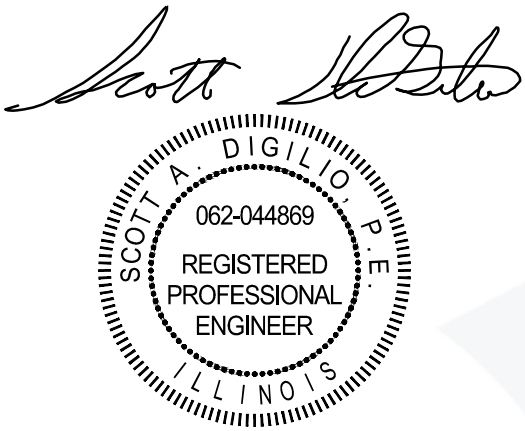
BLOCK 59 - 404 S STATE ROUTE 59, NAPERVILLE, IL
FINAL STORM WATER MANAGEMENT REPORT

August 11, 2023
Revision #1 September 21, 2023
Revision #2 October 18, 2023



SIGNED: 08/11/2023
REVISED: 09/21/2023
REVISED: 10/18/2023

engineering consultants | 650 E. Algonquin Road, Suite 250, Schaumburg, IL 60173
rtmassociates.com | 847.756.4180 | MBE Certified Business

TABLE OF CONTENTS

Project Narrative:

This project entails the redevelopment of 18.7 acres in a shopping center. It is located at the northwest corner of IL Route 59 and Aurora Ave, in Naperville, Illinois. Its address is 404 S State Route 59, Naperville, Illinois.

Primary Drainage:

The site currently employs existing, permitted stormwater facilities, which we intend to continue using. These four, interconnected detention basins are labeled on some exhibits as "Northwest Detention Basin," "Main Detention Basin," "Southeast Detention Basin," and "Detention Pond."

Our existing and proposed impervious area exhibits show that we have reduced the impervious area on site. Therefore, we have simply matched, as closely as possible, the tributary areas draining into each pond. However, our existing and proposed "outfall tributary area distribution" exhibits, and the corresponding table, break the tributary area distribution down by outfall location, rather than pond. We designed by outfall locations in hopes of preserving as many existing downstream pipes as possible.

Secondary Drainage:

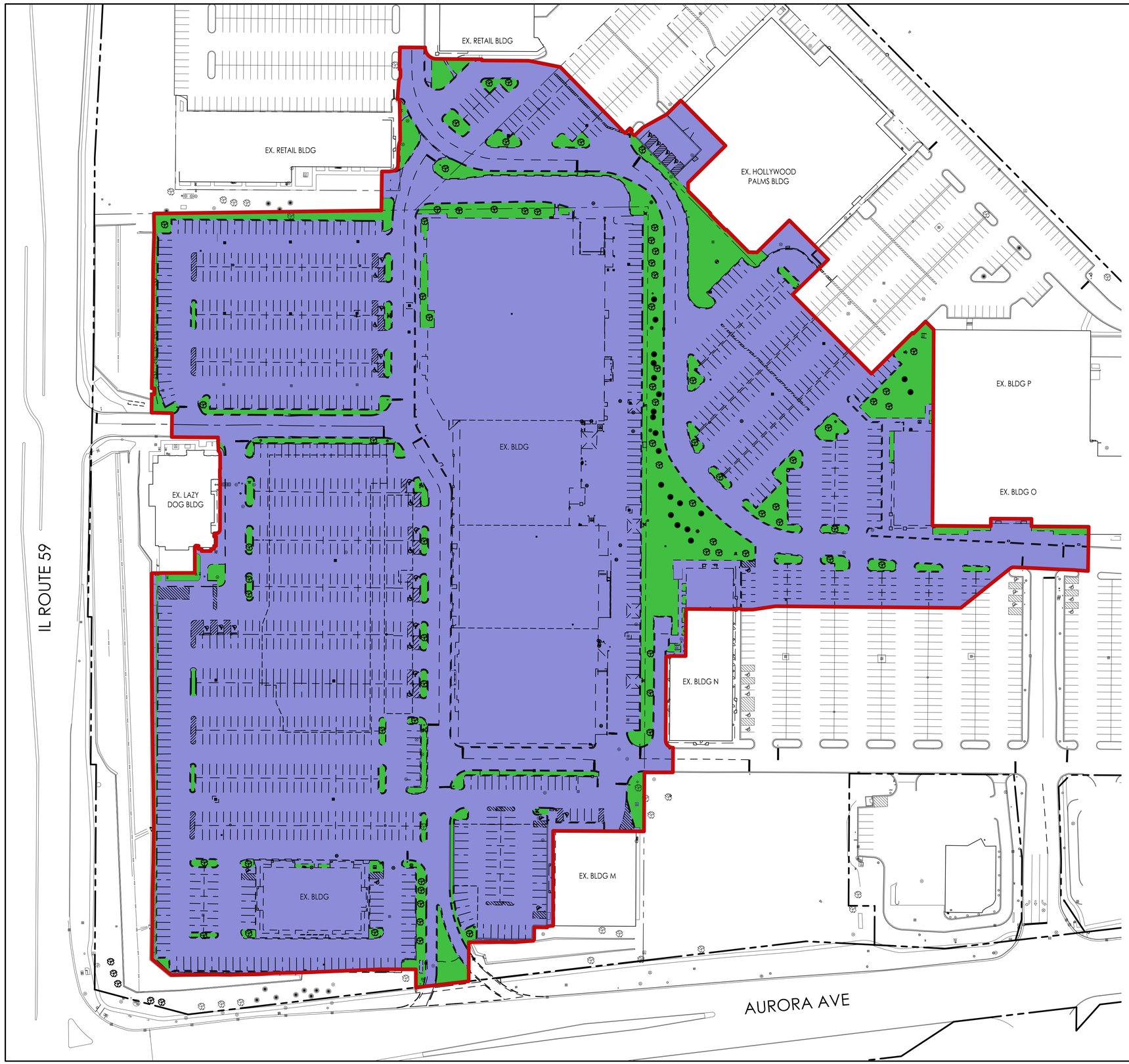
Our storm sewer calculations show that our pipes are properly sized and sloped for the 10-year storm.

Our existing and proposed overland flow path exhibits show that we have preserved the overland path connecting "Pond G," to our northeast, with the "Main Detention Basin."

The proposed overland flow exhibit shows that we drain all but two small sub-catchments overland into our four interconnected detention basins. These two exceptions cannot be captured, as they rest on the downhill slope approaching Aurora Ave.

The proposed overland flow exhibit also shows that just no sub-catchments have depths exceeding 1 foot (12 inches). The maximum ponding depth is 0.95'.

Primary Drainage Exhibits and Table



LEGEND:

- LIMITS OF DISTURBANCE
- EXISTING IMPERVIOUS AREA
- EXISTING PERVIOUS AREA

EXISTING PERVIOUS / IMPERVIOUS AREAS

	IMPERVIOUS	PERVIOUS	TOTAL	AVERAGE
AREA (AC)	16.70	1.99	18.69	
C	0.90	0.45		0.85
C*A	15.03	0.90	15.93	
CN	98.00	74.00		95.44
CN*A	1636.60	147.26	1783.86	

GRAPHIC SCALE
60 0 30 60 120
(IN FEET)
1 inch = 60 ft.

NO.	DATE	DESCRIPTION
0	07/27/2023	FIRST ISSUE

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IL Design Firm: 184006777-0002
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SHEET NAME: EXISTING IMPERVIOUS AREA EXHIBIT

PROJECT NAME: BLOCK 59
404 S. STATE ROUTE 59
NAPERVILLE, IL

PROJECT No.: 21.BRX.C02

SHEET No.

OF SHEETS

LEGEND:

- LIMITS OF DISTURBANCE
- PROPOSED IMPERVIOUS AREA
- PROPOSED PERVIOUS AREA

PROPOSED PERVIOUS / IMPERVIOUS AREAS

	IMPERVIOUS	PERVIOUS	TOTAL	AVERAGE
AREA (AC)	15.70	2.99	18.69	
C	0.90	0.45		0.83
C*A	14.13	1.35	15.48	
CN	98.00	74.00		94.16
CN*A	1538.60	221.26	1759.86	

GRAPHIC SCALE
60 0 30 60 120
(IN FEET)
1 inch = 60 ft.

NO.	DATE	DESCRIPTION
0	07/27/2023	FIRST ISSUE
1	09/21/2023	REVISED PER SITE PLAN CHANGE

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SHEET NAME
PROPOSED IMPERVIOUS AREA EXHIBIT

PROJECT NAME
BLOCK 59
404 S. STATE ROUTE 59
NAPERVILLE, IL

PROJECT No.
21.BRX.C02

SHEET No.
OF SHEETS

"NORTHWEST DETENTION BASIN"

"MAIN DETENTION BASIN"

"POND G"

"DETENTION POND"

"SOUTHEAST DETENTION BASIN"

"MAIN DETENTION BASIN"

OUTFALL TRIBUTARY AREAS:

- NORTHWEST DETENTION BASIN [3.02 AC]
- MAIN DETENTION BASIN (WEST OUTFALL) [4.99 AC]
- MAIN DETENTION BASIN (SOUTH OUTFALL) [6.04 AC]
- DETENTION POND (WEST OUTFALL) [3.54 AC]
- DETENTION POND (EAST OUTFALL) [0.80 AC]
- OFFSITE [0.20 AC]

GRAPHIC SCALE

60 0 30 60 120

(IN FEET)

1 inch = 60 ft.

NO.	DATE	DESCRIPTION
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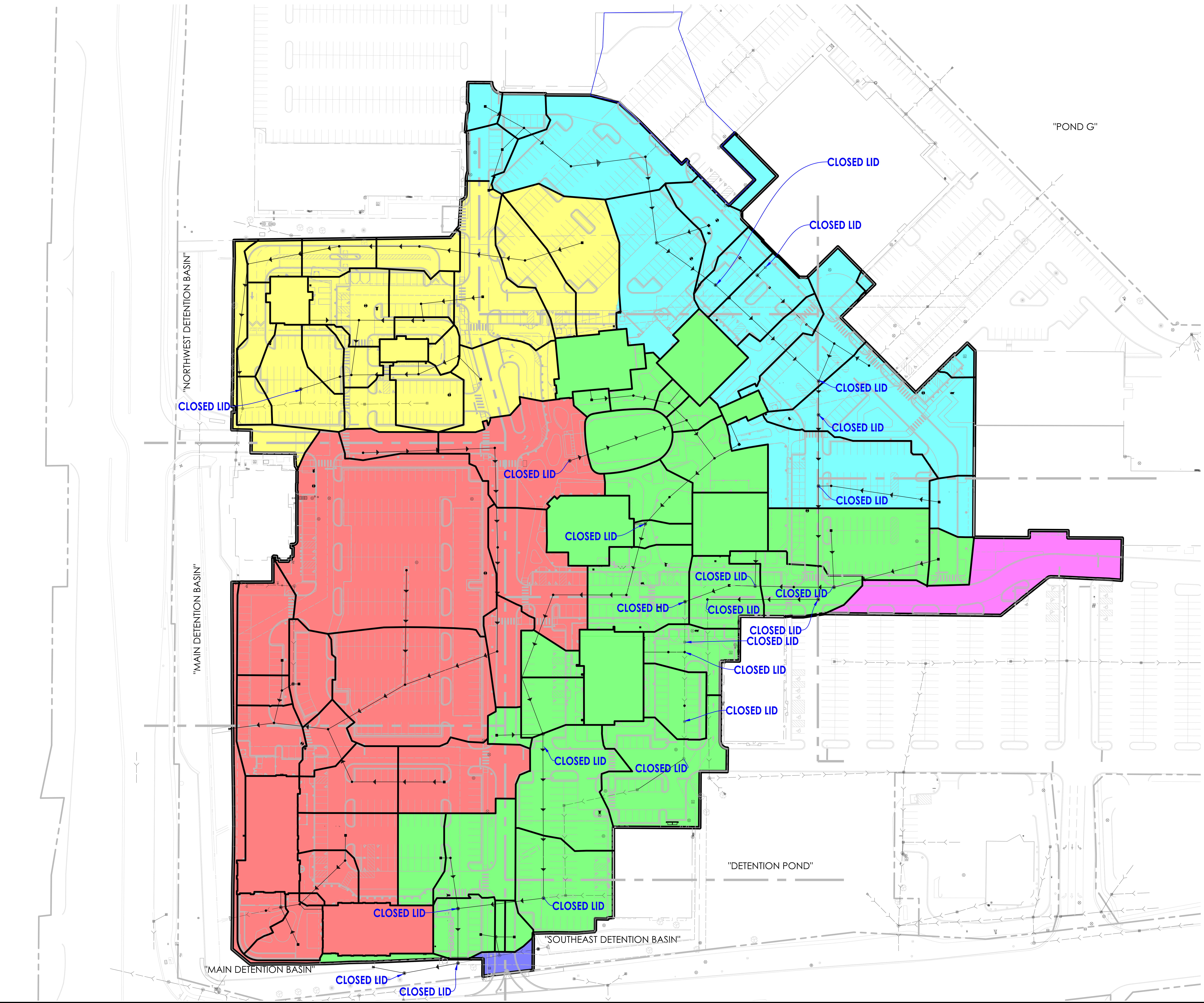
SHEET NAME: ON-SITE TRIBUTARY AREA DISTRIBUTION (EXISTING)

PROJECT NAME: BLOCK 59
404 S. STATE ROUTE 59
NAPERVILLE, IL

PROJECT No. 21.BRX.C02

SHEET No.

OF SHEETS



OUTFALL TRIBUTARY AREAS:

- NORTHWEST DETENTION BASIN [3.11 AC]
- MAIN DETENTION BASIN (WEST OUTFALL) [5.77 AC]
- MAIN DETENTION BASIN (SOUTH OUTFALL) [5.64 AC] (revision 2)
- DETENTION POND (WEST OUTFALL) [3.52 AC]
- DETENTION POND (EAST OUTFALL) [0.51AC]
- OFFSITE [0.05AC] (revision 2)

GRAPHIC SCALE

60 0 30 60 120

(IN FEET)
1 inch = 60 ft.

No.	DATE	DESCRIPTION
0	08/11/2023	FIRST ISSUE
1	09/21/2023	REVISED PER CITY COMMENTS
2	10/09/2023	REVISED PER CITY COMMENTS

No.	DATE	DESCRIPTION

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IL Design Firm: 184006777-0002

SHEET NAME
ON-SITE TRIBUTARY AREA DISTRIBUTION (PROPOSED)

PROJECT NAME
BLOCK 59
404 S. STATE ROUTE 59
NAPERVILLE, IL

PROJECT No.
21.BRX.C02
SHEET No.

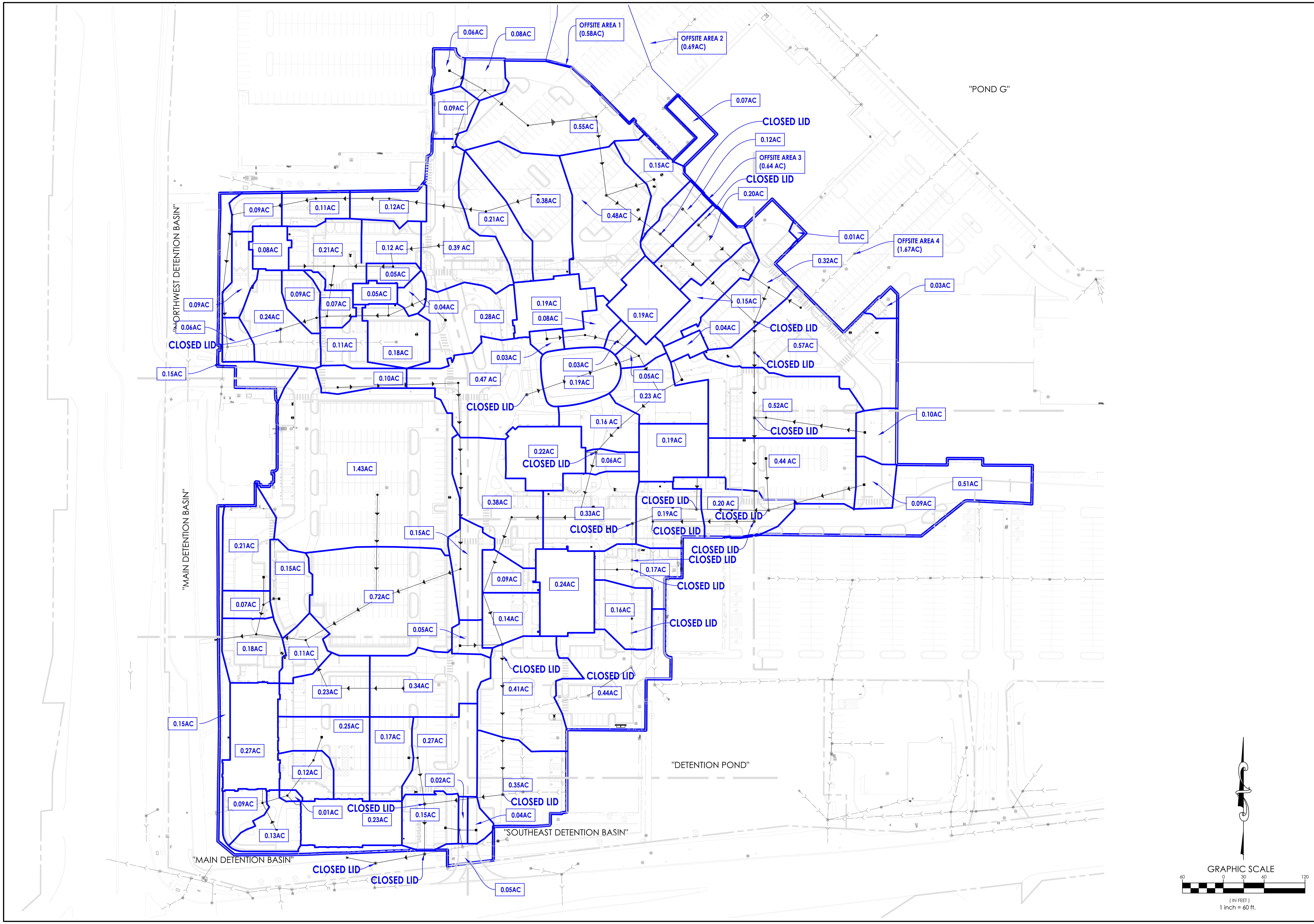
OF SHEETS

User: mandeep.kaur File: J:\2021\21.BRX.C02 Block 59 - Naperville\07 CALCS\01-STORMWATER\Storm Sewer Sizing\Lane\Trib Areas\GRADING - trib areas - lane 3- ANNO.dwg Time: Oct 09, 2023 - 1:21pm

Outfall	Tributary Area			Difference (Ac)
	Existing (Ac)	Proposed (Ac)	Proposed as Percent of Existing	
Northwest Detention Basin	3.02	3.11	102.86	0.09
Main Detention Basin (West Outfall)	4.99	5.77	115.58	0.78
Main Detention Basin (South Outfall)	6.04	5.64	93.40	-0.40
Detention Pond (West Outfall)	3.54	3.51	99.22	-0.03
Detention Pond (East Outfall)	0.80	0.51	63.49	-0.29
Offsite	0.20	0.05	27.30	-0.15
Total	18.60	18.60	100.00	0.00

DETENTION VOLUME SUMMARY			
TOTAL DETENTION REQUIRED PER 01/12/99 = 6.81 AC-FT			
	VERIFIED VOLUME	PROPOSED VOLUME	TOTAL DETENTION
NORTHWEST BASIN	1.330		1.33
MAIN BASIN	4.800		4.80
SOUTHEAST BASIN	0.340		0.34
PARKING LOT	0	0.04	0.13
PIPE STORAGE	0.08	0.470	0.30
TOTAL VOLUME	6.550	0.510	7.06

Secondary Drainage Exhibits and Calculations



No.	DATE	DESCRIPTION
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SHEET NAME

PROPOSED ON-SITE SUB-CATCHMENT AREAS

PROJECT NAME

BLOCK 59

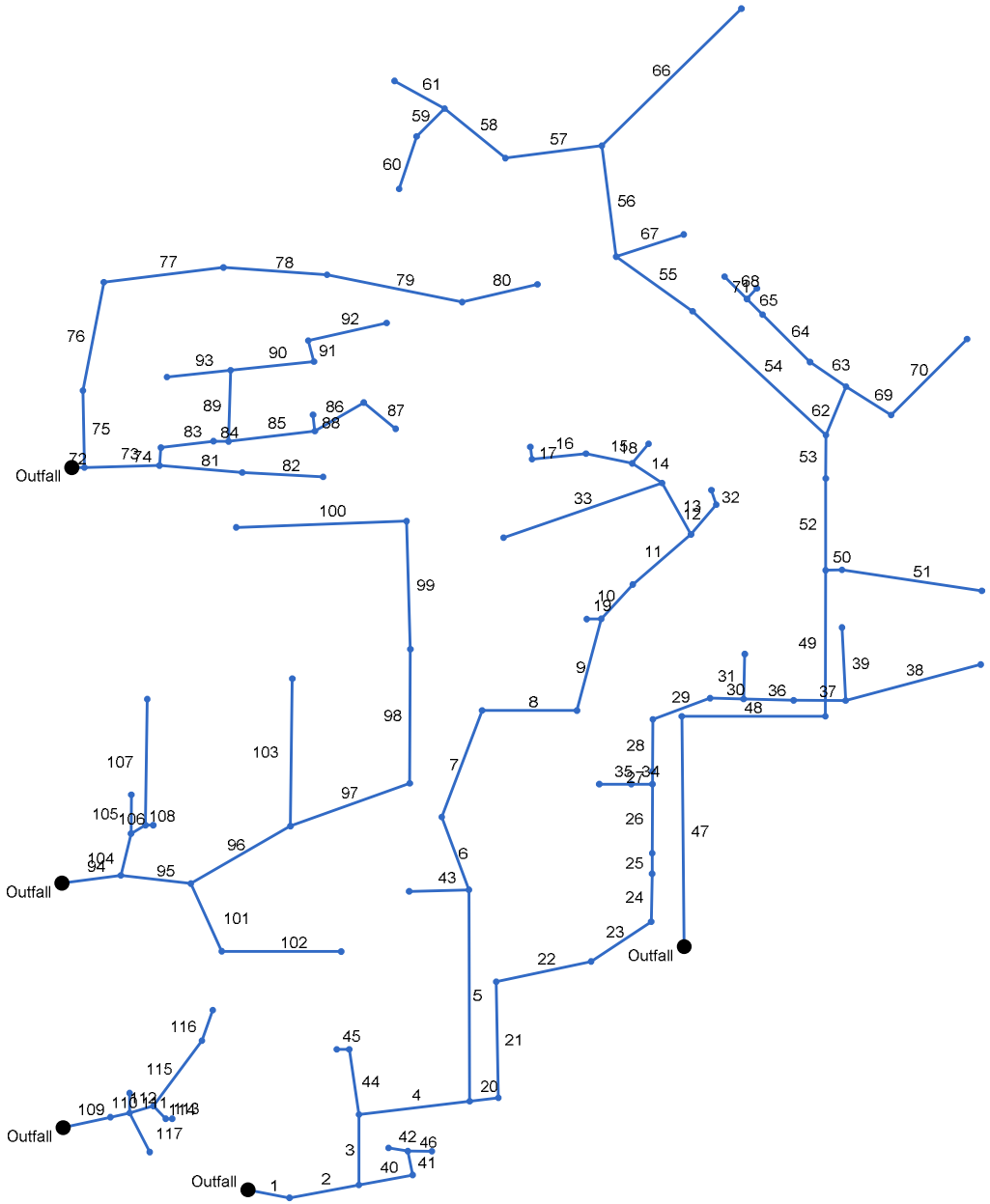
404 S. STATE ROUTE 59
NAPERVILLE, IL

PROJECT No.
21.BRX.C02

SHEET No.

OF SHEETS

Hydraflow Storm Sewers Extension for Autodesk® Civil 3D® Plan



Project File: 2023-10-13_Storm Sizing-Final_Model.stm	Number of lines: 117	Date: 10/16/2023

Storm Sewer Tabulation

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line	(ft)	Incr (ac)	Total (ac)	(C)	Incr	Total	Inlet (min)	Syst (min)	(in/hr)	(cfs)	(cfs)	(ft/s)	Size (in)	Slope (%)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	
1	End	43.917	0.01	5.77	0.83	0.01	4.79	10.0	20.3	4.8	23.19	60.73	5.91	42	0.36	689.99	690.15	691.47	691.66	696.70	696.78	FES 53A- MH 53
2	1	73.292	0.01	5.76	0.83	0.01	4.78	10.0	19.9	4.9	23.42	58.76	5.26	42	0.34	690.15	690.40	691.88	691.97	696.78	697.30	MH 53 - MH 52
3	2	73.357	0.01	5.53	0.83	0.01	4.59	10.0	19.5	4.9	22.68	25.82	4.12	36	0.15	690.70	690.81	692.88	692.99	697.30	697.19	MH 52 - MH 51
4	3	115.762	0.01	5.08	0.83	0.01	4.22	10.0	18.9	5.0	21.14	38.71	3.68	36	0.34	690.81	691.20	693.25	693.33	697.19	700.88	MH 51 - MH 50
5	4	220.464	0.01	2.12	0.83	0.01	1.76	10.0	14.6	5.6	9.93	13.62	4.58	24	0.36	692.20	693.00	693.57	694.24	700.88	698.38	MH 50 - MH 49
6	5	80.900	0.23	2.06	0.83	0.19	1.71	10.0	14.1	5.7	9.77	21.19	4.51	24	0.88	693.00	693.71	694.61	694.83	698.38	700.02	MH 49 - MH 25
7	6	118.877	0.01	1.83	0.83	0.01	1.52	10.0	13.7	5.8	8.78	8.83	5.69	18	0.71	694.21	695.05	695.43	696.27	700.02	699.80	MH 25 - MH 48
8	7	98.453	0.39	1.82	0.83	0.32	1.51	10.0	13.4	5.8	8.81	8.92	4.99	18	0.72	695.05	695.76	696.75	697.44	699.80	700.40	MH 48 - MH5
9	8	98.813	0.01	1.43	0.83	0.01	1.19	10.0	13.0	5.9	7.01	7.16	3.97	18	0.47	695.76	696.22	697.82	698.26	700.40	702.13	MH 45 - MH 44
10	9	48.479	0.16	1.20	0.83	0.13	1.00	10.0	12.8	5.9	5.91	6.15	4.82	15	0.91	696.47	696.91	698.50	698.91	702.13	704.85	MH 44 - MH 43A
11	10	79.929	0.23	1.04	0.83	0.19	0.86	10.0	12.5	6.0	5.17	5.26	4.21	15	0.66	696.91	697.44	698.97	699.48	704.85	701.12	MH43A - MH43
12	11	40.564	0.01	0.05	0.83	0.01	0.04	10.0	10.4	6.4	0.27	0.80	0.76	8	0.37	698.02	698.17	699.75	699.76	701.12	704.22	MH43 - MH43B
13	11	61.482	0.05	0.76	0.83	0.04	0.63	10.0	12.2	6.0	3.81	4.51	3.11	15	0.49	697.44	697.74	699.75	699.96	701.12	701.75	MH 43 - MH 42
14	13	37.139	0.03	0.52	0.83	0.02	0.43	10.0	11.2	6.2	2.70	3.51	2.20	15	0.30	697.74	697.85	700.11	700.18	701.75	701.89	MH 42 - MH 41
15	14	49.038	0.08	0.30	0.83	0.07	0.25	10.0	10.8	6.3	1.58	1.97	2.01	12	0.31	698.10	698.25	700.25	700.35	701.89	701.75	MH 41 - MH 40
16	15	56.295	0.03	0.22	0.83	0.02	0.18	10.0	10.2	6.5	1.18	1.84	1.50	12	0.27	698.25	698.40	700.37	700.43	701.75	701.93	MH40 - INL 39
17	16	12.857	0.19	0.19	0.83	0.16	0.16	10.0	10.0	6.5	1.02	2.22	1.30	12	0.39	698.40	698.45	700.47	700.48	701.93	702.25	INL39 - RD BLD A
18	14	26.586	0.19	0.19	0.83	0.16	0.16	10.0	10.0	6.5	1.02	1.32	2.93	8	1.02	697.98	698.25	700.25	700.41	701.89	702.25	MH 41 - RD BLD
19	9	15.098	0.22	0.22	0.83	0.18	0.18	10.0	10.0	6.5	1.19	2.13	3.75	8	2.65	697.85	698.25	698.50	698.77	702.13	702.25	MH 44 - RD BLD
20	4	30.037	0.35	2.95	0.83	0.29	2.45	10.0	18.7	5.0	12.33	14.97	2.55	30	0.13	691.16	691.20	693.57	693.59	700.88	697.88	MH 50 - EX INL
21	20	120.999	0.41	2.60	0.83	0.34	2.16	10.0	17.9	5.1	11.10	33.35	3.78	30	0.66	691.35	692.15	693.69	693.26	697.88	698.07	EX INL - EX INL
22	21	100.664	0.44	2.19	0.83	0.37	1.82	10.0	17.3	5.2	9.51	21.60	5.14	27	0.49	692.20	692.69	693.26	693.75	698.07	698.07	EX INL - EX INL

Project File: 2023-10-13_Storm Sizing-Final_Model.stm

Number of lines: 117

Run Date: 10/16/2023

NOTES:Intensity = 173.09 / (Inlet time + 19.30) ^ 0.97; Return period =Yrs. 10 ; c = cir e = ellip b = box

Storm Sewer Tabulation

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line	(ft)	Incr (ac)	Total (ac)	(C)	Incr	Total	Inlet (min)	Syst (min)	(in/hr)	(cfs)	(cfs)	(ft/s)	Size (in)	Slope (%)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	
23	22	74.995	0.01	1.75	0.83	0.01	1.45	10.0	16.7	5.3	7.71	13.85	3.58	27	0.20	692.69	692.84	693.89	694.04	698.07	700.39	EX INL - EX MH
24	23	50.031	0.01	1.74	0.83	0.01	1.44	10.0	16.3	5.4	7.75	8.75	2.49	27	0.08	692.84	692.88	694.49	694.53	700.39	700.44	EX MH - EX INL
25	24	21.403	0.16	1.73	0.83	0.13	1.44	10.0	16.2	5.4	7.73	8.47	2.85	24	0.14	692.93	692.96	694.54	694.57	700.44	700.09	EX INL - MH60
26	25	71.946	0.01	1.57	0.83	0.01	1.30	10.0	15.7	5.5	7.11	8.43	2.62	24	0.14	692.96	693.06	694.59	694.66	700.09	701.26	MH 60 - MH 61
27	26	13.484	0.01	1.15	0.83	0.01	0.95	10.0	15.6	5.5	5.23	8.72	1.84	24	0.15	693.06	693.08	694.77	694.77	701.26	701.34	MH 61 - MH 61A
28	27	54.206	0.01	1.14	0.83	0.01	0.95	10.0	15.1	5.6	5.25	23.40	3.16	24	1.07	693.14	693.72	694.78	694.53	701.34	701.53	EX INL - MH 62
29	28	63.374	0.19	1.13	0.83	0.16	0.94	10.0	14.8	5.6	5.26	5.75	3.69	18	0.30	693.82	694.01	694.95	695.14	701.53	700.66	MH 62 - MH 63
30	29	34.774	0.01	0.94	0.83	0.01	0.78	10.0	14.6	5.6	4.40	7.12	3.01	18	0.46	694.01	694.17	695.23	695.27	700.66	701.07	MH 68 - MH 689
31	30	46.928	0.19	0.19	0.83	0.16	0.16	10.0	10.0	6.5	1.02	1.60	4.33	8	1.49	697.55	698.25	697.94	698.73	701.07	702.25	MH 69- RD BLD C
32	12	16.170	0.04	0.04	0.83	0.03	0.03	10.0	10.0	6.5	0.22	0.92	0.62	8	0.49	698.17	698.25	699.77	699.78	704.22	702.25	MH 43B - RD BLD
33	13	174.130	0.19	0.19	0.83	0.16	0.16	10.0	10.0	6.5	1.02	2.15	1.30	12	0.31	697.99	698.53	700.11	700.23	701.75	701.97	MH 42- MH 54
34	26	21.915	0.17	0.41	0.83	0.14	0.34	10.0	10.1	6.5	2.20	3.23	4.31	12	0.82	696.26	696.44	696.87	697.07	701.26	701.04	MH 61 - EX MH
35	34	33.280	0.24	0.24	0.83	0.20	0.20	10.0	10.0	6.5	1.29	1.49	4.55	8	1.29	696.77	697.20	697.25	697.74	701.04	701.75	MH 61A - RD BLD
36	30	51.963	0.20	0.74	0.83	0.17	0.61	10.0	14.3	5.7	3.49	7.22	3.91	15	1.25	694.42	695.07	695.43	695.82	701.07	700.73	MH 69 - MH 63
37	36	54.006	0.01	0.54	0.83	0.01	0.45	10.0	13.9	5.7	2.58	7.51	3.69	15	1.35	695.07	695.80	695.82	696.44	700.73	700.05	MH 63 - MH 64
38	37	145.173	0.09	0.09	0.83	0.07	0.07	10.0	10.0	6.5	0.49	4.94	2.14	12	1.92	696.05	698.84	696.44	699.13	700.05	702.18	MH 64 - INL 65
39	37	76.316	0.44	0.44	0.83	0.37	0.37	10.0	10.0	6.5	2.37	3.70	3.20	15	0.33	695.80	696.05	696.53	696.78	700.05	700.51	MH 64- INL66
40	2	56.767	0.01	0.22	0.83	0.01	0.18	10.0	11.8	6.1	1.12	4.92	0.92	15	0.58	690.94	691.27	692.45	692.47	697.30	697.09	MH 52 -EX MH
41	40	25.424	0.02	0.21	0.83	0.02	0.17	10.0	11.5	6.2	1.08	3.39	3.55	12	0.90	692.33	692.56	692.72	693.00	697.09	697.01	EX MH - MH 58A
42	41	20.221	0.15	0.15	0.83	0.12	0.12	10.0	10.0	6.5	0.81	3.54	3.33	12	0.99	693.30	693.50	693.62	693.88	697.01	696.52	MH 58A - INL59
43	5	62.057	0.05	0.05	0.83	0.04	0.04	10.0	10.0	6.5	0.27	1.50	0.34	12	0.18	693.30	693.41	694.61	694.61	698.38	697.83	MH49 - INL23
44	3	68.814	0.27	0.44	0.83	0.22	0.37	10.0	10.2	6.5	2.36	3.21	2.86	15	0.25	692.80	692.97	693.60	693.77	697.19	696.50	MH 51- MH57

Project File: 2023-10-13_Storm Sizing-Final_Model.stm

Number of lines: 117

Run Date: 10/16/2023

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Storm Sewer Tabulation

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Line	To Line	(ft)	Incr (ac)	Total (ac)	(C)	Incr	Total	Inlet (min)	Syst (min)	(in/hr)	(cfs)	(cfs)	(ft/s)	Size (in)	Slope (%)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	
45	44	13.000	0.17	0.17	0.83	0.14	0.14	10.0	10.0	6.5	0.92	2.79	2.37	12	0.62	693.22	693.30	693.89	693.70	696.50	696.52	MH57 - INL56
46	41	25.000	0.04	0.04	0.83	0.03	0.03	10.0	10.0	6.5	0.22	3.49	1.36	12	0.96	692.56	692.80	693.00	692.99	697.01	697.01	MH58A - INL 58
47	End	240.034	0.01	7.06	0.83	0.01	5.86	10.0	30.8	3.9	22.61	25.10	3.20	36	0.14	688.48	688.82	692.71	692.99	689.48	701.30	EX MH - MH 82
48	47	148.976	0.01	7.05	0.83	0.01	5.85	10.0	30.3	3.9	22.78	28.41	3.84	33	0.29	689.07	689.50	693.14	693.42	701.30	701.40	MH 82 - MH 81
49	48	152.286	0.01	7.04	0.83	0.01	5.84	10.0	29.9	3.9	22.91	28.59	4.67	30	0.49	689.75	690.49	693.65	694.13	701.40	700.87	MH 81 - MH 80
50	49	17.111	0.52	0.62	0.83	0.43	0.51	10.0	13.6	5.8	2.99	4.47	5.45	12	1.58	696.39	696.66	696.99	697.40	700.87	700.25	MH80 - MH93
51	50	146.696	0.10	0.10	0.83	0.08	0.08	10.0	10.0	6.5	0.54	3.14	1.76	12	0.78	696.66	697.80	697.40	698.10	700.25	702.38	MH 93 - INL 92
52	49	95.706	0.01	6.41	0.83	0.01	5.32	10.0	29.7	3.9	20.97	26.84	4.27	30	0.43	690.49	690.90	694.46	694.71	700.87	700.49	MH80 - MH78
53	52	45.339	0.01	6.40	0.83	0.01	5.31	10.0	29.5	4.0	20.99	30.45	4.28	30	0.55	690.90	691.15	694.76	694.88	700.49	699.44	MH79- MH 78
54	53	189.316	0.01	2.71	0.83	0.01	2.25	10.0	28.4	4.0	9.10	25.29	1.85	30	0.38	691.15	691.87	695.10	695.19	699.44	700.12	MH78 - MH77
55	54	97.463	0.48	2.70	0.83	0.40	2.24	10.0	28.0	4.1	9.13	13.16	2.91	24	0.34	692.37	692.70	695.20	695.36	700.12	698.00	MH77 MH75
56	55	116.564	1.13	2.07	0.83	0.94	1.72	10.0	27.4	4.1	7.09	12.21	2.26	24	0.29	692.70	693.04	695.49	695.60	698.00	698.08	MH75 - MH74
57	56	100.900	0.01	0.25	0.83	0.01	0.21	10.0	25.9	4.3	0.88	4.12	0.72	15	0.41	693.79	694.20	695.68	695.70	698.08	700.02	MH74 - MH73
58	57	81.462	0.08	0.24	0.83	0.07	0.20	10.0	25.0	4.3	0.87	4.06	2.08	12	1.30	694.45	695.51	695.71	695.90	700.02	700.41	MH73- MH72
59	58	41.012	0.09	0.10	0.83	0.07	0.08	10.0	24.0	4.4	0.37	3.47	1.85	12	0.95	695.51	695.90	695.90	696.15	700.41	700.86	MH72- MH83A
60	59	57.689	0.01	0.01	0.83	0.01	0.01	10.0	10.0	6.5	0.05	2.04	0.68	12	0.33	695.90	696.09	696.15	696.21	700.86	701.50	MH83A - INL83A
61	58	59.467	0.06	0.06	0.83	0.05	0.05	10.0	10.0	6.5	0.32	2.01	1.48	12	0.32	695.51	695.70	695.90	695.98	700.41	700.83	MH72 - INL71
62	53	54.654	0.32	3.68	0.83	0.27	3.05	10.0	11.3	6.2	19.02	22.87	3.88	30	0.31	691.15	691.32	695.10	695.21	699.44	698.08	MH78 - MH90
63	62	45.326	0.15	1.12	0.83	0.12	0.93	10.0	11.1	6.3	5.83	6.62	3.30	18	0.40	692.32	692.50	695.45	695.59	698.08	698.15	MH90 - MH89
64	63	69.762	0.20	0.97	0.83	0.17	0.81	10.0	10.8	6.3	5.10	5.47	4.15	15	0.72	692.75	693.25	695.62	696.06	698.15	698.02	MH 89 - MH 88
65	64	23.000	0.01	0.77	0.83	0.01	0.64	10.0	10.7	6.4	4.06	4.26	3.31	15	0.43	693.25	693.35	696.10	696.19	698.02	698.40	MH88-MH88A
66	56	203.601	0.69	0.69	0.83	0.57	0.57	10.0	10.0	6.5	3.72	1.88	4.74	12	0.28	693.88	694.45	695.68	697.90	698.08	698.05	MH74- EX INL

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NOTES:Intensity = 173.09 / (Inlet time + 19.30) ^ 0.97; Return period =Yrs. 10 ; c = cir e = ellip b = box

Storm Sewer Tabulation

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line	(ft)	Incr (ac)	Total (ac)	(C)	Incr	Total	Inlet (min)	Syst (min)	(in/hr)	(cfs)	(cfs)	(ft/s)	Size (in)	Slope (%)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	
67	55	73.790	0.15	0.15	0.83	0.12	0.12	10.0	10.0	6.5	0.81	1.94	1.03	12	0.30	693.70	693.92	695.49	695.53	698.00	698.12	MH 75 - INL84
68	65	33.000	0.12	0.12	0.83	0.10	0.10	10.0	10.0	6.5	0.65	1.39	0.82	12	0.15	693.60	693.65	696.36	696.37	698.40	698.21	MH88A-INL85
69	62	55.355	0.57	2.24	0.83	0.47	1.86	10.0	10.5	6.4	11.88	12.90	3.78	24	0.33	691.92	692.10	695.45	695.60	698.08	698.00	MH 90 - MH 91
70	69	111.800	1.67	1.67	0.83	1.39	1.39	10.0	10.0	6.5	9.00	10.80	3.74	21	0.47	692.10	692.62	695.82	696.18	698.00	697.77	MH 91- EX INL
71	65	15.000	0.64	0.64	0.83	0.53	0.53	10.0	10.0	6.5	3.45	6.68	4.39	12	3.00	694.00	694.45	696.36	696.48	698.40	700.25	MH 88A - EX INL
72	End	13.082	0.01	2.84	0.83	0.01	2.36	10.0	16.5	5.3	12.60	0.00	4.01	24	-0.31	693.74	693.70	696.09	696.13	693.74	698.20	FES - MH 7
73	72	77.955	0.24	1.83	0.83	0.20	1.52	10.0	14.1	5.7	8.69	11.17	2.77	24	0.24	693.70	693.89	696.38	696.50	698.20	698.19	EX INL - EX INL
74	73	18.700	0.01	1.40	0.83	0.01	1.16	10.0	13.9	5.7	6.68	9.05	2.13	24	0.16	693.89	693.92	696.62	696.63	698.19	698.55	MH 14 - EX MH
75	72	80.260	0.09	1.00	0.83	0.07	0.83	10.0	15.6	5.5	4.54	7.98	1.45	24	0.12	693.70	693.80	696.38	696.41	698.20	698.46	EX MH - MH 6
76	75	115.080	0.09	0.91	0.83	0.07	0.76	10.0	14.3	5.7	4.29	7.89	1.37	24	0.12	693.80	693.94	696.42	696.46	698.46	698.65	MH 6 - MH 5
77	76	125.104	0.11	0.82	0.83	0.09	0.68	10.0	12.7	6.0	4.05	7.83	1.29	24	0.12	693.94	694.09	696.49	696.53	698.65	699.07	MH 5 - MH 4
78	77	107.798	0.12	0.71	0.83	0.10	0.59	10.0	11.9	6.1	3.60	4.41	2.04	18	0.18	694.09	694.28	696.54	696.66	699.07	698.98	MH 4 - MH 3
79	78	143.127	0.21	0.59	0.83	0.17	0.49	10.0	10.5	6.4	3.13	4.48	1.77	18	0.18	694.28	694.54	696.67	696.80	698.98	698.08	MH 3 - MH 2
80	79	80.375	0.38	0.38	0.83	0.32	0.32	10.0	10.0	6.5	2.05	3.42	2.61	12	0.92	694.54	695.28	696.82	697.09	698.08	698.00	MH2 - INL1
81	73	86.296	0.01	0.19	0.83	0.01	0.16	10.0	11.1	6.3	0.99	7.50	0.56	18	0.51	693.99	694.43	696.62	696.62	698.19	698.00	EX INL - EX INL
82	81	83.983	0.18	0.18	0.83	0.15	0.15	10.0	10.0	6.5	0.97	3.37	1.24	12	0.89	694.48	695.23	696.62	696.69	698.00	698.28	EX INL- EX INL
83	74	55.000	0.09	1.39	0.83	0.07	1.15	10.0	13.5	5.8	6.71	9.15	2.14	24	0.16	693.92	694.01	696.70	696.75	698.55	698.29	MH14 - MH10A
84	83	15.590	0.07	1.30	0.83	0.06	1.08	10.0	13.4	5.8	6.30	8.11	2.00	24	0.13	694.01	694.03	696.76	696.77	698.29	698.07	MH 10A - MH10
85	84	90.245	0.01	0.38	0.83	0.01	0.32	10.0	10.8	6.3	1.99	4.82	1.13	18	0.21	694.53	694.72	696.84	696.87	698.07	699.09	MH 10 - MH 13
86	85	58.802	0.04	0.32	0.83	0.03	0.27	10.0	10.4	6.4	1.70	1.97	2.17	12	0.31	695.22	695.40	696.89	697.02	699.09	699.01	MH 13 - MH 12
87	86	42.968	0.28	0.28	0.83	0.23	0.23	10.0	10.0	6.5	1.51	1.96	1.92	12	0.30	695.40	695.53	697.09	697.17	699.01	698.57	MH 12- INL 11
88	85	17.002	0.05	0.05	0.83	0.04	0.04	10.0	10.0	6.5	0.27	3.86	0.34	12	1.00	695.22	695.39	696.89	696.89	699.09	700.50	MH13 - RD BLD L

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Storm Sewer Tabulation

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line	(ft)	Incr (ac)	Total (ac)	(C)	Incr	Total	Inlet (min)	Syst (min)	(in/hr)	(cfs)	(cfs)	(ft/s)	Size (in)	Slope (%)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	
89	84	74.294	0.21	0.85	0.83	0.17	0.71	10.0	12.5	6.0	4.23	9.09	1.35	24	0.16	694.03	694.15	696.84	696.86	698.07	698.00	MH10 - MH9
90	89	86.871	0.05	0.56	0.83	0.04	0.46	10.0	11.0	6.3	2.92	7.67	0.93	24	0.12	694.15	694.25	696.89	696.90	698.00	699.01	MH 9 - MH 8
91	90	22.755	0.12	0.51	0.83	0.10	0.42	10.0	10.8	6.3	2.68	3.03	2.18	15	0.22	695.00	695.05	696.92	696.96	699.01	698.00	MH 8 - MH 8A
92	91	83.404	0.39	0.39	0.83	0.32	0.32	10.0	10.0	6.5	2.10	3.08	1.71	15	0.23	695.05	695.24	697.03	697.12	698.00	698.06	MH8A - MH7
93	89	66.496	0.08	0.08	0.83	0.07	0.07	10.0	10.0	6.5	0.43	2.99	0.55	12	0.71	694.78	695.25	696.89	696.90	698.00	700.50	MH9 - RD BLD K
94	End	61.688	0.18	4.56	0.83	0.15	3.78	10.0	82.8	1.9	7.30	26.93	3.86	33	0.26	691.72	691.88	692.70	692.86	694.51	696.37	FES18 - MH22
95	94	73.137	0.11	3.93	0.83	0.09	3.26	10.0	17.5	5.2	16.96	18.55	3.54	33	0.12	691.88	691.97	693.95	694.04	696.37	696.52	MH 22 - MH 21
96	95	119.437	0.72	3.25	0.83	0.60	2.70	10.0	16.8	5.3	14.31	27.37	2.94	33	0.27	691.97	692.29	694.21	694.28	696.52	696.64	MH 21 - MH 20
97	96	131.633	0.15	1.10	0.83	0.12	0.91	10.0	16.1	5.4	4.94	7.49	4.17	18	0.51	693.33	694.00	694.41	694.86	696.64	698.48	MH 20 - MH 19
98	97	139.812	0.38	0.95	0.83	0.32	0.79	10.0	15.2	5.5	4.37	4.44	2.86	18	0.18	694.00	694.25	695.21	695.46	698.48	699.01	MH 19 - MH 18
99	98	133.616	0.47	0.57	0.83	0.39	0.47	10.0	14.3	5.7	2.69	2.79	2.59	15	0.19	694.50	694.75	695.49	695.73	699.01	698.75	MH 18 - MH 17
100	99	177.031	0.10	0.10	0.83	0.08	0.08	10.0	10.0	6.5	0.54	1.98	1.25	12	0.31	695.00	695.55	695.84	695.97	698.75	699.55	MH 17 - MH 16
101	95	77.617	0.23	0.57	0.83	0.19	0.47	10.0	10.9	6.3	2.98	5.63	2.43	15	0.76	691.97	692.56	694.21	694.37	696.52	696.67	MH 21 - MH 28
102	101	124.000	0.34	0.34	0.83	0.28	0.28	10.0	10.0	6.5	1.83	3.08	2.33	12	0.75	692.81	693.74	694.46	694.74	696.67	696.67	MH28 - INL27
103	96	153.783	1.43	1.43	0.83	1.19	1.19	10.0	10.0	6.5	7.71	4.56	4.36	18	0.19	692.29	692.58	694.41	695.24	696.64	696.38	MH 20- EX INL
104	94	44.818	0.07	0.45	0.83	0.06	0.37	10.0	82.2	1.9	0.72	8.73	1.58	18	0.69	691.88	692.19	693.07	692.51	696.37	696.47	MH 22 - MH30
105	104	40.500	0.21	0.21	0.83	0.17	0.17	10.0	10.0	6.5	1.13	4.41	4.01	12	1.53	692.75	693.37	693.10	693.82	696.47	696.47	MH30 - INL29
106	104	17.377	0.01	0.17	0.83	0.01	0.14	10.0	81.8	1.9	0.27	5.04	1.09	18	0.23	692.19	692.23	692.51	692.52	696.47	697.31	MH 30- MH 32
107	106	131.474	0.01	0.01	0.83	0.01	0.01	10.0	10.0	6.5	0.05	3.78	0.48	18	0.13	692.29	692.46	692.53	692.60	697.31	699.26	EX MH - MH 32
108	106	8.000	0.15	0.15	0.83	0.12	0.12	10.0	10.0	6.5	0.81	2.52	2.85	12	0.50	692.79	692.83	693.18	693.22	697.31	696.71	MH32- INL31
109	End	50.320	0.09	1.12	0.83	0.07	0.93	10.0	11.0	6.3	5.84	5.65	7.88	12	2.15	690.58	691.66	691.43	692.61	0.00	696.98	MH 37A- FES
110	109	20.430	0.01	1.03	0.83	0.01	0.85	10.0	11.0	6.3	5.37	5.23	7.01	12	2.15	691.66	692.10	692.61	693.03	696.98	697.96	MH 37A - MH 37

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Storm Sewer Tabulation

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line	(ft)	Incr (ac)	Total (ac)	(C)	Incr	Total	Inlet (min)	Syst (min)	(in/hr)	(cfs)	(cfs)	(ft/s)	Size (in)	Slope (%)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	
111	110	20.762	0.27	0.27	0.83	0.22	0.22	10.0	10.0	6.5	1.46	3.79	4.06	12	0.96	694.50	694.70	694.93	695.21	697.96	698.20	MH37-RD BLD I-J
112	110	25.710	0.01	0.62	0.83	0.01	0.51	10.0	10.9	6.3	3.25	3.65	4.62	12	1.05	692.10	692.37	693.03	693.14	697.96	697.85	MH 37- MH 35
113	112	18.410	0.01	0.24	0.83	0.01	0.20	10.0	10.0	6.5	1.29	2.51	4.78	8	3.69	692.70	693.38	693.14	693.92	697.85	698.10	MH35 - BEND
114	113	6.724	0.23	0.23	0.83	0.19	0.19	10.0	10.0	6.5	1.24	2.85	6.04	8	4.76	693.88	694.20	694.19	694.73	698.10	698.20	BEND-RD BLD H
115	112	84.640	0.12	0.37	0.83	0.10	0.31	10.0	10.3	6.4	1.97	2.54	3.34	12	0.51	692.37	692.80	693.14	693.45	697.85	696.90	MH 35 - MH 34
116	115	33.820	0.25	0.25	0.83	0.21	0.21	10.0	10.0	6.5	1.35	2.94	2.87	12	0.68	692.80	693.03	693.52	693.52	696.90	696.67	MH34 - INL33
117	110	45.794	0.13	0.13	0.83	0.11	0.11	10.0	10.0	6.5	0.70	3.11	2.00	12	0.76	692.30	692.65	693.03	693.00	697.96	697.22	MH37-INL38

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Storm Sewer Profile

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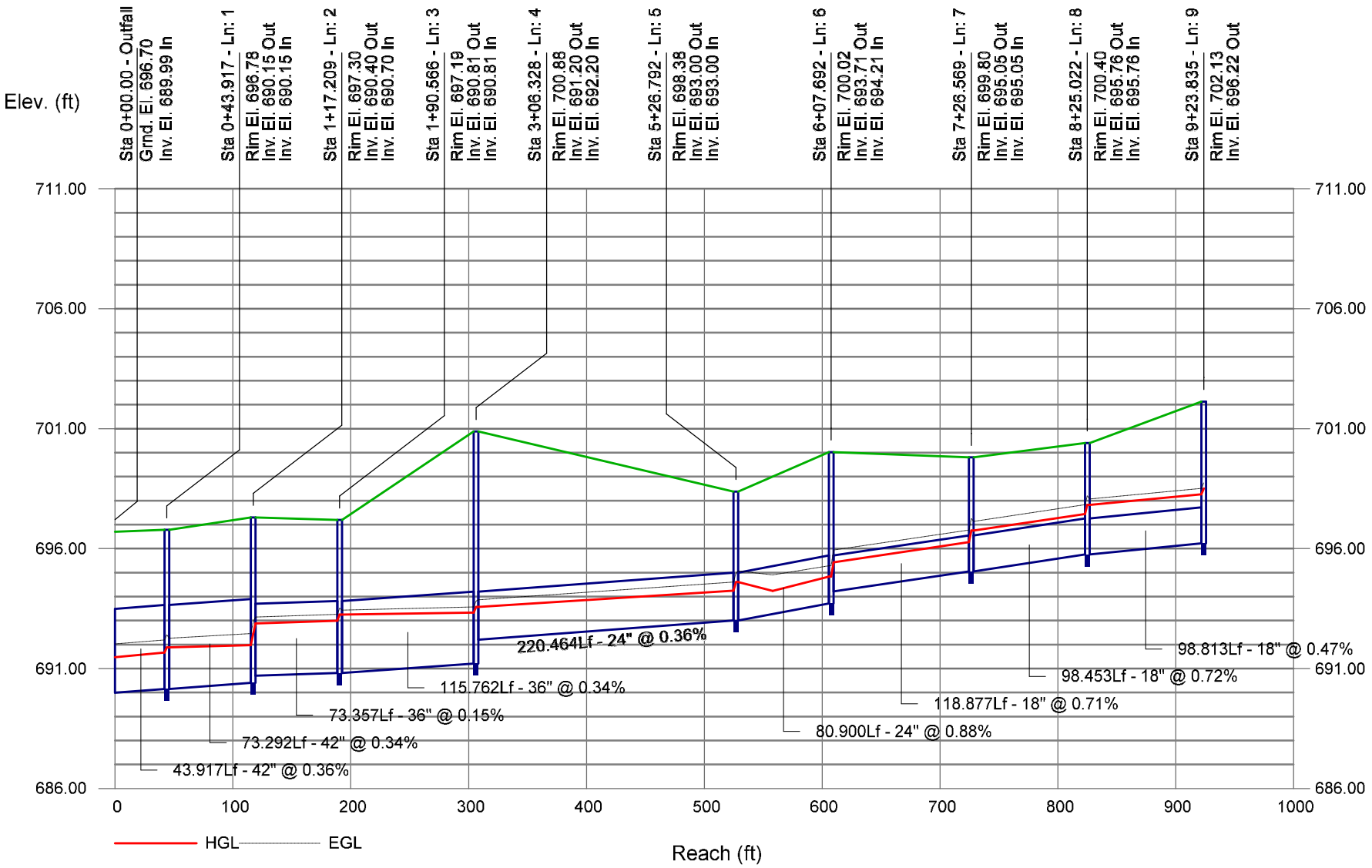
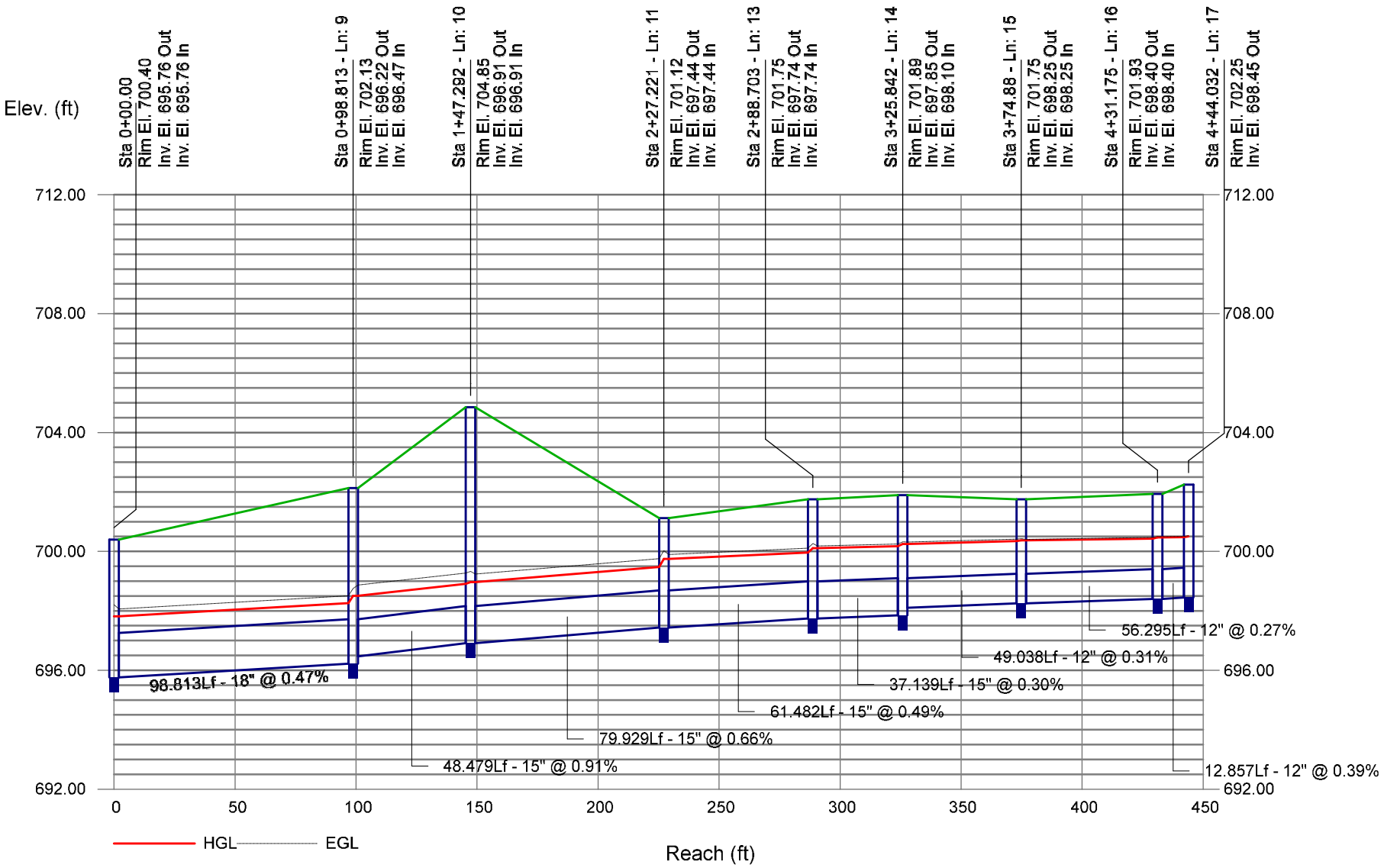


Storm Sewer Profile

Proj. file: 2023-10-13_Storm Sizing-Final_Model.stm



Storm Sewer Profile

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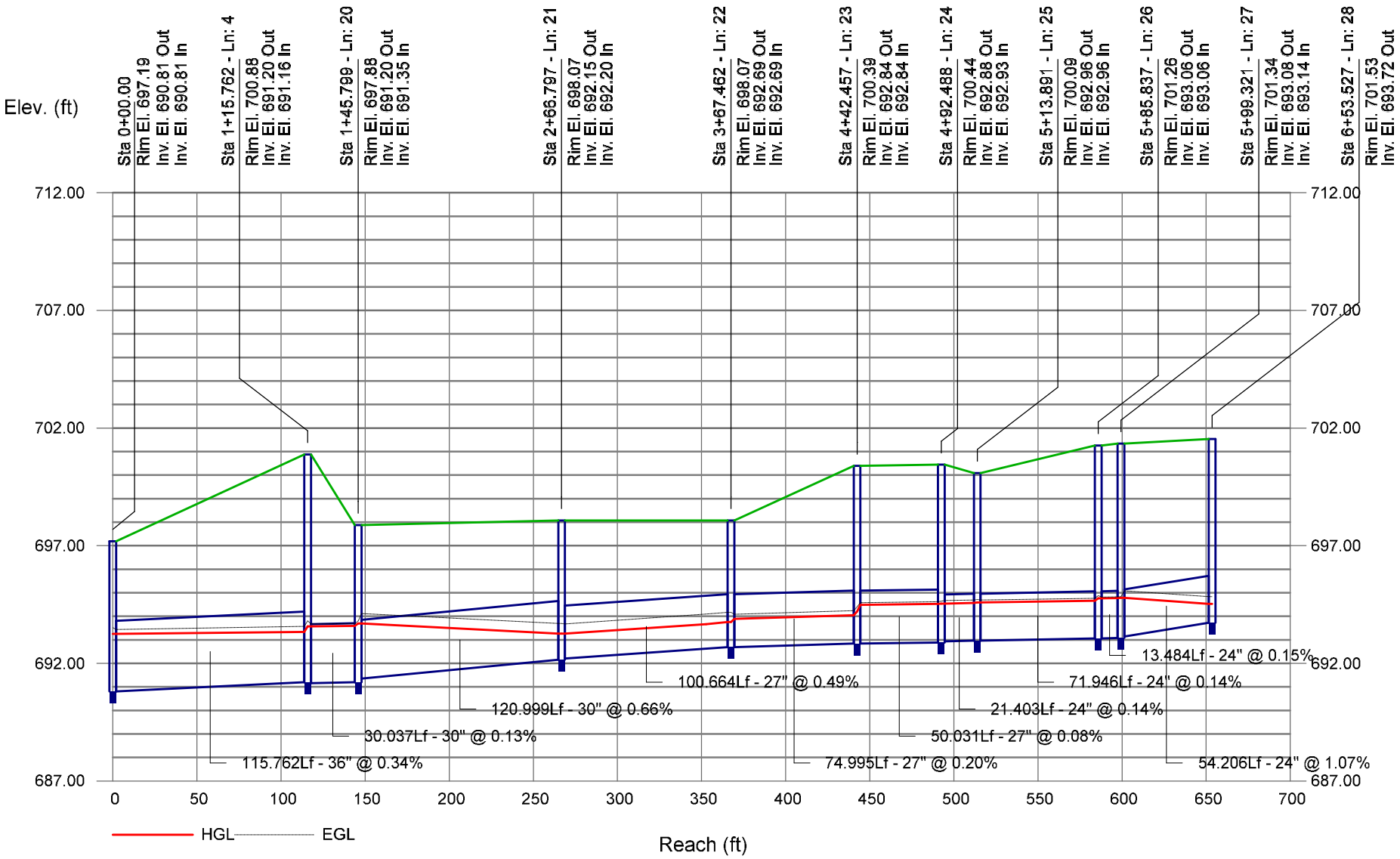

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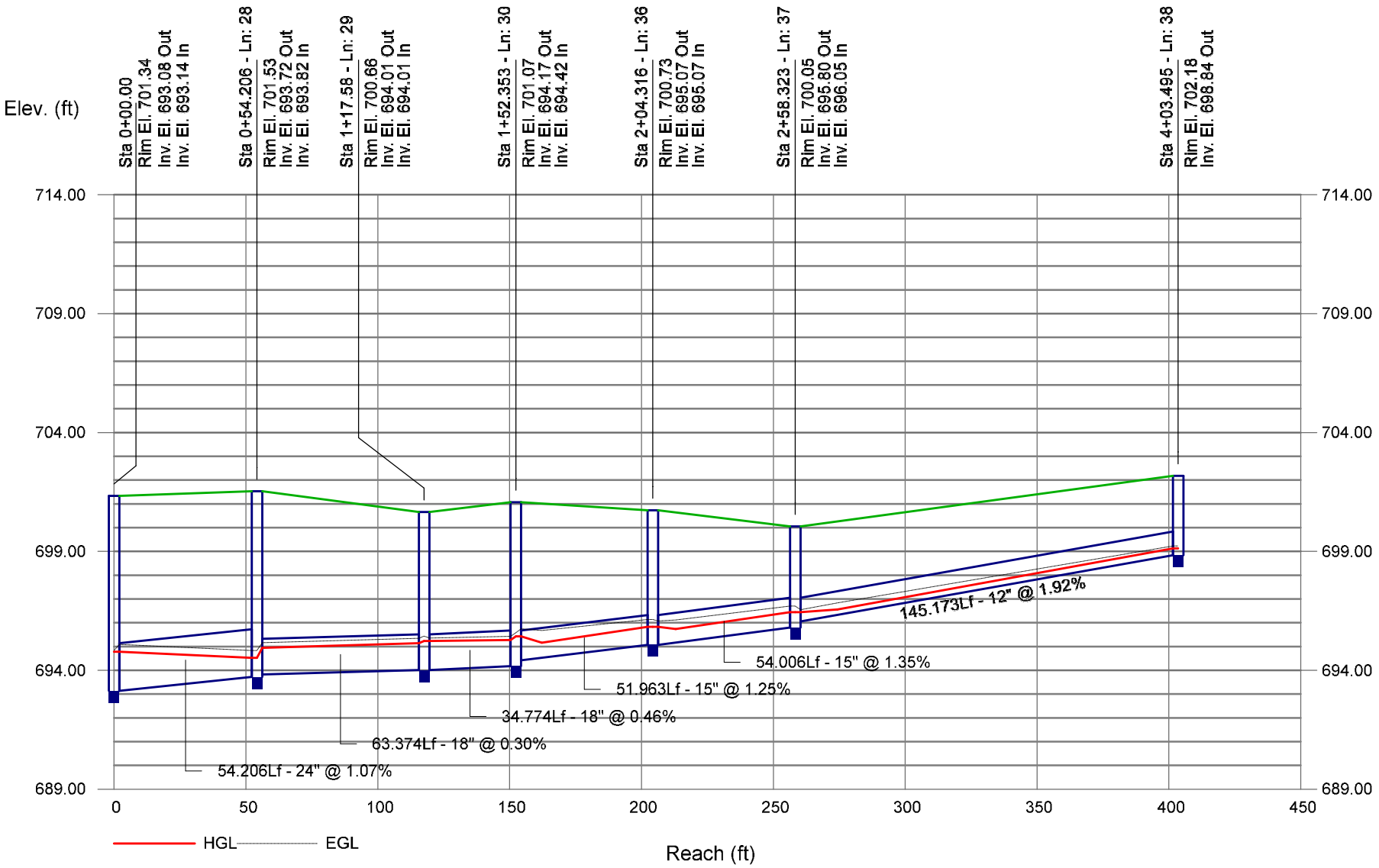
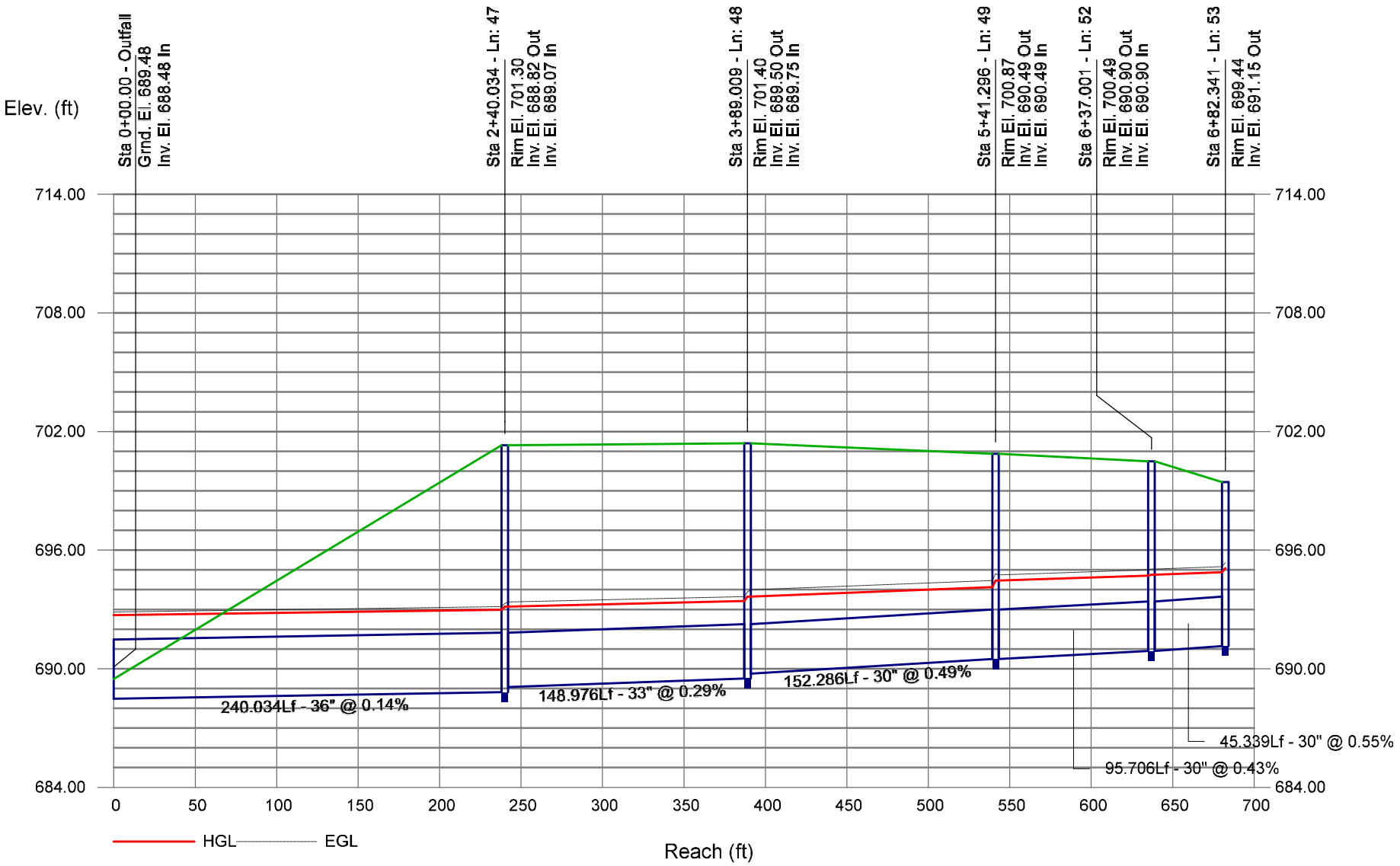


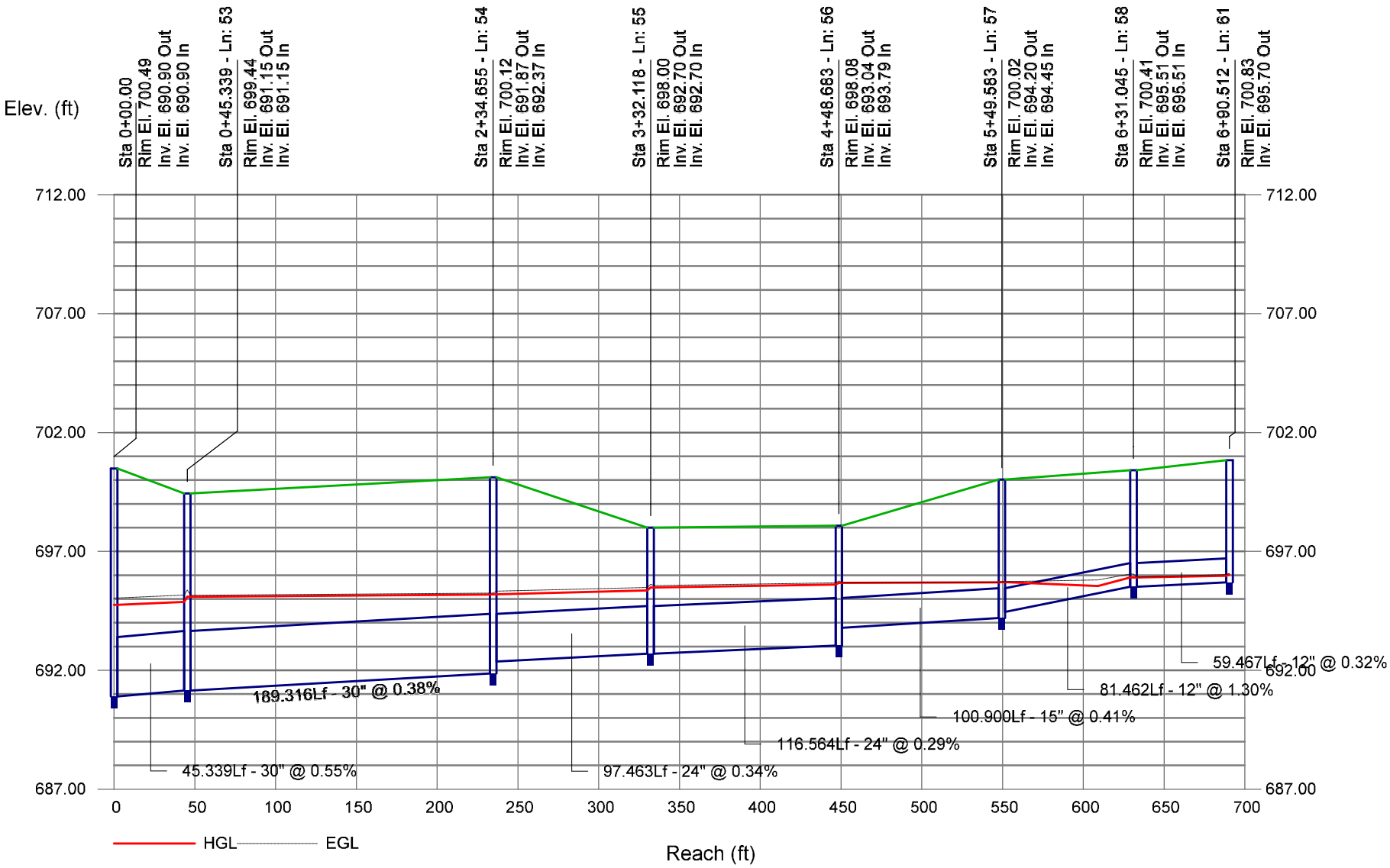
Storm Sewer Profile

Proj. file: 2023-10-13_Storm Sizing-Final_Model.stm



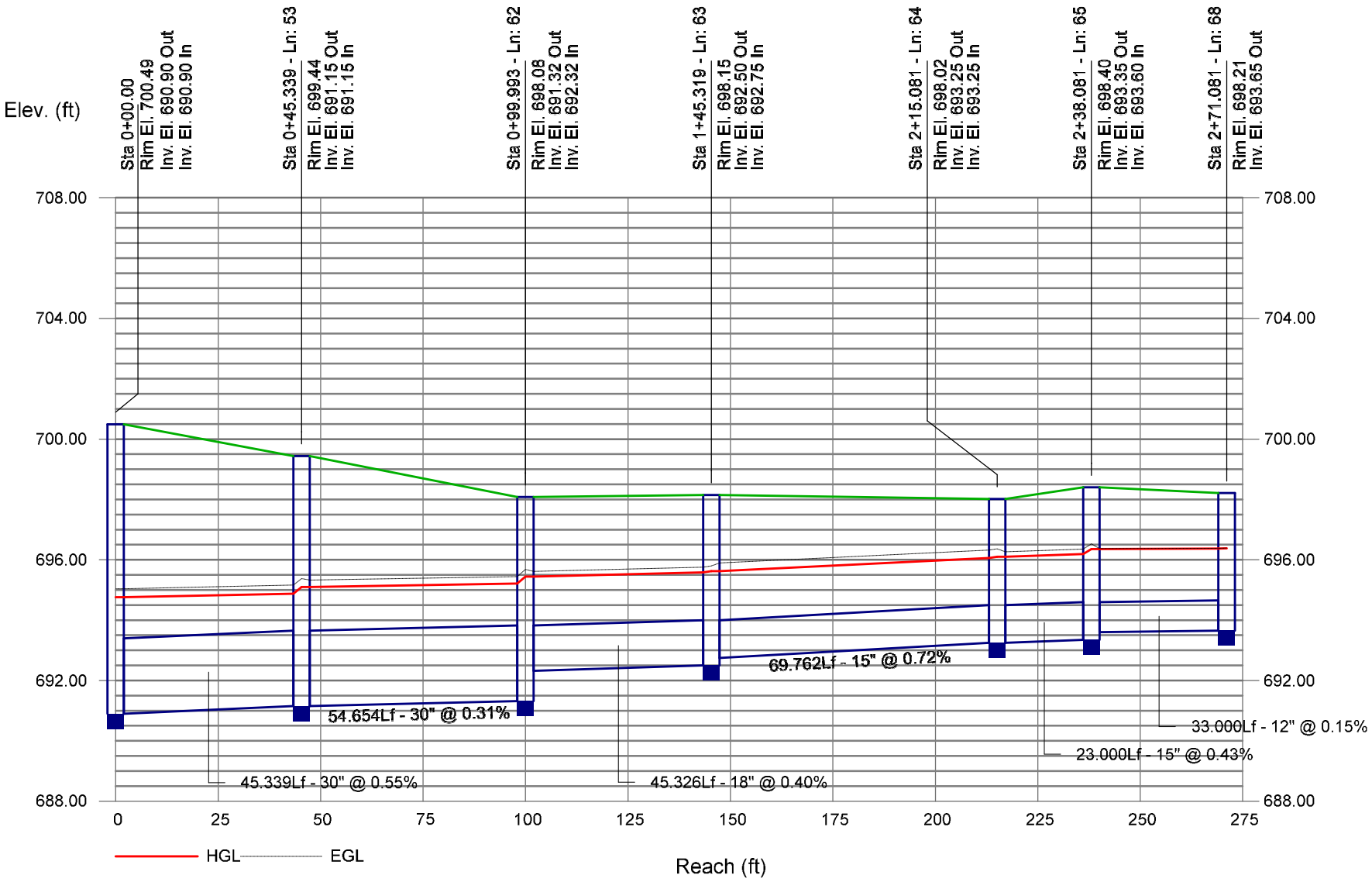
Storm Sewer Profile

Proj. file: 2023-10-13_Storm Sizing-Final_Model.stm



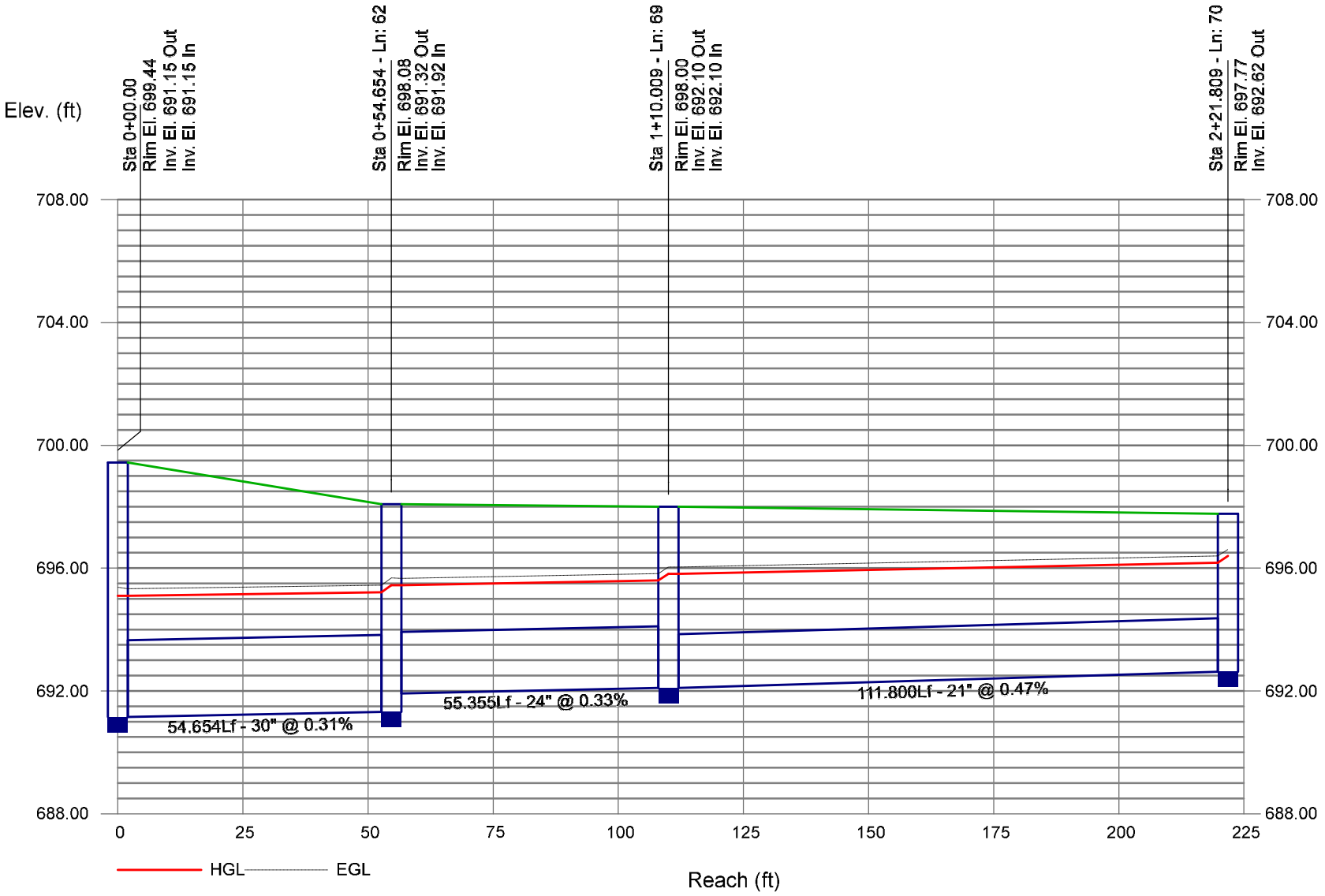
Storm Sewer Profile

Proj. file: 2023-10-13_Storm Sizing-Final_Model.stm



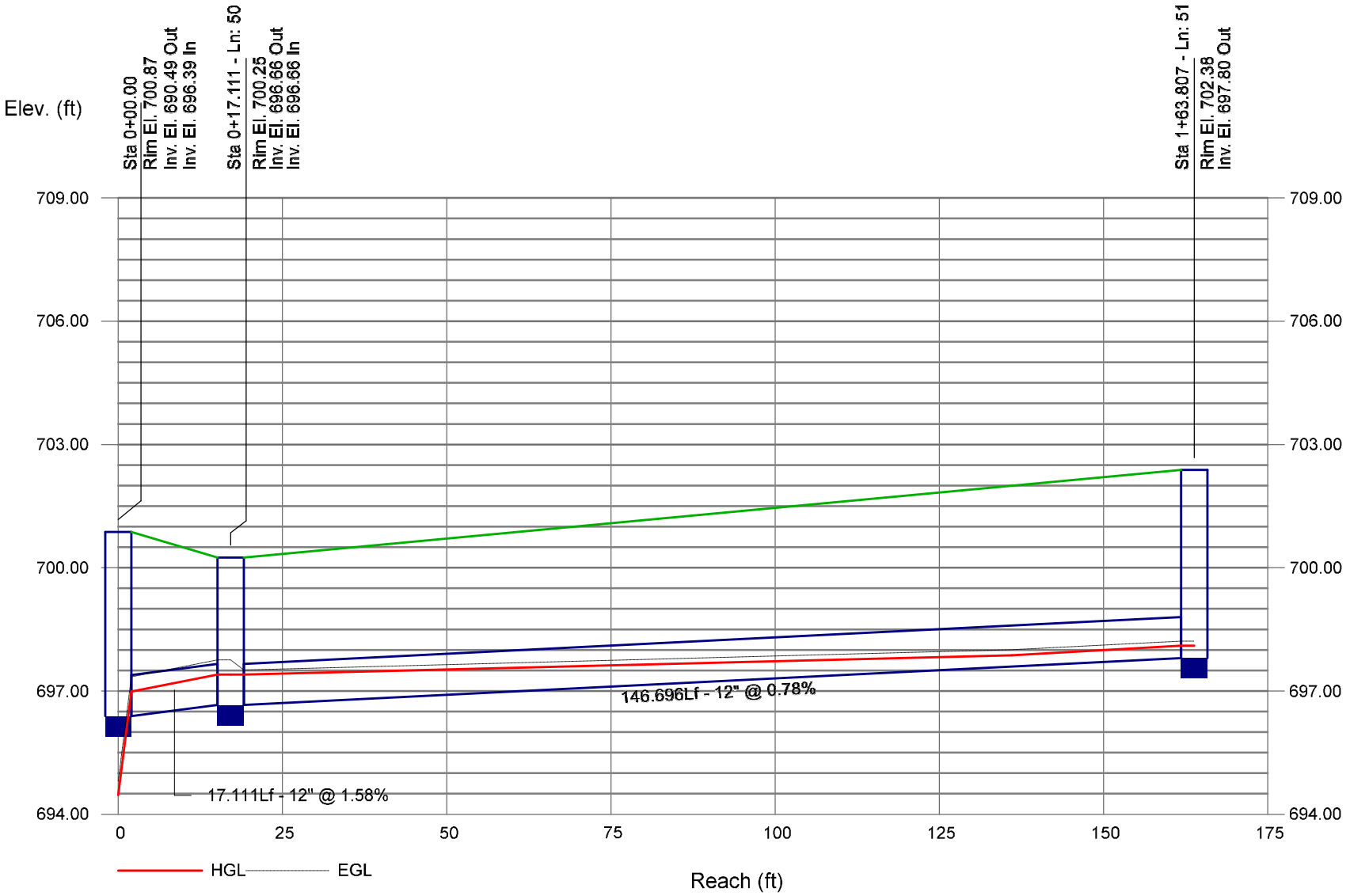
Storm Sewer Profile

Proj. file: 2023-10-13_Storm Sizing-Final_Model.stm



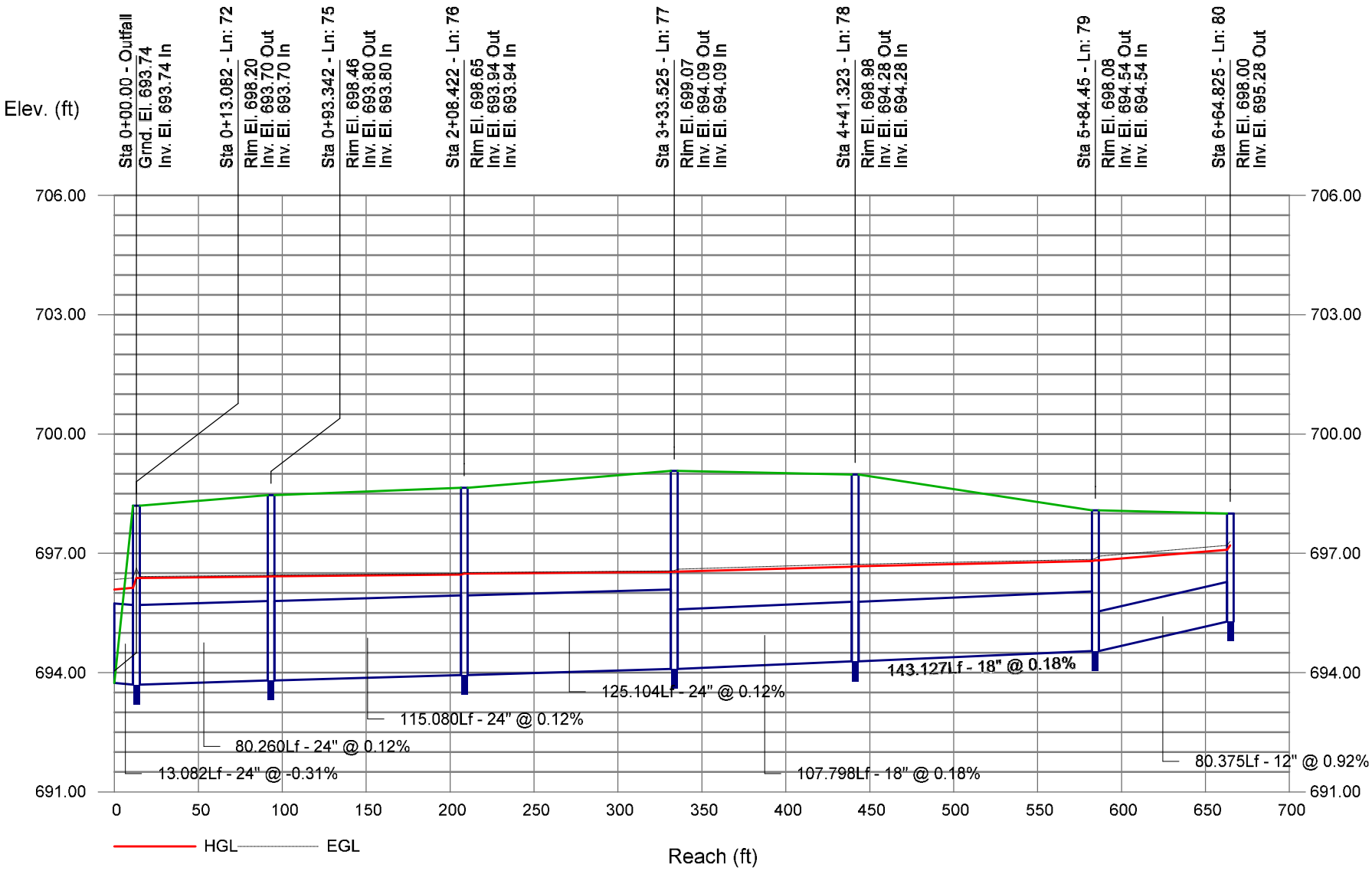
Storm Sewer Profile

Proj. file: 2023-10-13_Storm Sizing-Final_Model.stm



Storm Sewer Profile

Proj. file: 2023-10-13_Storm Sizing-Final_Model.stm



Storm Sewer Profile

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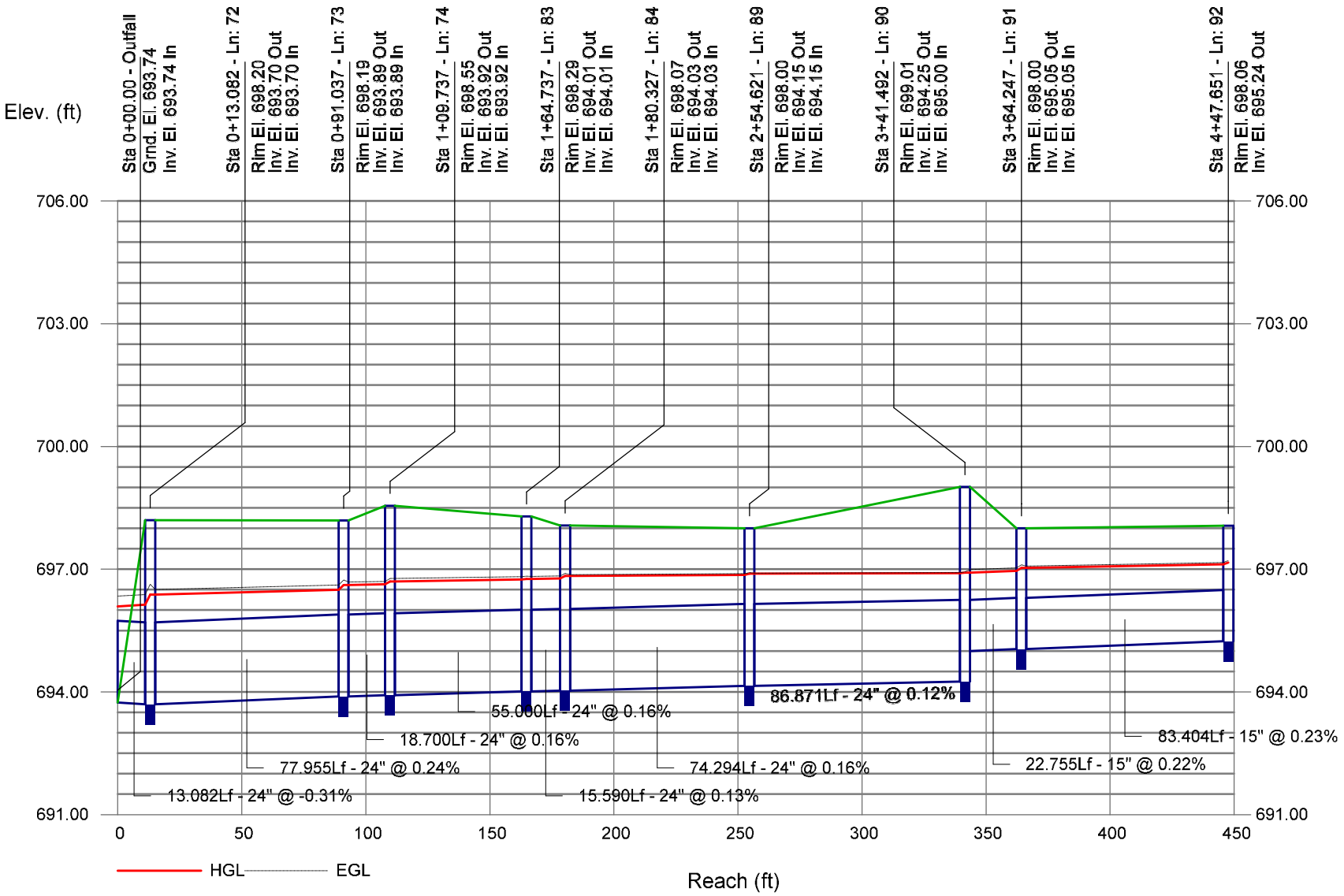

Storm Sewer Profile

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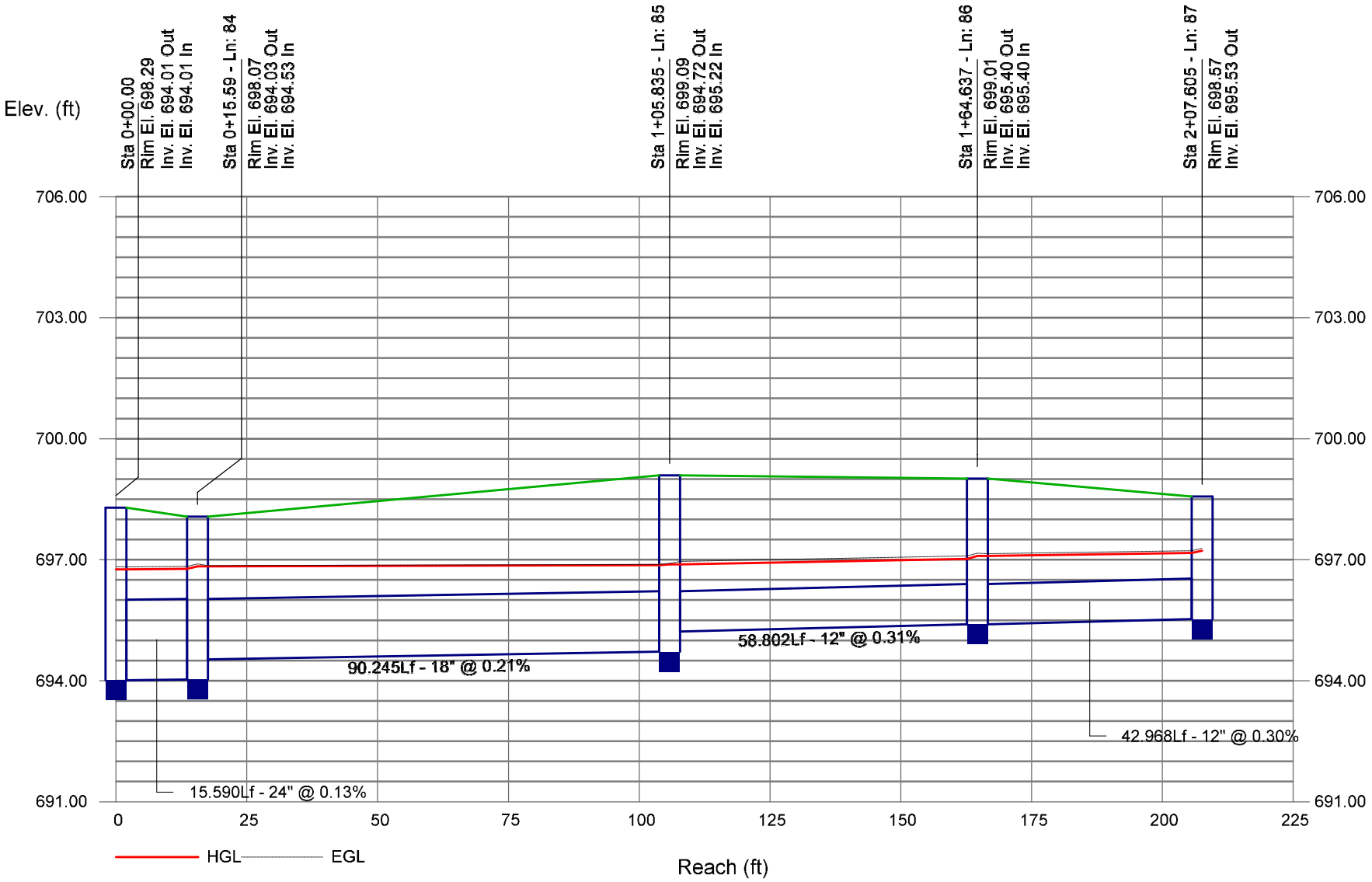

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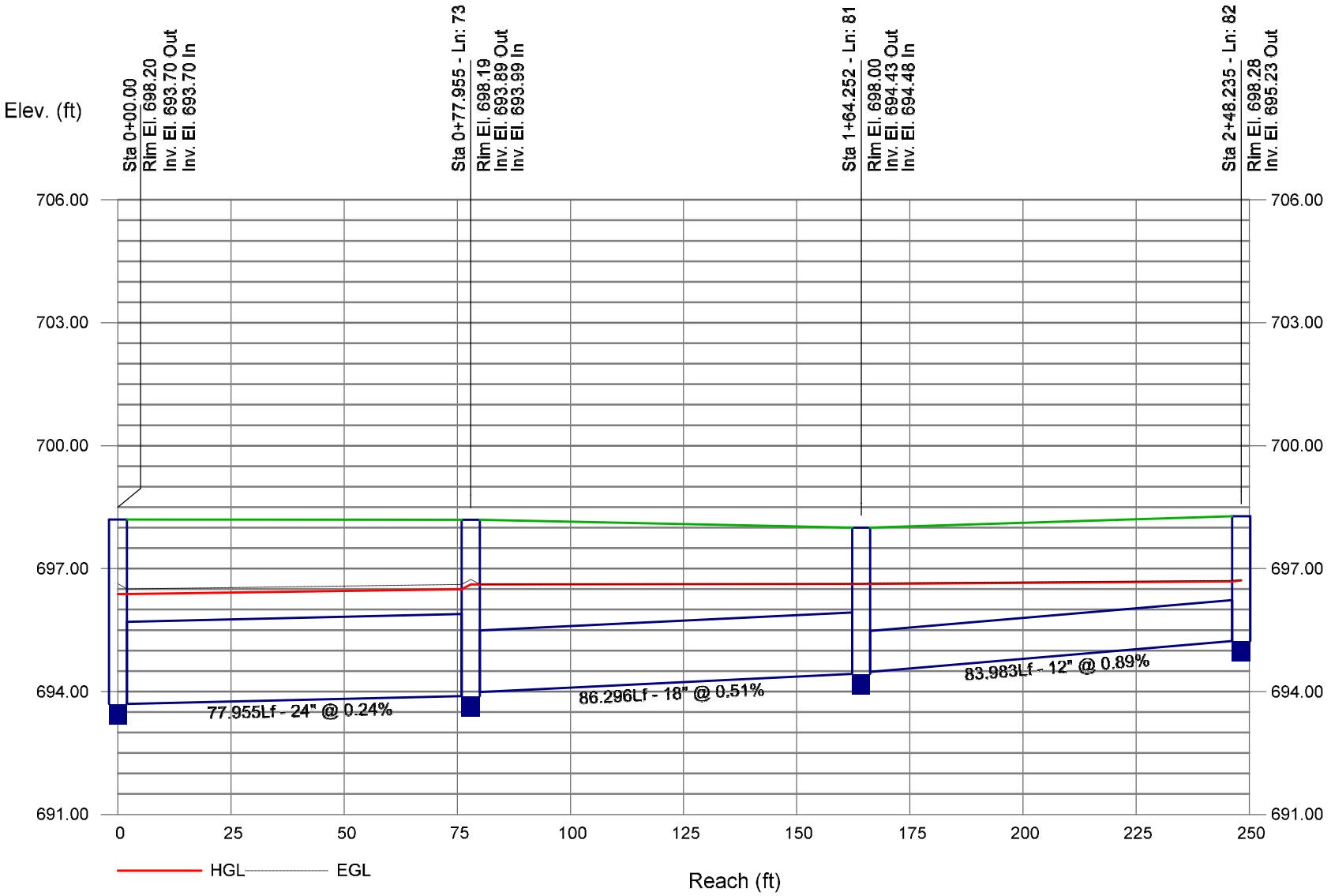

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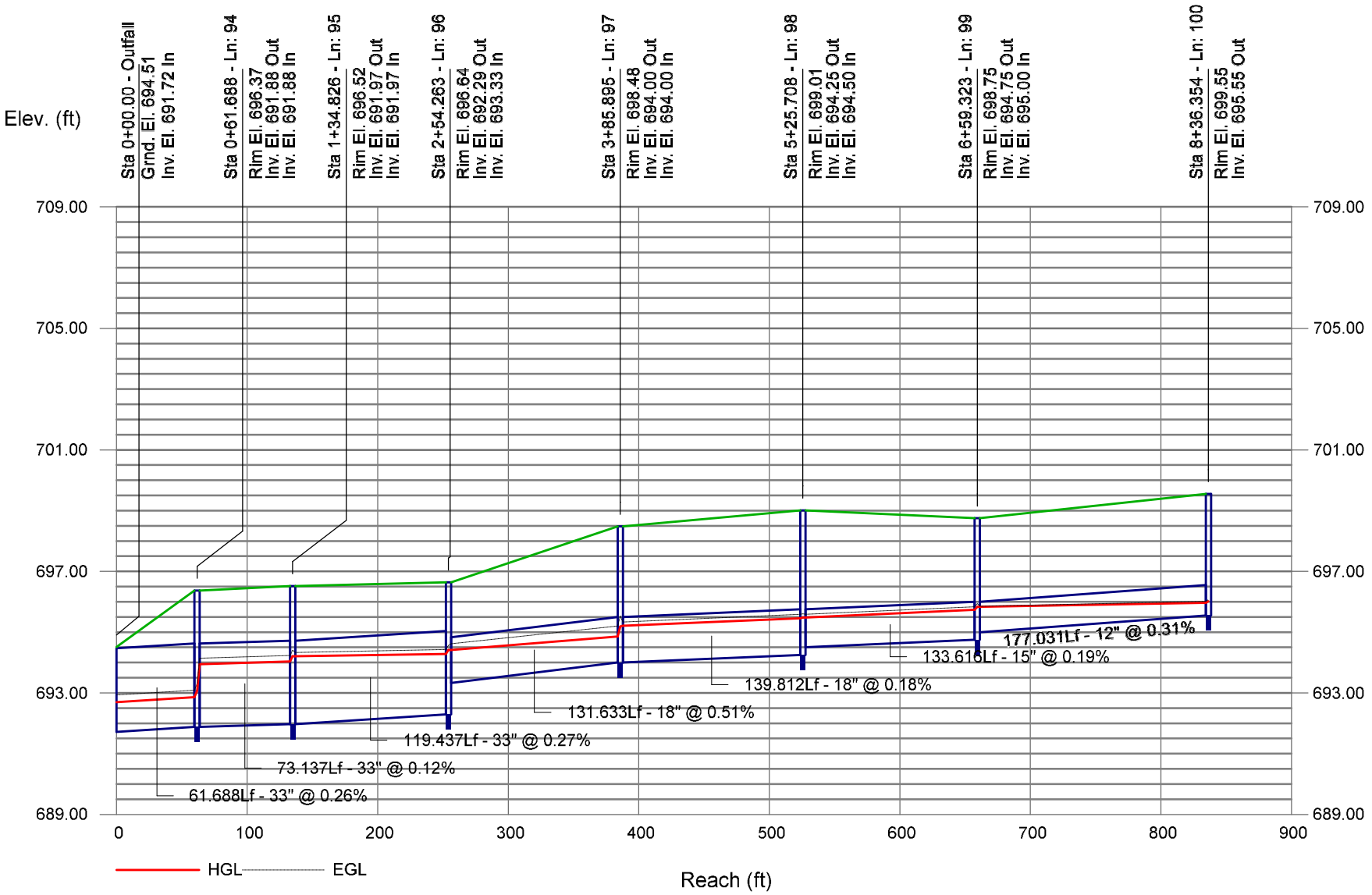

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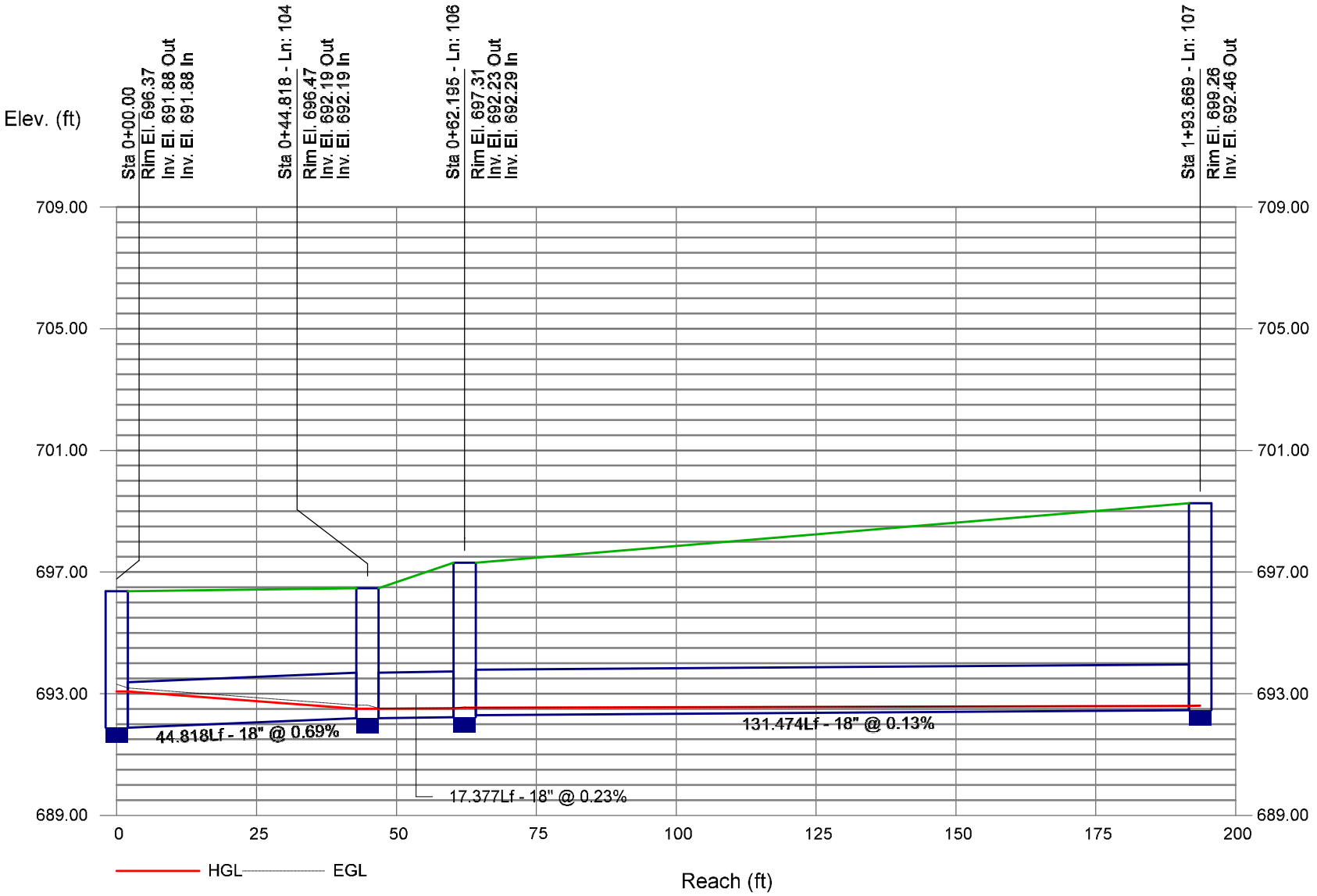

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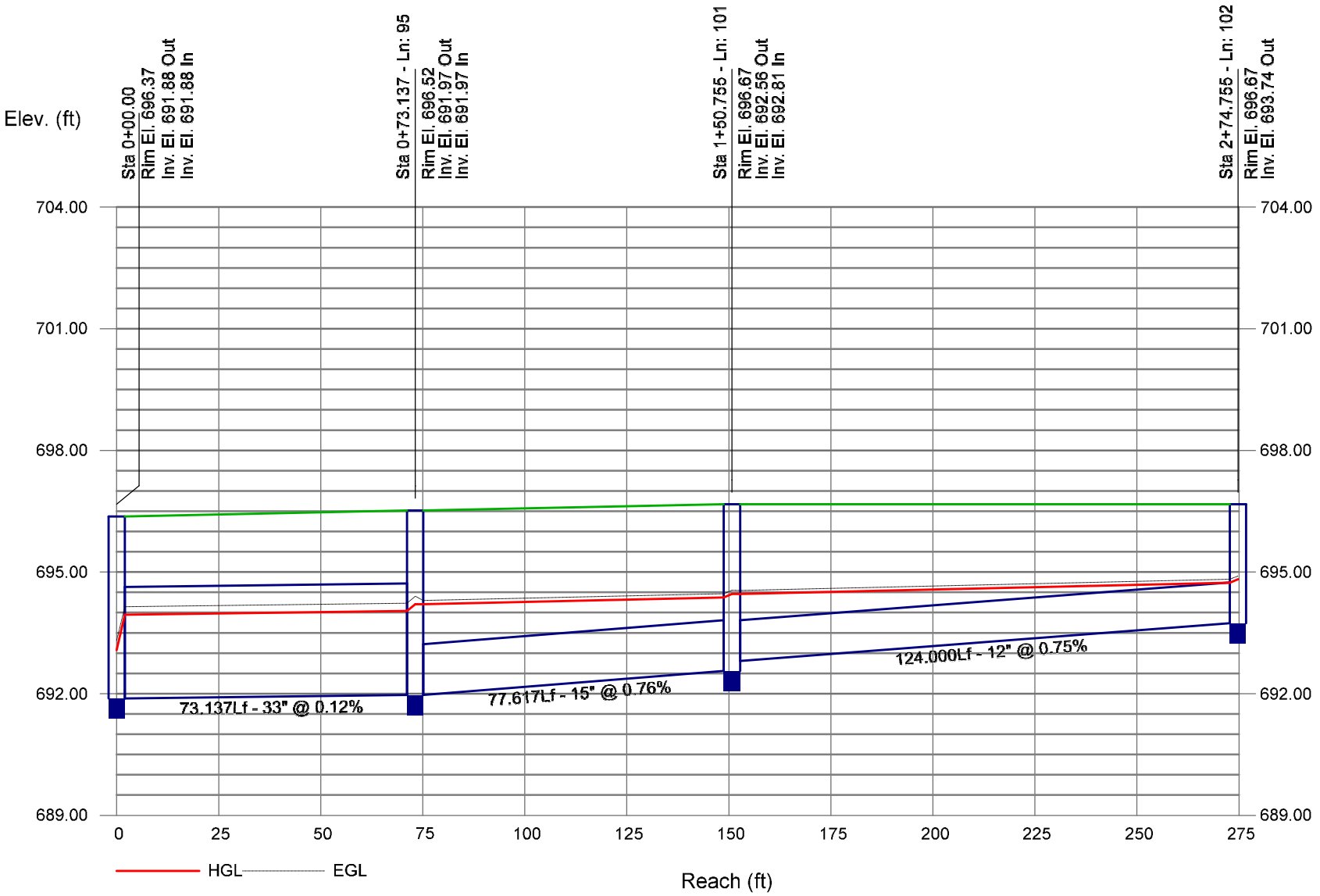

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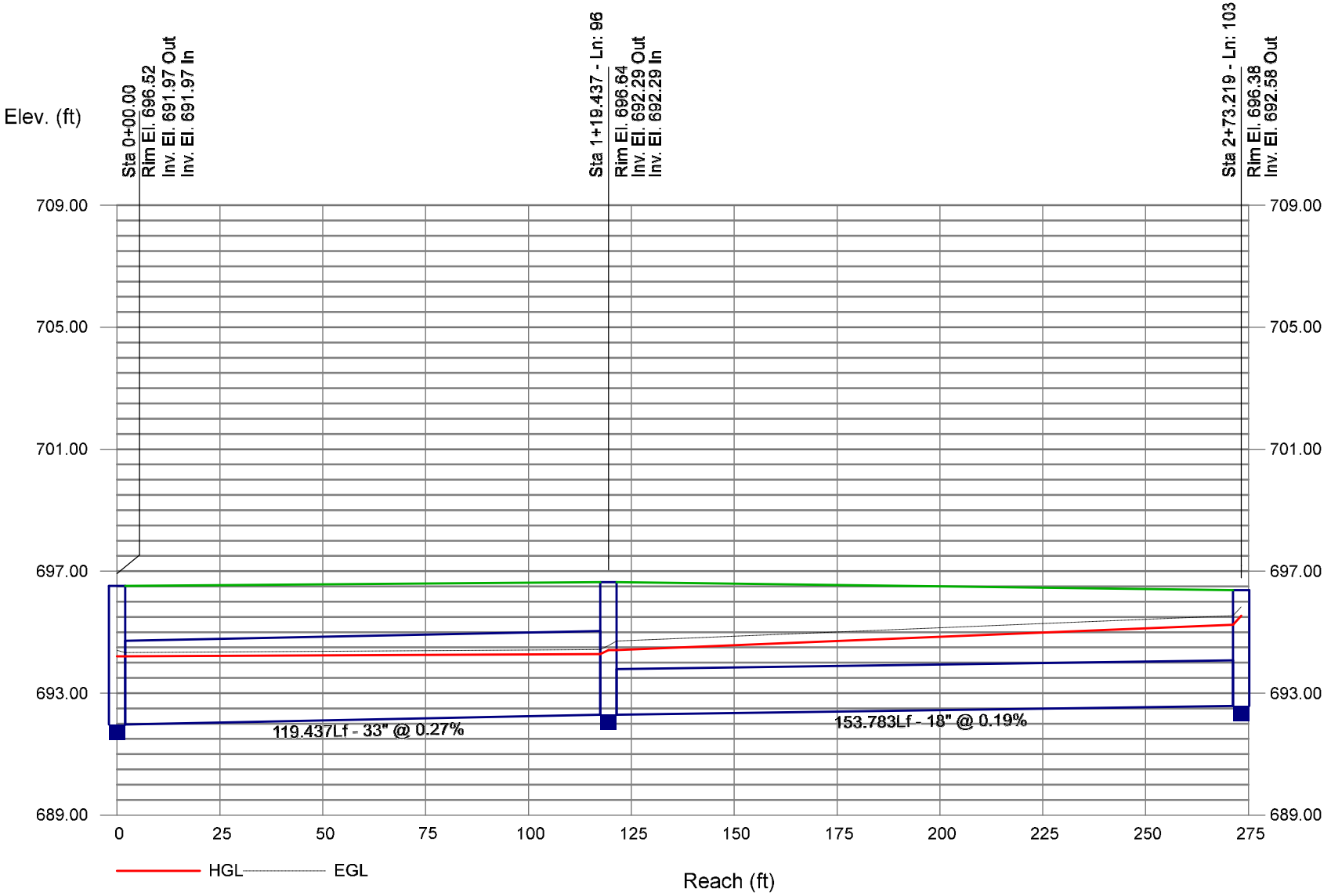

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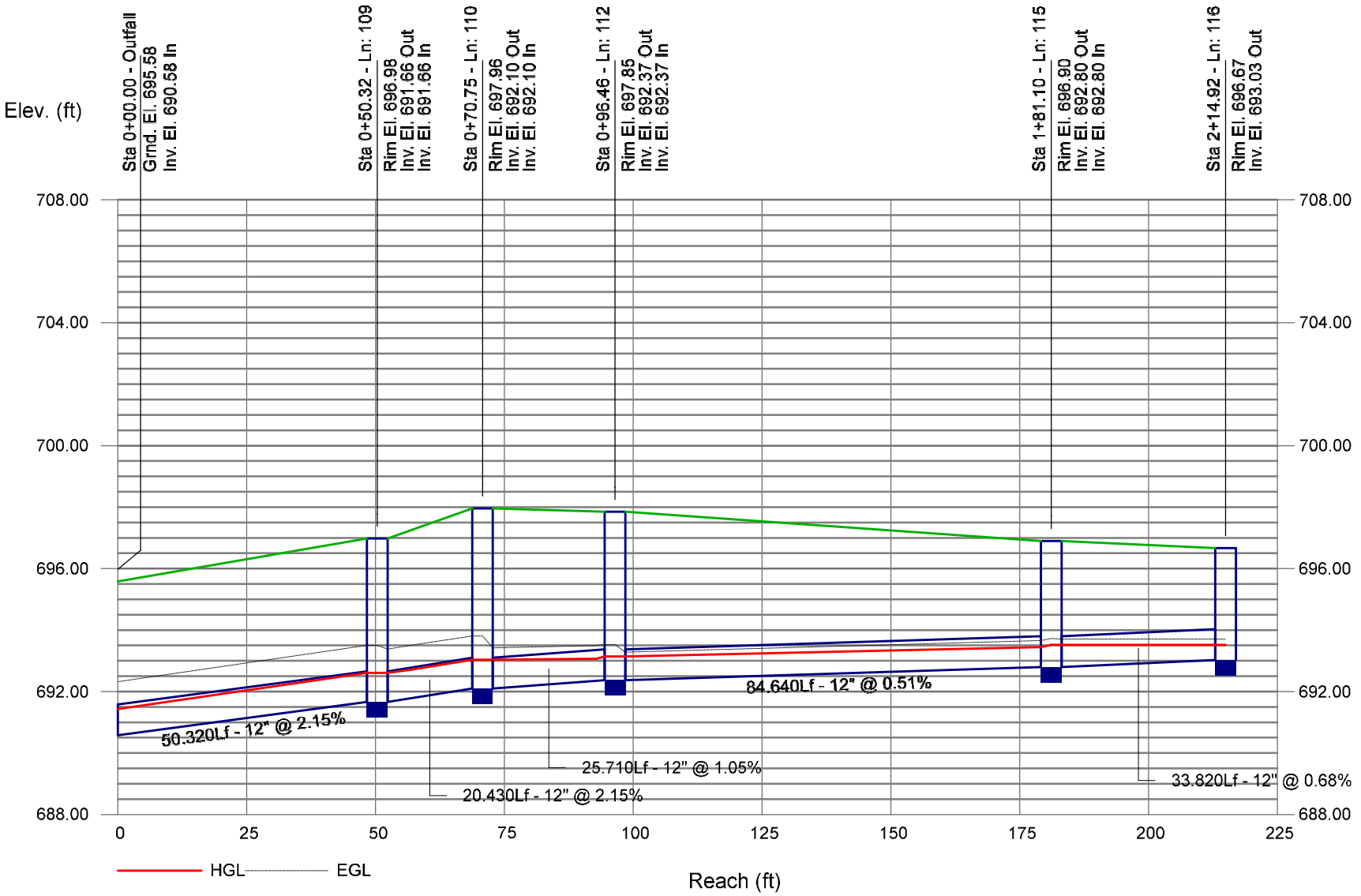

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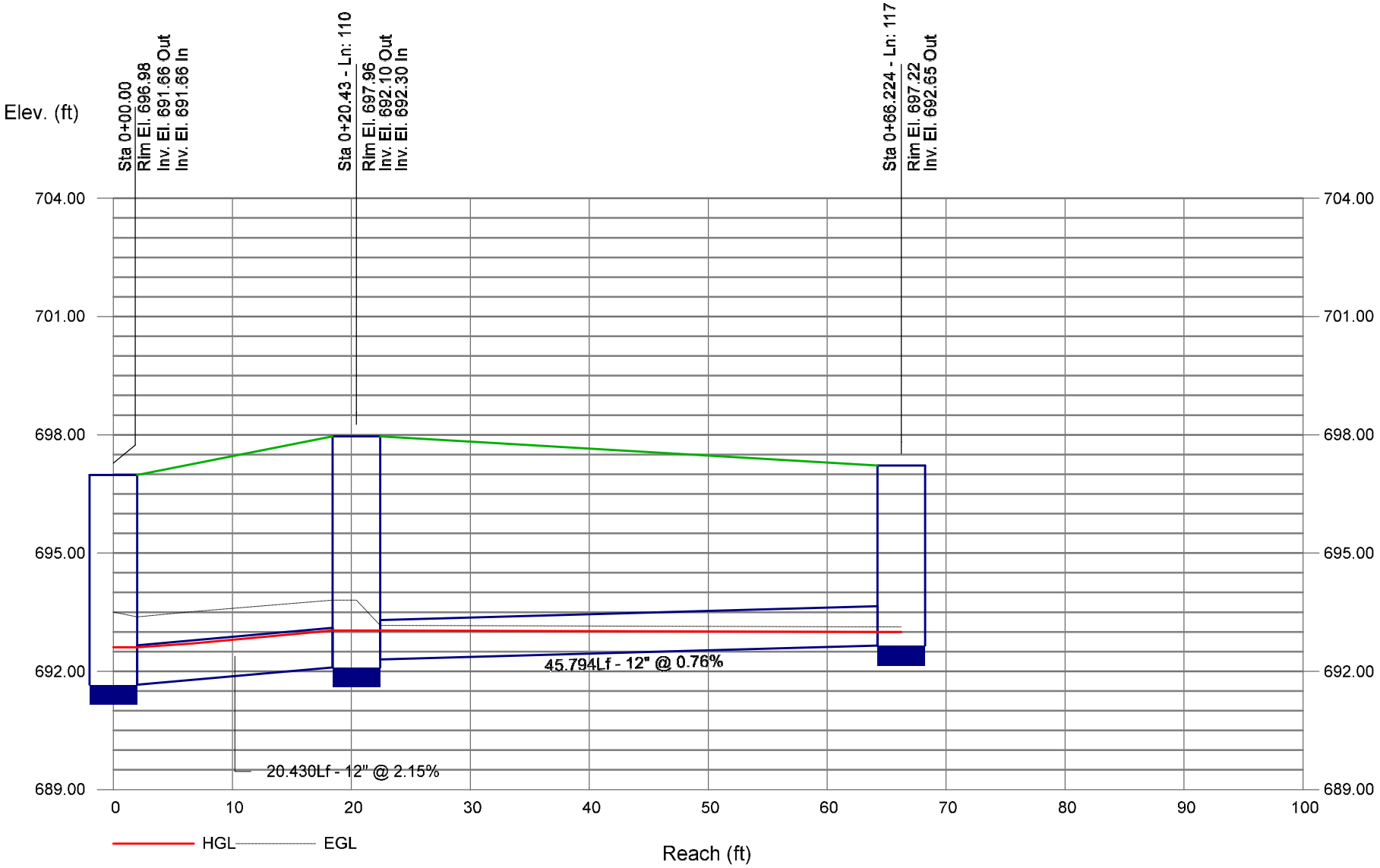

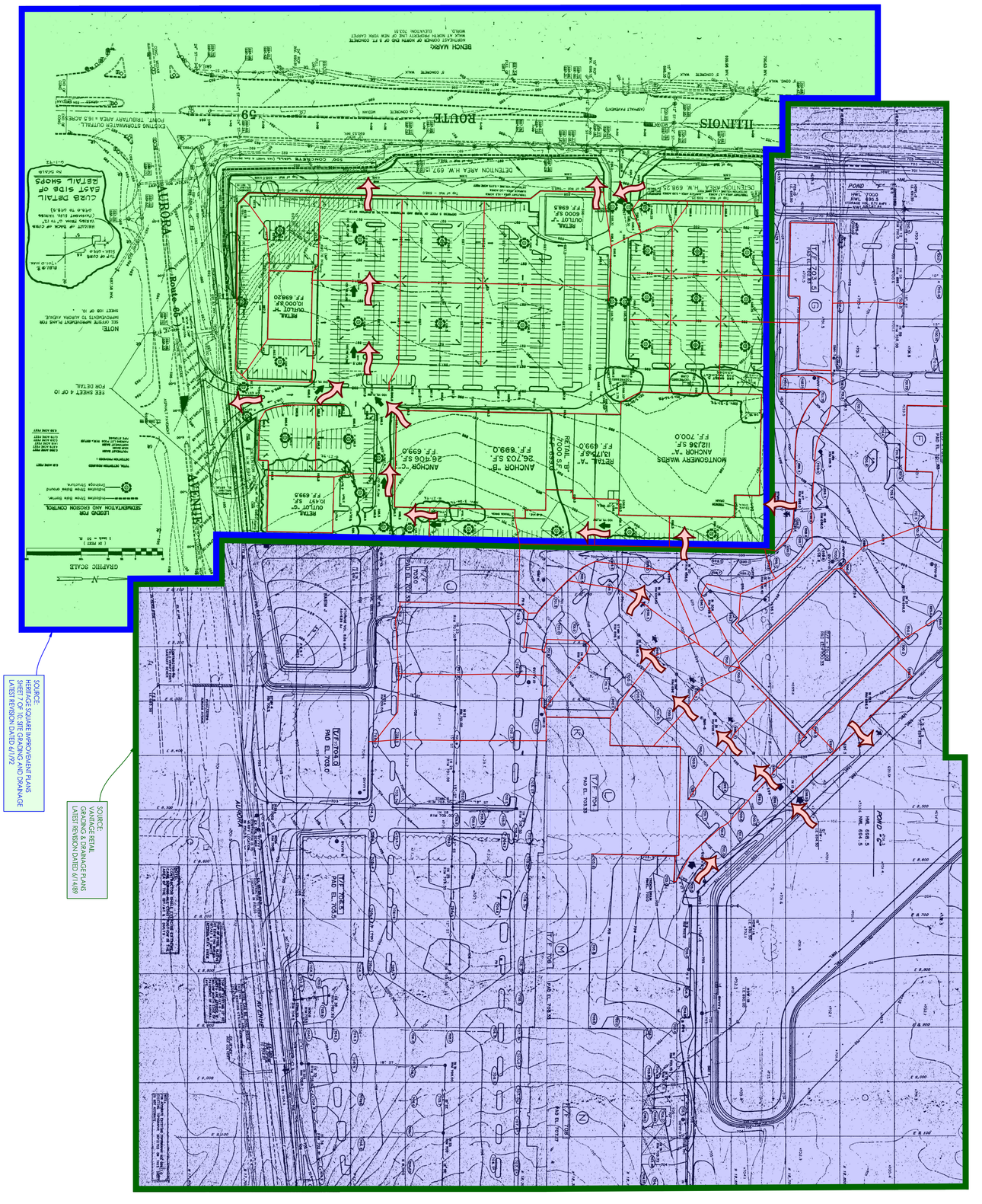

GRAPHIC SCALE
(IN FEET)
1 inch = 100 ft.

PROJECT NAME: BLOCK 59 — 404 S. STATE ROUTE 59, NAPERVILLE, IL	SHEET NAME: EXISTING OVERLAND FLOW EXHIBIT	PROJECT No.: 21.BRX.C02	SHEET No.: OF SHEETS

rtm engineering consultants
650 E. Algonquin Road
Suite 250
Schaumburg, IL 60173
Telephone: (847) 756 - 4180
www.rtmec.com
IL Design Firm: 184006777-0002

No.	DATE	DESCRIPTION	No.	DATE	DESCRIPTION
0	07/22/2023	FIRST ISSUE			

"POND G"

"NORTHWEST DETENTION BASIN"

"MAIN DETENTION BASIN"

"SOUTHEAST DETENTION BASIN"

"MAIN DETENTION BASIN"

"DETENTION POND"

EX. RETAIL BLDG

EX. HOLLYWOOD FILMS BLDG

EX. BLDG P

EX. BLDG O

EX. BLDG N

EX. BLDG M

EX. BANK

EX. LAZY DOG BUILDING

PR. BLDG K FFE = 700.50

PR. BLDG A FFE = 702.25

PR. BLDG B FFE = 702.25

PR. BLDG D FFE = 702.25

PR. BLDG C FFE = 702.25

PR. BLDG F FFE = 701.50

PR. BLDG H FFE = 698.20

PR. BLDG I FFE = 698.20

IL ROUTE 59

AURORA AVE

LEGEND:

	SUBCATCHMENT BOUNDARY
	PROJECT LIMITS
	OVERLAND PATH FROM OFFSITE "POND G"
0.00	GRADE
O.F.	OVERFLOW ELEV. (HIGHEST OF DOWNSTREAM SUBCATCHMENTS)
C:XX.XX	RIDGE LINE
C:XX.XX	TOP OF CURB
W:XX.XX	TOP OF WALK
P:XX.XX	TOP OF PAVEMENT
D:XX.XX	FLOW LINE @ DEPRESSED CURB
FL:XX.XX	FLOW LINE
E:XX.XX	EDGE OF PAVEMENT
G:XX.XX	FINISHED GRADE
R:XX.XX	RIM GRADE
ME:XX.XX	MATCH EXISTING
FF:XX.XX	FINISHED FLOOR
	FLOW ARROW
	OVERFLOW

GRAPHIC SCALE

60 0 30 60 120

(IN FEET)

1 inch = 60 ft.

NO	DATE	DESCRIPTION
0	08/11/2023	FIRST ISSUE

rtm engineering consultants

650 E. Algonquin Road
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Schaumburg, IL 60173
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www.rtmec.com

IL Design Firm: 184006777-0002

SHEET NAME: PROPOSED OVERLAND FLOW EXHIBIT

PROJECT NAME: BLOCK 59 — 404 S. STATE ROUTE 59 — NAPERVILLE, IL

PROJECT No. 21.BRX.C02

SHEET No.

OF SHEETS