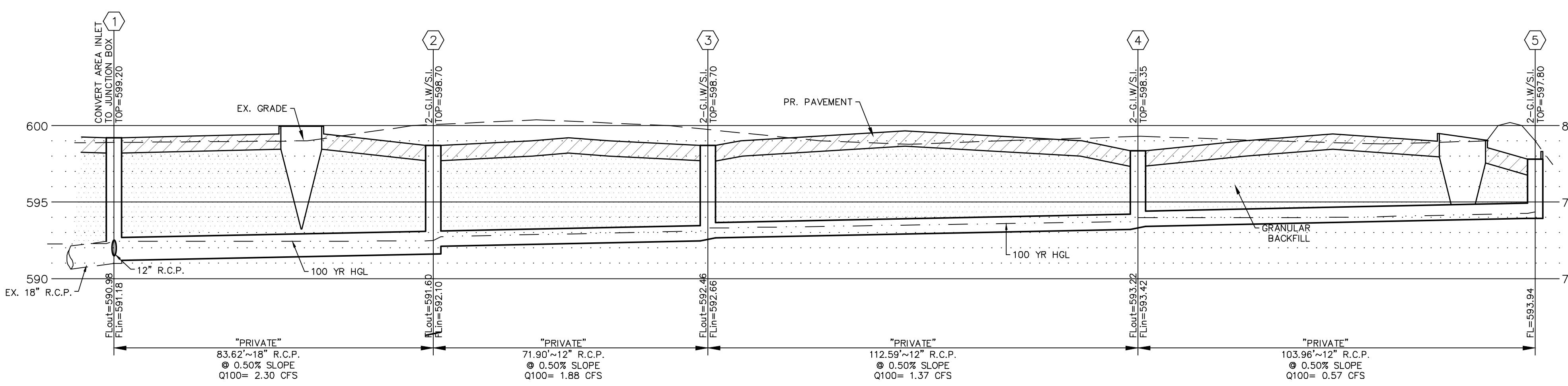


**STORM PROFILE**

SCALE:  
HORIZONTAL: 1"=20'  
VERTICAL: 1"=5'



**STORM PROFILE**

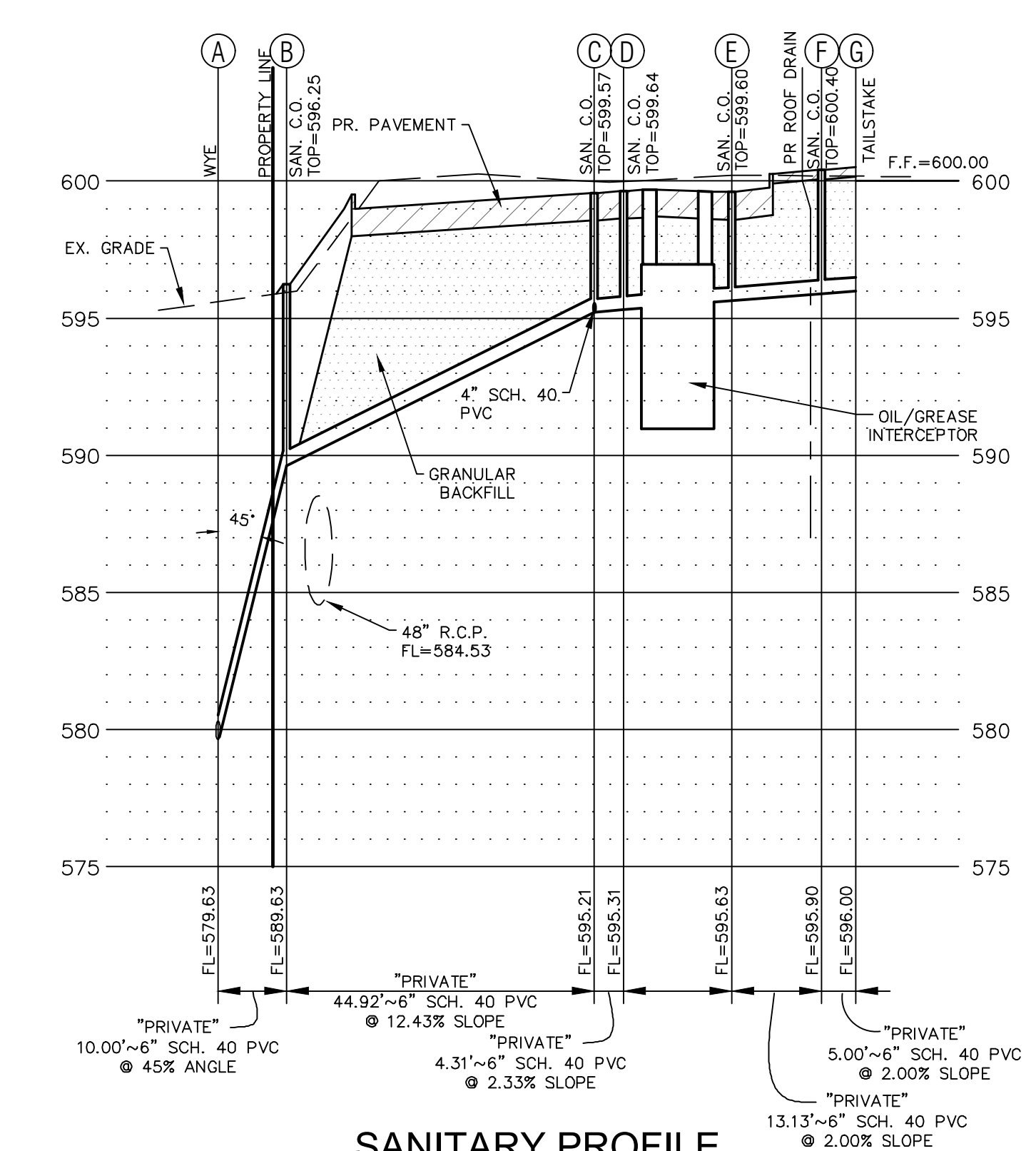
SCALE:  
HORIZONTAL: 1"=20'  
VERTICAL: 1"=5'

STORM SEWER COMPUTATION SHEET																
Project: DOBBS TIRE, O'Fallon, MO										Computed By: YH						
										Date: 2/9/2024						
Sewer Location			Design				Profile									
Top Elevation	Structure No. to	Structure No.	Diameter (in.)	Manning's N	Slope	Velocity (fps)	Capacity (cfs)	Q100 Incr. Flow (cfs)	Q100 Design Flow (cfs)	Length (ft.)	Fall (ft.)	Invert Elevation Upper End	Invert Elevation Lower End	HYDRAFLOW LINK ID	100-YR HGL ELEV.	100-YR FREEBOARD
598.00	7	6	12	0.013	1.35%	5.28	4.15	0.62	0.62	97.34	1.31	593.63	592.32		593.63	4.37
597.75	6	1	12	0.013	1.00%	4.55	3.57	1.97	2.59	63.55	0.64	592.12	591.48	7	593.31	4.44
597.80	5	4	12	0.013	0.50%	3.22	2.53	0.57	0.57	103.96	0.52	593.94	593.42	5	595.06	2.74
598.35	4	3	12	0.013	0.50%	3.22	2.53	0.80	1.37	112.59	0.56	593.22	592.66	4	594.91	3.44
598.70	3	2	12	0.013	0.50%	3.22	2.53	0.51	1.88	71.9	0.36	592.46	592.10	3	594.18	4.52
598.70	2	1	18	0.013	0.50%	4.21	7.45	0.43	2.30	83.62	0.42	591.60	591.18	2	593.25	5.45
599.20	1	CI 401	18	0.013	0.50%	4.21	7.45	-	4.89	59.96	0.30	590.98	590.68	1	592.59	6.61

**Hydraulic Grade Line Computations**

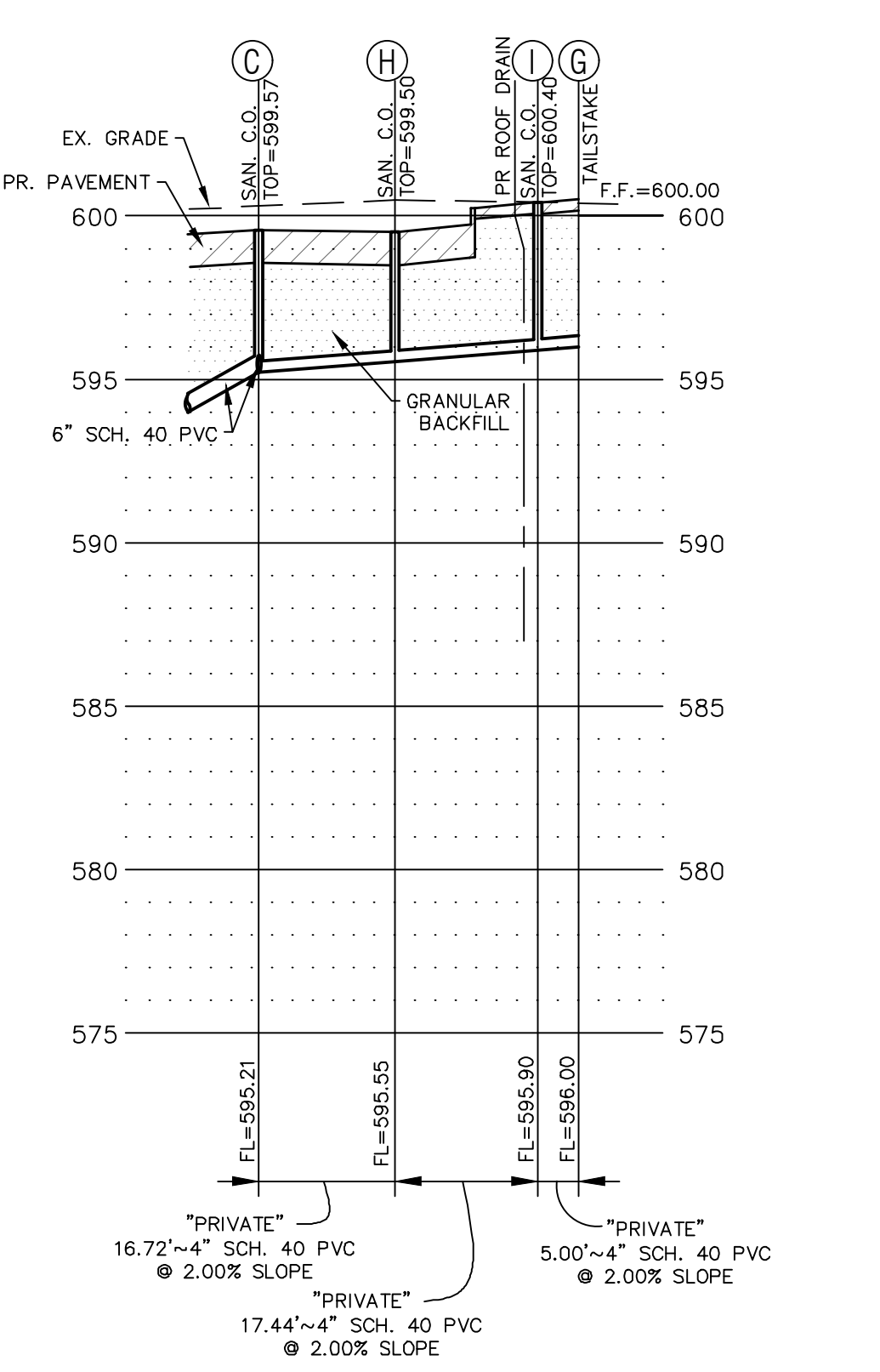
Line	Size	Q (cfs)	Downstream										Lan (ft)	Upstream										Check Ave Sf (%)	JL coeff (K)	Minor loss (ft)
			Invert elev (ft)	HGL elev (ft)	Depth (ft)	Area (sqft)	Vel (ft/s)	Vel head (ft)	EGL elev (ft)	Sf (%)	Invert elev (ft)	HGL elev (ft)		Depth (ft)	Area (sqft)	Vel (ft/s)	Vel head (ft)	EGL elev (ft)	Sf (%)							
1	18	4.90	590.68	592.18	1.50	1.77	2.77	0.12	592.30	0.218	59.960	590.98	592.28	1.30	1.63	3.01	0.14	592.42	0.199	0.208	0.125	1.00	0.14			
2	18	2.31	591.18	592.42	1.24	1.57	1.47	0.03	592.46	0.047	83.820	591.60	592.45	0.85	1.04	2.23	0.08	592.53	0.127	0.087	0.073	0.55	0.04			
3	12	1.88	592.10	592.74	0.64	0.53	3.52	0.19	592.94	0.501	71.900	592.46	593.10	0.64	0.54	3.51	0.19	593.30	0.499	0.500	0.359	1.06	0.20			
4	12	1.37	592.66	593.31	0.65	0.39	2.54	0.10	593.41	0.261	112.590	593.22	593.72	0.50	0.39	3.51	0.19	593.91	0.604	0.432	0.487	1.34	0.26			
5	12	0.57	593.42	593.97	0.55	0.21	1.28	0.03	594.00	0.073	103.960	593.94	594.26	0.32	0.21	2.88	0.11	594.37	0.548	0.310	0.323	1.00	0.11			
6	12	2.59	591.48	592.42	0.94	0.58	3.37	0.31	592.74	0.000	63.550	592.12	592.81	0.69	0.58	4.49	0.31	593.12	0.000	0.000	n/a	1.06	0.33			
7	12	0.62	592.32	592.81	0.49	0.22	1.62	0.12	592.93	0.000	97.340	593.63	593.96	0.33	0.22	2.77	0.12	594.06	0.000	0.000	n/a	1.00	n/a			

Project File: 2398.stm  
Number of lines: 7  
Run Date: 2/9/2024  
Notes: \* Normal depth assumed; \*\* Critical depth; -j- Line contains hyd. jump; c = cir e = ellip b = box  
Storm Sewers v2024.00



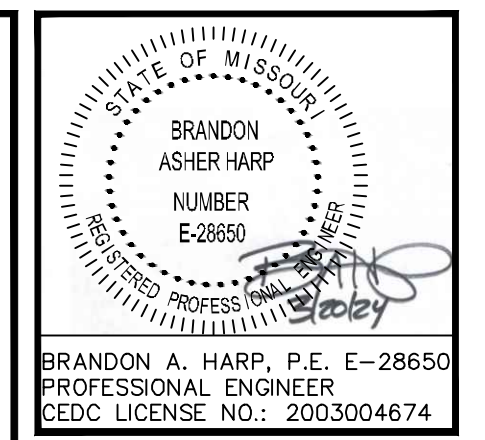
**SANITARY PROFILE**

SCALE:  
HORIZONTAL: 1"=20'  
VERTICAL: 1"=5'



**SANITARY PROFILE**

SCALE:  
HORIZONTAL: 1"=20'  
VERTICAL: 1"=5'



BRANDON A. HARP, P.E. E-28650  
PROFESSIONAL ENGINEER  
CEDC LICENSE NO.: 2003004674

**CEDC**  
CIVIL ENGINEERING  
DESIGN CONSULTANTS

Site Improvement Plans for  
**DOBBS TIRE AND AUTO CENTER**  
970 BRYAN ROAD  
O'FALLON, MO 63366

Proj. #	2398
No. Description	Date
PERMIT SET	1/5/24
REV PERMIT SET	2/12/24
REV PERMIT SET	3/20/24

**SEWER PROFILES AND HYDRAULIC DATA**

DRAWING NO.  
**C08**