



KAW VALLEY ENGINEERING, INC.

Office: 785.762.5040
Web: www.kveng.com
Address: 2319 N. Jackson
P.O. Box 1304
Junction City, KS 66441

Date: May 16, 2025
Project No.: A24D2009
Subject: Stormwater Report
Project: Smalls Sliders – 1050 SW Jefferson Street, Lee's Summit, Missouri

Introduction

Paxvesta, LLC is proposing to build a new 930 square foot Smalls Sliders at 1050 SW Jefferson Street in Lee's Summit, Missouri. This site will have a total land disturbance of 0.88 acres. This memo is to provide site-specific stormwater calculations. For quality and quality control for this site please refer to the Oldham Village report done by Engineering Solutions dated May 22, 2024.

Proposed Conditions

The proposed site will include the drive-through building, outdoor patio, drive lanes and parking.

0.07 Acres of Pervious Area

0.81 Acres of Impervious Area

See **Appendix A** for proposed site conditions.

Stormwater Runoff Calculation

The project site stormwater runoff was calculated using the data supplied in the Oldham Village report done by Engineering Solutions dated May 22, 2024. See **Appendix B** for the Hydraflow Hydrographs report.

Total Site Discharge 2YR = 3.3 CFS, 10 YR = 5.5 CFS, 100 YR = 8.6 CFS

Storm sewer was sized using Hydraflow Storm Sewers using the Rational Method to handle the 100-year storm. See **Appendix C** for the Hydraulic Grade Line Calculations and Profiles.

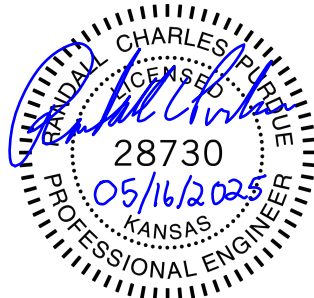
Conclusion

The proposed Small Sliders matches the proposed use for this site and all quality and quantity controls were covered by the regional detention listed in the Oldham Village report done by Engineering Solutions dated May 22, 2024. The site-specific run-off is shown above, and the on-site storm sewer was sized to handle the 100-year storm.

Sincerely,

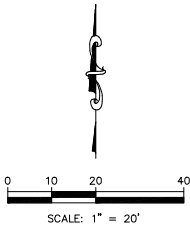
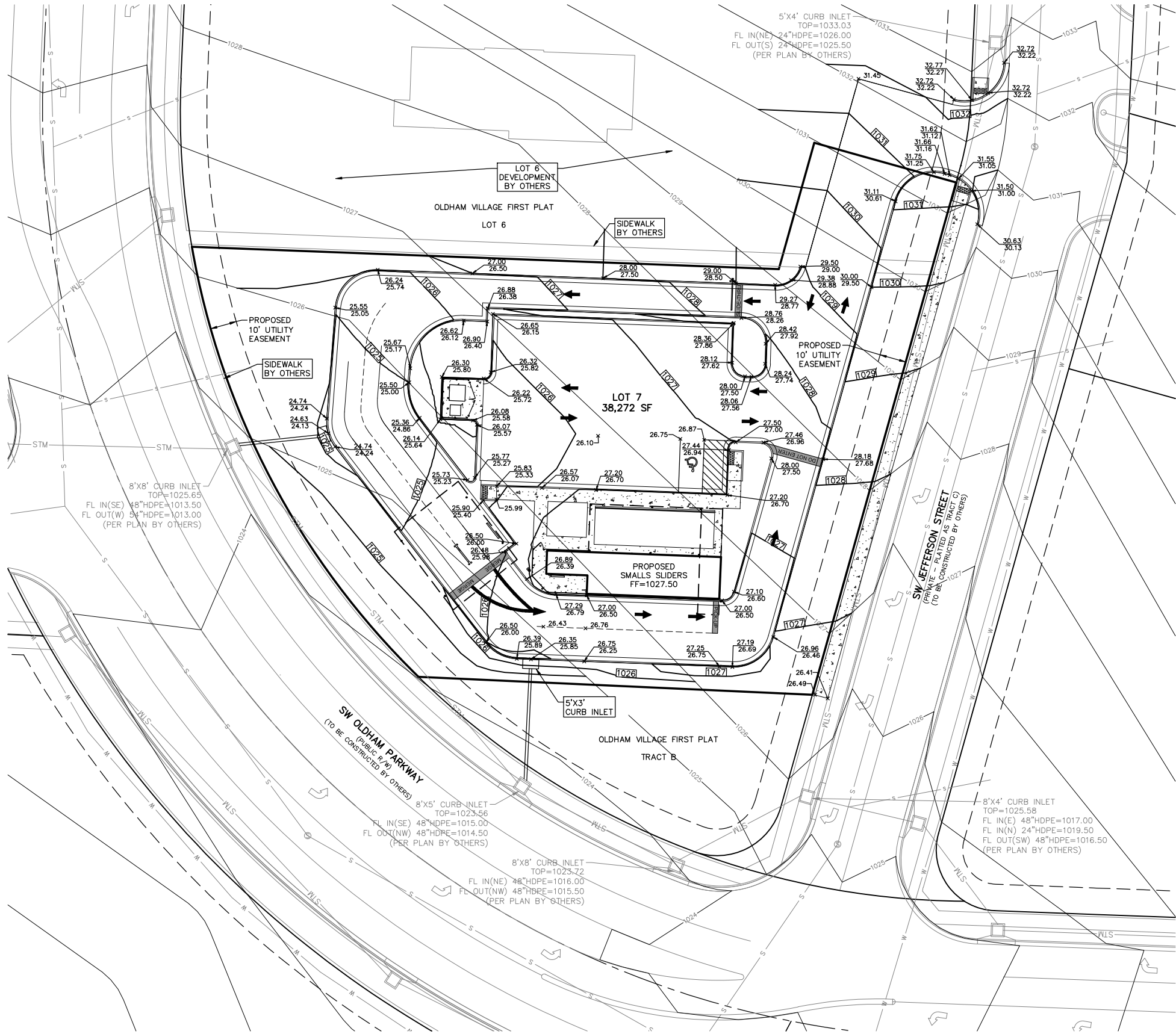
Randy Purdue, P.E.
Project Manager

RCP:smw



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Appendix A
Existing Conditions



LEGEND (PROPOSED)

82.95 SPOT ELEVATION (ADD 1000),
X
TOP OF PAVEMENT

83.65 TOP OF CURB (ADD 1000)
83.15 FLOWLINE OF CURB (ADD 1000)

← FLOW DIRECTION

1027 FINISHED 1' CONTOUR INTERVALS, TOP OF PAVEMENT

1027 FINISHED 1' CONTOUR INTERVALS, BY OTHERS

SMALLS SLIDERS
SW JEFFERSON STREET
LEE'S SUMMIT, MISSOURI
PRELIMINARY DEVELOPMENT PLAN
GRADING PLAN



PROJ. NO.	A2402009
DESIGNER	RCP
DRAWN BY	JP
CFN	2009GP_PDP
SHEET	REV

3

REV DATE DESCRIPTION

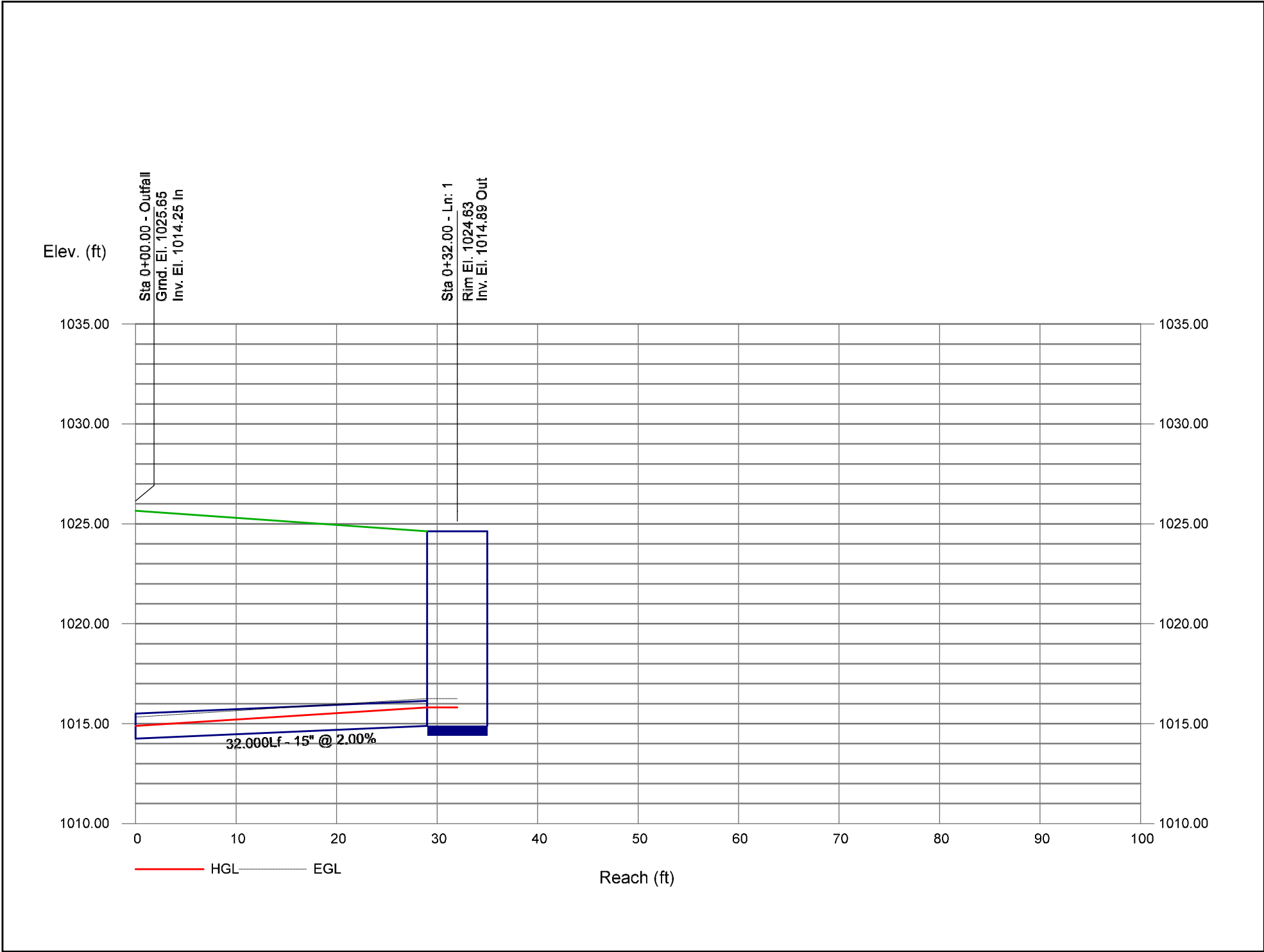
DSN DWN CHK

Appendix B
Hydraflow Hydrographs Report

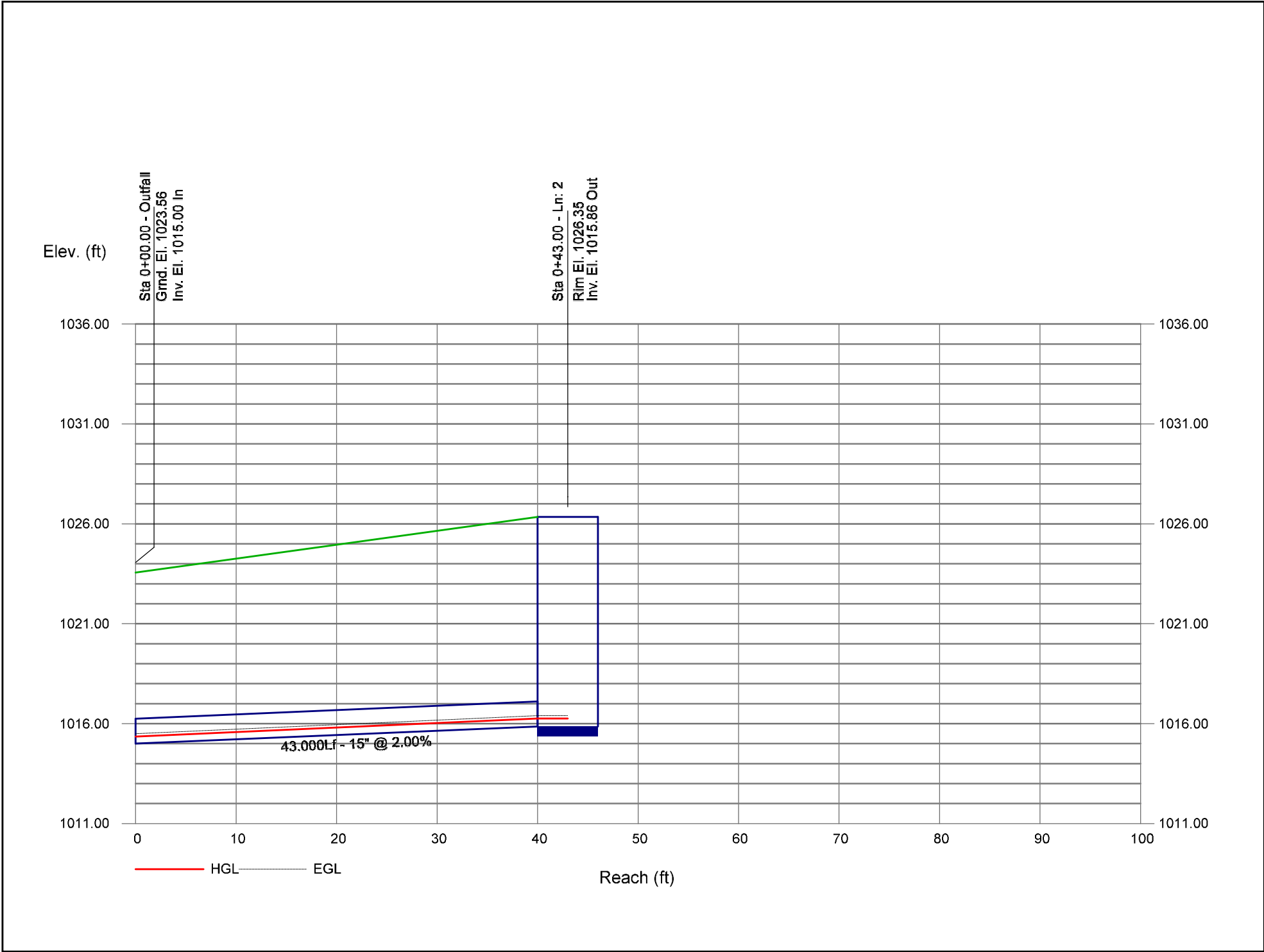
Hydraulic Grade Line Computations

Line	Size (in)	Q (cfs)	Downstream								Len (ft)	Upstream								Check		JL coeff (K)	Minor loss (ft)
			Invert elev (ft)	HGL elev (ft)	Depth (ft)	Area (sqft)	Vel (ft/s)	Vel head (ft)	EGL elev (ft)	Sf (%)		Invert elev (ft)	HGL elev (ft)	Depth (ft)	Area (sqft)	Vel (ft/s)	Vel head (ft)	EGL elev (ft)	Sf (%)	Ave Sf (%)	Enrgy loss (ft)		
1	15	5.14	1014.25	1014.89	0.64	0.63	8.14	0.44	1015.33	0.000	32.000	1014.89	1015.81	0.92**	0.97	5.32	0.44	1016.25	0.000	0.000	n/a	1.00	0.44
2	15	1.01	1015.00	1015.35	0.35	0.28	3.58	0.14	1015.49	0.000	43.000	1015.86	1016.25	0.39**	0.33	3.04	0.14	1016.40	0.000	0.000	n/a	1.00	0.14
Project File: storm sewer.stm Number of lines: 2 Run Date: 5/15/2025 Notes: ; ** Critical depth. ; c = cir e = ellip b = box																							

Storm Sewer Profile



Storm Sewer Profile



Appendix C
Hydraulic Grade Line Calculations and Profiles

Hydrograph Report

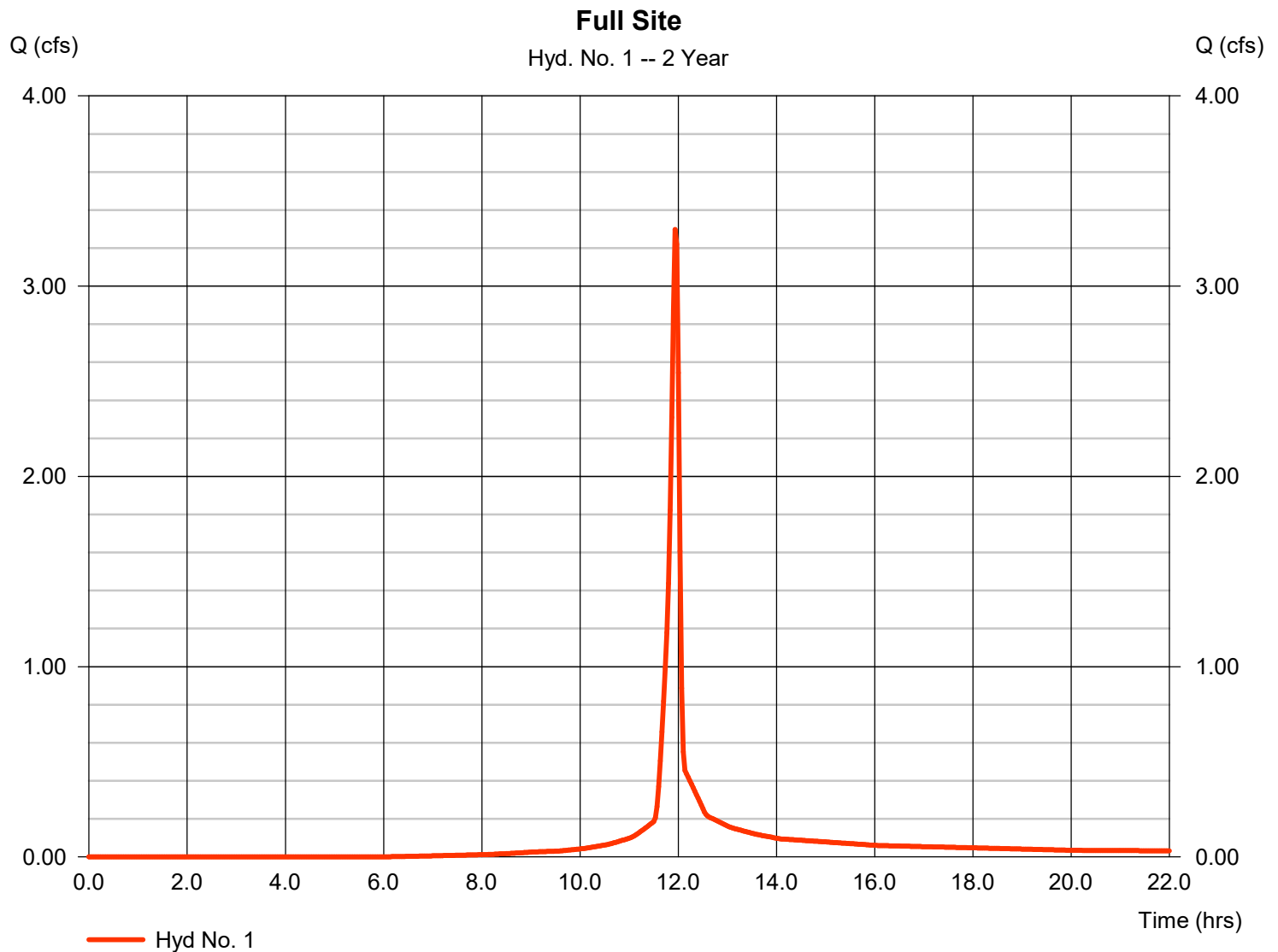
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Thursday, 05 / 15 / 2025

Hyd. No. 1

Full Site

Hydrograph type	= SCS Runoff	Peak discharge	= 3.297 cfs
Storm frequency	= 2 yrs	Time to peak	= 11.93 hrs
Time interval	= 2 min	Hyd. volume	= 6,794 cuft
Drainage area	= 0.880 ac	Curve number	= 88
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 3.50 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

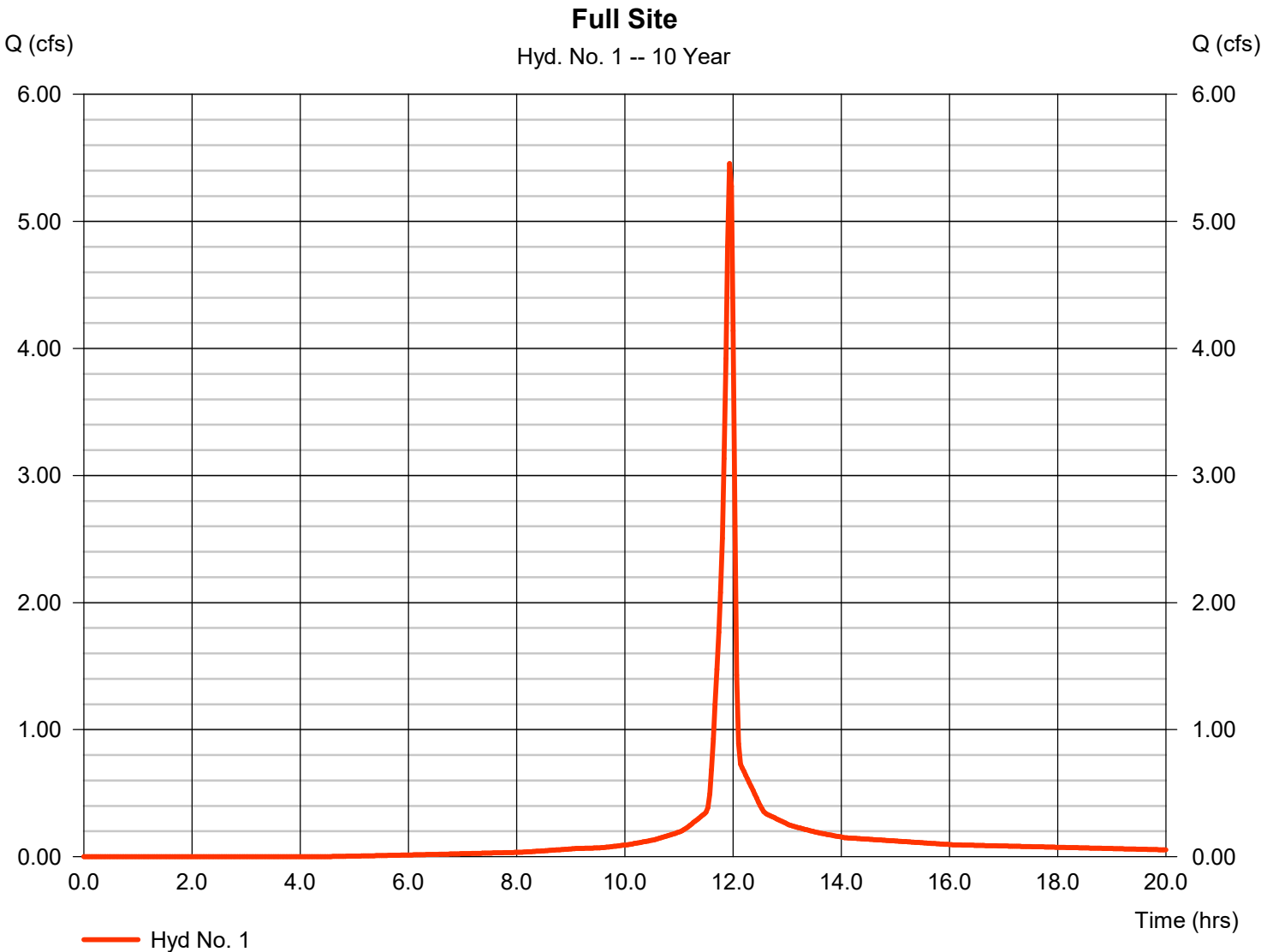


Hydrograph Report

Hyd. No. 1

Full Site

Hydrograph type	=	SCS Runoff	Peak discharge	=	5.456 cfs
Storm frequency	=	10 yrs	Time to peak	=	11.93 hrs
Time interval	=	2 min	Hyd. volume	=	11,557 cuft
Drainage area	=	0.880 ac	Curve number	=	88
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	5.20 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484



Hydrograph Report

Hyd. No. 1

Full Site

Hydrograph type	= SCS Runoff	Peak discharge	= 8.605 cfs
Storm frequency	= 100 yrs	Time to peak	= 11.93 hrs
Time interval	= 2 min	Hyd. volume	= 18,793 cuft
Drainage area	= 0.880 ac	Curve number	= 88
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 7.70 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

