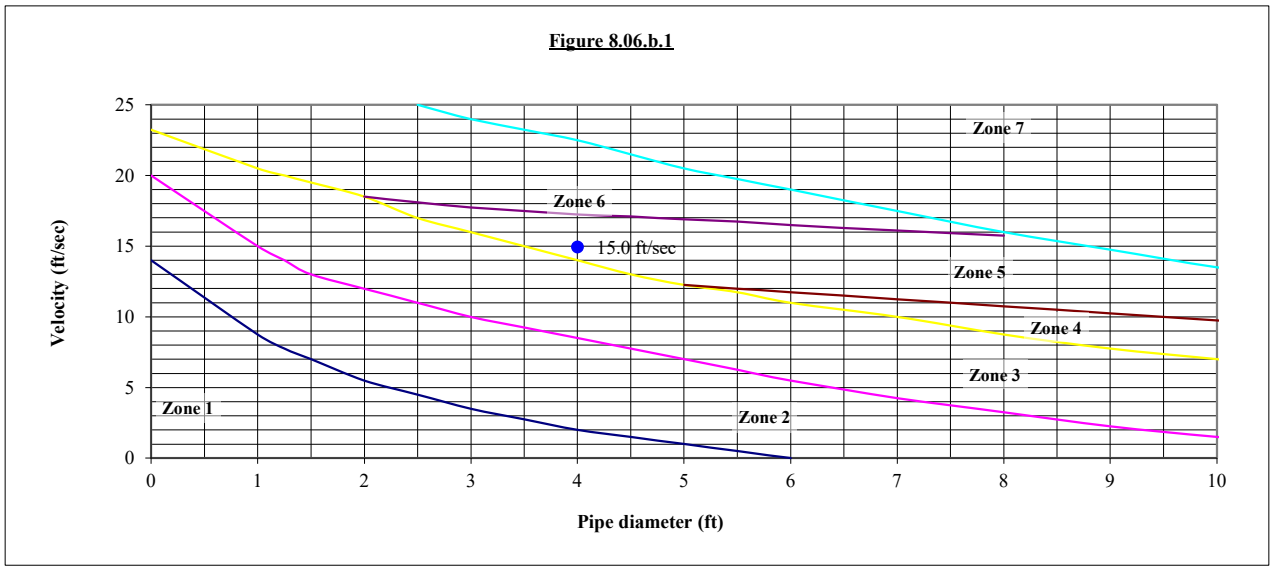
Zone	Material	Diameter	Thickness	Length	Width
1	Class A	3	12	4 x D(o)	3 x D(o)
2	Class B	6	18	6 x D(o)	3 x D(o)
3	Class I	13	24	8 x D(o)	3 x D(o)
4	Class I	13	24	8 x D(o)	3 x D(o)
5	Class II	23	36	10 x D(o)	3 x D(o)
6	Class II	23	36	10 x D(o)	3 x D(o)
7	Special study required				

1. Calculations based on NY DOT method - Pages 8.06.05 through 8.06.06 in NC Erosion Control Manual
2. Outlet velocity based on full-flow velocity

DESIGN OF RIPRAP OUTLET PROTECTION WORKSHEET

Project:	Pearce Farm - CD Package 1	Date:	11/22/2024
Project Number:	AGN-23001	Calculated By:	WTO
Outlet Number:	EW-600		

Outlet flowrate =	123.74	cfs
Pipe diameter =	48	inches
Number of pipes =	1	
Pipe separation =	0	feet
Outlet Velocity =	14.96	ft/sec



Zone from graph above = 5

Outlet pipe diameter	48 in.	Length =	40.0 ft.
Outlet flowrate	123.7 cfs	Width =	20.0 ft.
Outlet velocity	15.0 ft/sec	Stone diameter =	23 in.
Material =	Class II	Thickness =	36 in.

Zone	Material	Diameter	Thickness	Length	Width
1	Class A	3	12	4 x D(o)	3 x D(o)
2	Class B	6	18	6 x D(o)	3 x D(o)
3	Class I	13	24	8 x D(o)	3 x D(o)
4	Class I	13	24	8 x D(o)	3 x D(o)
5	Class II	23	36	10 x D(o)	3 x D(o)
6	Class II	23	36	10 x D(o)	3 x D(o)
7	Special study required				

1. Calculations based on NY DOT method - Pages 8.06.05 through 8.06.06 in NC Erosion Control Manual

2. Outlet velocity based on full-flow velocity