



Division of Transportation System Development
Southwest Region
2101 Wright Street
Madison, WI 53704

Tony Evers, Governor
Craig Thompson, Secretary-Designee
Internet: www.wisconsin.gov

Telephone: 608-785-9022
Facsimile (Fax): 608-785-9969
E-mail: swr.dtsd@dot.wi.gov

To: Francis Schelfhout, WisDOT SW Region, Systems Planning and Operations -
Bicycle/Pedestrian Coordinator

From: David Schmidt, PE, Brad Groh, PE, and Anthony Johnson

Date: May 26, 2020

Re: 5752-00-02 Curb Ramp Design Summary

Project ID: 5752-00-02/72
USH 14 – La Valle
Lee Lake Bridge to STH 33
STH 58
Richland and Sauk Counties

Project Description

This resurfacing project is located in Sauk and Richland Counties with project limits from Lee Lake Bridge in Cazenovia to STH 33 in La Valle (see attached project overview map - Attachment A). The improvements for the project include a 4-inch mill and overlay, updating pedestrian ramps to meet current ADA requirements, and replacing beam guard to meet current standards.

Summary of Proposed Design

A total of 72 curb ramps were modeled in Civil 3D for this project. Curb ramp features such as ramp slope, ramp cross slope, and level landing slopes have been labeled in the attached details.

Several curb ramps had features that were outside of the current required ADA requirements. The non-complaint curb ramps can be attributed to:

1. Steep side road grade restricting ramp cross slope and longitudinal slope
2. Limited horizontal space
3. Steep sidewalk running grade (over 8.33%)
4. Designs falling outside of project scope

Further documentation of these issues is provided for each curb ramp location.

- Attachment B provides a summary of the existing and proposed curb ramp attributes.
- Attachment C provides the detail reference sheets.
- Attachment D provides documentation of technical infeasibility.
 - o Includes existing conditions and infeasible features
 - o Images of models and detail sheets for reference

Table of Contents

Attachment A: Project Overview Map	4
Attachment B: Curb Ramp Design Summary Table	6
Attachment B1: Cazenovia Summary Table	7
Attachment B2: Ironton Summary Table	9
Attachment B3: Ironton (Type 7 Ramps) Summary Table	11
Attachment B4: La Valle Summary Table	13
Attachment C: Curb Ramp Design Sheets	15
Attachment D: Technical Infeasibility Documentation.....	16
Attachment D1: Cazenovia Infeasibility	17
Intersecting Roadway: Cazenovia St (SE Quadrant).....	18
Intersecting Roadway: Cazenovia St (NE Quadrant)	20
Intersecting Roadway: North St (SE Quadrant).....	22
Intersecting Roadway: North St (NE Quadrant).....	24
Intersecting Roadway: North St (NW Quadrant).....	25
Attachment D2: Ironton Infeasibility	27
Intersecting Roadway: 5th St (NE Quadrant).....	28
Intersecting Roadway: 4th St (SW Quadrant).....	29
Intersecting Roadway: 4th St (SE Quadrant).....	31
Intersecting Roadway: 4th St (NE Quadrant).....	33
Intersecting Roadway: 3rd St (NW Quadrant)	34
Intersecting Roadway: 3rd St (NE Quadrant)	36
Intersecting Roadway: 3rd St (SE Quadrant).....	38
Intersecting Roadway: 2nd St (NW Quadrant).....	39
Intersecting Roadway: 2nd St (NE Quadrant).....	41
Intersecting Roadway: 2nd St (SE Quadrant).....	43
Intersecting Roadway: 2nd St (SW Quadrant).....	44
Intersecting Roadway: 1st St (NW Quadrant).....	45
Intersecting Roadway: 1st St (NE Quadrant).....	47
Intersecting Roadway: 1st St (SE Quadrant)	49
Intersecting Roadway: 1st St (SW Quadrant).....	50
Intersecting Roadway: Main St (SE Quadrant).....	51
Intersecting Roadway: State Ln/Mill St (SW Quadrant).....	53
Attachment D3: La Valle Infeasibility	55
Intersecting Roadway: Mini Creek Rd (SW Quadrant) – Alternative 1	56
Intersecting Roadway: Mini Creek Rd (SE Quadrant) – Alternative 1	57

Intersecting Roadway: Mini Creek Rd (SW Quadrant) – Alternative 2	59
Intersecting Roadway: Mini Creek Rd (NW Quadrant) – Alternative 2	60
Intersecting Roadway: Mini Creek Rd (NE Quadrant) – Alternative 2	62
Intersecting Roadway: N River (NE Quadrant)	64
Intersecting Roadway: W Main (SE Quadrant)	66
Intersecting Roadway: W Main (NE Quadrant)	67
Intersecting Roadway: W Main (NW Quadrant)	69
Intersecting Roadway: W Main (SW Quadrant)	70
Intersecting Roadway: STH33 (SW Quadrant)	71
Intersecting Roadway: STH33 (NW Quadrant)	72

Attachment A: Project Overview Map

5752-00-02/72

USH 14 – La Valle

Lee Lake Bridge to STH 33

STH 58

Richland and Sauk Counties



PROJECT NO: 5752-00-72	HWY: STH 58	COUNTY: SAUK	PROJECT OVERVIEW	SHEET	E
------------------------	-------------	--------------	------------------	-------	---

Attachment B: Curb Ramp Design Summary Table

5752-00-02/72

USH 14 – La Valle

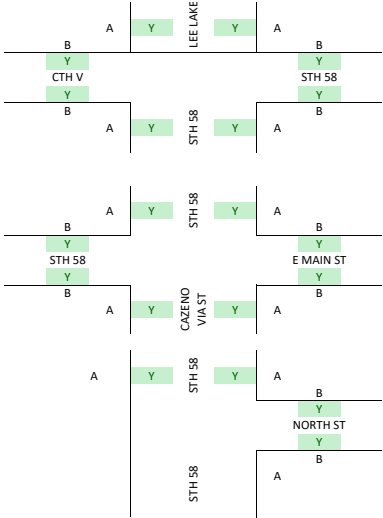
Lee Lake Bridge to STH 33

STH 58

Richland and Sauk Counties

Attachment B1: Cazenovia Summary Table

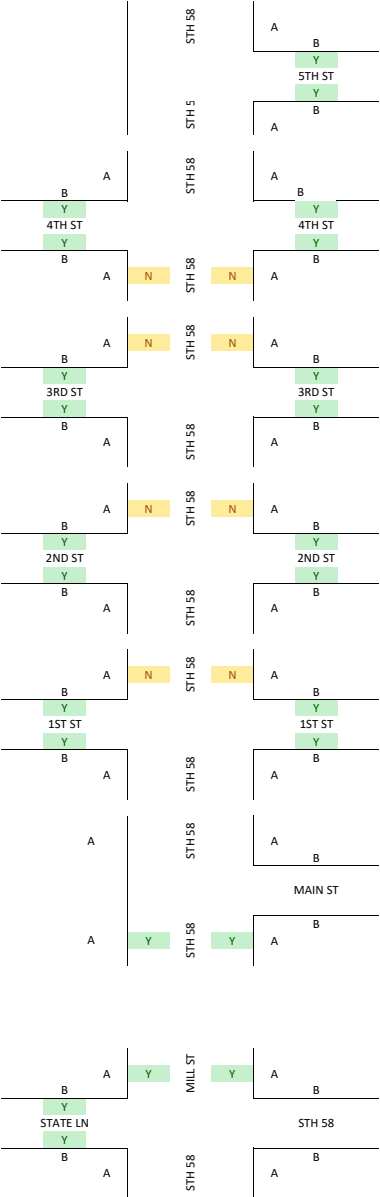
Intersecting Roadway	Criteria	NW Quadrant: A		NW Quadrant: B		NE Quadrant: A		NE Quadrant: B		SW Quadrant: A		SW Quadrant: B		SE Quadrant: A		SE Quadrant: B		Comments
		Existing	Proposed	Existing	Proposed	Existing	Proposed	Existing	Proposed	Existing	Proposed	Existing	Proposed	Existing	Proposed	Existing	Proposed	
CAZENOVIA																		
CTH V / LEE LAKE	RAMP TYPE	NONE	NONE	TYPE 7	TYPE 7	NONE	TYPE 3	NONE	NONE	TYPE 2	TYPE 2	NONE	TYPE 3	TYPE 2	TYPE 2	NONE	TYPE 3	Need survey/not yet included in project limits
	DWF	NO	NO	NO	YES	NO	YES	NO	NO	NO	YES	NO	YES	YES	YES	NO	YES	
	RAMP SLOPE																	
	CROSS SLOPE																	
	GUTTER SLOPE																	
	FLARE SLOPE																	
	CHANGE IN RAMP-GUTTER SLOPE																	
LANDING AREA SLOPES																		
CAZENOVIA ST/E MAIN ST	RAMP TYPE	TYPE 1	TYPE 2	NONE	TYPE 2	TYPE 1	TYPE 3	NONE	TYPE 3	TYPE 2	TYPE 3	NONE	TYPE 3	TYPE 2	TYPE 2	NONE	TYPE 3	Bumped out SE and SW quadrant C&G NW (A/B) - 0.25 curb height between ramps, Pedestrian curb R/L respectively NE (B) - Ramp slope exceeds 7% max (11.45%), constrained by steps SE (A) - Change in ramp slope exceeds 7% max (8.35%), constrained by steps
	DWF	YES	YES	--	YES	NO	YES	NO	YES	NO	YES	NO	YES	YES	YES	NO	YES	
	RAMP SLOPE	5.4	4.85	--	3.25	10.85	7.9	--	10.85	8.38	3.35	--	3.6	6.4	6.2	--	7.5	
	CROSS SLOPE	0.2	0.1	--	1.3	1.75	2.7	--	0.6	1.27	2.3	--	0.9	1.67	1.55	--	0.4	
	GUTTER SLOPE	1	4	--	4	3.03	4	--	4	8.32	4	--	4	4.42	4	--	4	
	FLARE SLOPE	8	9	--	8.5	12.43	14.3	--	9.45	13.225	9.8	--	9.55	17.66	9.8	--	10.6	
	CHANGE IN RAMP-GUTTER SLOPE	6.4	8.85	--	7.25	17.88	11.9	--	14.85	16.7	7.35	--	7.6	10.82	10.2	--	11.5	
	LANDING AREA SLOPES LAT	0.25	0.4	--	1.3	2.375	1.2	--	0.6	0.595	1.5	--	0.1	0.97	1.55	--	1.9	
	LANDING AREA SLOPES LONG	1.41	1.7	--	1.3	5.135	1.9	--	1.9	1.2	1.5	--	1.5	5.235	1.75	--	1.5	
NORTH ST	RAMP TYPE	NONE	TYPE 7B	NONE	NONE	NONE	TYPE 2	NONE	TYPE 2	NONE	NONE	NONE	NONE	NONE	NONE	NONE	TYPE 4B	SE (B) - No existing ramp, sidewalk ends at top of C&G SE (B) - Approach slope exceeds 8.33% (20.2%) SE (B) - No flare, pedestrian curb both sides. Sidewalk 4' width NE (A) - Ramp slope exceeds 7% max (7.35%), due to mainline road grade NE (A) - Cross slopes exceeds 2% max (5.3%), due to side road grade NW (A) - Cross slopes exceeds 2% max (3.9%), due to side road grade
	DWF	NO	YES	NO	NO	NO	YES	NO	YES	NO	NO	NO	NO	NO	NO	NO	YES	
	RAMP SLOPE	--	5.7	--	--	--	6.1	--	1.65	--	--	--	--	--	--	17	4.6	
	CROSS SLOPE	--	3.8	--	--	--	5.3	--	0.1	--	--	--	--	--	--	4.98	4.5	
	GUTTER SLOPE	--	4	--	--	--	4	--	4	--	--	--	--	--	--	9.85	4	
	FLARE SLOPE	--	8.3	--	--	--	8.6	--	8.5	--	--	--	--	--	--	N/A	N/A	
	CHANGE IN RAMP-GUTTER SLOPE	--	9.7	--	--	--	10.1	--	5.65	--	--	--	--	--	--	26.85	8.6	
	LANDING AREA SLOPES LAT	--	1.5	--	--	--	1.7	--	1.7	--	--	--	--	--	--	5.61	1.2	
	LANDING AREA SLOPES LONG	--	1.5	--	--	--	1.7	--	1.7	--	--	--	--	--	--	4.75	0.15	
	RAMP SLOPE (APPROACH)	--	7.25	--	--	--	--	--	--	--	--	--	--	--	--	--	20.1	
	CROSS SLOPE (APPROACH)	--	1.7	--	--	--	--	--	--	--	--	--	--	--	--	--	1.5	



In the comments - we should address all deficiencies and why it could not be brought to ADA standards.

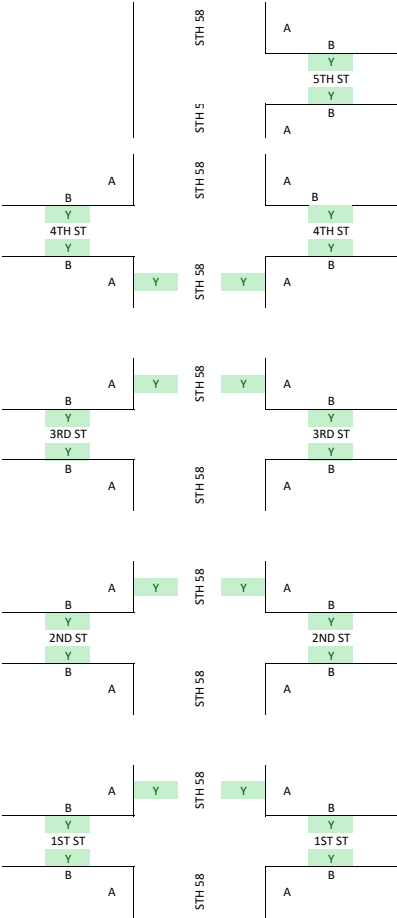
Attachment B2: Ironton Summary Table

Intersecting Roadway	Criteria	NW Quadrant: A		NW Quadrant: B		NE Quadrant: A		NE Quadrant: B		SW Quadrant: A		SW Quadrant: B		SE Quadrant: A		SE Quadrant: B		Comments	
		Existing	Proposed	Existing	Proposed	Existing	Proposed	Existing	Proposed	Existing	Proposed	Existing	Proposed	Existing	Proposed	Existing	Proposed		
IRONTON																			
	5TH STREET	RAMP TYPE	NONE	NONE	TYPE 4B	TYPE 4B	NONE	NONE	TYPE 4B	TYPE 4B	NONE	NONE	TYPE 4B	TYPE 4B	NONE	NONE	TYPE 4B	TYPE 4B	Meets ADA requirements 22" Tree in NE Quad may need to removed to accommodate grading <8.3% and less than 11% differential
		DWF	NO	NO	NO	NO	NO	NO	NO	YES	NO	NO	NO	NO	NO	NO	YES	YES	
		RAMP SLOPE	--	--	--	--	--	--	6.22	7.55	--	--	--	--	--	--	0.5	0.4	
		CROSS SLOPE	--	--	--	--	--	--	0.96	0.8	--	--	--	--	--	--	0.07	0.9	
		GUTTER SLOPE	--	--	--	--	--	--	N/A	N/A	--	--	--	--	--	--	N/A	N/A	
		FLARE SLOPE	--	--	--	--	--	--	N/A	N/A	--	--	--	--	--	--	N/A	N/A	
		CHANGE IN RAMP-GUTTER SLOPE	--	--	--	--	--	--	6.22	7.55	--	--	--	--	--	--	0.5	0.4	
LANDING AREA SLOPES LAT		--	--	--	--	--	--	1.78	1.5	--	--	--	--	--	--	0.18	1.4		
LANDING AREA SLOPES LONG	--	--	--	--	--	--													
4TH STREET	RAMP TYPE	NONE	NONE	TYPE 4B	TYPE 4B	NONE	NONE	TYPE 4B	TYPE 4B	NONE	NONE	TYPE 4B	TYPE 4B	NONE	NONE	TYPE 4B	TYPE 4B	NW (B) - Cross slope exceeds 2% max (2.2%), due to side road grade NE (B) - Cross slope exceeds 2% max (7.3%), due to side road grade SE (B) - Cross slope exceeds 2% max (6.4%), due to side road grade	
	DWF	NO	NO	NO	YES	NO	NO	NO	YES	NO	NO	NO	YES	NO	NO	NO	YES		
	RAMP SLOPE	--	--	2	5.75	--	--	3	3.75	--	--	9	7.2	--	--	4.4	4.5		
	CROSS SLOPE	--	--	1.9	2.2	--	--	7.33	7.5	--	--	1.8	1.6	--	--	6.5	6.4		
	GUTTER SLOPE	--	--	N/A	N/A	--	--	N/A	N/A	--	--	N/A	N/A	--	--	N/A	N/A		
	FLARE SLOPE	--	--	N/A	N/A	--	--	N/A	N/A	--	--	N/A	N/A	--	--	N/A	N/A		
	CHANGE IN RAMP-GUTTER SLOPE	--	--	2	5.75	--	--	3	3.75	--	--	9	7.2	--	--	4.4	6.4		
	LANDING AREA SLOPES LAT	--	--			--	--	1	1.5	--	--	1.5	1.5	--	--	1.5	1.5		
LANDING AREA SLOPES LONG	--	--	1.24	0.3	--	--			--	--	1.65		--	--	1.07				
3RD STREET	RAMP TYPE	NONE	NONE	TYPE 4B	TYPE 4B	NONE	NONE	TYPE 4B	TYPE 4B	NONE	NONE	TYPE 4B	TYPE 4B	NONE	NONE	TYPE 4B	TYPE 4B	NE (B) - Cross slope exceeds 2% max (3%), due to side road grade note 2.8% in SE-B	
	DWF	NO	NO	NO	YES	NO	NO	NO	YES	NO	NO	NO	YES	NO	NO	NO	YES		
	RAMP SLOPE	--	--	10.3	7.25	--	--	1.33	1.3	--	--	1.89	2.8	--	--	1.9	0.45		
	CROSS SLOPE	--	--	2.43	1.6	--	--	2.46	3	--	--	1.86	0.8	--	--	1.05	2.8		
	GUTTER SLOPE	--	--	N/A	N/A	--	--	N/A	N/A	--	--	N/A	N/A	--	--	N/A	N/A		
	FLARE SLOPE	--	--	N/A	N/A	--	--	N/A	N/A	--	--	N/A	N/A	--	--	N/A	N/A		
	CHANGE IN RAMP-GUTTER SLOPE	--	--	10.3	7.25	--	--	1.33	1.3	--	--	1.89	5.8	--	--	1.9	0.45		
	LANDING AREA SLOPES LAT	--	--	3.5	1.5	--	--	2.2	1.5	--	--	0.77	1.5	--	--	1.95	1.5		
LANDING AREA SLOPES LONG	--	--			--	--			--	--	1.5		--	--					
2ND STREET	RAMP TYPE	NONE	NONE	TYPE 4B	TYPE 4B	NONE	NONE	TYPE 4B	TYPE 4B	NONE	NONE	TYPE 4B	TYPE 4B	NONE	NONE	TYPE 4B	TYPE 4B	NW (B) - Cross slope exceeds 2% max (6%), due to side road grade NE (B) - Cross slope exceeds 2% max (6.4%), due to side road grade SE (B) - Cross slope exceeds 2% max (7.6%), due to side road grade SW (B) - Cross slope exceeds 2% max (3.9%), due to side road grade	
	DWF	NO	NO	NO	YES	NO	NO	NO	YES	NO	NO	NO	YES	NO	NO	NO	YES		
	RAMP SLOPE	--	--	2.13	1.05	--	--	2.62	2.15	--	--	3.71	3.7	--	--	0.975	6.55		
	CROSS SLOPE	--	--	6.14	1	--	--	5.7	6.4	--	--	7.67	7.6	--	--	3.52	3.9		
	GUTTER SLOPE	--	--	N/A	N/A	--	--	N/A	N/A	--	--	N/A	N/A	--	--	N/A	N/A		
	FLARE SLOPE	--	--	N/A	N/A	--	--	N/A	N/A	--	--	N/A	N/A	--	--	N/A	N/A		
	CHANGE IN RAMP-GUTTER SLOPE	--	--	2.13	3.05	--	--	2.62	2.15	--	--	3.71	3.7	--	--	0.975	6.55		
	LANDING AREA SLOPES LAT	--	--	1.17	1.5	--	--	0.35	1.5	--	--	0.41	1.45	--	--	1.17	1.5		
LANDING AREA SLOPES LONG	--	--			--	--			--	--	1.55		--	--					
1ST STREET	RAMP TYPE	NONE	NONE	TYPE 4B	TYPE 4B	NONE	NONE	TYPE 4B	TYPE 4B	NONE	NONE	TYPE 4B	TYPE 4B	NONE	NONE	TYPE 4B	TYPE 4B	NW (B) - Cross slope exceeds 2% max (3.1%), due to side road grade NE (B) - Cross slope exceeds 2% max (2.8%), due to side road grade SE (B) - Cross slope exceeds 2% max (4.7%), due to side road grade SW (B) - Cross slope exceeds 2% max (4.2%), due to side road grade	
	DWF	NO	NO	NO	YES	NO	NO	NO	YES	NO	NO	NO	YES	NO	NO	NO	YES		
	RAMP SLOPE	--	--	3.25	5.45	--	--	0.57	3.8	--	--	6.99	5.05	--	--	2.43	4.4		
	CROSS SLOPE	--	--	4.07	3.1	--	--	2.87	2.8	--	--	4.3	4.2	--	--	3.28	4.7		
	GUTTER SLOPE	--	--	N/A	N/A	--	--	N/A	N/A	--	--	N/A	N/A	--	--	N/A	N/A		
	FLARE SLOPE	--	--	N/A	N/A	--	--	N/A	N/A	--	--	N/A	N/A	--	--	N/A	N/A		
	CHANGE IN RAMP-GUTTER SLOPE	--	--	3.25	5.45	--	--	0.57	3.8	--	--	6.99	5.05	--	--	2.43	4.4		
	LANDING AREA SLOPES LAT	--	--	0.78	1.5	--	--	0.54	1.5	--	--	4.4	1.5	--	--	2.24	1.5		
LANDING AREA SLOPES LONG	--	--			--	--			--	--	1.5		--	--					
MAIN STREET	RAMP TYPE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	TYPE 7	NONE	NONE	NONE	TYPE 7	NONE	NONE	SE (A) - Cross slope exceeds 8.3% max (9.45%), due to steep existing road and side road grade	
	DWF	NO	NO	--	--	--	--	--	--	--	YES	--	--	--	YES	NO	NO		
	RAMP SLOPE	--	--	--	--	--	--	--	--	--	6.5	--	--	--	10.1	1.83			
	CROSS SLOPE	--	--	--	--	--	--	--	--	--	1.1	--	--	--	5.5	6.94			
	GUTTER SLOPE	--	--	--	--	--	--	--	--	--	N/A	--	--	--	N/A	--			
	FLARE SLOPE	--	--	--	--	--	--	--	--	--	N/A	--	--	--	N/A	--			
	CHANGE IN RAMP-GUTTER SLOPE	--	--	--	--	--	--	--	--	--	6.5	--	--	--	10.1	--			
	LANDING AREA SLOPES LAT	--	--	--	--	--	--	--	--	--	1.5	--	--	--	1.25	--			
LANDING AREA SLOPES LONG	--	--	--	--	--	--	--	--	--	1.05	--	--	--	1.75	--				
STATE LN/MILL ST	RAMP TYPE	NONE	TYPE 2	NONE	TYPE 2	NONE	TYPE 4B	NONE	NONE	NONE	NONE	NONE	TYPE 4B	NONE	NONE	NONE	NONE	SW (B) - Cross slope exceeds 2% max (11.9%), due to side road grade SW (B) - Ramp slope exceeds 8.33% max (22.3%), due to existing grades NW (A) - Ramp slope exceeds 2% max (3.1%), due to side road grade NW (B) - Ramp slope exceeds 2% max (5.1%), due to side road grade NE (B) - Ramp slope exceeds 2% max (7.1%), due to side road grade	
	DWF	NO	YES	NO	YES	NO	YES	NO	NO	NO	NO	NO	YES	NO	NO	NO	NO		
	RAMP SLOPE	--	2.85	--	5.65	--	9.5	--	--	--	--	8.44	22.3	--	--	--	--		
	CROSS SLOPE	--	3.1	--	5.1	--	7.3	--	--	--	--	2.68	11.9	--	--	--	--		
	GUTTER SLOPE	--	N/A	--	N/A	--	N/A	--	--	--	--	N/A	N/A	--	--	--	--		
	FLARE SLOPE	--	N/A	--	N/A	--	N/A	--	--	--	--	N/A	N/A	--	--	--	--		
	CHANGE IN RAMP-GUTTER SLOPE	--	2.85	--	5.65	--	9.5	--	--	--	--	8.44	22.3	--	--	--	--		
	LANDING AREA SLOPES LAT	--	1	--	1	--	2.2	--	--	--	--	4.02	2	--	--	--	--		
LANDING AREA SLOPES LONG	--	1	--	1	--	1.5	--	--	--	--	10.06	1.5	--	--	--	--			



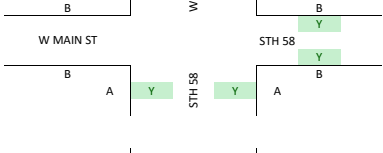
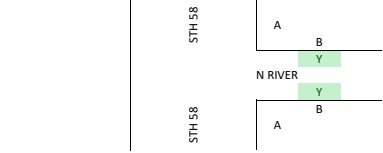
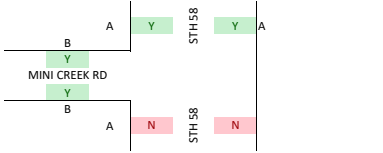
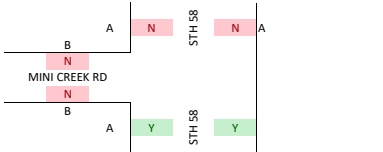
Attachment B3: Ironton (Type 7 Ramps) Summary Table

Intersecting Roadway	Criteria	NW Quadrant: A		NW Quadrant: B		NE Quadrant: A		NE Quadrant: B		SW Quadrant: A		SW Quadrant: B		SE Quadrant: A		SE Quadrant: B		Comments
		Existing	Proposed	Existing	Proposed	Existing	Proposed	Existing	Proposed	Existing	Proposed	Existing	Proposed	Existing	Proposed	Existing	Proposed	
IRONTON - TYPE 7 CROSSINGS																		
5TH STREET	RAMP TYPE	NONE	NONE	NONE	NONE	NONE	NONE	TYPE 4B	TYPE 4B	NONE	NONE	NONE	NONE	NONE	NONE	TYPE 4B	TYPE 4B	Meets ADA requirements 22" Tree in NE Quad may need to removed to accommodate grading
	DWF	NO	NO	NO	NO	NO	NO	NO	YES	NO	NO	NO	NO	NO	NO	NO	YES	
	RAMP SLOPE	--	--	--	--	--	--	6.22	7.55	--	--	--	--	--	--	0.5	0.4	
	CROSS SLOPE	--	--	--	--	--	--	0.96	0.8	--	--	--	--	--	--	0.07	0.9	
	GUTTER SLOPE	--	--	--	--	--	--	N/A	N/A	--	--	--	--	--	--	N/A	N/A	
	FLARE SLOPE	--	--	--	--	--	--	N/A	N/A	--	--	--	--	--	--	N/A	N/A	
	CHANGE IN RAMP-GUTTER SLOPE	--	--	--	--	--	--	6.22	7.55	--	--	--	--	--	--	0.5	0.4	
	LANDING AREA SLOPE (LAT)	--	--	--	--	--	--	1.78	1.5	--	--	--	--	--	--	0.18	1.3	
LANDING AREA SLOPE (LONG)								1.5								1.5		
4TH STREET	RAMP TYPE	NONE	NONE	TYPE 4B	TYPE 4B	NONE	NONE	TYPE 4B	TYPE 4B	NONE	TYPE 7	TYPE 4B	TYPE 4B	NONE	TYPE 7	TYPE 4B	TYPE 4B	NW (B) - Cross slope exceeds 2% max (2.2%), due to side road grade NE (B) - Cross slope exceeds 2% max (7.3%), due to side road grade SE (B) - Cross slope exceeds 2% max (6.4%), due to side road grade SE (A) - Ramp slope exceeds 8.3% max (10%), due to match in elevation
	DWF	NO	NO	NO	YES	NO	NO	NO	YES	NO	YES	NO	YES	NO	YES	NO	YES	
	RAMP SLOPE	--	--	2	5.75	--	--	3	3.75	--	2.8	9	6	--	8.33	4.4	4.65	
	CROSS SLOPE	--	--	1.9	2.2	--	--	7.33	7.5	--	0.9	1.8	1.8	--	0.9	6.5	6.4	
	GUTTER SLOPE	--	--	N/A	N/A	--	--	N/A	N/A	--	N/A	N/A	N/A	--	N/A	N/A	N/A	
	FLARE SLOPE	--	--	N/A	N/A	--	--	N/A	N/A	--	N/A	N/A	N/A	--	N/A	N/A	N/A	
	CHANGE IN RAMP-GUTTER SLOPE	--	--	2	5.75	--	--	3	3.75	--	2.8	9	6	--	8.33	6.5	4.65	
	LANDING AREA SLOPES LAT	--	--	1.24	1.5	--	--	1	1.5	--	1.5	1.5	1.5	--	1.7	1.07	1.7	
	LANDING AREA SLOPES LONG				0.3				1.5			1.45	1.5		1.25		1.25	
	RAMP SLOPE (APPROACH)										6.2				9.95			
CROSS SLOPE (APPROACH)										2				2				
3RD STREET	RAMP TYPE	NONE	TYPE 7	TYPE 4B	TYPE 4B	NONE	TYPE 7	TYPE 4B	TYPE 4B	NONE	NONE	TYPE 4B	TYPE 4B	NONE	NONE	TYPE 4B	TYPE 4B	NE (B) - Cross slope exceeds 2% max (3%), due to side road grade SE (B) - Cross slope exceeds 2% max (2.8%), due to side road grade
	DWF	NO	YES	NO	YES	NO	YES	NO	YES	NO	NO	NO	YES	NO	NO	NO	YES	
	RAMP SLOPE	--	2.8	10.3	7.5	--	9.5	1.33	7.5	--	--	1.89	5.8	--	--	1.9	0.45	
	CROSS SLOPE	--	0.1	2.43	1.6	--	0.6	2.46	3	--	--	1.86	0.8	--	--	1.05	2.8	
	GUTTER SLOPE	--	N/A	N/A	N/A	--	N/A	N/A	N/A	--	--	N/A	N/A	--	--	N/A	N/A	
	FLARE SLOPE	--	N/A	N/A	N/A	--	N/A	N/A	N/A	--	--	N/A	N/A	--	--	N/A	N/A	
	CHANGE IN RAMP-GUTTER SLOPE	--	2.8	10.3	7.5	--	9.5	1.33	7.5	--	--	1.89	5.8	--	--	1.9	0.45	
	LANDING AREA SLOPES LAT	--	1.5	3.5	1.5	--	1.5	2.2	1.5	--	--	0.77	1.5	--	--	1.95	1.5	
	LANDING AREA SLOPES LONG		1.5		1.5		1.5		1.5				1.5				1.1	
	RAMP SLOPE (APPROACH)		6.85				6.1											
CROSS SLOPE (APPROACH)		1.9				0.4												
2ND STREET	RAMP TYPE	NONE	TYPE 7	TYPE 4B	TYPE 4B	NONE	TYPE 7	TYPE 4B	TYPE 4B	NONE	NONE	TYPE 4B	TYPE 4B	NONE	NONE	TYPE 4B	TYPE 4B	NW (B) - Cross slope exceeds 2% max (6%), due to side road grade NE (B) - Cross slope exceeds 2% max (6.3%), due to side road grade SE (B) - Cross slope exceeds 2% max (7.6%), due to side road grade SW (B) - Cross slope exceeds 2% max (3.9%), due to side road grade
	DWF	NO	YES	NO	YES	NO	YES	NO	YES	NO	NO	NO	YES	NO	NO	NO	YES	
	RAMP SLOPE	--	8.4	2.13	4.3	--	8.45	2.62	4.4	--	--	3.71	3.7	--	--	0.975	6.55	
	CROSS SLOPE	--	0.9	6.14	6	--	1.2	5.7	6.3	--	--	7.67	7.6	--	--	3.52	3.9	
	GUTTER SLOPE	--	N/A	N/A	N/A	--	N/A	N/A	N/A	--	--	N/A	N/A	--	--	N/A	N/A	
	FLARE SLOPE	--	N/A	N/A	N/A	--	N/A	N/A	N/A	--	--	N/A	N/A	--	--	N/A	N/A	
	CHANGE IN RAMP-GUTTER SLOPE	--	8.4	2.13	4.3	--	8.45	2.62	4.4	--	--	3.71	3.7	--	--	0.975	6.55	
	LANDING AREA SLOPES LAT	--	1.5	1.17	1.5	--	2	0.35	2	--	--	0.41	1.45	--	--	1.17	1.5	
	LANDING AREA SLOPES LONG		1.5		1.5		2		2				1.55				1.5	
	RAMP SLOPE (APPROACH)		8.2				6.1											
CROSS SLOPE (APPROACH)		1.5				0.6		1.5										
1ST STREET	RAMP TYPE	NONE	TYPE 7	TYPE 4B	TYPE 4B	NONE	TYPE 7	TYPE 4B	TYPE 4B	NONE	NONE	TYPE 4B	TYPE 4B	NONE	NONE	TYPE 4B	TYPE 4B	NW (B) - Cross slope exceeds 2% max (3.1%), due to side road grade NE (B) - Cross slope exceeds 2% max (2.8%), due to side road grade SE (B) - Cross slope exceeds 2% max (4.7%), due to side road grade SW (B) - Cross slope exceeds 2% max (4.2%), due to side road grade
	DWF	NO	YES	NO	YES	NO	YES	NO	YES	NO	NO	NO	YES	NO	NO	NO	YES	
	RAMP SLOPE	--	10	3.25	7.9	--	1.5	0.57	1.45	--	--	6.99	5.05	--	--	2.43	4.4	
	CROSS SLOPE	--	3.3	4.07	3.1	--	1	2.87	2.8	--	--	4.3	4.2	--	--	3.28	4.7	
	GUTTER SLOPE	--	N/A	N/A	N/A	--	N/A	N/A	N/A	--	--	N/A	N/A	--	--	N/A	N/A	
	FLARE SLOPE	--	N/A	N/A	N/A	--	N/A	N/A	N/A	--	--	N/A	N/A	--	--	N/A	N/A	
	CHANGE IN RAMP-GUTTER SLOPE	--	10	3.25	7.9	--	1.5	0.57	1.45	--	--	6.99	5.05	--	--	2.43	4.4	
	LANDING AREA SLOPES LAT	--	1.5	0.78	1.5	--	1.5	0.54	1.5	--	--	4.4	1.5	--	--	2.24	1.5	
	LANDING AREA SLOPES LONG		2		2		0.9		0.7				1.5				1	
	RAMP SLOPE (APPROACH)		5.75				6.8											
CROSS SLOPE (APPROACH)		0.9				0.6												



Attachment B4: La Valle Summary Table

Intersecting Roadway	Criteria	NW Quadrant: A		NW Quadrant: B		NE Quadrant: A		NE Quadrant: B		SW Quadrant: A		SW Quadrant: B		SE Quadrant: A		SE Quadrant: B		Comments	
		Existing	Proposed	Existing	Proposed	Existing	Proposed	Existing	Proposed	Existing	Proposed	Existing	Proposed	Existing	Proposed	Existing	Proposed		
LA VALLE																			
MINI CREEK RD ALT 1	RAMP TYPE	NONE	TYPE 7	NONE	NONE	NONE	NONE	NONE	NONE	NONE	TYPE 2	NONE	NONE	NONE	TYPE 7	NONE	NONE		
	DWF	NO	YES	NO	NO	NO	NO	NO	NO	NO	YES	NO	NO	NO	YES	NO	NO		
	RAMP SLOPE	--	--	--	--	--	--	--	--	--	5.1	--	--	--	11.1	--	--		
	CROSS SLOPE	--	--	--	--	--	--	--	--	--	4.2	--	--	--	6	--	--		
	GUTTER SLOPE	--	--	--	--	--	--	--	--	--	4	--	--	--	4	--	--		
	FLARE SLOPE	--	--	--	--	--	--	--	--	--	N/A	15.6	--	--	--	N/A	--	--	
	CHANGE IN RAMP-GUTTER SLOPE	--	--	--	--	--	--	--	--	--	9.1	--	--	--	17.1	--	--		
	LANDING AREA SLOPES LAT	--	--	--	--	--	--	--	--	--	6.6	6.6	--	--	--	1.5	--		
	LANDING AREA SLOPES LONG	--	--	--	--	--	--	--	--	--	0.65	0.65	--	--	Steps, not a ramp	1.5	--		
	RAMP SLOPE (APPROACH)	--	--	--	--	--	--	--	--	--	--	--	--	--	17.9	--	--		
CROSS SLOPE (APPROACH)	--	--	--	--	--	--	--	--	--	--	--	--	--	0.3	--	--			
Existing crossing leads to steps																			
MINI CREEK RD ALT 2	RAMP TYPE	NONE	TYPE 7	NONE	TYPE 7	NONE	TYPE 7	NONE	NONE	NONE	NONE	NONE	TYPE 7	NONE	NONE	NONE	NONE		
	DWF	NO	YES	NO	YES	NO	YES	NO	NO	NO	NO	NO	YES	NO	NO	NO	NO		
	RAMP SLOPE	--	1.2	--	1.6	--	7.8	--	--	--	--	--	1.45	--	--	--	1		
	CROSS SLOPE	--	5	--	1.5	--	3.8	--	--	--	--	--	0.8	--	--	--	--		
	GUTTER SLOPE	--	4	--	4	--	4	--	--	--	--	--	4	--	--	--	--		
	FLARE SLOPE	--	4.8	--	6.05	--	13.7	--	--	--	--	--	6.15	--	--	--	--		
	CHANGE IN RAMP-GUTTER SLOPE	--	5.2	--	5.6	--	11.8	--	--	--	--	--	5.45	--	--	--	--		
	LANDING AREA SLOPES LAT	--	N/A	--	N/A	--	1.5	--	--	--	--	--	N/A	--	--	--	--		
	LANDING AREA SLOPES LONG	--	N/A	--	N/A	--	1.5	--	--	--	--	--	N/A	--	--	--	--		
	RAMP SLOPE (APPROACH)	--	10.1	--	10.7	--	15.6	--	--	--	--	--	--	--	--	--	--		
CROSS SLOPE (APPROACH)	--	2.7	--	1.3	--	2.2	--	--	--	--	--	--	--	--	--	--			
Remove crossing to steps																			
N RIVER	RAMP TYPE	NONE	NONE	NONE	NONE	NONE	NONE	TYPE 7	TYPE 7	NONE	NONE	NONE	NONE	NONE	NONE	TYPE 4B	TYPE 4B		
	DWF	NO	NO	NO	NO	NO	NO	NO	YES	NO	NO	NO	NO	NO	NO	NO	YES		
	RAMP SLOPE	--	--	--	--	--	--	6.46	1.2	--	--	--	--	--	--	1.14	3.1		
	CROSS SLOPE	--	--	--	--	--	--	8.29	3	--	--	--	--	--	--	1.6	1.8		
	GUTTER SLOPE	--	--	--	--	--	--	1.89	4	--	--	--	--	--	--	N/A	N/A		
	FLARE SLOPE	--	--	--	--	--	--	7.09	7.6	--	--	--	--	--	--	N/A	N/A		
	CHANGE IN RAMP-GUTTER SLOPE	--	--	--	--	--	--	8.35	5.2	--	--	--	--	--	--	1.14	3.1		
	LANDING AREA SLOPES LAT	--	--	--	--	--	--	0.9	1	--	--	--	--	--	--	4.5	1.5		
	LANDING AREA SLOPES LONG	--	--	--	--	--	--	3.655	0.85	--	--	--	--	--	--	1.77	1.5		
W MAIN ST/W NORTH ST	RAMP TYPE	TYPE 3	TYPE 3	NONE	NONE	TYPE 1	TYPE 1	TYPE 1	TYPE 1	TYPE 4B	TYPE 4B	NONE	NONE	TYPE 1	TYPE 3	NONE	TYPE 3	SE C&G radius increased	
	DWF	YES	YES	NO	NO	YES	YES	YES	YES	YES	YES	NO	NO	YES	YES	NO	YES		
	RAMP SLOPE	6.17	7.6	--	--	9.03	10.9	9.03	9.9	7.57	3.4	--	--	6.88	1.5	--	1.5	NW (A) - Remodel produced steeper slope	
	CROSS SLOPE	2.45	1.1	--	--	0.97	2.1	0.97	2.1	5.93	1.5	--	--	4.98	0.75	--	1.5		
	GUTTER SLOPE	0.78	4	--	--	8.25	4	8.25	4	5.44	4	--	--	6.48	4	--	4		
	FLARE SLOPE	8.505	13	--	--	5.45	4.1	5.45	4.1	19.18	13	--	--	7.37	4.85	--	5.15		
	CHANGE IN RAMP-GUTTER SLOPE	6.95	11.6	--	--	17.28	14.9	17.28	13.9	13.01	7.4	--	--	13.36	5.5	--	5.5		
	LANDING AREA SLOPES LAT	2.98	3.1	--	--	N/A	N/A	N/A	N/A	1.915	1.5	--	--	N/A	N/A	--	N/A		
	LANDING AREA SLOPES LONG	0.955	1.55	--	--	N/A	N/A	N/A	N/A	1.475	1.5	--	--	N/A	N/A	--	N/A	Ramp is level landing for SE (A/B)	
	Replace DWF					Replace DWF, Steps are constraint		Replace DWF, Steps are constraint		Replace DWF and widen ramp									
STH 33	RAMP TYPE	TYPE 1	TYPE 1	TYPE 1	TYPE 2	TYPE 1	TYPE 1	NONE	TYPE 2	NONE	NONE	TYPE 7	TYPE 7	NONE	NONE	NONE	TYPE 3	NW/NE (A) - Ramp is Level Landing	
	DWF	YES	YES	YES	YES	YES	YES	NO	YES	NO	NO	YES	YES	NO	NO	NO	YES		
	RAMP SLOPE	5.325	1.5	5.325	5	3.025	1.5	--	6.05	--	--	9.74	7	--	--	--	2.1		
	CROSS SLOPE	1.62	0.5	1.62	1	1.36	0.6	--	0.3	--	--	1.43	0.2	--	--	--	0.9		
	GUTTER SLOPE	5.12	4	5.12	4	4.3	4	--	4	--	--	13.49	4	--	--	--	4		
	FLARE SLOPE	5.27	N/A	5.27	16.7	2.18	N/A	--	N/A	--	--	22.02	10.3	--	--	--	13.9		
	CHANGE IN RAMP-GUTTER SLOPE	10.44	5.5	10.44	9	7.325	6.05	--	10.05	--	--	23.23	11	--	--	--	6.1		
	LANDING AREA SLOPES LAT	0.475	N/A	0.475	1.5	1.39	N/A	--	1.5	--	--	0.355	0.05	--	--	--	1.55		
	LANDING AREA SLOPES LONG	0.6	N/A	0.6	1.5	3.73	N/A	--	1.5	--	--	6.66	1.5	--	--	--	0.95		



Attachment C: Curb Ramp Design Sheets

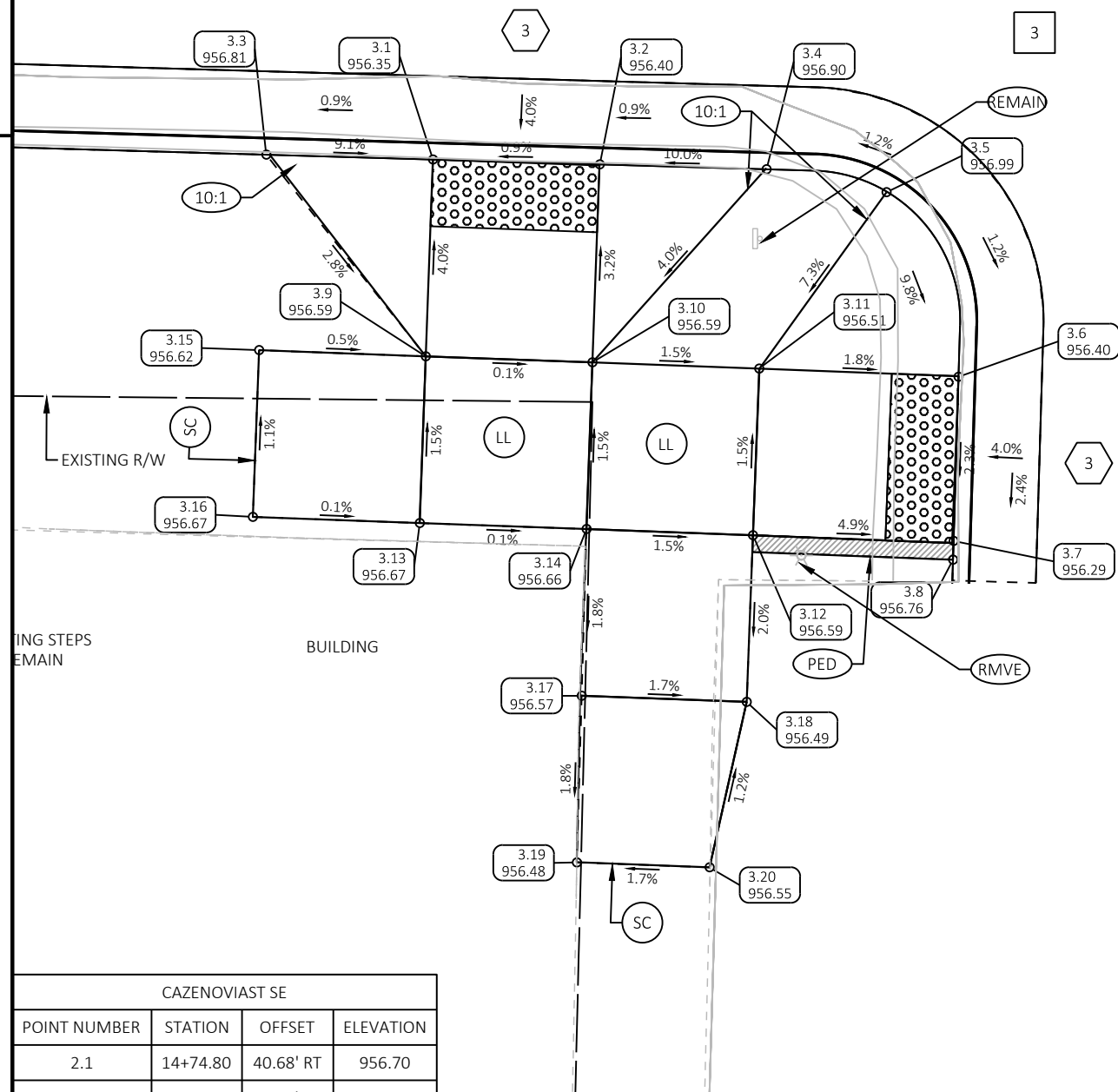
5752-00-02/72

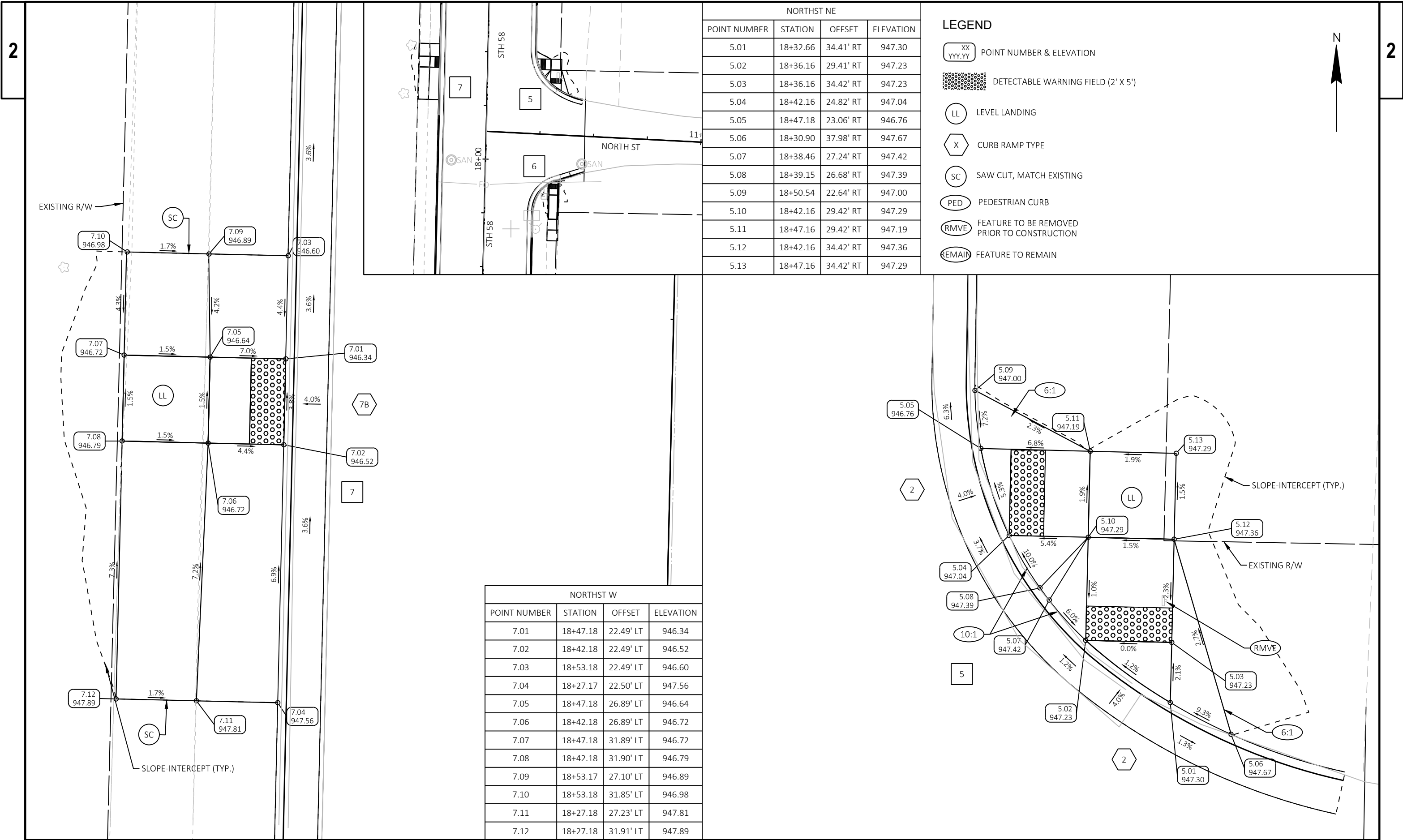
USH 14 – La Valle

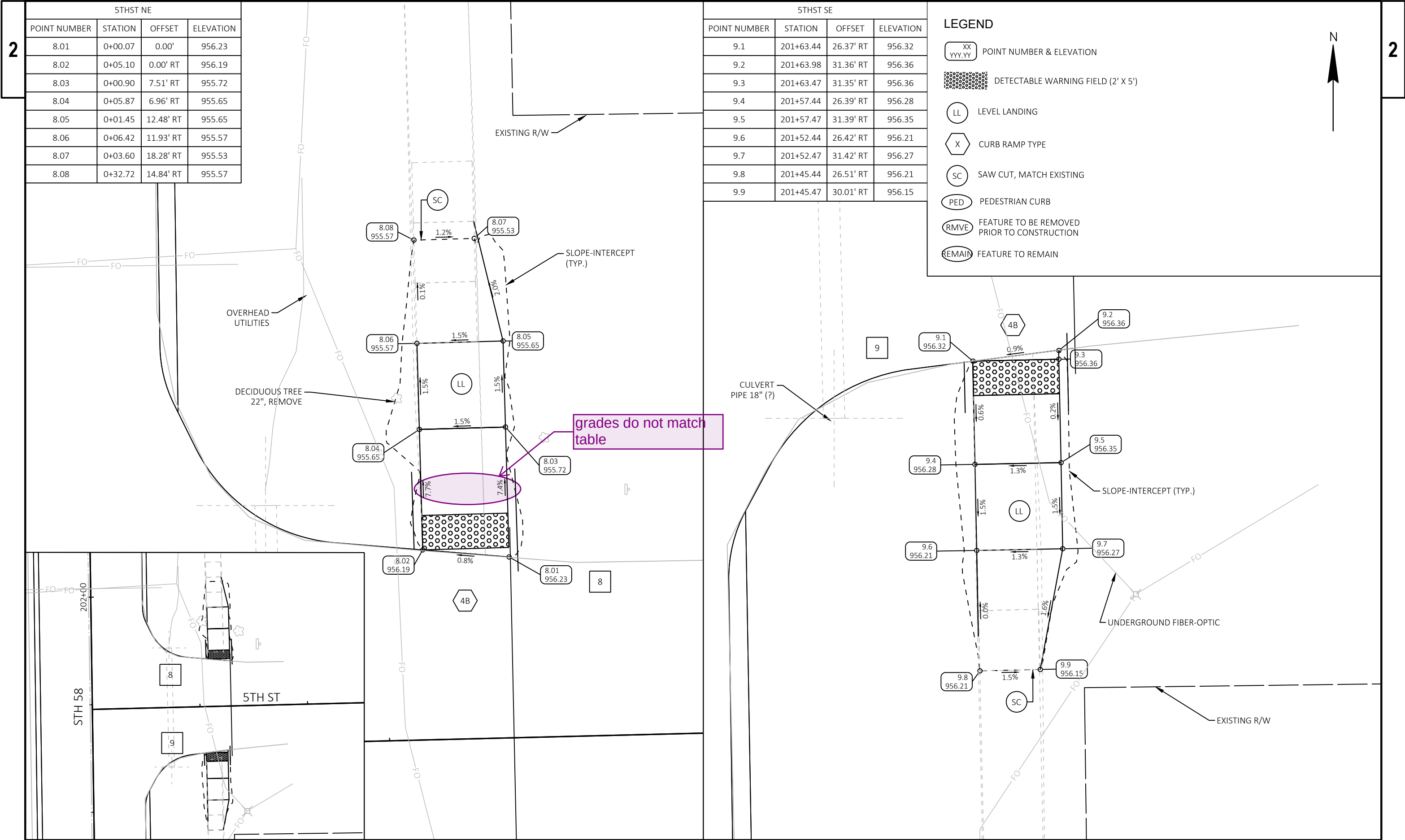
Lee Lake Bridge to STH 33

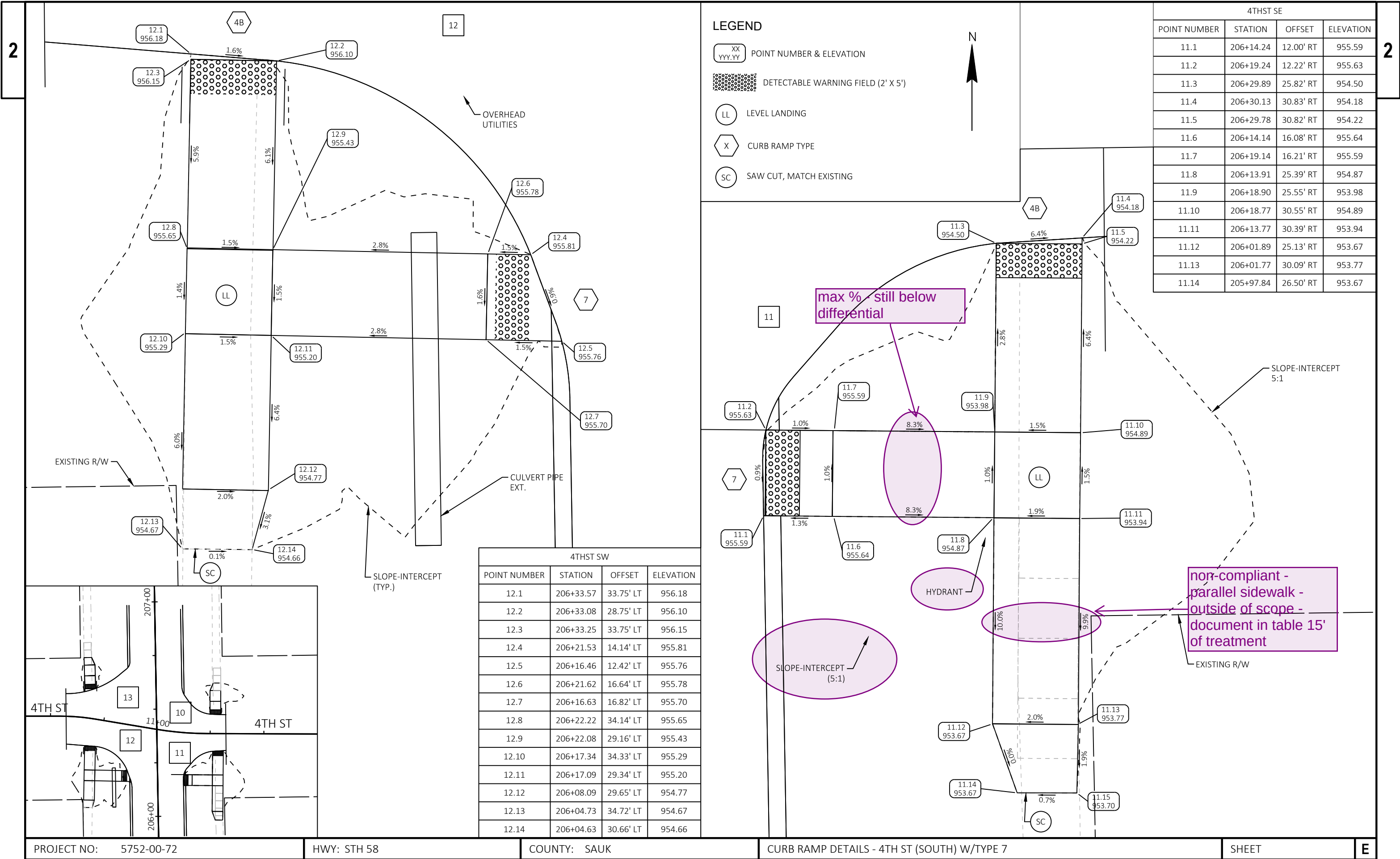
STH 58

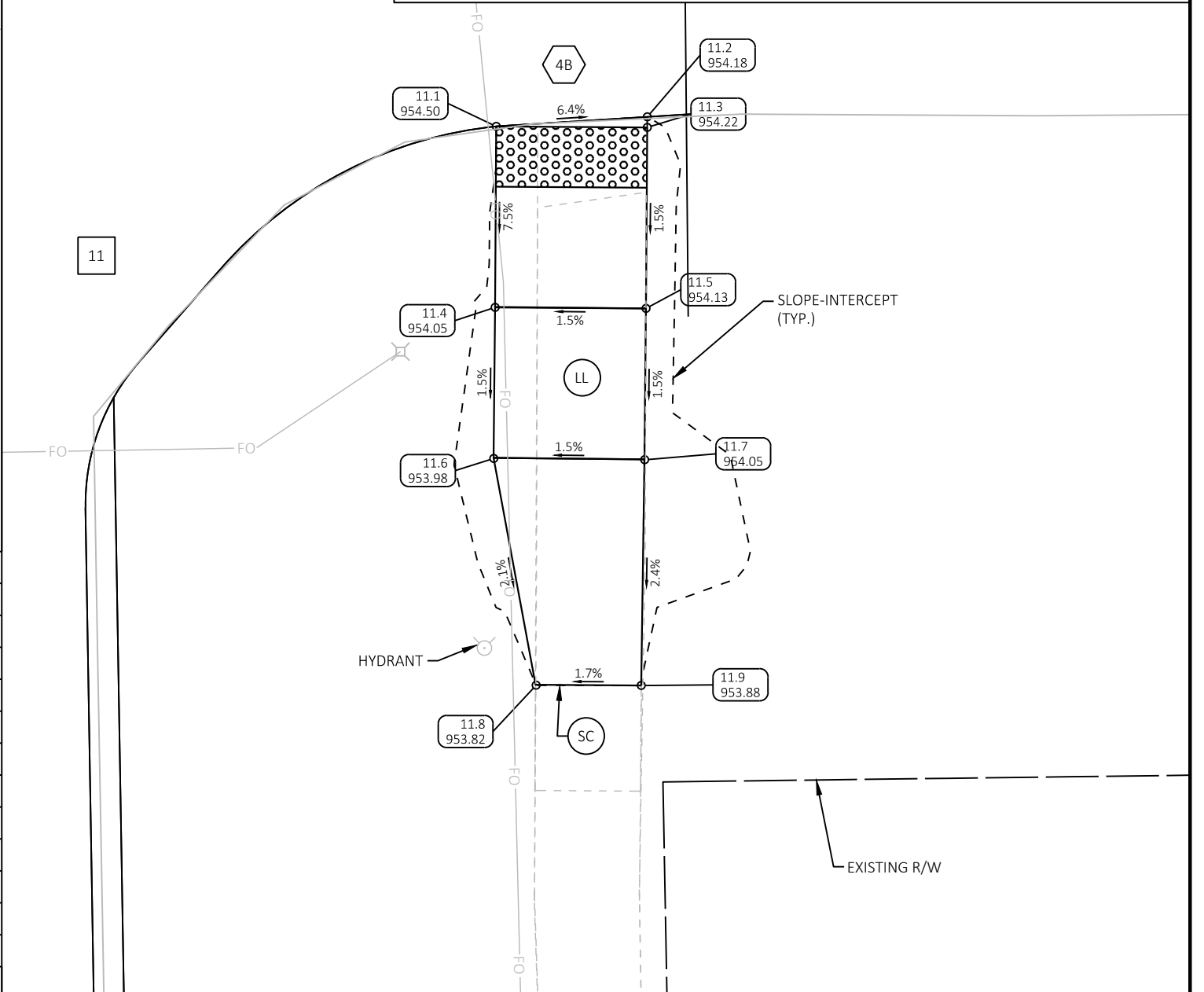
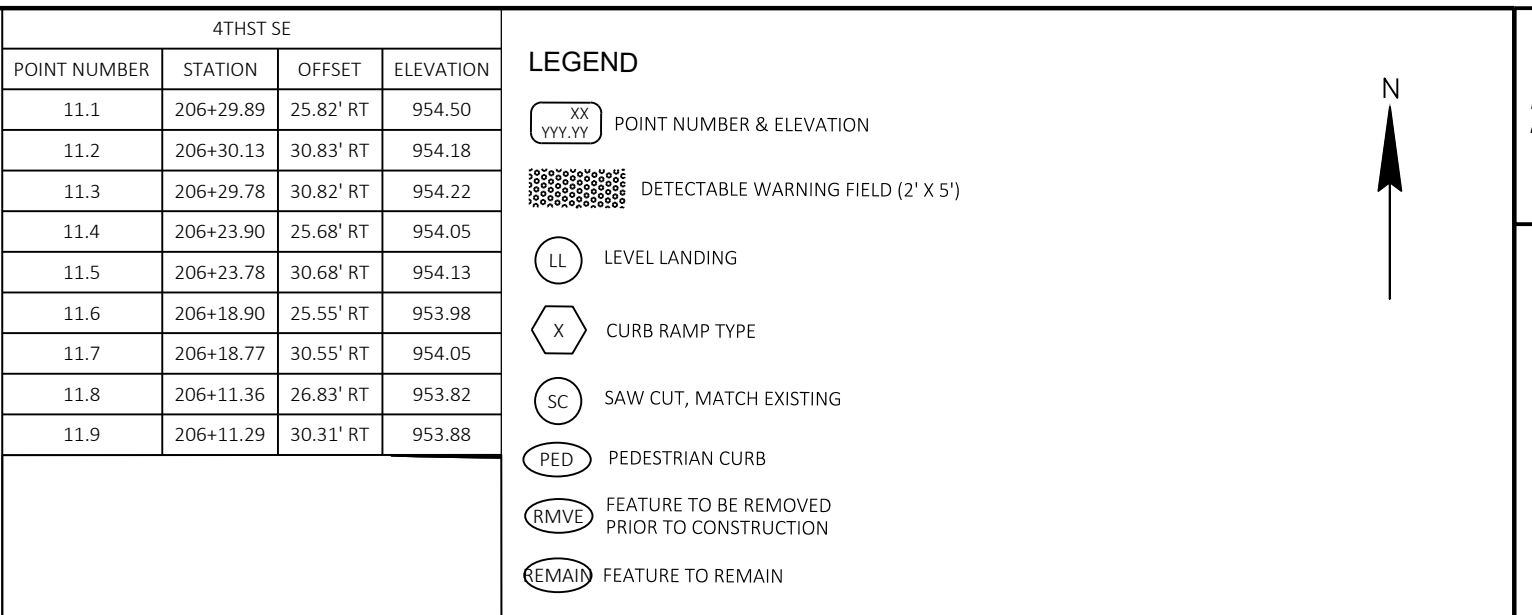
Richland and Sauk Counties



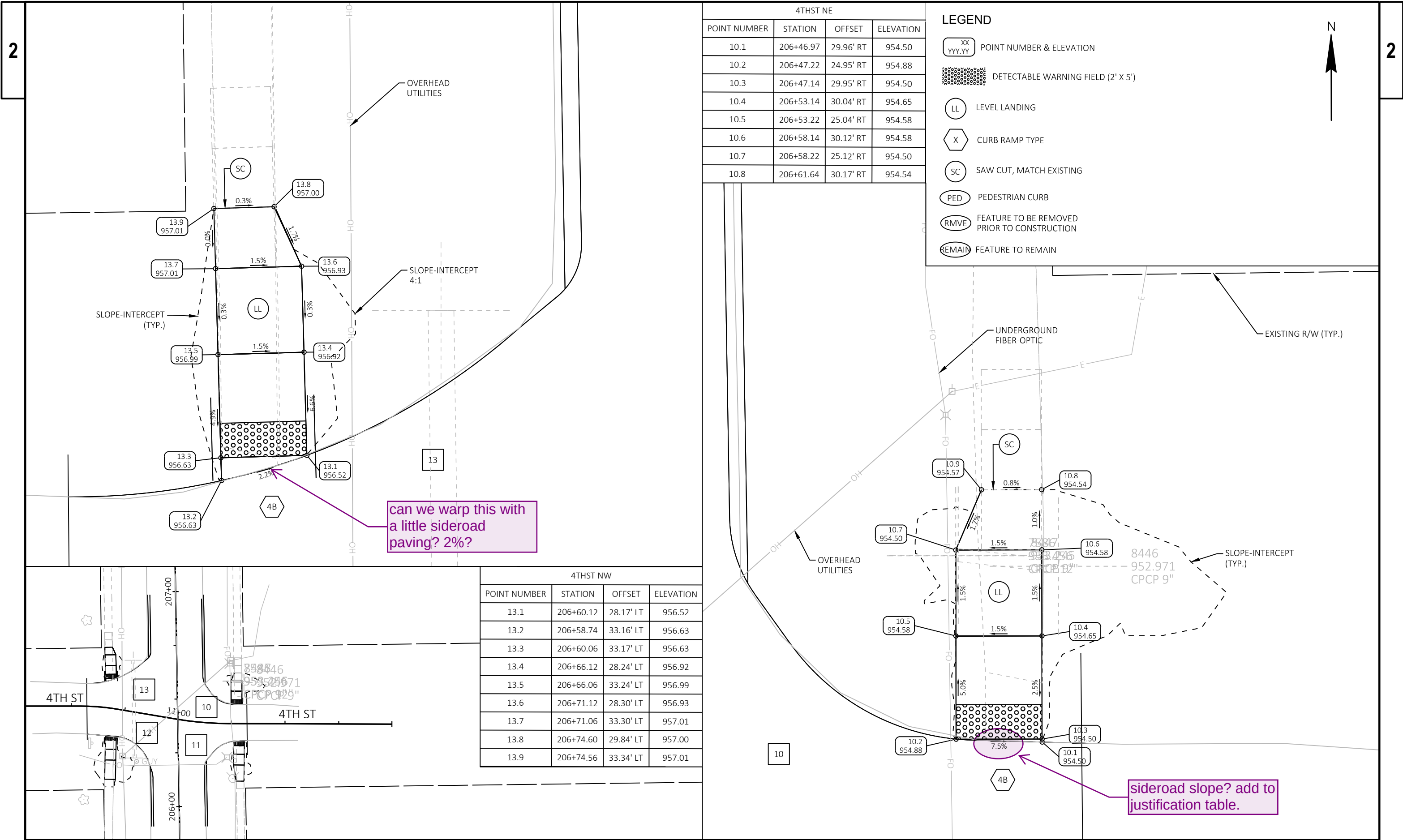








4THST SW			
POINT NUMBER	STATION	OFFSET	ELEVATION
12.1	206+33.57	33.75' LT	956.18
12.2	206+33.08	28.75' LT	956.10
12.3	206+33.25	33.75' LT	956.15
12.4	206+27.26	33.96' LT	955.73
12.5	206+27.08	28.97' LT	955.65
12.6	206+22.22	34.14' LT	955.65
12.7	206+22.08	29.16' LT	955.57
12.8	206+13.27	34.46' LT	954.99
12.9	206+13.10	29.47' LT	954.90
12.10	206+09.77	34.54' LT	954.74
12.11	206+09.66	30.48' LT	954.77

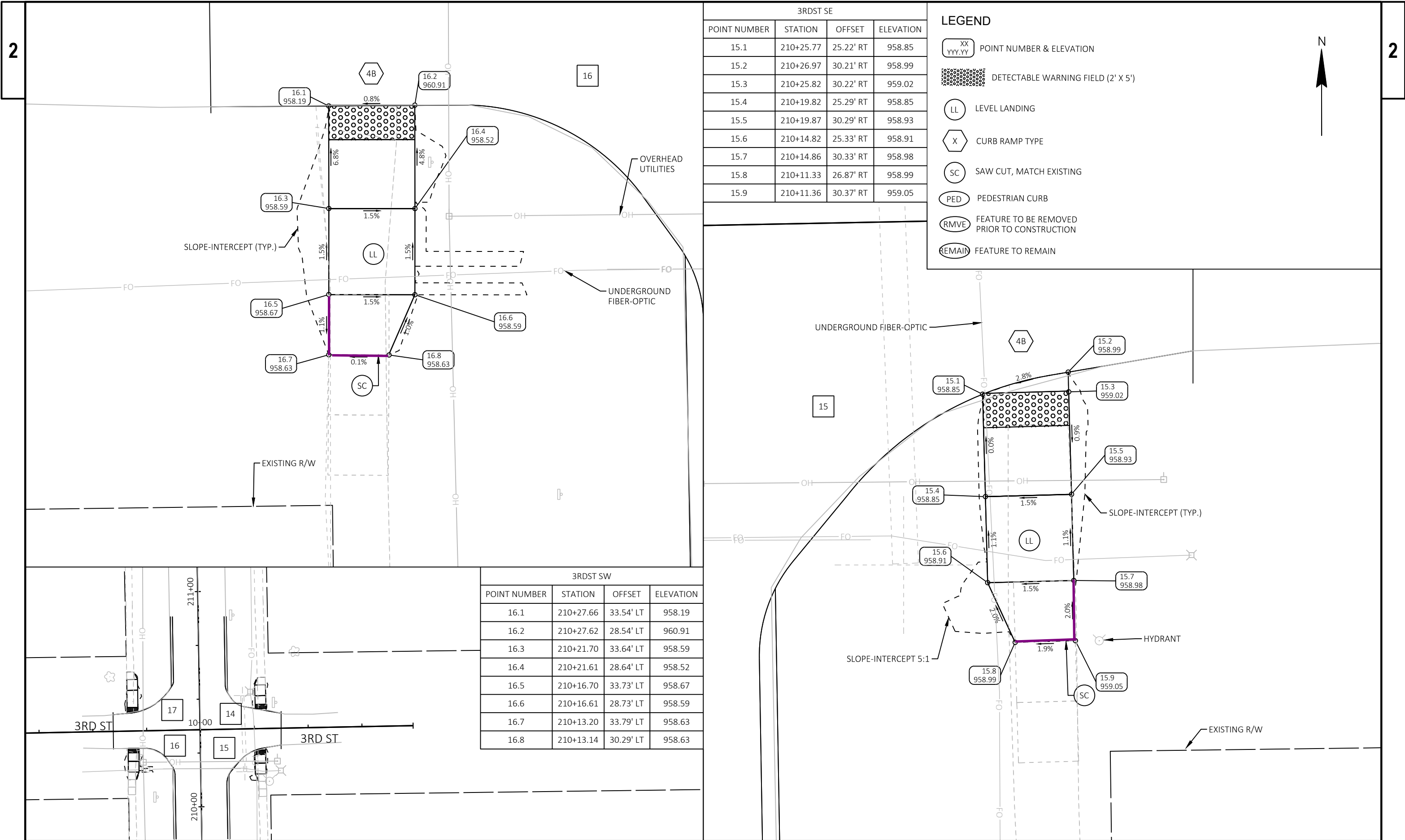


4THST NW			
POINT NUMBER	STATION	OFFSET	ELEVATION
13.1	206+60.12	28.17' LT	956.52
13.2	206+58.74	33.16' LT	956.63
13.3	206+60.06	33.17' LT	956.63
13.4	206+66.12	28.24' LT	956.92
13.5	206+66.06	33.24' LT	956.99
13.6	206+71.12	28.30' LT	956.93
13.7	206+71.06	33.30' LT	957.01
13.8	206+74.60	29.84' LT	957.00
13.9	206+74.56	33.34' LT	957.01

4THST NE			
POINT NUMBER	STATION	OFFSET	ELEVATION
10.1	206+46.97	29.96' RT	954.50
10.2	206+47.22	24.95' RT	954.88
10.3	206+47.14	29.95' RT	954.50
10.4	206+53.14	30.04' RT	954.65
10.5	206+53.22	25.04' RT	954.58
10.6	206+58.14	30.12' RT	954.58
10.7	206+58.22	25.12' RT	954.50
10.8	206+61.64	30.17' RT	954.54

LEGEND

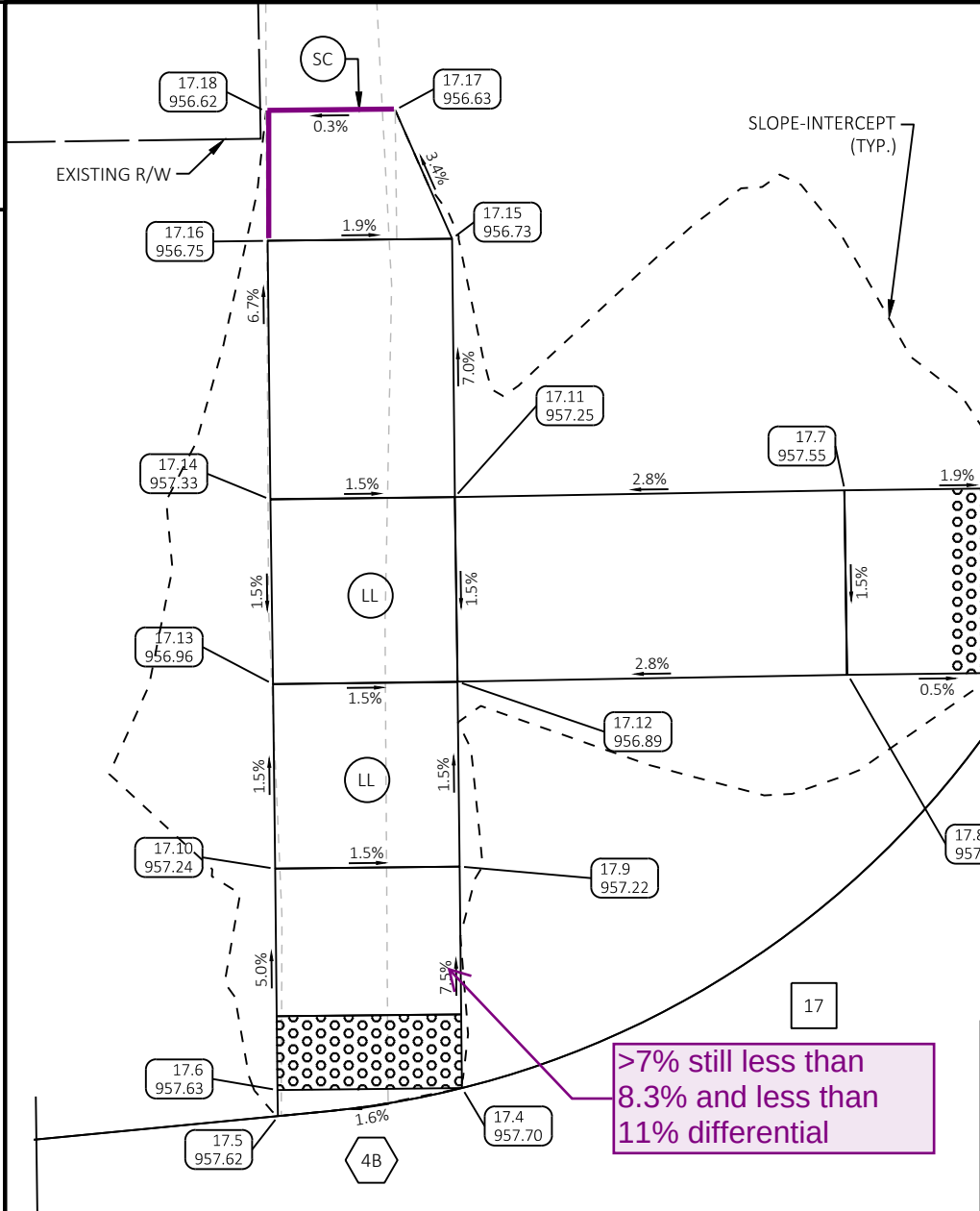
- XX
YYY.YY POINT NUMBER & ELEVATION
- DETECTABLE WARNING FIELD (2' X 5')
- LL LEVEL LANDING
- X CURB RAMP TYPE
- SC SAW CUT, MATCH EXISTING
- PED PEDESTRIAN CURB
- RMVE FEATURE TO BE REMOVED PRIOR TO CONSTRUCTION
- REMAIN FEATURE TO REMAIN



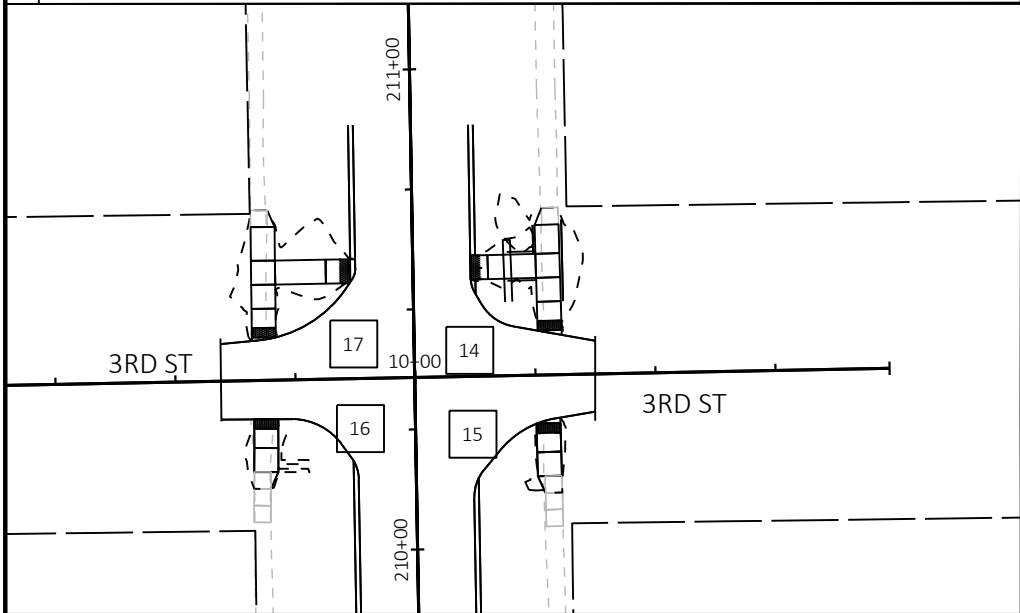
3RD ST SE			
POINT NUMBER	STATION	OFFSET	ELEVATION
15.1	210+25.77	25.22' RT	958.85
15.2	210+26.97	30.21' RT	958.99
15.3	210+25.82	30.22' RT	959.02
15.4	210+19.82	25.29' RT	958.85
15.5	210+19.87	30.29' RT	958.93
15.6	210+14.82	25.33' RT	958.91
15.7	210+14.86	30.33' RT	958.98
15.8	210+11.33	26.87' RT	958.99
15.9	210+11.36	30.37' RT	959.05

- LEGEND**
- XX
YYY.YY POINT NUMBER & ELEVATION
 - DETECTABLE WARNING FIELD (2' X 5')
 - LL LEVEL LANDING
 - X CURB RAMP TYPE
 - SC SAW CUT, MATCH EXISTING
 - PED PEDESTRIAN CURB
 - RMVE FEATURE TO BE REMOVED PRIOR TO CONSTRUCTION
 - REMAIN FEATURE TO REMAIN

3RD ST SW			
POINT NUMBER	STATION	OFFSET	ELEVATION
16.1	210+27.66	33.54' LT	958.19
16.2	210+27.62	28.54' LT	960.91
16.3	210+21.70	33.64' LT	958.59
16.4	210+21.61	28.64' LT	958.52
16.5	210+16.70	33.73' LT	958.67
16.6	210+16.61	28.73' LT	958.59
16.7	210+13.20	33.79' LT	958.63
16.8	210+13.14	30.29' LT	958.63



3RDST NW			
POINT NUMBER	STATION	OFFSET	ELEVATION
17.1	210+60.61	12.00' LT	957.43
17.2	210+55.64	13.28' LT	957.45
17.3	210+60.65	13.25' LT	957.39
17.4	210+44.65	28.77' LT	957.70
17.5	210+43.98	33.76' LT	957.62
17.6	210+44.68	33.77' LT	957.63
17.7	210+60.65	18.12' LT	957.55
17.8	210+55.67	18.12' LT	957.47
17.9	210+50.66	28.73' LT	957.22
17.10	210+50.68	33.73' LT	957.24
17.11	210+60.67	28.69' LT	957.25
17.12	210+55.67	28.70' LT	956.89
17.13	210+55.68	33.71' LT	956.96
17.14	210+60.68	33.69' LT	957.33
17.15	210+67.67	28.65' LT	956.73
17.16	210+67.70	33.65' LT	956.75
17.17	210+71.18	30.13' LT	956.63
17.18	210+71.20	33.63' LT	956.62



LEGEND

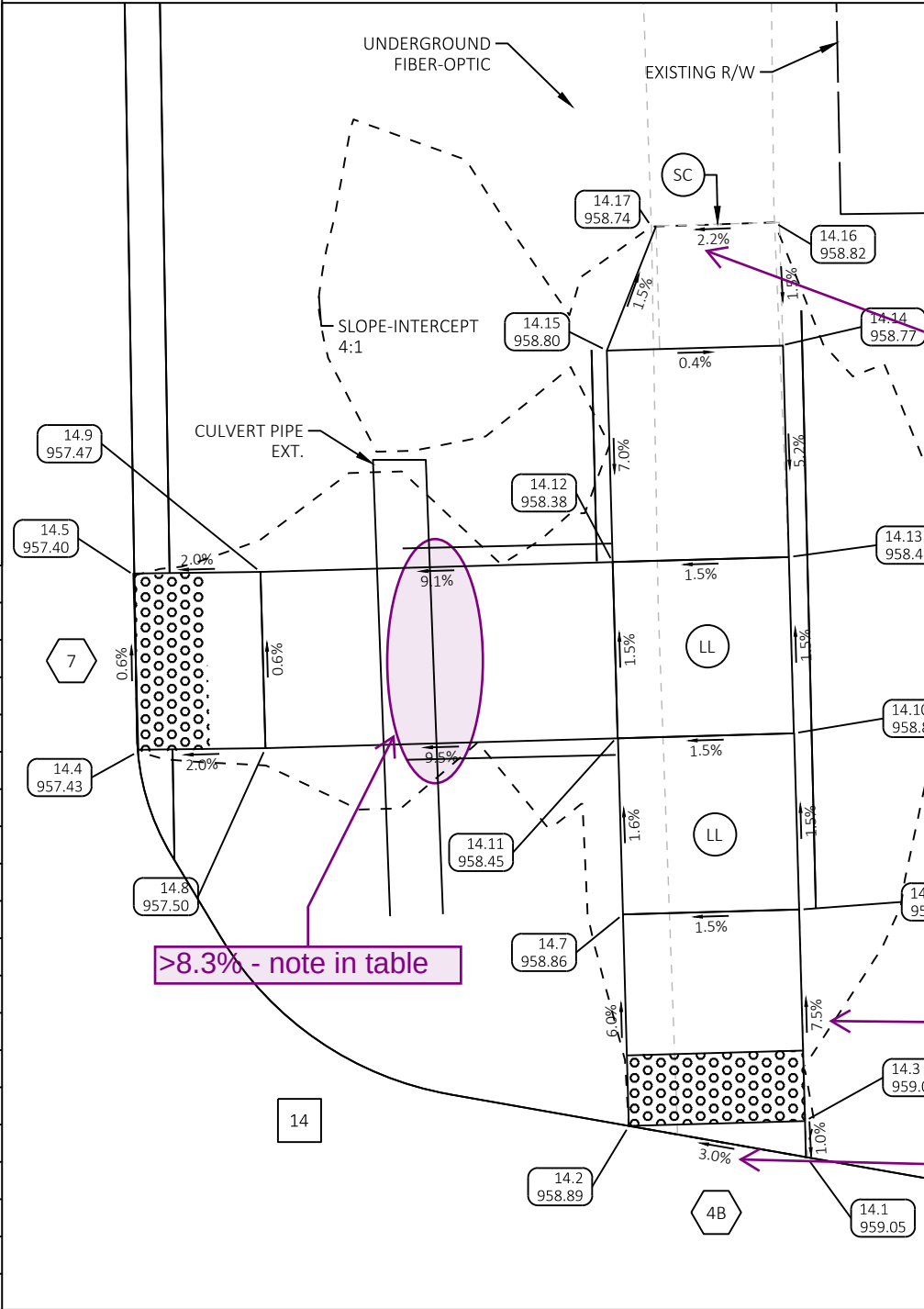
XX
YYY.YY POINT NUMBER & ELEVATION

DETECTABLE WARNING FIELD (2' X 5')

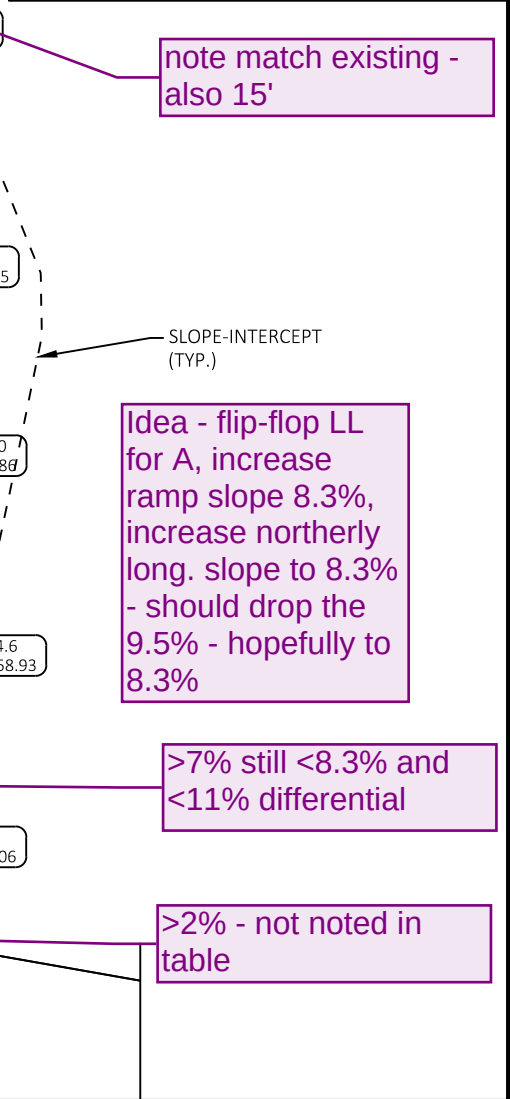
LL LEVEL LANDING

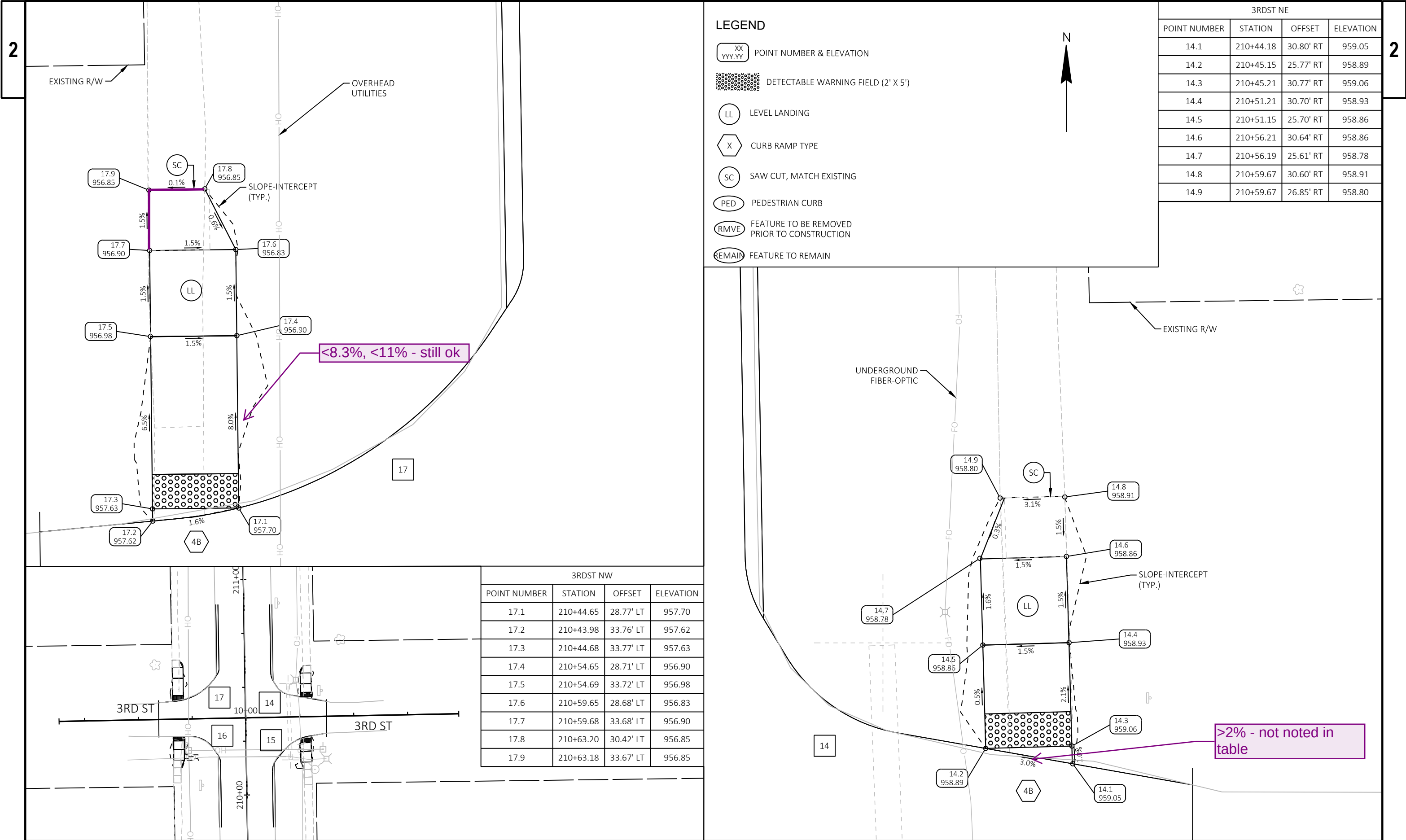
X CURB RAMP TYPE

SC SAW CUT, MATCH EXISTING



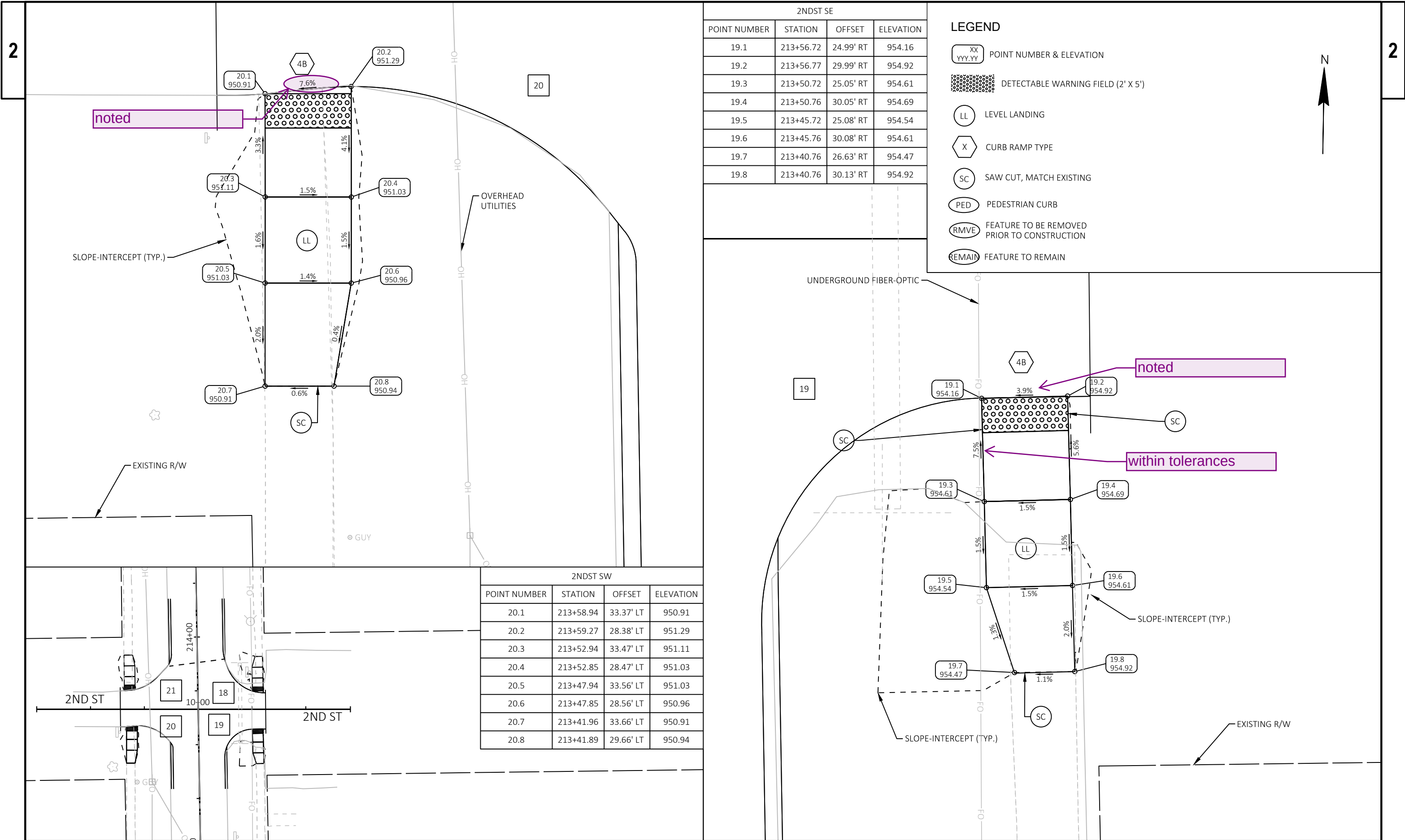
3RDST NE			
POINT NUMBER	STATION	OFFSET	ELEVATION
14.1	210+44.18	30.80' RT	959.05
14.2	210+45.15	25.77' RT	958.89
14.3	210+45.21	30.77' RT	959.06
14.4	210+56.00	12.02' RT	957.43
14.5	210+61.01	12.00' RT	957.40
14.6	210+51.21	30.70' RT	958.93
14.7	210+51.15	25.70' RT	958.86
14.8	210+56.04	15.64' RT	957.50
14.9	210+61.04	15.58' RT	957.47
14.10	210+56.21	30.64' RT	958.86
14.11	210+56.19	25.61' RT	958.45
14.12	210+61.15	25.58' RT	958.38
14.13	210+61.21	30.58' RT	958.45
14.14	210+67.21	30.45' RT	958.77
14.15	210+67.16	25.51' RT	958.80
14.16	210+70.71	30.33' RT	958.82
14.17	210+70.65	26.84' RT	958.74





3RD ST NW			
POINT NUMBER	STATION	OFFSET	ELEVATION
17.1	210+44.65	28.77' LT	957.70
17.2	210+43.98	33.76' LT	957.62
17.3	210+44.68	33.77' LT	957.63
17.4	210+54.65	28.71' LT	956.90
17.5	210+54.69	33.72' LT	956.98
17.6	210+59.65	28.68' LT	956.83
17.7	210+59.68	33.68' LT	956.90
17.8	210+63.20	30.42' LT	956.85
17.9	210+63.18	33.67' LT	956.85

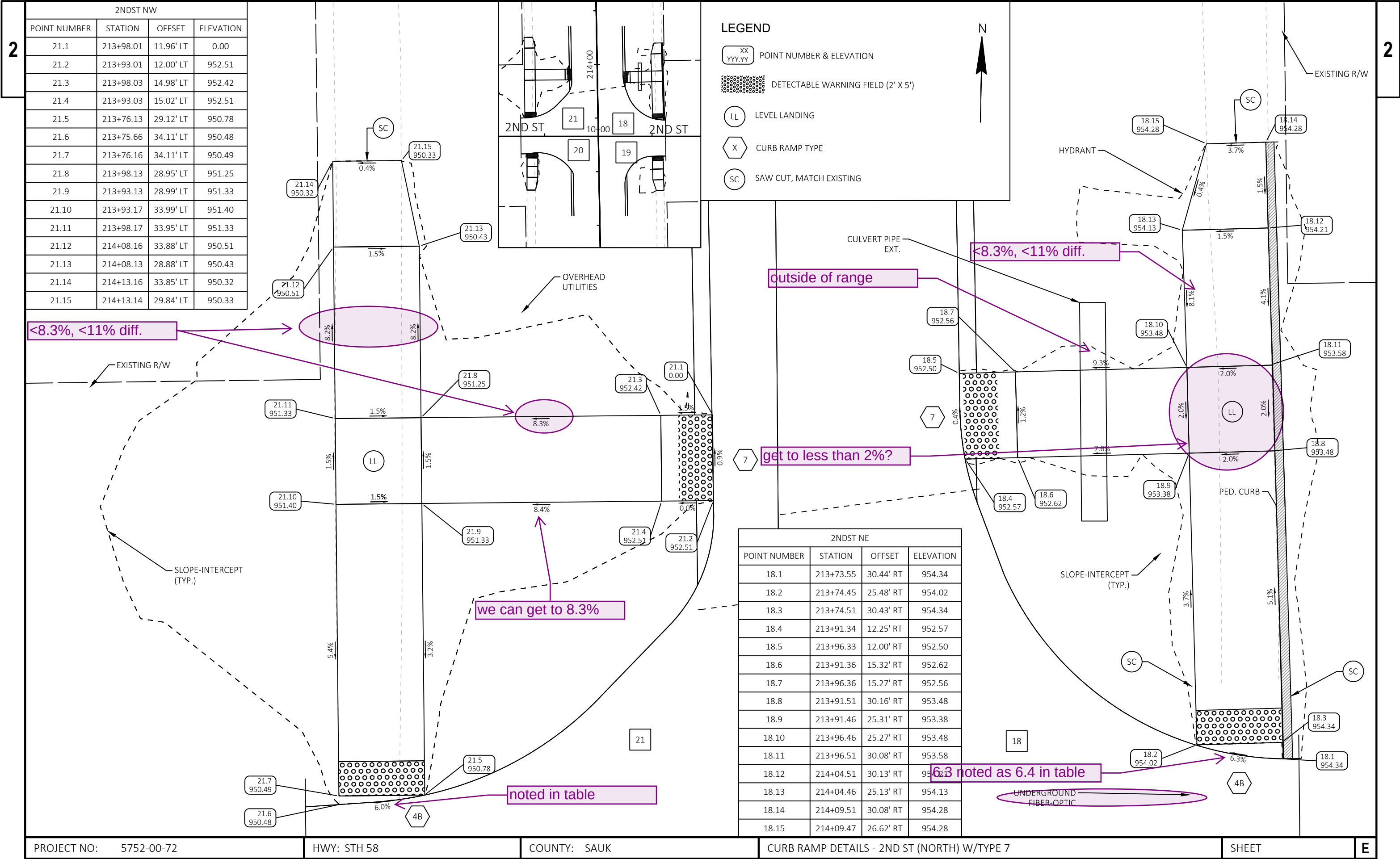
3RD ST NE			
POINT NUMBER	STATION	OFFSET	ELEVATION
14.1	210+44.18	30.80' RT	959.05
14.2	210+45.15	25.77' RT	958.89
14.3	210+45.21	30.77' RT	959.06
14.4	210+51.21	30.70' RT	958.93
14.5	210+51.15	25.70' RT	958.86
14.6	210+56.21	30.64' RT	958.86
14.7	210+56.19	25.61' RT	958.78
14.8	210+59.67	30.60' RT	958.91
14.9	210+59.67	26.85' RT	958.80

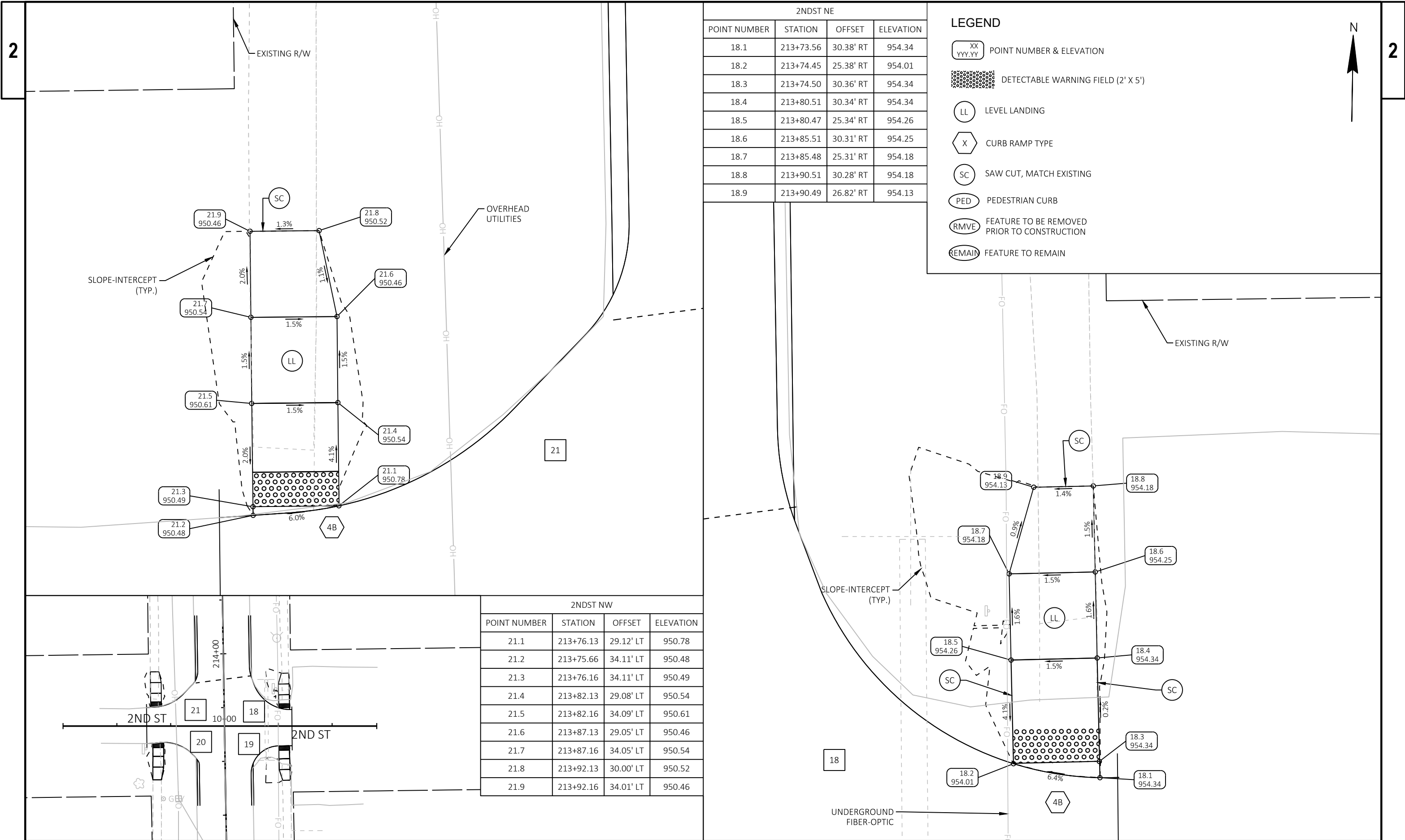


2NDST SW			
POINT NUMBER	STATION	OFFSET	ELEVATION
20.1	213+58.94	33.37' LT	950.91
20.2	213+59.27	28.38' LT	951.29
20.3	213+52.94	33.47' LT	951.11
20.4	213+52.85	28.47' LT	951.03
20.5	213+47.94	33.56' LT	951.03
20.6	213+47.85	28.56' LT	950.96
20.7	213+41.96	33.66' LT	950.91
20.8	213+41.89	29.66' LT	950.94

2NDST SE			
POINT NUMBER	STATION	OFFSET	ELEVATION
19.1	213+56.72	24.99' RT	954.16
19.2	213+56.77	29.99' RT	954.92
19.3	213+50.72	25.05' RT	954.61
19.4	213+50.76	30.05' RT	954.69
19.5	213+45.72	25.08' RT	954.54
19.6	213+45.76	30.08' RT	954.61
19.7	213+40.76	26.63' RT	954.47
19.8	213+40.76	30.13' RT	954.92

- LEGEND**
- XX
YYY.YY POINT NUMBER & ELEVATION
 - DETECTABLE WARNING FIELD (2' X 5')
 - LL LEVEL LANDING
 - X CURB RAMP TYPE
 - SC SAW CUT, MATCH EXISTING
 - PED PEDESTRIAN CURB
 - RMVE FEATURE TO BE REMOVED PRIOR TO CONSTRUCTION
 - REMAIN FEATURE TO REMAIN



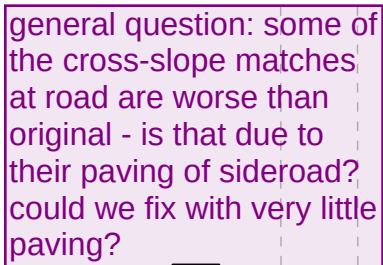


2NDST NW			
POINT NUMBER	STATION	OFFSET	ELEVATION
21.1	213+76.13	29.12' LT	950.78
21.2	213+75.66	34.11' LT	950.48
21.3	213+76.16	34.11' LT	950.49
21.4	213+82.13	29.08' LT	950.54
21.5	213+82.16	34.09' LT	950.61
21.6	213+87.13	29.05' LT	950.46
21.7	213+87.16	34.05' LT	950.54
21.8	213+92.13	30.00' LT	950.52
21.9	213+92.16	34.01' LT	950.46

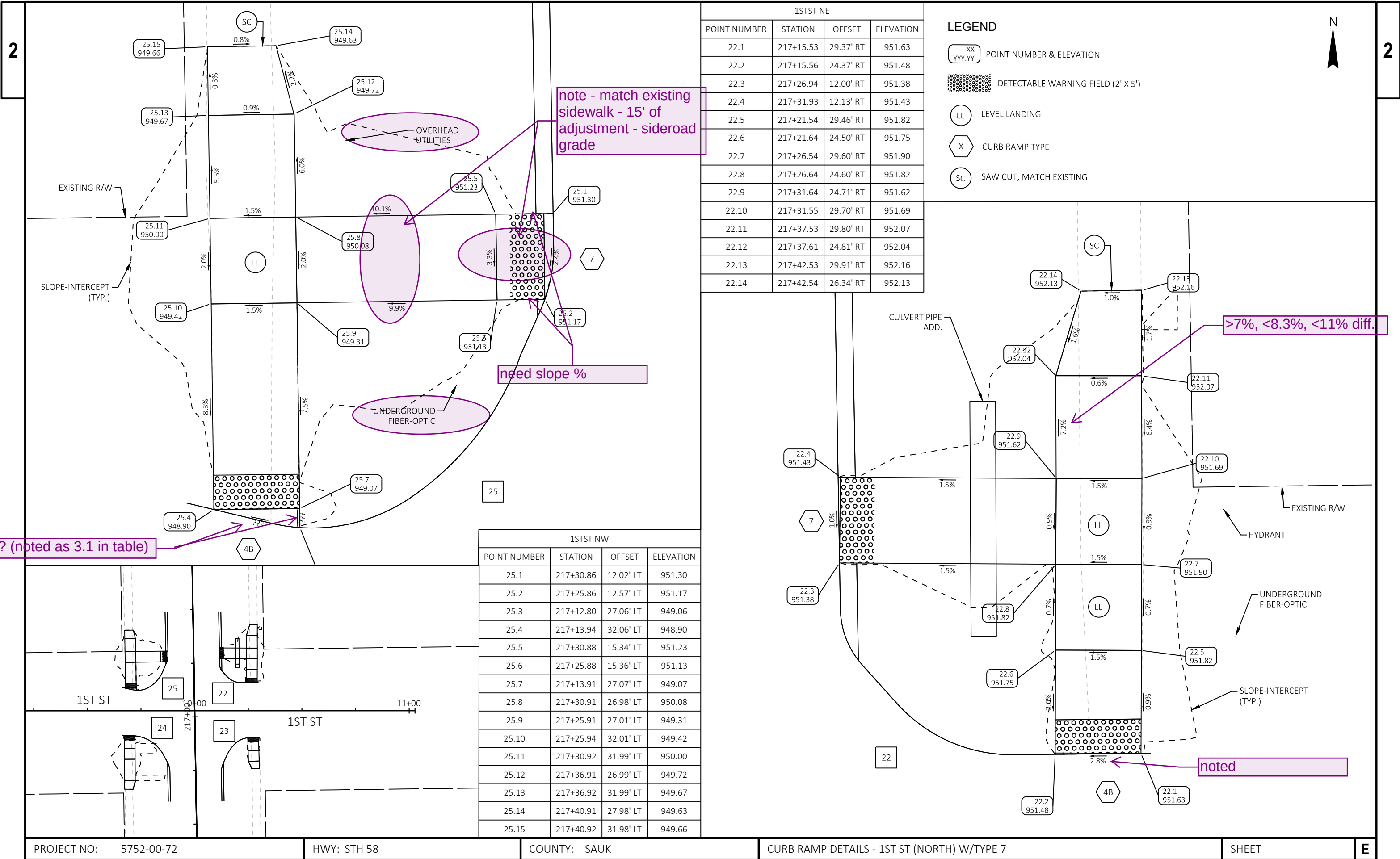
2NDST NE			
POINT NUMBER	STATION	OFFSET	ELEVATION
18.1	213+73.56	30.38' RT	954.34
18.2	213+74.45	25.38' RT	954.01
18.3	213+74.50	30.36' RT	954.34
18.4	213+80.51	30.34' RT	954.34
18.5	213+80.47	25.34' RT	954.26
18.6	213+85.51	30.31' RT	954.25
18.7	213+85.48	25.31' RT	954.18
18.8	213+90.51	30.28' RT	954.18
18.9	213+90.49	26.82' RT	954.13

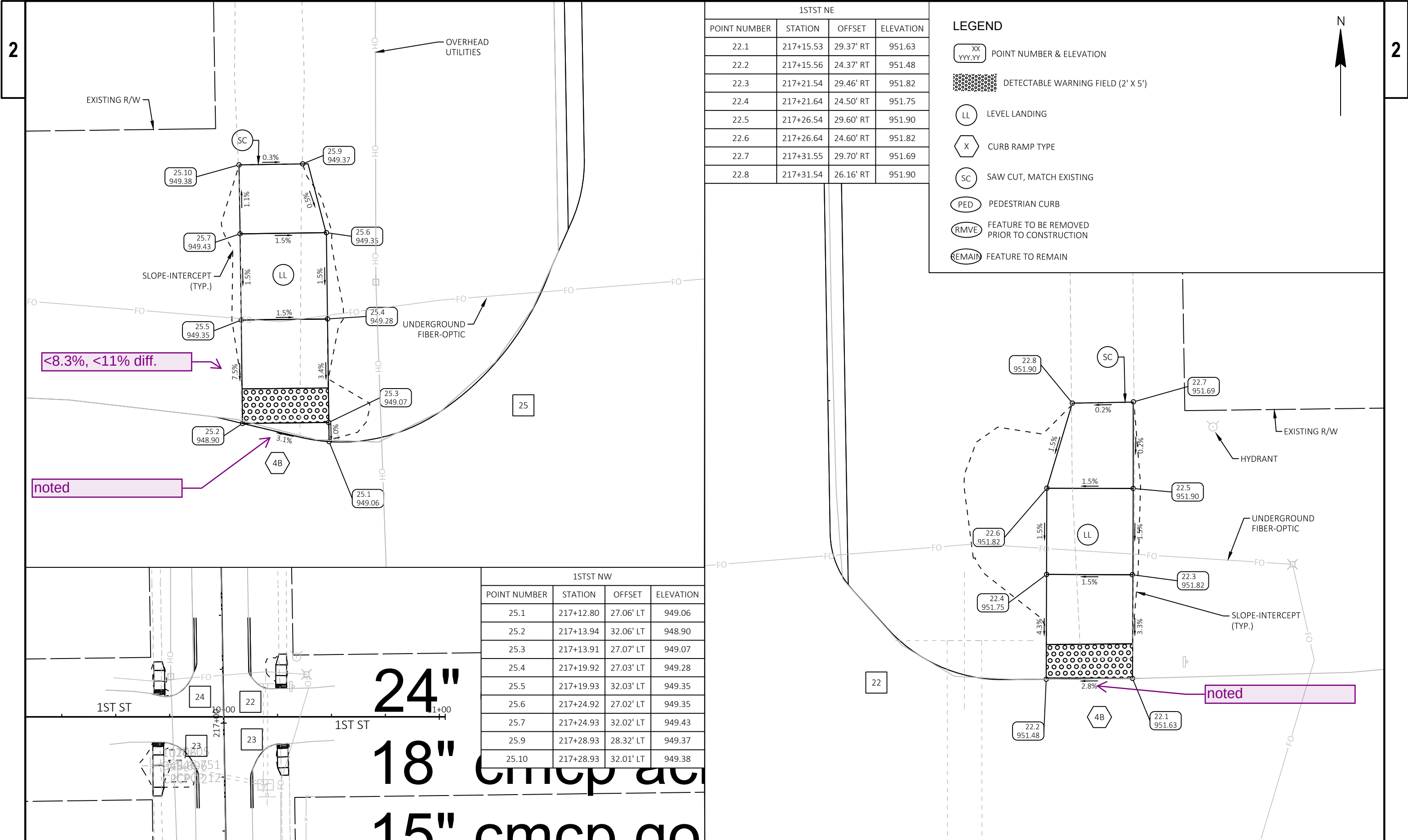
LEGEND

- XX
YYY.YY POINT NUMBER & ELEVATION
- DETECTABLE WARNING FIELD (2' X 5')
- LL LEVEL LANDING
- X CURB RAMP TYPE
- SC SAW CUT, MATCH EXISTING
- PED PEDESTRIAN CURB
- RMVE FEATURE TO BE REMOVED PRIOR TO CONSTRUCTION
- REMAIN FEATURE TO REMAIN



The diagram illustrates a four-way intersection with a horizontal road labeled '1ST ST' and a vertical road labeled '217th'. Four vehicles are shown at the corners, each with a sight triangle defined by dashed lines. The sight triangles are labeled with vehicle heights: 24", 18", and 15". The 24" sight triangle is associated with a vehicle at the top-left corner. The 18" sight triangle is associated with a vehicle at the top-right corner. The 15" sight triangle is associated with a vehicle at the bottom-right corner. A vehicle at the bottom-left corner is labeled with the number 23. The diagram also shows various traffic signs, including a 'STOP' sign and a 'YIELD' sign. The intersection is marked with a '217th' label and a '100' label. The diagram is a technical drawing showing the geometry of the intersection and the sight triangles for different vehicle heights.





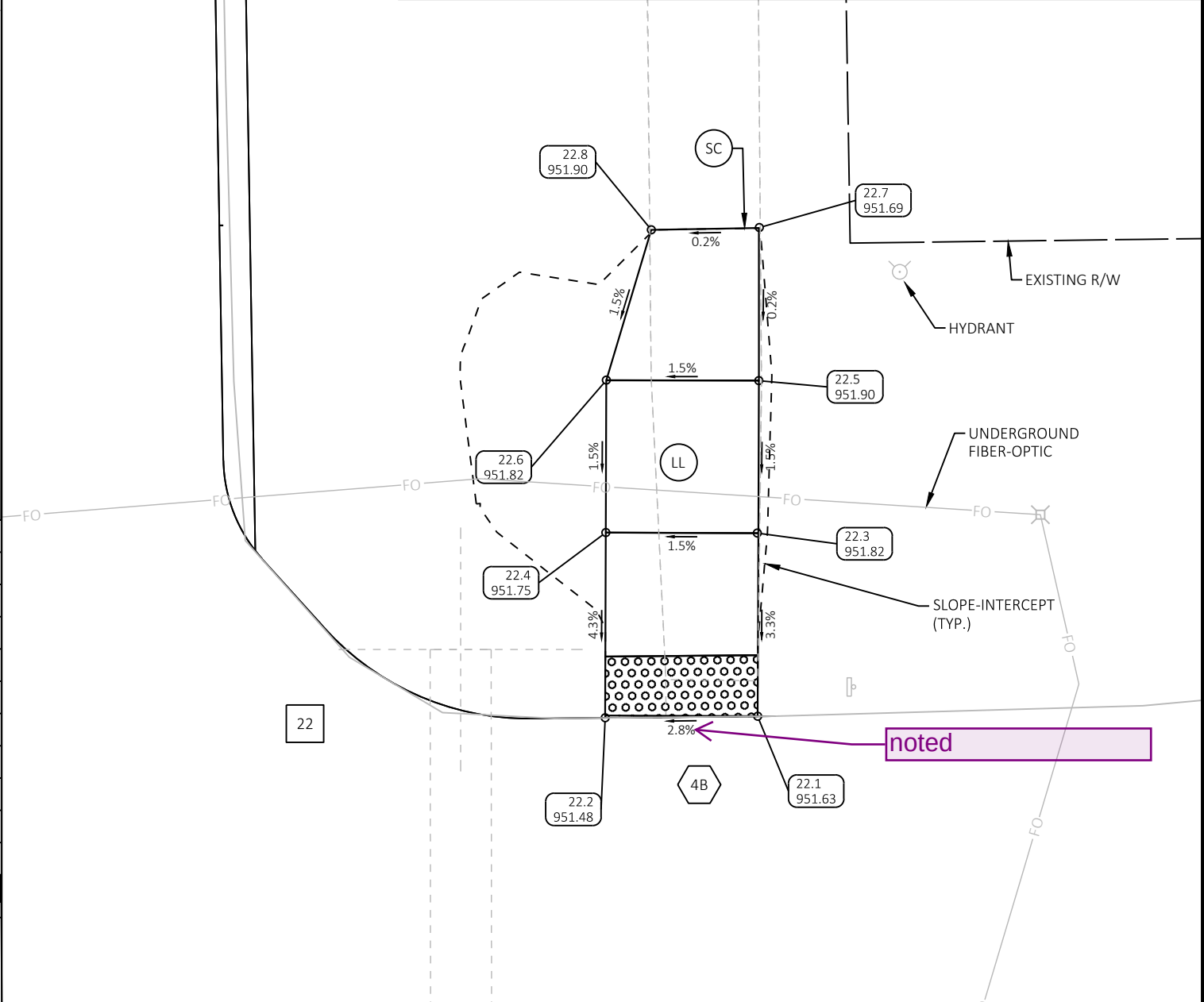
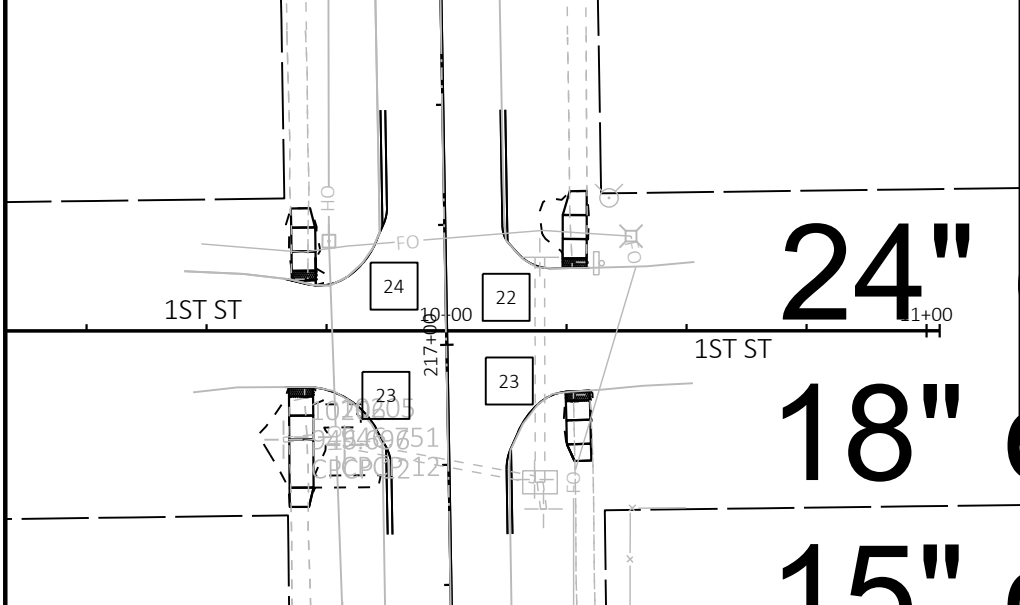
1STST NE			
POINT NUMBER	STATION	OFFSET	ELEVATION
22.1	217+15.53	29.37' RT	951.63
22.2	217+15.56	24.37' RT	951.48
22.3	217+21.54	29.46' RT	951.82
22.4	217+21.64	24.50' RT	951.75
22.5	217+26.54	29.60' RT	951.90
22.6	217+26.64	24.60' RT	951.82
22.7	217+31.55	29.70' RT	951.69
22.8	217+31.54	26.16' RT	951.90

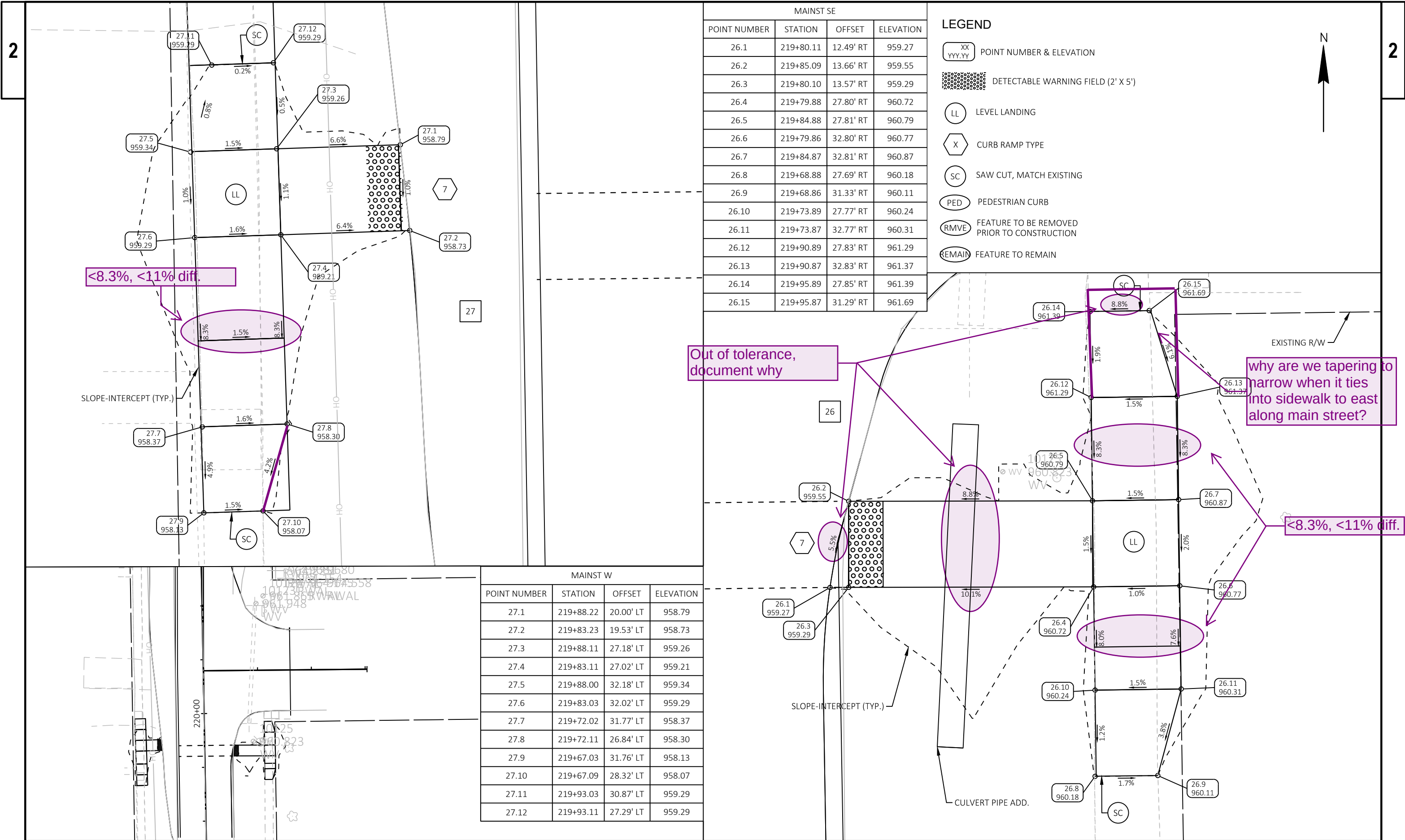
LEGEND

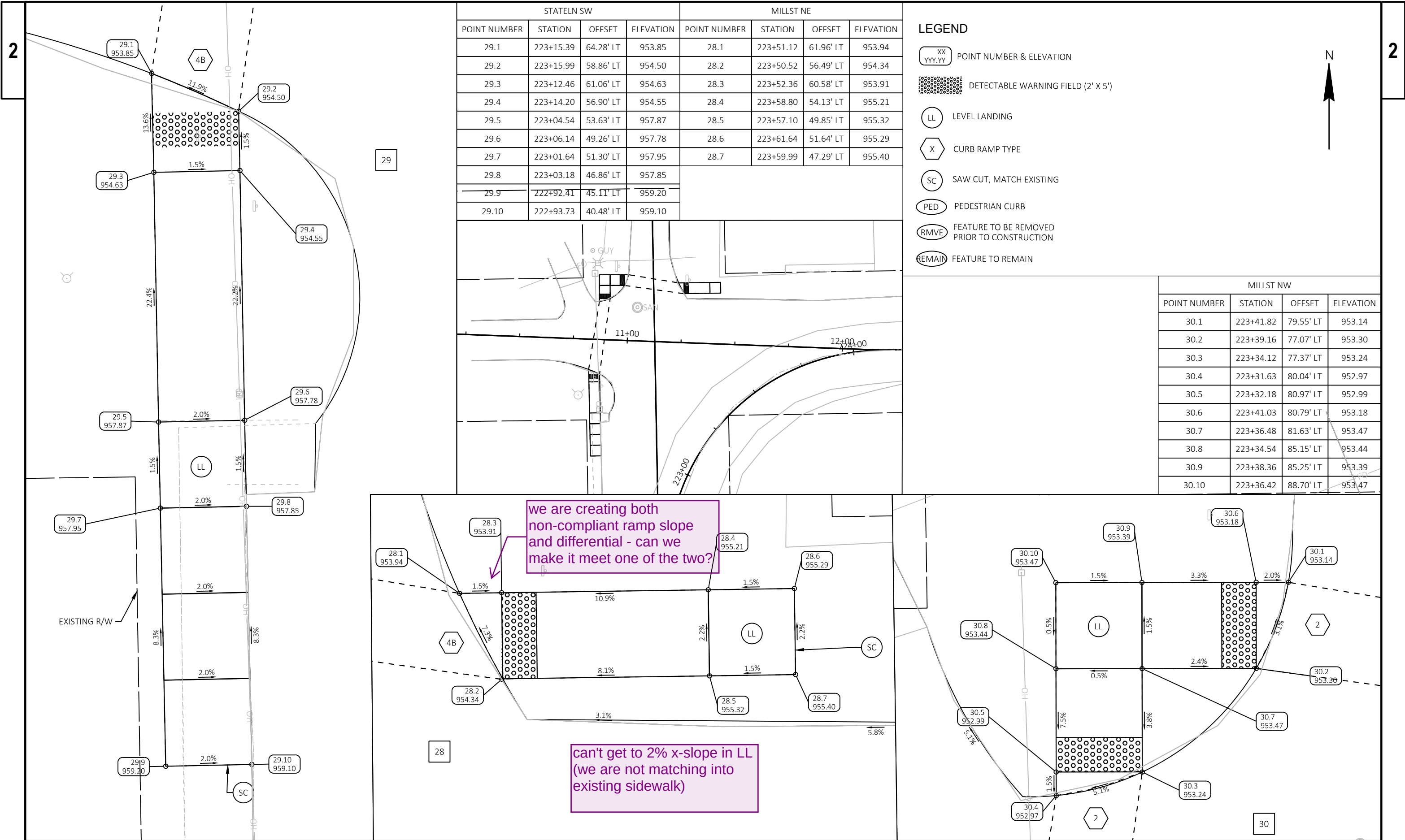
- XX
YYY.YY POINT NUMBER & ELEVATION
- DETECTABLE WARNING FIELD (2' X 5')
- LL LEVEL LANDING
- X CURB RAMP TYPE
- SC SAW CUT, MATCH EXISTING
- PED PEDESTRIAN CURB
- RMVE FEATURE TO BE REMOVED PRIOR TO CONSTRUCTION
- REMAIN FEATURE TO REMAIN



1STST NW			
POINT NUMBER	STATION	OFFSET	ELEVATION
25.1	217+12.80	27.06' LT	949.06
25.2	217+13.94	32.06' LT	948.90
25.3	217+13.91	27.07' LT	949.07
25.4	217+19.92	27.03' LT	949.28
25.5	217+19.93	32.03' LT	949.35
25.6	217+24.92	27.02' LT	949.35
25.7	217+24.93	32.02' LT	949.43
25.9	217+28.93	28.32' LT	949.37
25.10	217+28.93	32.01' LT	949.38







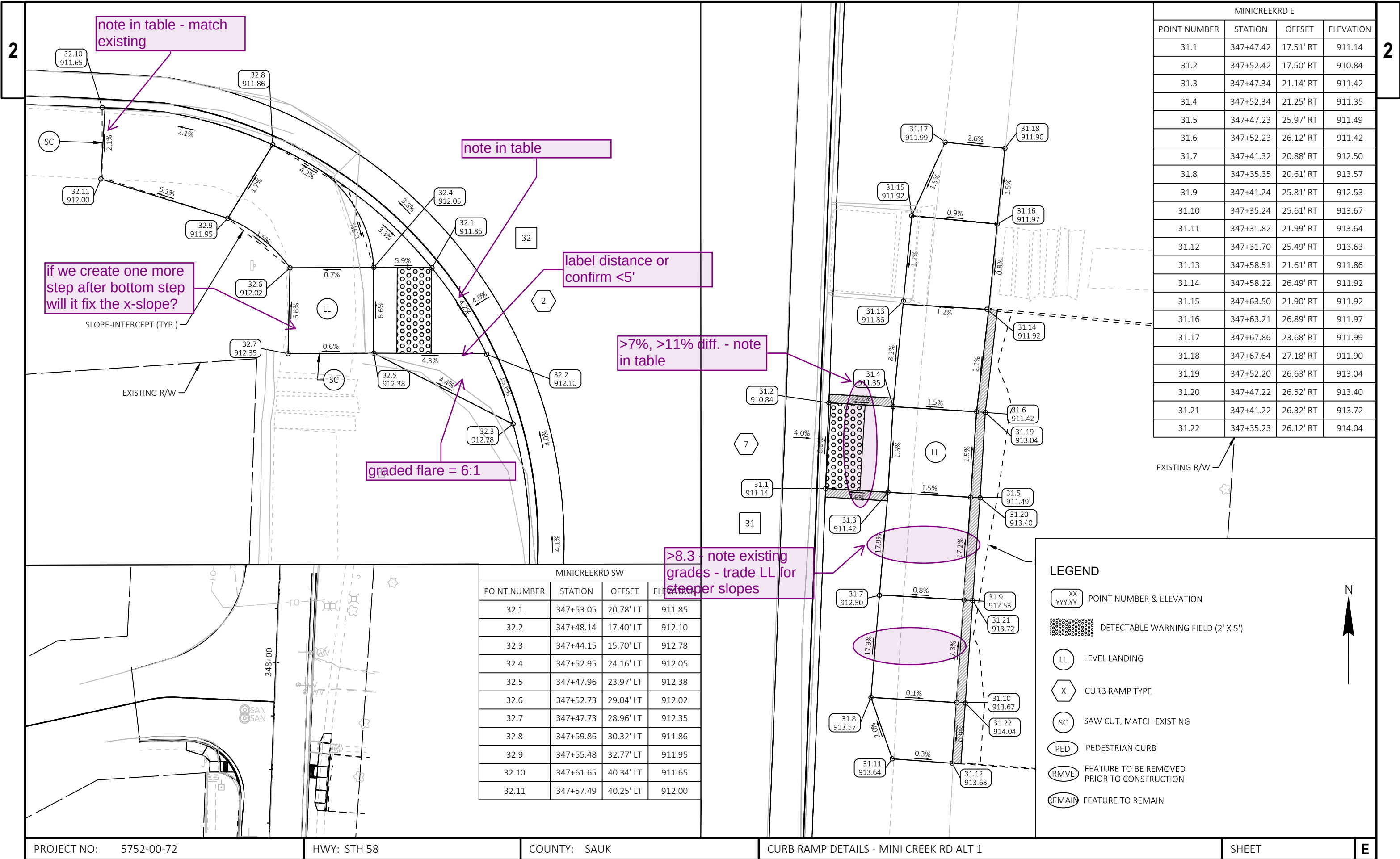
STATELN SW				MILLST NE			
POINT NUMBER	STATION	OFFSET	ELEVATION	POINT NUMBER	STATION	OFFSET	ELEVATION
29.1	223+15.39	64.28' LT	953.85	28.1	223+51.12	61.96' LT	953.94
29.2	223+15.99	58.86' LT	954.50	28.2	223+50.52	56.49' LT	954.34
29.3	223+12.46	61.06' LT	954.63	28.3	223+52.36	60.58' LT	953.91
29.4	223+14.20	56.90' LT	954.55	28.4	223+58.80	54.13' LT	955.21
29.5	223+04.54	53.63' LT	957.87	28.5	223+57.10	49.85' LT	955.32
29.6	223+06.14	49.26' LT	957.78	28.6	223+61.64	51.64' LT	955.29
29.7	223+01.64	51.30' LT	957.95	28.7	223+59.99	47.29' LT	955.40
29.8	223+03.18	46.86' LT	957.85				
29.9	222+92.41	45.11' LT	959.20				
29.10	222+93.73	40.48' LT	959.10				

- LEGEND**
- XX
YYY.YY POINT NUMBER & ELEVATION
 - DETECTABLE WARNING FIELD (2' X 5')
 - LL LEVEL LANDING
 - X CURB RAMP TYPE
 - SC SAW CUT, MATCH EXISTING
 - PED PEDESTRIAN CURB
 - RMVE FEATURE TO BE REMOVED PRIOR TO CONSTRUCTION
 - REMAIN FEATURE TO REMAIN

MILLST NW			
POINT NUMBER	STATION	OFFSET	ELEVATION
30.1	223+41.82	79.55' LT	953.14
30.2	223+39.16	77.07' LT	953.30
30.3	223+34.12	77.37' LT	953.24
30.4	223+31.63	80.04' LT	952.97
30.5	223+32.18	80.97' LT	952.99
30.6	223+41.03	80.79' LT	953.18
30.7	223+36.48	81.63' LT	953.47
30.8	223+34.54	85.15' LT	953.44
30.9	223+38.36	85.25' LT	953.39
30.10	223+36.42	88.70' LT	953.47

we are creating both non-compliant ramp slope and differential - can we make it meet one of the two?

can't get to 2% x-slope in LL (we are not matching into existing sidewalk)



MINICREEKRD E			
POINT NUMBER	STATION	OFFSET	ELEVATION
31.1	347+47.42	17.51' RT	911.14
31.2	347+52.42	17.50' RT	910.84
31.3	347+47.34	21.14' RT	911.42
31.4	347+52.34	21.25' RT	911.35
31.5	347+47.23	25.97' RT	911.49
31.6	347+52.23	26.12' RT	911.42
31.7	347+41.32	20.88' RT	912.50
31.8	347+35.35	20.61' RT	913.57
31.9	347+41.24	25.81' RT	912.53
31.10	347+35.24	25.61' RT	913.67
31.11	347+31.82	21.99' RT	913.64
31.12	347+31.70	25.49' RT	913.63
31.13	347+58.51	21.61' RT	911.86
31.14	347+58.22	26.49' RT	911.92
31.15	347+63.50	21.90' RT	911.92
31.16	347+63.21	26.89' RT	911.97
31.17	347+67.86	23.68' RT	911.99
31.18	347+67.64	27.18' RT	911.90
31.19	347+52.20	26.63' RT	913.04
31.20	347+47.22	26.52' RT	913.40
31.21	347+41.22	26.32' RT	913.72
31.22	347+35.23	26.12' RT	914.04

MINICREEKRD SW			
POINT NUMBER	STATION	OFFSET	ELEVATION
32.1	347+53.05	20.78' LT	911.85
32.2	347+48.14	17.40' LT	912.10
32.3	347+44.15	15.70' LT	912.78
32.4	347+52.95	24.16' LT	912.05
32.5	347+47.96	23.97' LT	912.38
32.6	347+52.73	29.04' LT	912.02
32.7	347+47.73	28.96' LT	912.35
32.8	347+59.86	30.32' LT	911.86
32.9	347+55.48	32.77' LT	911.95
32.10	347+61.65	40.34' LT	911.65
32.11	347+57.49	40.25' LT	912.00

LEGEND

- XX
YYY.YY POINT NUMBER & ELEVATION
- DETECTABLE WARNING FIELD (2' X 5')
- LL LEVEL LANDING
- X CURB RAMP TYPE
- SC SAW CUT, MATCH EXISTING
- PED PEDESTRIAN CURB
- RMVE FEATURE TO BE REMOVED PRIOR TO CONSTRUCTION
- REMAIN FEATURE TO REMAIN

PROJECT NO: 5752-00-72

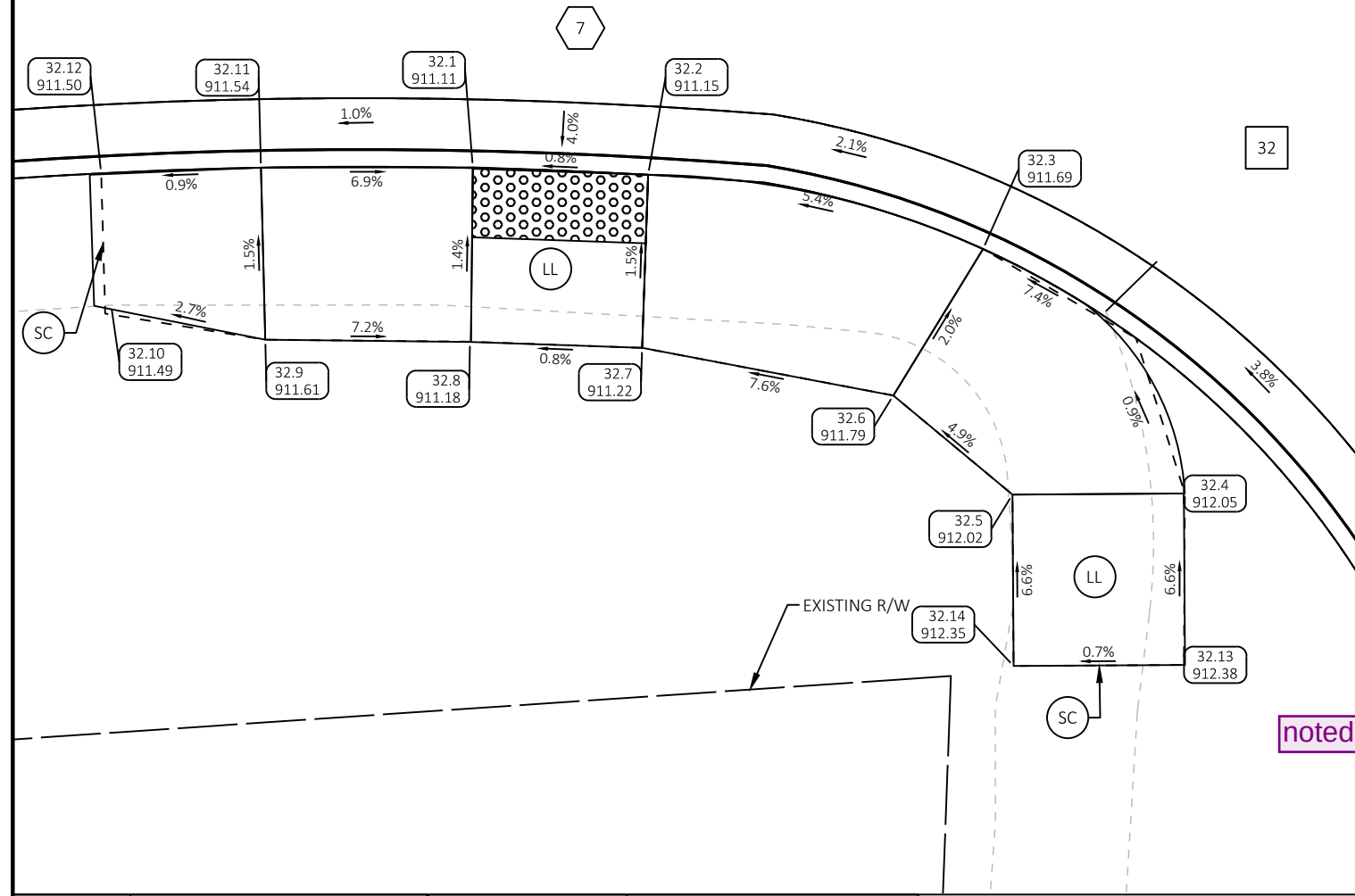
HWY: STH 58

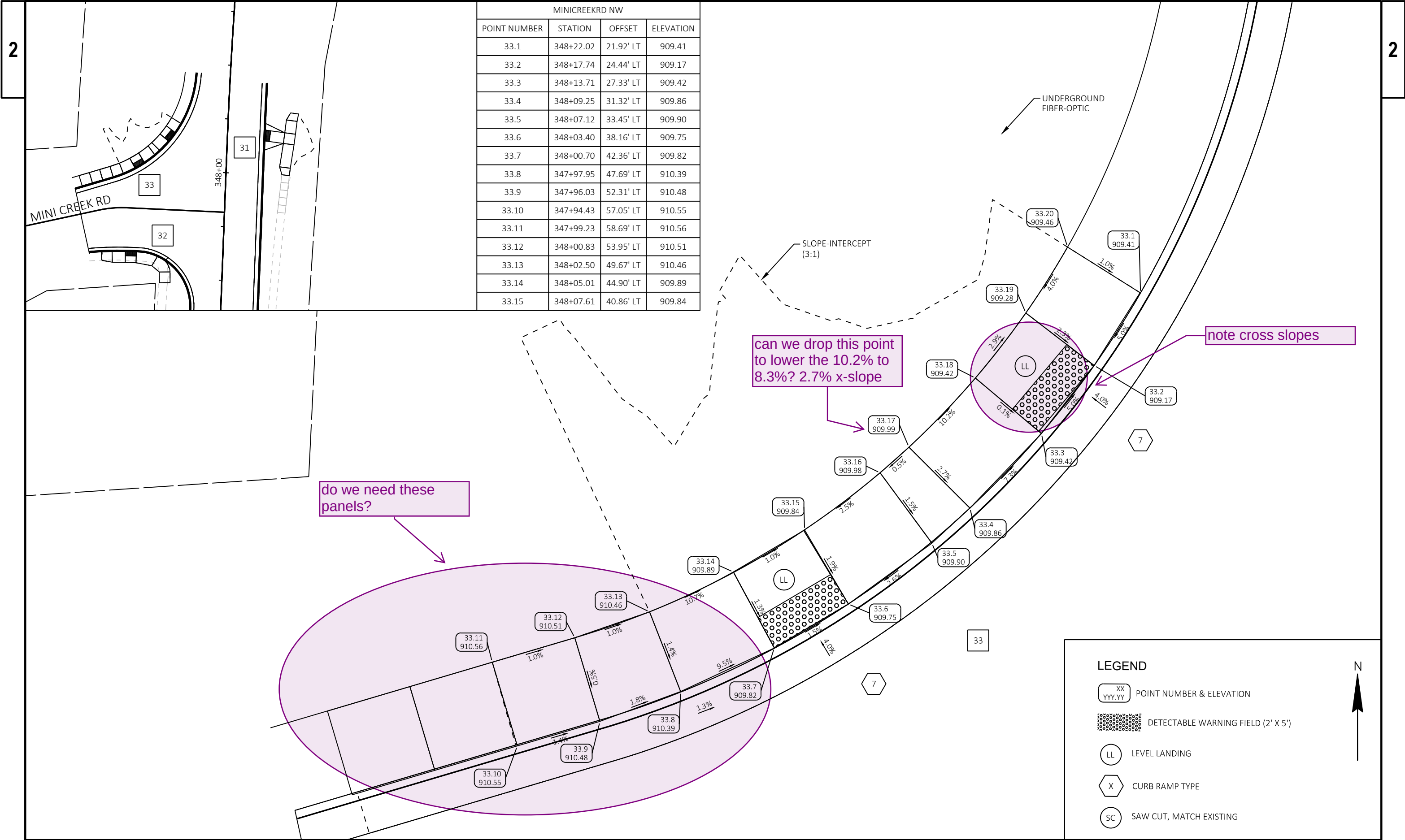
COUNTY: SAUK

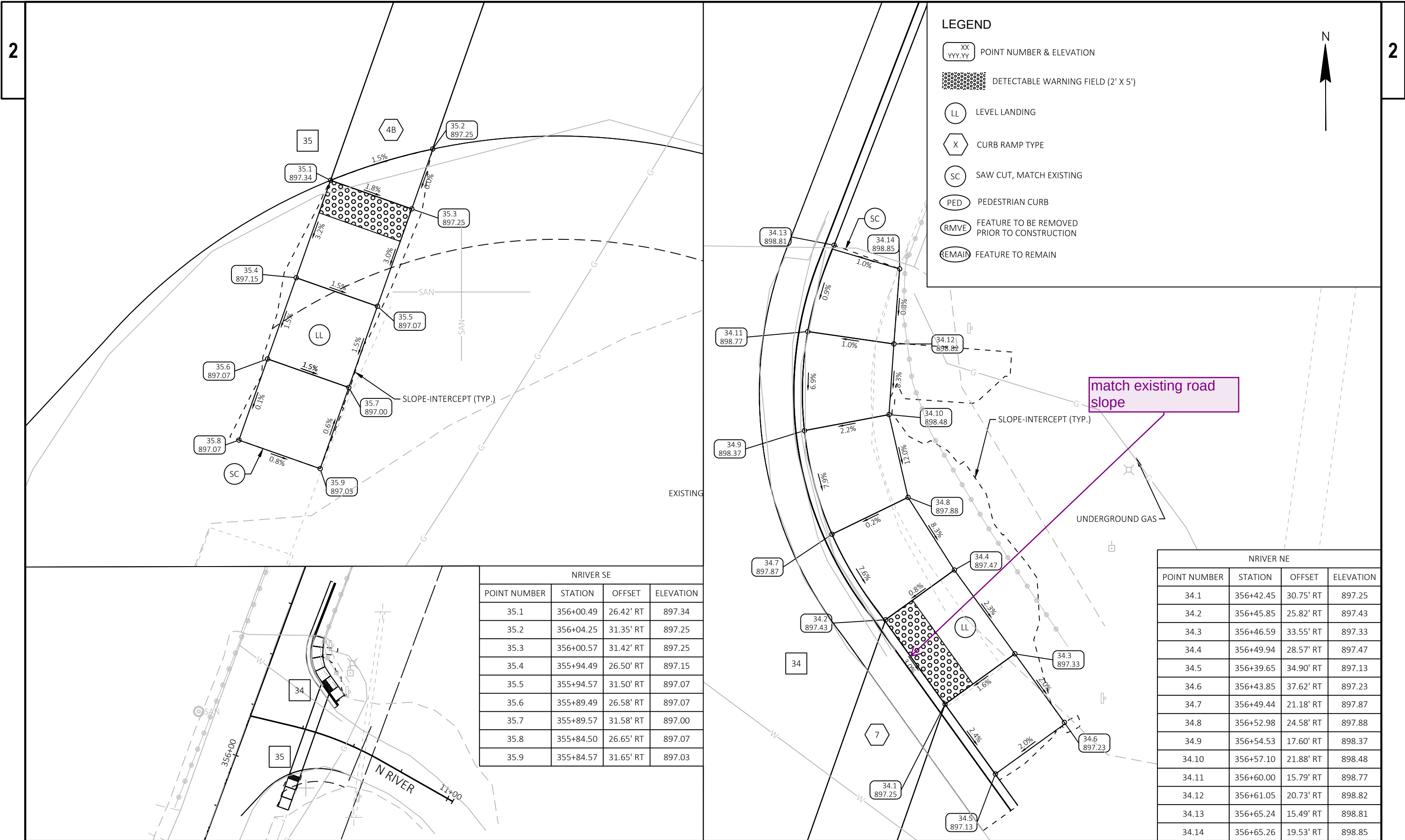
CURB RAMP DETAILS - MINI CREEK RD ALT 1

SHEET

E

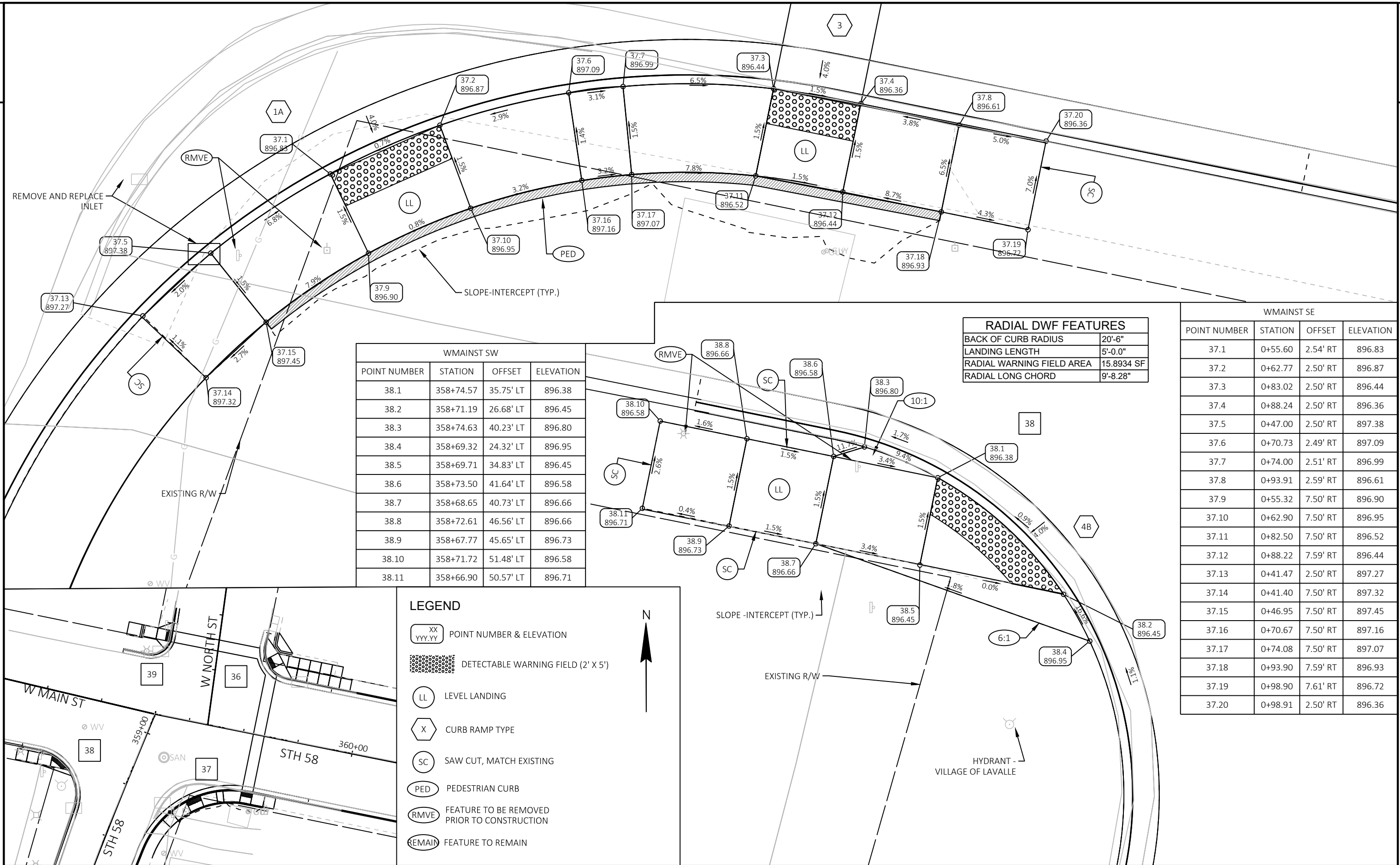






NRIVER SE			
POINT NUMBER	STATION	OFFSET	ELEVATION
35.1	356+00.49	26.42' RT	897.34
35.2	356+04.25	31.35' RT	897.25
35.3	356+00.57	31.42' RT	897.25
35.4	355+94.49	26.50' RT	897.15
35.5	355+94.57	31.50' RT	897.07
35.6	355+89.49	26.58' RT	897.07
35.7	355+89.57	31.58' RT	897.00
35.8	355+84.50	26.65' RT	897.07
35.9	355+84.57	31.65' RT	897.03

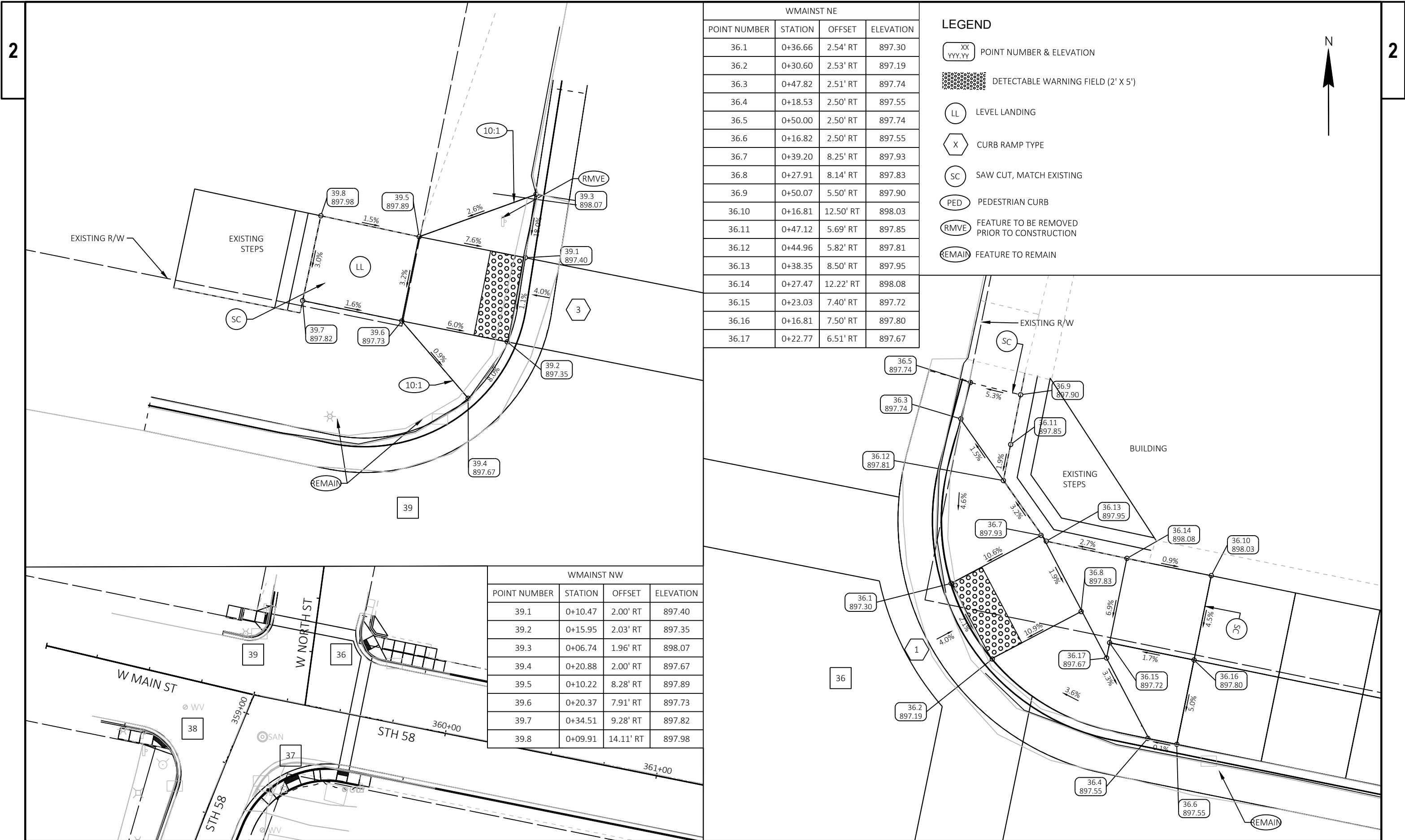
NRIVER NE			
POINT NUMBER	STATION	OFFSET	ELEVATION
34.1	356+42.45	30.75' RT	897.25
34.2	356+45.85	25.82' RT	897.43
34.3	356+46.59	33.55' RT	897.33
34.4	356+49.94	28.57' RT	897.47
34.5	356+39.65	34.90' RT	897.13
34.6	356+43.85	37.62' RT	897.23
34.7	356+49.44	21.18' RT	897.87
34.8	356+52.98	24.58' RT	897.88
34.9	356+54.53	17.60' RT	898.37
34.10	356+57.10	21.88' RT	898.48
34.11	356+60.00	15.79' RT	898.77
34.12	356+61.05	20.73' RT	898.82
34.13	356+65.24	15.49' RT	898.81
34.14	356+65.26	19.53' RT	898.85



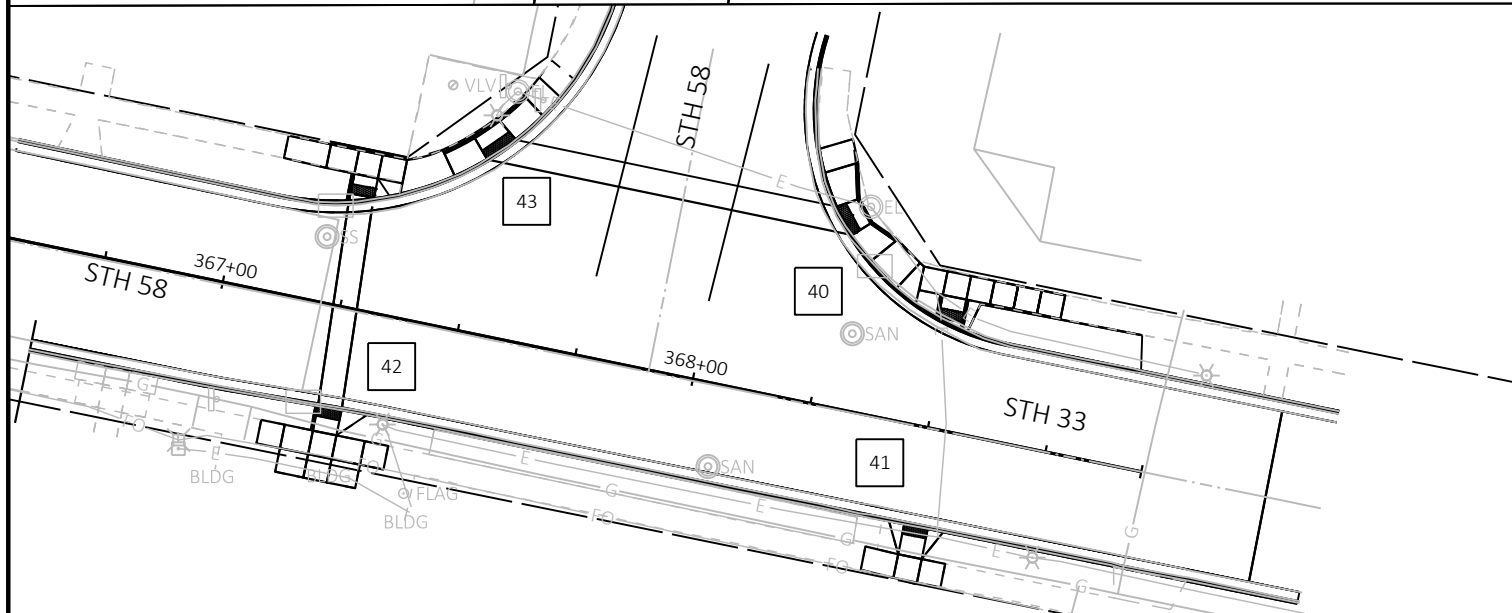
RADIAL DWF FEATURES	
BACK OF CURB RADIUS	20'-6"
LANDING LENGTH	5'-0.0"
RADIAL WARNING FIELD AREA	15.8934 SF
RADIAL LONG CHORD	9'-8.28"

WMAINST SW			
POINT NUMBER	STATION	OFFSET	ELEVATION
38.1	358+74.57	35.75' LT	896.38
38.2	358+71.19	26.68' LT	896.45
38.3	358+74.63	40.23' LT	896.80
38.4	358+69.32	24.32' LT	896.95
38.5	358+69.71	34.83' LT	896.45
38.6	358+73.50	41.64' LT	896.58
38.7	358+68.65	40.73' LT	896.66
38.8	358+72.61	46.56' LT	896.66
38.9	358+67.77	45.65' LT	896.73
38.10	358+71.72	51.48' LT	896.58
38.11	358+66.90	50.57' LT	896.71

WMAINST SE			
POINT NUMBER	STATION	OFFSET	ELEVATION
37.1	0+55.60	2.54' RT	896.83
37.2	0+62.77	2.50' RT	896.87
37.3	0+83.02	2.50' RT	896.44
37.4	0+88.24	2.50' RT	896.36
37.5	0+47.00	2.50' RT	897.38
37.6	0+70.73	2.49' RT	897.09
37.7	0+74.00	2.51' RT	896.99
37.8	0+93.91	2.59' RT	896.61
37.9	0+55.32	7.50' RT	896.90
37.10	0+62.90	7.50' RT	896.95
37.11	0+82.50	7.50' RT	896.52
37.12	0+88.22	7.59' RT	896.44
37.13	0+41.47	2.50' RT	897.27
37.14	0+41.40	7.50' RT	897.32
37.15	0+46.95	7.50' RT	897.45
37.16	0+70.67	7.50' RT	897.16
37.17	0+74.08	7.50' RT	897.07
37.18	0+93.90	7.59' RT	896.93
37.19	0+98.90	7.61' RT	896.72
37.20	0+98.91	2.50' RT	896.36



2

2

2

XX
YYY.YY POINT NUMBER & ELEVATION

LL LEVEL LANDING

(SC) SAW CUT, MATCH EXISTING

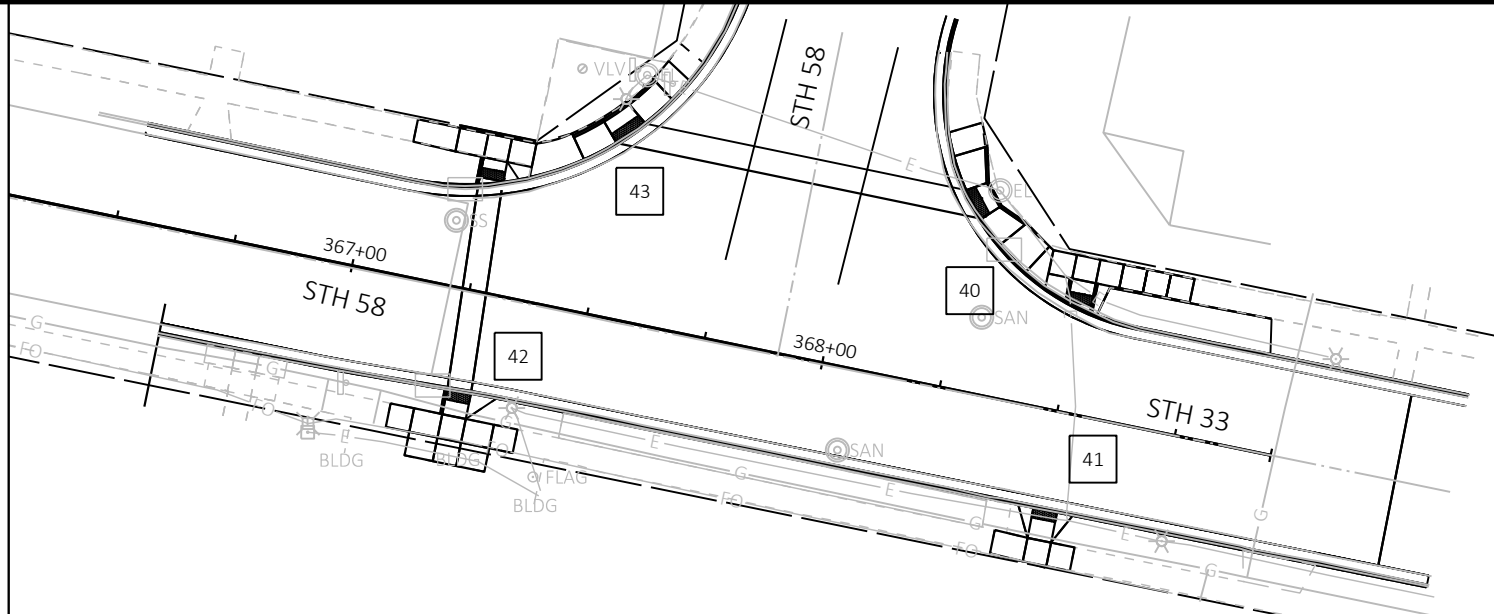
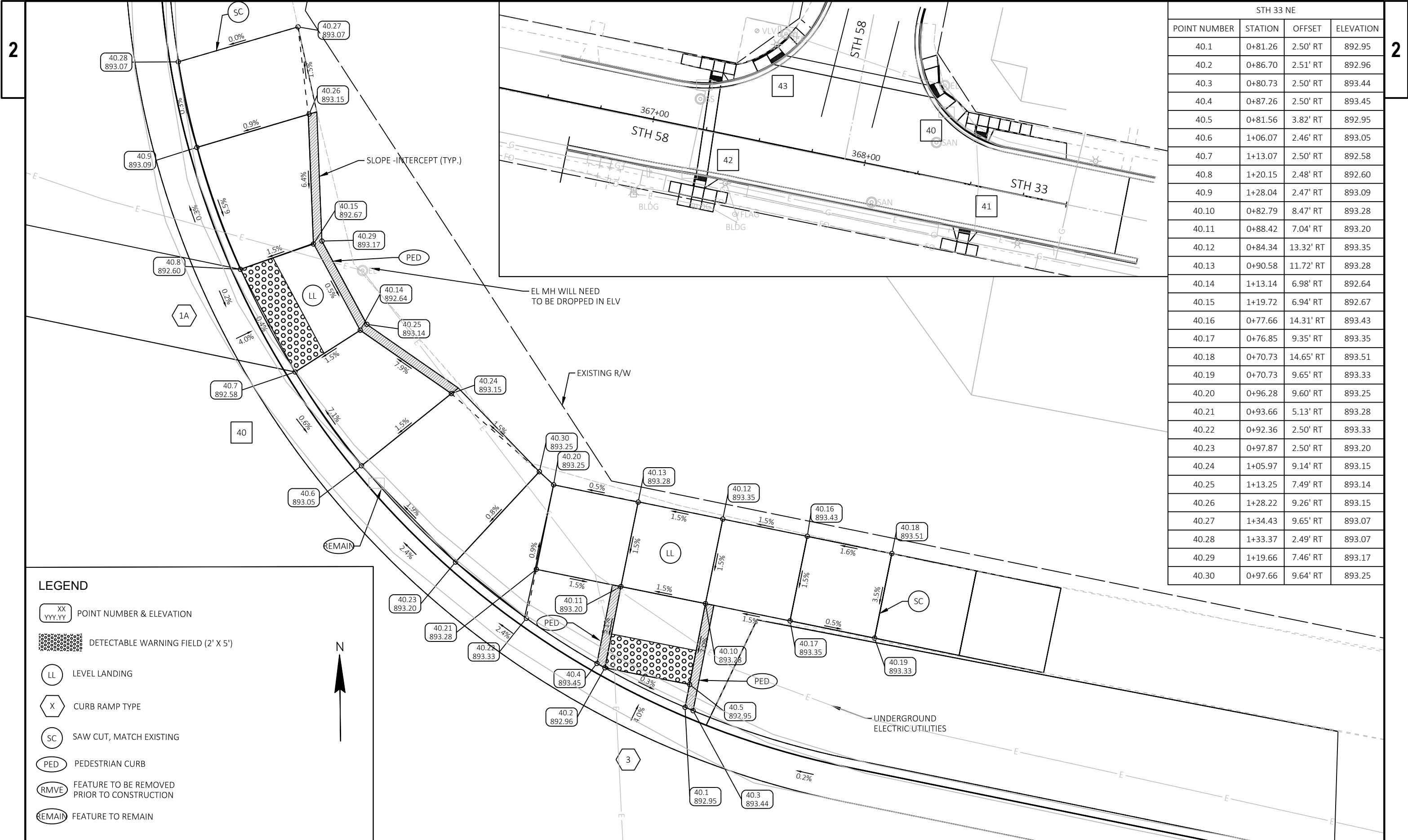
RMVE FEATURE TO BE REMOVED
PRIOR TO CONSTRUCTION

REMAIN FEATURE TO REMAIN



E

WISDOT/CADDS SHEET 42



STH 33 NE			
POINT NUMBER	STATION	OFFSET	ELEVATION
40.1	0+81.26	2.50' RT	892.95
40.2	0+86.70	2.51' RT	892.96
40.3	0+80.73	2.50' RT	893.44
40.4	0+87.26	2.50' RT	893.45
40.5	0+81.56	3.82' RT	892.95
40.6	1+06.07	2.46' RT	893.05
40.7	1+13.07	2.50' RT	892.58
40.8	1+20.15	2.48' RT	892.60
40.9	1+28.04	2.47' RT	893.09
40.10	0+82.79	8.47' RT	893.28
40.11	0+88.42	7.04' RT	893.20
40.12	0+84.34	13.32' RT	893.35
40.13	0+90.58	11.72' RT	893.28
40.14	1+13.14	6.98' RT	892.64
40.15	1+19.72	6.94' RT	892.67
40.16	0+77.66	14.31' RT	893.43
40.17	0+76.85	9.35' RT	893.35
40.18	0+70.73	14.65' RT	893.51
40.19	0+70.73	9.65' RT	893.33
40.20	0+96.28	9.60' RT	893.25
40.21	0+93.66	5.13' RT	893.28
40.22	0+92.36	2.50' RT	893.33
40.23	0+97.87	2.50' RT	893.20
40.24	1+05.97	9.14' RT	893.15
40.25	1+13.25	7.49' RT	893.14
40.26	1+28.22	9.26' RT	893.15
40.27	1+34.43	9.65' RT	893.07
40.28	1+33.37	2.49' RT	893.07
40.29	1+19.66	7.46' RT	893.17
40.30	0+97.66	9.64' RT	893.25

LEGEND

XX
YYY.YY

POINT NUMBER & ELEVATION

DETECTABLE WARNING FIELD (2' X 5')

LL

LEVEL LANDING

X

CURB RAMP TYPE

SC

SAW CUT, MATCH EXISTING

PED

PEDESTRIAN CURB

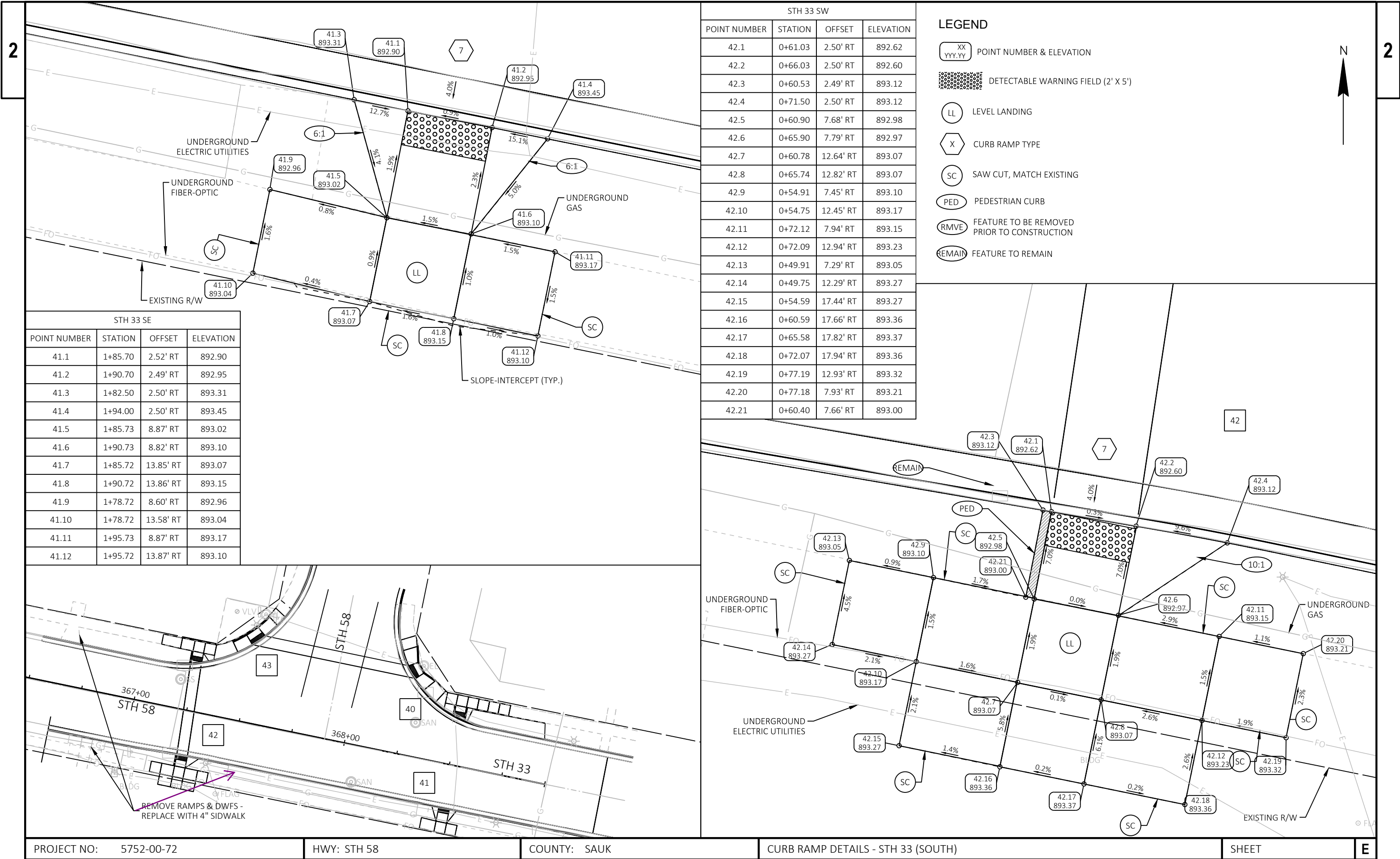
RMVE

FEATURE TO BE REMOVED
PRIOR TO CONSTRUCTION

REMAIN

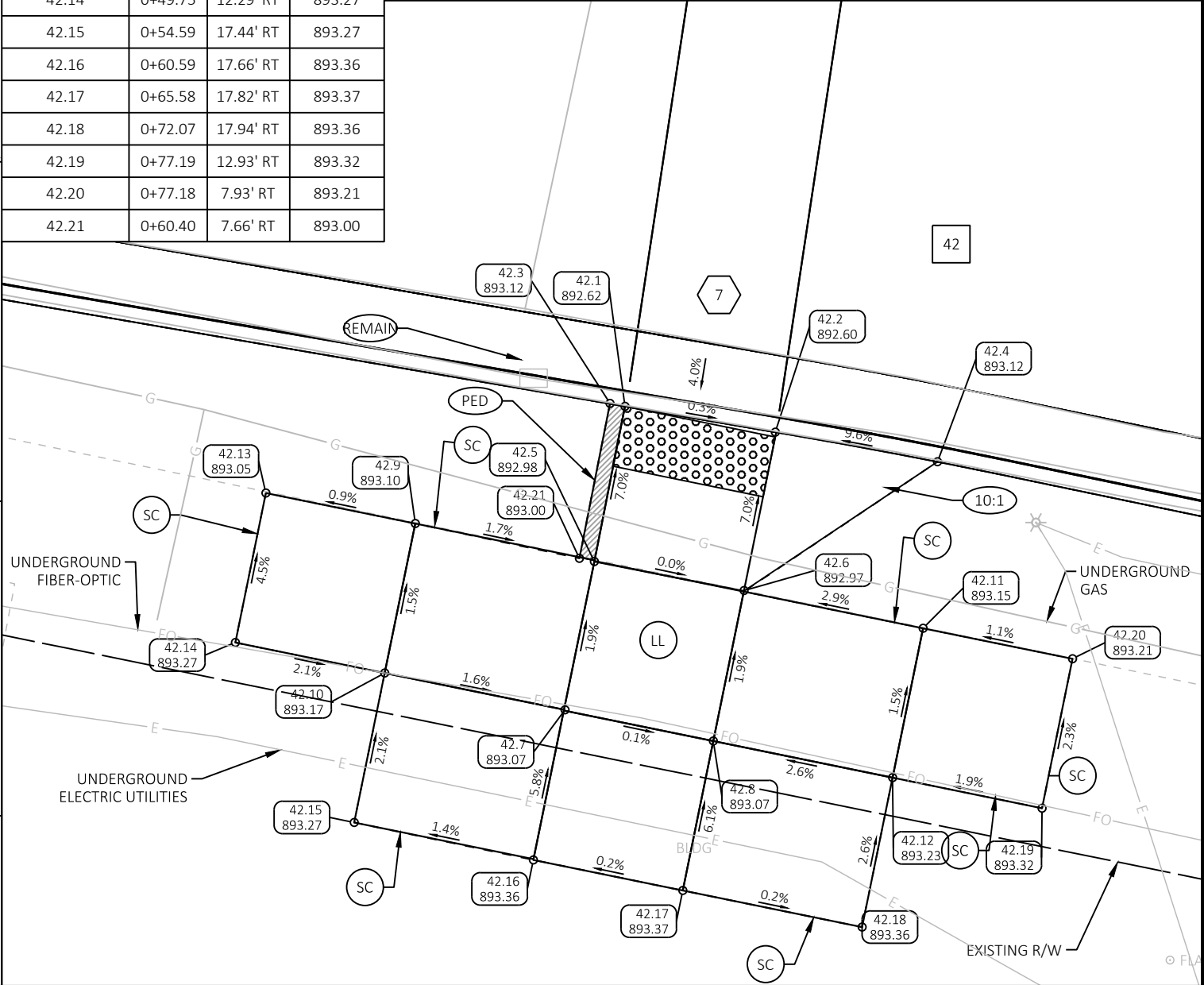
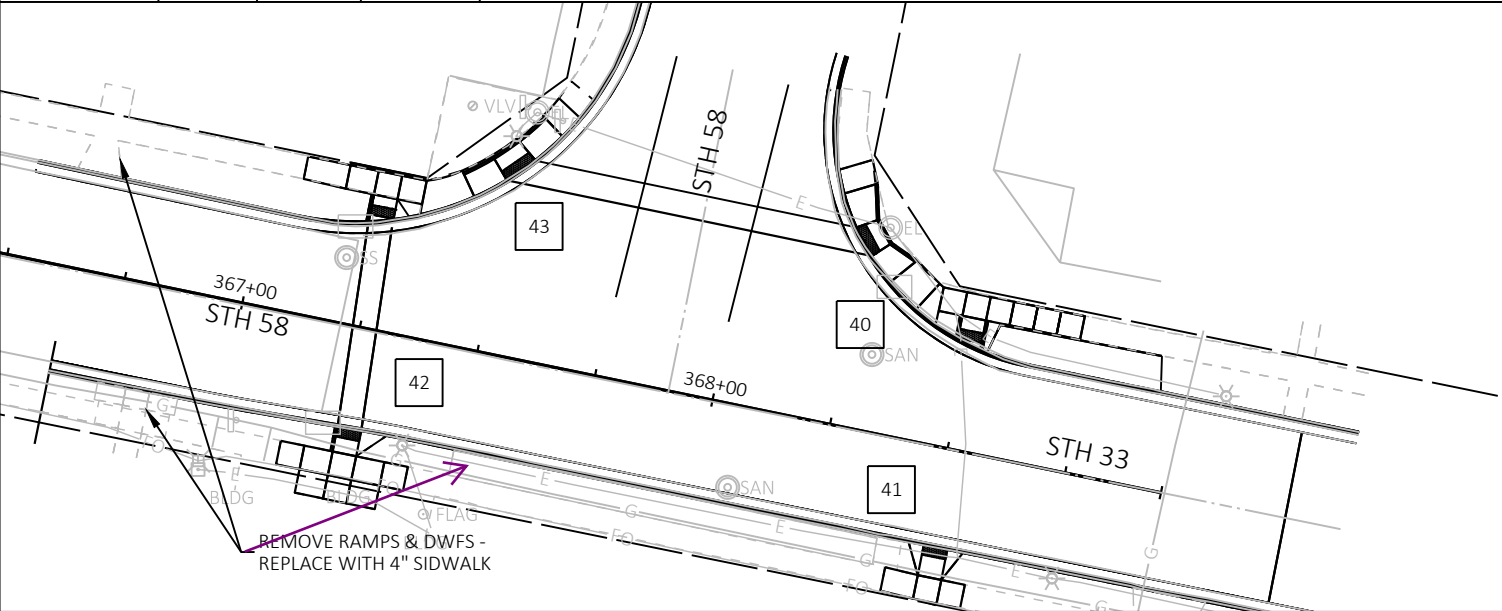
FEATURE TO REMAIN

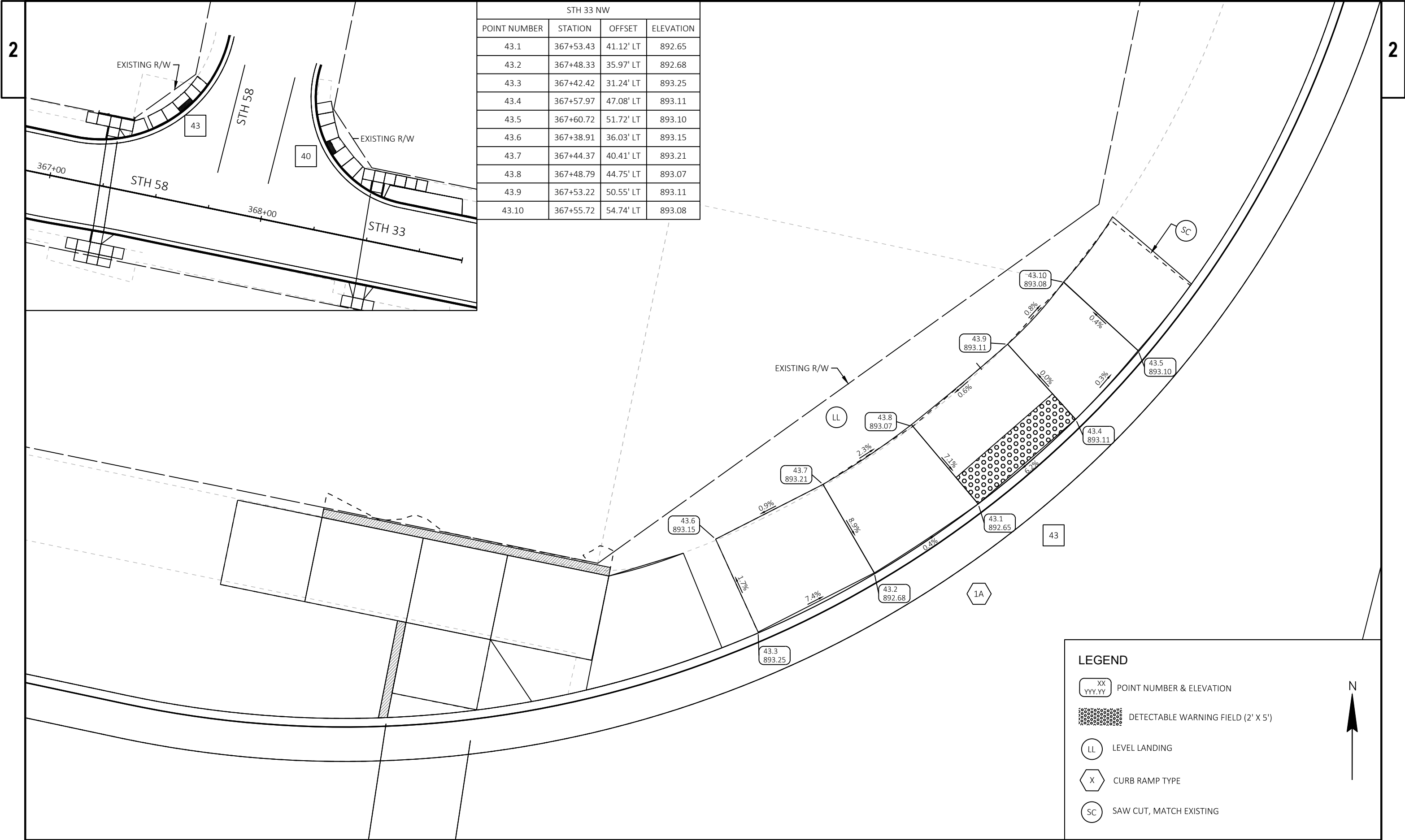
N



STH 33 SE			
POINT NUMBER	STATION	OFFSET	ELEVATION
41.1	1+85.70	2.52' RT	892.90
41.2	1+90.70	2.49' RT	892.95
41.3	1+82.50	2.50' RT	893.31
41.4	1+94.00	2.50' RT	893.45
41.5	1+85.73	8.87' RT	893.02
41.6	1+90.73	8.82' RT	893.10
41.7	1+85.72	13.85' RT	893.07
41.8	1+90.72	13.86' RT	893.15
41.9	1+78.72	8.60' RT	892.96
41.10	1+78.72	13.58' RT	893.04
41.11	1+95.73	8.87' RT	893.17
41.12	1+95.72	13.87' RT	893.10

STH 33 SW			
POINT NUMBER	STATION	OFFSET	ELEVATION
42.1	0+61.03	2.50' RT	892.62
42.2	0+66.03	2.50' RT	892.60
42.3	0+60.53	2.49' RT	893.12
42.4	0+71.50	2.50' RT	893.12
42.5	0+60.90	7.68' RT	892.98
42.6	0+65.90	7.79' RT	892.97
42.7	0+60.78	12.64' RT	893.07
42.8	0+65.74	12.82' RT	893.07
42.9	0+54.91	7.45' RT	893.10
42.10	0+54.75	12.45' RT	893.17
42.11	0+72.12	7.94' RT	893.15
42.12	0+72.09	12.94' RT	893.23
42.13	0+49.91	7.29' RT	893.05
42.14	0+49.75	12.29' RT	893.27
42.15	0+54.59	17.44' RT	893.27
42.16	0+60.59	17.66' RT	893.36
42.17	0+65.58	17.82' RT	893.37
42.18	0+72.07	17.94' RT	893.36
42.19	0+77.19	12.93' RT	893.32
42.20	0+77.18	7.93' RT	893.21
42.21	0+60.40	7.66' RT	893.00





STH 33 NW			
POINT NUMBER	STATION	OFFSET	ELEVATION
43.1	367+53.43	41.12' LT	892.65
43.2	367+48.33	35.97' LT	892.68
43.3	367+42.42	31.24' LT	893.25
43.4	367+57.97	47.08' LT	893.11
43.5	367+60.72	51.72' LT	893.10
43.6	367+38.91	36.03' LT	893.15
43.7	367+44.37	40.41' LT	893.21
43.8	367+48.79	44.75' LT	893.07
43.9	367+53.22	50.55' LT	893.11
43.10	367+55.72	54.74' LT	893.08

LEGEND

XX
YY.YY

POINT NUMBER & ELEVATION

DETECTABLE WARNING FIELD (2' X 5')

LL

LEVEL LANDING

X

CURB RAMP TYPE

SC

SAW CUT, MATCH EXISTING

N

PROJECT NO: 5752-00-72

HWY: STH 58

COUNTY: SAUK

CURB RAMP DETAILS

SHEET

E

FILE NAME : C:\USERS\BITARJ\DESKTOP\57520002\SHEETSPLAN\021301-CR_TYPE7.DWG

LAYOUT NAME - 20-STH33 NW_EXIST

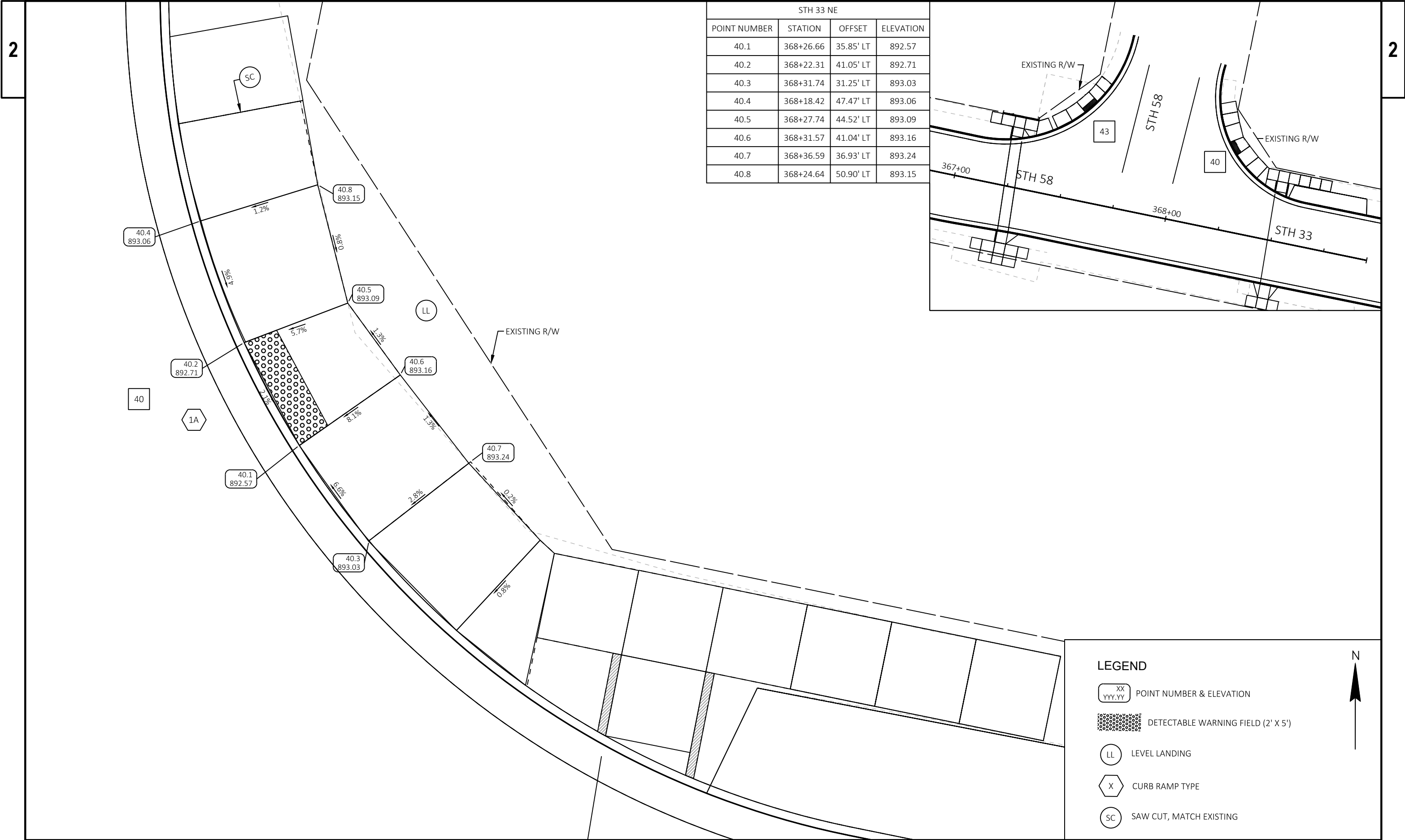
PLOT DATE : 5/22/2020 11:59 AM

PLOT BY : JOHNSON, ANTHONY R

PLOT NAME :

PLOT SCALE : #####

WISDOT/CADDs SHEET 42



Attachment D: Technical Infeasibility Documentation

5752-00-02/72

USH 14 – La Valle

Lee Lake Bridge to STH 33

STH 58

Richland and Sauk Counties

Attachment D1: Cazenovia Infeasibility

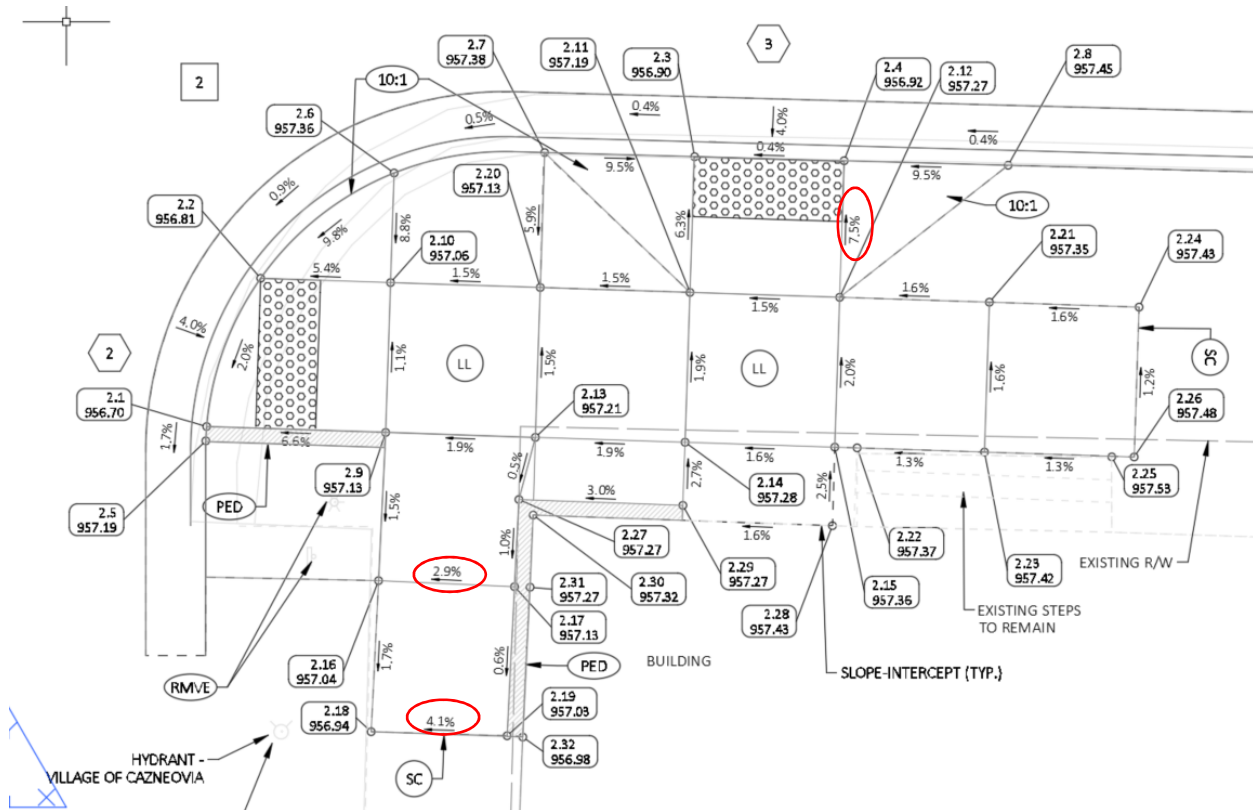
Intersecting Roadway: Cazenovia St (SE Quadrant)

Infeasible Conditions:

- The existing proximity to the steps limits the grade of the Type 3 ramp to the North, thus causing 1 of the slopes to be out of compliance.
- *SE Quadrant (Ramp B):*
 - o Has a max slope of **7.5%**, which is greater than the 7% allowable max, also causing a rollover of **11.5%** which is greater than the 11% max.
 - o The level landing latitudinal slopes are maxed out and cannot be lowered to decrease the ramp grade.
- *SE Quadrant (Ramp A):*
 - o The approach/tie in panels from the south have a cross slope of **4.1%** and **2.9%**, exceeding the 2% limit. The existing panels are all tilted at 4% and chasing the grade further would not decrease the cross slope.



Intersecting Roadway	Criteria	SE Quadrant: B	
		Existing	Proposed
CAZENOVIA ST/E MAIN ST	RAMP TYPE	NONE	TYPE 3
	DWF	NO	YES
	RAMP SLOPE	--	7.5
	CROSS SLOPE	--	0.4
	GUTTER SLOPE	--	4
	FLARE SLOPE	--	10.6
	CHANGE IN RAMP-GUTTER SLOPE	--	11.5
	LANDING AREA SLOPES LAT	--	1.9
	LANDING AREA SLOPES LONG	--	1.5



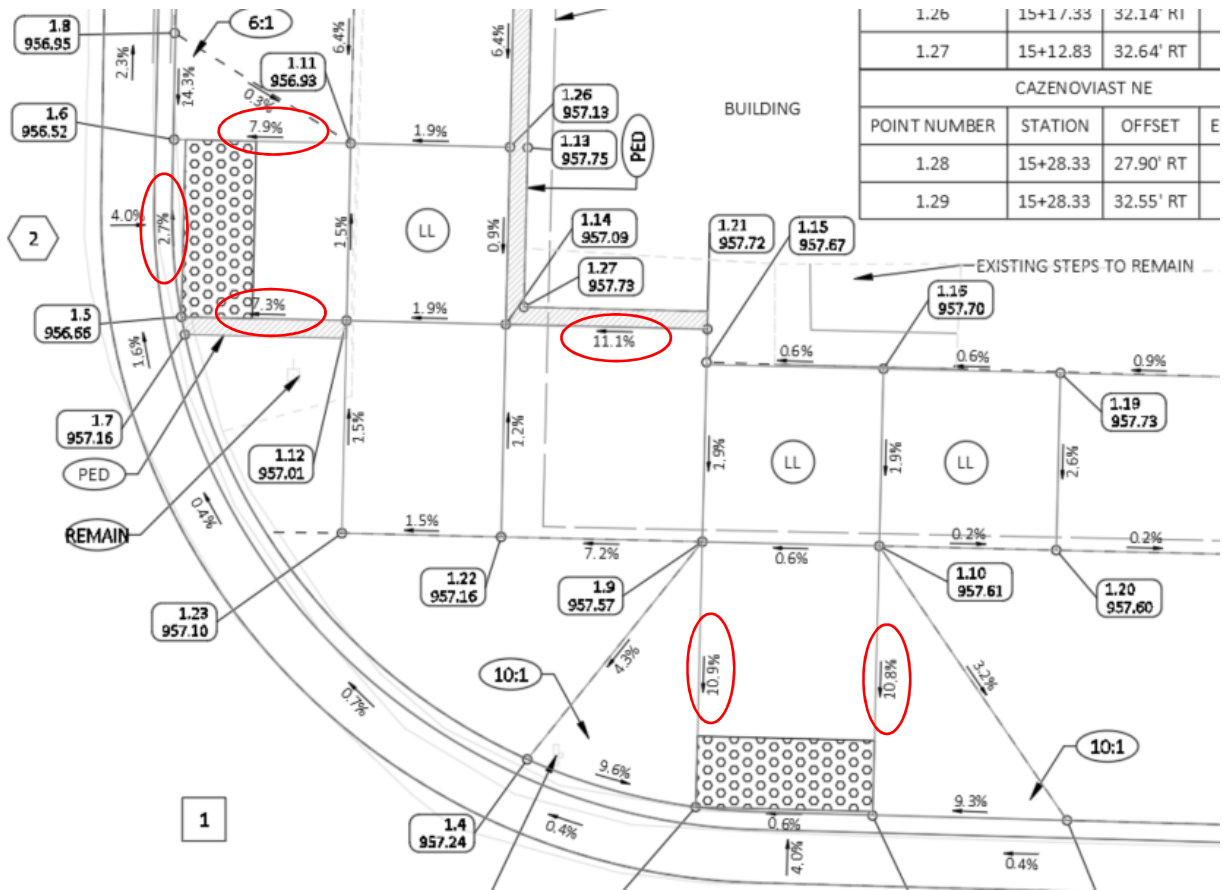
Intersecting Roadway: Cazenovia St (NE Quadrant)

Infeasible Conditions:

- The existing proximity to the steps limits the grade of the Type 3 ramp to the South and the Type 2 to the East, thus causing both ramps to be out of compliance.
- *NE Quadrant (Ramp A):*
 - o Has a max slope of **7.9%** and a rollover of **11.9%**, both greater than the 7% and 11% limitations.
 - o Has a cross slope of **2.7%** due to the existing side road grade.
 - o To achieve the ramp slope value, the panel to the left of stairs slopes at **11.1%**, which is greater than the 8.33% maximum. Without this modification, the ramp slope would be over 20%.
- *NE Quadrant (Ramp B):*
 - o Has a max slope of **10.85%** and rollover of **14.85%**.
 - o The level landing is maxed out to 1.9% in the longitudinal direction.



Intersecting Roadway	Criteria	NE Quadrant: A		NE Quadrant: B	
		Existing	Proposed	Existing	Proposed
CAZENOVIA ST/E MAIN ST	RAMP TYPE	TYPE 1	TYPE 3	NONE	TYPE 3
	DWF	NO	YES	NO	YES
	RAMP SLOPE	14.85	7.9	--	10.85
	CROSS SLOPE	1.75	2.7	--	0.6
	GUTTER SLOPE	3.03	4	--	4
	FLARE SLOPE	12.43	14.3	--	9.45
	CHANGE IN RAMP-GUTTER SLOPE	17.88	11.9	--	14.85
	LANDING AREA SLOPES LAT	2.375	1.2	--	0.6
	LANDING AREA SLOPES LONG	5.135	1.9	--	1.9



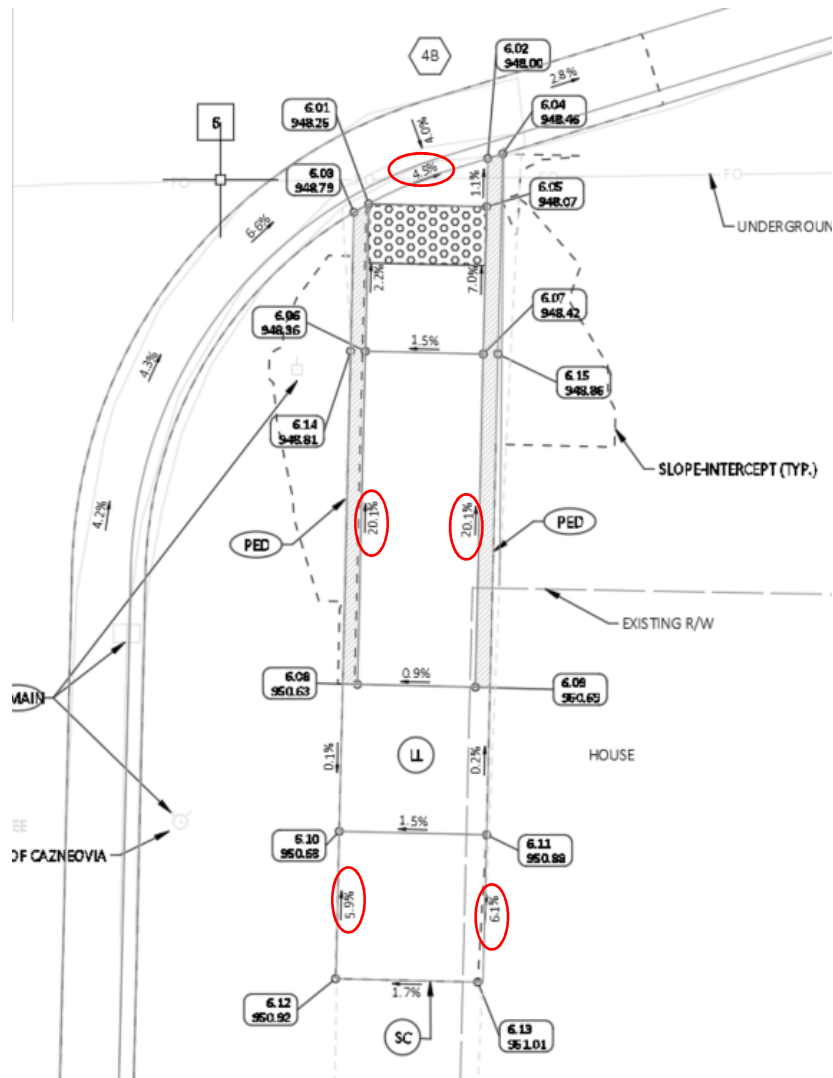
Intersecting Roadway: North St (SE Quadrant)

Infeasible Conditions:

- The existing sidewalk does not have a curb cut for a curb ramp.
- The existing slope is **17%**
- To accommodate a curb ramp, the slope must be increased to account for the 6" elevation drop to street level.
- *SE Quadrant (Ramp B):*
 - o Has a ramp approach slope of **20.1%**, which exceeds the 8.33% maximum.
 - o The ramp is 15' long to chase the grade back as far as feasible.
 - o Pedestrian curb has been used to account for the 6" elevation drop and allow for 6:1 grading to match into existing. This creates a 4' wide sidewalk.
 - o The cross slope is **4.5%** due to the existing side road grade.
 - o The slopes on the match in panel are at 6% which matches existing sidewalk grade.
 - o The ramp slope could be decreased further with a retaining wall and grading around the house. The scope of work is outside the scope of the project and therefore will not be done.



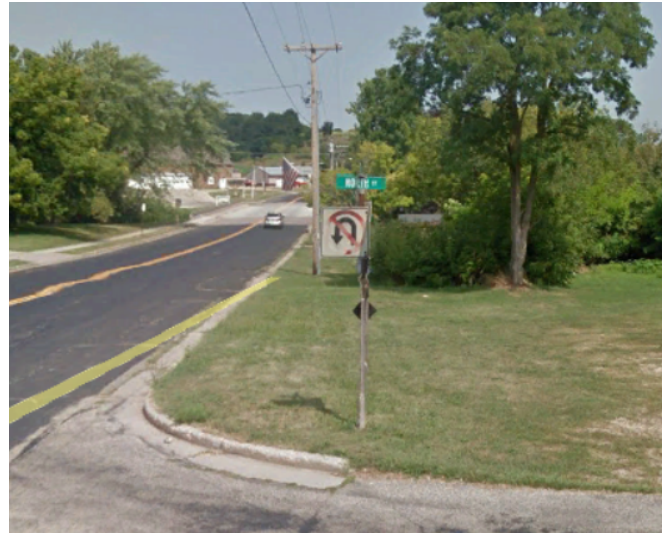
Intersecting Roadway	Criteria	SE Quadrant: B	
		Existing	Proposed
NORTH ST	RAMP TYPE	NONE	TYPE 4B
	DWF	NO	YES
	RAMP SLOPE	17	4.6
	CROSS SLOPE	4.98	4.5
	GUTTER SLOPE	9.85	4
	FLARE SLOPE	N/A	N/A
	CHANGE IN RAMP-GUTTER SLOPE	26.85	8.6
	LANDING AREA SLOPES LAT	5.61	1.2
	LANDING AREA SLOPES LONG	4.75	0.15
	RAMP SLOPE (APPROACH)		20.1
	CROSS SLOPE (APPROACH)		1.5



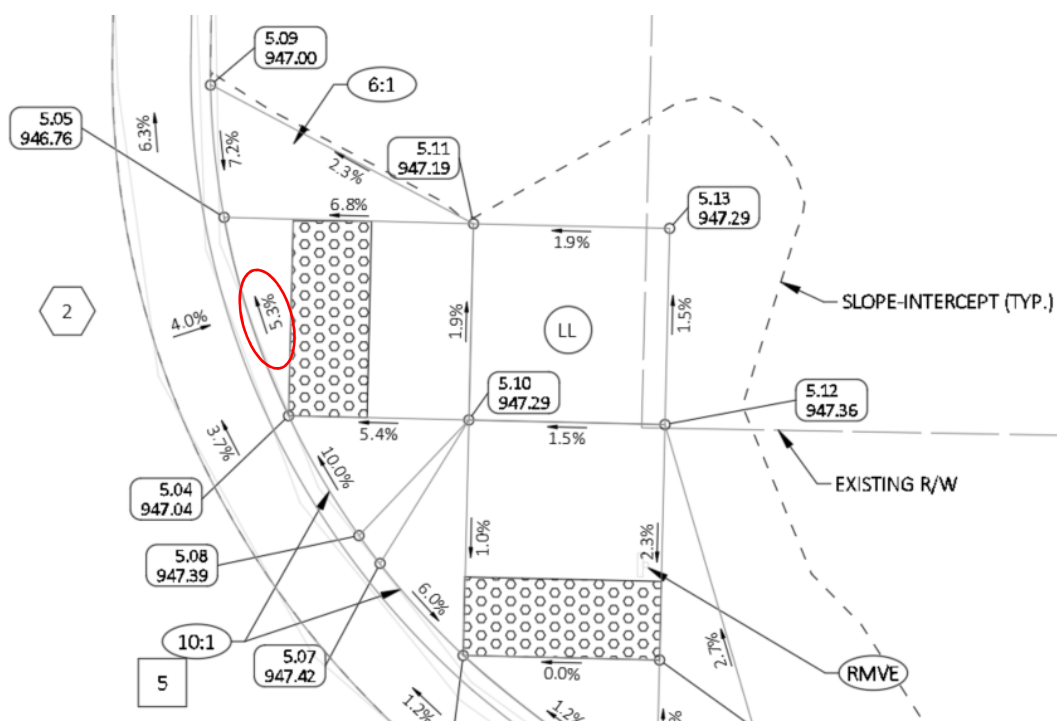
Intersecting Roadway: North St (NE Quadrant)

Infeasible Conditions:

- The existing sidewalk does not have a receiving ramp.
- *NE Quadrant (Ramp B):*
 - o Has a cross slope of **5.3%** due to the existing side road grade, which exceeds the 2% maximum.



Intersecting Roadway	Criteria	NE Quadrant: A	
		Existing	Proposed
NORTH ST	RAMP TYPE	NONE	TYPE 2
	DWF	NO	YES
	RAMP SLOPE	--	6.1
	CROSS SLOPE	--	5.3
	GUTTER SLOPE	--	4
	FLARE SLOPE	--	8.6
	CHANGE IN RAMP-GUTTER SLOPE	--	10.1
	LANDING AREA SLOPES LAT	--	1.7
	LANDING AREA SLOPES LONG	--	1.7



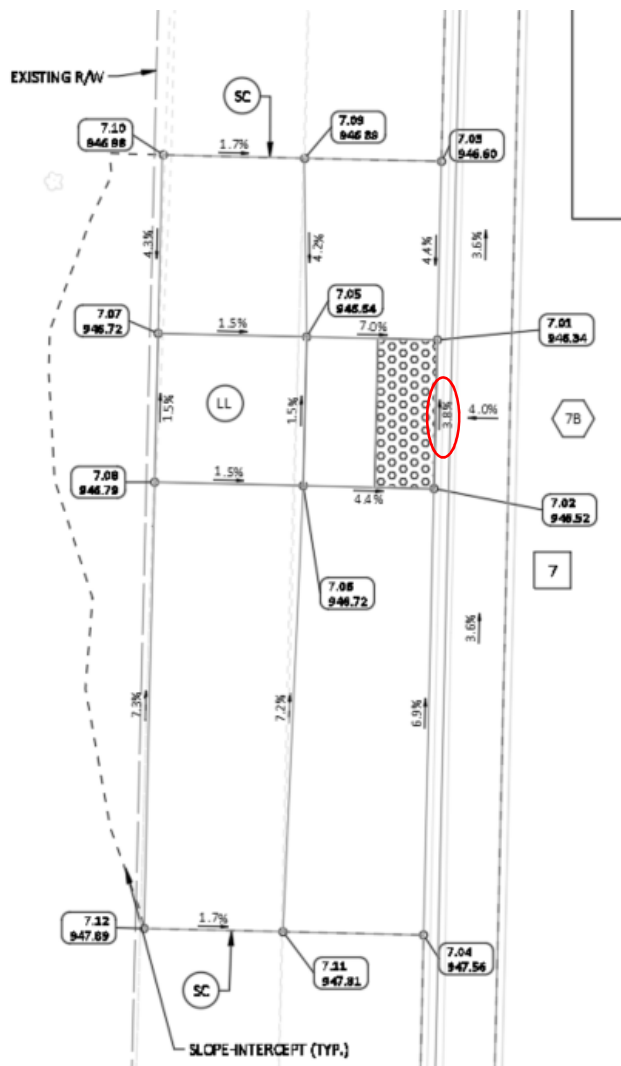
Intersecting Roadway: North St (NW Quadrant)



Infeasible Conditions:

- *NW Quadrant (Ramp B):*
 - Has a cross slope of **3.8%** due to the existing side road grade, which exceeds the 2% maximum.
 - Ramp approach slope from the south is close to 8.33% max and chases grade back 15' to met specifications.

Intersecting Roadway	Criteria	NW Quadrant: A	
		Existing	Proposed
NORTH ST	RAMP TYPE	NONE	TYPE 7B
	DWF	NO	YES
	RAMP SLOPE	--	5.7
	CROSS SLOPE	--	3.8
	GUTTER SLOPE	--	4
	FLARE SLOPE	--	8.3
	CHANGE IN RAMP-GUTTER SLOPE	--	9.7
	LANDING AREA SLOPES LAT	--	1.5
	LANDING AREA SLOPES LONG	--	1.5
	RAMP SLOPE (APPROACH)		7.25
	CROSS SLOPE (APPROACH)		1.7



Attachment D2: Ironton Infeasibility

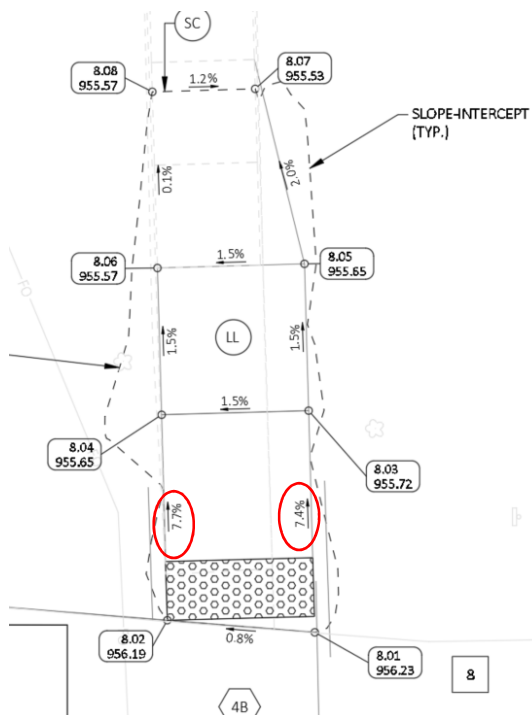
Intersecting Roadway: 5th St (NE Quadrant)

Infeasible Conditions:

- *NE Quadrant (Ramp B):*
 - o Has a ramp slope of **7.55%**, which is greater than the 7% max.
 - o However, there is no curb and gutter, so the rollover is less than 11%.



Intersecting Roadway	Criteria	NE Quadrant: B	
		Existing	Proposed
5TH STREET	RAMP TYPE	TYPE 4B	TYPE 4B
	DWF	NO	YES
	RAMP SLOPE	6.22	7.55
	CROSS SLOPE	0.96	0.8
	GUTTER SLOPE	N/A	N/A
	FLARE SLOPE	N/A	N/A
	CHANGE IN RAMP-GUTTER SLOPE	6.22	7.55
	LANDING AREA SLOPES LAT	1.78	1.5
	LANDING AREA SLOPES LONG		1.5



Intersecting Roadway: 4th St (SW Quadrant)

Existing Drainage Conditions:

- The water drains from the NW to the SW quadrant via a culvert and runs south in the ditch.

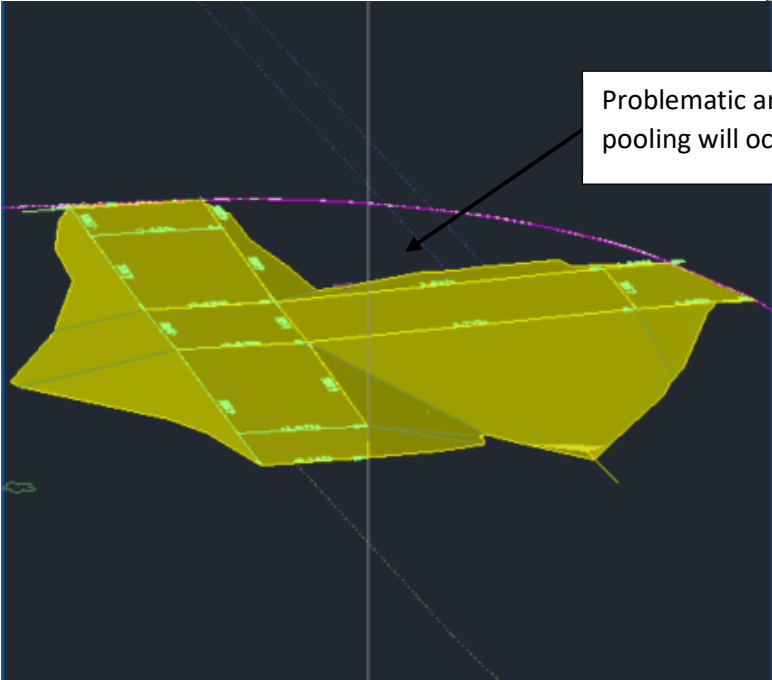
Infeasible Conditions:

- *SW Quadrant (Ramp A):*
 - o To accommodate the Type 7 side culvert extension must be added to maintain drainage to the south.
 - o However, based on the elevations measured from the model, there is **-0.024 feet** of cover to accommodate a 12" pipe under the 8" of sidewalk and base.
- The pie shaped section between the road and sidewalk would need to be graded flat to eliminate a low point for water.

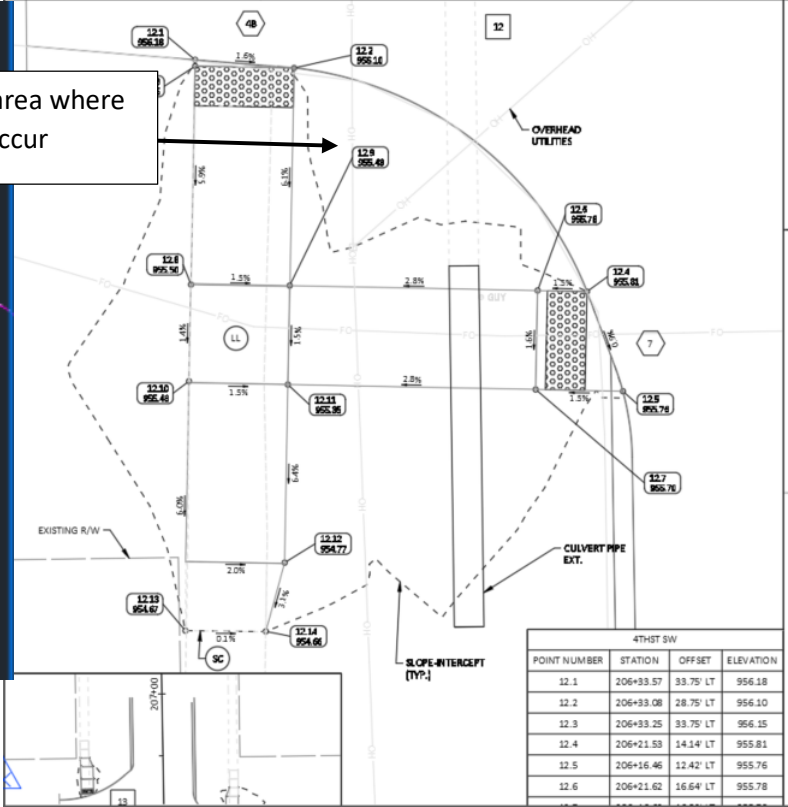


4th Street SW Quadrant	
Measurement Point	Elevation
Culvert Invert Exit	954.380
Top of Sdwk El	955.648
Base of Sdwk El	954.981
Ditch Bottom El	954.005
Top of Culvert Pipe El	955.005
Total Cover	-0.024 ft

Intersecting Roadway	Criteria	SW Quadrant: A	
		Existing	Proposed
4TH STREET	RAMP TYPE	NONE	TYPE 7
	DWF	NO	YES
	RAMP SLOPE	--	2.8
	CROSS SLOPE	--	0.9
	GUTTER SLOPE	--	N/A
	FLARE SLOPE	--	N/A
	CHANGE IN RAMP-GUTTER SLOPE	--	2.8
	LANDING AREA SLOPES LAT	--	1.5
	LANDING AREA SLOPES LONG		1.45
	RAMP SLOPE (APPROACH)		6.2
	CROSS SLOPE (APPROACH)		2



Problematic area where pooling will occur



4TH ST SW			
POINT NUMBER	STATION	OFFSET	ELEVATION
12.1	206+33.57	33.75' LT	956.18
12.2	206+33.08	28.75' LT	956.10
12.3	206+33.25	33.75' LT	956.15
12.4	206+21.53	14.14' LT	955.81
12.5	206+16.46	12.42' LT	955.76
12.6	206+21.62	16.64' LT	955.78

Intersecting Roadway: 4th St (SE Quadrant)

Existing Drainage Conditions:

- On the west side of the sidewalk, water flows to 2 low points - slightly north of the hydrant and 15' south of the hydrant.
- East of the sidewalk, water drains in sheet flow further east.
- The swale between the sidewalk and the ditch is relatively shallow.

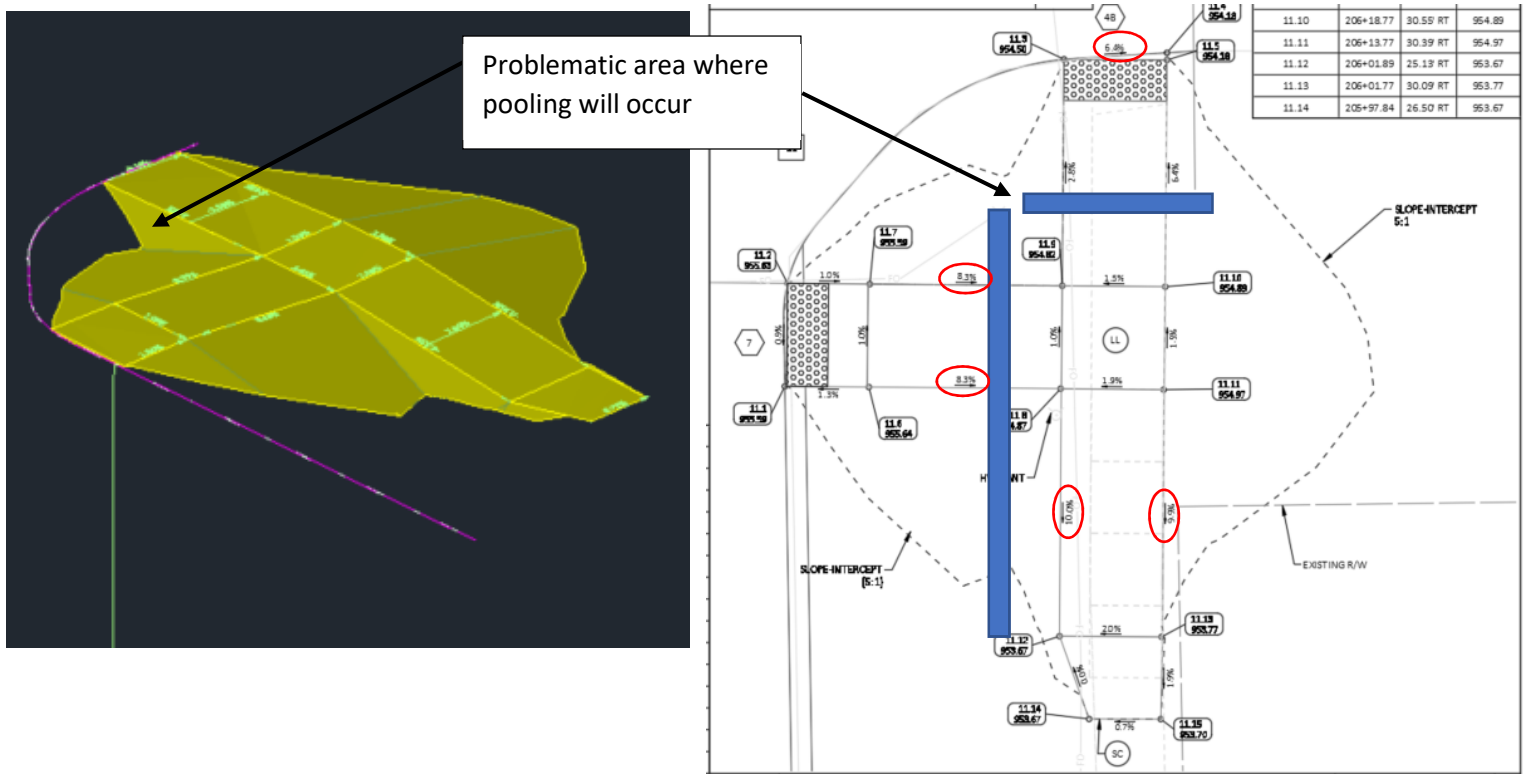
Infeasible Conditions:

- *SE Quadrant (Ramp A):*
 - o To accommodate a Type 7 side crossing to the SW Quadrant, the sidewalk must be raised with 2 parallel ramps to keep the Type 7 ramp slope below 8.33%.
 - o However, this increases the approaching grade slope above the maximum 8.33% to **10%**.
 - Raising the grade creates a high point at the level landing which causes increased flow away from this point.
 - o The pie shaped section must be graded flat to maintain flow to the east.
 - This conflicts with the existing fiber optic pedestal.
 - o An alternative would be to install pipes under the proposed ramp to maintain flow to the south and east.
 - However, based on the elevations measured from the model, there is - **0.136 feet and -0.704 feet** of cover to accommodate a 12" pipe under the 8" of sidewalk and base.
 - o The feasible alternative is to not include a Type 7 ramp.
- *SE Quadrant (Ramp B):*
 - o Has a cross slope of **6.4%** due to the existing side road grade.



4th Street SE Quadrant (N/S Pipe)		4th Street SE Quadrant (E/W Pipe)	
Measurement Point	Elevation	Measurement Point	Elevation
Culvert Invert Exit	N/A	Culvert Invert Exit	N/A
Top of Sdwk El	955.135	Top of Sdwk El	954.713
Base of Sdwk El	954.468	Base of Sdwk El	954.046
Ditch Bottom El	953.604	Ditch Bottom El	953.75
Top of Culvert Pipe El	954.604	Top of Culvert Pipe El	954.75
Total Cover	-0.136 ft	Total Cover	-0.704 ft

Intersecting Roadway	Criteria	SE Quadrant: A		SE Quadrant: B	
		Existing	Proposed	Existing	Proposed
4TH STREET	RAMP TYPE	NONE	TYPE 7	TYPE 4B	TYPE 4B
	DWF	NO	YES	NO	YES
	RAMP SLOPE	--	8.33	4.4	4.65
	CROSS SLOPE	--	0.9	6.5	6.4
	GUTTER SLOPE	--	N/A	N/A	N/A
	FLARE SLOPE	--	N/A	N/A	N/A
	CHANGE IN RAMP-GUTTER SLOPE	--	8.33	6.5	4.65
	LANDING AREA SLOPES LAT	--	1.7	1.07	1.7
	LANDING AREA SLOPES LONG		1.25		1.25
	RAMP SLOPE (APPROACH)		9.95		
	CROSS SLOPE (APPROACH)		2		



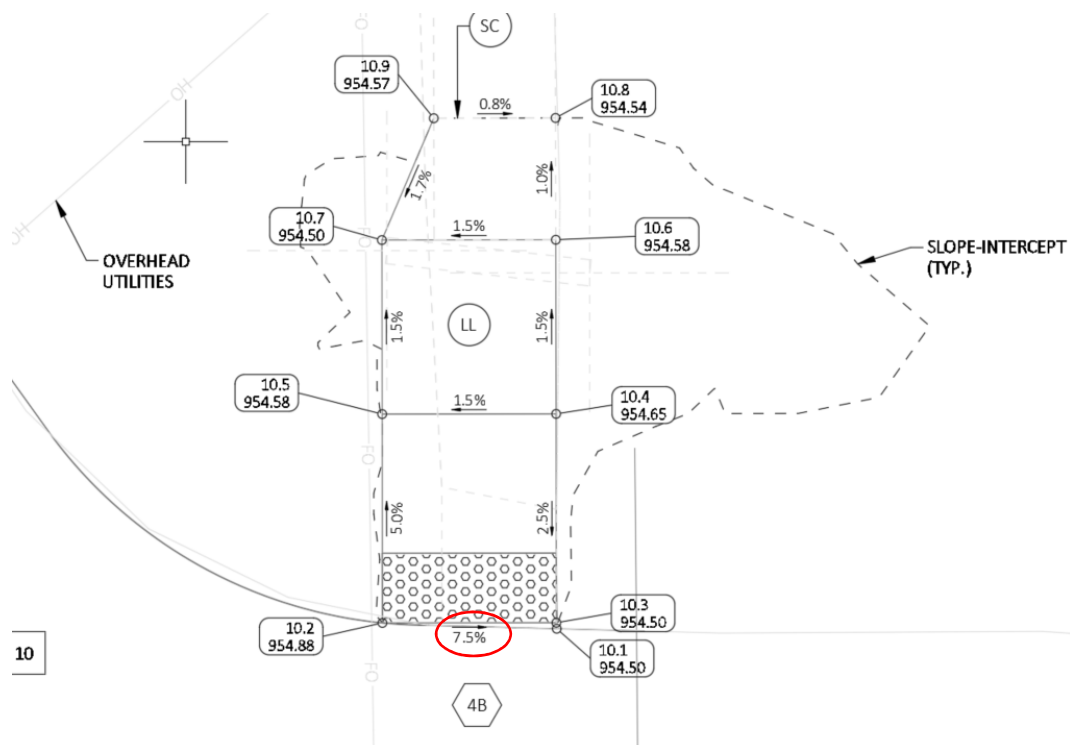
Intersecting Roadway: 4th St (NE Quadrant)

Infeasible Conditions:

- *NE Quadrant (Ramp B):*
 - o Has a cross slope of **7.5%** due to the existing side road grade.



Intersecting Roadway	Criteria	NE Quadrant: B	
		Existing	Proposed
4TH STREET	RAMP TYPE	TYPE 4B	TYPE 4B
	DWF	NO	YES
	RAMP SLOPE	3	3.75
	CROSS SLOPE	7.33	7.5
	GUTTER SLOPE	N/A	N/A
	FLARE SLOPE	N/A	N/A
	CHANGE IN RAMP-GUTTER SLOPE	3	3.75
	LANDING AREA SLOPES LAT	1	1.5
	LANDING AREA SLOPES LONG		1.5



Intersecting Roadway: 3rd St (NW Quadrant)

Existing Drainage Conditions:

- The water flows into the swale and to the North.
- The sidewalk is at a high point and the grade slopes down on both sides.

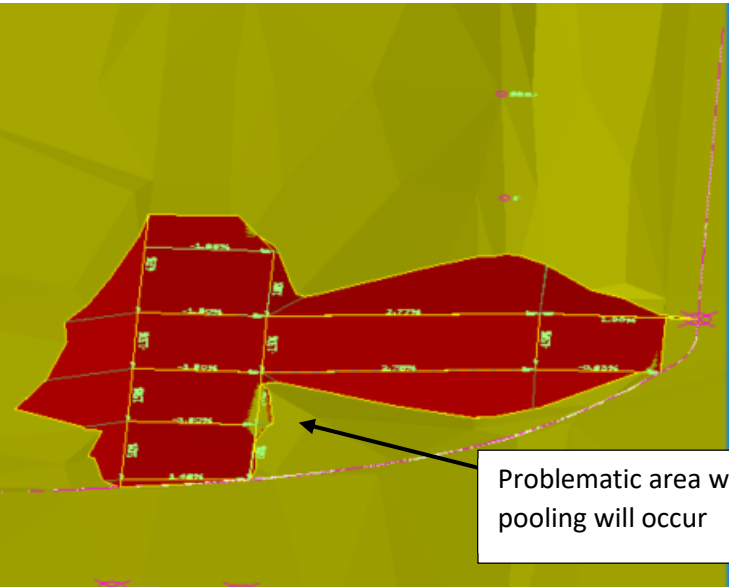
Infeasible Conditions:

- *NW Quadrant (Ramp A):*
 - o To accommodate a Type 7 side crossing to the NE Quadrant, a ramp at 2.8% must be installed.
 - o This ramp would block the drainage, creating a pocket for water to pool.
 - o To transmit flow, a pipe must be installed under the ramp. This ditch is shallow and would not have enough cover to accommodate a 12" pipe.
- *NW Quadrant (Ramp B):*
 - o The ramp slope has a max value of **7.5%**, which is greater than the 7% limit. However, there is no curb and gutter, so the rollover is less than 11%.

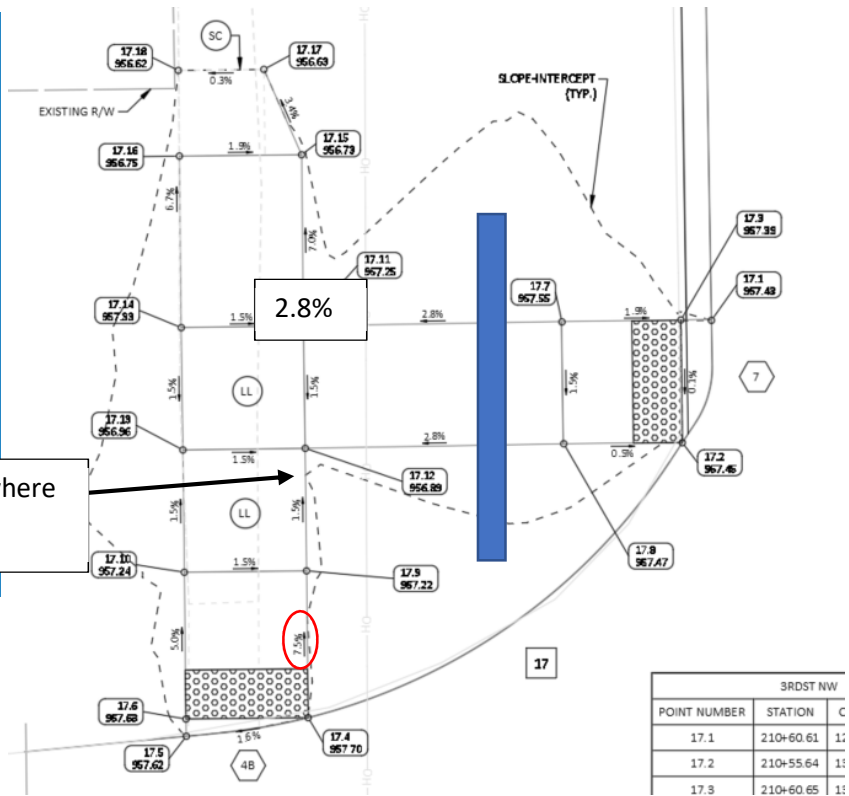


3rd Street NW Quadrant	
Measurement Point	Elevation
Culvert Invert Exit	N/A
Top of Sdwk El	957.448
Base of Sdwk El	956.781
Ditch Bottom El	956.214
Top of Culvert Pipe El	957.214
Total Cover	-0.433 ft

Intersecting Roadway	Criteria	NW Quadrant: A		NW Quadrant: B	
		Existing	Proposed	Existing	Proposed
3RD STREET	RAMP TYPE	NONE	TYPE 7	TYPE 4B	TYPE 4B
	DWF	NO	YES	NO	YES
	RAMP SLOPE	--	2.8	10.3	7.5
	CROSS SLOPE	--	0.1	2.43	1.6
	GUTTER SLOPE	--	N/A	N/A	N/A
	FLARE SLOPE	--	N/A	N/A	N/A
	CHANGE IN RAMP-GUTTER SLOPE	--	2.8	10.3	7.5
	LANDING AREA SLOPES LAT	--	1.5	3.5	1.5
	LANDING AREA SLOPES LONG		1.5		1.5
	RAMP SLOPE (APPROACH)		6.85		
	CROSS SLOPE (APPROACH)		1.9		



Problematic area where pooling will occur



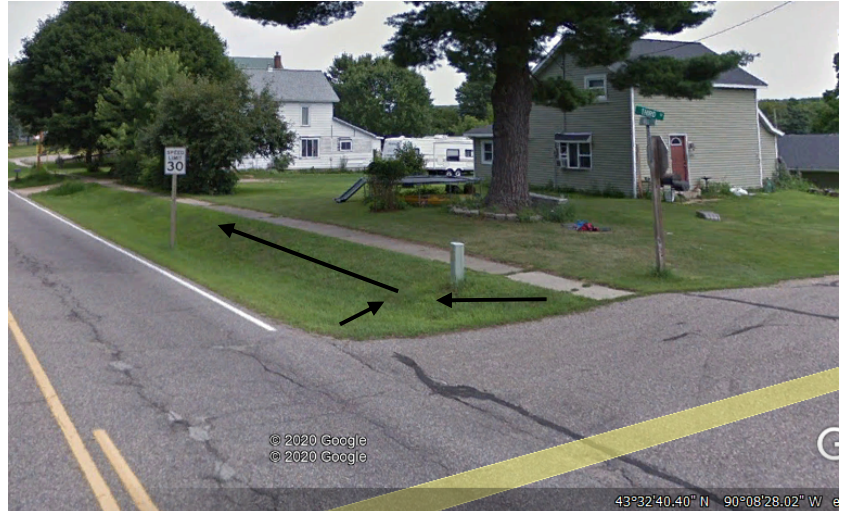
Intersecting Roadway: 3rd St (NE Quadrant)

Existing Drainage Conditions:

- The water flows into the swale and to the North.
- The sidewalk sits below the grade to the east and slopes down to the west into the swale.

Infeasible Conditions:

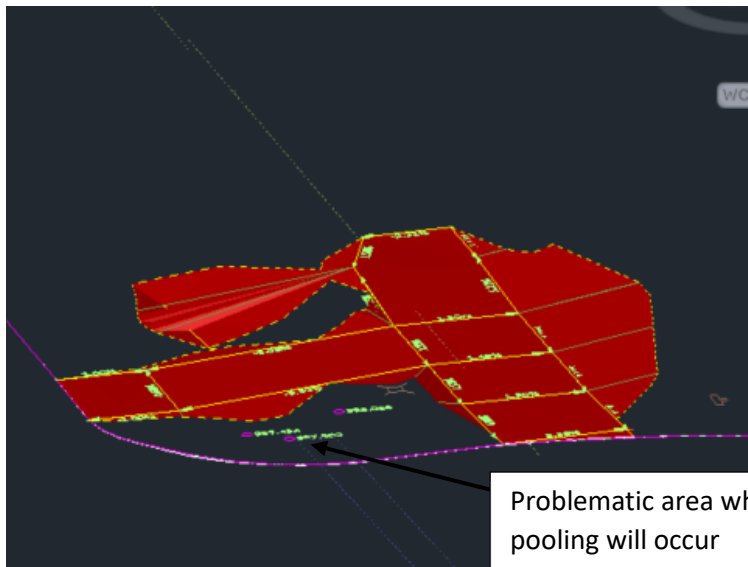
- *NE Quadrant (Ramp A):*
 - o To accommodate a Type 7 side crossing to the NE Quadrant, a ramp with a max slope of **9.5%** must be installed, which exceeds the 7% maximum.
 - o The ramp slope is achieved by dropping the 4B ramp and creating a ramp down from the tie in to have a lower level landing.
 - o This ramp would block the drainage from the culvert, which then must be extended to maintain flow to the North.
 - However, based on the elevations measured from the model, there is **-1.127 feet** of cover to accommodate a 12" pipe under the 8" of sidewalk and base.
 - o The same problem of a pie shaped pocket for water to pool is created.



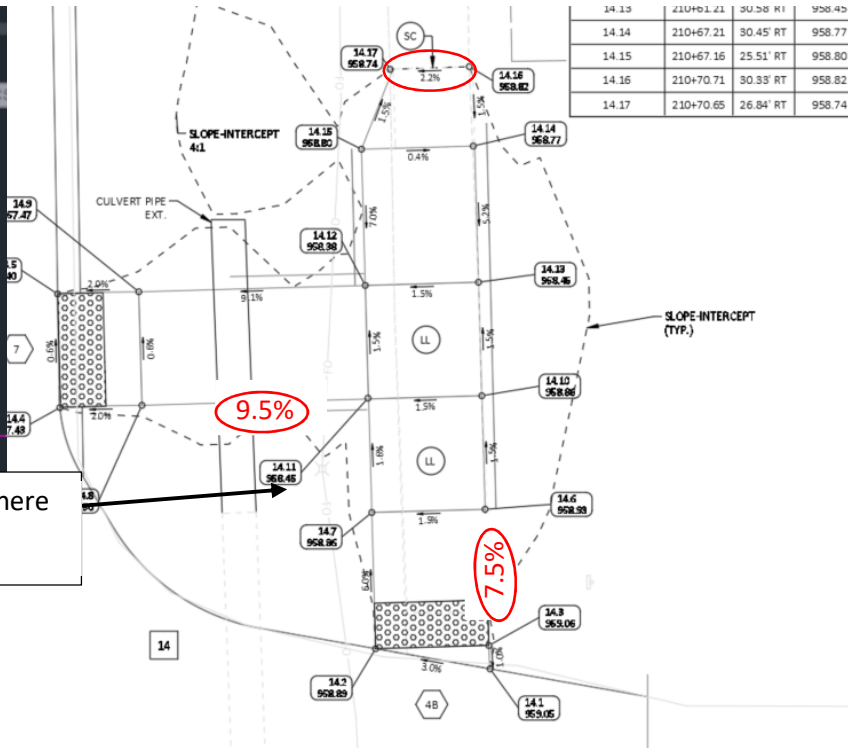
3rd Street NE Quadrant	
Measurement Point	Elevation
Culvert Invert Exit	957.385
Top of Sdwk El	957.821
Base of Sdwk El	957.154
Ditch Bottom El	957.281
Top of Culvert Pipe El	958.281
Total Cover	-1.127 ft

- *NE Quadrant (Ramp B):*
 - o Has a cross slope of **3%** due to the side road grade.
 - o Has a max slope of **7.5%**, which exceeds the 7% max. This is due dropping the ramp to accommodate the side crossing and is avoided when removing the infeasible Type 7 ramp.
 - o Ramp match point cross slope is **2.2%**, greater than the 2% max.

Intersecting Roadway	Criteria	NE Quadrant: A		NE Quadrant: B	
		Existing	Proposed	Existing	Proposed
3RD STREET	RAMP TYPE	NONE	TYPE 7	TYPE 4B	TYPE 4B
	DWF	NO	YES	NO	YES
	RAMP SLOPE	--	9.5	1.33	7.5
	CROSS SLOPE	--	0.6	2.46	3
	GUTTER SLOPE	--	N/A	N/A	N/A
	FLARE SLOPE	--	N/A	N/A	N/A
	CHANGE IN RAMP-GUTTER SLOPE	--	9.5	1.33	7.5
	LANDING AREA SLOPES LAT	--	1.5	2.2	1.5
	LANDING AREA SLOPES LONG		1.5		1.5
	RAMP SLOPE (APPROACH)		6.1		
	CROSS SLOPE (APPROACH)		0.4		



Problematic area where pooling will occur



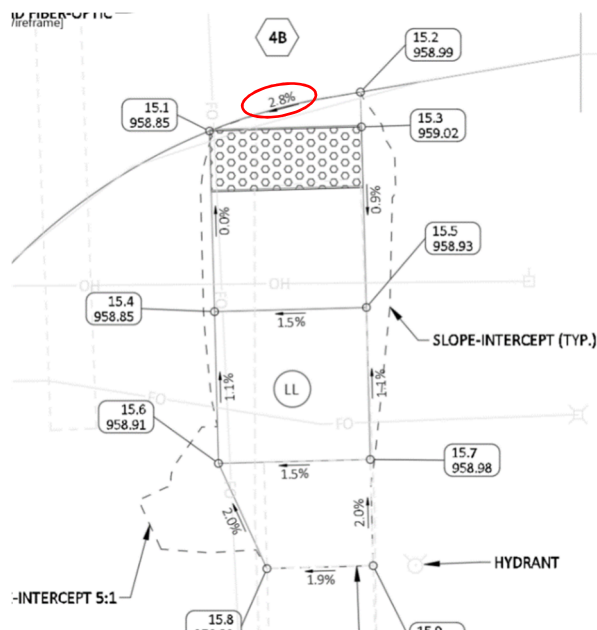
Intersecting Roadway: 3rd St (SE Quadrant)

Infeasible Conditions:

- *SE Quadrant (Ramp B):*
 - o Has a cross slope of **2.8%** due to the existing side road grade.



Intersecting Roadway	Criteria	SE Quadrant: B	
		Existing	Proposed
3RD STREET	RAMP TYPE	TYPE 4B	TYPE 4B
	DWF	NO	YES
	RAMP SLOPE	1.9	0.45
	CROSS SLOPE	1.05	2.8
	GUTTER SLOPE	N/A	N/A
	FLARE SLOPE	N/A	N/A
	CHANGE IN RAMP-GUTTER SLOPE	1.9	0.45
	LANDING AREA SLOPES LAT	1.95	1.5
	LANDING AREA SLOPES LONG		1.1



Intersecting Roadway: 2nd St (NW Quadrant)

Existing Drainage Conditions:

- The water flows into the swale and to the North.
- The swale is much steeper on the road side, and shallower sloping to the sidewalk.
- Water that does not drain into the swale drains off to the west.



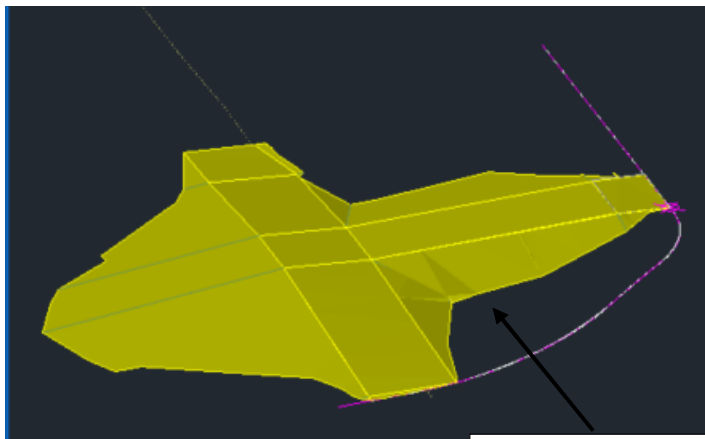
Infeasible Conditions:

- *NW Quadrant (Ramp A):*
 - o To accommodate a Type 7 side crossing to the NE Quadrant, a ramp at the max of 8.33% must be installed.
 - o This requires having the Type 4B ramp slope up to the level landing, as well as having a ramp slope up at 8.33% from the match point.
 - o Since the swale is relatively shallow, the water will flow faster from the sidewalk, leaving less time for drainage.
 - o The pocket in between the ramp and road grade will be an area of concern for pooling.
 - o To eliminate pooling, pipes must be installed underneath the sidewalk.
 - However, based on the elevations measured from the model, there is **-0.633 feet and -1.127 feet** of cover to accommodate a 12" pipe under the 8" of sidewalk and base.

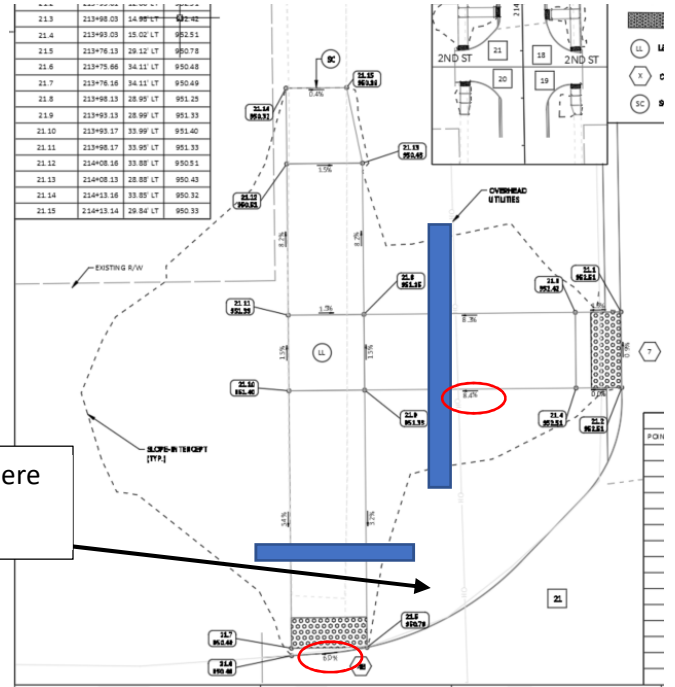
2nd Street NE Quadrant (N/S Pipe)		4th Street NE Quadrant (E/W Pipe)	
Measurement Point	Elevation	Measurement Point	Elevation
Culvert Invert Exit	N/A	Culvert Invert Exit	N/A
Top of Sdwk El	951.864	Top of Sdwk El	951.132
Base of Sdwk El	951.197	Base of Sdwk El	950.465
Ditch Bottom El	950.83	Ditch Bottom El	950.657
Top of Culvert Pipe El	951.83	Top of Culvert Pipe El	951.657
Total Cover	-0.633 ft	Total Cover	-1.192 ft

- *NW Quadrant (Ramp B):*
 - o Has a cross slope of **6%** due to the existing side road grade.

Intersecting Roadway	Criteria	NW Quadrant: A		NW Quadrant: B	
		Existing	Proposed	Existing	Proposed
2ND STREET	RAMP TYPE	NONE	TYPE 7	TYPE 4B	TYPE 4B
	DWF	NO	YES	NO	YES
	RAMP SLOPE	--	8.4	2.13	4.3
	CROSS SLOPE	--	0.9	6.14	6
	GUTTER SLOPE	--	N/A	N/A	N/A
	FLARE SLOPE	--	N/A	N/A	N/A
	CHANGE IN RAMP-GUTTER SLOPE	--	8.4	2.13	4.3
	LANDING AREA SLOPES LAT	--	1.5	1.17	1.5
	LANDING AREA SLOPES LONG		1.5		1.5
	RAMP SLOPE (APPROACH)		8.2		
	CROSS SLOPE (APPROACH)		1.5		



Problematic area where pooling will occur



Intersecting Roadway: 2nd St (NE Quadrant)

Existing Drainage Conditions:

- The water flows into the swale from the culvert pipe, the sidewalk, the parking lot, grass space above, and the road.
- It continues to flow North once in the swale.
- The swale is much steeper on the sidewalk side, and shallower sloping to the road.



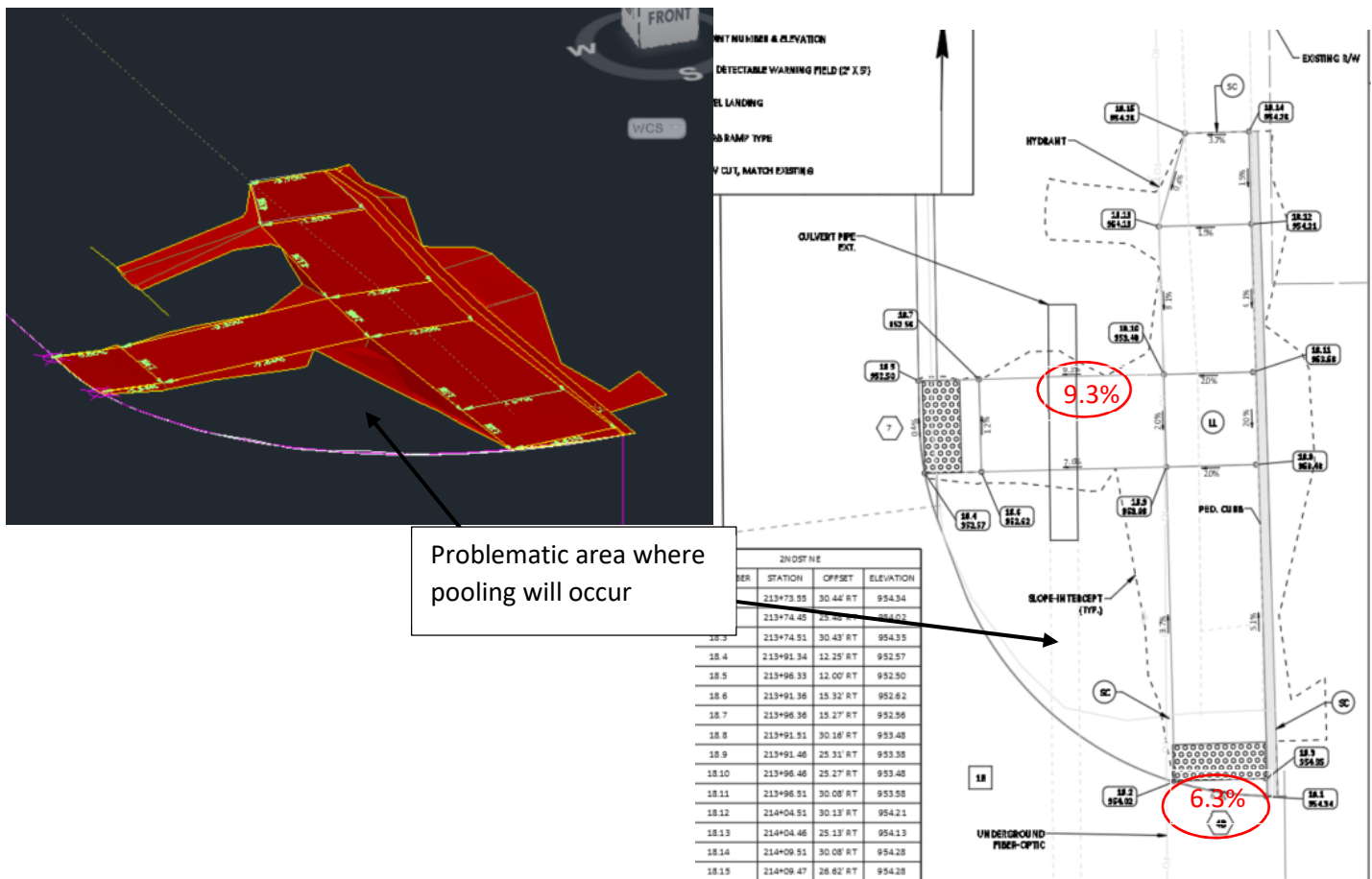
Infeasible Conditions:

- *NE Quadrant (Ramp A):*
 - To accommodate a Type 7 side crossing to the NW Quadrant, a ramp with a **9.3%** and 7% slope must be installed.
 - The sidewalk 4B ramp and the tie in are sloped down to create a lower level landing.
 - The culvert pipe must be extended underneath the ramp to maintain drainage to the North.
 - However, based on the elevations measured from the model, there is - **1.190 feet** of cover to accommodate a 12" pipe under the 8" of sidewalk and base.

2nd Street NE Quadrant	
Measurement Point	Elevation
Culvert Invert Exit	952.933
Top of Sdwk El	952.953
Base of Sdwk El	952.286
Ditch Bottom El	952.476
Top of Culvert Pipe El	953.476
Total Cover	-1.190 ft

- The pie shaped area between the road and sidewalk is an area of concern for pooling, especially since the side road is higher in elevation than STH 58.
- *NE Quadrant (Ramp B):*
 - Has a cross slope of **6.3%** due to the existing side road grade.

Intersecting Roadway	Criteria	NE Quadrant: A		NE Quadrant: B	
		Existing	Proposed	Existing	Proposed
2ND STREET	RAMP TYPE	NONE	TYPE 7	TYPE 4B	TYPE 4B
	DWF	NO	YES	NO	YES
	RAMP SLOPE	--	8.45	2.62	4.4
	CROSS SLOPE	--	1.2	5.7	6.3
	GUTTER SLOPE	--	N/A	N/A	N/A
	FLARE SLOPE	--	N/A	N/A	N/A
	CHANGE IN RAMP-GUTTER SLOPE	--	8.45	2.62	4.4
	LANDING AREA SLOPES LAT	--	2	0.35	2
	LANDING AREA SLOPES LONG	--	2		2

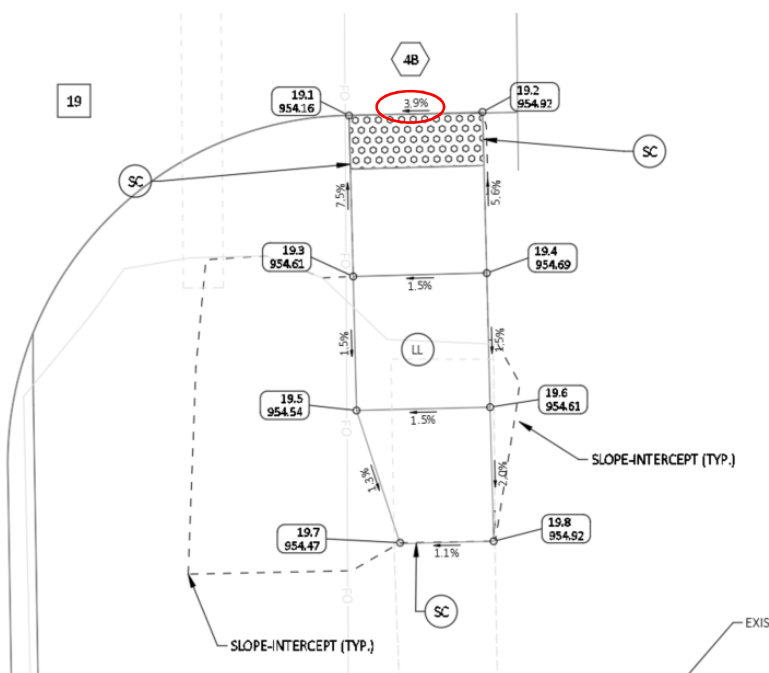


Infeasible Conditions:

- **SE Quadrant (Ramp B):**
 - o Has a cross slope of **3.9%** due to the existing side road grade.



Intersecting Roadway	Criteria	SE Quadrant: B	
		Existing	Proposed
2ND STREET	RAMP TYPE	TYPE 4B	TYPE 4B
	DWF	NO	YES
	RAMP SLOPE	0.975	6.55
	CROSS SLOPE	3.52	3.9
	GUTTER SLOPE	N/A	N/A
	FLARE SLOPE	N/A	N/A
	CHANGE IN RAMP-GUTTER SLOPE	0.975	6.55
	LANDING AREA SLOPES LAT	1.17	1.5
	LANDING AREA SLOPES LONG		1.5



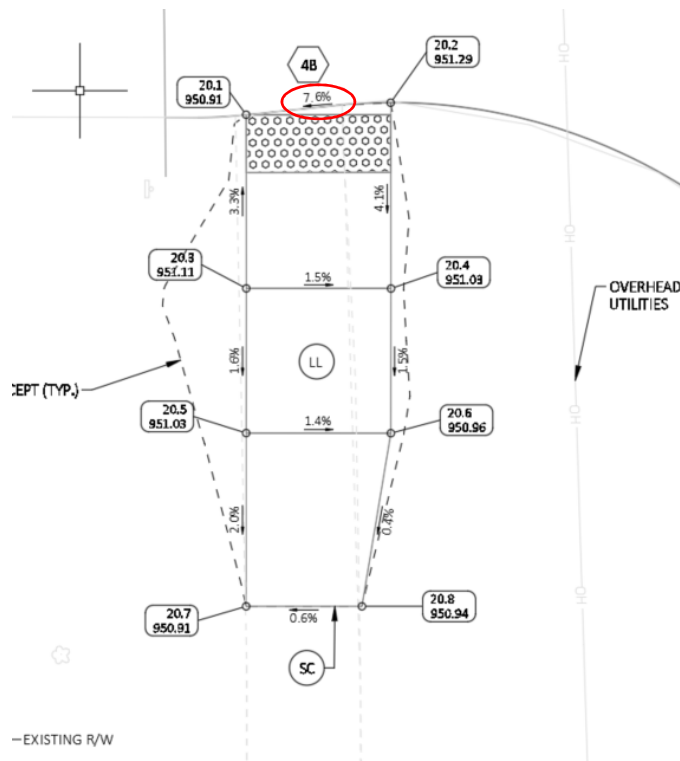
Intersecting Roadway: 2nd St (SW Quadrant)

Infeasible Conditions:

- SW Quadrant (Ramp B):
 - o Has a cross slope of **7.6%** due to the existing side road grade.



Intersecting Roadway	Criteria	SW Quadrant: B	
		Existing	Proposed
2ND STREET	RAMP TYPE	TYPE 4B	TYPE 4B
	DWF	NO	YES
	RAMP SLOPE	3.71	3.7
	CROSS SLOPE	7.67	7.6
	GUTTER SLOPE	N/A	N/A
	FLARE SLOPE	N/A	N/A
	CHANGE IN RAMP-GUTTER SLOPE	3.71	3.7
	LANDING AREA SLOPES LAT	0.41	1.45
	LANDING AREA SLOPES LONG		1.55



Intersecting Roadway: 1st St (NW Quadrant)

Existing Drainage Conditions:

- The water flows into the swale and toward the sidewalk.
- The power pole is near the low point.
- The swale is much steeper on the road side, and shallower sloping to the sidewalk.
- Longitudinally, the water is not directed preferentially to the North or South.

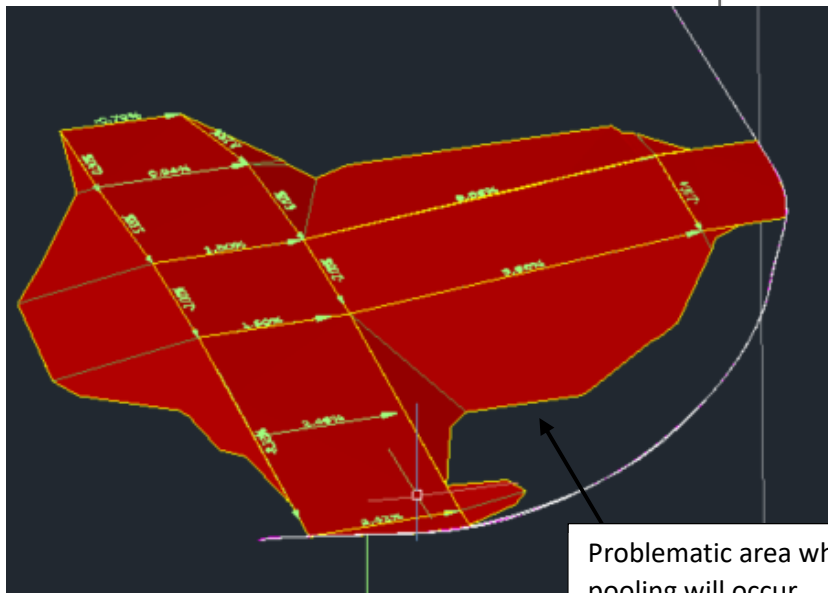


Infeasible Conditions:

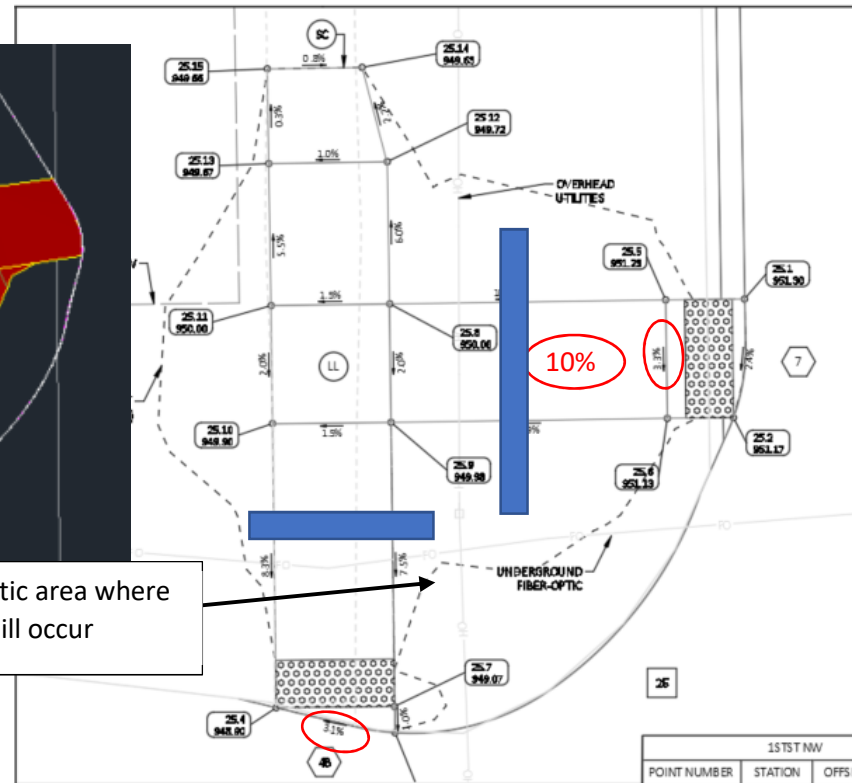
- *NW Quadrant (Ramp A):*
 - o To accommodate a Type 7 side crossing to the NE Quadrant, a ramp at **10%** must be installed, which exceeds the max of 8.33%.
 - o This requires having the Type 4B ramp slope up to the level landing, as well as having a ramp at 6% from the match point.
 - With these design modifications, the ramp still does not meet compliance.
 - o Since the swale is relatively shallow, the water will flow faster off the ramp, and there is not a direct place for the water to flow once in the swale.
 - o The pocket in between the ramp and road grade will be an area of concern.
 - o To eliminate pooling, pipes must be installed underneath the sidewalk.
 - However, based on the elevations measured from the model, there is **-0.372 feet and -1.257 feet** of cover to accommodate a 12" pipe under the 8" of sidewalk and base.
 - o Has a cross slope of **3.3%**, greater than the 2% max to the mainline road grade.

1st Street NE Quadrant (N/S Pipe)		1st Street NE Quadrant (E/W Pipe)	
Measurement Point	Elevation	Measurement Point	Elevation
Culvert Invert Exit	N/A	Culvert Invert Exit	N/A
Top of Sdwk El	950.653	Top of Sdwk El	949.49
Base of Sdwk El	949.986	Base of Sdwk El	948.823
Ditch Bottom El	949.358	Ditch Bottom El	949.08
Top of Culvert Pipe El	950.358	Top of Culvert Pipe El	950.08
Total Cover	-0.372 ft	Total Cover	-1.257 ft

Intersecting Roadway	Criteria	NW Quadrant: A		NW Quadrant: B	
		Existing	Proposed	Existing	Proposed
1ST STREET	RAMP TYPE	NONE	TYPE 7	TYPE 4B	TYPE 4B
	DWF	NO	YES	NO	YES
	RAMP SLOPE	--	10	3.25	7.9
	CROSS SLOPE	--	3.3	4.07	3.1
	GUTTER SLOPE	--	N/A	N/A	N/A
	FLARE SLOPE	--	N/A	N/A	N/A
	CHANGE IN RAMP-GUTTER SLOPE	--	10	3.25	7.9
	LANDING AREA SLOPES LAT	--	1.5	0.78	1.5
	LANDING AREA SLOPES LONG		2		2
	RAMP SLOPE (APPROACH)		5.75		
	CROSS SLOPE (APPROACH)		0.9		



Problematic area where pooling will occur



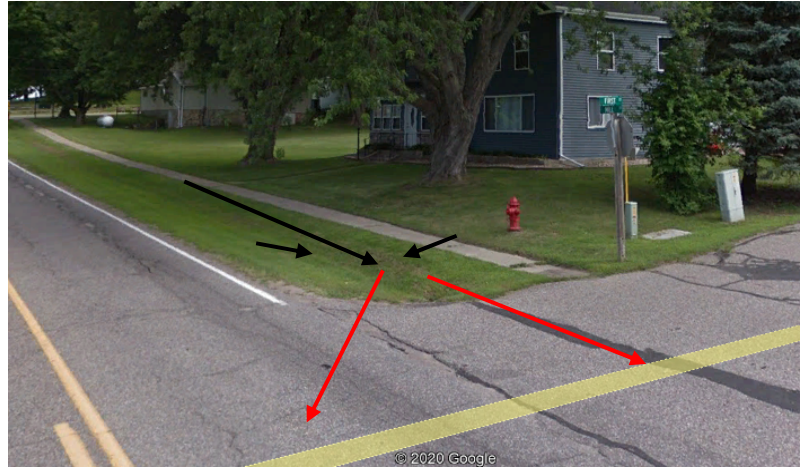
Intersecting Roadway: 1st St (NE Quadrant)

Existing Drainage Conditions:

- The water flows into the swale and toward the culverts.
- One culvert drains to the south, and the other drains southwest.

Infeasible Conditions:

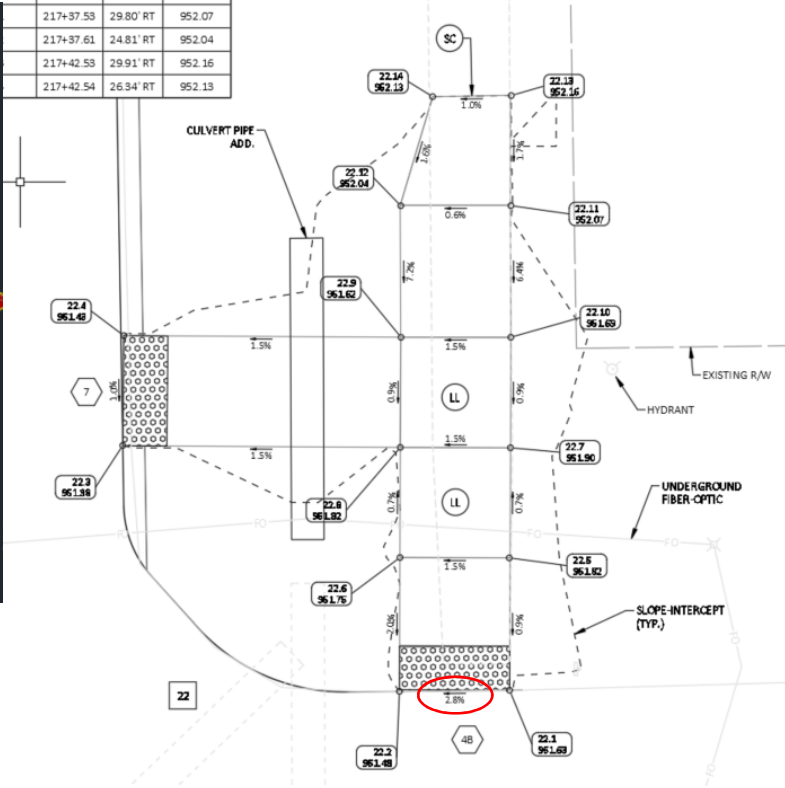
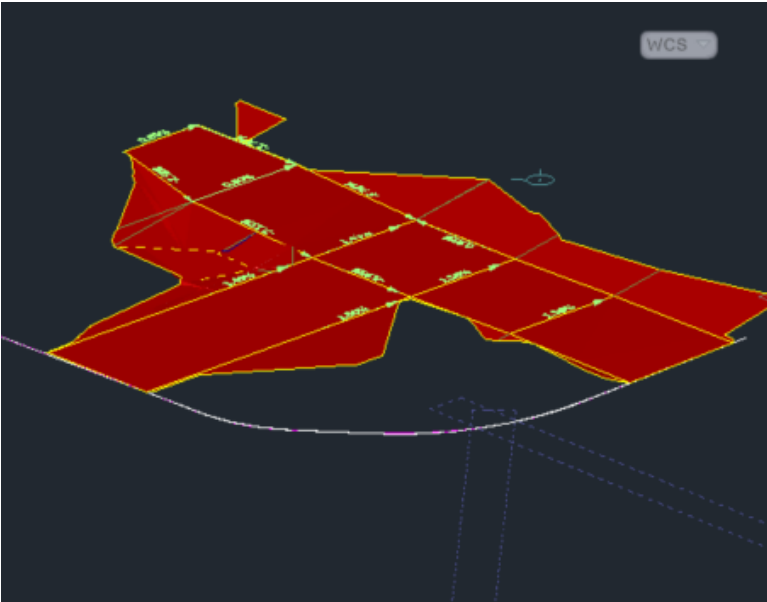
- *NW Quadrant (Ramp A):*
 - o To accommodate a Type 7 side crossing to the NW Quadrant, a ramp at 1.5% must be installed.
 - o Since water drains to the pie shaped area between the road and the sidewalk, a pipe would be required underneath the proposed ramp.
 - o However, based on the elevations measured from the model, there is **-1.667 feet** of cover to accommodate a 12" pipe under the 8" of sidewalk and base.



1st Street NE Quadrant	
Measurement Point	Elevation
Culvert Invert Exit	950.987
Top of Sdwk El	951.526
Base of Sdwk El	950.859
Ditch Bottom El	951.526
Top of Culvert Pipe El	952.526
Total Cover	-1.667 ft

- *NW Quadrant (Ramp B):*
 - o Has a cross slope of **2.8%** due to the existing side road grade

Intersecting Roadway	Criteria	NE Quadrant: A		NE Quadrant: B	
		Existing	Proposed	Existing	Proposed
1ST STREET	RAMP TYPE	NONE	TYPE 7	TYPE 4B	TYPE 4B
	DWF	NO	YES	NO	YES
	RAMP SLOPE	--	1.5	0.57	1.45
	CROSS SLOPE	--	1	2.87	2.8
	GUTTER SLOPE	--	N/A	N/A	N/A
	FLARE SLOPE	--	N/A	N/A	N/A
	CHANGE IN RAMP-GUTTER SLOPE	--	1.5	0.57	1.45
	LANDING AREA SLOPES LAT	--	1.5	0.54	1.5
	LANDING AREA SLOPES LONG		0.9		0.7
	RAMP SLOPE (APPROACH)		6.8		
	CROSS SLOPE (APPROACH)		0.9		



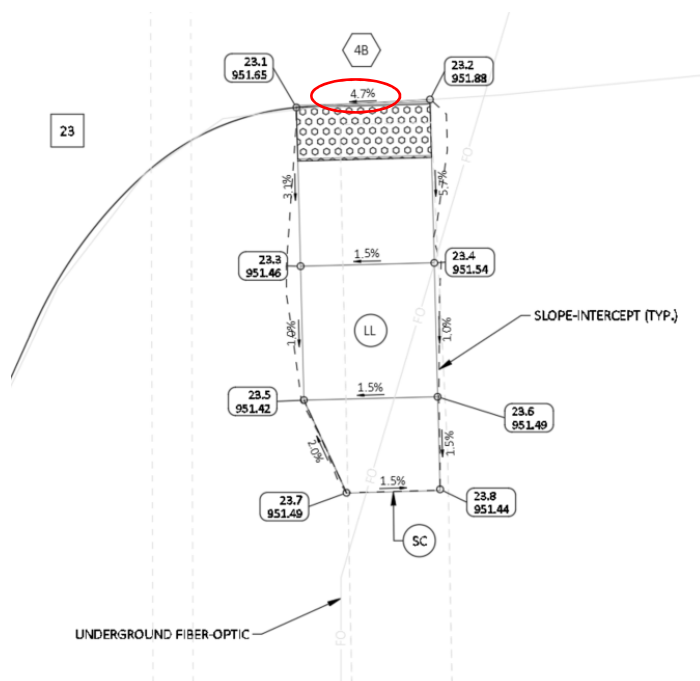
Intersecting Roadway: 1st St (SE Quadrant)

Infeasible Conditions:

- *SE Quadrant (Ramp A):*
 - o Has a cross slope of **4.7%** due to the existing side road grade.



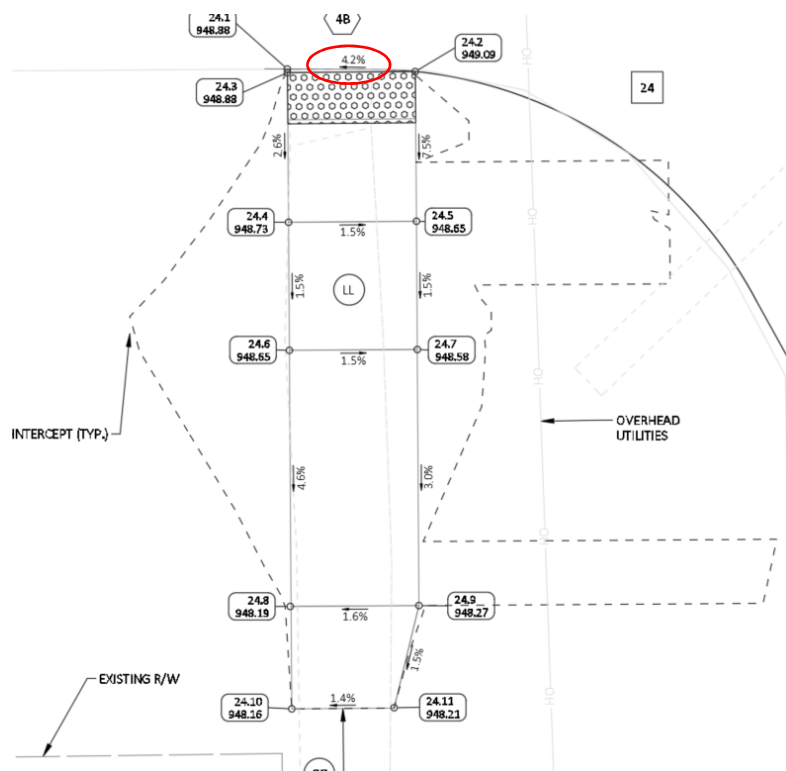
Intersecting Roadway	Criteria	SE Quadrant: B	
		Existing	Proposed
1ST STREET	RAMP TYPE	TYPE 4B	TYPE 4B
	DWF	NO	YES
	RAMP SLOPE	2.43	4.4
	CROSS SLOPE	3.28	4.7
	GUTTER SLOPE	N/A	N/A
	FLARE SLOPE	N/A	N/A
	CHANGE IN RAMP-GUTTER SLOPE	2.43	4.4
	LANDING AREA SLOPES LAT	2.24	1.5
	LANDING AREA SLOPES LONG		1



- **SW Quadrant (Ramp A):**
 - o Has a cross slope of **4.2%** due to the existing side road grade.



Intersecting Roadway	Criteria	SW Quadrant: B	
		Existing	Proposed
1ST STREET	RAMP TYPE	TYPE 4B	TYPE 4B
	DWF	NO	YES
	RAMP SLOPE	6.99	5.05
	CROSS SLOPE	4.3	4.2
	GUTTER SLOPE	N/A	N/A
	FLARE SLOPE	N/A	N/A
	CHANGE IN RAMP-GUTTER SLOPE	6.99	5.05
	LANDING AREA SLOPES LAT	4.4	1.5
	LANDING AREA SLOPES LONG		1.5



Intersecting Roadway: Main St (SE Quadrant)

Existing Drainage Conditions:

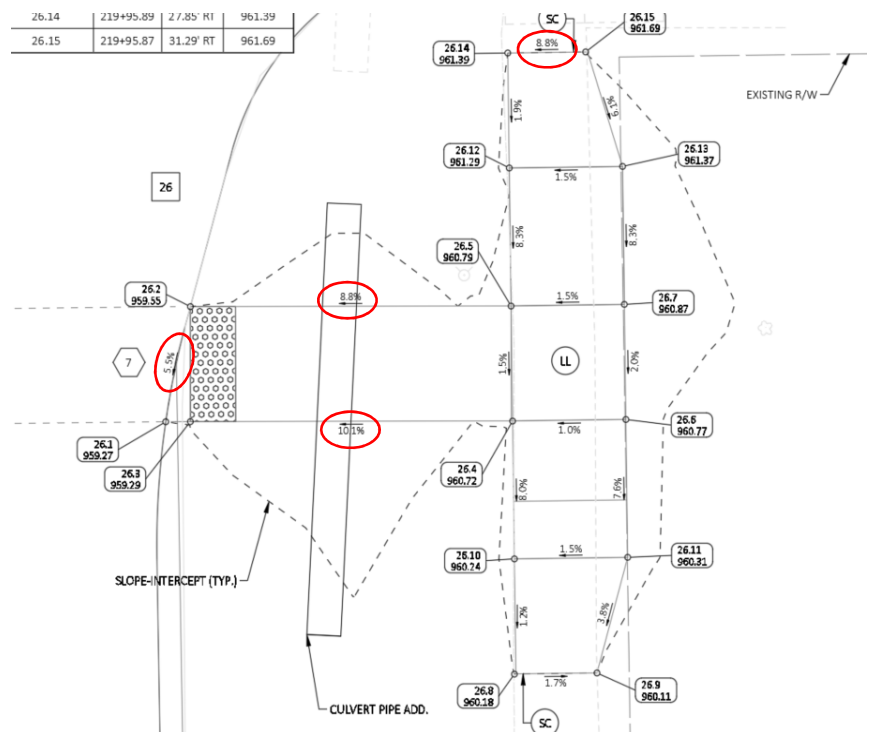
- The water flows into the swale from the culvert in the north.
- Water continues flowing to the south toward 1st Street once in the swale.

Infeasible Conditions:

- *SW Quadrant (Ramp A):*
 - o Has a cross slope of **5.5%** due to the existing mainline grade.
 - o To accommodate a Type 7 side crossing to the NW Quadrant, a ramp with a max slope of **10.1%** must be installed.
 - o To prevent pooling in the pie shaped area, a pipe must be added underneath the proposed ramp.
 - o However, based on the elevations measured from the model, there is **-0.757 feet** of cover to accommodate a 12" pipe under the 8" of sidewalk and base.
 - o Sidewalk match in point has a grade of **8.8%** which exceeds the 2% max.

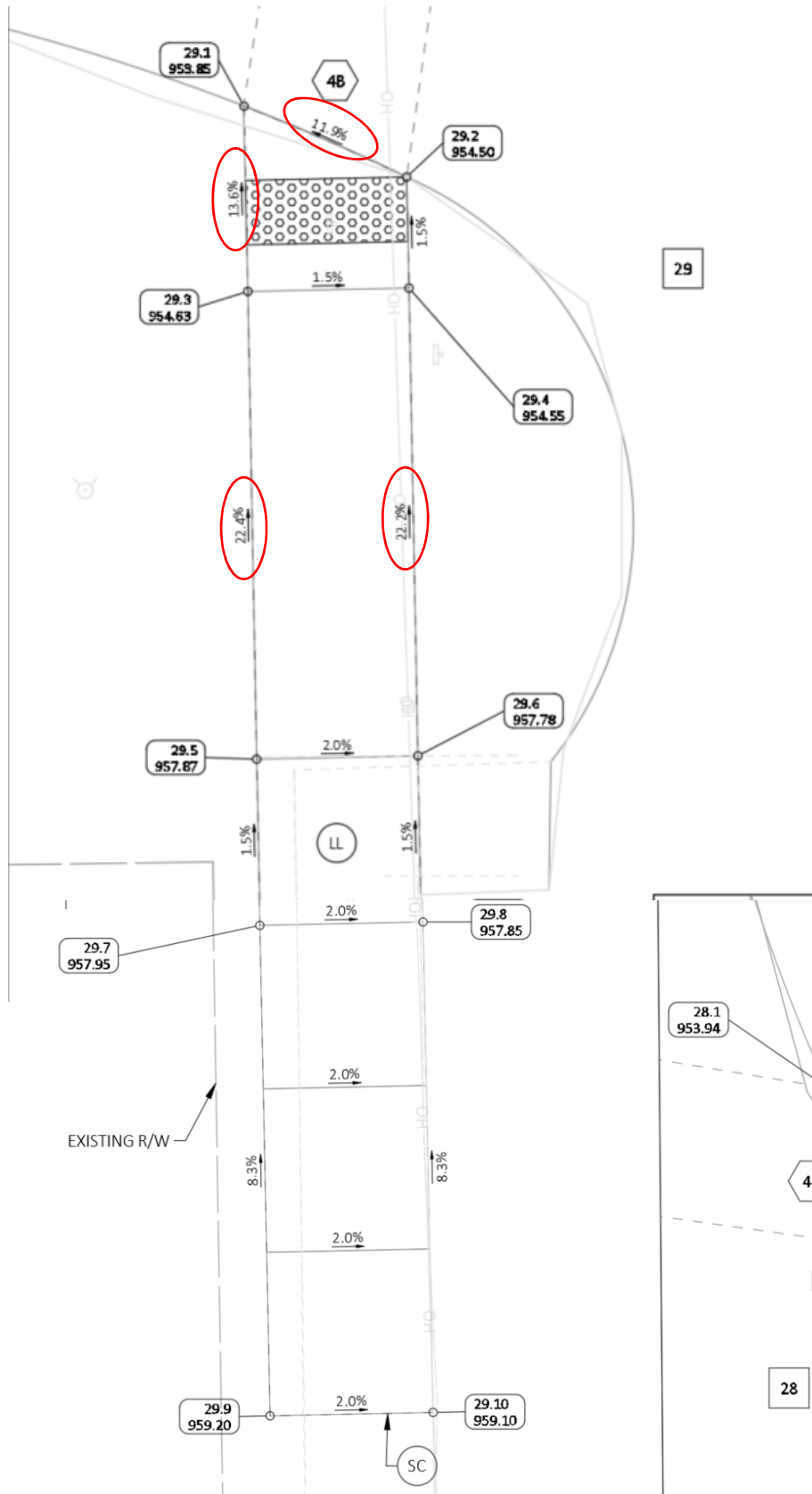


Main Street SE Quadrant	
Measurement Point	Elevation
Culvert Invert Exit	960.315
Top of Sdwk EI	960.07
Base of Sdwk EI	959.403
Ditch Bottom EI	959.16
Top of Culvert Pipe EI	960.16
Total Cover	-0.757 ft



Intersecting Roadway	Criteria	SE Quadrant: A	
		Existing	Proposed
MAIN STREET	RAMP TYPE	NONE	TYPE 7
	DWF	NO	YES
	RAMP SLOPE	--	10.1
	CROSS SLOPE	--	5.5
	GUTTER SLOPE	--	N/A
	FLARE SLOPE	--	N/A
	CHANGE IN RAMP-GUTTER SLOPE	--	10.1
	LANDING AREA SLOPES LAT	--	1.25
	LANDING AREA SLOPES LONG		1.75
	RAMP SLOPE (1)		7.8
	CROSS SLOPE (1)		1.5
	RAMP SLOPE (2)		8.3
	CROSS SLOPE (2)		1.5





Attachment D3: La Valle Infeasibility

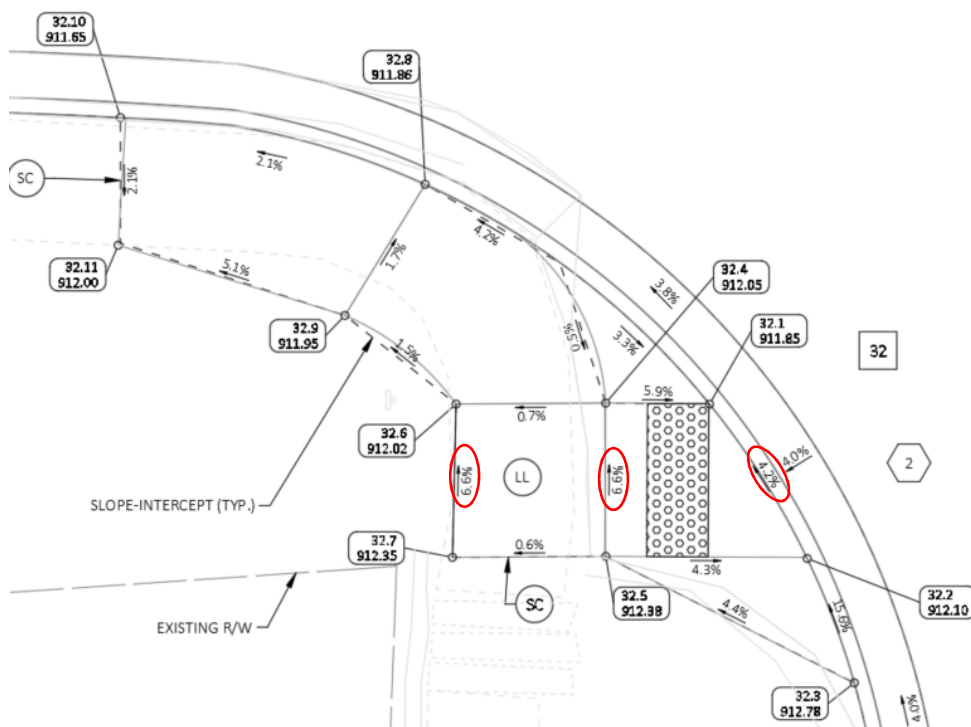
Intersecting Roadway: Mini Creek Rd (SW Quadrant) – Alternative 1

Infeasible Conditions:

- *SW Quadrant (Ramp A):*
 - Has a cross slope of **4.2%** due to the existing mainline grade.
 - Existing ramp does not have curb and gutter.
 - There is no discernible ramp.
 - This leads to a receiving concrete staircase in the SE quadrant.
 - The existing landing at the bottom of the steps has a cross slope of **6.6%**.



Intersecting Roadway	Criteria	SW Quadrant: A	
		Existing	Proposed
MINI CREEK RD ALT 1	RAMP TYPE	NONE	TYPE 2
	DWF	NO	YES
	RAMP SLOPE	--	5.1
	CROSS SLOPE	--	4.2
	GUTTER SLOPE	N/A	4
	FLARE SLOPE	N/A	15.6
	CHANGE IN RAMP-GUTTER SLOPE	--	9.1
	LANDING AREA SLOPES LAT	6.6	6.6
	LANDING AREA SLOPES LONG	0.65	0.65



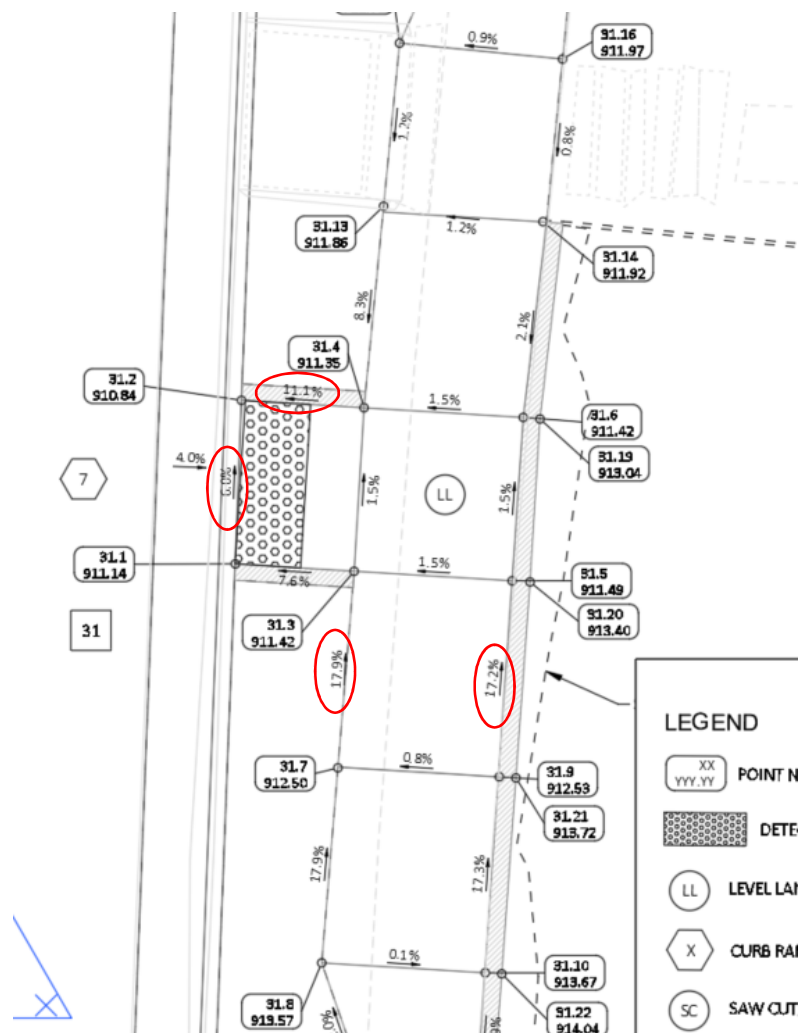
Intersecting Roadway: Mini Creek Rd (SE Quadrant) – Alternative 1

Infeasible Conditions:

- *SE Quadrant (Ramp A):*
 - Has a max ramp slope of **11.1%** due to the existing mainline grade and this exceeds the 7% limit.
 - Existing ramp is a staircase, which is not accessible.
 - Has a cross slope of **6%** due to the mainline road grade.
 - To grade into existing pedestrian curb over 1' would be required, meaning a retaining wall would need to be designed.
 - This is outside the scope of the project and is not feasible.
 - To lower the level landing, the sidewalk would have to be sloped over **17.9%**, which exceeds the 8.33% specification.



Intersecting Roadway	Criteria	SE Quadrant: A	
		Existing	Proposed
MINI CREEK RD ALT 1	RAMP TYPE	NONE	TYPE 7
	DWF	NO	YES
	RAMP SLOPE	--	11.1
	CROSS SLOPE	--	6
	GUTTER SLOPE	--	4
	FLARE SLOPE	--	N/A
	CHANGE IN RAMP-GUTTER SLOPE	--	17.1
	LANDING AREA SLOPES LAT	--	1.5
	LANDING AREA SLOPES LONG		1.5
	RAMP SLOPE (APPROACH)		17.9
	CROSS SLOPE (APPROACH)		0.3



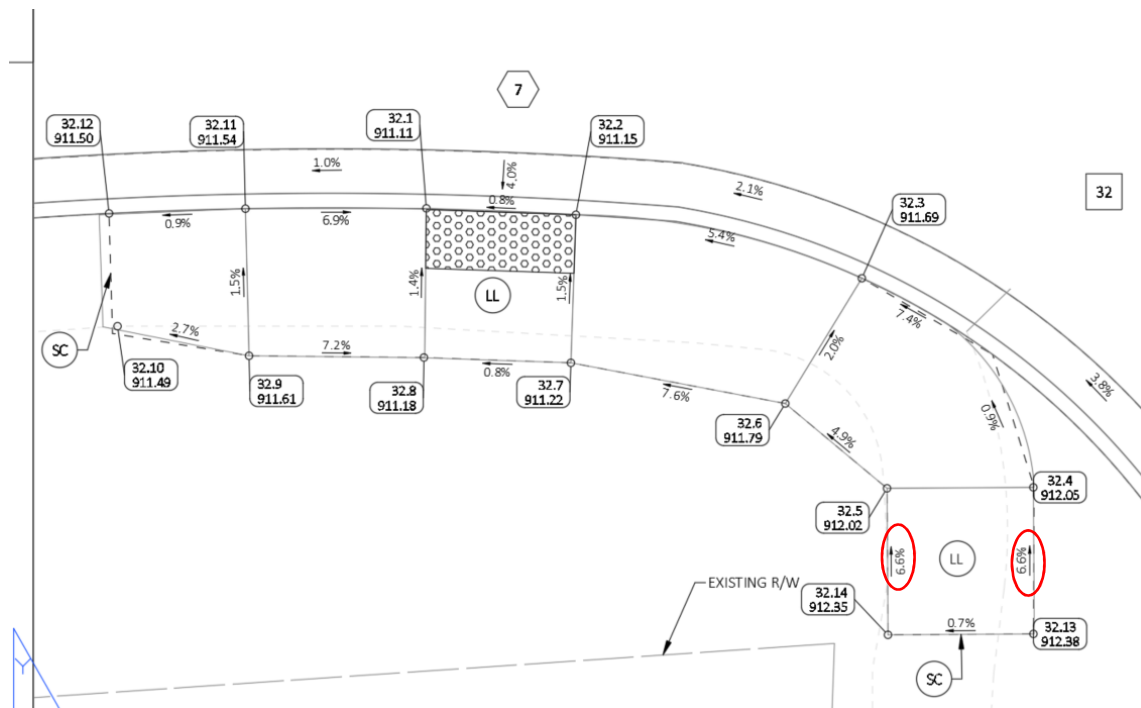
Intersecting Roadway: Mini Creek Rd (SW Quadrant) – Alternative 2

Infeasible Conditions:

- *SW Quadrant (Ramp B):*
 - This alternative removes a crossing to the SE, and instead to the SW.
 - The existing level landing at the base of the steps would still have a cross slope of **6.6%**.



Intersecting Roadway	Criteria	SW Quadrant: B	
		Existing	Proposed
MINI CREEK RD ALT 2	RAMP TYPE	NONE	TYPE 7
	DWF	NO	YES
	RAMP SLOPE	--	1.45
	CROSS SLOPE	--	0.8
	GUTTER SLOPE	--	4
	FLARE SLOPE	--	6.15
	CHANGE IN RAMP-GUTTER SLOPE	--	5.45
	LANDING AREA SLOPES LAT	--	N/A
	LANDING AREA SLOPES LONG	--	N/A



Intersecting Roadway: Mini Creek Rd (NW Quadrant) – Alternative 2

Infeasible Conditions:

- This alternative looks at putting curb and gutter in this quadrant, as the NE is flatter than the SE.
 - However, the amount of grading work required and inability to meet ADA specifications puts this alternative outside of project scope.
 - Similarly, short radius beam guard needs to be placed here to protect drivers from the steep slope and the lake.
- 
- *NW Quadrant (Ramp A):*
 - o Has a cross slope at the back of the ramp at **2.7%** and this exceeds the 2% limit.
 - o Has a cross slope of **5%** due to the existing mainline grade.
 - o Existing ramp is a staircase, which is not accessible.
 - o The ramp approach slope from NW ramp B has a slope max slope of **10.1%** and a cross slope of **2.7%**.
 - *NW Quadrant (Ramp B):*
 - o The ramp slope to the west has a slope of **10.7%**. However, this ramp does not connect with anything, as the curb and gutter would only be for the radius.

Intersecting Roadway	Criteria	NW Quadrant: A		NW Quadrant: B	
		Existing	Proposed	Existing	Proposed
MINI CREEK RD ALT 2	RAMP TYPE	NONE	TYPE 7	NONE	TYPE 7
	DWF	NO	YES	NO	YES
	RAMP SLOPE	--	1.2	--	1.6
	CROSS SLOPE	--	5	--	1.5
	GUTTER SLOPE	--	4	--	4
	FLARE SLOPE	--	4.8	--	6.05
	CHANGE IN RAMP-GUTTER SLOPE	--	5.2	--	5.6
	LANDING AREA SLOPES LAT	--	N/A	--	N/A
	LANDING AREA SLOPES LONG	--	N/A	--	N/A
	RAMP SLOPE (APPROACH)	--	10.1	--	10.7
	CROSS SLOPE (APPROACH)	--	2.7	--	1.3

33.8	347+97.95	47.69' LT	910.39
33.9	347+96.03	52.31' LT	910.48
33.10	347+94.43	57.05' LT	910.55
33.11	347+99.23	58.69' LT	910.56
33.12	348+00.83	53.95' LT	910.51
33.13	348+02.50	49.67' LT	910.46
33.14	348+05.01	44.90' LT	909.89
33.15	348+07.61	40.86' LT	909.84

The profile view shows a road cross-section with various features labeled:

- SLOPE-INTERCEPT (3:1)**: Indicated by a dashed line.
- LEVEL LANDING (LL)**: Two rectangular areas with a stippled pattern.
- DETECTABLE WARNING AREA**: A rectangular area with a cross-hatched pattern.
- Grades**: Various percentages are shown along the profile, such as 1.0%, 0.5%, 1.5%, 2.0%, 3.0%, 4.0%, 5.0%, 6.0%, 7.0%, 8.0%, 9.0%, 10.0%, 11.0%, 12.0%, 13.0%, 14.0%, 15.0%, 16.0%, 17.0%, 18.0%, 19.0%, 20.0%, 21.0%, 22.0%, 23.0%, 24.0%, 25.0%, 26.0%, 27.0%, 28.0%, 29.0%, 30.0%, 31.0%, 32.0%, 33.0%, 34.0%, 35.0%, 36.0%, 37.0%, 38.0%, 39.0%, 40.0%, 41.0%, 42.0%, 43.0%, 44.0%, 45.0%, 46.0%, 47.0%, 48.0%, 49.0%, 50.0%, 51.0%, 52.0%, 53.0%, 54.0%, 55.0%, 56.0%, 57.0%, 58.0%, 59.0%, 60.0%, 61.0%, 62.0%, 63.0%, 64.0%, 65.0%, 66.0%, 67.0%, 68.0%, 69.0%, 70.0%, 71.0%, 72.0%, 73.0%, 74.0%, 75.0%, 76.0%, 77.0%, 78.0%, 79.0%, 80.0%, 81.0%, 82.0%, 83.0%, 84.0%, 85.0%, 86.0%, 87.0%, 88.0%, 89.0%, 90.0%, 91.0%, 92.0%, 93.0%, 94.0%, 95.0%, 96.0%, 97.0%, 98.0%, 99.0%, 100.0%.
- Stationing**: The horizontal axis is labeled with station numbers from 33.8 to 33.15.
- Elevations**: The vertical axis is labeled with elevation values ranging from 909.84 to 910.55.
- Callouts**: Several points are circled in red, indicating specific features or measurements.

LEGEND

XX
YYY POINT NUMBER & ELEVATION

[Stippled Box] DETECTABLE WARNING FIEL

(LL) LEVEL LANDING

X CHISEL BAR TYPE

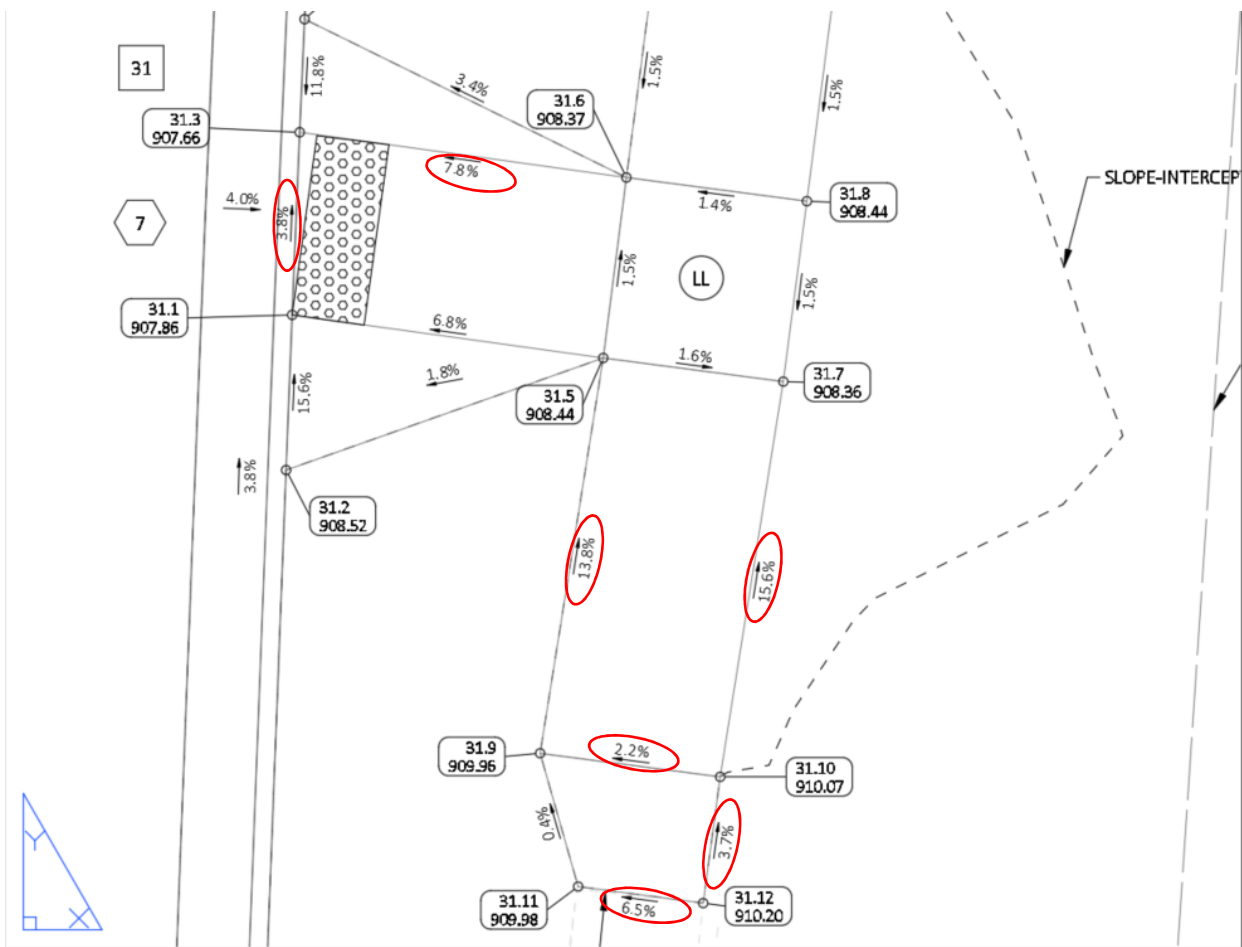
Intersecting Roadway: Mini Creek Rd (NE Quadrant) – Alternative 2

Infeasible Conditions:

- *NE Quadrant (Ramp A):*
 - o Has a cross slope of **3.8%** due to the existing mainline grade.
 - o Has a max ramp slope of **7.8%** which exceeds the 7% limit.
 - o The ramp approach slope has a max of **15.6%**, which exceeds the 8.33% max for sidewalks.
 - o The tie in panel has a cross slope of **6.6%** due to the tilted sidewalk by the driveway.
- This alternative does not show much benefit to the reduction in approach slope.
- The max ramp slope is lower, as the terrace is much wider, but the existing grade is still too steep to practically install a ramp on a project of this scope.



Intersecting Roadway	Criteria	NE Quadrant: A	
		Existing	Proposed
MINI CREEK RD ALT 2	RAMP TYPE	NONE	TYPE 7
	DWF	NO	YES
	RAMP SLOPE	--	7.8
	CROSS SLOPE	--	3.8
	GUTTER SLOPE	--	4
	FLARE SLOPE	--	13.7
	CHANGE IN RAMP-GUTTER SLOPE	--	11.8
	LANDING AREA SLOPES LAT	--	1.5
	LANDING AREA SLOPES LONG		1.5
	RAMP SLOPE (APPROACH)		15.6
	CROSS SLOPE (APPROACH)		2.2



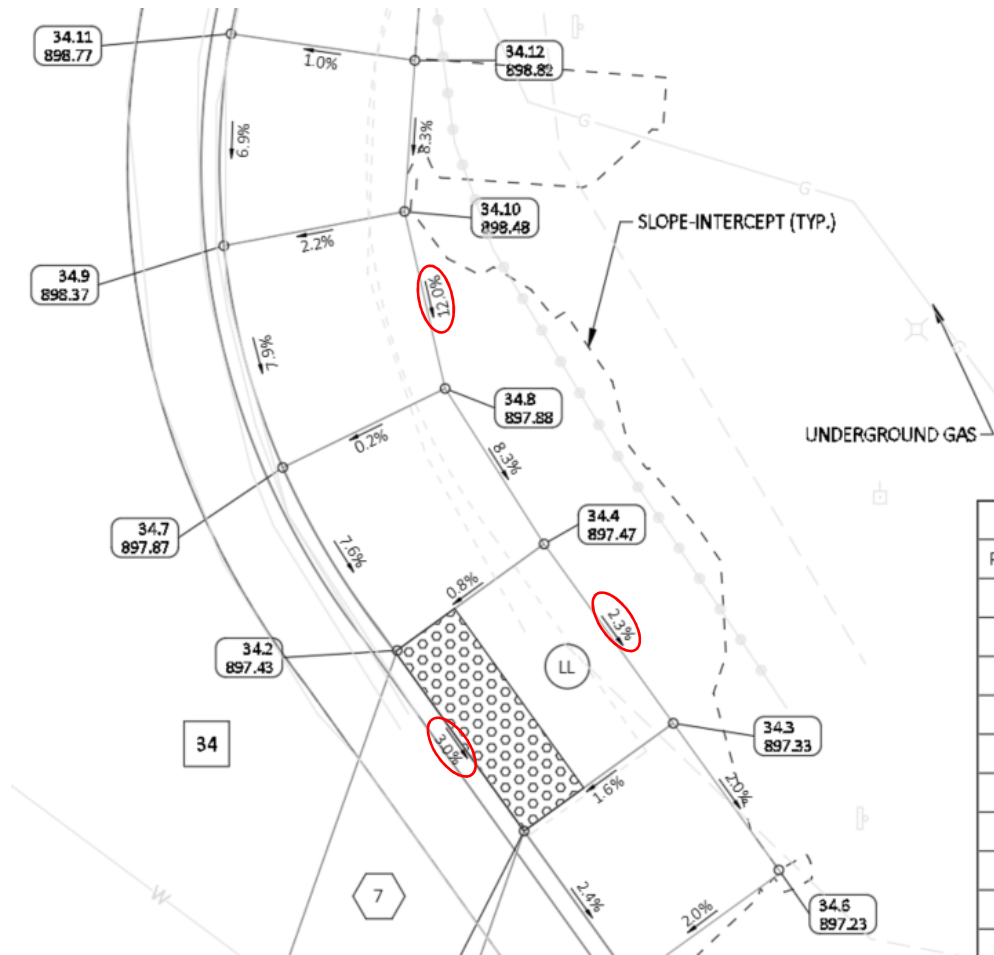
Intersecting Roadway: N River (NE Quadrant)

Infeasible Conditions:

- *NE Quadrant (Ramp A):*
 - Has a cross slope of **3%** due to the existing sideroad grade.
 - Has a cross slope of **2.3%** at the back of the ramp/level landing.
 - The ramp approach slope has a max of **12%**, which exceeds the 8.33% max for sidewalks. The other slopes are at or below 8.33%.



Intersecting Roadway	Criteria	NE Quadrant: A	
		Existing	Proposed
N RIVER	RAMP TYPE	TYPE 7	TYPE 7
	DWF	NO	YES
	RAMP SLOPE	6.46	1.2
	CROSS SLOPE	8.29	3
	GUTTER SLOPE	1.89	4
	FLARE SLOPE	7.09	7.6
	CHANGE IN RAMP-GUTTER SLOPE	8.35	5.2
	LANDING AREA SLOPES LAT	0.9	1
	LANDING AREA SLOPES LONG	3.655	0.85



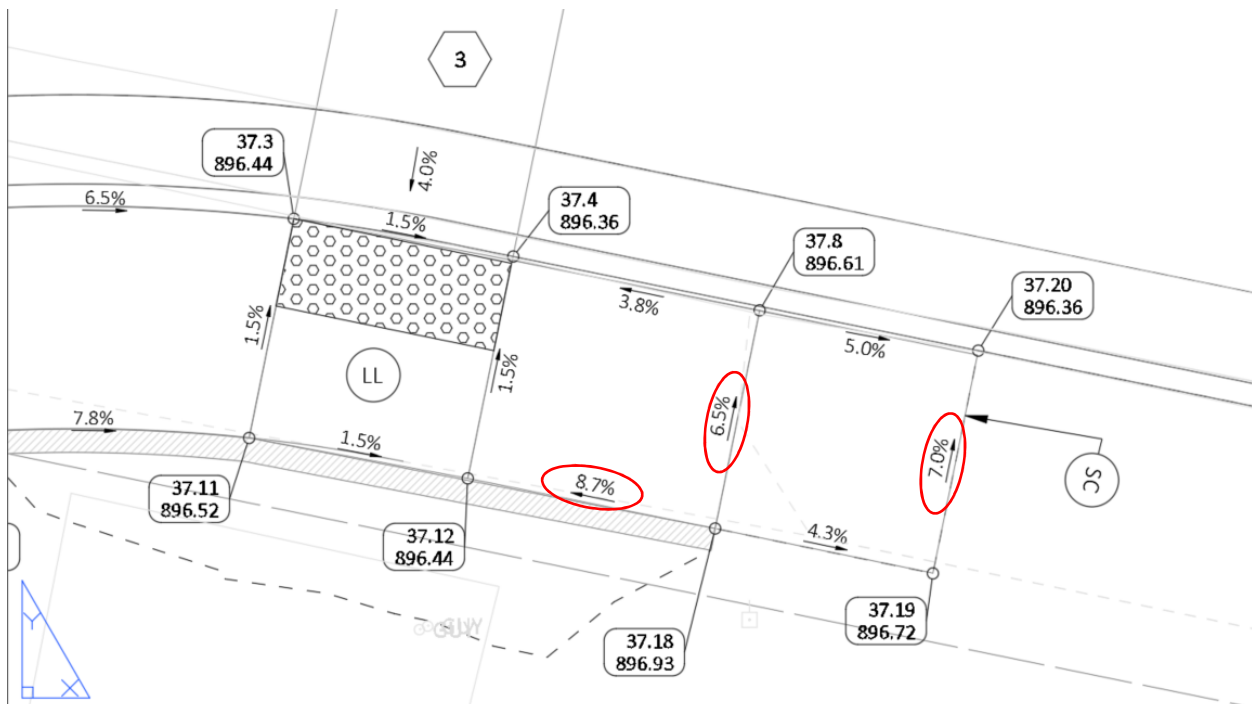
Intersecting Roadway: W Main (SE Quadrant)

Infeasible Conditions:

- *SE Quadrant (Ramp A):*
 - o Has a max ramp approach slope of **8.7%** to tie back in to the existing sidewalk.
 - This tie in panel has a cross slope **6.5%**, which exceeds the 2% max, but matches in with the driveway.
 - This to raise the ramp up, before dropping back down to the driveway and create separation.



Intersecting Roadway	Criteria	SE Quadrant: A	
		Existing	Proposed
W MAIN ST/W NORTH ST	RAMP TYPE	TYPE 1	TYPE 3
	DWF	YES	YES
	RAMP SLOPE	6.88	1.5
	CROSS SLOPE	4.98	0.75
	GUTTER SLOPE	6.48	4
	FLARE SLOPE	7.37	4.85
	CHANGE IN RAMP-GUTTER SLOPE	13.36	5.5
	LANDING AREA SLOPES LAT	N/A	N/A
	LANDING AREA SLOPES LONG	N/A	N/A



Intersecting Roadway: W Main (NE Quadrant)

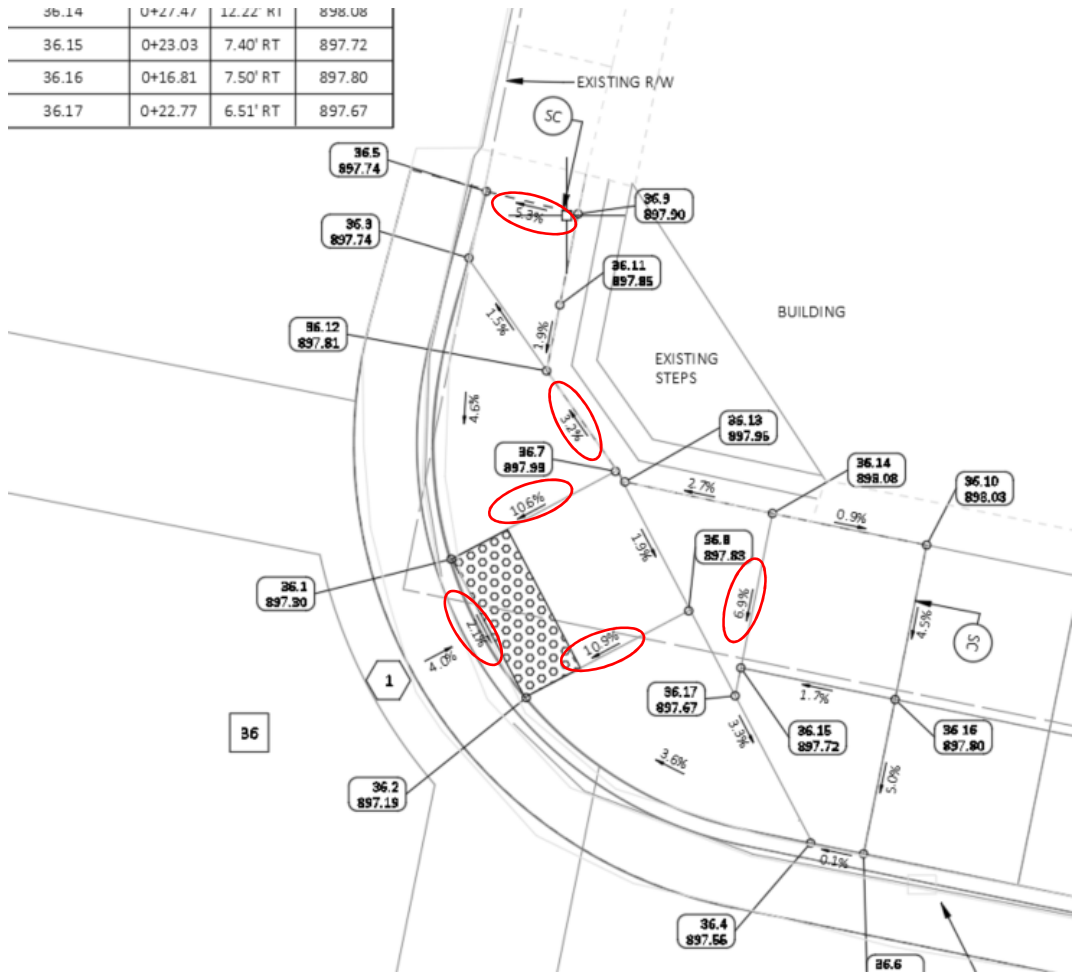
Infeasible Conditions:

- *NE Quadrant (Ramp A):*
 - o Existing gutter slope is **8.25%**, which exceeds the 4% standard.
 - The curb and gutter has warped toward the inlet.
 - o The steps are a constraint and do not allow a level landing to fit.
 - o When remodeling the ramp, the slopes were all tied in to existing conditions and made the ramp slightly steeper to **10.9%**.
 - o Due to the scope of the project, it is not feasible to widen the curb and gutter.
 - This corner is tight already and appears to be a truck turning movement.
 - It is the most feasible to replace the ramp panel and move the DWF to touch the back of curb and gutter.



Intersecting Roadway	Criteria	NE Quadrant: A	
		Existing	Proposed
W MAIN ST/W NORTH ST	RAMP TYPE	TYPE 1	TYPE 1
	DWF	YES	YES
	RAMP SLOPE	9.03	10.9
	CROSS SLOPE	0.97	2.1
	GUTTER SLOPE	8.25	4
	FLARE SLOPE	5.45	4.1
	CHANGE IN RAMP-GUTTER SLOPE	17.28	14.75
	LANDING AREA SLOPES LAT	N/A	N/A
	LANDING AREA SLOPES LONG	N/A	N/A

36.14	0+27.47	12.22' RT	898.08
36.15	0+23.03	7.40' RT	897.72
36.16	0+16.81	7.50' RT	897.80
36.17	0+22.77	6.51' RT	897.67



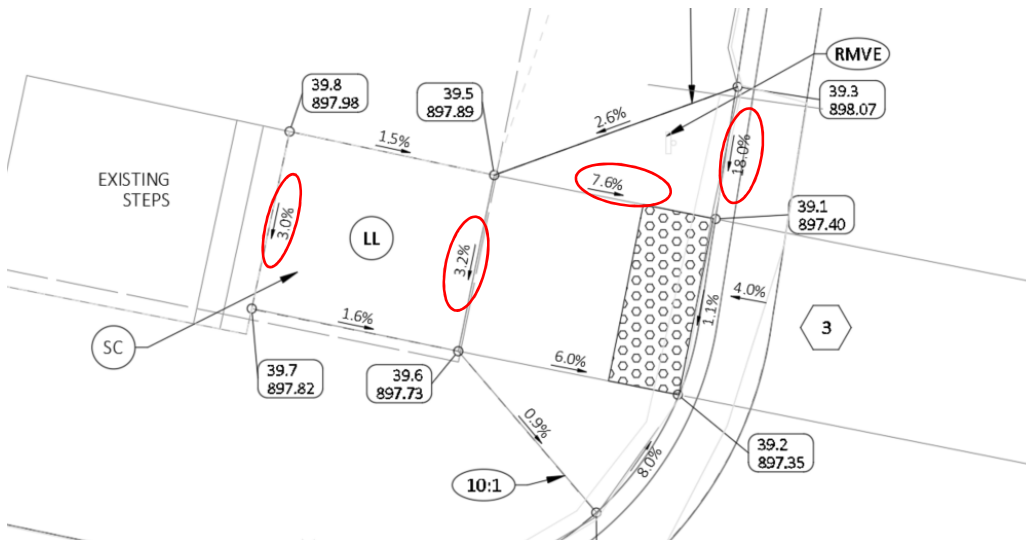
Intersecting Roadway: W Main (NW Quadrant)

Infeasible Conditions:

- *NW Quadrant (Ramp A):*
 - o Existing ramp has a cross slope of **2.45%**.
 - o Existing level landing has a cross slope of **2.98%**, which exceeds the 2% standard.
 - o The existing ramp does not have a 5' opening.
 - o The curb and gutter transitions to 4" curb and gutter/sidewalk.
 - o When remodeling the ramp, the back of the level landing was tied to existing conditions.
 - The level landing was dropped down by the building corner to reduce the ramp slope.
 - o It is most feasible to replace and widen the ramp panel and move the DWF to touch the back of the curb and gutter.



Intersecting Roadway	Criteria	NW Quadrant: A	
		Existing	Proposed
W MAIN ST/W NORTH ST	RAMP TYPE	TYPE 3	TYPE 3
	DWF	YES	YES
	RAMP SLOPE	6.17	7.6
	CROSS SLOPE	2.45	1.1
	GUTTER SLOPE	0.78	4
	FLARE SLOPE	8.505	13
	CHANGE IN RAMP-GUTTER SLOPE	6.95	11.6
	LANDING AREA SLOPES LAT	2.98	3.1
	LANDING AREA SLOPES LONG	0.955	1.55



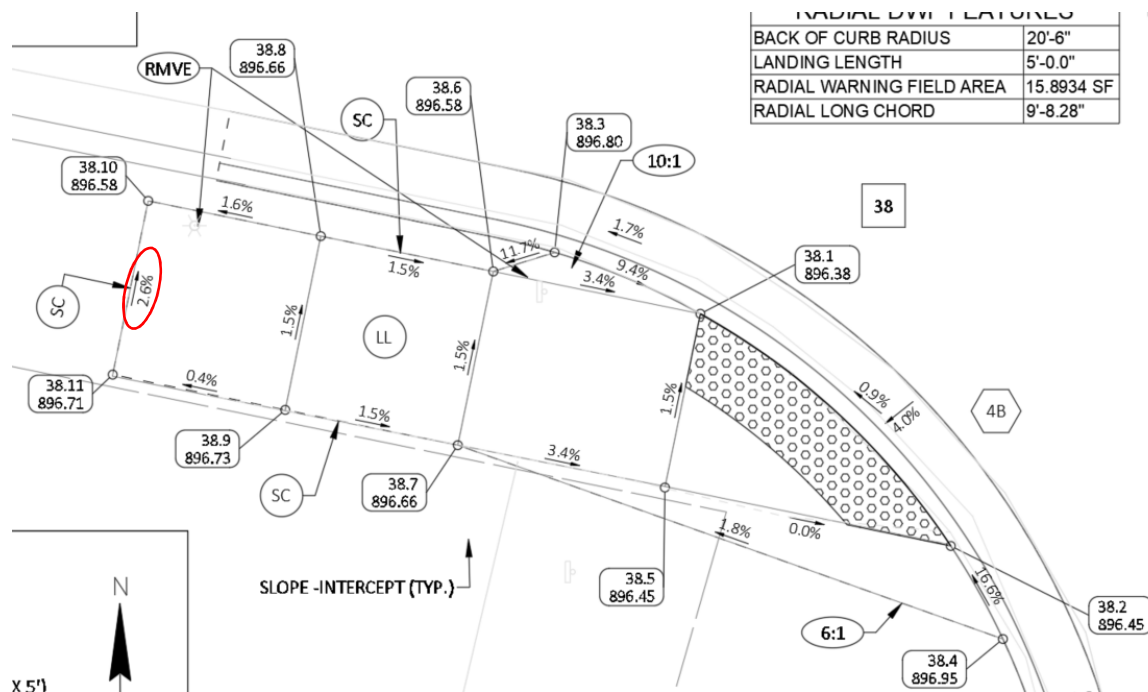
Intersecting Roadway: W Main (SW Quadrant)

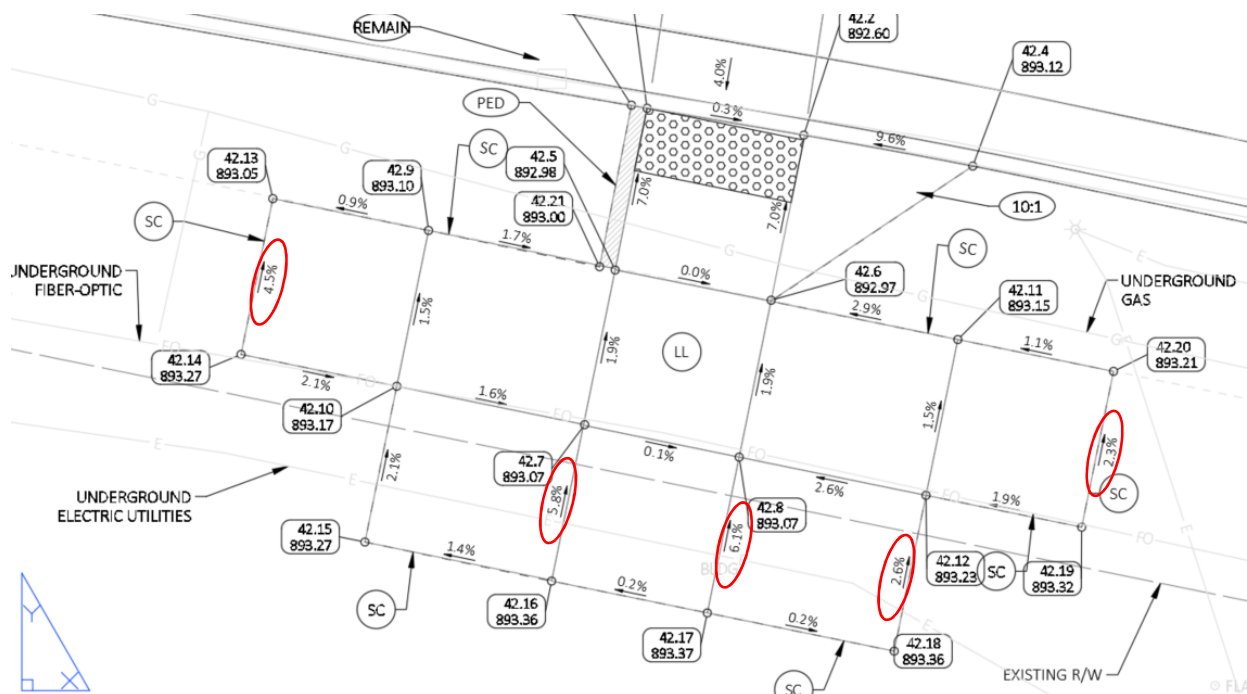
Infeasible Conditions:

- *SW Quadrant (Ramp A):*
 - o Has a tie in cross slope of **2.6%**. Chasing the grade farther back only increased the cross slope instead of improving it.



Intersecting Roadway	Criteria	SW Quadrant: A	
		Existing	Proposed
W MAIN ST/W NORTH ST	RAMP TYPE	TYPE 4B	TYPE 4B
	DWF	YES	YES
	RAMP SLOPE	7.57	3.4
	CROSS SLOPE	5.93	1.5
	GUTTER SLOPE	5.44	4
	FLARE SLOPE	19.18	13
	CHANGE IN RAMP-GUTTER SLOPE	13.01	7.4
	LANDING AREA SLOPES LAT	1.915	1.5
	LANDING AREA SLOPES LONG	1.475	1.5





Intersecting Roadway: STH33 (NW Quadrant)

Infeasible Conditions:

- *NW Quadrant (Ramp B):*
 - Has a tie in cross slope of **4.7%**.
 - Slope was chased out 15' from the level landing.



Intersecting Roadway	Criteria	NW Quadrant: B	
		Existing	Proposed
STH 33	RAMP TYPE	TYPE 1	TYPE 2
	DWF	YES	YES
	RAMP SLOPE	5.325	5
	CROSS SLOPE	1.62	1
	GUTTER SLOPE	5.12	4
	FLARE SLOPE	5.27	16.7
	CHANGE IN RAMP-GUTTER SLOPE	10.44	9
	LANDING AREA SLOPES LAT	0.475	1.5
	LANDING AREA SLOPES LONG	0.6	1.5

