

MINNESOTA DEPARTMENT OF TRANSPORTATION

STATE PIT NO. 56117 IS A POSSIBLE AGGREGATE SOURCE. LOCATION IS SW 1/4 OF SW 1/4 OF SECTION 27, T136N, R39W IN OTTER TAIL COUNTY. APPROX. 103,000 CU YD OF CLASS 5 MATERIAL IS AVAILABLE.

CONSTRUCTION PLAN FOR GRADING, BITUMINOUS MILLING & SURFACING, ADA IMPROVEMENTS, RETAINING WALLS, AND END POSTS FOR BRIDGES NO. 9406 & NO. 56007
 LOCATED ON TH 78 FROM TH 210 IN BATTLE LAKE TO TH 10 IN PERHAM

GOVERNING SPECIFICATIONS

THE 2005 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" SHALL GOVERN.

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XS1-XS26	CROSS SECTION SHEETS

THIS PLAN CONTAINS 131 SHEETS

SP 5620-24 EQUATIONS

93+08.99 BK = 93+11.90 AH
 379+40.13 BK = 387+21.71 AH
 431+56.04 BK = 431+78.68 AH
 448+04.55 BK = 448+02.98 AH
 472+17.07 BK = 472+18.72 AH
 504+65.26 BK = 504+55.54 AH
 530+67.84 BK = 530+69.27 AH
 561+91.55 BK = 561+93.33 AH
 579+57.65 BK = 579+58.94 AH
 598+09.53 BK = 598+04.92 AH
 610+86.23 BK = 610+90.92 AH
 635+85.49 BK = 635+90.95 AH
 686+90.08 BK = 686+94.19 AH
 732+94.11 BK = 732+95.57 AH
 762+43.68 BK = 762+46.33 AH
 796+24.39 BK = 796+10.19 AH

SP 5621-23 EQUATIONS

847+52.60 BK = 848+29.64 AH
 862+12.96 BK = 861+91.26 AH
 873+74.95 BK = 873+69.10 AH
 881+34.56 BK = 881+51.82 AH
 912+97.86 BK = 912+94.70 AH
 951+83.65 BK = 963+91.30 AH
 973+93.57 BK = 973+98.06 AH
 990+01.20 BK = 990+00.88 AH
 1015+92.92 BK = 1015+95.07 AH
 1065+27.02 BK = 1065+27.65 AH
 1097+11.74 BK = 1096+24.38 AH
 1177+42.73 BK = 1177+44.00 AH
 1243+95.51 BK = 1243+97.84 AH
 1301+41.57 BK = 1301+47.68 AH

TH 78 REF. PTS. TO STATION

R.P. 23 = 91+73	R.P. 36 = 779+61
R.P. 24 = 144+27	R.P. 37 = 832+10
R.P. 25 = 196+79	R.P. 38 = 885+57
R.P. 26 = 249+96	R.P. 39 = 938+83
R.P. 27 = 308+20	R.P. 40 = 1004+26
R.P. 28 = 357+52	R.P. 41 = 1056+53
R.P. 29 = 411+56	R.P. 42 = 1108+73
R.P. 30 = 463+79	R.P. 43 = 1161+08
R.P. 31 = 516+57	R.P. 44 = 1214+03
R.P. 32 = 569+66	R.P. 45 = 1266+95
R.P. 33 = 621+98	R.P. 46 = 1319+99
R.P. 34 = 674+60	R.P. 47 = 1372+81
R.P. 35 = 726+90	

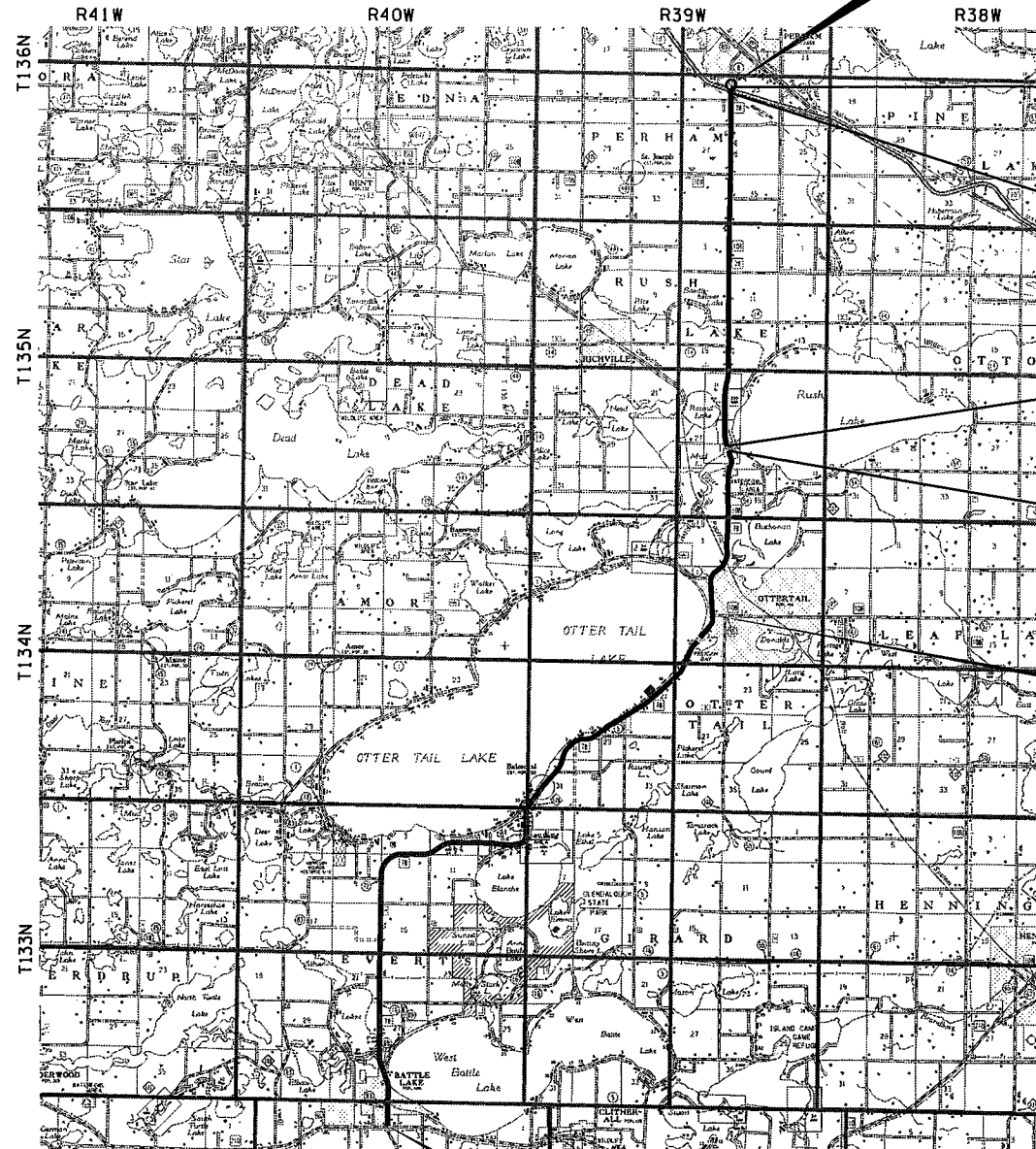
SCALES

INDEX MAP 1"=10000'
 GENERAL LAYOUT 1"=500'

PLAN REVISIONS		
DATE	SHEET NO.	APPROVED BY

STATE PROJ. NO. 5620-24 (TH 78)
 GROSS LENGTH 77626.05 FEET 14.702 MILES
 BRIDGES-LENGTH FEET MILES
 EXCEPTIONS-LENGTH FEET MILES
 NET LENGTH 77626.05 FEET 14.702 MILES
 REF. POINT 21+00.543 TO REF. POINT 36+00.379

STATE PROJ. NO. 5621-23 (TH 78)
 GROSS LENGTH 57875.57 FEET 10.961 MILES
 BRIDGES-LENGTH 454.00 FEET 0.086 MILES
 EXCEPTIONS-LENGTH FEET MILES
 NET LENGTH 57875.57 FEET 10.961 MILES
 REF. POINT 36+00.379 TO REF. POINT 47+00.265



T.H. 78 STA. 1390+05.61
 END S.P. 5621-23

BEGIN S.P. 5621-23
 END S.P. 5620-24
 T.H. 78 STA. 799+29.50

BEGIN S.P. 5620-24
 T.H. 78 STA. 15+01.90

FOR PLANS AND UTILITIES SYMBOLS SEE TECHNICAL MANUAL

STATE PROJ. NO.	CHARGE IDENTIFIER
5621-23
5620-24
.....
.....

DESIGN DESIGNATION

Design ESALS 2009 = 1,076,000

ADT (Current Year) 2011 = 5600 Design Speed 60 MPH
 ADT (Future Year) 2031 = 7300 Based on STOPPING Sight Distance

DHV (Design Hr. Val.) = 875 Height of eye 3.5' Height of object 2.0'
 D (Directional Distr.) = 40/60 % Design Speed not achieved at: Locally Restricted
 T (Heavy Commercial) = 5.3 % STA. TO STA. MPH
 STA. TO STA. MPH



PROJECT LOCATION
 COUNTY : OTTER TAIL
 DISTRICT : 4

S.P. 5620-24 (TH 78 = 180)
 STATE PROJ. NO. 5621-23 (TH 78 = 181)

SHEET NO. 1 OF 77 SHEETS

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STATEMENT OF ESTIMATED QUANTITIES

SHEET NO.	ITEM NO.	DESCRIPTION	UNITS	TOTAL ESTIMATED QUANTITIES	SP 5620-24 (1)	SP 5621-23	100% CITY
15	2360.503	TYPE SP 12.5 WEARING COURSE MIXTURE (3,B) 2.5" THICK	SO YD	4792	1945	2847	
29A	2411.501	STRUCTURAL CONCRETE (1A43)	CU YD	23	23		
16	2411.501	STRUCTURAL CONCRETE (3A34)	CU YD	3	3		
16	2411.541	REINFORCEMENT BARS	POUND	224	224		
18,27	2411.602	PLUG & ABANDON CATTLE PASS	EACH	1	1		
16,29	2411.607	CONCRETE STEPS	CU YD	30	30		
29A	2411.618	MODULAR BLOCK RETAINING WALL	SO FT	677	677		
29A	2411.618	ANTI-GRAFFITI COATING	SO FT	832	832		
29A	2451.501	STRUCTURE EXCAVATION CLASS U	CU YD	64 (P)	64		
18	2451.509	AGGREGATE BEDDING (CV)	CU YD	715 (P)	259	456	
	2478.601	ORGANIC ZINC-RICH PAINT SYSTEM (OLD) (2)	LUMP SUM	1	1		
18	2501.511	24" RC PIPE CULVERT	LIN FT	706	248	458	
18	2501.511	24" RC PIPE CULVERT CLASS V-JACKED	LIN FT	110		110	
18	2501.511	36" RC PIPE CULVERT	LIN FT	130	48	82	
18	2501.515	24" RC PIPE APRON	EACH	4	2	2	
18	2501.569	24" RC SAFETY APRON	EACH	20	6	14	
18	2501.569	36" RC SAFETY APRON	EACH	4	2	2	
18	2501.602	PLUG FILL & ABANDON PIPE CULVERT	EACH	1		1	
	2502.521	4" TP PIPE DRAIN (3)	LIN FT	175	175		
18	2503.541	12" RC PIPE SEWER DESIGN 3006	LIN FT	509	509		
18	2503.541	15" RC PIPE SEWER DESIGN 3006	LIN FT	352	352		
18	2503.541	18" RC PIPE SEWER DESIGN 3006	LIN FT	224	224		
18	2503.541	24" RC PIPE SEWER DESIGN 3006	LIN FT	328	328		
SW4	2503.602	CONNECT TO EXISTING SANITARY SEWER	EACH	5			5
18	2503.602	CONNECT TO EXISTING STORM SEWER	EACH	4	4		
SW4	2503.602	CONNECT TO EXISTING SANITARY SEWER SERVICE	EACH	15			15
SW4	2503.602	PLUG & ABANDON PIPE SEWER (4)	EACH	1			1
SW4	2503.602	8" PIPE PLUG	EACH	1			1
SW4	2503.602	8"X4" PVC WYE	EACH	15			15
SW4	2503.603	8" PVC PIPE SEWER	LIN FT	936			936
SW4	2503.603	4" PVC SANITARY SERVICE PIPE	LIN FT	604			604
SW4	2504.602	CONNECT TO EXISTING WATER MAIN	EACH	6			6
SW4	2504.602	CONNECT TO EXISTING WATER SERVICE	EACH	25			25
SW4	2504.602	HYDRANT	EACH	3			3
22	2504.602	ADJUST GATE VALVE	EACH	5			5
SW4	2504.602	0.75" CORPORATION STOP	EACH	22			22
SW4	2504.602	1.5" CORPORATION STOP	EACH	3			3
SW4	2504.602	6" GATE VALVE AND BOX	EACH	3			3
SW4	2504.602	8" GATE VALVE AND BOX	EACH	5			5
SW4	2504.602	0.75" CURB STOP & BOX	EACH	22			22
SW4	2504.602	1.5" CURB STOP & BOX	EACH	3			3
SW4	2504.603	3/4" TYPE PE PIPE	LIN FT	955			955
SW4	2504.603	1 1/2" TYPE PE PIPE	LIN FT	133			133
SW4	2504.603	6" PVC WATERMAIN	LIN FT	212			212
SW4	2504.603	8" PVC WATERMAIN	LIN FT	1387			1387
SW4	2504.608	DUCTILE IRON FITTINGS	POUND	881			881
18	2506.501	CONST DRAINAGE STRUCTURE DESIGN H	LIN FT	52.8	52.8		
18	2506.501	CONST DRAINAGE STRUCTURE DESIGN 48-4020	LIN FT	40.5	40.5		
18	2506.516	CASTING ASSEMBLY	EACH	21	21		
22	2506.522	ADJUST FRAME & RING CASTING	EACH	1			1
SW4	2506.602	CONST DRAINAGE STRUCTURE DESIGN SPECIAL	EACH	4			4
18	2511.501	RANDOM RIPRAP CLASS III (5)	CU YD	100	40	60	
16,28	2514.604	SLOPE PAVING SPECIAL	SO YD	5	5		
16	2521.501	4" CONCRETE WALK	SO FT	22992	22992		
16	2521.501	4" CONCRETE WALK SPECIAL	SO FT	4497	4497		
16	2521.501	6" CONCRETE WALK	SO FT	4426	4354		72

CONSTRUCTION NOTES:

(P) DENOTES PLANNED QUANTITY.

- (1) SEE AGREEMENT *03276 FOR LUMP SUM AGREEMENT.
- (2) PAINT EXISTING ORNAMENTAL METAL RAILING ON RETAINING WALL (STA 59+75 RT - 66+50 RT).
- (3) TO BE PLACED AT BASE OF MODULAR BLOCK RETAINING WALL. SEE STANDARD PLANS FOR PIPE LOCATION. SEE SHEET 29A FOR RETAINING WALL LOCATION.
- (4) INCLUDES FILLING.
- (5) FILTER IS INCIDENTAL.

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3/12/2013

This particular project includes a mill and inlay through part of town. The "Concrete Walk" and "Concrete Curb & Gutter" pay items are used in the mill and inlay segment. Traditional pay items (4" or 6" Concrete Walk and Concrete Curb & Gutter Design xxxx) are used for reconstruction projects.

CONSTRUCTION NOTES:

(P) DENOTES PLANNED QUANTITY.

(1) SEE AGREEMENT *03276 FOR LUMP SUM AGREEMENT.

(2) TO BE PLACED IN TREE GRATES (SEE DETAIL ON SHEET 27) AND AT 38+72 LT TO 39+07 LT.

SHEET NO.	ITEM NO.	DESCRIPTION	UNIT	QTY	PLANNED QTY	EST. QTY	PLANNED QTY
16	2521.618	CONCRETE WALK					
16	2531.501	CONCRETE CURB & GUTTER DESIGN B624	LIN FT	2639		2614	25
16	2531.501	CONCRETE CURB & GUTTER DESIGN D424	LIN FT	52		52	
16	2531.502	CONCRETE CURB DESIGN V6	LIN FT	26		26	
16	2531.507	8" CONCRETE DRIVEWAY PAVEMENT	SO YD	568		568	
16	2531.603	CONCRETE CURB & GUTTER	LIN FT	175		175	
16	2531.618	TRUNCATED DOMES	SO FT	458		438	20
17	2540.602	MAIL BOX SUPPORT	EACH	225		159	66
16	2540.603	METAL RAILING	LIN FT	86		86	
14	2554.501	TRAFFIC BARRIER DESIGN SPECIAL	LIN FT	200			200
14	2554.501	TRAFFIC BARRIER DESIGN B8338	LIN FT	675			675
18	2554.509	GUIDE POST TYPE B	EACH	26		8	18
14	2554.523	END TREATMENT-ENERGY ABSORBING TERMINAL	EACH	8			8
17	2557.603	INSTALL WOVEN WIRE FENCE	LIN FT	320		320	
16,28	2557.603	ORNAMENTAL IRON FENCE	LIN FT	154		154	
	2563.601	TRAFFIC CONTROL	LUMP SUM	1		0.59	0.37
	2563.601	TEMPORARY PEDESTRIAN ACCESS CONTROL	LUMP SUM	1			1
	2563.601	DETOUR SIGNING	LUMP SUM	1			1
	2563.602	PORTABLE CHANGEABLE MESSAGE SIGN	EACH	4			4
S6	2564.531	SIGN PANELS TYPE C	SO FT	187		162	25
S6	2564.531	SIGN PANELS TYPE D	SO FT	90		90	
S6	2564.537	INSTALL SIGN TYPE C	EACH	7		3	4
S6	2564.537	INSTALL SIGN TYPE D	EACH	1		1	
17	2571.602	TREE GRATE	EACH	4		4	
19	2573.502	SILT FENCE, TYPE MACHIN		7059		3026	4033
18	2573.530	STORM DRAIN INLET PROT		13		13	
18,26,35	2573.602	CULVERT PROTECTION		15		6	9
19	2575.501	SEEDING		3.6		1.2	2.4
19	2575.502	SEED MIXTURE 250		251		82	169
19	2575.505	SODDING TYPE LAWN		819		819	
19	2575.511	MULCH MATERIAL TYPE 1		7.2		2.4	4.8
19	2575.519	DISK ANCHORING	ACRE	3.6		1.2	2.4
19	2575.523	EROSION CONTROL BLANKETS CATEGORY 3	SO YD	356		148	208
19	2575.532	FERTILIZER TYPE 3	POUND	1257		410	847
16	2575.602	SITE RESTORATION	EACH	9		8	1
	2575.604	MULCH MATERIAL TYPE SPECIAL (2)	SO YD	14		14	
	2580.601	INTERIM PAVEMENT MARKING	LUMP SUM	1			1
14	2582.501	PAVEMENT MESSAGE (LT ARROW) POLY PREF-GR IN	EACH	14		14	
14	2582.501	PAVEMENT MESSAGE (RT ARROW) POLY PREF-GR IN	EACH	5		1	4
14	2582.501	PAVEMENT MESSAGE (THRU ARROW) POLY PREF-GR IN	EACH	1			1
14	2582.501	PAVEMENT MESSAGE (SCHOOL XING) POLY PREF-GR IN	EACH	2		2	
14	2582.501	PAVEMENT MESSAGE (STOP AHEAD) POLY PREF-GR IN	EACH	2		2	
14	2582.501	PAVEMENT MESSAGE (RR XING) POLY PREF-GR IN	EACH	2			2
14	2582.502	24" STOP LINE WHITE-POLY PREF (GR IN)	LIN FT	132		60	72
14	2582.502	4" SOLID LINE WHITE-EPOXY (GROUND IN)	LIN FT	15530		11515	4015
14	2582.502	8" DOTTED LINE WHITE-EPOXY (GROUND IN)	LIN FT	366		213	153
14	2582.502	4" SOLID LINE YELLOW-EPOXY (GROUND IN)	LIN FT	29190		21200	7990
14	2582.502	24" SOLID LINE YELLOW-EPOXY (GROUND IN)	LIN FT	103		95	8
14	2582.502	4" BROKEN LINE YELLOW-EPOXY (GROUND IN)	LIN FT	24650		14220	10430
14	2582.502	4" DBLE SOLID LINE YELLOW-EPOXY (GR IN)	LIN FT	12960		8750	4210
14	2582.503	CROSSWALK MARKING-POLY PREFORM (GR IN)	SO FT	1584		1584	
14	2582.603	4" SOLID LINE WHITE-EPOXY (WR)	LIN FT	258050		144135	113915

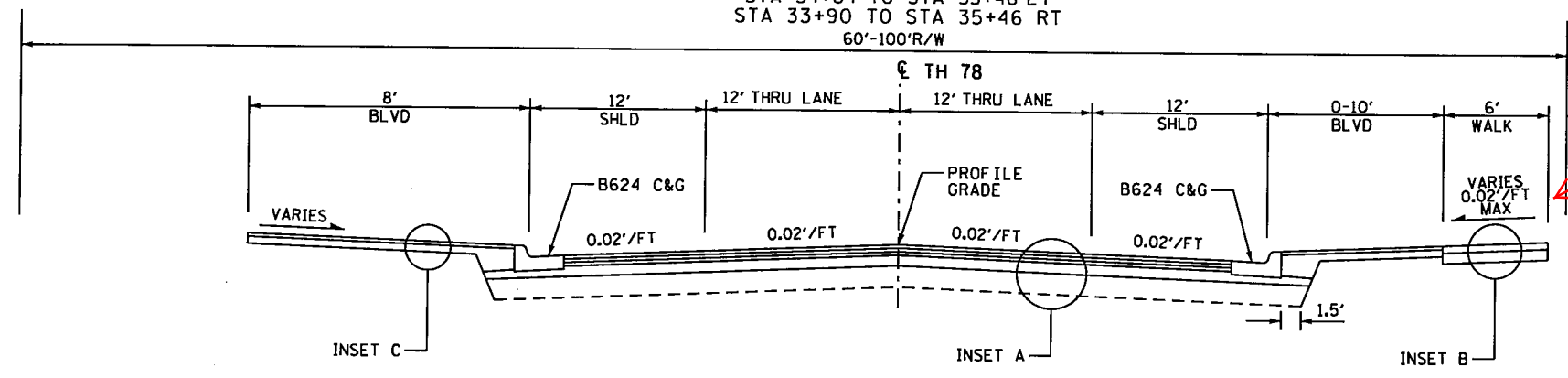
Site Restoration is used because this particular project included a mill and inlay segment. Traditional turf establishment items should be used for reconstruction projects.

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PROPOSED TYPICAL SECTION

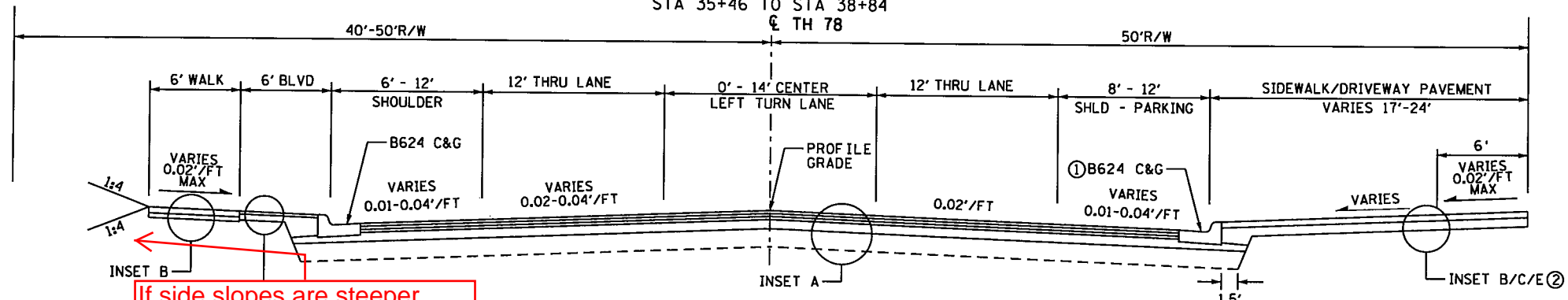
STA 34+64 TO STA 35+46 LT
 STA 33+90 TO STA 35+46 RT
 60'-100'R/W



PARs should be designed at 0.015 cross slope. Where 0.02 must be used, it must be communicated as "0.020 MAX" considering MnDOT Spec 1503. This applies to all types of projects (i.e. it is not exclusive to reconstruction projects).

PROPOSED TYPICAL SECTION

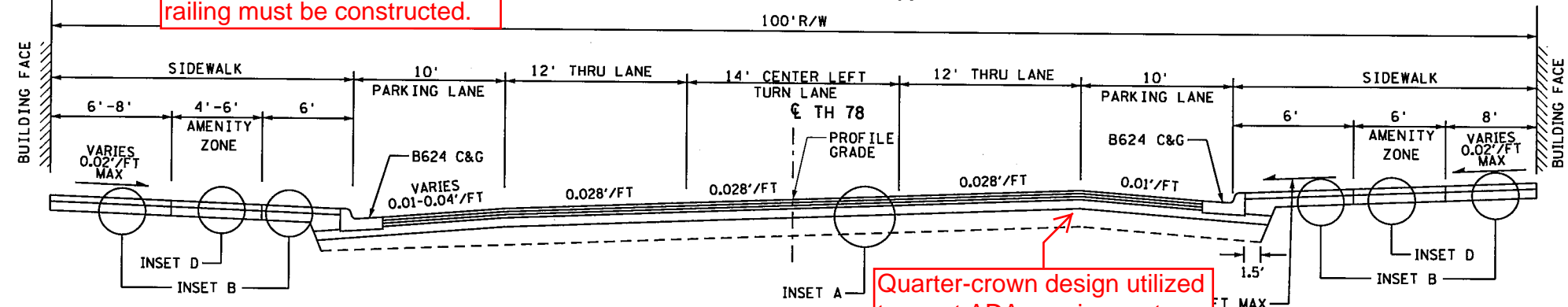
STA 35+46 TO STA 38+84
 CL TH 78
 40'-50'R/W



If side slopes are steeper than 1:3, a 4 ft level grass/vegetated buffer or 42+" high railing must be constructed.

PROPOSED TYPICAL SECTION

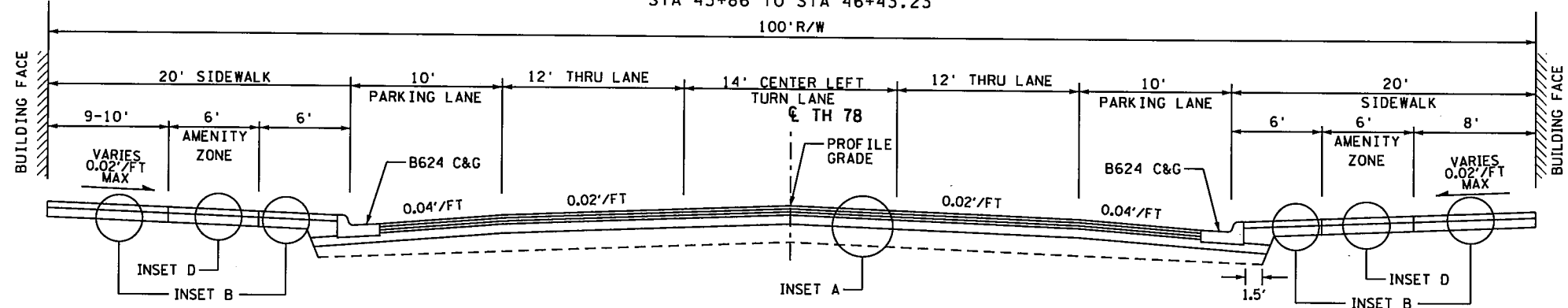
STA 38+84 TO STA 43+86
 100'R/W



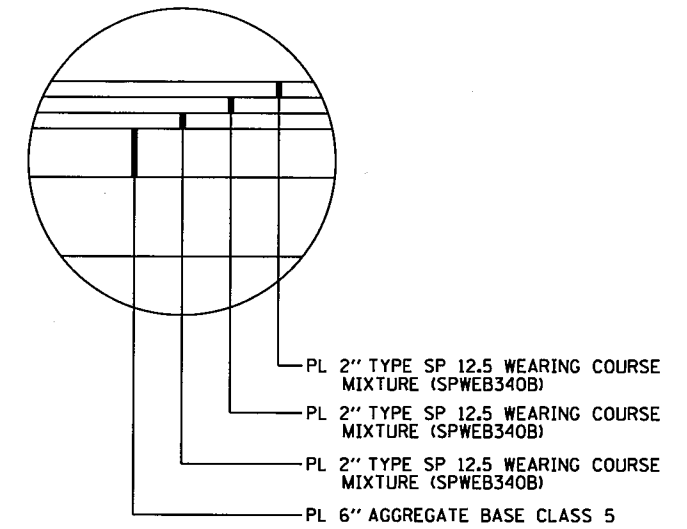
Quarter-crown design utilized to meet ADA requirements along the sidewalks.

PROPOSED TYPICAL SECTION

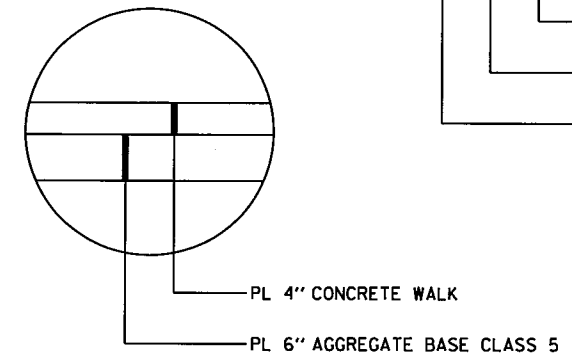
STA 43+86 TO STA 46+43.23
 100'R/W



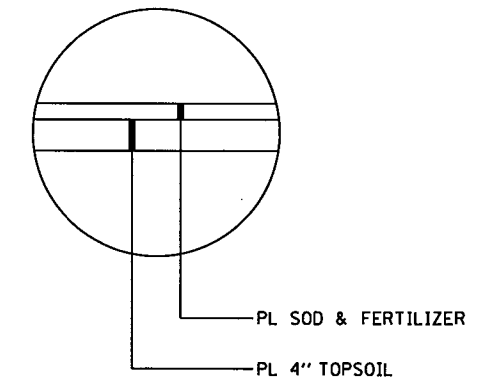
INSET A



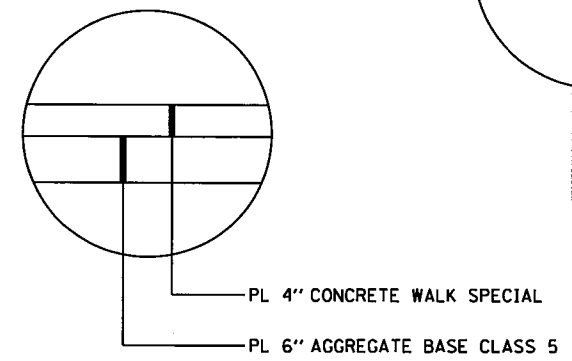
INSET B



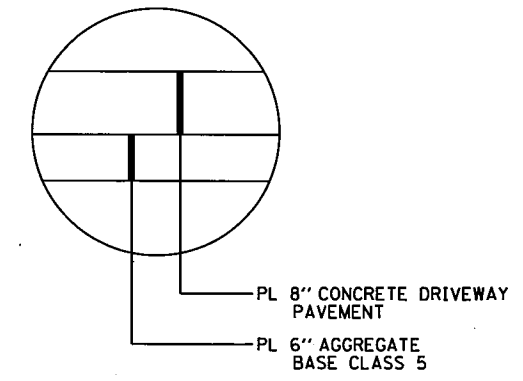
INSET C



INSET D



INSET E



- ① D424 C&G STA 36+11 TO 36+63
- ② SEE CONSTRUCTION PLANS FOR CONCRETE DRIVEWAY LOCATIONS

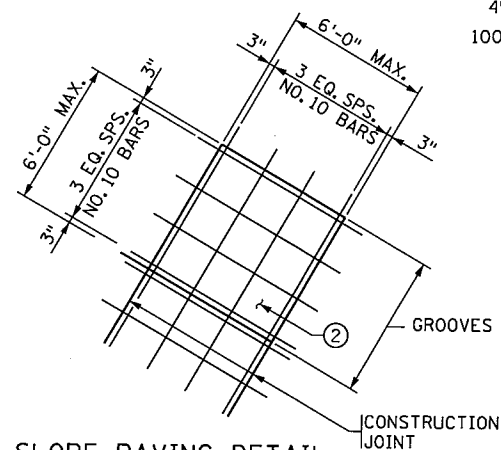
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REV.	BY	DATE	STATE PROJECT NO. 5621-23	SHEET
			TH 78 BATTLE LAKE TO PERHAM	11
			TYPICAL SECTIONS	OF
				77

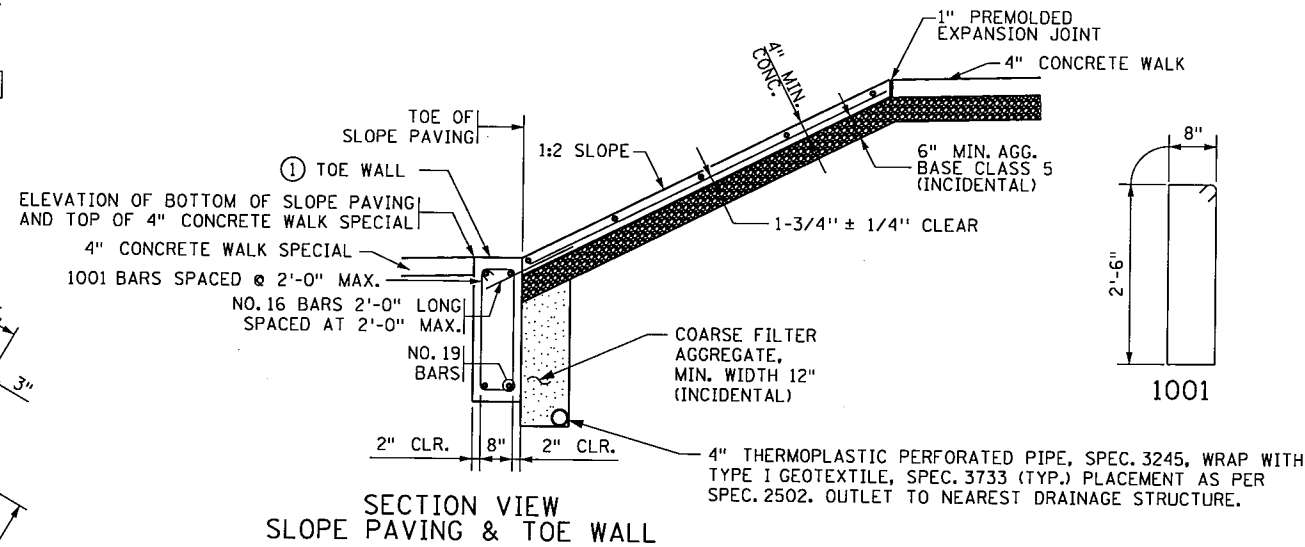
**CONCRETE & REINFORCEMENT
UNIT QUANTITIES:**

ALL REBARS ARE IN METRIC DESIGNATIONS

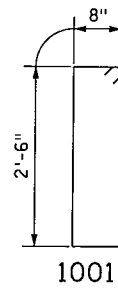
- ① 0.111 CU. YD. OF CONCRETE/LIN. FT.
8.37 LBS. OF REINFORCEMENT/LIN. FT.
- ② 0.111 CU. YD. OF CONCRETE/SQ. YD.
4.50 LBS. OF REINFORCEMENT/SQ. YD.



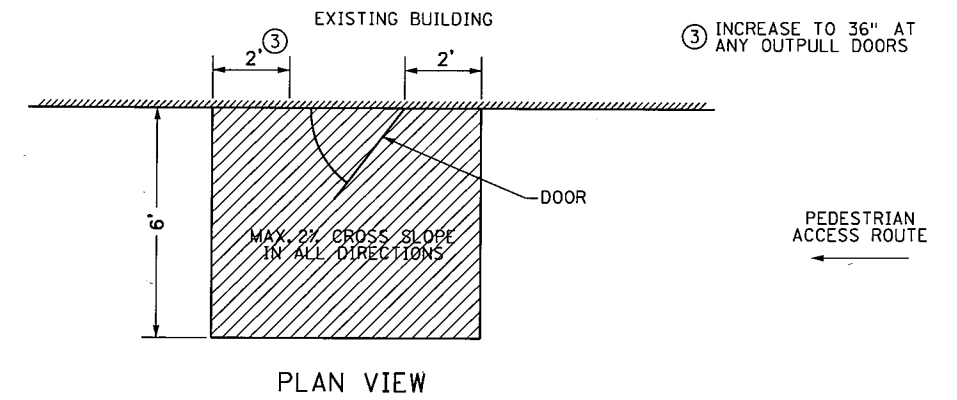
SLOPE PAVING DETAIL
SLOPE PAVING AS PER SPEC. 2514.



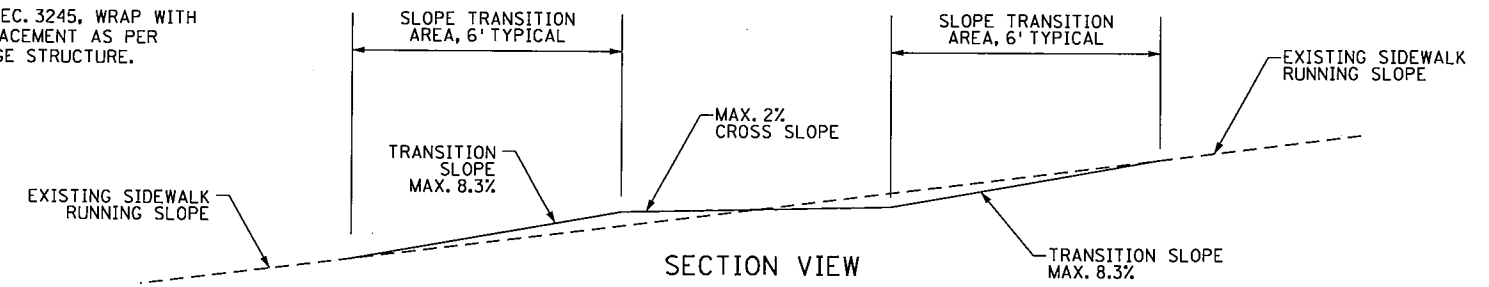
**SECTION VIEW
SLOPE PAVING & TOE WALL**



1001



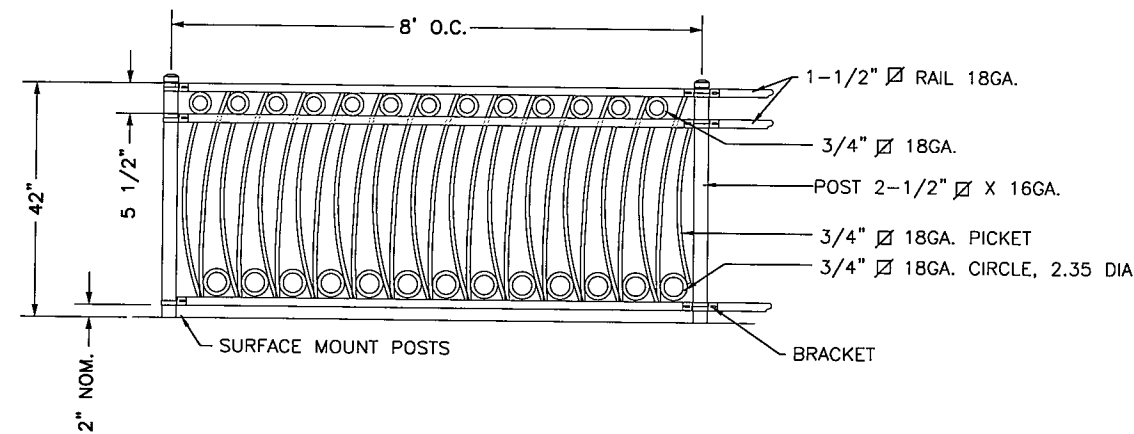
PLAN VIEW



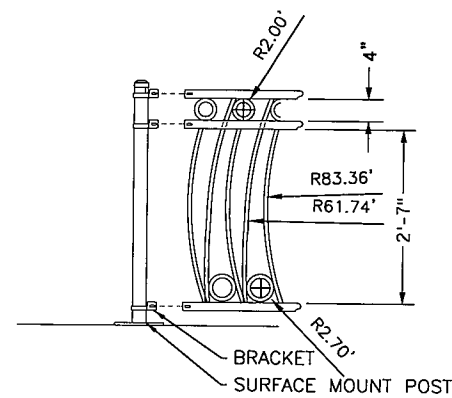
SECTION VIEW

**SIDEWALK SLOPE TRANSITION
DETAIL AT BUILDING ENTRANCES**

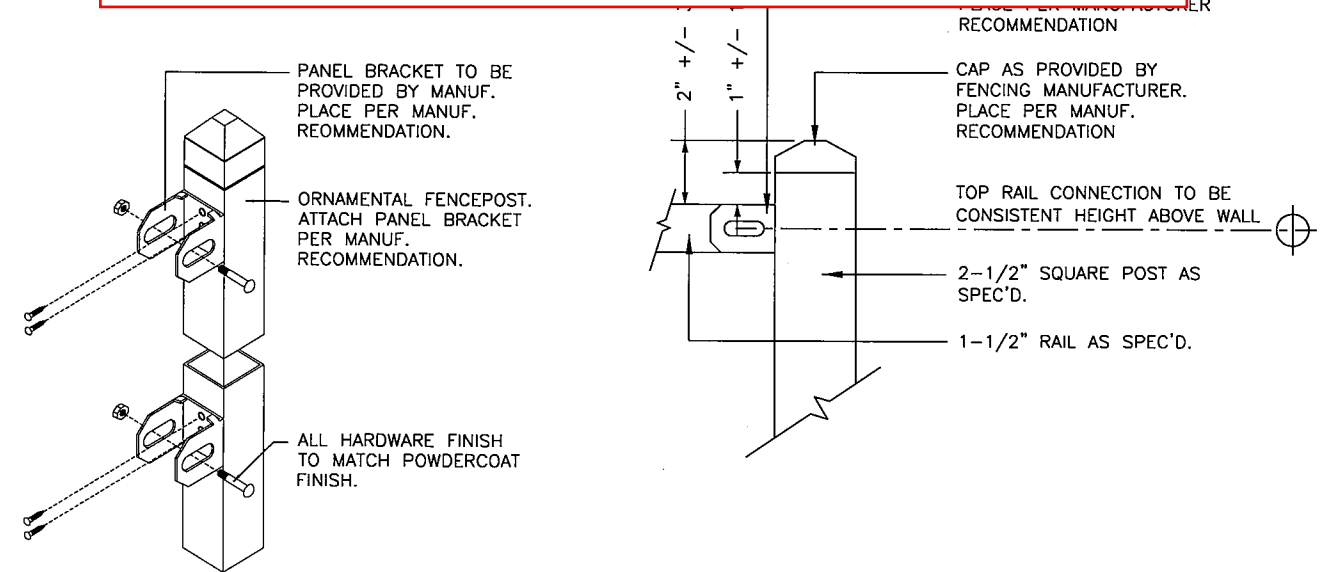
Review Sections 402 through 405 (pages 117-130) of Department of Justice's 2010 ADA Standards for design requirements at building entrances.
<http://www.ada.gov/regs2010/2010ADAStandards/2010ADAStandards.pdf>



ORNAMENTAL IRON FENCE



PICKET LAYOUT DETAIL

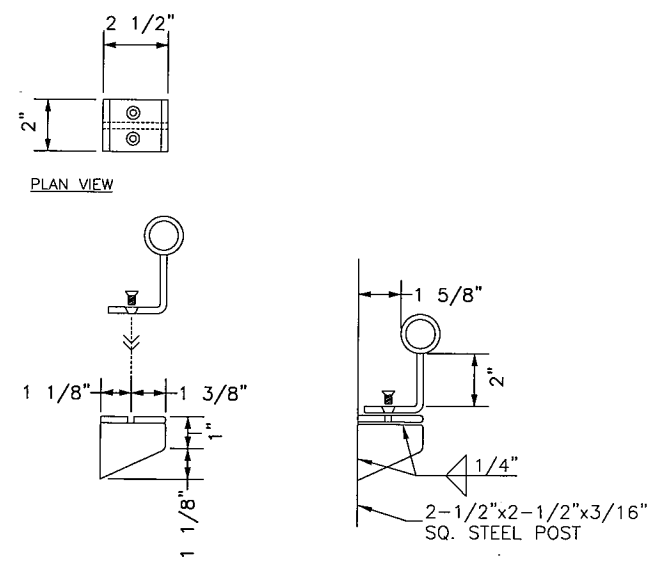
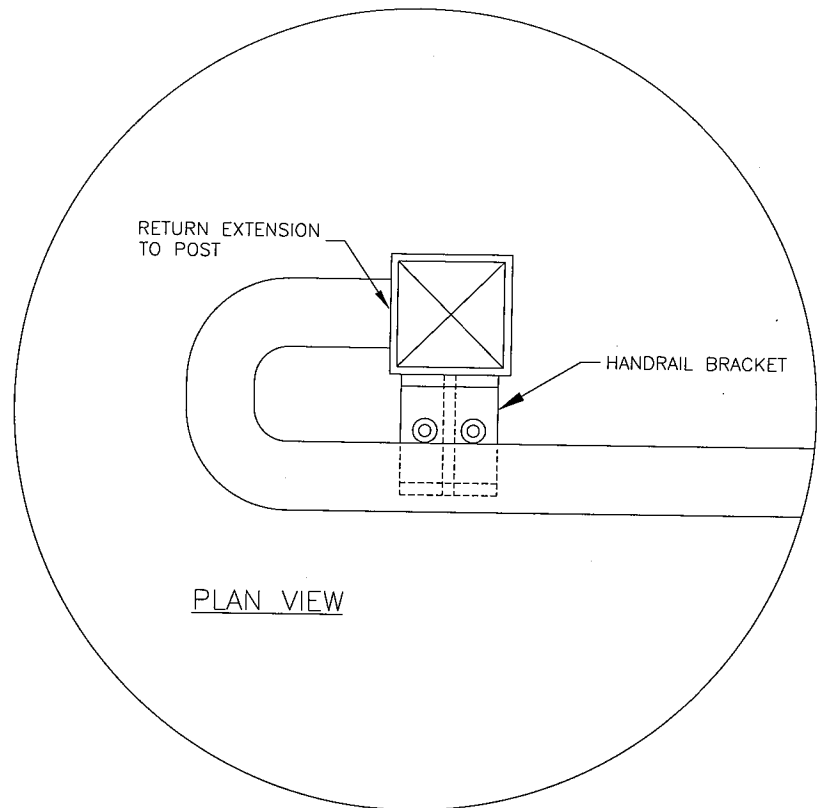


FENCE POST CONNECTION

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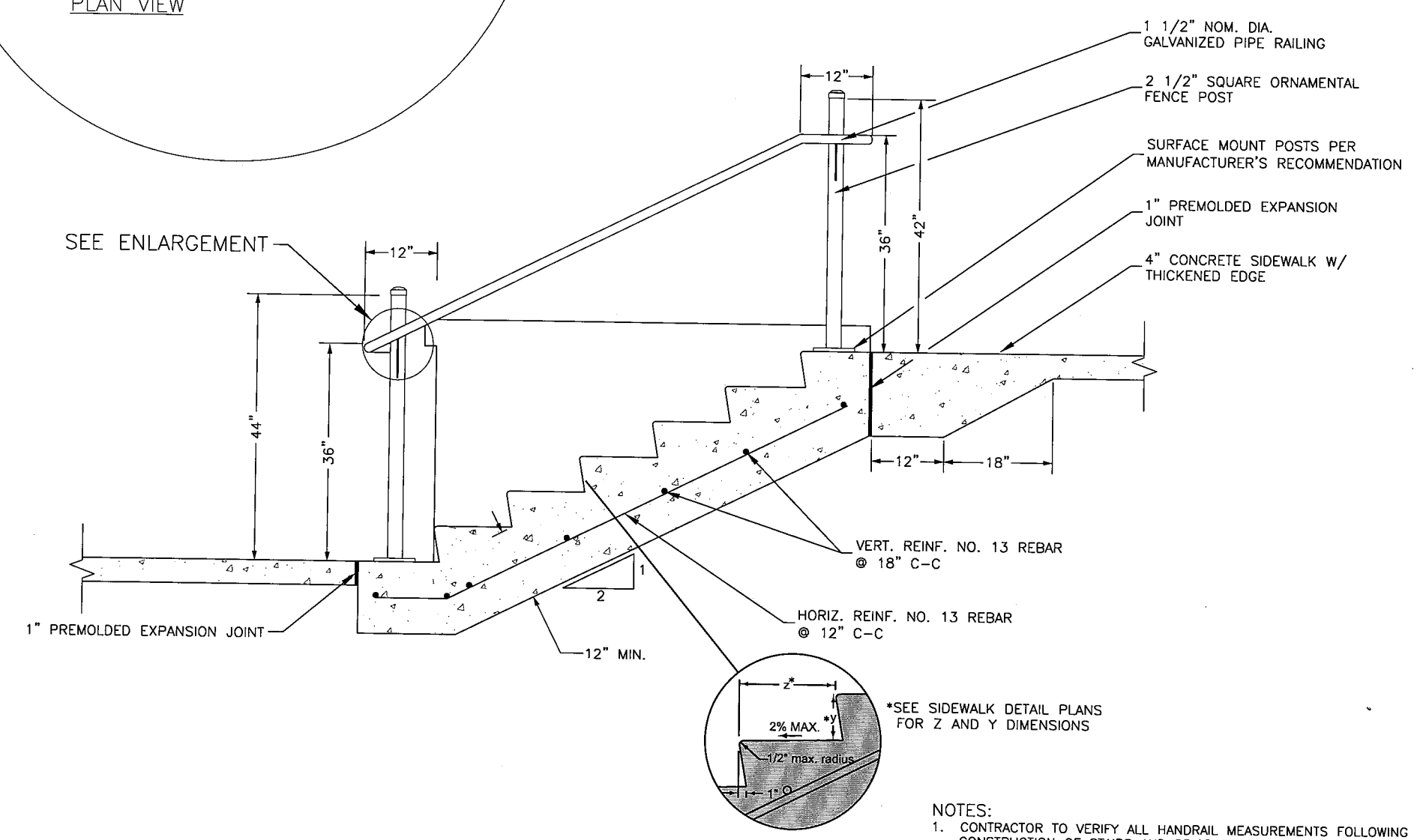
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REV.	BY	DATE	STATE PROJECT NO. 5621-23	SHEET
			TH 78 BATTLE LAKE TO PERHAM	28
			DESIGN DETAILS	OF
				77



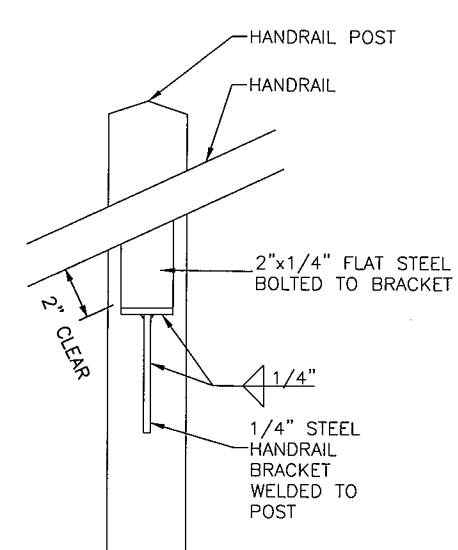
NOTES:
ALL HANDRAIL BRACKETS SHALL HAVE SMOOTH AND CONTINUOUS WELDS AND SHALL FOLLOW MATERIALS NOTED UNLESS OTHERWISE STATED.

SECTION: HANDRAIL BRACKET



NOTES:
1. CONTRACTOR TO VERIFY ALL HANDRAIL MEASUREMENTS FOLLOWING CONSTRUCTION OF STAIRS AND PRIOR TO FABRICATION.

TYPICAL STEPS & RAILING SECTION



HANDRAIL ELEVATION

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

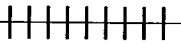
REV.	BY	DATE	SHEET
			29
			OF
			77

STATE PROJECT NO. 5621-23
TH 78 BATTLE LAKE TO PERHAM
DESIGN DETAILS

LARRY'S SUPERMARKET



LEGEND

	REMOVE CONCRETE DRIVEWAY PAVEMENT		REMOVE CURB AND GUTTER
	REMOVE BITUMINOUS PAVEMENT		REMOVE DRAINAGE STRUCTURE
			REMOVE SEWER PIPE (STORM)

GILBERTSON ST W

HOLDT ST W
(CR 83)

COORDINATE WITH ENGINEER FOR PAVEMENT REMOVAL LIMITS FOR STORM SEWER CONSTRUCTION. SEE DRAINAGE PLANS.

SAWCUT (BIT.)

SAWCUT (BIT.)

€ TH 78

SAWCUT (BIT.)

34

MILL & OVERLAY

SAWCUT (BIT.)

35

36

MATCHLINE STA 36+20

COORDINATE WITH ENGINEER FOR PAVEMENT REMOVAL LIMITS FOR WATERMAIN CONSTRUCTION. SEE SANITARY SEWER AND WATERMAIN PLANS.

SAWCUT (BIT.)

SAWCUT (BIT.)

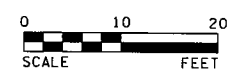
BEGIN RECONSTRUCTION
STA. 34+64.00

DAIRY QUEEN

STUB'S

SAWCUT (BIT.)

BLOCK RETAINING WALL
EVERTS LUMBER



REV.	BY	DATE	STATE PROJECT NO. 5621-23	SHEET
			TH 78 BATTLE LAKE TO PERHAM	51
			REMOVAL PLAN SHEET	OF
				77

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EVERTS LUMBER

BATTLE LAKE CHIROPRACTIC

HENNING ST W

YE OLDE STATION

REMOVE 7 LF RETAINING WALL
PROTECT REMAINING WALL

CONCRETE RETAINING WALL

SAWCUT (CONC.) ①

SAWCUT (BIT.)

SAWCUT (BIT.)

SAWCUT (CONC.) ①

MATCHLINE STA 36+20

MATCHLINE STA 39+20

TH 78

37

38

39

All "Protect..." notes should be included on Removal Plans.

① SAWCUT (CONC.)

① SAWCUT (CONC.)

SAWCUT (BIT.)

PROTECT EXISTING ENTRANCE AREA

PROTECT EXISTING WOOD DOOR FRAME

CONCRETE RETAINING WALL






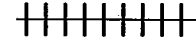

BLOCK RETAINING WALL
STEPS

SALVAGE BRICK PAVERS

OLD BRICK INN

THE MAIN ATTRACTION

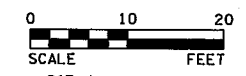
LEGEND

-  REMOVE CONCRETE WALK
-  REMOVE CONCRETE DRIVEWAY PAVEMENT
-  REMOVE BITUMINOUS PAVEMENT
-  REMOVE CURB AND GUTTER
-  REMOVE DRAINAGE STRUCTURE
-  REMOVE SEWER PIPE (STORM)
-  SAWING CONCRETE WALK AND DRIVEWAY PAVEMENT IS INCIDENTAL

EVERTS LUMBER

PRAIRIE NEEDLES

HENNING ST E

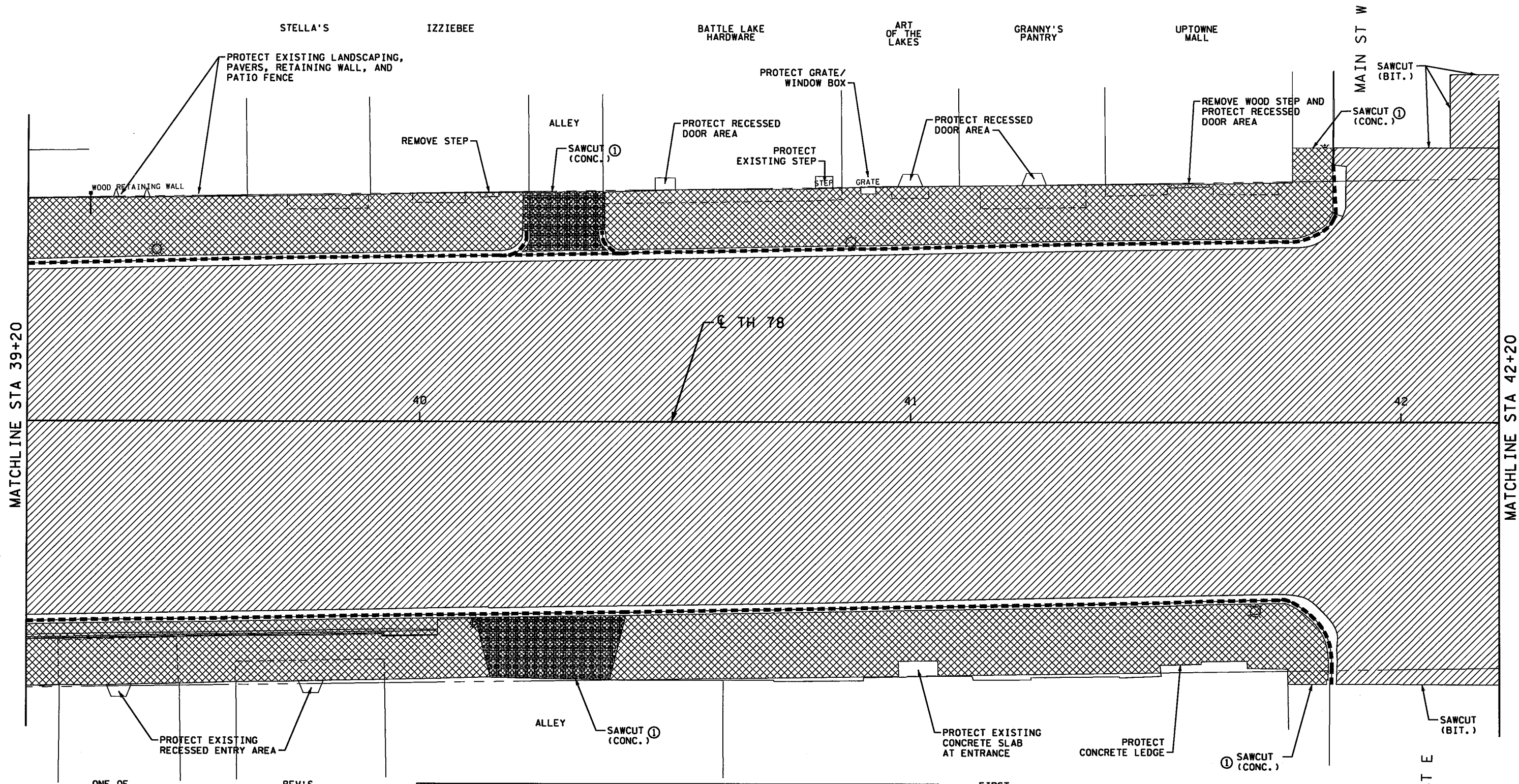


REV.	BY	DATE

STATE PROJECT NO. 5621-23
 TH 78 BATTLE LAKE TO PERHAM
 REMOVAL PLAN SHEET

SHEET
 52
 OF
 77

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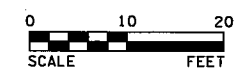
MATCHLINE STA 39+20

MATCHLINE STA 42+20

LEGEND

REMOVE CONCRETE WALK	REMOVE CURB AND GUTTER
REMOVE CONCRETE DRIVEWAY PAVEMENT	REMOVE BITUMINOUS PAVEMENT

① SAWING CONCRETE WALK AND DRIVEWAY PAVEMENT IS INCIDENTAL



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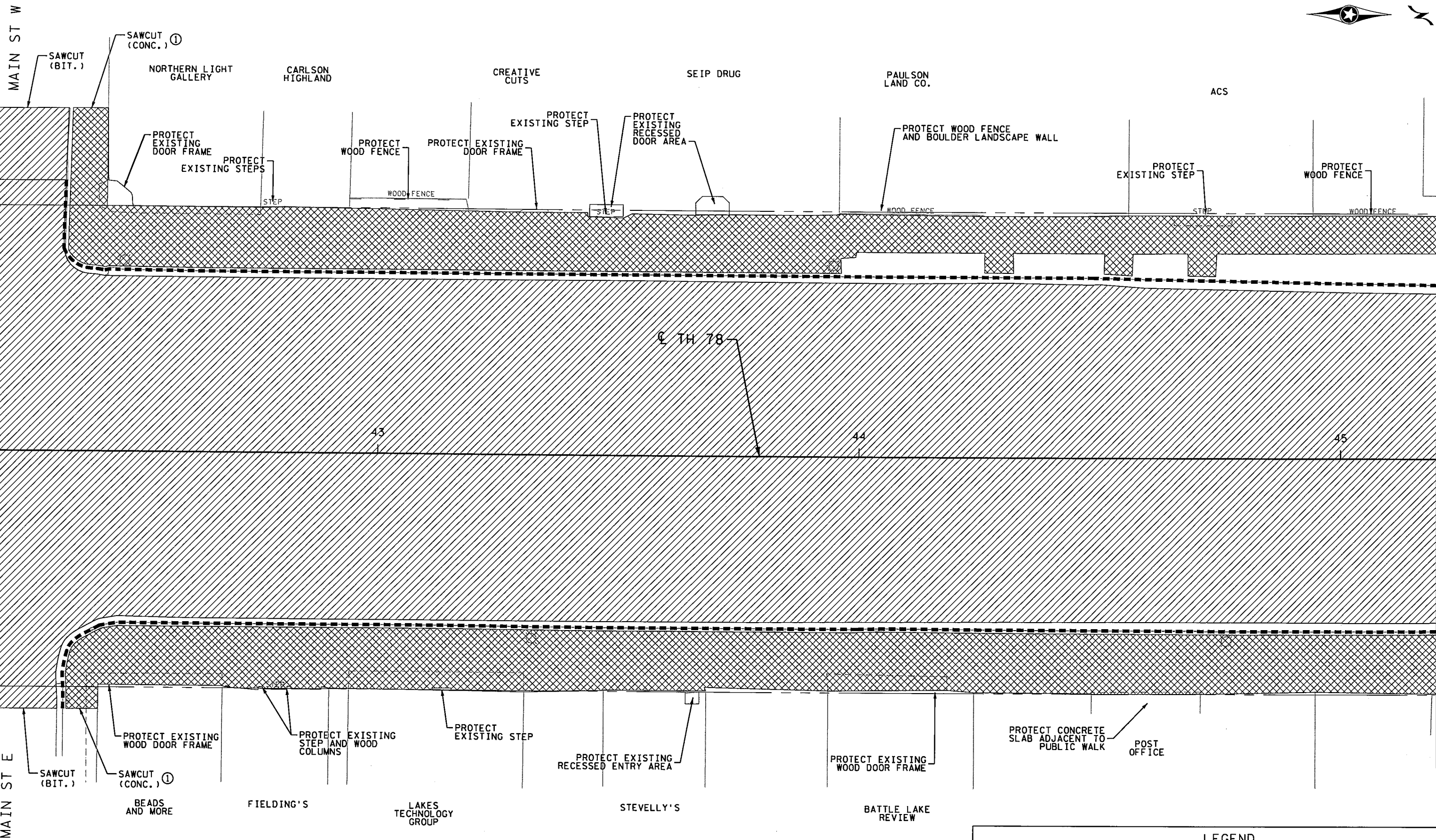
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REV.	BY	DATE	STATE PROJECT NO. 5621-23 TH 78 BATTLE LAKE TO PERHAM	SHEET 53 OF 77
			REMOVAL PLAN SHEET	

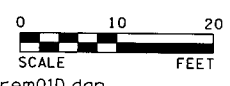


MATCHLINE STA 42+20

MATCHLINE STA 45+20

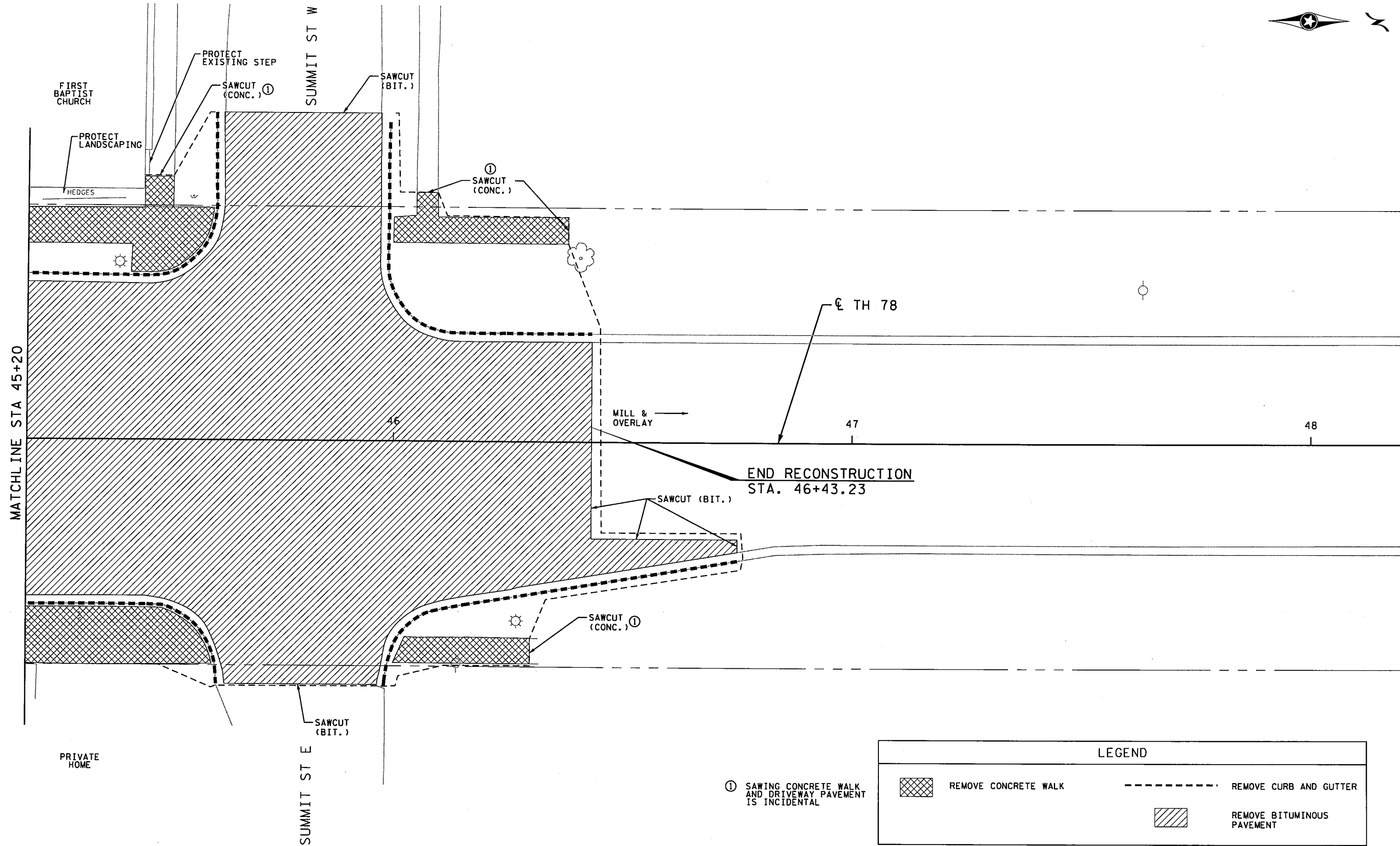


LEGEND	
	REMOVE CONCRETE WALK
	REMOVE CURB AND GUTTER
	REMOVE BITUMINOUS PAVEMENT



REV.	BY	DATE	STATE PROJECT NO. 5621-23 TH 78 BATTLE LAKE TO PERHAM REMOVAL PLAN SHEET	SHEET 54 OF 77

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MATCHLINE STA 45+20

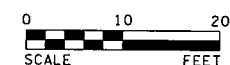
SUMMIT ST W

SUMMIT ST E

END RECONSTRUCTION
STA. 46+43.23

LEGEND	
	REMOVE CONCRETE WALK
	REMOVE CURB AND GUTTER
	REMOVE BITUMINOUS PAVEMENT

① SAWING CONCRETE WALK AND DRIVEWAY PAVEMENT IS INCIDENTAL



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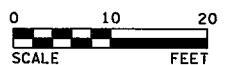
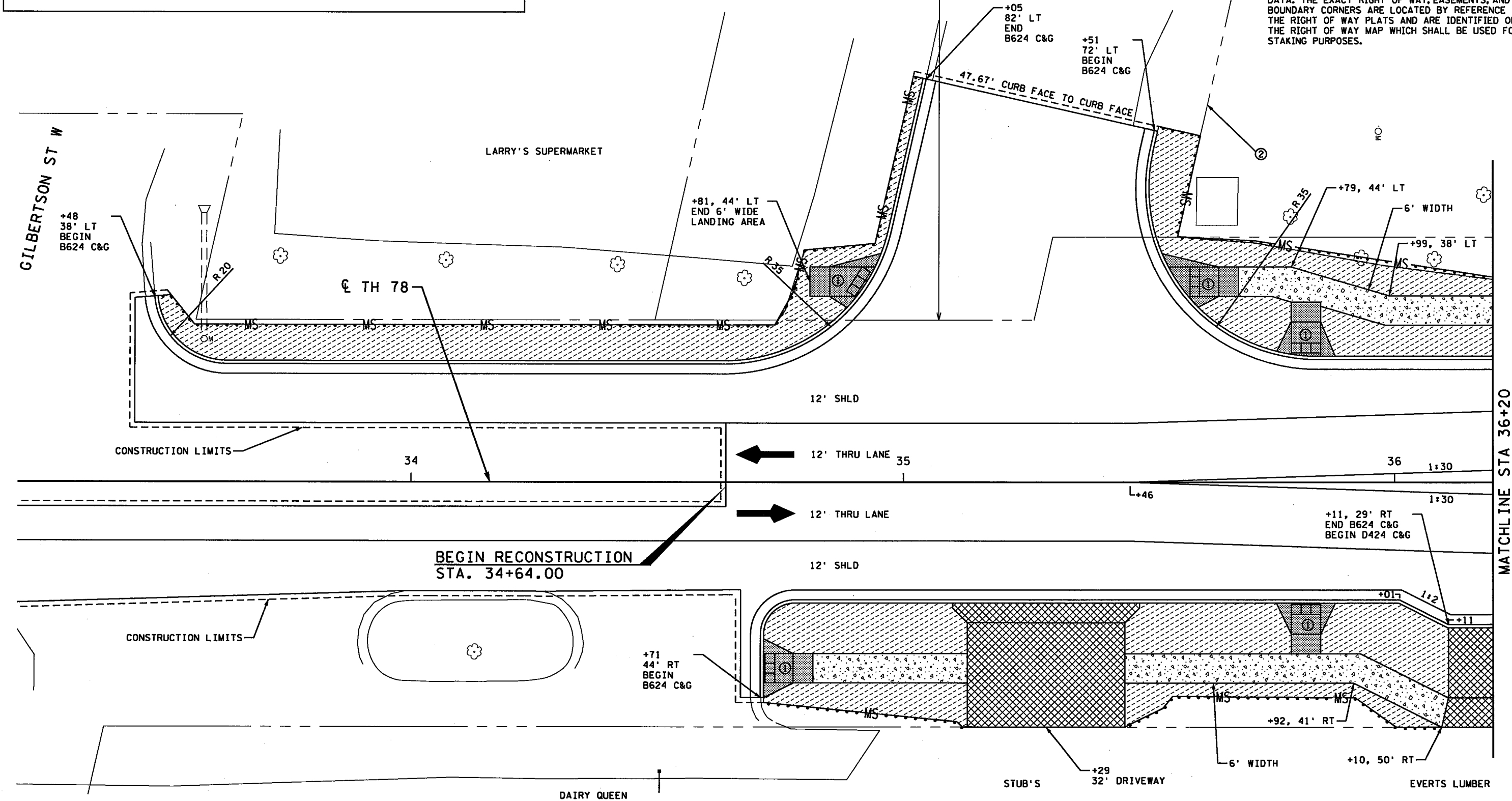
STATE PROJECT NO. 5621-23
 TH 78 BATTLE LAKE TO PERHAM
 REMOVAL PLAN SHEET

SHEET
 55
 OF
 77

LEGEND	
	4" CONCRETE WALK
	6" CONCRETE WALK
	8" CONCRETE DRIVEWAY PAVEMENT
	SOD, TYPE LAWN
	SILT FENCE, TYPE MACHINE SLICED
	EXISTING RIGHT-OF-WAY
	TRAFFIC FLOW

- NOTES**
- STREET DIMENSIONS ARE TO FACE OF CURB UNLESS OTHERWISE NOTED.
 - CURB RADII ARE 15' UNLESS OTHERWISE NOTED.
 - ① PEDESTRIAN RAMP - SEE SIDEWALK DETAIL PLANS AND QUANTITY TABULATIONS FOR ADDITIONAL INFORMATION ON RAMP LOCATIONS AND ELEVATIONS
 - ② RIGHT OF WAY BY PRESCRIPTION
 - ③ TEMPORARY COMMISSIONER'S ORDERS IN PUBLIC ROADS WILL EXPIRE ON 12-01-2015

NOTE:
 THE RIGHT OF WAY AND EASEMENTS SHOWN ON THE CONSTRUCTION SHEETS GIVE A GRAPHICAL LOCATION WITH RESPECT TO THE GEOMETRIC DESIGN AND MAP DATA. THE EXACT RIGHT OF WAY, EASEMENTS, AND BOUNDARY CORNERS ARE LOCATED BY REFERENCE TO THE RIGHT OF WAY MAP WHICH SHALL BE USED FOR STAKING PURPOSES.



REV.	BY	DATE	STATE PROJECT NO. 5621-23	SHEET
			TH 78 BATTLE LAKE TO PERHAM	56
			CONSTRUCTION PLAN SHEET	OF
				77

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MATCHLINE STA 36+20

MATCHLINE STA 39+20

EVERTS LUMBER

BATTLE LAKE CHIROPRACTIC

HENNING ST W

50' T.O. IN ROAD ⑤

YE OLDE STATION

PL 14 SQ YD MULCH MATERIAL TYPE SPECIAL

10' PARKING LANE

+46 24' DRIVEWAY

CONSTRUCTION LIMITS

+16 18' DRIVEWAY

+77 32' DRIVEWAY

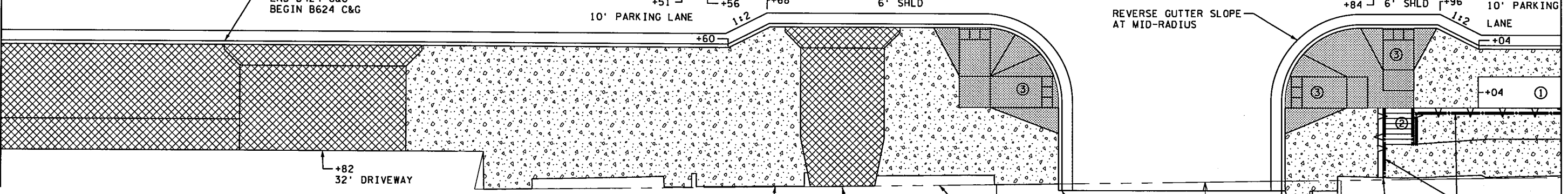
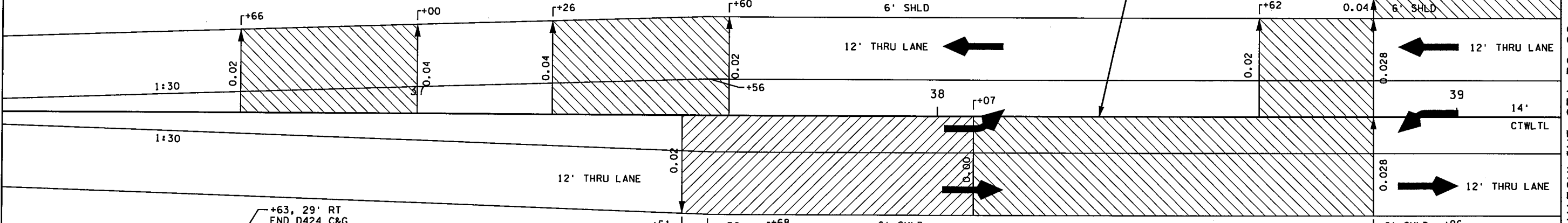
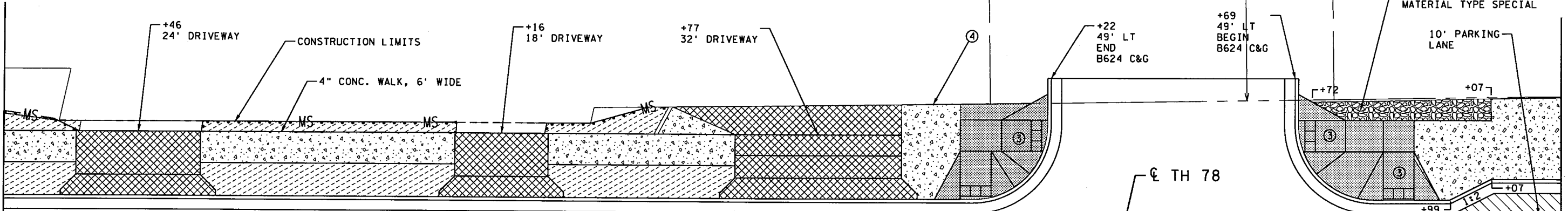
+22 49' LT END B624 C&G

+69 49' LT BEGIN B624 C&G

4" CONC. WALK, 6' WIDE

+72

+07

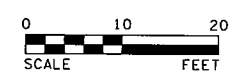


LEGEND

- 4" CONCRETE WALK
- 6" CONCRETE WALK
- 8" CONCRETE DRIVEWAY PAVEMENT
- SUPERELEVATION TRANSITION FT/FT
- SOD, TYPE LAWN
- SILT FENCE, TYPE MACHINE SLICED
- MODULAR BLOCK RETAINING WALL
- EXISTING RIGHT-OF-WAY
- METAL RAILING/FENCE
- TRAFFIC FLOW

NOTES

- STREET DIMENSIONS ARE TO FACE OF CURB UNLESS OTHERWISE NOTED.
- CURB RADII ARE 15' UNLESS OTHERWISE NOTED.
- ① 4" CONCRETE WALK SPECIAL
- ② CONCRETE STEPS
- ③ PEDESTRIAN RAMP - SEE SIDEWALK DETAIL PLANS AND QUANTITY TABULATIONS FOR ADDITIONAL INFORMATION ON RAMP LOCATIONS AND ELEVATIONS
- ④ RIGHT OF WAY BY PRESCRIPTION
- ⑤ TEMPORARY COMMISSIONER'S ORDERS IN PUBLIC ROADS WILL EXPIRE ON 12-01-2015



REV.	BY	DATE	STATE PROJECT NO. 5621-23	SHEET
			TH 78 BATTLE LAKE TO PERHAM	57
			CONSTRUCTION PLAN SHEET	OF
				77

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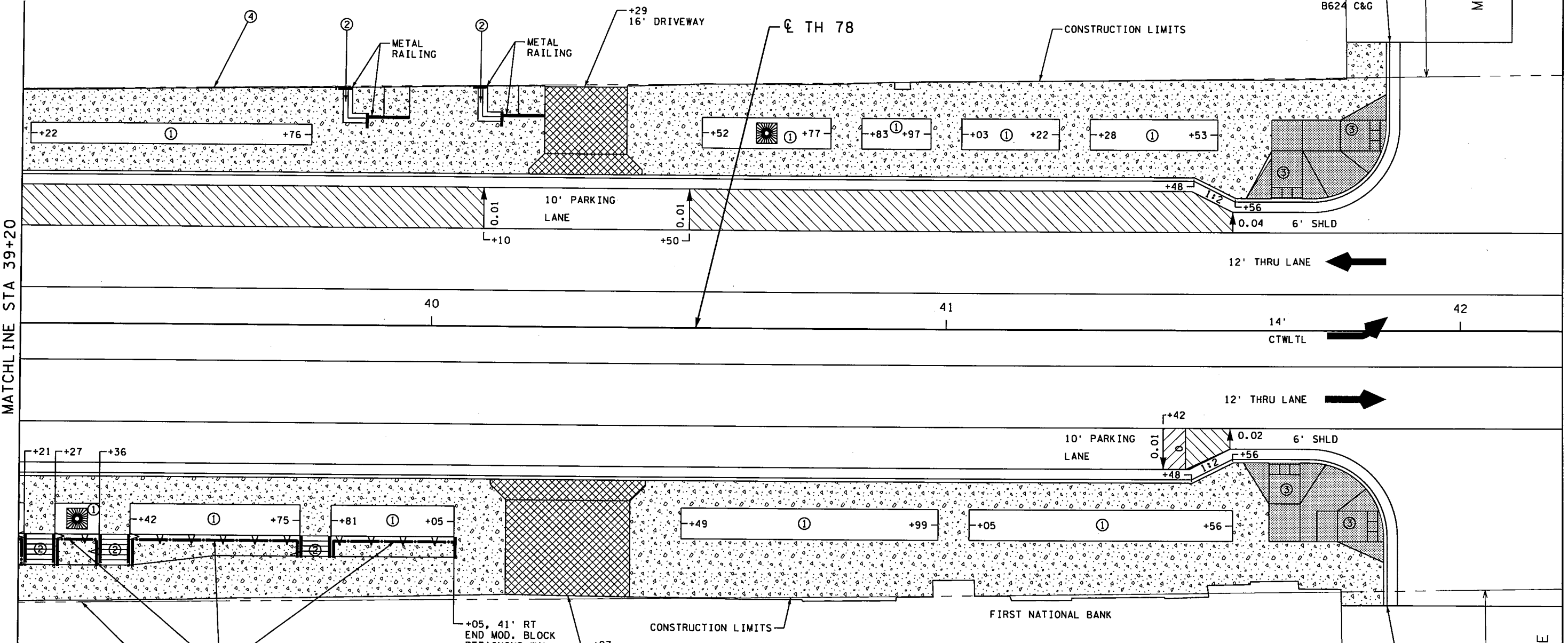


STELLA'S IZZIEBEE ALLEY BATTLE LAKE HARDWARE ART OF THE LAKES GRANNY'S PANTRY UPTOWNE MALL

50' T.O. IN ROAD ⑤

MAIN ST W

+86
56' LT
END
B624
C&G



MATCHLINE STA 39+20

MATCHLINE STA 42+20

- NOTES**
- STREET DIMENSIONS ARE TO FACE OF CURB UNLESS OTHERWISE NOTED.
 - CURB RADII ARE 15' UNLESS OTHERWISE NOTED.
 - ① 4" CONCRETE WALK SPECIAL
 - ② CONCRETE STEPS
 - ③ PEDESTRIAN RAMP - SEE SIDEWALK DETAIL PLANS AND QUANTITY TABULATIONS FOR ADDITIONAL INFORMATION ON RAMP LOCATIONS AND ELEVATIONS
 - ④ RIGHT OF WAY BY PRESCRIPTION
 - ⑤ TEMPORARY COMMISSIONER'S ORDERS IN PUBLIC ROADS WILL EXPIRE ON 12-01-2015

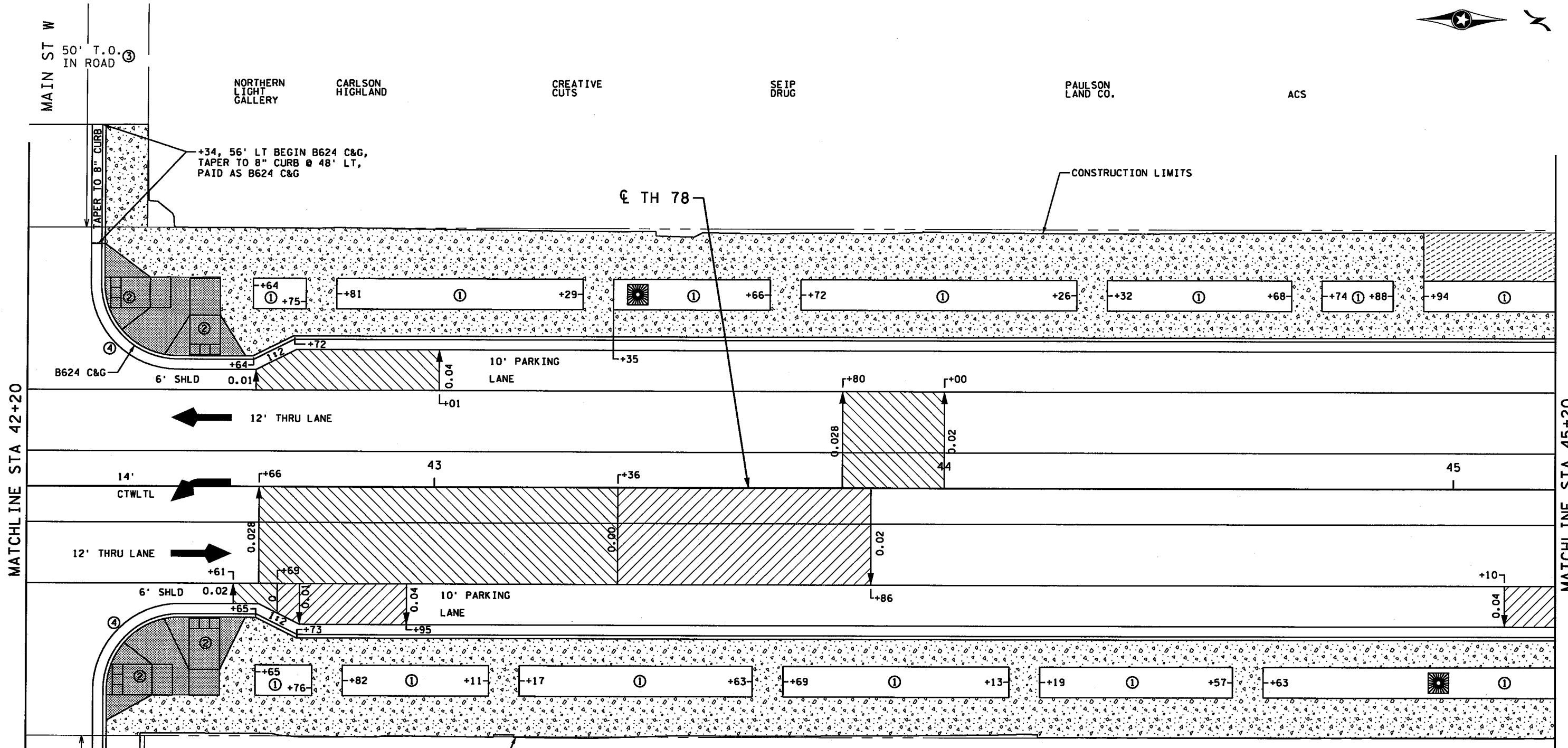
LEGEND

	4" CONCRETE WALK		MODULAR BLOCK RETAINING WALL
	6" CONCRETE WALK		EXISTING RIGHT-OF-WAY
	8" CONCRETE DRIVEWAY PAVEMENT		METAL RAILING/FENCE
	SUPERELEVATION TRANSITION FT/FT		TREE GRATE
			TRAFFIC FLOW



REV.	BY	DATE	STATE PROJECT NO. 5621-23	SHEET
			TH 78 BATTLE LAKE TO PERHAM	58
			CONSTRUCTION PLAN SHEET	OF
				77

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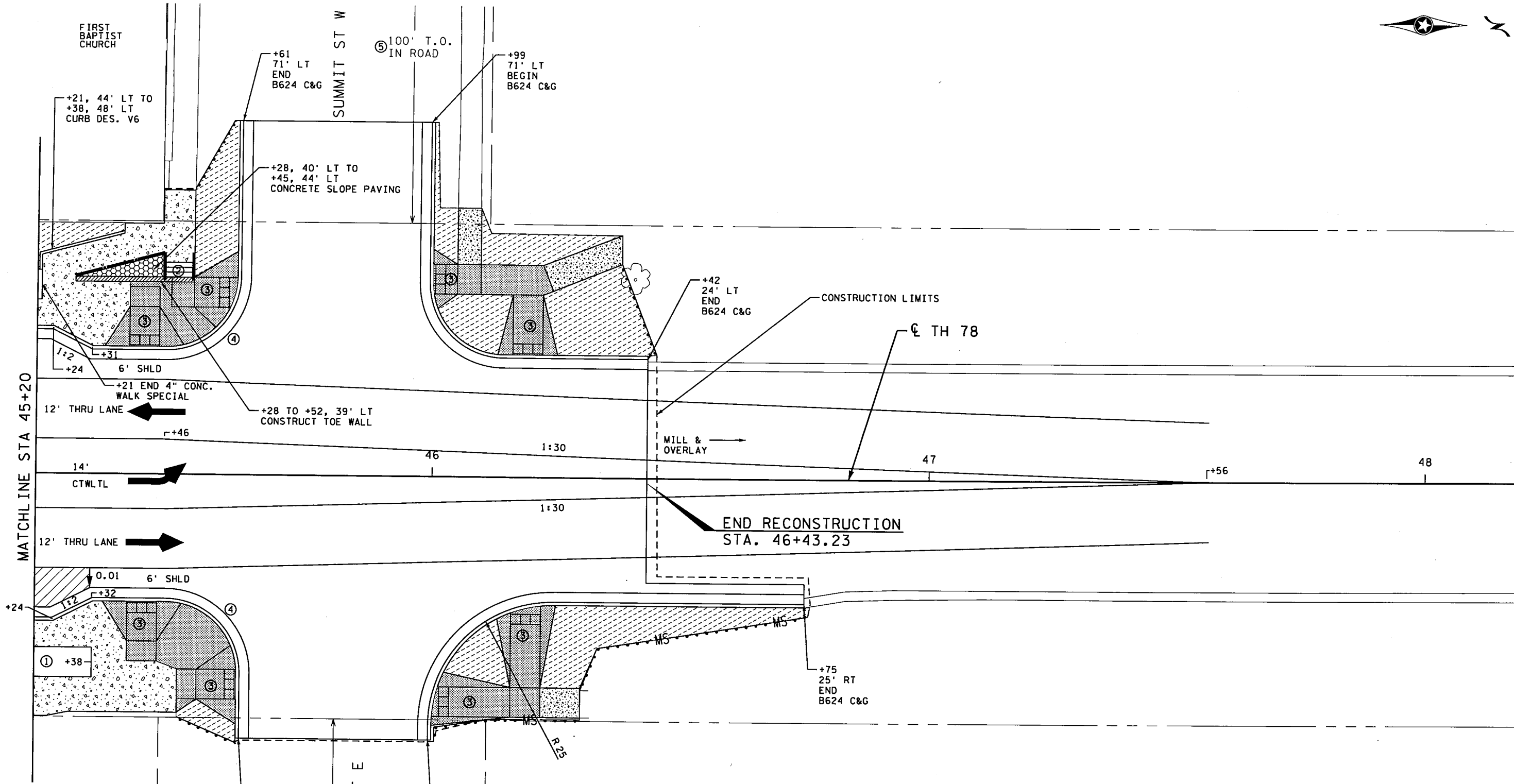
- NOTES**
- STREET DIMENSIONS ARE TO FACE OF CURB UNLESS OTHERWISE NOTED.
 - CURB RADII ARE 15' UNLESS OTHERWISE NOTED.
 - ① 4" CONCRETE WALK SPECIAL
 - ② PEDESTRIAN RAMP - SEE SIDEWALK DETAIL PLANS AND QUANTITY TABULATIONS FOR ADDITIONAL INFORMATION ON RAMP LOCATIONS AND ELEVATIONS
 - ③ TEMPORARY COMMISSIONER'S ORDERS IN PUBLIC ROADS WILL EXPIRE ON 12-01-2015
 - ④ REVERSE GUTTER SLOPE AT MID-RADIUS

LEGEND	
	4" CONCRETE WALK
	6" CONCRETE WALK
	SUPERELEVATION TRANSITION FT/FT
	SOD, TYPE LAWN
	EXISTING RIGHT-OF-WAY
	TREE GRATE
	TRAFFIC FLOW



REV.	BY	DATE	STATE PROJECT NO. 5621-23	SHEET
			TH 78 BATTLE LAKE TO PERHAM	59
			CONSTRUCTION PLAN SHEET	OF
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MATCHLINE STA 45+20

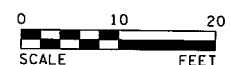
END RECONSTRUCTION STA. 46+43.23

NOTES

- STREET DIMENSIONS ARE TO FACE OF CURB UNLESS OTHERWISE NOTED.
- CURB RADII ARE 15' UNLESS OTHERWISE NOTED.
- ① 4" CONCRETE WALK SPECIAL
- ② CONCRETE STEPS
- ③ PEDESTRIAN RAMP - SEE SIDEWALK DETAIL PLANS AND QUANTITY TABULATIONS FOR ADDITIONAL INFORMATION ON RAMP LOCATIONS AND ELEVATIONS
- ④ REVERSE GUTTER SLOPE AT MID-RADIUS
- ⑤ TEMPORARY COMMISSIONER'S ORDERS IN PUBLIC ROADS WILL EXPIRE ON 12-01-2015

LEGEND

	4" CONCRETE WALK		SILT FENCE, TYPE MACHINE SLICED
	6" CONCRETE WALK		TOE WALL
	CONCRETE SLOPE PAVING		EXISTING RIGHT-OF-WAY
	SUPERELEVATION TRANSITION FT/FT		METAL RAILING/FENCE
	SOD, TYPE LAWN		TRAFFIC FLOW



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REV.	BY	DATE

STATE PROJECT NO. 5621-23		SHEET 60 OF 77
TH 78 BATTLE LAKE TO PERHAM		
CONSTRUCTION PLAN SHEET		

LARRY'S GROCERY

LEGEND

→ DRAINAGE FLOW ARROW
 ● EL. (XXX)
 ▨ LANDING AREA - 4' X 4' MIN. DIMS. MAX 2.0% SLOPE IN ALL DIRECTIONS
 ▨ PEDESTRIAN ACCESS ROUTE (ADA)
 ▨ TRUNCATED DOMES, SEE STANDARD PLATE 7038
 - - - - - EXISTING RIGHT-OF-WAY

Denote PAR on ADA detail sheets for sidewalk reconstruction projects.

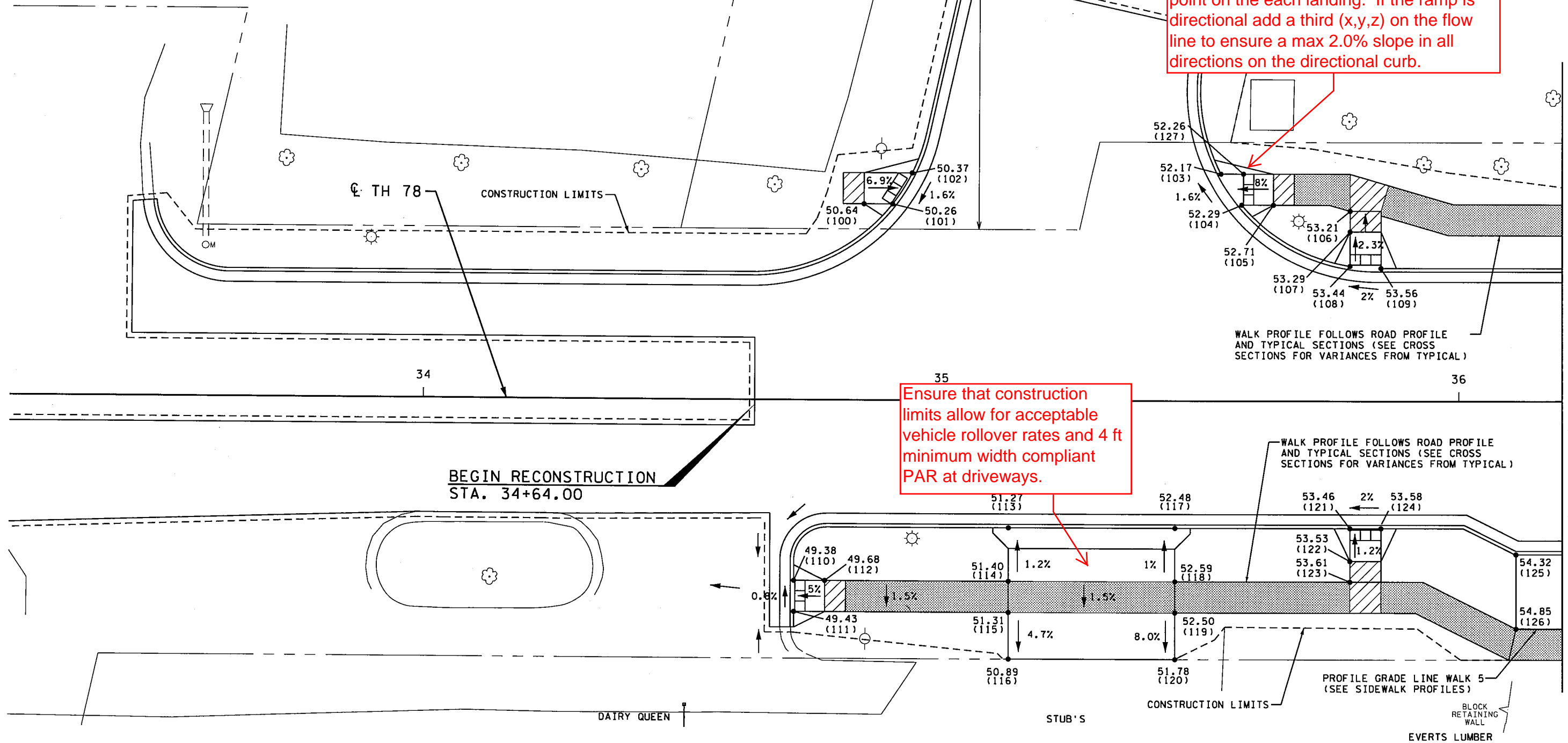
(x,y,z)s are not provided for curb ramps on preservation projects, but they are provided on reconstruction projects.

Reconstruction project plans must include an (x,y,z) at each edge of domes and one point on the each landing. If the ramp is directional add a third (x,y,z) on the flow line to ensure a max 2.0% slope in all directions on the directional curb.

GILBERTSON ST W

HOLDT ST W (CR 83)

O. IN ROAD

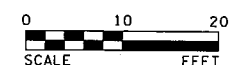


WALK PROFILE FOLLOWS ROAD PROFILE AND TYPICAL SECTIONS (SEE CROSS SECTIONS FOR VARIANCES FROM TYPICAL)

WALK PROFILE FOLLOWS ROAD PROFILE AND TYPICAL SECTIONS (SEE CROSS SECTIONS FOR VARIANCES FROM TYPICAL)

PROFILE GRADE LINE WALK 5 (SEE SIDEWALK PROFILES)

MATCHLINE STA 36+20



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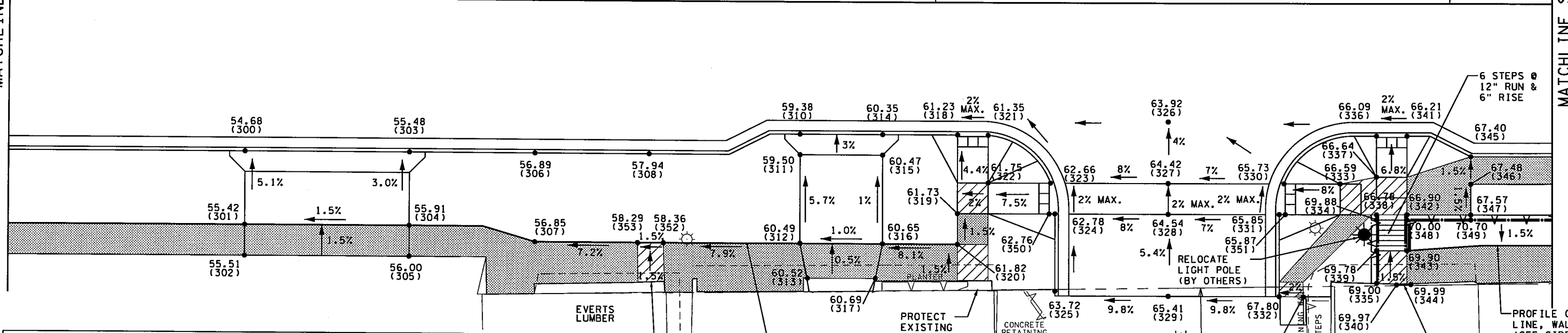
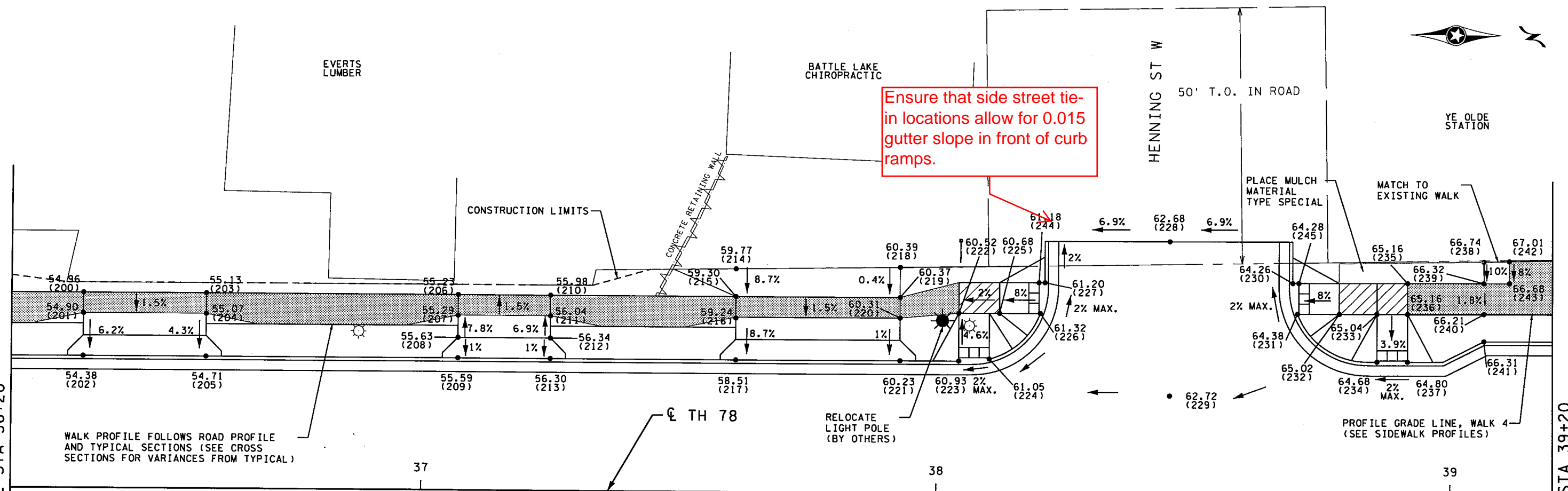
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REV.	BY	DATE	STATE PROJECT NO. 5621-23	SHEET
			TH 78 BATTLE LAKE TO PERHAM	67
			SIDEWALK DETAIL PLAN SHEET	OF
				77



MATCHLINE STA 36+20

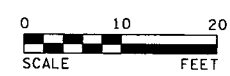
MATCHLINE STA 39+20



LEGEND

	DRAINAGE FLOW ARROW		PEDESTRIAN ACCESS ROUTE (ADA)
	ELEVATION IN 1300 FT RANGE, SEE SHEETS 72 AND 73 FOR POINT ELEVATIONS NOT IN PLANS (CONTROL POINTS AT GUTTER FLOWLINE ON RAMP/DRWY; TOP CURB/PVMT OTHERWISE)		TRUNCATED DOMES, SEE STANDARD PLATE 7038
	LANDING AREA - 4' X 4' MIN. DIMS. MAX 2.0% SLOPE IN ALL DIRECTIONS		EXISTING RIGHT-OF-WAY
			METAL RAILING/FENCE

Include contractor-friendly terms at all entrances to describe the accessible design intent.



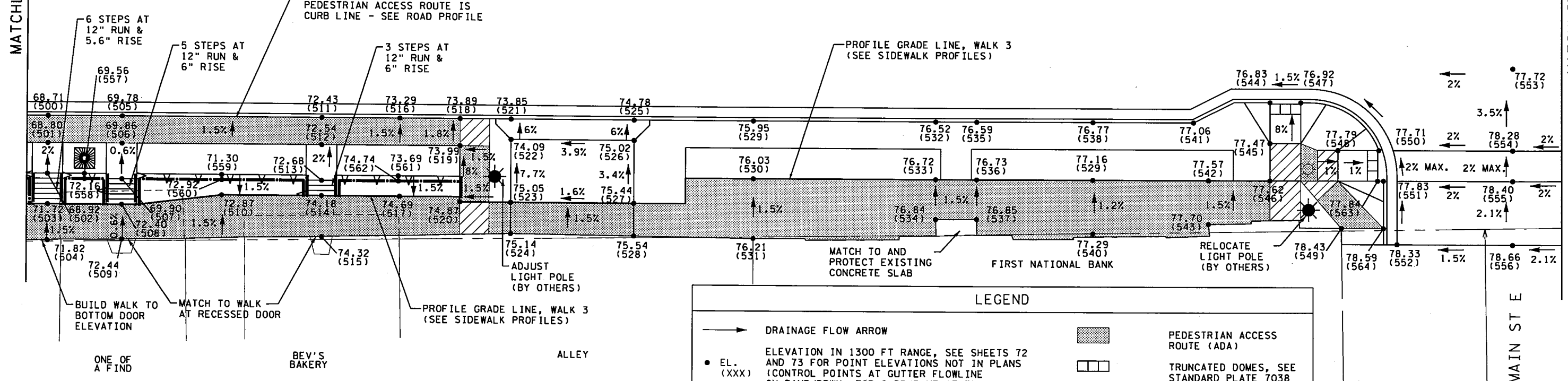
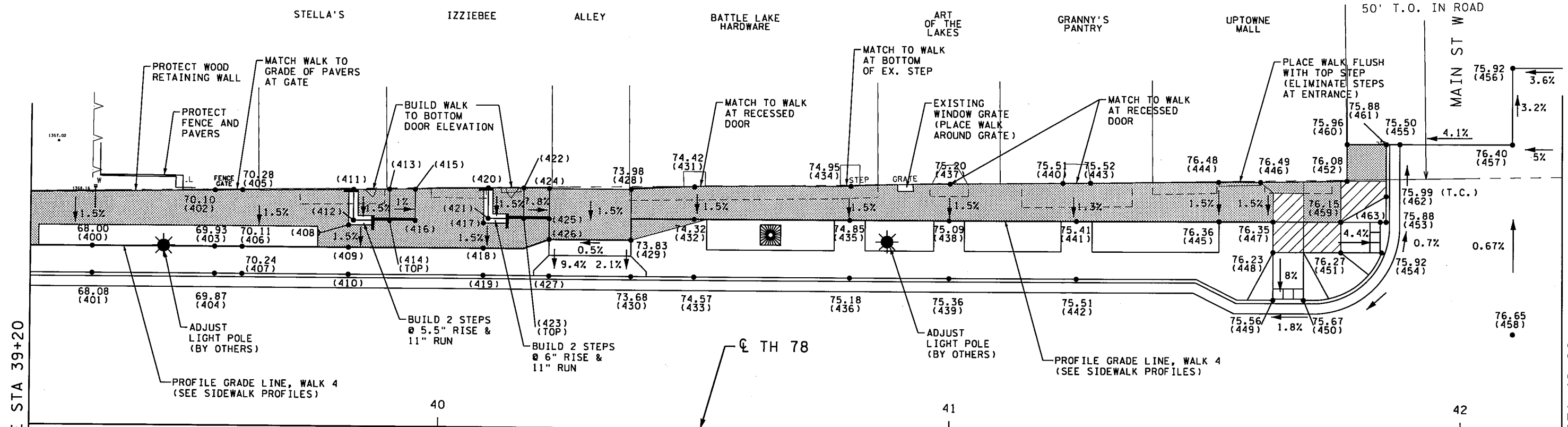
REV.	BY	DATE	STATE PROJECT NO. 5621-23	SHEET
			TH 78 BATTLE LAKE TO PERHAM	68
			SIDEWALK DETAIL PLAN SHEET	OF
				77

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MATCHLINE STA 39+20

MATCHLINE STA 42+20

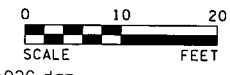


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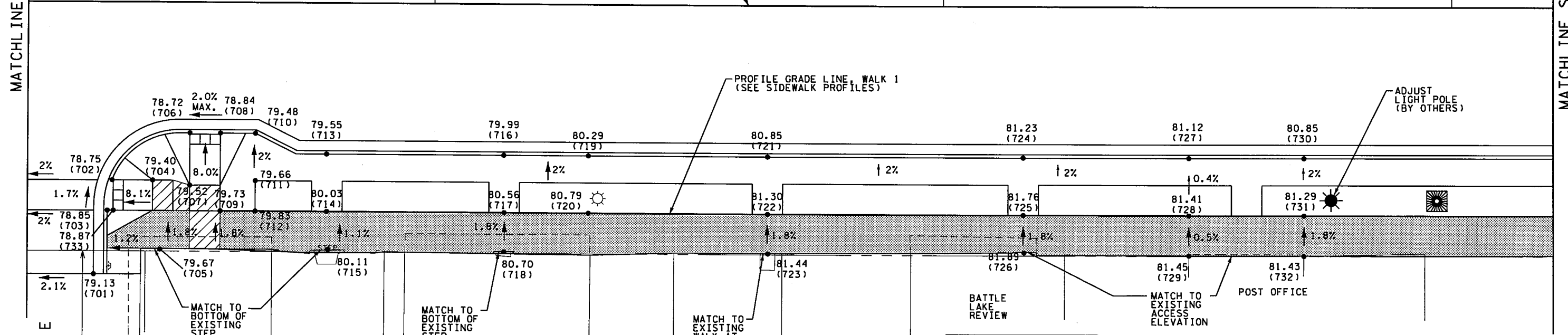
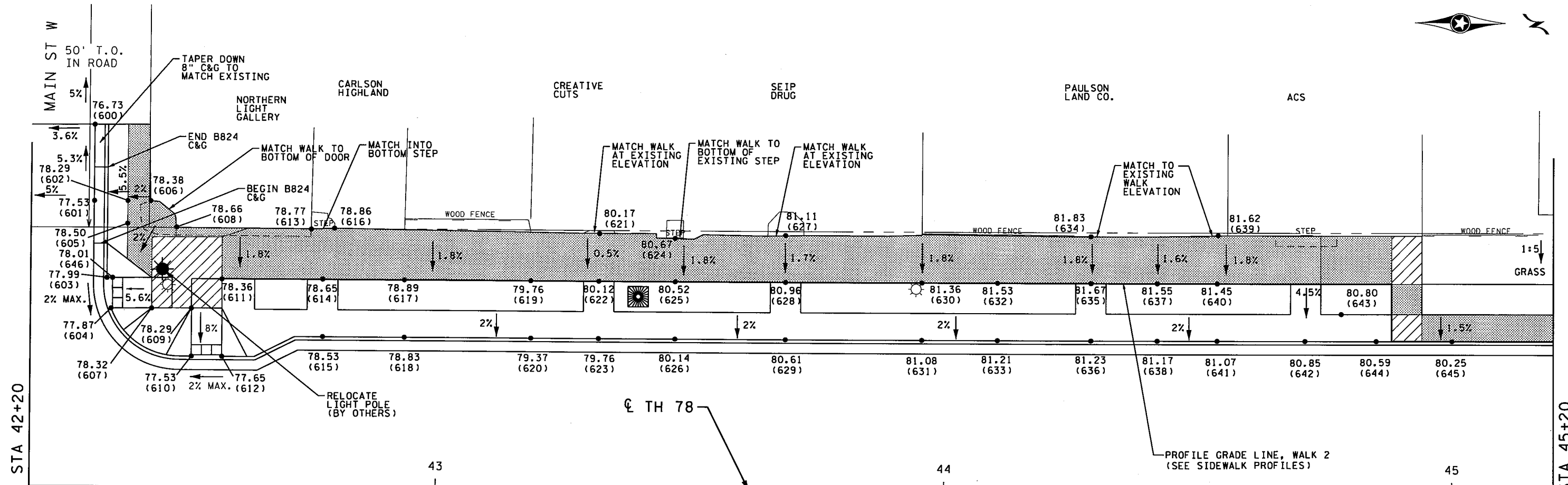
- DRAINAGE FLOW ARROW
- EL. (XXX) ELEVATION IN 1300 FT RANGE, SEE SHEETS 72 AND 73 FOR POINT ELEVATIONS NOT IN PLANS (CONTROL POINTS AT GUTTER FLOWLINE ON RAMP/DRWY; TOP CURB/PVMT OTHERWISE)
- ▨ LANDING AREA - 4' x 4' MIN. DIMS. MAX 2.0% SLOPE IN ALL DIRECTIONS
- ▭ PEDESTRIAN ACCESS ROUTE (ADA)
- ▭ TRUNCATED DOMES, SEE STANDARD PLATE 7038
- - - EXISTING RIGHT-OF-WAY
- ☼ TREE GRATE
- ▬ METAL RAILING/FENCE

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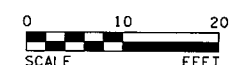
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REV.	BY	DATE	STATE PROJECT NO. 5621-23 TH 78 BATTLE LAKE TO PERHAM	SHEET 69 OF 77
			SIDEWALK DETAIL PLAN SHEET	

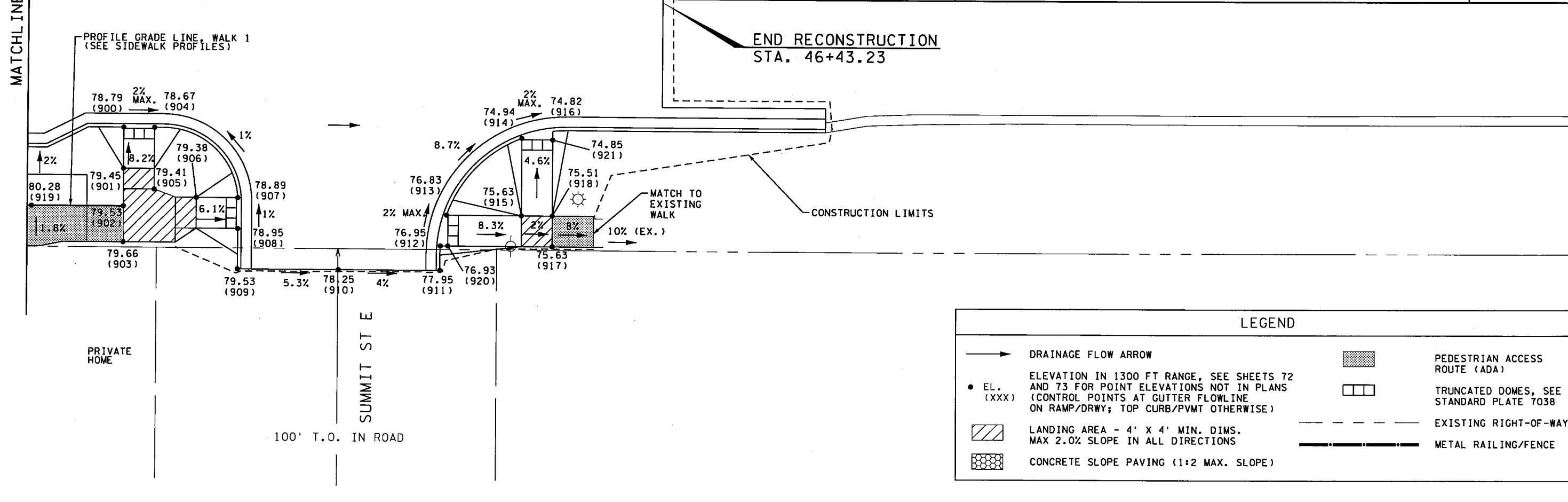
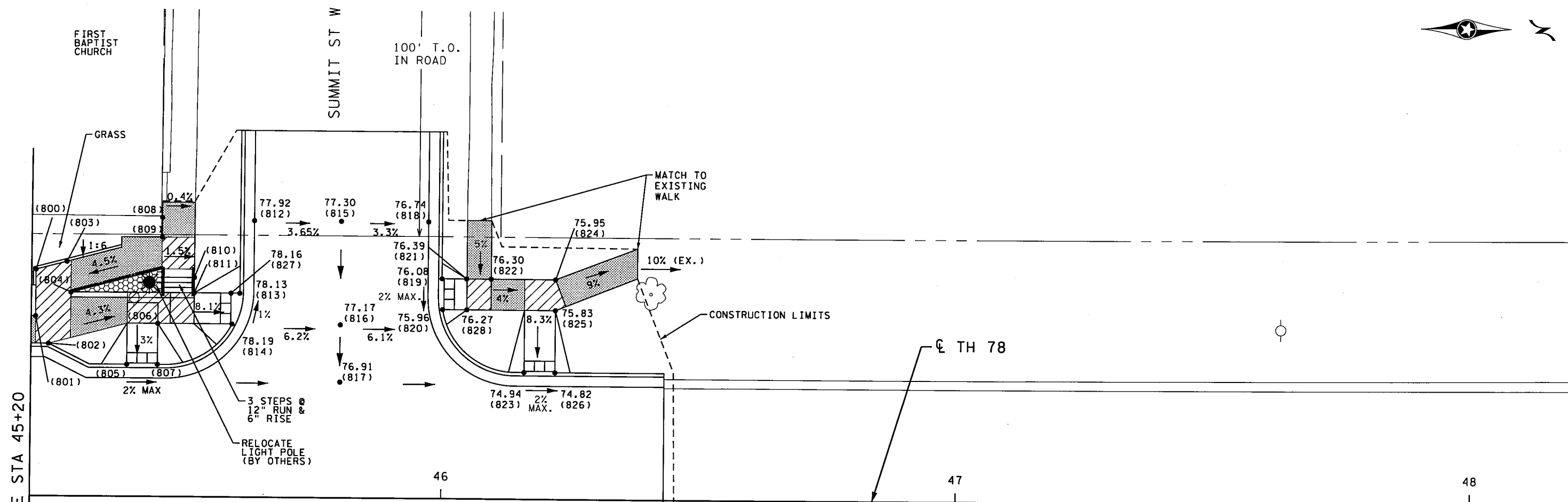


LEGEND	
	DRAINAGE FLOW ARROW
	ELEVATION IN 1300 FT RANGE, SEE SHEETS 72 AND 73 FOR POINT ELEVATIONS NOT IN PLANS (CONTROL POINTS AT GUTTER FLOWLINE ON RAMP/DRWY; TOP CURB/PVMT OTHERWISE)
	LANDING AREA - 4' X 4' MIN. DIMS. MAX 2.0% SLOPE IN ALL DIRECTIONS
	PEDESTRIAN ACCESS ROUTE (ADA)
	TRUNCATED DOMES, SEE STANDARD PLATE 7038
	EXISTING RIGHT-OF-WAY
	TREE GRATE

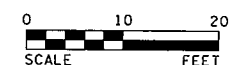


REV.	BY	DATE	STATE PROJECT NO. 5621-23	SHEET
			TH 78 BATTLE LAKE TO PERHAM	70
			SIDEWALK DETAIL PLAN SHEET	OF
				77

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LEGEND	
	DRAINAGE FLOW ARROW
	PEDESTRIAN ACCESS ROUTE (ADA)
	ELEVATION IN 1300 FT RANGE, SEE SHEETS 72 AND 73 FOR POINT ELEVATIONS NOT IN PLANS (CONTROL POINTS AT GUTTER FLOWLINE ON RAMP/DRWY; TOP CURB/PVMT OTHERWISE)
	CONCRETE SLOPE PAVING (1:2 MAX. SLOPE)
	LANDING AREA - 4' X 4' MIN. DIMS. MAX 2.0% SLOPE IN ALL DIRECTIONS
	TRUNCATED DOMES, SEE STANDARD PLATE 7038
	EXISTING RIGHT-OF-WAY
	METAL RAILING/FENCE



REV.	BY	DATE

STATE PROJECT NO. 5621-23
 TH 78 BATTLE LAKE TO PERHAM
 SIDEWALK DETAIL PLAN SHEET

SHEET
 71
 OF
 77

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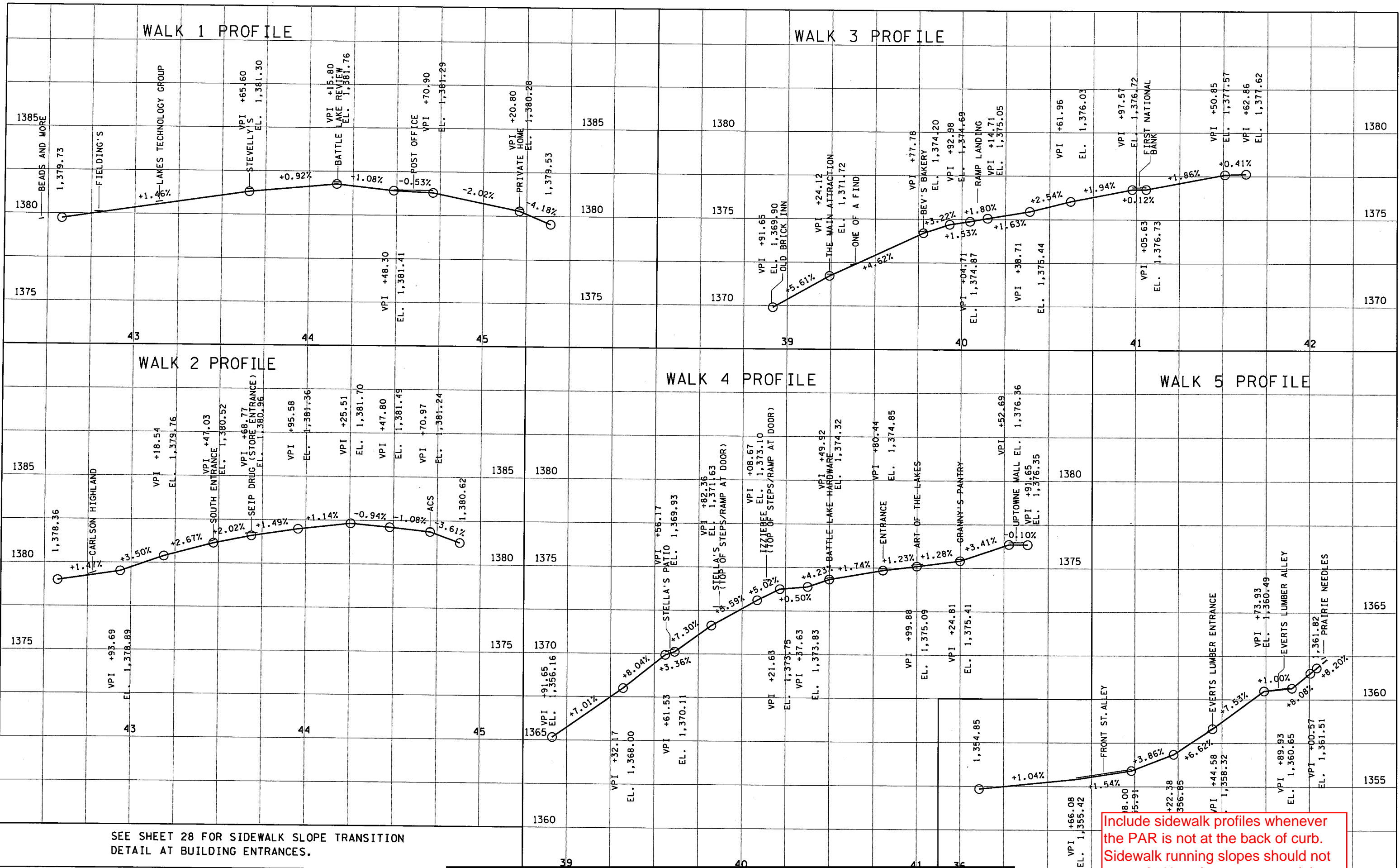
WALK 1 PROFILE

WALK 3 PROFILE

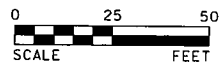
WALK 2 PROFILE

WALK 4 PROFILE

WALK 5 PROFILE



SEE SHEET 28 FOR SIDEWALK SLOPE TRANSITION
DETAIL AT BUILDING ENTRANCES.



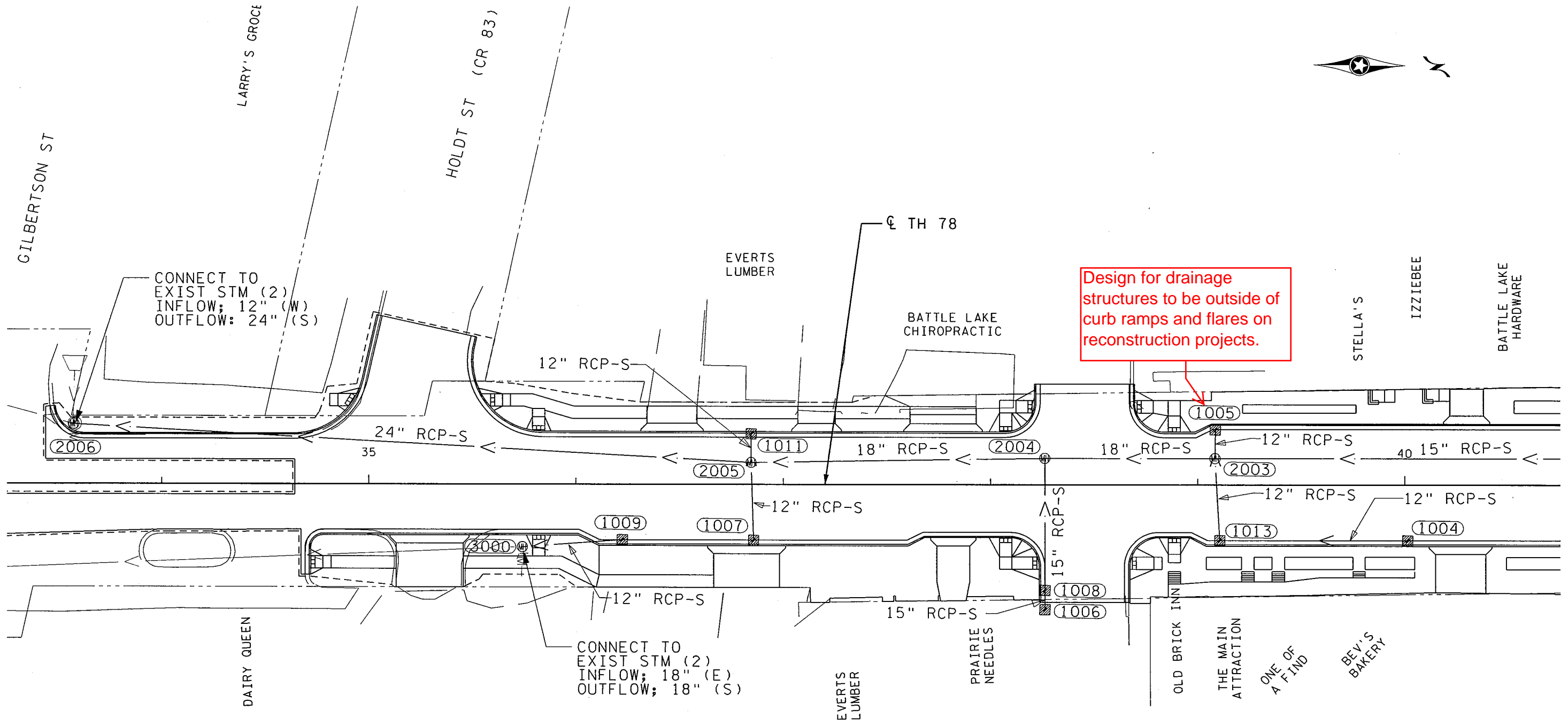
Include sidewalk profiles whenever the PAR is not at the back of curb. Sidewalk running slopes should not exceed 5% and cannot exceed the highway profile grade at any location.

REV.	BY	DATE

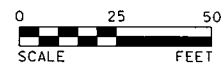
SIDEWALK PROFILES



Design for drainage structures to be outside of curb ramps and flares on reconstruction projects.



NOTES:
1.) SEE PROFILES ON SHEET 77 AND TABULATION ON SHEET 18 FOR STORM SEWER ELEVATION INFORMATION.

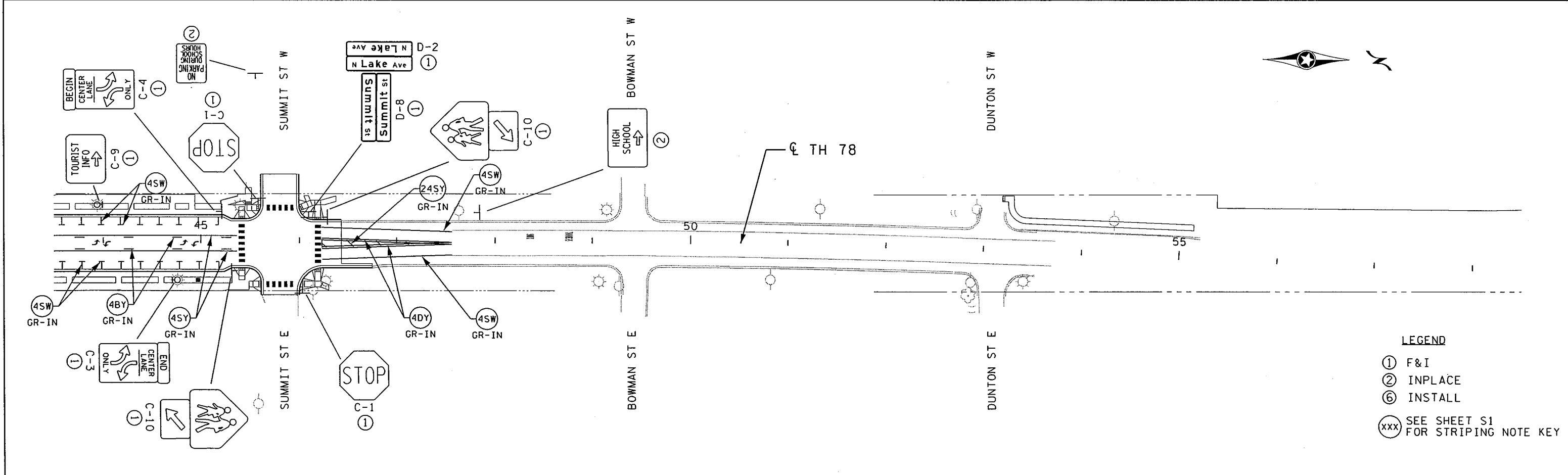
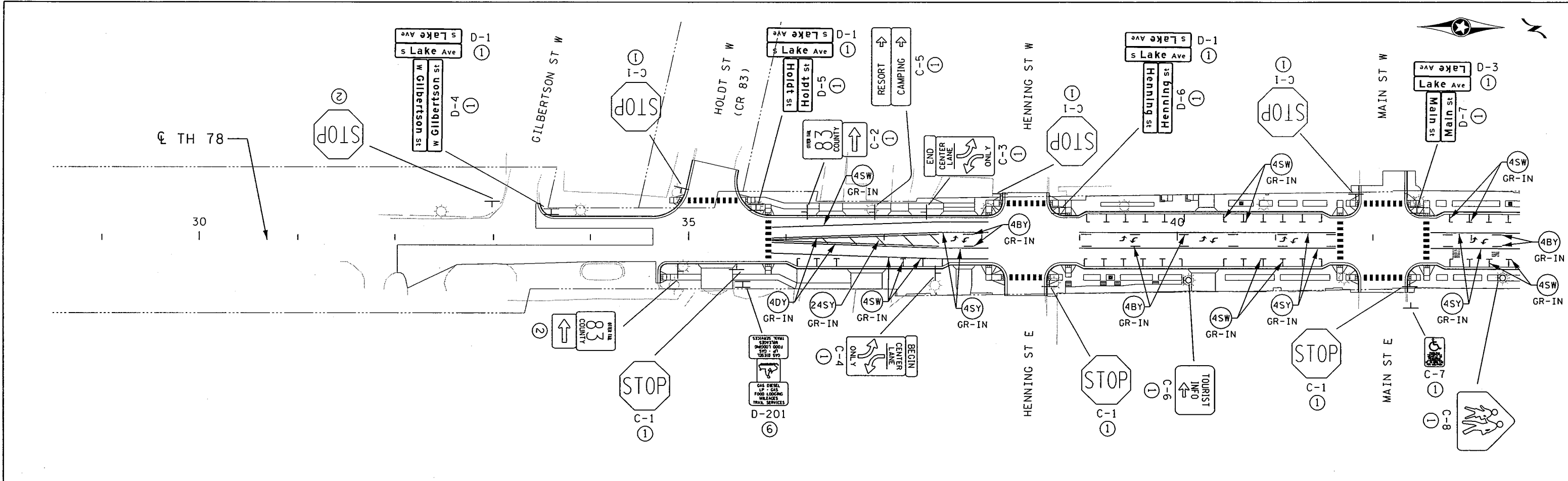


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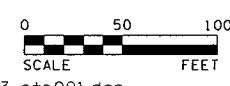
REV.	BY	DATE	STATE PROJECT NO. 5621-23	SHEET
			TH 78 BATTLE LAKE TO PERHAM	75
			DRAINAGE PLAN SHEET	OF
				77

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- LEGEND**
- ① F&I
 - ② INPLACE
 - ⑥ INSTALL
 - ⓧ SEE SHEET S1 FOR STRIPING NOTE KEY

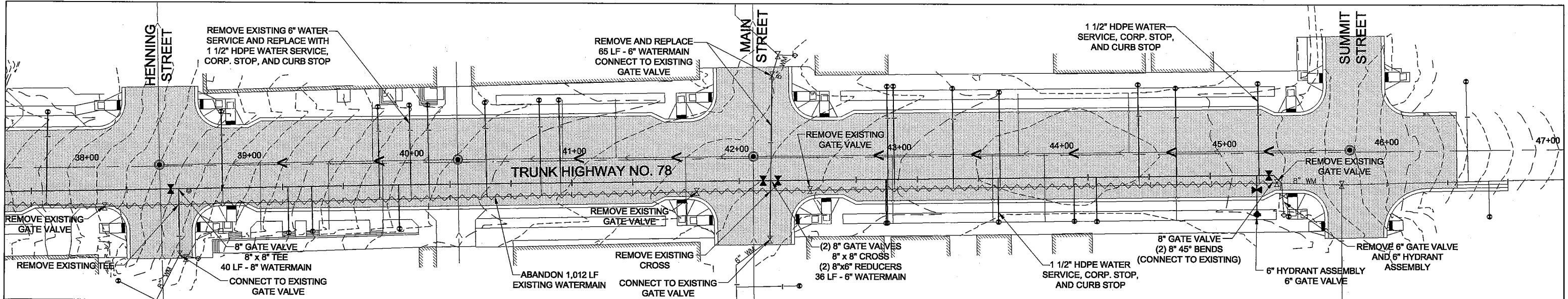


REV.	BY	DATE

Do not place signs in PAR.

SIGNING AND STRIPING PLAN

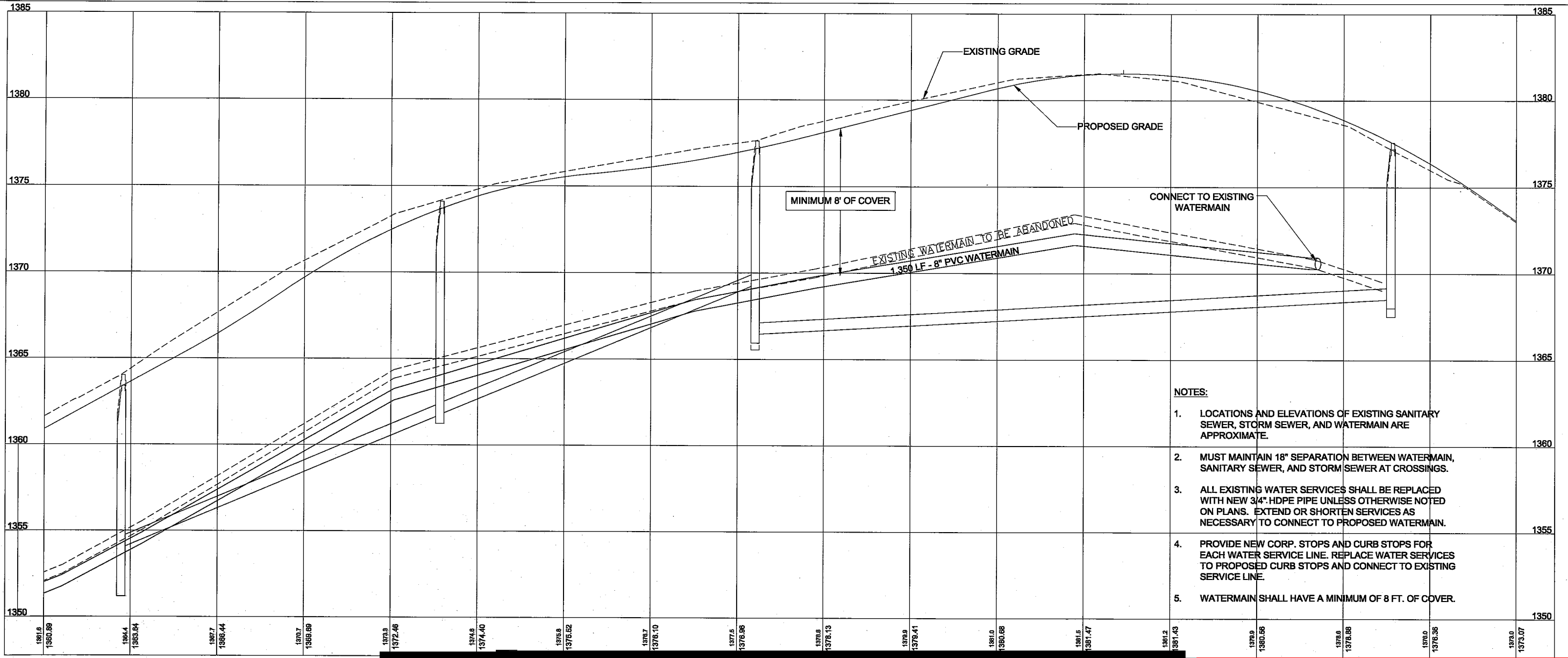
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SUBSURFACE UTILITY NOTE
 THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY LEVEL D. THIS UTILITY QUALITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINES OF CI/ASCE 38-02, ENTITLED "STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA". CONTRACTOR IS RESPONSIBLE FOR VERIFYING LOCATIONS OF ALL UTILITIES.

T.H. 78 WATERMAIN REPLACEMENT PLAN & PROFILE

GOPHER STATE ONE CALL
 1-800-252-1166



NOTES:

1. LOCATIONS AND ELEVATIONS OF EXISTING SANITARY SEWER, STORM SEWER, AND WATERMAIN ARE APPROXIMATE.
2. MUST MAINTAIN 18" SEPARATION BETWEEN WATERMAIN, SANITARY SEWER, AND STORM SEWER AT CROSSINGS.
3. ALL EXISTING WATER SERVICES SHALL BE REPLACED WITH NEW 3/4" HDPE PIPE UNLESS OTHERWISE NOTED ON PLANS. EXTEND OR SHORTEN SERVICES AS NECESSARY TO CONNECT TO PROPOSED WATERMAIN.
4. PROVIDE NEW CORP. STOPS AND CURB STOPS FOR EACH WATER SERVICE LINE. REPLACE WATER SERVICES TO PROPOSED CURB STOPS AND CONNECT TO EXISTING SERVICE LINE.
5. WATERMAIN SHALL HAVE A MINIMUM OF 8 FT. OF COVER.

Keep gate valves, manholes, and utility handholes (including signal handholes) outside of PAR.

