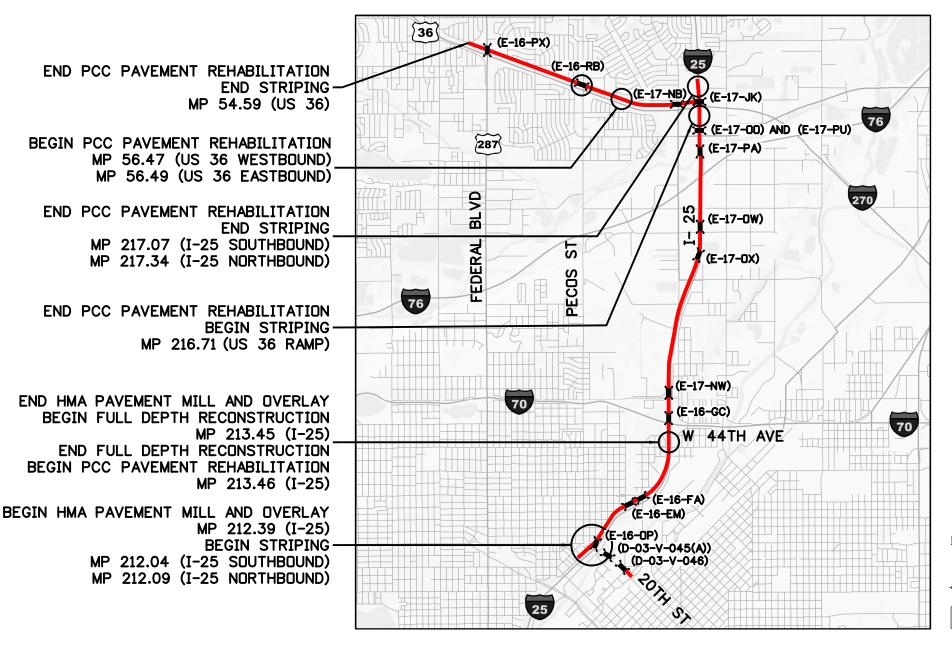
#### Oversight / NHS FHWA REGION VIII OVERSIGHT? □ NO ■ YES NATIONAL HIGHWAY SYSTEM? ■ NO □ YES

## PLENARY ROADS DENVER, LLC

HIGHWAY CONSTRUCTION BID PLANS OF PROPOSED PROJECT NO. 2015-001

INTERSTATE HIGHWAY I-25 AND STATE HIGHWAY NO. 36 **DENVER COUNTY AND ADAMS COUNTY** 

I-25 ML INITIAL WORKS - PAVEMENTS



SHEET NO.	INDEX OF SHEETS
ML-1	TITLE SHEET
ML-2	STANDARD PLANS LIST
ML-3	GENERAL NOTES
ML-4 to ML-5	TYPICAL SECTIONS
ML-6 to ML-7	SUMMARY OF APPROXIMATE QUANTITIES
ML-8	REMOVAL & ADJUSTMENT; SURFACING TABULATION
ML-9	PAVEMENT MARKING TABULATION
ML-10	MOT GENERAL NOTES AND TABULATION
ML-11	ADJUST DRAINAGE INLET DETAIL
ML-12	SWMP GENERAL NOTES
ML-13	EROSION CONTROL DETAIL
ML-14 to ML-15	PROJECT AREA MAP - I-25
ML-16A	PROJECT AREA MAP - US 36
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ML-17	PLAN SHEET MP 212.26-MP 212.51
ML-18	PLAN SHEET MP 212.51-MP 212.78
ML-19	PLAN SHEET MP 212.78-MP 213.04
ML-20	PLAN SHEET MP 213.04-MP 213.31
ML-21	PLAN SHEET MP 213.31-MP 213.50

AD ALTERNATIVE 1 SHEETS				
BR1401	GENERAL PLAN (1 of 2)			
BR1402	GENERAL PLAN (2 of 2)			
BR1403	MILL AND TRANSITION DETAILS			

PROJECT LOCATION MAP

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Plenary Roads	1700 Lincoln Street, Sui Denver, Colorado 80203 Phone: 303-803-9452 FAX: 303-803-9453
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COLORADO
DEPARTMENT OF TRANSPORTATION

M&S STANDARDS PLANS LIST July 04, 2012 Revised on April 30, 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.

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Plenary Roads Denver, LLC

Plenary Roads

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- FOR PRELIMINARY PLAN QUANTITIES OF PAVEMENT MATERIAL, THE FOLLOWING RATES OF APPLICATION WERE USED:

  - .....110 LBS./SQ.YD./INCH
  - TACK COAT EMULSIFIED ASPHALT (SLOW SETTING)................0.05 GAL./SQ.YD./INCH (DILUTED)
- 2. A TACK COAT OF EMULSIFIED ASPHALT (SLOW SETTING) IS TO BE APPLIED TO IMPROVE BOND AT THE
  - BEFORE PLACING NEW PAVEMENT OVER EXISTING PAVEMENT
  - ALONG THE FACE OF ALL MANHOLES, ADJACENT EXISTING PAVEMENT, AND OTHER SERFACES AGAINST
- 3. DILUTED EMULSIFIED ASPHALT FOR THE TACK COAT SHALL CONSIST OF 1 PART WATER AND 1 PART EMULSIFIED ASPHALT. RATES OF APPLICATION SHALL BE DETERMINED BY THE ENGINEER AT THE TIME OF APPLICATION. TACK COAT SHALL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE
- ANY LAYER OF HOT MIX ASPHALT PAVEMENT THAT IS TO HAVE A SUCCEEDING LAYER PLACED THEREON SHALL BE COMPLETED FULL WIDTH BEFORE SUCCEEDING LAYER IS PLACED.
- THE CONTRACTOR MAY USE AN EXPOSED LONGITUDINAL JOINT FOR A MAXIMUM OF ONE DAY. THE JOINT WILL CONSIST OF A VERTICAL FACE 1 INCH DEEP AND AT THE BOTTOM OF A VERTICAL FACE, A 3:1 SLOPE TO THE EXISTING PAVEMENT (OR SUBGRADE). THE MAXIMUM DEPTH OF THE 3:1 SLOPE SHALL BE 2 INCHES AT THE END OF THE DAY, PLACEMENT OF THE HMA ON THE ADJACENT LANE IS
- THE FOLLOWING SHALL BE FURNISHED WITH EACH BITUMNOUS PAVER:
  - A SKI TYPE DEVICE AT LEAST 30 FEET IN LENGTH
- WATER SHALL BE USED AS A DUST PALLIATIVE WHERE REQUIRED, LOCATIONS SHALL BE AS ORDERED BY THE ENGINEER AND WILL NOT BE PAID FOR SEPARATELY BUT INCLUDED IN THE WORK.
- ALL MATERIAL GENERATED WITHIN THE PROJECT LIMITS SHALL RE REMOVED FROM THE PROJECT SITE AT NO COST TO THE PROJECT UNLESS SPECIFIED IN THE PLANS.
- THE CONTRACTOR SHALL REPAIR OR REPLACE AT THE CONTRACTOR'S EXPENSE ANY EXISTING SIGNS DAMAGED BY THE CONTRACTOR.
- 10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING DRAINAGE DURING THE WORK, ANY REWORK OF MATERIAL DUE TO LACK OF THIS MAINTENANCE SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
- 11. REMOVAL OF TEMPORARY PAVEMENT MARKINGS WILL NOT BE PAID FOR SEPARATE BUT SHALL BE INCLUDED IN THE WORK.
- 12. REMOVAL OF PAVEMENT MARKINGS WITHIN THE MILL AND OVERLAY WILL NOT BE PAID FOR SEPARATELY.
- 13. TRAFFIC WILL USE THE PRESENT ROADWAY DURING CONSTRUCTION.
- 14. THE PLANS DO NOT SHOW UTILITY LOCATIONS. NEITHER THE OWNER NOR ENGINEER ASSUMES ANY RESPONSIBILITIES FOR UTILITIES NOT SHOWN. CONTRACTOR TO VERIFY EXACT LOCATIONS OF EXISTING UTILITIES PRIOR TO START OF CONSTRUCTION AND AVOID SAME.
- 15. THROUGHOUT THE PLANS AND SPECIFICATIONS, "ML" SHALL REFER TO "MANAGED LANES".

- 16. ALL WORK TO BE COMPLETED DURING NIGHT AND WEEKENDS, CONTRACTOR MUST MAINTAIN (1) LANE BETWEEN 1 HOUR AFTER THE COLORADO ROCKIES HOME GAMES HAVE STARTED, UNTIL MIDNIGHT.
- I25 ML:

ALL WEEKNIGHT WORK WILL BE PERFORMED UNDER FULL CLOSURES OF THE MANAGED LANES BETWEEN THE HOURS OF 8:00PM AND 4:30AM. ALL LANES SHALL BE FULLY OPEN TO TRAFFIC BY 4:30AM EACH MORNING.

ALL WEEKEND WORK WILL BE PERFORMED UNDER FULL CLOSURES OF THE MANAGED LANES BETWEEN FRIDAY NIGHT AT 8:00PM AND MONDAY MORNING AT 4:30AM.

CONTRACTOR IS ALLOWED UP TO FOUR FULL WEEKEND CLOSURES OF THE 125 ML AS NEEDED DURING THE DURATION OF THE PROJECT.

IF CONTRACTOR REQUIRES ADDITIONAL WEEKENDS THERE IS A LANE RENTAL FEE ASSOCIATED WITH A FULL CLOSURE DURING THE WEEKEND OF \$6,000 (SIX THOUSAND DOLLARS) PER DAY. NO PRORATION WILL BE GIVEN FOR PARTIAL DAYS.

US 36:

ALL NIGHT AND WEEKEND WORK WILL BE PERFORMED BETWEEN THE FOLLOWING HOURS: EB US 36: SINGLE LANE CLOSURE FROM 11:00PM TO 5:30AM ON WEEKDAYS AND 12:00AM TO 8:00AM ON WEEKENDS. WB US 36: DOUBLE LANE CLOSURE FROM 11:00PM TO 5:30AM ON WEEKDAYS AND 12:00AM TO 9:00AM ON WEEKENDS.

CONTRACTOR IS ALLOWED TO WORK ON THE 20TH STREET APPROACH FROM THE HOURS OF 3:00AM TO 12:00PM, MONDAY THROUGH FRIDAY. THE GATES ARE CLOSED DURING THIS TIME. NO LANE RENTAL FEE WILL BE REQUIRED DURING THIS TIME.

CONTRACTOR MUST MAINTAIN MINIMUM WIDTH ON THE 70TH STREET RAMP TO ALLOW FOR (1) LANE (MINIMUM 11'LANE, 2'SHOULDER) AT ALL TIMES, UNLESS WORK IS OCCURRING DURING FULL CLOSURES AS DESCRIBED IN THIS SECTION.

- 17. THE ROADWAY IS CLASSIFIED AS URBAN.
- 18. THE PAVEMENT SMOOTHNESS CATEGORY FOR THE PROJECT SHALL BE CATEGORY I.
  - PCC PAVEMENT (PANELS) HRI WILL BE 135 (INCHES/MILES).
  - HMA PAVEMENT OVERLAY HRI WILL BE 135 (INCHES/MILES)

FOR PCC PAVEMENT THE STRAIGHT EDGE METHOD SHALL BE UTILIZED.

- 19. PRIOR TO PLACING BITUMINOUS PAVEMENT, SWEEPING OF DIRT AND GRAVEL FROM THE EXISTING MAT SHALL BE COMPLETED. THIS WORK WILL NOT BE PAID FOR SEPARATELY BUT INCLUDED IN THE WORK.
- 20. WHERE CUTTING OF ASPHALT PAVEMENT IS REQUIRED THE CUTTING SHALL BE DONE TO THE NEAT WORK LINE WITH A SAW OR CUTTING WHEEL AS APPROVED BY THE ENGINEER. THIS WORK WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE WORK.
- 21. THE CONTRACTOR SHALL LIMIT CONSTRUCTION ACTIVITIES TO THOSE AREAS WITHIN THE LIMITS OF DISTURBANCE SHOWN ON THE PLANS. ANY DISTURBANCE BEYOUD THESE LIMITS SHALL BE RESTORED TO 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.
- 22. PERMANENT STRIPING: THE CONTRACTOR SHALL MAP EXISTING STRIPING THROUGH PROJECT LIMITS PRIOR TO BEGINNING ANY WORK. THE CONTRACTOR SHALL PROVIDE FINAL STRIPING THROUGH PROJECT LIMITS TO MATCH. THE ORIGINAL STRIPING PRIOR TO PROJECT COMPLETION UNLESS DIRECTED OTHERWISE BY THE ENGINEER.
- 23. TEMPORARY STRIPING: DURING HMA PAVING OPERATIONS, TEMPORARY PAVEMENT MARKINGS PROVIDED AND PLACED BY THE CONTRACTOR SHALL BE IN ACCORDANCE WITH STANDARD S-630-1. TEMPORARY PAVEMENT MARKING WILL BE PLACED AND IN FULL COMPLIANCE AT THE END OF EACH WORKING DAY UNLESS DIRECTED OTHERWISE BY THE ENGINEER.
- 24. WORK PERFORMED MUST BE CONSISTENT WITH THAT DETAILED IN THE STORM WATER MANAGEMENT PLAN.
- 25. PLENARY WILL PROVIDE A STAGING AREA ON THE EAST SIDE OF THE NB 125 MANAGED LANE ENTRANCE RAMP TO I-25 BETWEEN MP 217.15 AND MP 217.3. CONTRACTOR MUST KEEP EQUIPMENT AND STOCKPILES OUTSIDE OF THE CLEAR ZONE (25-FEET FROM TRAVELED WAY).

#### **SCHEDULE**

CONTRACTOR SHALL PROVIDE A WORKING SCHEDULE.

#### PCCP REPLACE/REHABILITATION

- REFER TO M&S STANDARDS SECTION M-412 FOR CONCRETE PANEL AND JOINT CONSTRUCTION.
- 2. FULL DEPTH SAW CUTS MUST BE MADE AROUND THE ENTIRE PERIMETER OF THE DISTRESSED CONCRETE AREA THAT WILL BE REMOVED.
- 3. DRILL AND PLACE DOWELS IN EXISTING CONCRETE PANELS PER 412.13(a).
- 4. STRUCTURE EXCAVATION TO BE INCLUDED IN THE WORK AND WILL NOT BE PAID FOR SEPARATELY.

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Phone: 303–764–1520 FAX: 303–860–7139				

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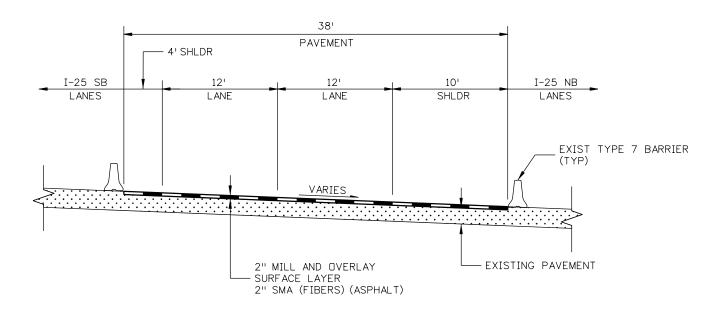
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### <u>I-25 MANAGED LANES - MP 212.4 TO MP 213.45</u>

(LOOKING NORTH) N.T.S.



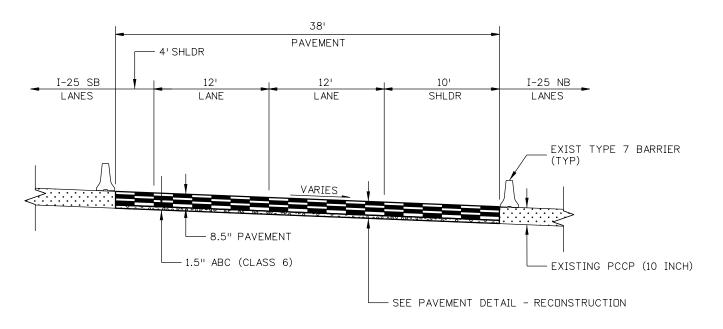
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2" SMA (FIBERS) (ASPHALT)

2" HMA (GRADING S)(100)(PG 64-22)

2" HMA (GRADING S)(100)(PG 64-22)

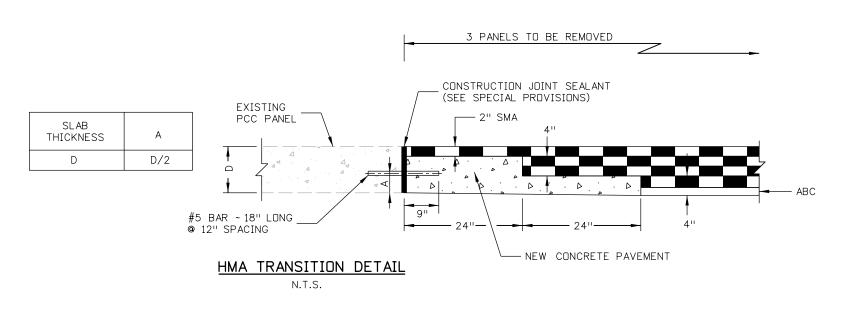
2.5" HMA (GRADING S)(100)(PG 64-22)

1.5" ABC (CLASS 6)

## PAVEMENT DETAIL - RECONSTRUCTION N.T.S.

## I-25 MANAGED LANES - FULL DEPTH PAVEMENT RECONSTRUCTION MP 213.45 TO MP 213.46

(LOOKING NORTH) N.T.S.



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	INDEX		ITEM NO.	CONTRACT ITEM	UNITS	ROA	DWAY	PROJEC	T TOTALS
воок	PAGE	SHEET				PLAN	AS CONST.	PLAN	AS. CONST.
	202-00210		202-00210	REMOVAL OF CONCRETE PAVEMENT	SY	3,995		3,995	
			202-00240	REMOVAL OF ASPHALT MAT (PLANING)	SY	24,390		24,390	
			202-00250	REMOVAL OF PAVEMENT MARKING	SF	48,973		48,973	
			208-00045	CONCRETE WASHOUT STRUCTURE	EACH	3		3	
			208-00050	STORM DRAIN INLET PROTECTION	EACH	186		186	
			208-00106	SWEEPING (SEDIMENT REMOVAL)	HOUR	40		40	
			208-00107	REMOVAL OF TRASH	HOUR	40		40	
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			210-04000	ADJUST STRUCTURE	EACH	24		24	
			210-04010	ADJUST MANHOLE	EACH	14		14	
			304-06000	AGGREGATE BASE COURSE (CLASS 6)	TON	15		15	
			403-09221	STONE MATRIX ASPHALT (FIBERS)(ASPHALT)	TON	2,839		2,839	
			403-33841	HOT MIX ASPHALT (GRADING S) (100) (PG 64-22)	TON	68		68	
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			412-01000	CONCRETE PAVEMENT (10 INCH)	SY	2,348		2,348	
			412-14000	SAWING AND SEALING CONCRETE PAVEMENT JOINTS	LF	293,542		293,542	
			412-15000	ROUTING AND SEALING CONCRETE PAVEMENT CRACKS	LF	3,820		3,820	
			626-00000	MOBILIZATION	LS	1		1	
			627-00005	EPOXY PAVEMENT MARKING	GAL	570		570	
			627-30405	PREFORMED THERMOPLASTIC PAVEMENT MARKING (WORD-SYMBOL)	SF	765		765	
			630-00000	FLAGGING	HOUR	330		330	



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	INDEX		ITEM NO.	CONTRACTITEM	UNITS	ROADWAY		PROJECT TOTALS	
воок	PAGE	SHEET			-	PLAN	AS CONST.	PLAN	AS. CONST.
			630-00007	TRAFFIC CONTROL INSPECTION	DAY	55		55	
		630-00012 TRAFFIC CONTROL MANAGEMENT		DAY	120		120		
			630-80001	FLASHING BEACON (PORTABLE)	EACH	8		8	
			630-80335	BARRICADE (TYPE 3 M-A) (TEMPORARY)	EACH	3		3	
			630-80341	CONSTRUCTION TRAFFIC SIGN (PANEL SIZE A)	EACH	14		14	
			630-80342	CONSTRUCTION TRAFFIC SIGN (PANEL SIZE B)	EACH	30		30	
			630-80343	CONSTRUCTION TRAFFIC SIGN (PANEL SIZE C)	EACH	18		18	
			630-80355	PORTABLE MESSAGE SIGN PANEL	EACH	1		1	
			630-80358	ADVANCE WARNING FLASHING OR SEQUENCING ARROW PANEL (C TYPE)	EACH	2		2	
			630-80360	DRUM CHANNELIZING DEVICE	EACH	120		120	
			630-80363	DRUM CHANNELIZING DEVICE (WITH LIGHT) (FLASHING)	EACH	4		4	
			630-80380	TRAFFIC CONE	EACH	400		400	
				FORCE ACCOUNT ITEMS					
			700-70010	F/A MINOR CONTRACT REVISIONS	FA	1		1	
			700-70012	F/A ASPHALT PAVEMENT INCENTIVE	FA	1		1	
			700-70013	F/A CONCRETE PAVEMENT INCENTIVE	FA	1		1	
			700-70016	F/A FUEL COST ADJUSTMENT	FA	1		1	
			700-70018	F/A ROADWAY SMOOTHNESS INCENTIVE	FA	1		1	
			700-70019	F/A ASPHALT CEMENT COST ADJUSTMENT FOR HMA AND SMA	FA	1		1	
			700-70025	F/A QUALITY INCENTIVE PAYMENT	FA	1		1	
			700-70380	F/A EROSION CONTROL	FA	1		1	



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### **TABULATION OF REMOVALS AND ADJUSTMENTS**

660	MILEPOINT		ALIGNMENT	SIDE	202-00210 REMOVAL OF CONCRETE PAVEMENT		202-00240 REMOVAL OF ASPHALT MAT (PLANING)		202-00250 REMOVAL OF PAVEMENT MARKING		210-04000 ADJUST STRUCTURE		210-04010 ADJUST MANHOLE		REMARKS	
					5	Y	S	Υ	S	F	EA	CH	EA	CH		
9	FROM	то			PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.		
	212.00	212.39	I-25 MANAGED LANES						2036							
	212.39	213.45	I-25 MANAGED LANES				24390				18		14			
Bridge —	213.45	213.72	I-25 MANAGED LANES		1438				1060							
Bridge —	213.79	213.94	I-25 MANAGED LANES						598							
Bridge —	213.97	215.48	I-25 MANAGED LANES		450				5901							
Bridge —	215.53	215.73	I-25 MANAGED LANES						847							
Bridge —	215.76	216.53	I-25 MANAGED LANES						3050							
Dridge —	216.58	217.34	I-25 MANAGED LANES						5385		6				MP 216.0 to 216.5	
			20TH STREET		65				987							
	56.04	57.15	US 36 MANAGE LANES		40				4407							
	54.59	56.49	US 36 MAINLINE (9 LANES)		2002				24702							
		<u> </u> 	TALS		3995		24390		48973		24		14			

REMOVAL OF PAVEMENT MARKINGS WITHIN THE MILL AND OVERLAY SECTION WILL NOT BE PAID FOR SEPARATELY.

	TABULATION OF SURFACING															
MILEPOINT		ALIGNMENT	AGGREG	06000 ATE BASE (CLASS 6)	STONE ASP	09210 MATRIX HALT (ASPHALT)	HOT MIX	33801 ASPHALT NG S)(100)	CON PAV	-00190 CRETE EMENT CHING)*	CON PAVI	01000 CRETE EMENT NCH)*	SAWING (	14000 & SEALING CRETE IT JOINTS*	ROUTING CONCRETE	15000 & SEALING E PAVEMENT CKS*
			TON		TON		TON		SY		SY		LF		LF	
From	То		PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.
212.4	213.5	I-25 MANAGED LANES	14		2704		65				190					
215.1	215.2	I-25 MANAGED LANES									450					
	20	TH STREET							5		60		1000			
125	5/US 36	MANAGED LANES							268		980		129230		3500	
Ü	S 36 MA	INLINE (9 LANES)							68		668		163312		320	
	SI	JBTOTALS	14		2704		65		341		2348		293542		3820	
IR	REGUL	ARITIES - ADD 5%	1		135		3									
		TOTALS	15		2839		68		341		2348		293542		3820	
					-	•		•		* F	PCCP REPLAC	EMENT/REHABI	LITATION QU	ANTITIES DETE	RMINED BY TRAN	SFIELD SERVICES

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		TABULA	ΓΙΟΝ OF	PAVEM	ENT MA	RKING				
				PAVEMENT MA	ARKING LINES			PREFORMED THERMOPLASTIC PAVEMENT MARKING		
	MILEPOINT ALIGNMENT			GE	LA	NE	(WORD - SYMBOL)			
MILE	MILEPOINT		WHITE SOLID 4 INCH	SOLID	WHITE BROKEN 4 INCH	WHITE DOUBLE 8 INCH	"TOLL"	"HOV"	REMARKS	
From	То		LF	LF	LF	LF	SF	SF		
212.1	217.3	I-25 Managed Lanes 20TH STREET	68,157	4,276	4,921	6,910	437	328		
56.0	57.2	US 36 Managed Lanes	987 12,466	755	0	0				
54.6	56.5	US 36 Mainline (9 LANES)	44,436	20,423	9,245	0				
PAY QUANTITY CA	LCULATIONS									
TOTAL LINEAR FEI	ET		126,047	25,454	14,167	2,303				
TOTAL SQUARE FI	ET		42,016	8,485	4,722	1,536	437	328		
PREFORMED PLAS	STIC									
PAVEMENT MARKI	NG (TYPE I) (SF)									
PREFORMED THEF	RMOPLASTIC									
PAVEMENT MARKI	NG (XWALK-STOP	LINE) (SF)								
PREFORMED THEF							437	328		
PAVEMENT MARKI	•	L) (SF)					1			
<b>EPOXY PAVEMENT</b>	MARKING (GAL.)		421	85	48	16				

#### SUMMARY

YELLOW EPOXY (GAL)	85	•
WHITE EPOXY (GAL)	485	
YELLOW THERMO PLASTIC/ WORD-SYMBOL (SF)	0	-
WHITE THERMO PLASTIC/ WORD-SYMBOL (SF)	765	
YELLOW PREFORMED PLASTIC PVMNT MRKING (SF)	0	Туре
WHITE PREFORMED PLASTIC PVMNT MRKING (SF)	0	Туре

- 1. THE CONTRACTOR SHALL MAP EXISTING STRIPING THROUGH PROJECT LIMITS PRIOR TO BEGINNING ANY WORK. THE CONTRACTOR SHALL PROVIDE FINAL STRIPING THROUGH PROJECT LIMITS TO MATCH THE ORIGINAL STRIPING PRIOR TO PROJECT COMPLETION UNLESS DIRECTED OTHERWISE BY THE ENGINEER.
- 2. PAVEMENT MARKING QUANTITIES DERIVED FROM AERIALS.

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SIGN CODE	LEGEND	DIMENSIONS	CONSTRUCTION TRAFFIC SIGN (EACH) [I-25]			CONSTRUCTION TRAFFIC SIGN (EACH) [US 36]		
				PANEL SIZ	Έ	PANEL SIZE		
			A	В	С	Α	В	С
R2-1(35)	"SPEED/LIMIT/35"	48" x 60"						
R2-1(45)	"SPEED/LIMIT/45"	48" x 60"						
R2-1(55)	"SPEED/LIMIT/55"	48" x 60"						2
R2-6P	"FINES/DOUBLE"	36" x 36"				6		
R4-1	"DO/NOT/PASS"	48" x 60"						
R4-2	"PASS/WITH/CARE"	48" x 60"						
R52-6a	"BEGIN/FINES/DOUBLE/IN WORK/ZONE"	48" x 60"			4			4
R52-6b	"END/FINES/DOUBLE/IN WORK/ZONE"	48" x 60"			4			4
W1-4L	LANE CURVE SYMBOL (LEFT)	48" x 48"						
W1-4R	LANE CURVE SYMBOL (RIGHT)	48" x 48"						
W1-6L	LARGE ARROW (LEFT)	48" x 12"						
W1-6R	LARGE ARROW (RIGHT)	48" x 12"						
W4-2L	LEFT LANE CLOSED SYMBOL	48" x 48"					4	
W4-2R	RIGHT LANE CLOSED SYMBOL	48" x 48"					4	
W5-1	"ROAD/NARROWS"	48" x 48"						
W20-1	"ROAD/WORK/(DIST.)"	48" x 48"		4			2	
W20-5L	"LEFT/LANE/CLOSED/AHEAD"	48" x 48"					2	
W20-5R	"RIGHT LANE/CLOSED/AHEAD"	48" x 48"					2	
W20-5aL	"LEFT/TWO LANES/CLOSED/1/2 MILE"	48" x 48"					2	
W20-5aR	"RIGHT/TWO LANES/CLOSED/1/2 MILE"	48" x 48"					2	
W21-5aL	"LEFT/SHOULDER/CLOSED"	48" x 48"						
W21-5aR	"RIGHT/SHOULDER/CLOSED"	48" x 48"						
G20-5P	"WORK/ZONE"	36" x 30"				8		
G20-10	"XYZ/CONSTRUCTORS/THANK YOU/"	48" x 48"		2			2	
G20-11	"ROAD WORK/DATE-DATE/FOR INFORMATION/"	48" x 48"		2			2	
		SIGN TOTALS	0	8	8	14	22	10

#### **CONSTRUCTION TRAFFIC CONTROL DEVICES**

ITEM	DESCRIPTION	SIZE	UNIT	QUAN	NTITY
NUMBER				I-25	US 36
630-00000	FLAGGING		HOUR	30	300
630-00007	TRAFFIC CONTROL INSPECTION		DAY	15	40
630-00012	TRAFFIC CONTROL MANAGEMENT		DAY	40	80
630-80001	FLASHING BEACON (PORTABLE)		EACH	0	8
630-80335	BARRICADE (TYPE 3M-A) (TEMP)		EACH	0	3
630-80355	PORTABLE MESSAGE SIGN PANEL		EACH	0	1
630-80341	CONSTRUCTION TRAFFIC SIGN (PANEL SIZE A)		EACH	0	14
630-80342	CONSTRUCTION TRAFFIC SIGN (PANEL SIZE B)		EACH	8	22
630-80343	CONSTRUCTION TRAFFIC SIGN (PANEL SIZE C)		EACH	8	10
630-80358	ADVANCE WARNING FLASHING OR SEQUENCING ARROW PANEL (C TYPE)		EACH	0	2
630-80360	DRUM CHANNELIZING DEVICE		EACH	0	120
630-80363	DRUM CHANNELIZING DEVICE (WITH LIGHT) (FLASHING)		EACH	0	4
630-80380	TRAFFIC CONE	36"	EACH	200	200

- 1. I-25 MANAGED LANE CONSTRUCTION PHASING HAS BEEN LAID OUT AS FOLLOWS: A. HMA SECTIONS: THE TWO MILES OF HMA SHALL HAVE THE TOP 2" MILLED AND OVERLAID, EXCEPT FOR THE ~50-FOOT SECTION ON THE SOUTH END.
  - B. PCCP SECTIONS: THE FOUR MILES OF PCCP SHALL HAVE PANELS REPLACED AS DIRECTED BY THE ENGINEER.
- 2. US 36 CONSTRUCTION PHASING HAS BEEN LAID OUT AS FOLLOWS:

  A. EB: THE TWO MILES OF EB LANES WILL BE CONSTRUCTED ONE HALF AT A TIME

  B. WB: THE TWO MILES OF WB LANES WILL BE CONSTRUCTED ONE HALF AT A TIME
- 3. PAY ITEMS WERE DETERMINED BASED ON CDOT M&S STANDARDS S-630-1 AS FOLLOWS: US 36:
  - FOR EB US 36, CASE NO. 5 WAS USED FOR LEFT-LANE CLOSURE AND CASE NO. 8 WAS USED FOR RIGHT-LANE CLOSURE
  - FOR WB US 36, CASE NO. 6 WAS USED FOR LEFT-LANE CLOSURES AND CASE NO. 7 WAS USED FOR RIGHT-LANE CLOSURES

- 4. FOR US 36, QUANTITIES WERE ESTIMATED BASED ON THE ANTICIPATED DURATIONS OF 50 WORKING DAYS.
- 5. FOR US 36, QUANTITIES FOR DRUMS WERE ESTIMATED ASSUMING THAT EB WOULD BE DONE IN ONE PHASE AND WB IN ANOTHER PHASE.

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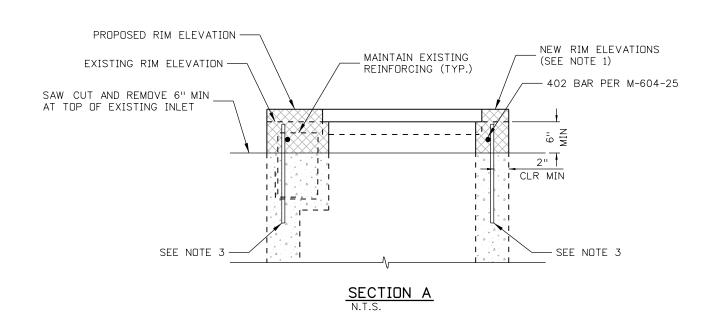
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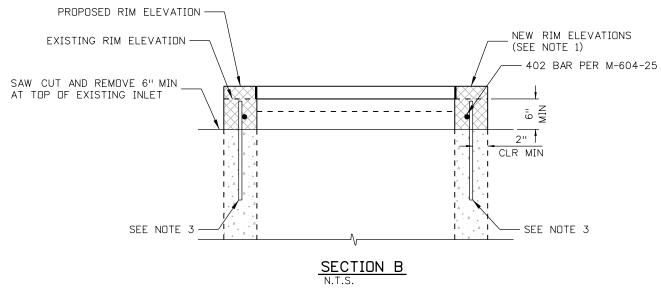
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#### NOTES:

- RAISE RIM TO 1/4" BELOW THE PROPOSED FINISHED GRADE. MATCH EXISTING INLET WALL THICKNESS WITH NEW WALL.
- 2. RECONSTRUCT INLET BOXES PER APPLICABLE CDOT M-STANDARD PLANS. CONTACT ENGINEER IF INLET DOES NOT APPEAR TO BE CDOT STANDARD.
- 3. EXISTING VERTICAL REINFORCING SHALL BE PROTECTED IN PLACE DURING REMOVAL OPERATIONS. EXISTING BARS THAT ARE DAMAGED DURING REMOVAL SHALL BE REPLACED WITH A VERTICAL #4 X 1'-0" DOWEL. REPLACEMENT DOWELS SHALL BE DRILLED AND EPOXY BONDED INTO THE EXISTING CONCRETE 6" MINIMUM. EXPOXY BONDING AGENT SHALL BE HILTI HIT-HY 200 OR APPROVED SIMILAR. NEW VERTICAL BARS SHALL BE CENTERED IN WALL. MINIMUM COVER TO ALL REINFORCING SHALL BE 2" UNLESS NOTED. ALL NEW REINFORCING SHALL BE EPOXY COATED.
- 4. CONCRETE CLASS D SHALL BE USED FOR THE INLET POUR BACK. CONTRACTORMAY USE US SPEC TRANSPATCH PER MANUFACTURER'S SPECIFICATIONS LISTED HERE: https://www.usspec.com/products/product/transpatch OTHER SIMILAR CDOT APPROVED CEMENTITIOUS REPAIR MATERIALS MAY BE USED UPON PRIOR REVIEW BY THE ENGINEER.





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THE CONTRACTOR SHALL PERFORM THE FOLLOWING:

- A. 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.
- B. BEST MANAGEMENT PRACTICES (BMPS) FOR STORMWATER POLLUTION PREVENTION

#### NARRATIVES [THE NARRATIVE SHOULD EXPLAIN WHAT, WHEN, WHERE AND HOW THE BMP IS BEING USED.]

- C. OFFSITE DRAINAGE (RUN ON WATER)
  - 1. PLACE BMPS TO ADDRESS RUN-ON WATER IN ACCORDANCE WITH SUBSECTION 208.03.
- D. PERIMETER CONTROL
  - 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. <u>CONCRETE WASHOUT</u> 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

THERE IS NO ANTICIPATED SEEDING ON THIS PROJECT.

#### 4. TABULATION OF STORMWATER QUANTITIES

PAY ITEM	DESCRIPTION	PAY UNIT	*QUANTITY
208-00045	CONCRETE WASHOUT STRUCTURE	EACH	3
208-00050	STORM DRAIN INLET PROTECTION	EACH	186
208-00106	SWEEPING (SEDIMENT REMOVAL)	HOUR	40
208-00107	REMOVAL OF TRASH	HOUR	40
208-00206	EROSION CONTROL SUPERVISOR	DAY	80

\*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.

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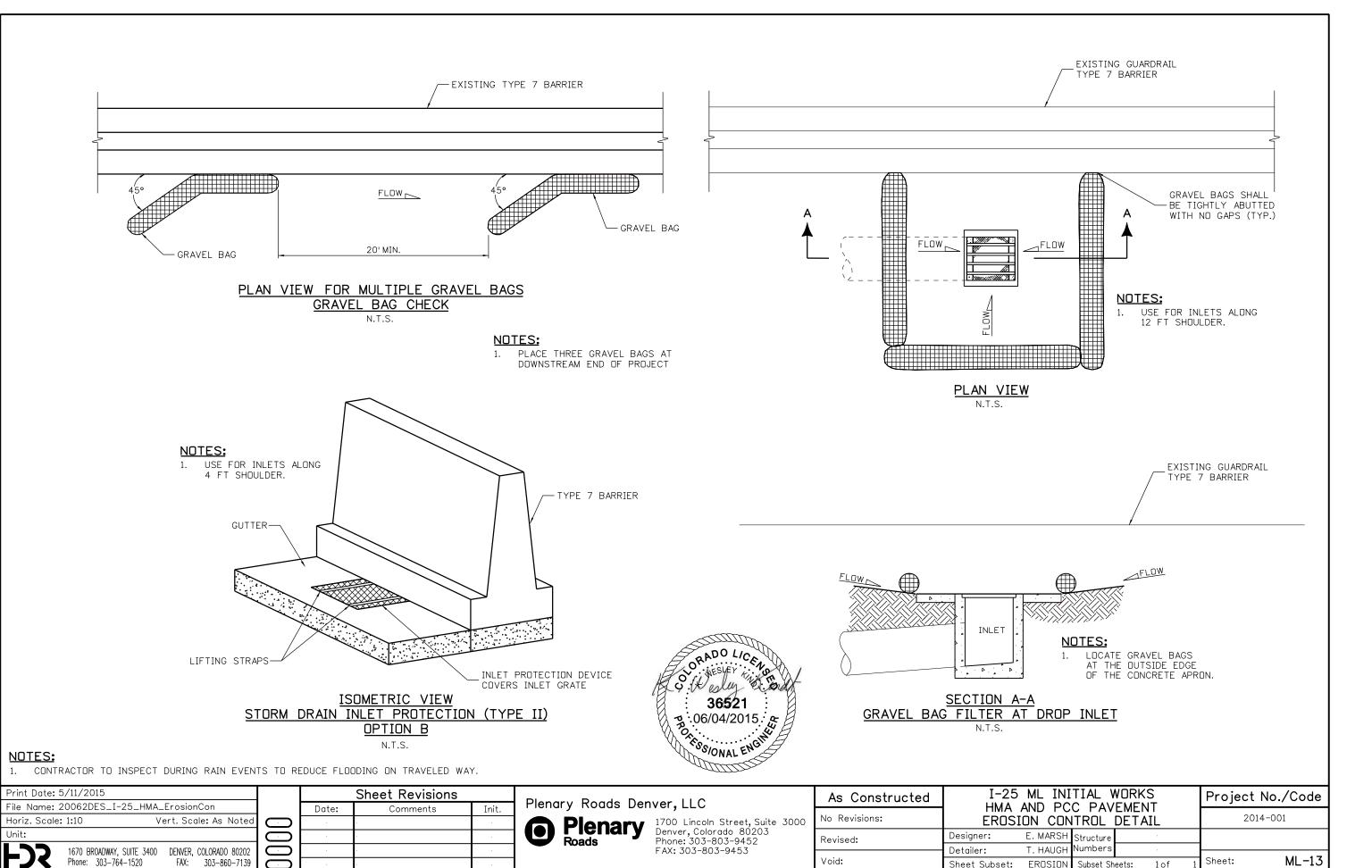
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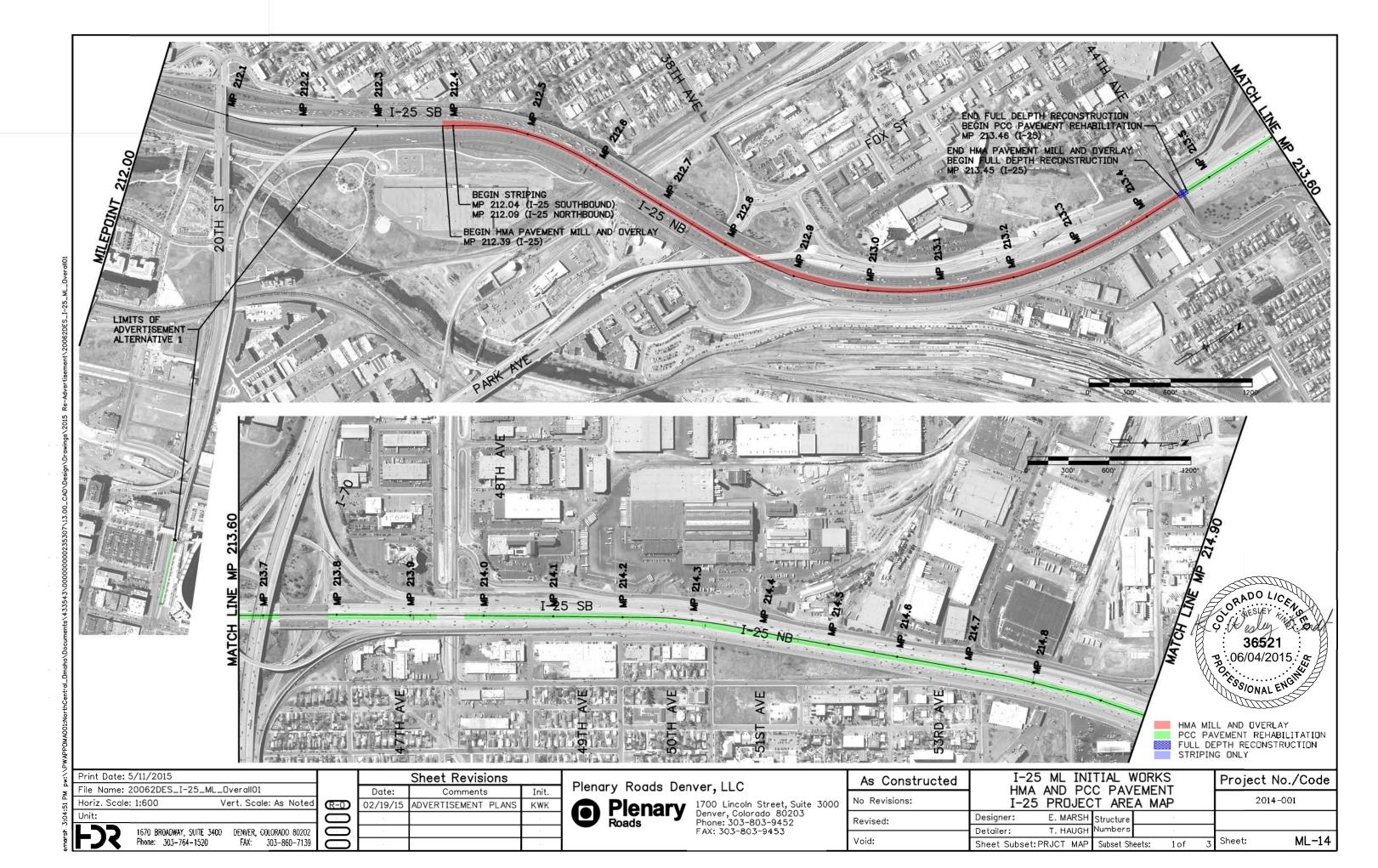
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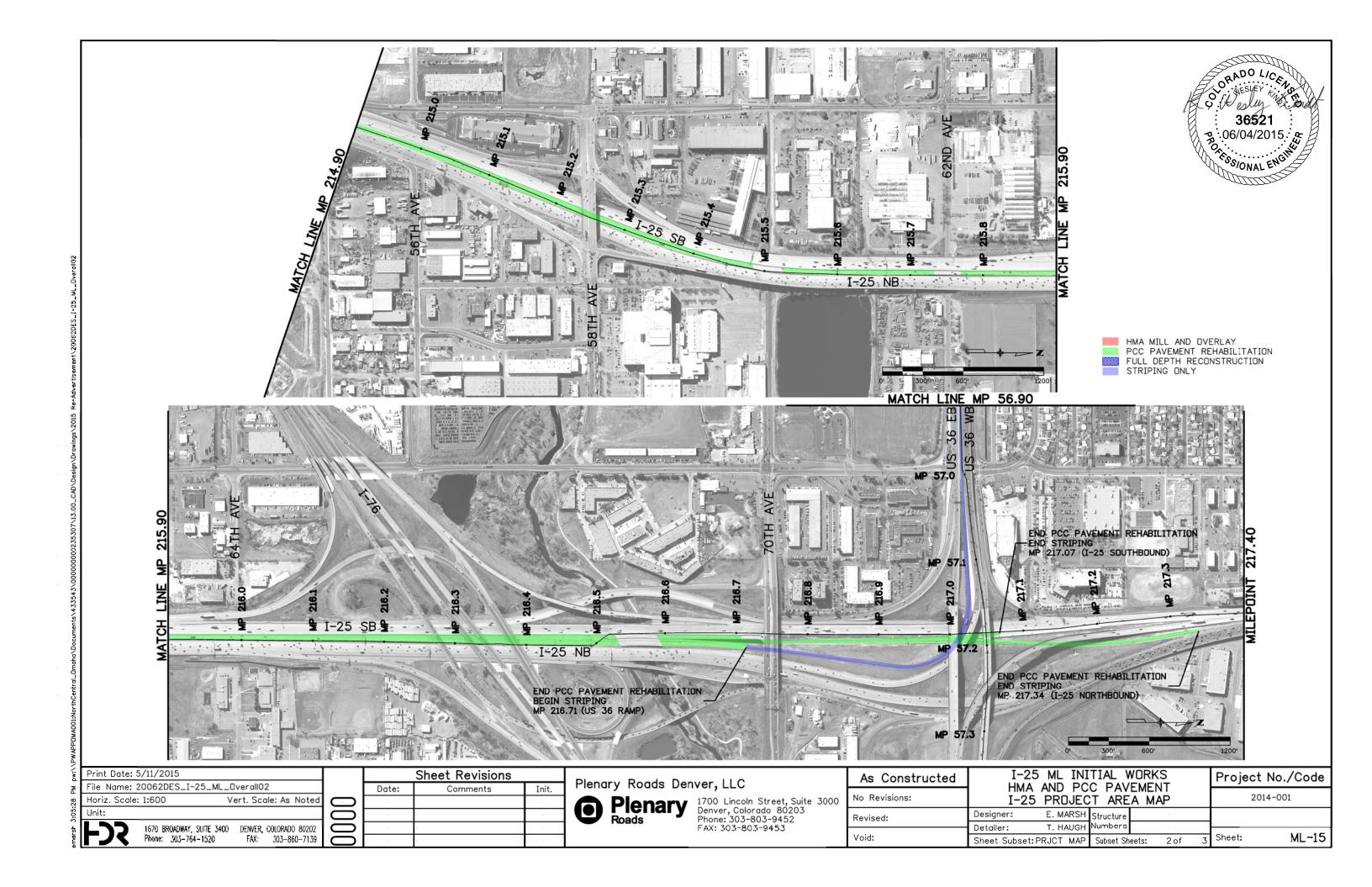
Plenary 1700 Lincoln Street, Suite 3000 Denver, Colorado 80203 Phone: 303-803-9452

FAX: 303-803-9453

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PCC PAVEMENT REHABILITATION FULL DEPTH RECONSTRUCTION STRIPING ONLY Print Date: 5/11/2015 I-25 ML INITIAL WORKS Sheet Revisions Project No./Code As Constructed Plenary Roads Denver, LLC HMA AND PCC PAVEMENT File Name: 20062DES\_I-25\_ML\_Dverall03A Date: Comments Init, 2014-001 No Revisions: Horiz. Scale: 1:600 Vert. Scale: As Noted 1700 Lincoln Street, Suite 3000 Denver, Colorado 80203 Phone: 303-803-9452 US 36 PROJECT AREA MAP E. MARSH Structure Designer:

FAX: 303-803-9453

Revised:

Void:

T. HAUGH

Sheet Subset: PRJCT MAP

Detailer:

Numbers

Subset Sheets:

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ML-16A

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Roads

Unit:

1670 BROADWAY, SUITE 3400 DENVER, COLORADO 80202 Phone: 303-764-1520 FAX: 303-860-7139





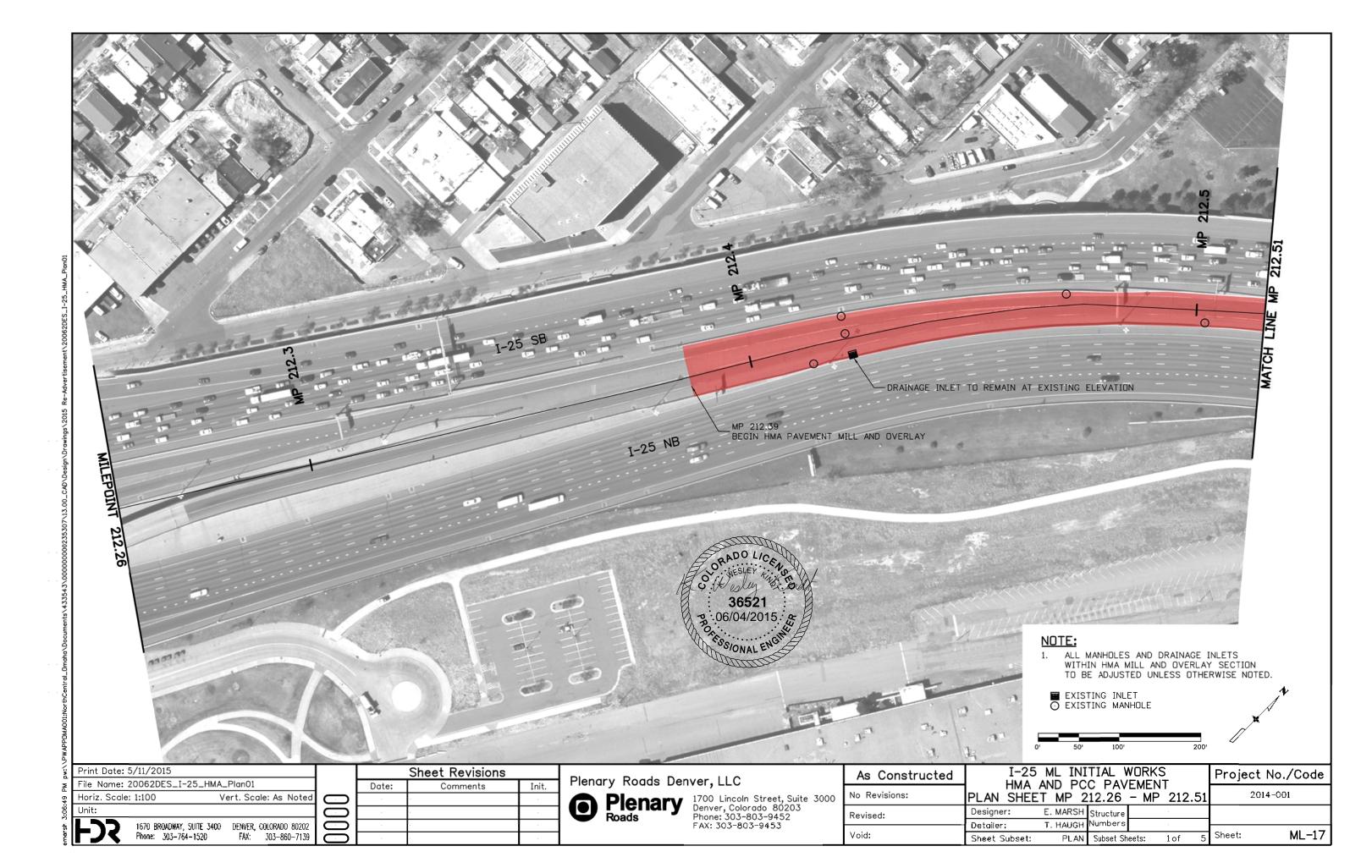
HMA MILL AND OVERLAY
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FULL DEPTH RECONSTRUCTION
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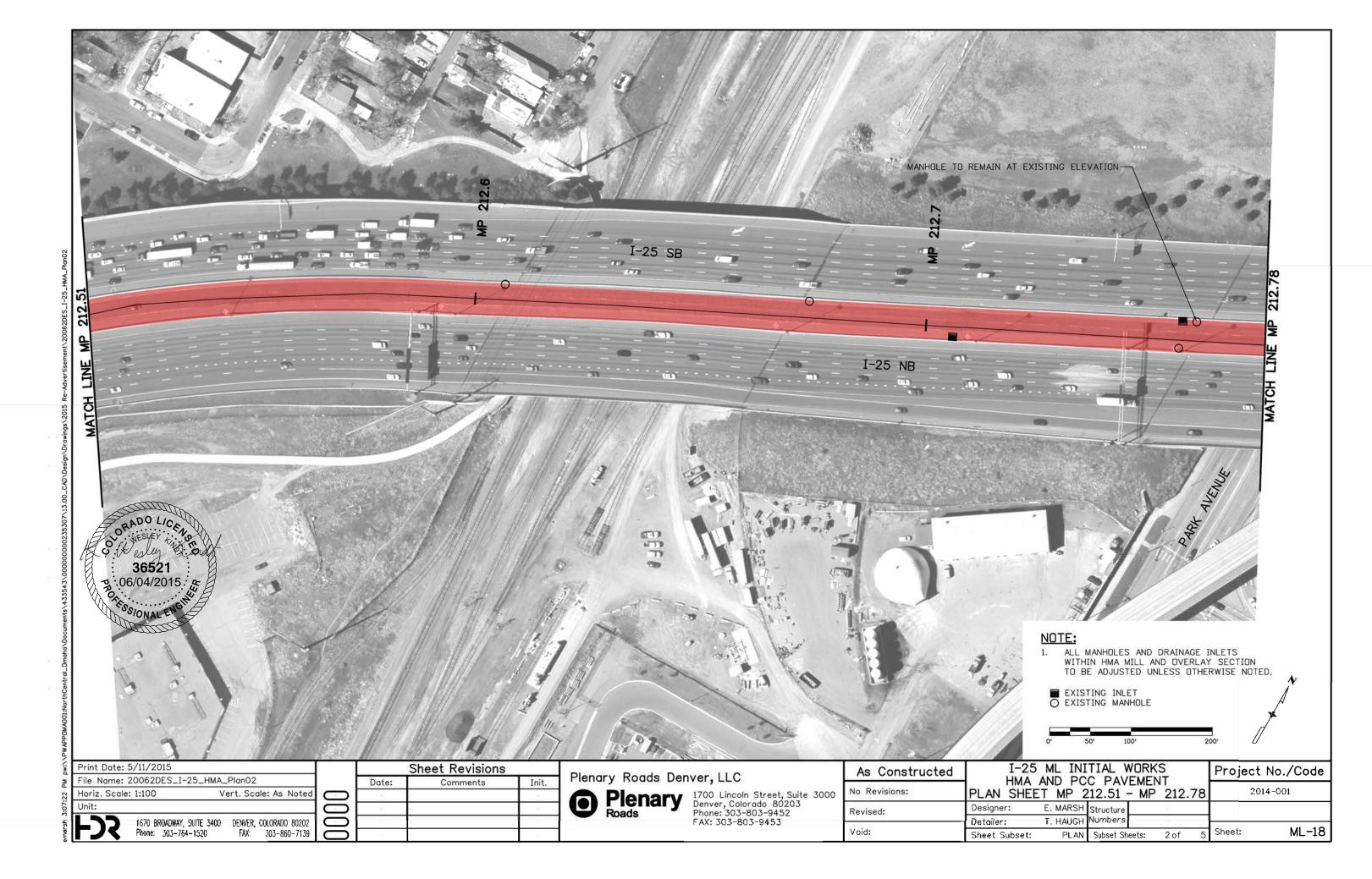
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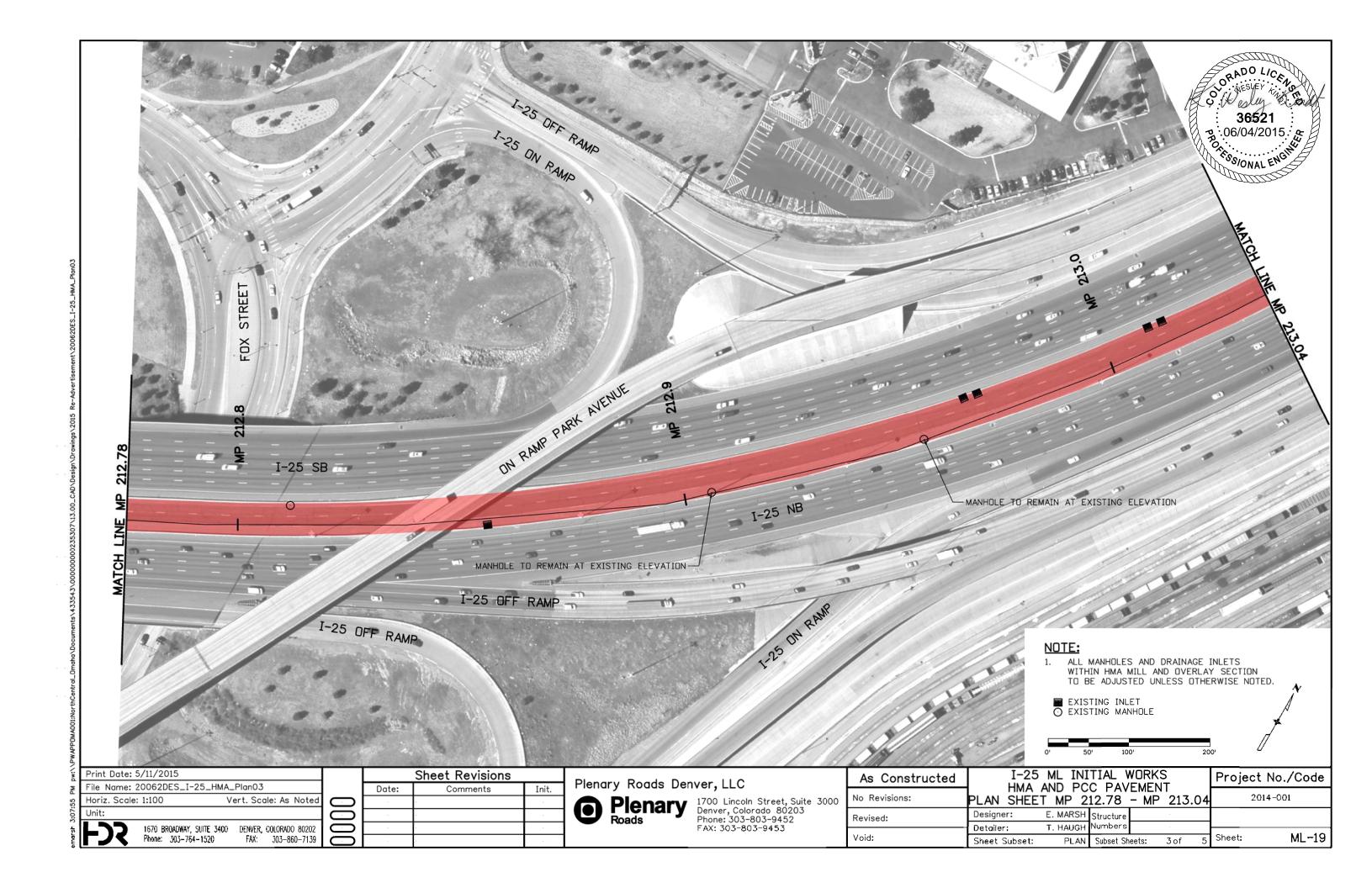
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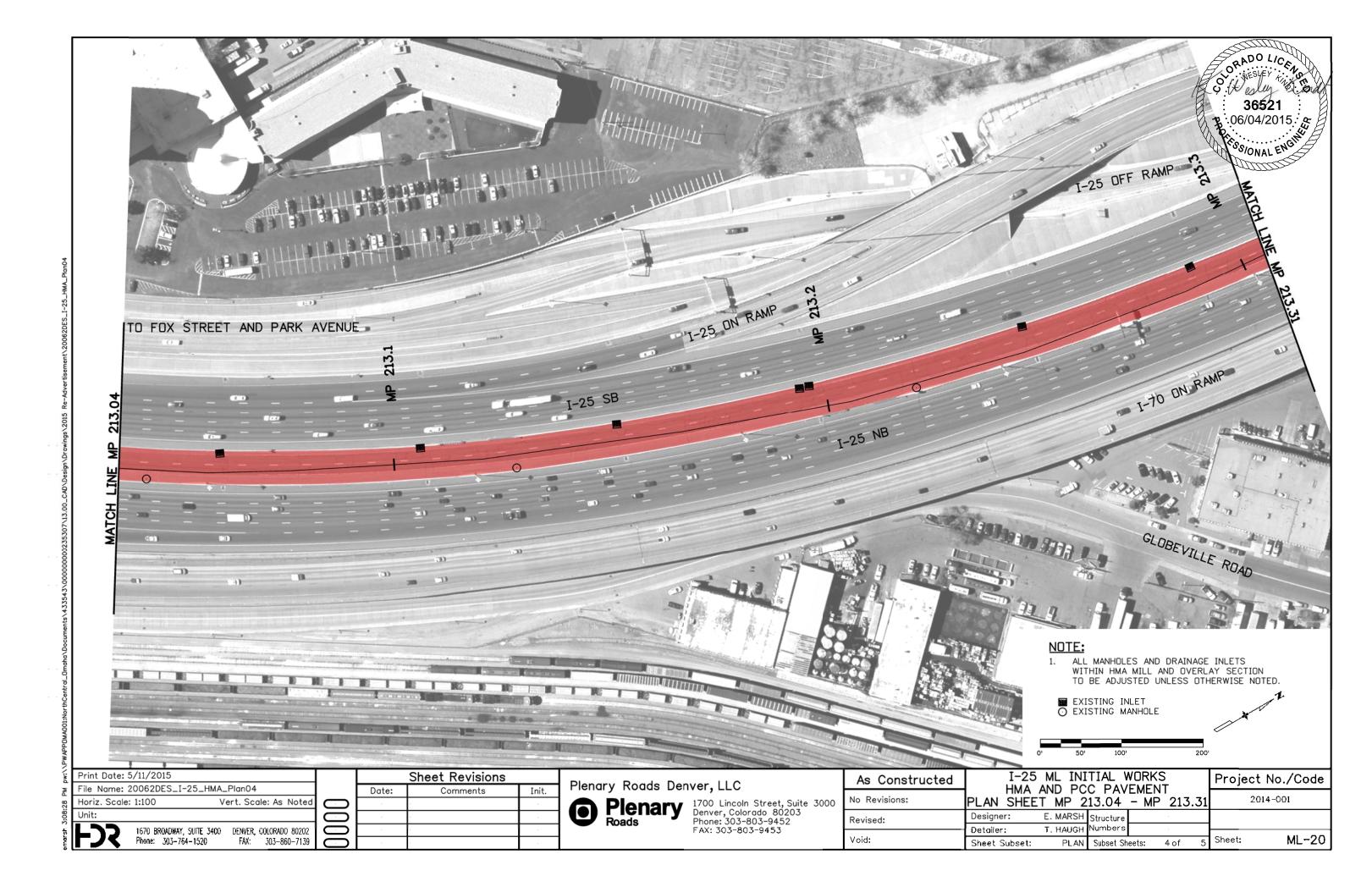
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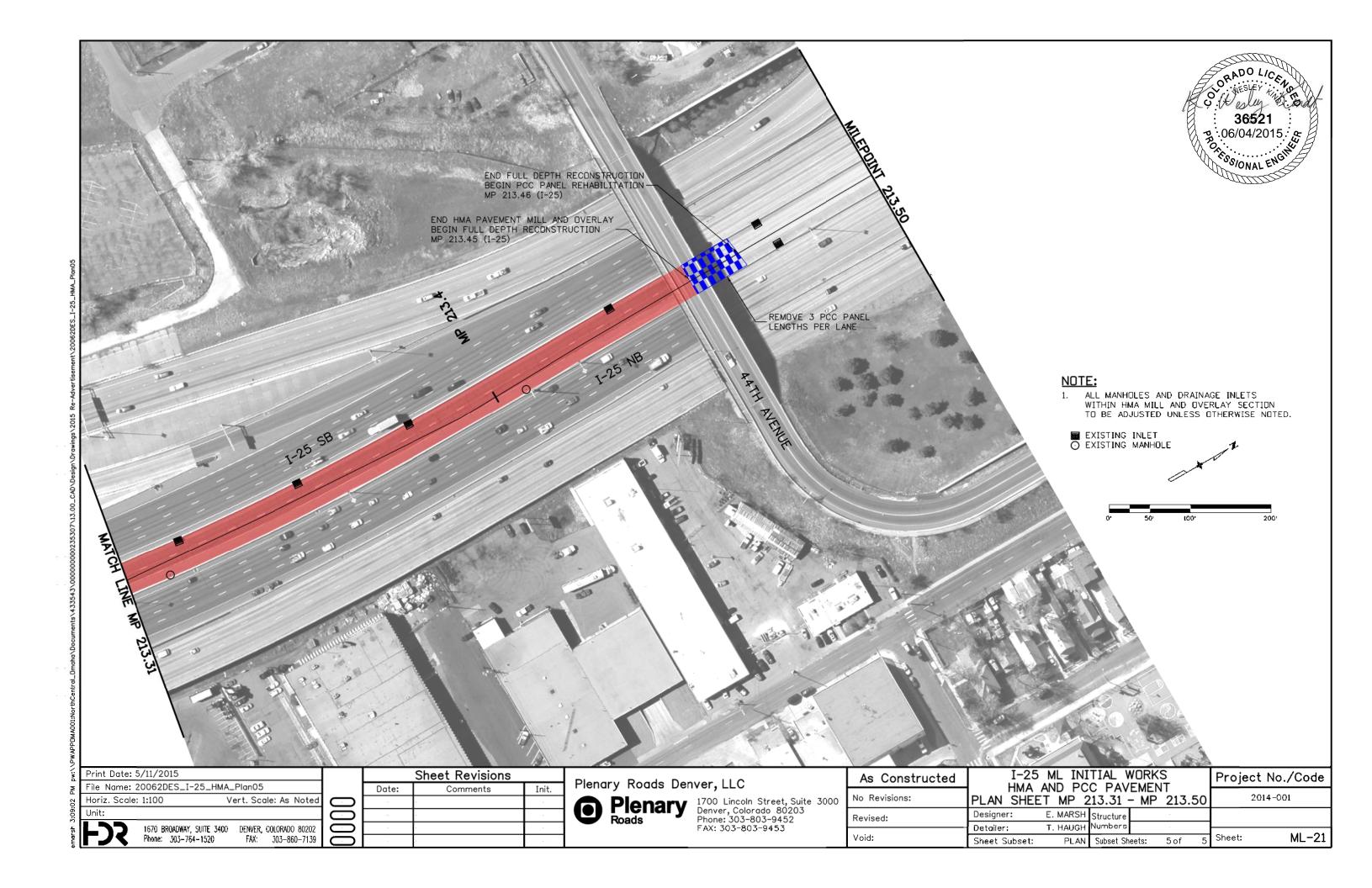
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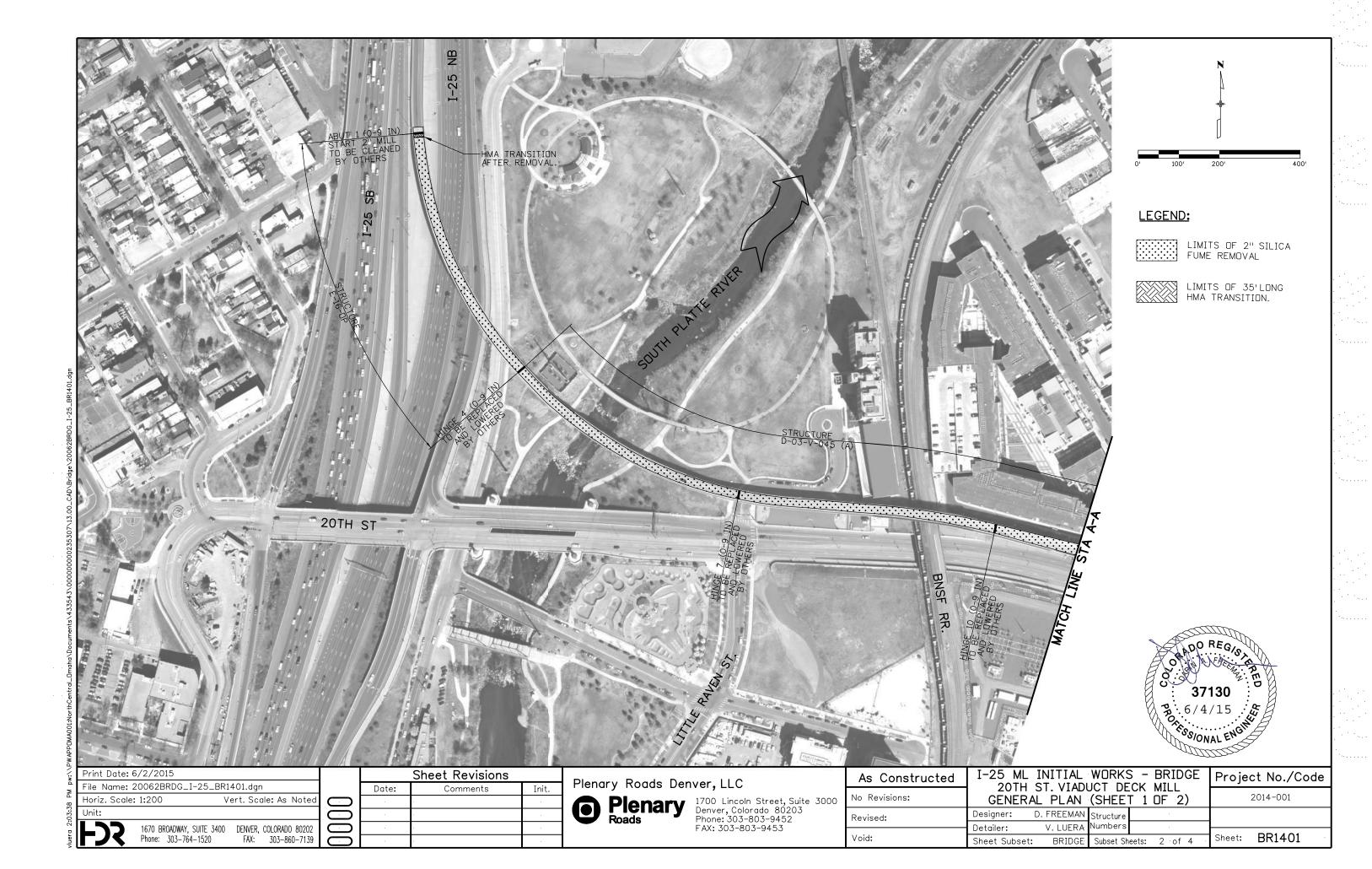
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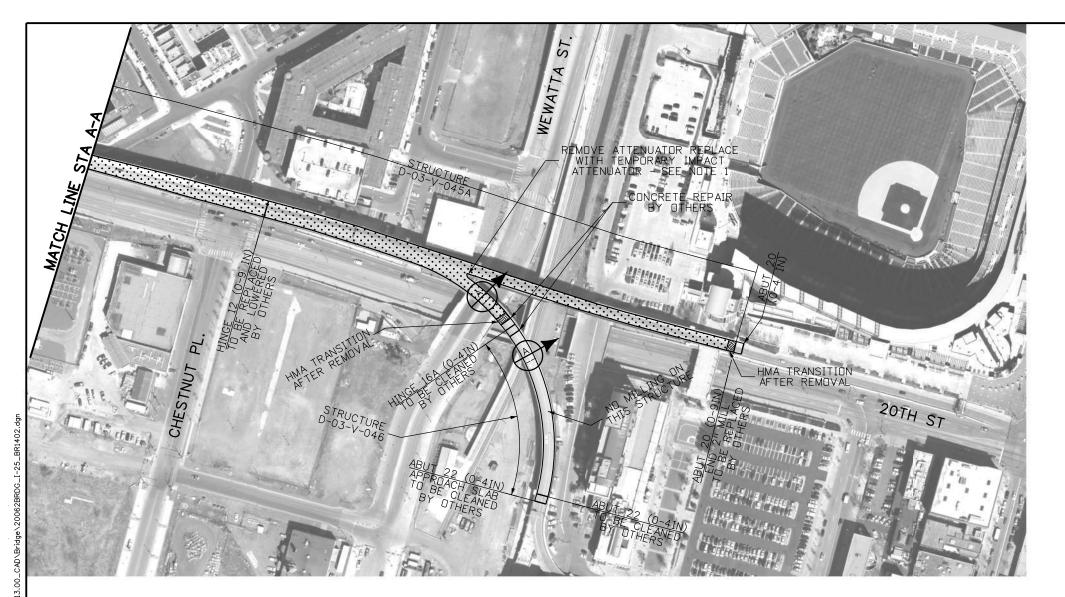
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Plenary Roads Denver, LLC

7 1700 Lincoln Street, Suite 3000 Denver, Colorado 80203 Phone: 303–803–9452 FAX: 303–803–9453

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	Revised:	Designer:	E. MARSH				
		Detailer:	T. HAUGH	Numbers			
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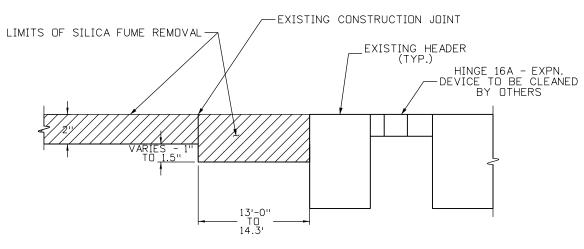
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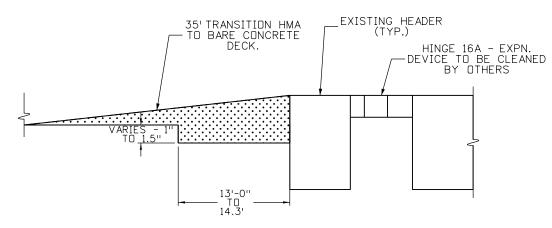
LIMITS OF 2" SILICA FUME REMOVAL

LIMITS OF 35'LONG HMA TRANSITION

#### NOTES:

1. IMPACT ATTENUATOR REMOVAL SHALL BE PERFORMED IN A MANNER THAT DOES NOT DAMAGE THE EXISTING DECK OR EMBEDDED ANCHOR BOLTS.





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SECTION A -REMOVAL

<u>SECTION A - TEMP HMA TRANSITION</u>

0' 100' 200'

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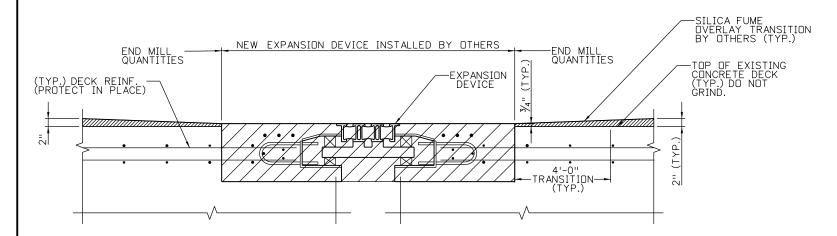
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1700 Lincoln Street, Suite 3000 Denver, Colorado 80203 Phone: 303-803-9452 FAX: 303-803-9453

As Constructed	I-25 ML INITIAL 20TH ST. VIAD	WORKS - BRIDGE	Project No./Code
No Revisions:	GENERAL PLAN		2014-001
Revised:	Designer: D. FREEMAN		
	Detailer: V. LUERA	Numbers	
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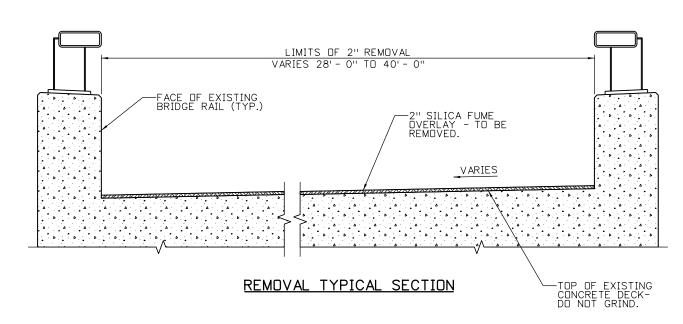


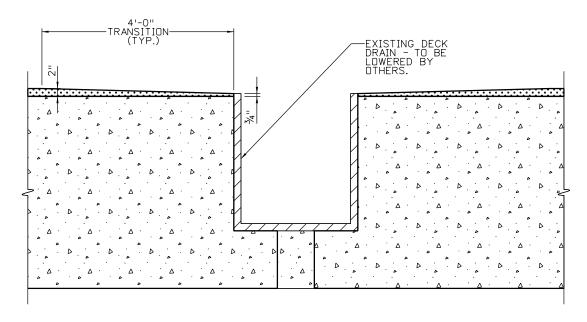
#### NOTES:

- EXISTING OVERLAY REMOVAL SHALL BE PERFORMED IN A MANNER THAT DOES NOT DAMAGE THE UNDERLYING REINFORCED CONCRETE DECK. EXISTING HMA PATCHES ARE INCLUDED IN THE REMOVAL QUANTITY. ANY DAMAGE INCURRED DURING THE REMOVAL PROCESS SHALL BE REPORTED TO THE ENGINEER PRIOR TO PROCEEDING. OVERLAY REMOVAL WILL BE PAID FOR UNDER ITEM 202- REMOVAL OF CONCRETE PAVEMENT.
- AFTER REMOVAL OF SILICA FUME OVERLAY, HMA
  TRANSITIONS SHALL BE CONSTRUCTED AT ABUTS 1 AND 22,
  AND HINGE 16A WHERE A VERTICAL LEDGE OCCURS. THE
  LENGTH OF THE TRANSITION SHALL BE 35 FEET. HMA
  TRANSITIONS SHALL BE PAID FOR UNDER ITEM 403 HOT MIX
  ASPHALT (PATCHING) (ASPHALT).

#### REMOVAL LIMITS AT EXPANSION DEVICE LOCATIONS

(O TO 9 INCH DEVICE SHOWN. O TO 4 INCH DEVICE SIMILAR)





#### REMOVAL LIMITS AT DECK DRAIN LOCATIONS

# 37130 OTTOS ONAL ENGIN

#### SUMMARY OF APPROXIMATE QUANTITIES

ITEM #	ITEM	QUANTITY	UNIT
202-00210	REMOVAL OF CONCRETE PAVEMENT	12,515	SY
202-00895	REMOVAL OF IMPACT ATTENUATOR	1	EACH
630-85006	IMPACT ATTENUATOR (SAND FILLED PLASTIC BARREL)(TEMPORARY)	1	EACH
403-00721	HOT MIX ASPHALT (PATCHING)(ASPHALT)	327	SY

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Roads

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No Revisions:	MILL AND TRANSITION DETAILS	2014-001
Revised:	Designer: D. FREEMAN Structure	
	Detailer: V. LUERA Numbers	
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