METROPOLITAN COUNCIL

SOUTHWEST
Green Line LRT Extension

CIVIL CONSTRUCTION

VOLUME M
BID ALTERNATE 13
TRAIL BETWEEN LRT & CSAH 61
(LRCI 26)

PLAN PACKAGE INDEX / DESCRIPTION	
CIVIL CONSTRUCTION	BID ALTERNATES
VOLUME 1 - EXISTING CONDITIONS & REMOVALS	VOLUME A - NOT USED
VOLUME 2A - CIVIL	VOLUME B - NOT USED
VOLUME 2B - CIVIL	VOLUME C - BID ALTERNATE 3 (LRCI 5) ▲
VOLUME 3A - TRACKWORK	VOLUME D - BID ALTERNATE 4 (LRCI 6) ▲
VOLUME 3B - TRACKWORK	VOLUME E - BID ALTERNATE 5 (LRCI 7) ▲
VOLUME 3C - TRACKWORK DETAILS	VOLUME F - BID ALTERNATE 6 (LRCI 8) ▲
VOLUME 4A - BRIDGES	VOLUME G - BID ALTERNATE 7 (LRCI 4) ▲
VOLUME 4B - BRIDGES	VOLUME H - BID ALTERNATE 8 (LRCI 10) ▲
VOLUME 4C - BRIDGES	VOLUME I - BID ALTERNATE 9 (LRCI 11) ▲
VOLUME 4D - BRIDGES	VOLUME J - BID ALTERNATE 10 (LRCI 12)
VOLUME 4E - BRIDGES	VOLUME K - BID ALTERNATE 11 (LRCI 13)
VOLUME 4F - BRIDGES	VOLUME L - BID ALTERNATE 12 (LRCI 14)
VOLUME 4G - BRIDGES	VOLUME M - BID ALTERNATE 13 (LRCI 26)
VOLUME 5 - TUNNELS	VOLUME N - BID ALTERNATE 14 (LRCI 27)
VOLUME 6 - RETAINING WALLS	VOLUME O - BID ALTERNATE 15 (LRCI 17)
VOLUME 7 - UTILITIES	VOLUME P - BID ALTERNATE 20 (LRCI 32)
VOLUME 8 - DRAINAGE	VOLUME Q - BID ALTERNATE 21 (LRCI 33)
VOLUME 9 - URBAN DESIGN / LANDSCAPE	
VOLUME 10A - TRAFFIC	
VOLUME 10B - LIGHTING *	
VOLUME 11A - STATIONS ▲	
VOLUME 11B - STATIONS	
VOLUME 11C - STATIONS	
VOLUME 11D - STATIONS	
VOLUME 11E - STATIONS	
VOLUME 12 - SYSTEMS	

* TO BE SUBMITTED AT A LATER DATE
▲ SUBMITTED AT 75%, NOT INCLUDED IN 90%

THE PROPOSED SOUTHWEST LRT PROJECT IS NOT FINAL BUT IS STILL UNDER ENVIRONMENTAL REVIEW AND THE PROJECT IS SUBJECT TO CHANGE. THESE PLANS ARE NOT FINAL.

THE COUNCIL, THROUGH THE DEVELOPMENT OF THESE PLANS, DOES NOT INTEND THAT THEY WILL PREJUDICE OR COMPROMISE ANY STATE OR FEDERAL ENVIRONMENTAL REVIEW OR OTHER LEGAL REQUIREMENTS. THESE PLANS DO NOT LIMIT THE PROJECT DESIGN ALTERNATIVES OR MITIGATIVE MEASURES THAT THE COUNCIL MAY UNDERTAKE IF THE PROPOSED SWLRT PROJECT PROCEEDS TO CONSTRUCTION.

THE COUNCIL WILL NOT TAKE FINAL ACTION ON THIS MATTER UNLESS THE COUNCIL PROCEEDS WITH THE PROJECT AFTER THE FTA'S RECORD OF DECISION AND THE COUNCIL'S DETERMINATION OF ADEQUACY.

90% SUBMISSION
DATE : 01/22/16

HENNEPIN COUNTY

APPROVED:_____ DATE:_____

AECOM

CIVIL CONSTRUCTION

SHT #	SHEET NAME	SHEET DESCRIPTION	STATION	STATION	REV
		VOLUME M			
1	00-GEN-CVR-001	COVER SHEET			
2	00-GEN-IDX-001	VOLUME INDEX OF PLAN SHEETS			
3	W0-GEN-KEY-001	GENERAL KEY MAP			
4	W1-CIV-ALG-009-LRCI-026	ROADWAY ALIGNMENT PLANS SHEET 1			
5	W1-CIV-ALG-010-LRCI-026	ROADWAY ALIGNMENT PLANS SHEET 2			
6	W1-CIV-ALG-011-LRCI-026	ROADWAY ALIGNMENT PLANS SHEET 3			
7	W1-CIV-ALG-004-LRCI-026	ROADWAY ALIGNMENT TABULATIONS			
8	W1-CIV-TYP-006-LRCI-026	ROADWAY TYPICAL SECTIONS SHEET 1			
9	W1-CIV-TYP-007-LRCI-026	ROADWAY TYPICAL SECTIONS SHEET 2			
10	W1-CIV-TYP-008-LRCI-026	ROADWAY TYPICAL SECTIONS SHEET 3			
11	W1-CIV-TYP-009-LRCI-026	ROADWAY TYPICAL SECTIONS SHEET 4			
12	W0-CIV-TYP-001-LRCI-026	ROADWAY PAVEMENT INSETS			
13	W1-CIV-PRF-019-LRCI-026	CSAH 61 (FLYING CLOUD DRIVE) PLAN AND PROFILE	501+00	507+50	
14	W1-CIV-PRF-020-LRCI-026	CSAH 61 (FLYING CLOUD DRIVE) PLAN AND PROFILE	507+50	514+00	
15	W1-CIV-PRF-021-LRCI-026	CSAH 61 (FLYING CLOUD DRIVE) PLAN AND PROFILE	514+00	520+00	
16	W1-CIV-PRF-022-LRCI-026	CSAH 61 (FLYING CLOUD DRIVE) PLAN AND PROFILE	520+00	526+50	
17	W1-CIV-PRF-023-LRCI-026	CSAH 61 (FLYING CLOUD DRIVE) PLAN AND PROFILE	526+50	530+77	
18	W1-CIV-SUP-005-LRCI-026	ROADWAY SUPERELEVATION PLANS SHEET 1			
19	W1-CIV-SUP-006-LRCI-026	ROADWAY SUPERELEVATION PLANS SHEET 2			
20	W1-CIV-INT-011-LRCI-026	ROADWAY INTERSECTION DETAILS SHEET 1			
21	W1-CIV-INT-012-LRCI-026	ROADWAY INTERSECTION DETAILS SHEET 2			
22	W1-CIV-INT-013-LRCI-026	ROADWAY INTERSECTION DETAILS SHEET 3			
23	W1-CIV-INT-014-LRCI-026	ROADWAY INTERSECTION DETAILS SHEET 4			
24	W1-CIV-INT-015-LRCI-026	ROADWAY INTERSECTION DETAILS SHEET 5			
25	W1-CIV-INT-016-LRCI-026	ROADWAY INTERSECTION DETAILS SHEET 6			
26	W1-CIV-INT-017-LRCI-026	ROADWAY INTERSECTION DETAILS SHEET 7			
27	W1-UTL-PLN-008-LRCI-026	TECHNOLOGY DR / FLYING CLOUD DR 1 OF 3 REMOVALS			
28	W1-UTL-PLN-009-LRCI-026	TECHNOLOGY DR / FLYING CLOUD DR 2 OF 3 PLAN			
29	W1-UTL-PLN-010-LRCI-026	TECHNOLOGY DR / FLYING CLOUD DR 3 OF 3 PROFILES			
30	W1-UTL-PLN-011-LRCI-026	FLYING CLOUD DRIVE 1 OF 5 REMOVALS AND PLAN			
31	W1-UTL-PLN-012-LRCI-026	FLYING CLOUD DRIVE 2 OF 5 REMOVALS AND PLAN			
32	W1-UTL-PLN-013-LRCI-026	FLYING CLOUD DRIVE 3 OF 5 REMOVALS AND PLAN			
33	W1-UTL-PLN-014-LRCI-026	FLYING CLOUD DRIVE 4 OF 5 PROFILES			
34	W1-UTL-PLN-015-LRCI-026	FLYING CLOUD DRIVE 5 OF 5 PROFILES			
35	W1-STM-PLN-001-LRCI-026	DRAINAGE PLAN	2129+00	2137+50	
36	W1-STM-PLN-002-LRCI-026	DRAINAGE PLAN	2140+50	2150+25	
37	W1-STM-PLN-003-LRCI-026	DRAINAGE PLAN	2150+25	2157+50	
38	W1-STM-PLN-004-LRCI-026	DRAINAGE PLAN	2158+50	2167+50	
39	W1-STM-PRF-001-LRCI-026	DRAINAGE PLAN AND PROFILE	2130+50	2139+00	
40	W1-STM-PRF-002-LRCI-026	DRAINAGE PLAN AND PROFILE	2141+00	2149+50	
41	W1-STM-PRF-003-LRCI-026	DRAINAGE PLAN AND PROFILE	2150+50	2159+00	
42	W1-STM-PRF-004-LRCI-026	DRAINAGE PLAN AND PROFILE	2159+50	2167+25	
43	W1-TFC-SIGN-STRP-019-LRCI-026	FLYING CLOUD DRIVE SIGNING AND STRIPING	501+00	507+50	
44	W1-TFC-SIGN-STRP-020-LRCI-026	FLYING CLOUD DRIVE SIGNING AND STRIPING	507+50	515+00	
45	W1-TFC-SIGN-STRP-021-LRCI-026	FLYING CLOUD DRIVE SIGNING AND STRIPING	515+00	520+00	
46	W1-TFC-SIGN-STRP-022-LRCI-026	FLYING CLOUD DRIVE SIGNING AND STRIPING	520+00	526+50	
47	W1-TFC-SIGN-STRP-023-LRCI-026	FLYING CLOUD DRIVE SIGNING AND STRIPING	526+50	530+77	
48	W1-TFC-SIGN-STRP-027-LRCI-026	494 EXIT RAMP SIGNING AND STRIPING	0+00	6+73	
49	W1-TFC-SIGN-STRP-028-LRCI-026	VIKING DRIVE SIGNING AND STRIPING	0+00	2+27	
		TRAFFIC SIGNAL			
50	W0-TFC-SIG-DTL-023-LRCI-026	INTERSECTION LEGEND			
51	W1-TFC-SIG-LAY-001-LRCI-026	PLAN SHEET LAYOUT			
52	W1-TFC-SIG-CCD-SYS G-LRCI-026	SIGNAL SYSTEM "G" - CSAH 61 (FLYING CL DR) AT TH 494/5 S RAMP/TECH DR CONTROLLER AND SERVICE CABINET DETAIL			
53	W1-TFC-SIG-08-LRCI-026	SIGNAL SYSTEM "G" - CSAH 61 (FLYING CL DR) AT TH 494/5 S RAMP/TECH DR INTERSECTION LAYOUT			
54	W1-TFC-SIG-08B-LRCI-026	SIGNAL SYSTEM "G" - CSAH 61 (FLYING CL DR) AT TH 494/5 S RAMP/TECH DR INTERSECTION NOTES			
55	W1-TFC-SIG-08C-LRCI-026	SIGNAL SYSTEM "G" - CSAH 61 (FLYING CL DR) AT TH 494/5 S RAMP/TECH DR MATCHLINE LAYOUTS			
56	W1-TFC-SIG-08D-LRCI-026	SIGNAL SYSTEM "G" - CSAH 61 (FLYING CL DR) AT TH 494/5 S RAMP/TECH DR MAST ARM SIGNING			
57	W1-TFC-SIG-WD-008-LRCI-026	SIGNAL SYSTEM "G" - CSAH 61 (FLYING CL DR) AT TH 494/5 S RAMP/TECH DR FIELD WIRING DIAGRAM			
58	W1-TFC-SIG-WD-008B-LRCI-026	SIGNAL SYSTEM "G" - CSAH 61 (FLYING CL DR) AT TH 494/5 S RAMP/TECH DR FIELD WIRING DIAGRAM			

CIVIL CONSTRUCTION

SHT #	SHEET NAME	SHEET DESCRIPTION	STATION	STATION	REV
59	W1-TFC-SIG-CCD-SYS H-LRCI-026	SIGNAL SYSTEM "H" - CSAH 61 (FLYING CL DR) AT VIKING DR CONTROLLER AND SERVICE CABINET DETAIL			
60	W1-TFC-SIG-09-LRCI-026	SIGNAL SYSTEM "H" - CSAH 61 (FLYING CL DR) AT VIKING DR INTERSECTION LAYOUT			
61	W1-TFC-SIG-09B-LRCI-026	SIGNAL SYSTEM "H" - CSAH 61 (FLYING CL DR) AT VIKING DR MATCHLINE LAYOUT			
62	W1-TFC-SIG-09C-LRCI-026	SIGNAL SYSTEM "H" - CSAH 61 (FLYING CL DR) AT VIKING DR EQUIPMENT SCHEDULE			
63	W1-TFC-SIG-WD-009-LRCI-026	SIGNAL SYSTEM "H" - CSAH 61 (FLYING CL DR) AT VIKING DR FIELD WIRING DIAGRAM			
64	W1-TFC-SIG-WD-009B-LRCI-026	SIGNAL SYSTEM "H" - CSAH 61 (FLYING CL DR) AT VIKING DR FIELD WIRING DIAGRAM			
65	W1-TFC-SIG-10-LRCI-026	SIGNAL SYSTEM "AE" - CSAH 61 (FLYING CL DR) AT TH 494/5 N RAMP INTERSECTION LAYOUT			
66	W1-TFC-SIG-10B-LRCI-026	SIGNAL SYSTEM "AE" - CSAH 61 (FLYING CL DR) AT TH 494/5 N RAMP INTERSECTION NOTES AND MATCHLINES			
67	W1-TFC-SIG-WD-010-LRCI-026	SIGNAL SYSTEM "AE" - CSAH 61 (FLYING CL DR) AT TH 494/5 N RAMP REVISED FIELD WIRING DIAGRAM			
68	W1-TFC-SIG-002-010-LRCI-026	SIGNAL SYSTEM "AE" - CSAH 61 (FLYING CL DR) AT TH 494/5 N RAMP FOR INFORMATION ONLY			
69	W1-TFC-SIG-IC-002-LRCI-026	TRAFFIC SIGNAL INTERCONNECT ALONG EDEN ROAD AND CSAH 61 (FLYING CLOUD DRIVE)			
		CSAH 61 (FLYING CLOUD DRIVE) BRIDGE 27762 MODIFICATIONS			
70	W1-STU-BRG-LRCI-026-TRN01	SCHEDULE OF QUANTITIES			
71	W1-STU-BRG-LRCI-026-TRN02_1	TRANSVERSE SECTIONS			
72	W1-STU-BRG-LRCI-026-TRN02_2	INPLACE GENERAL PLAN AND REMOVALS			
73	W1-STU-BRG-LRCI-026-TRN02_3	PROPOSED GENERAL PLAN			
74	W1-STU-BRG-LRCI-026-SUP01	FRAMING PLAN			
75	W1-STU-BRG-LRCI-026-DTL01	DIAPHRAGM DETAILS			
76	W1-STU-BRG-LRCI-026-FIG01_1	ORNAMENTAL METAL RAILING			
77	W1-STU-BRG-LRCI-026-FIG01_2	CONCRETE CURB FOR USE WITH ORNAMENTAL RAILING			
78	W1-STU-BRG-LRCI-026-FIG01_3	STRUCTURAL TUBE RAILING AND CONCRETE PARAPET			
79	W1-STU-BRG-LRCI-026-FIG EXP-JT	EXPANSION DEVICE AND MEDIAN DETAILS			
80	W1-STU-BRG-LRCI-026-FIG01_5	WATERPROOF EXPANSION DEVICE 1			
81	W1-STU-BRG-LRCI-026-FIG01_6	WATERPROOF EXPANSION DEVICE 2			

CIVIL CONSTRUCTION

SHT #	SHEET NAME	SHEET DESCRIPTION	STATION	STATION	REV

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NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

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90% SUBMISSION - 01/22/16

METROPOLITAN COUNCIL

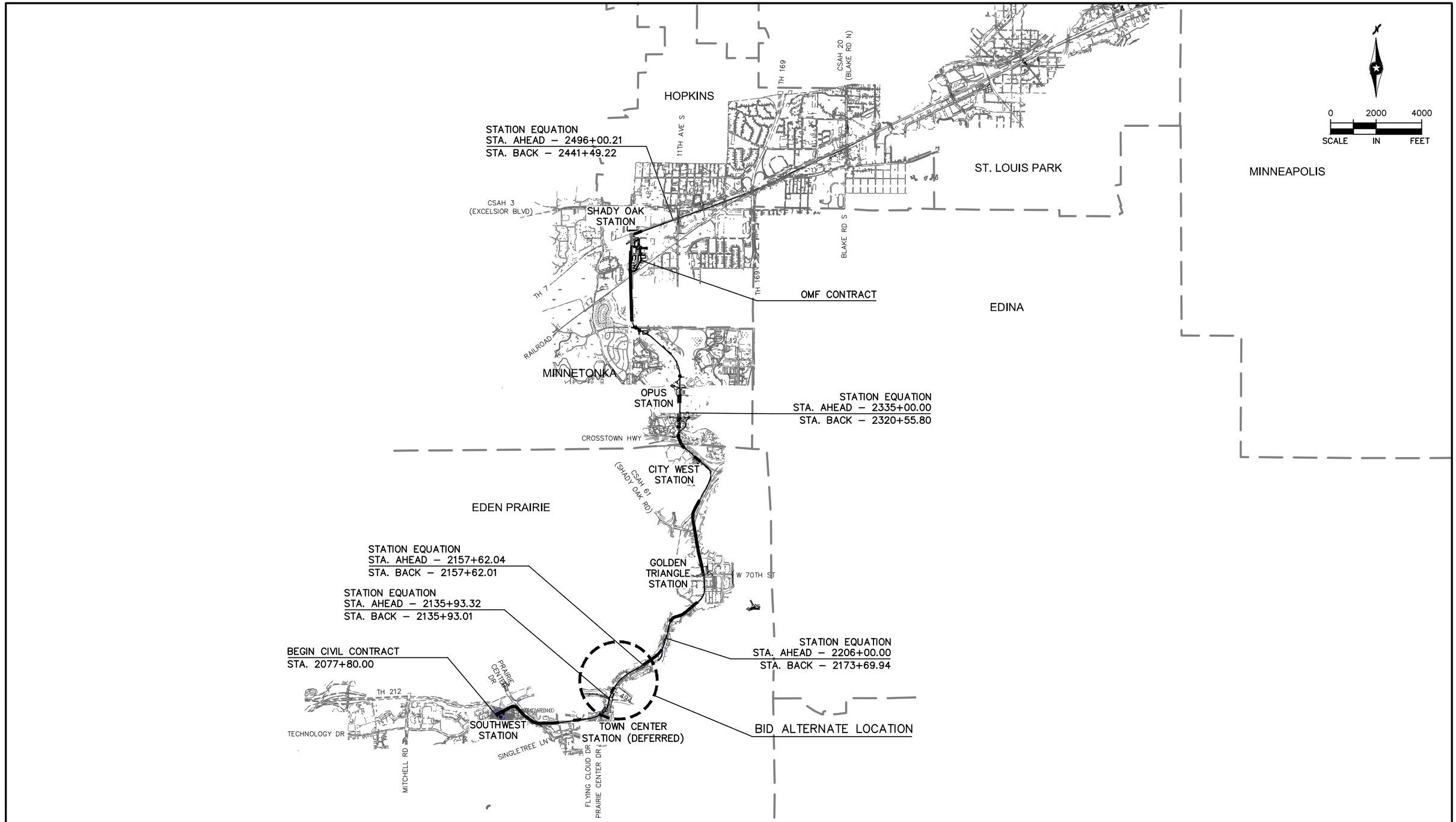
SOUTHWEST Green Line LRT Extension

CIVIL (BA13)
TRAIL BETWEEN LRT & CSAH 61
VOLUME INDEX OF PLAN SHEETS

DISCIPLINE: GENERAL

SHEET NAME: 00-GEN-IDX-001

SHEET 2 OF 81



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AECOM

90% SUBMISSION - 01/22/16

METROPOLITAN COUNCIL

SOUTHWEST Green Line LRT Extension

CIVIL (BA13)
TRAIL BETWEEN LRT TRACKS AND CSAH 61
GENERAL KEY MAP

SHEET 3 OF 81

DISCIPLINE: GENERAL

SHEET NAME: W0-GEN-KEY-001

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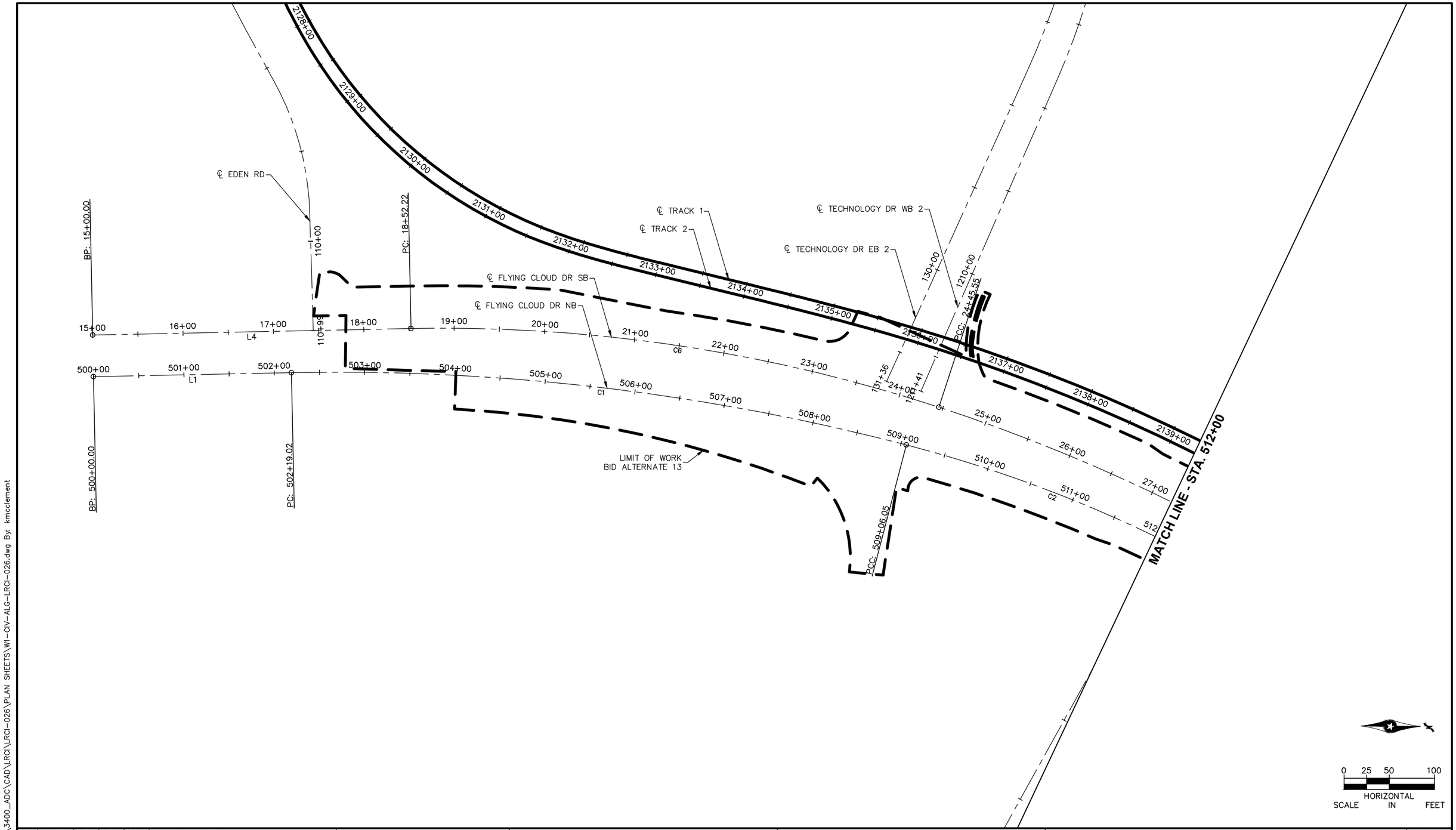

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METROPOLITAN COUNCIL

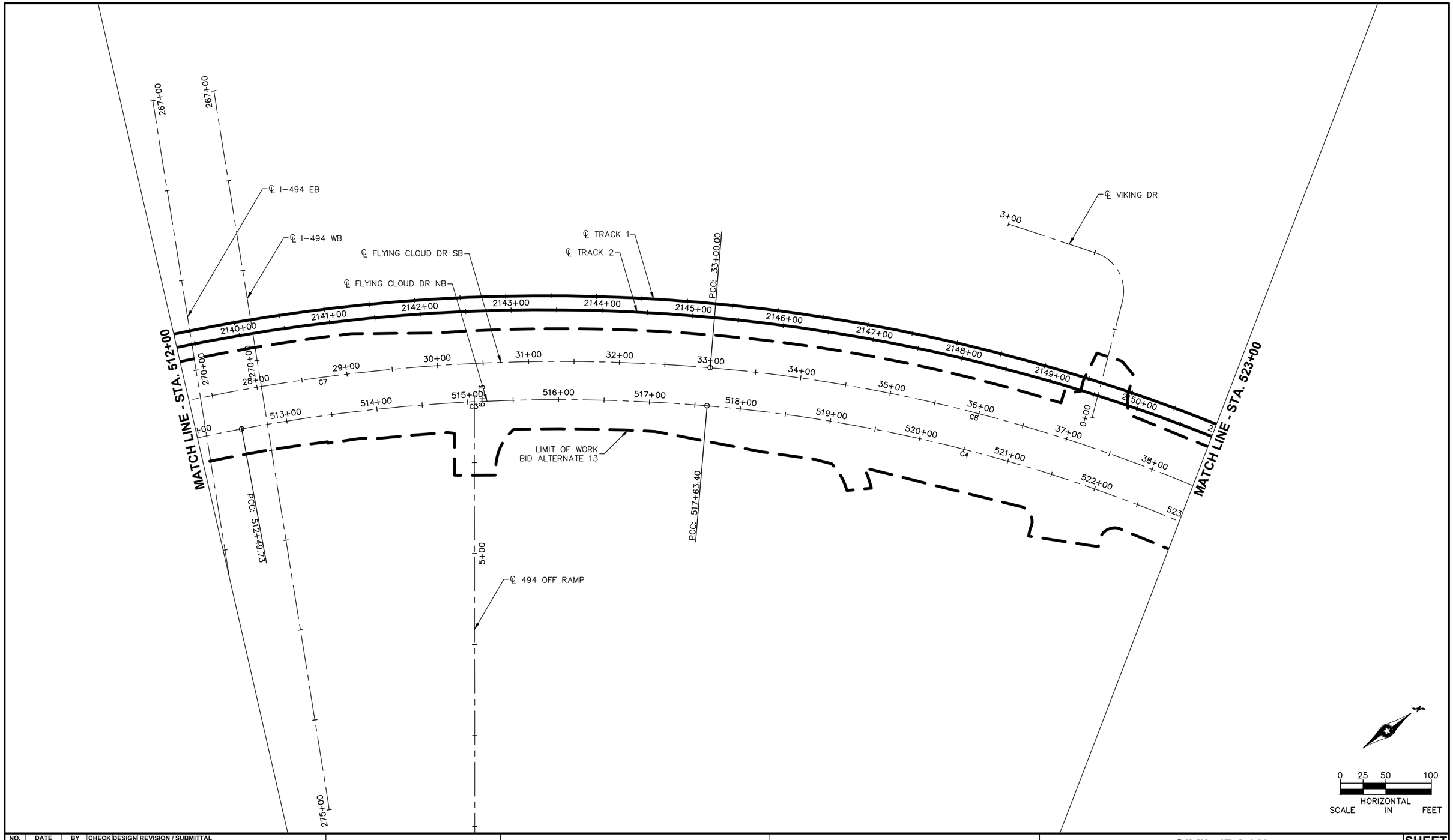
SOUTHWEST Green Line LRT Extension

CIVIL (BA13)
ROADWAY
ALIGNMENT PLANS
SHEET 1

DISCIPLINE: CIVIL

SHEET NAME: W1-CIV-ALG-009-LRCI-026

SHEET 4 OF 81



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SOUTHWEST Green Line LRT Extension

CIVIL (BA13)
ROADWAY
ALIGNMENT PLANS
SHEET 2

DISCIPLINE: CIVIL

SHEET NAME: W1-CIV-ALG-010-LRCI-026

SHEET 5 OF 81

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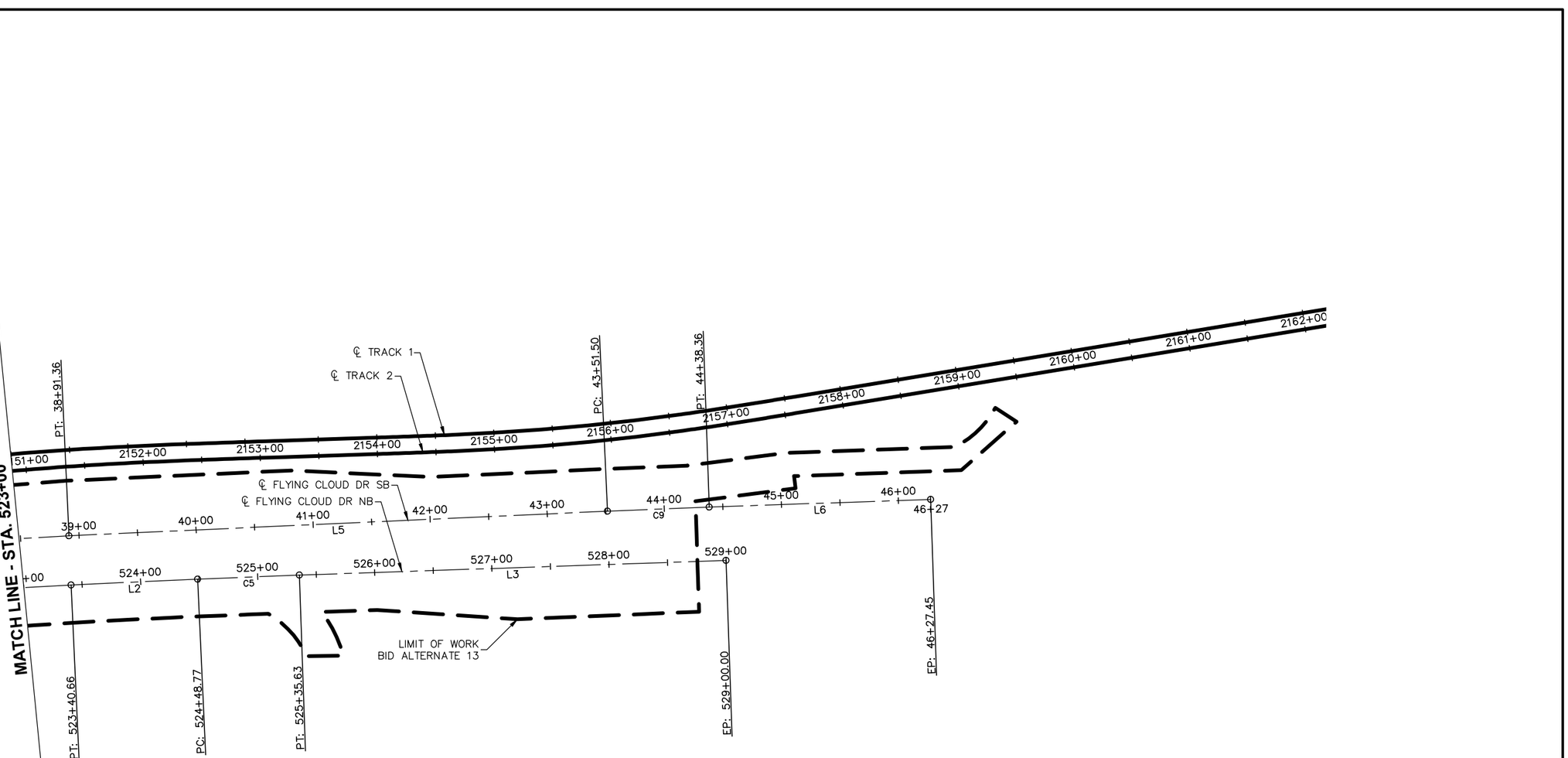

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HORIZONTAL SCALE IN FEET

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METROPOLITAN COUNCIL

SOUTHWEST Green Line LRT Extension

CIVIL (BA13)
ROADWAY
ALIGNMENT PLANS
SHEET 3

DISCIPLINE: CIVIL

SHEET NAME: W1-CIV-ALG-011-LRCI-026

SHEET 6 OF 81

Jan. 18 2016 11:42 am V:\3400_ADC\CAD\LRCI\LRCI-026\PLAN SHEETS\W1-CIV-ALG-LRCI-026.dwg By: kmcclement

ALIGNMENT DATA
FLYING CLOUD DR NB

SEGMENT NUMBER	BEGINNING STATION	ENDING STATION	PI STATION	NOTES	DELTA	DEGREE	RADIUS (FT)	TANGENT (FT)	LENGTH (FT)	BEGINNING COORDINATES NORTHING	BEGINNING COORDINATES EASTING	ENDING COORDINATES NORTHING	ENDING COORDINATES EASTING	AZIMUTH
L1	500+00.00	502+19.02							219.02	124818.42	489024.25	125037.39	489019.76	358°49'30"
C1	502+19.02	509+06.05	505+64.71		15°44'44"	2°17'30.59"	2500.00	345.69	687.03	125037.39	489019.76	125717.58	489099.64	358°49'30" 14°34'14"
C2	509+06.05	512+49.73	510+78.64		13°07'39"	3°49'10.99"	1500.00	172.60	343.68	125717.58	489099.64	126037.44	489223.29	14°34'14" 27°41'54"
C3	512+49.73	517+63.40	515+08.09		15°16'23"	2°58'23.93"	1927.00	258.37	513.67	126037.44	489223.29	126455.25	489519.49	27°41'54" 42°58'17"
C4	517+63.40	523+40.66	520+54.77		19°13'06"	3°19'45.17"	1721.00	291.37	577.27	126455.25	489519.49	126804.38	489975.81	42°58'17" 62°11'23"
L2	523+40.66	524+48.77							108.11	126804.38	489975.81	126854.82	490071.43	62°11'23"
C5	524+48.77	525+35.63	524+92.20		0°39'05"	0°45'00.15"	7639.00	43.43	86.86	126854.82	490071.43	126894.90	490148.49	62°11'23" 62°50'28"
L3	525+35.63	529+00.00							364.37	126894.90	490148.49	127061.22	490472.68	62°50'28"

ALIGNMENT DATA
FLYING CLOUD DR SB

SEGMENT NUMBER	BEGINNING STATION	ENDING STATION	PI STATION	NOTES	DELTA	DEGREE	RADIUS (FT)	TANGENT (FT)	LENGTH (FT)	BEGINNING COORDINATES NORTHING	BEGINNING COORDINATES EASTING	ENDING COORDINATES NORTHING	ENDING COORDINATES EASTING	AZIMUTH
L4	15+00.00	18+52.22							352.22	124817.47	488978.26	125169.62	488971.04	358°49'30"
C6	18+52.22	24+45.55	21+51.72		19°16'58"	3°14'59.65"	1763.00	299.50	593.33	125169.62	488971.04	125753.72	489057.98	358°49'30" 18°06'28"
C7	24+45.55	33+00.00	28+79.61		24°51'49"	2°54'35.61"	1969.00	434.06	854.45	125753.72	489057.98	126483.88	489488.76	18°06'28" 42°58'17"
C8	33+00.00	38+91.36	35+98.48		19°13'06"	3°14'59.65"	1763.00	298.48	591.35	126483.88	489488.76	126841.53	489956.22	42°58'17" 62°11'23"
L5	38+91.36	43+51.50							460.14	126841.53	489956.22	127056.21	490363.21	62°11'23"
C9	43+51.50	44+38.36	43+94.93		0°39'05"	0°45'00.15"	7639.00	43.43	86.86	127056.21	490363.21	127096.29	490440.27	62°11'23" 62°50'28"
L6	44+38.36	46+27.45							189.10	127096.29	490440.27	127182.61	490608.51	62°50'28"

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

AECOM SRF Consulting Group, Inc.

90% SUBMISSION - 01/22/16

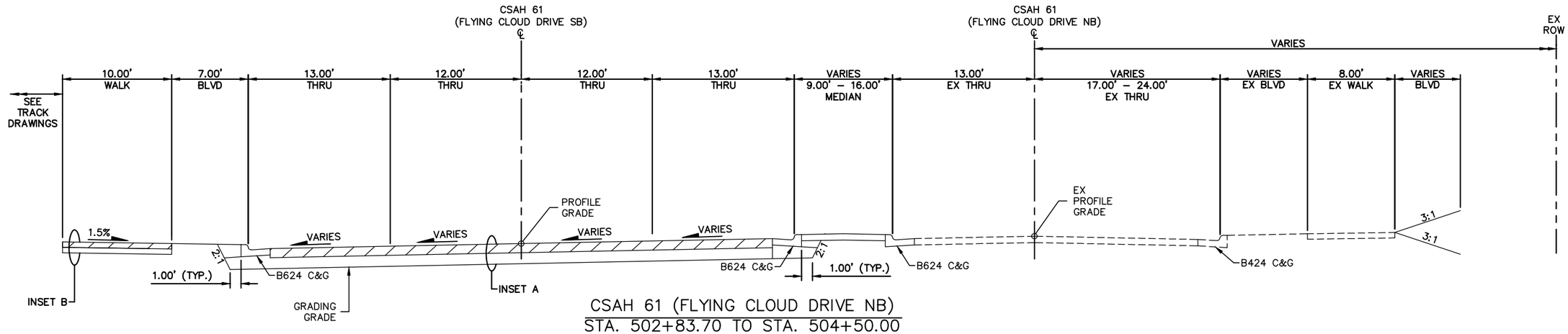
METROPOLITAN COUNCIL SOUTHWEST Green Line LRT Extension

CIVIL (BA13)
ROADWAY
ALIGNMENT TABULATIONS

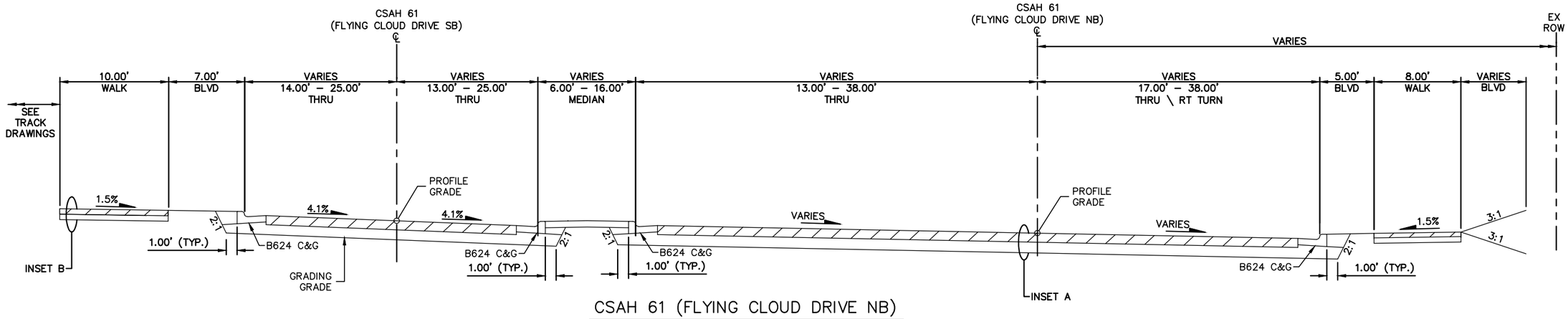
DISCIPLINE: CIVIL

SHEET NAME: W1-CIV-ALG-004-LRCI-026

SHEET 7 OF 81



CSAH 61 (FLYING CLOUD DRIVE NB)
STA. 502+83.70 TO STA. 504+50.00



CSAH 61 (FLYING CLOUD DRIVE NB)
STA. 504+50.00 TO STA. 508+24.64

0 2.5 5 10
HORIZONTAL
SCALE IN FEET

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

AECOM SRF Consulting Group, Inc.

90% SUBMISSION - 01/22/16

METROPOLITAN COUNCIL
SOUTHWEST Green Line LRT Extension

CIVIL (BA13)
ROADWAY
TYPICAL SECTIONS
SHEET 1

DISCIPLINE: CIVIL
SHEET NAME: W1-CIV-TYP-006-LRCI-026

SHEET 8 OF 81

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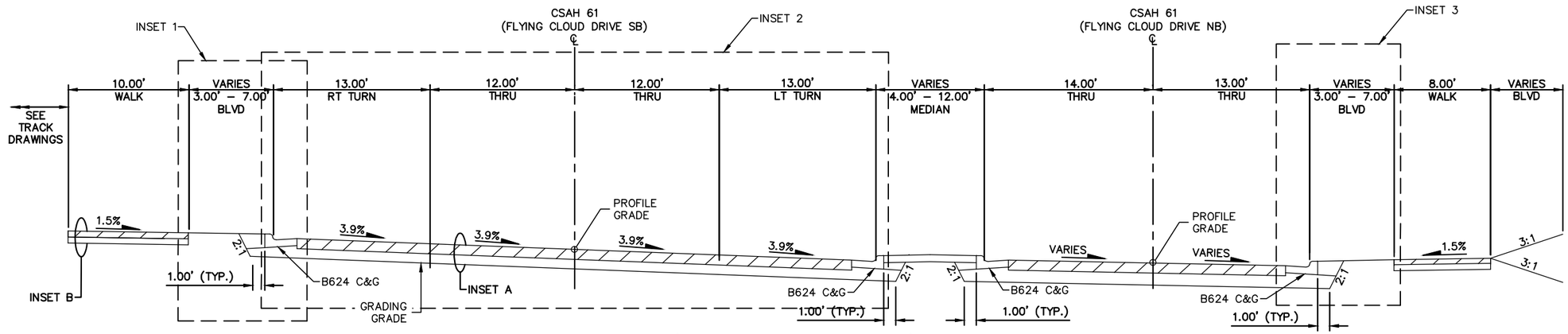
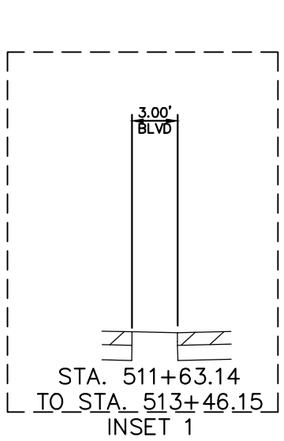
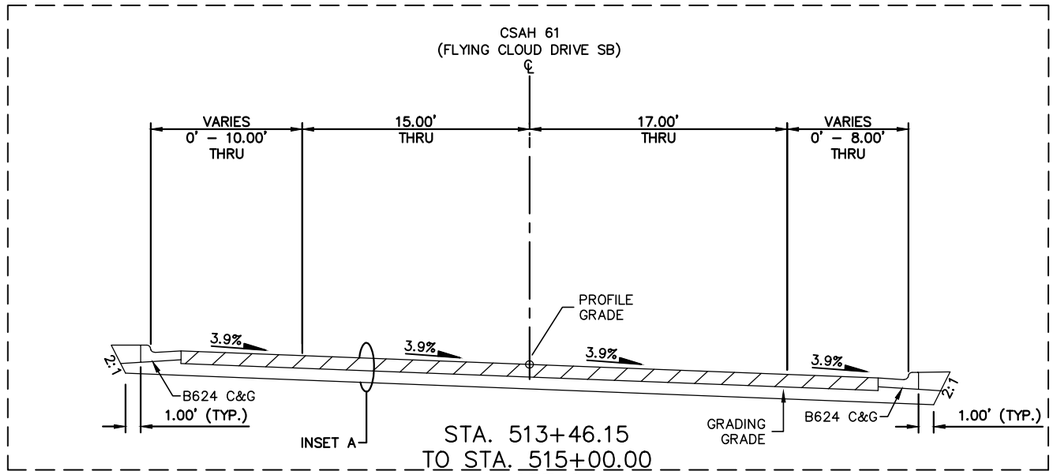


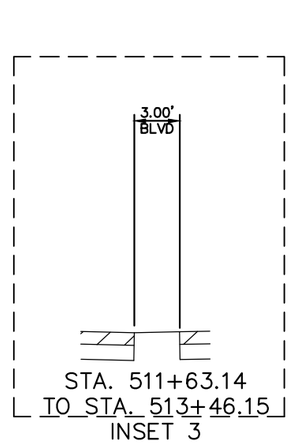
CSAH 61 (FLYING CLOUD DRIVE NB)
STA. 509+35.70 TO STA. 515+00.00



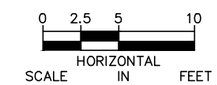
STA. 511+63.14
TO STA. 513+46.15
INSET 1



STA. 513+46.15
TO STA. 515+00.00
INSET 2



STA. 511+63.14
TO STA. 513+46.15
INSET 3



NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

AECOM SRF Consulting Group, Inc.

90% SUBMISSION - 01/22/16

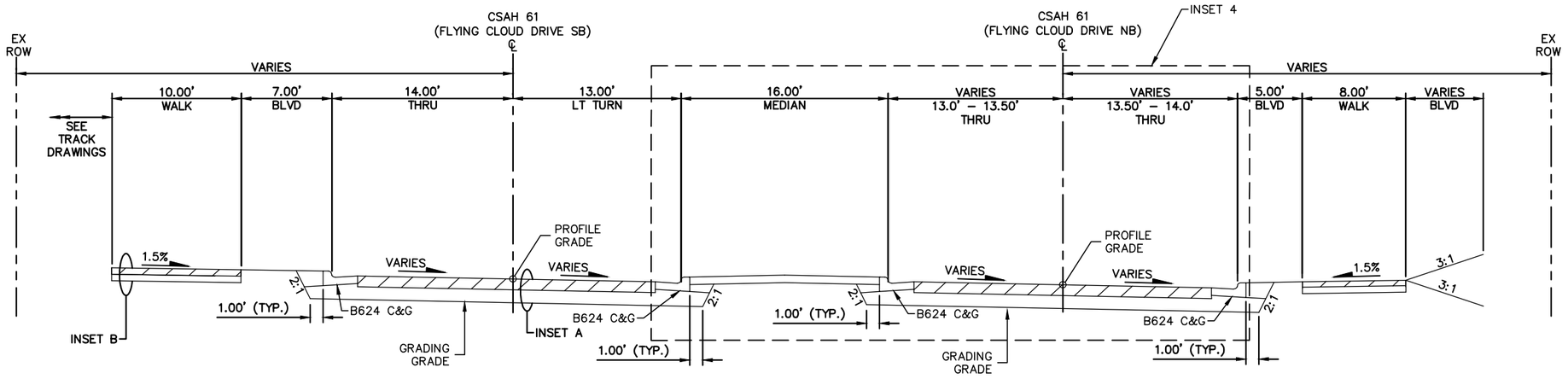
METROPOLITAN COUNCIL SOUTHWEST Green Line LRT Extension

CIVIL (BA13)
ROADWAY
TYPICAL SECTIONS
SHEET 2

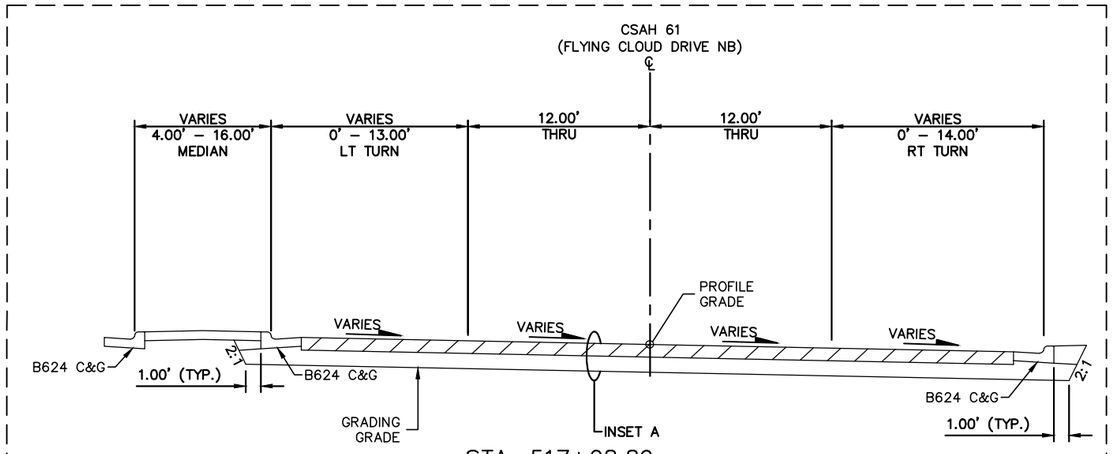
DISCIPLINE: CIVIL

SHEET NAME: W1-CIV-TYP-007-LRCI-026

SHEET 9 OF 81



CSAH 61 (FLYING CLOUD DRIVE NB)
STA. 515+00.00 TO STA. 521+80.87



STA. 517+08.89
TO STA. 521+80.87
INSET 4

0 2.5 5 10
HORIZONTAL SCALE IN FEET

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

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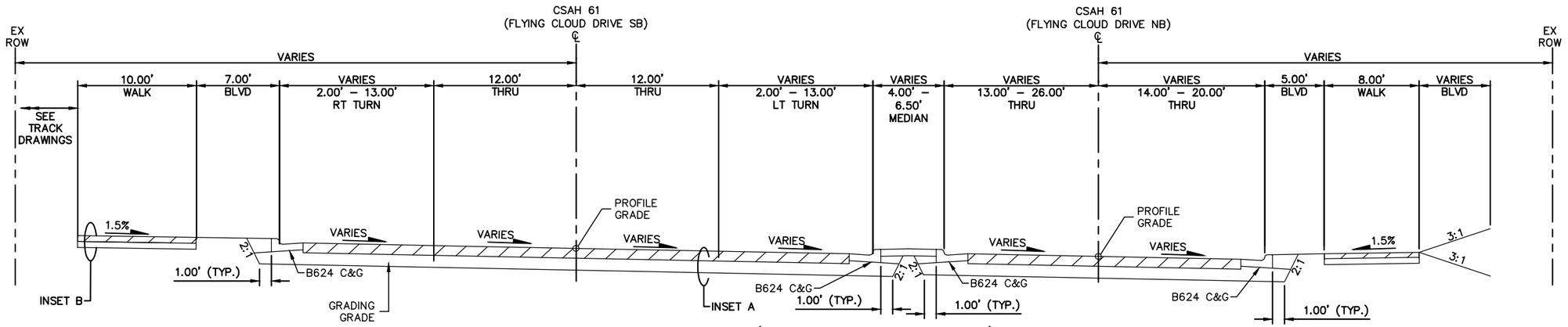
METROPOLITAN COUNCIL SOUTHWEST Green Line LRT Extension

CIVIL (BA13)
ROADWAY
TYPICAL SECTIONS
SHEET 3

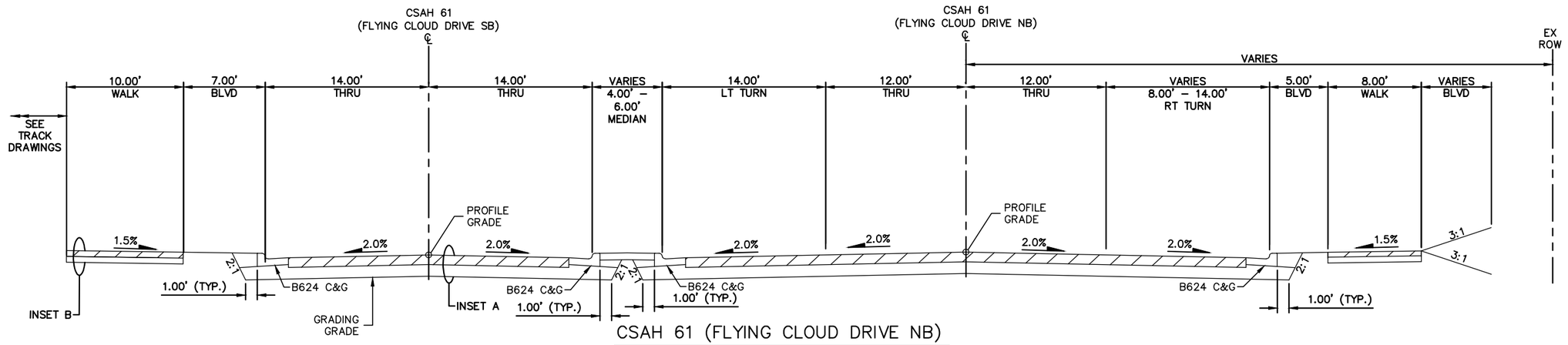
DISCIPLINE: CIVIL
SHEET NAME: W1-CIV-TYP-008-LRCI-026

SHEET 10 OF 81

Jan. 18 2016 11:42 am V:\3400_ADC\CAD\LRCI\LRCI-026\PLAN SHEETS\W1-CIV-TYP-LRCI-026.dwg By: kmcclement



CSAH 61 (FLYING CLOUD DRIVE NB)
STA. 521+80.87 TO STA. 526+50.00



CSAH 61 (FLYING CLOUD DRIVE NB)
STA. 526+50.00 TO STA. 529+70.61

0 2.5 5 10
HORIZONTAL
SCALE IN FEET

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

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METROPOLITAN COUNCIL

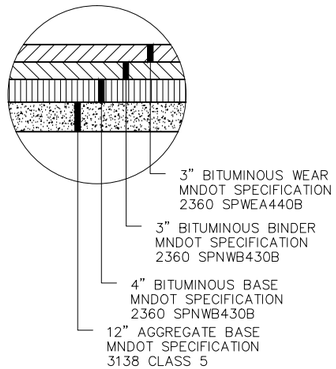
SOUTHWEST Green Line LRT Extension

CIVIL (BA13)
ROADWAY
TYPICAL SECTIONS
SHEET 4

DISCIPLINE: CIVIL

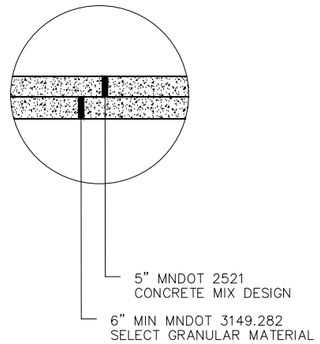
SHEET NAME: W1-CIV-TYP-009-LRCI-026

SHEET 11 OF 81



INSET A

FLYING CLOUD DRIVE



INSET B

CONCRETE WALK

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

AECOM

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METROPOLITAN COUNCIL

SOUTHWEST Green Line LRT Extension

CIVIL (BA13)
ROADWAY
PAVEMENT INSETS

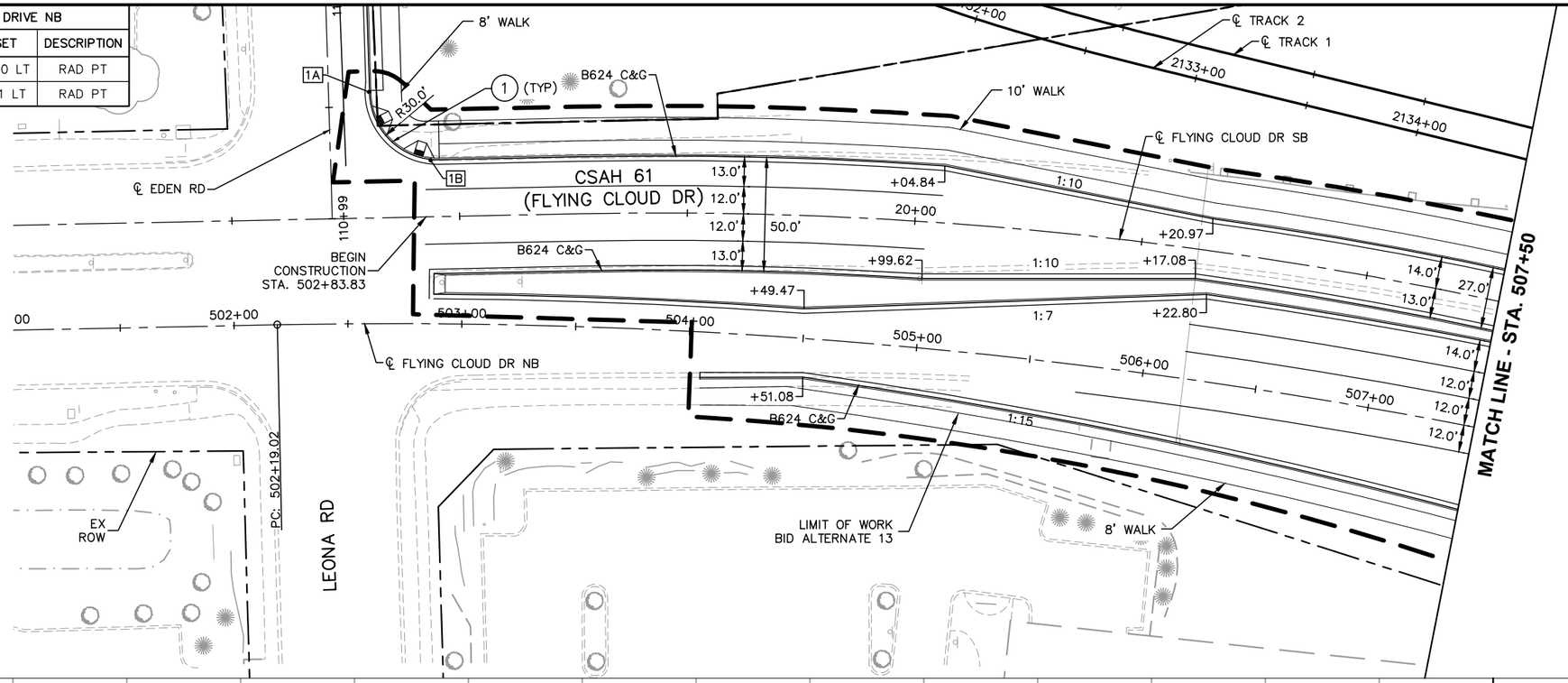
DISCIPLINE: CIVIL

SHEET NAME: W0-CIV-TYP-001-LRCI-026

SHEET 12 OF 81

Jan, 18 2016 11:42 am V:\3400_ADC\CAD\LRC\LRCI-026\PLAN SHEETS\W1-CIV-TYP-LRCI-026.dwg By: kmcclement

FLYING CLOUD DRIVE NB			
#	STATION	OFFSET	DESCRIPTION
1A	502+59.89	−101.60 LT	RAD PT
1B	502+85.65	−71.91 LT	RAD PT



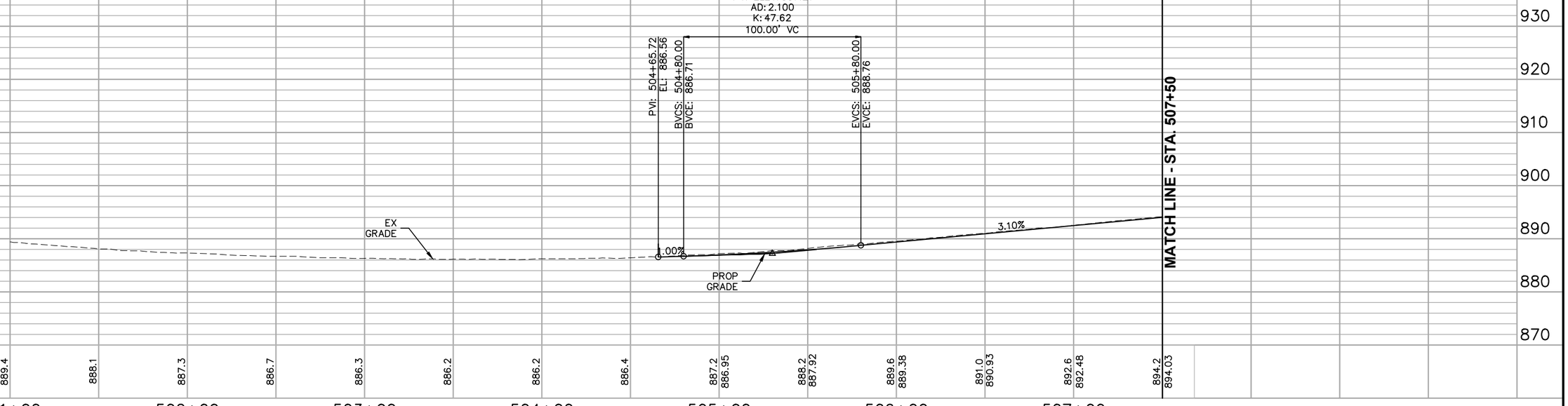
CONSTRUCTION NOTES

1. PEDESTRIAN CURB RAMP PER MNDOT STANDARD PLAN 5−297.250
2. PLATE BEAM GUARDRAIL DESIGN B PER MNDOT STANDARD PLATE 8307
3. THRIE BEAM BULLNOSE GUARDRAIL PER MNDOT STANDARD PLAN 5−297.611
4. BRIDGE APPROACH PANEL PER MNDOT STANDARD PLANS 5−297.224 THRU 5−297.233
5. DRIVEWAY APRON PER CITY OF EDEN PRAIRIE STANDARD DETAIL R−14
6. DRIVEWAY APRON PER CITY OF HOPKINS STANDARD PLATE STRT−6A

NOTES

1. ROADWAY PAVEMENT SHOWN IS BITUMINOUS UNLESS OTHERWISE NOTED
2. SEE ROADWAY DETAIL GRADING PLANS FOR ADDITIONAL INFORMATION
3. FOR LEGEND AND ADDITIONAL CONSTRUCTION NOTES SEE "CONSTRUCTION NOTES AND LEGEND"

VERTICAL 0 5 10 20
HORIZONTAL 0 15 30 60
SCALE IN FEET



NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

AECOM SRF Consulting Group, Inc.

90% SUBMISSION - 01/22/16

METROPOLITAN COUNCIL SOUTHWEST Green Line LRT Extension

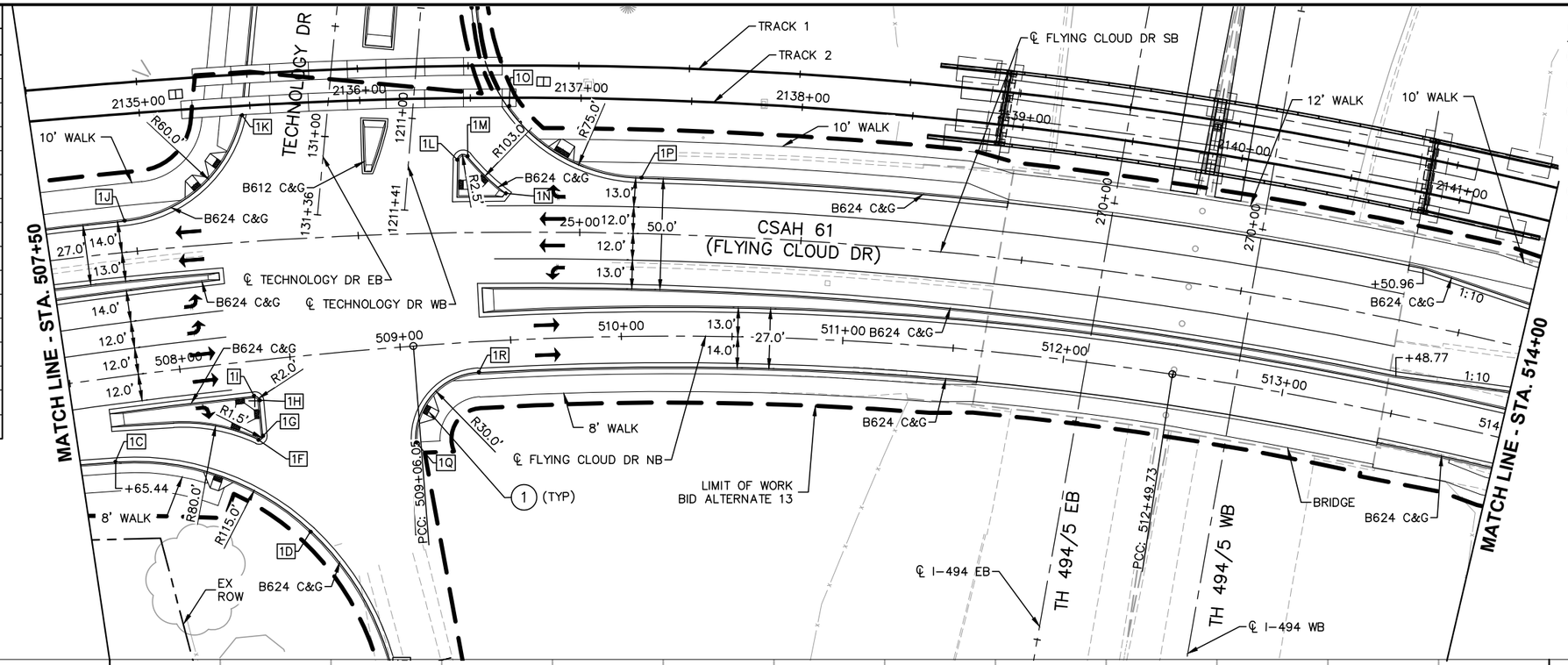
CIVIL (BA13)
CSAH 61 (FLYING CLOUD DRIVE)
PLAN AND PROFILE
STA. 501+00 TO STA. 507+50

DISCIPLINE: CIVIL
SHEET NAME: W1-CIV-PRF-019-LRCI-026

SHEET 13 OF 81

Jan, 18 2016 11:47 am V:\3400_ADC\CAD\LRCI\LRCI-026\PLAN SHEETS\W1-CIV-PRF-LRCI-026.dwg By: kmclement

FLYING CLOUD DRIVE NB			
#	STATION	OFFSET	DESCRIPTION
1C	507+65.44	38.00 RT	RAD PT
1D	508+51.68	79.12 RT	RAD PT
1E	508+84.07	145.90 RT	RAD PT
1F	508+31.71	35.52 RT	RAD PT
1G	508+34.01	34.26 RT	RAD PT
1H	508+34.20	18.02 RT	RAD PT
1I	508+32.19	16.00 RT	RAD PT
1J	507+83.76	−69.36 LT	RAD PT
1K	508+39.72	−110.95 LT	RAD PT
1L	509+31.08	−82.30 LT	RAD PT
1M	509+35.36	−83.57 LT	RAD PT
1N	509+50.72	−66.24 LT	RAD PT
1O	509+54.09	−105.24 LT	RAD PT
1P	510+09.53	−71.26 LT	RAD PT
1Q	509+03.79	43.28 RT	RAD PT
1R	509+34.65	14.00 RT	RAD PT



CONSTRUCTION NOTES

1. PEDESTRIAN CURB RAMP PER MNDOT STANDARD PLAN 5-297.250
2. PLATE BEAM GUARDRAIL DESIGN B PER MNDOT STANDARD PLATE 8307
3. THRIE BEAM BULLNOSE GUARDRAIL PER MNDOT STANDARD PLAN 5-297.611
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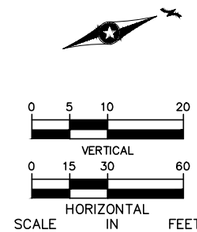
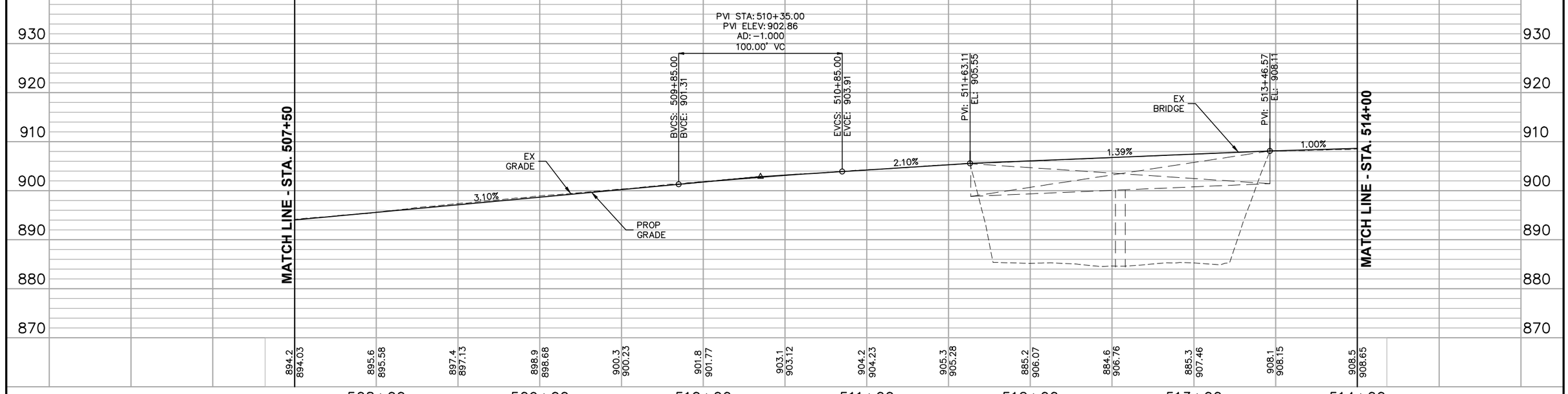
5. DRIVEWAY APRON PER CITY OF EDEN PRAIRIE STANDARD DETAIL R-14
6. DRIVEWAY APRON PER CITY OF HOPKINS STANDARD PLATE STRT-6A

NOTES

1. ROADWAY PAVEMENT SHOWN IS BITUMINOUS UNLESS OTHERWISE NOTED
2. SEE ROADWAY DETAIL GRADING PLANS FOR ADDITIONAL INFORMATION
3. FOR LEGEND AND ADDITIONAL CONSTRUCTION NOTES SEE "CONSTRUCTION NOTES AND LEGEND"





NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

AECOM SRF Consulting Group, Inc.

90% SUBMISSION - 01/22/16

METROPOLITAN COUNCIL SOUTHWEST Green Line LRT Extension

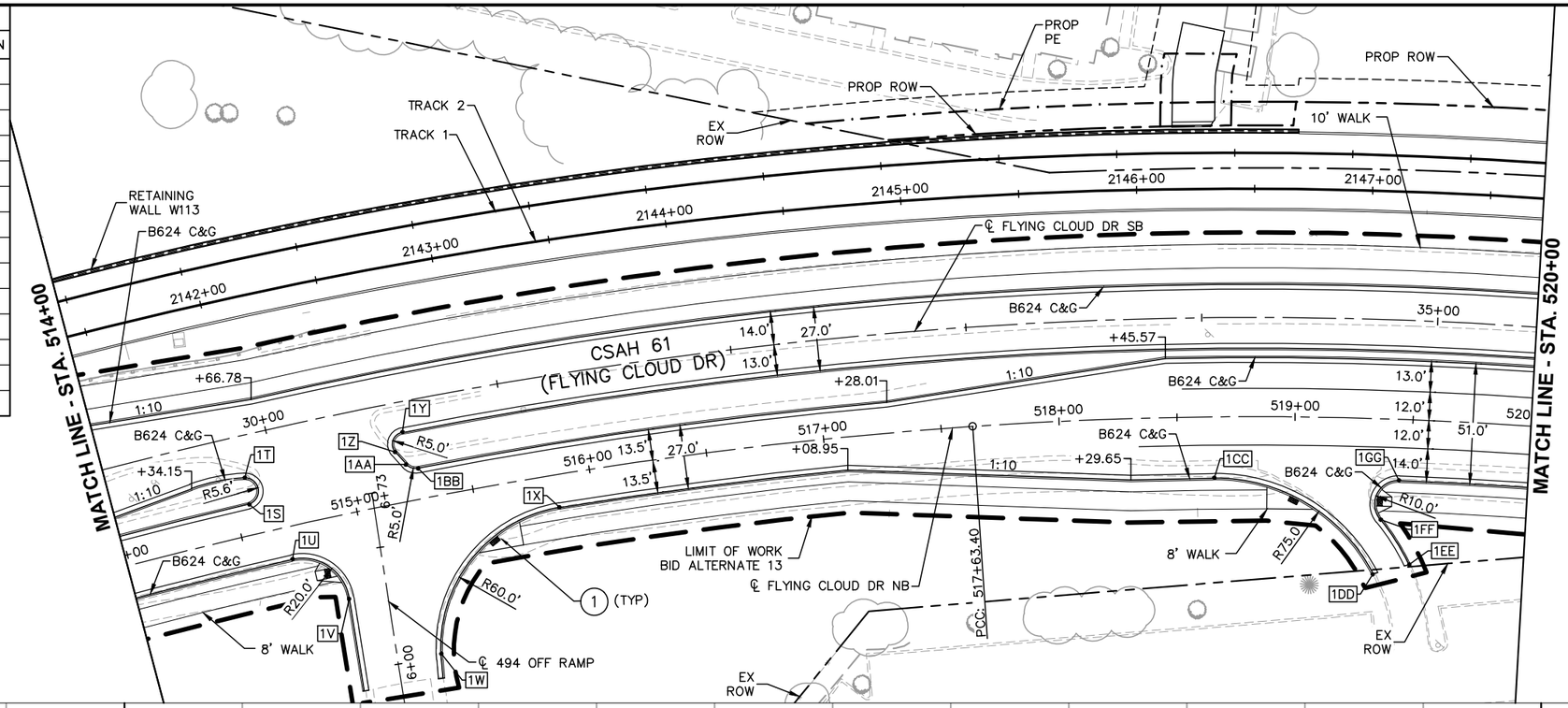
CIVIL (BA13)
CSAH 61 (FLYING CLOUD DRIVE)
PLAN AND PROFILE
STA. 507+50 TO STA. 514+00

DISCIPLINE: CIVIL
SHEET NAME: W1-CIV-PRF-020-LRCI-026

SHEET 14 OF 81

Jan, 18 2016 11:48 am V:\3400_ADC\CAD\LRCI\LRCI-026\PLAN SHEETS\W1-CIV-PRF-LRCI-026.dwg By: kmclement

FLYING CLOUD DRIVE NB			
#	STATION	OFFSET	DESCRIPTION
1T	514+56.81	−24.15 LT	RAD PT
1U	514+68.74	14.00 RT	RAD PT
1V	514+89.07	35.13 RT	RAD PT
1W	515+23.31	65.79 RT	RAD PT
1X	515+85.05	14.00 RT	RAD PT
1Y	515+25.14	−29.00 LT	RAD PT
1Z	515+20.91	−21.43 LT	RAD PT
1AA	515+24.47	−15.42 LT	RAD PT
1BB	515+28.72	−13.00 LT	RAD PT
1CC	518+65.46	26.00 RT	RAD PT
1DD	519+35.03	65.74 RT	RAD PT
1EE	519+50.61	61.37 RT	RAD PT
1FF	519+37.41	42.61 RT	RAD PT
1GG	519+45.08	26.00 RT	RAD PT



CONSTRUCTION NOTES

1. PEDESTRIAN CURB RAMP PER MNDOT STANDARD PLAN 5−297.250
2. PLATE BEAM GUARDRAIL DESIGN B PER MNDOT STANDARD PLATE 8307
3. THRIE BEAM BULLNOSE GUARDRAIL PER MNDOT STANDARD PLAN 5−297.611
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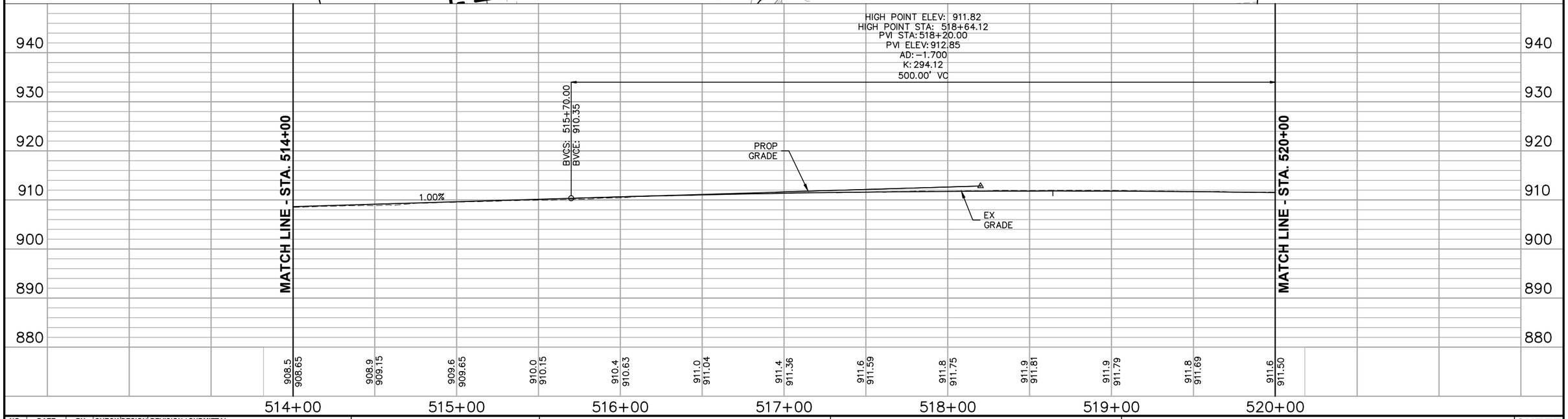
5. DRIVEWAY APRON PER CITY OF EDEN PRAIRIE STANDARD DETAIL R−14
6. DRIVEWAY APRON PER CITY OF HOPKINS STANDARD PLATE STRT−6A

NOTES

1. ROADWAY PAVEMENT SHOWN IS BITUMINOUS UNLESS OTHERWISE NOTED
2. SEE ROADWAY DETAIL GRADING PLANS FOR ADDITIONAL INFORMATION
3. FOR LEGEND AND ADDITIONAL CONSTRUCTION NOTES SEE "CONSTRUCTION NOTES AND LEGEND"

0 5 10 20
VERTICAL
0 15 30 60
HORIZONTAL
SCALE IN FEET



NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

AECOM SRF Consulting Group, Inc. METROPOLITAN COUNCIL SOUTHWEST Green Line LRT Extension

90% SUBMISSION - 01/22/16

CIVIL (BA13)
CSAH 61 (FLYING CLOUD DRIVE)
PLAN AND PROFILE
STA. 514+00 TO STA. 520+00

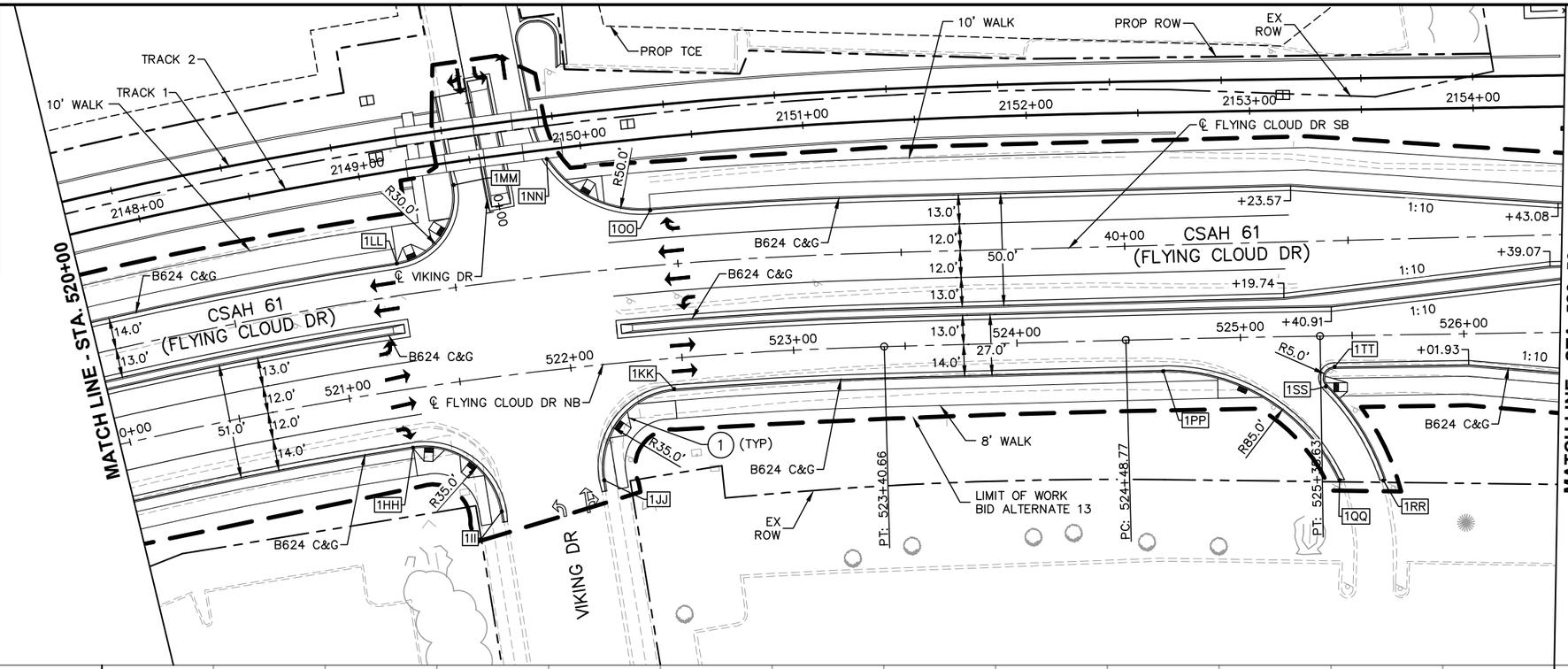
DISCIPLINE: CIVIL

SHEET NAME: W1-CIV-PRF-021-LRCI-026

SHEET 15 OF 81

Jan, 18 2016 11:48 am v:\3400_ADC\CAD\LRCI\LRCI-026\PLAN SHEETS\W1-CIV-PRF-LRCI-026.dwg By: kmcclement

FLYING CLOUD DRIVE NB			
#	STATION	OFFSET	DESCRIPTION
1LL	521+30.03	−56.00 LT	RAD PT
1MM	521+58.56	−87.53 LT	RAD PT
1NN	521+99.51	−94.29 LT	RAD PT
1OO	522+41.48	−67.00 LT	RAD PT
1PP	524+65.05	14.00 RT	RAD PT
1QQ	525+43.43	64.32 RT	RAD PT
1RR	525+62.82	64.86 RT	RAD PT
1SS	525+38.25	22.49 RT	RAD PT
1TT	525+41.83	14.00 RT	RAD PT



CONSTRUCTION NOTES

1. PEDESTRIAN CURB RAMP PER MNDOT STANDARD PLAN 5−297.250
2. PLATE BEAM GUARDRAIL DESIGN B PER MNDOT STANDARD PLATE 8307
3. THRIE BEAM BULLNOSE GUARDRAIL PER MNDOT STANDARD PLAN 5−297.611
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5. DRIVEWAY APRON PER CITY OF EDEN PRAIRIE STANDARD DETAIL R−14
6. DRIVEWAY APRON PER CITY OF HOPKINS STANDARD PLATE STRT−6A

NOTES

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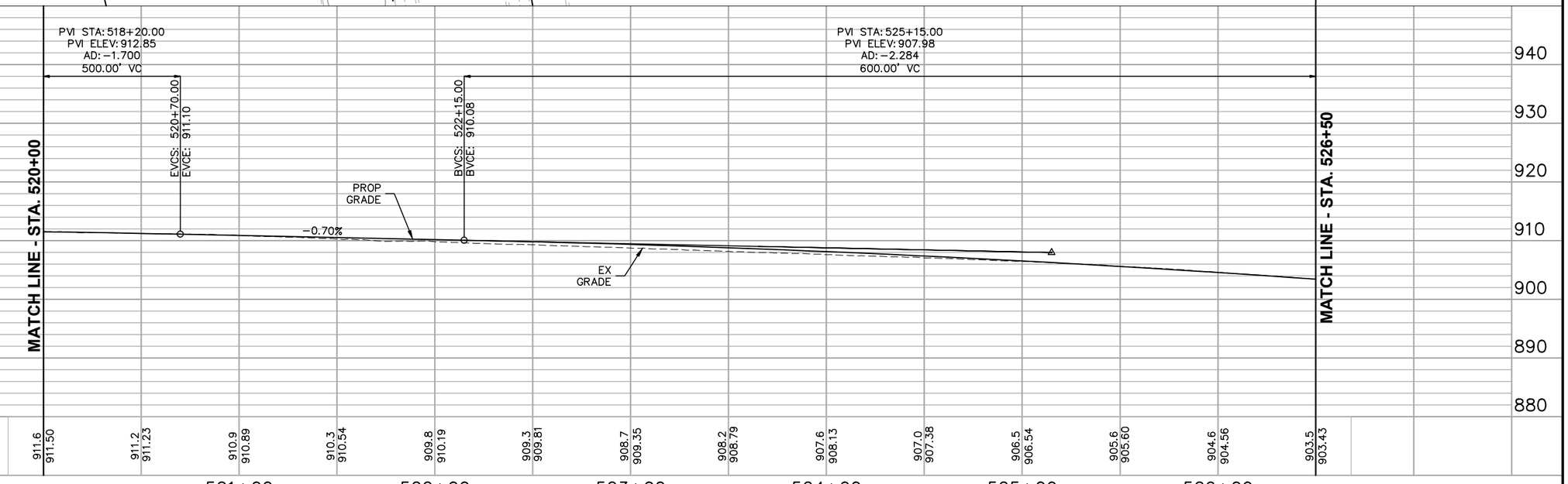
0 5 10 20
VERTICAL
0 15 30 60
HORIZONTAL
SCALE IN FEET



NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

AECOM SRF Consulting Group, Inc.

90% SUBMISSION - 01/22/16

METROPOLITAN COUNCIL SOUTHWEST Green Line LRT Extension

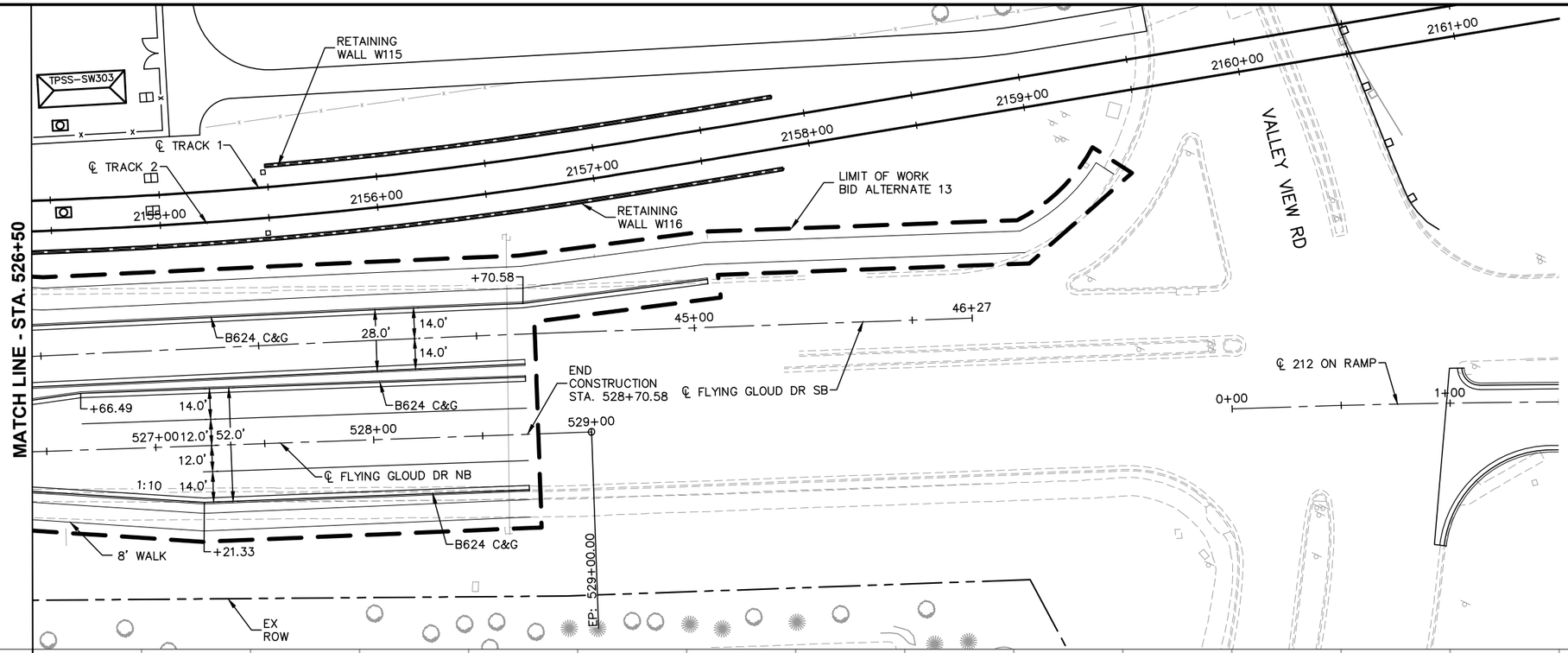
CIVIL (BA13)
CSAH 61 (FLYING CLOUD DRIVE)
PLAN AND PROFILE
STA. 520+00 TO STA. 526+50

DISCIPLINE: CIVIL

SHEET NAME: W1-CIV-PRF-022-LRCI-026

SHEET 16 OF 81

Jan, 18 2016 11:49 am V:\3400_ADC\CAD\LRCI\LRCI-026\PLAN SHEETS\W1-CIV-PRF-LRCI-026.dwg By: kmcclement



CONSTRUCTION NOTES

1. PEDESTRIAN CURB RAMP PER MNDOT STANDARD PLAN 5-297.250
2. PLATE BEAM GUARDRAIL DESIGN B PER MNDOT STANDARD PLATE 8307
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NOTES

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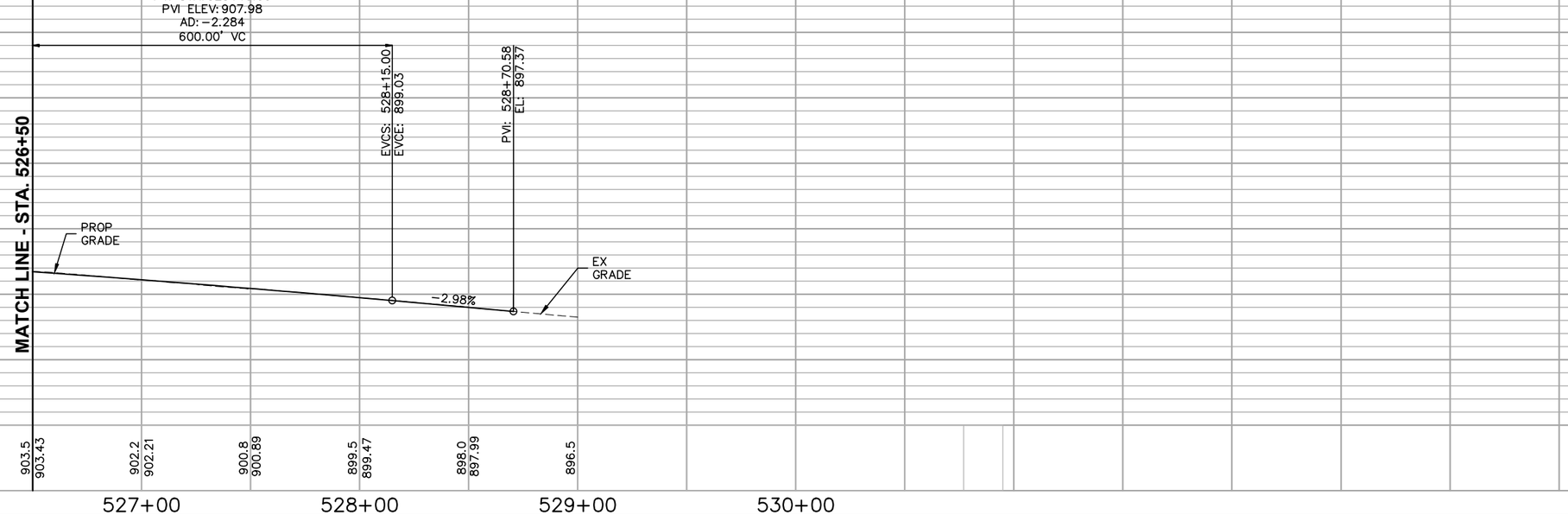
0 5 10 20
VERTICAL
0 15 30 60
HORIZONTAL
SCALE IN FEET



NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

AECOM SRF Consulting Group, Inc.

90% SUBMISSION - 01/22/16

METROPOLITAN COUNCIL SOUTHWEST Green Line LRT Extension

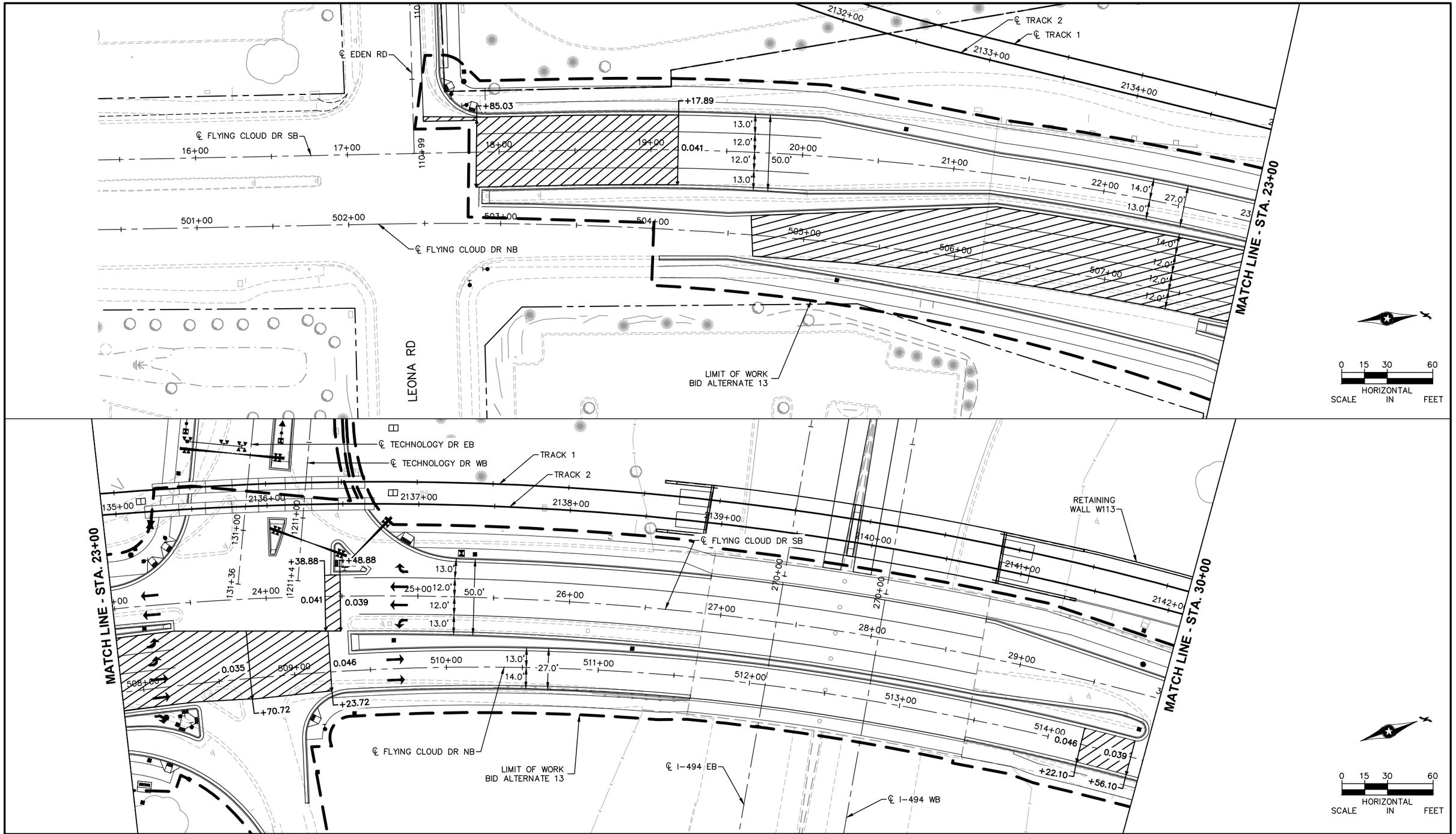
CIVIL (BA13)
CSAH 61 (FLYING CLOUD DRIVE)
PLAN AND PROFILE
STA. 526+50 TO STA. 530+77

DISCIPLINE: CIVIL

SHEET NAME: W1-CIV-PRF-023-LRCI-026

SHEET 17 OF 81

Jan, 18 2016 11:49 am V:\3400_ADC\CAD\LRCI\LRCI-026\PLAN SHEETS\W1-CIV-PRF-LRCI-026.dwg By: kmcclement



NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

AECOM SRF Consulting Group, Inc.

90% SUBMISSION - 01/22/16

METROPOLITAN COUNCIL

SOUTHWEST Green Line LRT Extension

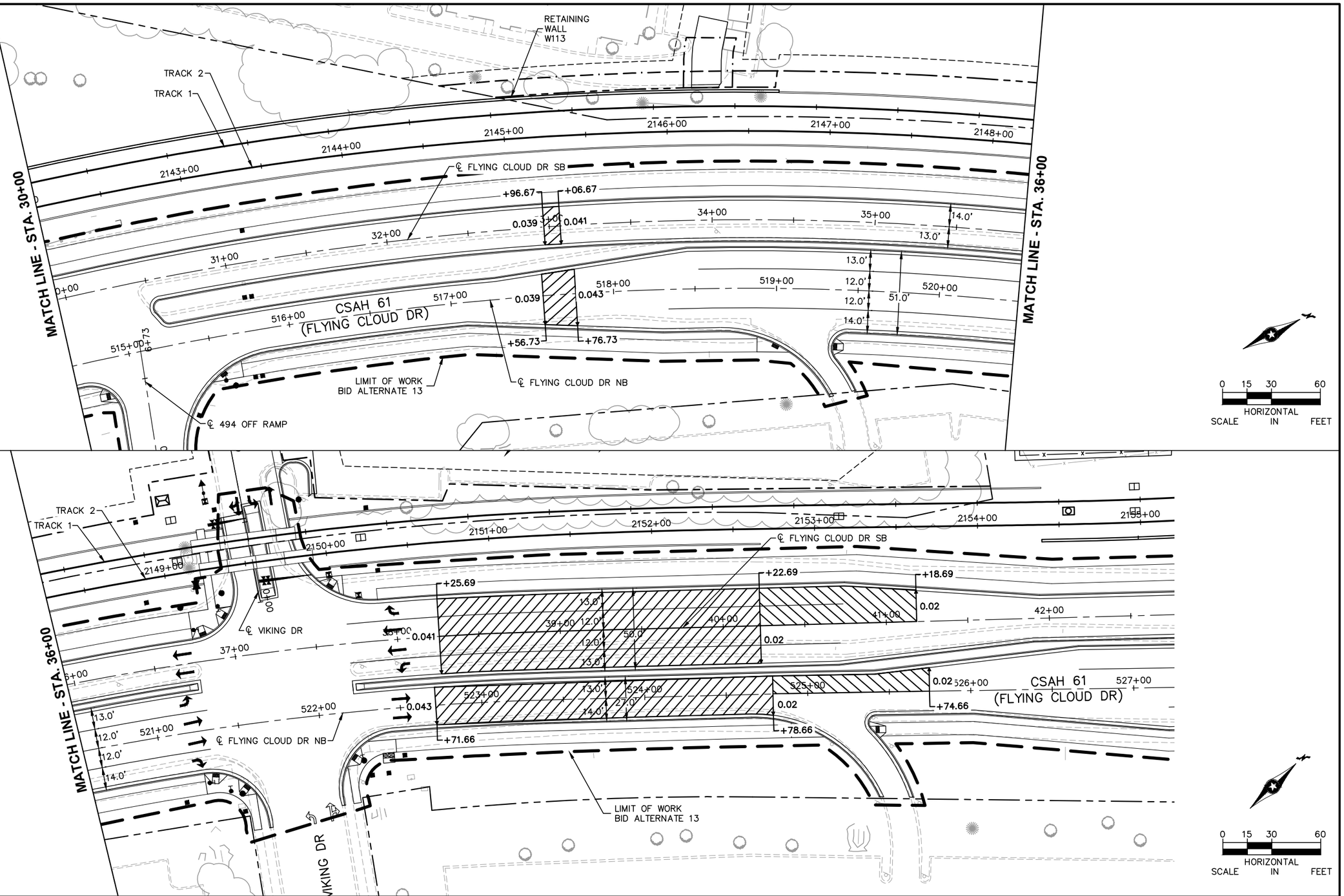
CIVIL (BA13)
ROADWAY
SUPERELEVATION PLANS
SHEET 1

DISCIPLINE: CIVIL

SHEET NAME: W1-CIV-SUP-005-LRCI-026

SHEET 18 OF 81

Jan. 18 2016 11:52 am V:\3400_ADC\CAD\LRCI\LRCI-026\PLAN SHEETS\W1-CIV-SUP-LRCI-026.dwg By: kmcclement



NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

AECOM SRF Consulting Group, Inc.

90% SUBMISSION - 01/22/16

METROPOLITAN COUNCIL

SOUTHWEST Green Line LRT Extension

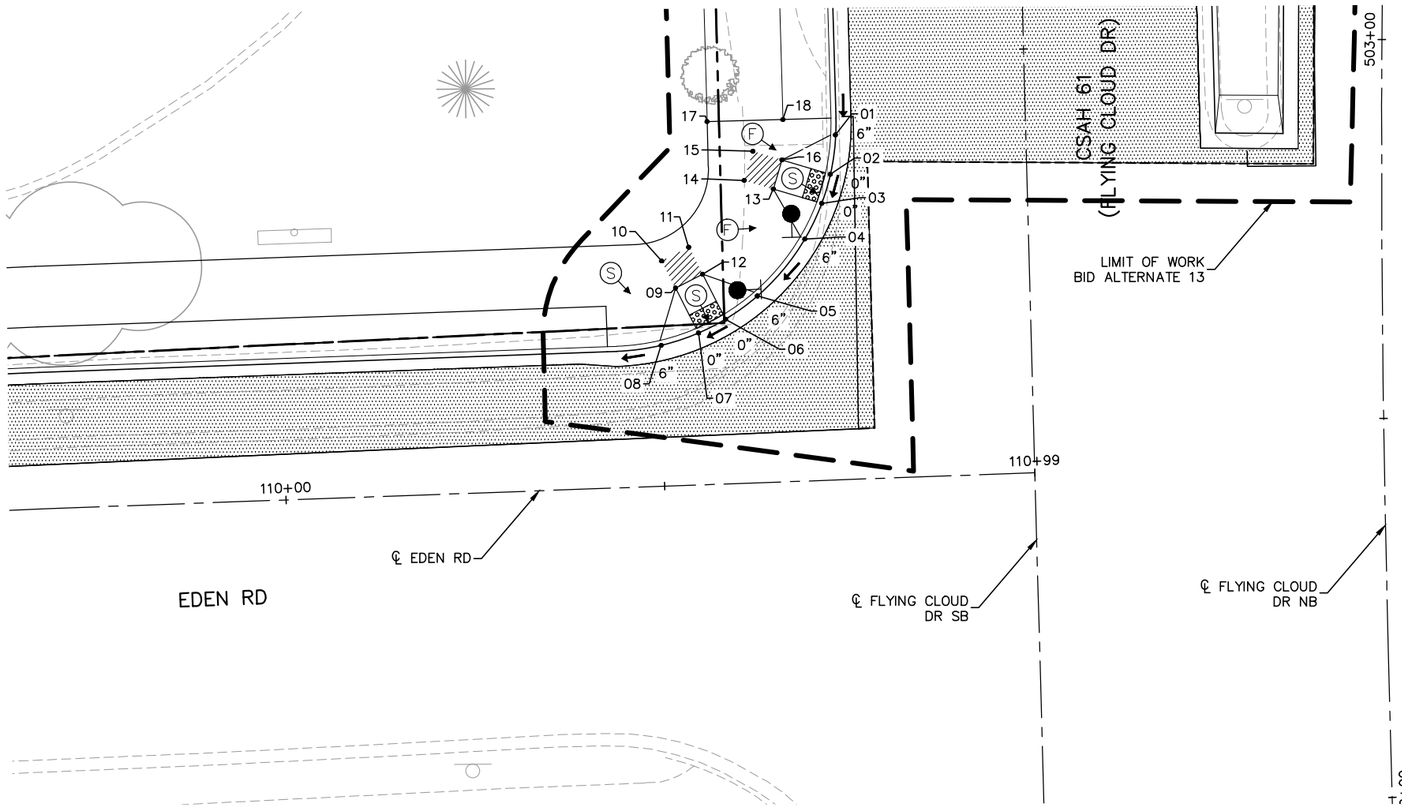
CIVIL (BA13)
ROADWAY
SUPERELEVATION PLANS
SHEET 2

DISCIPLINE: CIVIL

SHEET NAME: W1-CIV-SUP-006-LRCI-026

SHEET 19 OF 81

Jan, 19 2016 08:38 am V:\3400_ADC\CAD\LRCI\LRCI-026\PLAN SHEETS\W1-CIV-SUP-LRCI-026.dwg By: kmcclement



LEGEND

- XXX — CONTROL POINTS
- TRUNCATED DOMES (SEE STANDARD PLATE 7038)
- CONSTRUCT CONCRETE CURB AND GUTTER
- BITUMINOUS TREATMENT
- XX" — CURB HEIGHT
- LANDING AREA – 4'X4' MIN. DIMENSIONS AND MAX. 2.0% SLOPE IN ALL DIRECTIONS
- (S) — INDICATES PEDESTRIAN RAMP – SLOPE SHALL BE BETWEEN 5.0% MIMIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%
- (F) — INDICATES PEDESTRIAN RAMP – SLOPE SHALL BE GREATER THAN 2.0% AND LESS THAN 5.0% IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%
- DRAINAGE FLOW ARROW
- PEDESTRIAN PUSH BUTTON

POINT TABLE					
#	DESCRIPTION	STATION	OFFSET	ELEVATION	REFERENCE ALIGNMENT
01	F/L	17+89.33	−25.13 LT	886.29	FLYING CLOUD DR SB
02	F/L	17+84.15	−25.93 LT	886.28	FLYING CLOUD DR SB
03	F/L	17+80.35	−27.17 LT	886.27	FLYING CLOUD DR SB
04	F/L	17+75.72	−29.52 LT	886.26	FLYING CLOUD DR SB
05	F/L	17+68.38	−35.99 LT	886.25	FLYING CLOUD DR SB
06	F/L	17+65.42	−40.27 LT	886.24	FLYING CLOUD DR SB
07	F/L	17+63.69	−43.87 LT	886.23	FLYING CLOUD DR SB
08	F/L	17+62.21	−48.86 LT	886.22	FLYING CLOUD DR SB
09	LANDING	17+69.71	−46.75 LT	886.78	FLYING CLOUD DR SB
10	LANDING	17+73.32	−48.48 LT	886.86	FLYING CLOUD DR SB
11	LANDING	17+75.04	−44.87 LT	886.87	FLYING CLOUD DR SB
12	LANDING	17+71.44	−43.15 LT	886.79	FLYING CLOUD DR SB

POINT TABLE					
#	DESCRIPTION	STATION	OFFSET	ELEVATION	REFERENCE ALIGNMENT
13	LANDING	17+82.42	−33.51 LT	886.76	FLYING CLOUD DR SB
14	LANDING	17+83.66	−37.31 LT	886.84	FLYING CLOUD DR SB
15	LANDING	17+87.47	−36.07 LT	886.91	FLYING CLOUD DR SB
16	LANDING	17+86.22	−32.27 LT	886.83	FLYING CLOUD DR SB
17	LANDING	17+91.55	−42.00 LT	886.93	FLYING CLOUD DR SB
18	LANDING	17+91.55	−32.00 LT	886.92	FLYING CLOUD DR SB

0 5 10 20
HORIZONTAL SCALE IN FEET

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

AECOM SRF Consulting Group, Inc.

90% SUBMISSION - 01/22/16

METROPOLITAN COUNCIL
SOUTHWEST Green Line LRT Extension

CIVIL (BA13)
ROADWAY
INTERSECTION DETAILS
SHEET 1

DISCIPLINE: CIVIL
SHEET NAME: W1-CIV-INT-011-LRCI-026

SHEET 20 OF 81

Jan, 18 2016 11:54 am V:\3400_ADC\CAD\LRC\LRCI-026\PLAN SHEETS\W1-CIV-INT-LRCI-026.dwg By: kmclement

LEGEND

- CONTROL POINTS
- TRUNCATED DOMES (SEE STANDARD PLATE 7038)
- CONSTRUCT CONCRETE CURB AND GUTTER
- BITUMINOUS TREATMENT
- XX" CURB HEIGHT
- LANDING AREA – 4'X4' MIN. DIMENSIONS AND MAX. 2.0% SLOPE IN ALL DIRECTIONS
- (S) INDICATES PEDESTRIAN RAMP – SLOPE SHALL BE BETWEEN 5.0% MIMIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%
- (F) INDICATES PEDESTRIAN RAMP – SLOPE SHALL BE GREATER THAN 2.0% AND LESS THAN 5.0% IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%
- DRAINAGE FLOW ARROW
- PEDESTRIAN PUSH BUTTON

N

0 5 10 20
HORIZONTAL SCALE IN FEET

POINT TABLE

#	DESCRIPTION	STATION	OFFSET	ELEVATION	REFERENCE ALIGNMENT
19	F/L	23+44.08	−40.80 LT	898.66	FLYING CLOUD DR SB
20	F/L	23+41.22	−36.66 LT	898.45	FLYING CLOUD DR SB
21	F/L	23+38.68	−33.54 LT	898.37	FLYING CLOUD DR SB
22	F/L	23+35.17	−29.87 LT	898.16	FLYING CLOUD DR SB
23	F/L	23+31.34	−26.51 LT	897.95	FLYING CLOUD DR SB
24	F/L	23+28.13	−24.12 LT	897.87	FLYING CLOUD DR SB
25	F/L	23+23.87	−21.45 LT	897.66	FLYING CLOUD DR SB
26	LANDING	23+24.27	−29.52 LT	898.42	FLYING CLOUD DR SB
27	LANDING	23+21.96	−32.75 LT	898.50	FLYING CLOUD DR SB
28	LANDING	23+25.13	−35.10 LT	898.58	FLYING CLOUD DR SB
29	LANDING	23+27.45	−31.88 LT	898.50	FLYING CLOUD DR SB
30	LANDING	23+33.68	−37.83 LT	898.92	FLYING CLOUD DR SB
31	LANDING	23+30.68	−40.40 LT	899.00	FLYING CLOUD DR SB
32	LANDING	23+33.19	−43.47 LT	899.08	FLYING CLOUD DR SB
33	LANDING	23+36.19	−40.90 LT	899.00	FLYING CLOUD DR SB

POINT TABLE

#	DESCRIPTION	STATION	OFFSET	ELEVATION	REFERENCE ALIGNMENT
34	LANDING	23+39.56	−44.21 LT	899.38	FLYING CLOUD DR SB
35	LANDING	23+31.20	−47.90 LT	899.31	FLYING CLOUD DR SB
38	F/L	508+21.45	16.03 RT	895.86	FLYING CLOUD DR NB
39	F/L	508+23.44	16.00 RT	895.92	FLYING CLOUD DR NB
40	F/L	508+27.47	16.00 RT	896.00	FLYING CLOUD DR NB
41	F/L	508+29.49	16.00 RT	896.09	FLYING CLOUD DR NB
42	F/L	508+34.18	20.14 RT	896.09	FLYING CLOUD DR NB
43	F/L	508+34.15	22.14 RT	896.00	FLYING CLOUD DR NB
44	F/L	508+34.11	26.14 RT	895.92	FLYING CLOUD DR NB
45	F/L	508+34.08	28.14 RT	895.82	FLYING CLOUD DR NB
46	F/L	508+25.25	31.98 RT	895.31	FLYING CLOUD DR NB
47	F/L	508+23.39	31.19 RT	895.22	FLYING CLOUD DR NB
48	F/L	508+19.68	29.60 RT	895.16	FLYING CLOUD DR NB
49	F/L	508+17.78	28.89 RT	895.13	FLYING CLOUD DR NB
50	LANDING	508+20.75	27.14 RT	895.38	FLYING CLOUD DR NB

POINT TABLE

#	DESCRIPTION	STATION	OFFSET	ELEVATION	REFERENCE ALIGNMENT
51	LANDING	508+23.44	18.67 RT	895.70	FLYING CLOUD DR NB
52	LANDING	508+27.48	18.67 RT	895.78	FLYING CLOUD DR NB
53	LANDING	508+31.46	22.11 RT	895.78	FLYING CLOUD DR NB
54	LANDING	508+31.41	26.11 RT	895.70	FLYING CLOUD DR NB
55	LANDING	508+24.46	28.72 RT	895.44	FLYING CLOUD DR NB
56	F/L	508+05.56	46.85 RT	894.31	FLYING CLOUD DR NB
57	F/L	508+10.28	48.86 RT	894.39	FLYING CLOUD DR NB
58	F/L	508+13.96	50.59 RT	894.45	FLYING CLOUD DR NB
59	F/L	508+18.52	52.94 RT	894.53	FLYING CLOUD DR NB
60	LANDING	508+11.01	56.60 RT	893.91	FLYING CLOUD DR NB
61	LANDING	508+09.24	60.20 RT	893.83	FLYING CLOUD DR NB
62	LANDING	508+05.55	58.47 RT	893.77	FLYING CLOUD DR NB
63	LANDING	508+07.33	54.86 RT	893.85	FLYING CLOUD DR NB
64	LANDING	508+06.20	52.54 RT	893.90	FLYING CLOUD DR NB
65	LANDING	508+02.36	50.97 RT	894.05	FLYING CLOUD DR NB

POINT TABLE

#	DESCRIPTION	STATION	OFFSET	ELEVATION	REFERENCE ALIGNMENT
66	LANDING	507+99.33	58.40 RT	893.93	FLYING CLOUD DR NB
67	LANDING	508+10.02	63.23 RT	893.70	FLYING CLOUD DR NB
68	F/L	509+05.32	34.84 RT	897.98	FLYING CLOUD DR NB
69	F/L	509+07.42	30.05 RT	898.20	FLYING CLOUD DR NB
70	F/L	509+09.58	26.65 RT	898.28	FLYING CLOUD DR NB
71	F/L	509+13.04	22.70 RT	898.51	FLYING CLOUD DR NB
72	LANDING	509+15.35	30.18 RT	898.83	FLYING CLOUD DR NB
73	LANDING	509+19.15	32.47 RT	898.91	FLYING CLOUD DR NB
74	LANDING	509+17.00	35.88 RT	898.83	FLYING CLOUD DR NB
75	LANDING	509+13.20	33.57 RT	898.75	FLYING CLOUD DR NB
76	LANDING	509+04.46	43.30 RT	898.16	FLYING CLOUD DR NB
77	LANDING	509+15.08	43.61 RT	898.31	FLYING CLOUD DR NB

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

AECOM SRF Consulting Group, Inc. METROPOLITAN COUNCIL SOUTHWEST Green Line LRT Extension

90% SUBMISSION - 01/22/16

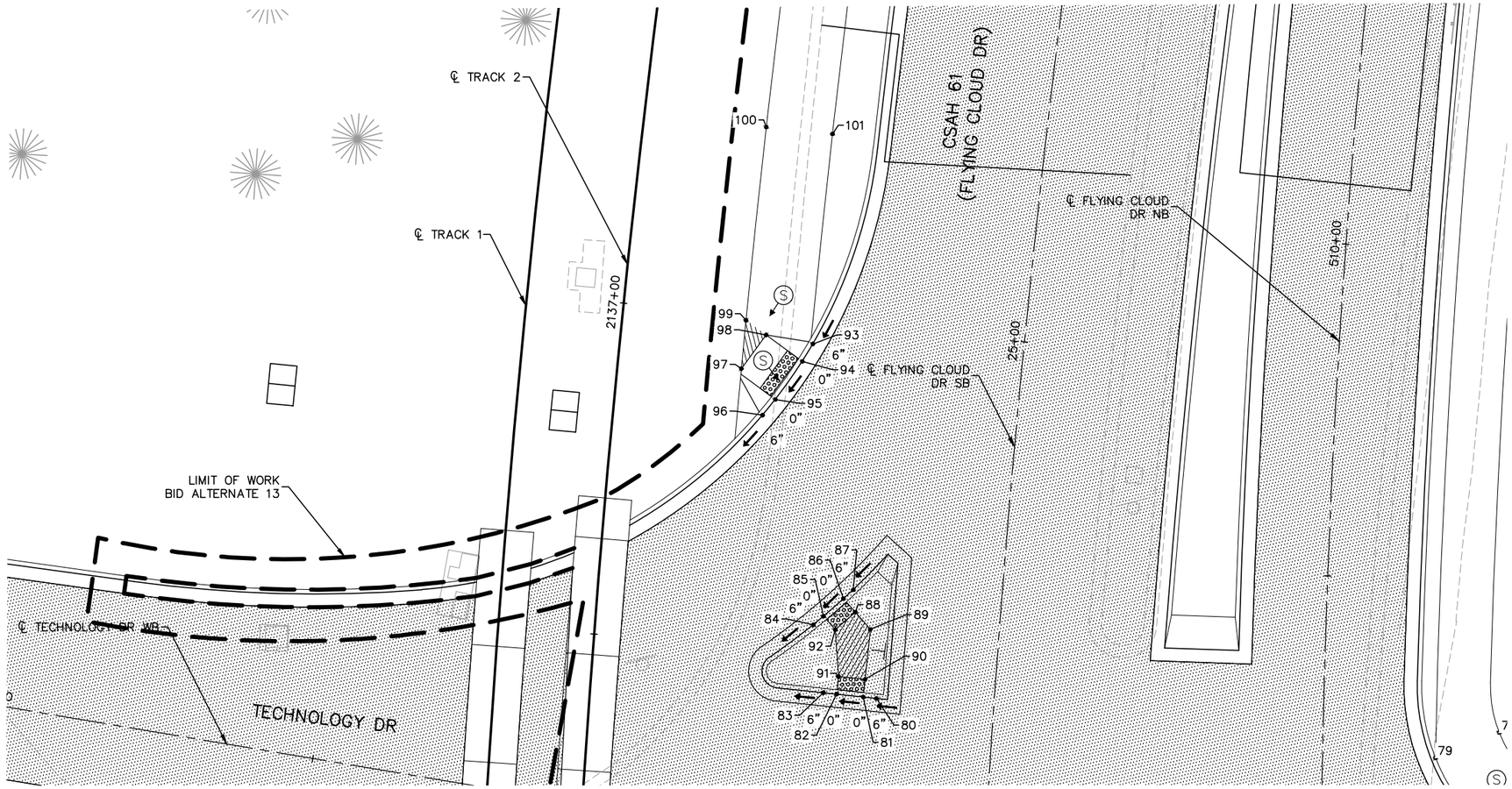
CIVIL (BA13) ROADWAY INTERSECTION DETAILS SHEET 2

DISCIPLINE: CIVIL

SHEET NAME: W1-CIV-INT-012-LRCI-026

SHEET 21 OF 81

Jan, 18 2016 11:54 am V:\3400_ADC\CAD\LRCI\LRCI-026\PLAN SHEETS\W1-CIV-INT-LRCI-026.dwg By: kmcclement



LEGEND

XXX	CONTROL POINTS
	TRUNCATED DOMES (SEE STANDARD PLATE 7038)
	CONSTRUCT CONCRETE CURB AND GUTTER
	BITUMINOUS TREATMENT
XX"	CURB HEIGHT
	LANDING AREA – 4'X4' MIN. DIMENSIONS AND MAX. 2.0% SLOPE IN ALL DIRECTIONS
(S)	INDICATES PEDESTRIAN RAMP – SLOPE SHALL BE BETWEEN 5.0% MIMIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%
(F)	INDICATES PEDESTRIAN RAMP – SLOPE SHALL BE GREATER THAN 2.0% AND LESS THAN 5.0% IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%
→	DRAINAGE FLOW ARROW
	PEDESTRIAN PUSH BUTTON

POINT TABLE					
#	DESCRIPTION	STATION	OFFSET	ELEVATION	REFERENCE ALIGNMENT
80	F/L	24+44.91	−17.69 LT	900.82	FLYING CLOUD DR SB
81	F/L	24+44.99	−19.69 LT	900.57	FLYING CLOUD DR SB
82	F/L	24+45.13	−23.69 LT	900.49	FLYING CLOUD DR SB
83	F/L	24+45.20	−25.68 LT	900.38	FLYING CLOUD DR SB
84	F/L	24+55.14	−27.95 LT	900.70	FLYING CLOUD DR SB
85	F/L	24+56.52	−26.52 LT	900.77	FLYING CLOUD DR SB
86	F/L	24+59.34	−23.73 LT	900.84	FLYING CLOUD DR SB
87	F/L	24+60.78	−22.36 LT	901.07	FLYING CLOUD DR SB
88	LANDING	24+57.49	−21.80 LT	900.75	FLYING CLOUD DR SB
89	LANDING	24+55.11	−19.35 LT	900.70	FLYING CLOUD DR SB
90	LANDING	24+47.62	−19.59 LT	901.01	FLYING CLOUD DR SB
91	LANDING	24+47.76	−23.59 LT	900.54	FLYING CLOUD DR SB

POINT TABLE					
#	DESCRIPTION	STATION	OFFSET	ELEVATION	REFERENCE ALIGNMENT
92	LANDING	24+54.67	−24.60 LT	900.67	FLYING CLOUD DR SB
93	F/L	24+96.62	−31.64 LT	901.67	FLYING CLOUD DR SB
94	F/L	24+93.90	−32.98 LT	901.45	FLYING CLOUD DR SB
95	F/L	24+87.91	−36.49 LT	901.31	FLYING CLOUD DR SB
96	F/L	24+85.45	−38.18 LT	901.09	FLYING CLOUD DR SB
97	LANDING	24+91.98	−42.00 LT	901.80	FLYING CLOUD DR SB
98	LANDING	24+97.28	−38.79 LT	901.93	FLYING CLOUD DR SB
99	LANDING	24+99.13	−42.00 LT	902.00	FLYING CLOUD DR SB
100	LANDING	25+27.76	−42.00 LT	904.03	FLYING CLOUD DR SB
101	LANDING	25+27.86	−32.00 LT	903.88	FLYING CLOUD DR SB

HORIZONTAL SCALE IN FEET
0 5 10 20

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

AECOM SRF Consulting Group, Inc. METROPOLITAN COUNCIL SOUTHWEST Green Line LRT Extension

90% SUBMISSION - 01/22/16

CIVIL (BA13)
ROADWAY
INTERSECTION DETAILS
SHEET 3

DISCIPLINE: CIVIL

SHEET NAME: W1-CIV-INT-013-LRCI-026

SHEET 22 OF 81

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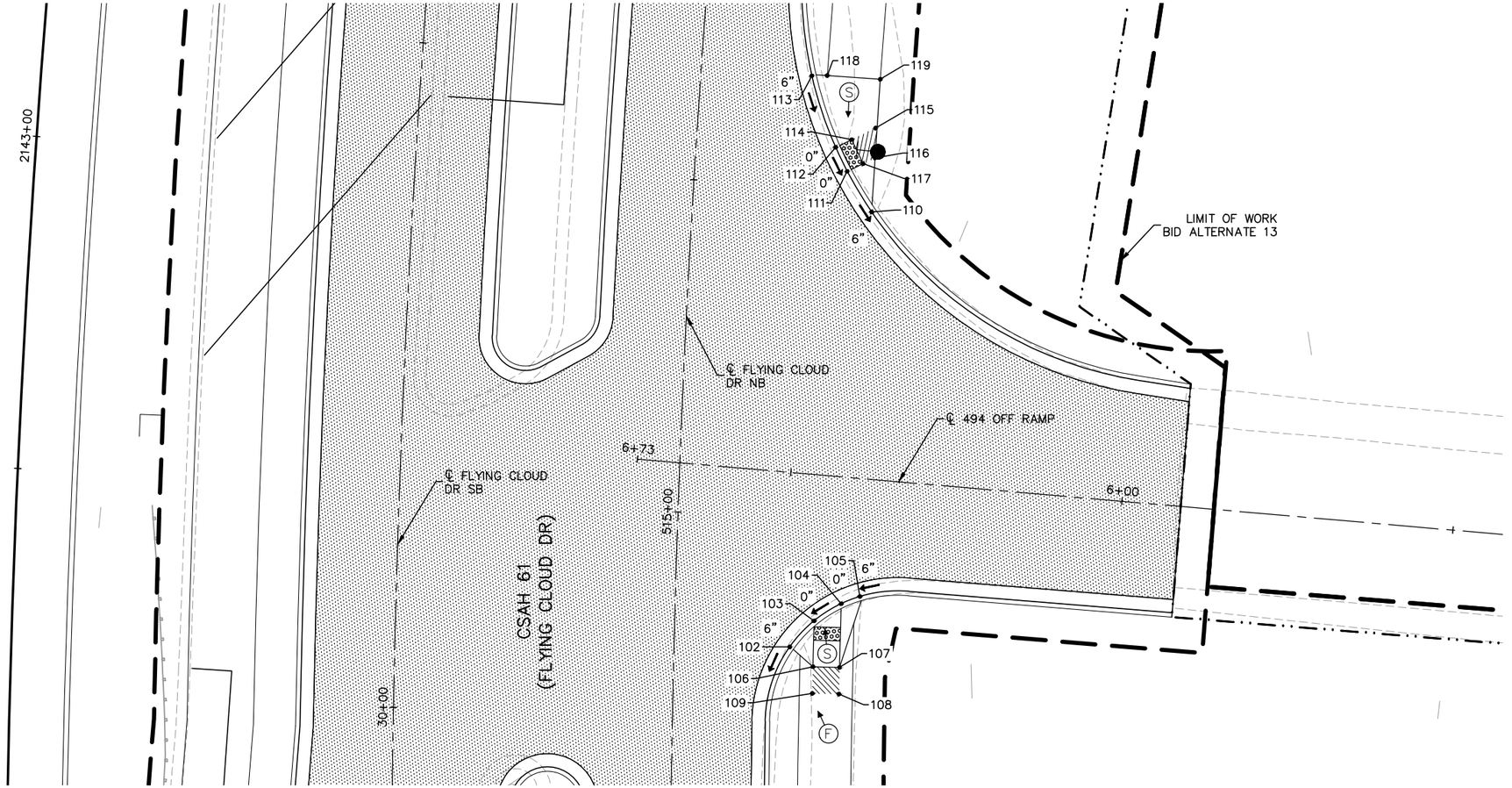

LEGEND

- XXX — CONTROL POINTS
- TRUNCATED DOMES (SEE STANDARD PLATE 7038)
- CONSTRUCT CONCRETE CURB AND GUTTER
- BITUMINOUS TREATMENT
- XX" — CURB HEIGHT
- LANDING AREA – 4'X4' MIN. DIMENSIONS AND MAX. 2.0% SLOPE IN ALL DIRECTIONS
- (S) — INDICATES PEDESTRIAN RAMP – SLOPE SHALL BE BETWEEN 5.0% MIMIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%
- (F) — INDICATES PEDESTRIAN RAMP – SLOPE SHALL BE GREATER THAN 2.0% AND LESS THAN 5.0% IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%
- DRAINAGE FLOW ARROW
- PEDESTRIAN PUSH BUTTON

POINT TABLE

#	DESCRIPTION	STATION	OFFSET	ELEVATION	REFERENCE ALIGNMENT
102	F/L	514+80.12	17.45 RT	908.91	FLYING CLOUD DR NB
103	F/L	514+84.16	21.00 RT	908.92	FLYING CLOUD DR NB
104	F/L	514+86.88	25.00 RT	908.93	FLYING CLOUD DR NB
105	F/L	514+88.06	27.79 RT	908.94	FLYING CLOUD DR NB
106	LANDING	514+77.19	21.00 RT	909.48	FLYING CLOUD DR NB
107	LANDING	514+77.19	25.00 RT	909.52	FLYING CLOUD DR NB
108	LANDING	514+73.12	24.98 RT	909.60	FLYING CLOUD DR NB
109	LANDING	514+73.15	20.98 RT	909.56	FLYING CLOUD DR NB
110	F/L	515+46.75	26.99 RT	908.93	FLYING CLOUD DR NB
111	F/L	515+52.70	22.95 RT	909.16	FLYING CLOUD DR NB
112	F/L	515+56.23	20.99 RT	909.24	FLYING CLOUD DR NB
113	F/L	515+66.83	16.70 RT	909.59	FLYING CLOUD DR NB

POINT TABLE

#	DESCRIPTION	STATION	OFFSET	ELEVATION	REFERENCE ALIGNMENT
114	LANDING	515+57.56	23.31 RT	909.46	FLYING CLOUD DR NB
115	LANDING	515+59.55	26.79 RT	909.54	FLYING CLOUD DR NB
116	LANDING	515+55.02	27.02 RT	909.42	FLYING CLOUD DR NB
117	LANDING	515+54.03	25.27 RT	909.38	FLYING CLOUD DR NB
118	LANDING	515+67.03	19.00 RT	910.14	FLYING CLOUD DR NB
119	LANDING	515+67.05	27.00 RT	910.13	FLYING CLOUD DR NB

0 5 10 20
HORIZONTAL SCALE IN FEET

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

AECOM · SRF Consulting Group, Inc. · METROPOLITAN COUNCIL · SOUTHWEST Green Line LRT Extension

90% SUBMISSION - 01/22/16

CIVIL (BA13)
ROADWAY
INTERSECTION DETAILS
SHEET 4

DISCIPLINE: CIVIL
SHEET NAME: W1-CIV-INT-014-LRCI-026

SHEET 23 OF 81

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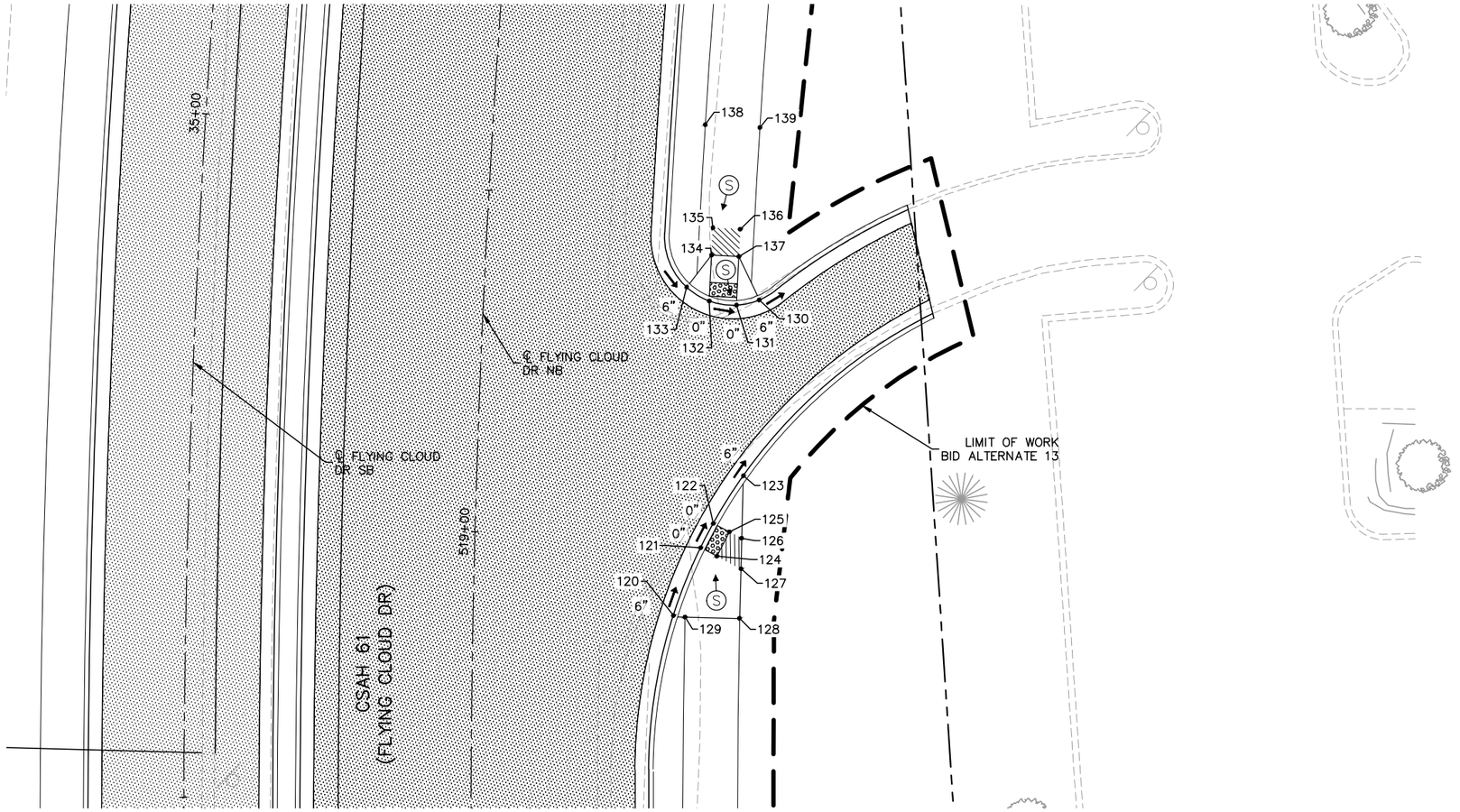


LEGEND

XXX	CONTROL POINTS
	TRUNCATED DOMES (SEE STANDARD PLATE 7038)
	CONSTRUCT CONCRETE CURB AND GUTTER
	BITUMINOUS TREATMENT
XX"	CURB HEIGHT
	LANDING AREA – 4'X4' MIN. DIMENSIONS AND MAX. 2.0% SLOPE IN ALL DIRECTIONS
(S)	INDICATES PEDESTRIAN RAMP – SLOPE SHALL BE BETWEEN 5.0% MIMIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%
(F)	INDICATES PEDESTRIAN RAMP – SLOPE SHALL BE GREATER THAN 2.0% AND LESS THAN 5.0% IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%
	DRAINAGE FLOW ARROW
	PEDESTRIAN PUSH BUTTON

POINT TABLE					
#	DESCRIPTION	STATION	OFFSET	ELEVATION	REFERENCE ALIGNMENT
120	F/L	518+88.35	29.30 RT	910.81	FLYING CLOUD DR NB
121	F/L	518+98.53	33.06 RT	910.58	FLYING CLOUD DR NB
122	F/L	519+02.19	34.81 RT	910.50	FLYING CLOUD DR NB
123	F/L	519+09.46	39.00 RT	910.33	FLYING CLOUD DR NB
124	LANDING	518+97.33	35.46 RT	910.80	FLYING CLOUD DR NB
125	LANDING	519+01.00	37.21 RT	910.72	FLYING CLOUD DR NB
126	LANDING	519+00.11	39.01 RT	910.76	FLYING CLOUD DR NB
127	LANDING	518+95.53	39.05 RT	910.88	FLYING CLOUD DR NB
128	LANDING	518+88.13	38.97 RT	911.37	FLYING CLOUD DR NB
129	LANDING	518+88.15	31.00 RT	911.34	FLYING CLOUD DR NB
130	F/L	519+35.84	40.28 RT	909.88	FLYING CLOUD DR NB
131	F/L	519+34.92	37.00 RT	910.17	FLYING CLOUD DR NB

POINT TABLE					
#	DESCRIPTION	STATION	OFFSET	ELEVATION	REFERENCE ALIGNMENT
132	F/L	519+35.35	33.00 RT	910.25	FLYING CLOUD DR NB
133	F/L	519+37.24	29.62 RT	910.57	FLYING CLOUD DR NB
134	LANDING	519+42.18	33.00 RT	910.78	FLYING CLOUD DR NB
135	LANDING	519+46.26	32.98 RT	910.86	FLYING CLOUD DR NB
136	LANDING	519+46.27	37.00 RT	910.78	FLYING CLOUD DR NB
137	LANDING	519+42.20	37.00 RT	910.70	FLYING CLOUD DR NB
138	LANDING	519+61.53	31.00 RT	911.72	FLYING CLOUD DR NB
139	LANDING	519+61.62	39.00 RT	911.84	FLYING CLOUD DR NB

0 5 10 20
HORIZONTAL SCALE IN FEET

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

AECOM SRF Consulting Group, Inc.

90% SUBMISSION - 01/22/16

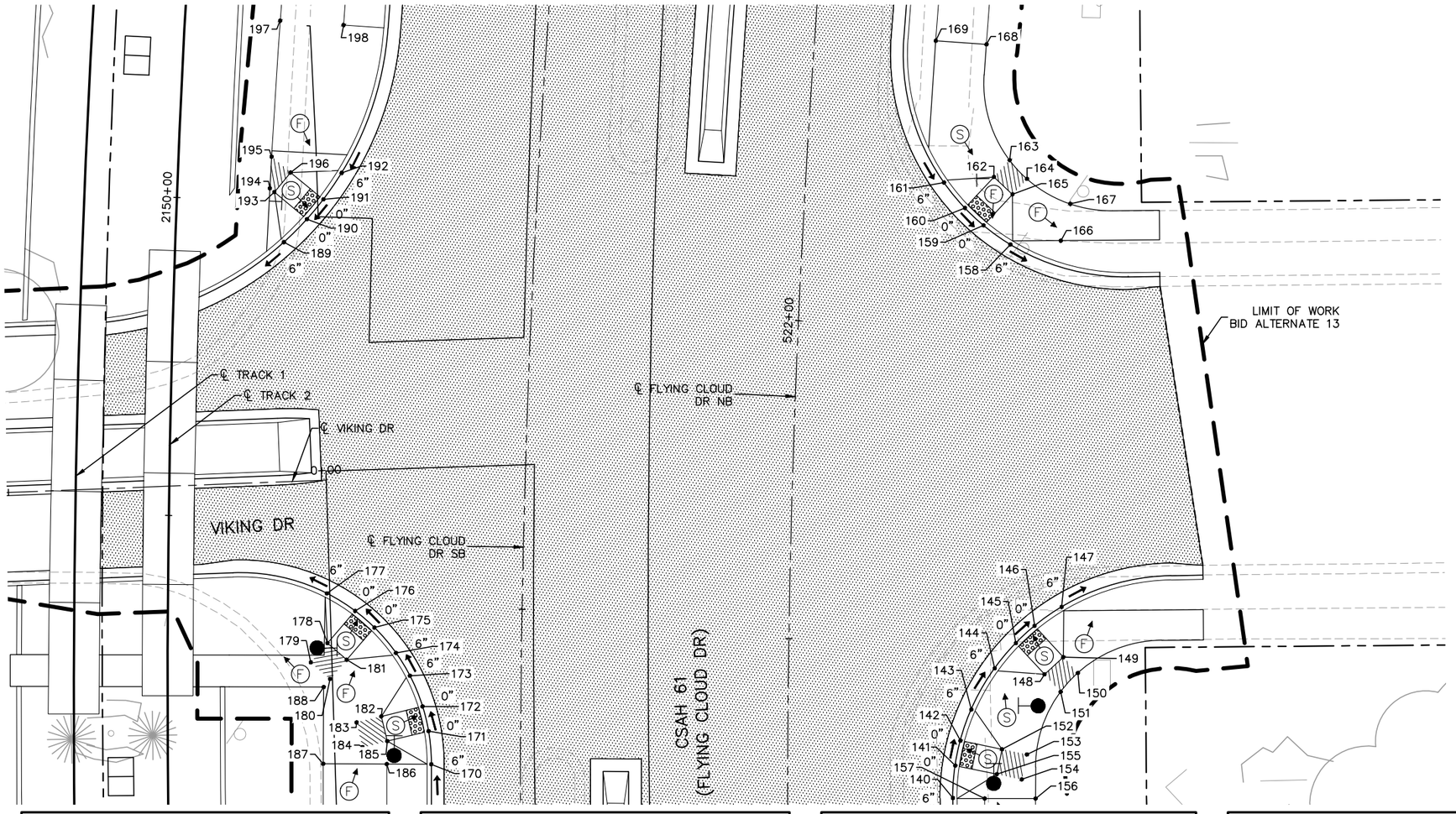
METROPOLITAN COUNCIL SOUTHWEST Green Line LRT Extension

CIVIL (BA13)
ROADWAY
INTERSECTION DETAILS
SHEET 5

DISCIPLINE: CIVIL

SHEET NAME: W1-CIV-INT-015-LRCI-026

SHEET 24 OF 81



LEGEND

- XXX — CONTROL POINTS
- TRUNCATED DOMES (SEE STANDARD PLATE 7038)
- CONSTRUCT CONCRETE CURB AND GUTTER
- BITUMINOUS TREATMENT
- XX" — CURB HEIGHT
- LANDING AREA – 4'X4' MIN. DIMENSIONS AND MAX. 2.0% SLOPE IN ALL DIRECTIONS
- (S) — INDICATES PEDESTRIAN RAMP – SLOPE SHALL BE BETWEEN 5.0% MIMIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%
- (F) — INDICATES PEDESTRIAN RAMP – SLOPE SHALL BE GREATER THAN 2.0% AND LESS THAN 5.0% IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%
- DRAINAGE FLOW ARROW
- PEDESTRIAN PUSH BUTTON

POINT TABLE					
#	DESCRIPTION	STATION	OFFSET	ELEVATION	REFERENCE ALIGNMENT
140	F/L	521+24.97	26.00 RT	910.10	FLYING CLOUD DR NB
141	F/L	521+30.14	26.37 RT	909.86	FLYING CLOUD DR NB
142	F/L	521+34.12	27.16 RT	909.78	FLYING CLOUD DR NB
143	F/L	521+39.11	28.82 RT	909.53	FLYING CLOUD DR NB
144	F/L	521+45.75	32.43 RT	909.24	FLYING CLOUD DR NB
145	F/L	521+49.85	35.70 RT	908.99	FLYING CLOUD DR NB
146	F/L	521+52.66	38.60 RT	908.91	FLYING CLOUD DR NB
147	F/L	521+55.79	42.79 RT	908.67	FLYING CLOUD DR NB
148	LANDING	521+44.89	40.27 RT	909.54	FLYING CLOUD DR NB
149	LANDING	521+47.70	43.18 RT	909.46	FLYING CLOUD DR NB
150	LANDING	521+45.18	45.50 RT	909.53	FLYING CLOUD DR NB
151	LANDING	521+42.10	42.84 RT	909.61	FLYING CLOUD DR NB
152	LANDING	521+32.79	33.69 RT	910.33	FLYING CLOUD DR NB
153	LANDING	521+31.98	37.61 RT	910.41	FLYING CLOUD DR NB

POINT TABLE					
#	DESCRIPTION	STATION	OFFSET	ELEVATION	REFERENCE ALIGNMENT
154	LANDING	521+27.97	36.82 RT	910.49	FLYING CLOUD DR NB
155	LANDING	521+28.79	32.90 RT	910.41	FLYING CLOUD DR NB
156	LANDING	521+24.90	39.00 RT	910.68	FLYING CLOUD DR NB
157	LANDING	521+24.90	31.00 RT	910.59	FLYING CLOUD DR NB
158	F/L	522+13.73	32.71 RT	908.66	FLYING CLOUD DR NB
159	F/L	522+16.56	28.33 RT	908.81	FLYING CLOUD DR NB
160	F/L	522+19.16	25.27 RT	908.89	FLYING CLOUD DR NB
161	F/L	522+23.02	21.75 RT	909.03	FLYING CLOUD DR NB
162	LANDING	522+24.37	29.53 RT	909.05	FLYING CLOUD DR NB
163	LANDING	522+27.21	31.84 RT	909.12	FLYING CLOUD DR NB
164	LANDING	522+24.38	34.74 RT	909.04	FLYING CLOUD DR NB
165	LANDING	522+21.77	32.61 RT	908.97	FLYING CLOUD DR NB
166	LANDING	522+14.76	40.59 RT	908.59	FLYING CLOUD DR NB
167	LANDING	522+20.79	41.76 RT	908.68	FLYING CLOUD DR NB

POINT TABLE					
#	DESCRIPTION	STATION	OFFSET	ELEVATION	REFERENCE ALIGNMENT
168	LANDING	522+45.45	27.01 RT	910.28	FLYING CLOUD DR NB
169	LANDING	522+45.45	19.03 RT	910.16	FLYING CLOUD DR NB
170	F/L	36+75.59	−14.01 LT	911.42	FLYING CLOUD DR SB
171	F/L	36+80.75	−14.46 LT	911.33	FLYING CLOUD DR SB
172	F/L	36+84.59	−15.44 LT	911.27	FLYING CLOUD DR SB
173	F/L	36+89.35	−17.47 LT	911.18	FLYING CLOUD DR SB
174	F/L	36+92.88	−19.71 LT	911.12	FLYING CLOUD DR SB
175	F/L	36+96.76	−23.16 LT	911.03	FLYING CLOUD DR SB
176	F/L	36+99.29	−26.23 LT	910.97	FLYING CLOUD DR SB
177	F/L	37+01.92	−30.71 LT	910.88	FLYING CLOUD DR SB
178	LANDING	36+94.25	−30.50 LT	911.50	FLYING CLOUD DR SB
179	LANDING	36+91.24	−33.07 LT	911.58	FLYING CLOUD DR SB
180	LANDING	36+88.71	−30.01 LT	911.65	FLYING CLOUD DR SB
181	LANDING	36+91.72	−27.44 LT	911.57	FLYING CLOUD DR SB

POINT TABLE					
#	DESCRIPTION	STATION	OFFSET	ELEVATION	REFERENCE ALIGNMENT
182	LANDING	36+82.99	−21.90 LT	911.80	FLYING CLOUD DR SB
183	LANDING	36+82.03	−25.78 LT	911.88	FLYING CLOUD DR SB
184	LANDING	36+78.21	−24.81 LT	911.94	FLYING CLOUD DR SB
185	LANDING	36+79.15	−20.93 LT	911.86	FLYING CLOUD DR SB
186	LANDING	36+75.59	−21.00 LT	912.01	FLYING CLOUD DR SB
187	LANDING	36+75.59	−31.00 LT	912.32	FLYING CLOUD DR SB
188	LANDING	36+87.46	−31.00 LT	911.73	FLYING CLOUD DR SB
189	F/L	37+55.81	−39.34 LT	910.08	FLYING CLOUD DR SB
190	F/L	37+59.53	−35.91 LT	910.09	FLYING CLOUD DR SB
191	F/L	37+62.71	−33.49 LT	910.11	FLYING CLOUD DR SB
192	F/L	37+66.96	−30.86 LT	910.13	FLYING CLOUD DR SB
193	LANDING	37+63.43	−41.26 LT	910.63	FLYING CLOUD DR SB
194	LANDING	37+63.97	−42.00 LT	910.65	FLYING CLOUD DR SB
195	LANDING	37+68.83	−42.00 LT	910.74	FLYING CLOUD DR SB

POINT TABLE					
#	DESCRIPTION	STATION	OFFSET	ELEVATION	REFERENCE ALIGNMENT
196	LANDING	37+66.57	−38.87 LT	910.66	FLYING CLOUD DR SB
197	LANDING	37+89.77	−42.00 LT	911.16	FLYING CLOUD DR SB
198	LANDING	37+89.75	−32.01 LT	911.01	FLYING CLOUD DR SB

0 5 10 20
HORIZONTAL SCALE IN FEET

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

AECOM SRF Consulting Group, Inc.

90% SUBMISSION - 01/22/16

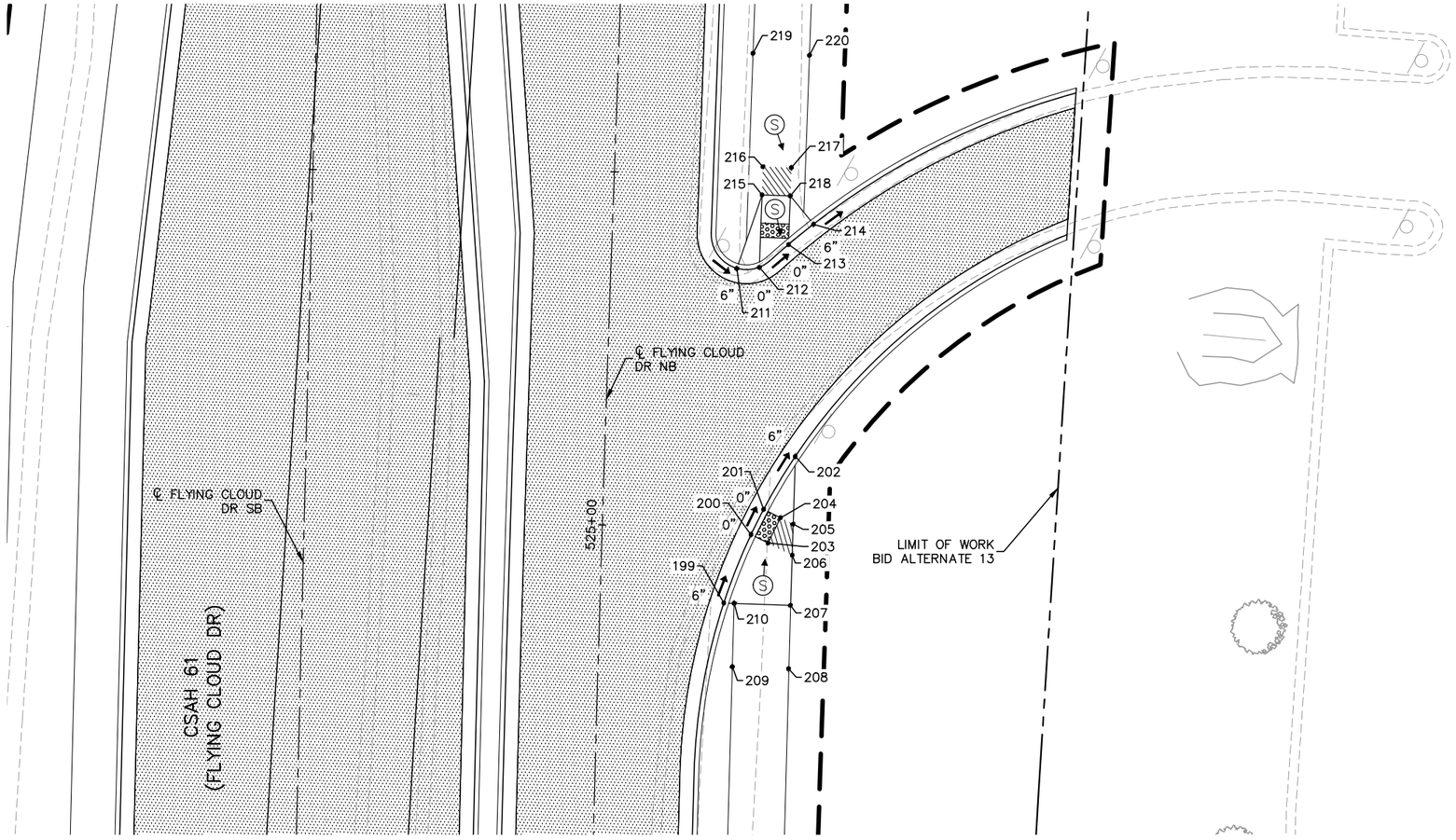
METROPOLITAN COUNCIL — SOUTHWEST Green Line LRT Extension

CIVIL (BA13)
ROADWAY
INTERSECTION DETAILS
SHEET 6

DISCIPLINE: CIVIL

SHEET NAME: W1-CIV-INT-016-LRCI-026

SHEET 25 OF 81



LEGEND

- XXX — CONTROL POINTS
- TRUNCATED DOMES (SEE STANDARD PLATE 7038)
- CONSTRUCT CONCRETE CURB AND GUTTER
- BITUMINOUS TREATMENT
- XX" — CURB HEIGHT
- LANDING AREA – 4'X4' MIN. DIMENSIONS AND MAX. 2.0% SLOPE IN ALL DIRECTIONS
- (S) INDICATES PEDESTRIAN RAMP – SLOPE SHALL BE BETWEEN 5.0% MIMIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%
- (F) INDICATES PEDESTRIAN RAMP – SLOPE SHALL BE GREATER THAN 2.0% AND LESS THAN 5.0% IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%
- DRAINAGE FLOW ARROW
- PEDESTRIAN PUSH BUTTON

POINT TABLE

#	DESCRIPTION	STATION	OFFSET	ELEVATION	REFERENCE ALIGNMENT
199	F/L	524+89.49	17.53 RT	905.38	FLYING CLOUD DR NB
200	F/L	524+99.31	21.09 RT	904.72	FLYING CLOUD DR NB
201	F/L	525+02.95	22.77 RT	904.64	FLYING CLOUD DR NB
202	F/L	525+10.60	27.00 RT	904.08	FLYING CLOUD DR NB
203	LANDING	524+98.19	23.51 RT	904.91	FLYING CLOUD DR NB
204	LANDING	525+01.83	25.19 RT	904.83	FLYING CLOUD DR NB
205	LANDING	525+00.98	27.01 RT	904.87	FLYING CLOUD DR NB
206	LANDING	524+96.57	27.00 RT	904.99	FLYING CLOUD DR NB
207	LANDING	524+89.43	26.96 RT	905.49	FLYING CLOUD DR NB
208	LANDING	524+80.43	26.97 RT	906.13	FLYING CLOUD DR NB
209	LANDING	524+80.48	19.00 RT	906.15	FLYING CLOUD DR NB
210	LANDING	524+89.48	19.00 RT	905.70	FLYING CLOUD DR NB

POINT TABLE

#	DESCRIPTION	STATION	OFFSET	ELEVATION	REFERENCE ALIGNMENT
211	F/L	525+36.97	17.81 RT	904.72	FLYING CLOUD DR NB
212	F/L	525+37.25	21.00 RT	904.30	FLYING CLOUD DR NB
213	F/L	525+40.62	25.00 RT	904.20	FLYING CLOUD DR NB
214	F/L	525+43.63	28.44 RT	903.71	FLYING CLOUD DR NB
215	LANDING	525+47.52	21.00 RT	904.79	FLYING CLOUD DR NB
216	LANDING	525+51.52	21.00 RT	904.87	FLYING CLOUD DR NB
217	LANDING	525+51.52	25.00 RT	904.79	FLYING CLOUD DR NB
218	LANDING	525+47.52	25.00 RT	904.71	FLYING CLOUD DR NB
219	LANDING	525+67.52	19.00 RT	905.76	FLYING CLOUD DR NB
220	LANDING	525+67.52	27.00 RT	905.88	FLYING CLOUD DR NB

HORIZONTAL SCALE IN FEET
0 5 10 20

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

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METROPOLITAN COUNCIL — SOUTHWEST Green Line LRT Extension

CIVIL (BA13)
ROADWAY
INTERSECTION DETAILS
SHEET 7

DISCIPLINE: CIVIL

SHEET NAME: W1-CIV-INT-017-LRCI-026

SHEET 26 OF 81

Jan, 18 2016 11:56 am v:\3400_ADC\CAD\LRCI\LRCI-026\PLAN SHEETS\W1-CIV-INT-LRCI-026.dwg By: kmclement

NOTES:

* SEE SHEET W0-UTL-NTS-002 FOR UTILITY LEGEND.
* (XX) =SANITARY AND WATER PLAN CONSTRUCTION NOTE. REFER TO SHEET W0-UTL-NTS-002 FOR NOTES.

℄ TECHNOLOGY DR WB

℄ TECHNOLOGY DR EB

TECHNOLOGY DR

CSAH 61 (FLYING CLOUD DR)

℄ TRACK 2

℄ FLYING CLOUD DR SB

EX ROW

℄ TRACK 1

0 15 30 60
HORIZONTAL SCALE IN FEET

REMOVALS

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

AECOM pce

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METROPOLITAN COUNCIL

SOUTHWEST Green Line LRT Extension

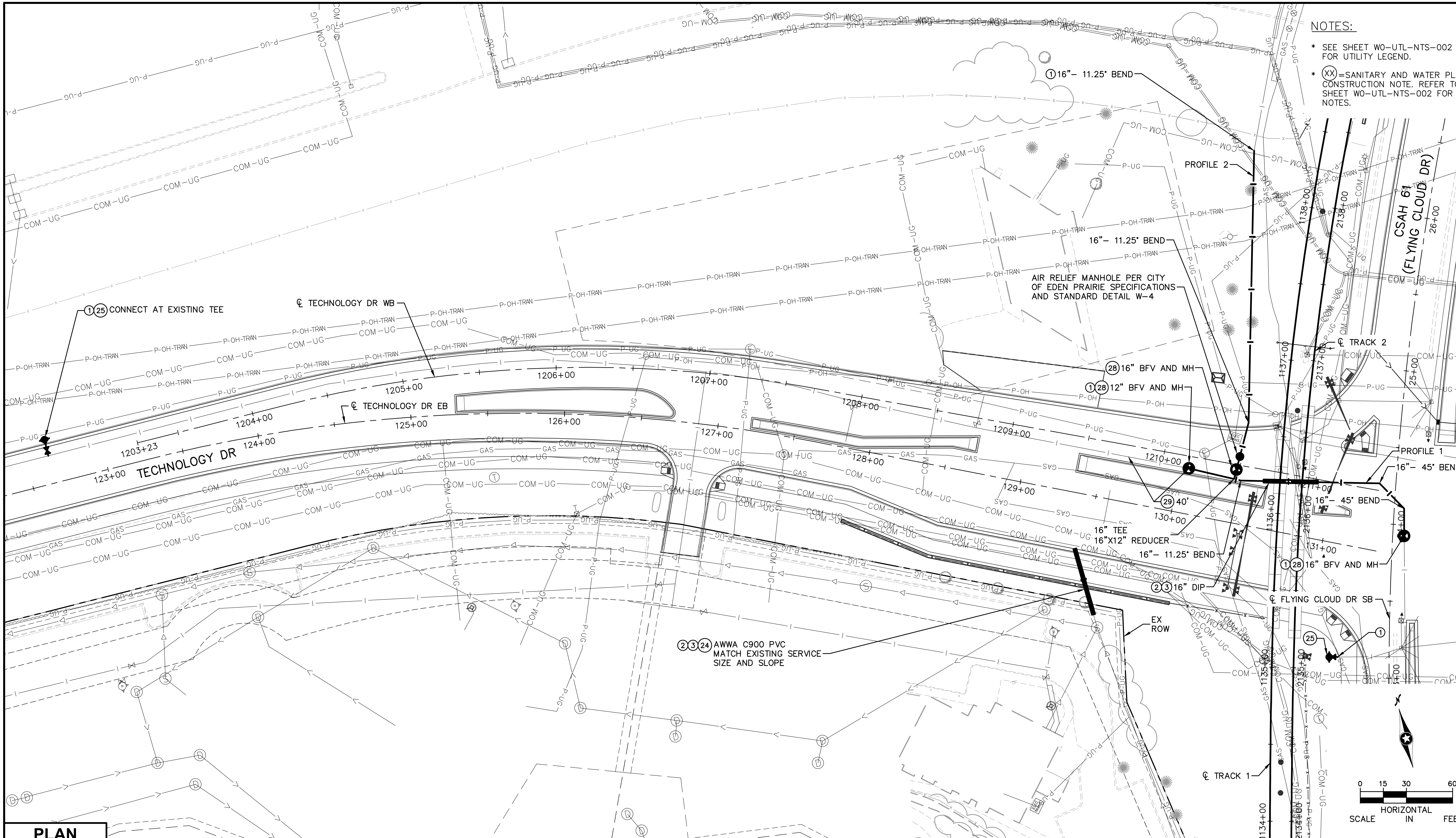
CIVIL (BA13)
TRAIL BETWEEN LRT TRACKS AND CSAH 61
TECHNOLOGY DR / FLYING CLOUD DR 1 OF 3
REMOVALS

DISCIPLINE: UTILITIES

SHEET NAME: W1-UTL-PLN-008-LRCI26

SHEET 27 OF 81

Jan, 18 2016 02:46 pm V:\3400_ADC\CAD\LRCI\LRCI-026\PLAN SHEETS\W1-UTL-PLN-LRCI26.dwg By: V-YoungbJR


1 25 CONNECT AT EXISTING TEE
℄ TECHNOLOGY DR WB
℄ TECHNOLOGY DR EB
TECHNOLOGY DR
1 16"- 11.25° BEND
PROFILE 2
16"- 11.25° BEND
AIR RELIEF MANHOLE PER CITY OF EDEN PRAIRIE SPECIFICATIONS AND STANDARD DETAIL W-4
28 16" BFV AND MH
1 28 12" BFV AND MH
℄ TRACK 2
CSAH 61 (FLYING CLOUD DR)
PROFILE 1
16"- 45° BEND
16"- 45° BEND
29 40'
16" TEE
16"X12" REDUCER
16"- 11.25° BEND
1 28 16" BFV AND MH
2 3 16" DIP
℄ FLYING CLOUD DR SB
EX ROW
2 3 24 AWWA C900 PVC MATCH EXISTING SERVICE SIZE AND SLOPE
25
1
℄ TRACK 1
0 15 30 60
HORIZONTAL SCALE IN FEET
PLAN

NOTES:

- SEE SHEET W0-UTL-NTS-002 FOR UTILITY LEGEND.
- (XX)=SANITARY AND WATER PLAN CONSTRUCTION NOTE. REFER TO SHEET W0-UTL-NTS-002 FOR NOTES.

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

AECOM pce

METROPOLITAN COUNCIL — SOUTHWEST Green Line LRT Extension

90% SUBMISSION - 01/22/16

CIVIL (BA13)
TRAIL BETWEEN LRT TRACKS AND CSAH 61
TECHNOLOGY DR / FLYING CLOUD DR 2 OF 3
PLAN

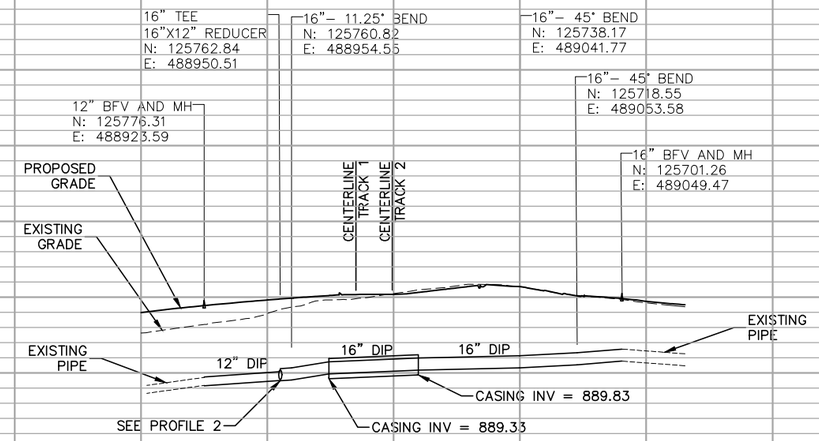
DISCIPLINE: UTILITIES

SHEET NAME: W1-UTL-PLN-009-LRCI26

SHEET 28 OF 81

Jan, 18 2016 02:47 pm V:\3400_ADC\CAD\LRCI\LRCI-026\PLAN SHEETS\W1-UTL-PLN-LRCI26.dwg By: V-YoungbJR

PROFILE 1



910 900 890 880

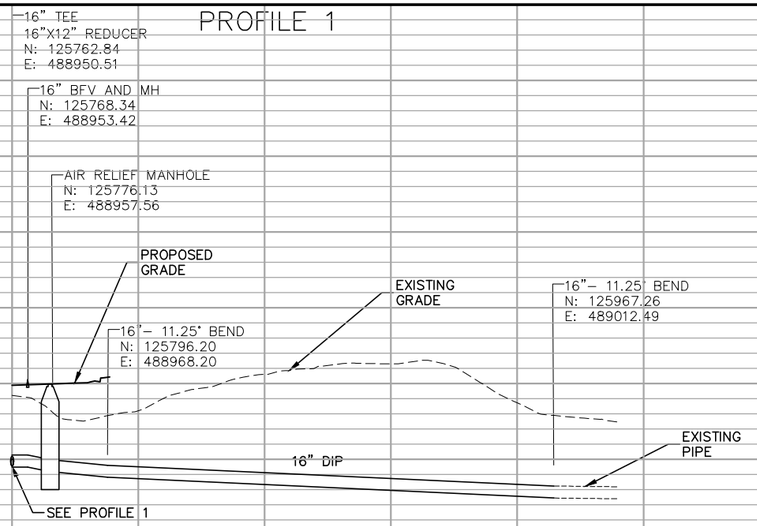
PROVIDE AND INSTALL MECHANICAL THRUST RESTRAINT FOR ALL JOINTS

0+00 1+00 2+00

VERTICAL SCALE: 0 5 10 20

HORIZONTAL SCALE IN FEET: 0 15 30 60

PROFILE 1



910 900 890 880

PROVIDE AND INSTALL MECHANICAL THRUST RESTRAINT FOR ALL JOINTS

0+00 1+00 2+00

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

AECOM pce

90% SUBMISSION - 01/22/16

METROPOLITAN COUNCIL

SOUTHWEST Green Line LRT Extension

CIVIL (BA13)

TRAIL BETWEEN LRT TRACKS AND CSAH 61

TECHNOLOGY DR / FLYING CLOUD DR 3 OF 3

PROFILES

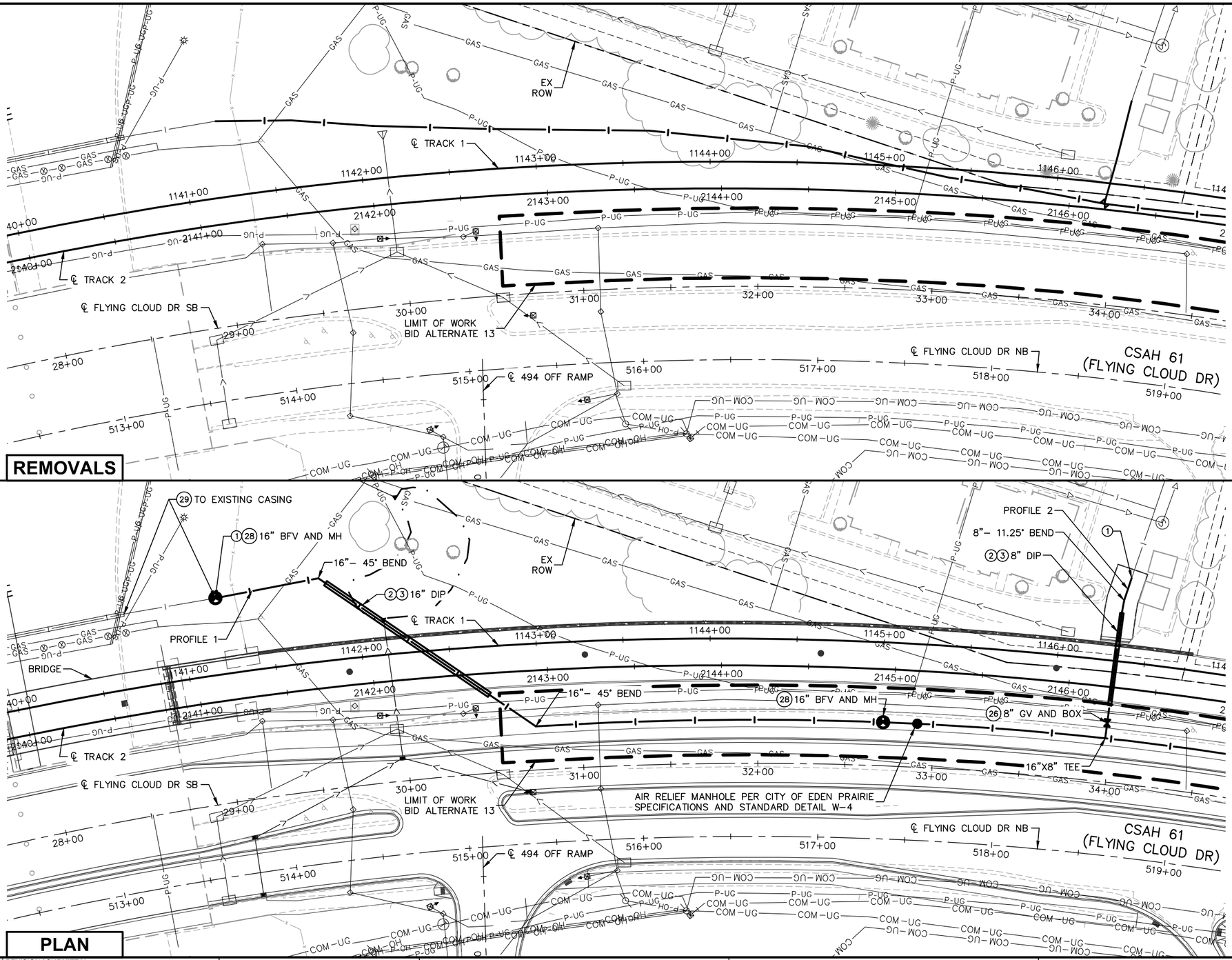
DISCIPLINE: UTILITIES

SHEET NAME: W1-UTL-PLN-010-LRCI26

SHEET 29 OF 81

Jan. 18 2016 02:47 pm V:\3400_ADC\CAD\LRCI\LRCI-026\PLAN SHEETS\W1-UTL-PLN-LRCI26.dwg By: V-YoungbJR

REMOVALS



PLAN

NOTES:

* SEE SHEET W0–UTL–NTS–002 FOR UTILITY LEGEND.
* (XX)=SANITARY AND WATER PLAN CONSTRUCTION NOTE. REFER TO SHEET W0–UTL–NTS–002 FOR NOTES.

0 15 30 60
HORIZONTAL SCALE IN FEET

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

AECOM pce

90% SUBMISSION - 01/22/16

METROPOLITAN COUNCIL

SOUTHWEST Green Line LRT Extension

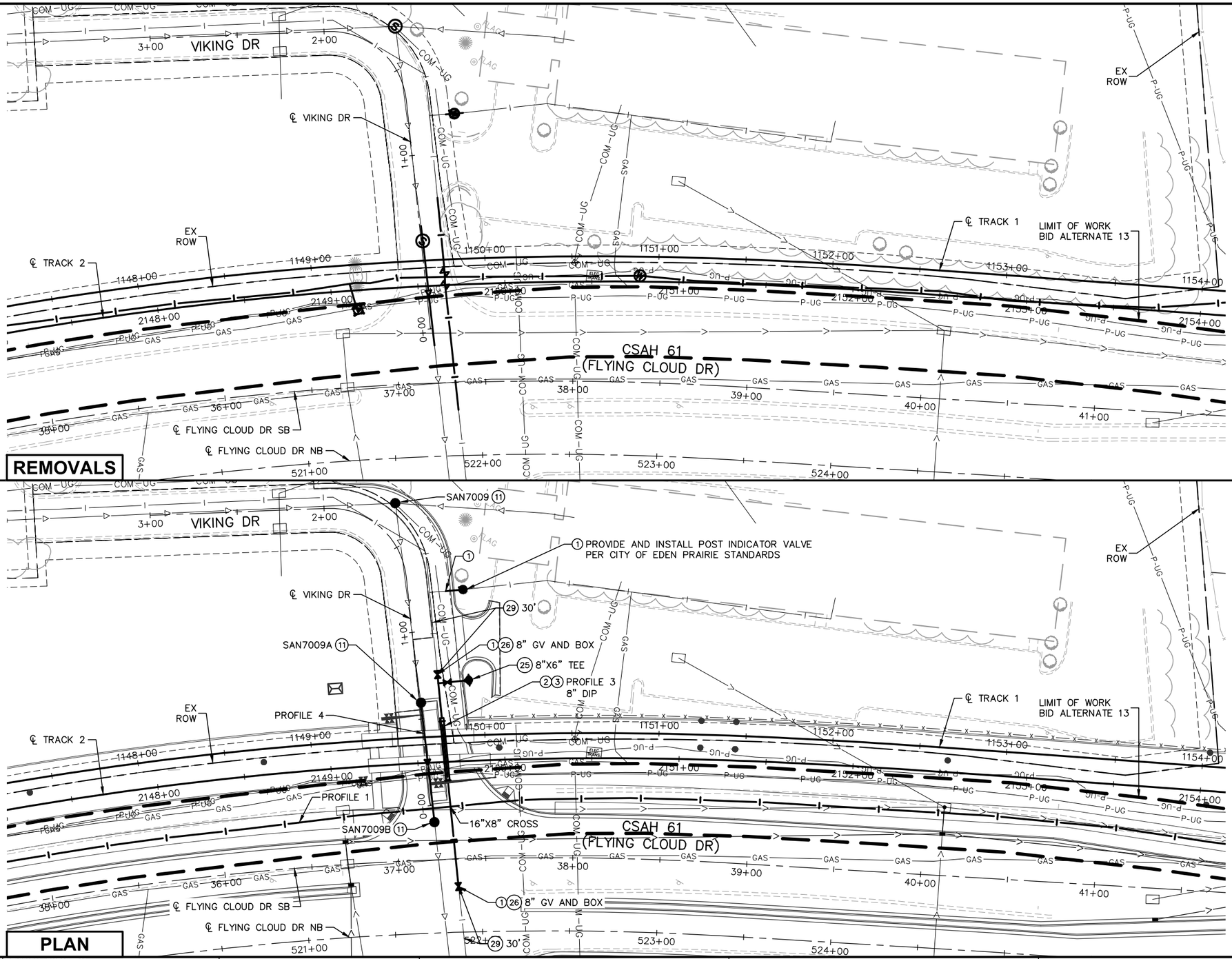
CIVIL (BA13)
TRAIL BETWEEN LRT TRACKS AND CSAH 61
FLYING CLOUD DR 1 OF 5
REMOVALS AND PLAN

DISCIPLINE: UTILITIES
SHEET NAME: W1-UTL-PLN-011-LRCI26

SHEET 30 OF 81

Jan, 18 2016 02:48 pm V:\3400_ADC\CAD\LRCI\LRCI-026\PLAN SHEETS\W1-UTL-PLN-LRCI26.dwg By: V-YoungbJR

REMOVALS



PLAN

NOTES:

* SEE SHEET W0-UTL-NTS-002 FOR UTILITY LEGEND.
* (XX)=SANITARY AND WATER PLAN CONSTRUCTION NOTE. REFER TO SHEET W0-UTL-NTS-002 FOR NOTES.

0 15 30 60
HORIZONTAL SCALE IN FEET

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

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METROPOLITAN COUNCIL

SOUTHWEST Green Line LRT Extension

CIVIL (BA13)
TRAIL BETWEEN LRT TRACKS AND CSAH 61
FLYING CLOUD DR 2 OF 5
REMOVALS AND PLAN

DISCIPLINE: UTILITIES

SHEET NAME: W1-UTL-PLN-012-LRCI26

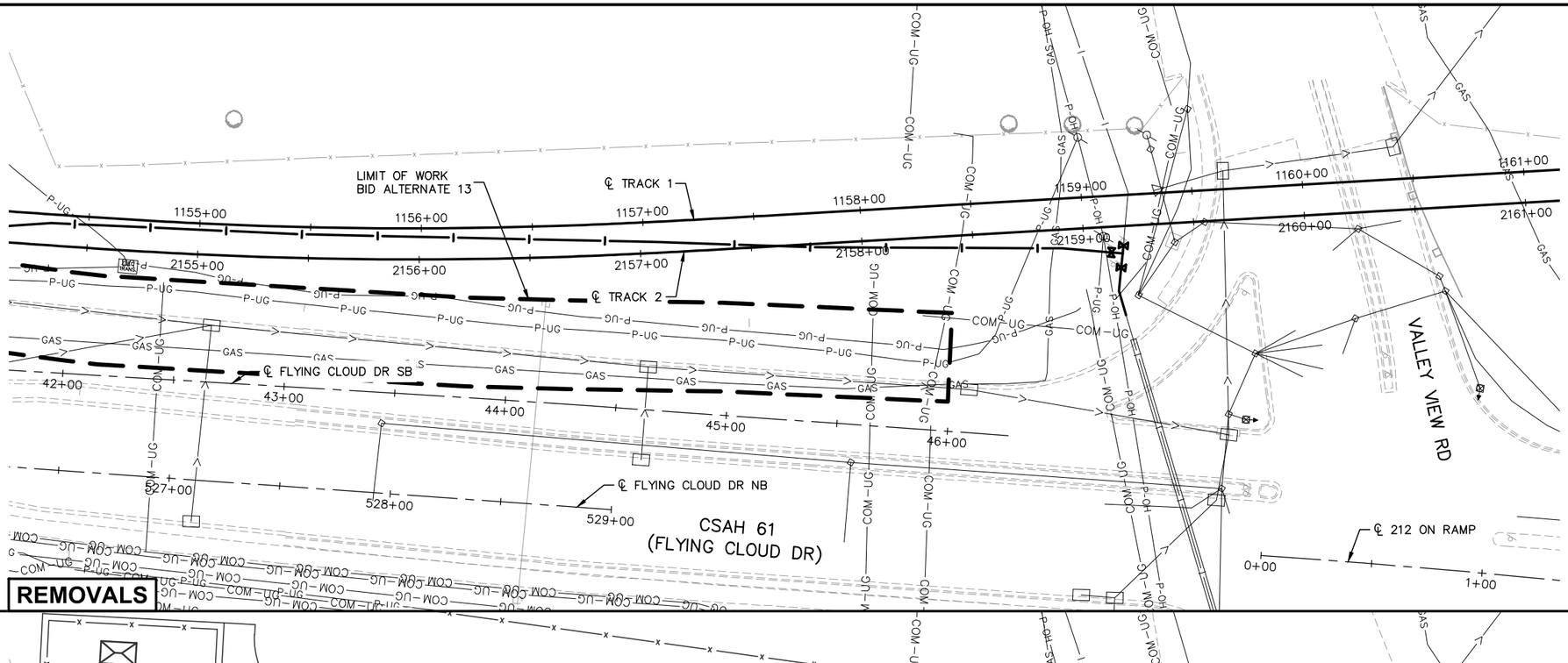
SHEET 31 OF 81

Jan, 18 2016 02:49 pm V:\3400_ADC\CAD\LRCI\LRCI-026\PLAN SHEETS\W1-UTL-PLN-LRCI26.dwg By: V-YoungbJR

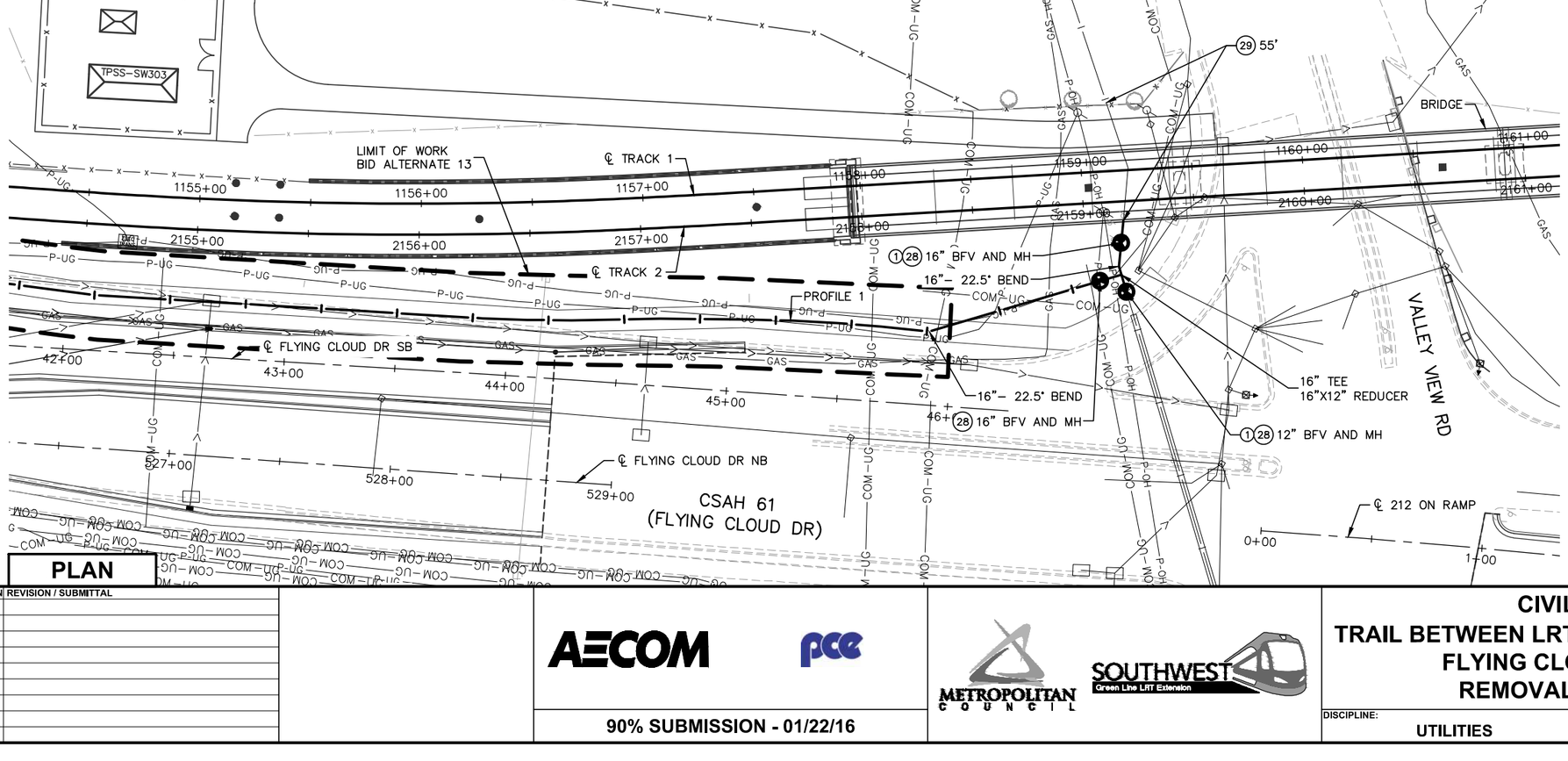
NOTES:

* SEE SHEET W0-UTL-NTS-002 FOR UTILITY LEGEND.
* (XX)=SANITARY AND WATER PLAN CONSTRUCTION NOTE. REFER TO SHEET W0-UTL-NTS-002 FOR NOTES.

REMOVALS



PLAN



0 15 30 60
HORIZONTAL SCALE IN FEET

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

AECOM pce

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METROPOLITAN COUNCIL

SOUTHWEST Green Line LRT Extension

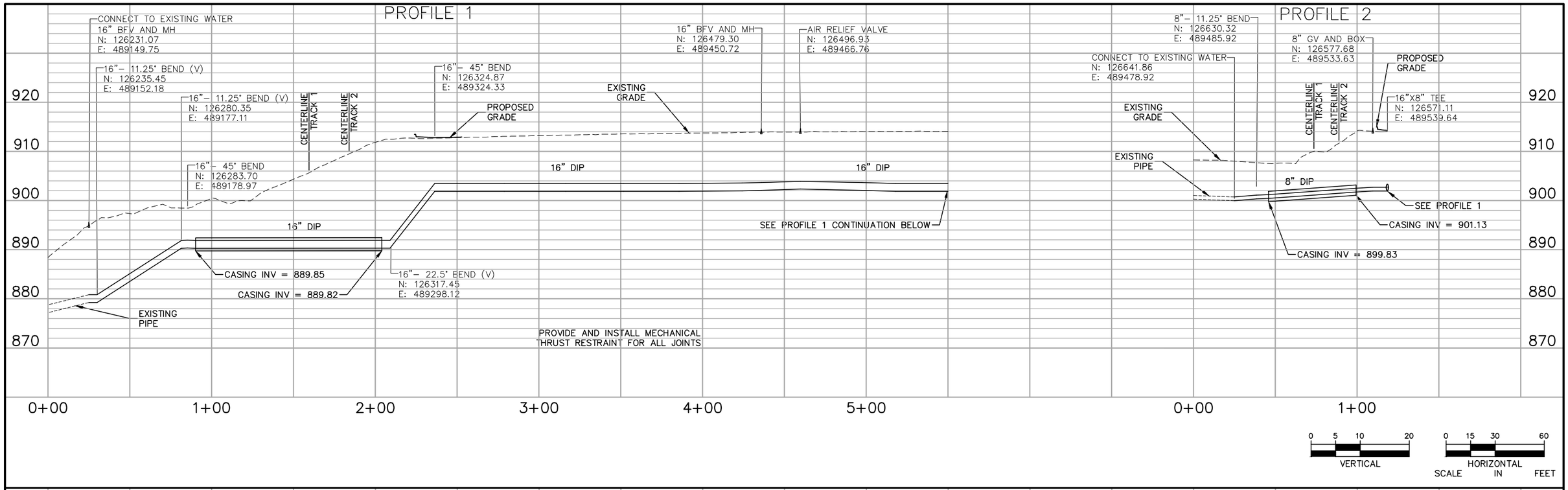
CIVIL (BA13)
TRAIL BETWEEN LRT TRACKS AND CSAH 61 FLYING CLOUD DR 3 OF 5
REMOVALS AND PLAN

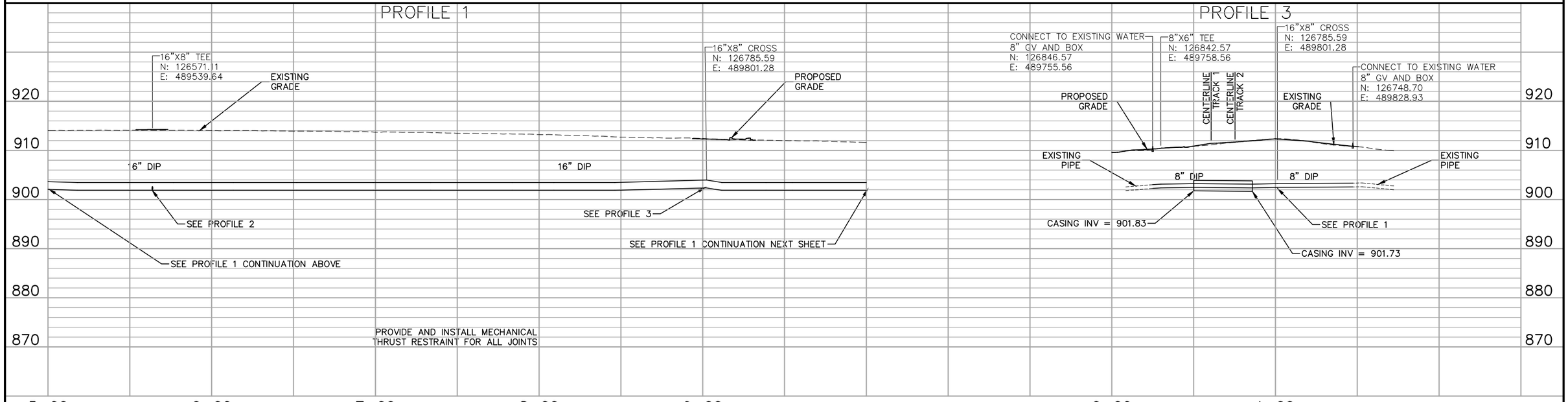
DISCIPLINE: UTILITIES

SHEET NAME: W1-UTL-PLN-013-LRCI26

SHEET 32 OF 81

Jan, 18 2016 02:51 pm v:\3400_ADC\CAD\LRC\LRCI-026\PLAN SHEETS\W1-UTL-PLN-LRCI26.dwg By: V-YoungbJR





NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

AECOM pce

90% SUBMISSION - 01/22/16

METROPOLITAN COUNCIL

SOUTHWEST Green Line LRT Extension

CIVIL (BA13)
TRAIL BETWEEN LRT TRACKS AND CSAH 61
FLYING CLOUD DR 4 OF 5
PROFILES

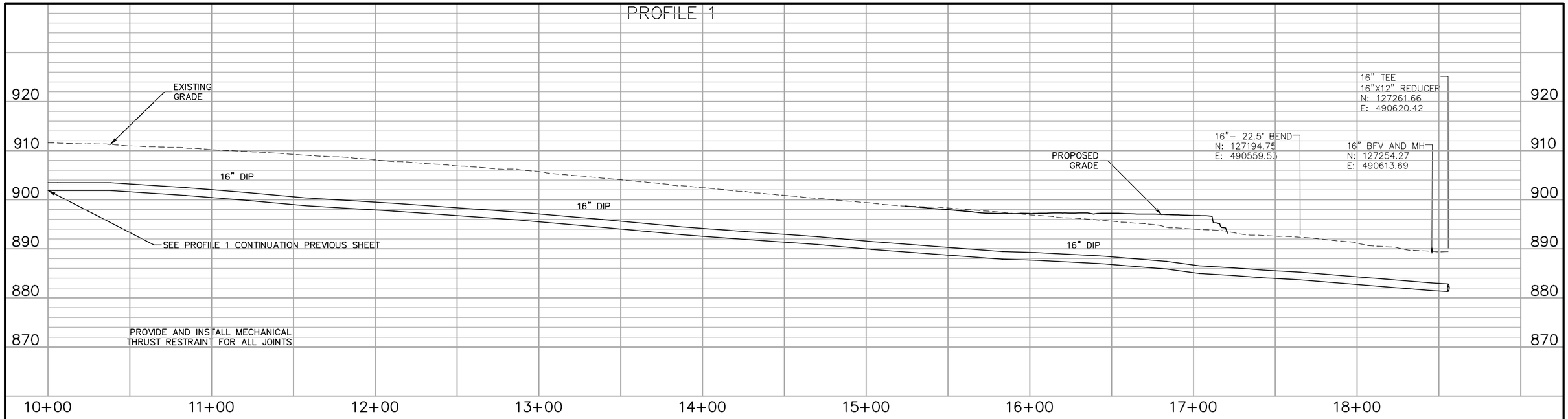
DISCIPLINE: UTILITIES

SHEET NAME: W1-UTL-PLN-014-LRCI26

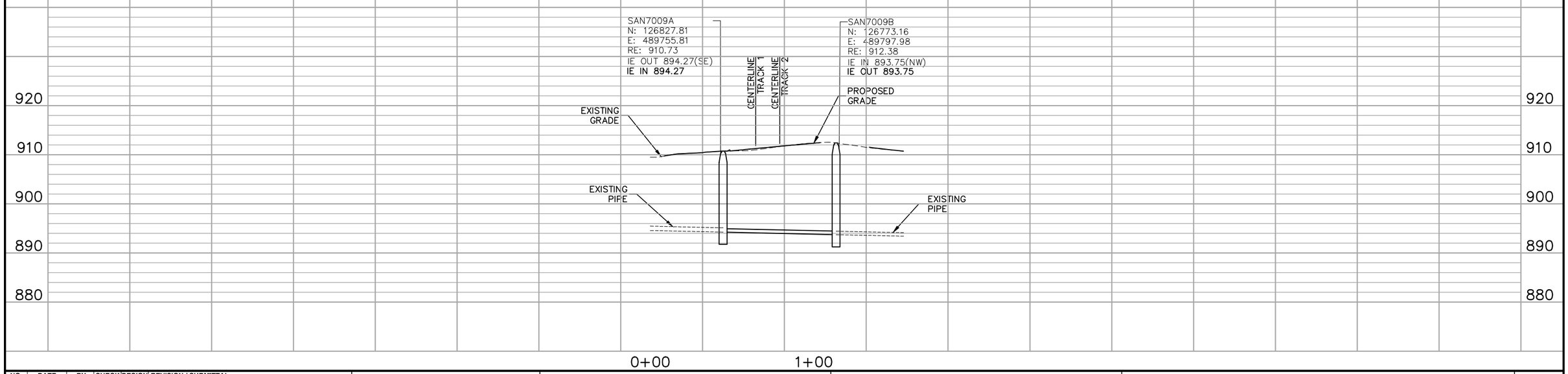
SHEET 33 OF 81

Jan, 18 2016 02:51 pm V:\3400_ADC\CAD\LRCI\LRCI-026\PLAN SHEETS\W1-UTL-PLN-LRCI26.dwg By: V-YoungbJR

PROFILE 1



PROFILE 4



NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

AECOM pce

90% SUBMISSION - 01/22/16

METROPOLITAN COUNCIL

SOUTHWEST Green Line LRT Extension

CIVIL (BA13)
TRAIL BETWEEN LRT TRACKS AND CSAH 61
FLYING CLOUD DR 5 OF 5
PROFILES

DISCIPLINE: **UTILITIES**

SHEET NAME: **W1-UTL-PLN-015-LRCI26**

SHEET **34** OF **81**

Jan, 18 2016 02:51 pm V:\3400_ADC\CAD\LRCI\LRCI-026\PLAN SHEETS\W1-UTL-PLN-LRCI26.dwg By: V-YoungbJR

MATCH LINE - STA. 2129+00

MATCH LINE - STA. 2137+50

HORIZONTAL SCALE IN FEET
0 15 30 60

℄ EDEN RD

℄ TRACK 1

℄ TRACK 2

PROPOSED BMP

PROP TCE

PROP ROW

EX ROW

℄ TECHNOLOGY DR EB

℄ TECHNOLOGY DR WB

℄ FLYING CLOUD DR SB

℄ FLYING CLOUD DR NB

5350-CB
5351-CB
EX-5351A-CB
5353-CB
5352-CB
5354-FES
5355-CB
5356-CB
5357-CB
5358-CB
D101
D102

DOT EP-18

Jan, 18 2016 11:39 am V:\3400_ADC\CAD\LRCI\LRCI-026\PLAN SHEETS\W1-STM-PLN-LRCI-026.dwg By: V-BuiEC

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

AECOM WSB & Associates, Inc.

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METROPOLITAN COUNCIL SOUTHWEST

CIVIL WEST (BA13)
DRAINAGE
PLAN
TRACK STA. 2129+00 TO STA. 2137+50

DISCIPLINE: DRAINAGE

SHEET NAME: W1-STM-PLN-001-LRCI-026

SHEET 35 OF 81

0 15 30 60
HORIZONTAL SCALE IN FEET

MATCH LINE - STA. 2140+50

MATCH LINE - STA. 2150+25

DOT EP-06

DOT EP-24

DOT EP-2

PROPOSED BMP

494 OFF RAMP

℄ TRACK 1

℄ TRACK 2

℄ FLYING CLOUD DR SB

℄ FLYING CLOUD DR NB

℄ VIKING DR

PROP TCE

PROP PE

EX ROW

EP: 6+73.19

5372-FES

5373-FES

5360A-FES

5360-CB

5361-CB

5359-CB

5359A-CB

5364-CB

5363-CB

5362-CB

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

AECOM WSB & Associates, Inc.

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METROPOLITAN COUNCIL SOUTHWEST

CIVIL WEST (BA13)
DRAINAGE
PLAN
TRACK STA. 2140+50 TO STA. 2150+25

DISCIPLINE: DRAINAGE

SHEET NAME: W1-STM-PLN-002-LRCI-026

SHEET 36 OF 81

Jan, 18 2016 11:39 am V:\3400_ADC\CAD\LRC\LRCI-026\PLAN SHEETS\W1-STM-PLN-LRCI-026.dwg By: V-BuiEC

MATCH LINE - STA. 2150+25

MATCH LINE - STA. 2157+50

PROP TCE

℄ TRACK 1

PROP PE

℄ TRACK 2

℄ FLYING CLOUD DR SB

℄ FLYING CLOUD DR NB

EX ROW

N.I.C

0 15 30 60

HORIZONTAL SCALE IN FEET

5365-CB

5366-CB

5366A-ST

5367-CB

5368-CB

5369-CB

5370-CB

5370A-ST

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

AECOM

WSB & Associates, Inc.

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METROPOLITAN COUNCIL

SOUTHWEST

CIVIL WEST (BA13)
DRAINAGE
PLAN
TRACK STA. 2150+25 TO STA. 2157+50

DISCIPLINE: DRAINAGE

SHEET NAME: W1-STM-PLN-003-LRCI-026

SHEET 37 OF 81

Jan, 18 2016 11:40 am V:\3400_ADC\CAD\LRCI\LRCI-026\PLAN SHEETS\W1-STM-PLN-LRCI-026.dwg By: V-BuiEC

MATCH LINE - STA. 2167+50

MATCH LINE - STA. 2158+50

0 15 30 60
HORIZONTAL
SCALE IN FEET

℄ TRACK 1

℄ TRACK 2

℄ 212 ON RAMP

PROPOSED
BMP

5376-FES

5375-FES

5374-FES

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

AECOM

WSB & Associates, Inc.

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METROPOLITAN COUNCIL

SOUTHWEST

CIVIL WEST (BA13)
DRAINAGE
PLAN
TRACK STA. 2158+50 TO STA. 2167+50

SHEET 38 OF 81

DISCIPLINE: DRAINAGE

SHEET NAME: W1-STM-PLN-004-LRCI-026

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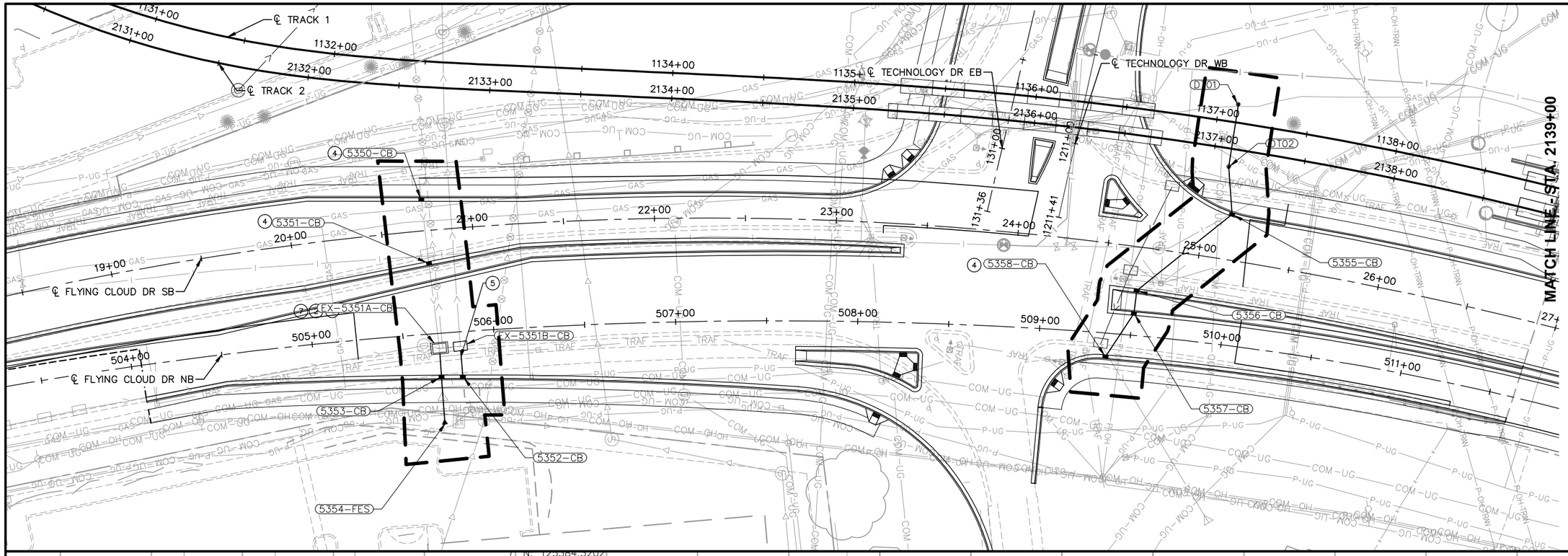

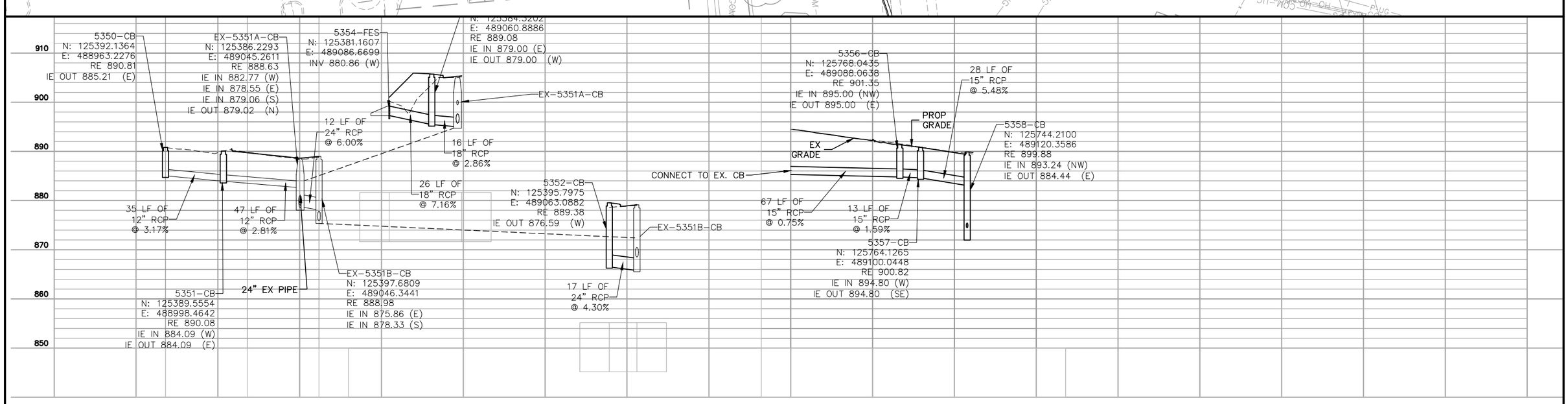

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

AECOM WSB & Associates, Inc.

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METROPOLITAN COUNCIL — SOUTHWEST Green Line LRT Extension

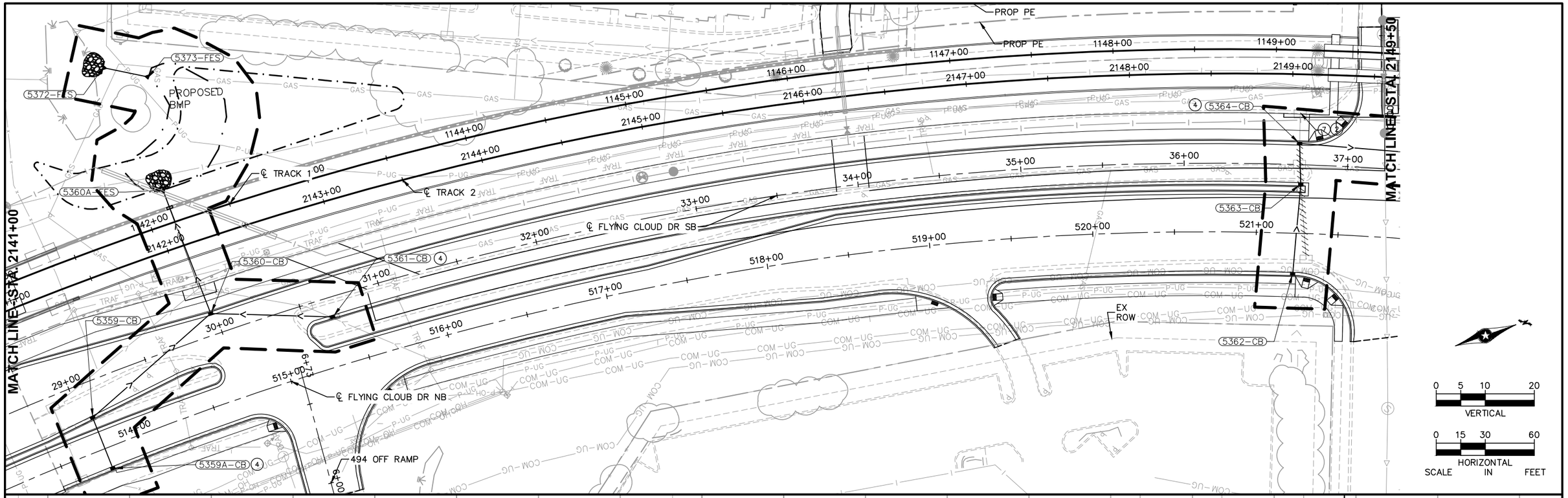
CIVIL WEST (BA13)
DRAINAGE
PLAN AND PROFILE
TRACK STA. 2130+50 TO STA. 2139+00

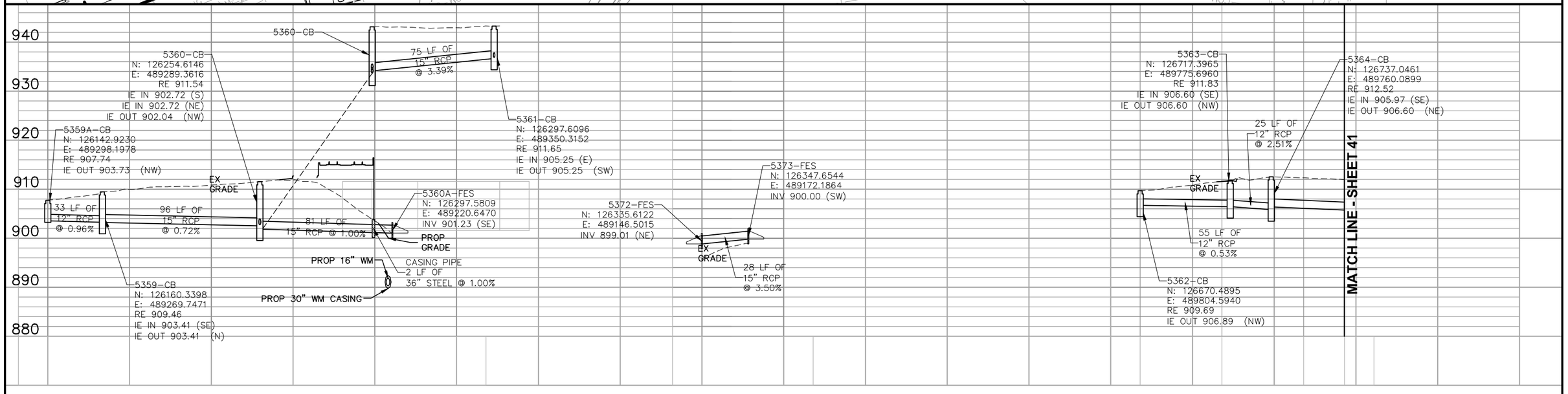
DISCIPLINE: DRAINAGE

SHEET NAME: W1-STM-PRF-001-LRCI-026

SHEET 39 OF 81

Jan, 18 2016 11:41 am V:\3400_ADC\CAD\LRCI\LRCI-026\PLAN SHEETS\W1-STM-PRF-LRCI-026.dwg By: V-BuiEC





Jan. 18 2016 11:41 am V:\3400_ADC\CAD\LRC\LRCI-026\PLAN SHEETS\W1-STM-PRF-LRCI-026.dwg By: V-BuiEC

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

AECOM

WSB & Associates, Inc.

90% - SUBMISSION - 01/22/16

METROPOLITAN COUNCIL

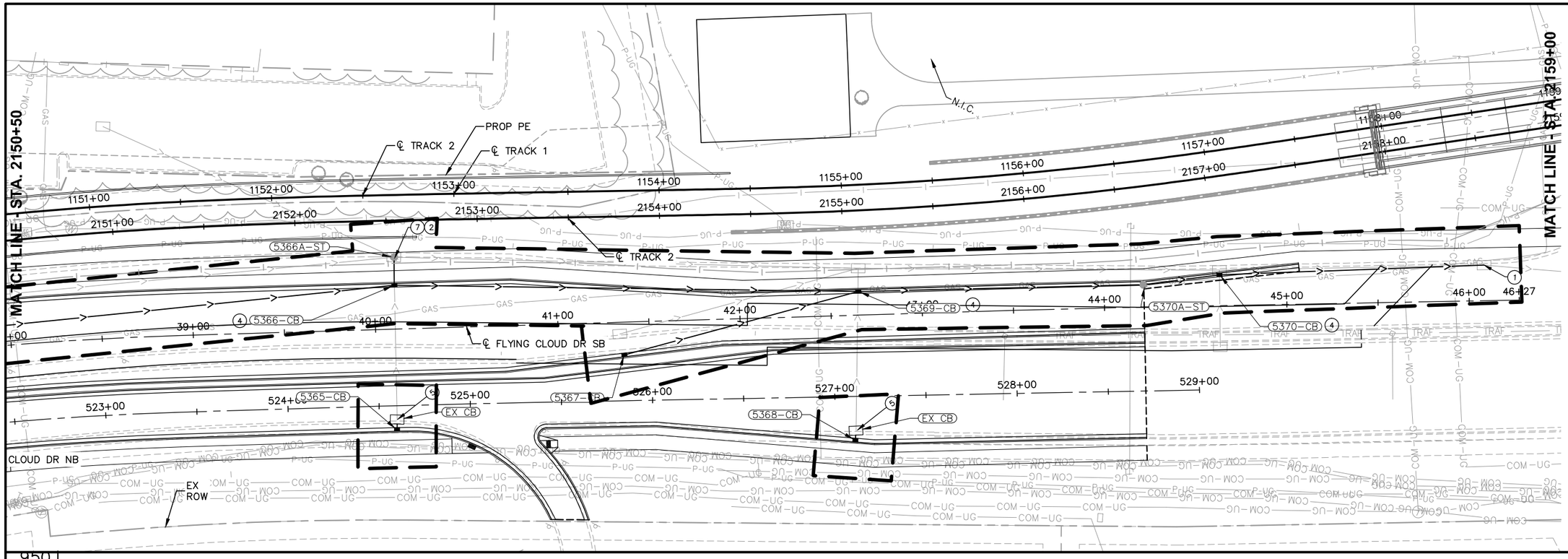
SOUTHWEST Green Line LRT Extension

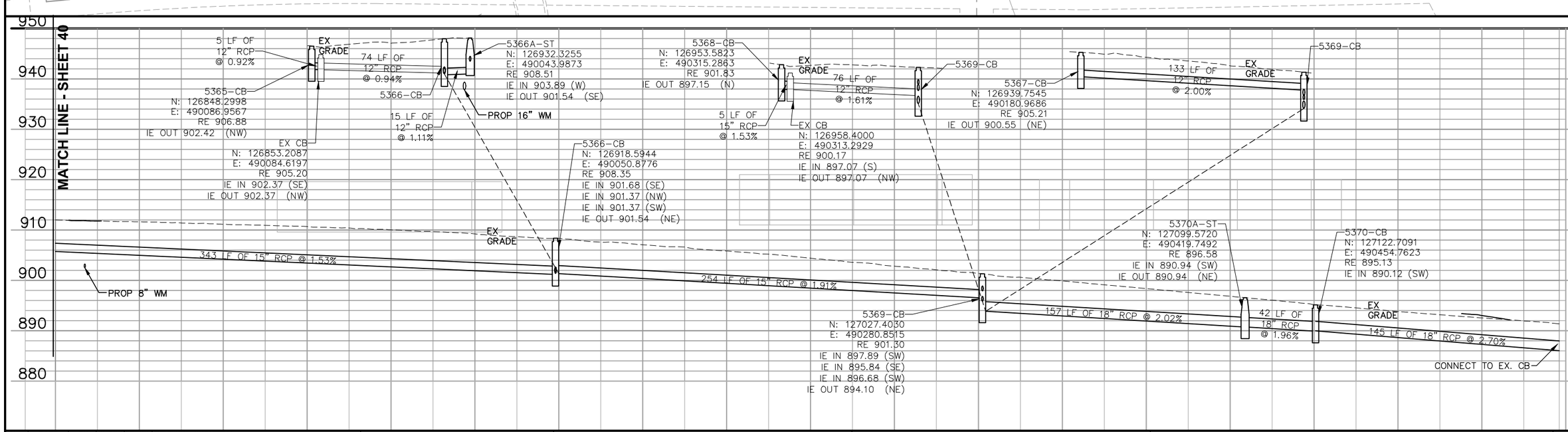
CIVIL WEST (BA13)
DRAINAGE
PLAN AND PROFILE
TRACK STA. 2141+00 TO STA. 2149+50

DISCIPLINE: DRAINAGE

SHEET NAME: W1-STM-PRF-002-LRCI-026

SHEET 40 OF 81





NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

AECOM

WSB & Associates, Inc.

90% - SUBMISSION - 01/22/16

METROPOLITAN COUNCIL

SOUTHWEST Green Line LRT Extension

CIVIL WEST (BA13)
DRAINAGE
PLAN AND PROFILE
TRACK STA. 2150+50 TO STA. 2159+00

DISCIPLINE: DRAINAGE

SHEET NAME: W1-STM-PRF-003-LRCI-026

SHEET 41 OF 81

Jan, 18 2016 11:41 am V:\3400_ADC\CAD\LRCI\LRCI-026\PLAN SHEETS\W1-STM-PRF-LRCI-026.dwg By: V-BuiEC

MATCH LINE - STA. 2159+50

℄ TRACK 1

℄ TRACK 2

1160+00

2160+00

1161+00

2161+00

1162+00

2162+00

1163+00

2163+00

1164+00

2164+00

1165+00

2165+00

1166+00

2166+00

1167+00

2167+00

0+00

1+00

2+00

6+00

7+00

5374–FES

5375–FES

5376–FES

PROPOSED
BMP

℄ 212 ON RAMP

MATCH LINE - STA. 2167+25

0 5 10 20
VERTICAL

0 15 30 60
HORIZONTAL
SCALE IN FEET

910
900
890
880
870
860
850

EX
GRADE

CONNECT TO EX. CB

215 LF OF 15" RCP @ 1.27%

5374–FES
N: 127447.1541
E: 490895.4654
INV 879.38 (W)

5375–FES
N: 127531.3182
E: 491040.4470
INV 870.55 (NW)

EX
GRADE

120 LF OF 15" RCP @ 3.50%

5376–FES
N: 127613.7640
E: 490953.0263
INV 866.34 (SE)

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

AECOM

WSB & Associates, Inc.

90% - SUBMISSION - 01/22/16

METROPOLITAN COUNCIL

SOUTHWEST Green Line LRT Extension

CIVIL WEST (BA13)
DRAINAGE
PLAN AND PROFILE
TRACK STA. 2159+50 TO STA. 2167+25

DISCIPLINE: DRAINAGE

SHEET NAME: W1-STM-PRF-004-LRCI-026

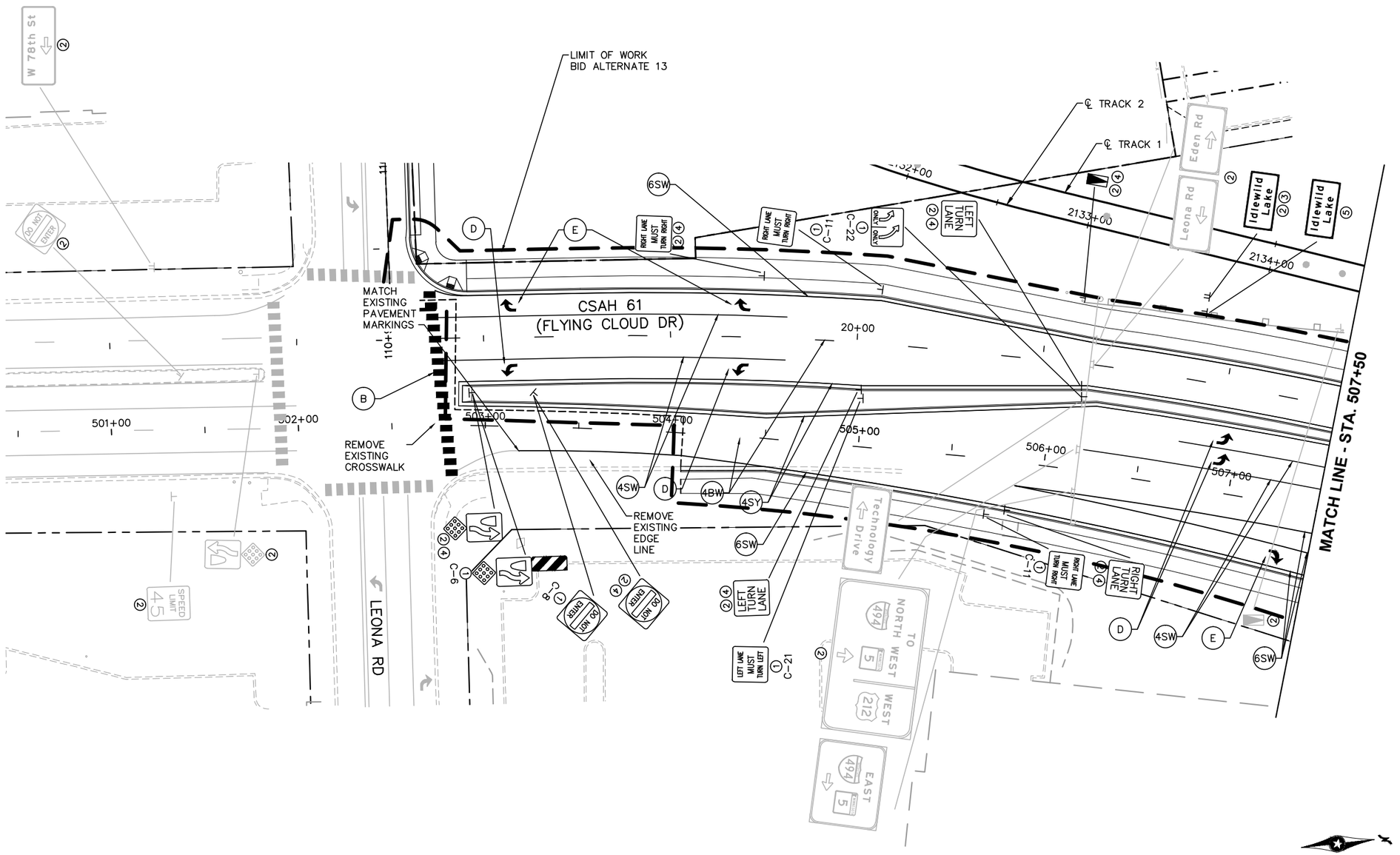
SHEET 42 OF 81

Jan, 18 2016 11:42 am V:\3400_ADC\CAD\LRCI\LRCI-026\PLAN SHEETS\W1-STM-PRF-LRCI-026.dwg By: V-BuiEC

NOTES:
1. SIGNS SHALL BE PLACED AS DETAILED ON SIGNING AND STRIPING DETAIL SHEETS.
2. ALL PAVEMENT MARKINGS ARE INPLACE AND SHALL REMAIN INPLACE UNLESS OTHERWISE NOTED.

(1) FURNISH & INSTALL
(2) INPLACE
(3) SALVAGE
(4) REMOVE
(5) INSTALL
(6) FURNISH AND INSTALL SIGN PANEL
(7) REMOVE SIGN PANEL
(8) INSTALL SIGN PANEL

(A) STOP BAR – 24" SOLID LINE WHITE – THERMOPLASTIC
(B) CROSSWALK MARKING – 6' WIDE WHITE – THERMOPLASTIC
(C) PAVEMENT MESSAGE – RR CROSSING WHITE – THERMOPLASTIC
(D) PAVEMENT MESSAGE – LEFT TURN ARROW WHITE – THERMOPLASTIC
(E) PAVEMENT MESSAGE – RIGHT TURN ARROW WHITE – THERMOPLASTIC
(F) PAVEMENT MESSAGE – BIKE SYMBOL WHITE ON BLACK RECTANGLE BACKGROUND – THERMOPLASTIC
(G) PAVEMENT MESSAGE – THRU ARROW WHITE – THERMOPLASTIC
(H) PAVEMENT MESSAGE – LEFT TURN ARROW WHITE – EPOXY
(I) PAVEMENT MESSAGE – RIGHT TURN ARROW WHITE – EPOXY
(J) CROSSWALK MARKING – 6' WIDE WHITE – EPOXY
(K) PAVEMENT MESSAGE – SHARED THRU/RIGHT TURN ARROW WHITE – THERMOPLASTIC
(L) STOP BAR – 24" SOLID LINE WHITE – EPOXY
(M) PAVEMENT MESSAGE – RR CROSSING WHITE – EPOXY
(N) PAVEMENT MESSAGE – SHARED LEFT TURN/THRU ARROW WHITE – EPOXY
(O) PAVEMENT MESSAGE – SHARED LEFT/RIGHT TURN ARROW WHITE – THERMOPLASTIC
(P) PAVEMENT MESSAGE – SHARED THRU/RIGHT TURN ARROW WHITE – EPOXY
(Q) PAVEMENT MESSAGE – RIGHT TURN ARROW WHITE – PREFORMED TAPE (GROUND IN)
(R) PAVEMENT MESSAGE – LEFT TURN ARROW WHITE – PREFORMED TAPE (GROUND IN)
(S) CROSSWALK MARKING – 10' WIDE WHITE – PREFORMED TAPE (GROUND IN)
(T) CROSSWALK MARKING – 20' WIDE WHITE – PREFORMED TAPE (GROUND IN)
(U) PAVEMENT MESSAGE – RR CROSSING WHITE – PREFORMED TAPE (GROUND IN)
(V) STOP BAR – 12" SOLID LINE WHITE – PREFORMED TAPE (GROUND IN)
(W) CROSSWALK MARKING – 6" SOLID LINE WHITE – PREFORMED TAPE (GROUND IN)
(X) PAVEMENT MESSAGE – BIKE SYMBOL WHITE – PREFORMED TAPE (GROUND IN)
(Y) PAVEMENT MESSAGE – BIKE SYMBOL WHITE – PAINT
(Z) PAVEMENT MESSAGE – PED SYMBOL WHITE – PAINT



NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

AECOM SRF Consulting Group, Inc.

90% SUBMISSION - 01/22/16

METROPOLITAN COUNCIL SOUTHWEST Green Line LRT Extension

CIVIL WEST (BA13)
FLYING CLOUD DRIVE
SIGNING AND STRIPING
STA. 501+00 TO STA. 507+50

DISCIPLINE: TRAFFIC

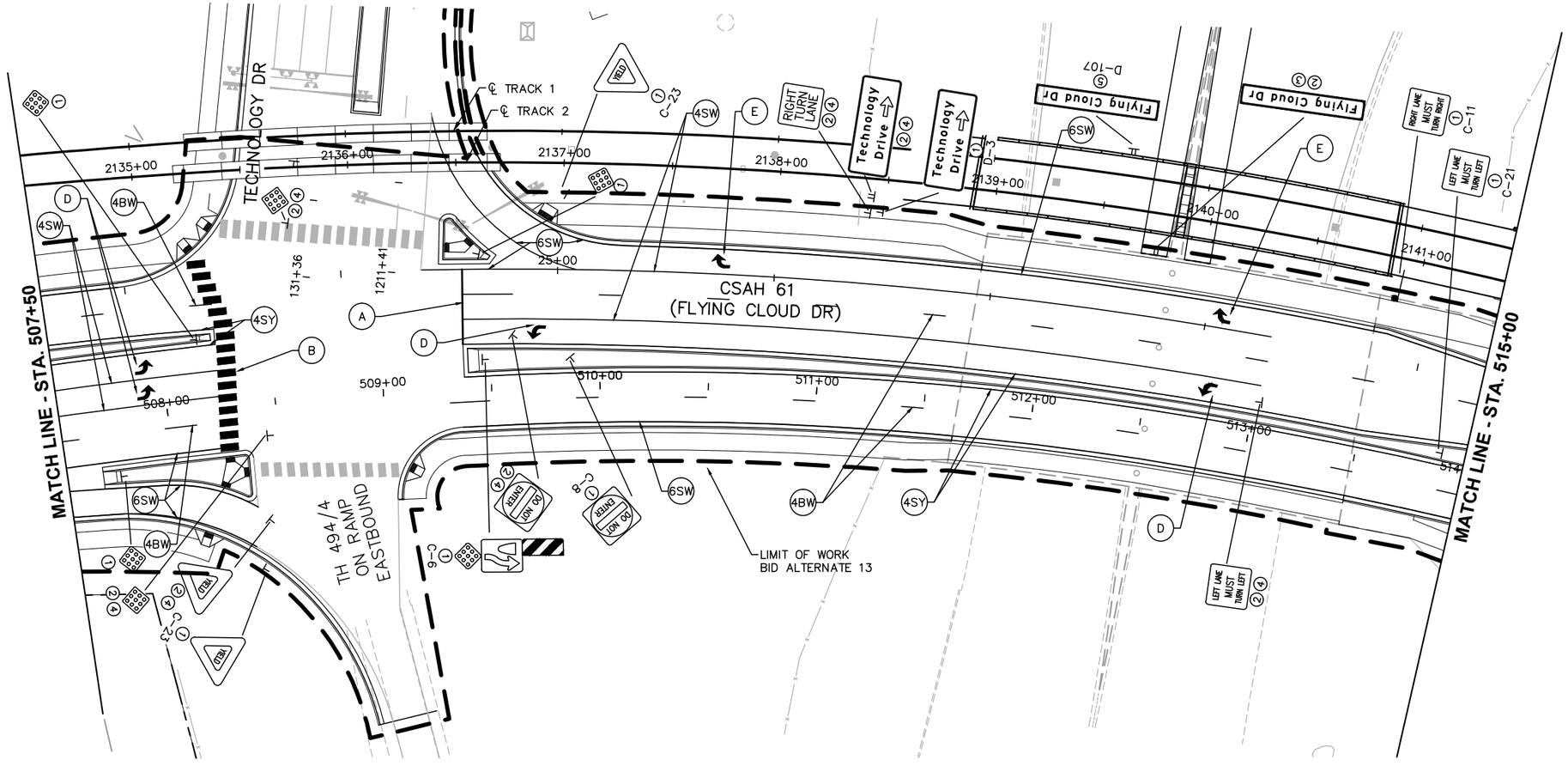
SHEET NAME: W1-TFC-SIGN-STRP-019-LRCI-026

SHEET 43 OF 81

NOTES:
1. SIGNS SHALL BE PLACED AS DETAILED ON SIGNING AND STRIPING DETAIL SHEETS.
2. ALL PAVEMENT MARKINGS ARE INPLACE AND SHALL REMAIN INPLACE UNLESS OTHERWISE NOTED.

(1) FURNISH & INSTALL
(2) INPLACE
(3) SALVAGE
(4) REMOVE
(5) INSTALL
(6) FURNISH AND INSTALL SIGN PANEL
(7) REMOVE SIGN PANEL
(8) INSTALL SIGN PANEL

(A) STOP BAR – 24" SOLID LINE WHITE – THERMOPLASTIC
(B) CROSSWALK MARKING – 6' WIDE WHITE – THERMOPLASTIC
(C) PAVEMENT MESSAGE – RR CROSSING WHITE – THERMOPLASTIC
(D) PAVEMENT MESSAGE – LEFT TURN ARROW WHITE – THERMOPLASTIC
(E) PAVEMENT MESSAGE – RIGHT TURN ARROW WHITE – THERMOPLASTIC
(F) PAVEMENT MESSAGE – BIKE SYMBOL WHITE ON BLACK RECTANGLE BACKGROUND – THERMOPLASTIC
(G) PAVEMENT MESSAGE – THRU ARROW WHITE – THERMOPLASTIC
(H) PAVEMENT MESSAGE – LEFT TURN ARROW WHITE – EPOXY
(I) PAVEMENT MESSAGE – RIGHT TURN ARROW WHITE – EPOXY
(J) CROSSWALK MARKING – 6' WIDE WHITE – EPOXY
(K) PAVEMENT MESSAGE – SHARED THRU/RIGHT TURN ARROW WHITE – THERMOPLASTIC
(L) STOP BAR – 24" SOLID LINE WHITE – EPOXY
(M) PAVEMENT MESSAGE – RR CROSSING WHITE – EPOXY
(N) PAVEMENT MESSAGE – SHARED LEFT TURN/THRU ARROW WHITE – EPOXY
(O) PAVEMENT MESSAGE – SHARED LEFT/RIGHT TURN ARROW WHITE – THERMOPLASTIC
(P) PAVEMENT MESSAGE – SHARED THRU/RIGHT TURN ARROW WHITE – EPOXY
(Q) PAVEMENT MESSAGE – RIGHT TURN ARROW WHITE – PREFORMED TAPE (GROUND IN)
(R) PAVEMENT MESSAGE – LEFT TURN ARROW WHITE – PREFORMED TAPE (GROUND IN)
(S) CROSSWALK MARKING – 10' WIDE WHITE – PREFORMED TAPE (GROUND IN)
(T) CROSSWALK MARKING – 20' WIDE WHITE – PREFORMED TAPE (GROUND IN)
(U) PAVEMENT MESSAGE – RR CROSSING WHITE – PREFORMED TAPE (GROUND IN)
(V) STOP BAR – 12" SOLID LINE WHITE – PREFORMED TAPE (GROUND IN)
(W) CROSSWALK MARKING – 6" SOLID LINE WHITE – PREFORMED TAPE (GROUND IN)
(X) PAVEMENT MESSAGE – BIKE SYMBOL WHITE – PREFORMED TAPE (GROUND IN)
(Y) PAVEMENT MESSAGE – BIKE SYMBOL WHITE – PAINT
(Z) PAVEMENT MESSAGE – PED SYMBOL WHITE – PAINT



0 15 30 60
HORIZONTAL SCALE IN FEET

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

AECOM SRF Consulting Group, Inc.

90% SUBMISSION - 01/22/16

METROPOLITAN COUNCIL
SOUTHWEST Green Line LRT Extension

CIVIL WEST (BA13)
FLYING CLOUD DRIVE
SIGNING AND STRIPING
STA. 507+50 TO STA. 515+00

DISCIPLINE: TRAFFIC
SHEET NAME: W1-TFC-SIGN-STRP-020-LRCI-026

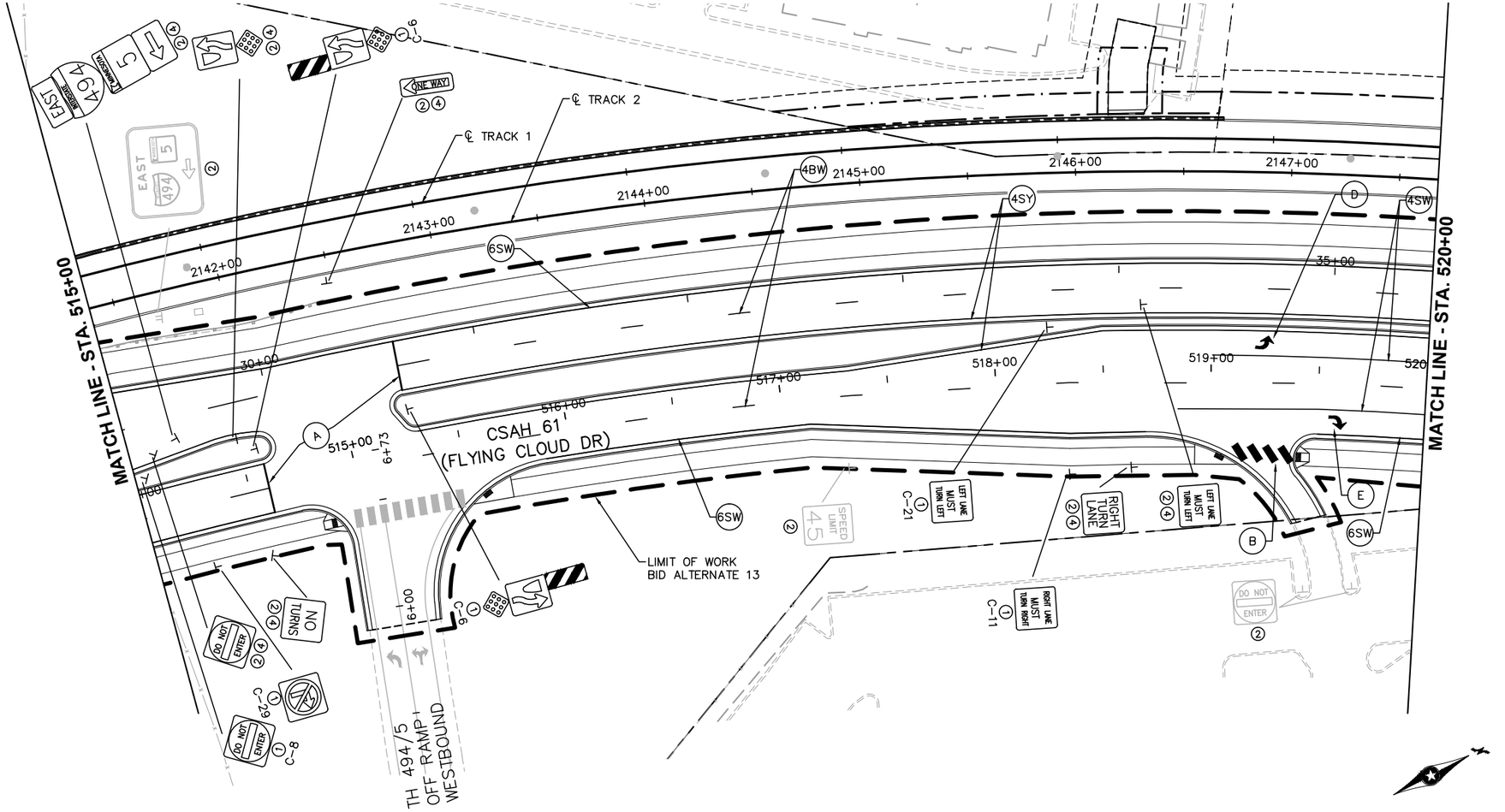
SHEET 44 OF 81

Jan, 18 2016 10:04 am v:\3400_ADC\CAD\LRCI\LRCI-026\PLAN SHEETS\W1-TFC-SIGN-STRP-LRCI-026.dwg By: bbetts

NOTES:
1. SIGNS SHALL BE PLACED AS DETAILED ON SIGNING AND STRIPING DETAIL SHEETS.
2. ALL PAVEMENT MARKINGS ARE INPLACE AND SHALL REMAIN INPLACE UNLESS OTHERWISE NOTED.

(1) FURNISH & INSTALL
(2) INPLACE
(3) SALVAGE
(4) REMOVE
(5) INSTALL
(6) FURNISH AND INSTALL SIGN PANEL
(7) REMOVE SIGN PANEL
(8) INSTALL SIGN PANEL

(A) STOP BAR – 24" SOLID LINE WHITE – THERMOPLASTIC
(B) CROSSWALK MARKING – 6' WIDE WHITE – THERMOPLASTIC
(C) PAVEMENT MESSAGE – RR CROSSING WHITE – THERMOPLASTIC
(D) PAVEMENT MESSAGE – LEFT TURN ARROW WHITE – THERMOPLASTIC
(E) PAVEMENT MESSAGE – RIGHT TURN ARROW WHITE – THERMOPLASTIC
(F) PAVEMENT MESSAGE – BIKE SYMBOL WHITE ON BLACK RECTANGLE BACKGROUND – THERMOPLASTIC
(G) PAVEMENT MESSAGE – THRU ARROW WHITE – THERMOPLASTIC
(H) PAVEMENT MESSAGE – LEFT TURN ARROW WHITE – EPOXY
(I) PAVEMENT MESSAGE – RIGHT TURN ARROW WHITE – EPOXY
(J) CROSSWALK MARKING – 6' WIDE WHITE – EPOXY
(K) PAVEMENT MESSAGE – SHARED THRU/RIGHT TURN ARROW WHITE – THERMOPLASTIC
(L) STOP BAR – 24" SOLID LINE WHITE – EPOXY
(M) PAVEMENT MESSAGE – RR CROSSING WHITE – EPOXY
(N) PAVEMENT MESSAGE – SHARED LEFT TURN/THRU ARROW WHITE – EPOXY
(O) PAVEMENT MESSAGE – SHARED LEFT/RIGHT TURN ARROW WHITE – THERMOPLASTIC
(P) PAVEMENT MESSAGE – SHARED THRU/RIGHT TURN ARROW WHITE – EPOXY
(Q) PAVEMENT MESSAGE – RIGHT TURN ARROW WHITE – PREFORMED TAPE (GROUND IN)
(R) PAVEMENT MESSAGE – LEFT TURN ARROW WHITE – PREFORMED TAPE (GROUND IN)
(S) CROSSWALK MARKING – 10' WIDE WHITE – PREFORMED TAPE (GROUND IN)
(T) CROSSWALK MARKING – 20' WIDE WHITE – PREFORMED TAPE (GROUND IN)
(U) PAVEMENT MESSAGE – RR CROSSING WHITE – PREFORMED TAPE (GROUND IN)
(V) STOP BAR – 12" SOLID LINE WHITE – PREFORMED TAPE (GROUND IN)
(W) CROSSWALK MARKING – 6" SOLID LINE WHITE – PREFORMED TAPE (GROUND IN)
(X) PAVEMENT MESSAGE – BIKE SYMBOL WHITE – PREFORMED TAPE (GROUND IN)
(Y) PAVEMENT MESSAGE – BIKE SYMBOL WHITE – PAINT
(Z) PAVEMENT MESSAGE – PED SYMBOL WHITE – PAINT



0 15 30 60
HORIZONTAL SCALE IN FEET

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

AECOM
SRF Consulting Group, Inc.
90% SUBMISSION - 01/22/16

METROPOLITAN COUNCIL
SOUTHWEST Green Line LRT Extension

CIVIL WEST (BA13)
FLYING CLOUD DRIVE
SIGNING AND STRIPING
STA. 515+00 TO STA. 520+00

DISCIPLINE: TRAFFIC
SHEET NAME: W1-TFC-SIGN-STRP-021-LRCI-026

SHEET 45 OF 81

Jan, 18 2016 10:04 am v:\3400_ADC\CAD\LRCI\LRCI-026\PLAN SHEETS\W1-TFC-SIGN-STRP-LRCI-026.dwg By: bbetts

NOTES:
1. SIGNS SHALL BE PLACED AS DETAILED ON SIGNING AND STRIPING DETAIL SHEETS.
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(1) FURNISH & INSTALL
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(3) SALVAGE
(4) REMOVE
(5) INSTALL
(6) FURNISH AND INSTALL SIGN PANEL
(7) REMOVE SIGN PANEL
(8) INSTALL SIGN PANEL

(A) STOP BAR – 24" SOLID LINE WHITE – THERMOPLASTIC
(B) CROSSWALK MARKING – 6' WIDE WHITE – THERMOPLASTIC
(C) PAVEMENT MESSAGE – RR CROSSING WHITE – THERMOPLASTIC
(D) PAVEMENT MESSAGE – LEFT TURN ARROW WHITE – THERMOPLASTIC
(E) PAVEMENT MESSAGE – RIGHT TURN ARROW WHITE – THERMOPLASTIC
(F) PAVEMENT MESSAGE – BIKE SYMBOL WHITE ON BLACK RECTANGLE BACKGROUND – THERMOPLASTIC
(G) PAVEMENT MESSAGE – THRU ARROW WHITE – THERMOPLASTIC
(H) PAVEMENT MESSAGE – LEFT TURN ARROW WHITE – EPOXY
(I) PAVEMENT MESSAGE – RIGHT TURN ARROW WHITE – EPOXY
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(N) PAVEMENT MESSAGE – SHARED LEFT TURN/THRU ARROW WHITE – EPOXY
(O) PAVEMENT MESSAGE – SHARED LEFT/RIGHT TURN ARROW WHITE – THERMOPLASTIC
(P) PAVEMENT MESSAGE – SHARED THRU/RIGHT TURN ARROW WHITE – EPOXY
(Q) PAVEMENT MESSAGE – RIGHT TURN ARROW WHITE – PREFORMED TAPE (GROUND IN)
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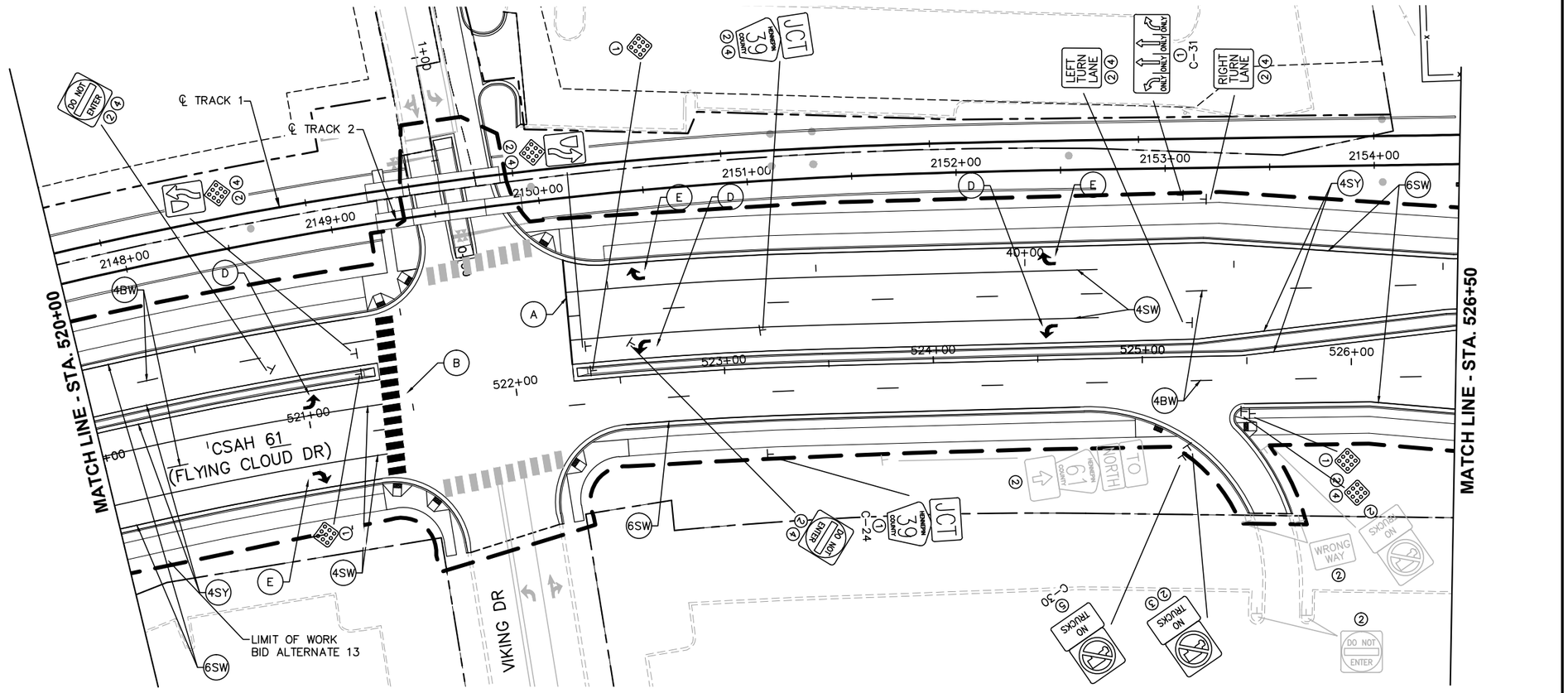
(V) STOP BAR – 12" SOLID LINE WHITE – PREFORMED TAPE (GROUND IN)
(W) CROSSWALK MARKING – 6" SOLID LINE WHITE – PREFORMED TAPE (GROUND IN)
(X) PAVEMENT MESSAGE – BIKE SYMBOL WHITE – PREFORMED TAPE (GROUND IN)
(Y) PAVEMENT MESSAGE – BIKE SYMBOL WHITE – PAINT
(Z) PAVEMENT MESSAGE – PED SYMBOL WHITE – PAINT



0 15 30 60
HORIZONTAL SCALE IN FEET

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

AECOM SRF Consulting Group, Inc.

90% SUBMISSION - 01/22/16

METROPOLITAN COUNCIL SOUTHWEST Green Line LRT Extension

CIVIL WEST (BA13)
FLYING CLOUD DRIVE
SIGNING AND STRIPING
STA. 520+00 TO STA. 526+50

DISCIPLINE: TRAFFIC
SHEET NAME: W1-TFC-SIGN-STRP-022-LRCI-026

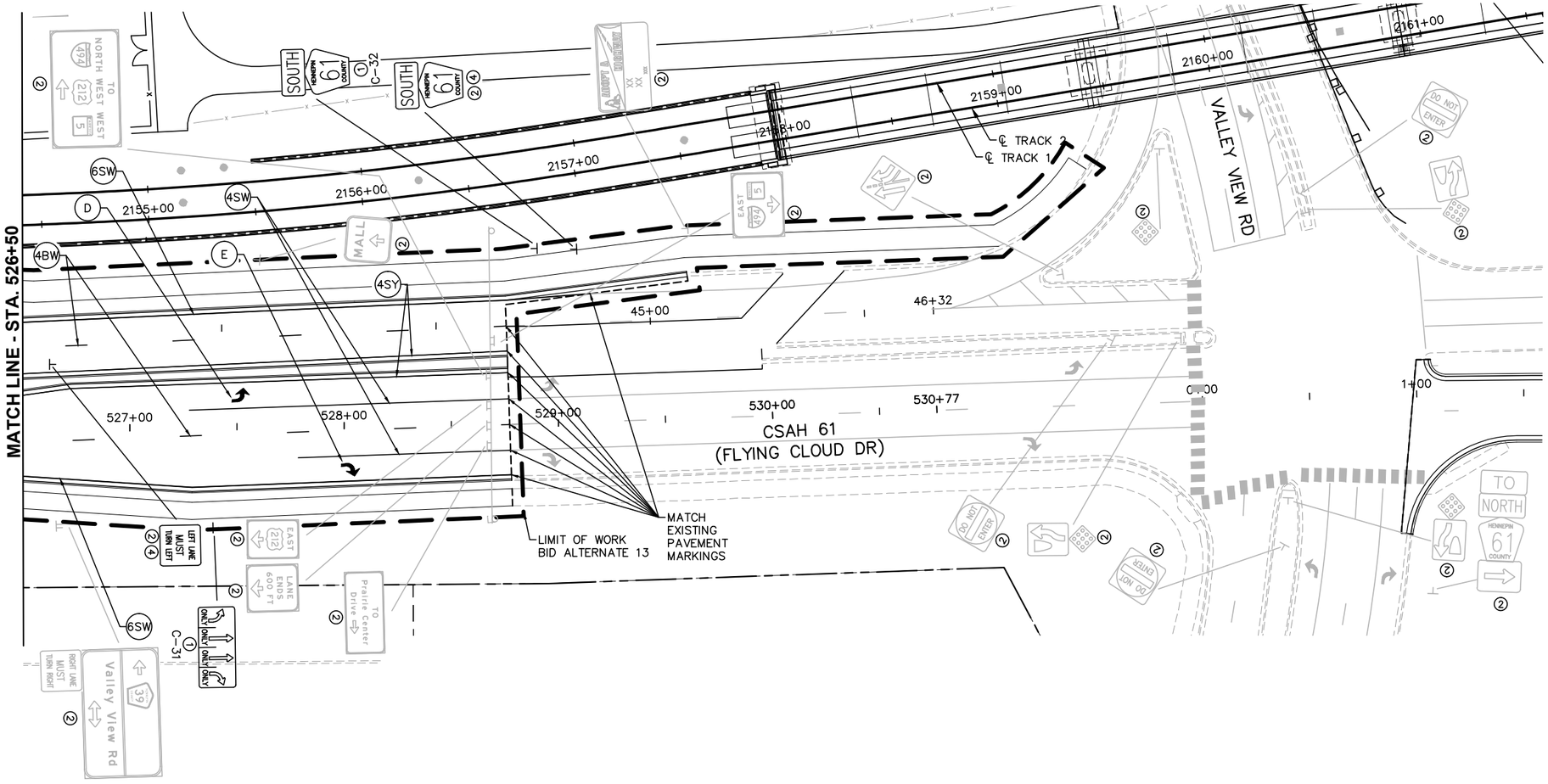
SHEET 46 OF 81

Jan, 18 2016 10:04 am V:\3400_ADC\CAD\LRCI\LRCI-026\PLAN SHEETS\W1-TFC-SIGN-STRP-LRCI-026.dwg By: bbetts

NOTES:
1. SIGNS SHALL BE PLACED AS DETAILED ON SIGNING AND STRIPING DETAIL SHEETS.
2. ALL PAVEMENT MARKINGS ARE INPLACE AND SHALL REMAIN INPLACE UNLESS OTHERWISE NOTED.

(1) FURNISH & INSTALL
(2) INPLACE
(3) SALVAGE
(4) REMOVE
(5) INSTALL
(6) FURNISH AND INSTALL SIGN PANEL
(7) REMOVE SIGN PANEL
(8) INSTALL SIGN PANEL

(A) STOP BAR – 24" SOLID LINE
WHITE – THERMOPLASTIC
(B) CROSSWALK MARKING – 6' WIDE
WHITE – THERMOPLASTIC
(C) PAVEMENT MESSAGE – RR CROSSING
WHITE – THERMOPLASTIC
(D) PAVEMENT MESSAGE – LEFT TURN ARROW
WHITE – THERMOPLASTIC
(E) PAVEMENT MESSAGE – RIGHT TURN ARROW
WHITE – THERMOPLASTIC
(F) PAVEMENT MESSAGE – BIKE SYMBOL WHITE ON
BLACK RECTANGLE BACKGROUND – THERMOPLASTIC
(G) PAVEMENT MESSAGE – THRU ARROW
WHITE – THERMOPLASTIC
(H) PAVEMENT MESSAGE – LEFT TURN ARROW
WHITE – EPOXY
(I) PAVEMENT MESSAGE – RIGHT TURN ARROW
WHITE – EPOXY
(J) CROSSWALK MARKING – 6' WIDE
WHITE – EPOXY
(K) PAVEMENT MESSAGE – SHARED THRU/RIGHT TURN ARROW
WHITE – THERMOPLASTIC
(L) STOP BAR – 24" SOLID LINE
WHITE – EPOXY
(M) PAVEMENT MESSAGE – RR CROSSING
WHITE – EPOXY
(N) PAVEMENT MESSAGE – SHARED LEFT TURN/THRU ARROW
WHITE – EPOXY
(O) PAVEMENT MESSAGE – SHARED LEFT/RIGHT TURN ARROW
WHITE – THERMOPLASTIC
(P) PAVEMENT MESSAGE – SHARED THRU/RIGHT TURN ARROW
WHITE – EPOXY
(Q) PAVEMENT MESSAGE – RIGHT TURN ARROW
WHITE – PREFORMED TAPE (GROUND IN)
(R) PAVEMENT MESSAGE – LEFT TURN ARROW
WHITE – PREFORMED TAPE (GROUND IN)
(S) CROSSWALK MARKING – 10' WIDE
WHITE – PREFORMED TAPE (GROUND IN)
(T) CROSSWALK MARKING – 20' WIDE
WHITE – PREFORMED TAPE (GROUND IN)
(U) PAVEMENT MESSAGE – RR CROSSING
WHITE – PREFORMED TAPE (GROUND IN)
(V) STOP BAR – 12" SOLID LINE
WHITE – PREFORMED TAPE (GROUND IN)
(W) CROSSWALK MARKING – 6" SOLID LINE
WHITE – PREFORMED TAPE (GROUND IN)
(X) PAVEMENT MESSAGE – BIKE SYMBOL
WHITE – PREFORMED TAPE (GROUND IN)
(Y) PAVEMENT MESSAGE – BIKE SYMBOL
WHITE – PAINT
(Z) PAVEMENT MESSAGE – PED SYMBOL
WHITE – PAINT



0 15 30 60
HORIZONTAL SCALE IN FEET

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

AECOM SRF Consulting Group, Inc.

90% SUBMISSION - 01/22/16

METROPOLITAN COUNCIL
SOUTHWEST Green Line LRT Extension

CIVIL WEST (BA13)
FLYING CLOUD DRIVE
SIGNING AND STRIPING
STA. 526+50 TO STA. 530+77

DISCIPLINE: TRAFFIC
SHEET NAME: W1-TFC-SIGN-STRP-023-LRCI-026

SHEET 47 OF 81

Jan, 18 2016 10:05 am v:\3400_ADC\CAD\LRCI\LRCI-026\PLAN SHEETS\W1-TFC-SIGN-STRP-LRCI-026.dwg By: bbetts

NOTES:
1. SIGNS SHALL BE PLACED AS DETAILED ON SIGNING AND STRIPING DETAIL SHEETS.
2. ALL PAVEMENT MARKINGS ARE INPLACE AND SHALL REMAIN INPLACE UNLESS OTHERWISE NOTED.

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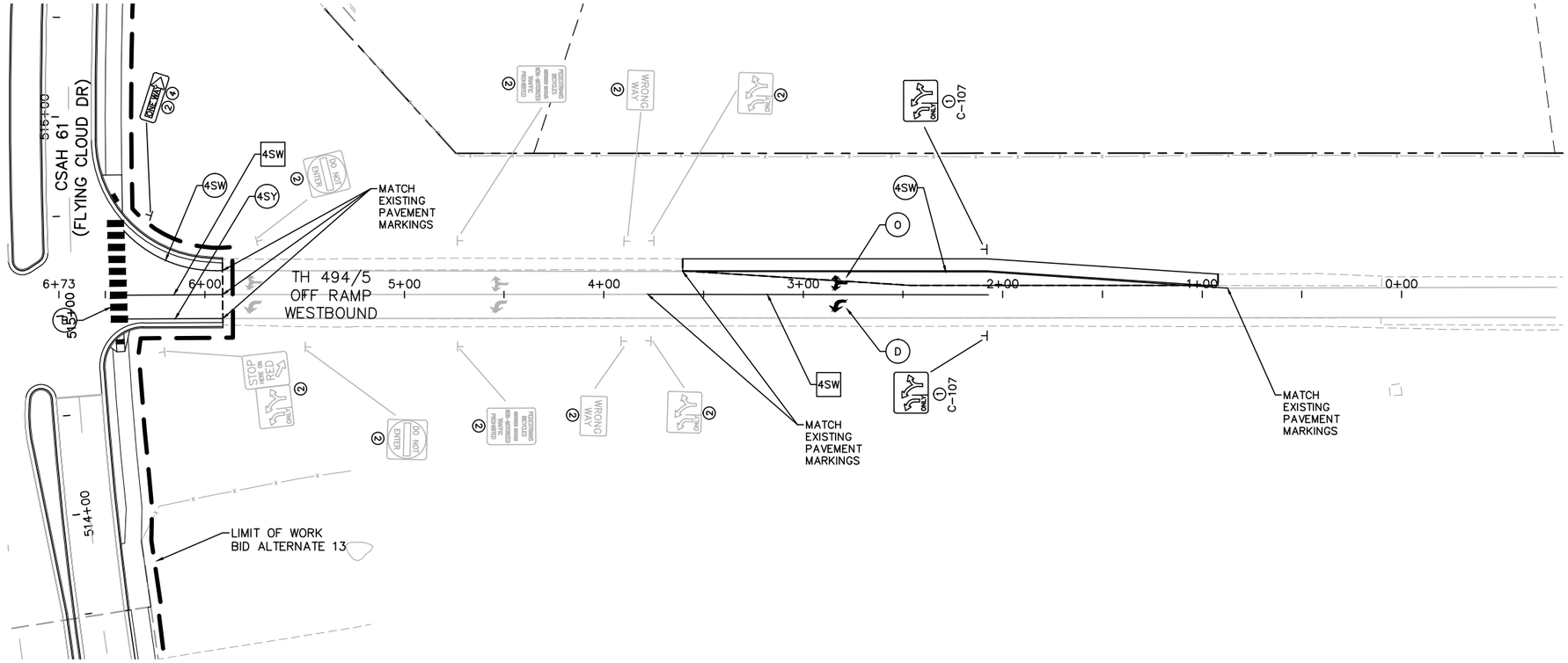
(3) SALVAGE
(4) REMOVE
(5) INSTALL
(6) FURNISH AND INSTALL SIGN PANEL
(7) REMOVE SIGN PANEL
(8) INSTALL SIGN PANEL

(A) STOP BAR – 24" SOLID LINE WHITE – THERMOPLASTIC
(B) CROSSWALK MARKING – 6' WIDE WHITE – THERMOPLASTIC
(C) PAVEMENT MESSAGE – RR CROSSING WHITE – THERMOPLASTIC
(D) PAVEMENT MESSAGE – LEFT TURN ARROW WHITE – THERMOPLASTIC
(E) PAVEMENT MESSAGE – RIGHT TURN ARROW WHITE – THERMOPLASTIC
(F) PAVEMENT MESSAGE – BIKE SYMBOL WHITE ON BLACK RECTANGLE BACKGROUND – THERMOPLASTIC
(G) PAVEMENT MESSAGE – THRU ARROW WHITE – THERMOPLASTIC
(H) PAVEMENT MESSAGE – LEFT TURN ARROW WHITE – EPOXY
(I) PAVEMENT MESSAGE – RIGHT TURN ARROW WHITE – EPOXY
(J) CROSSWALK MARKING – 6' WIDE WHITE – EPOXY
(K) PAVEMENT MESSAGE – SHARED THRU/RIGHT TURN ARROW WHITE – THERMOPLASTIC
(L) STOP BAR – 24" SOLID LINE WHITE – EPOXY
(M) PAVEMENT MESSAGE – RR CROSSING WHITE – EPOXY
(N) PAVEMENT MESSAGE – SHARED LEFT TURN/THRU ARROW WHITE – EPOXY
(O) PAVEMENT MESSAGE – SHARED LEFT/RIGHT TURN ARROW WHITE – THERMOPLASTIC
(P) PAVEMENT MESSAGE – SHARED THRU/RIGHT TURN ARROW WHITE – EPOXY
(Q) PAVEMENT MESSAGE – RIGHT TURN ARROW WHITE – PREFORMED TAPE (GROUND IN)
(R) PAVEMENT MESSAGE – LEFT TURN ARROW WHITE – PREFORMED TAPE (GROUND IN)
(S) CROSSWALK MARKING – 10' WIDE WHITE – PREFORMED TAPE (GROUND IN)
(T) CROSSWALK MARKING – 20' WIDE WHITE – PREFORMED TAPE (GROUND IN)
(U) PAVEMENT MESSAGE – RR CROSSING WHITE – PREFORMED TAPE (GROUND IN)
(V) STOP BAR – 12" SOLID LINE WHITE – PREFORMED TAPE (GROUND IN)
(W) CROSSWALK MARKING – 6" SOLID LINE WHITE – PREFORMED TAPE (GROUND IN)
(X) PAVEMENT MESSAGE – BIKE SYMBOL WHITE – PREFORMED TAPE (GROUND IN)
(Y) PAVEMENT MESSAGE – BIKE SYMBOL WHITE – PAINT
(Z) PAVEMENT MESSAGE – PED SYMBOL WHITE – PAINT



0 15 30 60
HORIZONTAL SCALE IN FEET

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

AECOM
SRF Consulting Group, Inc.
METROPOLITAN COUNCIL
SOUTHWEST Green Line LRT Extension

90% SUBMISSION - 01/22/16

CIVIL WEST (BA13)
494 EXIT RAMP
SIGNING AND STRIPING
STA. 00+00 TO STA. 6+73

DISCIPLINE: TRAFFIC
SHEET NAME: W1-TFC-SIGN-STRP-027-LRCI-026

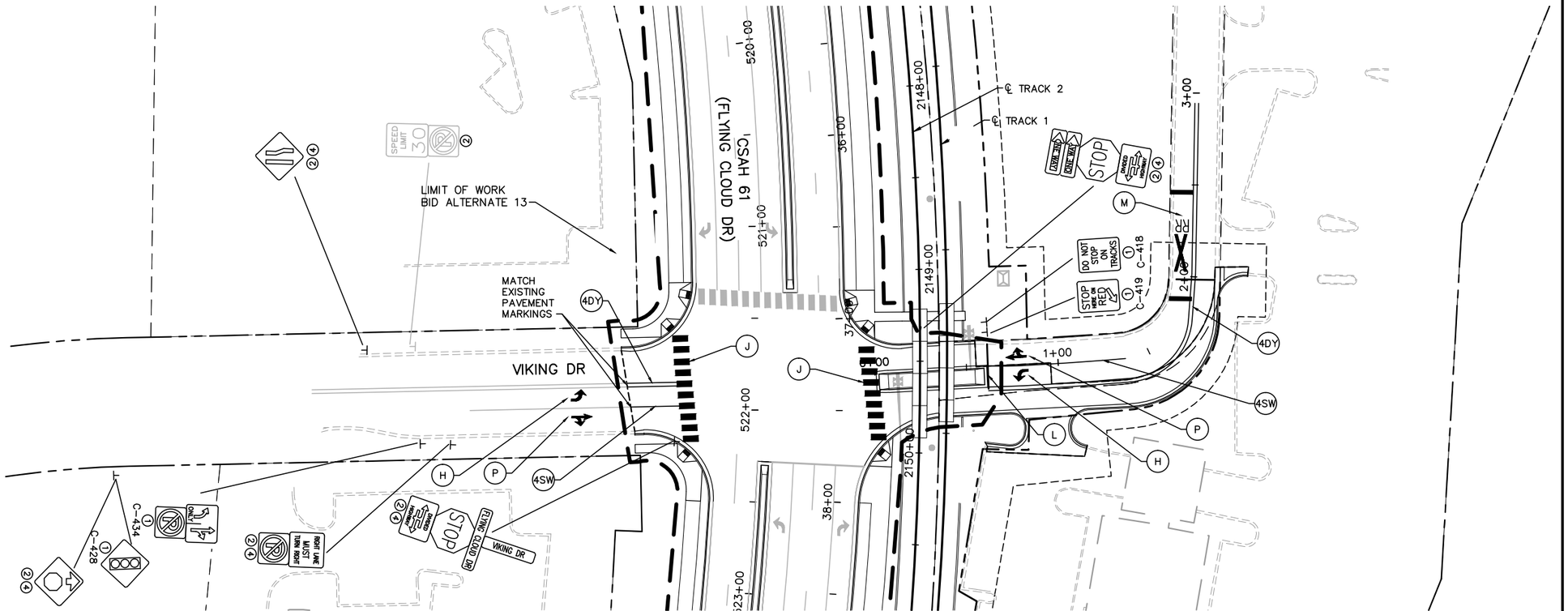
SHEET 48 OF 81

Jan. 18 2016 10:05 am V:\3400_ADC\CAD\LRCI\LRCI-026\PLAN SHEETS\W1-TFC-SIGN-STRP-LRCI-026.dwg By: bbetts

NOTES:
1. SIGNS SHALL BE PLACED AS DETAILED ON SIGNING AND STRIPING DETAIL SHEETS.
2. ALL PAVEMENT MARKINGS ARE INPLACE AND SHALL REMAIN INPLACE UNLESS OTHERWISE NOTED.

(1) FURNISH & INSTALL
(2) INPLACE
(3) SALVAGE
(4) REMOVE
(5) INSTALL
(6) FURNISH AND INSTALL SIGN PANEL
(7) REMOVE SIGN PANEL
(8) INSTALL SIGN PANEL

(A) STOP BAR – 24" SOLID LINE WHITE – THERMOPLASTIC
(B) CROSSWALK MARKING – 6' WIDE WHITE – THERMOPLASTIC
(C) PAVEMENT MESSAGE – RR CROSSING WHITE – THERMOPLASTIC
(D) PAVEMENT MESSAGE – LEFT TURN ARROW WHITE – THERMOPLASTIC
(E) PAVEMENT MESSAGE – RIGHT TURN ARROW WHITE – THERMOPLASTIC
(F) PAVEMENT MESSAGE – BIKE SYMBOL WHITE ON BLACK RECTANGLE BACKGROUND – THERMOPLASTIC
(G) PAVEMENT MESSAGE – THRU ARROW WHITE – THERMOPLASTIC
(H) PAVEMENT MESSAGE – LEFT TURN ARROW WHITE – EPOXY
(I) PAVEMENT MESSAGE – RIGHT TURN ARROW WHITE – EPOXY
(J) CROSSWALK MARKING – 6' WIDE WHITE – EPOXY
(K) PAVEMENT MESSAGE – SHARED THRU/RIGHT TURN ARROW WHITE – THERMOPLASTIC
(L) STOP BAR – 24" SOLID LINE WHITE – EPOXY
(M) PAVEMENT MESSAGE – RR CROSSING WHITE – EPOXY
(N) PAVEMENT MESSAGE – SHARED LEFT TURN/THRU ARROW WHITE – EPOXY
(O) PAVEMENT MESSAGE – SHARED LEFT/RIGHT TURN ARROW WHITE – THERMOPLASTIC
(P) PAVEMENT MESSAGE – SHARED THRU/RIGHT TURN ARROW WHITE – EPOXY
(Q) PAVEMENT MESSAGE – RIGHT TURN ARROW WHITE – PREFORMED TAPE (GROUND IN)
(R) PAVEMENT MESSAGE – LEFT TURN ARROW WHITE – PREFORMED TAPE (GROUND IN)
(S) CROSSWALK MARKING – 10' WIDE WHITE – PREFORMED TAPE (GROUND IN)
(T) CROSSWALK MARKING – 20' WIDE WHITE – PREFORMED TAPE (GROUND IN)
(U) PAVEMENT MESSAGE – RR CROSSING WHITE – PREFORMED TAPE (GROUND IN)
(V) STOP BAR – 12" SOLID LINE WHITE – PREFORMED TAPE (GROUND IN)
(W) CROSSWALK MARKING – 6" SOLID LINE WHITE – PREFORMED TAPE (GROUND IN)
(X) PAVEMENT MESSAGE – BIKE SYMBOL WHITE – PREFORMED TAPE (GROUND IN)
(Y) PAVEMENT MESSAGE – BIKE SYMBOL WHITE – PAINT
(Z) PAVEMENT MESSAGE – PED SYMBOL WHITE – PAINT



0 15 30 60
HORIZONTAL SCALE IN FEET

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METROPOLITAN COUNCIL SOUTHWEST Green Line LRT Extension

CIVIL WEST (BA13)
VIKING DRIVE
SIGNING AND STRIPING
STA. 0+00 TO STA. 2+27

DISCIPLINE: TRAFFIC
SHEET NAME: W1-TFC-SIGN-STRP-028-LRCI-026

SHEET 49 OF 81

Jan, 18 2016 10:05 am V:\3400_ADC\CAD\LRCI\LRCI-026\PLAN SHEETS\W1-TFC-SIGN-STRP-LRCI-026.dwg By: bbetts

Intersection		Applicable Standards/Details
System "A"	Technology Dr/SW Station East Entrance	Hennepin County
System "B"	Prairie Center Dr/Technology Dr	MnDOT
System "C"	Prairie Center Dr/TH 212 South Ramps/Technology Dr	MnDOT
System "D"	Prairie Center Dr/TH 212 North Ramps/Plaza Dr	MnDOT
System "E"	Eden Rd/Eden Rd	Hennepin County
System "F"	CSAH 61 (Flying Cloud Dr)/Eden Rd/Leona Rd	Hennepin County
System "G"	CSAH 61 (Flying Cloud Dr)/TH 494 South Ramp/Technology Dr	MnDOT
System "H"	CSAH 61 (Flying Cloud Dr)/Viking Dr	Hennepin County
System "I"	CSAH 3 (Excelsior Blvd)/17th Ave S	Hennepin County
System "J"	CSAH 3 (Excelsior Blvd)/ 8th Ave S	Hennepin County
System "K"	CSAH 3 (Excelsior Blvd)/ 5th Ave S	Hennepin County
System "L"	CSAH 3 (Excelsior Blvd)/ Milwaukee St	Hennepin County
System "M"	CSAH 3 (Excelsior Blvd)/ Pierce Ave	Hennepin County
System "N"	CSAH 20 (Blake Rd N)/ 2nd St NE	Hennepin County
System "O"	Louisiana Ave S/ Oxford St	Hennepin County
System "P"	TH 7 / Wooddale Ave S	MnDOT
System "Q"	Wooddale Ave S/ W 36th St	Hennepin County
System "R"	CSAH 25 (W Lake St)/ Beltline Blvd	Hennepin County
System "S"	Beltline Blvd/ Track Crossing	Hennepin County
System "T"	CSAH 25 (W Lake St) / Lynn Ave	Hennepin County
System "U"	CSAH 25 (W Lake St) / Drew Ave S	Minneapolis
System "V"	CSAH 25 (W Lake St) / Market Plaza	Minneapolis
System "W"	CSAH 3 (Excelsior Blvd)/ W 32nd St	Minneapolis
System "X"	CSAH 3 (Excelsior Blvd)/ Whole Foods Driveway	Minneapolis
System "Y"	CSAH 3 (Excelsior Blvd)/ Market Plaza	Minneapolis
Flasher "Z"	Cedar Lake Pkwy/ Kenilworth Trl	Minneapolis
System "AA"	Royalston Ave/ Holden St	Minneapolis
System "AB"	7th St N/ 5th Ave N	Minneapolis
System "AC"	Dunwoody Blvd/ Parade Stadium Dr	Minneapolis
System "AD"	TH 212/CSAH 61 (Flying Cloud Dr)/Valley View Rd/Prairie Center Dr	MnDOT
System "AE"	CSAH 61 (Flying Cloud Dr)/TH 494 North Ramp (LRCI #26)	MnDOT

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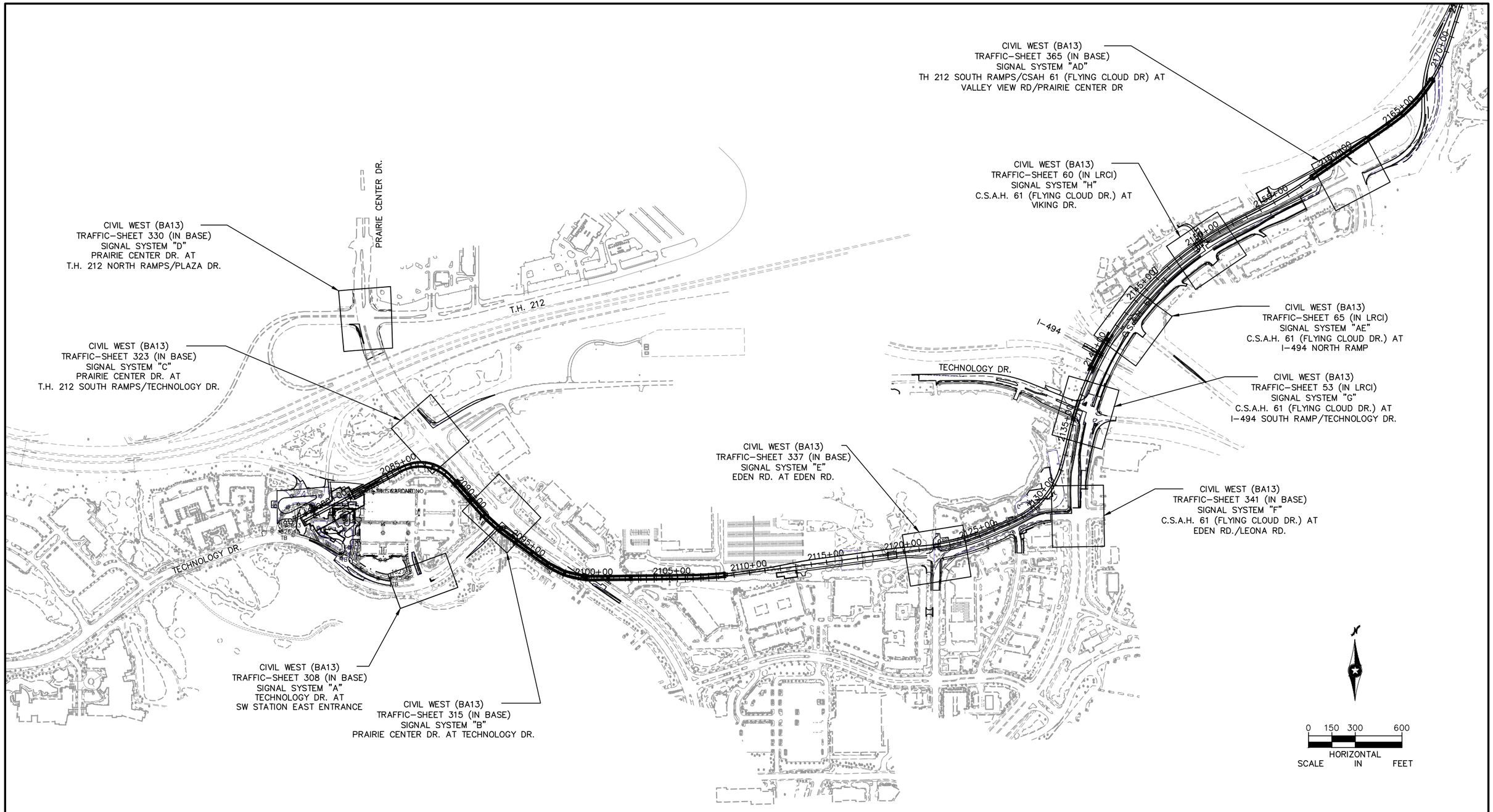
METROPOLITAN COUNCIL

SOUTHWEST Green Line LRT Extension

CIVIL WEST (BA13)
TRAFFIC SIGNAL
INTERSECTION LEGEND

DISCIPLINE: TRAFFIC

SHEET NAME: W0-TFC-SIG-DTL-023-LRCI-026



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METROPOLITAN COUNCIL

SOUTHWEST Green Line LRT Extension

CIVIL WEST (BA13) TRAFFIC SIGNAL PLAN SHEET LAYOUT

DISCIPLINE: TRAFFIC

SHEET NAME: W1-TFC-SIG-LAY-001-LRCI-026

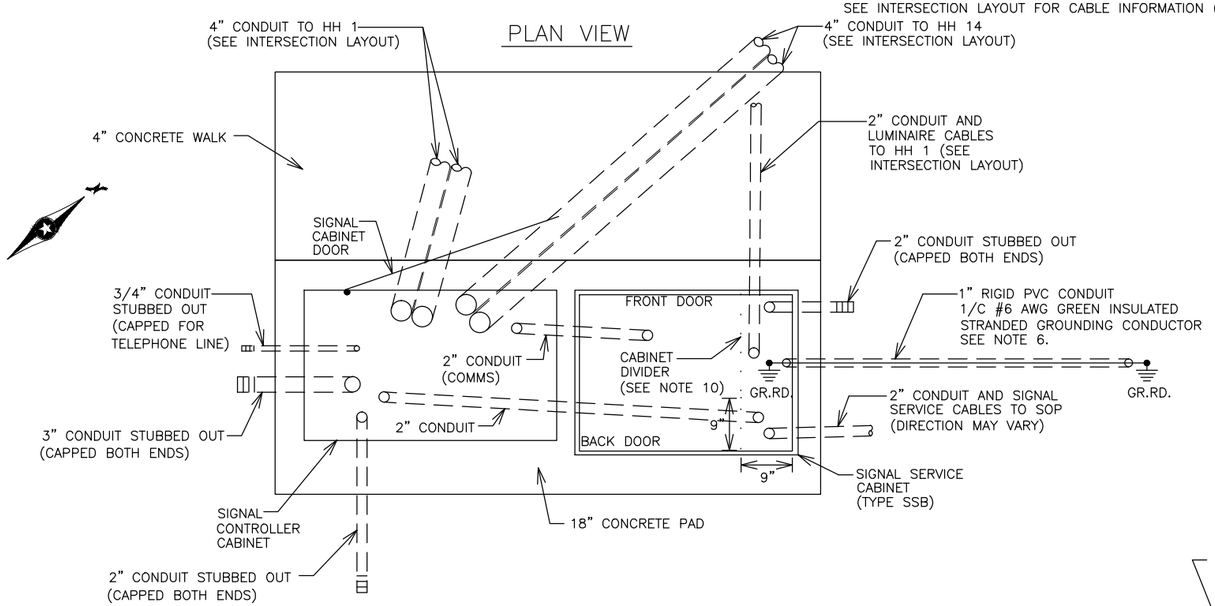
SHEET 51 OF 81

Jan, 18 2016 10:06 am v:\3400_ADC\CAD\LRCI\LRCI-026\PLAN SHEETS\W1-TFC-SIG-LAY-LRCI-026.dwg By: bbetts

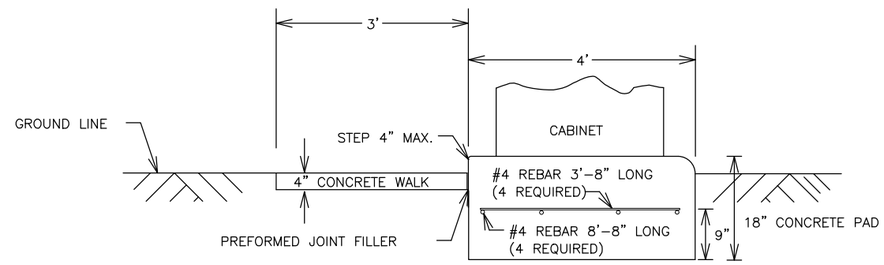
TYPICAL PAD WITH CONTROLLER CABINET AND SERVICE CABINET

SEE INTERSECTION LAYOUT FOR CABLE INFORMATION (NOT TO SCALE)

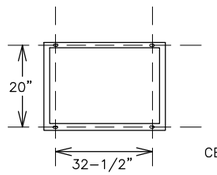
PLAN VIEW



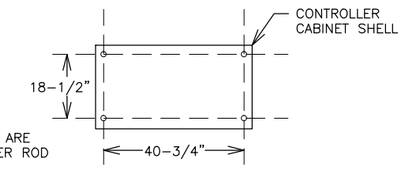
SIDE VIEW



S.S.B. SERVICE CABINET BOLT PATTERN

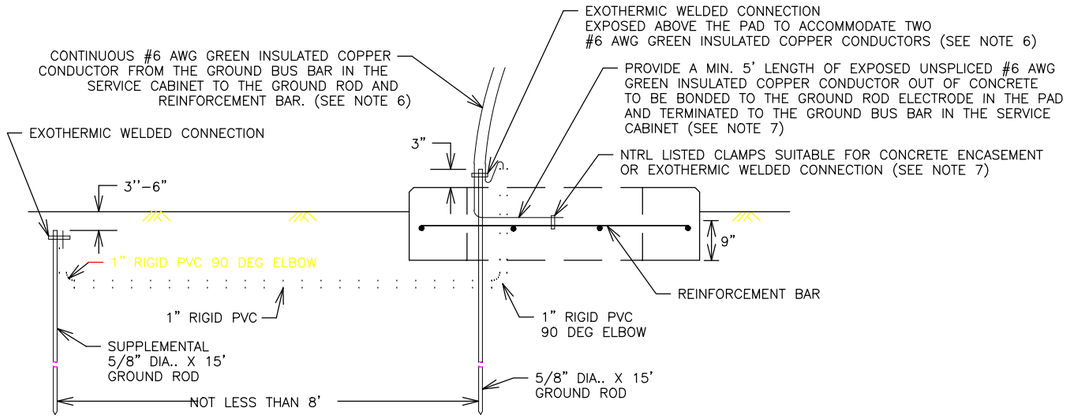


CONTROLLER CABINET TYPE "P" & "R" BOLT PATTERN

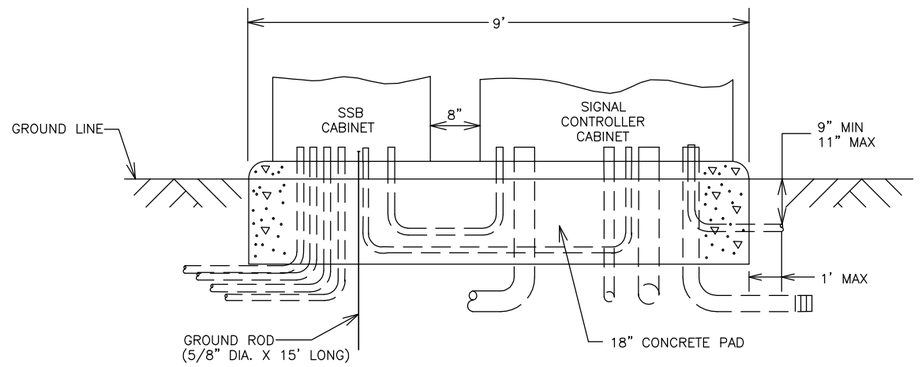


DIMENSION SHOWN ARE CENTER ROD TO CENTER ROD

GROUNDING ELECTRODE SYSTEM



FRONT VIEW



NOTES:

1. THE ANCHOR RODS, NUTS, WASHERS AND RUBBER GASKET FOR THE CONTROLLER CABINET SHALL BE FURNISHED BY MNDOT.
2. THE OUTER EDGE OF THE ENTIRE EQUIPMENT PAD AND CONCRETE WALK SHALL BE BEVELED OR CHAMFERED IN A NEAT MANNER AS DIRECTED BY THE ENGINEER.
3. THE TOP OF THE CONDUITS SHALL BE CAPPED UNTIL CABLES ARE PULLED IN.
4. CONDUIT SHALL PROJECT A MINIMUM OF 2" ABOVE THE CONCRETE AND SHALL BE LOCATED INSIDE THE CABINET WHERE DIRECTED BY THE ENGINEER, BUT SHALL NOT INTERFERE WITH THE CABINET FUNCTIONS (SUPPORTING MEMBERS, ETC.).
5. CONCRETE MIX 3F52 OR EQUAL SHALL BE USED FOR THE EQUIPMENT PAD AND SIDEWALK.
6. SUPPLY TWO 15 FOOT GROUND ROD ELECTRODES IN ACCORDANCE WITH 2545.3R. PROVIDE ONE GROUND ROD IN THE EQUIPMENT PAD IN ACCORDANCE WITH 2545.3 F.3 AND THE OTHER OUTSIDE OF THE PAD WITH A MINIMUM OF 8 FEET OF SEPARATION BETWEEN ELECTRODES. BOND THE TWO GROUND RODS TOGETHER WITH ONE CONTINUOUS LENGTH UNSPLICED CONDUCTOR FROM THE OUTER MOST GROUND ROD TO THE GROUND BUS BAR IN THE CABINET. EXOTHERMICALLY WELD THE 6 AWG STRANDED GREEN INSULATED CONDUCTOR TO THE GROUND RODS. PLACE THE BONDING CONNECTION TO THE EQUIPMENT PAD GROUND ROD ABOVE THE CONCRETE. APPLY DE-OX COMPOUND TO THE GROUNDING CONNECTIONS AFTER FINAL ASSEMBLY.
7. BOND A #6 AWG GREEN INSULATED GROUNDING CONDUCTOR TO THE REBAR GRID PRIOR TO CONCRETE POURING OPERATIONS. ENSURE THE CONDUCTOR IS PLACED IN THE LOAD SIDE OF THE CABINET. TERMINATE THE GREEN INSULATED 6 AWG GROUND CONDUCTOR ON THE GROUND BUS IN THE SERVICE CABINET WITHOUT SPLICES.
8. CONDUITS WITH BOTH ENDS TERMINATING WITHIN THE PAD SHALL NOT BE PLACED BELOW THE CONCRETE.
9. THE EXACT LOCATION OF CONDUITS WITHIN THE PAD SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.
10. CORRECT PLACEMENT OF CONDUIT TO THE LEFT OF THE CABINET DIVIDER IS CRITICAL.
11. ANCHOR RODS SHALL PROJECT A MINIMUM OF 3" ABOVE THE CONCRETE BUT SHALL NOT INTERFERE WITH THE CABINET FUNCTIONS (SUPPORTING MEMBERS, ETC.).
12. CABINETS TO BE CENTERED (LEFT & RIGHT) ON THE PAD.
13. BRUSH ON ANTI-SEIZE LUBRICANT MUST BE APPLIED TO ALL ANCHOR ROD THREADS PROTRUDING ABOVE THE CONCRETE PAD BEFORE THE CABINET IS SET.
14. CENTER THE 8', 8" X 3', 8" #4 REINFORCEMENT REBAR GRID IN THE 9' X 4' X 18" CONCRETE PAD.

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METROPOLITAN COUNCIL SOUTHWEST Green Line LRT Extension

CIVIL WEST (BA13)
TRAFFIC SIGNAL-SIGNAL SYSTEM "G"
CSAH 61 (FLYING CL DR) AT TH 494/5 S RAMP/TECH DR
CONTROLLER AND SERVICE CABINET DETAIL

DISCIPLINE: TRAFFIC
SHEET NAME: W1-TFC-SIG-CCD-SYS G-LRCI-026

SHEET 52 OF 81

Jan, 18 2016 10:06 am V:\3400_ADC\CAD\LRCI\LRCI-026\PLAN SHEETS\W1-TFC-SIG-CCD-LRCI-026.dwg By: bbetts

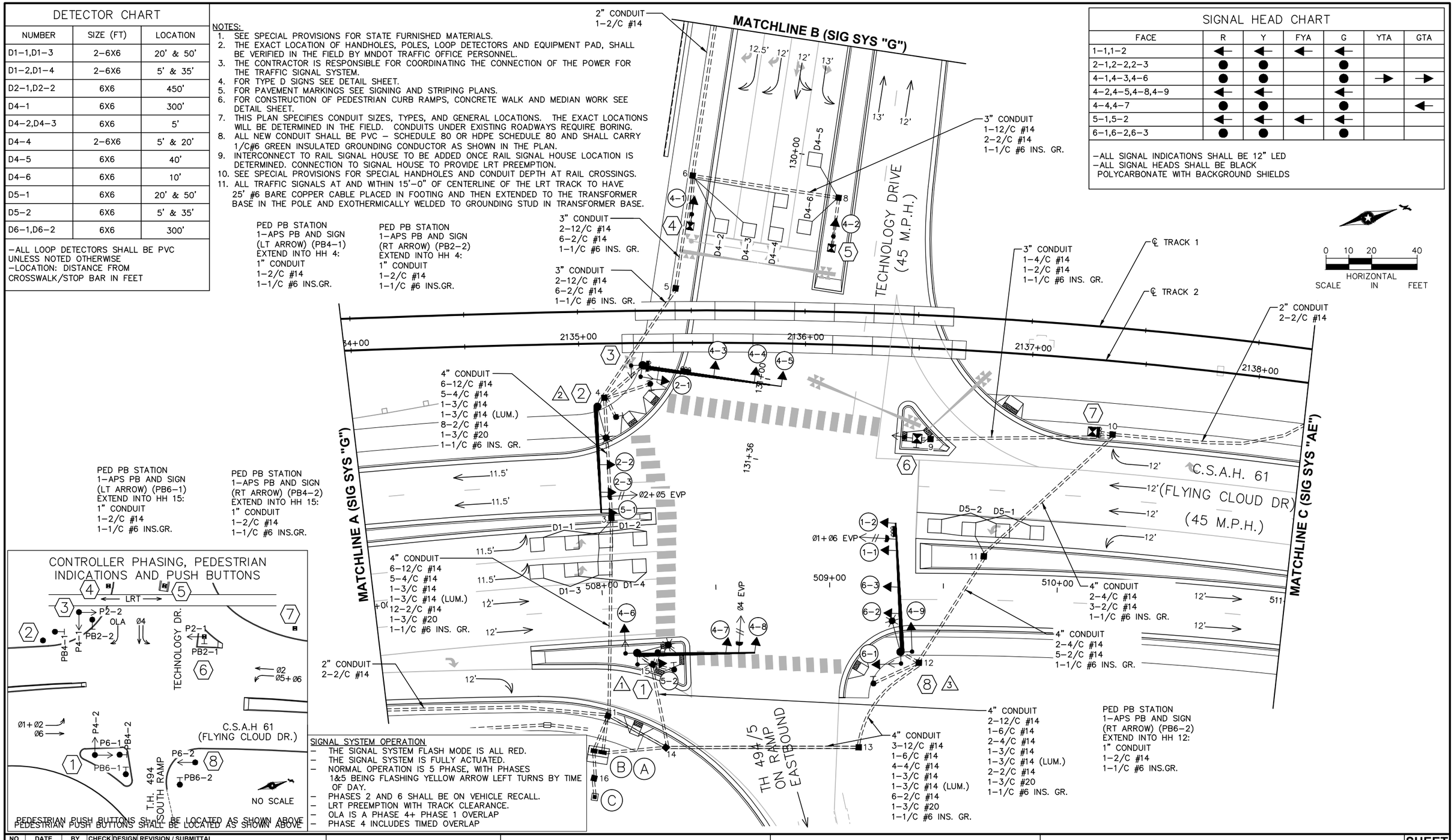
DETECTOR CHART		
NUMBER	SIZE (FT)	LOCATION
D1–1,D1–3	2–6X6	20' & 50'
D1–2,D1–4	2–6X6	5' & 35'
D2–1,D2–2	6X6	450'
D4–1	6X6	300'
D4–2,D4–3	6X6	5'
D4–4	2–6X6	5' & 20'
D4–5	6X6	40'
D4–6	6X6	10'
D5–1	6X6	20' & 50'
D5–2	6X6	5' & 35'
D6–1,D6–2	6X6	300'

–ALL LOOP DETECTORS SHALL BE PVC UNLESS NOTED OTHERWISE
–LOCATION: DISTANCE FROM CROSSWALK/STOP BAR IN FEET

NOTES:
1. SEE SPECIAL PROVISIONS FOR STATE FURNISHED MATERIALS.
2. THE EXACT LOCATION OF HANDHOLES, POLES, LOOP DETECTORS AND EQUIPMENT PAD, SHALL BE VERIFIED IN THE FIELD BY MNDOT TRAFFIC OFFICE PERSONNEL.
3. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING THE CONNECTION OF THE POWER FOR THE TRAFFIC SIGNAL SYSTEM.
4. FOR TYPE D SIGNS SEE DETAIL SHEET.
5. FOR PAVEMENT MARKINGS SEE SIGNING AND STRIPING PLANS.
6. FOR CONSTRUCTION OF PEDESTRIAN CURB RAMPS, CONCRETE WALK AND MEDIAN WORK SEE DETAIL SHEET.
7. THIS PLAN SPECIFIES CONDUIT SIZES, TYPES, AND GENERAL LOCATIONS. THE EXACT LOCATIONS WILL BE DETERMINED IN THE FIELD. CONDUITS UNDER EXISTING ROADWAYS REQUIRE BORING.
8. ALL NEW CONDUIT SHALL BE PVC – SCHEDULE 80 OR HDPE SCHEDULE 80 AND SHALL CARRY 1/C#6 GREEN INSULATED GROUNDING CONDUCTOR AS SHOWN IN THE PLAN.
9. INTERCONNECT TO RAIL SIGNAL HOUSE TO BE ADDED ONCE RAIL SIGNAL HOUSE LOCATION IS DETERMINED. CONNECTION TO SIGNAL HOUSE TO PROVIDE LRT PREEMPTION.
10. SEE SPECIAL PROVISIONS FOR SPECIAL HANDHOLES AND CONDUIT DEPTH AT RAIL CROSSINGS.
11. ALL TRAFFIC SIGNALS AT AND WITHIN 15'–0" OF CENTERLINE OF THE LRT TRACK TO HAVE 25' #6 BARE COPPER CABLE PLACED IN FOOTING AND THEN EXTENDED TO THE TRANSFORMER BASE IN THE POLE AND EXOTHERMICALLY WELDED TO GROUNDING STUD IN TRANSFORMER BASE.

SIGNAL HEAD CHART						
FACE	R	Y	FYA	G	YTA	GTA
1–1,1–2	←	←	←	←		
2–1,2–2,2–3	●	●		●		
4–1,4–3,4–6	●	●		●	→	→
4–2,4–5,4–8,4–9	←	←		←		
4–4,4–7	●	●		●		←
5–1,5–2	←	←	←	←		
6–1,6–2,6–3	●	●		●		

–ALL SIGNAL INDICATIONS SHALL BE 12" LED
–ALL SIGNAL HEADS SHALL BE BLACK POLYCARBONATE WITH BACKGROUND SHIELDS



PEDESTRIAN PUSH BUTTONS SHALL BE LOCATED AS SHOWN ABOVE

SIGNAL SYSTEM OPERATION
- THE SIGNAL SYSTEM FLASH MODE IS ALL RED.
- THE SIGNAL SYSTEM IS FULLY ACTUATED.
- NORMAL OPERATION IS 5 PHASE, WITH PHASES 1&5 BEING FLASHING YELLOW ARROW LEFT TURNS BY TIME OF DAY.
- PHASES 2 AND 6 SHALL BE ON VEHICLE RECALL.
- LRT PREEMPTION WITH TRACK CLEARANCE.
- OLA IS A PHASE 4+ PHASE 1 OVERLAP
- PHASE 4 INCLUDES TIMED OVERLAP

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

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METROPOLITAN COUNCIL SOUTHWEST Green Line LRT Extension

CIVIL WEST (BA13)
TRAFFIC SIGNAL - SIGNAL SYSTEM "G"
CSAH 61 (FLYING CL DR) AT TH 494/5 S RAMP/TECH DR
INTERSECTION LAYOUT

DISCIPLINE: TRAFFIC
SHEET NAME: W1-TFC-SIG-08-LRCI-026

SHEET 53 OF 81

Jan, 18 2016 10:07 am V:\3400_ADC\CAD\LRC\LRCI-026\PLAN SHEETS\W1-TFC-SIG-LRCI-026.dwg By: bbetts

INTERSECTION NOTES

(1) PA100 POLE FOUNDATION
TYPE PA100-A-50-D40-9 (DAVIT AT 350 DEG)
1-ANGLE MOUNT SIGNAL OVERHEAD AT 0'
1-STRAIGHT MOUNT SIGNAL OVERHEAD AT 12'
2-ANGLE MOUNT SIGNALS AT 90 AND 180 DEG
2-ANGLE MOUNT C.D. PED HEADS AT 90 DEG AND 180 DEG
1-ONE WAY EVP DETECTOR AND
CONFIRMATORY LIGHT (PHASE 4)
LUMINAIRE-LED (FOR 40' MOUNTING HEIGHT)
1-TYPE D SIGN (D-7) (SEE SIGN DETAILS)
3" CONDUIT TO HH 15:
2-12/C #14
1-6/C #14
2-4/C #14
1-3/C #14
1-3/C #14 (LUM)
1-3/C #20
1-1/C #6 INS. GR.

(2) PA100 POLE FOUNDATION
TYPE PA100-A-45-D40-9 (DAVIT AT 350 DEG)
1-ANGLE MOUNT SIGNAL OVERHEAD AT 0'
2-STRAIGHT MOUNT SIGNALS OVERHEAD
AT 8' AND 20'
1-ONE WAY EVP DETECTOR AND
CONFIRMATORY LIGHT (PHASES 2+5)
LUMINAIRE-LED (FOR 40' MOUNTING HEIGHT)
1-R10-X12 SIGN ADJACENT TO HEAD (5-1)
1-TYPE D SIGN (D-8) (SEE SIGN DETAILS)
3" CONDUIT TO HH 4:
2-12/C #14
1-3/C #14
1-3/C #14 (LUM)
1-3/C #20
1-1/C #6 INS. GR.

(3) PA100 POLE FOUNDATION
TYPE PA100-A-55 (WITH 5' EXTENSION)
1-ANGLE MOUNT SIGNAL OVERHEAD
ON END OF 5' EXTENSION
2-STRAIGHT MOUNT SIGNALS OVERHEAD
AT 7' AND 25'
1-ANGLE MOUNT SIGNAL AT 90 DEG
2-ANGLE MOUNT C.D. PED HEADS AT 90 AND
180 DEG
1-BLANK OUT SIGN (WATCH FOR PEDESTRIANS)
MAST ARM MOUNTED AT 35'
1-BLANK OUT SIGN (W10-7)
POLE-MOUNTED, FACING PEDESTAL 6
3" CONDUIT TO HH 4:
2-12/C #14
5-4/C #14
1-1/C #6 INS. GR.

(4) PEDESTAL FOUNDATION
13' PEDESTAL POLE PLUS BASE
1-STRAIGHT MOUNT SIGNAL AT 270 DEG
3" CONDUIT TO HH 6:
1-12/C #14
1-1/C #6 INS. GR.

(5) PEDESTAL FOUNDATION
13' PEDESTAL POLE PLUS BASE
1-STRAIGHT MOUNT SIGNAL AT 270 DEG
3" CONDUIT TO HH 8:
1-12/C #14
1-1/C #6 INS. GR.

(6) PEDESTAL FOUNDATION
13' PEDESTAL POLE PLUS BASE
1-STRAIGHT MOUNT C.D. PED HEAD AT 270 DEG
1-APS PB AND SIGN (LT ARROW) (PB2-1)
1-R9-3 SIGN FACING POLE 8
3" CONDUIT TO HH 9:
1-4/C #14
1-2/C #14
1-1/C #6 INS. GR.

(7) PEDESTAL FOUNDATION
13' PEDESTAL POLE PLUS BASE
1-BLANK OUT SIGN (W10-7)
1-R9-3 SIGN FACING POLE 8
3" CONDUIT TO HH 10:
1-4/C #14

(8) PA100 POLE FOUNDATION
TYPE PA100-A-55-D40-9
(WITH 5' EXTENSION)(DAVIT AT 350 DEG)
1-ANGLE MOUNT SIGNAL OVERHEAD ON
END OF 5' EXTENSION
3-STRAIGHT MOUNT SIGNALS OVERHEAD
AT 4', 20', AND 32'
1-BLANK OUT SIGN (W10-7)
2-ANGLE MOUNT SIGNALS AT 90 AND 180 DEG
1-ANGLE MOUNT C.D. PED HEAD AT 180 DEG
1-ONE WAY EVP DETECTOR AND
CONFIRMATORY LIGHT (PHASES 1+6)
LUMINAIRE-LED (FOR 40' MOUNTING HEIGHT)
1-R10-X12 SIGN ADJACENT TO HEAD (1-1)
1-TYPE D SIGN (D-9) (SEE SIGN DETAILS)
1-R9-3 SIGN FACING PEDESTAL 6
3" CONDUIT TO HH 12:
3-12/C #14
1-6/C #14
2-4/C #14
1-3/C #14
1-3/C #14 (LUM)
1-3/C #20
1-1/C #6 INS. GR.

(A) EQUIPMENT PAD (SEE DETAIL SHEET)
SERVICE CABINET (SSB) NO BATTERY BACKUP SYSTEM OR BATTERIES
(B) CONTROLLER AND CABINET (STATE FURNISHED)

4" CONDUIT TO HH 1:	4" CONDUIT TO HH 14:
2-12/C #14	2-12/C #14
14-2/C #14	1-6/C #14
1-1/C #6 INS. GR.	2-4/C #14
	1-3/C #14
	1-3/C #20
	2-2/C #14
	1-1/C #6 INS. GR.

4" CONDUIT TO HH 1:	4" CONDUIT TO HH 14:
4-12/C #14	3-12/C #14
5-4/C #14	1-6/C #14
1-3/C #14	4-4/C #14
1-3/C #20	1-3/C #14
	1-3/C #20
	6-2/C #14

GROUND WIRE AND GROUND ROD - MIN. 8' OUT FROM PAD
2-2" AND 1-3" CONDUIT STUBBED OUT (CAPPED BOTH ENDS)
3/4" CONDUIT STUBBED OUT (FOR TELEPHONE LINE)
1 1/2" CONDUIT TO SV-G
1-FO PIGTAIL (36SM)
CONTROLLER CABINET TO SERVICE CABINET:
2" CONDUIT
2-1/C #6
1-1/C #6 INS. GR.
CONTROLLER CABINET TO SERVICE CABINET (COMMS):
2" CONDUIT
1-6PR #19
SERVICE CABINET TO HH 16:
2" CONDIUIT
3-1/C #2
SERVICE CABINET TO HH 1:
2" CONDUIT
3-3/C #14 (LUM.)
SERVICE CABINET TO EXTERNAL GR.RD.:
1" CONDUIT
1-1/C #6 INS. GR.
(SEE EQUIPMENT PAD LAYOUT)
HH 1 TO HH 14
2" CONDUIT
1-3/C #14 (LUM.)

(C) SOP-GROUND MOUNTED TRANSFORMER
2" CONDUIT INTO HH-20:
3-1/C #2

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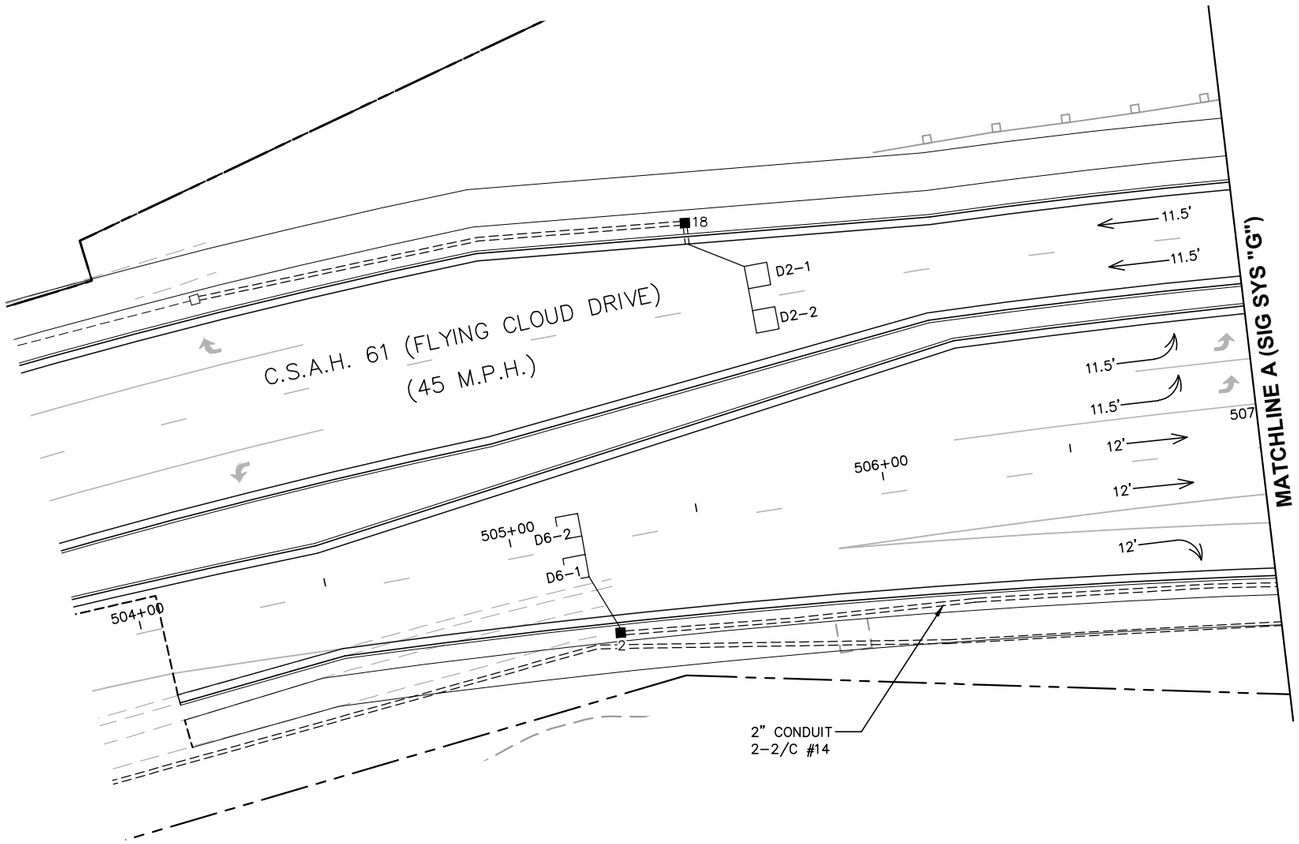
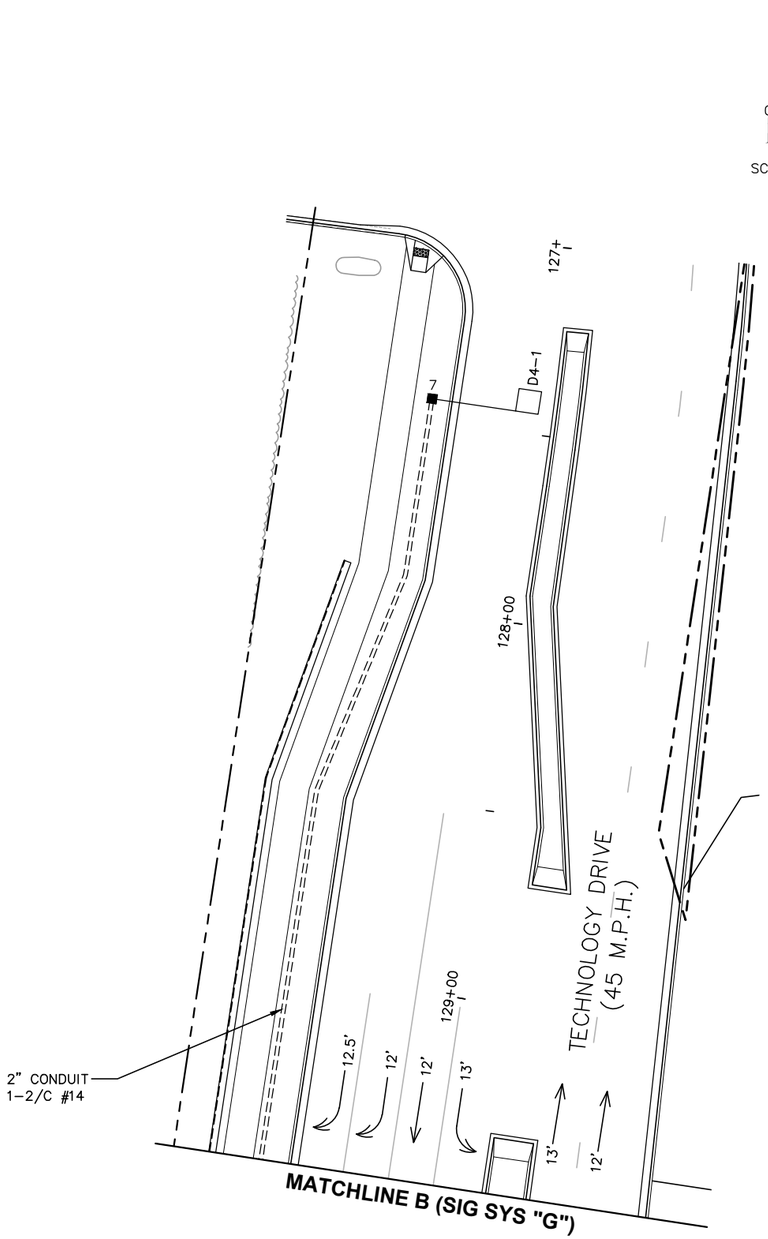
CIVIL WEST (BA13)
TRAFFIC SIGNAL - SIGNAL SYSTEM "G"
CSAH 61 (FLYING CL DR) AT TH 494/5 S RAMP/TECH DR
INTERSECTION NOTES

DISCIPLINE: TRAFFIC
SHEET NAME: W1-TFC-SIG-08B-LRCI-026

SHEET 54 OF 81

Jan, 18 2016 10:07 am V:\3400_ADC\CAD\LRCI\LRCI-026\PLAN SHEETS\W1-TFC-SIG-LRCI-026.dwg By: bbetts





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METROPOLITAN COUNCIL

SOUTHWEST Green Line LRT Extension

CIVIL WEST (BA13)
TRAFFIC SIGNAL - SIGNAL SYSTEM "G"
CSAH 61 (FLYING CL DR) AT TH 494/5 S RAMP/TECH DR
MATCHLINE LAYOUTS

DISCIPLINE: TRAFFIC

SHEET NAME: W1-TFC-SIG-08C-LRCI-026

SHEET 55 OF 81

Jan, 18 2016 10:08 am v:\3400_ADC\CAD\LRCI\LRCI-026\PLAN SHEETS\W1-TFC-SIG-LRCI-026.dwg By: bbetts

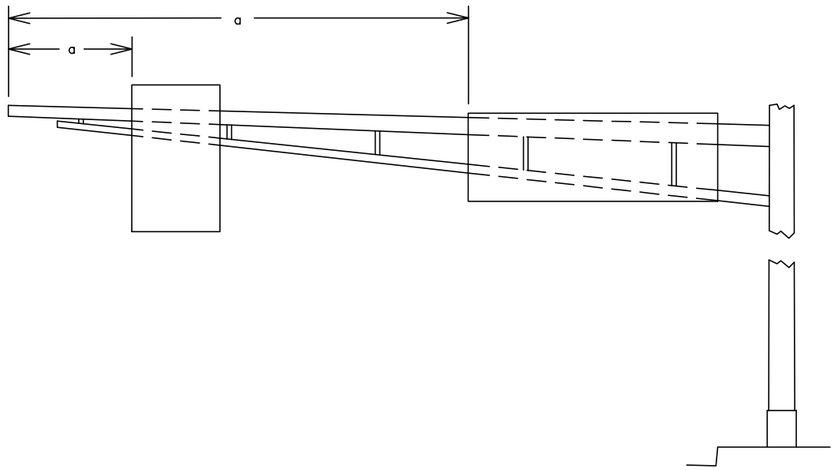
MAST ARM MOUNTED SIGNS

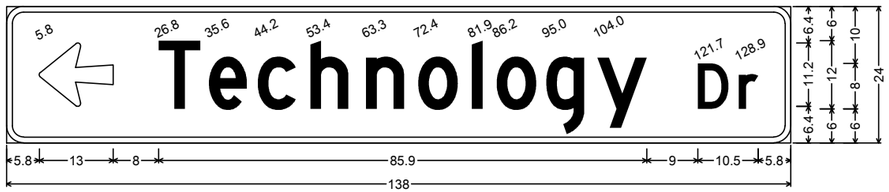
SIGN NO	POLE NO	QTY	a	PANEL SIZE			PANEL AREA	PANEL TOTAL AREA	MOUNTING NUMBER	MOUNTING SPACING (1)	PANEL LEGEND
			FEET	INCH			SQ FT	SQ FT			
D-9	8	1	40.0	138	x	24	23.00	23.00	5		(LT ARROW) TECHNOLOGY DR
D-8	2	1	26.0	78	x	66	35.75	35.75	3		EAST 494/5 (LT ARROW)
D-7	1	1	4.0	42	x	54	15.75	15.75	2		CSAH 61
R10-X12	2,7	2	2.0,2.0	36	x	42	10.50	21.00			
W10-7	7	1	14	24	x	24	4.00	4.00			"TRAIN APPROACHING" BLANK-OUT SIGN
W10-7 (MOD)	3	1	35	24	x	24	4.00	4.00			"WATCH FOR PEDESTRIANS" BLANK-OUT SIGN

SPECIFIC NOTES:
(1) SPACING BETWEEN STIFFENERS SHALL NOT EXCEED 36 INCHES AND SHALL BE UNIFORMLY SPACED. SEE STANDARD SIGNS MANUAL, PAGE 105A FOR BRACKET SPACING REQUIREMENTS.

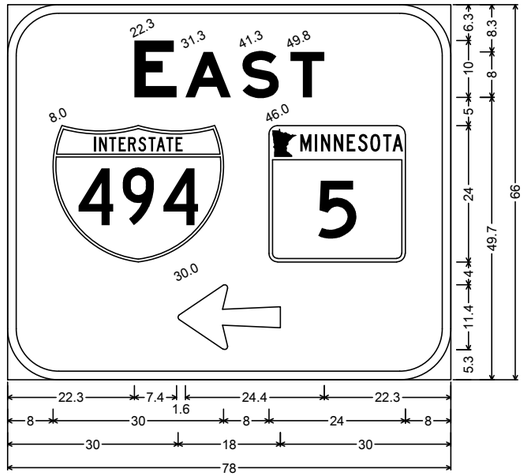
GENERAL NOTES:
1. CORNERS OF STANDARD SIGN PANELS WITH MARGINS SHALL BE TRIMMED.
2. TYPE D SIGN PANELS EXTENDING BEYOND THE BORDER SHALL NOT BE TRIMMED.
3. FOR STRUCTURAL DETAILS OF MAST ARM MOUNTED SIGNS SEE STANDARD SIGNS MANUAL, PAGE 105A.
4. FOR TYPE D STRINGER AND PANEL JOINT DETAILS SEE STANDARD SIGNS MANUAL, PAGE 105.

MAST ARM SIGN LOCATION

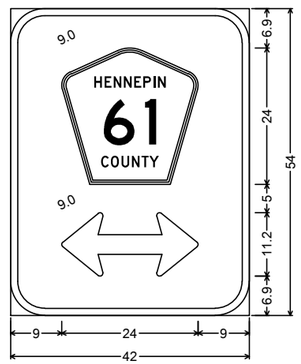




D-9; 3.0" Radius, 1.0" Border, White on Green;
Arrow 5 - 13.0" 180°; [Technology] D [ ] E Mod [Dr] D;



D-8; 9.0" Radius, 1.5" Border, White on Green;
[EAST] E Mod; Arrow 14 - 18.0" 180°;



D-7;
6.0" Radius, 1.3" Border, White on Green;
Double Headed Arrow 5 - 24.0" 0°;

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METROPOLITAN COUNCIL

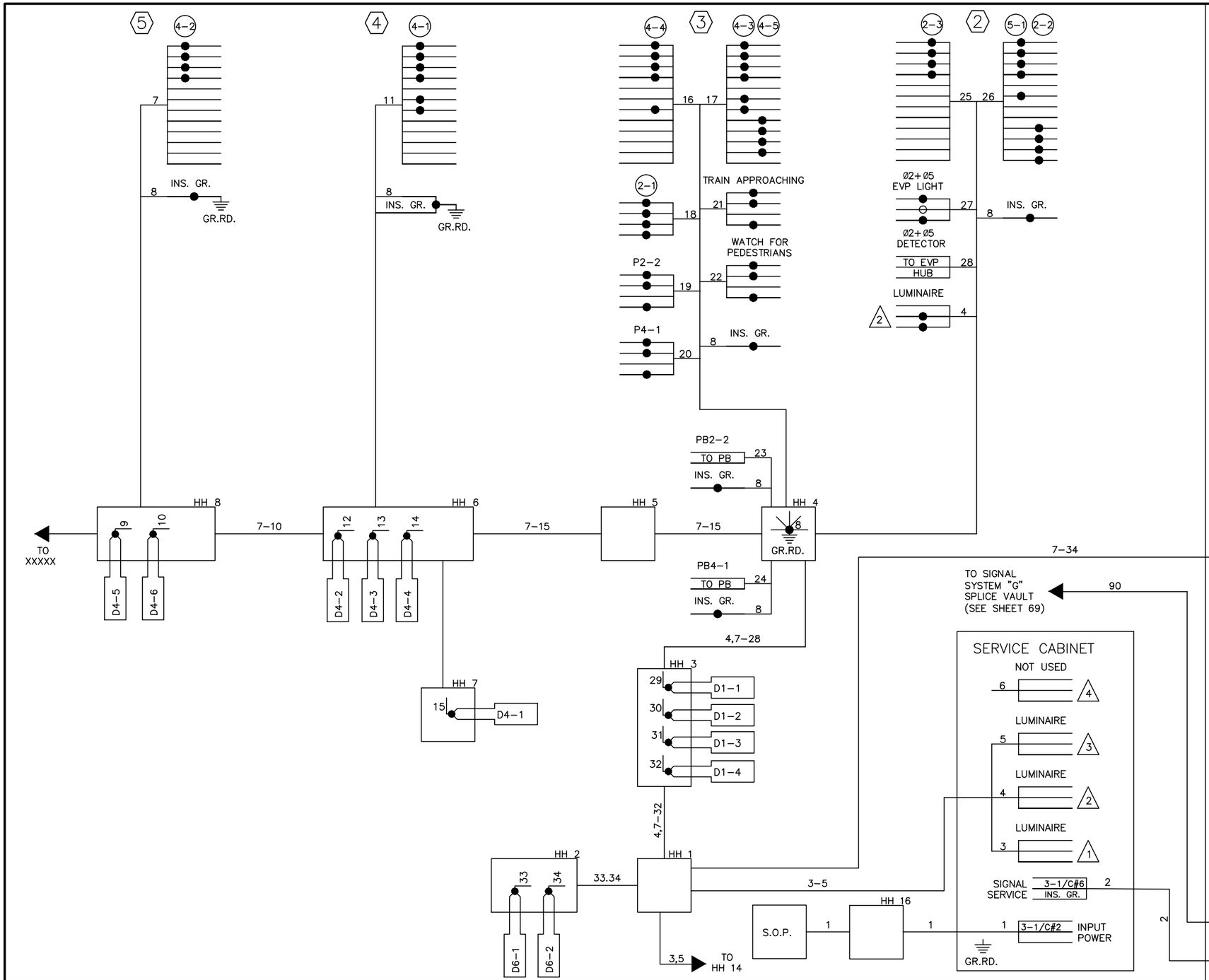
SOUTHWEST Green Line LRT Extension

CIVIL WEST (BA13)
TRAFFIC SIGNAL - SIGNAL SYSTEM "G"
CSAH 61 (FLYING CL DR) AT TH 494/5 S RAMP/TECH DR
MAST ARM SIGNING

DISCIPLINE: TRAFFIC
SHEET NAME: W1-TFC-SIG-08D-LRCI-026

SHEET 56 OF 81

Jan, 18 2016 10:08 am V:\3400_ADC\CAD\LRCI\LRCI-026\PLAN SHEETS\W1-TFC-SIG-LRCI-026.dwg By: bbetts



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SOUTHWEST Green Line LRT Extension

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CIVIL WEST (BA13)
TRAFFIC SIGNAL-SIGNAL SYSTEM "G"
CSAH 61 (FLYING CL DR) AT I-494 S RAMP/TECH DR
FIELD WIRING DIAGRAM

SHEET 57 OF 81

DISCIPLINE: TRAFFIC

SHEET NAME: W1-TFC-SIG-WD-008-LRCI-026

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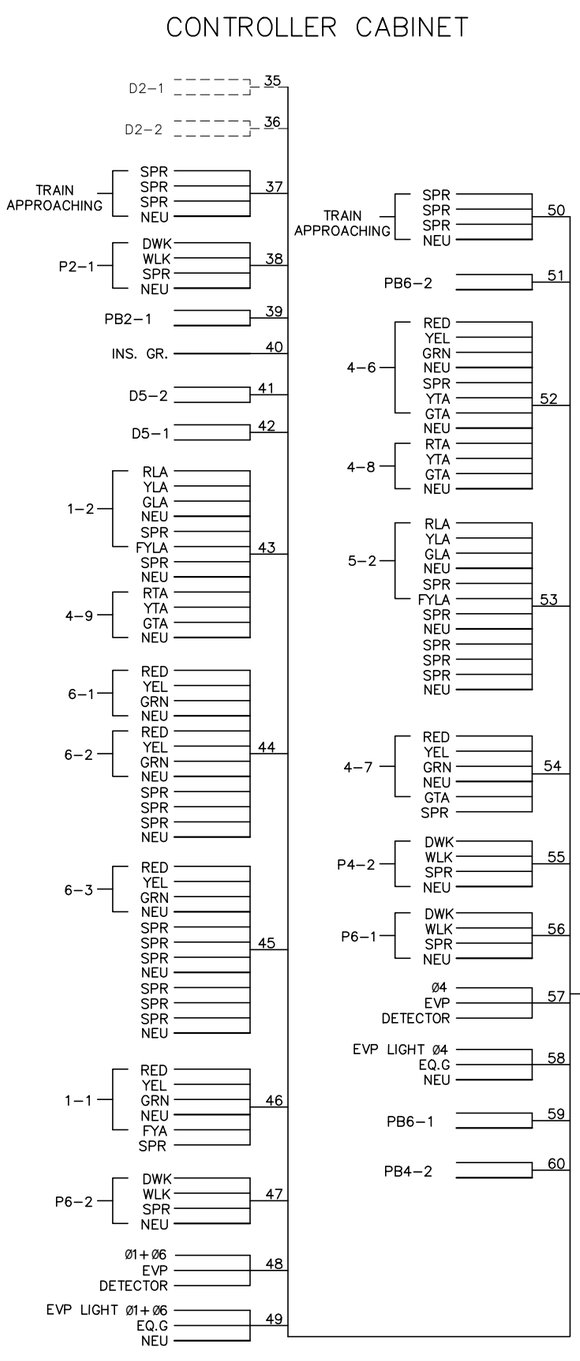

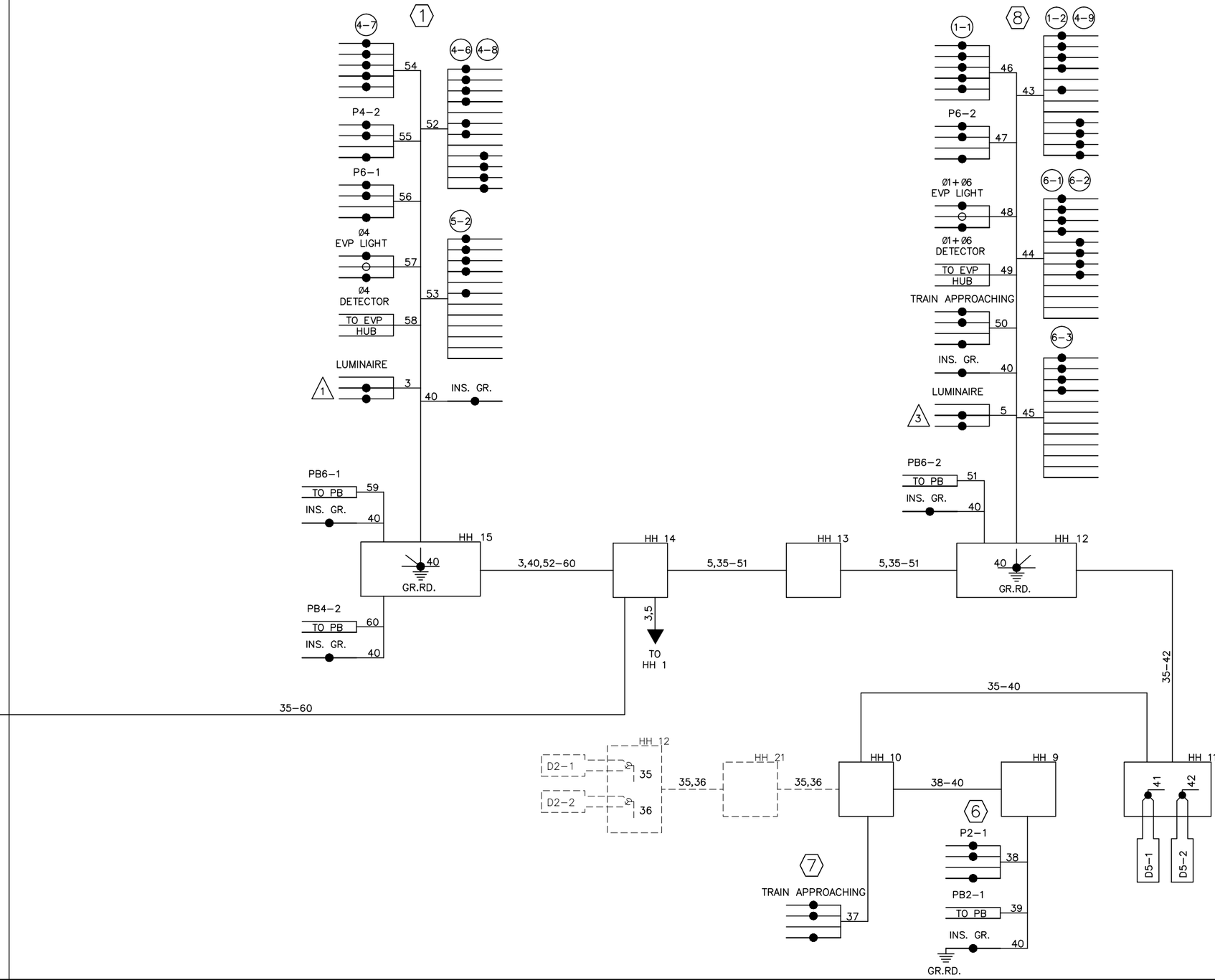

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SOUTHWEST Green Line LRT Extension

CIVIL WEST (BA13)
TRAFFIC SIGNAL-SIGNAL SYSTEM "G"
CSAH 61 (FLYING CL DR) AT I-494 S RAMP/TECH DR
FIELD WIRING DIAGRAM

DISCIPLINE: TRAFFIC

SHEET NAME: W1-TFC-SIG-WD-008B-LRCI-026

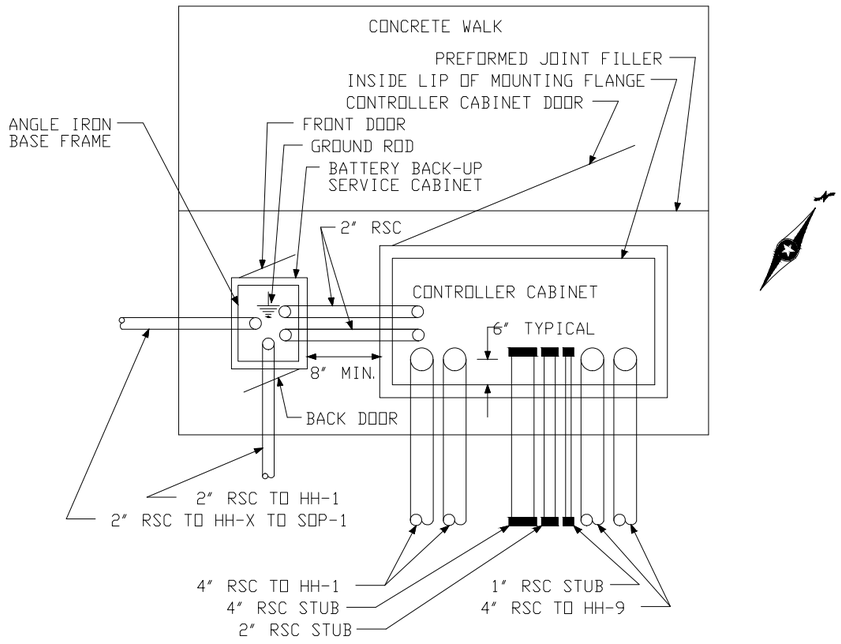
SHEET 58 OF 81

Jan, 18 2016 10:08 am V:\3400_ADC\CAD\LRCI\LRCI-026\PLAN SHEETS\W1-TFC-SIG-WD-LRCI-026.dwg By: bbetts

TYPICAL PAD WITH CONTROLLER CABINET AND SERVICE CABINET

NOT TO SCALE FOR ILLUSTRATION ONLY
SEE SIGNAL PLAN LAYOUT FOR ADDITIONAL INFORMATION

PLAN VIEW

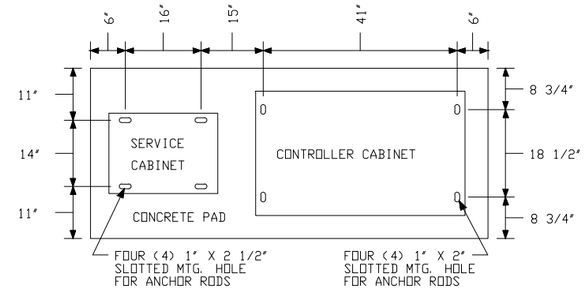


NOTES:

1. THE UPPER PART OF THE CONCRETE PAD SHALL BE BEVELED OR CHAMFERED IN A NEAT MANNER, AS DIRECTED BY THE ENGINEER.
2. THE TOP OF THE CONDUITS SHALL BE THREADED AND CAPPED AFTER INSTALLATION (UNTIL CABLES ARE INSTALLED).
3. THE LOCATION OF CONDUITS WITHIN THE CONCRETE PAD SHALL BE 6" TO THE CENTER OF THE CONDUIT FROM THE INSIDE LIP OF THE MOUNTING FLANGE ON THE DOOR SIDE OF THE CABINET. THE CONDUITS SHALL PROJECT 2" TO 3" ABOVE THE CONCRETE. THE CONDUITS SHALL NOT INTERFERE WITH THE CABINET FUNCTIONS (CONTROL EQUIPMENT, SUPPORTING MEMBERS, ETC.). FINAL CONDUIT LOCATIONS, AS DIRECTED BY THE ENGINEER.
4. CONDUITS WITH BOTH ENDS TERMINATING WITHIN THE PAD SHALL BE INSTALLED WITHIN THE CONCRETE PAD.
5. A CONCRETE SIDEWALK SHALL BE ON THE DOOR SIDE OF THE CONTROLLER CABINET, AS DIRECTED BY THE ENGINEER.
6. THE CONCRETE PAD AND THE CONCRETE WALK SHALL BE CONCRETE MIX 3A32 OR EQUAL, AS DIRECTED BY THE ENGINEER.
7. THE CONCRETE PAD ELEVATION SHALL BE ADJUSTED TO MAINTAIN THE 12" CLEARANCE ABOVE THE EXISTING OR PROPOSED GROUND LINE, AS DIRECTED BY THE ENGINEER.
8. THE SERVICE CABINET DOORS SHALL FACE AWAY FROM THE CONTROLLER CABINET TO AVOID CONFLICT WITH THE CONTROLLER CABINET OR THE CONTROLLER CABINET DOOR OPEN AS SHOWN.
9. THREAD AND CAP BOTH ENDS OF ALL RSC STUBS. THE CAPS LOCATED WITHIN THE CONTROLLER CABINET SHALL BE PERMANENTLY MARKED WITH AN ARROW TO INDICATE THE DIRECTION OF THE RSC STUBS. NO RSC STUB SHALL BE TERMINATED UNDER ANY FORM OF PAVEMENT OR HARD SURFACE, AS DIRECTED BY THE ENGINEER.

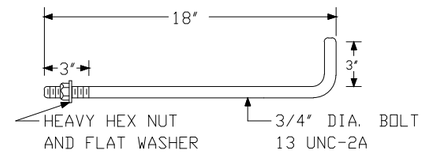
TYPICAL ANCHOR ROD LOCATION CONTROLLER CABINET AND SERVICE CABINET

(NO SCALE)



TYPICAL ANCHOR ROD CONTROLLER CABINET AND SERVICE CABINET

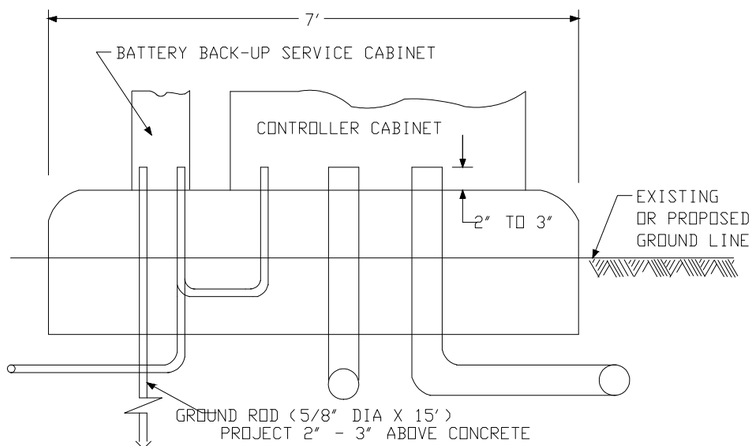
(NO SCALE)



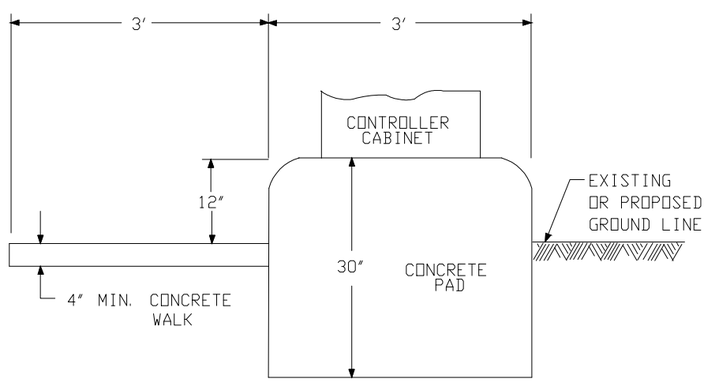
NOTES:

1. MATERIAL STEEL SHALL BE ASTM, A-36. 3/4" DIA. X 21" LONG BEFORE BENDING.
2. HOT DIP GALVANIZE FULL LENGTH. NUTS SHALL RUN FREE AFTER PLATING.
3. RODS TO BE SUPPLIED WITH GALVANIZED HEAVY HEX NUT AND FLAT WASHER, ASTM, A-563 ASSEMBLED AFTER ROD PLATING.

FRONT VIEW



SIDE VIEW



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CIVIL WEST (BA13)
TRAFFIC SIGNAL-SIGNAL SYSTEM "H"
CSAH 61 (FLYING CLOUD DR) AT VIKING DR
CONTROLLER AND SERVICE CABINET DETAIL

DISCIPLINE: TRAFFIC
SHEET NAME: W1-TFC-SIG-CCD-SYS H-LRCI-026

SHEET 59 OF 81

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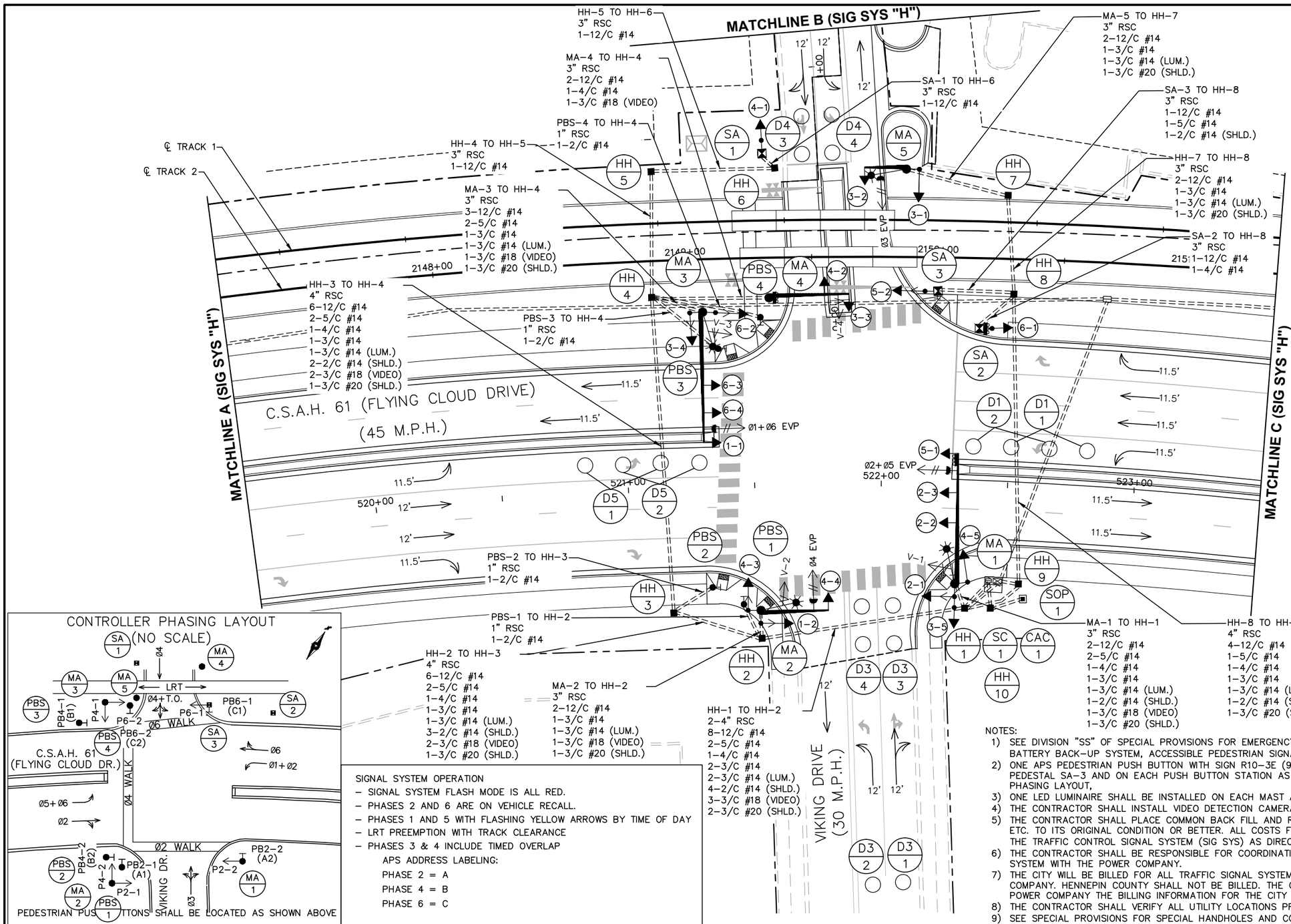

DETECTOR CHART

DESIGNATION	CAMERA	FUNCTION	LOCATION
D1-1	V-3	(1)	20',50'
D1-2	V-3	(1)	5',35'
D2-1,D2-2	V-1	(1)	300'
D3-1,D3-2	V-4	(1)	120'
D3-3,D3-4	V-4	(1)	5',20'
D4-1,D4-2	V-2	(3)	120'
D4-3,D4-4	V-2	(1)	5',20'
D5-1	V-1	(1)	20',50'
D5-2	V-1	(1)	5',35'
D6-1,D6-2	V-3	(1)	300'

-LOCATION: DISTANCE FROM TO CROSSWALK/STOP BAR IN FEET

FUNCTION NOTES:

(1) CALL & EXTEND

(3) EXTEND ONLY

0 10 20 40

HORIZONTAL SCALE IN FEET

CAC-1 TO HH-1
2-4" RSC
10-12/C #14
4-5/C #14
2-4/C #14
3-3/C #14
5-2/C #14 (SHLD.)
4-3/C #18 (VIDEO)
3-3/C #20 (SHLD.)

CAC-1 TO HH-9
2-4" RSC
4-12/C #14
1-5/C #14
1-4/C #14
1-3/C #14
1-2/C #14 (SHLD.)
1-3/C #20 (SHLD.)

SC-1 TO HH-1
HH-1 TO SOP-1
2" RSC
3-1/C #6

CAC-1 TO SC-1
2" RSC
3-1/C #6

SC-1 TO HH-1
2" RSC
4-3/C #14 (LUM.)

HH-1 TO HH-9
2" RSC
1-3/C #14 (LUM.)

CONTROLLER PHASING LAYOUT (NO SCALE)

PEDESTRIAN PUSHBUTTONS SHALL BE LOCATED AS SHOWN ABOVE

SIGNAL SYSTEM OPERATION
- SIGNAL SYSTEM FLASH MODE IS ALL RED.
- PHASES 2 AND 6 ARE ON VEHICLE RECALL.
- PHASES 1 AND 5 WITH FLASHING YELLOW ARROWS BY TIME OF DAY
- LRT PREEMPTION WITH TRACK CLEARANCE
- PHASES 3 & 4 INCLUDE TIMED OVERLAP

APS ADDRESS LABELING:
PHASE 2 = A
PHASE 4 = B
PHASE 6 = C

NOTES:
1) SEE DIVISION "SS" OF SPECIAL PROVISIONS FOR EMERGENCY VEHICLE PREEMPTION (EVP) SYSTEM, VIDEO DETECTION SYSTEM, BATTERY BACK-UP SYSTEM, ACCESSIBLE PEDESTRIAN SIGNAL (APS) AND MATERIALS PROVIDED BY HENNEPIN COUNTY.
2) ONE APS PEDESTRIAN PUSH BUTTON WITH SIGN R10-3E (9" X 15") SHALL BE INSTALLED ON SIGNAL MAST ARM 1, SIGNAL PEDESTAL SA-3 AND ON EACH PUSH BUTTON STATION AS DIRECTED BY THE ENGINEER FOR OPERATION AS SHOWN IN THE PHASING LAYOUT,
3) ONE LED LUMINAIRE SHALL BE INSTALLED ON EACH MAST ARM LUMINAIRE SHAFT EXTENSION, SEE SPECIAL PROVISIONS.
4) THE CONTRACTOR SHALL INSTALL VIDEO DETECTION CAMERAS ON DAVIT ARMS AS SHOWN IN THE PLAN.
5) THE CONTRACTOR SHALL PLACE COMMON BACK FILL AND RESTORE ALL DISTURBED TURF, CONCRETE, OR BITUMINOUS WALK, ETC. TO ITS ORIGINAL CONDITION OR BETTER. ALL COSTS FOR THIS WORK SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE TRAFFIC CONTROL SIGNAL SYSTEM (SIG SYS) AS DIRECTED BY THE ENGINEER.
6) THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE CONNECTION OF THE POWER FOR THE TRAFFIC SIGNAL SYSTEM WITH THE POWER COMPANY.
7) THE CITY WILL BE BILLED FOR ALL TRAFFIC SIGNAL SYSTEM POWER COSTS WHICH THE CITY WILL PAY TO THE POWER COMPANY. HENNEPIN COUNTY SHALL NOT BE BILLED. THE CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE TO THE POWER COMPANY THE BILLING INFORMATION FOR THE CITY OF EDEN PRAIRIE.
8) THE CONTRACTOR SHALL VERIFY ALL UTILITY LOCATIONS PRIOR TO CONSTRUCTION.
9) SEE SPECIAL PROVISIONS FOR SPECIAL HANDHOLES AND CONDUIT DEPTH AT RAIL CROSSINGS.

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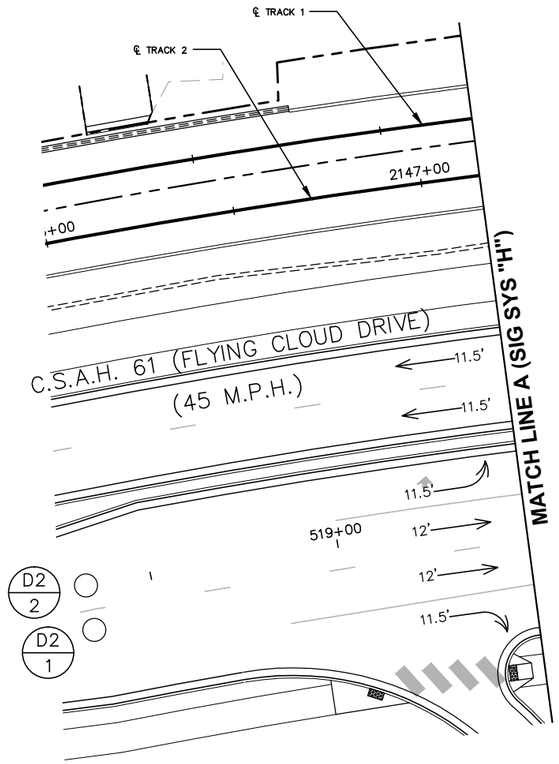
METROPOLITAN COUNCIL SOUTHWEST Green Line LRT Extension

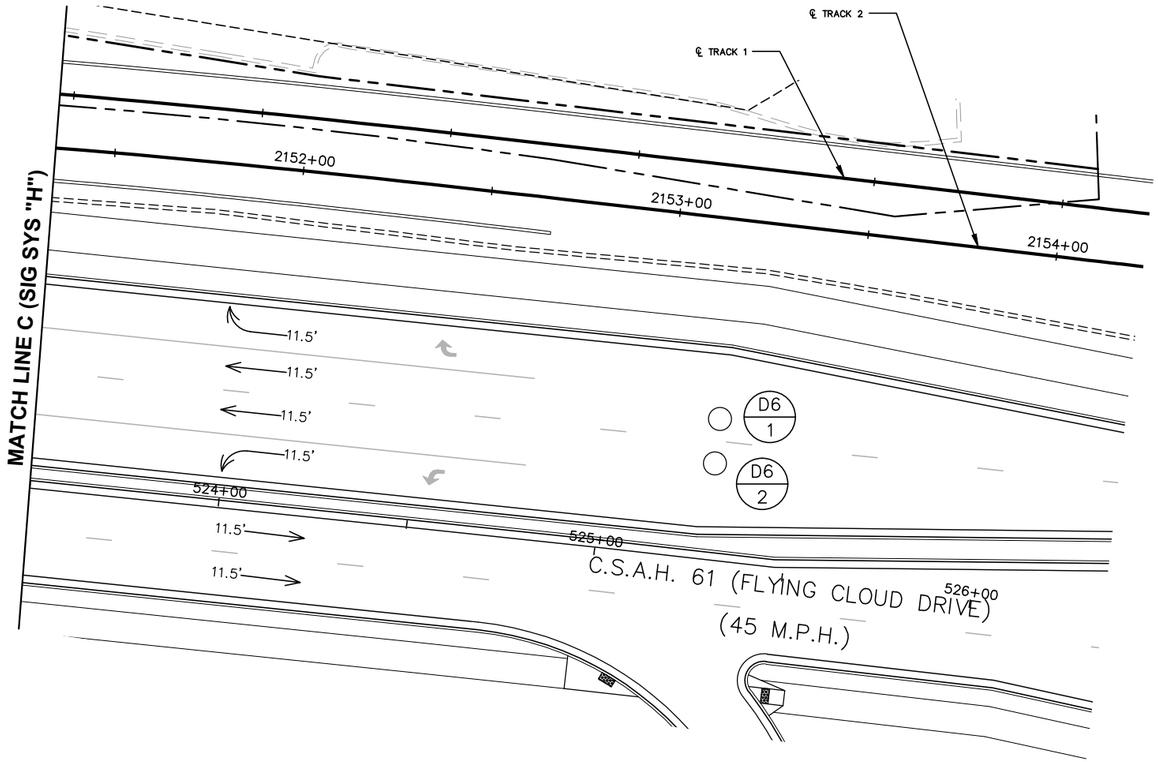
CIVIL WEST (BA13)
TRAFFIC SIGNAL - SIGNAL SYSTEM "H"
CSAH 61 (FLYING CL DR) AT VIKING DR
INTERSECTION LAYOUT

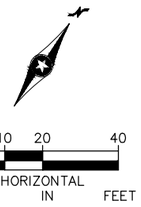
DISCIPLINE: TRAFFIC

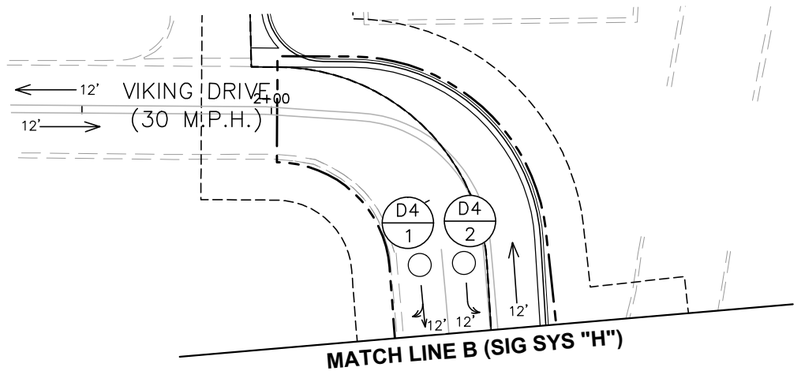
SHEET NAME: W1-TFC-SIG-09-LRCI-026

SHEET 60 OF 81









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METROPOLITAN COUNCIL SOUTHWEST Green Line LRT Extension

CIVIL WEST (BA13)
TRAFFIC SIGNAL - SIGNAL SYSTEM "H"
CSAH 61 (FLYING CL DR) AT VIKING DR
MATCHLINE LAYOUT

DISCIPLINE: TRAFFIC

SHEET NAME: W1-TFC-SIG-09B-LRCI-026

SHEET 61 OF 81

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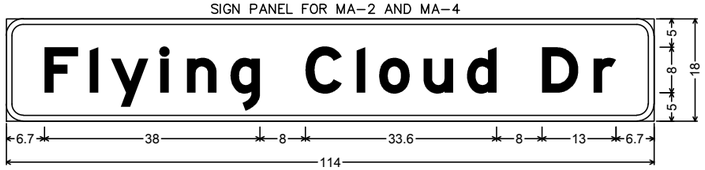
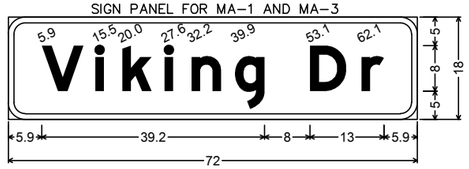
SIGN PANEL FOR MA–2 AND MA–4



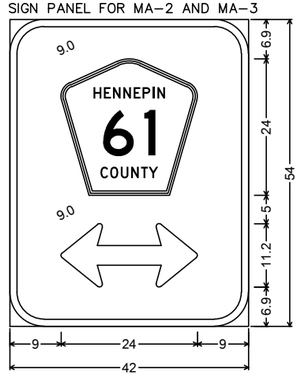
D-10; 3.0" Radius, 1.0" Border, White on Green;
[Flying Cloud Dr] E Mod;

SIGN PANEL FOR MA–1 AND MA–3



D-11; 3.0" Radius, 1.0" Border, White on Green;
[Viking Dr] E Mod;

SIGN PANEL FOR MA–2 AND MA–3



D-7;
6.0" Radius, 1.3" Border, White on Green;
Double Headed Arrow 5 - 24.0" 0°;

NOTES:
1. SEE SHEET XX FOR SIGN MOUNTING PLATE LOCATIONS.
2. COLOR – WHITE LEGEND AND BORDER ON GREEN BACKGROUND. ALL SIGNING SHALL USE DG3 SIGN SHEETING.
3. ALL COSTS TO PROVIDE AND INSTALL MAST ARM MOUNTED SIGN PANELS SHALL BE INCIDENTAL.

SIGNAL INDICATIONS AND BRACKETING

SIG. POLE NO.	FACE NO.	SIGNAL FACE MOUNT	SIG. Ø	LED INDICATIONS 12" INDICATIONS RED	YEL	FYEL	GRN	GTA	PED SYM.	BRACKET MOUNTING ANGLE, TYPE AND STANDARD PLATE NO.
MA–1	5–1	MAST ARM (END)	5	←	←			←		**
			6			←				
	2–3	MAST ARM (MID)	2	●	●		●			**
	2–2	MAST ARM (MID)	2	●	●		●			**
	2–1	POLE MOUNT	2	●	●		●		*	180° PLATE 8110E TYPE 20B
	3–5		3	●	●		●			
	4–5	POLE MOUNT	4	●	●		●	←		90° PLATE 8110E TYPE 10A
MA–2	4–4	MAST ARM (END)	4	●	●		●	←		**
	4–3	POLE MOUNT	4	●	●		●		*	180° PLATE 8110E TYPE 10B
	1–2	POLE MOUNT	1	←	←			←		90° PLATE 8110E TYPE 10B
			2			←			*	
MA–3	1–1	MAST ARM (END)	1	←	←			←		**
			2			←				
	6–4	MAST ARM (MID)	6	●	●		●			**
	6–3	MAST ARM (MID)	6	●	●		●			**
	6–2	POLE MOUNT	6	●	●		●		*	270° PLATE 8110E TYPE 10B
	3–4	POLE MOUNT	3	●	←			←		90° PLATE 8110E TYPE 10B
			4						*	
MA–4	3–3	MAST ARM (END)	3	●	←			←		**
	4–2	MAST ARM (MID)	4	●	●		●	←		**
MA–5	3–3	MAST ARM (END)	3	●	←			←		**
	4–3	MAST ARM (MID)	4	●	●		●	←		**
SA–1	4–1	POLE MOUNT	4	●	●		●			180° PLATE 8111E TYPE 5A
SA–2	6–1	POLE MOUNT	6	●	●		●			180° PLATE 8111E TYPE 5A
SA–3	5–2	POLE MOUNT	5	←	←			←		180° PLATE 8111E TYPE 5B
			6			←			*	

* PEDESTRIAN INDICATIONS SHALL BE INTERNATIONAL SYMBOLS IN A DUAL FACE SINGLE HOUSING WITH PEDESTRIAN COUNTDOWN TIMER.

** STRAIGHT MOUNT PLUMBIZER, SEE SPECIAL PROVISIONS.

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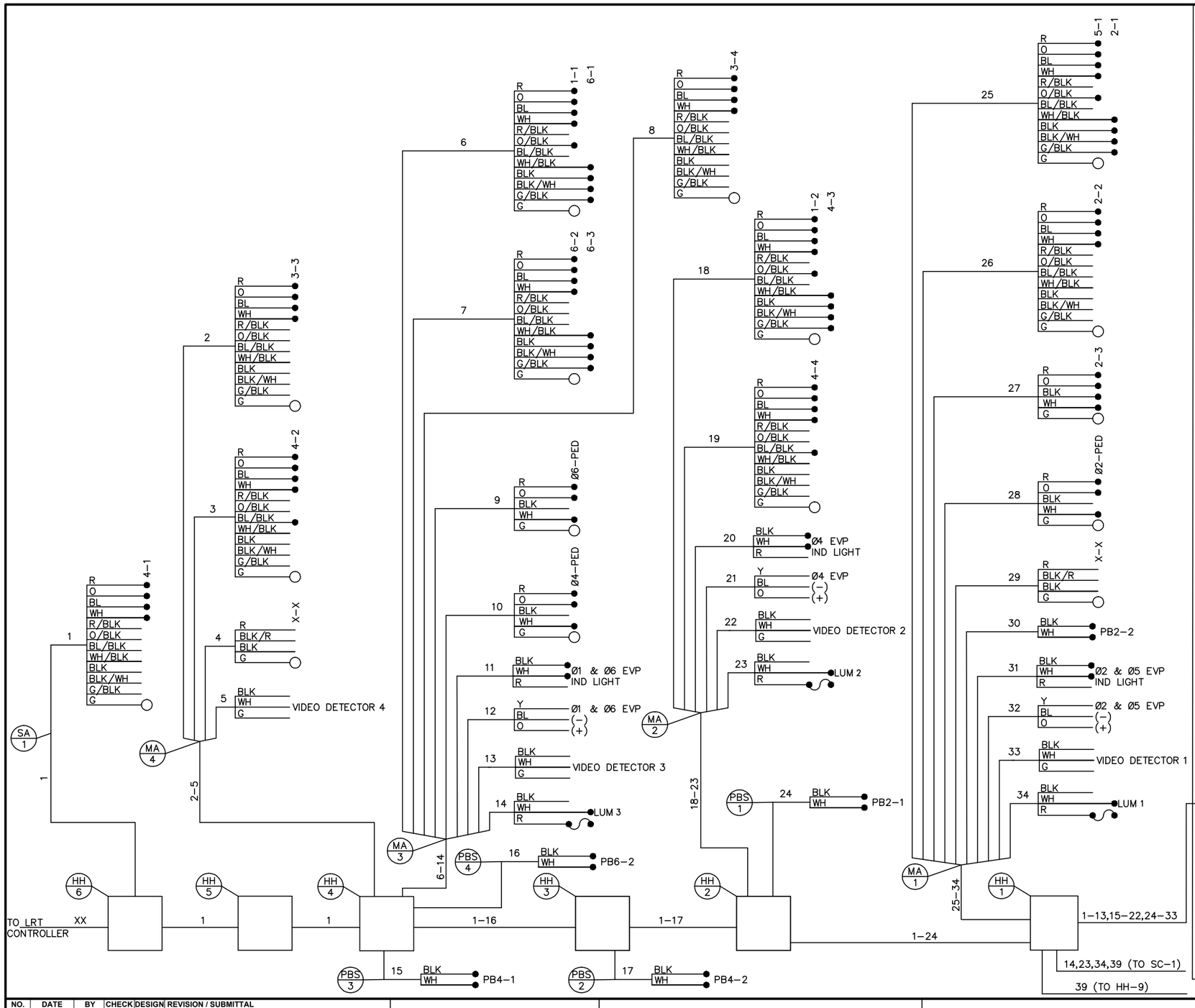
METROPOLITAN COUNCIL SOUTHWEST Green Line LRT Extension

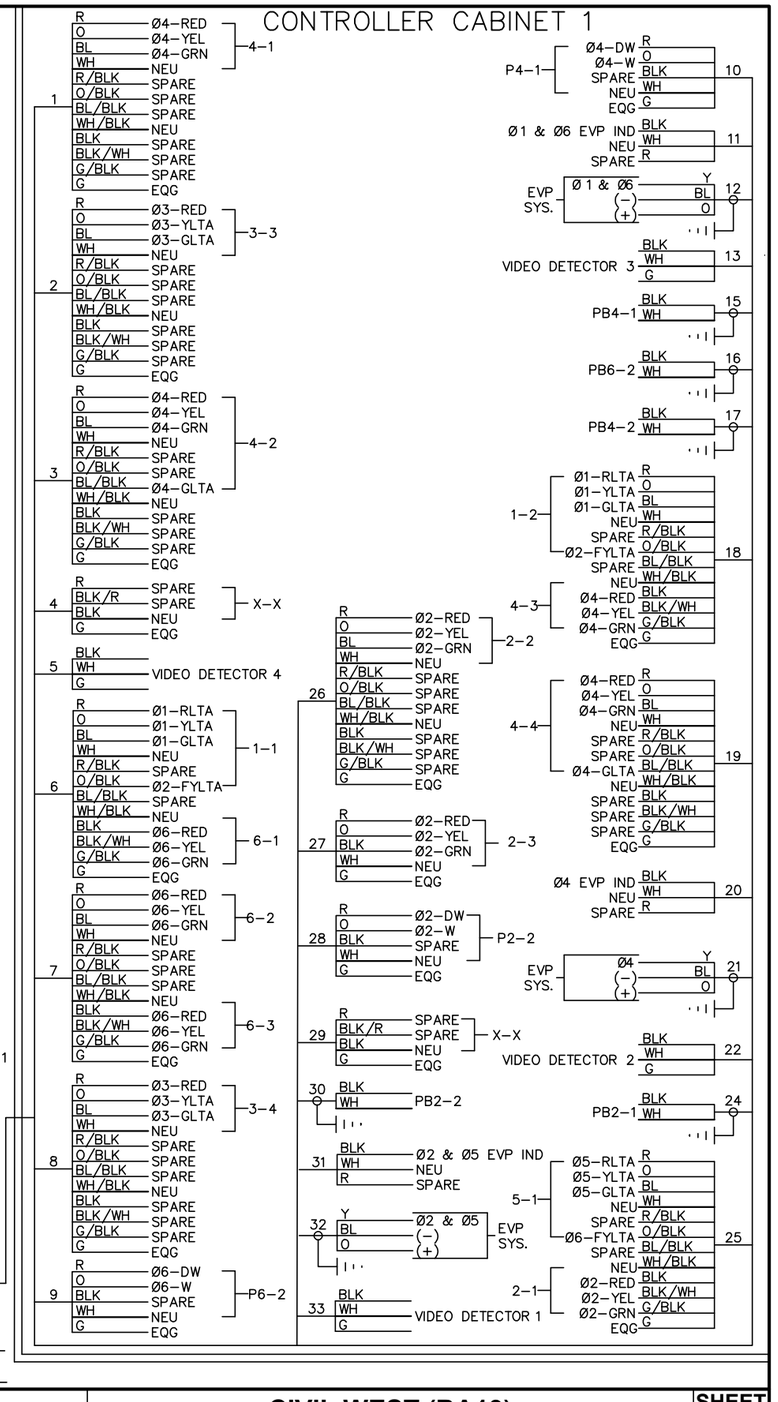
CIVIL WEST (BA13)
TRAFFIC SIGNAL - SIGNAL SYSTEM "H"
CSAH 61 (FLYING CL DR) AT VIKING DR
EQUIPMENT SCHEDULE

DISCIPLINE: TRAFFIC

SHEET NAME: W1-TFC-SIG-09C-LRCI-026

SHEET 62 OF 81





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METROPOLITAN COUNCIL

SOUTHWEST Green Line LRT Extension

90% SUBMISSION - 01/22/16

CIVIL WEST (BA13)

TRAFFIC SIGNAL-SIGNAL SYSTEM "H"
CSAH 61 (FLYING CLOUD DR) AT VIKING DR
FIELD WIRING DIAGRAM

DISCIPLINE: TRAFFIC

SHEET NAME: W1-TFC-SIG-WD-009-LRCI-026

SHEET 63 OF 81

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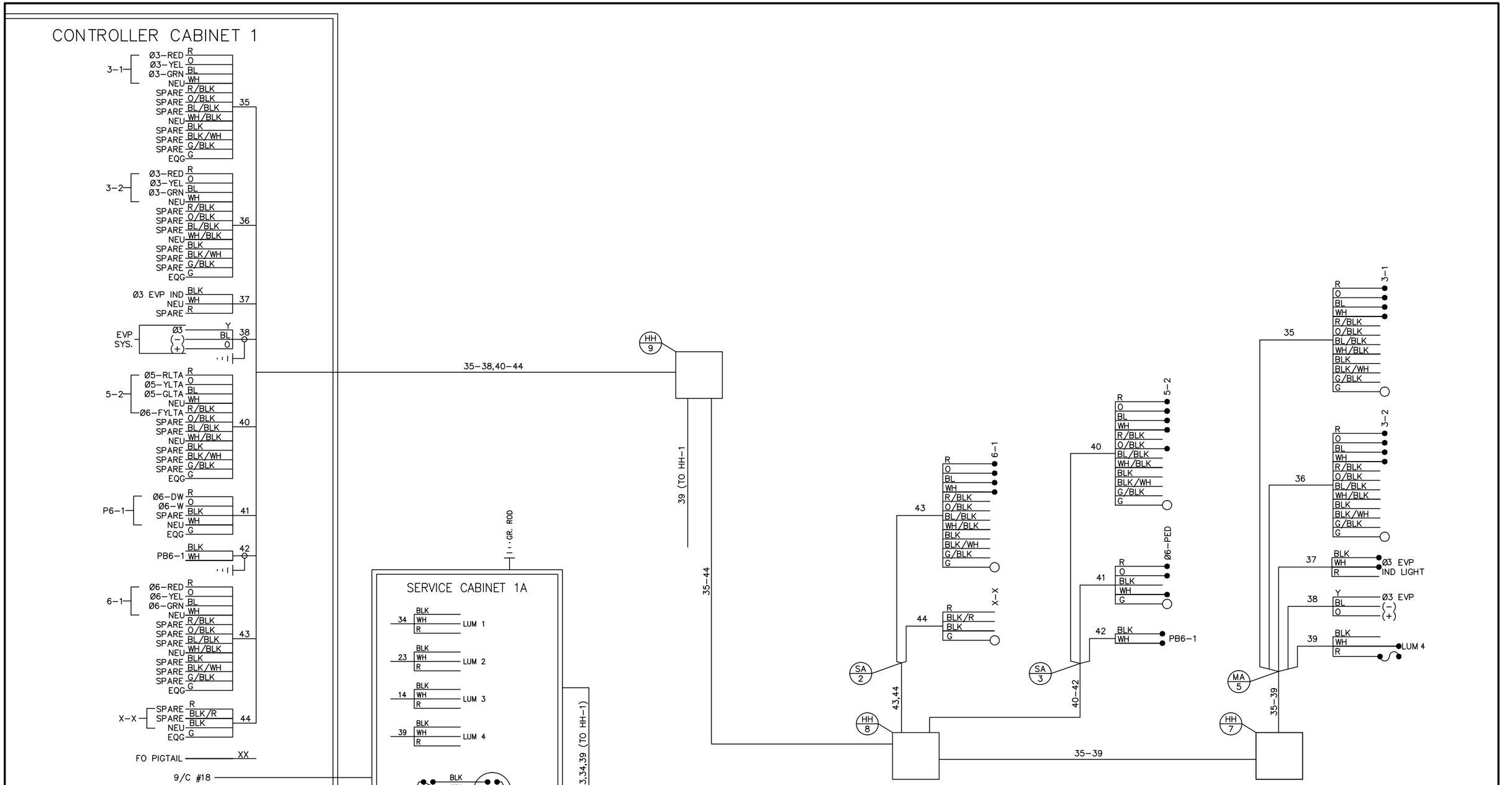

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METROPOLITAN COUNCIL

SOUTHWEST Green Line LRT Extension

CIVIL WEST (BA13)

TRAFFIC SIGNAL-SIGNAL SYSTEM "H" CSAH 61 (FLYING CLOUD DR) AT VIKING DR FIELD WIRING DIAGRAM

DISCIPLINE: TRAFFIC

SHEET NAME: W1-TFC-SIG-WD-009B-LRCI-026

SHEET 64 OF 81

SIGNAL HEAD CHART

	FACE	R	Y	G
▲	2–1,2–2,2–3	●	●	●
▲	6–1,6–2,6–3	●	●	●
▲	8–1	●	●	●
▲	8–2	●	●	●

–ALL SIGNAL INDICATIONS SHALL BE 12" LED
–ALL SIGNAL HEADS SHALL BE BLACK POLYCARBONATE WITH BACKGROUND SHIELDS

ALL SIGNAL EQUIPMENT ON THIS SHEET IS INPLACE & SHALL REMAIN INPLACE UNLESS OTHERWISE NOTED. A ▲ DENOTES WORK TO BE COMPLETED BY THE CONTRACTOR.

DETECTOR CHART

	NUMBER	SIZE (FT)	LOCATION
▲	D2–1,D2–2	6X6	325'
▲	D6–1,D6–2	6X6	300'
	D8–1	2–6X6	INPLACE
▲	D8–2	2–6X6	5',20'
▲	D8–3	3–6X6	0',5',20'

–ALL LOOP DETECTORS SHALL BE PVC UNLESS NOTED OTHERWISE
–LOCATION: DISTANCE FROM CROSSWALK/STOP BAR IN FEET

SCALE: 0 10 20 40 HORIZONTAL IN FEET

MATCH LINE A (SIG SYS "AE")

MATCH LINE B (SIG SYS "AE")

C.S.A.H. 61 (FLYING CLOUD DRIVE) (45 M.P.H.)

℄ TRACK 1

℄ TRACK 2

3" RSC
REMOVE – 1–25 PR #19
F & I – 2–2/C #14 ▲
F & I – 1–25 PR #19

3" RSC
REMOVE – 2–2/C #14
REMOVE – 1–25 PR #19
F & I – 2–2/C #14
▲ F & I – 2–2/C #14 (SYS "G")
F & I – 1–25 PR #19

▲ F & I – 2" CONDUIT
F & I – 1–3/C #14 (LUM)

SYSTEM "AE" SPLICE VAULT
▲ F & I – 3" CONDUIT
F & I – 1–FO PIGTAIL (36 SM)

3" RSC
REMOVE
- 3–12/C #12
- 3–3/C #12
- 3–2/C #12
- 1–3/C #20
- 4–1/C #6

▲ F & I
- 2–12/C #14
- 1–3/C #14
- 1–3/C #14 (LUM)
- 4–2/C #14
- 1–3/C #20
- 1–1/C #6 INS. GR.

▲ F & I
- 2" CONDUIT
- 2–1/C #6
- 1–1/C #6 INS. GR.

2" PVC
▲ REMOVE – 2–2/C #14
F & I – 2–2/C #14

INTERCONNECT TO SYSTEM H

SYSTEM "G"
D2–1
D2–2

Ø6 EVP
Ø8 EVP
Ø2 EVP

▲ F & I
- 4" CONDUIT
- 2–12/C #14
- 1–3/C #14
- 1–3/C #14 (LUM)
- 2–2/C #14
- 1–3/C #20
- 1–1/C #6 INS. GR.

TH 494/5 OFF RAMP WESTBOUND

D8–1
D8–2
D8–3

▲ F & I – 4" CONDUIT
F & I – 1–2/C #14
INSTALL SALVAGED – 2–3/C #14
INSTALL SALVAGED – 1–2/C #14

1 1/4" RSC
1–2/C #14

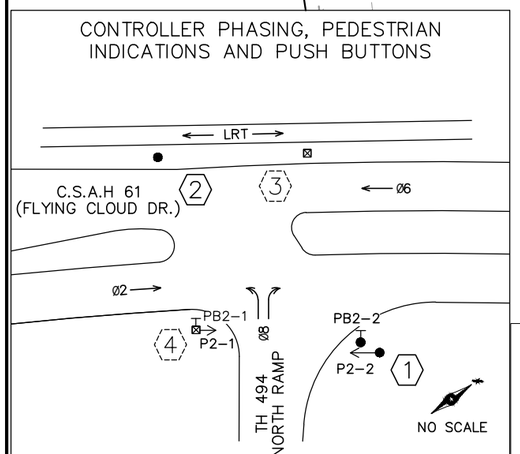
▲ F & I
- 2" CONDUIT
- 2–1/C #6
- 1–1/C #6 INS. GR.
- 2–3/C #14 (LUM)

HH 17 TO HH 8:
▲ F & I – 2" CONDUIT
F & I – 2–3/C #14 (LUM)

▲ F & I
- PED PB STATION
- 1–PB AND SIGN (RT ARROW) (PB8–2)
- EXTEND INTO HH 8:
- 1" CONDUIT
- 1–2/C #14
- 1–1/C #6 INS.GR.

▲ F & I – 2" CONDUIT
F & I – 1–2/C #14

CONTROLLER PHASING, PEDESTRIAN INDICATIONS AND PUSH BUTTONS



PEDESTRIAN PUSH BUTTONS SHALL BE LOCATED AS SHOWN ABOVE

SIGNAL SYSTEM OPERATION

- THE SIGNAL SYSTEM FLASH MODE IS ALL RED.
- THE SIGNAL SYSTEM IS FULLY ACTUATED.
- NORMAL OPERATION IS 3 PHASE.
- PHASES 2 AND 6 SHALL BE ON VEHICLE RECALL.

NOTES:
1. ALL ITEMS ARE INPLACE, UNLESS NOTED OTHERWISE.
2. SEE SPECIAL PROVISIONS FOR STATE FURNISHED MATERIALS.
3. REFER TO "FOR INFORMATION ONLY" SHEETS FOR INPLACE SIGNAL COMPONENTS.
4. THE EXACT LOCATION OF HANDHOLES, POLES, LOOP DETECTORS AND PUSH BUTTON STATIONS SHALL BE VERIFIED IN THE FIELD BY MNDOT TRAFFIC OFFICE PERSONNEL.
5. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING THE CONNECTION OF THE POWER FOR THE TRAFFIC SIGNAL SYSTEM.
6. FOR PAVEMENT MARKINGS SEE SIGNING AND STRIPING PLANS.
7. FOR CONSTRUCTION OF PEDESTRIAN CURB RAMPS, CONCRETE WALK AND MEDIAN WORK SEE DETAIL SHEET.
8. THIS PLAN SPECIFIES CONDUIT SIZES, TYPES, AND GENERAL LOCATIONS. THE EXACT LOCATIONS WILL BE DETERMINED IN THE FIELD. CONDUITS UNDER EXISTING ROADWAYS REQUIRE BORING.
9. ALL NEW CONDUIT SHALL BE PVC – SCHEDULE 80 OR HDPE SCHEDULE 80 AND SHALL CARRY 1/C#6 GREEN INSULATED GROUNDING CONDUCTOR AS SHOWN IN THE PLAN.

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METROPOLITAN COUNCIL SOUTHWEST Green Line LRT Extension

CIVIL WEST (BA13)
TRAFFIC SIGNAL - SIGNAL SYSTEM "AE"
CSAH 61 (FLYING CL DR) AT TH 494/5 N RAMP
INTERSECTION LAYOUT

DISCIPLINE: TRAFFIC

SHEET NAME: W1-TFC-SIG-10-LRCI-026

SHEET 65 OF 81

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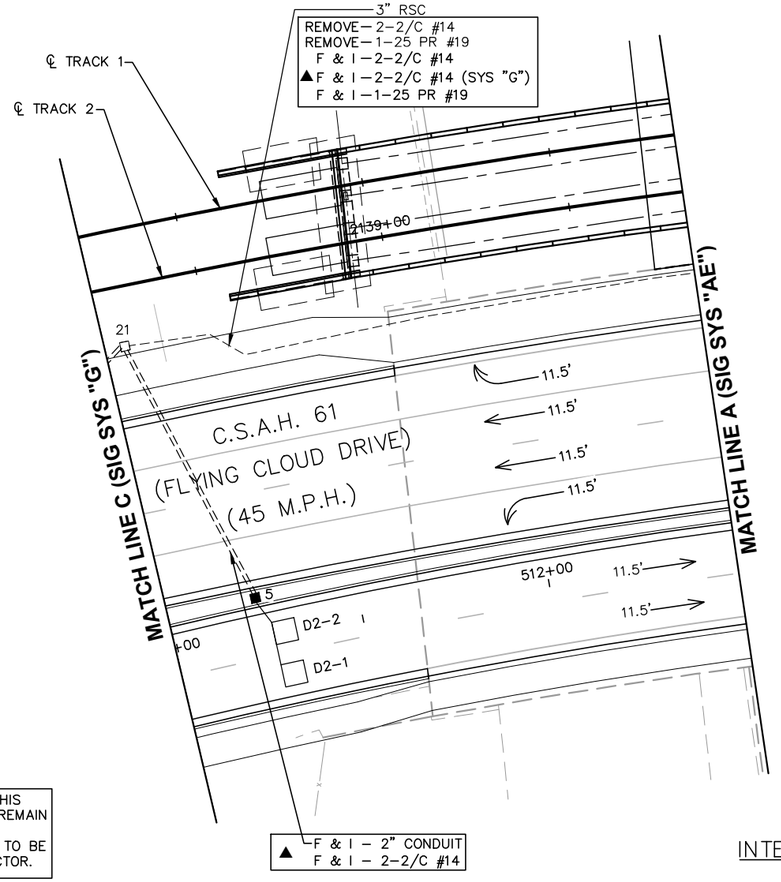

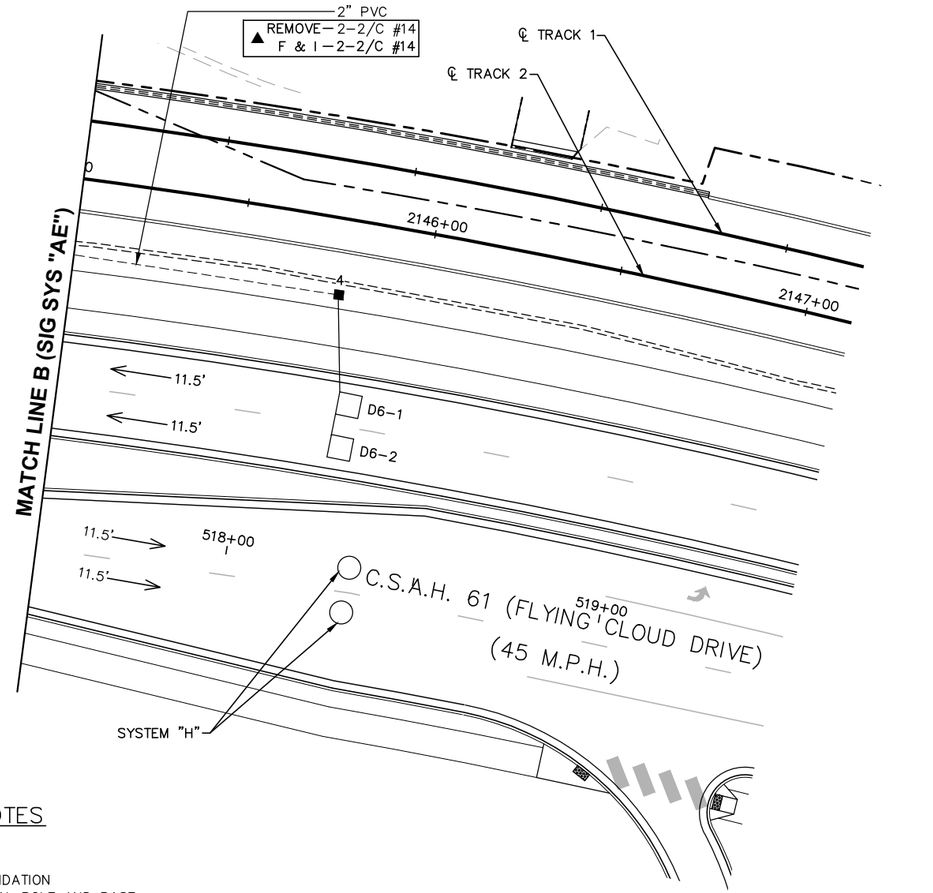

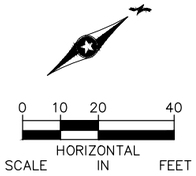

ALL SIGNAL EQUIPMENT ON THIS SHEET IS INPLACE & SHALL REMAIN INPLACE UNLESS OTHERWISE NOTED. A ▲ DENOTES WORK TO BE COMPLETED BY THE CONTRACTOR.

INTERSECTION NOTES

(1) PA90 POLE FOUNDATION
TYPE PA90–A–35–D40–9 (DAVIT AT 350 DEG)
1–ANGLE MOUNT SIGNAL OVERHEAD AT 0'
1–STRAIGHT MOUNT SIGNAL OVERHEAD AT 10.5'
1–ANGLE MOUNT SIGNAL AT 180 DEG
1–ANGLE MOUNT C.D. PED HEAD AT 180 DEG
1–ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT (PHASE 2)
▲ F & I (1) LUMINAIRE–LED (FOR 40' MOUNTING HEIGHT)
3" CONDUIT TO HH 8:
2–12/C #14
1–3/C #14
1–3/C #14 (LUM)
1–3/C #20
1–1/C #6 INS. GR.

(2) PA85 POLE FOUNDATION
TYPE PA85–A–25–D40–9 (DAVIT AT 350 DEG)
1–ANGLE MOUNT SIGNAL OVERHEAD AT 0'
1–STRAIGHT MOUNT SIGNAL OVERHEAD AT 13'
2–ANGLE MOUNT SIGNALS AT 180 AND 270 DEG
1–ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT (PHASE 6)
▲ F & I (2) LUMINAIRE–LED (FOR 40' MOUNTING HEIGHT)
3" CONDUIT TO HH 1:
2–12/C #14
1–3/C #14
1–3/C #14 (LUM)
1–3/C #20
1–1/C #6 INS. GR.

(3) PEDESTAL FOUNDATION
SIGNAL PEDESTAL POLE AND BASE
SALVAGE – TYPE 5B
SALVAGE – C.D. PED HEAD
REMOVE – PEDESTRIAN PUSH BUTTON AND SIGN
▲ TYPE 5A (MODIFY AND INSTALL SALVAGED TYPE 5B, REMOVE INDICATIONS, F&I INDICATIONS)
ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT (PHASE 8) MOUNTED ON TOP OF PEDESTAL
▲ F & I – 1–R6–1L SIGN MOUNTED ON PEDESTAL POLE
3" RSC TO INP. HH 2:
1–12/C #12
1–3/C #12
▲ REMOVE – 2–3/C #12
1–3/C #20

(4) PEDESTAL FOUNDATION
SIGNAL PEDESTAL POLE AND BASE
TYPE 4A
▲ REMOVE – PED HEAD
INSTALL SALVAGED – C.D. PED HEAD
PEDESTRIAN PUSH BUTTON AND SIGN
3" RSC TO INP. HH 12:
▲ SALVAGE AND INSTALL SALVAGED 2–3/C #12

(A) EQUIPMENT PAD
CONTROLLER CABINET AND CONTROLLER
3" RSC:
▲ REMOVE – 1–25 PR #19
F & I – 1–FO PIGTAIL
4" RSC TO INP. HH 1:
▲ REMOVE – 2–12/C #12
REMOVE – 1–3/C #12
SALVAGE AND INSTALL SALVAGED – 2–3/C #12
REMOVE – 1–2/C #14
SALVAGE AND INSTALL SALVAGED – 1–2/C #14
REMOVE – 1–3/C #20
REMOVE – 1–25 PR #19
F & I – 2–12/C #14
1–3/C #14
3–2/C #14
1–3/C #20
1–1/C #6 INS. GR.
1–25 PR #19
4" RSC TO INP. HH 2:
▲ REMOVE – 3–12/C #12
1–12/C #12
▲ REMOVE – 3–3/C #12
1–3/C #12
▲ REMOVE – 3–2/C #14
REMOVE – 1–3/C #20
1–3/C #20
REMOVE – 2–1/C #6
▲ F & I – 2–12/C #14
1–3/C #14
4–2/C #14
1–3/C #20
1–1/C #6 INS. GR.
2" CONDUIT TO HH 14:
2–1/C #6
1–1/C #6 INS. GR.

(B) SOP AND SERVICE EQUIPMENT

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METROPOLITAN COUNCIL — SOUTHWEST Green Line LRT Extension

CIVIL WEST (BA13)
TRAFFIC SIGNAL - SIGNAL SYSTEM "AE"
CSAH 61 (FLYING CL DR) AT TH 494/5 N RAMP
INTERSECTION NOTES AND MATCHLINES

DISCIPLINE: TRAFFIC

SHEET NAME: W1-TFC-SIG-10B-LRCI-026

SHEET 66 OF 81

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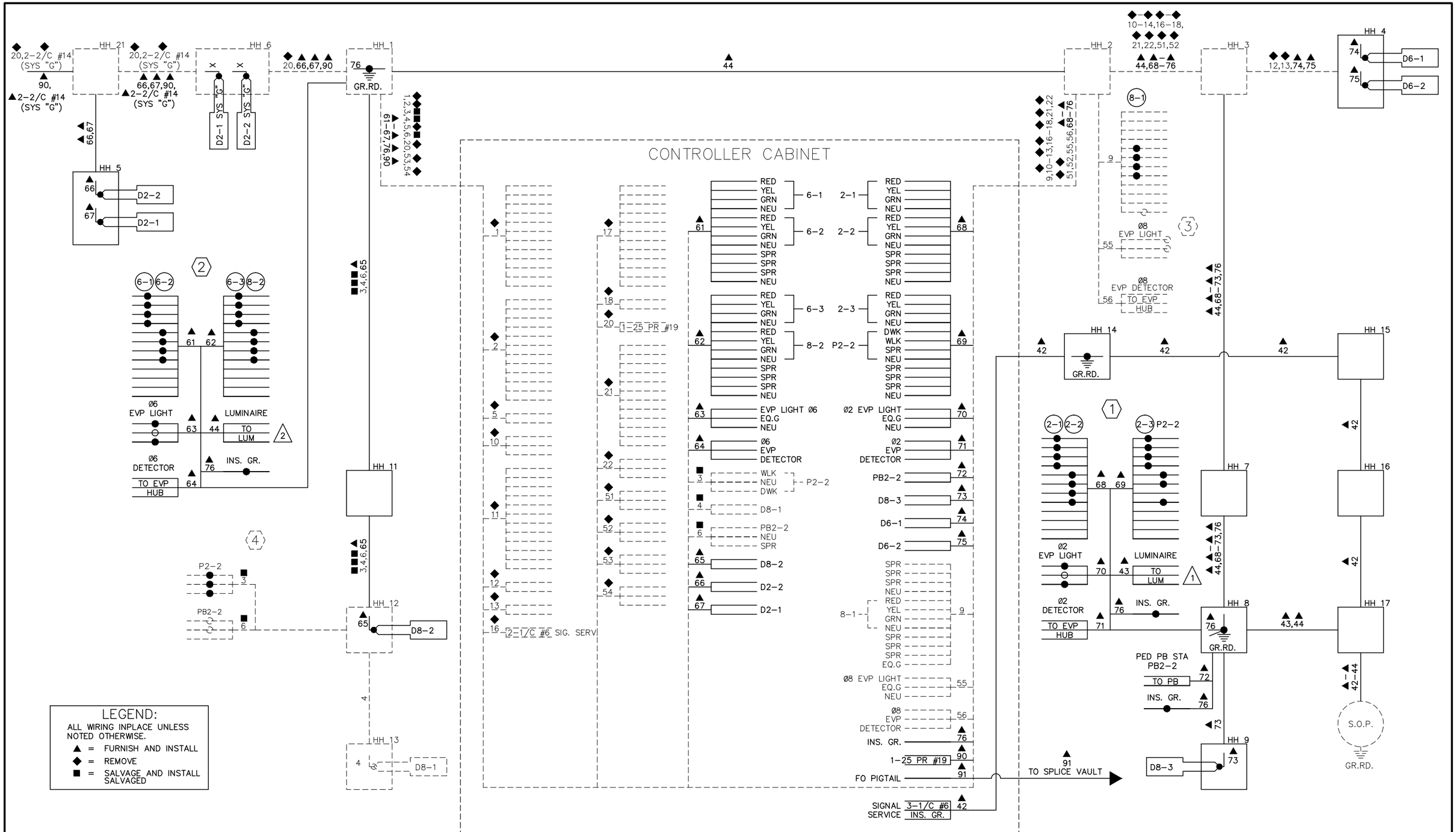

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METROPOLITAN COUNCIL

SOUTHWEST Green Line LRT Extension

CIVIL WEST (BA13)
TRAFFIC SIGNAL-SIGNAL SYSTEM "AE"
CSAH 61 (FLYING CL DR) AT TH 494/5 N RAMP
REVISED FIELD WIRING DIAGRAM

DISCIPLINE: TRAFFIC

SHEET NAME: W1-TFC-SIG-WD-010-LRCI-026

SHEET 67 OF 81

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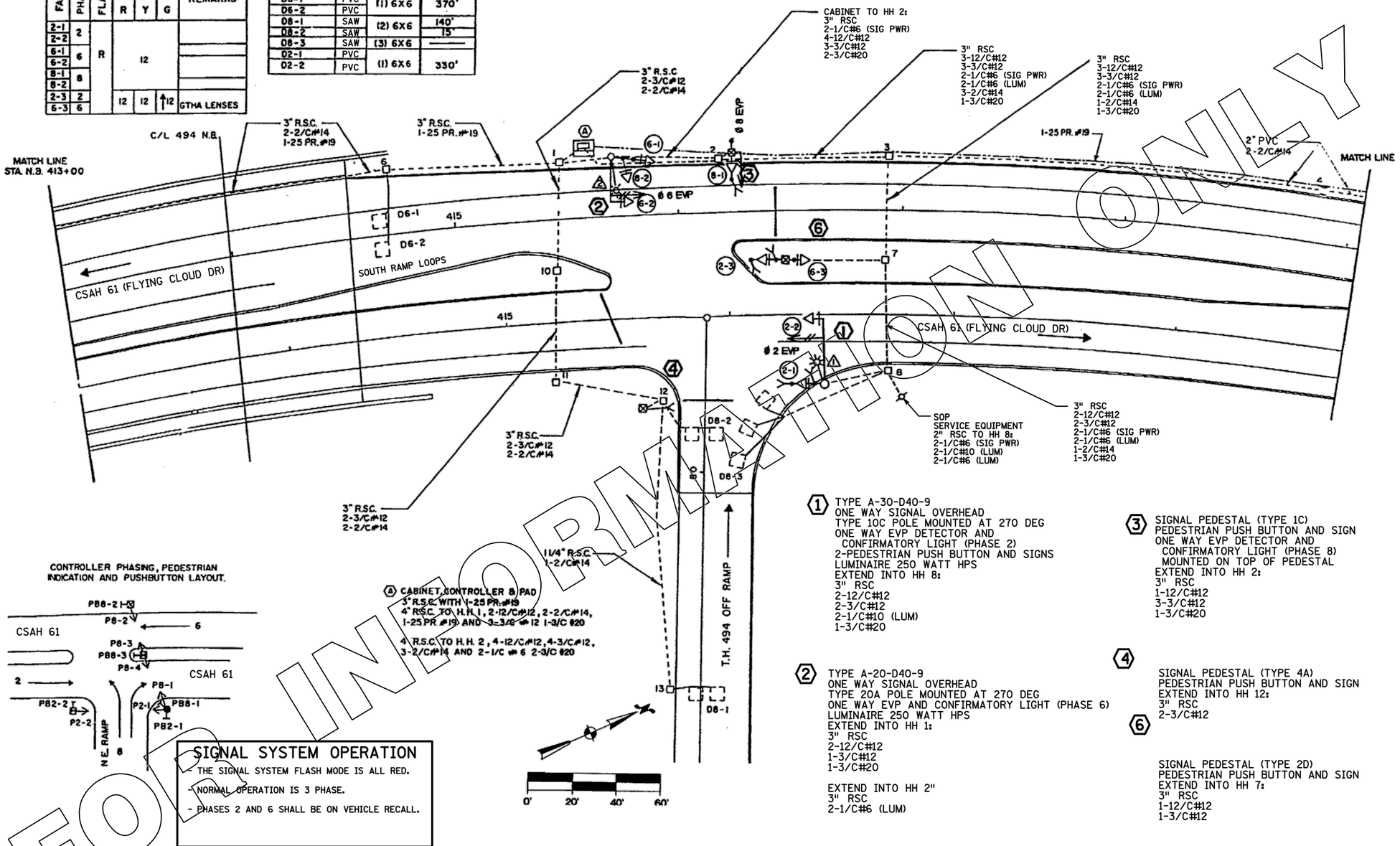
SIGNAL INDICATION CHART						
FACE	PHASE	FLASH	INDICATION SIZE (INCHES) R	Y	G	REMARKS
2-1	2	R	12			
2-2						
6-1	6					
6-2						
8-1	8					
8-2						
2-3	2		12	12	↑12	GTHA LENSES
6-3	6					

DETECTOR CHART			DISTANCE TO STOP BAR
DESIGNATION	TYPE	SIZE(FT)	
D6-1	PVC	(1) 6X6	370'
D6-2	PVC		
D8-1	SAW	(2) 6X6	140'
D8-2	SAW		15'
D8-3	SAW	(3) 6X6	
D2-1	PVC		
D2-2	PVC	(1) 6X6	330'



CONTROLLER PHASING, PEDESTRIAN INDICATION AND PUSHBUTTON LAYOUT.

Ⓐ CABINET, CONTROLLER & PAD
3" R.S.C. WITH 1-25 PR.#19
4" RSC TO H.H. 1, 2-12/C#12, 2-2/C#14, 1-25 PR #19 AND 3-3/C #12 1-3/C #20

4 R.S.C. TO H.H. 2, 4-12/C#12, 4-3/C#12, 3-2/C#14 AND 2-1/C #6 2-3/C #20

SIGNAL SYSTEM OPERATION

- THE SIGNAL SYSTEM FLASH MODE IS ALL RED.
- NORMAL OPERATION IS 3 PHASE.
- PHASES 2 AND 6 SHALL BE ON VEHICLE RECALL.

① TYPE A-30-D40-9
ONE WAY SIGNAL OVERHEAD
TYPE 10C POLE MOUNTED AT 270 DEG
ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT (PHASE 2)
2-PEDESTRIAN PUSH BUTTON AND SIGNS
LUMINAIRE 250 WATT HPS
EXTEND INTO HH 8:
3" RSC
2-12/C#12
2-3/C#12
2-1/C#10 (LUM)
1-3/C#20

② TYPE A-20-D40-9
ONE WAY SIGNAL OVERHEAD
TYPE 20A POLE MOUNTED AT 270 DEG
ONE WAY EVP AND CONFIRMATORY LIGHT (PHASE 6)
LUMINAIRE 250 WATT HPS
EXTEND INTO HH 1:
3" RSC
2-12/C#12
1-3/C#12
1-3/C#20

EXTEND INTO HH 2"
3" RSC
2-1/C#6 (LUM)

③ SIGNAL PEDESTAL (TYPE 1C)
PEDESTRIAN PUSH BUTTON AND SIGN
ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT (PHASE 8) MOUNTED ON TOP OF PEDESTAL
EXTEND INTO HH 2:
3" RSC
1-12/C#12
3-3/C#12
1-3/C#20

④ SIGNAL PEDESTAL (TYPE 4A)
PEDESTRIAN PUSH BUTTON AND SIGN
EXTEND INTO HH 12:
3" RSC
2-3/C#12

⑥ SIGNAL PEDESTAL (TYPE 2D)
PEDESTRIAN PUSH BUTTON AND SIGN
EXTEND INTO HH 7:
3" RSC
1-12/C#12
1-3/C#12

BY	DATE	REVISIONS
SJK	01-23-14	EVR REVISION

SYSTEM ID: 21698 T.E.
METER ADDRESS: 8400 1694
MASTER ID: 21697 T.E.

INTERSECTION LAYOUT
TH 494 AT CSAH 61 (FLYING CLOUD DR)
NORTH RAMP
IN EDEN PRAIRE, HENNEPIN COUNTY

S.A.P. NO. | DRAWN BY: | CKD BY: | DATE:
CERTIFIED BY _____ LICENSED PROFESSIONAL ENGINEER LIC. NO. _____ DATE: _____
STATE PROJ.NO. (T.H.494) SHEET NO. 1 OF 3 SHEETS

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

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METROPOLITAN COUNCIL SOUTHWEST Green Line LRT Extension

CIVIL WEST (BA13)

TRAFFIC SIGNAL-SIGNAL SYSTEM "AE"
CSAH 61 (FLYING CL DR) AT TH 494/5 N RAMP
FOR INFORMATION ONLY

DISCIPLINE: TRAFFIC
SHEET NAME: W1-TRF-SIG-002-010-LRCI-026

SHEET 68 OF 81

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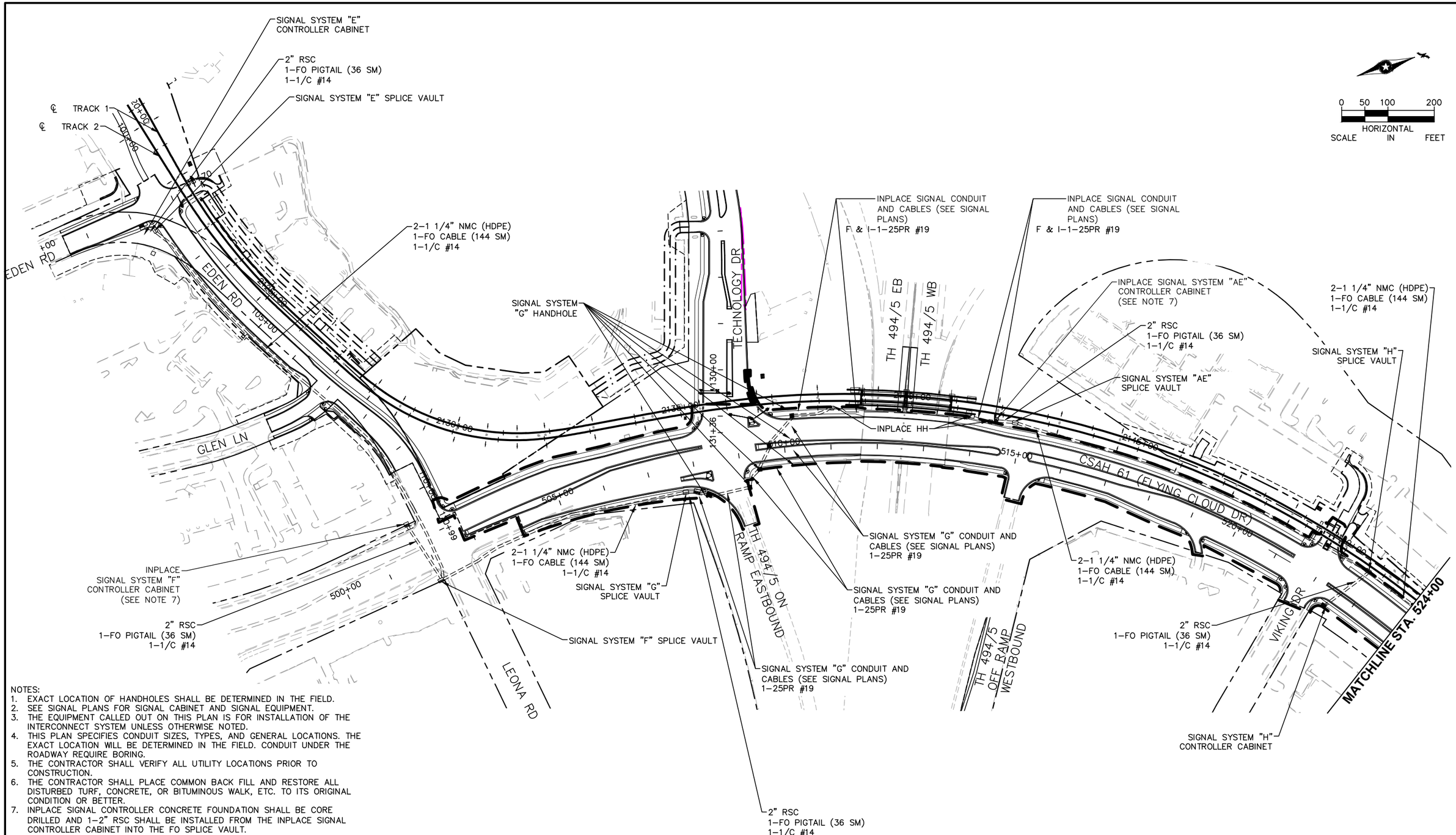

NOTES:
1. EXACT LOCATION OF HANDHOLES SHALL BE DETERMINED IN THE FIELD.
2. SEE SIGNAL PLANS FOR SIGNAL CABINET AND SIGNAL EQUIPMENT.
3. THE EQUIPMENT CALLED OUT ON THIS PLAN IS FOR INSTALLATION OF THE INTERCONNECT SYSTEM UNLESS OTHERWISE NOTED.
4. THIS PLAN SPECIFIES CONDUIT SIZES, TYPES, AND GENERAL LOCATIONS. THE EXACT LOCATION WILL BE DETERMINED IN THE FIELD. CONDUIT UNDER THE ROADWAY REQUIRE BORING.
5. THE CONTRACTOR SHALL VERIFY ALL UTILITY LOCATIONS PRIOR TO CONSTRUCTION.
6. THE CONTRACTOR SHALL PLACE COMMON BACK FILL AND RESTORE ALL DISTURBED TURF, CONCRETE, OR BITUMINOUS WALK, ETC. TO ITS ORIGINAL CONDITION OR BETTER.
7. INPLACE SIGNAL CONTROLLER CONCRETE FOUNDATION SHALL BE CORE DRILLED AND 1-2" RSC SHALL BE INSTALLED FROM THE INPLACE SIGNAL CONTROLLER CABINET INTO THE FO SPLICE VAULT.

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METROPOLITAN COUNCIL SOUTHWEST Green Line LRT Extension

CIVIL WEST (BA13)
TRAFFIC SIGNAL INTERCONNECT ALONG EDEN ROAD AND CSAH 61 (FLYING CLOUD DRIVE)

DISCIPLINE: TRAFFIC

SHEET NAME: W1-TFC-SIG-IC-002-LRCI-026

SHEET 69 OF 81

SCHEDULE OF QUANTITIES			
SPEC. SECTION (2)	COMPONENT ITEM	UNIT	QUANTITY
–	BR 27762 MODIFICATIONS	LUMP SUM	LS

COMPONENT ITEM SUMMARY (BRIDGE 27762)			
SPEC. SECTION (2)	COMPONENT ITEM	UNIT (1)	QUANTITY (1)
2401	TYPE P-2, TL-4 BARRIER CONCRETE (3S52)	LF	XXXX
2401	RAISED MEDIAN CONCRETE (3F52)	SF	XXXX
2401	REINFORCEMENT BARS (EPOXY COATED)	POUND	XXXX
2401	CONCRETE CURB	LF	XXXX
2402	ORNAMENTAL METAL RAILING	LF	XXXX
2402	STRUCTURAL TUBE RAILING DESIGN T-1	LF	XXXX
2402	STRUCTURAL STEEL (3309)	POUND	XXXX
2404	CONCRETE WEARING COURSE (3U17A)	SF	XXXX
2404	CHIP SEAL WEARING COURSE	SF	XXXX
2433	RECONSTRUCT EXPANSION JOINT TYPE A	LF	XXXX
2433	REMOVE TYPE J BARRIER	LF	XXXX
2433	REMOVE LIGHT POLES	EA	1
2433	REMOVE CONCRETE WEARING COURSE	SF	XXXX
2433	REMOVE RAISED MEDIAN	SF	XXXX
2433	REMOVE CHAIN LINK FENCE	LF	XXXX
2433	ANCHORAGES TYPE REINFORCING BARS	EA	XXXX
2479	INORGANIC ZINC-RICH PAINT SYSTEM (FIELD)	SQ FT	XXXX

SCHEDULE OF QUANTITIES AND COMPONENT ITEM SUMMARY NOTES

(1) QUANTITIES LISTED FOR THE COMPONENT ITEMS OF BR 27762 ARE FOR INFORMATIONAL PURPOSES. ANY ADDITIONAL ITEMS OR CHANGES IN QUANTITIES REQUIRED SHALL BE PROVIDED BY THE CONTRACTOR WITH NO ADDITIONAL COMPENSATION.

(2) MEASUREMENT AND PAYMENT FOR COMPONENT ITEMS SHALL BE PART OF THE LUMP SUM PAYMENT FOR BRIDGE 27762. REFER TO MNDOT STANDARD SPECIFICATION OR SPECIAL PROVISION FOR TECHNICAL SPECIFICATION REQUIREMENTS FOR ALL PROVISIONS OTHER THAN MEASUREMENT & PAYMENT.

CONSTRUCTION NOTES

THE 2016 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" SHALL GOVERN.

CONTRACTOR SHALL DETERMINE DEPTH OF INPLACE WEARING COURSE ON BRIDGE FOR REMOVAL WITHIN LIMITS SHOWN ON PLANS.

NO CUTTING WILL BE PERMITTED UNTIL THE CUTTING LIMITS HAVE BEEN OUTLINED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER. REMOVAL AND RECONSTRUCTION SHALL CONFORM TO MNDOT SPEC 2433.

THE FIRST DIGIT OR THE FIRST TWO DIGITS OF BAR MARK INDICATE THE BAR SIZE. BARS MARKED WITH THE SUFFIX E SHALL BE EPOXY COATED IN ACCORDANCE WITH SPEC 3301.

SEE ROADWAY PLANS FOR APPROACH SLAB MODIFICATIONS.

ALL DIMENSIONS BASED ON ORIGINAL 1982 BRIDGE DESIGN PLANS. CONTRACTOR SHALL FIELD VERIFY INPLACE BRIDGE ELEVATIONS AND DIMENSIONS.

THE CONTRACTOR SHALL MAKE FIELD MEASUREMENTS, AS NECESSARY, PRIOR TO FABRICATION TO ASSURE PROPER FIT IN FIELD.

DESIGN DATA

AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 7TH EDITION 2014 WITH 2015 INTERIM REVISIONS

SOUTHWEST LIGHT RAIL TRANSIT DESIGN CRITERIA (REVISION 4.0)

LOAD AND RESISTANCE FACTOR DESIGN METHOD

HL-93 LIVE LOAD

MATERIAL DESIGN PROPERTIES:
REINFORCED CONCRETE:
f'c = 4000 PSI n = 8
fy = 60000 PSI REINFORCEMENT
STRUCTURAL STEEL:
fy = 50 ksI SPEC 3309 PAINTED

DESIGN SPEED: OVER = 45 MPH
UNDER = 60 MPH

DECK AREA 20004 SQ. FT.

HL93 LRFR INVENTORY RATING RF XX
HL93 LRFR OPERTATING RATING RF XX

LIST OF SHEETS

BRIDGE NO. 27762

T.H.62 (FLYING CLOUD DRIVE) OVER I-494
0.3 MI SOUTH OF JCT. T.H. 212 AND I-494
IN EDEN PRAIRIE

SCHEDULE OF QUANTITIES

SEC. 11 T 116 N R 22 W
CITY OF EDEN PRAIRIE HENNEPIN COUNTY

APPROVED _____
STATE BRIDGE ENGINEER
DATE _____

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DESIGNED BY: MJC CHECKED BY: DDL
DRAWN BY: BAC CHECKED BY: DDL

AECOM PARSONS BRINCKERHOFF

90% SUBMISSION - 1/22/2016

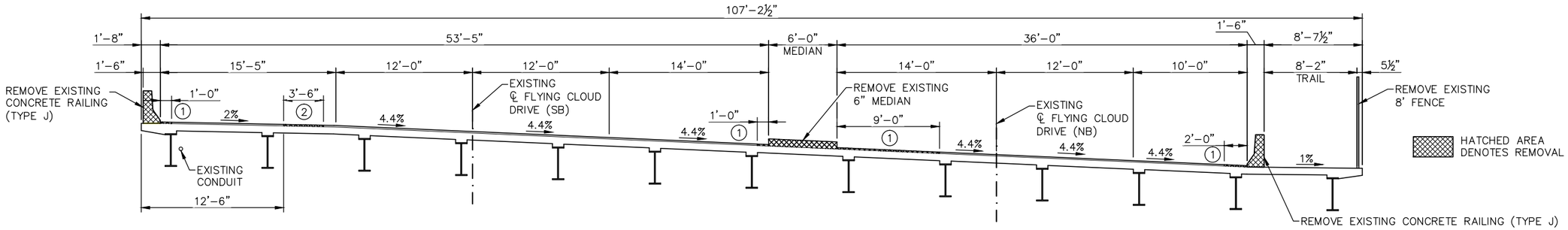
METROPOLITAN COUNCIL SOUTHWEST

CIVIL WEST (BA13)
CSAH 61 (FLYING CLOUD DRIVE)
BRIDGE 27762 MODIFICATIONS
SCHEDULE OF QUANTITIES

DISCIPLINE: STRUCTURES
SHEET NAME: W1-STU-BRG-LRCI-026-TRN01

SHEET 70 OF 81

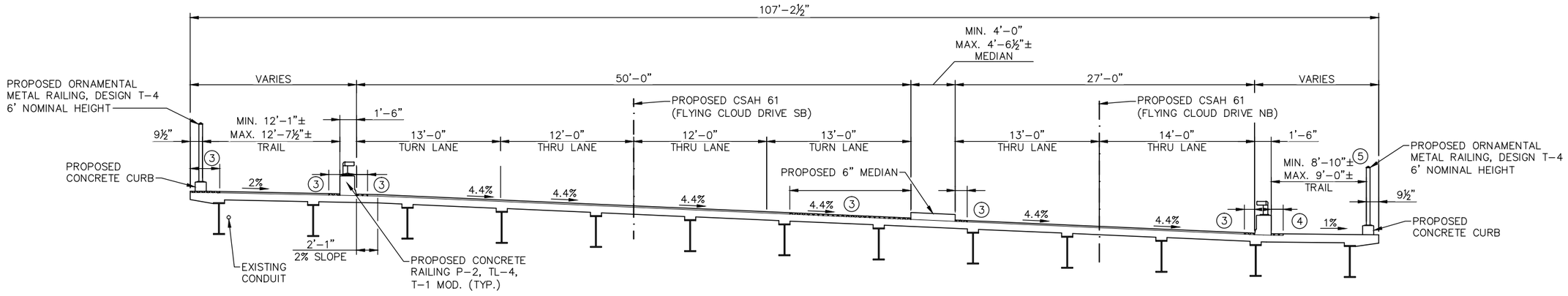
Jan. 15 2016 01:42 pm v:\3400_ADC\CAD\LRCI\LRCI-026\PLAN SHEETS\STRUCTURES\W1-STU-BRG-LRCI-026-TRN01.dwg By: hills



INPLACE TRANSVERSE SECTION
AND REMOVALS

NOTES:

1. SAWCUT DISTANCE SHOWN FROM FACE OF FEATURE BEING REMOVED AND REMOVE EXISTING WEARING COURSE. TO A MINIMUM DEPTH OF 2" AND MAXIMUM DEPTH OF 2¼".
2. SAWCUT ALONG EDGES OF AREA SHOWN AND REMOVE EXISTING WEARING COURSE TO A MINIMUM DEPTH OF 2"AND MAXIMUM DEPTH OF 2¼".
3. PATCH WEARING COURSE PER MNDOT SPEC 2404.
4. PATCH CONCRETE WITH APPROVED PATCHING MATERIAL. SAWCUT 1" DEEP AND REMOVE CONCRETE WITHIN LIMITS TO PROVIDE CLEAN EDGE FOR PATCHING.
5. APPLY EPOXY CHIP SEAL WEARING COURSE TO EAST TRAIL. PATCH CONCRETE MUST BE AT LEAST 28 DAYS OLD FOR CHIP SEAL TO BE APPLIED.



PROPOSED TRANSVERSE SECTION

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DESIGNED BY: MJC | CHECKED BY: DDL
DRAWN BY: BAC | CHECKED BY: DDL

AECOM PARSONS BRINCKERHOFF

90% SUBMISSION - 1/22/2016

METROPOLITAN COUNCIL

SOUTHWEST Green Line LRT Extension

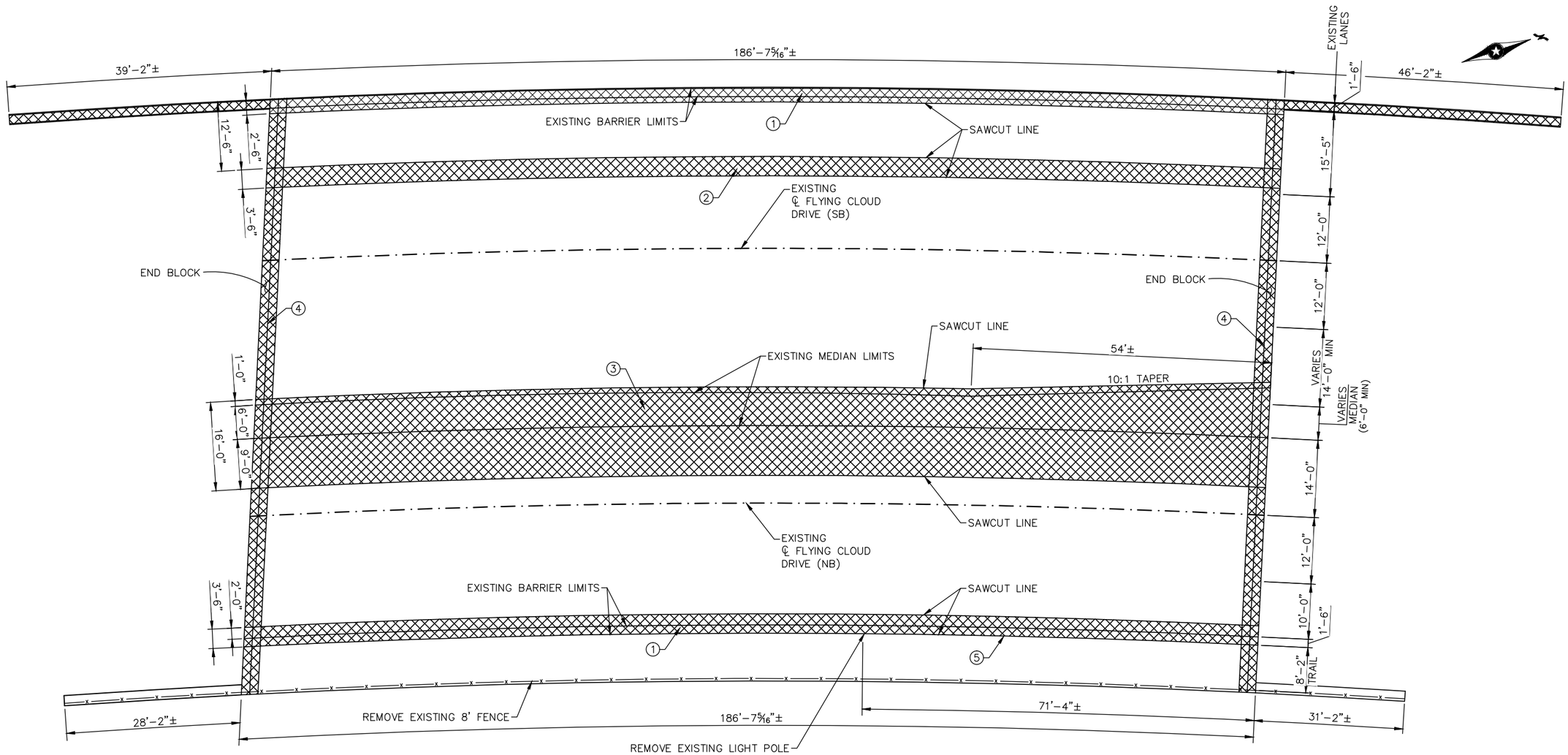
CIVIL WEST (BA13)
CSAH 61 (FLYING CLOUD DRIVE)
BRIDGE 27762 MODIFICATIONS
TRANSVERSE SECTIONS

DISCIPLINE: STRUCTURES

SHEET NAME: W1-STU-BRG-LRCI-026-TRN02_1

SHEET 71 OF 81

Jan, 15 2016 02:23 pm V:\3400_ADC\CAD\LRCI\LRCI-026\PLAN SHEETS\STRUCTURES\W1-STU-BRG-LRCI-026-TRN02.dwg By: hills



INPLACE GENERAL PLAN AND REMOVALS

NOTES:

1. REMOVE EXISTING BARRIER AND WEARING COURSE TO A MINIMUM DEPTH OF 2".
2. REMOVE EXISTING WEARING COURSE TO A MINIMUM DEPTH OF 2".
3. REMOVE EXISTING MEDIAN AND WEARING COURSE TO A MINIMUM DEPTH OF 2".
4. REMOVE AND RECONSTRUCT EXPANSION JOINT.
5. SAWCUT 1" DEEP AND REMOVE CONCRETE WITHIN LIMITS TO PROVIDE CLEAN EDGE FOR PATCHING.

HATCHED AREA DENOTES REMOVAL

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DRAWN BY: BAC | CHECKED BY: DDL

AECOM PARSONS BRINCKERHOFF

90% SUBMISSION - 1/22/2016

METROPOLITAN COUNCIL

SOUTHWEST Green Line LRT Extension

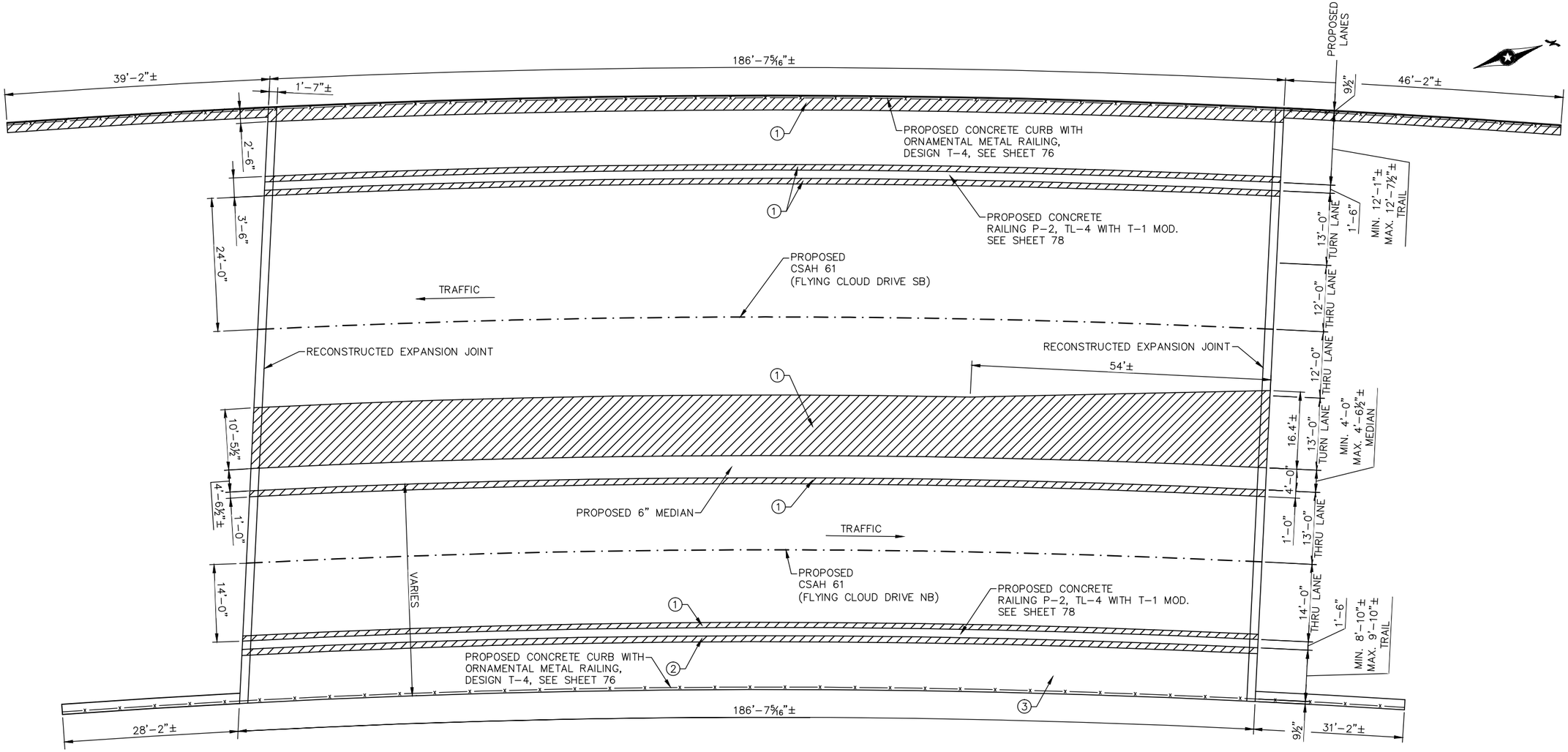
CIVIL WEST (BA13)
CSAH 61 (FLYING CLOUD DRIVE)
BRIDGE 27762 MODIFICATIONS
INPLACE GENERAL PLAN AND REMOVALS

DISCIPLINE: STRUCTURES

SHEET NAME: W1-STU-BRG-LRCI-026-TRN02_2

SHEET 72 OF 81

Jan. 15 2016 02:23 pm V:\3400_ADC\CAD\LRCI\LRCI-026\PLAN SHEETS\STRUCTURES\W1-STU-BRG-LRCI-026-TRN02.dwg By: hills



PROPOSED GENERAL PLAN

NOTES:

1. PATCH WEARING COURSE PER MNDOT SPEC 2404.
2. PATCH CONCRETE WITH APPROVED PATCHING MATERIAL.
3. APPLY CHIP SEAL WEARING COARSE TO TRAIL.

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AECOM PARSONS BRINCKERHOFF

90% SUBMISSION - 1/22/2016

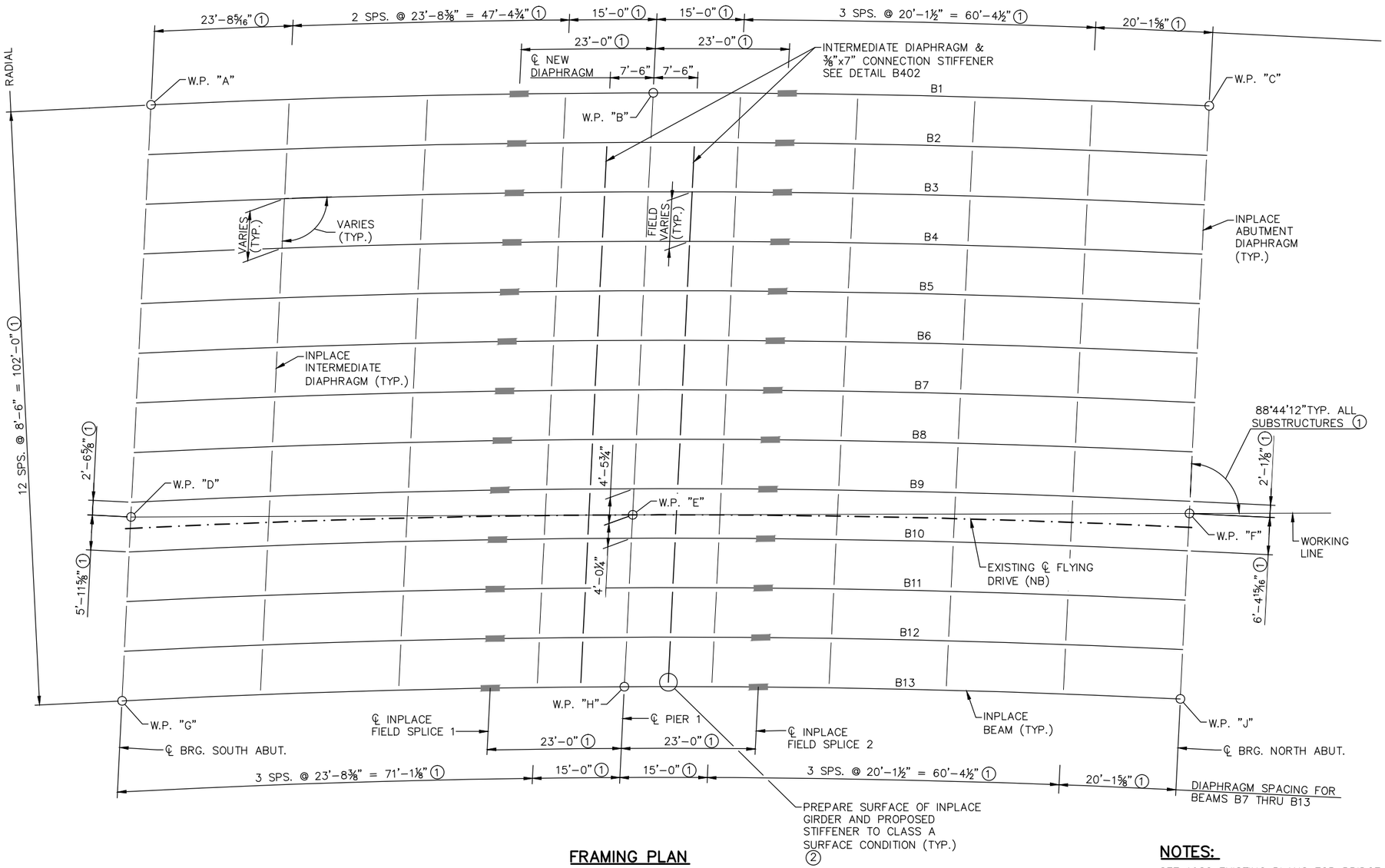
METROPOLITAN COUNCIL SOUTHWEST Green Line LRT Extension

CIVIL WEST (BA13)
CSAH 61 (FLYING CLOUD DRIVE)
BRIDGE 27762 MODIFICATIONS
PROPOSED GENERAL PLAN

DISCIPLINE: STRUCTURES
SHEET NAME: W1-STU-BRG-LRCI-026-TRN02_3

SHEET 73 OF 81

Jan. 15 2016 02:25 pm V:\3400_ADC\CAD\LRCI\LRCI-026\PLAN SHEETS\STRUCTURES\W1-STU-BRG-LRCI-026-TRN02.dwg By: hills



FRAMING PLAN

NOTES:

SEE 1982 EXISTING PLANS FOR BRIDGE 27762

ALL DIAPHRAGMS ARE PARALLEL TO SUBSTRUCTURES.

PAINT ALL NEW STRUCTURAL STEEL AND SURROUNDING AREAS OF PREPARATION IN ACCORDANCE WITH 2479 "INORGANIC ZINC-RICH PAINT SYSTEM (FIELD).

(1) PER ORIGINAL BRIDGE PLANS DATED 11-30-82

(2) CLASS A SURFACE DEFINED AS A BLAST CLEAN SURFACE.

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AECOM PARSONS BRINCKERHOFF

90% SUBMISSION - 1/22/2016

METROPOLITAN COUNCIL

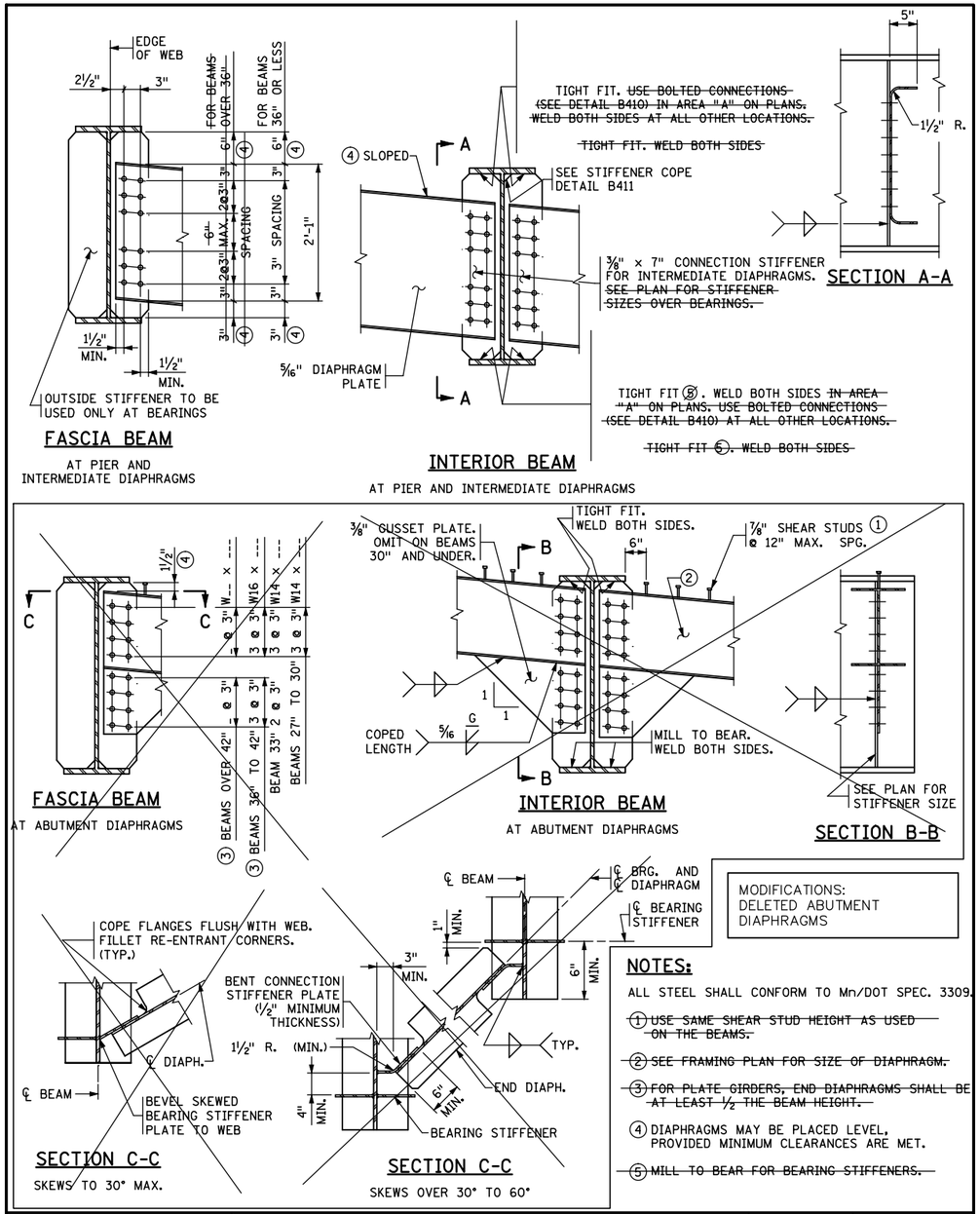
SOUTHWEST Green Line LRT Extension

CIVIL WEST (BA13)
CSAH 61 (FLYING CLOUD DRIVE)
BRIDGE 27762 MODIFICATIONS
FRAMING PLAN

DISCIPLINE: STRUCTURES
SHEET NAME: W1-STU-BRG-LRCI-026-SUP01

SHEET 74 OF 81

Jan. 15 2016 01:43 pm V:\3400_ADC\CAD\LRCI\LRCI-026\PLAN SHEETS\STRUCTURES\W1-STU-BRG-LRCI-026-SUP01.dwg By: hills

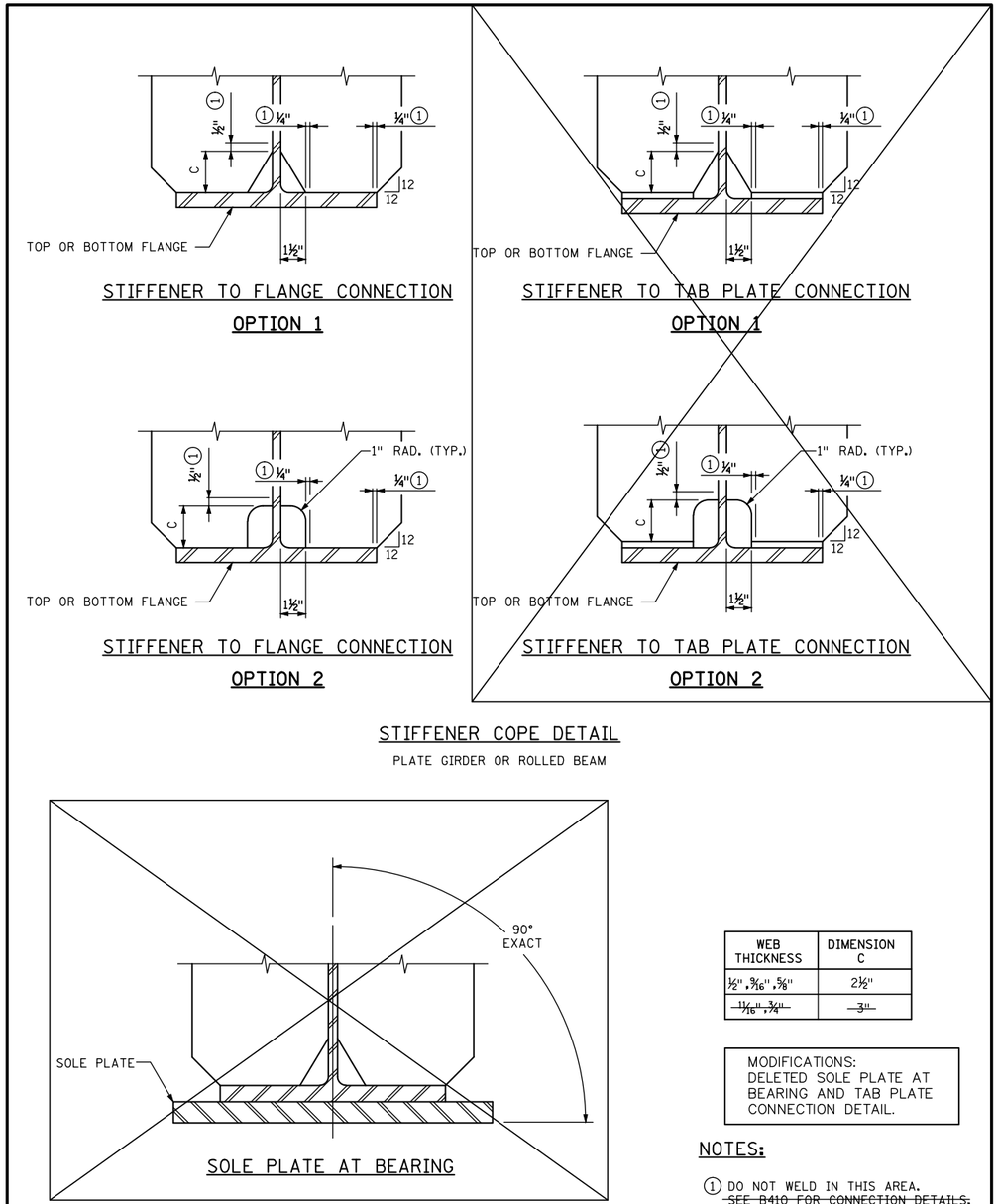


NOTES:

ALL STEEL SHALL CONFORM TO Mn/DOT SPEC. 3309.

1. ~~USE SAME SHEAR STUD HEIGHT AS USED ON THE BEAMS.~~
2. ~~SEE FRAMING PLAN FOR SIZE OF DIAPHRAGM.~~
3. ~~FOR PLATE GIRDERS, END DIAPHRAGMS SHALL BE AT LEAST ½ THE BEAM HEIGHT.~~
4. DIAPHRAGMS MAY BE PLACED LEVEL, PROVIDED MINIMUM CLEARANCES ARE MET.
5. ~~MILL TO BEAR FOR BEARING STIFFENERS.~~

APPROVED: MARCH 26, 2009	STATE OF MINNESOTA DEPARTMENT OF TRANSPORTATION	REVISED	DETAIL NO.
Daniel D Dorgan STATE BRIDGE ENGINEER	BOLTED DIAPHRAGMS (FOR STEEL BEAMS)		B402 (MOD.)



WEB THICKNESS	DIMENSION C
½", 3⁄16", 5⁄8"	2½"
~~1⁄16", ¾"~~	~~3"~~

MODIFICATIONS: DELETED SOLE PLATE AT BEARING AND TAB PLATE CONNECTION DETAIL.

NOTES:

1. DO NOT WELD IN THIS AREA. ~~SEE B410 FOR CONNECTION DETAILS.~~

APPROVED: OCTOBER 22, 2008	STATE OF MINNESOTA DEPARTMENT OF TRANSPORTATION	REVISION	DETAIL NO.
Daniel D Dorgan STATE BRIDGE ENGINEER	STIFFENER DETAILS (FOR STEEL BEAMS)		B411 (MOD.

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

DESIGNED BY: MJC | CHECKED BY: DDL
DRAWN BY: SWH | CHECKED BY: DDL

AECOM PARSONS BRINCKERHOFF

90% SUBMISSION - 1/22/2016

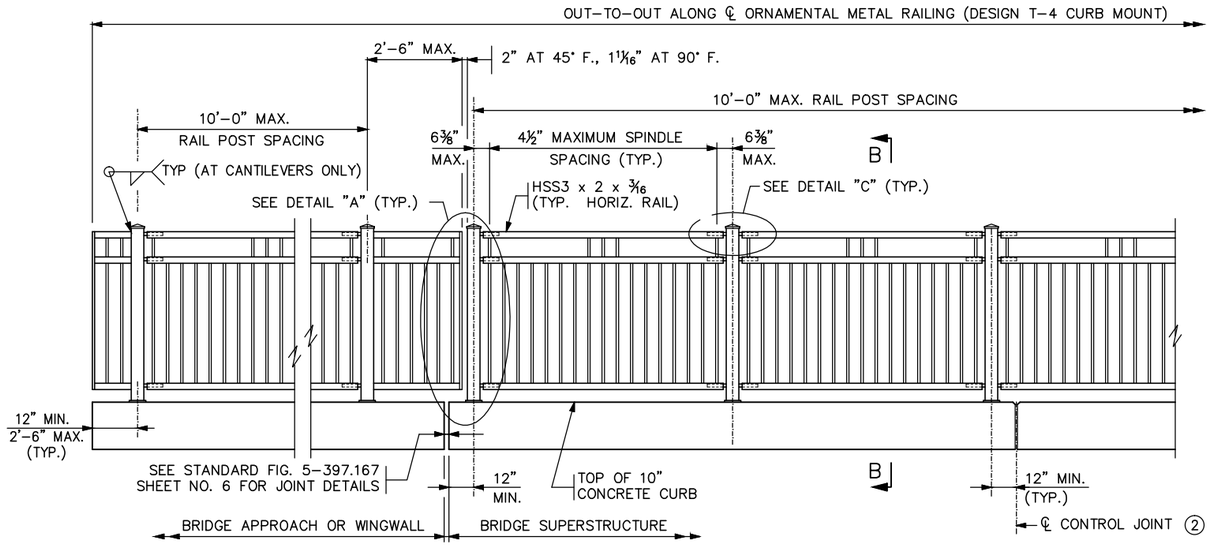
METROPOLITAN COUNCIL — SOUTHWEST Green Line LRT Extension

CIVIL WEST (BA13)
CSAH 61 (FLYING CLOUD DRIVE)
BRIDGE 27762 MODIFICATIONS
DIAPHRAGM DETAILS

DISCIPLINE: STRUCTURES
SHEET NAME: W1-STU-BRG-LRCI-026-DTL01

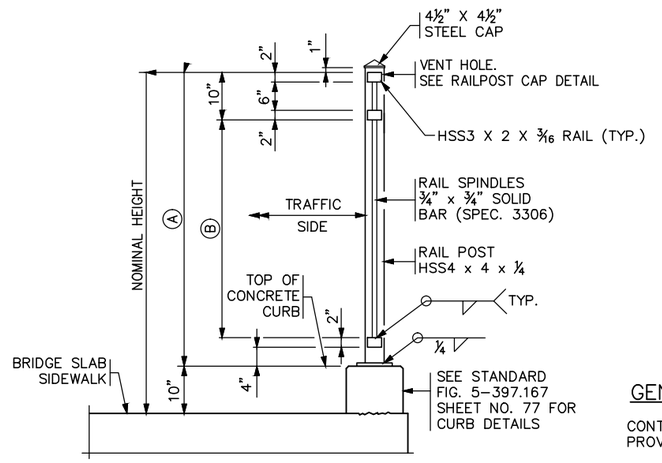
SHEET 75 OF 81

Jan. 15 2016 01:43 pm V:\3400_ADC\CAD\LRCI\LRCI-026\PLAN SHEETS\STRUCTURES\W1-STU-BRG-LRCI-026_DTL01.dwg By: hills



INSIDE ELEVATION OF RAILING

RAILING HEIGHT TABLE		
NOMINAL HEIGHT	Ⓐ	Ⓑ
6'–0"	5'–2"	3'–10"



SECTION B–B

(6'–0" TALL OPTION SHOWN)

GENERAL NOTES

CONTINUOUSLY GROUND ALL METAL RAILINGS; SEE THE SPECIAL PROVISIONS.

~~PAYMENT LENGTH SHALL BE MEASURED AS THE OUT TO OTUT LENGTH ALONG THE CENTERLINE OF THE RAILING BETWEEN THE OUTSIDE ENDS, WITH DEDUCTIONS FOR THE LENGTH OF CONCRETE POSTS, IF PRESENT.~~

USE A500, GRADE B STRUCTURAL STEEL TUBING (HSS) IN THE RAIL CONFORMING TO SPEC. 3361. FINIAL CAPS SHALL BE SPEC. 3322. ALL OTHER STEEL SHALL CONFORM TO SPEC. 3306.

GALVANIZE BOLTS, NUTS, WASHERS AND ANCHORS PER SPEC. 3392. GALVANIZE ALL OTHER STRUCTURAL STEEL PER SPEC. 3394, AFTER FABRICATION.

COAT THE GALVANIZED RAILING, BASE PLATES, AND PROTRUDING PORTIONS OF BOLTS, NUTS, ANCHORS, AND WASHERS.

INSTALL RAIL POSTS AND SPINDLES PLUMB.

CURVE HORIZONTAL RAILS WHERE APPLICABLE AND PLACE RAILS PARALLEL TO THE EDGE OF SIDEWALK PROFILE.

SEE SPECIAL PROVISIONS FOR REQUIREMENTS NOT INCLUDED ON THIS SHEET.

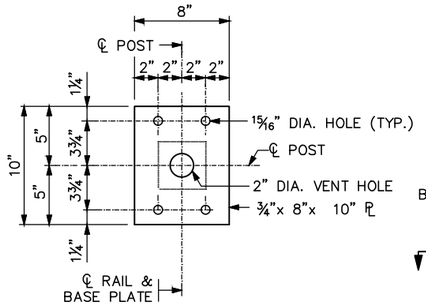
DRILL ½" DIA. MAX. VENT HOLES ON THE UNDERSIDE OF RAIL TUBES AS NECESSARY TO FACILITATE GALVANIZING.

(1) DRILL VENT HOLE IN THE RAIL POST WITHIN 2" OF THE UNDERSIDE OF THE CAP, ON THE NON–TRAFFIC SIDE OF THE POST AS NECESSARY TO FACILITATE GALVANIZING. MAXIMUM HOLE SIZE IS ½" DIA.

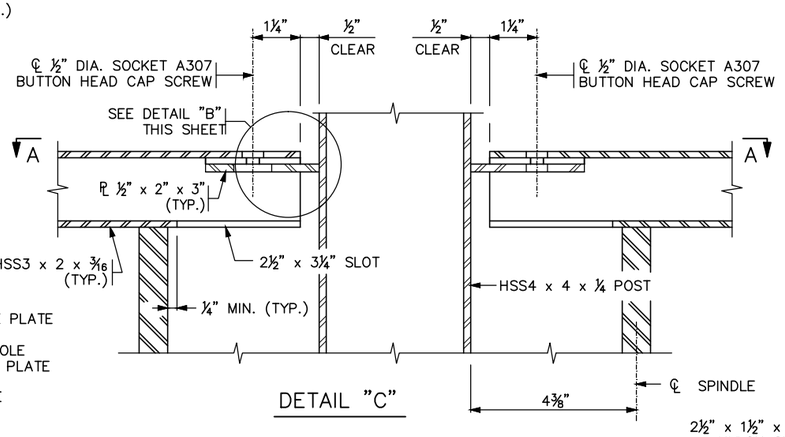
(2) SEE STANDARD FIGURE 5–397.167 FOR CONTROL JOINT SPACING AND DETAILS.

(3) PROVIDE A PYRAMID TOP STYLE STEEL CAP WELDED TO TOP OF POST WITH A SURFACE FINISH OF 1000 MICRO–INCH, OR SMOOTHER, PRIOR TO GALVANIZING.

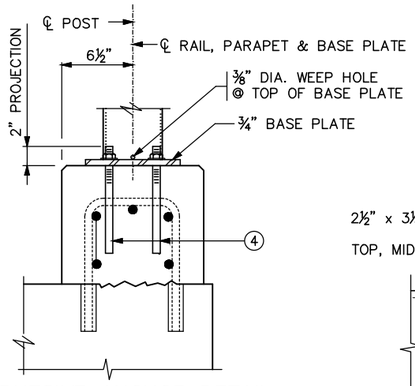
(4) ADHESIVE ANCHORAGE WITH ⅝" DIA. ANCHOR ROD PER SPEC. 3385, TYPE A WITH HEX NUT AND WASHER. PROVIDE AN ADHESIVE WITH A MINIMUM CHARACTERISTIC BOND STRENGTH IN UNCRACKED CONCRETE OF 1.5 KSI. EMBED THE ANCHORAGE NO LESS THAN 8" REGARDLESS OF CHARACTERISTIC BOND STRENGTH. DRILL THROUGH REINFORCEMENT (IF ENCOUNTERED) TO ACHIEVE MINIMUM EMBEDMENT. ENSURE HEX NUT IS IN CONTACT WITH THE ADJACENT SURFACE AND TORQUE TO 60 FT–LBS UNLESS A HIGHER TORQUE IS RECOMMENDED BY THE MANUFACTURER. PROOF LOAD TO 9.6 KIPS. SEE SPECIAL PROVISIONS FOR ADDITIONAL REQUIREMENTS.



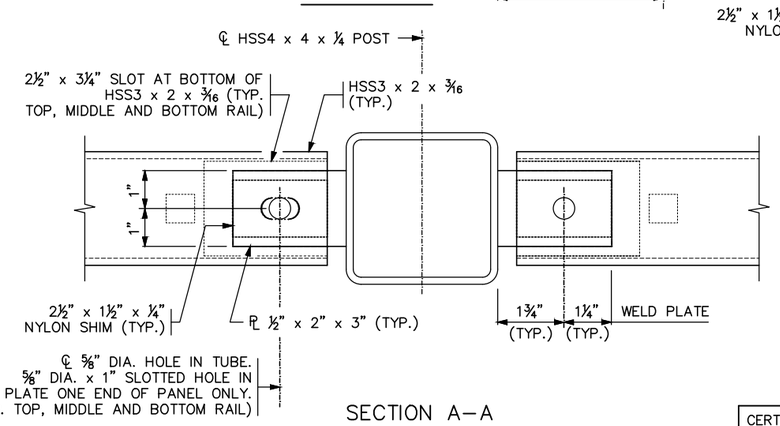
BASE PLATE



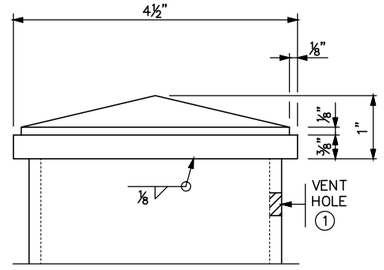
DETAIL "C"



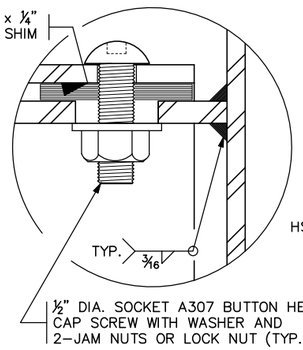
ADHESIVE ANCHOR DETAIL



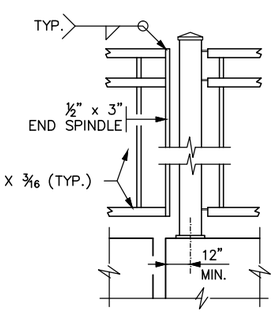
SECTION A–A



RAILPOST CAP DETAIL (3)



DETAIL "B"



DETAIL "A"

MODIFICATIONS:
ADHESIVE ANCHOR DETAIL

FIG. 5–397.163 (MOD.)

REVISION: 11–20–2014

APPROVED: NOVEMBER 6, 2013

Nancy Daubenberger
STATE BRIDGE ENGINEER

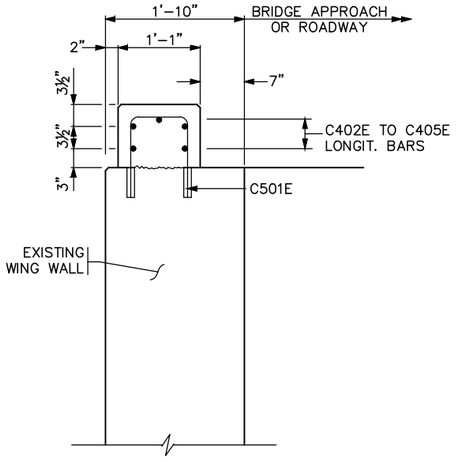
CERTIFIED BY _____ LICENSED PROFESSIONAL ENGINEER _____ DATE

NAME: LIC. NO.

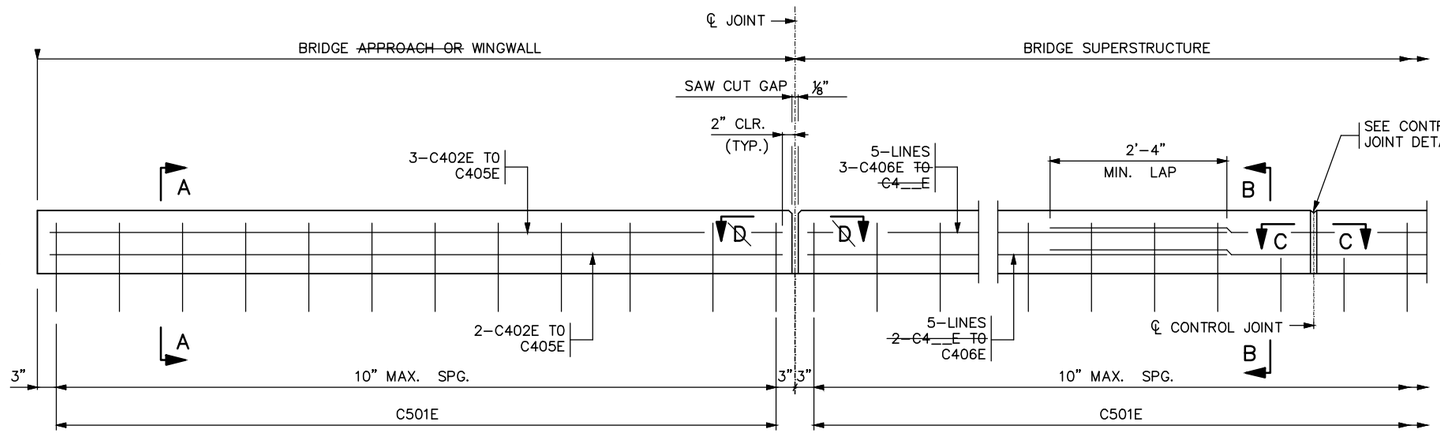
TITLE: ORNAMENTAL METAL RAILING (DESIGN T–4 CURB MOUNT)

DES: MJC	DR: BAC	APPROVED: MODIFIED	BRIDGE NO. 27762
CHK: DDL	CHK: DDL		
SHEET NO. 76 OF 81 SHEETS			

Jan. 15 2016 01:43 pm V:\3400_ADC\CAD\LRCI\LRCI-026\PLAN SHEETS\STRUCTURES\W1-STU-BRG-LRCI-026-FIG01.dwg By: hills



SECTION A–A



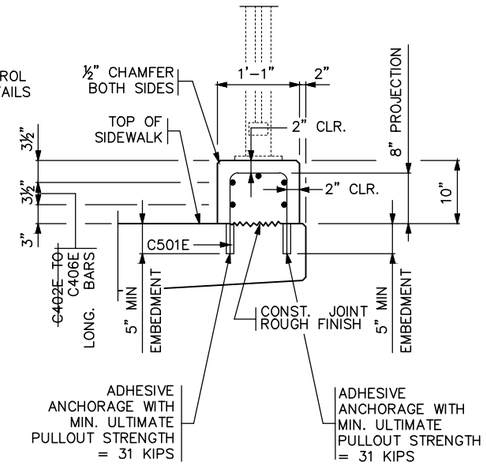
JOINT AT ABUTMENT

INTEGRAL OR SEMI–INTEGRAL ABUTMENT SEE DETAIL "A" FOR PARAPET ABUTMENT

CONTROL JOINT

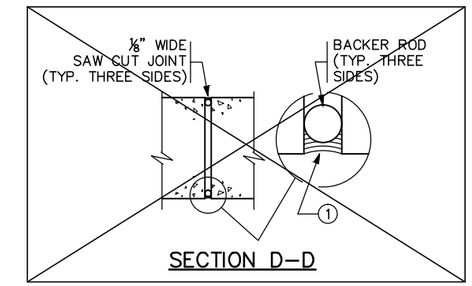
INSIDE ELEVATION OF CONCRETE CURB

CURB DOES NOT MEET CRASH TEST REQUIREMENTS OF NCHRP REPORT 350

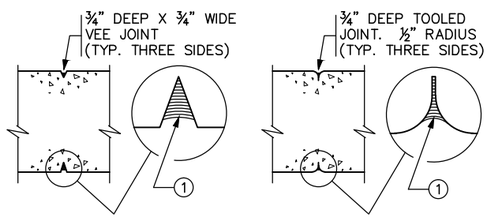


SECTION B–B

SUMMARY OF REINFORCEMENT FOR CURB				
BAR	NO.	LENGTH	SHAPE	LOCATION
C501E	623	2'–11"	⊏⊐	CURB BASE VERTICAL
C402E	5	47'–2"	——	CURB BASE LONGIT.
C403E	5	32'–2"	——	CURB BASE LONGIT.
C404E	5	40'–2"	——	CURB BASE LONGIT.
C405E	5	29'–2"	——	CURB BASE LONGIT.
C406E	50	38'–5"	——	CURB BASE LONGIT.



SECTION D–D

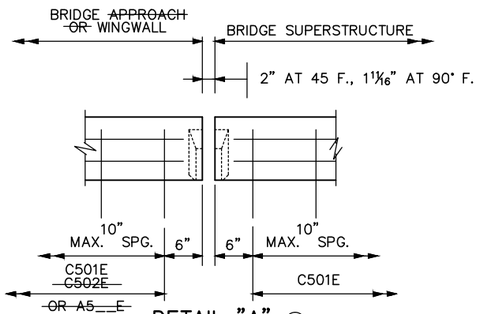


SECTION C–C
CONTRACTOR OPTION 1

SECTION C–C
CONTRACTOR OPTION 2

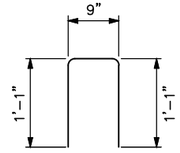
CONTROL JOINT DETAILS

WHEN USING SLIP FORM METHOD TO PLACE THE CONCRETE, CUT JOINT 3 INCHES DEEP USING MARGIN TROWEL OR SIMILAR MEANS IMMEDIATELY AFTER CONCRETE PLACEMENT (TYP. THREE SIDES)



DETAIL "A" ②

(USE ONLY WITH STRIP SEAL EXPANSION DEVICE) (EXPANSION DEVICE NOT SHOWN)



C501E

GENERAL NOTES

CONTINUOUSLY GROUND ALL METAL RAILINGS; SEE THE SPECIAL PROVISIONS. ~~REFER TO THE ELECTRICAL PLANS AND ELECTRICAL SPECIAL PROVISIONS FOR DETAILS REGARDING BONDING MULTIPLE ELECTRICAL GROUNDING SYSTEMS.~~

~~PAYMENT LENGTH SHALL BE MEASURED BETWEEN THE OUTSIDE FACES OF THE CONCRETE CURB.~~

CONCRETE CURB = 125 LBS./FT. (0.031 CU. YDS./FT.)

FINISH ALL EDGES OF CURB WITH ½" CHAMFER, EXCEPT WHERE OTHERWISE NOTED.

MAXIMUM SPACING OF CONTROL JOINTS ON SUPERSTRUCTURE, APPROACH AND WINGWALL SHALL BE 10 FT. SEE SUPERSTRUCTURE SHEET FOR JOINT SPACING.

CONCRETE CURB QUANTITIES ARE LISTED IN COMPONENT ITEM SUMMARY.

① JOINT SEALANT PER MnDOT APPROVED/QUALIFIED PRODUCTS LIST – CRACK AND JOINT MATERIALS – SILICONE JOINT SEALERS.

② REFER TO STANDARD FIGURE 5–397.632 FOR COVER PLATE DETAILS.

REVISION:

APPROVED: NOVEMBER 6, 2013
Nancy Daubenberger
STATE BRIDGE ENGINEER

MODIFICATIONS:
ADHESIVE ANCHORAGE
SECTION A–A AND B–B
DELETED SECTION D–D

CERTIFIED BY _____ LICENSED PROFESSIONAL ENGINEER _____ DATE
NAME: LIC. NO.

TITLE: CONCRETE CURB FOR USE WITH ORNAMENTAL RAILING

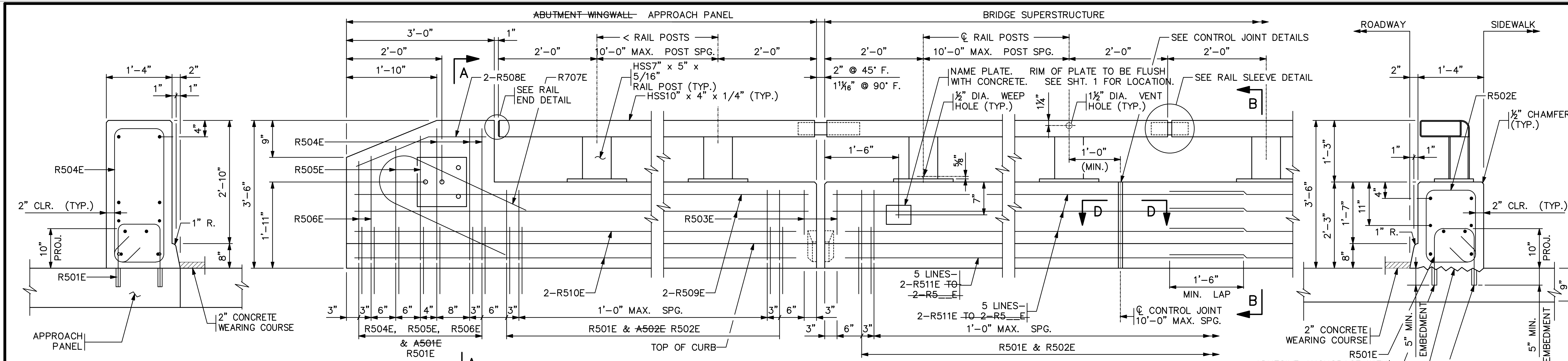
DES: MJC DR: BAC APPROVED:
CHK: DDL CHK: DDL

FIG. 5–397.167 (MOD.)

SHEET NO. 77 OF 81 SHEETS

BRIDGE NO. 27762

Jan. 15 2016 01:43 pm V:\3400_ADC\CAD\LRCI\LRCI-026\PLAN SHEETS\STRUCTURES\W1-STU-BRG-LRCI-026-FIG01.dwg By: hills



SECTION A-A

EXPANSION JOINT

DEVICE NOT SHOWN

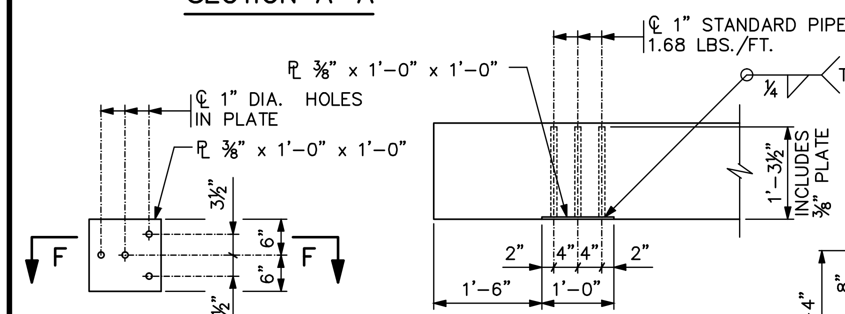
CONTROL JOINT

SECTION B-B

INSIDE ELEVATION OF RAILING

CONCRETE WEARING COURSE NOT SHOWN

~~RAIL MEETS TEST LEVEL 4 REQUIREMENTS OF NCHRP REPORT 350~~

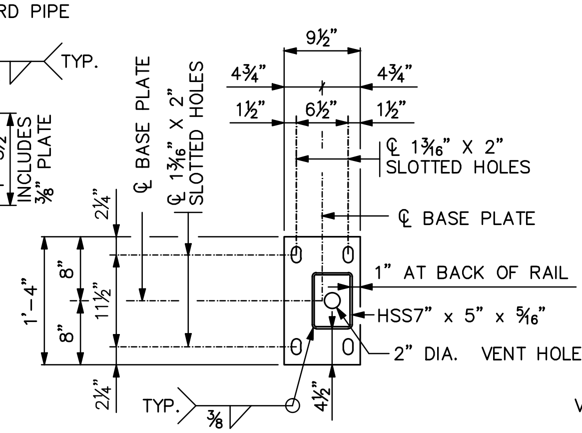


ELEVATION

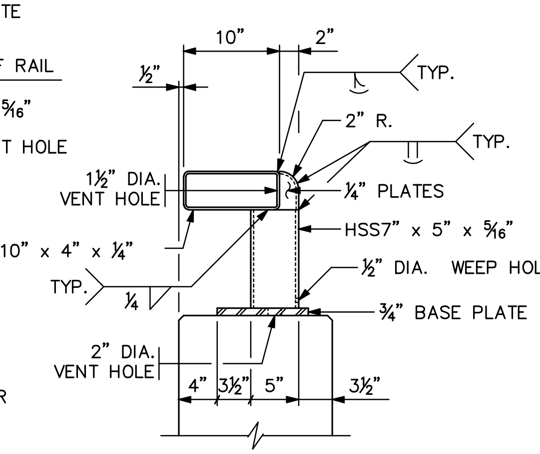
SECTION F-F

GUARDRAIL CONNECTION DETAIL

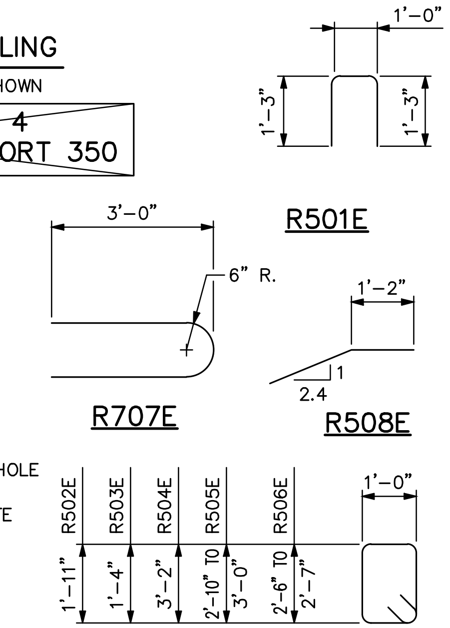
GALVANIZE AFTER FABRICATION PER Mn/DOT SPEC. 3394
ESTIMATED WEIGHT = 22 LBS.



BASE PLATE



STRUCTURAL TUBE RAIL DETAIL

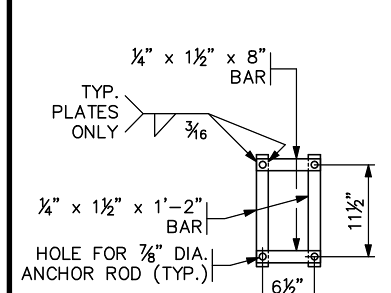


R501E

R707E

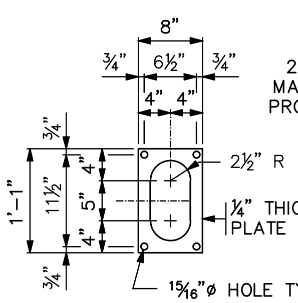
R508E

R502E, R503E, R504E, R505E & R506E



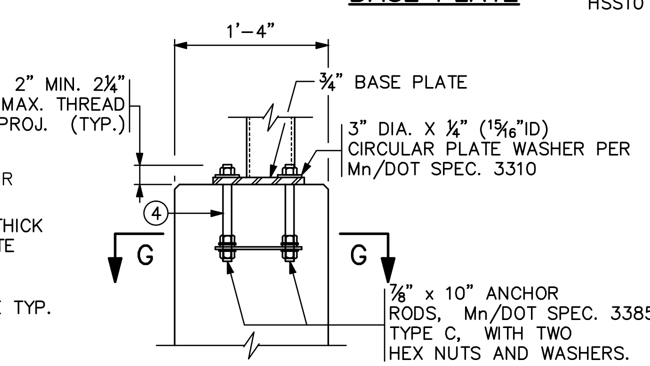
SECTION G-G

ANCHOR BAR ALTERNATE

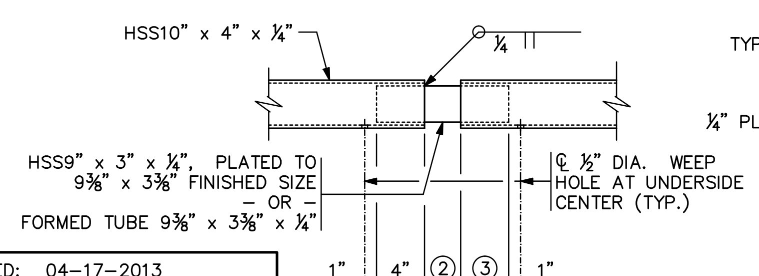


SECTION G-G

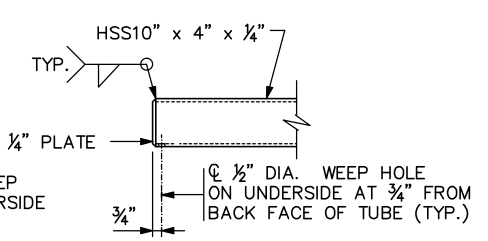
ANCHOR PLATE ALTERNATE



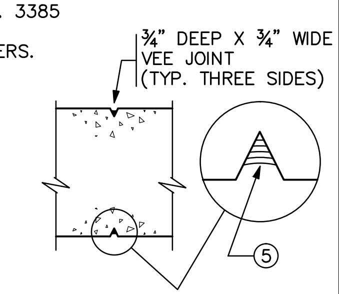
ANCHOR DETAIL



RAIL SLEEVE DETAIL



RAIL END DETAIL



SECTION D-D

CONTROL JOINT DETAILS

SUMMARY OF REINFORCEMENT FOR PARAPET

BAR	NO.	LENGTH	SHAPE	LOCATION
R501E	296	3'-6"	BENT	PARAPET VERTICAL
R502E	268	6'-9"	BENT	PARAPET VERTICAL
R503E	8	5'-7"	BENT	PARAPET VERTICAL
R504E	12	9'-3"	BENT	PARAPET VERTICAL
R505E	4 SER. OF 2	8'-7" TO 8'-11"	BENT	PARAPET VERTICAL
R506E	4 SER. OF 2	7'-11" TO 8'-1"	BENT	PARAPET VERTICAL
R707E	4	6'-7"	BENT	PARAPET END
R508E	8	2'-9"	BENT	PARAPET END LONGIT.
R509E	16	21'-2"	——	PARAPET LONGITUDINAL
R510E	16	20'-10"	——	PARAPET LONGITUDINAL
R511E	80	37'-10"	——	PARAPET LONGITUDINAL

GENERAL NOTES

FOR PAYMENT OF "TYPE P-2 (TL-4) BARRIER CONCRETE (3Y46 OR 3Y46A)" MEASURE LENGTH OF CONCRETE BARRIER BETWEEN END FACES. CONCRETE PARAPET = 463 LBS./FT.

~~FOR PAYMENT OF "STRUCTURAL TUBE RAILING DESIGN T-1" MEASURE LENGTH OF RAIL FROM END TO END OF TUBING. DO NOT DEDUCT FOR JOINTS.~~

FINISH ALL EDGES OF RAIL WITH ½" CHAMFER, EXCEPT WHERE OTHERWISE NOTED.

MAX. SPACING OF CONCRETE CONTROL JOINTS SHALL BE 10 FT.

PROVIDE CORRECT ALIGNMENT FOR ANCHORAGES BY PLACING THEM ACCURATELY AND NORMAL TO GRADE. SEE SPECIAL PROVISIONS.

PROVIDE STRUCTURAL STEEL AND PLATE WASHERS PER Mn/DOT SPEC. 3310. PROVIDE STRUCTURAL TUBES PER A.S.T.M. A500, GRADE B AS SPECIFIED IN Mn/DOT SPEC. 3361.

GALVANIZE BOLTS, NUTS, AND WASHERS PER Mn/DOT SPEC. 3392.

GALVANIZE ALL OTHER STRUCTURAL STEEL PER Mn/DOT SPEC. 3394, AFTER FABRICATION.

PROVIDE GUARDRAIL CONNECTION STRUCTURAL STEEL PER Mn/DOT SPEC. 3306.

GUARDRAIL CONNECTION AND NAME PLATE IS INCIDENTAL TO "TYPE P-2 (TL-4) BARRIER CONCRETE (3Y46 OR 3Y46A)".

~~PRICE BID FOR "STRUCTURAL TUBE RAILING DESIGN T-1" INCLUDES ANCHORAGES AND ALL MATERIAL ABOVE TOP OF CONCRETE BARRIER.~~

ALL MATERIAL IN THE CONCRETE BARRIER IS LISTED IN COMPONENT ITEM SUMMARY.

SEE SPECIAL PROVISIONS FOR PAINT REQUIREMENTS.

CONTINUOUSLY GROUND THE METAL RAILING AS DIRECTED IN THE SPECIAL PROVISIONS. ~~REFER TO THE ELECTRICAL PLANS AND ELECTRICAL SPECIAL PROVISIONS FOR DETAILS REGARDING BONDING MULTIPLE ELECTRICAL GROUNDING SYSTEMS.~~

(1) ~~MAKE THICKNESS THE SAME AS SLAB IN SECTION B-B.~~

(2) 1" AT RAILING JOINTS. AT EXPANSION JOINTS, MAKE 1" LARGER THAN GAP IN EXPANSION JOINTS.

(3) 5" AT RAILING JOINTS AND 8" AT EXPANSION JOINTS.

(4) SUBSTITUTION OF CHEMICAL ANCHOR RODS FOR CAST-IN-PLACE ANCHORAGE IS NOT PERMITTED.

(5) SEE SPECIAL PROVISIONS FOR JOINT SEALING REQUIREMENTS.

FIG. 5-397.157 (MOD.)

REVISED: 04-17-2013

APPROVED: MARCH 30, 2010

STATE BRIDGE ENGINEER

MODIFICATIONS:
ADHESIVE ANCHORAGE DETAIL
INCREASED HEIGHT TO 3'-6"
MODIFIED SECTION B-B, A-A

CERTIFIED BY ______ LICENSED PROFESSIONAL ENGINEER ______ DATE

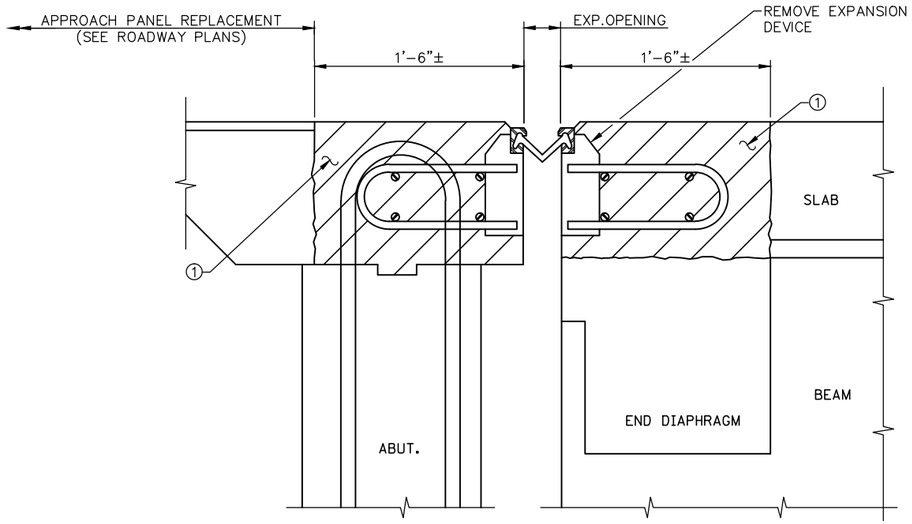
NAME: ______ LIC. NO.

STRUCTURAL TUBE RAILING (DESIGN T-1) AND CONCRETE PARAPET (TYPE P-2, TL-4) (WITH INTEGRAL END POST)

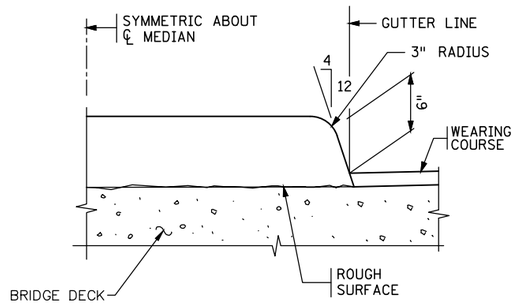
DES: MJC	DR: SWH
CHK: DDL	CHK: DDL

APPROVED:

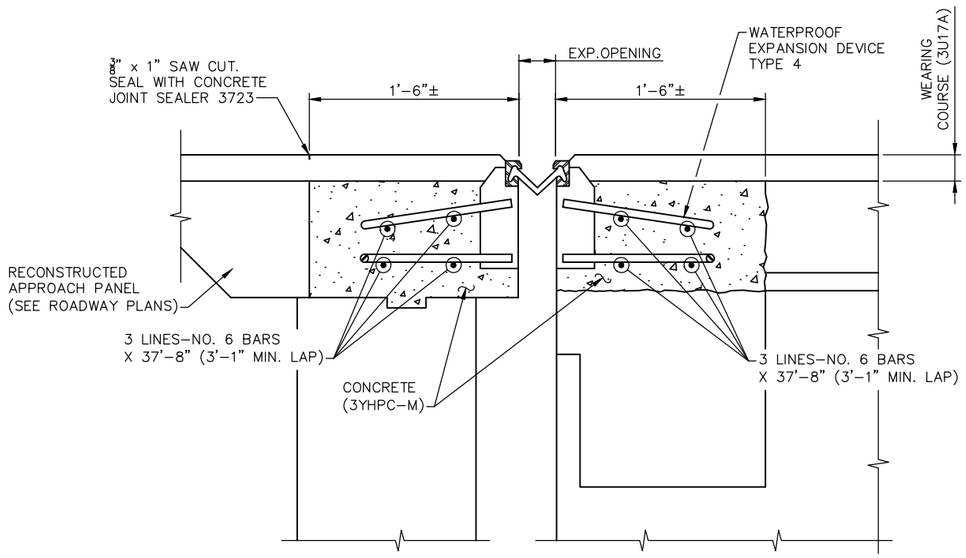
BRIDGE NO. 27762



INPLACE SECTION



MEDIAN DETAIL



RECONSTRUCTED SECTION

RECONSTRUCT EXPANSION JOINT TYPE A

NOTES

SEE FIG. 5-397.627 FOR ADDITIONAL DETAILS OF RECONSTRUCTED SECTION.

SEE SPECIAL PROVISIONS FOR ALL ADDITIONAL REQUIREMENTS

(1) IN PLACE SLAB AND ABUTMENT REINFORCEMENT TO REMAIN IN PLACE. CLEAN, STRAIGHTEN AND ADJUST AS REQUIRED.

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

DESIGNED BY: MJC | CHECKED BY: DDL
DRAWN BY: SWH | CHECKED BY: DDL

AECOM PARSONS BRINCKERHOFF

90% SUBMISSION - 1/22/2016

METROPOLITAN COUNCIL

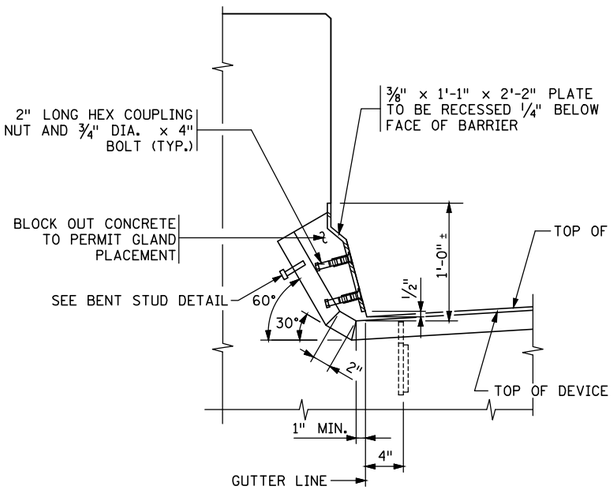
SOUTHWEST Green Line LRT Extension

CIVIL WEST (BA13)
CSAH 61 (FLYING CLOUD DRIVE)
BRIDGE 27762 MODIFICATIONS
EXPANSION DEVICE AND MEDIAN DETAILS

DISCIPLINE: STRUCTURES
SHEET NAME: W1-STU-BRG-LRCI-026-FIG EXP-JT

SHEET 79 OF 81

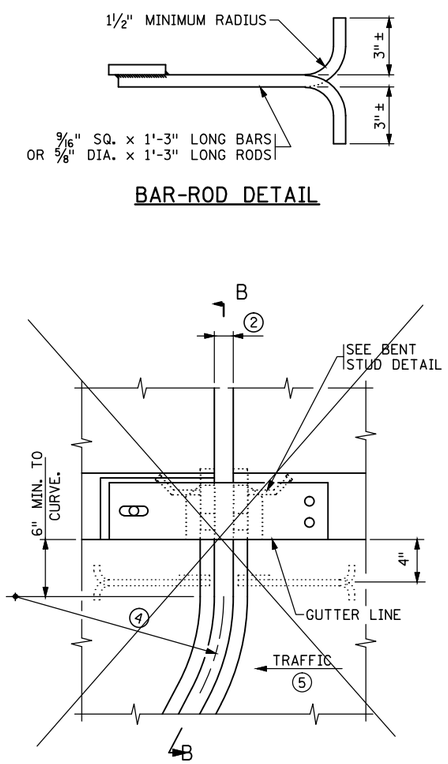
Jan, 15 2016 01:43 pm v:\3400_ADC\CAD\LRCI\LRCI-026\PLAN SHEETS\STRUCTURES\W1-STU-BRG-LRCI-026-FIG01.dwg By: hills



SECTION THROUGH BARRIER

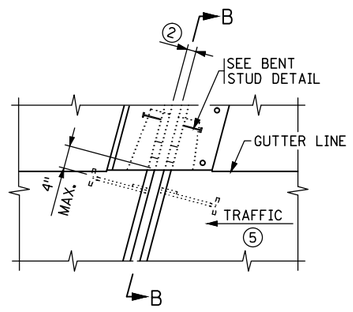
TYPE P-2 BARRIER

BAR-ROD DETAIL



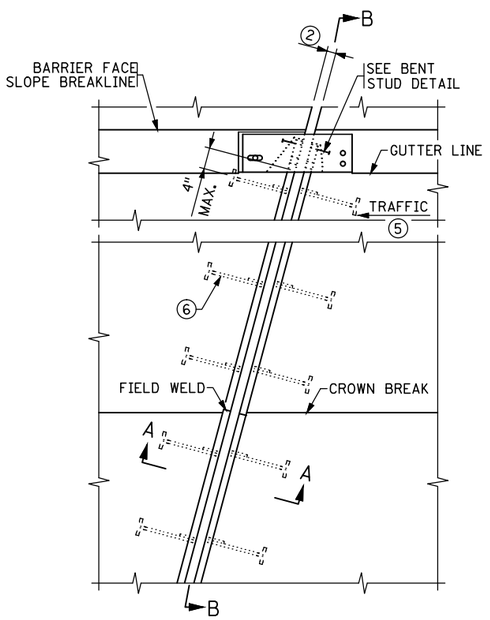
PLAN VIEW @ EXPANSION DEVICE

WITH CURVED DEVICE ALTERNATE



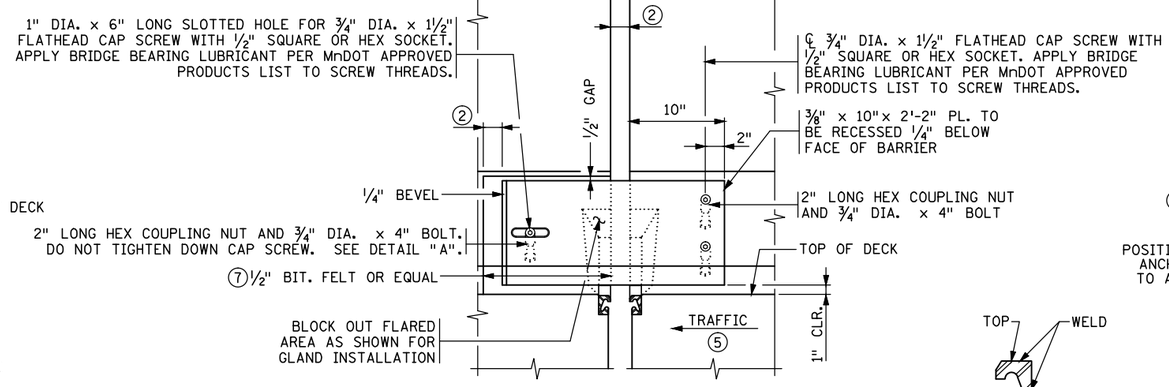
PLAN VIEW @ EXPANSION DEVICE

MEDIAN OR SIDEWALK ALTERNATE

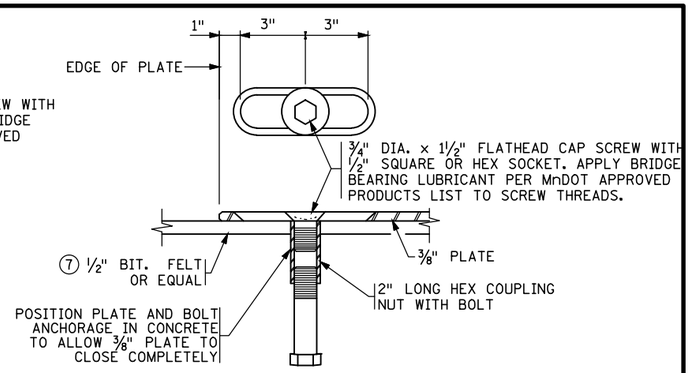


PLAN VIEW @ EXPANSION DEVICE

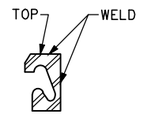
WITH STRAIGHT DEVICE



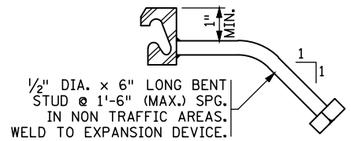
BARRIER ELEVATION



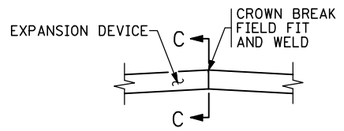
DETAIL "A"



SECTION C-C

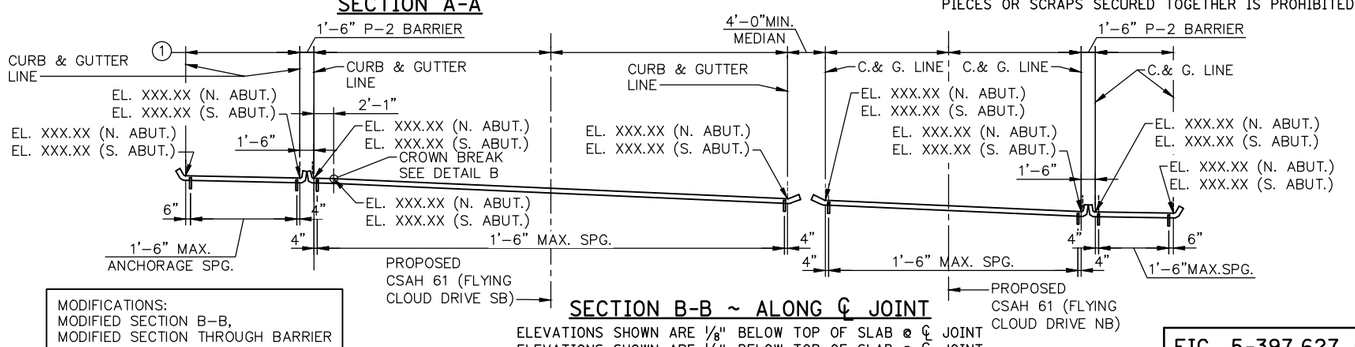


BENT STUD DETAIL



DETAIL "B"

SECTION A-A



SECTION B-B ~ ALONG ℄ JOINT

ELEVATIONS SHOWN ARE ⅛" BELOW TOP OF SLAB @ ℄ JOINT

~~ELEVATIONS SHOWN ARE ½" BELOW TOP OF SLAB @ ℄ JOINT~~

GENERAL NOTES

GALVANIZE STRUCTURAL STEEL AFTER FABRICATION AS PER SPEC. 3394. GALVANIZE FASTENERS AS PER SPEC. 3392.

JOINTS IN EXTRUSION SHALL BE LOCATED AT BREAKS IN TRANSVERSE PROFILE AND AS OTHERWISE REQUIRED. JOINTS SHALL BE CLOSE FIT AND WELDED. REPAIR AFTER WELDING AS PER SPEC. 2471.3L.

STRUCTURAL STEEL SHALL COMPLY WITH SPEC. 3306 OR SPEC. 3309.

EXPANSION DEVICE SHALL BE STRAIGHTENED TO A TOLERANCE OF ⅛" IN 10 FT.

¾" DIA. X 1½" FLATHEAD CAP SCREW WITH ½" SQUARE OR HEX SOCKET PER SPEC 3391. CAP SCREWS SHALL BE COUNTERSUNK ⅛" BELOW TOP OF PLATE.
APPLY BRIDGE BEARING LUBRICANT PER MnDOT APPROVED PRODUCTS LIST TO SCREW THREADS

~~LENGTH OF PAYMENT FOR DEVICE IS FROM OUTER END TO OUTER END OF EXTRUSION ALONG CENTERLINE OF JOINT. REFER TO THE SPECIAL PROVISIONS FOR MORE SPECIFIC PAYMENT INFORMATION.~~

① DIMENSIONS ARE ALONG CENTERLINE OF JOINT.

② 2" AT 45° F; 1 1⁄16" AT 90° F. ~~2" AT ALL TEMPS.~~

③ ⅛" (¼" MAX.) .
~~½" (⅝" MAX.) WHEN SNOWPLOW FINGERS ARE USED. SNOWPLOW FINGERS ARE REQUIRED FOR SKEWS OVER 15° AND LESS THAN 50°.~~

④ ~~SEE SUPERSTRUCTURE DETAILS FOR RADIUS.~~

⑤ SEE SHEET NO. 73 FOR DIRECTION OF TRAFFIC.

⑥ PLACE BAR-ROD NORMAL TO JOINT ON NEW BRIDGES AND JOINT REPLACEMENTS. ON JOINT REPLACEMENTS WHEN SKEW IS OVER 15° AND LESS THAN 50° BEND RODS PARALLEL TO ℄ ROADWAY.

⑦ USE THE LARGEST SINGLE PIECE POSSIBLE. USE OF SMALL PIECES OR SCRAPS SECURED TOGETHER IS PROHIBITED.

MODIFICATIONS:
MODIFIED SECTION B-B,
MODIFIED SECTION THROUGH BARRIER

REVISION: 09-11-2014

APPROVED: NOVEMBER 6, 1995

Donald J. Flemming
STATE BRIDGE ENGINEER

CERTIFIED BY _____ LICENSED PROFESSIONAL ENGINEER _____ DATE

NAME: _____ LIC. NO._____

TITLE: WATERPROOF EXPANSION DEVICE (WITH TYPE P-2 BARRIER)

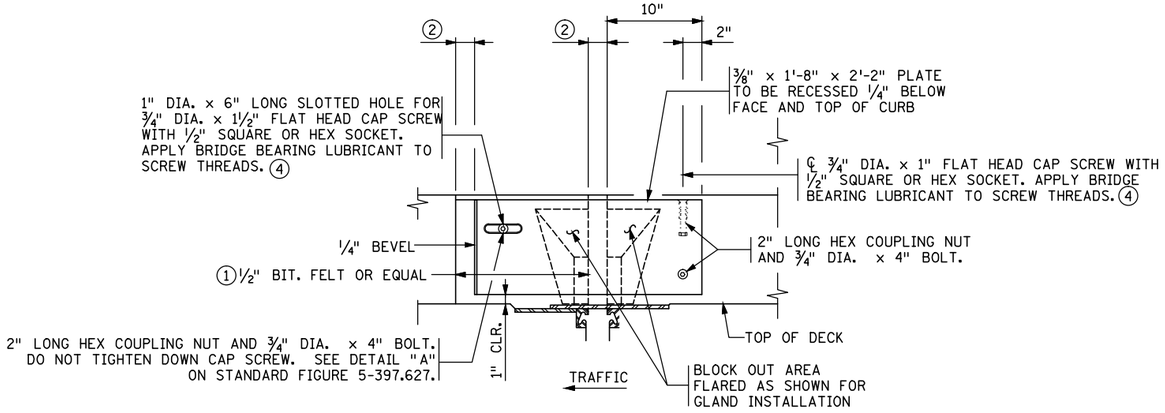
DES: MJC	DR: SWH	APPROVED:
CHK: DDL	CHK: DDL	

SHEET NO. 80 OF 81 SHEETS

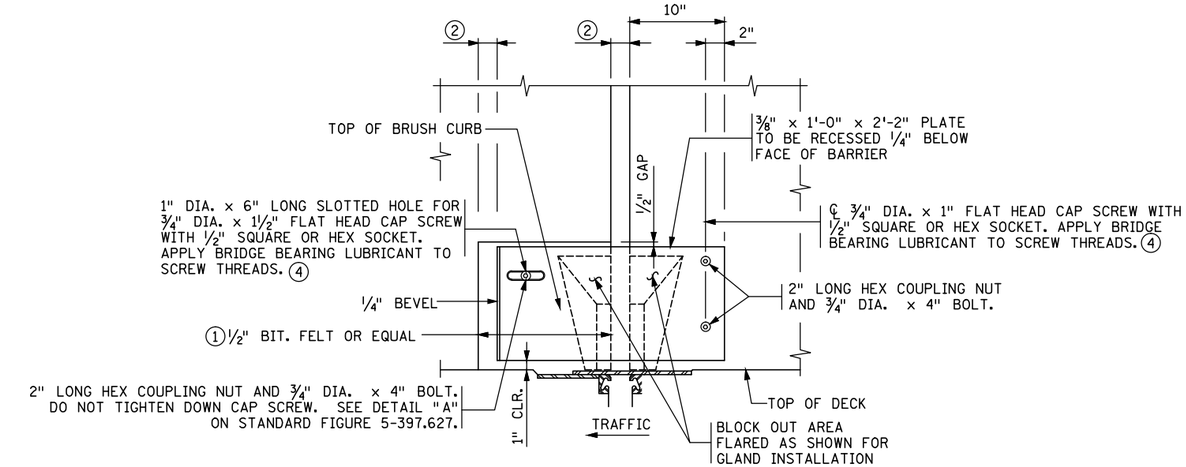
FIG. 5-397.627 (MOD.)

BRIDGE NO. 27762

Jan. 15 2016 01:56 pm V:\3400_ADC\CAD\LRCI\LRCI-026\PLAN SHEETS\STRUCTURES\W1-STU-BRG-LRCI-026-FIG01.dwg By: hills

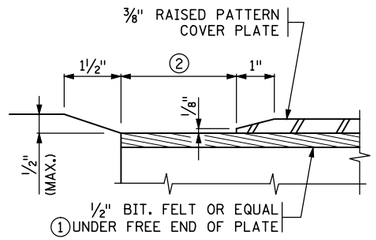


INSIDE ELEVATION OF CONCRETE CURB



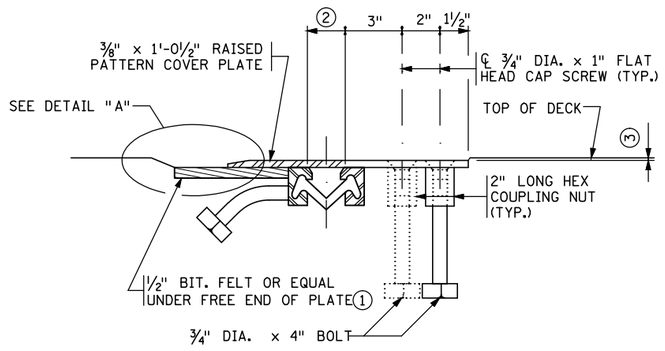
OUTSIDE ELEVATION OF P-2 BARRIER

(BACK OF TYPE P-2 BARRIER)

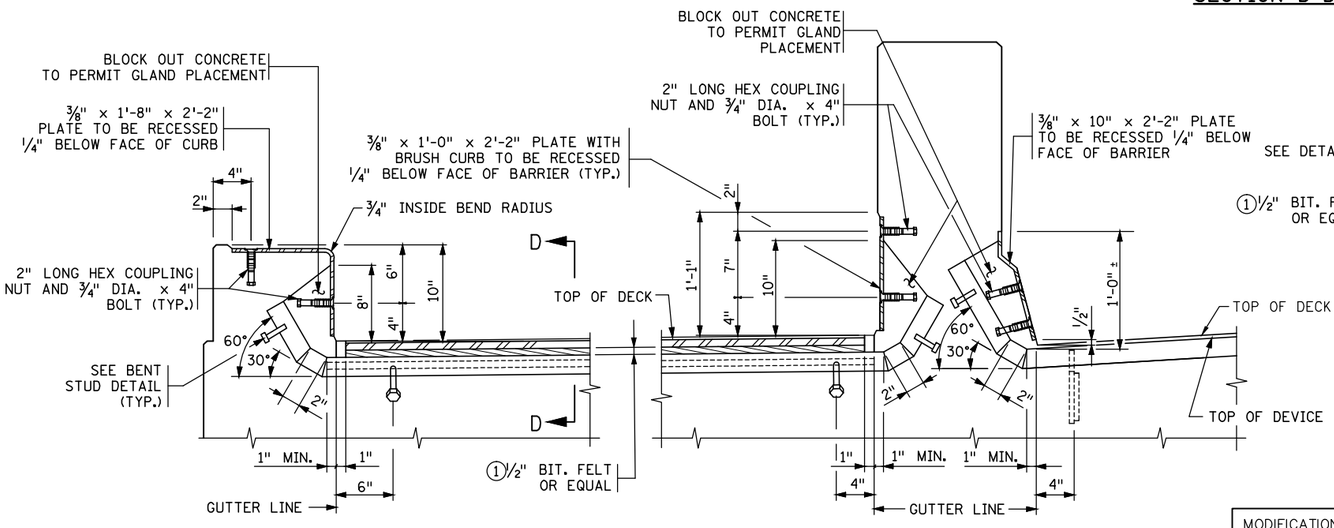


DETAIL "A"

NOTE:
TRANSVERSE DECK REINFORCEMENT MAY BE SHIFTED THE MINIMUM DISTANCE REQUIRED FOR EXPANSION DEVICE PLACEMENT

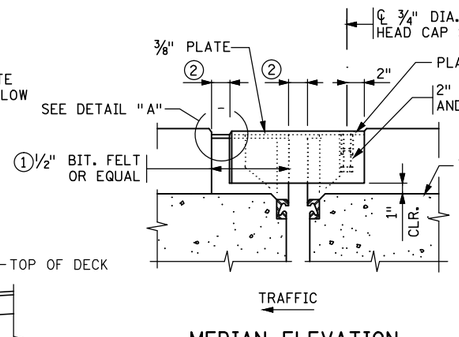


SECTION D-D

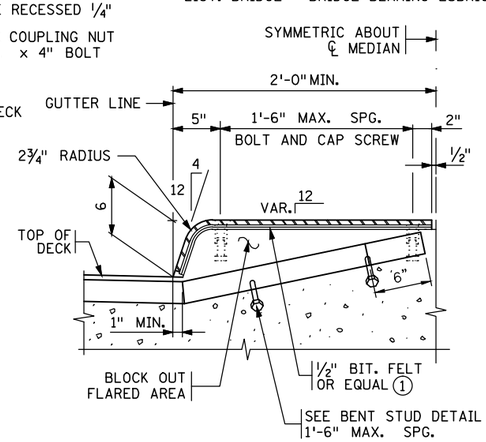


CONCRETE CURB

TYPE P-2 BARRIER



MEDIAN ELEVATION



MEDIAN SECTION

MODIFICATIONS:
MODIFIED TYPE P-2 BARRIER SECTION AND ELEVATION.

GENERAL NOTES

SEE STANDARD FIGURE 5-397.627 FOR ADDITIONAL DETAILS AND NOTES.

3/4" DIA. X 1" FLAT HEAD CAP SCREW WITH 1/2" SQUARE OR HEX SOCKET PER SPEC 3391. CAP SCREWS SHALL BE COUNTERSUNK 1/16" BELOW TOP OF PLATE. APPLY BRIDGE BEARING LUBRICANT TO SCREW THREADS. (4)

(1) USE LARGEST SINGLE PIECE POSSIBLE. USE OF SMALL PIECES OR SCRAPS SECURED TOGETHER IS PROHIBITED.

(2) SEE NOTE (2) ON STANDARD FIGURE 5-397.627.

(3) 1/8" (1/4" MAX.) .

(4) LUBRICANT PER MnDOT APPROVED/QUALIFIED PRODUCTS LIST: BRIDGE - BRIDGE BEARING LUBRICANT.

SECTION THROUGH BARRIER AND CURB - INTEGRAL SIDEWALK

REVISION:

APPROVED: NOVEMBER 6, 2013
Nancy Daubenberger
STATE BRIDGE ENGINEER

CERTIFIED BY _____ LICENSED PROFESSIONAL ENGINEER _____ DATE
NAME: _____ LIC. NO._____

TITLE: WATERPROOF EXPANSION DEVICE (RAISED MEDIAN OR INTEGRAL SIDEWALK WITH CURB)

DES:	MJC	DR:	SWH
CHK:	DDL	CHK:	DDL

APPROVED:

SHEET NO. 81 OF 81 SHEETS

BRIDGE NO. 27762

FIG. 5-397.632 (MOD.)

Jan. 15 2016 01:44 pm V:\3400_ADC\CAD\LRCI\LRCI-026\PLAN SHEETS\STRUCTURES\W1-STU-BRG-LRCI-026-FIG01.dwg By: hills