

PoDI / NHS	
FHWA PROJECT OF DIVISION INTEREST (PoDI)?	<input checked="" type="checkbox"/> NO <input type="checkbox"/> YES
NATIONAL HIGHWAY SYSTEM?	<input type="checkbox"/> NO <input checked="" type="checkbox"/> YES

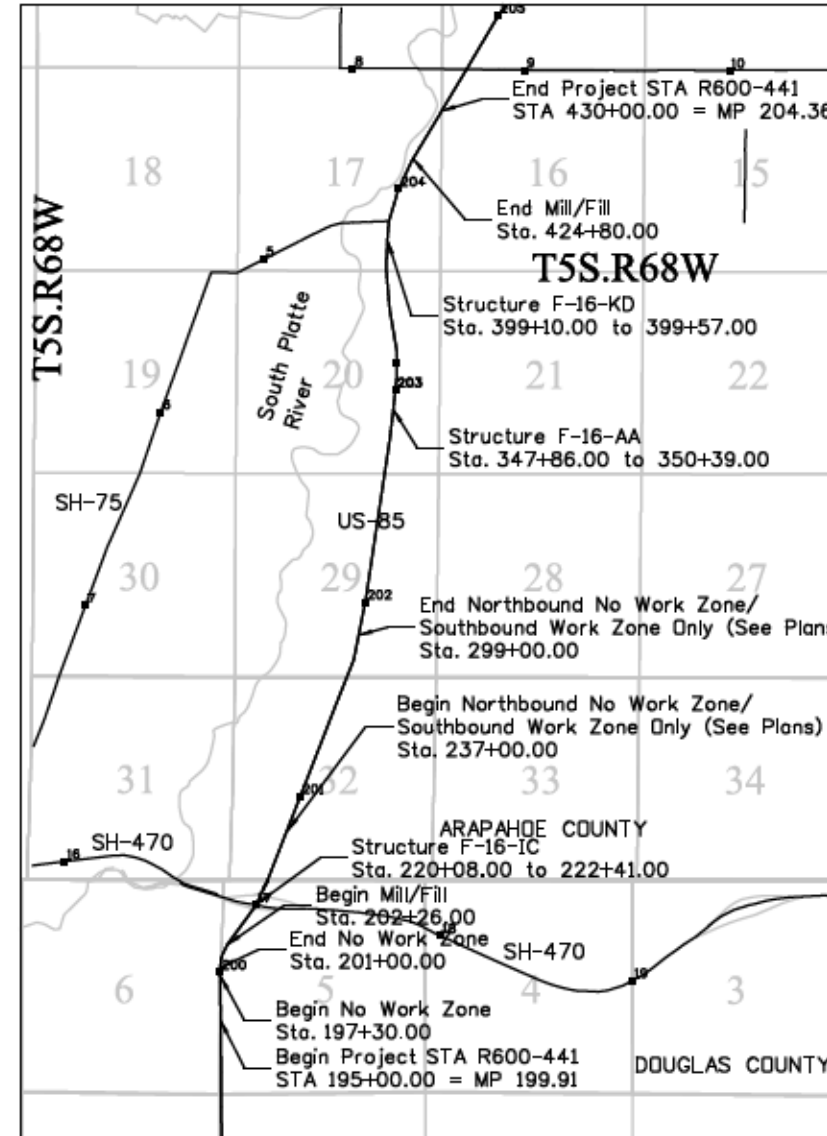
# DEPARTMENT OF TRANSPORTATION STATE OF COLORADO

Related Projects:	
P. E. UNDER PROJECT:	STA R600-441
Project Number	19706
Project Code:	
R.O.W. Projects:	
R.O.W. Project Description	

### TABULATION OF LENGTH & DESIGN DATA

STATION	LENGTH			
	ROADWAY		MAJOR STRUCTURE	
	Feet	Miles	Feet	Miles
Begin Project STA R600-441 Sta. 195+00.00 = MP 199.91				
Begin No Work Zone (at Railroad ROW) Sta. 197+30.00				
End No Work Zone (at Railroad ROW) Sta. 201+00.00				
Begin Mill/Fill Sta. 202+26.00	1,782.00	0.34		
Structure F-16-IC Sta. 220+08.00 to 222+41.00	1,459.00	0.28	233.00	0.04
Begin Northbound No Work Zone/ Southbound Work Zone Only (See Plans) Sta. 237+00.00	6,200.00	1.17		
End Northbound No Work Zone/ Southbound Work Zone Only (See Plans) Sta. 299+00.00	4,886.00	0.92		
Structure F-16-AA Sta. 347+86.00 to 350+39.00	4,871.00	0.92	253.00	0.05
Structure F-16-KD Sta. 399+10.00 to 399+57.00	2,523.00	0.48	47.00	0.01
End Mill/Fill Sta. 424+80.00				
End Project STA R600-441 Sta. 430+00.00 = M.P. 204.36				
<b>TOTAL</b>	<b>21,721.00</b>	<b>4.11</b>	<b>533.00</b>	<b>0.10</b>
<b>SUMMARY OF PROJECT LENGTH</b>	<b>FEET</b>		<b>MILES</b>	
ROADWAY (NET LENGTH)	21,721.00		4.11	
MAJOR STRUCTURE	533.00		0.10	
<b>PROJECT GROSS LENGTH</b>	<b>22,254.00</b>		<b>4.21</b>	
<b>DESIGN DATA</b>	US-85			
MINIMUM RADIUS OF CURVE	1,575 ft			
MINIMUM S.S.D. HORIZONTAL	>425 ft			
MINIMUM S.S.D. VERTICAL	>425 ft			
MAXIMUM DESIGN SPEED	45 MPH			
2034 DESIGN TRAFFIC	DHV = 5,990 ADT = 66,560			
DHV TRUCKS %	8.1 %			
CLEAR ZONE DISTANCE (TANGENT) (45 MPH)	20-22 ft			
CLEAR ZONE DISTANCE (1,575' RADIUS) (55 MPH)	24-26 ft			
CLEAR ZONE DISTANCE (CONSTRUCTION) (35 MPH)	14-16 ft			

## HIGHWAY CONSTRUCTION BID PLANS OF PROPOSED FEDERAL AID PROJECT NO. STA R600-441 UNITED STATES HIGHWAY NO. 85 DOUGLAS COUNTY/ARAPAHOE COUNTY CONSTRUCTION PROJECT CODE NO. 19706



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7	RAISED ISLAND DETAIL
8	GENERAL NOTES
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Unit Information	RYJ

Sheet Revisions		
Date:	Comments	Init.

Colorado Department of Transportation  
Arapahoe Residency  
7328 S. Revere Parkway, Suite 204A  
Centennial, CO 80112  
Phone: 303-365-7230 FAX: 303-790-1037  
Region 1 RYJ

As Constructed
No Revisions:
Revised: 9/8/16
Void:

Contract Information	
Contractor:	Martin Marietta Materials
Resident Engineer:	Roman Jauregui
Project Engineer:	Brian Kelly
PROJECT STARTED:	4/4/16 ACCEPTED: 9/8/16
Comments:	

Project No./Code	STA R600-441
	19706
Sheet Number	1

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PLAN NUMBER	NEW OR REVISED	M STANDARD TITLE	PAGE NUMBER	PLAN NUMBER	NEW OR REVISED	M STANDARD TITLE	PAGE NUMBER	PLAN NUMBER	NEW OR REVISED	S STANDARD TITLE	PAGE NUMBER
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COLORADO  
 DEPARTMENT OF TRANSPORTATION  
**M&S STANDARDS PLANS LIST**  
 July 04, 2012  
 Revised on August 13, 2015

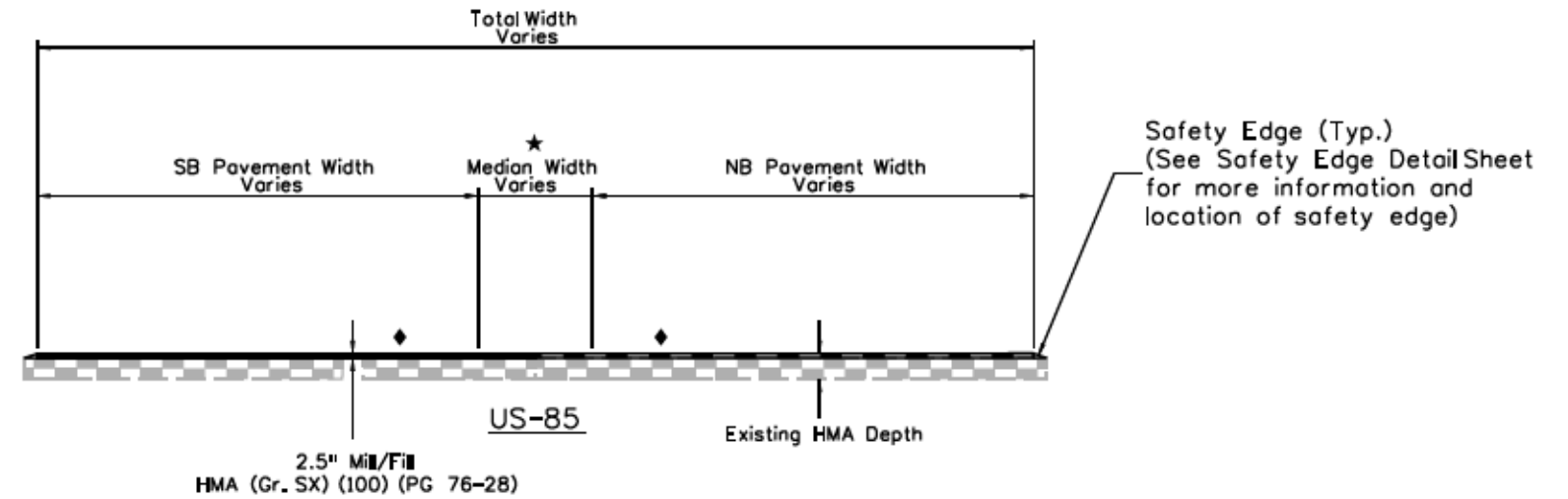
ALL OF THE M&S STANDARD PLANS, AS SUPPLEMENTED AND REVISED, APPLY TO THIS PROJECT WHEN USED BY DESIGNATED PAY ITEM OR SUBSIDIARY ITEM.

NEW OR REVISED STANDARD PLAN SHEETS APPLICABLE TO THIS PROJECT, INDICATED BY A MARKED BOX ■, WILL BE ATTACHED TO THE PLANS.

Print Date: 11/19/2015	Sheet Revisions			Colorado Department of Transportation		As Constructed		STANDARD PLANS LIST		Project No./Code	
File Name: 19706StandardsPlanList_Ad.dgn	Date:	Comments	Init.	 Arapahoe Residency 7328 S. Revere Parkway, Suite 204A Centennial, CO 80112 Phone: 303-365-7230 FAX: 303-790-1037		No Revisions: <b>9/8/16</b>		Designer: JJB Detailer: JJB Structure Numbers:		STA R600-441	
Unit Information: RYJ						Revised:	Sheet Subset: Std Plans			Subset Sheets: 1 of 1	
				Region 1		Void:				Sheet Number: 2	

◆ Match existing cross slope.

★ Median width is measured from SB yellow line (or SB inside white when auxiliary lane is present) to NB yellow line (or NB inside white when auxiliary lane is present).



STATION ■	SB PAVEMENT WIDTH	MEDIAN WIDTH	NB PAVEMENT WIDTH
205+95.01 to 207+26.00	24'-0"	16'-6"	32'-0"
207+26.01	50'-0"	16'-6"	34'-0"
209+67.00	45'-0"	16'-6"	36'-0"
210+10.00 to 211+87.00	52'-6"	16'-0"	36'-0"
213+52.00	43'-9"	21'-9"	36'-0"
217+33.00	36'-0"	35'-0"	37'-0"
217+33.01 to 218+18.00	24'-0"	35'-0"	37'-0"
218+18.01 to 220+07.00	24'-0"	35'-0"	24'-0"
220+07.01 to 222+42.00	Str. F-16-IC	Str. F-16-IC	Str. F-16-IC
222+42.01	24'-0"	35'-0"	24'-0"
223+97.00	24'-0"	33'-0"	24'-0"
223+97.01	39'-0"	33'-0"	24'-0"
225+24.00	41'-0"	32'-0"	24'-0"
227+00.01	41'-0"	23'-0"	40'-0"
229+53.00	34'-0"	16'-0"	40'-0"
229+53.01 to 230+21.00	34'-0"	16'-0"	24'-0"
230+21.01	34'-0"	16'-0"	29'-0"
231+50.00	39'-3"	15'-4"	29'-0"
231+50.01 to 231+79.00	39'-3"	15'-4"	24'-0"
231+79.01 to 236+35.00	39'-3"	15'-4"	47'-0"
236+35.01	32'-0"	16'-4"	47'-0"
237+00.00	29'-6"	16'-4"	47'-0"
237+00.01	29'-6"	12'-0"	No Work Zone
238+51.00	27'-0"	12'-0"	No Work Zone
241+28.00	28'-0"	No Work Zone	No Work Zone
245+67.00	39'-0"	No Work Zone	No Work Zone
247+10.00	41'-10"	No Work Zone	No Work Zone
254+50.00	35'-0"	No Work Zone	No Work Zone
254+50.01	No Work Zone	No Work Zone	No Work Zone
257+00.00	No Work Zone	No Work Zone	No Work Zone
257+00.01	35'-0"	No Work Zone	No Work Zone
264+65.00	36'-0"	No Work Zone	No Work Zone
275+00.00	39'-0"	No Work Zone	No Work Zone
277+89.00	42'-0"	No Work Zone	No Work Zone
277+89.01	22'-0"	No Work Zone	No Work Zone
280+45.00	24'-0"	No Work Zone	No Work Zone
280+45.01	38'-6"	No Work Zone	No Work Zone
287+36.00	43'-6"	No Work Zone	No Work Zone
288+95.00	41'-6"	No Work Zone	No Work Zone
299+00.00	40'-0"	No Work Zone	No Work Zone
299+00.01	40'-0"	16'-6"	36'-6"
303+55.00	42'-6"	16'-0"	35'-6"

STATION	SB PAVEMENT WIDTH	MEDIAN WIDTH	NB PAVEMENT WIDTH
335+30.01 to 335+80.00	38'-6"	19'-0"	30'-0"
344+62.01 to 345+97.00	37'-6"	18'-0"	30'-0"
365+28.00 to 365+41.00	29'-10"	18'-0"	34'-0"
372+91.01	32'-4"	19'-0"	41'-6"
373+96.00	42'-0"	19'-0"	41'-6"
378+22.01 to 378+53.00	37'-6"	18'-0"	37'-3"
379+46.00	36'-0"	18'-0"	27'-0"
387+91.00	40'-8"	13'-0"	25'-0"
390+20.00	37'-3"	13'-0"	35'-0"
393+09.00	38'-6"	13'-0"	35'-0"
393+09.01	38'-6"	13'-0"	27'-0"
394+56.00	35'-0"	18'-0"	24'-0"
404+05.01	32'-0"	36'-9"	24'-0"
405+27.00	39'-0"	23'-3"	33'-3"

■ Gaps in stationing indicate a pavement width transition between the two stations. Stationing can transition between pages 3-5 of Typical Sections & Width Tabulation sheets.

See Bridge plans for structure details, milling widths, depths and quantities.

Print Date: 11/19/2015
File Name: 19706TypicalSections_Ad.dgn
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Unit Information      RYJ

Sheet Revisions		
Date:	Comments	Init.

Colorado Department of Transportation  
 Arapahoe Residency  
 7328 S. Revere Parkway, Suite 204A  
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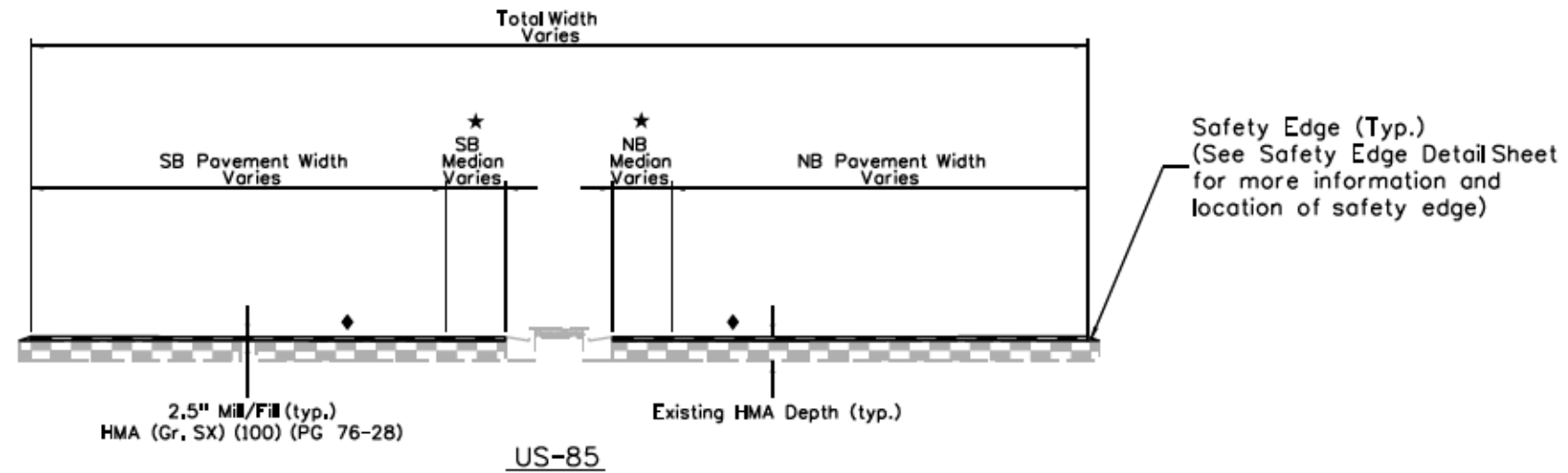
As Constructed
No Revisions: 9/8/16
Revised:
Void:

TYPICAL SECTIONS & WIDTH TABULATION			
US-85			
Designer:	JJB	Structure Numbers	
Detailer:	JJB		
Sheet Subset:	Typicals	Subset Sheets:	1 of 3

Project No./Code	
STM R600-441	
19706	
Sheet Number	3

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- ◆ Match existing cross slope.
- ★ Median width is measured from inside yellow line (or white line when auxiliary lane is present) to edge of gutter pan.



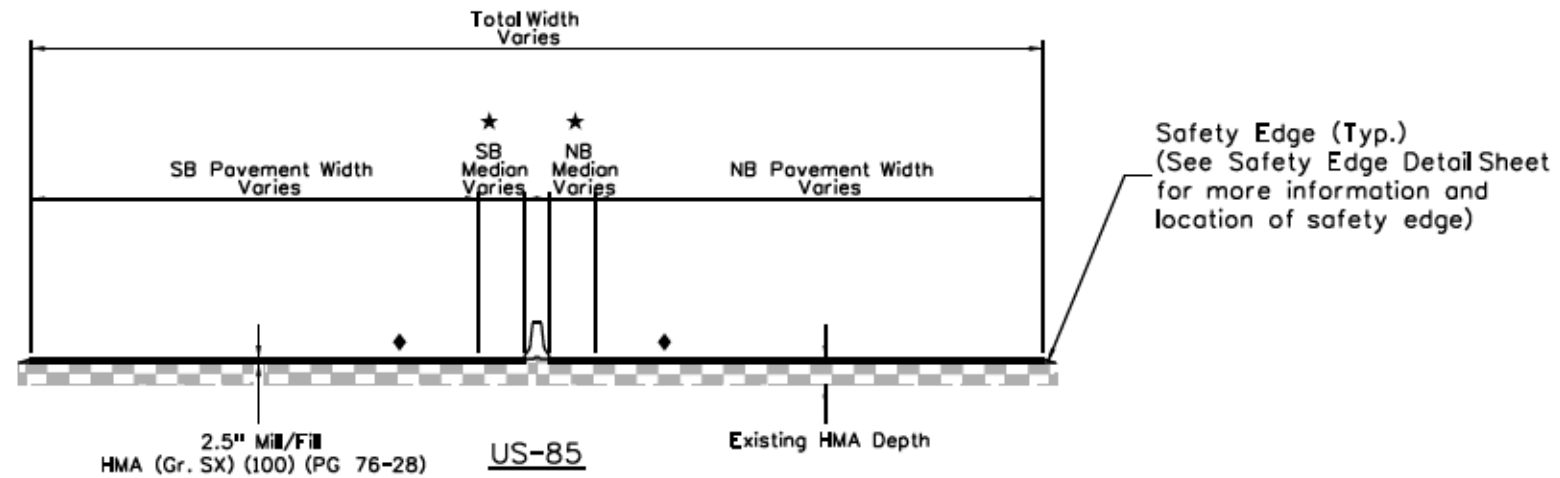
STATION ■	SB PAVEMENT WIDTH	SB MEDIAN WIDTH	NB MEDIAN WIDTH	NB PAVEMENT WIDTH
202+26.00	45'-0"	-----	8'-6"	32'-0"
202+60.00 to 205+60.00	45'-0"	-----	11'-0"	32'-0"
205+60.01 to 205+95.00	24'-0"	-----	11'-0"	32'-0"
335+80.01	38'-6"	-----	5'-4"	30'-0"
336+57.00 to 340+22.00	38'-6"	-----	-----	30'-0"
341+08.00	40'-0"	-----	11'-0"	30'-0"
344+62.00	37'-6"	-----	11'-0"	30'-0"
365+41.01	29'-10"	-----	-----	34'-0"
366+20.00	28'-0"	-----	5'-0"	32'-0"
367+36.00 to 371+59.00	28'-0"	-----	11'-0"	32'-0"
371+70.00	28'-0"	-----	11'-0"	41'-6"
372+91.00	32'-4"	-----	11'-0"	41'-6"
373+96.01 to 375+42.00	42'-0"	13'-6"	-----	41'-6"
377+21.00	37'-6"	-----	12'-6"	38'-9"
378+22.00	37'-6"	-----	12'-6"	37'-3"

STATION	SB PAVEMENT WIDTH	SB MEDIAN WIDTH	NB MEDIAN WIDTH	NB PAVEMENT WIDTH
394+56.01 to 395+00.00	35'-0"	11'-0"	-----	24'-0"
395+00.01 to 397+82.00	35'-0"	11'-0"	-----	35'-0"
398+77.00 to 399+10.00	35'-0"	-----	11'-0"	35'-0"
399+10.01 to 399+91.00	Str. F-16-KD	Str. F-16-KD	Str. F-16-KD	Str. F-16-KD
399+91.01 to 400+41.00	35'-0"	-----	11'-0"	35'-0"
400+75.00	36'-0"	-----	18'-3"	35'-0"
401+18.00	37'-3"	-----	20'-0"	35'-0"
401+96.00	42'-9"	-----	23'-6"	38'-0"
403+44.00	42'-9"	-----	28'-4"	35'-0"
403+44.01 to 403+79.00	32'-0"	-----	28'-4"	35'-0"
403+79.01 to 404+05.00	32'-0"	-----	28'-4"	24'-0"
405+27.01	39'-0"	11'-0"	3'-4"	33'-3"
405+70.00 to 406+28.00	47'-3"	11'-0"	12'-6"	25'-8"
406+28.01	47'-3"	11'-0"	12'-6"	36'-0"
407+85.00	47'-3"	11'-0"	-----	43'-6"
408+79.00	47'-3"	-----	-----	41'-9"
410+20.00	47'-3"	-----	-----	36'-0"
414+61.00	47'-3"	-----	-----	36'-0"
416+29.00 to 424+80.00	36'-0"	-----	-----	36'-0"

■ Gaps in stationing indicate a pavement width transition between the two stations. Stationing can transition between pages 3-5 of Typical Sections & Width Tabulation sheets.  
See Bridge plans for structure details, milling widths, depths and quantities.

Print Date: 11/19/2015	0000	Sheet Revisions			Colorado Department of Transportation Arapahoe Residency 7328 S. Revere Parkway, Suite 204A Centennial, CO 80112 Phone: 303-365-7230 FAX: 303-790-1037 Region 1	As Constructed	TYPICAL SECTIONS & WIDTH TABULATION		Project No./Code
File Name: 19706TypicalSections_Ad.dgn		Date:	Comments	Init.		No Revisions: 9/8/16	US-85		STM R600-441
Horiz. Scale: 1:15 Vert. Scale: As Noted						Revised:	Designer: JJB	Structure Numbers	19706
Unit Information RYJ						Void:	Detailer: JJB	Subset Sheets: 2 of 3	Sheet Number 4

- ◆ Match existing cross slope.
- ★ Median width is measured from inside yellow line (or white line when auxiliary lane is present) to barrier.



STATION ■	SB PAVEMENT WIDTH	SB MEDIAN WIDTH	NB MEDIAN WIDTH	NB PAVEMENT WIDTH
225+24.01	41'-0"	17'-3"	11'-0"	44'-0"
226+03.00	41'-0"	16'-0"	14'-6"	40'-0"
226+03.01 to 226+55.00	41'-0"	No Paving	No Paving	40'-0"
226+55.00	41'-0"	2'-0"	25'-0"	40'-0"
227+00.00	41'-0"	8'-0"	11'-0"	40'-0"
303+55.01 to 319+45.00	35'-0"	6'-6"	6'-6"	40'-3"
320+81.00 to 327+31.00	35'-0"	8'-6"	6'-6"	39'-0"
328+79.00 to 331+12.00	38'-6"	3'-6"	14'-0"	32'-0"
331+12.01 to 335+30.00	38'-6"	3'-6"	14'-0"	30'-0"
345+97.01	37'-6"	1'-6"	12'-0"	30'-0"
350+35.00	40'-6"	1'-6"	12'-0"	30'-0"
350+35.01 to 350+59.00	Str. F-16-AA	Str. F-16-AA	Str. F-16-AA	Str. F-16-AA
350+59.01 to 355+17.00	40'-6"	1'-6"	12'-0"	34'-0"
357+00.00 to 359+34.00	40'-6"	6'-6"	6'-6"	34'-0"
359+34.01 to 359+83.00	24'-6"	6'-6"	6'-6"	34'-0"
359+83.01	39'-8"	6'-6"	6'-6"	34'-0"
363+49.00	39'-8"	6'-6"	8'-6"	34'-0"
363+49.01 to 365+28.00	29'-10"	6'-6"	8'-6"	34'-0"

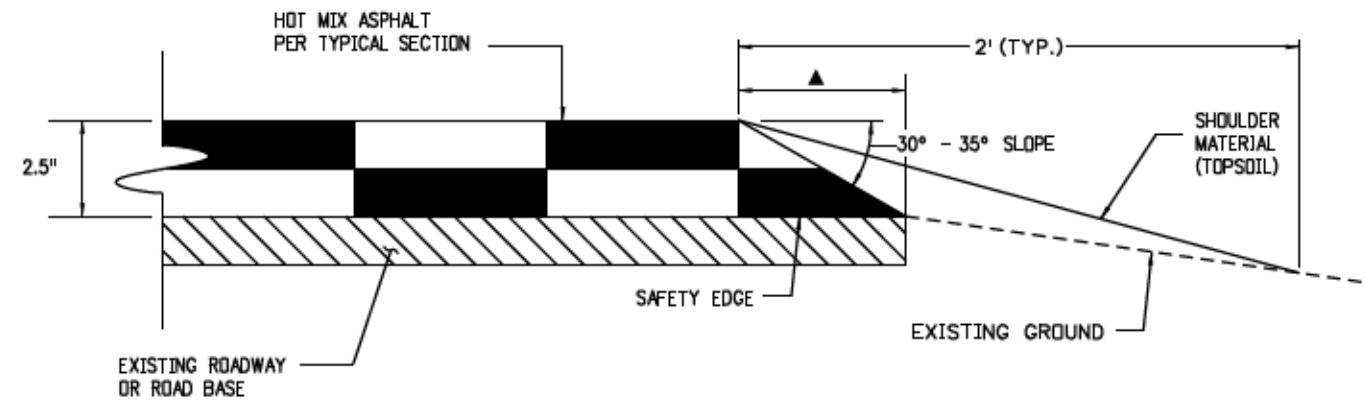
■ Gaps in stationing indicate a pavement width transition between the two stations. Stationing can transition between pages 3-5 of Typical Sections & Width Tabulation sheets.

See Bridge plans for structure details, milling widths, depths and quantities.

Print Date: 11/19/2015		<b>Colorado Department of Transportation</b> Arapahoe Residency 7328 S. Revere Parkway, Suite 204A Centennial, CO 80112 Phone: 303-365-7230 FAX: 303-790-1037 <b>Region 1</b>	As Constructed	<b>TYPICAL SECTIONS &amp; WIDTH TABULATION</b> <b>US-85</b>		Project No./Code
File Name: 19706TypicalSections_Ad.dgn			No Revisions: 9/8/16			STM R600-441
Horiz. Scale: 1:15 Vert. Scale: As Noted			Revised:	Designer: JJB	Structure Numbers	19706
Unit Information RYJ			Void:	Detailer: JJB	Sheet Subset: Typicals	Subset Sheets: 3 of 3

**GENERAL NOTES**

1. THE SAFETY EDGE SHALL BE CONSTRUCTED AS PART OF THE ROADWAY PAVEMENT. A SHOULDER WEDGE DEVICE WILL BE ADDED TO THE SCREED OF THE PAVING MACHINE.
2. THE CONTRACTOR MAY USE A SHOULDER WEDGE MAKER OR A SIMILAR DEVICE THAT PRODUCES THE SAME COMPACTION RESULTS.
3. SHORT SECTIONS OF HANDWORK WILL BE ALLOWED WHEN NECESSARY FOR TRANSITIONS AND TURNOUTS.
4. SITE PREPARATION AND ADDITIONAL EARTHWORK REQUIRED TO CONSTRUCT THE SAFETY EDGE WILL NOT PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE WORK.
4. SAFETY EDGE SHALL NOT BE PLACED IN FRONT OF GUARDRAIL OR AT INTERSECTIONS.



**SAFETY EDGE DETAIL FOR HOT MIX ASPHALT PAVEMENT  
LESS THAN OR EQUAL TO 5 INCHES**

**LEGEND**

- ▲ - SAFETY EDGE WITH A 30°-35° SLOPE AND SHOULDER MATERIAL (SEE SAFETY EDGE DETAILS).
- ▽ - TOTAL THICKNESS OF THE PAVEMENT STRUCTURE FROM TOP OF PAVEMENT TO TOP OF SUBGRADE.
- ▨ - BASE COURSE
- ▧ - EXISTING ROADWAY OR SUBBASE
- ⚡ - SUBGRADE Z SLOPE 50:1 OR STEEPER. (2%)
- ⊕ - MINIMUM 4" TOPSOIL OR SPECIFIED ALTERNATIVE.

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Print Date: 11/19/2015	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<b>Sheet Revisions</b>			<p>Colorado Department of Transportation                  Arapahoe Residency                  7328 S. Revere Parkway, Suite 204A                  Centennial, CO 80112                  Phone: 303-365-7230 FAX: 303-790-1037                  Region 1</p>	As Constructed		SAFETY EDGE DETAIL		Project No./Code	
File Name: 19706SafetyEdgeDetail_Ad.dgn		Date:	Comments	Init.		No Revisions: 9/8/16				STA R600-441	
Horiz. Scale: 1:1      Vert. Scale: As Noted						Revised:	Designer: JJB	Structure Numbers	19706		
Unit Information: RYJ						Void:	Detailer: JJB	Subset Sheets: 1 of 1	Sheet Number: 6		



**SECTION 200 ITEMS**

All landscaping within the project work area that is damaged and not specified for removal in the Plans shall be replaced at the Contractor's expense.

An estimated ~~10~~<sup>1</sup> hours of Blading (Item 203-01500) with a motor grader in the 100 - 150 Flywheel Horsepower range will be required, as directed by Engineer.

~~23.5~~<sup>23.5</sup>

An estimated ~~20~~ Hours of Potholing (Item 203-01597) with a hydro-excavator will be required on this project, as directed by the Engineer. The hydro-excavator will be required to expose buried utilities up to a depth of six (6) feet. Slurry generated by this work shall be immediately contained and subsequently removed from the project. The Contractor shall install a plastic pipe in the hole and record the utility depth on the plastic pipe for future reference. Slurry disposal and plastic pipe will not be paid for separately but shall be included in the cost of Potholing.

All material removed on the project, unless noted otherwise, shall become the property of the Contractor.

Pavement marking removals on permanent pavement shall be performed using non-scarring methods approved by the Engineer.

SWMP Information shown is based upon existing conditions. The Contractor is responsible for making their own determination as to the accuracy of BMP types and locations shown. The Contractor's ECS shall coordinate with the Superintendent and Engineer as to the appropriate phasing of BMPs and their locations and shall make the updates to the SWMP sheets as soon as the changes are known.

The contractor shall ensure that no materials, equipment, or vehicles are staged or parked near wetland or drainage areas. The contractor shall remove in a timely manner all sediment, mud, debris or other potential pollutants which may be discharged to, or accumulate in the waterways, flow lines and public right-of-ways as a result of construction activities associated with this project.

The Contractor shall limit construction activities to those areas within the limits of disturbance. Limits of disturbance shall be determined by the Engineer and the Contractor. Any disturbances beyond these limits shall be restored to the original condition by the Contractor at the Contractor's expense. Construction activities in addition to normal construction procedure shall include the parking of vehicles or equipment, disposal of litter, and any other action which would alter existing conditions. Any off road staging areas must be pre-approved by the Engineer.

Erosion/sediment control measures shall be implemented before construction operations begin. All erosion/sediment control BMPs shall be placed as needed according to the construction phasing and as approved by the Engineer.

BMP protections shall remain in place until all construction is complete. All erosion/sediment control and stormwater responsibilities stated in the Stormwater Management Plan and 2011 CDOT Standard Specifications for Road and Bridge construction subsections 101, 107, and 208 shall be followed or amended.

The Contractor or Contractor's ECS shall provide adequate erosion control features for each phasing plan and coordinate the placement of all erosion/sediment control features (BMPs) for each phasing plan. These BMPs shall be in place prior to the start of any construction activities in that phase and approved by the Engineer. The Contractor shall be responsible for maintaining all BMPs that have been installed.

The discharge of any water contaminated by waste products from cutting or sand blasting operations to the waters of the state, through inlets, storm drains, vegetative swales, rivers, streams, etc is prohibited. The Contractor shall protect all facilities adjacent to any location where pavement cutting operations involving wheel cutting, saw cutting, sand blasting or abrasive water jet cutting are to take place. The Contractor shall be responsible for the containment, removal and proper disposal of all water, saw residue or sand products generated by said cutting or sand blasting operations on a daily basis following M-208-1 temporary erosion control measures. Containment and disposal shall be included in the cost of the work.

A thorough inspection of the stormwater management system shall be performed every 14 days and after any precipitation or snowmelt event that may have caused erosion. Periodic inspections shall also include inspecting equipment for leaks and reviewing equipment maintenance practices. All inspections and maintenance shall be documented by the project Erosion Control Supervisor/ Contractor.

Stockpile areas shall be designated by the ECS and approved by the Engineer. BMP protection shall be placed at the toe of all stockpiles. BMP protection for stockpiles is included in the cost of the work.

The Contractor shall be responsible for maintaining the present condition of any existing buildings, landscaping, irrigation, water services, fencing, concrete barrier, guardrail, equipment, walks, drives, and attachments. If any damage occurs, the Contractor shall be responsible for restoring the damage to a better or new condition.

The Contractor shall maintain existing drainage at all times during construction. The Contractor shall protect all areas from washouts and soil erosion. Control of surface runoff and repair of damages resulting from runoff is solely the responsibility of the Contractor and shall be included in the cost of the work. Should any damage occur during construction, the Contractor will be held responsible for replacement at no cost to the project.

Weeds in joints in sidewalk, curb and gutter, pavement, etc. will be removed by the Contractor within the project limits.

~~All herbicide treatment shall be performed by a licensed herbicide applicator.~~

All equipment and vehicles shall stay on paved surfaces as much as possible except as noted in the plans.

~~An estimated quantity of 10 Modify Manhole (210-04015) may be required based on field conditions. The Contractor shall coordinate with the Engineer prior to commencement of modifying manholes.~~

Prior to removal of any pole/pad-mounted transformers, coordination with the appropriate utility owner is required. The utility company will be responsible for the handling and disposal of any transformers exhibiting PCBs presence, if any, in accordance with local, state and federal regulations.

**SECTION 400 ITEMS**

The following application rates were used to estimate plan quantities of pavement materials:

- Tack Coat Diluted Emul Asph (Slow-Setting) @ 0.10 Gals/Sq Yd (Diluted)
- Hot Mix Asphalt (Gr SX)(100)(PG 76-28) @ 110 Lbs/Sq Yd per Inch

Diluted Emulsified Asphalt for Tack Coat shall consist of 1 part Emulsified Asphalt and 1 part water.

- The following shall be furnished with each bituminous paver:
- A ski type device at least 30 feet in length.
  - Short ski or shoe.

The Contractor shall not leave the milled surface exposed for more than 4 days.

Existing asphalt and concrete pavement that is to remain shall be trimmed to a neat edge by full-depth sawing prior to removals, widening or extending. Sawing will not be measured and paid for separately, but shall be included in the cost of Removal of Asphalt Mat (Item 202-00220).

The pavement surface smoothness for HMA pavement shall be HRI Category I from Sta. 202+26.00 to Sta. 394+55.00. The pavement surface smoothness for HMA pavement shall be HRI Category IV from Sta. 394+55.00 to Sta. 424+80.00. Corrective work shall be performed full lane width by the Contractor and approved by CDOT before opening to traffic and before final striping begins, as directed by the Engineer.

**SECTION 600 ITEMS**

Pavement markings shall be full compliance at the end of each day's work.

The Contractor shall repair or replace existing signs damaged during construction at the Contractor's expense.

~~51~~<sup>51</sup>

It is estimated there will be ~~25~~ days of Traffic Control Inspection (630-00007) needed for this project.

~~63~~<sup>63</sup>

It is estimated that there will be ~~30~~ days of Traffic Control Management (630-00012) needed for this project.

~~1,337.5~~<sup>1,337.5</sup>

It is estimated that there will be ~~300~~ hours of Flagging (630-00000) needed for this project.

**MISCELLANEOUS**

The Contractor shall be responsible for protecting existing conduit that is to remain in service. Any conduit damaged by the Contractor shall be repaired at the Contractor's expense.

Utility lines shown on the Plans are plotted based on the best information available. The Contractor's attention is directed to paragraph 105.11 Cooperation with Utilities in the Standard Specifications. The Contractor shall coordinate and cooperate with utility owners in their removal, adjustment, and or relocation operations so that the utility work can be accomplished without impacting the construction schedule.

The Contractor shall comply with Article 1.5 of title 9, CRS ("Excavation Requirements") when excavating or grading is planned in the area of underground utility facilities. The Contractor shall notify all affected utilities at least two (2) business days, not including the actual day of notice, prior to commencing such operations. The Contractor shall contact the Utility Notification Center of Colorado (UNCC) at 811 to have locations of UNCC registered lines marked by member companies. All other underground facilities shall be located by contacting the respective owner. Utility service laterals shall also be located prior to beginning excavation or grading.

It is estimated that the following will be required on this Project:

625-00000	Construction Surveying	1 LS
625-00001	Construction Surveying (Hourly)	2 <del>40</del> Hours
626-00000	Mobilization	1 LS
620-00002	Field Office (Special)	1 Each
620-00012	Field Laboratory (Class 2)	1 Each
620-00020	Sanitary Facility	1 Each
626-01000	Public Information Services	1 LS
<b>Revision 1 - 626-01103</b>	<b>Public Info Services Tier 3</b>	<b>1 LS</b>

The Contractor shall maintain access to affected property owners and businesses at all times during construction.

The Class 2 Laboratory shall have a forced air oven.

If paleontological resources are uncovered during project construction, the CDOT Engineer and CDOT's Nicole Peavey should be notified immediately (at 303-757-9632 and [nicole.peavey@state.co.us](mailto:nicole.peavey@state.co.us)) and CDOT Standard Specification 107.23 Archaeological and Paleontological Discoveries followed.

The Contractor shall notify the Region ITS manager, Jill Scott (303-512-5805), 2 days before removing guardrail at Sta. 230+09.00.

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File Name: 19706GenNotes_Ad.dgn		Date:	Comments	Init.		No Revisions:				STA R600-441
Horiz. Scale: 1:1 Vert. Scale: As Noted						Revised: 9/8/16	Designer: JJB	Structure Numbers	19706	
Unit Information RYJ						Void:	Detailer: JJB	Sheet Subset: GenNotes	Subset Sheets: 1 of 1	Sheet Number 8

INDEX			CONTRACT ITEM NO.	CONTRACT ITEM	UNIT	ROADWAY		STR. F-16-1C		STR. F-16-AA		STR. F-16-KD		PROJECT TOTALS		
BOOK	PAGE	SHEET				PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	
			202-00190	Removal of Concrete Median Cover Material	SY	41									41	63
			202-00200	Removal of Sidewalk	SY	11									11	63
			202-00203	Removal of Curb and Gutter	LF	487									487	661
			202-00206	Removal of Concrete Curb Ramp	SY	172									172	178
			202-00220	Removal of Asphalt Mat	SY	333									333	291
			202-00240	Removal of Asphalt Mat (Planing)	SY	175,545			2,792			238		462	179,037	175,075
			202-00250	Removal of Pavement Marking	SF	1,000									1,000	2,793
			202-00810	Removal of Ground Sign	EACH	10									10	2
			202-00821	Removal of Sign Panel	EACH	3									3	2
			202-00828	Removal of Traffic Signal Equipment	L S	1									1	1
			202-01130	Removal of Guardrail Type 3	LF	45									45	45
			202-01300	Removal of End Anchorage	EACH	2									2	2
			202-04005	Clean Valve Box	EACH	31									31	40
			203-00060	Embankment Material (Complete In Place)	CY	152									152	156
			203-01500	Blading	HOUR	10									10	1
			203-01597	Potholing	HOUR	20									20	29
			207-00205	Topsoil	CY	134									134	60
			208-00035	Aggregate Bag	LF	285									285	720
			208-00051	Storm Drain Inlet Protection (Type 1)	LF	154									154	0
			208-00052	Storm Drain Inlet Protection (Type 2)	LF	20									20	52
			208-00106	Sweeping (Sediment Removal)	HOUR	100									100	4
			208-00107	Removal of Trash	HOUR	15									15	1

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 File Name: 19706SAQ\_Ad.dgn  
 Horiz. Scale: 1:200 Vert. Scale: As Noted  
 Unit Information RYJ

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Colorado Department of Transportation  
 Arapahoe Residency  
 7328 S. Revere Parkway, Suite 204A  
 Centennial, CO 80112  
 Phone: 303-365-7230 FAX: 303-790-1037  
 Region 1 RYJ

As Constructed  
 No Revisions:  
 Revised: 9/8/16  
 Void:

SUMMARY OF APPROXIMATE QUANTITIES			
Designer:	JJB	Structure Numbers	
Detailer:	JJB	Sheet Subset:	SAQ
Subset Sheets:	1 of 5		

Project No./Code  
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INDEX			CONTRACT ITEM NO.	CONTRACT ITEM	UNIT	ROADWAY		STR. F-16-1C		STR. F-16-AA		STR. F-16-KD		PROJECT TOTALS		
BOOK	PAGE	SHEET				PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	
			208-00205	Erosion Control Supervisor	HOUR	160									160	11.2
			210-00815	Reset Sign Panel	EACH	1									1	2
			210-04010	Adjust Manhole	EACH	102									102	84
			210-04015	Modify Manhole	EACH	10	Deleted by Speed Memo #10								10	0
			210-04050	Adjust Valve Box	EACH	62									62	82
			212-00006	Seeding (Native)	ACRE	0.33									0.33	0.3
			212-00032	Soil Conditioning	ACRE	0.33	Deleted by Speed Memo #10								0.33	0
			213-00002	Mulching (Weed Free Hoy)	ACRE	0.33									0.33	0.3
			213-00061	Mulch Tackifier	LB	66									66	60
			217-00020	Herbicide Treatment	HOUR	3	Deleted by Speed Memo #10								3	0
			403-00720	Hot Mix Asphalt (Patching) (Asphalt)	TON	36									36	90.45
			403-00800	Emergency Pothole Repair	TON	50									50	5.34
			403-34871	Hot Mix Asphalt (Grading SX) (100) (PG 76-28)	TON	24,176.62			189		26			32	24,423.62	25,615.33
			411-10255	Emulsified Asphalt (Slow-Setting)	GAL	8,777									8,777	11,070
			608-00000	Concrete Sidewalk	SY	35									35	74
			608-00010	Concrete Curb Ramp	SY	255									255	245
			608-00015	Detectable Warnings	SF	56									56	18
			609-21010	Curb and Gutter Type 2 (Section I-B)	LF	975									975	1,065
			610-00030	Median Cover Material (Concrete)	SF	1,546									1,546	1,137
			610-00035	Median Cover Material (Concrete)(Special)	SF	265									265	218
			613-00206	2 Inch Electrical Conduit (Bored)	LF	800									800	912
			613-01200	2 Inch Electrical Conduit (Plastic)	LF	190									190	220

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File Name: 19706SAQ\_Ad.dgn  
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Phone: 303-365-7230 FAX: 303-790-1037  
Region 1 RYJ

As Constructed  
No Revisions:  
Revised: 9/8/16  
Void:

SUMMARY OF APPROXIMATE QUANTITIES			
Designer:	JJB	Structure Numbers	
Detailer:	JJB	Subset Sheets:	2 of 5
Sheet Subset:	SAQ		

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INDEX			CONTRACT ITEM NO.	CONTRACT ITEM	UNIT	ROADWAY		STR. F-16-1C		STR. F-16-AA		STR. F-16-KD		PROJECT TOTALS		
BOOK	PAGE	SHEET				PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	
			613-07000	Pull Box (Special)	EACH	10									10	4
			613-07002	Type Two Pull Box	EACH	5									5	10
			613-07003	Type Three Pull Box	EACH	4									4	3
			613-07005	Type Five Pull Box	EACH	1									1	3
			613-10000	Wiring	L S	1									1	1
			614-00011	Sign Panel (Class I)	SF	197									197	59
			614-00012	Sign Panel (Class II)	SF	150	Deleted by Speed Memo #10								150	0
			614-01583	Steel Sign Support (2-1/2 In Round Sch 80) (Post & Slipbase)	EACH	12									12	2
			614-10160	Signal Head Backplates	EACH	24									24	22
			614-70150	Pedestrian Signal Face (16) (Countdown)	EACH	12									12	12
			614-70336	Traffic Signal Face (12-12-12)	EACH	1									1	1
			614-70448	Traffic Signal Face (12-12-12-12)	EACH	5									5	9
			614-72860	Pedestrian Push Button	EACH	8									8	3.81
			614-72863	Pedestrian Push Button Post Assembly	EACH	8									8	14
			614-72875	Loop Detector Wire	LF	5,096									5,096	6794
			614-84000	Traffic Signal Pedestal Pole Steel	EACH	4									4	2.93
			620-00005	Field Office (Special)	EACH	1									1	1
			620-00012	Field Laboratory (Class 2)	EACH	1									1	1
			620-00020	Sanitary Facility	EACH	1									1	1
			625-00000	Construction Surveying	L S	1									1	1
			625-00001	Construction Surveying (Hourly)	HOUR	40									40	2
			626-00000	Mobilization	L S	1									1	1

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File Name: 19706SAQ\_Ad.dgn  
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Unit Information RYJ

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Colorado Department of Transportation  
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7328 S. Revere Parkway, Suite 204A  
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Phone: 303-365-7230 FAX: 303-790-1037  
Region 1 RYJ

As Constructed  
No Revisions:  
Revised: 9/8/16  
Void:

SUMMARY OF APPROXIMATE QUANTITIES  
Designer: JJB Structure Numbers  
Detailer: JJB  
Sheet Subset: SAQ Subset Sheets: 3 of 5

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19706  
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INDEX			CONTRACT ITEM NO.	CONTRACT ITEM	UNIT	ROADWAY		STR. F-16-1C		STR. F-16-AA		STR. F-16-KD		PROJECT TOTALS		
BOOK	PAGE	SHEET				PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	
			626-01000	Public Information Services	L S	1									1	1
			627-00008	Modified Epoxy Pavement Marking	GAL	303									303	287
			627-00011	Pavement Marking Point (Waterborne)	GAL	1,378									1,378	1,001
			627-01010	Preformed Plastic Pavement Marking (Type I)(Inloid)	SF	17,377									17,377	20,763
			627-30324	Preformed Plastic Pavement Marking (Word-Symbol) (Type I)	SF	1,207									1,207	1,281
			627-30329	Preformed Plastic Pavement Marking (Xwalk-Stop Line) (Type I)	SF	7,462	Deleted by Change Order #3								7,462	0
			627-30408	Preformed Thermoplastic Pavement Marking (Shield)	SF	320									320	320
			630-00000	Flooding	HOURL	500									500	1,337.5
			630-00007	Traffic Control Inspection	DAY	25									25	52
			630-00012	Traffic Control Management	DAY	50									50	63
			630-80335	Barricade (Type 3 M-A) (Temporary)	EACH	4	Deleted by Speed Memo #10								4	0
			630-80341	Construction Traffic Sign (Panel Size A)	EACH	26									26	26
			630-80342	Construction Traffic Sign (Panel Size B)	EACH	38									38	37
			630-80343	Construction Traffic Sign (Panel Size C)	EACH	8									8	4
			630-80355	Portable Message Sign Panel	EACH	4									4	2
			630-80358	Advance Warning Flashing or Sequencing Arrow Panel (C Type)	EACH	2									2	4
			630-80360	Drum Channelizing Device	EACH	50									50	25
			630-80380	Traffic Cone	EACH	200									200	400
			630-85041	Mobile Attenuator	DAY	20									20	9
			700-70010	FORCE ACCOUNT ***** F/A Minor Contract Revisions	F A	1									1	150,000

Print Date: 11/19/2015  
File Name: 19706SAQ\_Ad.dgn  
Horiz. Scale: 1:200 Vert. Scale: As Noted  
Unit Information RYJ



Sheet Revisions		
Date:	Comments	Init.

Colorado Department of Transportation  
Arapahoe Residency  
7328 S. Revere Parkway, Suite 204A  
Centennial, CO 80112  
Phone: 303-365-7230 FAX: 303-790-1037  
Region 1 RYJ

As Constructed  
No Revisions:  
Revised: 9/8/16  
Void:

SUMMARY OF APPROXIMATE QUANTITIES  
Designer: JJB Structure Numbers  
Detailer: JJB  
Sheet Subset: SAQ Subset Sheets: 4 of 5

Project No./Code  
STA R600-441  
19706  
Sheet Number 12



Design Parameters	Overlay
Design life (years):	10
10-year 18-kip ESALs:	Maximum = 5,356,847
Existing Traffic:	AADT = 58,000 AADTT = 4,700
Effective Binder Content (%):	11.1
Voids (%):	5.2
Terminal IRI (in/mile) ≤ 200;	148.75
Reliability ≥ 85%	99.59
Permanent Deformation- Total Pavement ≤ 0.65 in:	0.62
Reliability ≥ 85%	91.04
AC Bottom Up Fatigue Cracking 25%:	3.04
Reliability ≥ 85%	100
AC Thermal Cracking 1500 ft/mile:	236.52
Reliability ≥ 85%	100
AC Top Down Fatigue Cracking ≤ 2000 ft/mile:	488.02
Reliability ≥ 85%	100
Permanent Deformation ( AC Only) ≤ 0.50 inch:	0.42
Reliability ≥ 85%	96.51
Pavement Structure and Sub-grade	Modulus (psi)
Layer 1: Overlay, 2.5 in Grading (SX) (100) PG(76-28)	ME Design Data Base, R-1 Level 1
Layer 2: Existing HMA, 12.0 in HMA (9.5 in Milled)	Dynamic Modulus (NDT): 500,000 at 20 HZ and 70 F)
Layer 3: Existing ABC, 4.0 in	Resilience Modulus: 250000
Subgrade Soils: A-2-6	Resilience Modulus : 6000
Lift thickness (top lift):	2.5"

	PROJECT TOTALS	
UNCLASSIFIED EXCAVATION (CIP) (FOR INFORMATION ONLY)	CU. YD.	
US-85 (Quantity includes sidewalks, islands and curb ramps)	10	
<b>TOTAL:</b>	10	

	PROJECT TOTALS	
EMBANKMENT MATERIAL (CIP)	CU. YD.	
US-85 (Quantity includes sidewalks, islands, and curb ramps)	152	
<b>TOTAL:</b>	<del>152</del>	156
COMPACTION (FOR INFORMATION ONLY)		
Embankment (Net)	152	
US-85 Bases of Cuts and Fills	178	
<b>TOTAL:</b>	330	
ROADWAY QUANTITIES BALANCE (FOR INFORMATION ONLY)	CU. YD.	
Unclassified Excavation (CIP)	10	
Embankment Material (CIP) (Net)	152	
Embankment * Factor (1.0 Estimated)	152	
Import Needed	142	

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Print Date: 11/19/2015
File Name: 19706TabSheets_Ad.dgn
Horiz. Scale: 1:1      Vert. Scale: As Noted
Unit Information      RYJ

Sheet Revisions		
Date:	Comments	Init.

Colorado Department of Transportation  
 Arapahoe Residency  
7328 S. Revere Parkway, Suite 204A  
Centennial, CO 80112  
Phone: 303-365-7230 FAX: 303-790-1037  
Region 1      RYJ

As Constructed
No Revisions:
Revised: 9/8/16
Void:

SUMMARY OF PAVEMENT DESIGN AND EARTHWORK QUANTITIES			
Designer: JJB	Structure Numbers		
Detailer: JJB			
Sheet Subset: Earthwork	Subset Sheets:	1 of 1	

Project No./Code
STA R600-441
19706
Sheet Number 14

STATION	202-00220 REMOVAL OF ASPHALT MAT		202-00240 REMOVAL OF ASPHALT MAT (PLANING)		403-00720 HMA (PATCHING) (ASPHALT)		403-34871 HMA (GR. SX) (100)(PG 76-28)		403-00800 EMERGENCY POTHOLE REPAIR		411-10255 EMULSIFIED ASPHALT (SLOW-SETTING) TACK COAT		NOTES
	SY		SY		TON		TON		TON		GAL		
	PLAN	PLAN	PLAN	PLAN	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	
<b>US-85 Southbound</b>													
202+26.00 to 205+60.00		14		1,670.00				230.56				83.50	
205+60.00 to 207+26.00	152	105		442.67		11.00		60.87				22.13	
207+26.00 to 209+67.00				1,271.94				175.56				63.60	
209+67.00 to 210+10.00				232.92				32.03				11.65	
210+10.00 to 211+87.00				1,032.50				142.47				51.63	
211+87.00 to 213+52.00				882.38				121.79				44.12	
213+52.00 to 217+33.00				1,688.25				233.18				84.41	
217+33.00 to 220+07.00				730.67				100.47				36.53	
222+42.00 to 223+97.00				413.33				56.83				20.67	
223+97.00 to 225+24.00				564.44				77.97				28.22	
225+24.00 to 227+00.00				801.78				110.74				40.09	
227+00.00 to 229+53.00				1,054.17				145.64				52.71	
229+53.00 to 230+21.00				256.89				35.52				12.84	
230+21.00 to 231+24.00		25		419.21				57.64				20.96	
231+24.00 to 236+35.00				2,228.53				307.85				111.43	
236+35.00 to 238+51.00				708.00				97.94				35.40	
238+51.00 to 241+28.00				846.39				117.15				42.32	
241+28.00 to 245+67.00				1,634.06				224.74				81.70	
245+67.00 to 247+10.00				642.23				88.53				32.11	
247+10.00 to 254+50.00				3,158.98				436.20				157.95	
254+50.00 to 257+00.00													No Work Zone
257+00.00 to 264+65.00				3,017.50				416.70				150.88	
264+65.00 to 275+00.00				4,312.50				595.41				215.63	
275+00.00 to 277+89.00				1,300.50				179.61				65.03	
277+89.00 to 280+45.00				654.22				89.96				32.71	
280+45.00 to 287+36.00				3,147.89				432.83				157.39	
287+36.00 to 288+95.00				750.83				103.24				37.54	
288+95.00 to 299+00.00				4,550.42				625.68				227.52	
299+00.00 to 303+55.00				2,085.42				286.75				104.27	
303+55.00 to 327+31.00				9,240.00				1,270.94				462.00	
327+31.00 to 328+79.00				604.33				83.38				30.22	
328+79.00 to 340+22.00				4,889.50				672.31				244.48	
340+22.00 to 341+08.00				375.06				51.57				18.75	
341+08.00 to 344+62.00				1,524.17				209.57				76.21	
344+62.00 to 345+97.00				562.50				77.34				28.13	
345+97.00 to 350+35.00				1,898.00				260.98				94.90	
350+35.00 to 359+34.00				3,937.50				543.16				196.88	
359+34.00 to 359+83.00				133.39				18.34				6.67	
359+83.00 to 363+49.00				1,612.84				222.58				80.64	
363+49.00 to 365+41.00				636.37				87.50				31.82	
365+41.00 to 366+20.00				249.46				34.30				12.47	
366+20.00 to 371+70.00				1,711.11				235.28				85.56	
371+70.00 to 372+91.00				405.62				55.77				20.28	
372+91.00 to 373+96.00				433.65				59.63				21.68	
373+96.00 to 375+42.00				681.33				94.02				34.07	
375+42.00 to 377+21.00				790.58				109.20				39.53	
377+21.00 to 378+53.00				550.00				75.91				27.50	
378+53.00 to 379+46.00				379.75				52.22				18.99	
379+46.00 to 387+91.00				3,598.76				494.83				179.94	
<b>SHEET 1 TOTAL</b>	<b>152</b>			<b>74,712.54</b>		<b>11.00</b>		<b>10,292.69</b>				<b>3,735.66</b>	

■ Emergency Pothole Repairs shall be HMA (GR S) (75) (PG 64-22). This pay item is to repair potholes that may occur on the existing pavement during construction outside of the active work zone. Potholes shall be repaired within five days of being notified by the Project Engineer.

▲ HMA (Patching) (Asphalt) shall be used where sawcutting of existing asphalt goes outside of proposed raised island limits. HMA (GR. S) (75) (PG 64-22); shall be used for HMA (Patching) (Asphalt).

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Print Date: 11/19/2015	<b>Sheet Revisions</b>			Colorado Department of Transportation		As Constructed		TABULATION OF PAVEMENT REMOVAL & SURFACING QUANTITIES			Project No./Code	
File Name: 19706TabSheets_Ad.dgn	Date:	Comments	Init.	Arapahoe Residency 7328 S. Revere Parkway, Suite 204A Centennial, CO 80112 Phone: 303-365-7230 FAX: 303-790-1037		No Revisions:		Designer: JJB			STA R600-441	
Horiz. Scale: 1:1 Vert. Scale: As Noted				Region 1 RYJ		Revised: 9/8/16		Detailer: JJB			19706	
Unit Information RYJ						Void:		Sheet Subset: Surfacing			Sheet Number 15	
								Subset Sheets: 1 of 5				

STATION	202-00220 REMOVAL OF ASPHALT MAT		202-00240 REMOVAL OF ASPHALT MAT (PLANING)		403-00720 HMA (PATCHING) (ASPHALT) ▲		403-34871 HMA (GR. SX) (100)(PG 76-28)		403-00800 EMERGENCY POTHOLE REPAIR ■		411-10255 EMULSIFIED ASPHALT (SLOW-SETTING) TACK COAT		NOTES	
	SY		SY		TON		TON		TON		GAL			
	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL		
<b>US-85 Southbound (Cont.)</b>														
387+91.00 to 390+20.00			991.32				136.31				49.57			
390+20.00 to 393+09.00			1,216.37				167.25				60.82			
393+09.00 to 394+56.00			600.25				82.53				30.01			
394+56.00 to 399+10.00			1,765.56				242.76				88.28			
399+91.00 to 400+41.00			194.44				26.74				9.72			
400+41.00 to 400+75.00			134.11				18.44				6.71			
400+75.00 to 401+18.00			175.01				24.06				8.75			
401+18.00 to 401+96.00			346.67				47.67				17.33			
401+96.00 to 403+44.00			703.00				96.66				35.15			
403+44.00 to 404+05.00			216.89				29.82				10.84			
404+05.00 to 405+27.00	42	34	481.22		7.00		66.17				24.06			
405+27.00 to 405+70.00	2		206.07				28.33				10.30			
405+70.00 to 414+61.00			4,877.75				643.19				233.89			
414+61.00 to 416+29.00			777.09				106.85				38.85			
416+29.00 to 424+73.00			3,404.00				468.05				170.20			
<b>US-85 Northbound</b>														
202+26.00 to 206+89.00			1,846.22				227.39				82.31			
206+89.00 to 209+67.00			1,050.22				145.18				52.51			
209+67.00 to 213+52.00			1,540.00				212.66				77.00			
213+52.00 to 217+33.00			1,545.17				213.51				77.26			
217+33.00 to 218+18.00			349.44				48.29				17.47			
218+18.00 to 220+07.00			504.00				69.30				25.20			
222+42.00 to 225+24.00			752.00				103.40				37.60			
225+24.00 to 226+03.00			368.67				50.81				18.43			
226+03.00 to 229+53.00			1,555.56				214.86				77.78			
229+53.00 to 230+21.00			181.33				24.93				9.07			
230+21.00 to 231+24.00	52	73	331.89		10.00		54.62				16.59		Incl. add'l pave. for removed island	
231+24.00 to 231+79.00	36		146.67				20.19				7.33			
231+79.00 to 236+35.00			2,381.33				328.70				119.07			
236+35.00 to 237+00.00			339.44				46.85				16.97			
237+00.00 to 299+00.00													No Work Zone	
299+00.00 to 303+55.00			1,820.00				250.25				91.00			
303+55.00 to 319+45.00			7,110.83				977.74				355.54			
319+45.00 to 320+81.00			598.85				82.34				29.94			
320+81.00 to 327+31.00			2,816.67				387.29				140.83			
327+31.00 to 328+79.00			583.78				80.27				29.19			
328+79.00 to 331+12.00			828.44				113.91				41.42			
<b>SHEET 2 TOTAL</b>	<b>132</b>		<b>42,340.26</b>				<b>17.00</b>				<b>5,837.32</b>		<b>2,116.99</b>	

■ Emergency Pothole Repairs shall be HMA (GR S) (75) (PG 64-22). This pay item is to repair potholes that may occur on the existing pavement during construction outside of the active work zone. Potholes shall be repaired within five days of being notified by the Project Engineer.

▲ HMA (Patching) (Asphalt) shall be used where sawcutting of existing asphalt goes outside of proposed raised island limits. HMA (GR. S) (75) (PG 64-22) shall be used for HMA (Patching) (Asphalt).

Print Date: 11/19/2015  
File Name: 19706TabSheets\_Ad.dgn  
Horiz. Scale: 1:1 Vert. Scale: As Noted  
Unit Information RYJ

Sheet Revisions		
Date:	Comments	Init.

Colorado Department of Transportation  
Arapahoe Residency  
7328 S. Revere Parkway, Suite 204A  
Centennial, CO 80112  
Phone: 303-365-7230 FAX: 303-790-1037  
Region 1 RYJ

As Constructed	TABULATION OF PAVEMENT REMOVAL & SURFACING QUANTITIES	
No Revisions:	Designer: JJB	Structure Numbers
Revised: 9/8/16	Detailer: JJB	
Void:	Sheet Subset: Surfacing	Subset Sheets: 2 of 5

Project No./Code  
STA R600-441  
19706  
Sheet Number 16

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STATION	202-00220 REMOVAL OF ASPHALT MAT		202-00240 REMOVAL OF ASPHALT MAT (PLANING)		403-00720 HMA (PATCHING) (ASPHALT)		403-34871 HMA (GR. SX) (100)(PG 76-28)		403-00800 EMERGENCY POTHOLE REPAIR		411-10255 EMULSIFIED ASPHALT (SLOW-SETTING)		NOTES
	SY		SY		TON		TON		TON		GAL		
	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	
<b>US-85 Northbound (Cont.)</b>													
331+12.00 to 350+35.00			6,410.00				881.38					320.50	
350+59.00 to 365+41.00			5,598.67				769.82					279.93	
365+41.00 to 366+20.00			289.67				39.33					14.48	
366+20.00 to 371+59.00			1,916.44				263.51					95.82	
371+59.00 to 371+70.00			44.92				6.18					2.25	
371+70.00 to 375+42.00			1,715.33				236.20					85.77	
375+42.00 to 377+21.00			798.14				110.24					39.91	
377+21.00 to 378+22.00			426.44				58.92					21.32	
378+22.00 to 378+53.00			128.31				17.72					6.42	
378+53.00 to 379+46.00			332.01				45.91					16.60	
379+46.00 to 387+91.00			2,441.11				337.99					122.06	
387+91.00 to 390+20.00			763.33				105.10					38.17	
390+20.00 to 393+09.00			1,123.89				154.53					56.19	
393+09.00 to 394+56.00			416.50				57.27					20.83	
394+56.00 to 395+00.00			117.33				16.13					5.87	
395+00.00 to 399+10.00			1,594.44				219.24					79.72	
399+91.00 to 401+18.00			493.89				67.91					24.69	
401+18.00 to 401+96.00			316.33				43.50					15.82	
401+96.00 to 403+44.00			600.22				82.53					30.01	
403+44.00 to 403+79.00			136.11				18.72					6.81	
403+79.00 to 404+05.00	1		69.33				9.53					3.47	
404+05.00 to 405+27.00	48	40	388.10		8.00		53.36					19.41	
405+27.00 to 405+70.00			140.75				19.35					7.04	
405+70.00 to 406+28.00			165.36				22.74					8.27	
406+28.00 to 407+85.00			693.42				95.35					34.67	
407+85.00 to 408+79.00			445.25				61.22					22.26	
408+79.00 to 410+20.00			609.12				83.75					30.46	
410+20.00 to 424+73.00			5,840.00				803.00					292.00	
<b>US-85 Median</b>													
205+95.00 to 209+67.00			682.00				93.78					34.10	
209+67.00 to 210+10.00			77.64				10.68					3.88	
210+10.00 to 211+87.00			314.67				43.27					15.73	
211+87.00 to 213+52.00			346.13				47.59					17.31	
213+52.00 to 217+33.00			1,201.42				165.20					60.07	
217+33.00 to 220+07.00			1,065.56				146.51					53.28	
222+42.00 to 223+97.00			585.56				80.51					29.28	
223+97.00 to 225+24.00			458.61				63.06					22.93	
227+00.00 to 229+53.00			548.17				75.37					27.41	
229+53.00 to 230+21.00			120.89				16.62					6.04	
230+21.00 to 231+24.00			179.33				24.66					8.97	
231+24.00 to 236+35.00			870.40				119.68					43.52	
236+35.00 to 238+51.00			264.00				36.30					13.20	
238+51.00 to 241+28.00			184.67				25.39					9.23	
241+28.00 to 299+00.00													No Work Zone
299+00.00 to 303+55.00			821.53				112.96					41.08	
<b>SHEET 3 TOTAL</b>	<b>49</b>		<b>41,734.99</b>		<b>8.00</b>		<b>5,742.51</b>					<b>2,086.78</b>	

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Horiz. Scale: 1:1      Vert. Scale: As Noted
Unit Information      RYJ

Sheet Revisions		
Date:	Comments	Init.

Colorado Department of Transportation  
  
 Arapahoe Residency  
 7328 S. Revere Parkway, Suite 204A  
 Centennial, CO 80112  
 Phone: 303-365-7230 FAX: 303-790-1037  
 Region 1      RYJ

As Constructed		TABULATION OF PAVEMENT REMOVAL & SURFACING QUANTITIES		Project No./Code
No Revisions:		Designer: JJB	Structure Numbers	STA R600-441
Revised: 9/8/16		Detailer: JJB		19706
Void:		Sheet Subset: Surfacing	Subset Sheets: 3 of 5	Sheet Number 17

Project No./Code	STA R600-441
19706	
Sheet Number	17

STATION	202-00220 REMOVAL OF ASPHALT MAT		202-00240 REMOVAL OF ASPHALT MAT (PLANING)		403-00720 HMA (PATCHING) (ASPHALT) ▲		403-34871 HMA (GR. SX) (100)(PG 76-28)		403-00800 EMERGENCY POTHOLE REPAIR ■		411-10255 EMULSIFIED ASPHALT (SLOW-SETTING) TACK COAT		NOTES
	SY		SY		TON		TON		TON		GAL		
	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	
<b>US-85 Median (Cont.)</b>													
335+30.00 to 335+80.00			105.56				14.51				5.28		
344+62.00 to 345+97.00			270.00				37.13				13.50		
365+28.00 to 365+41.00			26.00				3.58				1.30		
372+91.00 to 373+96.00			221.67				30.48				11.08		
378+22.00 to 379+46.00			248.00				34.10				12.40		
379+46.00 to 387+91.00			1,455.28				200.10				72.76		
387+91.00 to 393+09.00			748.22				102.88				37.41		
393+09.00 to 394+56.00			253.17				34.81				12.66		
404+05.00 to 405+27.00			406.67				55.92				20.33		
<b>US-85 Southbound Median</b>													
202+25.00 to 202+60.00			37.92				5.21				1.90		
202+60.00 to 205+95.00			409.44				56.30				20.47		
225+24.00 to 226+03.00			145.97				20.07				7.30		
226+55.00 to 227+00.00			25.00				3.44				1.25		
303+55.00 to 319+45.00			1,148.33				157.90				57.42		
319+45.00 to 320+81.00			113.33				15.58				5.67		
320+81.00 to 327+31.00			613.89				84.41				30.69		
327+31.00 to 328+79.00			98.67				13.57				4.93		
328+79.00 to 335+30.00			253.17				34.81				12.66		
345+97.00 to 350+35.00			73.00				10.04				3.65		
350+59.00 to 355+17.00			76.33				10.50				3.82		
355+17.00 to 357+00.00			81.33				11.18				4.07		
357+00.00 to 365+28.00			598.00				82.23				29.90		
373+96.00 to 375+42.00			219.00				30.11				10.95		
394+56.00 to 397+82.00			398.44				54.79				19.92		
405+27.00 to 407+85.00			315.33				43.36				15.77		
<b>US-85 Northbound Median</b>													
202+25.00 to 202+60.00			37.92				5.21				1.90		
202+60.00 to 205+95.00			409.44				56.30				20.47		
225+24.00 to 226+03.00			111.92				15.39				5.60		
226+55.00 to 227+00.00			90.00				12.38				4.50		
303+55.00 to 327+31.00			1,716.00				235.95				85.80		
327+31.00 to 328+79.00			168.56				23.18				8.43		
328+79.00 to 335+30.00			1,012.67				139.24				50.63		
335+80.00 to 336+57.00			22.84				3.14				1.14		
340+22.00 to 341+08.00			52.56				7.23				2.63		
<b>SHEET 4 TOTAL</b>	<b>0</b>		<b>11,963.63</b>			<b>0.00</b>	<b>1,645.03</b>				<b>598.19</b>		

■ Emergency Pothole Repairs shall be HMA (GR S) (75) (PG 64-22). This pay item is to repair potholes that may occur on the existing pavement during construction outside of the active work zone. Potholes shall be repaired within five days of being notified by the Project Engineer.

▲ HMA (Patching) (Asphalt) shall be used where sawcutting of existing asphalt goes outside of proposed raised island limits. HMA (GR. S) (75) (PG 64-22) shall be used for HMA (Patching) (Asphalt).

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 File Name: 19706TabSheets\_Ad.dgn  
 Horiz. Scale: 1:1 Vert. Scale: As Noted  
 Unit Information RYJ

Sheet Revisions		
Date:	Comments	Init.

Colorado Department of Transportation  
 Arapahoe Residency  
 7328 S. Revere Parkway, Suite 204A  
 Centennial, CO 80112  
 Phone: 303-365-7230 FAX: 303-790-1037  
 Region 1 RYJ

As Constructed	TABULATION OF PAVEMENT REMOVAL & SURFACING QUANTITIES	
No Revisions: 9/8/16	Designer: JJB	Structure Numbers
Revised:	Detailer: JJB	
Void:	Sheet Subset: Surfacing	Subset Sheets: 4 of 5

Project No./Code  
 STA R600-441  
 19706  
 Sheet Number 18

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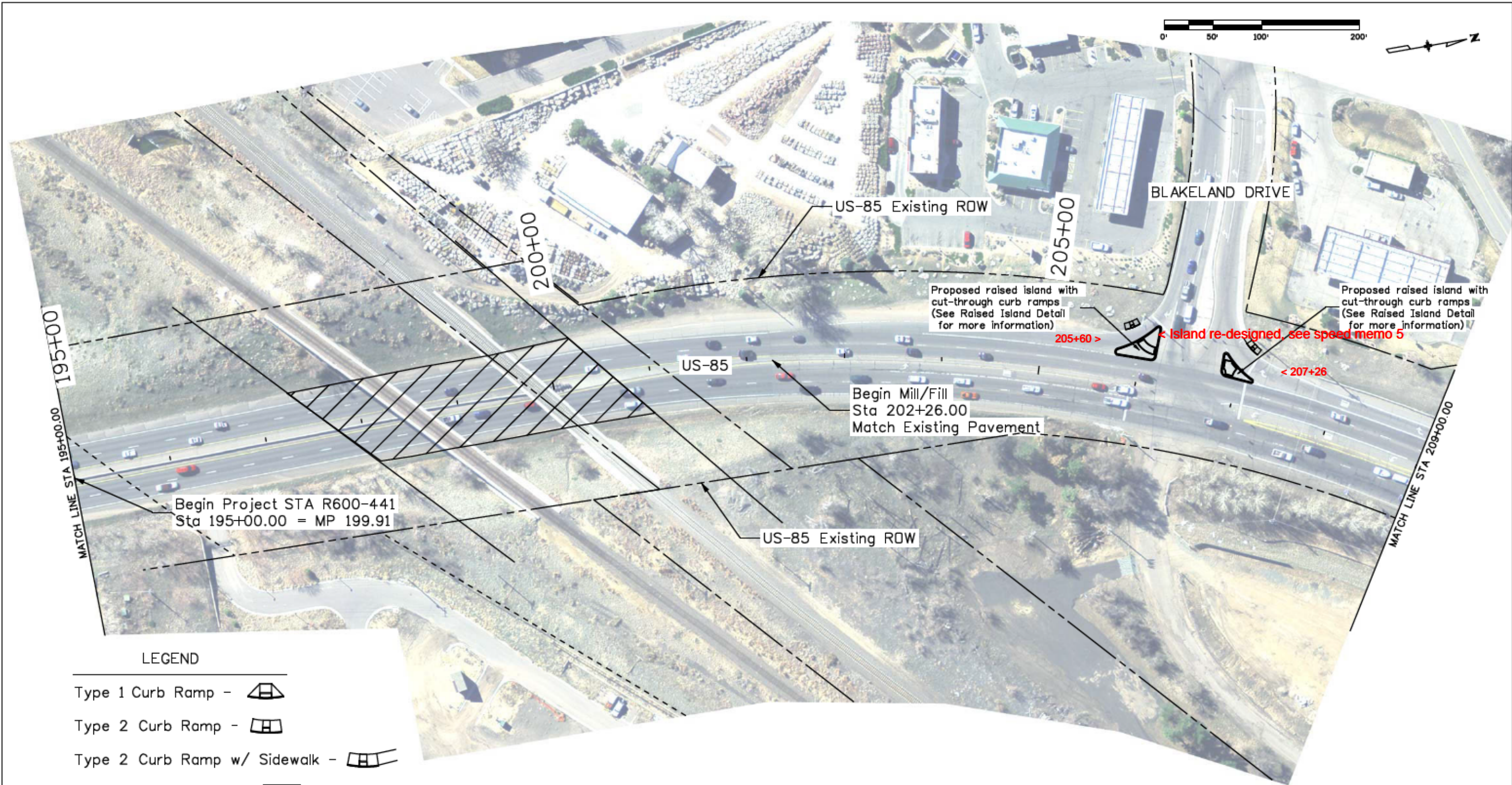


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 bredlow 4:02:50 PM

	SIDE	202-01130 REMOVAL OF GUARDRAIL TYPE 3		202-01300 REMOVAL OF END ANCHORAGE		NOTES
		LF		EACH		
		PLAN	FINAL	PLAN	FINAL	
<b>US-85</b>						
230+10.00 to 230+43.00	LT	45	45	2	2	
<b>TOTAL:</b>		<b>45</b>		<b>2</b>		

**NOTES:**  
 Removed guardrail materials shall become property of the Contractor.

Print Date: 11/19/2015		<b>Sheet Revisions</b> <table border="1"> <thead> <tr> <th>Date:</th> <th>Comments</th> <th>Init.</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </tbody> </table>			Date:	Comments	Init.													<b>As Constructed</b> No Revisions: Revised: 9/8/16 Void:		<b>TABULATION OF GUARDRAIL</b> Designer: JJB Structure Numbers Detailer: JJB Sheet Subset: Guardrail Subset Sheets: 1 of 1			Project No./Code	
Date:	Comments				Init.																					
File Name: 19706TabSheets_Ad.dgn		STA R600-441																								
Horiz. Scale: 1:1 Vert. Scale: As Noted		 Colorado Department of Transportation Arapahoe Residency 7328 S. Revere Parkway, Suite 204A Centennial, CO 80112 Phone: 303-365-7230 FAX: 303-790-1037		Region 1		RYJ		19706																		
Unit Information RYJ		Region 1		RYJ		Sheet Number		21																		



**LEGEND**

- Type 1 Curb Ramp -
- Type 2 Curb Ramp -
- Type 2 Curb Ramp w/ Sidewalk -
- Detectable Warnings -
- No Work Zone -
- No Parking, No Staging, No Work Zone -

No Parking, No Staging, No Work Zone on railroad property.

Print Date: 11/19/2015	
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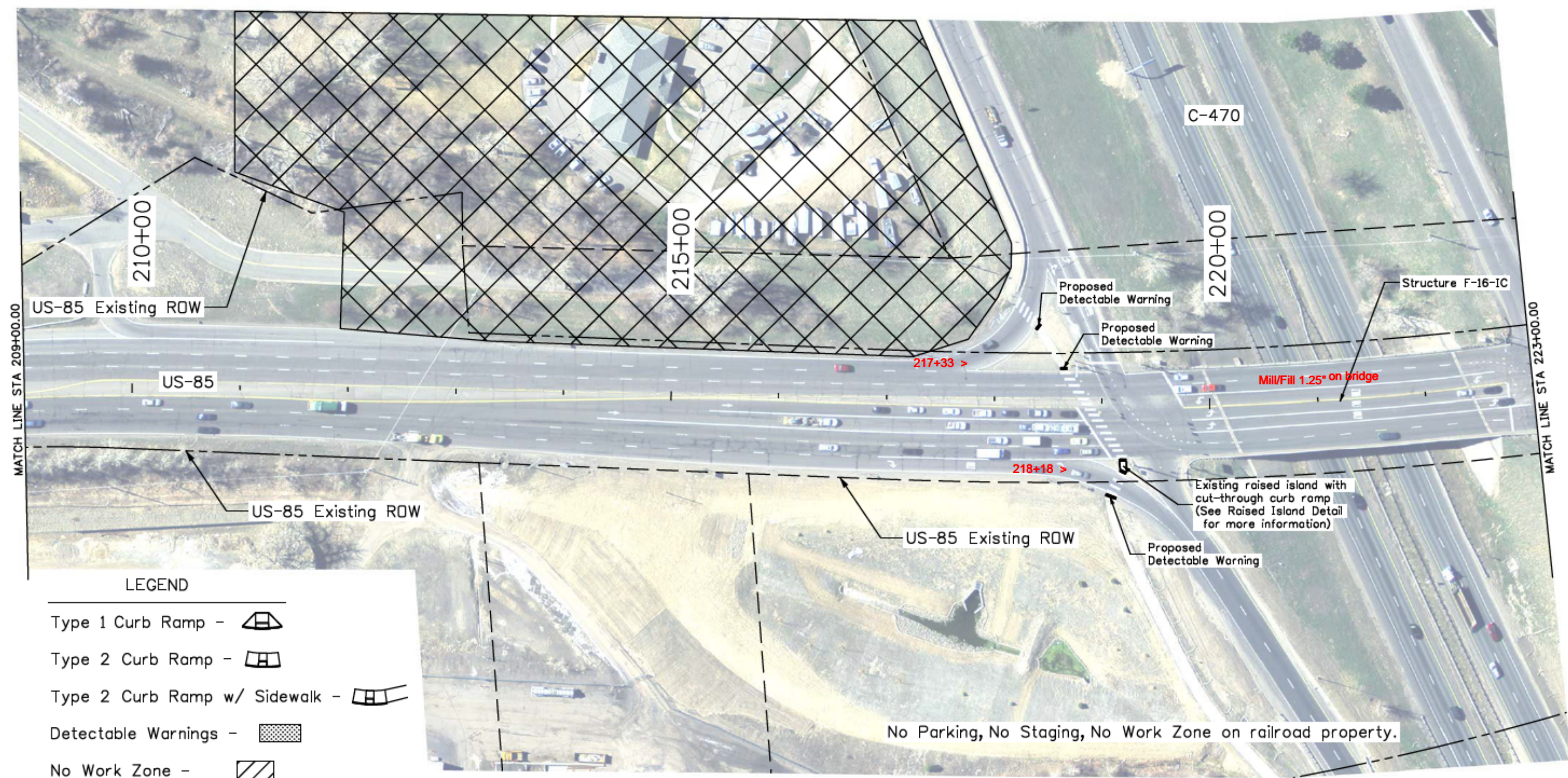
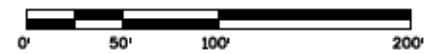
Colorado Department of Transportation  
 Arapahoe Residency  
 7328 S. Revere Parkway, Suite 204A  
 Centennial, CO 80112  
 Phone: 303-365-7230 FAX: 303-790-1037  
 Region 1      RYJ

As Constructed
No Revisions:
Revised: 9/8/16
Void:

PLAN SHEET US-85			
Designer:	JJB	Structure Numbers	
Detailer:	JJB	Subset Sheets:	1 of 17
Sheet Subset:	Plan		

Project No./Code	
	STA R600-441
	19706
Sheet Number	22

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**LEGEND**

- Type 1 Curb Ramp -
- Type 2 Curb Ramp -
- Type 2 Curb Ramp w/ Sidewalk -
- Detectable Warnings -
- No Work Zone -
- No Parking, No Staging, No Work Zone -

No Parking, No Staging, No Work Zone on railroad property.

Print Date: 11/19/2015	
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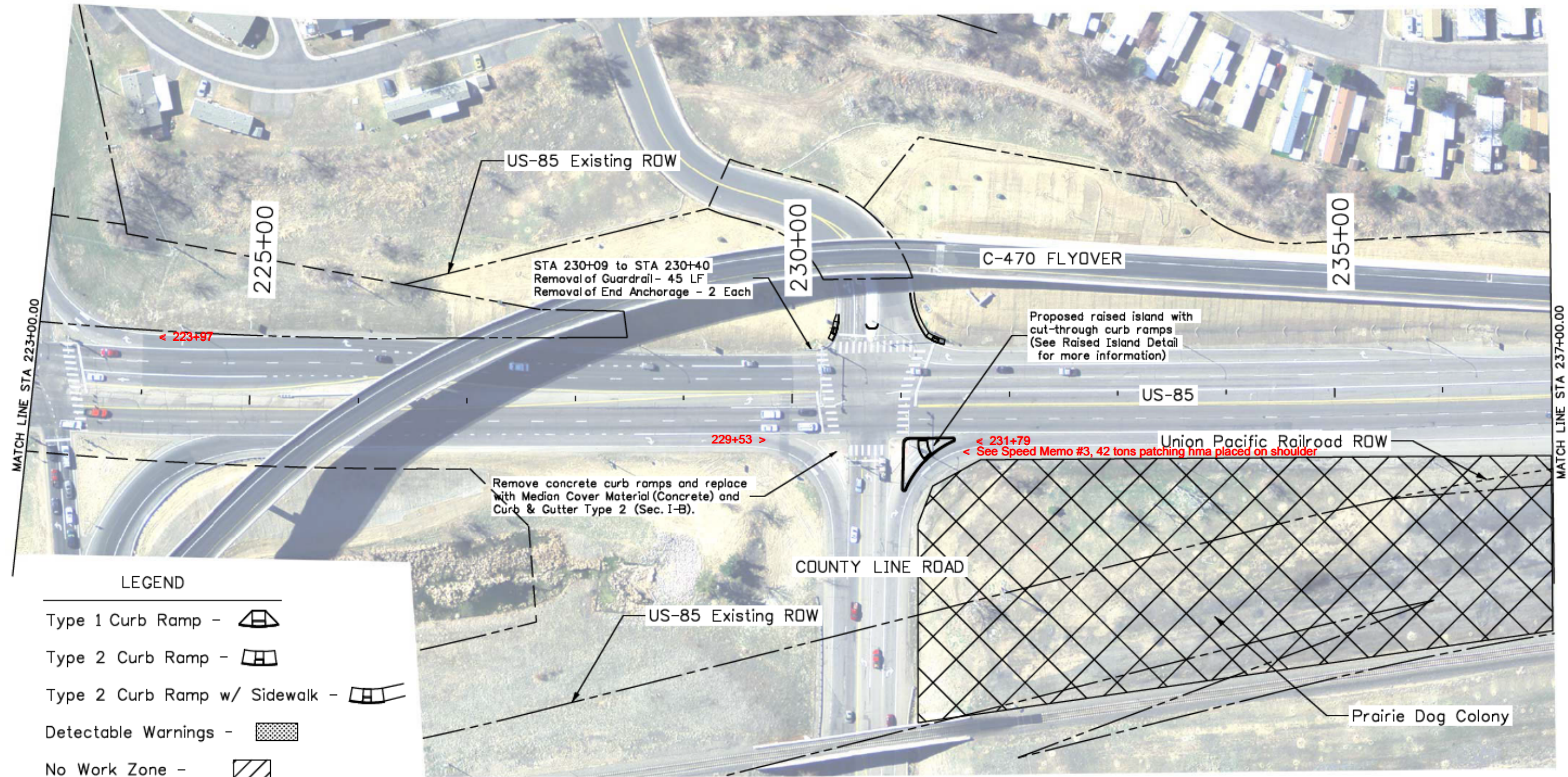
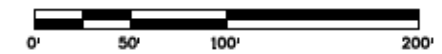
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 7328 S. Revere Parkway, Suite 204A  
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 Region 1      RYJ

As Constructed
No Revisions:
Revised: 9/8/16
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Detailer:	JJB	Subset Sheets:	2 of 17
Sheet Subset:	Plan		

Project No./Code	STA R600-441
	19706
Sheet Number	23

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**LEGEND**

- Type 1 Curb Ramp -
- Type 2 Curb Ramp -
- Type 2 Curb Ramp w/ Sidewalk -
- Detectable Warnings -
- No Work Zone -
- No Parking, No Staging, No Work Zone -

No Parking, No Staging, No Work Zone on railroad property.

Print Date: 11/19/2015	
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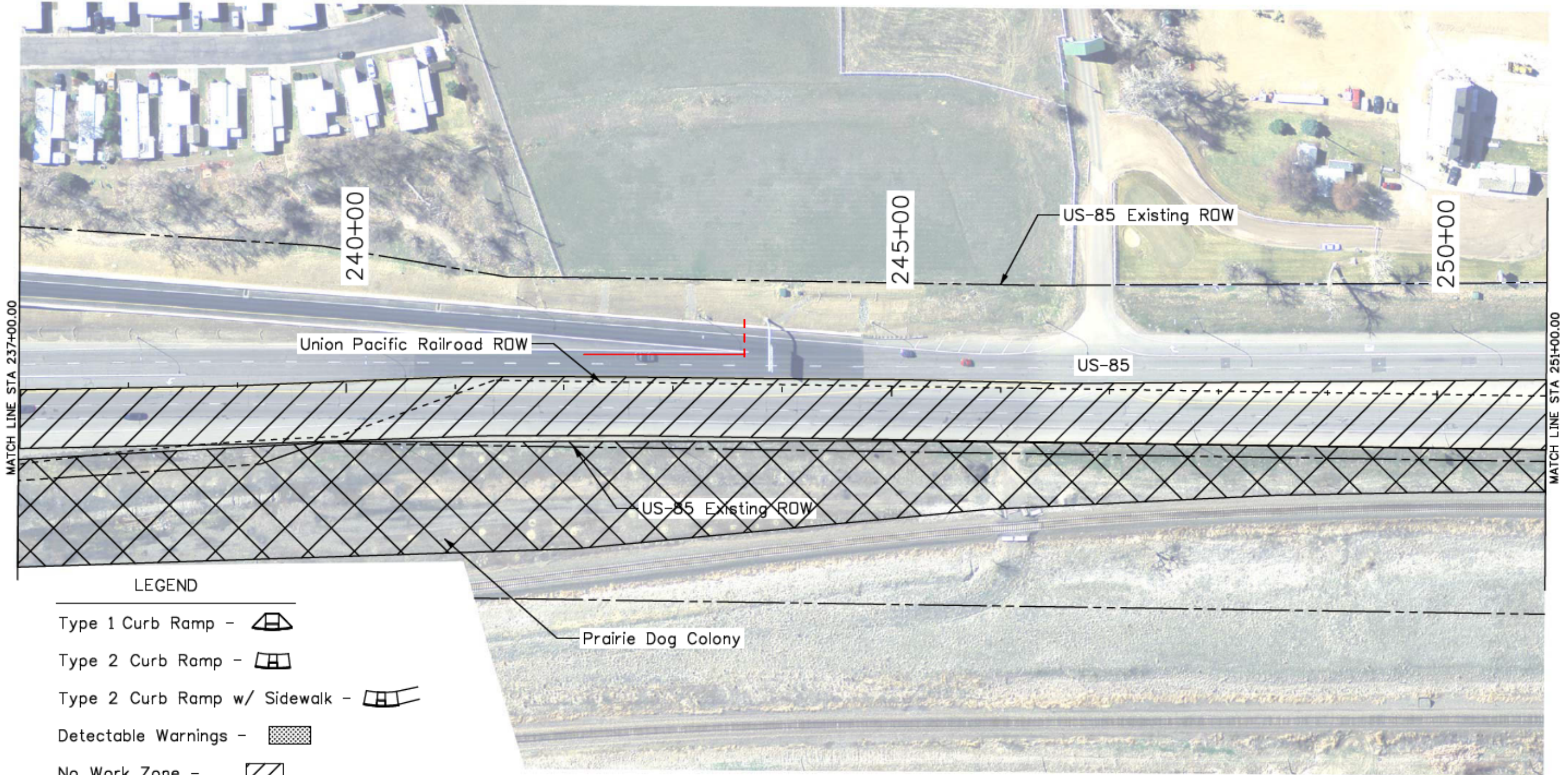
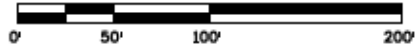
Colorado Department of Transportation  
 Arapahoe Residency  
 7328 S. Revere Parkway, Suite 204A  
 Centennial, CO 80112  
 Phone: 303-365-7230 FAX: 303-790-1037  
 Region 1      RYJ

As Constructed
No Revisions:
Revised: 9/8/16
Void:

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Detailer:	JJB	Numbers	
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Project No./Code
STA R600-441
19706
Sheet Number      24

breedlovej 4:31:13 PM C:\Projects\19706\_US85BakelandCreativeResurfacing\Design\Drawings\Ad\19706PlanSheets\_100Scale\_Ad.dgn



**LEGEND**

- Type 1 Curb Ramp -
- Type 2 Curb Ramp -
- Type 2 Curb Ramp w/ Sidewalk -
- Detectable Warnings -
- No Work Zone -
- No Parking, No Staging, No Work Zone -

No Parking, No Staging, No Work Zone on railroad property.

Print Date: 11/19/2015  
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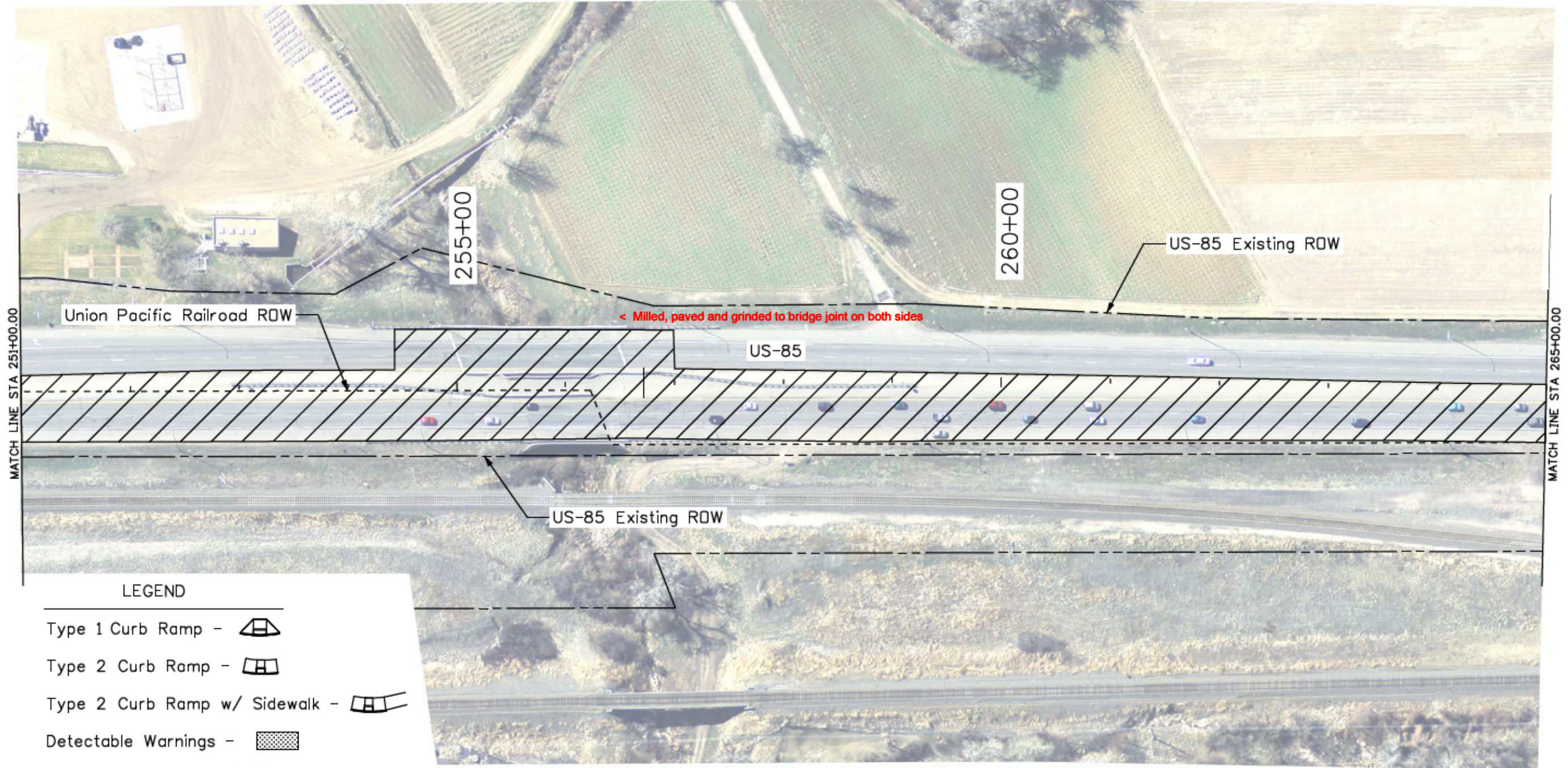
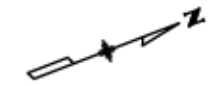
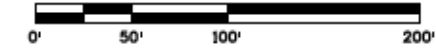
Colorado Department of Transportation  
 Arapahoe Residency  
 7328 S. Revere Parkway, Suite 204A  
 Centennial, CO 80112  
 Phone: 303-365-7230 FAX: 303-790-1037  
 Region 1      RYJ

As Constructed  
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 Revised: **9/8/16**  
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 Designer: JJB      Structure Numbers  
 Detailer: JJB  
 Sheet Subset: Plan      Subset Sheets: 4 of 17

Project No./Code  
 STA R600-441  
 19706  
 Sheet Number 25

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**LEGEND**

- Type 1 Curb Ramp -
- Type 2 Curb Ramp -
- Type 2 Curb Ramp w/ Sidewalk -
- Detectable Warnings -
- No Work Zone -
- No Parking, No Staging, No Work Zone -

No Parking, No Staging, No Work Zone on railroad property.

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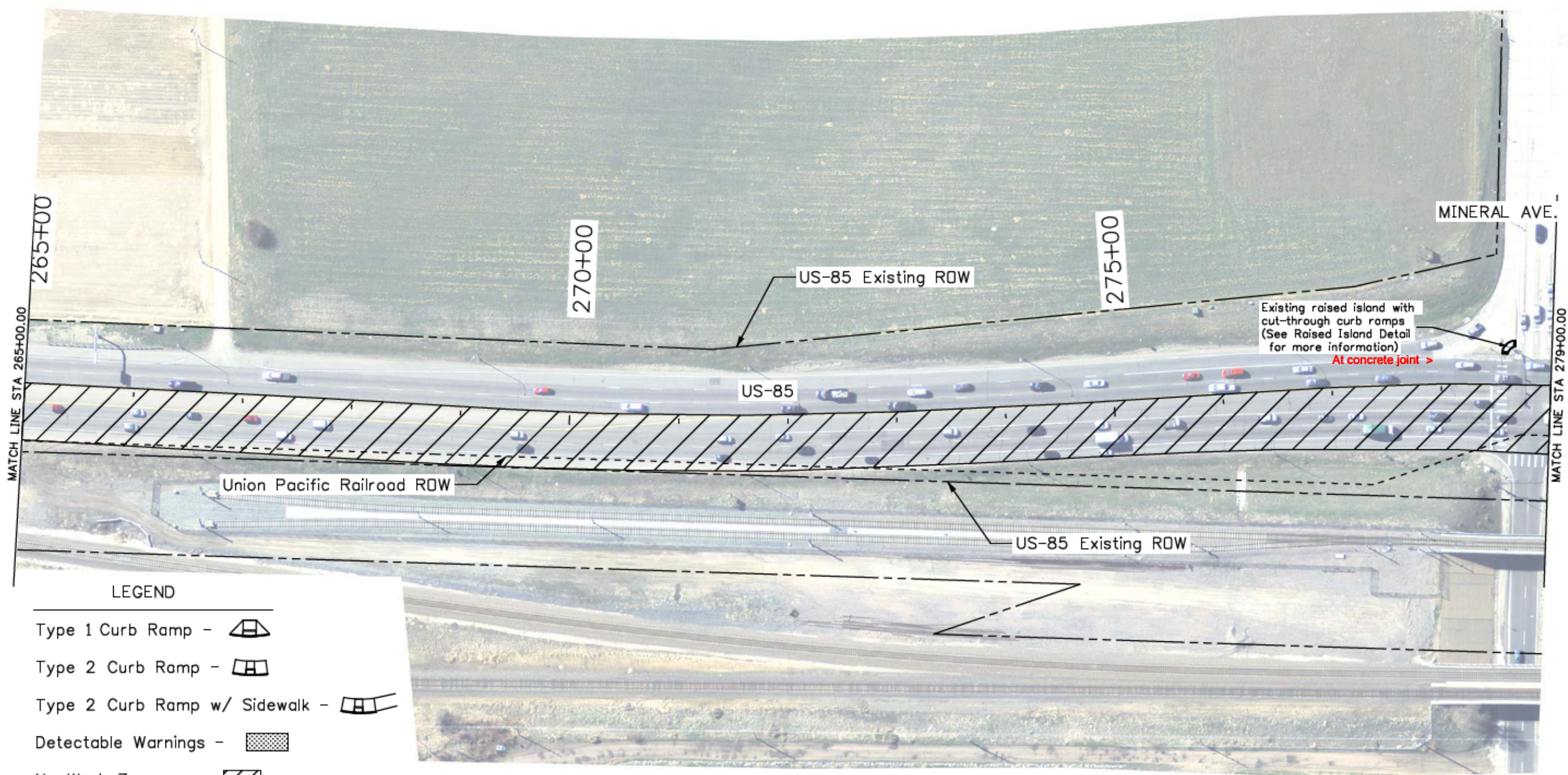
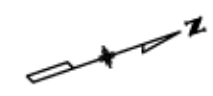
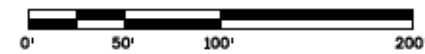
Colorado Department of Transportation  
 Arapahoe Residency  
 7328 S. Revere Parkway, Suite 204A  
 Centennial, CO 80112  
 Phone: 303-365-7230 FAX: 303-790-1037  
 Region 1 RYJ

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Revised:	9/8/16
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Designer:	JJB	Structure Numbers	
Detailer:	JJB	Subset Sheets:	5 of 17
Sheet Subset:	Plan		

Project No./Code	
STA R600-441	
19706	
Sheet Number	26

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**LEGEND**

- Type 1 Curb Ramp -
- Type 2 Curb Ramp -
- Type 2 Curb Ramp w/ Sidewalk -
- Detectable Warnings -
- No Work Zone -
- No Parking, No Staging, No Work Zone -

No Parking, No Staging, No Work Zone on railroad property.

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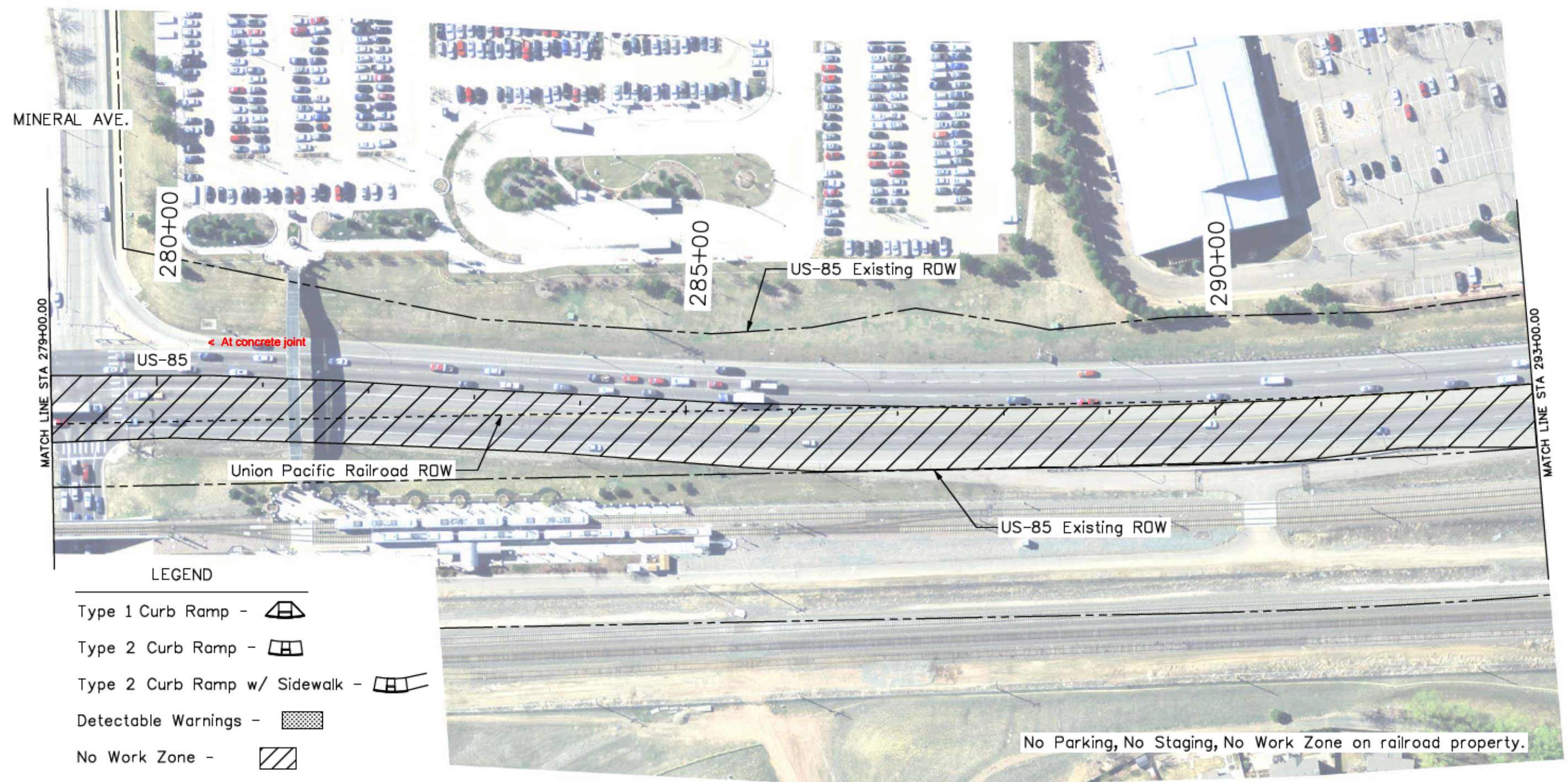
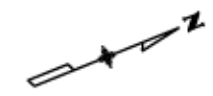
Colorado Department of Transportation  
 Arapahoe Residency  
 7328 S. Revere Parkway, Suite 204A  
 Centennial, CO 80112  
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 Region 1      RYJ

As Constructed
No Revisions:
Revised: 9/8/16
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Detailer:	JJB	Subset Sheets:	6 of 17
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Project No./Code	
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	19706
Sheet Number	27

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**LEGEND**

- Type 1 Curb Ramp -
- Type 2 Curb Ramp -
- Type 2 Curb Ramp w/ Sidewalk -
- Detectable Warnings -
- No Work Zone -
- No Parking, No Staging, No Work Zone -

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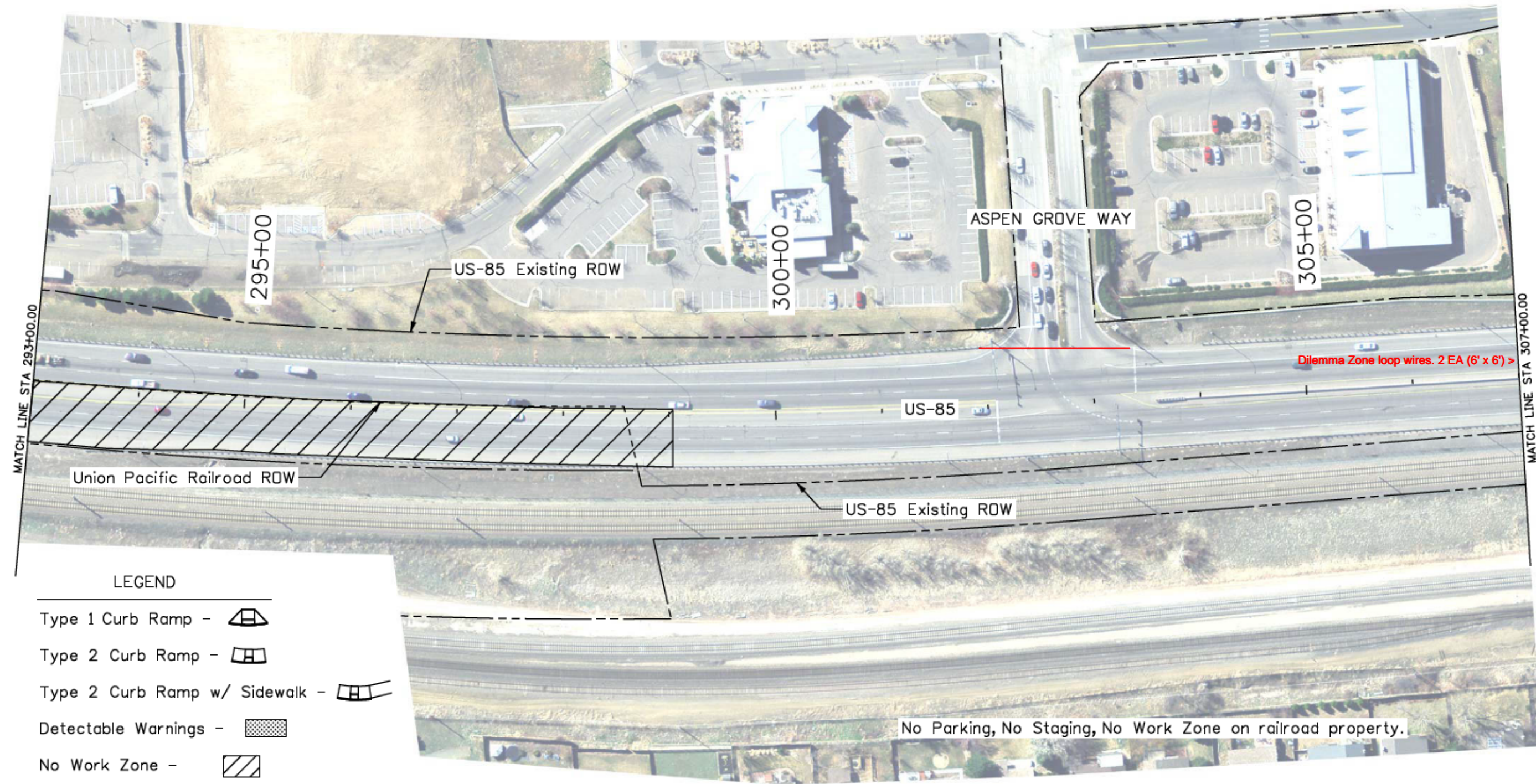
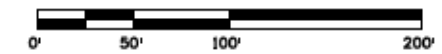
Colorado Department of Transportation  

 Arapahoe Residency  
 7328 S. Revere Parkway, Suite 204A  
 Centennial, CO 80112  
 Phone: 303-365-7230 FAX: 303-790-1037  
 Region 1      RYJ

As Constructed
No Revisions:
Revised: <b>9/8/16</b>
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Detailer:	JJB	Sheet Subset:	Plan
Sheet Subset:	Plan	Subset Sheets:	7 of 17

Project No./Code
STA R600-441
19706
Sheet Number      28



**LEGEND**

- Type 1 Curb Ramp -
- Type 2 Curb Ramp -
- Type 2 Curb Ramp w/ Sidewalk -
- Detectable Warnings -
- No Work Zone -
- No Parking, No Staging, No Work Zone -

No Parking, No Staging, No Work Zone on railroad property.

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Colorado Department of Transportation

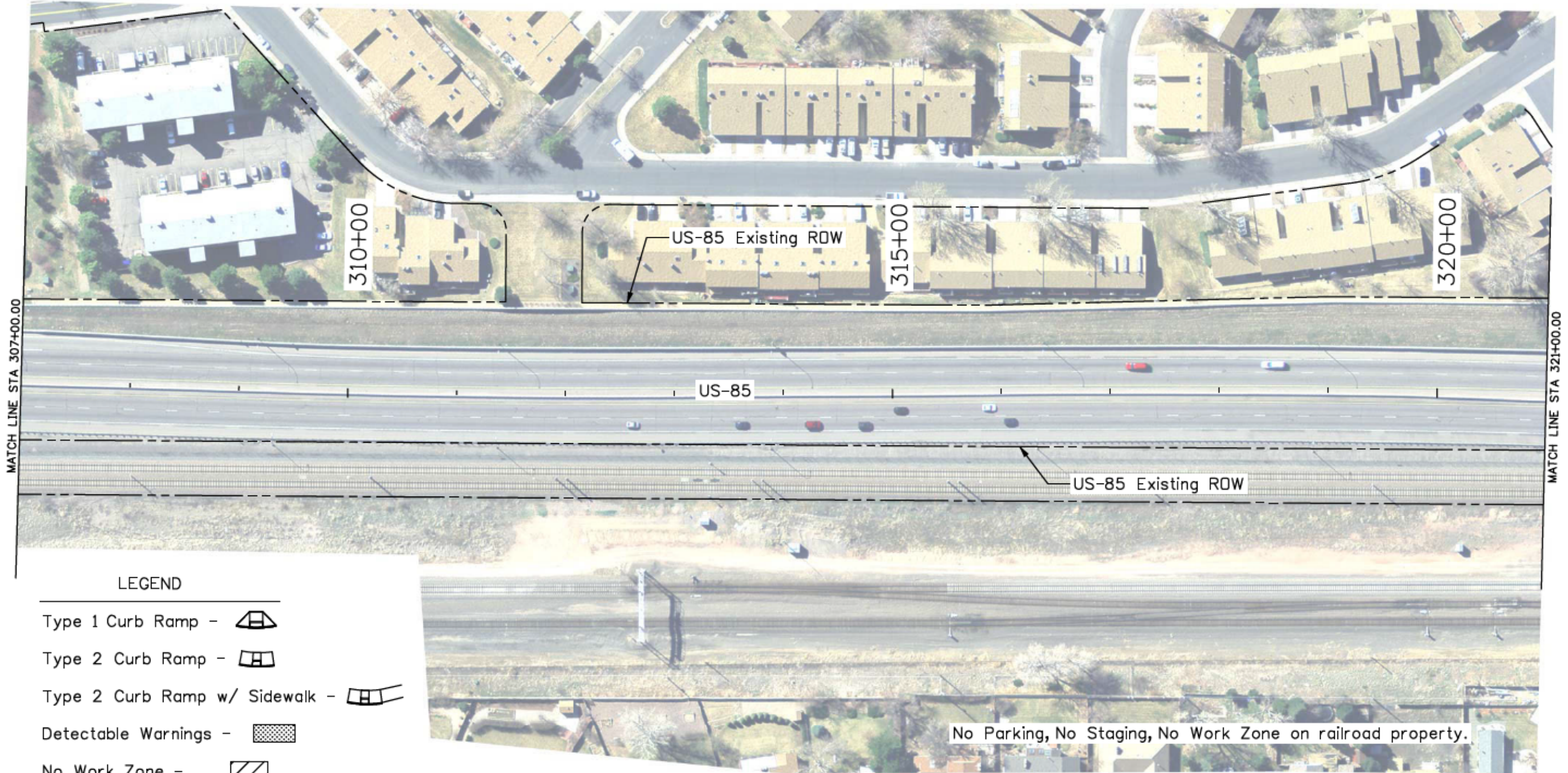
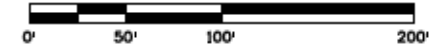
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7328 S. Revere Parkway, Suite 204A  
Centennial, CO 80112  
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Region 1 RYJ

As Constructed
No Revisions:
Revised: <b>9/8/16</b>
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Project No./Code	
	STA R600-441
	19706
Sheet Number	29



**LEGEND**

- Type 1 Curb Ramp -
- Type 2 Curb Ramp -
- Type 2 Curb Ramp w/ Sidewalk -
- Detectable Warnings -
- No Work Zone -
- No Parking, No Staging, No Work Zone -

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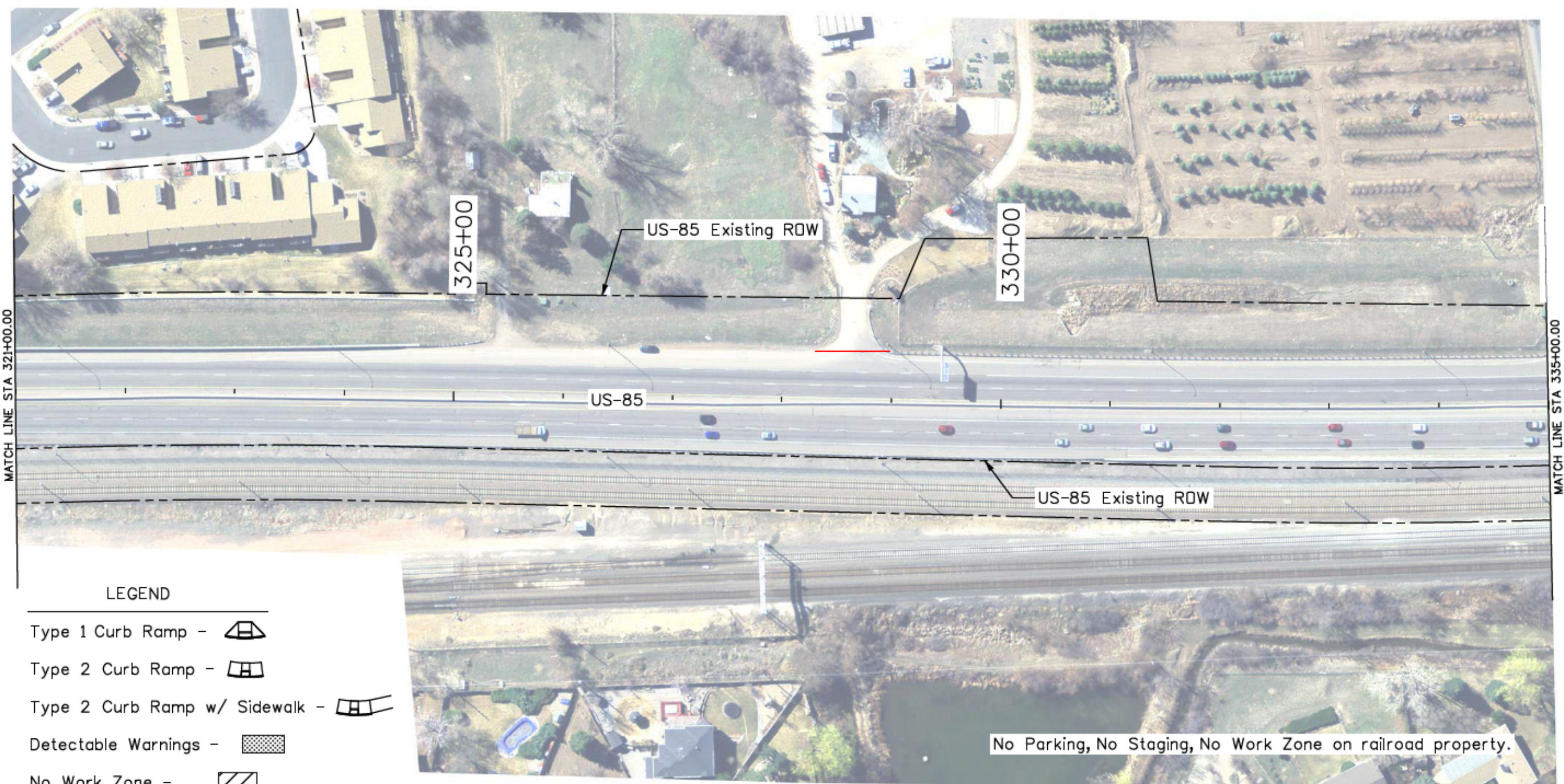
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 Arapahoe Residency  
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 Region 1      RYJ

As Constructed
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PLAN SHEET US-85			
Designer:	JJB	Structure Numbers	
Detailer:	JJB		
Sheet Subset:	Plan	Subset Sheets:	9 of 17

Project No./Code
STA R600-441
19706
Sheet Number      30



**LEGEND**

- Type 1 Curb Ramp -
- Type 2 Curb Ramp -
- Type 2 Curb Ramp w/ Sidewalk -
- Detectable Warnings -
- No Work Zone -
- No Parking, No Staging, No Work Zone -

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Unit Information	RYJ

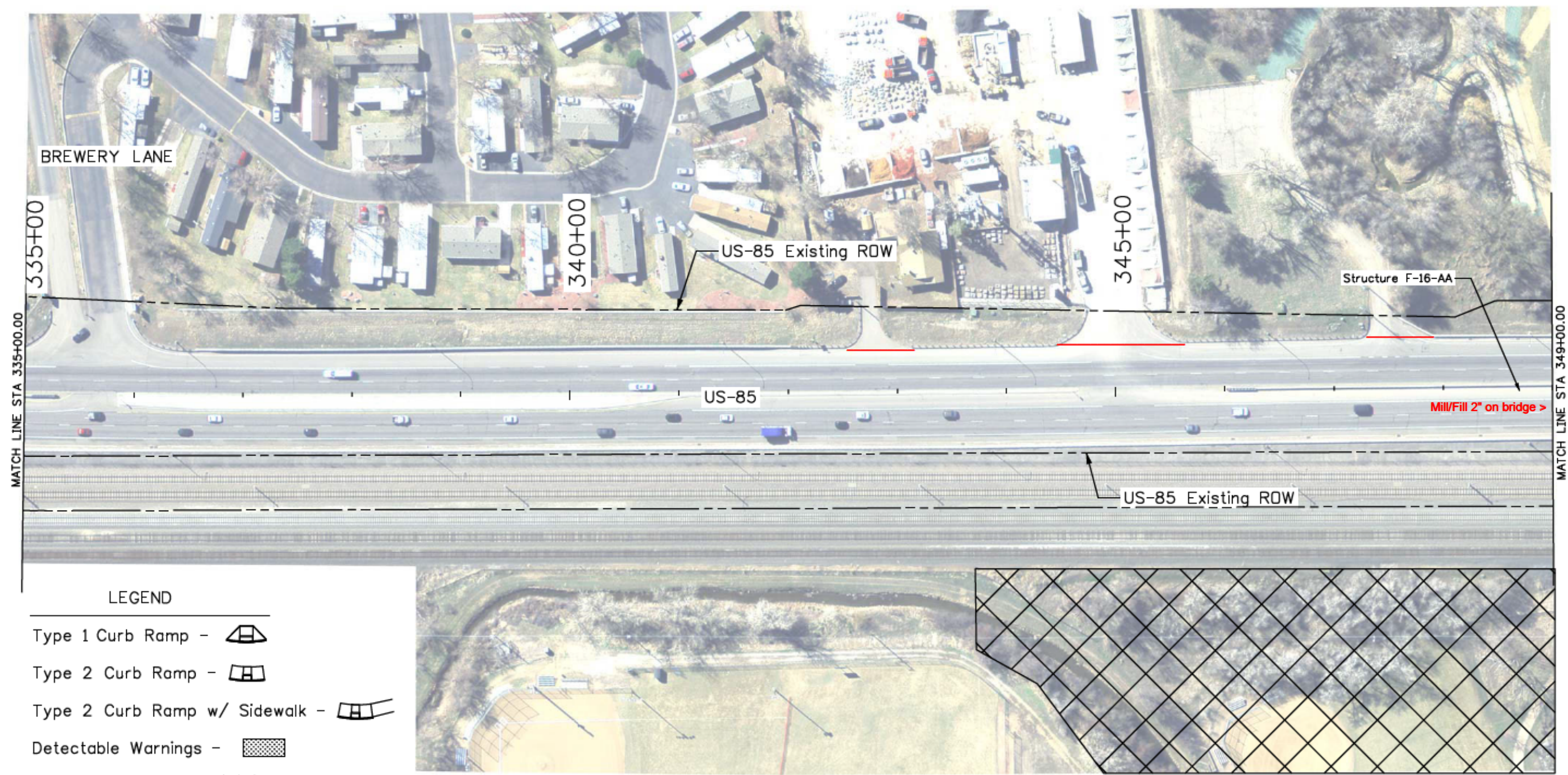
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Colorado Department of Transportation  
 Arapahoe Residency  
 7328 S. Revere Parkway, Suite 204A  
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 Region 1 RYJ

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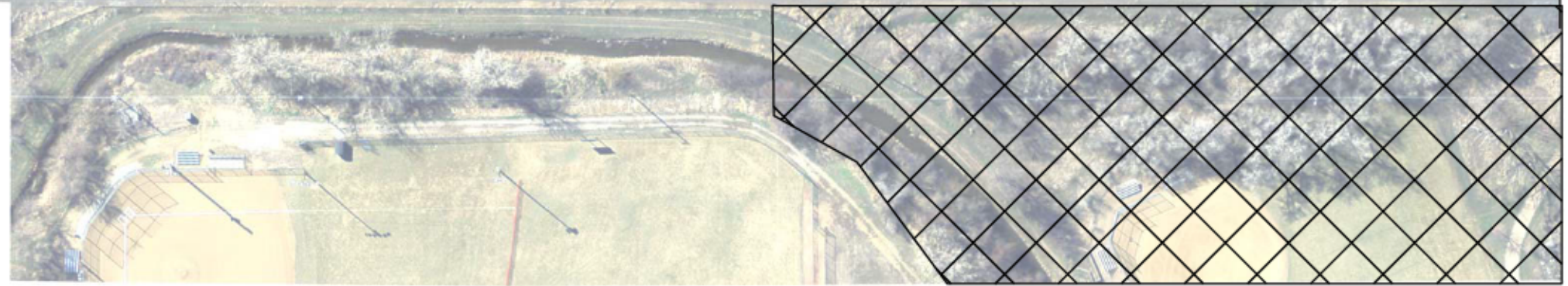
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Project No./Code
STA R600-441
19706
Sheet Number <span style="float: right;">31</span>



**LEGEND**

- Type 1 Curb Ramp -
- Type 2 Curb Ramp -
- Type 2 Curb Ramp w/ Sidewalk -
- Detectable Warnings -
- No Work Zone -
- No Parking, No Staging, No Work Zone -



No Parking, No Staging, No Work Zone on railroad property.

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 7328 S. Revere Parkway, Suite 204A  
 Centennial, CO 80112  
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 Region 1 RYJ

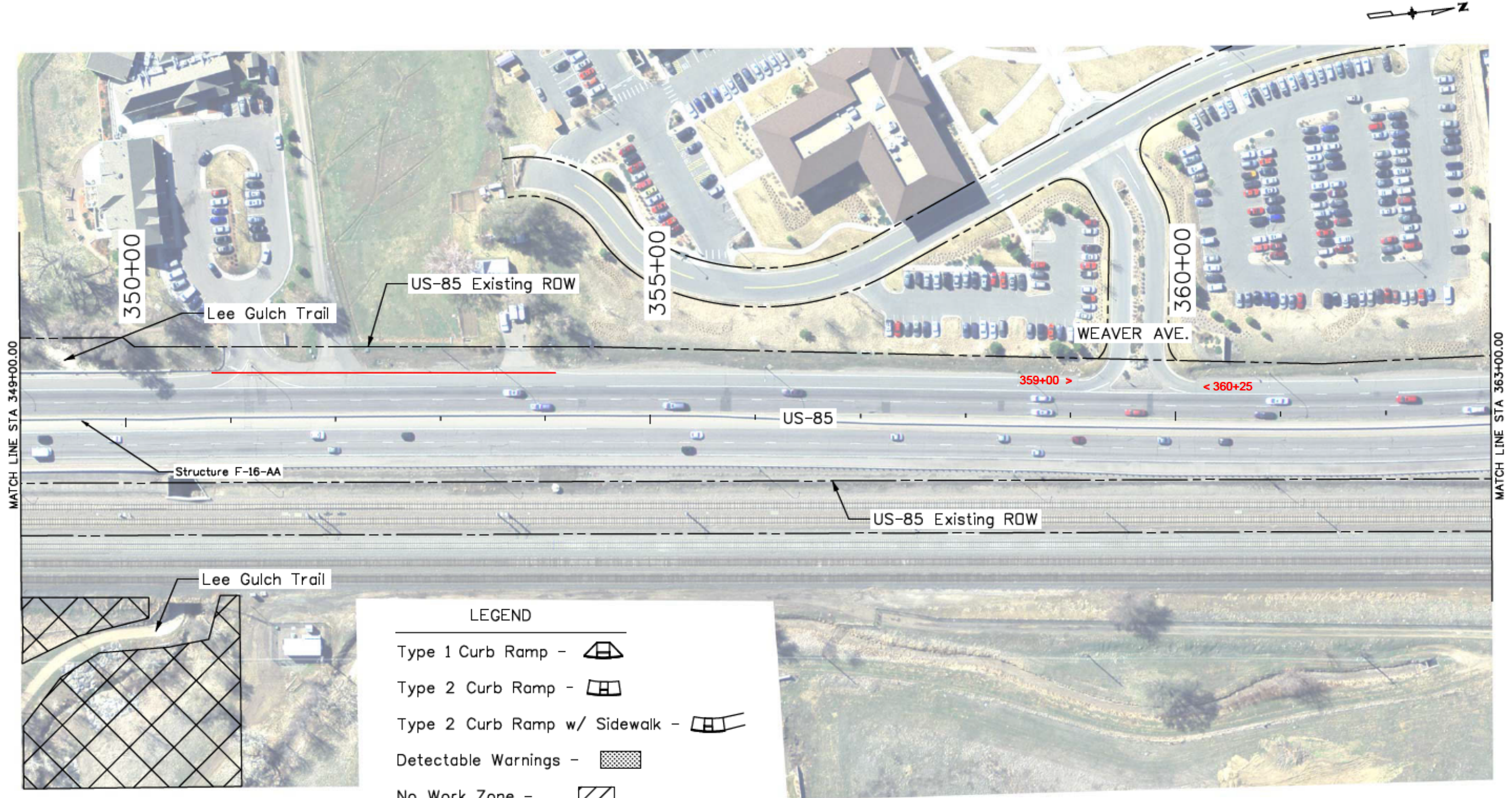
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Sheet Subset:	Plan		

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Sheet Number	32

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Colorado Department of Transportation  

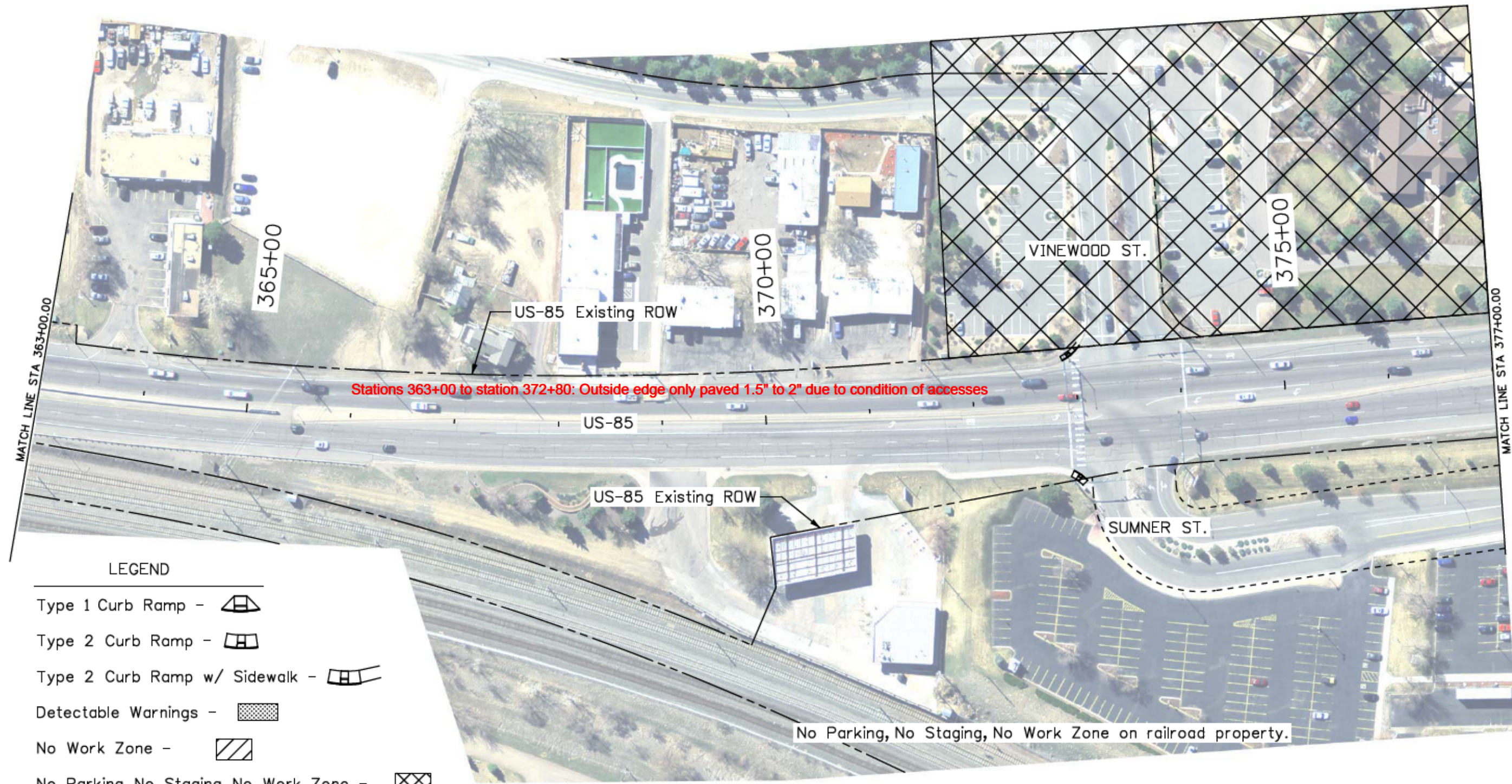
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 Region 1      RYJ

As Constructed
No Revisions:
Revised: 9/8/16
Void:

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US-85			
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Project No./Code
STA R600-441
19706
Sheet Number 33

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**LEGEND**

- Type 1 Curb Ramp -
- Type 2 Curb Ramp -
- Type 2 Curb Ramp w/ Sidewalk -
- Detectable Warnings -
- No Work Zone -
- No Parking, No Staging, No Work Zone -

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Horiz. Scale: 1:100	Vert. Scale: As Noted
Unit Information	RYJ

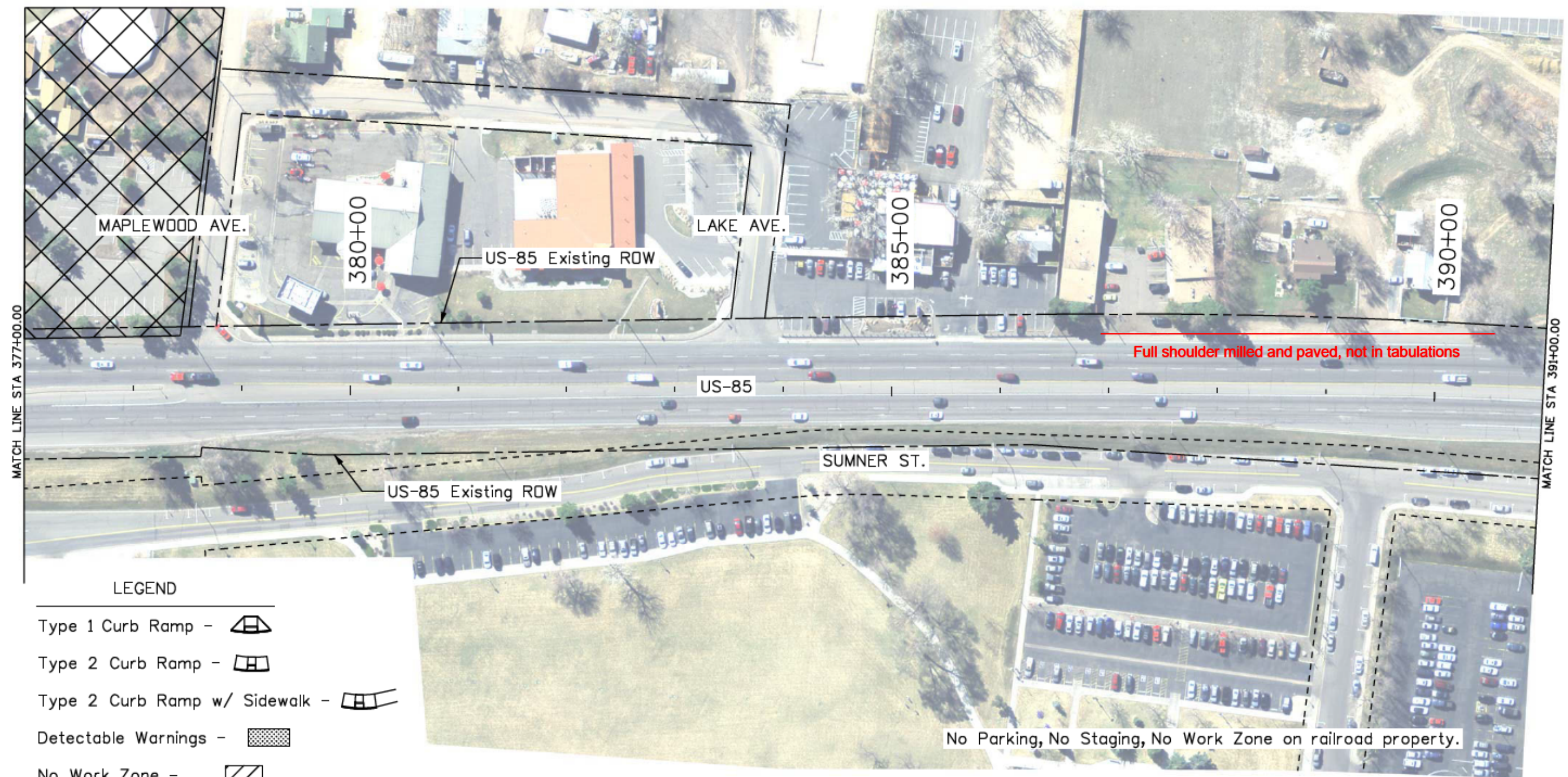
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Date:	Comments	Init.	

Colorado Department of Transportation  
 Arapahoe Residency  
 7328 S. Revere Parkway, Suite 204A  
 Centennial, CO 80112  
 Phone: 303-365-7230 FAX: 303-790-1037  
 Region 1 RYJ

As Constructed
No Revisions:
Revised: <b>9/8/16</b>
Void:

PLAN SHEET US-85			
Designer:	JJB	Structure Numbers	
Detailer:	JJB	Subset Sheets:	13 of 17
Sheet Subset:	Plan		

Project No./Code	STA R600-441
	19706
Sheet Number	34



**LEGEND**

- Type 1 Curb Ramp -
- Type 2 Curb Ramp -
- Type 2 Curb Ramp w/ Sidewalk -
- Detectable Warnings -
- No Work Zone -
- No Parking, No Staging, No Work Zone -

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Print Date: 11/19/2015	
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Unit Information	RYJ

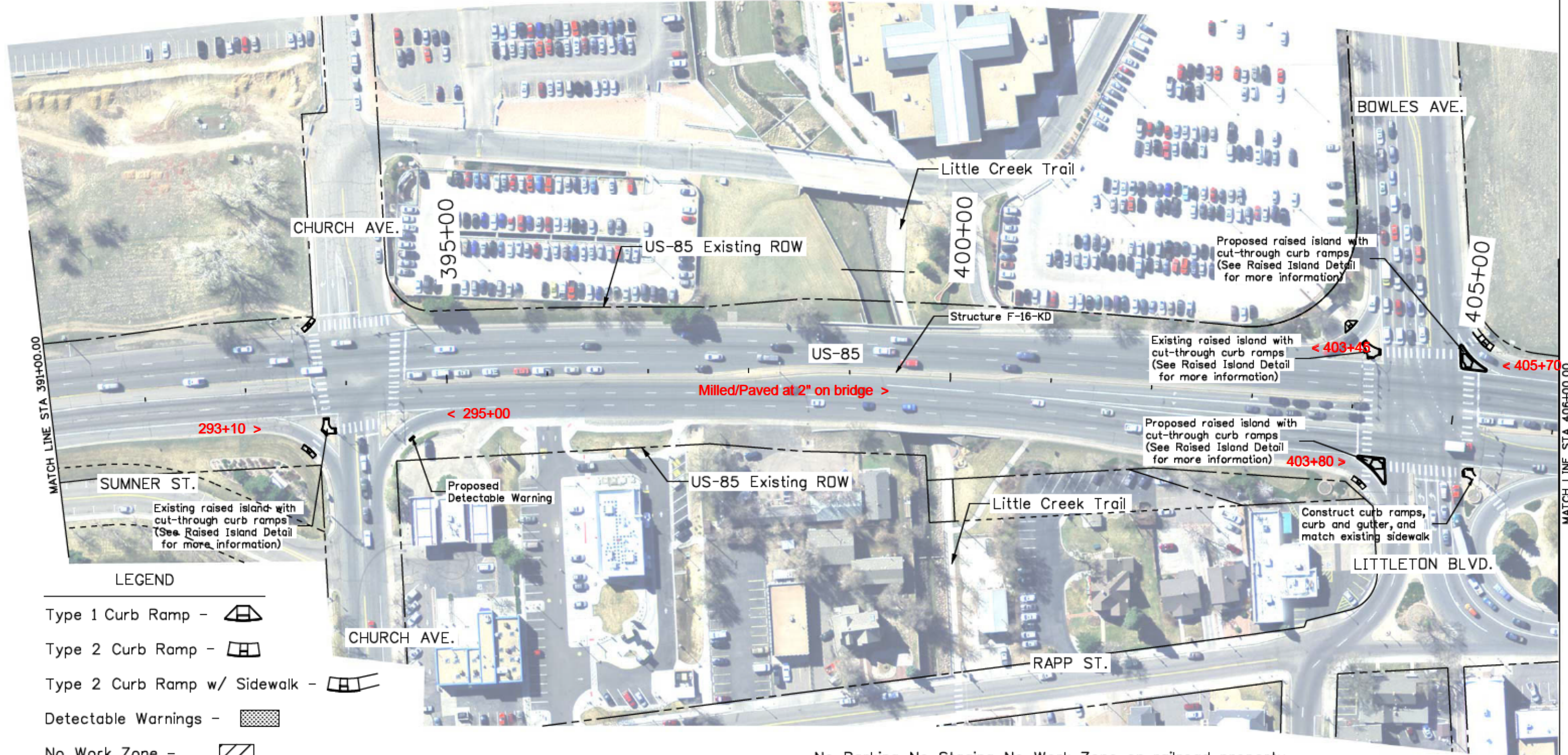
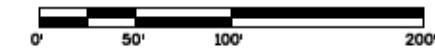
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Date:	Comments	Init.

Colorado Department of Transportation  
 Arapahoe Residency  
 7328 S. Revere Parkway, Suite 204A  
 Centennial, CO 80112  
 Phone: 303-365-7230 FAX: 303-790-1037  
 Region 1 RYJ

As Constructed
No Revisions:
Revised: <b>9/8/16</b>
Void:

PLAN SHEET US-85			
Designer:	JJB	Structure Numbers	
Detailer:	JJB	Subset Sheets:	14 of 17
Sheet Subset:	Plan		

Project No./Code	
	STA R600-441
	19706
Sheet Number	35



**LEGEND**

- Type 1 Curb Ramp -
- Type 2 Curb Ramp -
- Type 2 Curb Ramp w/ Sidewalk -
- Detectable Warnings -
- No Work Zone -
- No Parking, No Staging, No Work Zone -

No Parking, No Staging, No Work Zone on railroad property.

Print Date: 11/19/2015	
File Name: 19706PlanSheets_100Scale_Ad.dgn	
Horiz. Scale: 1:100      Vert. Scale: As Noted	
Unit Information      RYJ	

Sheet Revisions		
Date:	Comments	Init.

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 Centennial, CO 80112  
 Phone: 303-365-7230 FAX: 303-790-1037  
 Region 1      RYJ

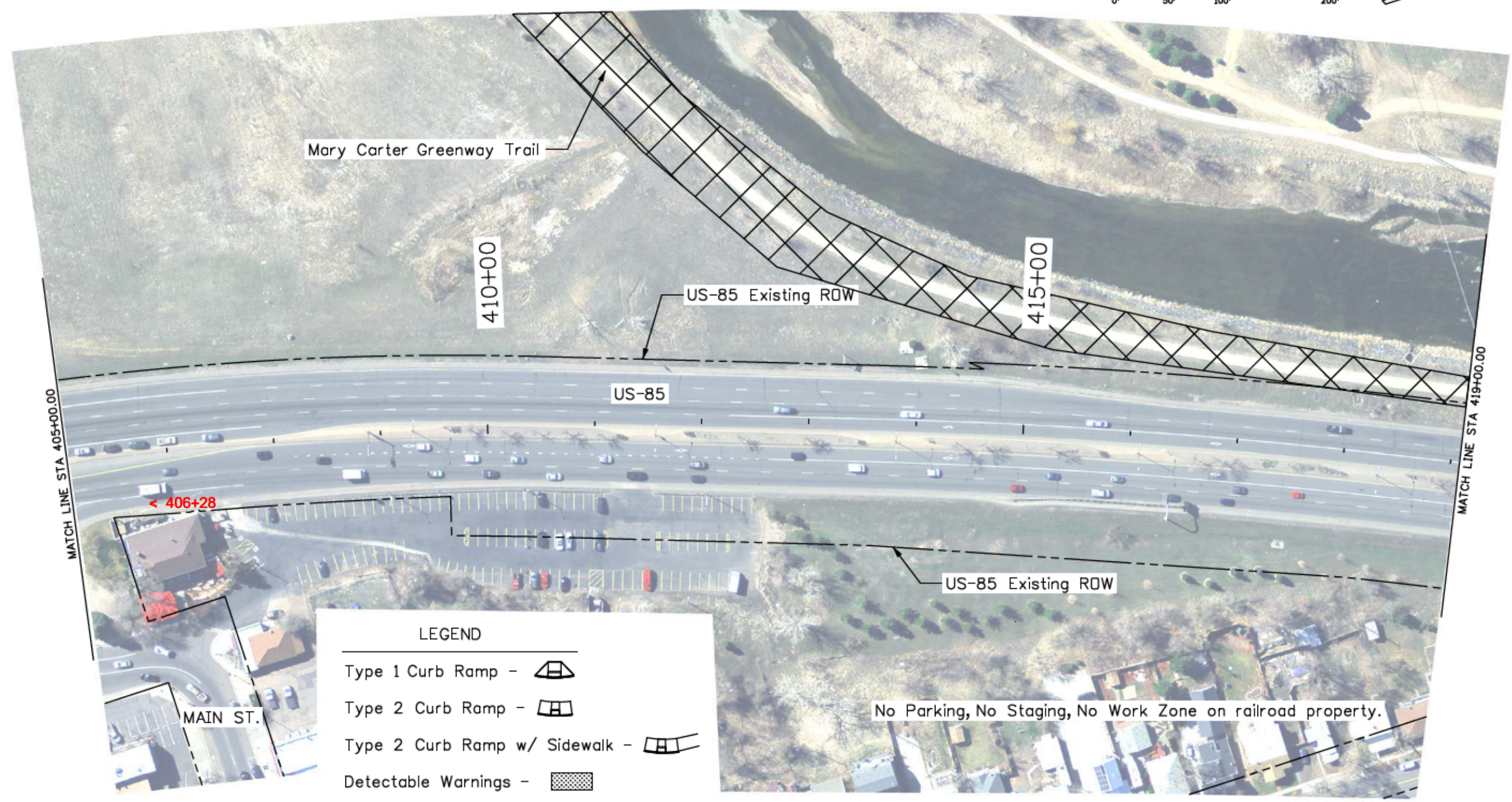
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No Revisions:
Revised: 9/8/16
Void:

PLAN SHEET US-85			
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Detailer:	JJB	Sheet Subset:	Plan
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Project No./Code
STA R600-441
19706
Sheet Number 36

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LEGEND	
Type 1 Curb Ramp -	
Type 2 Curb Ramp -	
Type 2 Curb Ramp w/ Sidewalk -	
Detectable Warnings -	
No Work Zone -	
No Parking, No Staging, No Work Zone -	

Print Date: 11/19/2015
File Name: 19706PlanSheets_100Scale_Ad.dgn
Horiz. Scale: 1:100      Vert. Scale: As Noted
Unit Information      RYJ

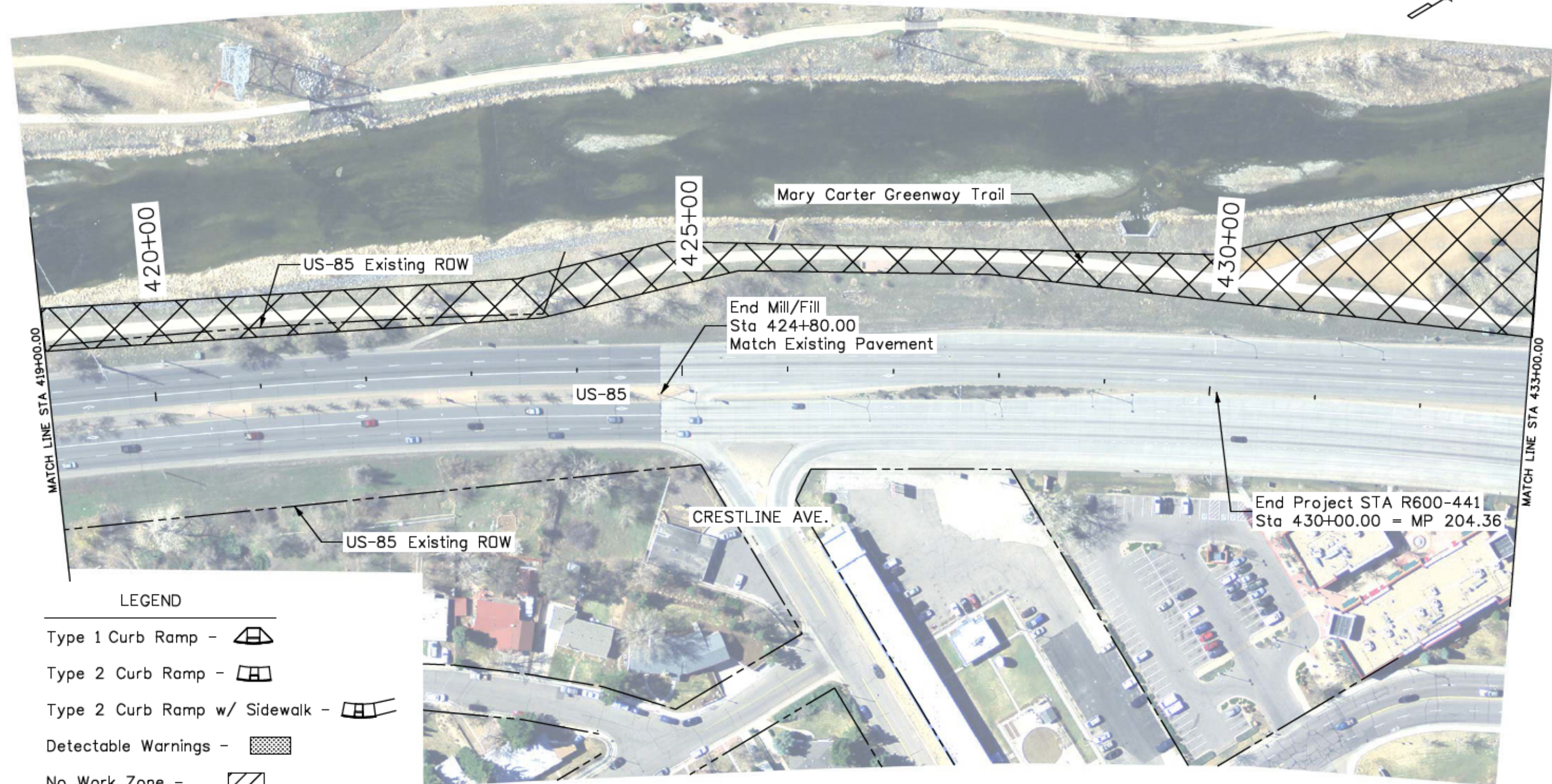
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Date:	Comments	Init.

Colorado Department of Transportation  
  
 Arapahoe Residency  
 7328 S. Revere Parkway, Suite 204A  
 Centennial, CO 80112  
 Phone: 303-365-7230 FAX: 303-790-1037  
 Region 1      RYJ

As Constructed
No Revisions:
Revised: <b>9/8/16</b>
Void:

PLAN SHEET US-85			
Designer:	JJB	Structure Numbers	
Detailer:	JJB	Subset Sheets:	16 of 17
Sheet Subset:	Plan		

Project No./Code
STA R600-441
19706
Sheet Number      37



**LEGEND**

- Type 1 Curb Ramp -
- Type 2 Curb Ramp -
- Type 2 Curb Ramp w/ Sidewalk -
- Detectable Warnings -
- No Work Zone -
- No Parking, No Staging, No Work Zone -

No Parking, No Staging, No Work Zone on railroad property.

Print Date: 11/19/2015
File Name: 19706PlanSheets_100Scale_Ad.dgn
Horiz. Scale: 1:100      Vert. Scale: As Noted
Unit Information      RYJ

Sheet Revisions		
Date:	Comments	Init.

Colorado Department of Transportation



Arapahoe Residency  
7328 S. Revere Parkway, Suite 204A  
Centennial, CO 80112  
Phone: 303-365-7230 FAX: 303-790-1037

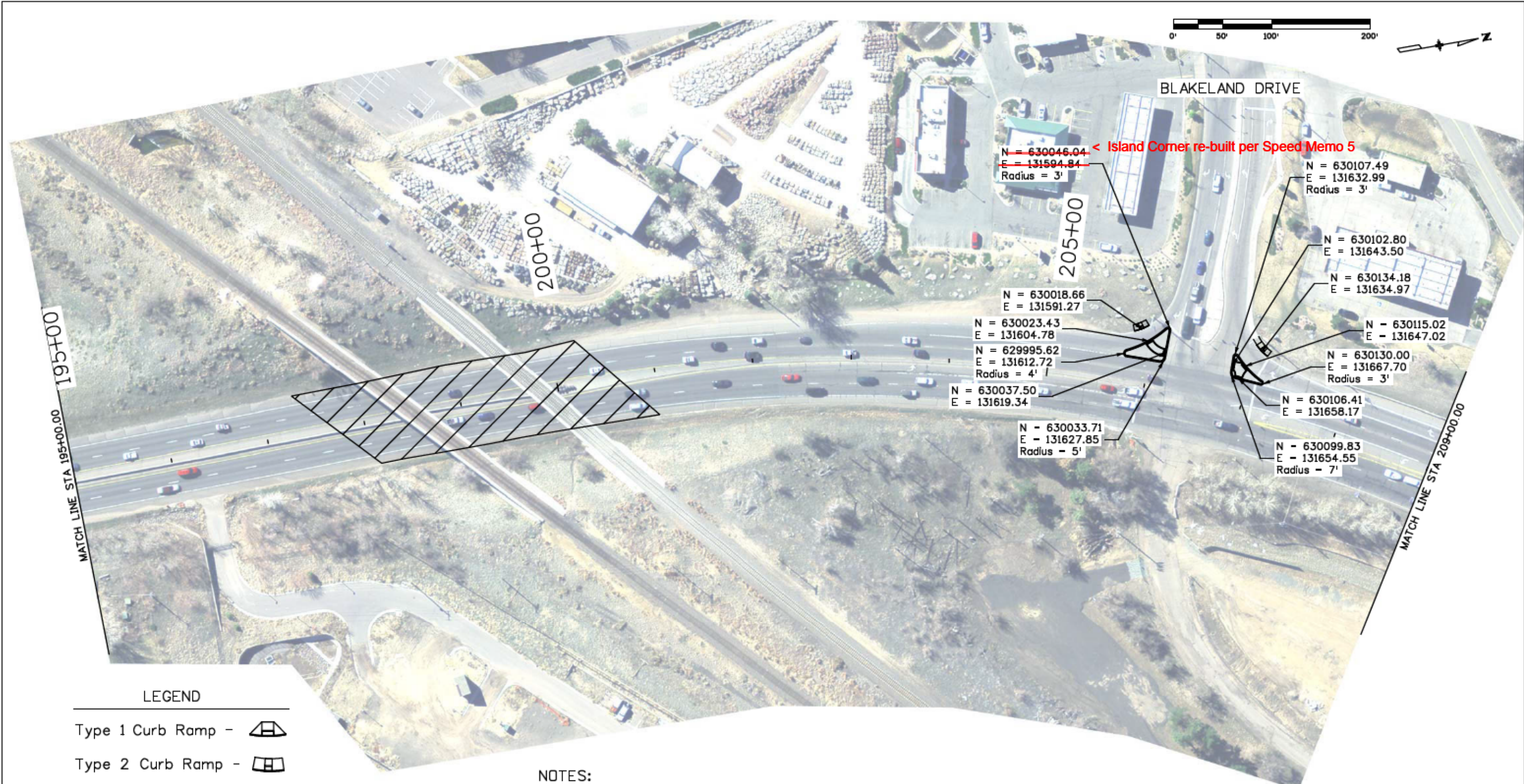
Region 1      RYJ

As Constructed
No Revisions: 9/8/16
Revised:
Void:

PLAN SHEET US-85			
Designer:	JJB	Structure Numbers	
Detailer:	JJB		
Sheet Subset:	Plan	Subset Sheets:	17 of 17

Project No./Code
STA R600-441
19706
Sheet Number 38

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**LEGEND**

- Type 1 Curb Ramp -
- Type 2 Curb Ramp -
- Type 2 Curb Ramp w/ Sidewalk -
- Detectable Warnings -
- No Work Zone -

**NOTES:**

- Island gutter pan shall match existing ground.
- Approx. coordinates of island radii are referenced at edge of gutter pan on outside edge of radii.
- Approx. coordinates of island cut-through are referenced at mid-point of the cut-through and the gutter pan flowline.
- Approx. coordinates of detectable warnings on existing ramps are referenced at mid-point of the detectable warning.

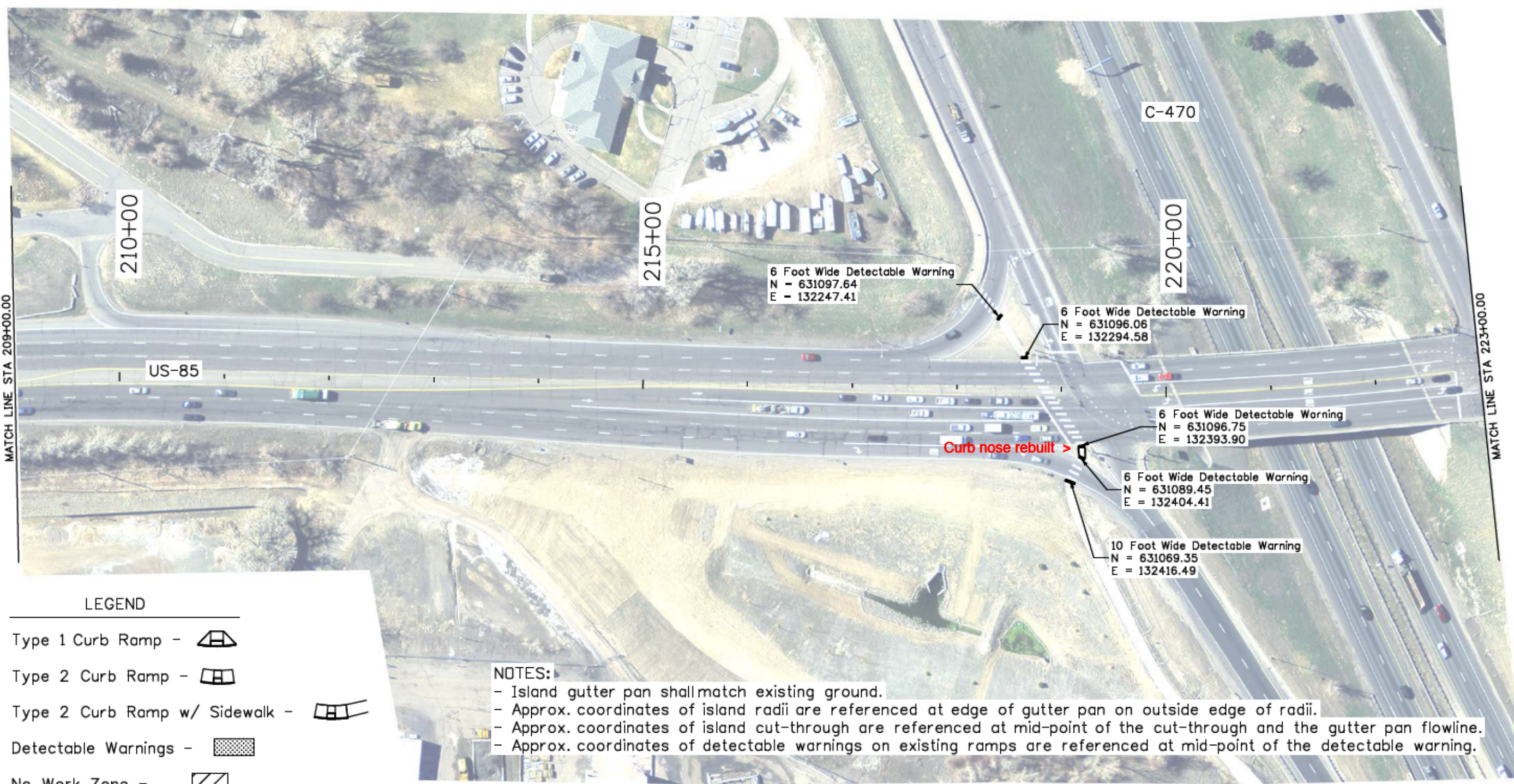
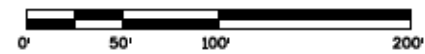
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 Unit Information      RYJ

Sheet Revisions		
Date:	Comments	Init.

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 7328 S. Revere Parkway, Suite 204A  
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 Region 1      RYJ

As Constructed	RAISED ISLAND, CURB RAMPS, AND DETECTABLE WARNINGS LOCATIONS			Project No./Code
No Revisions:				STA R600-441
Revised: 9/8/16	Designer: JJB	Structure Numbers		19706
Void:	Detailer: JJB	Subset Sheets:	1 of 7	Sheet Number 39
	Sheet Subset: Islands			

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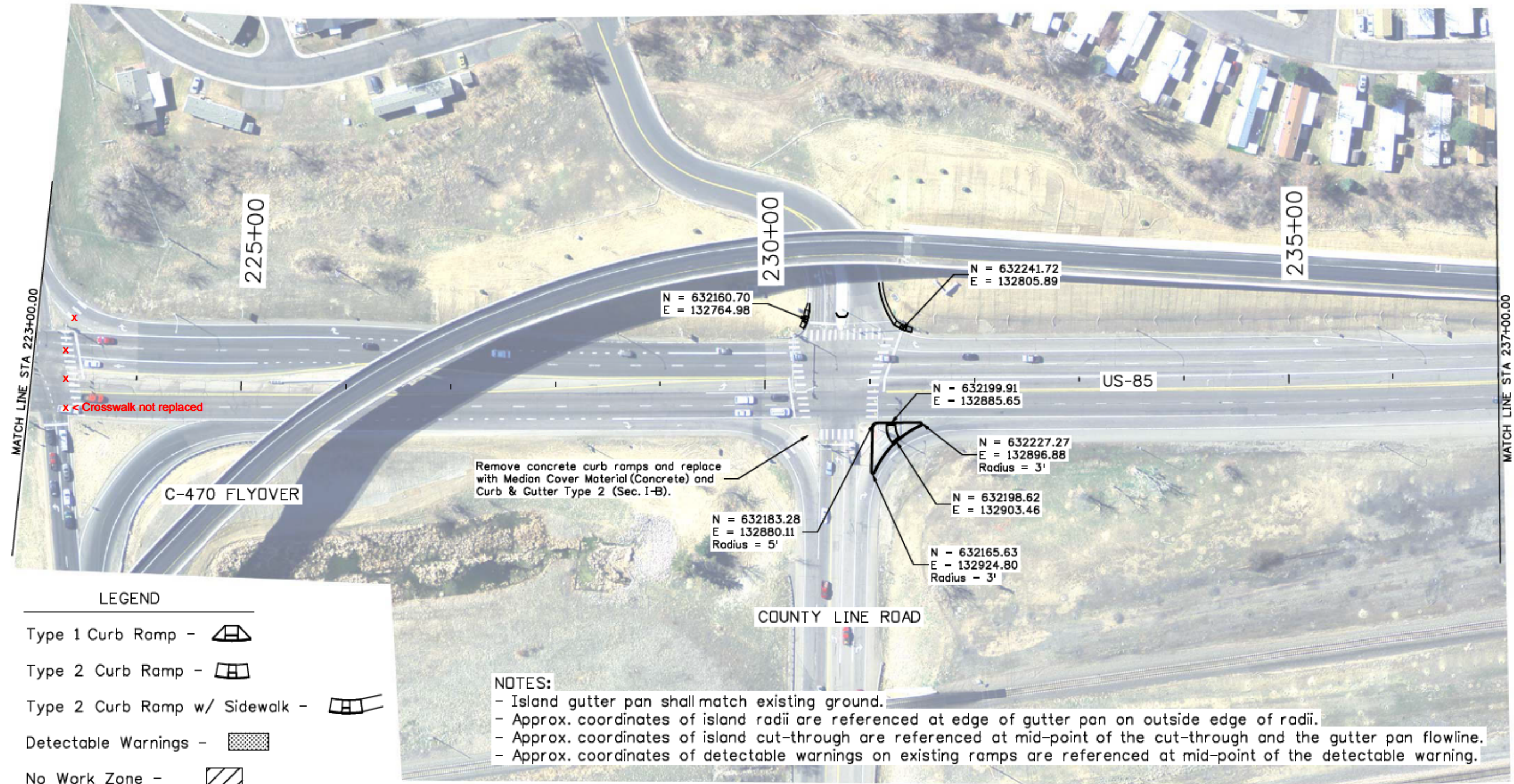
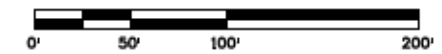
- Type 1 Curb Ramp -
- Type 2 Curb Ramp -
- Type 2 Curb Ramp w/ Sidewalk -
- Detectable Warnings -
- No Work Zone -

**NOTES:**

- Island gutter pan shall match existing ground.
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Print Date: 11/19/2015	<b>Sheet Revisions</b>			Colorado Department of Transportation Arapahoe Residency 7328 S. Revere Parkway, Suite 204A Centennial, CO 80112 Phone: 303-365-7230 FAX: 303-790-1037 Region 1	As Constructed	RAISED ISLAND, CURB RAMPS, AND DETECTABLE WARNINGS LOCATIONS			Project No./Code
File Name: 19706_ADARamps_Islands.dgn	Date:	Comments	Init.		No Revisions:				STA R600-441
Horiz. Scale: 1:100 Vert. Scale: As Noted				Region 1	Revised: 9/8/16	Designer: JJB	Structure Numbers	19706	
Unit Information RYJ					Void:	Detailer: JJB	Subset Sheets: 2 of 7	Sheet Number 40	



**LEGEND**

- Type 1 Curb Ramp -
- Type 2 Curb Ramp -
- Type 2 Curb Ramp w/ Sidewalk -
- Detectable Warnings -
- No Work Zone -

**NOTES:**

- Island gutter pan shall match existing ground.
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Print Date: 11/19/2015	
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Unit Information      RYJ	

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Date:	Comments	Init.

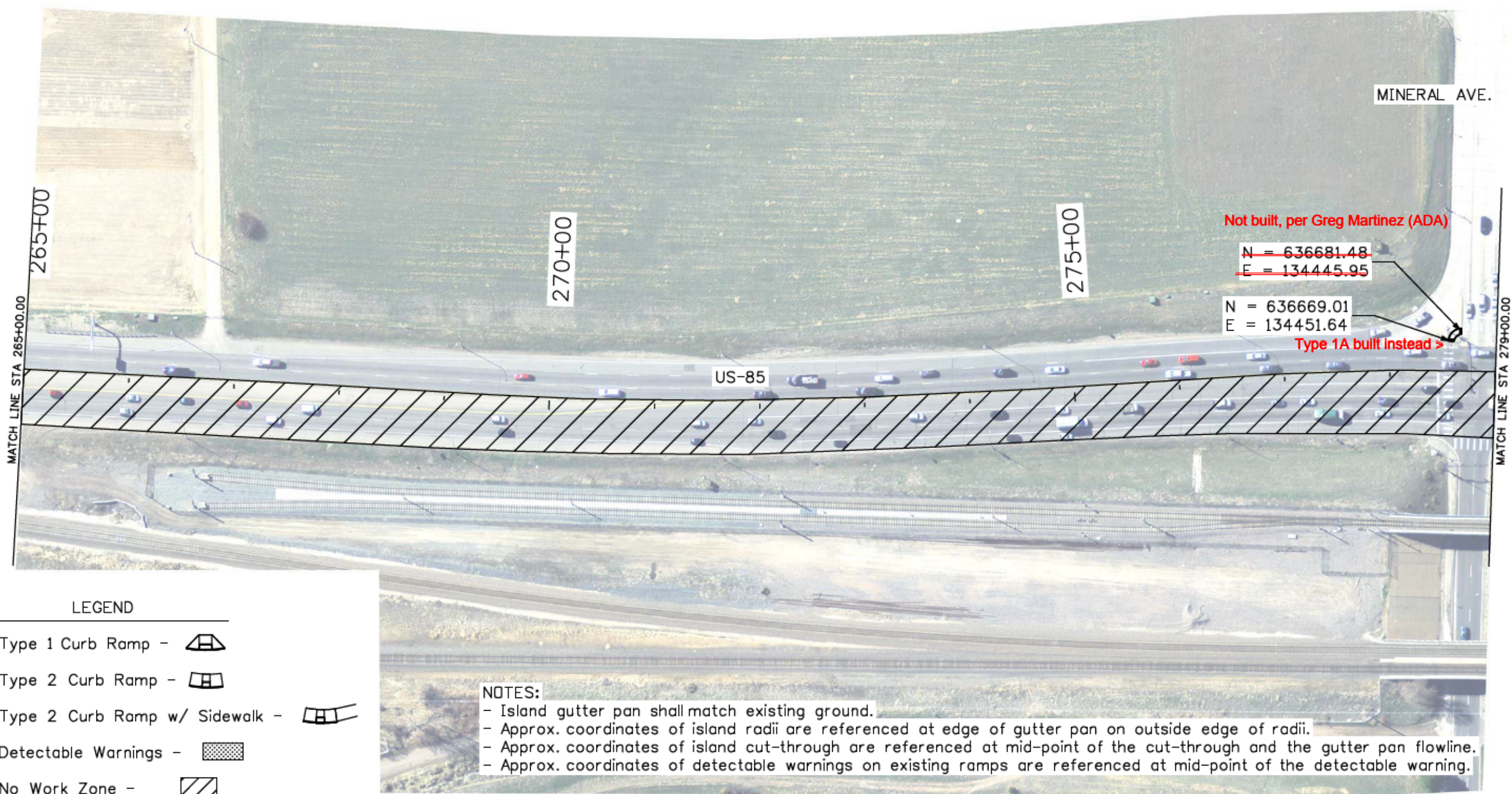
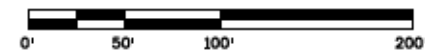
Colorado Department of Transportation  
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 Region 1      RYJ

As Constructed
No Revisions:
Revised: <b>9/8/16</b>
Void:

RAISED ISLAND, CURB RAMPS, AND DETECTABLE WARNINGS LOCATIONS			
Designer:	JJB	Structure Numbers	
Detailer:	JJB		
Sheet Subset:	Islands	Subset Sheets:	3 of 7

Project No./Code	
	STA R600-441
	19706
Sheet Number	41

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**LEGEND**

- Type 1 Curb Ramp -
- Type 2 Curb Ramp -
- Type 2 Curb Ramp w/ Sidewalk -
- Detectable Warnings -
- No Work Zone -

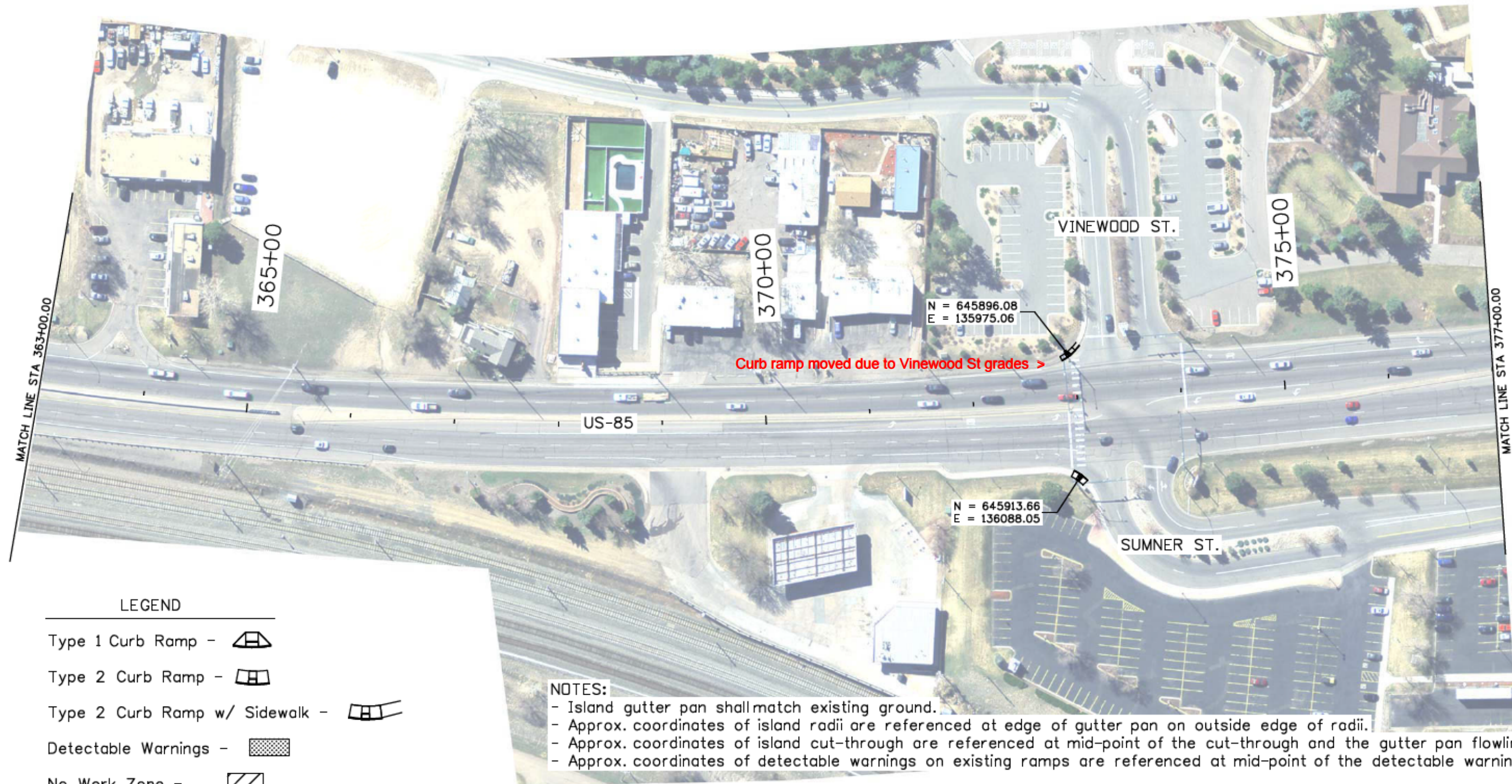
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Print Date: 11/19/2015		<b>Sheet Revisions</b>			Colorado Department of Transportation Arapahoe Residency 7328 S. Revere Parkway, Suite 204A Centennial, CO 80112 Phone: 303-365-7230 FAX: 303-790-1037 Region 1	<b>As Constructed</b>		<b>RAISED ISLAND, CURB RAMPS, AND DETECTABLE WARNINGS LOCATIONS</b>		<b>Project No./Code</b>	
File Name: 19706_ADARamps_Islands.dgn		Date:	Comments	Init.		No Revisions:			STA R600-441		
Horiz. Scale: 1:100      Vert. Scale: As Noted						Revised: 9/8/16	Designer: JJB	Structure Numbers	19706		
Unit Information      RYJ						Void:	Detailer: JJB	Subset Sheets: 4 of 7	Sheet Number 42		

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**LEGEND**

- Type 1 Curb Ramp -
- Type 2 Curb Ramp -
- Type 2 Curb Ramp w/ Sidewalk -
- Detectable Warnings -
- No Work Zone -

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Unit Information	RYJ

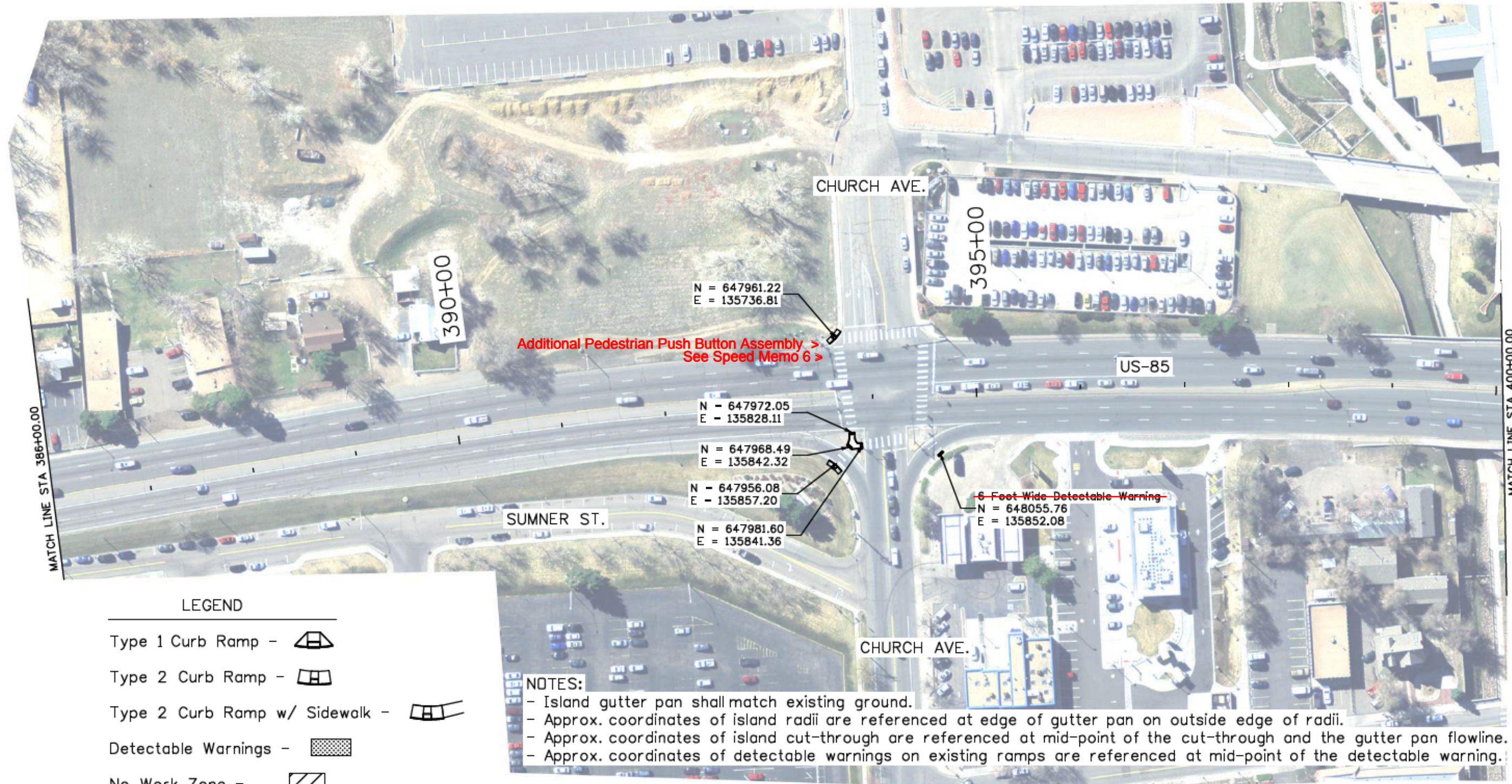
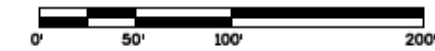
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Date:	Comments	Init.

Colorado Department of Transportation  
 Arapahoe Residency  
 7328 S. Revere Parkway, Suite 204A  
 Centennial, CO 80112  
 Phone: 303-365-7230 FAX: 303-790-1037  
 Region 1 RYJ

As Constructed
No Revisions:
Revised: <b>9/8/16</b>
Void:

RAISED ISLAND, CURB RAMPS, AND DETECTABLE WARNINGS LOCATIONS			
Designer:	JJB	Structure	
Detailer:	JJB	Numbers	
Sheet Subset:	Islands	Subset Sheets:	5 of 7

Project No./Code
STA R600-441
19706
Sheet Number <b>43</b>



**LEGEND**

- Type 1 Curb Ramp -
- Type 2 Curb Ramp -
- Type 2 Curb Ramp w/ Sidewalk -
- Detectable Warnings -
- No Work Zone -

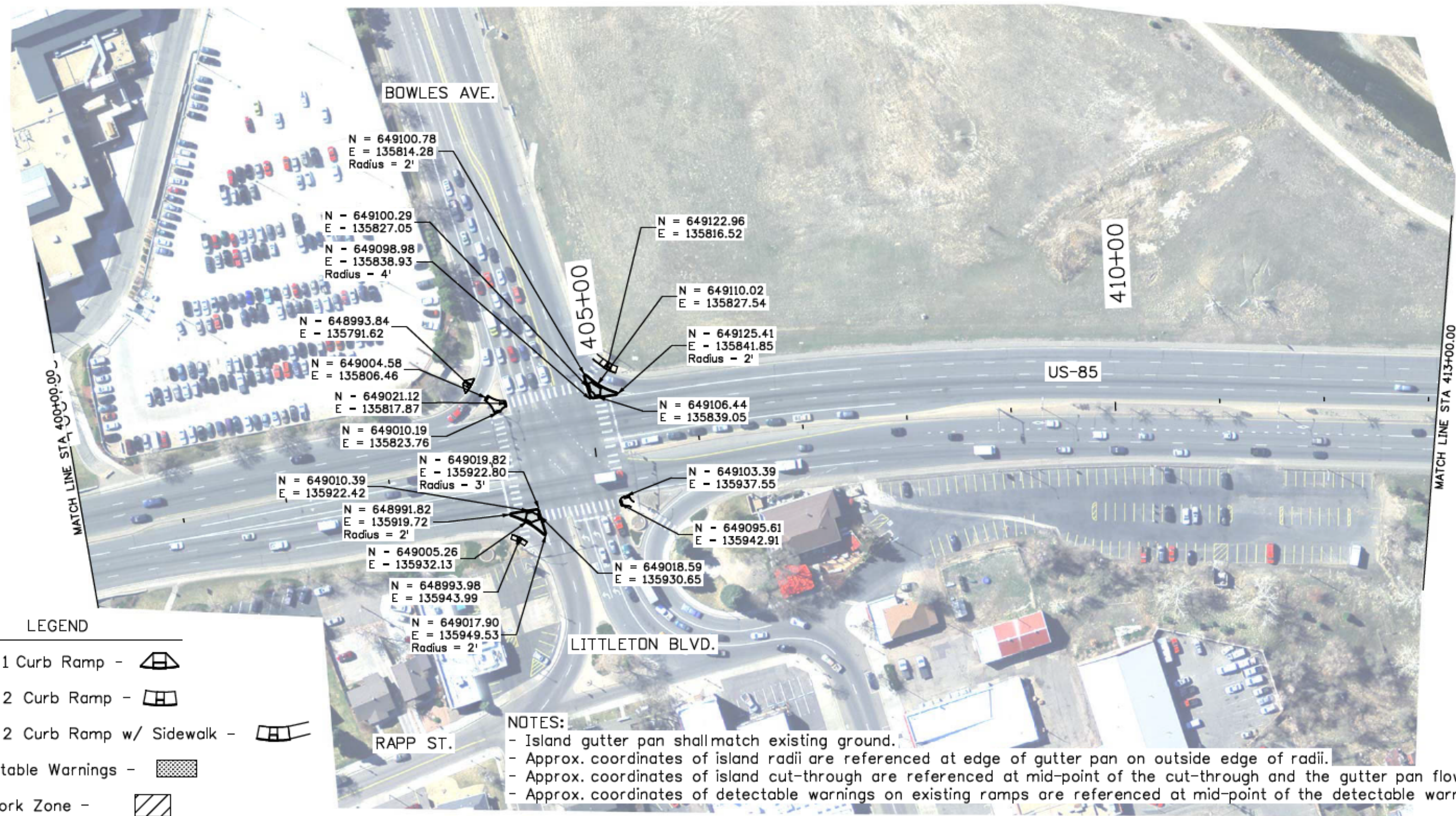
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Revised:	9/8/16	Designer:	JJB																																															
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		Sheet Subset:	Islands																																															
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File Name: 19706_ADARamps_Islands.dgn				STA R600-441																																														
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Unit Information		RYJ		Sheet Number																																														
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 Centennial, CO 80112  
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 Region 1 RYJ



**LEGEND**

- Type 1 Curb Ramp -
- Type 2 Curb Ramp -
- Type 2 Curb Ramp w/ Sidewalk -
- Detectable Warnings -
- No Work Zone -

**NOTES:**

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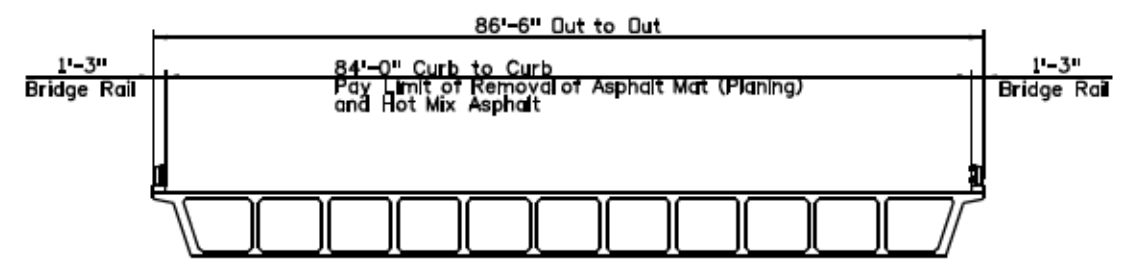
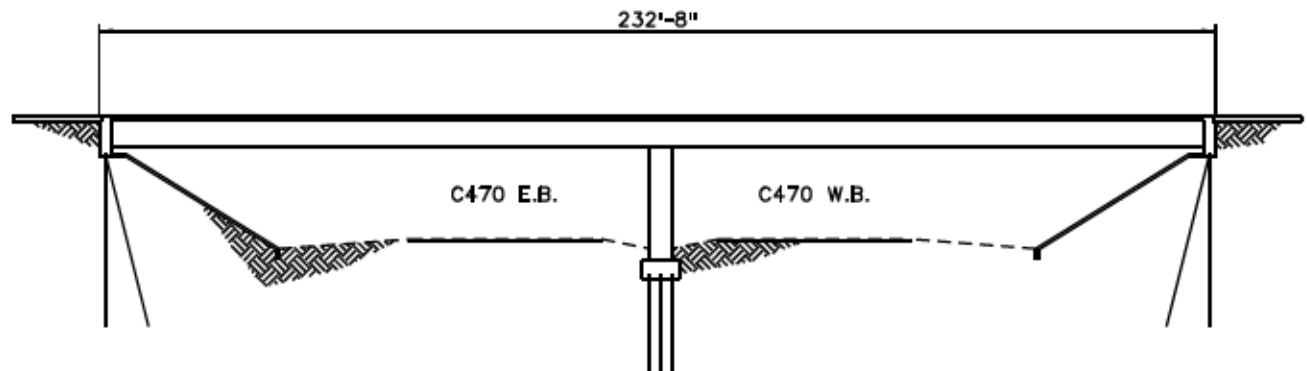
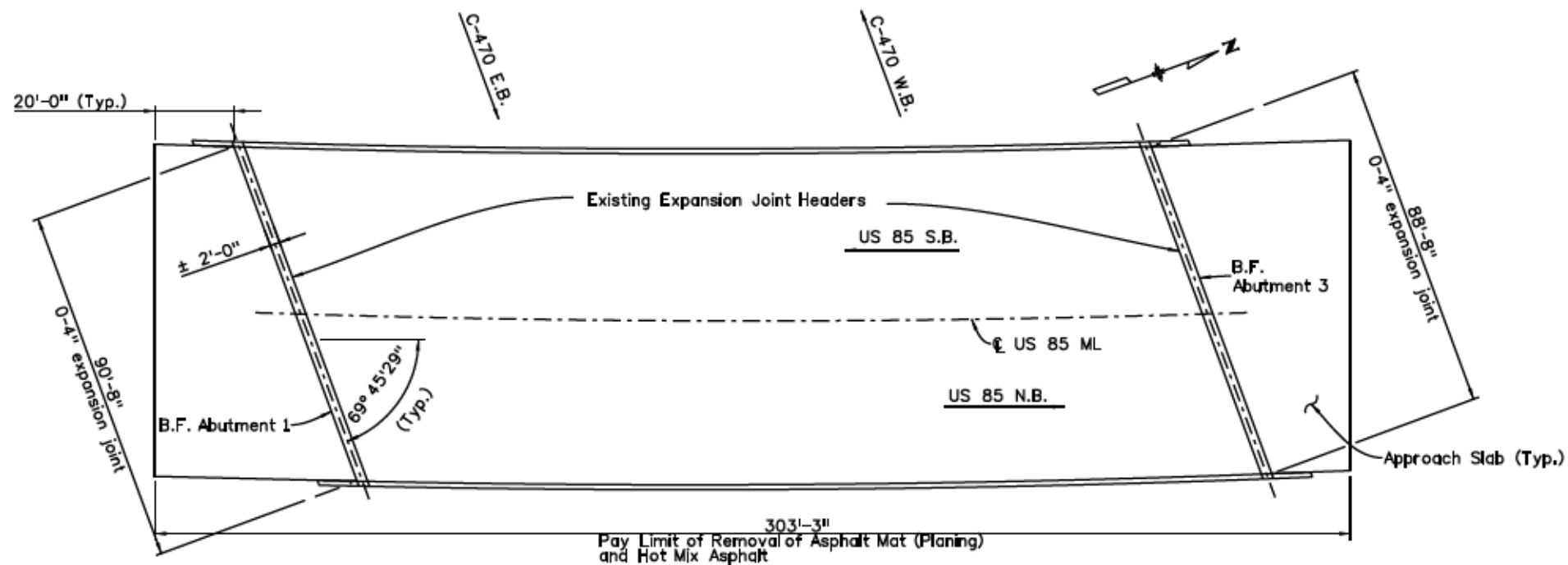
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Print Date: 11/19/2015	<b>Sheet Revisions</b>			Colorado Department of Transportation Arapahoe Residency 7328 S. Revere Parkway, Suite 204A Centennial, CO 80112 Phone: 303-365-7230 FAX: 303-790-1037 Region 1	As Constructed	RAISED ISLAND, CURB RAMPS, AND DETECTABLE WARNINGS LOCATIONS			Project No./Code
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Horiz. Scale: 1:100 Vert. Scale: As Noted				Revised:	Designer: JJB	Structure Numbers		19706	
Unit Information RYJ				Void:	Detailer: JJB	Subset Sheets: 7 of 7		Sheet Number 45	





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**STR. F-16-IC EXISTING CONDITION**

Located on US 85 ML @ MP 200.35 over SH 470 ML @ MP 17.00.  
 Structure Type: Concrete Box Girder Continuous and Composite.  
 Year Built: 1970  
 Deck thickness: 7" (Approx.)  
 Asphalt thickness: 2" (Approx.)  
 Waterproofing Membrane: Yes  
 Bridge Rail: Type Y  
 Originally constructed under project no. CC10007506

INITIAL	DATE	INITIAL	DATE	INITIAL	DATE
MCY	04/15	MCY	04/15	MCY	04/15
GEM/AJP	04/15	GEM	04/15	GEM	04/15

Print Date: 10/20/2015
File Name: B03 19706_F-16-IC.dgn
Horiz. Scale: NTS      Vert. Scale: As Noted
Staff Bridge Branch - Unit 0224      AJP

Sheet Revisions		
Date:	Comments	Init.

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 7328 S. Revere Parkway, Suite 204A  
 Centennial, CO 80112  
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**Region 1**      RYJ

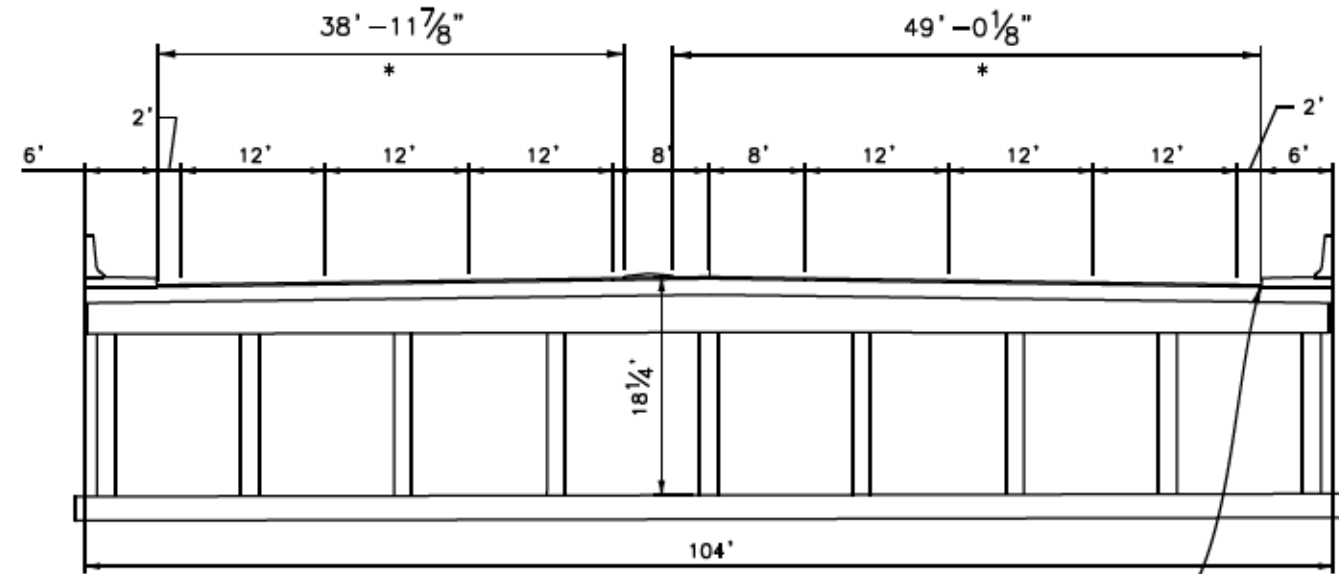
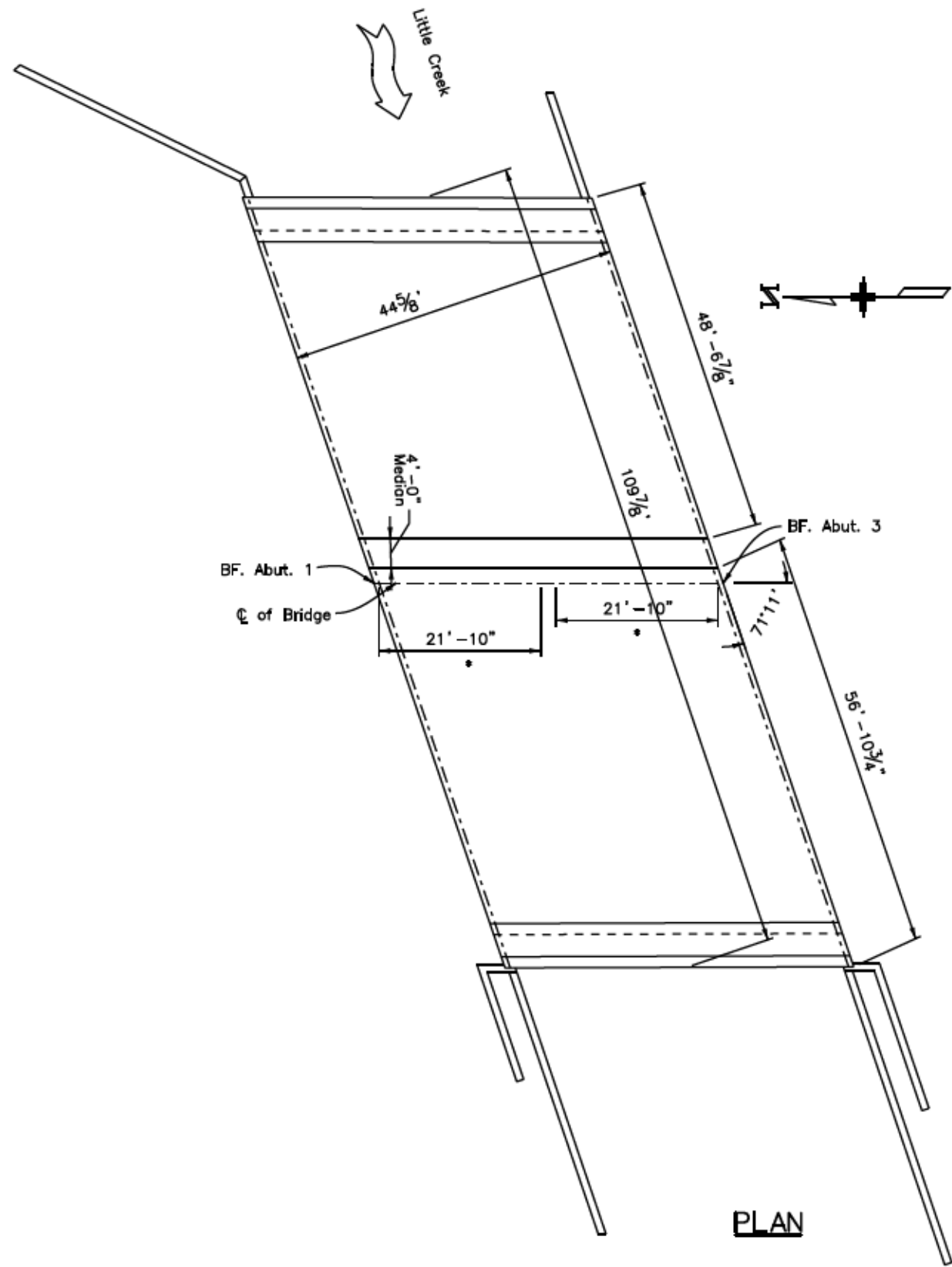
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No Revisions: 9/8/16
Revised:
Void:

GENERAL LAYOUT (F-16-IC)			
Designer:	S. Yip	Structure Numbers	F-16-IC
Detailer:	S. YIP	Sheet Subset:	Bridge
Sheet Subset: Bridge		Subset Sheets:	B03 of B04

Project No./Code	STA R600-441
	19706
Sheet Number	48

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INITIAL	DATE	INITIAL	DATE	INITIAL	DATE
Designed By MCY	04/15	Detailled By MCY	04/15	Quantity By MCY	04/15
Checked By GEM/AJP	04/15	Checked By	04/15	Checked By GEM	04/15



\* Pay Limit of Removal of Asphalt Mat (Planing) and Hot Mix Asphalt

Place new overlay so as to avoid ponding at gutter interfaces (Typ.)


**TYPICAL SECTION**

Print Date: 10/20/2015  
 File Name: B04\_19706\_F-16-KD.dgn  
 Horiz. Scale: NTS      Vert. Scale: As Noted  
 Staff Bridge Branch - Unit 0224      AJP

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**Sheet Revisions**

Date:	Comments	Init.

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 Arapahoe Residency  
 7328 S. Revere Parkway, Suite 204A  
 Centennial, CO 80112  
 Phone: 303-365-7230 FAX: 303-790-1037  
**Region 1**      RYJ

**As Constructed**

No Revisions: **9/8/16**  
 Revised:  
 Void:

**GENERAL LAYOUT (F-16-KD)**

Designer:	S. Yip	Structure Numbers	F-16-KD
Detailer:	S. YIP	Subset Sheets:	B04 of B04
Sheet Subset:	Bridge		

<b>Project No./Code</b>	STA R600-441
	19706
<b>Sheet Number</b>	49

**SWMP TEMPLATE TEXT FOR PROJECTS WITH LESS THAN 1 ACRE OF DISTURBANCE**

**1. STORMWATER MANAGEMENT CONTROLS FIRST CONSTRUCTION ACTIVITIES**

THE CONTRACTOR SHALL PERFORM THE FOLLOWING:

- A. **PROJECT SITE DESCRIPTION:** The project is located on US-85 from Blakeland Dr. (just south of C-470) to Crestline Ave. (just south of Belleview Ave.). The project is a mill/fill of 2.5" from edge of pavement to edge of pavement. The project will also have bridges and larger structures on this project, but it will be just a mill/fill over those areas as well. ADA ramps will be constructed on this project. The project is less than 1 acre of disturbance.
- B. **PROPOSED SEQUENCING FOR MAJOR ACTIVITIES:** Switch traffic to one side and do mill/fill operations, then switch traffic again and do other side.
- C. **POTENTIAL POLLUTANT SOURCES**
  - 1. Evaluate, identify and describe all potential sources of pollutants at the site in accordance with subsection 107.25 and place any BMPs required to contain potential pollutants.
- D. **BEST MANAGEMENT PRACTICES (BMPs) FOR STORMWATER POLLUTION PREVENTION**
- E. **OFFSITE DRAINAGE (RUN ON WATER)**
  - 1. Place BMPs to address run-on water in accordance with subsection 208.03.
- F. **CONSTRUCTION DEWATERING:** Not anticipated on this project.
  - 1. Obtain a dewatering permit from CDPHE if conditions of their low risk guidance for Discharges of Uncontaminated Groundwater to Land are not met; see subsection 107.25(b) 8.
- G. **VEHICLE TRACKING PAD**
  - 1. BMPs shall be implemented in accordance with subsection 208.04.
- H. **PERIMETER CONTROL**
  - 1. Perimeter control shall be established as the first item on the SWMP to prevent the potential for pollutants leaving the construction site boundaries, entering the stormwater drainage system, or discharging to state waters.
  - 2. Perimeter control may consist of vegetation buffers, berms, silt fence, erosion logs, existing landforms, or other BMPs as approved.
  - 3. Perimeter control shall be in accordance with subsection 208.04.

**2. DURING CONSTRUCTION**

The SWMP should be considered a "living document" that is continuously reviewed and modified. During construction, the following items shall be added, updated, or amended as needed by the Contractor in accordance with Section 208

- A. **MATERIALS HANDLING AND SPILL PREVENTION** - prior to construction commencing the Contractor shall submit a Spill Prevention, Control and Countermeasure Plan, see subsection 208.06. Materials handling shall be in accordance with subsection 208.06.
- B. **STOCKPILE MANAGEMENT** - shall be done in accordance with subsection 107.25 and 208.07
- C. **CONCRETE WASHOUT** - Concrete wash out water or waste from field laboratories and paving equipment shall be contained in accordance with subsection 208.05.
- D. **SAW CUTTING** - shall be done in accordance with subsection 107.25, 208.04, 208.05
- E. **STREET CLEANING** - shall be done in accordance with subsection 208.04

**3. INTERIM AND FINAL STABILIZATION**

**A. SEEDING PLAN**

Soil preparation, soil conditioning or topsoil, seeding (native), mulching (weed free) and mulch tackifier will be required for an estimated 0.33 acres of disturbed area within the right-of-way limits which are not surfaced. The following types and rates shall be used:


COMMON NAME	SCIENTIFIC NAME	LBS. PLS PER ACRE
Blue grama	Bouteloua gracilis	1.5
Sideouts grama	Bouteloua curtipendula	2
Buffalograss	Bouteloua dactyloides	4
Western wheatgrass	Pascopyrum smithii	4
Little bluestem	Schizachyrium scoparium	2
Saltgrass	Distichlis spicata	1
Oats	Avena sativa	3
Blackeyed susan	Rudbeckia hirta	0.25
Prairie coneflower	Ratibida columnifera	0.5
Blue flax	Linum perenne	0.75
<b>TOTAL</b>		<b>19 LBS.PLS PER ACRE</b>

- B. **SEEDING APPLICATION:** Drill seed 0.25 inch to 0.5 inch into the soil. In small areas not accessible to a drill, hand broadcast at double the rate and rake 0.25 inch to 0.5 inch into the soil.
- C. **MULCHING APPLICATION:** Apply a minimum of 1 1/2 tons of certified weed free hay per acre and in accordance with Section 212, and mechanically crimp it into the soil in combination with an organic mulch tackifier.
- D. **SPECIAL REQUIREMENTS:** Due to high failure rates, hydromulching and/or hydroseeding will not be allowed.
- E. **SOIL CONDITIONING AND FERTILIZER REQUIREMENTS:**

Soil conditioner paid for as Item 212- Soil Conditioning (Acre)		
Biological nutrient organic based fertilizer (lbs/acre)*	Humate (lbs/acre)	Compost (cys/acre)
600	200	65

\*Biological nutrient shall not exceed 8-8-8 (N-P-K). Humate based material and compost shall be in accordance to Section 212.

- F. **BLANKET APPLICATION:** On slopes and ditches requiring a blanket, the blanket shall be placed in lieu of mulch and mulch tackifier.

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Horiz. Scale: 1:100      Vert. Scale: As Noted						Revised:	Detailer: BR		19706			
Unit Information      RYJ						Void:	Sheet Subset: SWMP	Subset Sheets: 1 of 2	Sheet Number <b>50</b>			

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**4. TABULATION OF STORMWATER QUANTITIES**

See Quantity Sheet

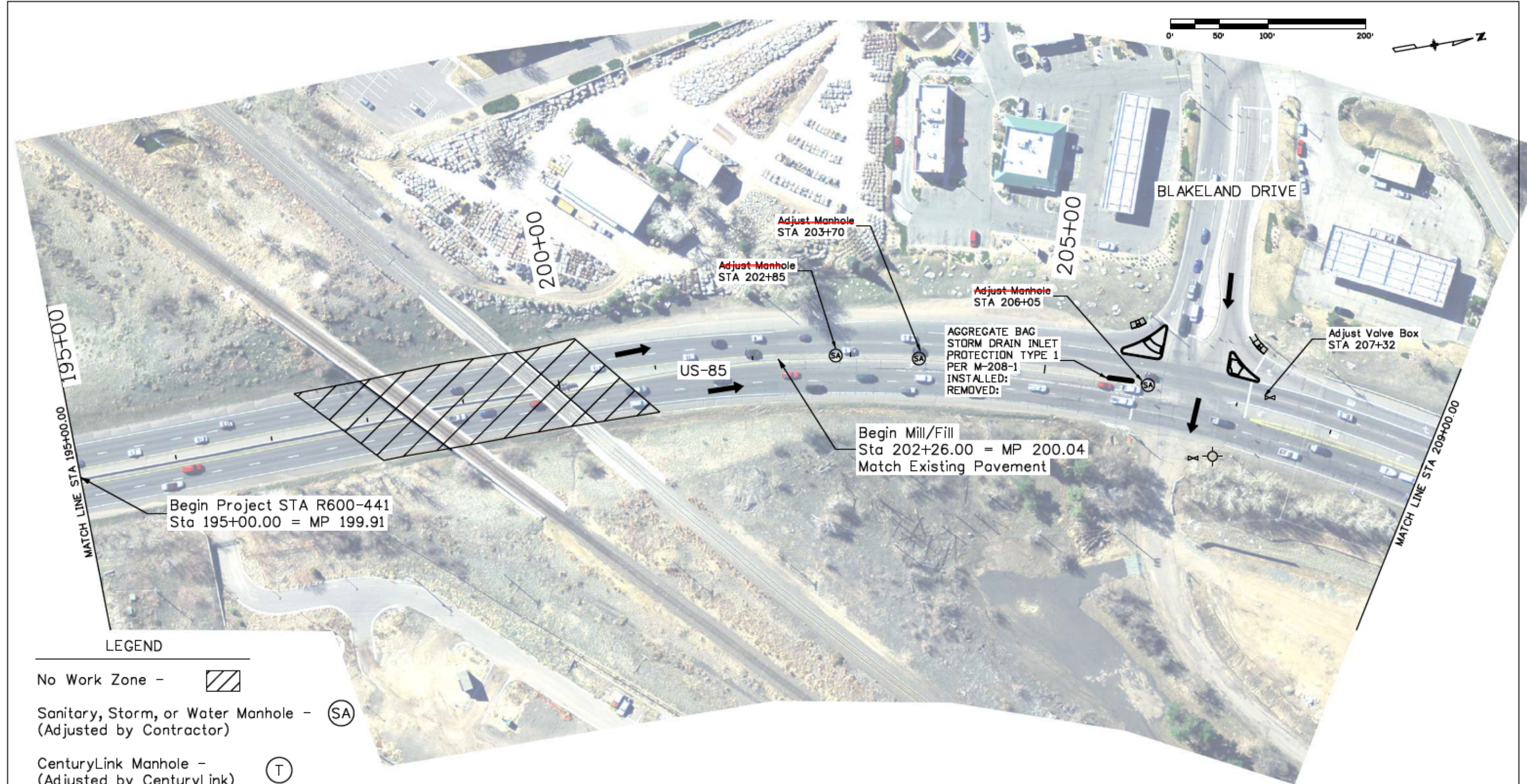
Pay Item	Description	Pay Unit	*Quantity
207-00205	Topsoil	CY	134
208-00035	Aggregate Bag	LF	285
208-00051	Storm Drain Inlet Protection (Type1)	LF	154
208-00052	Storm Drain Inlet Protection (Type2)	LF	20
208-00106	Sweeping (Sediment Removal)	Hour	100
208-00107	Removal of Trash	Hour	15
208-00205	Erosion Control Supervisor	Hour	160
212-00006	Seeding (Native)	Acre	0.33
212-00032	Soil Conditioning	Acre	0.33
213-00002	Mulching (Weed Free Hay)	Acre	0.33
213-00061	Mulch Tackifier	LB	66
217-00020	Herbicide Treatment	Hour	3
700-70380	Erosion Control	FA	1

\*It is anticipated that additional BMPs and BMP quantities not shown on the SWMP Site Maps shall be required on the project for unforeseen conditions and replacement of items that are beyond their useful service life, see subsection 208.03 and 208.04 (e). Quantities for all BMPs shown above are estimated, and have been increased for unforeseen Project conditions.

- A. All BMP maintenance, sediment removal and disposal is included in the BMP Device.
- B. Maintenance of seeded areas shall be paid for as: FA Erosion Control

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Horiz. Scale: 1:100      Vert. Scale: As Noted						Revised: <b>9/8/16</b>	Designer: BR	Structure Numbers	19706			
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**LEGEND**

- No Work Zone -
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- Water Valve Box - (Adjusted by Contractor)
- Hydrant -

Manhole and valve box adjustments in accordance with Revision of Section 210 - Valve Box and Manhole Adjustments.

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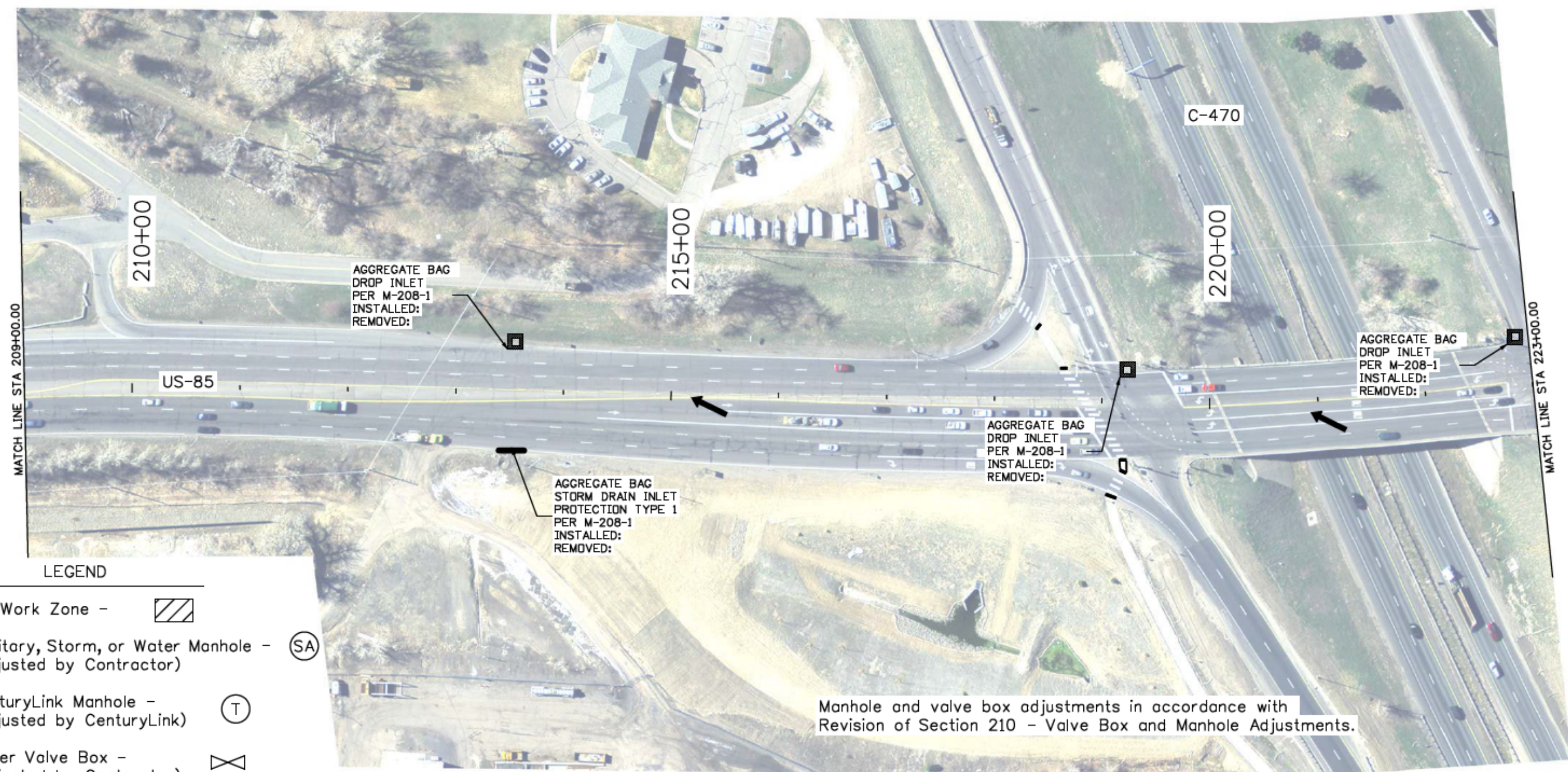
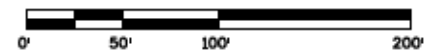
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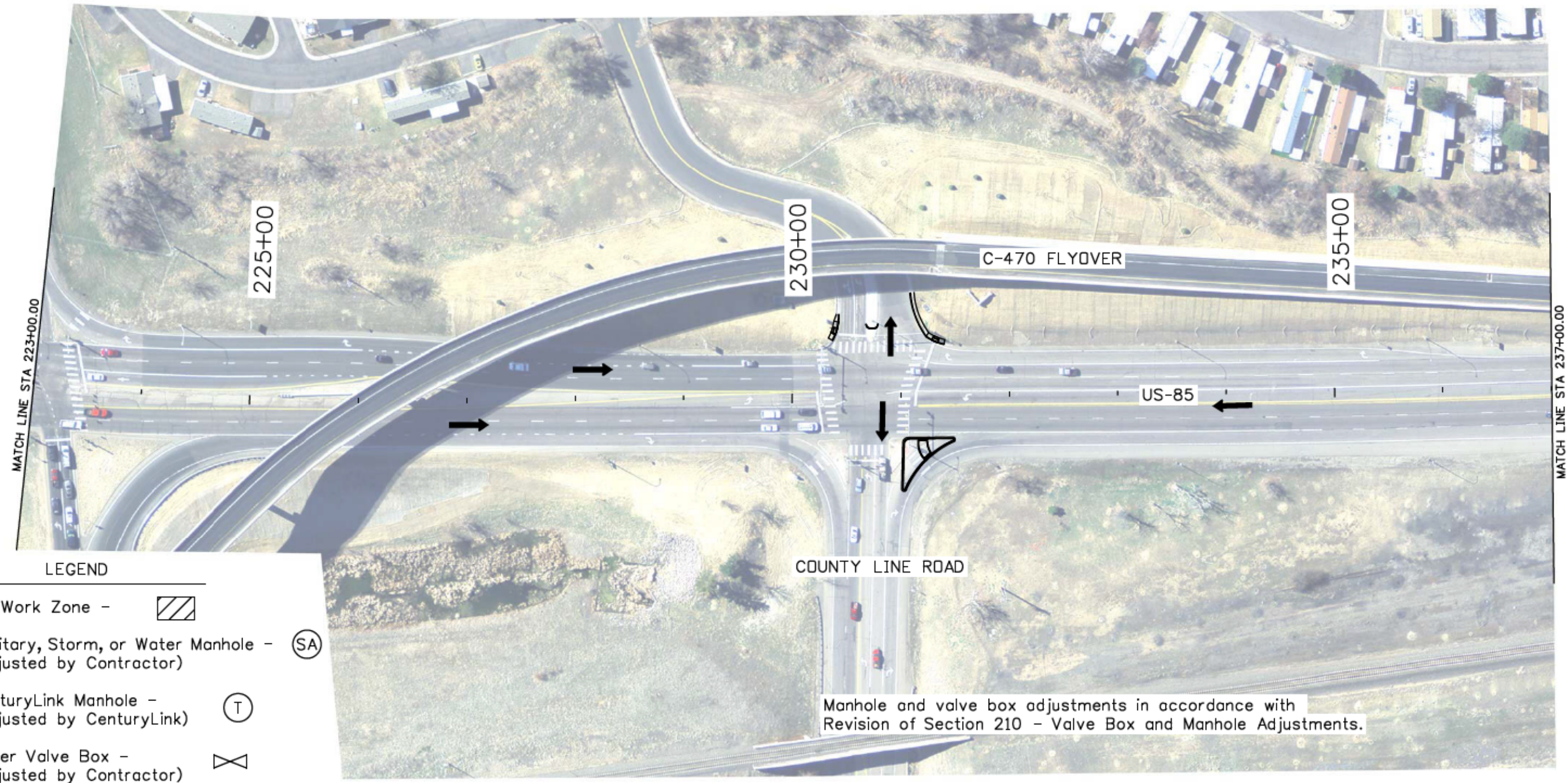
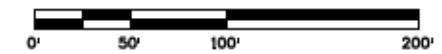
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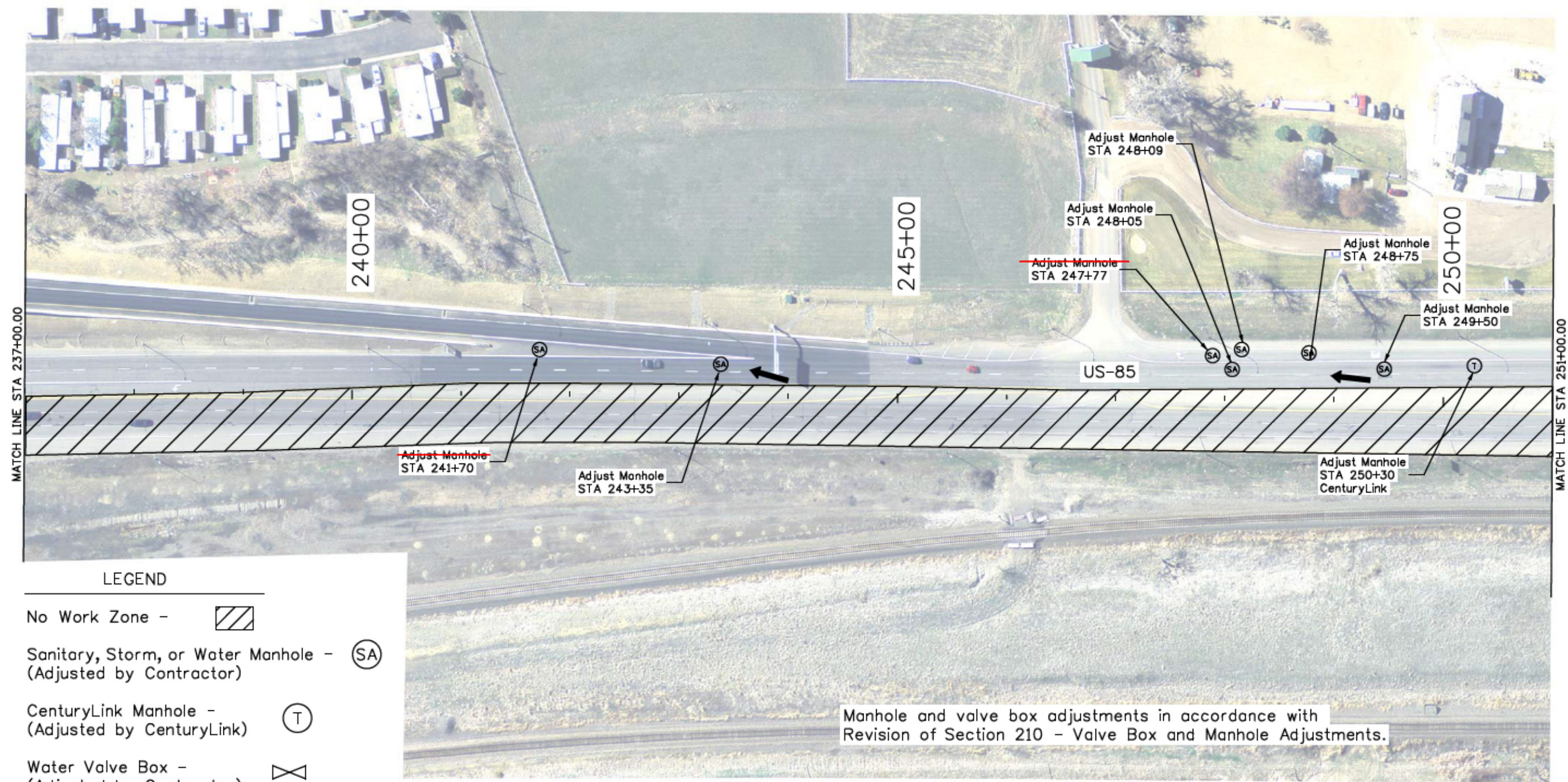
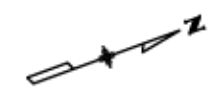
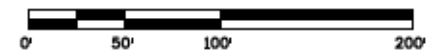
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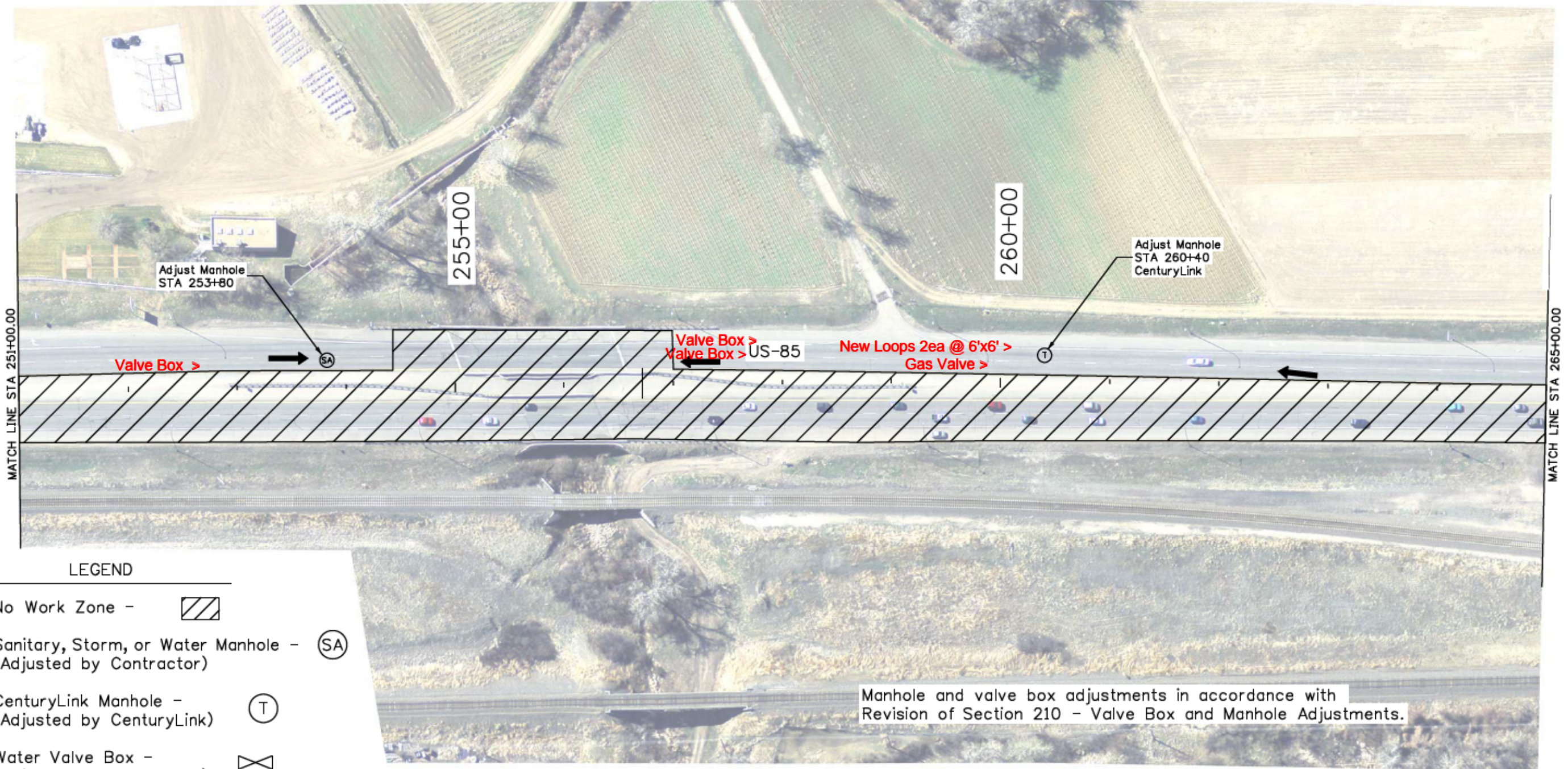
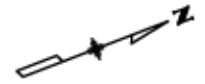
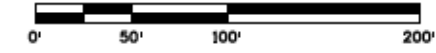
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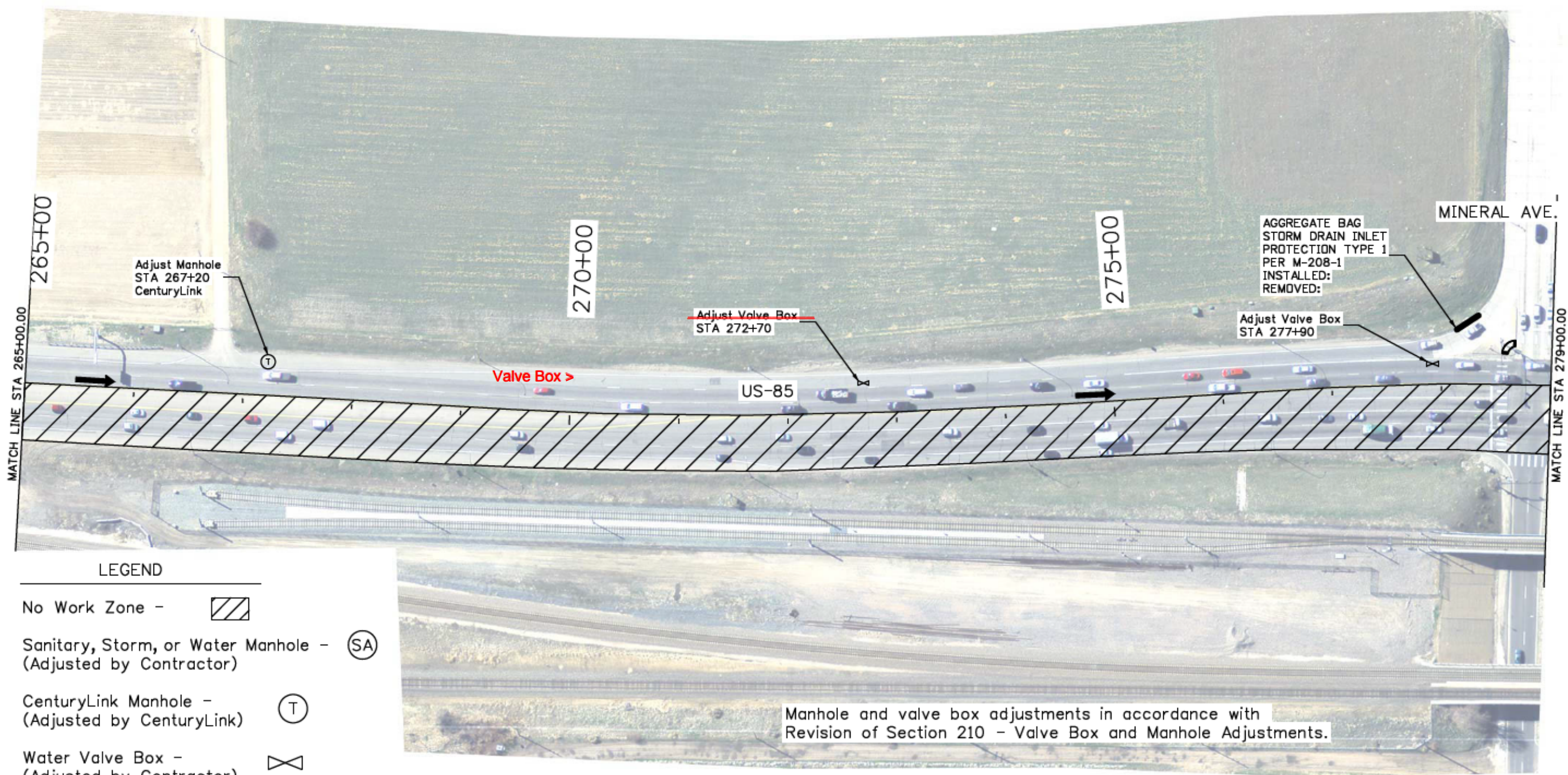
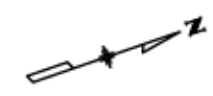
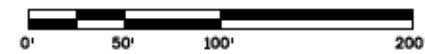
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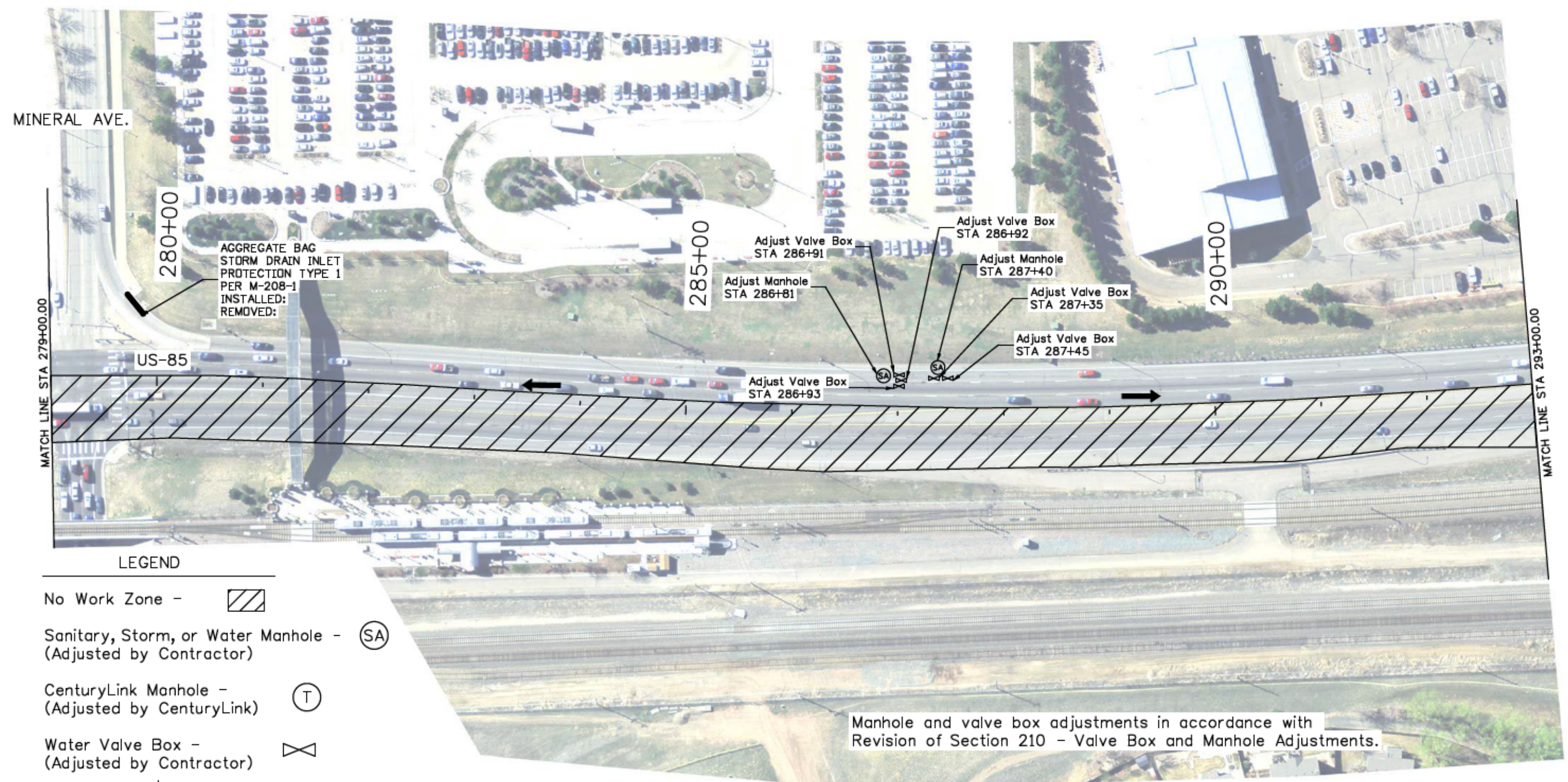
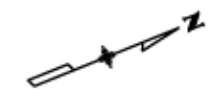
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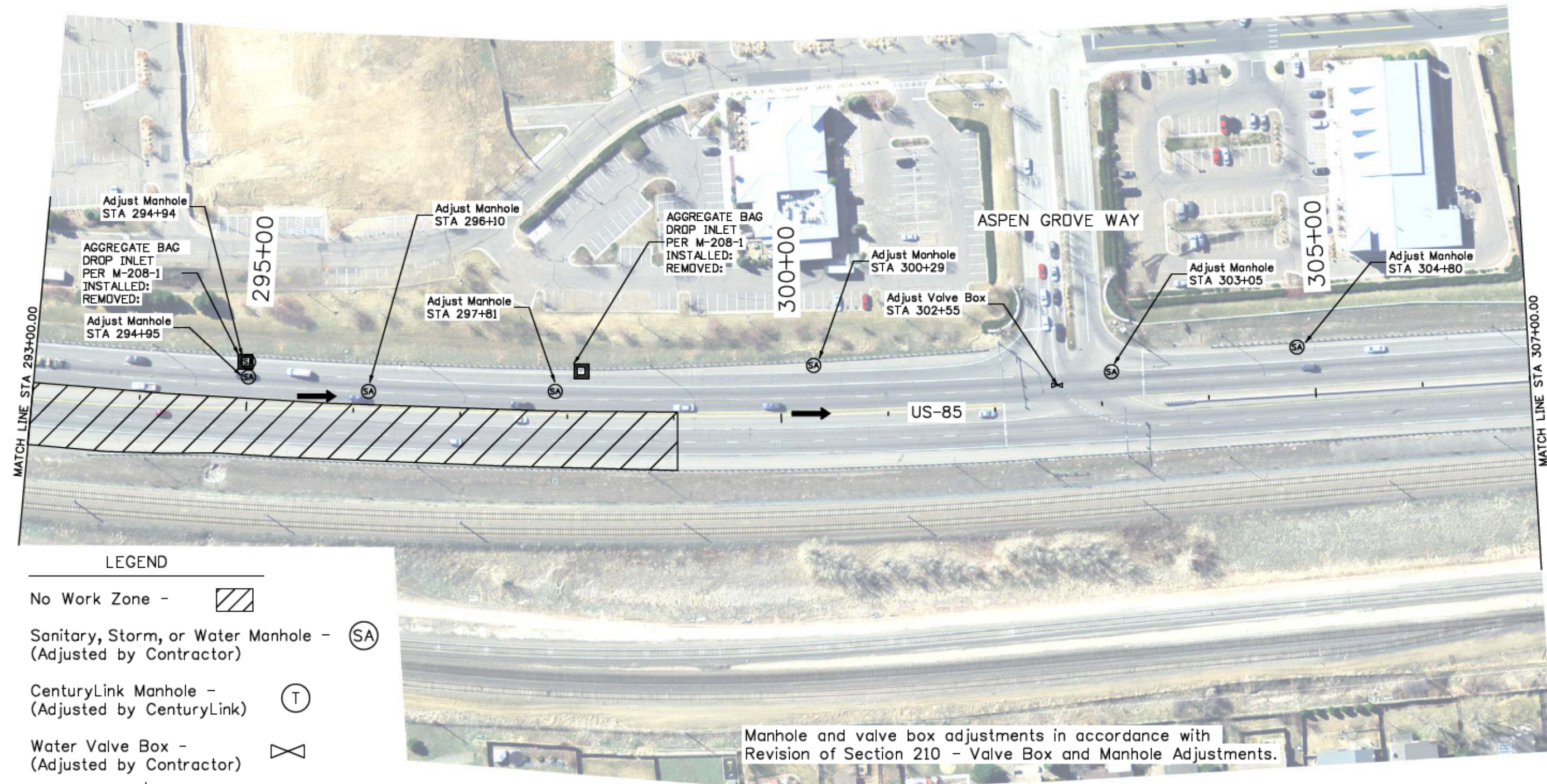
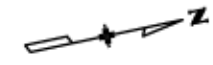
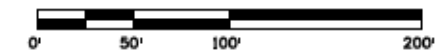
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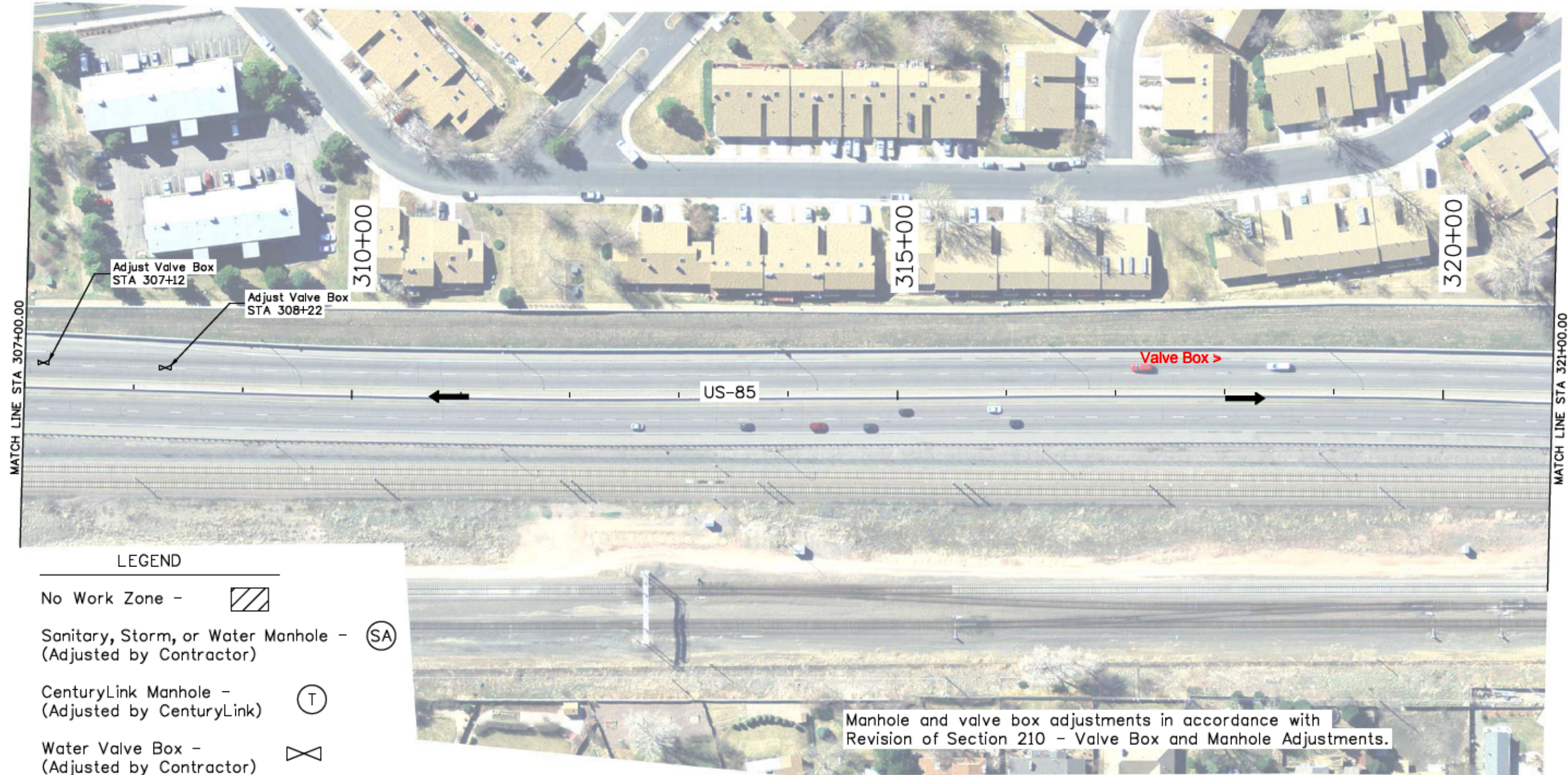
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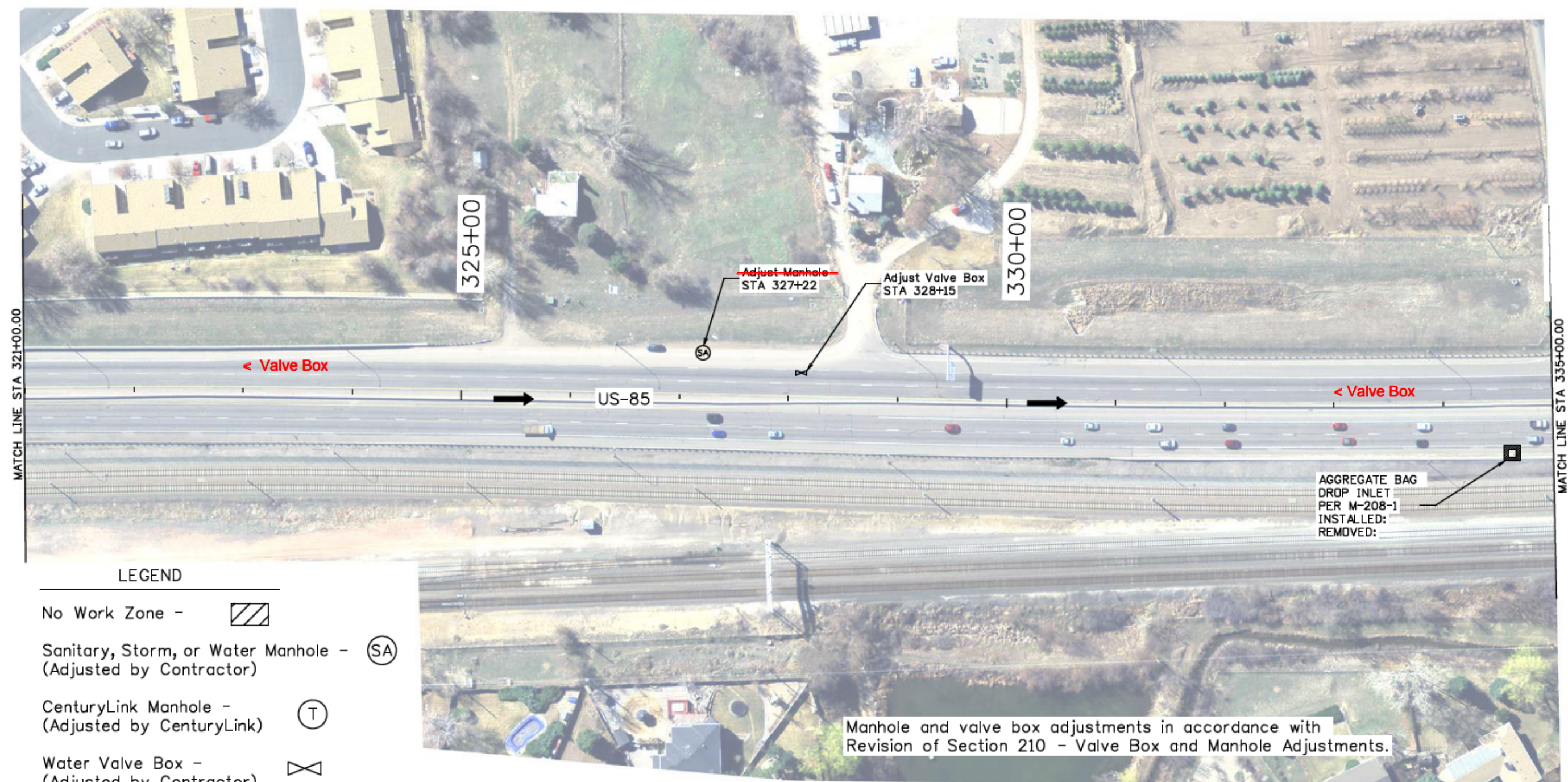
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**LEGEND**

- No Work Zone -
- Sanitary, Storm, or Water Manhole - (Adjusted by Contractor) (SA)
- CenturyLink Manhole - (Adjusted by CenturyLink) (T)
- Water Valve Box - (Adjusted by Contractor)
- Hydrant -

Print Date: 11/23/2015	
File Name: 19706SWMPUtilityPlanSheets_100Scale_Ad.dgn	
Horiz. Scale: 1:100	Vert. Scale: As Noted
Unit Information	RYJ

Sheet Revisions		
Date:	Comments	Init.

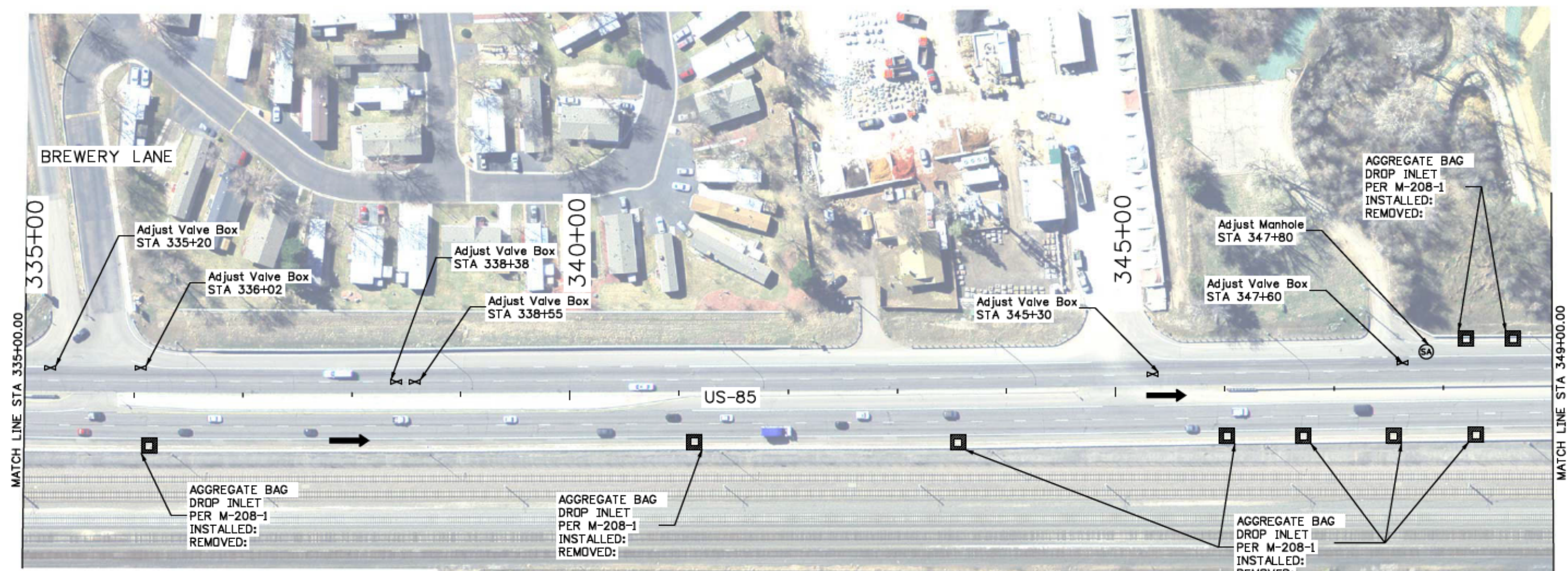
Colorado Department of Transportation  
 Arapahoe Residency  
 7328 S. Revere Parkway, Suite 204A  
 Centennial, CO 80112  
 Phone: 303-365-7230 FAX: 303-790-1037  
 Region 1 RYJ

As Constructed
No Revisions:
Revised: <b>9/8/16</b>
Void:

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US-85			
Designer:	JJB	Structure Numbers	
Detailer:	JJB	Subset Sheets:	10 of 17
Sheet Subset: SWMP Util			

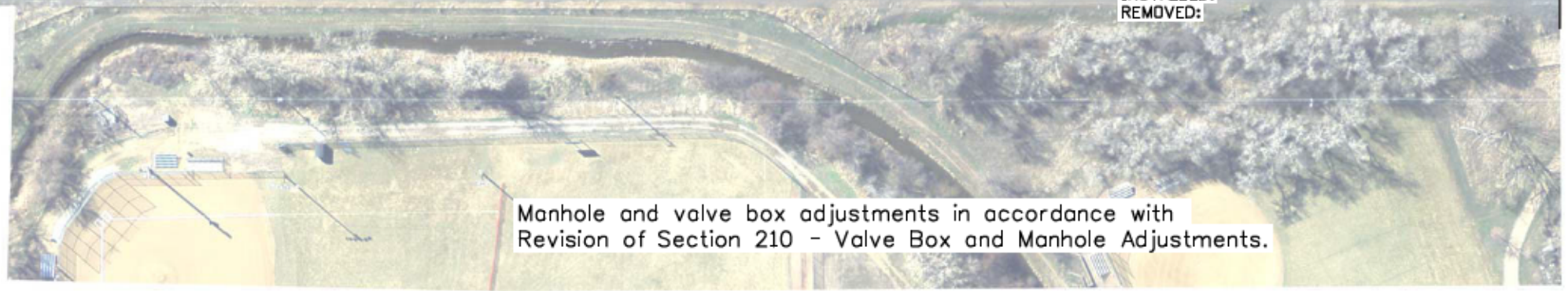
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STA R600-441
19706
Sheet Number 61

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**LEGEND**

- No Work Zone -
- Sanitary, Storm, or Water Manhole - (Adjusted by Contractor) -
- CenturyLink Manhole - (Adjusted by CenturyLink) -
- Water Valve Box - (Adjusted by Contractor) -
- Hydrant -



Print Date: 11/23/2015	
File Name: 19706SWMPUtilityPlanSheets_100Scale_Ad.dgn	
Horiz. Scale: 1:100	Vert. Scale: As Noted
Unit Information	RYJ

Sheet Revisions		
Date:	Comments	Init.

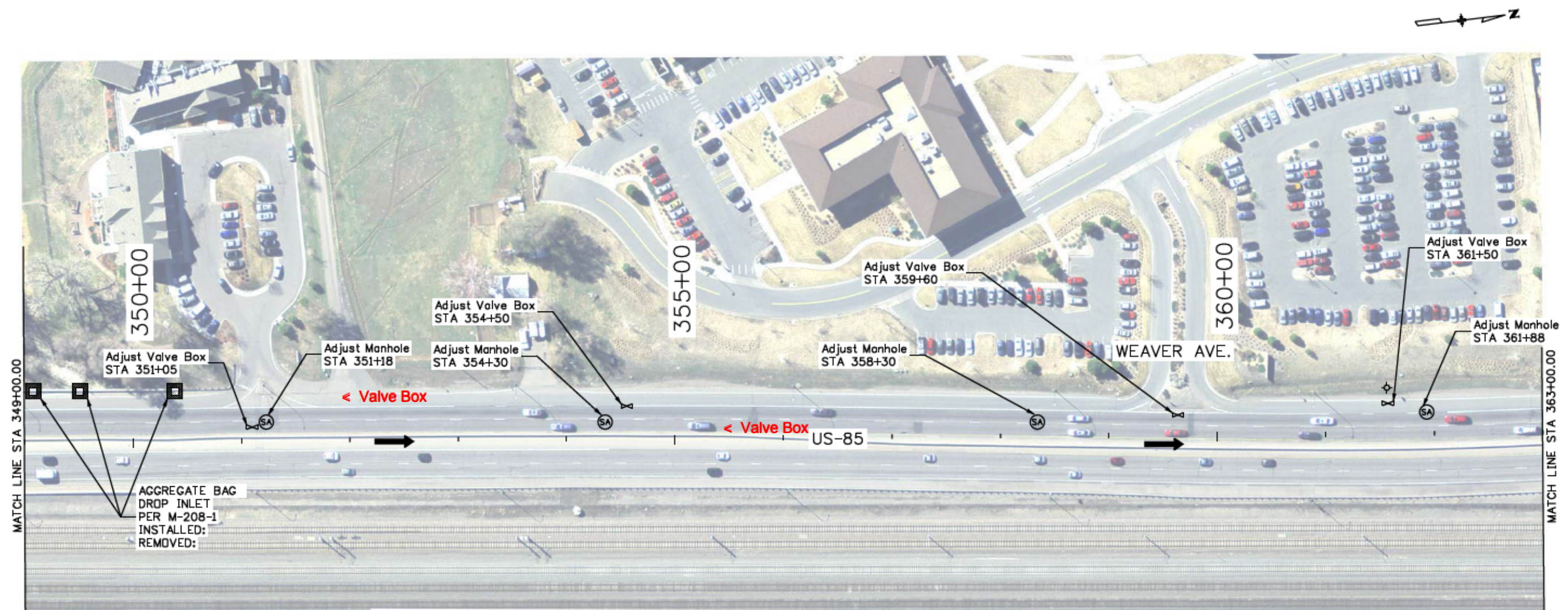
Colorado Department of Transportation  
 Arapahoe Residency  
 7328 S. Revere Parkway, Suite 204A  
 Centennial, CO 80112  
 Phone: 303-365-7230 FAX: 303-790-1037  
 Region 1 RYJ

As Constructed
No Revisions: 9/8/16
Revised:
Void:

SWMP & UTILITY PLAN SHEET			
US-85			
Designer:	JJB	Structure Numbers	
Detailer:	JJB	Subset Sheets:	11 of 17
Sheet Subset: SWMP Util			

Project No./Code	
	STA R600-441
	19706
Sheet Number	62

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AGGREGATE BAG  
 DROP INLET  
 PER M-208-1  
 INSTALLED:  
 REMOVED:

LEGEND

- No Work Zone -
- Sanitary, Storm, or Water Manhole - (Adjusted by Contractor) -
- CenturyLink Manhole - (Adjusted by CenturyLink) -
- Water Valve Box - (Adjusted by Contractor) -
- Hydrant -

Manhole and valve box adjustments in accordance with  
 Revision of Section 210 - Valve Box and Manhole Adjustments.

Print Date: 11/23/2015	
File Name: 19706SWMPUtilityPlanSheets_100Scale_Ad.dgn	
Horiz. Scale: 1:100      Vert. Scale: As Noted	
Unit Information      RYJ	

Sheet Revisions		
Date:	Comments	Init.

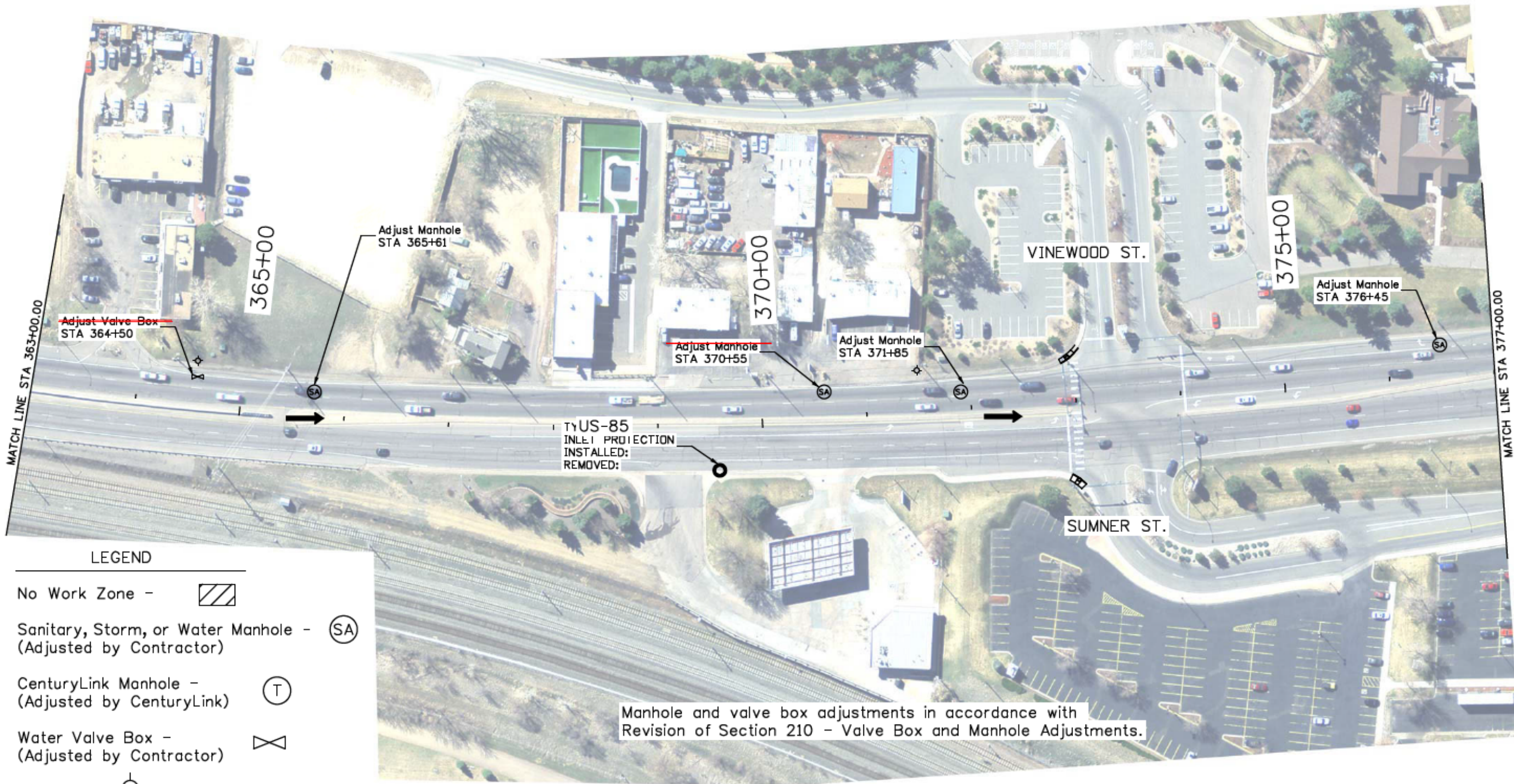
Colorado Department of Transportation  
 Arapahoe Residency  
 7328 S. Revere Parkway, Suite 204A  
 Centennial, CO 80112  
 Phone: 303-365-7230 FAX: 303-790-1037  
 Region 1      RYJ

As Constructed
No Revisions:
Revised: 9/8/16
Void:

SWMP & UTILITY PLAN SHEET			
US-85			
Designer:	JJB	Structure	
Detailer:	JJB	Numbers	
Sheet Subset: SWMP Util	Subset Sheets:	12 of 17	

Project No./Code
STA R600-441
19706
Sheet Number 63

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**LEGEND**

- No Work Zone -
- Sanitary, Storm, or Water Manhole - (Adjusted by Contractor) (SA)
- CenturyLink Manhole - (Adjusted by CenturyLink) (T)
- Water Valve Box - (Adjusted by Contractor)
- Hydrant -

Manhole and valve box adjustments in accordance with Revision of Section 210 - Valve Box and Manhole Adjustments.

Print Date: 11/23/2015	
File Name: 19706SWMPUtilityPlanSheets_100Scale_Ad.dgn	
Horiz. Scale: 1:100	Vert. Scale: As Noted
Unit Information	RYJ

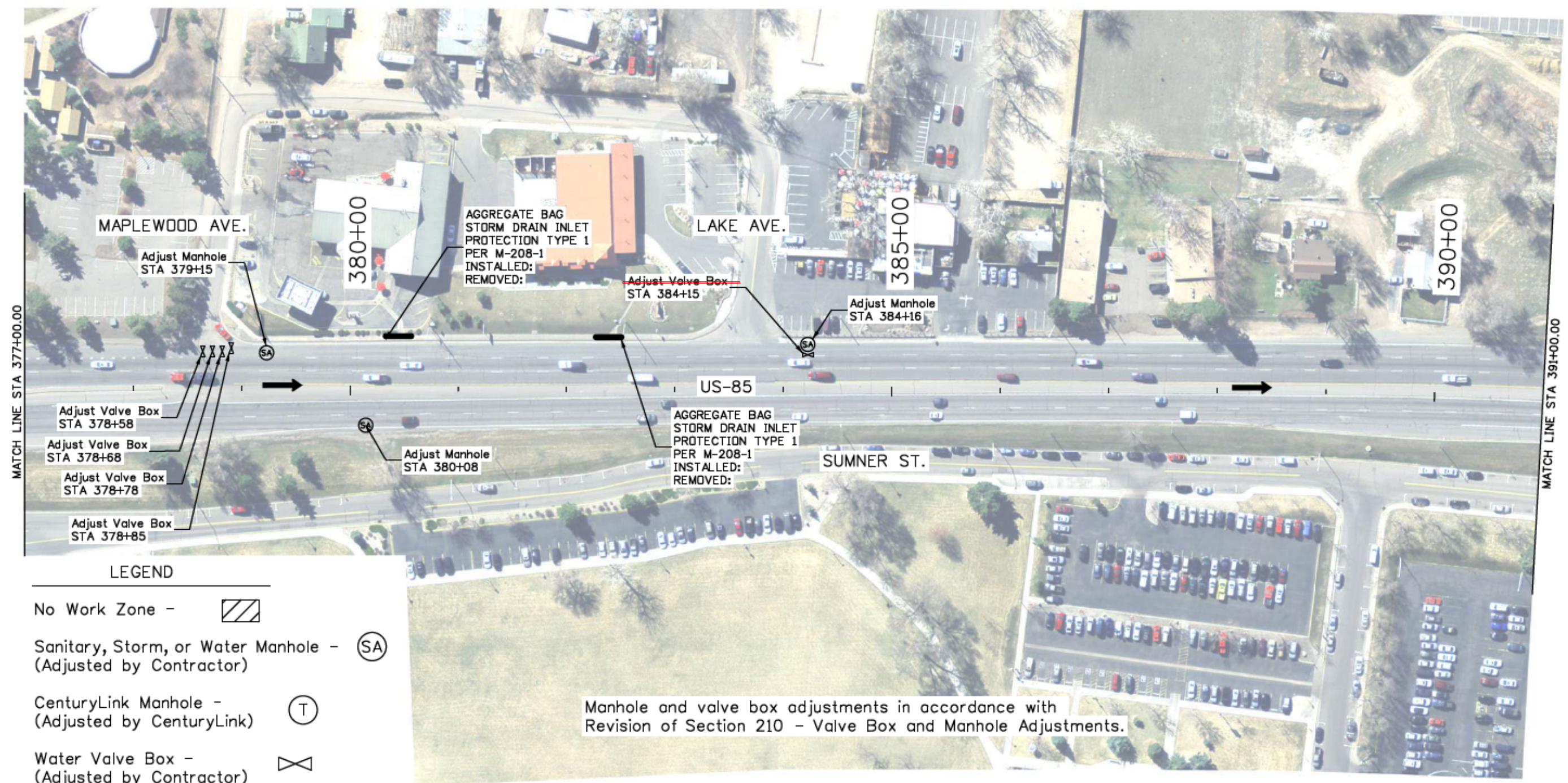
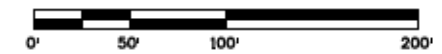
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Date:	Comments	Init.

Colorado Department of Transportation  
 Arapahoe Residency  
 7328 S. Revere Parkway, Suite 204A  
 Centennial, CO 80112  
 Phone: 303-365-7230 FAX: 303-790-1037  
 Region 1 RYJ

As Constructed
No Revisions:
Revised: <b>9/8/16</b>
Void:

SWMP & UTILITY PLAN SHEET			
US-85			
Designer:	JJB	Structure Numbers	
Detailer:	JJB	Subset Sheets:	13 of 17
Sheet Subset: SWMP Util			

Project No./Code	
	STA R600-441
	19706
Sheet Number	64



**LEGEND**

- No Work Zone -
- Sanitary, Storm, or Water Manhole - (Adjusted by Contractor) -
- CenturyLink Manhole - (Adjusted by CenturyLink) -
- Water Valve Box - (Adjusted by Contractor) -
- Hydrant -

Manhole and valve box adjustments in accordance with Revision of Section 210 - Valve Box and Manhole Adjustments.

Print Date: 11/23/2015
File Name: 19706SWMPUtilityPlanSheets_100Scale_Ad.dgn
Horiz. Scale: 1:100      Vert. Scale: As Noted
Unit Information      RYJ

Sheet Revisions		
Date:	Comments	Init.

Colorado Department of Transportation



Arapahoe Residency  
7328 S. Revere Parkway, Suite 204A  
Centennial, CO 80112  
Phone: 303-365-7230 FAX: 303-790-1037

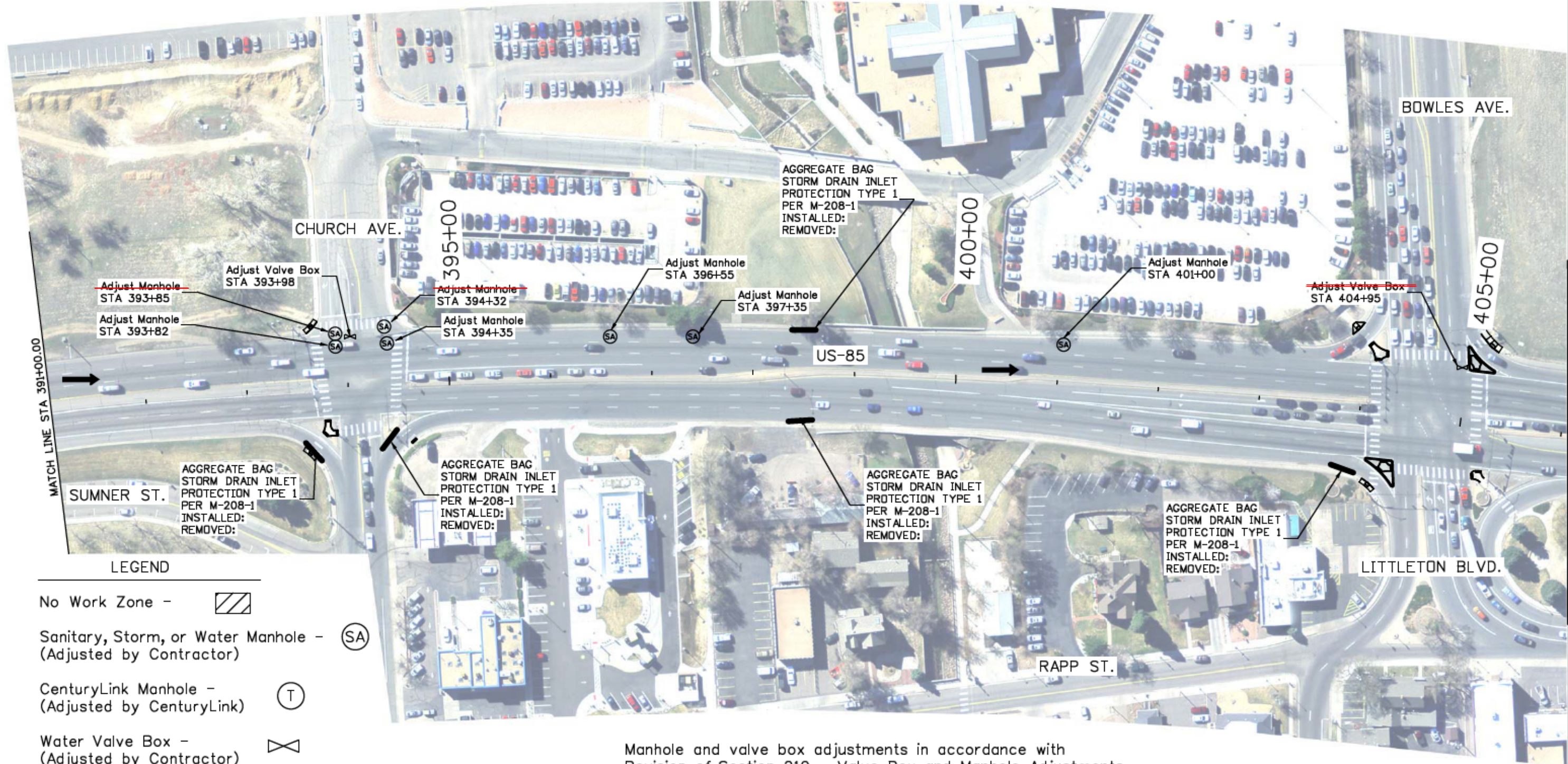
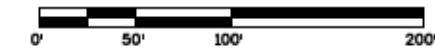
Region 1      RYJ

As Constructed
No Revisions:
Revised: 9/8/16
Void:

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US-85			
Designer:	JJB	Structure Numbers	
Detailer:	JJB	Subset Sheets:	14 of 17
Sheet Subset: SWMP Util			

Project No./Code
STA R600-441
19706
Sheet Number 65

breedlovej 9:25:49 AM C:\Projects\19706\_US85BldgandToCrestlineResurfacing\Design\Drawings\Ad\SWMP\_Utility\19706SWMPUtilityPlanSheets\_100Scale\_Ad.dgn



**LEGEND**

- No Work Zone -
- Sanitary, Storm, or Water Manhole - (Adjusted by Contractor) -
- CenturyLink Manhole - (Adjusted by CenturyLink) -
- Water Valve Box - (Adjusted by Contractor) -
- Hydrant -

Manhole and valve box adjustments in accordance with  
Revision of Section 210 - Valve Box and Manhole Adjustments.

Print Date: 11/23/2015	
File Name: 19706SWMPUtilityPlanSheets_100Scale_Ad.dgn	
Horiz. Scale: 1:100	Vert. Scale: As Noted
Unit Information	RYJ

Sheet Revisions		
Date:	Comments	Init.

Colorado Department of Transportation  
 Arapahoe Residency  
 7328 S. Revere Parkway, Suite 204A  
 Centennial, CO 80112  
 Phone: 303-365-7230 FAX: 303-790-1037  
 Region 1 RYJ

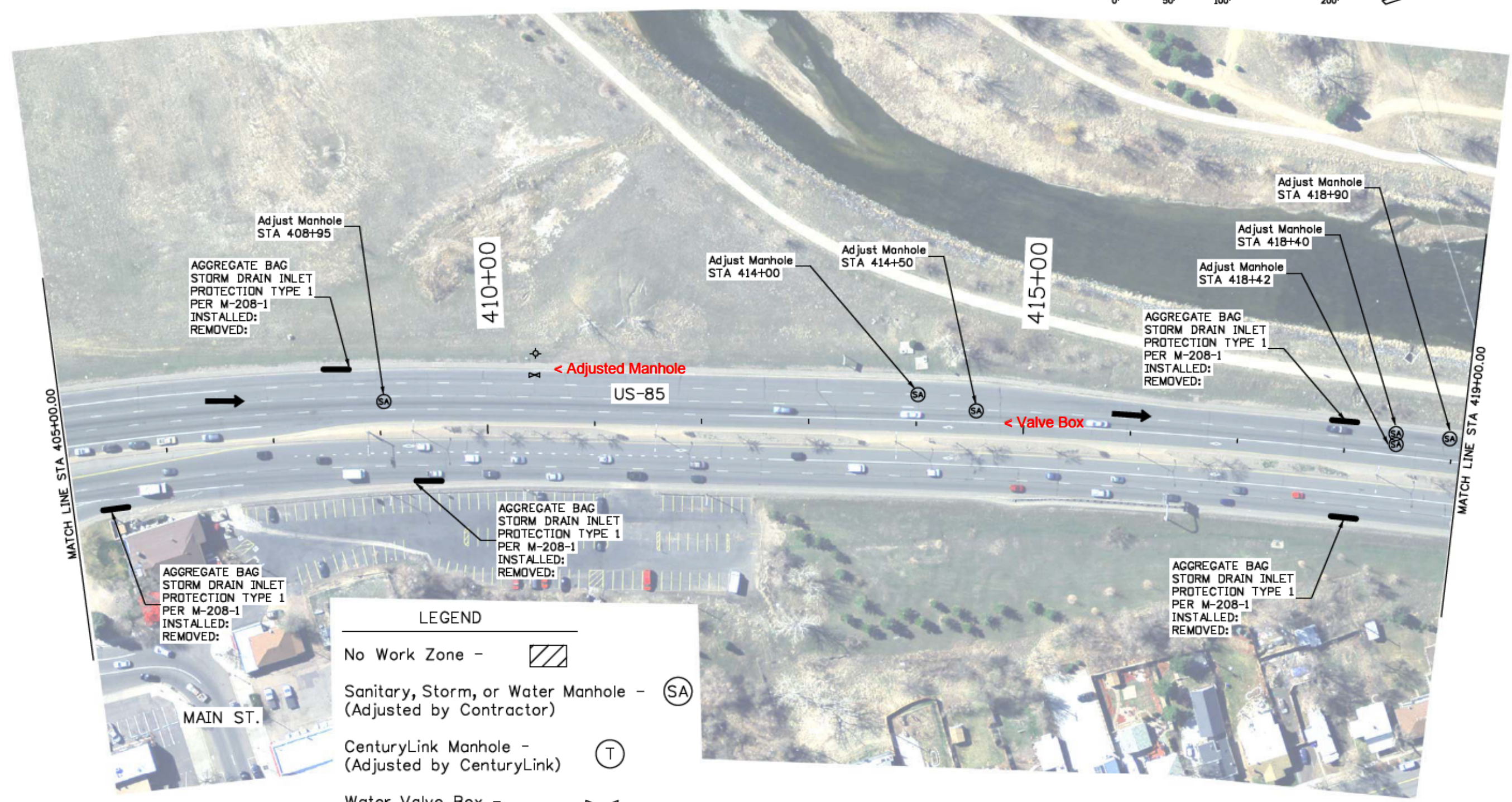
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Revised: <b>9/8/16</b>
Void:

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US-85			
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Detailer:	JJB		
Sheet Subset: SWMP Util		Subset Sheets:	15 of 17

Project No./Code	
	STA R600-441
	19706
Sheet Number	66

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LEGEND	
No Work Zone -	
Sanitary, Storm, or Water Manhole - (Adjusted by Contractor)	(SA)
CenturyLink Manhole - (Adjusted by CenturyLink)	(T)
Water Valve Box - (Adjusted by Contractor)	
Hydrant -	

Manhole and valve box adjustments in accordance with Revision of Section 210 - Valve Box and Manhole Adjustments.

Print Date: 11/23/2015	
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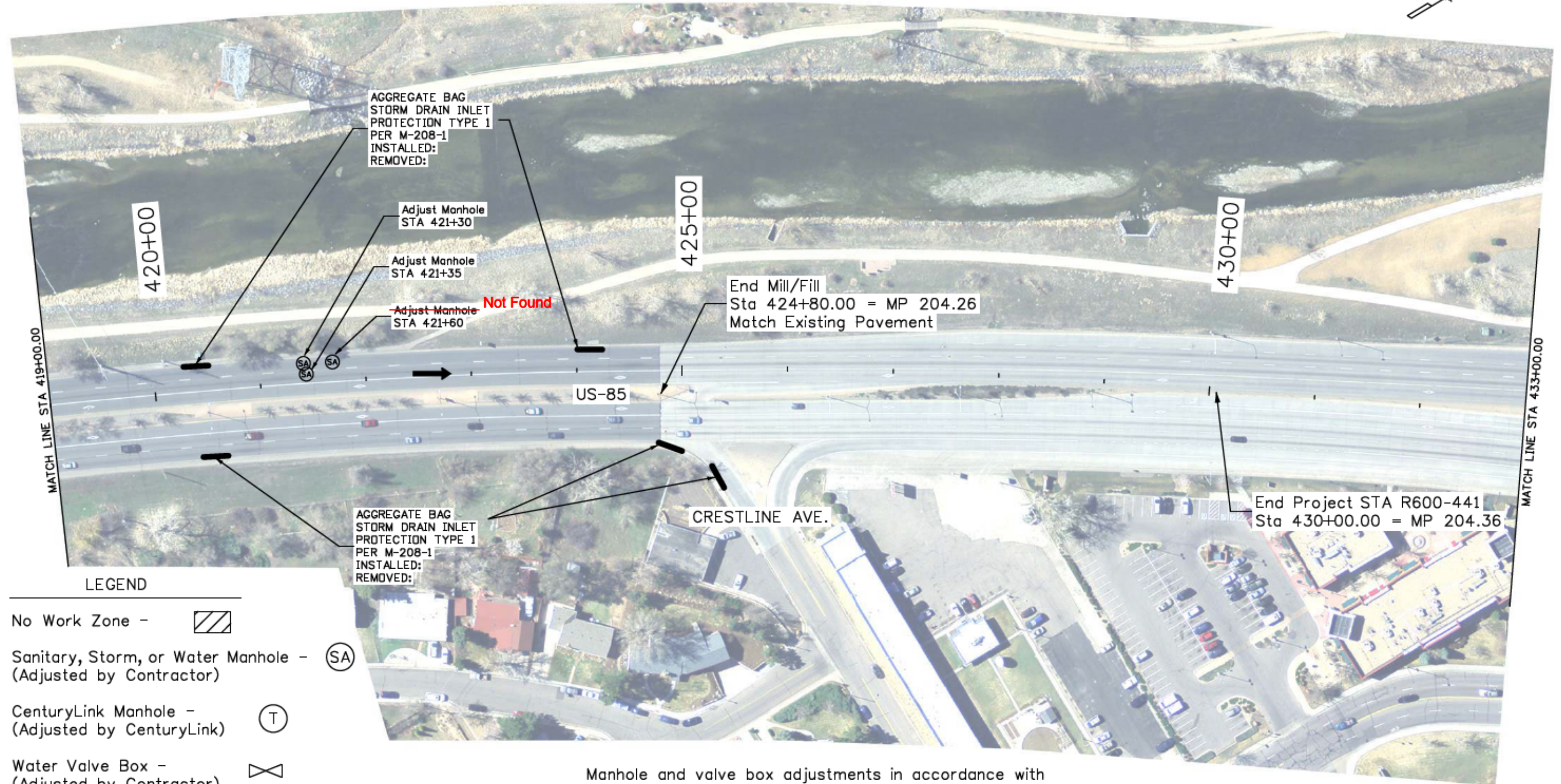
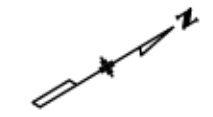
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Date:	Comments	Init.

Colorado Department of Transportation  
  
 Arapahoe Residency  
 7328 S. Revere Parkway, Suite 204A  
 Centennial, CO 80112  
 Phone: 303-365-7230 FAX: 303-790-1037  
 Region 1      RYJ

As Constructed
No Revisions:
Revised: 9/8/16
Void:

SWMP & UTILITY PLAN SHEET			
US-85			
Designer:	JJB	Structure Numbers	
Detailer:	JJB		
Sheet Subset: SWMP Util		Subset Sheets: 16 of 17	

Project No./Code
STA R600-441
19706
Sheet Number 67



**LEGEND**

- No Work Zone -
- Sanitary, Storm, or Water Manhole - (Adjusted by Contractor)
- CenturyLink Manhole - (Adjusted by CenturyLink)
- Water Valve Box - (Adjusted by Contractor)
- Hydrant -

Manhole and valve box adjustments in accordance with  
Revision of Section 210 - Valve Box and Manhole Adjustments.

Print Date: 11/23/2015	
File Name: 19706SWMPUtilityPlanSheets_100Scale_Ad.dgn	
Horiz. Scale: 1:100	Vert. Scale: As Noted
Unit Information	RYJ

Sheet Revisions		
Date:	Comments	Init.

Colorado Department of Transportation  
 Arapahoe Residency  
 7328 S. Revere Parkway, Suite 204A  
 Centennial, CO 80112  
 Phone: 303-365-7230 FAX: 303-790-1037  
 Region 1 RYJ

As Constructed
No Revisions:
Revised: <b>9/8/16</b>
Void:

SWMP & UTILITY PLAN SHEET			
US-85			
Designer:	JJB	Structure Numbers	
Detailer:	JJB	Subset Sheets:	17 of 17
Sheet Subset: SWMP Util			

Project No./Code	
	STA R600-441
	19706
Sheet Number	68

breedlovej 9:27:39 AM C:\Projects\19706\_US85BlakelandToCrestlineResurfacing\Design\Drawings\Ad\SWMP\Utilities\19706SWMPUtilityPlanSheets\_100Scale\_Ad.dgn

Station	Side	Adjust Manhole		Adjust Valve Box		Clean Valve Box		UTILITY OWNER
		210-04010		210-04050		202-04005		
		EA		EA		EA		
		Plan	As Const	Plan	As Const	Plan	As Const	
<b>US 85</b>								
202+85	LT	2						
203+70	LT	2						
206+05	LT	2						
207+32	LT			2		1		
241+70	LT	2						
243+35	LT	2						
247+77	LT	2						
248+05	LT	2						
248+09	LT	2						
248+75	LT	2						
249+50	LT	2						
250+30	LT							CenturyLink Adjusts
253+80	LT	2						
260+40	LT							CenturyLink Adjusts
267+20	LT							CenturyLink Adjusts
272+70	LT			2		1		
277+90	LT			2		1		
286+81	LT	2						
286+91	LT			2		1		
286+92	LT			2		1		
286+93	LT			2		1		
287+35	LT			2		1		
287+40	LT	2						
287+45	LT			2		1		
294+94	LT	2						
294+95	LT	2						
296+10	LT	2						
297+81	LT	2						
300+29	LT	2						
302+55	LT			2		1		
303+05	LT	2						
304+80	LT	2						
307+12	LT			2		1		
308+22	LT			2		1		
327+22	LT	2						
328+15	LT			2		1		
335+20	LT			2		1		
336+02	LT			2		1		
338+38	LT			2		1		
338+55	LT			2		1		
345+30	LT			2		1		
347+60	LT			2		1		
347+80	LT	2						
251+05	LT			2		1		
<b>SUB-TOTAL</b>		<b>44</b>		<b>38</b>		<b>19</b>		

Station	Side	Adjust Manhole		Adjust Valve Box		Clean Valve Box		UTILITY OWNER
		210-04010		210-04050		202-04005		
		EA		EA		EA		
		Plan	As Const	Plan	As Const	Plan	As Const	
<b>US 85</b>								
351+18	LT	2						
354+30	LT	2						
354+50	LT			2		1		
358+30	LT	2						
359+60	LT			2		1		
361+50	LT			2		1		
361+88	LT	2						
364+50	LT			2		1		
365+61	LT	2						
370+55	LT	2						
371+85	LT	2						
373+22	LT			2		1		
376+45	LT	2						
378+58	LT			2		1		
378+68	LT			2		1		
378+78	LT			2		1		
378+85	LT			2		1		
380+08	RT	2						
384+15	LT			2		1		
384+16	LT	2						
393+82	LT	2						
393+85	LT	2						
393+98	LT			2		1		
394+32	LT	2						
394+35	LT	2						
396+55	LT	2						
397+35	LT	2						
401+00	LT	2						
404+95	LT			2		1		
408+95	LT	2						
414+00	LT	2						
414+50	LT	2						
418+40	LT	2						
418+42	LT	2						
418+90	LT	2						
421+30	LT	2						
421+35	LT	2						
421+60	LT	2						
424+75	RT	2						
425+30	LT	2						
425+35	LT	2						
<b>SUB TOTAL</b>		<b>58</b>		<b>24</b>		<b>12</b>		
<b>PROJECT TOTALS</b>		<b>102</b>		<b>62</b>		<b>31</b>		

Print Date: 11/23/2015  
 File Name: 19706UtilityTab\_Ad.dgn  
 Horiz. Scale: 1:1      Vert. Scale: As Noted  
 Unit Information      RYJ

Sheet Revisions		
Date:	Comments	Init.

Colorado Department of Transportation  
 Arapahoe Residency  
 7328 S. Revere Parkway, Suite 204A  
 Centennial, CO 80112  
 Phone: 303-365-7230 FAX: 303-790-1037  
 Region 1      RYJ

As Constructed  
 No Revisions:  
 Revised: 9/8/16  
 Void:

UTILITY TABULATION

Designer: TV  
 Detailer: TV  
 Sheet Subset: Util Tab      Structure Numbers  
 Subset Sheets: 1 of 1

Project No./Code  
 STM R600-441  
 19706  
 Sheet Number 69

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**SUMMARY OF TRAFFIC ENGINEERING ITEMS**

ITEM NUMBER	ITEM DESCRIPTION	UNIT	PROJECT TOTALS
202-00250	REMOVAL OF PAVEMENT MARKING	SF	1,000
202-00810	REMOVAL OF GROUND SIGN	EA	10
202-00821	REMOVAL OF SIGN PANEL	EA	3
202-00828	REMOVAL OF TRAFFIC SIGNAL EQUIPMENT	LS	1
210-00815	RESET SIGN PANEL	EA	1
613-00206	2 IN ELEC COND (BORED)	LF	800
613-01200	2 IN ELEC COND (PLASTIC)	LF	190
613-07000	PULL BOX (SPECIAL)	EA	10
613-07002	TYPE TWO PULL BOX	EA	5
613-07003	TYPE THREE PULL BOX	EA	4
613-07005	TYPE FIVE PULL BOX	EA	1
613-10000	WIRING	LS	1
614-00011	SIGN PANEL (CL I)	SF	197
614-00012	SIGN PANEL (CL II)	SF	150
614-01583	STEEL SIGN SUPP (2.5" RD SCH80) (PO & SLIP)	EA	12
614-10160	SIGNAL HEAD BACKPLATE	EA	24
614-70150	PEDESTRIAN SIGNAL FACE (16) (COUNTDOWN)	EA	12
614-70336	TRAFFIC SIGNAL FACE (12-12-12)	EA	1
614-70448	TRAFFIC SIGNAL FACE (12-12-12-12)	EA	5
614-72860	PEDESTRIAN PUSH BUTTON	EA	8
614-72863	PED. PUSH BUTTON & POLE ASSEMBLY	EA	8
614-72875	LOOP DETECTOR WIRE	LF	5,096
614-84000	TRAF. SIG. PEDESTAL POLE STEEL	EA	4
627-00008	MODIFIED EPOXY PAVEMENT MARKING	GAL	303
627-00011	PAVEMENT MARKING PAINT (WATERBORNE)	GAL	1,378
627-01010	PREFORM PLASTIC PVMT MKG (TYPE I) (INLAID)	SF	17,377
627-30324	PREFORM PLASTIC PVMT MKG (NS) (TYPE I)	SF	1,207
627-30329	PREFORM PLASTIC PVMT MKG (XS) (TYPE I)	SF	7,462
627-30408	PREFORM THERMOPLASTIC PVMT MKG (SHIELD)	SF	320
630-80335	BARRICADE (3 M-A) (TEMP)	EA	4
630-80341	CONST TRAF SIGN (A)	EA	26
630-80342	CONST TRAF SIGN (B)	EA	38
630-80343	CONST TRAF SIGN (C)	EA	8
630-80355	PORTABLE MESSAGE SIGN PANEL	EA	4
630-80358	ADV WARN FLASH OR SEQ PANEL (C TYPE)	EA	2
630-80360	DRUM CHANNEL DEV	EA	50
630-80380	TRAFFIC CONE	EA	200
630-85041	MOBILE ATTENUATOR	DAY	20

**TABULATION OF CONSTRUCTION TRAFFIC CONTROL DEVICES**

CONSTRUCTION SIGNS						
SIGN CODE	LEGEND	DIMENSION	PANEL SIZE			
			A	B	C	SPECIAL
			EA	EA	EA	SF
48G20-10	XYZ/CONSTRUCTION/THANKS YOU/555-555-5555	48x48		2		
48G20-11	CONSTRUCTION INFO SIGN	48x48		2		
48W4-2( )	LANE ENDS (TRANSITION SYMBOL)	48x48		2		
48W20-1	ROAD WORK (AHEAD)	48x48		4		
48W20-5	( ) LANE CLOSED (AHEAD)	48x48		2		
48W20-1	ROAD WORK (XX MILE)	48x48		2		
48W20-7	FLAGGER ( )	48x48		2		
48W20-7a	FLAGGER (SYMBOL)	48x48		2		
48R52-6a	BEGIN FINES DOUBLE IN WORK ZONE	48x60			4	
48R52-6b	END FINES DOUBLE IN WORK ZONE	48x60			4	
36R2-6	FINES DOUBLE	36x36	4			
36G20-5	WORK ZONE	36x12	4			
36R3-2	LEFT TURN PROHIBITION	36x36	4			
30R3-5L	MANDATORY MOVEMENT LANE CONTROL	36x48		1		
30R3-5R	MANDATORY MOVEMENT LANE CONTROL	30x48		1		
36R4-7	KEEP RIGHT	36x48		4		
48R2-1 (XX)	SPEED LIMIT XX	48x60		8		
36R4-2	PASS WITH CARE	36x48		2		
36W6-3	TWO-WAY TRAFFIC	36x36	2			
48W1-4( )	ONE LANE REVERSE CURVE	48x48		4		
24R9-9	SIDEWALK CLOSED	24x12	4			
24R9-10	SIDEWALK CLOSED USE OTHER SIDE	24x12	2			
24R9-11	SIDEWALK CLOSED AHEAD CROSS HERE	24x12	2			
24R9-11a	SIDEWALK CLOSED CROSS HERE	24x12	2			
30M4-9a	BICYCLE PEDESTRIAN DETOUR	30x24	2			
TOTALS			26	38	8	0

**SHEET NOTES**

1. SEE STANDARD S-630-1 OF THE "COLORADO STANDARDS PLANS" FOR TYPICAL PLACEMENT OF THE CONSTRUCTION TRAFFIC CONTROL DEVICES.
2. LOCAL NUMBERS ONLY SHALL BE USED ON THE CONSTRUCTION INFO SIGNING AND NO NUMBER WITH EXTENSIONS SHALL BE ALLOWED.
3. STENCIL BLACK ON REFLECTIVE WHITE.
4. STENCIL BLACK ON REFLECTIVE ORANGE.
5. TO BE PROVIDED WITH INTERCHANGEABLE PLAQUES AT NO ADDITIONAL COST TO THE PROJECT.
6. ROLL-UP TYPE SIGNS SHALL NOT BE ALLOWED ON INTERSTATES, FREEWAYS, OR EXPRESSWAYS
7. ALL SIGNS SHALL BE POST MOUNTED AND PLACED IN ACCORDANCE WITH THE STANDARD "GROUND SIGN PLACEMENT" UNLESS OTHERWISE APPROVED BY THE ENGINEER.
8. BASED ON SIGHT DISTANCE AND OTHER CONSIDERATIONS, THE FINAL LOCATION OF ALL SIGNS ARE SUBJECT TO THE APPROVAL OF THE ENGINEER.
9. QUANTITIES FOR CONSTRUCTION TRAFFIC CONTROL DEVICES ARE SUFFICIENT ONLY FOR ONE SET UP AT A TIME.

Print Date: 11/17/2015

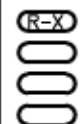
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Horiz. Scale: 1:100

Vert. Scale: As Noted

Unit 6580

Unit Leader LR



**Sheet Revisions**

Date:	Comments	Init.

Colorado Department of Transportation



2000 South Holly Street  
Denver, CO 80222  
Phone: 303-757-9511 FAX: 303-757-9907

Region 1 Traffic and Safety

LR

**As Constructed**

No Revisions:

Revised: 9/8/16

Void:

**SUMMARY OF TRAFFIC ENGINEERING ITEMS**

Designer: Guy Norris

Detailer: BMc

Sheet Subset: Traffic

Structure Numbers

Subset Sheets: 1 of 7

**Project No./Code**

STA R600-441

19706

Sheet Number 70

**TABULATION OF PAVEMENT MARKINGS**


LOCATION; US 85 SANTA FE DRIVE	MODIFIED EPOXY PAVEMENT MARKING (LF)										PREFORMED PLASTIC PAVEMENT MARKING (TYPE I) (INLAID) (LF)						PREFORMED PLASTIC PAVEMENT MARKING (TYPE I) (SF)				PREFORMED THERMOPLASTIC PAVEMENT MARKING (SHEILD) (SF)
	CENTER				EDGE		DOTTED		CROSSHATCH		LANE		CHANNELIZING		LANE DROP		STOP LINES	CROSSWALK LINES	WORD	SYMBOL	SHEILD
	YELLOW SOLID	DOUBLE YELLOW SOLID	YELLOW BROKEN	YELLOW SOLID BROKEN	WHITE SOLID	YELLOW SOLID	WHITE BROKEN	WHITE BROKEN	WHITE SOLID	YELLOW SOLID	WHITE BROKEN	WHITE BROKEN	WHITE SOLID	WHITE SOLID	WHITE BROKEN	WHITE BROKEN					
4 INCH	4 INCH	4 INCH	4 INCH	4 INCH	4 INCH	4 INCH	8 INCH	8 INCH	8 INCH	4 INCH	7 INCH	8 INCH	11 INCH	8 INCH	11 INCH						
STA 202+26 to 206+00	750									750		450							31		
BLAKELAND DR STA 207+00 to 219+00		75			2400		180			3600		400		300		130	31		102		
C-470 EB																85	15				
STA 219+50 to 223+00		300			600					600		900				85	15		93		
C-470 WB																85	15				
STA 223+50 to 230+50		1300			1400					1400		900		500					106		
COUNTY LINE RD		210			540		145	95				640				156	30		105		
STA 231+00 to 279+00		3850			5400				100	5950		3750						12	124	320	
MINERAL AVE								125								76	24				
STA 279+50 to 280+50 SB, 299+00 to 302+00		620			635					720		875		300					31		
ASPEN GROVE WAY								125								127					
STA 303+00 to 335+50					6525	6500				6825		1125									
BREWERY LANE																					
STA 336+00 to 373+00					7400	7400				7900		4400		400					47		
SUMNER ST																161	17				
STA 373+50 to 394+00		1550			4150	1000				5650		2325		200					109		
CHURCH AVE																166	55				
STA 394+00 to 404+50					2200	2100				3850		1650		200					109		
BOWLES AVE								355								205	67				
STA 404+50 to 424+80		350			2550	3750				5600		975		450					182		
TOTAL (LF)	750	10655	0	0	33800	20750	325	700	100	0	42845	0	20240	0	2350	0	1191.00	2540.00			
TOTAL (SF)											3570.42	0.00	13493.33	0.00	313.33	0.00	2382.00	5080.00	12.00	1195.00	320.00
TOTAL (GAL)	2.94	83.57	0.00	0.00	132.55	81.37	0.42	1.83	0.78	0.00											

**NOTES:**

- FOR DETAILS OF PAVEMENT MARKINGS AND LINE PLACEMENT, SEE STANDARD S-627-1.
- THE CONTRACTOR SHALL MAINTAIN FULL COMPLIANCE OF PAVEMENT MARKINGS ON THE PROJECT AT ALL TIMES THROUGHOUT THE CONSTRUCTION PERIOD.
- QUANTITIES PROVIDED FOR TEMPORARY PAVEMENT MARKINGS ARE SUFFICIENT FOR 3 APPLICATIONS DURING CONSTRUCTION.
- THE CONTRACTOR WILL BE RESPONSIBLE FOR THE INVENTORY OF EXISTING PAVEMENT MARKINGS AND RECORDING THEM SO THAT NEW MARKINGS CAN BE INSTALLED TO MATCH WHERE APPLICABLE. A COPY OF THE EXISTING INVENTORY OF PAVEMENT MARKINGS SHALL BE PROVIDED TO THE PROJECT ENGINEER AND ACCEPTED PRIOR TO PHASE CHANGES OR THE REMOVAL OF ANY EXISTING PAVEMENT MARKINGS.
- PAVEMENT MARKING "ARROWS" SHALL BE RELACED ONLY IF THEY ARE JUSTIFIED BY THE CURRENT REGION POLICY ON INSTALLATION OF SUCH MARKINGS AND AS DIRECTED BY THE ENGINEER. QUANTITIES SHOWN ARE ESTIMATED AND SHALL BE INSTALLED ONLY AS DIRECTED BY THE ENGINEER. PAVEMENT MARKING WORD 'ONLY' SHALL NOT BE REPLACED.
- IT IS ESTIMATED THAT 1,000 SF OF REMOVAL OF PAVEMENT MARKINGS WILL BE REQUIRED FOR REMOVAL OF ANY PAVEMENT MARKINGS THAT CONFLICT WITH THE FINAL MARKINGS, NOT OTHERWISE INCLUDED IN ANOTHER PAY ITEM.

	MODIFIED EPOXY PAVEMENT MARKING (GAL)		PREFORMED PLASTIC PAVEMENT MARKING (TYPE I) (INLAID) (SF)	PREFORMED THERMOPLASTIC PAVEMENT MARKING (SHEILD)	PREFORMED PLASTIC PAVEMENT MARKING (TYPE I) (SF)		PAVEMENT MARKING PAINT (WATERBORNE) (GAL)	
	YELLOW	WHITE			WORD - SYMBOL	XWALK - STOPLINE	YELLOW	WHITE
PROJECT TOTALS	167.88	135.59	17377	320	1207	7462	453.28	924.94
	303						1378	

3
 Approximate Number of Temporary Applications
 
WATERBORNE
 Temporary Pavement Marking Material

Print Date: 11/16/2015 File Name: 19706Tab of Pvmr Mkgs02rrDverlap.dgn Horiz. Scale: 1:100      Vert. Scale: As Noted Unit 6580      Unit Leader LR	<b>Sheet Revisions</b> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 15%;">Date:</th> <th style="width: 55%;">Comments</th> <th style="width: 30%;">Init.</th> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> </table>	Date:	Comments	Init.							 Colorado Department of Transportation 2000 South Holly Street Denver, CO 80222 Phone: 303-757-9511    FAX: 303-757-9907 Region 1 Traffic and Safety      LR	As Constructed No Revisions: <span style="color: red;">9/8/16</span> Revised: Void:	<b>TABULATION OF PAVEMENT MARKINGS</b> Designer: Guy Norris Detailer: BMc Sheet Subset: Traffic      Subset Sheets: 2 of 7	Project No./Code STA R600-441 19706 Sheet Number <span style="float: right;">71</span>
Date:	Comments	Init.												

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**Traffic Striping General Notes**

1. All striping shall be in accordance with CDOT Standards and Specifications.
2. Final striping shall match existing layout within the project limits beyond striping illustrated in the plans.
3. The Contractor will be responsible for the inventory of existing pavement markings and recording them so that new markings can be installed to match where applicable. A copy of the existing inventory of pavement markings shall be provided to the Engineer and accepted prior to phase changes or the removal of any existing pavement markings.

**Signing Notes**

Signs will be replaced as needed. The Engineer will make the final determination. Miscellaneous quantities not tabulated elsewhere include:  
 614-00011 SIGN PANEL (Class I) 150 SF  
 614-00012 SIGN PANEL (Class II) 150 SF  
 614-01583 STEEL SIGN SUPPORT (PO&SLIP) 10 EA

**Signal Notes**


1. Pull boxes shall be Fiberglass Reinforced Polymer Concrete per CDOT Standards. Any pull boxes damaged during construction will be replaced at the contractor's expense, unless the replacement is already identified in the plans.
2. Conduit, pole, detector, and controller locations are approximate. Contractor shall call UNCC to locate the existing utilities and then contact CDOT Region 1 Traffic at 303-757-9551 for "spotting" of signal equipment in the field. Contractor shall pothole to determine conflicts with existing utilities and the proposed signal pole locations. Contractor shall notify the Project Engineer immediately if a conflict is determined.
3. All wiring of signal equipment and lighting shall be paid under the "WIRING" Lump Sum.
4. The removal of traffic signal equipment shall include all bases to below the finished grade per CDOT specifications, signal faces, pedestrian push buttons, pedestrian poles, and any other devices that were utilized in the existing signal system to be replaced which may include the removal of existing conduit that may interfere with the new signal installation. All equipment, labor, and/or materials used to complete this work shall be included in the Lump Sum pay item "REMOVAL OF TRAFFIC SIGNAL EQUIPMENT". All existing salvageable signal equipment shall remain the property of CDOT and shall be returned to CDOT's Signal Yard. Contact CDOT Region 1 Traffic at 303-757-9551 for delivery.
5. Traffic Signal Materials and Installation shall comply with the "State of Colorado - Standard Specifications for Road and Bridge Construction", the "State of Colorado - Standard Plans", M & S Standards (Latest Edition), the "Manual of Uniform Traffic Control Devices", the "National Electric Code", and all local ordinances and regulations that apply, except as noted on the plans or special provisions.
6. The Contractor shall adhere to the following requirements regarding Traffic Signal construction and maintenance personnel. Current certificates showing qualifications shall be submitted at the pre-construction meeting.

- (1) For any work inside the traffic signal cabinet, Signal and Signal Bench Technicians shall be minimum IMSA Level II certified. This includes the completion of training in construction, corrective maintenance, and signal turn-on.
- (2) Field Technician/Electrician - or Traffic Signal Bench Technician/Signal Technician - is required. An IMSA Level II Traffic Signal Electrician - shall be on the job site at all times that signalization work is taking place to ensure proper construction. A maximum ratio of four IMSA Level I to one IMSA Level II will be allowed for work external to the signal cabinet.

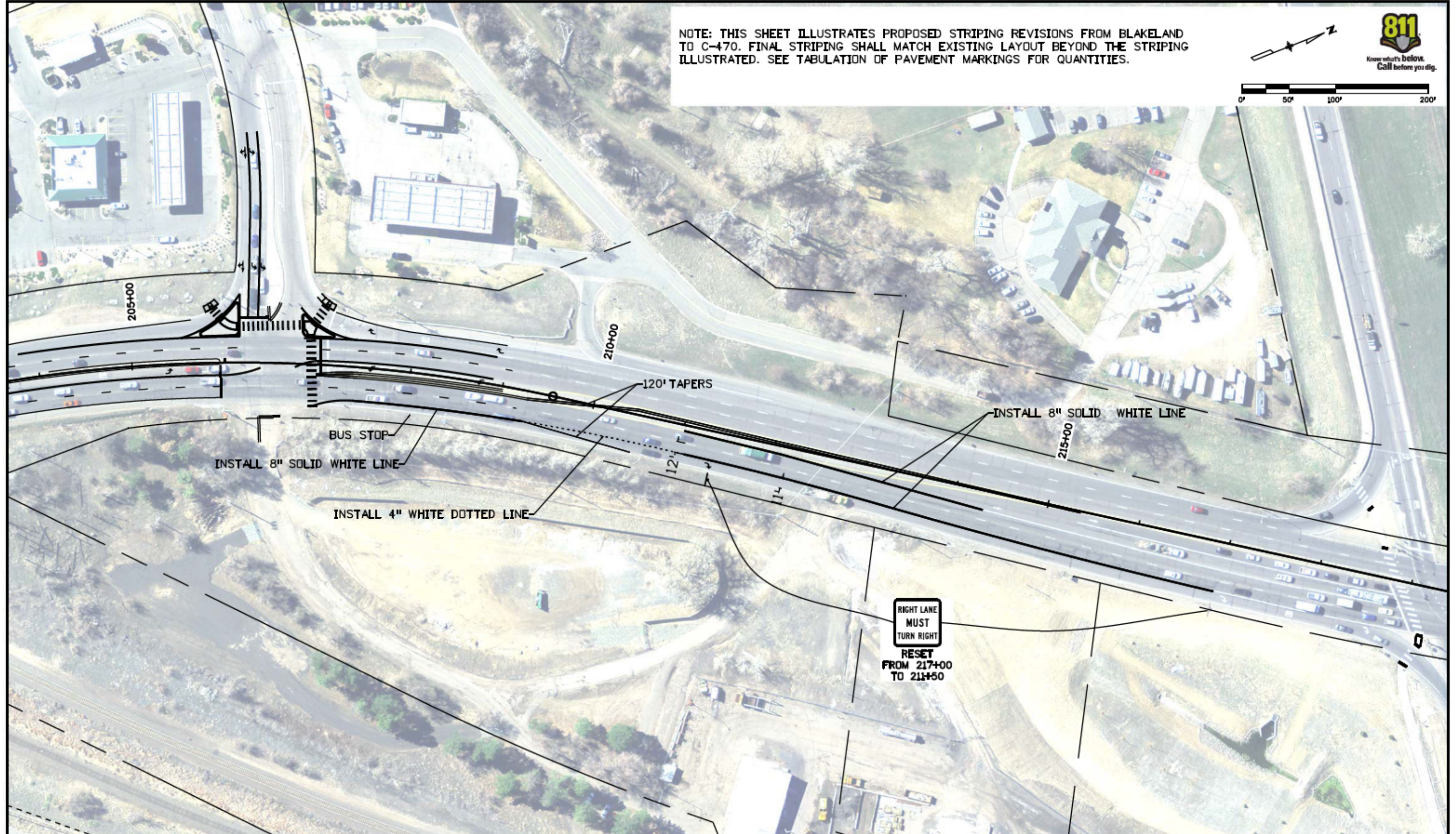
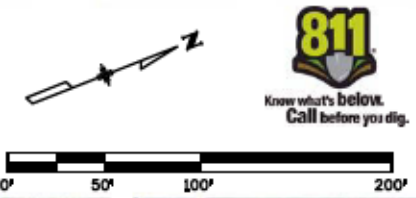
The United States Department of Labor - Bureau of Apprenticeship and Training may be substituted for the IMSA Level I Traffic Signal Electrician requirement.

7. If wiring is pulled through existing conduit, the conduit must be proofed to ensure its integrity.
8. All vehicle and pedestrian indicators shall be approved solid state LED type. All vehicle and pedestrian head housings shall be YELLOW in color. Signal heads mounted above on mast arm or span wire shall include backing plates. All backing plates shall be black louvered with a 1.5 inch wide border of yellow type XI material per the latest FHWA sign sheeting reference guide. The backing plates and type XI material shall not be paid for separately, but shall be included in the cost of the signal head.
9. The existing signal heads facing NB & SB US 85 for the signals @ Blakeland, C-470 EB, C-470 WB, and County Line shall be retrofitted with 6 backing plates each. All backing plates shall be black louvered with a 1.5 inch wide border of yellow type XI material per the latest FHWA sign sheeting reference guide. The type XI material shall not be paid for separately, but shall be included in the cost of the backplate. A total of 24 Signal Head Backplates (614-10160) will be required.
10. New signal faces or signal faces temporarily turned off for phasing operations shall be bagged with orange colored bags until operational.
11. Installation shall include ADA pedestrian push buttons. Pedestrian push button signs shall be decal type, conforming to MUTCD or r103b.
12. Prior to all milling or planing operation at signalized intersections, all video detection equipment called out in the plans shall be in place and shall be operational. In the event that a loop that is not part of the contract work is cut during milling or planing operations, a video detection camera shall be installed, be fully operational, and shall remain in place until the loop can be repaired or replaced. The replacement or repair of damaged traffic loops that are not part of the work shall be at the Contractor's expense. All video detection changes during milling or planing operations and striping reconfiguration will not be measured and paid for separately, but shall be included in the work.
13. Two or more weeks prior to the start of construction, the Contractor shall submit temporary phasing and timing signal plans to the Engineer for approval.
14. The reset of traffic signal equipment required for this project will not be measured and paid for separately, but shall be included in the work.
15. No excavation shall be permitted until underground utilities have been located to the satisfaction of all parties. The Contractor shall be responsible for protecting all aerial and underground utilities during construction. Contact the Utility Notification Center of Colorado (UNCC) to have locations of UNCC registered lines marked by member companies. Call 811 or 1-800-922-1987 for all locations.
16. All electrical conduit for signal connections shall be Schedule 80. Multiple conduit runs shall be installed in a common bore or trench.
17. Contractor's signal electrician is required to be on site, at a minimum, during AM & PM peak hours the next following day a signal is turned on to observe operation and make adjustments as needed. Signal electrician's additional hours may be required by the Engineer. This applies to both permanent and temporary installations.
18. The Contractor shall provide CDOT with at least four (4) sets of equipment specifications/descriptions and obtain approvals prior to ordering the equipment. All manuals, installation guides, and associated equipment shall be provided to the Engineer at time of inspection.

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File Name: 19706Gen NotesrrOverlap11-16-15.dgn		No Revisions: 9/8/16		STA R600-441																							
Horiz. Scale: 1:100 Vert. Scale: As Noted						Designer: Guy Norris		Structure Numbers																			
Unit 6580 Unit Leader LR						Detailer: BMC		19706																			
						Sheet Subset: Traffic		Subset Sheets: 3 of 7																			
								Sheet Number 72																			

NOTE: THIS SHEET ILLUSTRATES PROPOSED STRIPING REVISIONS FROM BLAKELAND TO C-470. FINAL STRIPING SHALL MATCH EXISTING LAYOUT BEYOND THE STRIPING ILLUSTRATED. SEE TABULATION OF PAVEMENT MARKINGS FOR QUANTITIES.

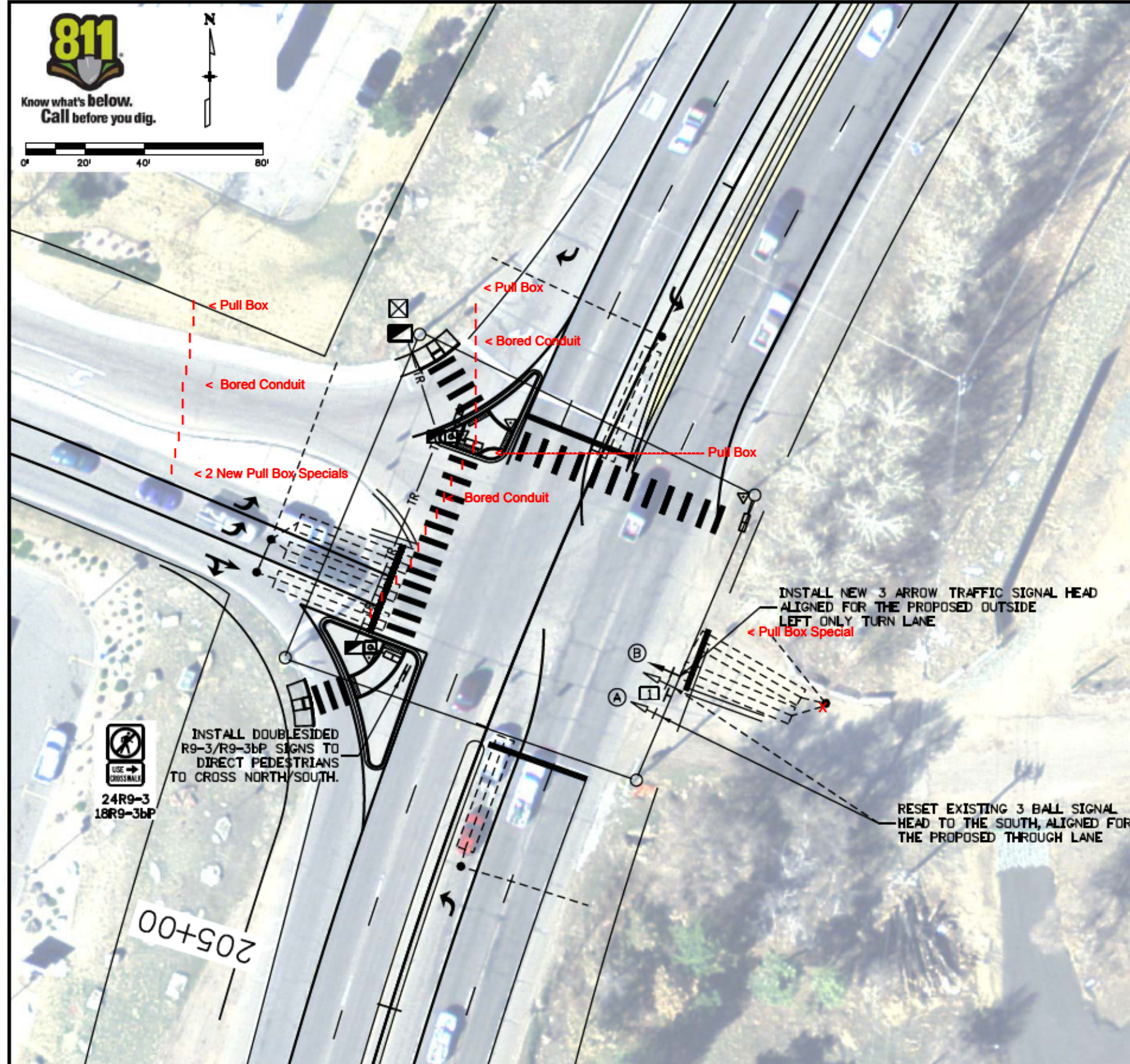
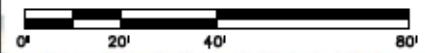


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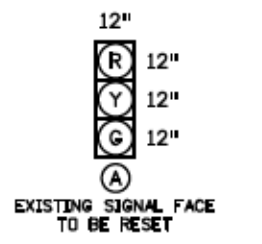
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Date:	Comments	Init.																									
File Name: Blakelandto C470.dgn		Horiz. Scale: 1:100      Vert. Scale: As Noted		Revised:		Designer: Guy Norris      Structure Numbers: X-XX-XX Detailer: Guy Norris      Structure Numbers: X-XX-XX		19706																			
Unit Information		Unit Leader Initials		Void:		Sheet Subset: Traffic		Subset Sheets: 4 of 7 <b>Sheet Number 73</b>																			



Know what's below.  
Call before you dig.



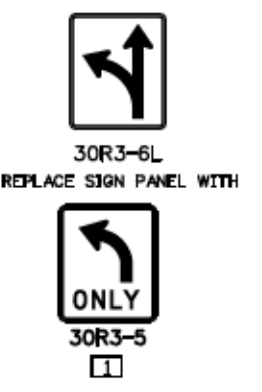
**SIGNAL FACES**



**PHASING**

NORTH BOUND MAIN PHASE	
01	SB LEFT TURN
02	NB THOUGH
03	WB LEFT TURN
04	EB THROUGH
05	NB LEFT TURN
06	SB THROUGH
07	EB LEFT TURN
08	WB THROUGH

**SPAN WIRE SIGN PANELS**



**TABULATION OF INTERSECTION ITEMS**

ITEM	ITEM DESCRIPTION	UNIT	QTY
202-00821	REMOVAL OF SIGN PANEL	EA	1
202-00828	REMOVAL OF TRAFFIC SIGNAL EQUIPMT.	LS	1
613-00206	2" ELECTRICAL CONDUIT (BORED)	LF	425
613-01200	2" ELECTRICAL CONDUIT (PLASTIC)	LF	50
613-07000	PULL BOX (SPECIAL)	EA	5
613-07003	TYPE THREE PULL BOX	EA	2
613-07005	TYPE FIVE PULL BOX	EA	1
613-10000	WIRING	LS	1
614-00011	SIGN PANEL (CL 1)	SF	19
614-01583	STL SIGN SUPP (2.5" RD SCH 80) (PO & SLIP)	EA	1
614-70150	PEDESTRIAN SIGNAL FACE (16)(CNTDN)	EA	4
614-70336	TRAFFIC SIGNAL FACE (12-12-12)	EA	1
614-72860	PEDESTRIAN PUSH BUTTON	EA	3
614-72863	PED. PUSH BUTTON & POST ASSM.	EA	1
614-72875	LOOP DETECTOR WIRE	LF	2,548
614-84000	TRAF. SIG. PEDESTAL POLE STEEL	EA	2

**LEGEND**

	EXISTING CONTROLLER CABINET
	EXISTING SIGNAL FACE W/ BACKPLATE TO BE RESET
	SIGNAL FACE WITH BACKPLATE
	6X40 DETECTION LOOP
	PEDESTRIAN PUSH BUTTON
	PEDESTRIAN SIGNAL FACE
	PEDESTAL POLE
	EXISTING SIGNAL POLE & SPAN WIRE
	PULL BOX
	SIGN PANEL CL 1
	PULL BOX (SPECIAL)

ALL QUANTITIES CARRIED FORWARD TO THE TABULATION OF TRAFFIC ENGINEERING ITEMS

**NOTES:**

1. THE EXISTING SIGNAL HEADS (TO REMAIN IN PLACE) FACING NB & SB US 85 SHALL BE RETROFITTED WITH BACKPLATES, SEE TRAFFIC GENERAL NOTES FOR ITEM, QUANTITY AND ADDITIONAL INFORMATION.
2. EXISTING TRAFFIC SIGNAL SPAN WIRE AND POLES TO REMAIN IN PLACE.
3. CONDUIT RUN FROM PULL BOXES (SPECIAL) SHALL TIE IN THE EXISTING PULL BOXES ON THE SIDE OF THE ROAD.
4. SIGNAL DETECTION LOOP LAYOUT SHALL BE FIELD VERIFIED BY CDOT TRAFFIC PRIOR TO INSTALLATION.
5. NOT ALL CONDUIT RUNS AND DETAILS CAN BE ILLUSTRATED ON THIS SHEET. REFER TO PROJECT DETAILS AND M&S STANDARD PLANS FOR ADDITIONAL INFORMATION.
6. ARROW ORIENTATION / DIRECTION FOR SIGN R9-3bP MAY VARY BY CROSSING, FINAL ARROW ORIENTATION / DIRECTION SHALL BE AS DIRECTED BY THE ENGINEER.

Print Date: 11/16/2015
File Name: Blakeland.dgn
Horiz. Scale: 1:40
Unit Information
Vert. Scale: As Noted
Unit Leader Initials

Sheet Revisions		
Date:	Comments	Init.

Colorado Department of Transportation

2000 South Holly Street  
Denver, CO 80222  
Phone: 303-757-9511 FAX: 303-757-9907

Region 1 Traffic and Safety LR

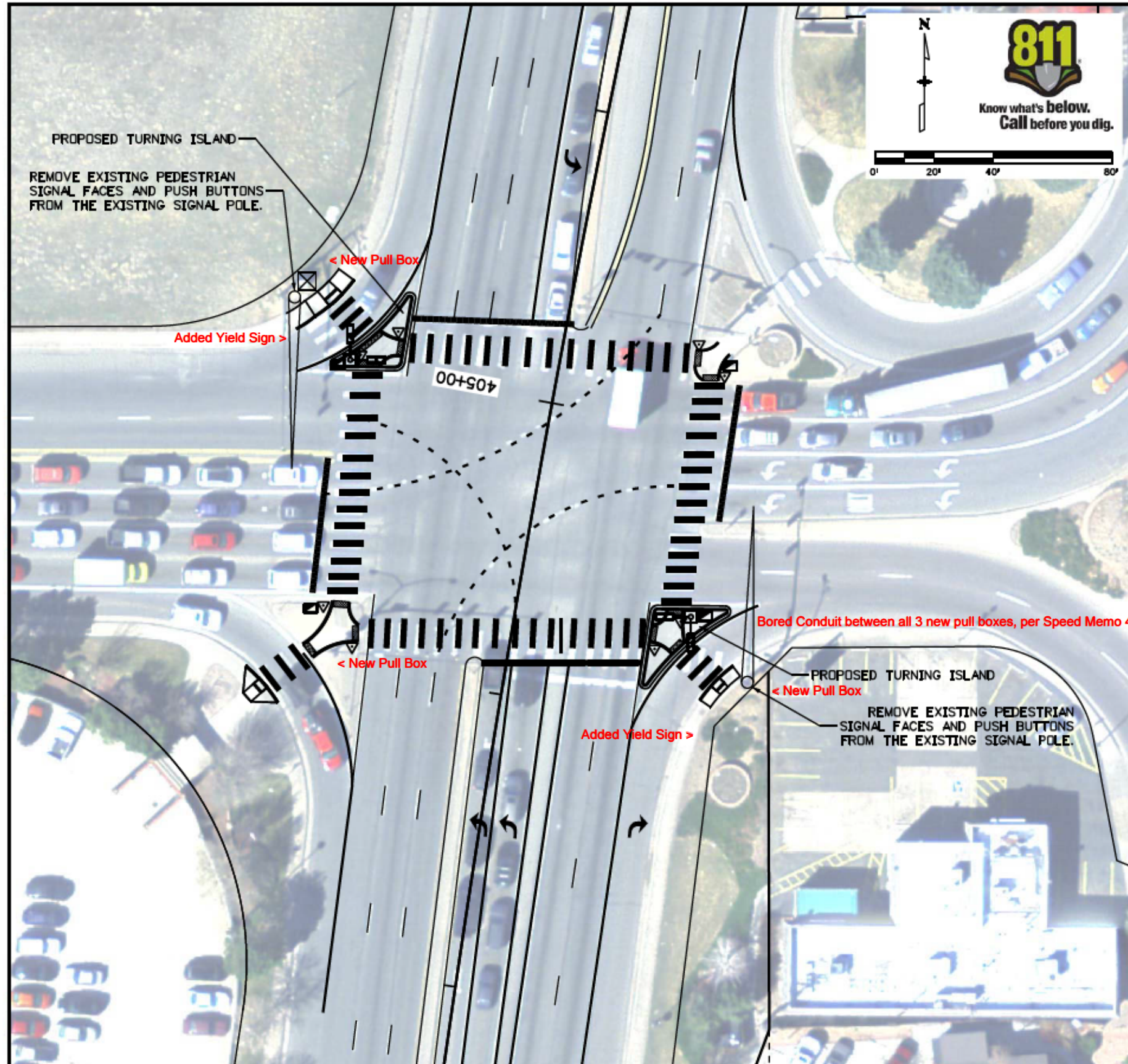
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No Revisions:
Revised: 9/8/16
Void:

US 85/Santa Fe & Blakeland Intersection Plan			
Designer: Guy Norris	Structure Numbers	X-XX-XX	X-XX-XX
Detailer: Guy Norris	Sheet Subset: Traffic	Subset Sheets: 5 of 7	

Project No./Code
STA R600-441
19706
Sheet Number 74

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**TABULATION OF INTERSECTION ITEMS**

ITEM	ITEM DESCRIPTION	UNIT	QTY
202-00828	REMOVAL OF TRAFFIC SIGNAL EQUIPMT.	LS	1
613-00206	2" ELECTRICAL CONDUIT (BORED)	LF	100
613-01200	2" ELECTRICAL CONDUIT (PLASTIC)	LF	100
613-07002	TYPE TWO PULL BOX	EA	2
613-07003	TYPE THREE PULL BOX	EA	2
613-10000	WIRING	LS	1
614-70150	PEDESTRIAN SIGNAL FACE (16)(CNTDN)	EA	4
614-72860	PEDESTRIAN PUSH BUTTON	EA	4
614-72863	PED. PUSH BUTTON & POST ASSM.	EA	4
614-84000	TRAF. SIG. PEDESTAL POLE STEEL	EA	2

**LEGEND**

	EXISTING CONTROLLER CABINET
	PEDESTRIAN PUSH BUTTON
	PEDESTRIAN SIGNAL FACE
	PULL BOX
	EXISTING SIGNAL POLE MAST ARM

ALL QUANTITIES CARRIED FORWARD TO THE TABULATION OF TRAFFIC ENGINEERING ITEMS

**NOTES:**

1. THIS SIGNAL IS OPERATED BY THE CITY OF LITTLETON. ALL SIGNAL WORK PERFORMED AT THIS INTERSECTION BY IN ACORDANCE WITH LITTLETON STANDARDS.
2. PUSH BUTTONS ARE TO BE 'BULL DOG' TYPE WITH A COMPATIBLE 5" X 7" HOUSING. ALL SIGNAL EQUIPMENT MUST BE ACCEPTED BY THE CITY OF LITTLETON PRIOR TO INSTALLATION.
3. THE CONTRACTOR SHALL CONTACT THE CITY OF LITTLETON AT 303-795-3834 FOR ALL CONSTRUCTION STANDARDS, SIGNAL PHASING, AND SPECIFICATIONS.
4. THE WIRING SCHEME USED SHALL BE FOR 20-CONDUCTOR CABLE. CITY OF LITTLETON WILL PROVIDE AN IMSA WIRING DIAGRAM / SHEET.
5. NOT ALL CONDUIT RUNS AND DETAILS CAN BE ILLUSTRATED ON THIS SHEET. REFER TO PROJECT DETAILS AND M&S STANDARD PLANS FOR ADDITIONAL INFORMATION.

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Colorado Department of Transportation

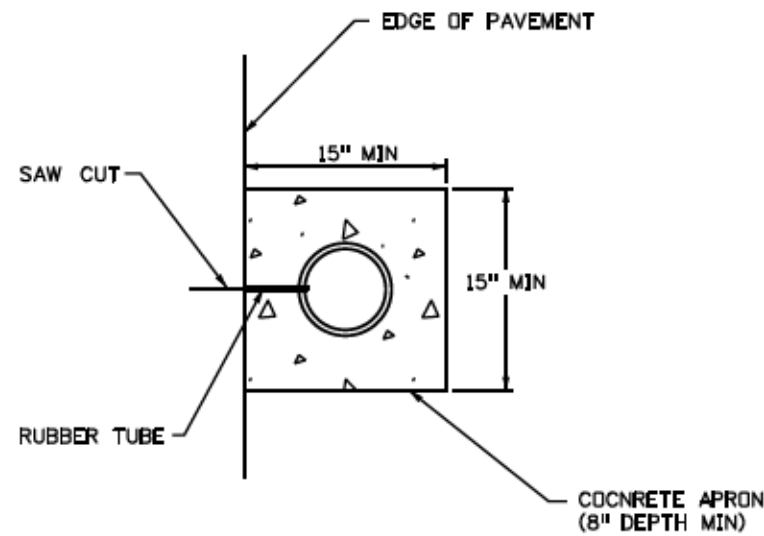
2000 South Holly Street  
Denver, CO 80222  
Phone: 303-757-9511 FAX: 303-757-9907

Region 1 Traffic and Safety      LR

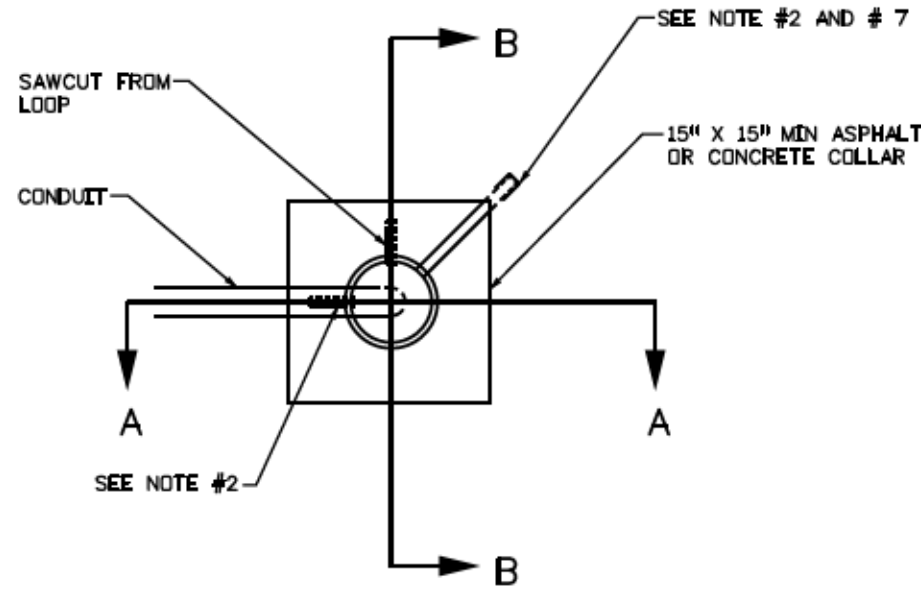
As Constructed
No Revisions:
Revised: 9/8/16
Void:

<b>US 85/Santa Fe &amp; Bowles Intersection Plan</b>			
Designer: Guy Norris	Structure Numbers	X-XX-XX	19706
Detailer: Guy Norris		X-XX-XX	
Sheet Subset: Traffic	Subset Sheets:	7 of 7	Sheet Number 76

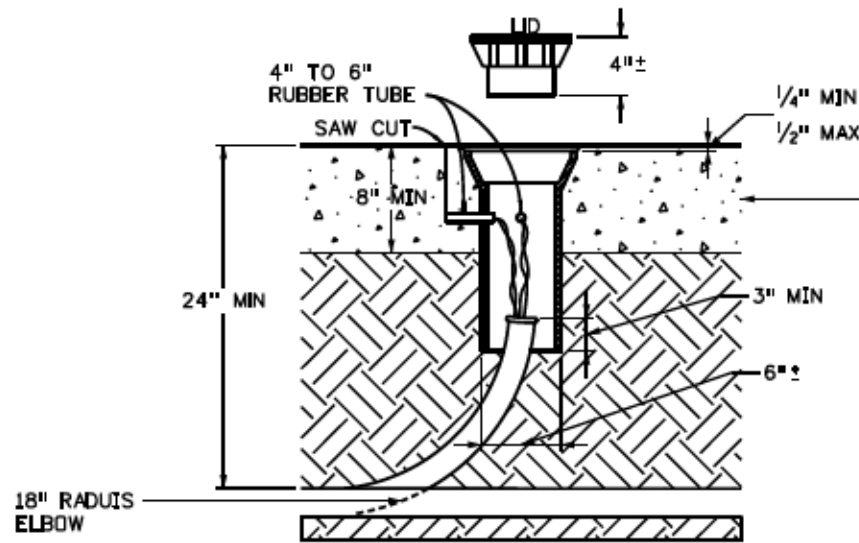
Project No./Code
STA R600-441
19706
Sheet Number 76



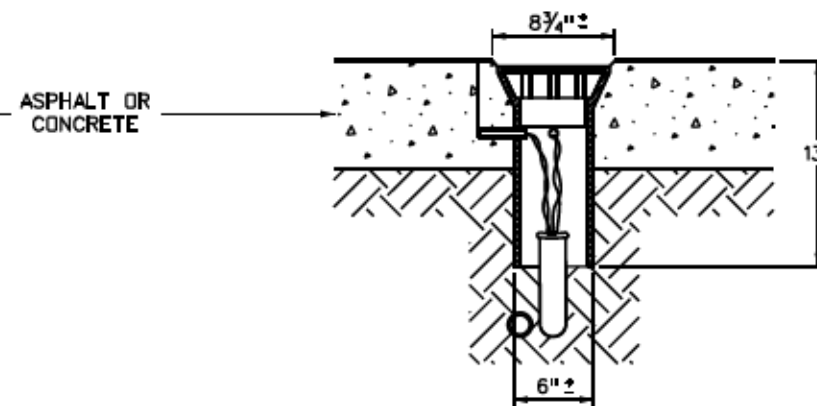
**INSTALLED IN EARTH**



**TOP VIEW**



**SECTION A-A**



**SECTION B-B**

**NOTES**

1. PULL BOX (SPECIAL) SHALL BE A WATER VALVE STEM TYPE PULL BOX MADE OF CAST IRON OR STEEL. THE PULL BOX ITSELF SHALL HAVE THE CAPABILITY OF ACCEPTING RISER RINGS FOR FUTURE OVERLAYS. THE LID SHALL HAVE THE WORD "TRAFFIC" PRINTED ON IT.
2. PULL BOX (SPECIAL) SHALL HAVE 3/4 IN. TO 1 IN. DIAMETER HOLES DRILLED OR TORCHED 3 IN. FROM TOP TO ACCEPT A 4 IN. TO 6 IN. LONG RUBBER TUBE (3/4 IN. GARDEN HOSE). THE NUMBER OF HOLES SHALL BE AS PER PLANS OR AS DIRECTED BY THE ENGINEER.
3. CARE SHALL BE TAKEN DURING BACKFILL COMPACTION TO PREVENT COLLAPSE OF THE TUBES.
4. A MINIMUM 2 FEET OF SLACK IS TO BE PROVIDED ON BOTH FEED AND LOOP WIRES SO THAT ALL TESTING AND SPLICING CAN BE DONE OUTSIDE THE PULL BOX (SPECIAL).
5. PULL BOX (SPECIAL) IS TO BE SEALED WATER TIGHT BY CAULKING.
6. PULL BOX (SPECIAL) IS TO BE LOCATED IN AN AREA OF THE STREET NOT HEAVILY TRAVELED, IF POSSIBLE, AND A MINIMUM OF 12. IN. FROM THE CONCRETE GUTTER PAN.
7. IF HOT ASPHALT IS NOT AVAILABLE, A CONCRETE RING (8 IN. MINIMUM DEPTH) MAY BE ALLOWED BY THE ENGINEER. IF CONCRETE IS ALLOWED, THE RUBBER TUBE MUST BE EXTENDED BEYOND THE CONCRETE TO THE ASPHALT JOINT.
8. ALL WORK LISTED ABOVE FOR INSTALLATION OF PULL BOX (SPECIAL) SHALL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE PRICE OF CONDUIT.
9. LOOP WIRE SPLICES SHALL NOT BE LOCATED INSIDE THE PULLBOX (SPECIAL). SPLICING SHALL BE LOCATED INSIDE THE NEXT AVAILABLE PULLBOX IN CONDUIT RUN.

Print Date: 11/4/2015  
 File Name: JPC\Trf\_020TypDet Pull Box - Special.dgn  
 Horiz. Scale: 1:100 Vert. Scale: As Noted  
 Unit Information Unit Leader Initials

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Date:	Comments	Init.

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 2000 South Holly Street  
 Denver, CO 80222  
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 Region 1 Traffic and Safety LR

As Constructed  
 No Revisions: 9/8/16  
 Revised:  
 Void:

TYPICAL DETAIL PULL BOX (SPECIAL)			
Designer:	XXXXXXX	Structure Numbers	
Detailer:	BMc		
Sheet Subset:	Details	Subset Sheets:	1 of 3

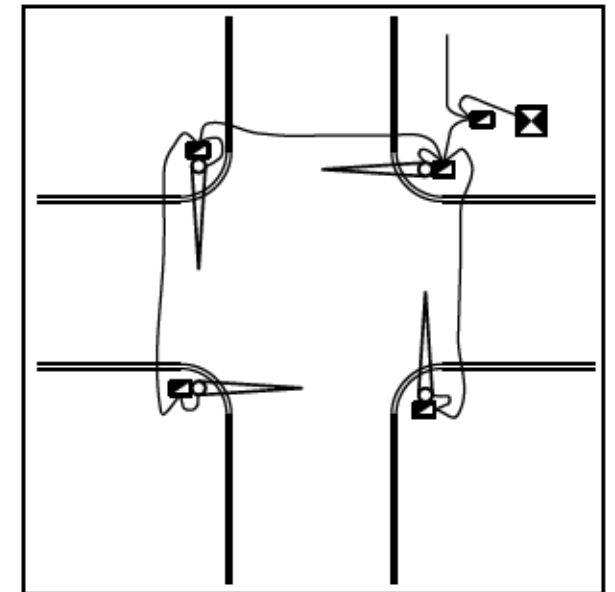
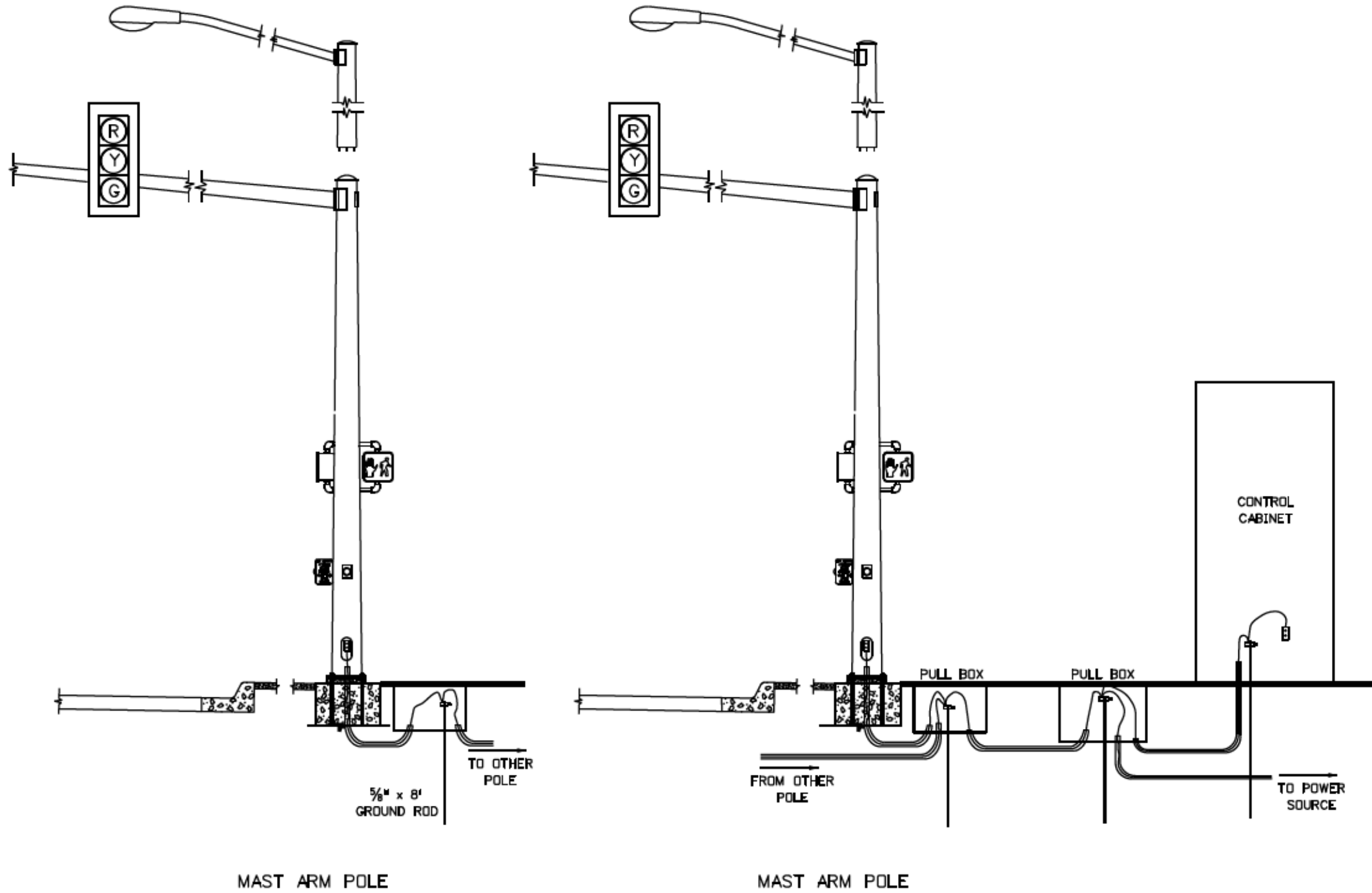
Project No./Code  
 STA R600-441  
 19706  
 Sheet Number 77

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TYPICAL DETAIL  
BONDING AND GROUNDING FOR MAST ARM SIGNALS

NOTES

1. HEX HEAD OR ALLEN SET SCREW LUG.
2. USE #6 CU WIRE FOR GROUNDING.
3. ALL GROUND WIRES MUST CONNECT TO FORM A COMMON GROUND.
4. USE 5/8" X 8' GROUND ROD.
5. THIS WORK SHALL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCIDENTAL TO THE WORK.



DETAIL

Print Date: 11/4/2015
File Name: JPC#Traf_026TypDet Sig Bond & Gnd Mast Arm.dgn
Horiz. Scale: 1:100      Vert. Scale: As Noted
Unit Information      Unit Leader Initials

Sheet Revisions		
Date:	Comments	Init.

Colorado Department of Transportation



2000 South Holly Street  
Denver, CO 80222  
Phone: 303-757-9511 FAX: 303-757-9907

Region 1 Traffic and Safety      LR

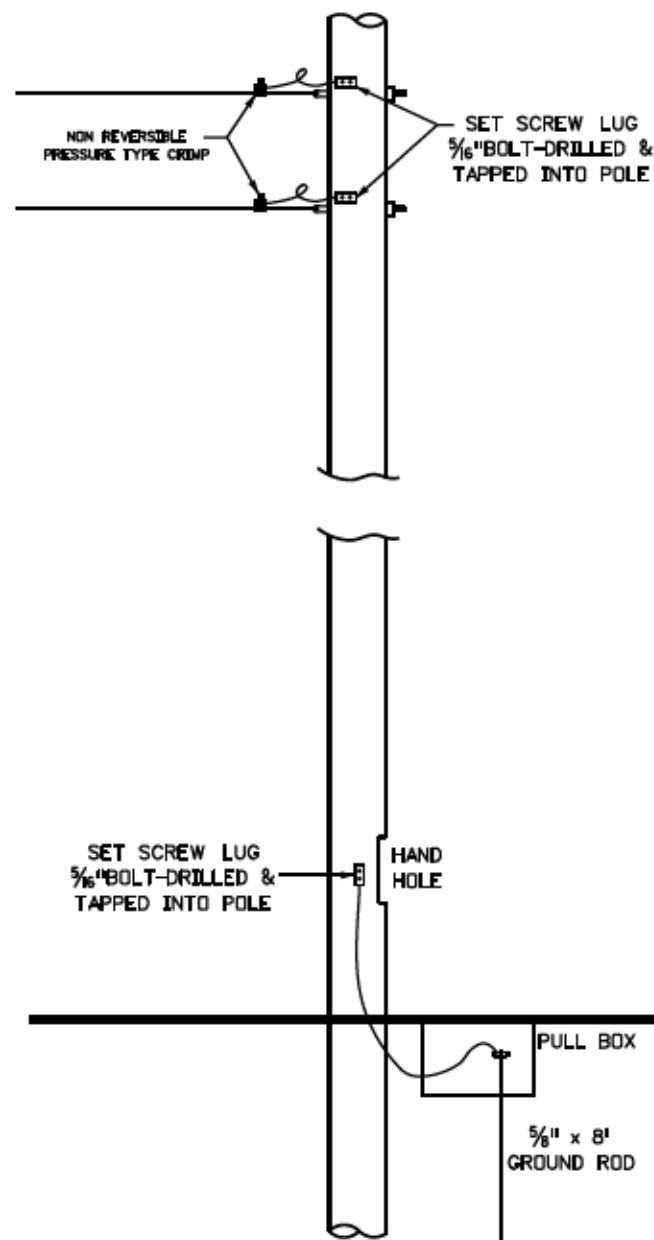
As Constructed	
No Revisions:	9/8/16
Revised:	
Void:	

TYPICAL DETAIL BONDING AND GROUNDING FOR MAST ARM SIGNALS			
Designer:	XXXXXXXX	Structure Numbers	
Detailer:	BMc		
Sheet Subset:	Details	Subset Sheets:	2 of 3

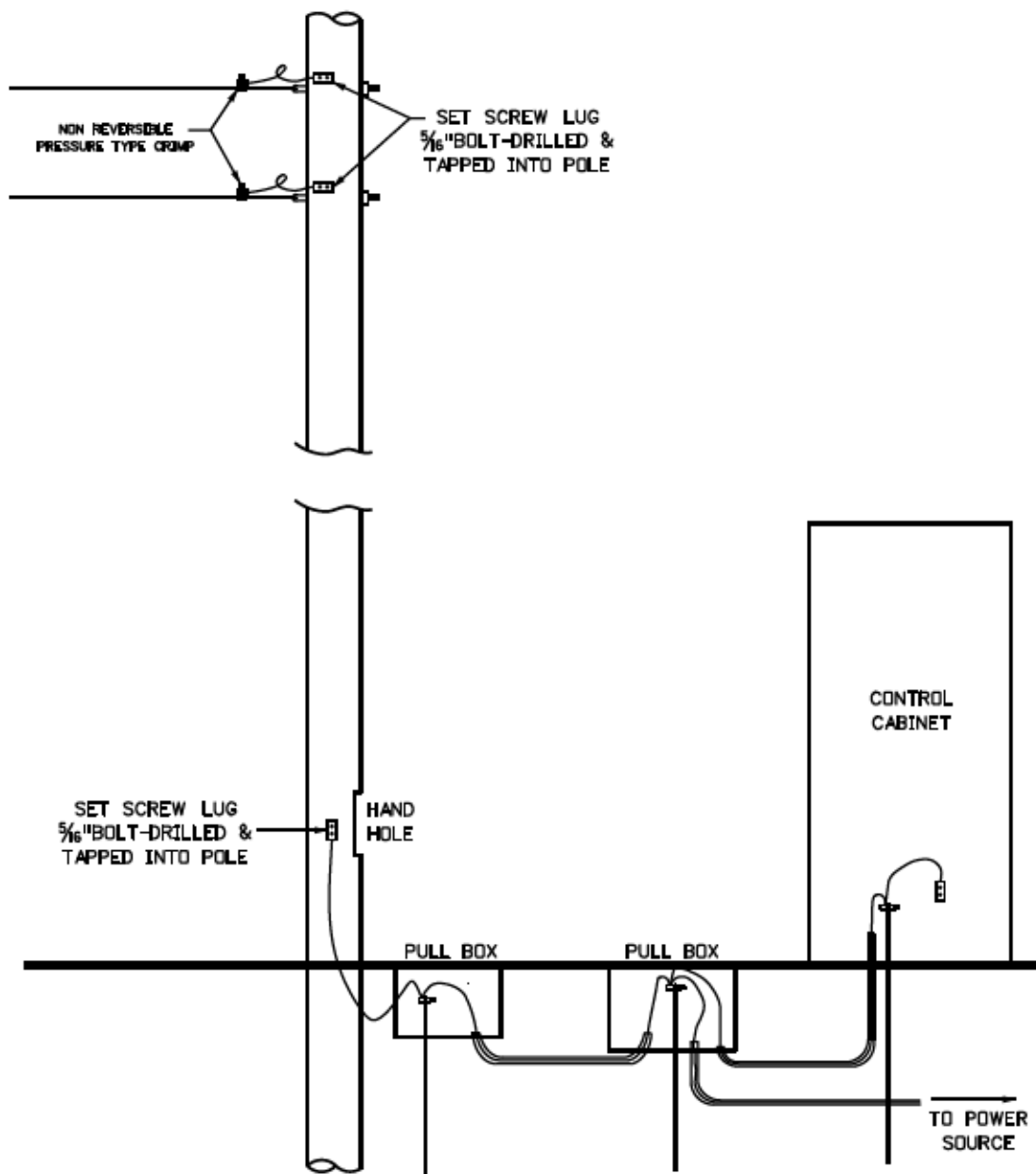
Project No./Code	
	STA R600-441
	19706
Sheet Number	78

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TYPICAL DETAIL  
BONDING AND GROUNDING FOR SPAN WIRE SIGNALS



OTHER POLES



POLE NEAR CONTROL CABINET

NOTES

1. HEX HEAD OR ALLEN SET SCREW LUG.
2. USE #6 CU WIRE FOR GROUNDING.
3. ALL GROUND WIRES MUST CONNECT TO FORM A COMMON GROUND.
4. USE 5/8" X 8' GROUND ROD
5. INSTALL GROUNDING LUG INSIDE SPAN WIRE POLES.

Print Date: 11/4/2015	
File Name: JPC\Trf_026TypDet Sig Bond & Gnd Span Wire.dgn	
Horiz. Scale: 1:100      Vert. Scale: As Noted	
Unit Information      Unit Leader Initials	

Sheet Revisions		
Date:	Comments	Init.

Colorado Department of Transportation

2000 South Holly Street  
Denver, CO 80222  
Phone: 303-757-9511 FAX: 303-757-9907

Region 1 Traffic and Safety      LR

As Constructed	
No Revisions:	9/8/16
Revised:	
Void:	

TYPICAL DETAIL BONDING AND GROUNDING FOR SPAN WIRE SIGNALS			
Designer:	XXXXXXXX	Structure Numbers	
Detailer:	BMc		
Sheet Subset:	Details	Subset Sheets:	3 of 3

Project No./Code	
	STA R600-441
	19706
Sheet Number	79

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TO ESTABLISH GEOMETRIC CONTROL FOR THE CONSTRUCTION OF THIS PROJECT, THE DEPARTMENT HAS PROVIDED THE FOLLOWING INFORMATION:

- Format \*
- Horizontal Control Included in plan set
  - Vertical Control Included in plan set
  - Roadway Alignment \_\_\_\_\_
  - Original Terrain Data \_\_\_\_\_
  - Other: \_\_\_\_\_

\* Specify the information format, ie., plan sheet, computer disk, computer printout, or other. The information marked is either contained on the plans or is available from the Engineer.

TYPE OF PROJECT

- Landscaping
- Signalization
- Safety Improvement
- Asphalt Overlay
- Concrete Overlay
- Minor Widening
- Major Reconstruction
- New Roadway Construction
- Bridge Replacement
- Bridge Widening
- New Bridge
- Other: Mill/Fill

SURVEY WORK TO BE PERFORMED BY OTHERS: \_\_\_\_\_

WORK PERFORMED BY THE CONTRACTOR'S SURVEYOR UNDER SECTION 625:

- Establish and Maintain Project Centerline or Engineer Approved Offset Line(s)
- Verification and Maintenance of Horizontal and Vertical Control
- Verify or Determine existing grades and alignments
- Verify or Determine existing topography
- GPS/RTS (Global Positioning System/Robotic Total Station) Construction Machine Control
- Clearing and Grubbing Limits (Section 201)
- Removal Limits (Section 202)
- Reset Items (Section 210)
- Excavation and Embankment (Section 203)

- Excavation**
- Unclassified
  - Stripping
  - Muck
  - Rock
  - Borrow
  - Other: \_\_\_\_\_
  - Potholing

- Embankment**
- Site Grading
  - Erosion Control (Perm)
  - Other: \_\_\_\_\_
  - As Staked Earthwork Quantities (See General Notes)

- Landscaping
- Top Soil (Section 207)
  - Seeding (Section 212)
  - Mulching (Section 213)
  - Planting (Section 214)
  - Herbicide (Section 217)
  - Other: \_\_\_\_\_

- Erosion Control (Section 208)
- Seeding (Temp)
  - Silt Fence
  - Erosion Bales
  - Erosion Logs
  - Riprap (Temp)
  - Other: \_\_\_\_\_

- Roadway Bases
- Untreated Subgrade
  - Treated Subgrade
  - Aggregate Base Course (Section 304)
  - Reconditioning
  - PMBB - Plant Mix Bituminous Base
  - Other: \_\_\_\_\_

	Slope Staking (Y/N)	Grid (Y/N)	Grade (Y/N)	Special Interval
Excavation	N	-	-	-
	-	-	-	-
	-	-	-	-
	-	-	-	-

	Slope Staking (Y/N)	Grid (Y/N)	Grade (Y/N)	Special Interval
Embankment	N	-	-	-
	N	-	-	-
	-	-	-	-
	-	-	-	-

	Grid (Y/N)	Grade (Y/N)	Special Interval	Special Offset
Roadway Bases	-	-	-	-
	-	-	-	-
	-	-	-	-
	-	-	-	-

- Pavements
- HMA - Hot Mix Asphalt (Section 403)
  - Concrete (Section 412)
  - Heating & Scarifying Treatment
  - Prime Coat, Tack Coat & Rejuvenating Agent (Section 407)
  - Seal Coat or Chip Seal (Section 409)
  - Other: \_\_\_\_\_

	Grid (Y/N)	Special Interval	Special Offset
Pavements	Y	50'	-
	-	-	-
	-	-	-
	-	-	-

- Roadway Elements
- Curb and Gutter (Section 609)
  - Drop inlets - \_\_\_\_\_ alignment and grades (Section 604)
  - Retaining Walls
  - Guard Rail (Section 606)
  - Sidewalk (Section 608)
  - Overlay Stationing
  - Other: Curb Ramps

	Tangent Interval	Curve Interval	Special Offset
Curb & Gutter	25'	-	-
	-	-	-

	Left Interval	Center Interval	Right Interval
Stationing	-	-	-
	-	-	-

- Riprap (Perm) (Section 506)
- Slope and Ditch Paving (Section 507)

- Minor Structures
- Structure Excavation limits (Section 206)
  - Culverts (Section 603)
  - Culverts w/ Headwalls and Wingwalls (Section 601)
  - Concrete Box Culverts w/ Headwalls and Wingwalls
  - Pipes (Section 603)
    - Sanitary Sewer
    - Storm Sewer
    - Water
    - Irrigation
    - Miscellaneous
  - Manholes (Section 604)
  - Inlets (Section 604)
  - Permanent Water Quality BMP (Section 208)
  - Other: \_\_\_\_\_

- Major Structures - Overhead Signs (Section 614), Concrete Box Culverts, Bridges - and all other structures assigned a structure number
- Structure Excavation limits (Section 206)
  - Concrete Box Culverts (Section 603) w/ Headwalls and Wingwalls (Section 601)
  - Piling locations and cut off elevations (Section 502)
  - Caisson locations and elevations (Section 503)
  - Footing locations, alignment, and elevations
  - Abutment/Pier locations, alignment, and elevations
  - Wingwall skew angles/offsets
  - Structural concrete form locations
  - Substructure As-constructed survey required for Bridges (Subsection 601.12) and Overhead signs (S-614-50)
  - Bridge expansion joint(s) alignment and grade (longitudinal and transverse)
  - Deck grades at Girder 10th or "n" th point locations and elevations
  - Slope and Ditch Paving (Section 507)
  - Other: \_\_\_\_\_

- Fencing (Section 607)
- Temporary
  - Permanent
  - Sound Barrier
  - Other: \_\_\_\_\_

- Defneators (Section 612)
- Temporary
  - Permanent

- Lighting (Section 613) and Traffic Control Devices (Permanent) (Section 614)
- Signal pole locations and elevations
  - Light pole locations and elevations
  - Sign locations
  - Field verify sign post locations, elevations, and lengths before fabrication.
  - Other: \_\_\_\_\_

- Pavement Marking (Section 627)
- Striping (Temp)
  - Striping (Perm)
  - Symbols
  - Other: \_\_\_\_\_
- Temporary Lighting and Construction Traffic Control Devices (Section 630)
- Signal pole locations and elevations (Temp)
  - Light pole locations and elevations (Temp)
  - Sign Locations (Temp)
  - Other: \_\_\_\_\_
- All Easements (Temp Staking by P.L.S. Only)
- Right of Way (Temp Staking by P.L.S. Only)

WORK PERFORMED BY THE CONTRACTOR'S SURVEYOR UNDER SECTION 629:

- Monumentation (Section 629)
- Control
  - Right of Way
  - Land corners, Aliquot corners
  - Easements
  - Reference the specified existing monuments: \*\* \_\_\_\_\_
  - Replace the specified existing monuments: \*\* \_\_\_\_\_
  - Locate monuments. It is estimated \_\_\_\_\_ hours are required.

NOTE: All 629 items shal include adequate research, calculations, and evaluations of evidence for monuments to be set.

\*\* A Tabulation of Survey Monuments may be provided on the plans.

GENERAL NOTES:

- Unless indicated otherwise on this Survey Tabulation Sheet, all survey work and staking intervals shall be done in accordance with the latest edition of the CDDT Survey Manual.
- Adequate information for establishing lines, grades, and locations for all work items have been specified on the plans. Any additional information required to stake the item or element shall be generated by the Contractor's surveyor.
- The Contractor's surveyor shall provide an estimate of the man-hours necessary to complete the work items indicated on this sheet. A copy of this sheet, with the estimated man-hours written on the blank line to the left of the specified items, shall be submitted with the Survey Schedule to the Engineer 3 days prior to the Presurvey Conference - Construction Survey.
- Stakes and Monuments which are damaged or destroyed by the progress of construction shall be replaced by the Contractor at no additional cost to the Department.
- The Contractor shall furnish an As Staked (or GPS/RTS Construction Machine Control) Earthwork Quantity report to the Engineer prior to completion of twenty percent (20%) of the planned earthwork in any phase as per the CDDT Survey Manual. A printed copy of the As Staked (or GPS/RTS Construction Machine Control) Earthwork data report and a computer disk with that information on it, in the specified format shall be submitted to the Engineer. The Contractor shall field verify original ground cross sections at a maximum 500 feet intervals.
- Prior to beginning work on any subsequent operation, such as placing base course or paving, the Contractor shall certify in writing to the Engineer that the final grade is within specified tolerance.
- The Contractor's surveyor shall perform all field surveying and calculations necessary to tie plan grades into field grades.
- The Contractor shall coordinate construction staking on the project with any utility work.
- Fieldbooks shall contain daily records of points set and or measurements observed. The information recorded shall contain: date, crew members' names, point no., description, staking information, and sketches. If the survey information is collected electronically, information recorded shall be provided to the Project Engineer in a hard copy format that is intuitive, clear and related to the supplemental information recorded in the field books. All linear surveys, such as slope stakes and blue tops, shall have the station and offset information related to the measured information. Non-linear surveys such as structures staking shall have sketches relating electronic information, such as point numbers, to the sketch.
- The Contractor's surveyor shall submit the following fieldbooks to the Engineer:
  - Horizontal Control (Primary & Secondary)
  - Vertical Control (i.e. Benchmarks)
  - Property Pin Ties
  - Horizontal Alignment
  - Grading
  - Slope Staking
  - Minor Structures
  - Major Structures
  - One fieldbook for each work category shown on this sheet
  - Other Fieldbook(s): \_\_\_\_\_

Print Date: 11/23/2015  
 File Name: 19706SurveyTab\_Ad.dgn  
 Horiz. Scale: 1:1      Vert. Scale: As Noted  
 Unit Information: RYJ

Sheet Revisions		
Date:	Comments	Init.

Colorado Department of Transportation

Arapahoe Residency  
 7328 S. Revere Parkway, Suite 204A  
 Centennial, CO 80112  
 Phone: 303-365-7230 FAX: 303-790-1037

Region 1      RYJ

As Constructed	SURVEY TABULATION		
No Revisions: <b>9/8/16</b>	Designer: JJB	Structure Numbers	
Revised:	Detailer: JJB		
Void:	Sheet Subset: Survey	Subset Sheets: 1 of 1	

Project No./Code  
 STM R600-441  
 19706  
 Sheet Number 80

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Sheet Revisions			Sheet Revisions			Sheet Revisions		
Date	Description	Initials	Date	Description	Initials	Date	Description	Initials
mm/dd/yy	XXXXXXXX	XXX	mm/dd/yy	XXXXXXXX	XXX	mm/dd/yy	XXXXXXXX	XXX

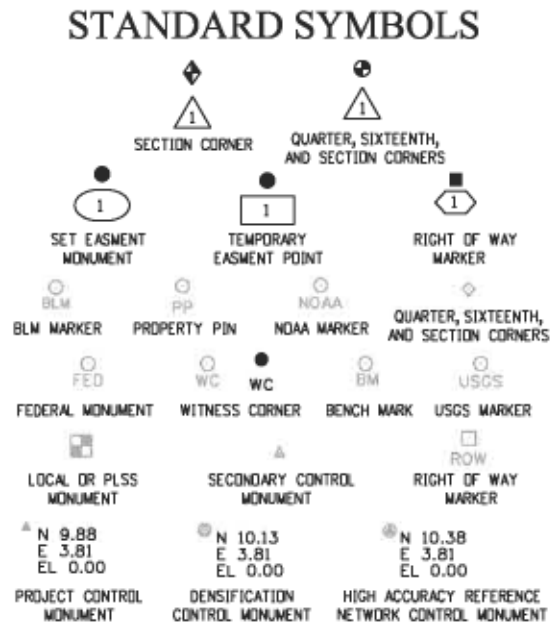
Project Control Diagram			
Title Sheet			
Project Number: STA R600-441			
Project Location: US-85 Blakeline to Crestline			
Project Location: Mile Post 200.1 to Mile Post 204.2			
Project Code:	Last Mod. Date	Subset	Sheet No.
19706	mm-dd-yy	3.01 of 3.06	3.01

# DEPARTMENT OF TRANSPORTATION STATE OF COLORADO

SHEET NO.	INDEX OF SHEETS
3.01-3.01	(1) Title Sheet
3.02-3.02	(1) Coordinate Tables
3.03-3.06	(4) Plan Sheet
(6) Total Sheets	

**PROJECT CONTROL DIAGRAM**  
 United State Highway 85 MP 200.1 to 204.2  
 Sections 17, 20, 29, and 32  
 Township 5 South, Range 68 West  
 Sections 5 and 6  
 Township 6 South, Range 68 West  
 of the 6th Principal Meridian  
 Counties of Arapahoe and Douglas

### STANDARD SYMBOLS



SECTION CORNER  
 QUARTER, SIXTEENTH, AND SECTION CORNERS  
 SET EASEMENT MONUMENT  
 TEMPORARY EASEMENT POINT  
 RIGHT OF WAY MARKER  
 BLM MARKER  
 PROPERTY PIN  
 NOAA MARKER  
 QUARTER, SIXTEENTH, AND SECTION CORNERS  
 FEDERAL MONUMENT  
 WITNESS CORNER  
 BENCH MARK  
 USGS MARKER  
 LOCAL OR PLS MONUMENT  
 SECONDARY CONTROL MONUMENT  
 RIGHT OF WAY MARKER  
 PROJECT CONTROL MONUMENT  
 DENSIFICATION CONTROL MONUMENT  
 HIGH ACCURACY REFERENCE NETWORK CONTROL MONUMENT

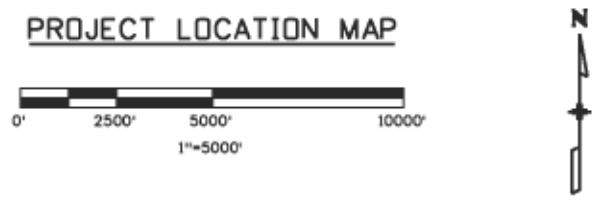
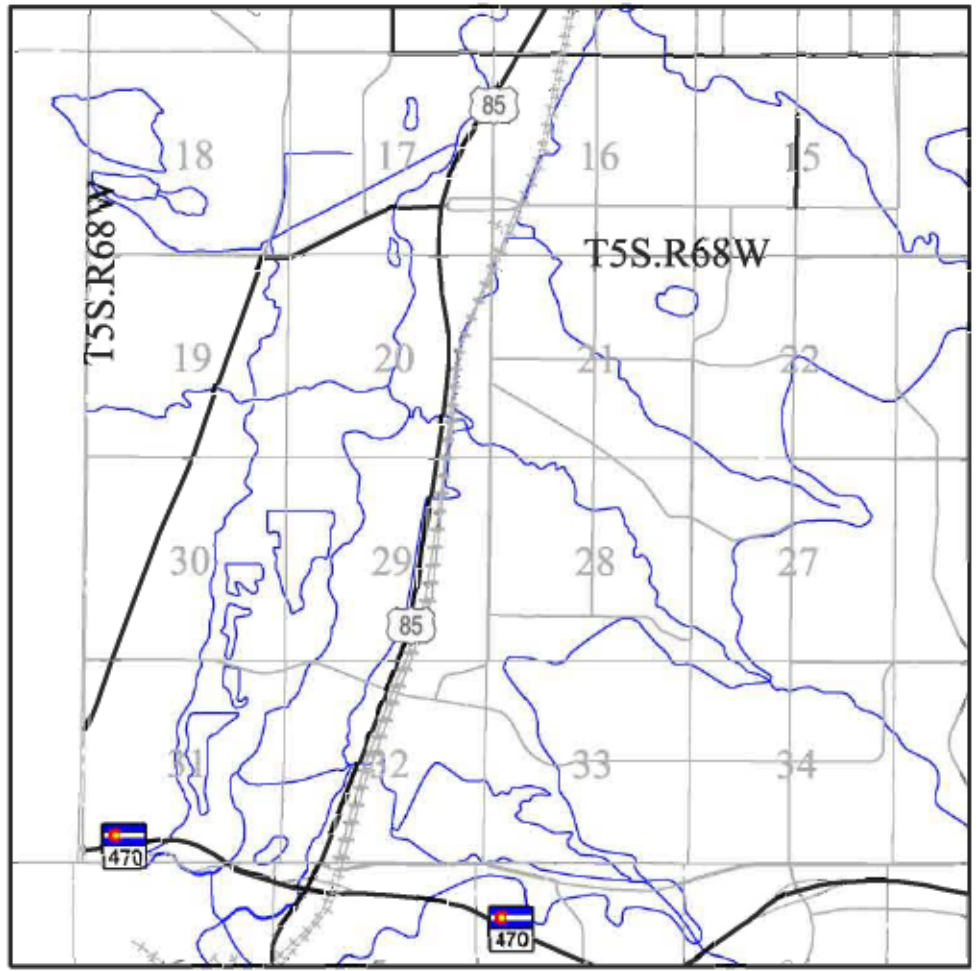
Note: For a complete listing of symbology used within this set of plans, please refer to the M-100-1 Standard Symbols of the Colorado Department of Transportation M&S Standards Publication dated July 2006. Existing features are shown as screened weight (gray scale). Proposed or new features are shown as full weight without screening.



▲ CM-MP - Control Point Monuments set by CDDT. They are CDDT Type 2 monuments, a 3/4" dia. aluminum control monument cap (as shown) on a 3' x 3/4" dia. aluminum security rod on a 3' x 3/4" dia. smooth aluminum rod.

**General Notes:**

1. This Project Control Diagram is not a boundary survey of the adjoining property and is prepared for the Colorado Department of Transportation purposes only.
2. This plan set is subject to change and may not be the most current set. It is the user's responsibility to verify with CDDT that this set is the most current. The information contained on the attached drawing is not valid unless this copy bears an original signature of the Professional Land Surveyor hereon named.
3. Refer to the M-629-1 Survey Monuments of the Standard Plans dated July, 2006 found in The Colorado Department of Transportation, M & S Standards for typical survey monument descriptions.



**Basis of Bearings:** Bearings used in the calculations of coordinates are based on a grid bearing of N28°36'54"E from CM-MP 201.5 to CM-MP 201.7. Both monuments are CDDT Type II, marked appropriately for their milepost location and control position. The survey data was obtained from a Global Positioning System (GPS) survey base on the Continuously Operating Reference Stations (CORS).

**Basis of Elevations:** Project elevations are based on Bench Mark Q 23 1929, PID: KK0556, a standard bench mark disk set on top of a concrete monument, with a NAVD 88 elevation of 5395.24 ft. Q 23 is a First order benchmark.

**COORDINATE DATUM:** Project coordinates are modified Colorado State Plane Central Zone NAD '83/(2011) coordinates. The combined elevation/scale factor used to modify the coordinates from state plane to project coordinates is 1.000285533. The resulting project coordinates are truncated by 1,000,000 ft in the Northing and 3,000,000ft in the Easting after converting from state plane coordinates to project coordinates. The CORS is based on the NAD '83(2011) datum.

Project Coordinates Northing US Survey Feet = ((State Plane Coordinate Northing \* (3937/1200))\* 1.000285533) - 1,000,000.  
 Project Coordinates Easting US Survey Feet = ((State Plane Coordinate Easting \* (3937/1200))\* 1.000285533) - 3,000,000.

**NOTICE:** According to Colorado law you must commence any legal action based upon any defect in this survey within three years after you first discover such defect. In no event may any action based upon any defect in this survey be commenced more than ten years from the date of the certification shown hereon.

**SURVEYOR STATEMENT (PROJECT CONTROL DIAGRAM)**

I, Justin Kelly Stadler, a professional land surveyor licensed in the State of Colorado, do hereby state to the Colorado Department of Transportation this Project Control Diagram was prepared and the field survey it represents was performed under my responsible charge and, based upon my knowledge, information and belief is in accordance with applicable standards of practice defined by Colorado Department of Transportation publications. This statement is not a guaranty or warranty, either expressed or implied.

PLS No. 38097

1/23/2015 stadlerj 9:45:49 AM \\LRDWS\VRMSTRIZ\RL\_Active\Projects\US\_085\STA\_R600-441\_19706\_MP200.00-MP204.26\_SantaFe\_Crestline\RDW\_Survey\Drawings\Control\_Diagrams\19706SURV\_PCD-Title.dgn

1/23/2015 10:17:35 AM \\LRO\SWR\MSTR12\RI\_Active\_Projects\US\_085\STA\_R600-41\_19706\_MP200.00-MP204.26\_SortofE\_ResurFacing\_Blokeland\_to\_Crestline\RDW\_Survey\Drawings\Control\_Diagrams\19706SURV\_PCD-Coord-List.dgn



**COLORADO**  
Department of Transportation  
18500 East Colfax Avenue, Aurora, CO 80011  
Phone: 303.365.7410 | Fax: 303.365.7350

**Region 1**  
Standing the Best

**Right of Way-South Program Area | Kevin Williams, PLS**

Sheet Revisions			Sheet Revisions			Sheet Revisions		
Date mm/dd/yy	Description XXXXXXXX	Initials XXX	Date mm/dd/yy	Description XXXXXXXX	Initials XXX	Date mm/dd/yy	Description XXXXXXXX	Initials XXX

Project Control Diagram			
Coordinate Tables			
Project Number: STA R600-441			
Project Location: US-85 Blokeline to Crestline			
Project Location: Mile Post 200.1 to Mile Post 204.2			
Project Code:	Last Mod. Date	Subset	Sheet No.
19706	mm-dd-yy	3.02 of 3.06	3.02

CHARN GEODETIC COORDINATE SUMMARY TABLE									
Point No.	Geodetic Coordinates NAD-83(2011) (CHARN)		Ellip Height (NAVD88) (m)	Ortho Height (m)	Mapping Angle	Grid Scale Factor	NAD 83(2011) Zone XXXX		Description
	Latitude (N)	Longitude (W)					SP Northing (m)	SP Easting (m)	
CTMC	39°43'17.49315"N	105°11'34.33560"W	1819.836	1835.589	0°11'37"	0.999994491	514455.049	940734.791	PID-DM5962
P04.1	39°58'58.15018"N	105°11'39.31657"W	1729.713	1745.966	0°11'34"	1.000045566	539765.746	940530.977	PID-DG7429
Q 23	39°34'36.44005"N	105°01'36.49005"W	1627.810	1644.472	0°17'54"	0.999970325	498446.868	955056.925	Found Brass Disk in Concrete
TMGO	40°07'51.34543"N	105°13'57.71653"W	1673.853	1689.774	0°10'07"	1.000097631	559903.333	937186.225	PID-AF9518

GEODETIC COORDINATE TABLE									
Point No.	Geodetic Coordinates NAD-83(XX) (CHARN)		Ellip Height (NAVD88) (m)	Ortho Height (m)	Mapping Angle	Grid Scale Factor	NAD 83(XX) Zone XXXX		Description
	Latitude (N)	Longitude (W)					SP Northing (m)	SP Easting (m)	
200.1	39°33'40.67662"N	105°02'11.08410"W	1635.246	1651.818	0°17'33"	0.999968118	496722.905	954240.104	Set Type 5s
200.5	39°33'49.85496"N	105°02'00.30208"W	1633.978	1650.573	0°17'39"	0.999968476	497007.276	954496.023	Set Type 5s
200.7	39°34'00.92376"N	105°01'53.69280"W	1628.404	1645.016	0°17'44"	0.999968911	497349.442	954652.024	Set 3 1/2" Aluminum Cap
200.71	39°34'06.94781"N	105°01'50.95777"W	1630.311	1646.932	0°17'45"	0.999969149	497535.556	954716.346	Found 3 1/2" Aluminum Cap
200.8	39°34'11.27860"N	105°01'49.01395"W	1630.835	1647.462	0°17'46"	0.999969322	497669.354	954762.051	Found 3 1/2" Aluminum Cap
201.0	39°34'22.70844"N	105°01'45.45661"W	1626.455	1643.095	0°17'49"	0.999969775	498022.282	954845.130	Found 3 1/2" Aluminum Cap
201.5	39°34'50.36608"N	105°01'31.56861"W	1626.029	1642.709	0°17'57"	0.999970887	498876.951	955172.133	Set 3 1/2" Aluminum Cap
201.7	39°34'58.73715"N	105°01'25.59306"W	1626.669	1643.362	0°18'01"	0.999971228	499135.856	955313.380	Set 3 1/2" Aluminum Cap
202.3	39°35'31.28525"N	105°01'19.93610"W	1623.800	1640.524	0°18'05"	0.999972567	500140.330	955443.094	Set 3 1/2" Aluminum Cap
203.1	39°36'10.07311"N	105°01'12.39165"W	1619.473	1636.234	0°18'10"	0.999974195	501337.480	955616.786	Set Type 5s
203.4	39°36'25.66746"N	105°01'15.65405"W	1612.486	1629.253	0°18'08"	0.99997486	501817.993	955536.421	Set Type 5s
203.8	39°36'48.61483"N	105°01'15.69492"W	1609.990	1626.770	0°18'08"	0.999975849	502525.677	955531.715	Set Type 5s
204.0	39°37'00.71105"N	105°01'10.12499"W	1605.834	1622.629	0°18'11"	0.999976375	502899.423	955662.600	Set Type 5s
204.2	39°37'08.06949"N	105°01'03.08025"W	1605.740	1622.548	0°18'15"	0.999976696	503127.246	955829.424	Set Type 5s
Q 23	39°34'36.44005"N	105°01'36.49005"W	1627.810	1644.472	0°17'54"	0.999970325	498446.868	955056.925	Bound Bench Mark Q 23 1929

Project Coordinates Northing US Survey Feet = ((State Plane Coordinate Northing \* (3937/1200))\* 1.000285533) - 1,000,000.  
 Project Coordinates Easting US Survey Feet = ((State Plane Coordinate Easting \* (3937/1200))\* 1.000285533) - 3,000,000.

PROJECT COORDINATE TABLE				
Point No.	Project Coordinates		Elev(ft) (NAVD88)	Description
	Northing(ft)	Easting(ft)		
200.1	630130.39	131596.66	5419.34	Set Type 5s
200.5	631063.63	132436.53	5415.26	Set Type 5s
200.7	632186.54	132948.49	5397.02	Set 3 1/2" Aluminum Cap
200.71	632797.32	133159.58	5403.31	Found 3 1/2" Aluminum Cap
200.8	633236.42	133309.57	5405.05	Found 3 1/2" Aluminum Cap
201.0	634394.64	133582.22	5390.72	Found 3 1/2" Aluminum Cap
201.5	637199.47	134655.36	5389.45	Set 3 1/2" Aluminum Cap
201.7	638049.14	135118.90	5391.60	Set 3 1/2" Aluminum Cap
202.3	641345.59	135544.60	5382.29	Set 3 1/2" Aluminum Cap
203.1	645274.36	136114.61	5368.21	Set Type 5s
203.4	646851.29	135850.87	5345.31	Set Type 5s
203.8	649173.75	135835.43	5337.16	Set Type 5s
204.0	650400.30	136264.97	5323.58	Set Type 5s
204.2	651147.96	136812.44	5323.31	Set Type 5s
Q 23	635788.04	134277.28	5395.24	Bound Bench Mark Q 23 1929



**COLORADO**  
Department of  
Transportation  
18500 East Colfax Avenue  
Aurora, CO 80011  
Phone: 303.365.7410  
Fax: 303.365.7350

Right of Way-South Program Area | Kevin Williams, PLS

Sheet Revisions		
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**Project Control Diagram**  
**Plan Sheet**

Project Number: STA R600-441			
Project Location: US-85 BlakeLine to Crestline			
Project Location: Mile Post 200.1 to Mile Post 204.2			
Project Code:	Last Mod. Date	Subset	Sheet No.
19706	mm-dd-yy	3.03 of 3.06	3.03



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Sheet Revisions		
Date	Description	Initials
mm/dd/yy	XXXXXXXX	XXX

Project Control Diagram			
Plan Sheet			
Project Number: STA R600-441			
Project Location: US-85 Blakelind to Crestline			
Project Location: Mile Post 200.1 to Mile Post 204.2			
Project Code:	Last Mod. Date	Subset	Sheet No.
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1/23/2015 7:05:20 AM \\URDWSVRMSTR12\RI\_Active\_Projects\US\_085\STA\_R600-441\_19706\_MP200.00-MP204.26\_SantaFe\_Resurfacing\_Blakelind\_to\_Crestline\RDW\_Survey\Drawings\Central\_Diagrams\19706SURV\_PCD-Plan04.dgn



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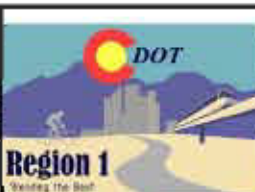
18500 East Colfax Avenue  
Aurora, CO 80011  
Phone: 303.365.7410  
Fax: 303.365.7350

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Sheet Revisions		
Date	Description	Initials
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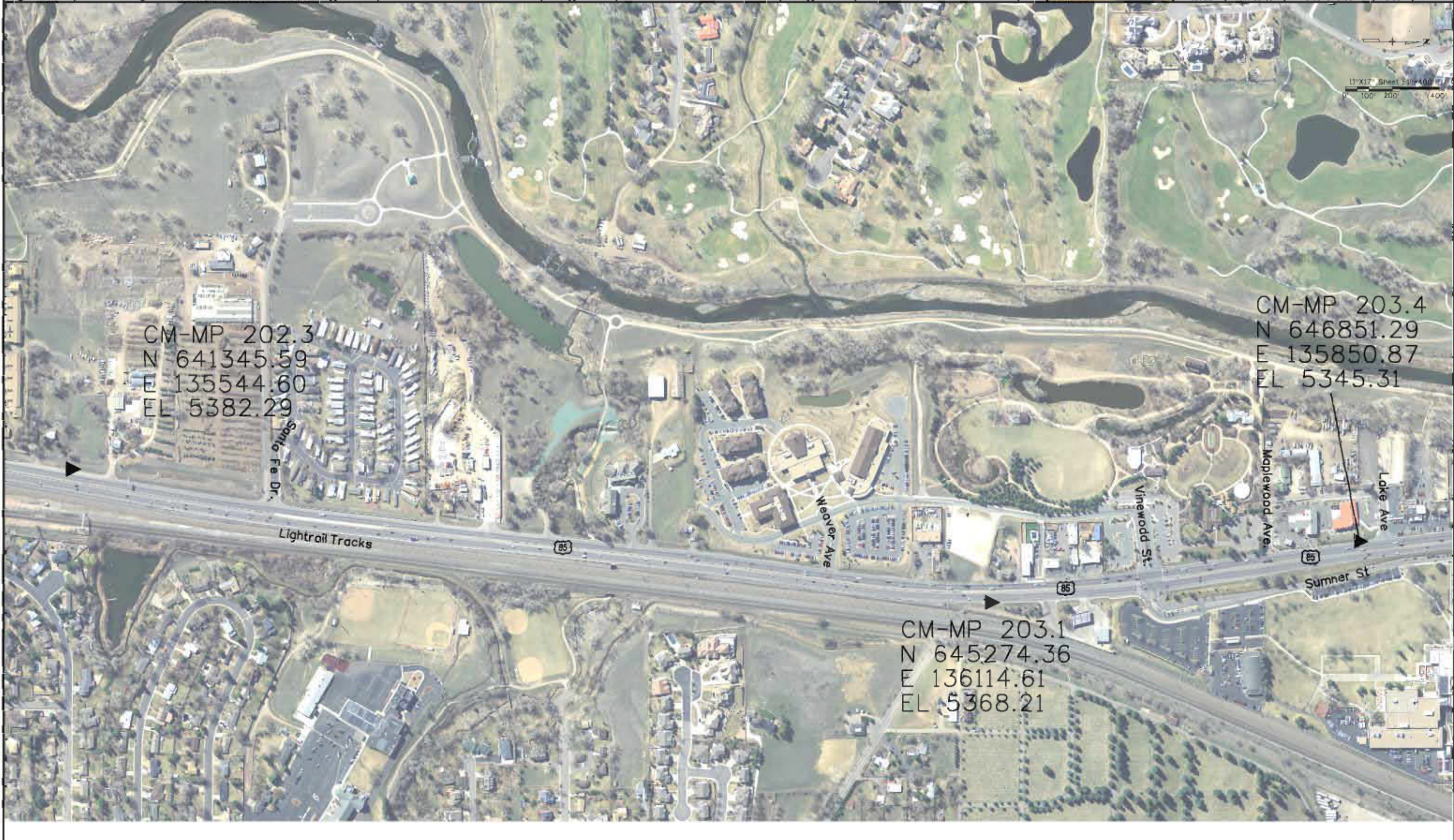
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Sheet Revisions		
Date	Description	Initials
mm/dd/yy	XXXXXXXX	XXX



**Project Control Diagram**  
**Plan Sheet**

Project Number: STA R600-441  
Project Location: US-85 Blokeline to Crestline  
Project Location: Mile Post 203.1 to Mile Post 204.2  
Project Code: Last Mod. Date: Subset: Sheet No.  
19706 mm-dd-yy 3.05 of 3.05 3.05



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