

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

TABULATION OF LENGTH		FEET
STATION	ROADWAY	
<b>BEGIN MINERAL AVE</b>		
STA.	10+59.71	
<b>END MINERAL AVE</b>		
STA.	49+00.15	
<b>BEGIN JACKASS HILL RD</b>		
STA.	202+60.00	
<b>END JACKASS HILL RD</b>		
STA.	220+15.00	
SUMMARY OF PROJECT LENGTH	FEET	MILES
	5595.44	1.06

DESIGN DATA			
ROADWAY	MINERAL AVE	MINERAL AVE TRAIL	JACKASS HILL RD
MINIMUM RADIUS OF CURVE (FT)	643	74	340
MAXIMUM GRADE (%)	6	5	6
MINIMUM SSD HORIZONTAL (FT)	360	134	250
CREST VERTICAL CURVE (K) MINIMUM	61	7	29
SAG VERTICAL CURVE (K) MINIMUM	79	17	49
MAXIMUM DESIGN SPEED (MPH)	45	18	35
2040 DESIGN TRAFFIC (VPD)	25,000	N/A	
CLEAR ZONE DISTANCE (FT)	21'-28'	5	16'-18'

# CITY OF LITTLETON PUBLIC WORKS DEPARTMENT

## CONSTRUCTION BID PLANS MINERAL MOBILITY IMPROVEMENTS PHASE 1 FEDERAL AID PROJECT NO. C M810-019(24364) CITY OF LITTLETON PROJECT CODE NO. 21-39 ARAPAHOE COUNTY, COLORADO

SHEET NO	INDEX OF SHEETS
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96-109	SIGNING AND STRIPING PLAN
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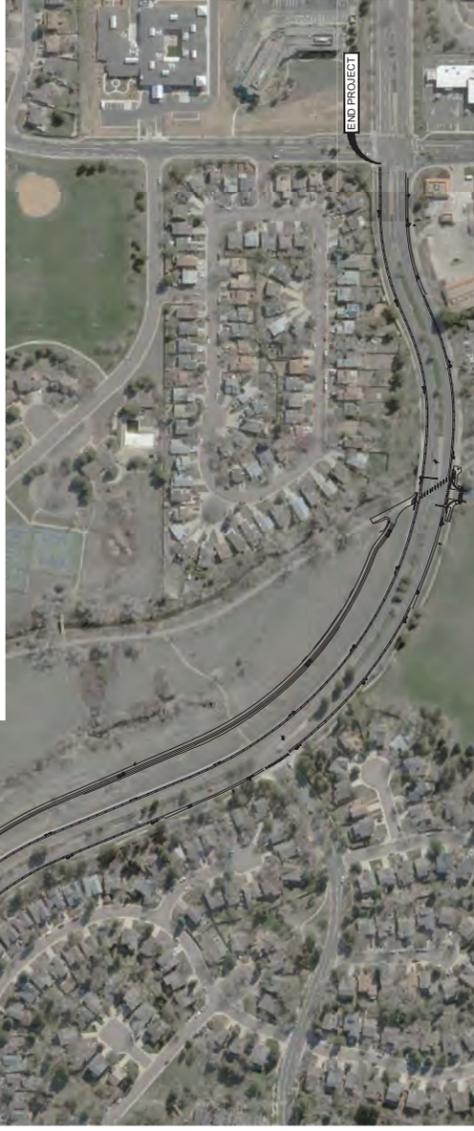
SUBSURFACE UTILITY PLAN
1 - 14 SUE PLAN (PROVIDED BY GOODBEE)



**PROJECT LOCATION MAP**

0 500 1000 Feet

**FOR ADVERTISEMENT  
JANUARY 2025**



Related Project:  
P.E. UNDER PROJECT: N/A  
Project Number: N/A  
Project Code:

R.O.W. Projects:  
Project Number: N/A  
Project Code: N/A

Print Date: 1/20/2025  
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Horiz. Scale: 1"=500'  
Vert. Scale: N/A

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Sheet Revisions		Date:	Init.
	Comments		

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As Constructed	MINERAL MOBILITY IMPROVEMENTS – BID 1	Project No./Code
No Revisions:	TITLE SHEET	C M810-019
Revised:	Designer: MJE	Structure Numbers
Void:	Detailer: MJE	24364
	Sheet Subset: TITLE	Sheet
		01 of 01

Sheet: 1

PLAN NUMBER	M. STANDARD TITLE	PAGE NUMBER	PLAN NUMBER	M. STANDARD TITLE	PAGE NUMBER	PLAN NUMBER	S. STANDARD TITLE	PAGE NUMBER
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<input checked="" type="checkbox"/> M-100-2	ACRONYMS AND ABBREVIATIONS (4 SHEETS).....	4-7	<input type="checkbox"/> M-606-13	GUARDRAIL TYPE 7 F-SHAPE BARRIER (4 SHEETS).....	98-101	<input type="checkbox"/> S-613-1	ROADWAY LIGHTING (6 SHEETS) (REVISED ON SEPTEMBER 30, 2020)	<del>179-186</del>
<input type="checkbox"/> M-203-1	APPROACH ROADS.....	8	<input type="checkbox"/> M-606-14	PRECAST TYPE 7 CONCRETE BARRIER (4 SHEETS) (REVISED ON FEBRUARY 9, 2023)	<del>102-104</del>	<input type="checkbox"/> S-613-2	ALTERNATIVE ROADWAY LIGHTING (4 SHEETS) (NEW, ISSUED ON SEPTEMBER 30, 2020)	
<input type="checkbox"/> M-203-2	DITCH TYPES.....	9	<input type="checkbox"/> M-606-15	GUARDRAIL TYPE 9 SINGLE SLOPE BARRIER (11 SHEETS) (REVISED ON FEBRUARY 17, 2023)	<del>105-115</del>	<input checked="" type="checkbox"/> S-613-3	PULL BOX DETAIL (2 SHEETS) (NEW, ISSUED ON APRIL 4, 2024)	
<input type="checkbox"/> M-203-11	SUPERELEVATION CROWNED AND DIVIDED HIGHWAYS (3 SHEETS).....	10-12	<input type="checkbox"/> M-607-1	WIRE FENCES AND GATES (3 SHEETS).....	116-118	<input checked="" type="checkbox"/> S-613-4	TRAFFIC SIGNAL ONE-LINE DIAGRAMS (6 SHEETS) (NEW, ISSUED ON JUNE 15, 2023)	
<input type="checkbox"/> M-203-12	SUPERELEVATION STREETS (2 SHEETS).....	13-14	<input type="checkbox"/> M-607-2	CHAIN LINK FENCE (3 SHEETS).....	119-121	<input type="checkbox"/> S-614-1	GROUND SIGN PLACEMENT (2 SHEETS)... (REVISED ON MARCH 1, 2024)	<del>187-188</del>
<input checked="" type="checkbox"/> M-206-1	EXCAVATION AND BACKFILL FOR STRUCTURES (2 SHEETS).....	15-16	<input type="checkbox"/> M-607-3	BARRIER FENCE.....	122	<input type="checkbox"/> S-614-2	CLASS I SIGNS... (REVISED ON MARCH 1, 2024)	<del>189</del>
<input type="checkbox"/> M-206-2	EXCAVATION AND BACKFILL FOR BRIDGES (2 SHEETS).....	17-18	<input type="checkbox"/> M-607-4	DEER FENCE, GATES, AND GAME RAMPS (7 SHEETS) (REVISED ON JULY 13, 2020)	<del>123-127</del>	<input type="checkbox"/> S-614-3	CLASS II SIGNS... (REVISED ON MARCH 1, 2024)	<del>190</del>
<input checked="" type="checkbox"/> M-208-1	TEMPORARY EROSION CONTROL (11 SHEETS) (REVISED ON MAY 16, 2024)	19-29	<input type="checkbox"/> M-607-10	PICKET SNOW FENCE.....	128	<input type="checkbox"/> S-614-4	CLASS III SIGNS (3 SHEETS)... (REVISED ON MARCH 1, 2024)	<del>191-193</del>
<input type="checkbox"/> M-210-1	MAILBOX SUPPORTS (2 SHEETS).....	30-31	<input type="checkbox"/> M-607-15	ROAD CLOSURE GATE (9 SHEETS).....	129-137	<input type="checkbox"/> S-614-5	BREAK-AWAY SIGN SUPPORT DETAILS FOR CLASS III SIGNS (2 SHEETS)	194-195
<input type="checkbox"/> M-214-1	NURSERY STOCK DETAILS.....	32	<input checked="" type="checkbox"/> M-608-1	CURB RAMPS (10 SHEETS).....	138-147	<input type="checkbox"/> S-614-6	CONCRETE FOOTINGS AND SIGN ISLANDS FOR CLASS III SIGNS (2 SHEETS)	196-197
<input type="checkbox"/> M-216-1	SOIL RETENTION COVERING (2 SHEETS).....	33-34	<input checked="" type="checkbox"/> M-609-1	CURBS, GUTTERS, AND SIDEWALKS (4 SHEETS).....	148-151	<input checked="" type="checkbox"/> S-614-8	TUBULAR STEEL SIGN SUPPORT DETAILS (7 SHEETS) (REVISED ON MARCH 1, 2024)	198-204
<input checked="" type="checkbox"/> M-412-1	CONCRETE PAVEMENT JOINTS (9 SHEETS) (REVISED ON JANUARY 31, 2022)	<del>35-39</del>	<input type="checkbox"/> M-611-1	CATTLE GUARD (2 SHEETS).....	152-153	<input type="checkbox"/> S-614-9	PEDESTRIAN PUSH-BUTTON POST ASSEMBLY (2 SHEETS) (SUPERSEDED ON JANUARY 23, 2020 BY S-614-45)	<del>205-206</del>
<input type="checkbox"/> M-412-2	CONCRETE PAVEMENT CRACK REPAIR (6 SHEETS) (REVISED ON SEPTEMBER 6, 2022)		<input type="checkbox"/> M-611-2	DEER GUARD (2 SHEETS).....	154-155	<input type="checkbox"/> S-614-10	MARKER ASSEMBLY INSTALLATIONS.....	207
<input type="checkbox"/> M-510-1	STRUCTURAL PLATE PIPE H-20 LOADING.....	40	<input type="checkbox"/> M-614-1	RUMBLE STRIPS (3 SHEETS).....	156-158	<input type="checkbox"/> S-614-11	MILEPOST SIGN DETAIL FOR HIGH SNOW AREAS.....	208
<input type="checkbox"/> M-601-1	SINGLE CONCRETE BOX CULVERT (CAST-IN-PLACE) (2 SHEETS).....	41-42	<input type="checkbox"/> M-614-2	SAND BARREL ARRAYS (2 SHEETS).....	159-160	<input type="checkbox"/> S-614-12	STRUCTURE NUMBER INSTALLATION (2 SHEETS).....	209-210
<input type="checkbox"/> M-601-2	DOUBLE CONCRETE BOX CULVERT (CAST-IN-PLACE) (2 SHEETS).....	43-44	<input type="checkbox"/> M-615-1	EMBANKMENT PROTECTOR TYPE 3.....	161	<input checked="" type="checkbox"/> S-614-14	FLASHING BEACON AND SIGN INSTALLATIONS (4 SHEETS). 211-214 (NEW, ISSUED ON APRIL 30, 2024)	
<input type="checkbox"/> M-601-3	TRIPLE CONCRETE BOX CULVERT (CAST-IN-PLACE) (2 SHEETS).....	45-46	<input type="checkbox"/> M-615-2	EMBANKMENT PROTECTOR TYPE 5.....	162	<input type="checkbox"/> S-614-15	CHAIN STATION SIGNAGE (1 SHEET) (NEW, ISSUED ON APRIL 30, 2024)	
<input type="checkbox"/> M-601-10	HEADWALL FOR PIPES.....	47	<input type="checkbox"/> M-616-1	INVERTED SIPHON.....	163	<input checked="" type="checkbox"/> S-614-20	TYPICAL POLE MOUNT SIGN INSTALLATIONS... (REVISED ON MARCH 1, 2024)	215
<input type="checkbox"/> M-601-11	TYPE "S" SADDLE HEADWALLS FOR PIPE.....	48	<input type="checkbox"/> M-620-1	FIELD LABORATORY CLASS 1.....	164	<input type="checkbox"/> S-614-21	CONCRETE BARRIER SIGN POST INSTALLATIONS. (2 SHEETS) (REVISED ON SEPTEMBER 21, 2020)	216-217
<input type="checkbox"/> M-601-12	HEADWALLS AND PIPE OUTLET PAVING.....	49	<input type="checkbox"/> M-620-2	FIELD LABORATORY CLASS 2 (2 SHEETS).....	165-166	<input checked="" type="checkbox"/> S-614-22	TYPICAL MULTI-SIGN INSTALLATIONS.....	218
<input type="checkbox"/> M-601-20	WINGWALLS FOR PIPE OR BOX CULVERTS (2 SHEETS)...	50-51	<input type="checkbox"/> M-620-11	FIELD OFFICE CLASS 1.....	167	<input type="checkbox"/> S-614-23	J-POST SIGN SUPPORT (3 SHEETS). (NEW, ISSUED ON MAR. 1, 2024)	
<input type="checkbox"/> M-603-1	METAL PIPE (4 SHEETS).....	52-55	<input type="checkbox"/> M-620-12	FIELD OFFICE CLASS 2.....	168	<input type="checkbox"/> S-614-40	TYPICAL TRAFFIC SIGNAL 30'-75' DOUBLE MAST ARMS... (REVISED ON JULY 22, 2022)	219-223
<input type="checkbox"/> M-603-2	REINFORCED CONCRETE PIPE.....	56	<input type="checkbox"/> M-629-1	SURVEY MONUMENTS (2 SHEETS).....	169-170	<input checked="" type="checkbox"/> S-614-40A	65'-75' SINGLE MAST ARMS (5 SHEETS) (REVISED ON JULY 22, 2022)	224-227
<input type="checkbox"/> M-603-3	PRECAST CONCRETE BOX CULVERT. (REVISED ON SEPTEMBER 10, 2020)	<del>57</del>				<input type="checkbox"/> S-614-41	ALTERNATIVE TRAFFIC SIGNAL 25'-55' SINGLE MAST ARMS (4 SHEETS) (REVISED ON JULY 22, 2022)	228-240
<input type="checkbox"/> M-603-4	CORRUGATED POLYETHYLENE PIPE (AASHTO M294) AND CORRUGATED POLYPROPYLENE PIPE (AASHTO M330) (2 sheets) (REVISED ON MARCH 7, 2022)					<input type="checkbox"/> S-614-42	TEMPORARY SPAN WIRE SIGNALS (13 SHEETS).....	241-244
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<input type="checkbox"/> M-603-6	STEEL REINFORCED POLYETHYLENE RIBBED PIPE (AASHTO MP 20).....	60				<input type="checkbox"/> S-614-44	TRAFFIC LOOP AND MISCELLANEOUS SIGNAL DETAILS.....	253-254
<input type="checkbox"/> M-603-10	CONCRETE AND METAL END SECTIONS.....	61				<input checked="" type="checkbox"/> S-614-45	PEDESTAL POLE SIGNALS (2 SHEETS).....	255-266
<input type="checkbox"/> M-603-12	TRAVERSABLE END SECTIONS AND SAFETY GRATES (3 SHEETS).....	62-64				<input type="checkbox"/> S-614-50	PEDESTRIAN PUSH-BUTTON POST ASSEMBLY DETAILS (6 SHEETS) (REVISED ON DECEMBER 3, 2020)	267-280
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<input type="checkbox"/> M-604-11	INLET, TYPE D.....	66				<input checked="" type="checkbox"/> S-627-1	DYNAMIC SIGN MONDTUBE STRUCTURES (14 SHEETS).....	290-313
<input type="checkbox"/> M-604-12	CURB INLET TYPE R (2 SHEETS).....	67-68				<input checked="" type="checkbox"/> S-630-1	PAVEMENT MARKINGS (11 SHEETS) (REV. APRIL 30, 2024)	314
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<input type="checkbox"/> M-604-25	VANE GRATE INLET (5 SHEETS). (REVISED ON FEBRUARY 3, 2023)	73-77				<input type="checkbox"/> S-630-4	FLASHING BEACON (PORTABLE) DETAILS.....	318-319
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**COLORADO**  
DEPARTMENT OF TRANSPORTATION  
**M&S STANDARDS PLANS LIST**  
July 31, 2019  
Revised on May 16, 2024

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

THE M&S STANDARD PLANS USED TO DESIGN THIS PROJECT ARE INDICATED BY A MARKED BOX , AND WILL BE ATTACHED TO THE PLANS. ALL OTHER M&S STANDARD PLANS ARE STILL ELIGIBLE FOR USE IN CONSTRUCTION IF APPROVED BY AN APPROPRIATE CDOT ENGINEER.

Print Date: 8/26/2024	Sheet Revisions		As Constructed		MINERAL MOBILITY IMPROVEMENTS – BID 1 M&S STANDARDS PLANS LIST		Project No./Code
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Horiz. Scale: N/A			Revised:		Detailer: MJE		24364
			Void:		Sheet Subset: MS		Sheet
					Subset Sheets: 01 of 01		2



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**GENERAL NOTES:**

**SURVEY**

1. SEE SURVEY CONTROL DIAGRAM FOR PROJECT CONTROL.

**UTILITIES:**

2. UTILITIES DEPICTED ON THESE PLANS IN ACCORDANCE WITH THEIR ACHIEVED "QUALITY LEVEL" AS DEFINED IN THE AMERICAN SOCIETY OF CIVIL ENGINEERS DOCUMENTATION ASCE 38. "STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA." RELIANCE UPON THESE DATA FOR RISK MANAGEMENT PURPOSES DURING BIDDING DOES NOT RELIEVE THE EXCAVATOR OR UTILITY OWNER FROM FOLLOWING ALL APPLICABLE UTILITY DAMAGE PREVENTION STATUTES, POLICIES, AND/OR PROCEDURES DURING EXCAVATION. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY HORIZONTAL AND VERTICAL LOCATIONS OF ALL UTILITIES PRIOR TO COMMENCING CONSTRUCTION AND TO NOTIFY THE ENGINEER OF ANY DISCREPANCY. ALL CONFLICTING UTILITIES SHALL BE EXPOSED BY THE CONTRACTOR PRIOR TO CONSTRUCTION AND INSPECTED BY THE ENGINEER TO VERIFY CONFORMANCE WITH THE PLANS. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATION OF UTILITY RELOCATION BY UTILITY COMPANIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING UTILITIES DURING CONSTRUCTION AND SHALL HOLD THE CITY OF LITTLETON HARMLESS FOR DAMAGES ARISING FROM THE CONTRACTOR'S FAILURE TO ADEQUATELY PROTECT EXISTING UTILITIES. FOR UTILITY LOCATES, THE CONTRACTOR SHALL CALL COLORADO 811 AT 1-800-922-1987 AT LEAST 2 WORKING DAYS (NOT INCLUDING THE INITIAL DAY OF CONTACT) PRIOR TO ANY DIGGING.

3. THE CONTRACTOR SHALL COORDINATE AND COOPERATE WITH THE CITY OF LITTLETON, AND ALL UTILITY COMPANIES INVOLVED, WITH REGARD TO RELOCATIONS OR ADJUSTMENTS OF EXISTING UTILITIES DURING CONSTRUCTION, AND TO ASSURE THAT THE WORK IS ACCOMPLISHED IN A TIMELY FASHION AND WITH A MINIMUM DISRUPTION OF SERVICE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING ALL PARTIES AFFECTED BY ANY DISRUPTION OF ANY UTILITY SERVICE.

4. THE CONTRACTOR SHALL SEQUENCE INSTALLATION OF UTILITIES IN SUCH A MANNER AS TO MINIMIZE POTENTIAL UTILITY CONFLICTS. IN GENERAL, STORM SEWER AND SANITARY SEWER SHOULD BE CONSTRUCTED PRIOR TO INSTALLATION OF THE WATER LINES AND DRY UTILITIES.

5. IT IS ESTIMATED THAT **40 HOURS OF 203-01597 POTHOLING** WILL BE REQUIRED ON THIS PROJECT. USE OF THE TERM "POTHOLING" SHALL NOT BE CONSTRUED TO IMPLY ANY PARTICULAR METHOD OF PROSPECTING. POTHOLING OF AN AREA SHALL TAKE PLACE AT LEAST 10 CALENDAR DAYS PRIOR TO COMMENCEMENT OF CONSTRUCTION OPERATIONS IN THAT AREA. HOURS APPROVED FOR PAYMENT UNDER THIS PAY ITEM SHALL BE AT THE DISCRETION OF THE CITY. PAYMENT FOR THIS SHALL BE MADE BY THE HOUR CONSISTENT WITH THE SPECIFICATIONS.

6. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO EXAMINE THE SITE FOR EVIDENCE OF FAILURES OF OR DEFICIENCIES IN UTILITY COMPANY FACILITIES AND TO IMMEDIATELY CALL ANY SUCH EVIDENCE OF PRE-EXISTING DAMAGE TO THE ATTENTION OF THE UTILITY COMPANY ALONG WITH PROPER DOCUMENTATION.

**CONSTRUCTION:**

7. ALL MATERIALS, WORKMANSHIP, AND CONSTRUCTION OF PUBLIC IMPROVEMENTS SHALL BE IN ACCORDANCE WITH THE COLORADO DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, DATED 2023 AND AS SUBSEQUENTLY REVISED; AND THE COLORADO DEPARTMENT OF TRANSPORTATION M&S STANDARD PLANS DATED JULY 2019 AND REVISED ACCORDINGLY. IN SO FAR AS THE SAME MAY APPLY AND IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS INCLUDED HEREIN.

8. ALL MATERIALS AND WORKMANSHIP SHALL BE SUBJECT TO INSPECTION BY THE CITY OF LITTLETON. THE CITY OF LITTLETON RESERVES THE RIGHT TO ACCEPT OR REJECT ANY SUCH MATERIALS AND WORKMANSHIP THAT DOES NOT CONFORM TO ITS STANDARDS AND SPECIFICATIONS.

9. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL LABOR AND MATERIALS NECESSARY FOR THE COMPLETION OF THE INTENDED IMPROVEMENTS SHOWN ON THESE DRAWINGS, OR DESIGNATED TO BE PROVIDED, INSTALLED, OR CONSTRUCTED, UNLESS SPECIFICALLY NOTED OTHERWISE.

10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS FOR ALL APPLICABLE AGENCIES. THE CONTRACTOR SHALL NOTIFY THE CITY OF LITTLETON AT LEAST 48 HOURS PRIOR TO THE START OF ANY EARTH DISTURBING ACTIVITY, OR CONSTRUCTION ON ANY PUBLIC IMPROVEMENTS.

11. THE CONTRACTOR SHALL HAVE ONE (1) SIGNED COPY OF THE APPROVED PLANS, ONE (1) COPY OF THE APPROPRIATE STANDARDS AND SPECIFICATIONS, AND A COPY OF ANY PERMITS AND EXTENSION AGREEMENTS NEEDED FOR THE JOB, ON-SITE AT ALL TIMES.

12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ASPECTS OF SAFETY INCLUDING, BUT NOT

LIMITED TO, EXCAVATION, TRENCHING, SHORING, TRAFFIC CONTROL, AND SECURITY.

13. IF DURING THE CONSTRUCTION PROCESS, CONDITIONS ARE ENCOUNTERED WHICH COULD INDICATE A SITUATION THAT IS NOT IDENTIFIED IN THE PLANS OR SPECIFICATIONS, THE CONTRACTOR SHALL IMMEDIATELY CONTACT THE CITY OF LITTLETON.

14. REMOVAL OF ASPHALT MAT, CURB AND GUTTER, CONCRETE PAVEMENT, AND CONCRETE SIDEWALK REQUIRED ON THIS PROJECT SHALL BE SAW CUT TO A VERTICAL EDGE AT ALL AREAS OF ASPHALT AND/OR CONCRETE.

15. COST OF SAWCUTTING WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE COST OF THE WORK.

16. REMOVAL OF CURB AND GUTTER AND SIDEWALK SHALL OCCUR AT THE NEAREST EXISTING JOINT. NO SECTION LESS THAN 5 FEET IN LENGTH WILL BE ALLOWED TO REMAIN IN PLACE. ANY CURB AND GUTTER WHICH IS TO REMAIN AND IS DAMAGED AS RESULT OF THE CONTRACTOR'S OPERATION SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.

17. LIMITS OF CONSTRUCTION SHALL BE CONFINED TO THE PUBLIC RIGHTS-OF-WAY, EASEMENTS, CONSTRUCTION LIMIT AREAS, AND AS DIRECTED BY THE ENGINEER IN THE FIELD.

18. THE CONTRACTOR SHALL NOT PARK ANY VEHICLES OR EQUIPMENT IN, OR DISTURB ANY AREAS NOT APPROVED BY THE ENGINEER.

19. REPAIR OF ANY DAMAGE TO EXISTING IMPROVEMENTS, IRRIGATION, OR LANDSCAPING THAT IS NOT SHOWN TO BE REMOVED OR RESET IN THE PLANS IS THE RESPONSIBILITY OF THE CONTRACTOR. ALL ASSOCIATED COSTS FOR THESE REPAIRS SHALL BE PAID FOR BY THE CONTRACTOR, AT NO EXPENSE TO THE PROJECT.

20. THE CONTRACTOR SHALL PROTECT ALL WORK AREAS AND FACILITIES FROM WATER AT ALL TIMES. AREAS AND FACILITIES SUBJECTED TO FLOODING, REGARDLESS OF THE SOURCE OF WATER, SHALL BE PROMPTLY DEWATERED AND RESTORED AT NO COST TO THE OWNER. THIS SHALL INCLUDE REMOVAL OF ANY DEBRIS CAUSED BY FLOODING.

21. ALL ITEMS REMOVED ON THE PROJECT SHALL BECOME THE PROPERTY OF THE CONTRACTOR UNLESS OTHERWISE NOTED. CONTRACTOR SHALL BE RESPONSIBLE FOR PROPER DISPOSAL OF ALL REMOVED ITEMS AT NO ADDITIONAL COST TO THE PROJECT.

22. THE CONTRACTOR SHALL BE RESPONSIBLE FOR KEEPING ROADWAYS FREE AND CLEAR OF ALL CONSTRUCTION DEBRIS AND DIRT TRACKED FROM THE SITE.

23. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RECORDING AS-BUILT INFORMATION ON A SET OF RECORD DRAWINGS KEPT ON THE CONSTRUCTION SITE, AND AVAILABLE TO THE CITY OF LITTLETON INSPECTOR AT ALL TIMES. AT THE END OF THE PROJECT AS-BUILT PLANS SHALL BE SUBMITTED TO THE CITY AND RECORDED.

24. DIMENSIONS FOR LAYOUT AND CONSTRUCTION ARE NOT TO BE SCALED FROM ANY DRAWING. IF PERTINENT DIMENSIONS ARE NOT SHOWN, CONTACT THE DESIGN ENGINEER FOR CLARIFICATION, AND ANNOTATE THE DIMENSIONS ON THE AS-BUILT RECORD DRAWINGS.

25. A MINIMUM OF 2 WEEKS PRIOR TO ANY WORK ON CURB AND GUTTER, MEDIANS, AND ADA RAMPS, THE CONTRACTOR SHALL PREPARE A MATERIALS AND METHOD STATEMENT DESCRIBING HOW THE WORK WILL BE ACCOMPLISHED, WITHOUT ADVANCE APPROVAL FROM THE ENGINEER. THE CONTRACTOR IS ONLY PERMITTED TO SAWCUT EXISTING PAVEMENT AT THE GUTTER PAN LINE AND SHALL NOT SAWCUT INTO THE EXISTING PAVEMENT, CURB AND GUTTER AND ADA RAMP WORK SHALL NOT COMMENCE UNTIL THE MATERIALS AND METHOD STATEMENT IS APPROVED BY THE ENGINEER.

**EARTHWORK:**

26. WATER SHALL BE USED AS A DUST PALLIATIVE WHERE REQUIRED. THE CONTRACTOR SHALL PROVIDE A WATER TRUCK ON-SITE FOR DUST CONTROL. LOCATIONS SHALL BE AS ORDERED AND WILL NOT BE PAID FOR SEPARATELY.

27. MOISTURE DENSITY CONTROL SHALL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE COST OF THE WORK. THE DEPTH OF MOISTURE DENSITY CONTROL SHALL BE AS FOLLOWS:

FULL DEPTH FOR EMBANKMENT MATERIAL  
6 INCHES FOR BASES OF CUTS AND FILLS

28. PRIOR TO FILL PLACEMENT, ALL ORGANIC MATTER SHALL BE REMOVED AND STOCKPILED, AND THE UNDERLYING SOILS SHALL BE SCARIFIED TO A MINIMUM DEPTH OF 6 INCHES AND COMPACTED TO THE REQUIREMENTS IN THE PROJECT SPECIFICATIONS. IF SOFT OR UNSTABLE AREAS ARE OBSERVED BY THE ENGINEER, THEY SHALL BE REPROCESSED TO ACHIEVE A STABLE PAYING PLATFORM. THE COST OF SCARIFYING, MOISTURE TREATMENT, AND RECOMPACTING WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE COST OF THE WORK.

29. ALL FILL MATERIALS SHALL BE TESTED AND APPROVED BY A MATERIALS TESTER PRIOR TO PLACEMENT. THE PLACEMENT OF ON-SITE FILL MATERIALS SHOULD BE MONITORED ON A FULL-TIME BASIS. QUALITY CONTROL TESTING MAY BE CONDUCTED AT AN INCREASED FREQUENCY TO ENSURE PROPER FILL PLACEMENT.

30. STOCKPIILING OF EARTHWORK MATERIALS SHALL NOT BE PERMITTED CLOSER THAN 5 FEET FROM THE TOP OF TEMPORARY SLOPES OR A DISTANCE EQUAL TO THE HEIGHT OF THE EXCAVATION SLOPE, WHICHEVER IS GREATER.

31. THE CONTRACT UNIT PRICE FOR UNCLASSIFIED EXCAVATION (COMPLETE-IN-PLACE) SHALL BE FULL COMPENSATION FOR ALL WORK NECESSARY TO COMPLETE THE ITEM INCLUDING CONSTRUCTION OF EMBANKMENTS, UNCLASSIFIED EXCAVATION, COMPACTION, MOISTURE CONTROL, COMPACTION OF BASES OF CUTS AND FILLS, PROOF-ROLLING, HAUL, AND DISPOSAL OF EXCESS EXCAVATED MATERIAL.

32. DISTURBED SURFACES SHALL BE LEFT IN A ROUGHENED CONDITION AT ALL TIMES DURING CONSTRUCTION.

**SURVEY MONUMENTS:**

33. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING ALL SURVEY MONUMENTS. THE CONTRACTOR SHALL MAKE ARRANGEMENTS WITH A LICENSED LAND SURVEYOR TO REFERENCE AND RESET ALL MONUMENTS THAT WILL BE AFFECTED BY CONSTRUCTION. SEE SURVEY TAB.

34. THE REFERENCING AND RESETTING OF SURVEY MONUMENTS SHALL BE IN ACCORDANCE WITH THE STATE OF COLORADO REGULATIONS. MONUMENT RECORDS SHALL BE FILED PER THE REGULATIONS WITH ONE COPY SUBMITTED TO THE COUNTY. MONUMENTS TO BE RESET SHALL NOT BE MEASURED AND PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE WORK.

**SIGNING, STRIPING, TRAFFIC CONTROL:**

35. THE CONTRACTOR SHALL SUBMIT A TRAFFIC CONTROL PLAN, IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), LATEST EDITION, TO THE CITY OF LITTLETON FOR APPROVAL PRIOR TO ANY CONSTRUCTION ACTIVITIES WITHIN, OR AFFECTING THE RIGHT-OF-WAY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ANY AND ALL TRAFFIC CONTROL DEVICES AS MAY BE REQUIRED BY THE CONSTRUCTION ACTIVITIES.

36. ALL WORK ZONE TRAFFIC CONTROL SHALL BE IN ACCORDANCE WITH THE MUTCD, LATEST EDITION, THE CURRENT COLORADO SUPPLEMENTS, AND THE APPROVED PLANS AND SPECIFICATIONS. ALL WORK ZONE TRAFFIC CONTROL DEVICES USED IN CONSTRUCTION ZONES SHALL BE REFLECTIVE AND IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS AND WITH CDOT'S LATEST SPECIFICATIONS.

37. THE CONTRACTOR INSTALLING SIGNS SHALL BE RESPONSIBLE FOR LOCATING AND PROTECTING ALL UNDERGROUND UTILITIES AT SIGN INSTALLATION LOCATIONS.

38. SPECIAL CARE SHALL BE TAKEN IN SIGN LOCATIONS TO ENSURE UNOBSTRUCTED VIEW OF EACH SIGN. LATERAL SIGN PLACEMENT SHALL BE A MINIMUM OF 2 FEET FROM THE FLOW LINE OF THE CURB, WHEN POSSIBLE.

**TRAFFIC SIGNAL:**

39. ALL EXISTING UTILITY LOCATIONS ARE APPROXIMATE. THE CONTRACTOR SHALL FIELD VERIFY THE EXACT LOCATION OF ALL UTILITIES BEFORE COMMENCING WORK AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MAY OCCUR BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY UNDERGROUND UTILITIES.

40. TRAFFIC SIGNAL MATERIALS AND INSTALLATION SHALL COMPLY WITH "STATE OF COLORADO STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION", THE "STATE OF COLORADO STANDARD PLANS, M AND S STANDARDS", THE "MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES", THE "NATIONAL ELECTRICAL CODE", AND ALL LOCAL ORDINANCES AND REGULATIONS THAT APPLY. ALL OF THE ABOVE REFERENCES SHALL USE THE VERSION CURRENT AS OF PROJECT AWARD.

41. THE LOCATION OF TRAFFIC SIGNAL PEDESTAL POLE AND PUSH BUTTONS SHALL BE PRE-APPROVED BY THE PROJECT ENGINEER PRIOR TO THE CONTRACTOR ORDERING SUCH DEVICES. LOCATES FOR THESE PAY ITEMS SHALL BE PERFORMED IN CONJUNCTION WITH THE SIGNAL POLE LOCATES.

42. CONTRACTOR'S SIGNAL ELECTRICIAN IS REQUIRED TO BE ON SITE, DURING AM & PM PEAK HOURS THE DAY AFTER A SIGNAL IS TURNED ON TO OBSERVE OPERATION AND MAKE ADJUSTMENTS AS NEEDED. THE ENGINEER MAY REQUIRE THE SIGNAL ELECTRICIAN TO BE ONSITE FOR ADDITIONAL HOURS AS DIRECTED.

43. 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.

Sheet Revisions		As Constructed		MINERAL MOBILITY IMPROVEMENTS – BID 1		Project No./Code	
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<p>1) A LICENSED JOURNEYMAN ELECTRICIAN SHALL BE ON SITE AT ALL TIMES THAT SIGNALIZATION WORK IS TAKING PLACE TO ENSURE PROPER CONSTRUCTION. THIS SHALL INCLUDE CONDUIT AND DRILLED SHAFT INSTALLATION.</p> <p>2) FOR WORK INSIDE THE TRAFFIC SIGNAL CABINET, SIGNAL AND SIGNAL BENCH TECHNICIANS SHALL BE MINIMUM INTERNATIONAL MUNICIPAL SIGNAL ASSOCIATION (IMSA) LEVEL II CERTIFIED. THIS INCLUDES THE COMPLETION OF TRAINING IN CONSTRUCTION, CORRECTIVE MAINTENANCE, AND SIGNAL TURN ON.</p> <p>3) FOR ALL WORK EXTERNAL TO THE SIGNAL CABINET, A MINIMUM IMSA LEVEL I TRAFFIC SIGNAL FIELD TECHNICIAN/ELECTRICIAN, OR TRAFFIC SIGNAL BENCH TECHNICIAN/SIGNAL TECHNICIAN, IS REQUIRED. A JOURNEYMAN ELECTRICIAN AND AN IMSA LEVEL II TRAFFIC SIGNAL ELECTRICIAN SHALL BE ON THE JOB SITE AT ALL TIMES THAT THE SIGNALIZATION WORK IS TAKING PLACE TO ENSURE PROPER CONSTRUCTION. FOR EACH JOURNEYMAN ELECTRICIAN PRESENT, A MAXIMUM OF THREE APPRENTICE ELECTRICIANS WILL BE ALLOWED FOR WORK.</p>	<p>57. 1/2 INCH PREFORMED JOINT MATERIAL SHALL BE APPLIED AROUND THE 6 INCHES OF LEVELING CONCRETE BENEATH SIGNAL POLES WHEN THE SIGNAL POLE IS INSTALLED IN EXISTING CONCRETE AND CONSIDERED INCIDENTAL TO THE WORK AND SHALL NOT BE PAID FOR SEPARATELY.</p> <p>58. THE CONTRACTOR SHALL PROVIDE THE CITY OF LITTLETON WITH AT LEAST FOUR (4) SETS OF EQUIPMENT SPECIFICATIONS/DESCRIPTIONS AND OBTAIN APPROVAL PRIOR TO ORDERING THE EQUIPMENT.</p> <p>59. ALL MANUALS, INSTALLATION GUIDES, AND ASSOCIATED EQUIPMENT SHALL BE PROVIDED TO THE ENGINEER AT TIME OF INSPECTION.</p> <p><b>REVEGETATION:</b></p> <p>60. THE CONTRACTOR SHALL SEED AND MULCH AREAS NOTED WITHIN THE SEEDING AND CONSTRUCTION LIMITS. ANY AREAS BEYOND THESE LIMITS DISTURBED BY CONSTRUCTION OPERATIONS SHALL BE SEEDED AND MULCHED AT THE CONTRACTOR'S EXPENSE. SEEDING AND MULCHING WILL BE PER THE STORMWATER MANAGEMENT PLANS (SWMP).</p> <p><b>BITUMINOUS PAVEMENT:</b></p> <p>61. ALL BITUMINOUS PAVING MATERIALS. CONSTRUCTION METHODS AND PROCEDURES SHALL CONFORM TO CDOT STANDARDS AND SPECIFICATIONS ALONG WITH THE CONTRACT PLANS AND SPECIFICATIONS.</p> <p>62. THE FOLLOWING SHALL BE FURNISHED WITH EACH BITUMINOUS PAVER, WHICH WILL BE USED ON ALL PASSES AND LIFTS OF BITUMINOUS PAVEMENT PLACED:</p> <ul style="list-style-type: none"> <li>- A SKI TYPE DEVICE AT LEAST 30 FT. IN LENGTH (60 FT. IN LENGTH FOR THE FINAL LIFT)</li> <li>- A JOINT MATCHING DEVICES</li> <li>- 1500 FT. OF CONTROL LINE STAKES. CONTROL LINE WILL BE PLACED AS DIRECTED BY THE ENGINEER.</li> </ul> <p>63. ANY LAYER OF BITUMINOUS PAVEMENT THAT IS TO HAVE A SUCCEEDING LAYER PLACED THEREON SHALL BE COMPLETED FULL WIDTH BEFORE SUCCEEDING LAYER IS PLACED.</p> <p>64. PAVING SHALL NOT START UNTIL SUBGRADE COMPACTION TESTS (INCLUDING PROOF ROLLING) ARE TAKEN AND ACCEPTED BY THE ENGINEER AND/OR THE CITY OF LITTLETON.</p> <p>65. FOR PRELIMINARY PLAN QUANTITIES OF BITUMINOUS MATERIALS, THE FOLLOWING RATES OF APPLICATION WERE USED:</p> <p>DILUTED EMULSIFIED ASPHALT (SLOW SETTING): AT 0.10 GAL. PER SQ. YD. (DILUTED) BITUMINOUS PAVEMENT: AT 110 LBS. PER SQ. YD. PER 1" THICKNESS AGGREGATE BASE COURSE: AT 133 LBS. PER CU. YD.</p> <p>66. A TACK COAT OF EMULSIFIED ASPHALT (SLOW SETTING) IS TO BE APPLIED BETWEEN PAVEMENT COURSES TO IMPROVE THE BOND. DILUTED EMULSIFIED ASPHALT FOR TACK COAT SHALL CONSIST OF 1 PART EMULSIFIED ASPHALT AND 1 PART WATER.</p> <p>67. WHEN MORE THAN ONE LIFT OF BITUMINOUS PAVEMENT IS BEING PLACED, LONGITUDINAL JOINTS SHALL BE OFFSET BY A MINIMUM OF 12" BETWEEN LIFTS.</p> <p>68. ALL ASPHALT PAVEMENT REQUIRED TO BE REMOVED WITHIN THE PROJECT LIMITS SHALL BECOME THE PROPERTY OF THE CONTRACTOR UNLESS NOTED OTHERWISE. THE REMOVED ASPHALT PAVEMENT SHALL BE DISPOSED OF OFF SITE, EXCEPT WHERE THE MATERIAL MAY BE USED AS FILL MATERIAL AS APPROVED BY THE CITY OF LITTLETON. WHEN THE MATERIAL IS TO BE USED AS FILL MATERIALS, THE MATERIAL SHALL BE BROKEN DOWN SO NO SECTIONS ARE LARGER THAN 6 INCHES IN DIMENSION. ADDITIONALLY, CONTRACTOR SHALL NOT USE RAP IN SUBSTITUTE FOR BASE COURSE.</p> <p>69. CONTRACTOR SHALL FIELD-VERIFY EXISTING ROADWAY CROWN PRIOR TO MILLING AND OVERLAYING OPERATIONS. ROADWAY CROWN LOCATION SHALL BE MAINTAINED IN FINAL CONDITION.</p> <p><b>ENVIRONMENTAL:</b></p> <p>70. THE CONTRACTOR MUST ASCERTAIN IF AN AIR POLLUTION EMISSION NOTICE (APEN) IS REQUIRED TO BE SUBMITTED TO THE COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT'S (CDPHE) AIR POLLUTION CONTROL DIVISION (APCD) FOR THIS OPERATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FILING THE APEN AND OBTAINING SAID PERMIT. IF REQUIRED, THE CONTRACTOR SHALL COMPLY WITH ALL CONDITIONS OF THE APEN AND ANY PERMITS ISSUED BY APCD FOR THIS PROJECT. THE CONTRACTOR SHALL CONTROL FUGITIVE DUST THROUGH IMPLEMENTATION OF SECTIONS 107.24, 209, AND 250 OF CDOT'S STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, AND APPLICABLE CDPHE REQUIREMENTS.</p>	<p>71. THE FOLLOWING BEST MANAGEMENT PRACTICES SHALL BE IMPLEMENTED DURING CONSTRUCTION:</p> <ul style="list-style-type: none"> <li>- MAINTAIN ENGINES AND EXHAUST SYSTEMS ON CONSTRUCTION EQUIPMENT AND VEHICLES IN GOOD WORKING ORDER. PROHIBIT TAMPERING WITH EQUIPMENT TO INCREASE HORSEPOWER OR DISABLING EMISSION CONTROL DEVICES. EQUIPMENT IS SUBJECT TO INSPECTION BY THE PROJECT MANAGER TO ENSURE MAINTENANCE IS CONDUCTED REGULARLY.</li> <li>- PROHIBIT UNNECESSARY IDLING OF CONSTRUCTION EQUIPMENT AND VEHICLES.</li> <li>- LOCATE STAGING AREAS AND STATIONARY CONSTRUCTION EQUIPMENT/DIESEL ENGINES AS FAR AS POSSIBLE FROM RESIDENCES AND OTHER SENSITIVE RECEPTORS.</li> <li>- COVER, WET, COMPACT, OR USE CHEMICAL STABILIZATION TO CONTROL DUST FROM DISTURBED AREAS AND EXCAVATED MATERIALS DURING CONSTRUCTION. MINIMIZE DISTURBED AREAS, PARTICULARLY DURING DRY WEATHER CONDITIONS, AND USE WIND BARRIERS AS APPROPRIATE.</li> <li>- CONTROL SOIL/SEDIMENT AT POINTS OF INGRESS/EGRESS AND USE VACUUM STREET SWEEPERS TO REMOVE SOIL TRACKED ONTO ADJACENT ROADWAYS.</li> </ul> <p>72. THE CONTRACTOR SHALL COMPLY WITH THE MIGRATORY BIRD TREATY ACT (MBTA) AT ALL TIMES. IF CONSTRUCTION ACTIVITY IS TO OCCUR BETWEEN FEBRUARY 15 AND AUGUST 31, CDOT'S REVISION OF SECTION 240 - PROTECTION OF MIGRATORY BIRDS SHALL BE FOLLOWED. IF AN ACTIVE RAPTOR NEST IS LOCATED IN OR NEAR THE PROJECT AREA, COLORADO PARKS AND WILDLIFE SHALL BE CONTACTED REGARDING THE USE OF SEASONAL BUFFERS TO PREVENT DISTURBANCE TO NESTING BIRDS DURING CONSTRUCTION.</p> <p>73. IF ANY PALEONTOLOGICAL OR ARCHAEOLOGICAL RESOURCES ARE UNCOVERED DURING THE PROJECT CONSTRUCTION ALL WORK SHALL BE STOPPED AND THE FOLLOWING SHALL BE NOTIFIED IMMEDIATELY FOR FURTHER DIRECTION AND/OR FOR A SITE VISIT.</p> <p>PALEO= NICOLE PEAVEY 303-757-9632, NICOLE.PEAVEY@STATE.CO.US ARCH= GREG WOLFF 303-757-9158, GREG.WOLFF@STATE.CO.US</p> <p>74. THERE SHALL BE NO DISTURBANCE TO PARKS OR OPEN SPACE AREAS, AND ACCESS TO THESE RESOURCES SHALL BE MAINTAINED AT ALL TIMES. A REASONABLE DETOUR SHALL BE IN PLACE WHILE IMPROVEMENTS TO THE MINERAL AVENUE TRAIL AND THE HIGH LINE CANAL TRAIL ARE BEING CONSTRUCTED.</p> <p>75. TO REDUCE THE SPREAD OF NOXIOUS WEED SPECIES, AND TO REDUCE THE INTRODUCTION OF OTHER NOXIOUS WEED SPECIES IN THE AREA, STANDARD BEST MANAGEMENT PRACTICES WILL BE FOLLOWED INCLUDING:</p> <ul style="list-style-type: none"> <li>- EQUIPMENT ENTERING AND LEAVING THE PROJECT AREA WILL BE INSPECTED AS BEING FREE OF MUD AND VEGETATION MATERIALS CAPABLE OF MOVING WEED SEED. ANY VEHICLE FOUND TO BE TRANSPORTING MUD AND VEGETATION CAPABLE OF MOVING WEED SEED SHALL BE THOROUGHLY CLEANED BEFORE ENTERING OR LEAVING THE PROJECT AREA.</li> <li>- SOIL DISTURBANCE WILL BE MINIMIZED TO THE GREATEST EXTENT POSSIBLE.</li> <li>- DISTURBED SOIL WILL BE RE-SEEDED WITH A WEED FREE SEED MIX (OR STABILIZED AS PRESCRIBED IN THE PLANS AND SPECIFICATIONS) AS SOON AS POSSIBLE AFTER COMPLETION OF WORK.</li> </ul> <p>76. THE FOLLOWING MEASURES SHALL BE TAKEN TO THE EXTENT PRACTICABLE TO AVOID, MINIMIZE, AND MITIGATE TEMPORARY ADVERSE NOISE IMPACTS FROM CONSTRUCTION ACTIVITIES:</p> <ul style="list-style-type: none"> <li>- USE ALTERNATIVE CONSTRUCTION METHODS OR EQUIPMENT THAT PRODUCE LESS NOISE, INCLUDING ELECTRICALLY POWERED EQUIPMENT.</li> <li>- RESCHEDULE CONSTRUCTION OPERATIONS TO OCCUR DURING DAYTIME HOURS.</li> <li>- NOTIFY NEIGHBORS IN ADVANCE WHEN CONSTRUCTION NOISE MAY OCCUR.</li> <li>- KEEP NOISY ACTIVITIES AND STATIONARY EQUIPMENT AS FAR FROM SENSITIVE RECEPTORS AS POSSIBLE.</li> <li>- PROHIBIT UNNECESSARY IDLING OF CONSTRUCTION EQUIPMENT AND VEHICLES.</li> <li>- MAINTAIN EXHAUST SYSTEMS ON EQUIPMENT IN GOOD WORKING ORDER. ALL CONSTRUCTION EQUIPMENT IS SUBJECT TO INSPECTION BY THE CONSTRUCTION PROJECT MANAGER TO ENSURE MAINTENANCE IS BEING CONDUCTED. EQUIPMENT AND VEHICLES WITHOUT MUFFLED EXHAUST SYSTEMS WILL NOT BE ALLOWED ON THE WORK SITE.</li> <li>- USE PROPERLY DESIGNED ENGINE ENCLOSURES AND EMPLOY TEMPORARY ACOUSTIC BARRIERS AROUND STATIONARY CONSTRUCTION NOISE SOURCES.</li> </ul> <p>77. METAL POLES IN THE PROJECT AREA WERE TESTED AND REPORTEDLY PAINTED WITH LEAD-BASED PAINT AS DESCRIBED IN THE INITIAL SITE ASSESSMENT (ISA). REMOVAL, DISPOSAL, OR RECYCLING OF PAINTED ITEMS SHALL BE DONE IN COMPLIANCE WITH SECTION 250 - ENVIRONMENTAL HEALTH &amp; SAFETY MANAGEMENT (INCLUDING, BUT NOT LIMITED TO, SECTION 250.04) OF CDOT'S STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION AND ALL APPLICABLE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION, LOCAL, STATE, AND FEDERAL REGULATIONS.</p> <p>78. BEFORE DEMOLISHING ANY STRUCTURES OR REMOVING UTILITY LINES, THE CONTRACTOR SHALL DETERMINE THE PRESENCE OR ABSENCE OF SUSPECT ASBESTOS-CONTAINING MATERIALS IF NOT PREVIOUSLY IDENTIFIED. IF ASBESTOS IS PRESENT, THE CONTRACTOR</p>	<p>As Constructed</p> <p>No Revisions:</p> <p>Revised:</p> <p>Void:</p>	<p>MINERAL MOBILITY IMPROVEMENTS – BID 1 GENERAL NOTES</p> <p>Designer: MJE Detailer: MJE Sheet Subset: GEN</p> <p>Structure Numbers Subset Sheets:</p> <p>N/A N/A 02 of 03</p>	<p>Project No./Code C M810-019 24364 4</p>									
<p>44. THE REMOVAL OF EXISTING SIGNAL EQUIPMENT SHALL INCLUDE ALL BASES TO 2' BELOW THE FINISHED GRADE PER CDOT SPECIFICATIONS, THE EXISTING CONTROL CABINET AND ITS BASE, POLES, MAST ARMS, SIGNAL FACES, PEDESTRIAN PUSH BUTTONS, PEDESTRIAN POLES, PULL BOXES, 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 "202-00828 REMOVAL OF TRAFFIC SIGNAL EQUIPMENT". EXISTING MAST ARM FOR REMOVED SIGNAL POLE SHALL BE SALVAGED TO THE CITY'S BELLEVUE SERVICE CENTER AT 1800 W BELLEVUE AVENUE, LITTLETON, CO 80120 (CONTACT JAMES FUCHSBERGER (303-748-3947).</p> <p>45. UNIFORMED TRAFFIC CONTROL SHALL BE UTILIZED FOR ANY AND ALL FLAGGING NECESSARY WITHIN THE SIGNALIZED INTERSECTION.</p> <p>46. CONDUIT, PULL BOX, CONTROLLER CABINET, AND DETECTOR LOCATIONS ARE APPROXIMATE AS SHOWN IN THE PLANS. FINAL LOCATIONS OF THESE ITEMS SHALL CONFORM TO MUTCD, AND CDOT STANDARDS AND SHALL BE APPROVED BY THE PROJECT ENGINEER PRIOR TO INSTALLATION.</p> <p>47. A 1.5 INCH WIDE BORDER OF TYPE XI MATERIAL SHALL BE APPLIED TO THE ENTIRE PERIMETER OF ALL BACK PLATES. THE BACK PLATE VENTS SHALL BE REDUCED BY TWO, LEAVING TWO TO ALLOW FOR AIR PASSAGE. MATERIAL SHALL CONFORM TO THE FHWA 2011 TRAFFIC SIGN RETROREFLECTIVE SHEETING IDENTIFICATION GUIDE. THIS SHALL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE COST OF THE SIGNAL HEADS.</p> <p>48. WHERE EXISTING CONDUIT RUNS SHALL BE EXTENDED TO NEW POLE LOCATIONS IT MAY BE NECESSARY TO ADJUST, RELOCATE, OR EXTEND CONDUITS AND/OR PULL BOXES FROM WHAT IS SHOWN ON THE PLANS, BASED ON FIELD CONDITIONS. ALL CONDUIT AND PULL BOX WORK SHALL BE INCLUDED IN THE COST OF THE CONDUIT INSTALLATION OR RESET ITEMS AS APPROPRIATE. THESE COSTS SHALL NOT BE BILLED SEPARATELY. SPLICING OF WIRING TO ACCOMMODATE LONGER CONDUIT RUNS WILL NOT BE ALLOWED.</p> <p>49. COMMUNICATIONS TO THE PERMANENT TRAFFIC SIGNAL CONTROLLER AND ITS DEVICES SHALL BE MAINTAINED AND REMAIN IN OPERATION THROUGH ALL PHASES OF CONSTRUCTION. ANY TEMPORARY OUTAGES REQUIRED SHALL BE COORDINATED WITH THE CITY OF LITTLETON TWO WEEKS IN ADVANCE OF COMMUNICATION OUTAGES.</p> <p>50. USE CDOT STANDARD PLAN S-614-40 FOR SIGNAL POLES CARRYING MAST ARMS GREATER THAN 55' IN LENGTH AND S-614-40A FOR ALL SIGNAL POLES CARRYING MAST ARMS 55' OR LESS. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT BOLT PATTERNS FOR ALL TRAFFIC SIGNAL POLES TO BE INSTALLED OR RESET MATCH WITH THEIR INTENDED FOUNDATIONS.</p> <p>51. ELECTRICAL CONDUIT AND 90° ELBOWS SHALL BE SCHEDULE 80 PVC.</p> <p>52. BORED CONDUIT MUST BE UL-LISTED.</p> <p>53. CONTRACTOR SHALL PROVIDE OPERATION AND MAINTENANCE OF TRAFFIC SIGNAL BETWEEN START OF WORK AND ACCEPTANCE BY THE CITY OF LITTLETON. THE CITY OF LITTLETON WILL NOT BE RESPONDING TO TROUBLE CALLS.</p> <p>54. IF A TRAFFIC SIGNAL IS NOT FUNCTIONING PROPERLY, THE CONTRACTOR MUST BE ON-SITE WITHIN ONE HOUR OF NOTIFICATION. REPAIR TIME/TEMPORARY OPERATION TIME SHALL BE COMPLETED WITHIN SIX HOURS.</p> <p>55. ALL VEHICLE INDICATIONS SHALL BE APPROVED SOLID STATE LED TYPE.</p> <p>56. THE SIGNAL SHALL NOT BE PUT IN FLASH MODE OR MADE FULLY OPERATIONAL UNTIL THE CITY OF LITTLETON HAS INSPECTED AND APPROVED THE INSTALLATION AND ALL REGULATORY SIGNING AND PAVEMENT MARKINGS ARE IN PLACE.</p>	<p>61. ALL BITUMINOUS PAVING MATERIALS. CONSTRUCTION METHODS AND PROCEDURES SHALL CONFORM TO CDOT STANDARDS AND SPECIFICATIONS ALONG WITH THE CONTRACT PLANS AND SPECIFICATIONS.</p> <p>62. THE FOLLOWING SHALL BE FURNISHED WITH EACH BITUMINOUS PAVER, WHICH WILL BE USED ON ALL PASSES AND LIFTS OF BITUMINOUS PAVEMENT PLACED:</p> <ul style="list-style-type: none"> <li>- A SKI TYPE DEVICE AT LEAST 30 FT. IN LENGTH (60 FT. 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<p>Print Date: 8/22/2024</p> <p>File Name: LITN0001_RH_BID-1-GenNotes01.dwg</p> <p>Horiz. Scale: N/A</p> <p>Vert. Scale: N/A</p> <p><b>DAVID EVANS AND ASSOCIATES INC.</b> 1600 Broadway Street Suite 600 Denver, Colorado 80202 Phone: 720.946.0969</p>	<p>Sheet Revisions</p> <table border="1"> <thead> <tr> <th>Date:</th> <th>Comments</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> </tr> <tr> <td></td> <td></td> </tr> <tr> <td></td> <td></td> </tr> <tr> <td></td> <td></td> </tr> </tbody> </table>	Date:	Comments									<p>Public Works Dept. 2255 W. Berry Avenue Littleton, CO 80120 PHONE 303-795-3863 FAX 303-795-3856</p>	<p>As Constructed</p> <p>No Revisions:</p> <p>Revised:</p> <p>Void:</p>	<p>Project No./Code C M810-019 24364 4</p>
Date:	Comments													

SHALL CONDUCT ABATEMENT IN ACCORDANCE WITH SECTION 250 - ENVIRONMENTAL, HEALTH, AND SAFETY MANAGEMENT OF CDOT'S STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION. THE CDOT AIR QUALITY CONTROL COMMISSION'S REGULATION 8, AND RELEVANT OSHA AND OTHER STATE AND FEDERAL REQUIREMENTS.

79. CONTAMINATED SOIL IS NOT ANTICIPATED TO BE ENCOUNTERED AS PART OF THIS PROJECT. HOWEVER, IF CONTAMINATION IS ENCOUNTERED DURING CONSTRUCTION ACTIVITIES, WORK SHALL STOP IMMEDIATELY, AND THE PROCEDURES OUTLINED IN SECTION 250 - ENVIRONMENTAL, HEALTH, AND SAFETY MANAGEMENT OF CDOT'S STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION SHALL BE USED.

80. TREE PROTECTION SHALL BE MAINTAINED WITH FENCE (PLASTIC), PROTECTION SHALL MEET OR EXCEED REQUIREMENTS OF THE CITY OF LITTLETON'S TREE MANUAL (2023) AND SHALL BE PAID FOR UNDER ITEM **212-00100 TREE RETENTION AND PROTECTION (LUMP SUM)**.

81. EXISTING LANDSCAPE IRRIGATION FOR TREES ALONG THE MINERAL TRAIL SHALL BE PROTECTED. SHOULD LANDSCAPE IRRIGATION REQUIRE REMOVAL, RESET, OR REPLACEMENT TO ACCOMMODATE THE PROPOSED CONDITION, THE CONTRACTOR SHALL DO SO UNDER THE REQUIREMENTS OF F/A SPRINKLERS WITH APPROVAL OF THE ENGINEER.

**MATERIALS**  
82. PCCP SHALL HAVE A COMPRESSIVE STRENGTH OF 2,500 PSI BEFORE BEING OPENED TO TRAFFIC.

83. PCCP SLAB REMOVAL SHALL FOLLOW M-412-2 OR PER THE ENGINEER.

84. ALL CONCRETE SHALL UTILIZE MIXES FROM THE CDOT APPROVED MIX DESIGN LIST.

85. THE CONCRETE PAVEMENT SHALL UTILIZE CLASS P CONCRETE.

86. PCCP ACCEPTANCE SHALL UTILIZE COMPRESSIVE STRENGTH CRITERIA.

87. FOR GUTTERS ADJACENT TO EXISTING PAVEMENT, THE NEW GUTTER THICKNESS SHALL MATCH THE THICKNESS OF THE REMOVED GUTTER AND THE EXISTING PAVEMENT.

88. RECLAIMED ASPHALT PAVEMENT (RAP), ASPHALT MILLINGS, OR ASPHALT IN ANY FORM WHATSOEVER SHALL NOT BE SUBSTITUTED FOR AGGREGATE BASE COURSE (ABC) CLASS 6.

89. ALL COMPACTION WITHIN THE PAVEMENT PRISM SHALL BE PER SECTION 203 OF THE CDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION CURRENT AS OF PROJECT AWARD OR PER THE ENGINEER.

90. THIS PROJECT IS NOT SUBJECT TO INCENTIVE/DISINCENTIVE PAYMENTS FOR ASPHALT QUALITY OR FOR PAVEMENT SMOOTHNESS. THE CONTRACTOR SHALL ADJUST THE BID PRICE FOR ASPHALT ACCORDINGLY.

91. PAVEMENT SMOOTHNESS SHALL BE EVALUATED PER 105.07 (a) 2 OF THE LATEST AVAILABLE CDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION AS OF PROJECT AWARD.

92. MILLED SURFACES SHALL NOT BE LEFT EXPOSED AT THE END OF A WORKING DAY. MILLED SURFACES SHALL BE REPAVED WITHIN THE SAME WORKING DAY.

93. THE COLORANT FOR ANY COLORED CONCRETE SHALL BE INCORPORATED INTO THE INITIAL CONCRETE MIX DESIGN.

94. SAW CUTTING OF EXISTING PAVEMENT THAT RESULTS IN POOR ASPHALT COMPACTION OR THAT WHICH RESULTS IN A LONGITUDINAL JOINT IN THE WHEEL PATH OF EXISTING PAVEMENT SHALL BE SUBJECT TO FULL LANE WIDTH MILLING AND OVERLAY. WHEEL PATH IS DEFINED IN SECTION 101.02 OF THE STANDARD SPECIFICATIONS. WHETHER FULL-WIDTH MILLING AND OVERLAY IS REQUIRED SHALL BE DETERMINED BY THE PROJECT MANAGER/INSPECTOR AND THE ENGINEER.

95. ASPHALT LONGITUDINAL JOINTS SHALL BE CONSTRUCTED 6 TO 12 INCHES FROM CENTERLINES, LANE LINES, AND OUTSIDE EDGE OF TRAVEL LANES, SUCH THAT LONGITUDINAL JOINTS ARE NOT LOCATED IN THE WHEEL PATHS.

96. LONGITUDINAL JOINTS SHALL FOLLOW SECTION 401.16 OF THE CDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION AS OF PROJECT AWARD.

97. PAVING OF AREAS LESS THAN 8 FEET IN WIDTH SHALL BE PAID FOR AS HOT MIX ASPHALT (PATCHING) (ASPHALT). LOCATIONS SHALL BE AGREED UPON BY THE CONTRACTOR AND THE ENGINEER AT LEAST TWO WEEKS PRIOR TO ANY PAVING OR THE PRE-PAVE MEETING, WHICHEVER IS EARLIER. APPLICATION OF THIS PROVISION SHALL BE PER THE ENGINEER. IT IS ESTIMATED THAT **200 TONS OF ITEM 403-00720 HOT MIX ASPHALT (PATCHING) (ASPHALT)** WILL BE REQUIRED.

98. HOT MIX ASPHALT (HMA) PATCHING SHALL BE TO THE DEPTH OF THE SURROUNDING EXISTING PAVEMENT AS DIRECTED BY THE ENGINEER. ALL LIFTS OF PATCHING SHALL CONFORM TO THE REQUIREMENTS OF HMA (GRADING SX)(75)(PG 64-22) AND SHALL MATCH THE EXISTING LIFT THICKNESS. THE MINIMUM AND MAXIMUM LIFT THICKNESS SHALL BE 2 AND 3 INCHES, RESPECTIVELY. THE THICKNESS OF EACH LIFT SHALL BE LESS THAN OR EQUAL TO THE THICKNESS OF THE LIFT DIRECTLY BENEATH IT. ALL PATCHING SHALL BE PER THE ENGINEER.

99. TO PROVIDE FOR ADEQUATE SULFATE RESISTANCE IN ALL CONCRETE SUPPLIED, SEVERITY OF POTENTIAL EXPOSURE SHALL BE CLASS 2 FOR THIS PROJECT. THE CONTRACTOR MAY AT THEIR OWN EXPENSE HAVE A CERTIFIED LABORATORY TEST THE SUBGRADE AS PER THE CDOT FIELD MATERIAL MANUAL. TESTING SHALL BE AT THE SAME SCHEDULE AND FREQUENCY AS REQUIRED FOR A PRELIMINARY SOIL SURVEY. THE CONTRACTOR MAY PROPOSE A DIFFERENT CLASS OF EXPOSURE FOR THE PROJECT BASED ON THOSE TEST RESULTS.

100. ALL IMPORTED EMBANKMENT MATERIAL, STRUCTURAL BACKFILL, TOPSOIL, ETC. SHALL HAVE WATER-SOLUBLE SULFATE (SO4) IN DRY SOIL CONCENTRATIONS LESS THAN OR EQUAL TO 2% AND SULFATE (SO4) IN WATER CONCENTRATIONS LESS THAN OR EQUAL TO 10,000 PPM.

**GENERAL:**

101. THE FOLLOWING ITEMS ARE REQUIRED:

ITEM NO. 201-00001	CLEARING AND GRUBBING	3 ACRES
ITEM NO. 217-00020	HERBICIDE TREATMENT	16 HOURS
ITEM NO. 240-00000	WILDLIFE BIOLOGIST	16 HOURS
ITEM NO. 607-11525	FENCE (PLASTIC)	590 LF
ITEM NO. 625-00000	CONSTRUCTION SURVEYING	1 LUMP SUM
ITEM NO. 626-00000	MOBILIZATION	1 LUMP SUM
ITEM NO. 626-01114	PUBLIC INFORMATION MANAGEMENT (TIER IV)	144 DAYS

102. AT NO TIME SHOULD THE BLUNT END OF GUARDRAIL, BARRIER, END TREATMENT, ETC. BE EXPOSED TO ONCOMING TRAFFIC.

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Sheet Revisions

Date:	Comments	Init.

As Constructed

No Revisions:

Revised:

Void:

MINERAL MOBILITY IMPROVEMENTS - BID 1  
GENERAL NOTES

DESIGNER: MJE  
DETAILER: MJE  
SHEET SUBSET: GEN



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Project No./Code

C M810-019

Structure Numbers

24364

Sheet 5

03 of 03

Subset Sheets:

03 of 03

Summary of Approximate Quantities

CONTRACT ITEM NO.	CONTRACT ITEM	UNIT	ROADWAY		STRUCTURES		DRAINAGE		TRAFFIC		PROJECT TOTALS		NOTES
			PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	
201-00001	Clearing and Grubbing	ACRE	3								3		
202-00010	Removal of Tree	EACH	1								1		
202-00200	Removal of Sidewalk	SY	291								291		
202-00203	Removal of Curb and Gutter	LF	498								498		
202-00206	Removal of Concrete Curb Ramp	SY	109								109		
202-00210	Removal of Concrete Pavement	SY	295								295		
202-00240	Removal of Asphalt Mat (Planning)	SY	8489								8489		
202-00250	Removal of Pavement Marking	SF				6000					6000		
202-00806	Removal of Walkway	LF	26								26		
202-00810	Removal of Ground Sign	EACH				4					4		
202-00821	Removal of Sign Panel	EACH				7					7		
202-00828	Removal of Traffic Signal Equipment	L S				1					1		
202-00830	Removal of Traffic Signal Face	EACH				4					4		
202-04005	Clean Valve Box	EACH	17								17		
203-00010	Unclassified Excavation (Complete in Place)	CY	3160								3160		
203-01597	Potholing	HOURL	40								40		
206-00000	Structure Excavation	CY			47						47		
206-00200	Structure Backfill (Class 2)	CY			46						46		
207-00700	Topsoil (Onsite)	CY					1193				1193		
208-00002	Erosion Log Type 1 (12 Inch)	LF					8430				8430		
208-00035	Aggregate Bag	LF					112				112		
208-00045	Concrete Washout Structure	EACH					1				1		
208-00052	Storm Drain Inlet Protection (Type II)	LF					48				48		
208-00070	Vehicle Tracking Pad	EACH					1				1		
208-00071	Maintenance Aggregate (Vehicle Tracking Pad)	CY					12				12		
208-00103	Removal and Disposal of Sediment (Labor)	HOURL					60				60		
208-00105	Removal and Disposal of Sediment (Equipment)	HOURL					60				60		
208-00106	Sweeping (Sediment Removal)	HOURL					40				40		
208-00107	Removal of Trash	HOURL					100				100		
208-00207	Erosion Control Management	DAY					20				20		
210-00760	Reset Luminaire	EACH							1		1		
210-00809	Reset Blankout Sign (Fiber Optic)	EACH							1		1		
210-00810	Reset Ground Sign	EACH							9		9		

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File Name: LITN0001_SAQ-BID-1.dwg	Date:	No Revisions:	SUMMARY OF APPROXIMATE QUANTITIES	C M810-019
Horiz. Scale: N/A	Comments	Revised:	Designer: MJE	Structure Numbers
Vert. Scale: N/A	Init.	Void:	Detailer: MJE	24364
 DAVID EVANS AND ASSOCIATES INC. 1600 Broadway Street Suite 600 Denver, Colorado 80202 Phone: 720.946.0969	 Littleton Colorado PUBLIC WORKS DEPT. 2255 W. Berry Avenue Littleton, CO 80120 PHONE 303-795-3863 FAX 303-795-3856	Sheet Subsets: SAQ Subsets: 01 of 04 Sheet 6		

Summary of Approximate Quantities

CONTRACT ITEM NO.	CONTRACT ITEM	UNIT	ROADWAY		STRUCTURES		DRAINAGE		TRAFFIC		PROJECT TOTALS		NOTES
			PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	
210-00815	Reset Sign Panel	EACH								4		4	
210-00827	Reset Pull Box	EACH	2									2	
210-04010	Adjust Manhole	EACH	2									2	
210-04050	Adjust Valve Box	EACH	17									17	
212-00100	Tree Retention and Protection	L S	1									1	
212-00700	Organic Fertilizer	LB					666					666	
212-00701	Compost (Mechanically Applied)	CY					145					145	
212-00703	Humate	LB					444					444	
212-00706	Seeding (Native) Drill	ACRE					2.22					2.22	
213-00002	Mulching (Weed Free Hay)	ACRE					2.22					2.22	
213-00061	Mulch Tackifier	LB					444					444	
215-00010	Transplant Tree	EACH	8									8	
217-00020	Herbicide Treatment	HOURL	16									16	
240-00000	Wildlife Biologist	HOURL	16									16	
304-06007	Aggregate Base Course (Class 6)	CY	1336									1336	
403-00720	Hot Mix Asphalt (Patching) (Asphalt)	TON	200									200	
403-33741	Hot Mix Asphalt (Grading S) (75) (PG 64-22)	TON	376									376	
403-34741	Hot Mix Asphalt (Grading SX) (75) (PG 64-22)	TON	923									923	
412-01000	Concrete Pavement (10 Inch)	SY	95									95	
503-00012	Drilled Shaft (12 Inch)	LF							7			7	
503-00042	Drilled Shaft (42 Inch)	LF							17			17	
504-08255	Masonry Landscape Wall (Dry Stack)	SF			1139							1139	
607-11525	Fence (Plastic)	LF					590					590	
608-00006	Concrete Sidewalk (6 Inch)	SY	7057									7057	
608-00010	Concrete Curb Ramp	SY	123									123	
608-01600	Aggregate Walkway	SY	31									31	
609-20010	Curb Type 2 (Section B)	LF	21									21	
609-21020	Curb and Gutter Type 2 (Section II-B)	LF	670									670	
609-40120	Curb (Median) (Special)	SY	17									17	
609-71000	Curb (Special)	LF	292									292	
610-00020	Median Cover Material (Patterned Concrete)	SF	89									89	
613-00206	2 Inch Electrical Conduit (Bored)	LF							140			140	
613-00306	3 Inch Electrical Conduit (Bored)	LF							50			50	

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Vert. Scale: N/A	Init.	Void:	Detailer: MJE	24364
			Sheet Subset: SAQ	Sheet
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Summary of Approximate Quantities

CONTRACT ITEM NO.	CONTRACT ITEM	UNIT	ROADWAY		STRUCTURES		DRAINAGE		TRAFFIC		PROJECT TOTALS		NOTES
			PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	
613-01200	2 Inch Electrical Conduit (Plastic)	LF								440		440	
613-01300	3 Inch Electrical Conduit (Plastic)	LF								240		240	
613-07003	Type Three Pull Box	EACH								1		1	
613-10000	Wiring	LS								1		1	
614-00011	Sign Panel (Class I)	SF								140		140	
614-00012	Sign Panel (Class II)	SF								140		140	
614-00216	Steel Signpost (2x2 Inch Tubing)	LF								290		290	
614-01554	Steel Signpost (4 Inch Round) (Slipbase)	LF								39		39	
614-01572	Steel Sign Support (2-1/2 Inch Round NP-40)(Post & Slipbase)	LF								170		170	
614-10160	Signal Head Backplates	EACH								3		3	
614-70150	Pedestrian Signal Face (16) (Countdown)	EACH								1		1	
614-70336	Traffic Signal Face (12-12-12)	EACH								5		5	
614-70448	Traffic Signal Face (12-12-12-12)	EACH								1		1	
614-72858	Pedestal Pole (3 Foot 6 Inch)	EACH								1		1	
614-72860	Pedestrian Push Button	EACH								5		5	
614-80001	Flashing Beacon (Solar Powered)	EACH								5		5	
614-81011	Traffic Signal-Light Pole Steel (1 Mast Arm) (Install Only)	EACH								1		1	
625-00000	Construction Surveying	LS								1		1	
626-00000	Mobilization	LS								1		1	
626-01114	Public Information Management (Tier IV)	DAY								144		144	
627-00008	Modified Epoxy Pavement Marking	GAL								180		180	
627-00070	Preformed Thermoplastic Pavement Marking	SF								140		140	
627-30405	Preformed Thermoplastic Pavement Marking (Word- Symbol)	SF								1340		1340	
627-30410	Preformed Thermoplastic Pavement Marking (Xwalk-Stop Line)	SF								930		930	
627-30411	Preformed Thermoplastic Pavement Marking (Xwalk-Stop Line) (Special)	SF								910		910	
630-00000	Flagging	HOUR								20		20	
630-00003	Uniformed Traffic Control	HOUR								40		40	
630-00006	Uniformed Traffic Control (Vehicle)	HOUR								40		40	
630-00007	Traffic Control Inspection	DAY								41		41	
630-00012	Traffic Control Management	DAY								103		103	
630-80001	Flashing Beacon (Portable)	EACH								9		9	
630-80336	Barricade (Type 3 M-B) (Temporary)	EACH								4		4	
630-80341	Construction Traffic Sign (Panel Size A)	EACH								37		37	

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File Name: LITN0001_SAQ-BID-1.dwg	Date:	No Revisions:	SUMMARY OF APPROXIMATE QUANTITIES	C M810-019
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DAVID EVANS AND ASSOCIATES INC. 1600 Broadway Street Suite 600 Denver, Colorado 80202 Phone: 720.946.0969			Sheet Subset: SAQ	Sheet 8
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I, Ramon L Sanchez a professional land surveyor licensed in the State of Colorado, do hereby certify the information that is stated and visually represented hereon.

Ramon L Sanchez PLS No. 38605

- COORDINATE DATUM:**
- PROJECT COORDINATES ARE MODIFIED COLORADO STATE PLANE CENTRAL ZONE NAD83/(2011).
  - COMBINED SCALE FACTOR = 1.000285533
  - ORIGIN OF SCALE = 0.000,0.000 (GRID)
  - TRUNCATION NORTHING: 1,000,000
  - TRUNCATION EASTING: 3,000,000
  - UNITS ARE US SURVEY FOOT.

- SURVEY CONTROL NOTES:**
- THE PUBLISHED COORDINATES ON THIS SHEET ARE BASED ON THE PROJECT CONTROL PROVIDED BY 105 WEST, FOR CITY OF LITTLETON PROJECT AQC M810-017.
  - A MINIMALLY CONSTRAINED ADJUSTMENT WAS PERFORMED TO INCLUDE CONTROL POINTS BEYOND THE SCOPE OF PROJECT AQC M810-017 AND TO ADJUST ELEVATIONS ON ALL CONTROL POINTS EXCEPT Q23 WHICH WAS HELD FIXED.

## LEGEND

- CONTROL POINT (FOUND AS NOTED)
- BENCH MARK

**BASIS OF ELEVATIONS:**  
 ELEVATIONS ARE BASED ON NGS BENCHMARK Q23 1929, PID:KK0556, A STANDARD BENCH MARK DISK SET ON TOP OF A CONCRETE MONUMENT, WITH A NAVD ELEVATION OF 5,395.24 FT.  
 THIS CONTROL DIAGRAM IS NOT INTENDED TO BE A LAND SURVEY PLAT OR MONUMENTED BOUNDARY SURVEY. NO RESEARCH WAS PERFORMED TO DETERMINE EXISTING EASEMENTS, ENCUMBRANCES, OR OTHER MATTERS OF TITLE.

Point No.	Project Coordinates		Elev (ft) (NAVD88)	Description
	Northing (ft)	Eastng (ft)		
24Q	636,727.31	134,590.65	5,378.38'	FND 1IN. COPPER PLUG IN CONCRETE 105 WEST
25Q	636,472.47	134,982.19	5,393.32'	FND 1IN. COPPER PLUG IN CONCRETE 105 WEST
26Q	636,372.40	135,692.59	5,434.45'	FND 1IN. COPPER PLUG IN CONCRETE 105 WEST
63A	635,443.55	138,434.46	5,517.03'	FND #5 REBAR 2.5IN ALUM. CAP "AZTEC CP 63"
65A	636,015.24	138,253.56	5,518.87'	FND #5 REBAR NO CAP 0.1FT ABOVE GRADE
66A	635,316.43	138,005.99	5,514.57'	FND CHISELED "X" ON CONCRETE INLET
67A	635,043.93	138,131.55	5,518.97'	FND CHISELED "X" ON CONCRETE INLET
Q.23	635,788.04	134,277.28	5,395.24'	FND 3.5IN. BRASS CAP Q23 1929; NGS



Q 23

Print Date: 3/7/2024	Sheet Revisions		Project No./Code
File Name: LITN0001_SV_Project Control Diagram.dwg	Date:	Comments	PROJECT CONTROL DIAGRAM
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 DAVID EVANS AND ASSOCIATES INC. 1600 Broadway Street Suite 600 Denver, Colorado 80202 Phone: 720.946.0869	Revised:	Structure Numbers	N/A
	Void:	Detailer: GXL	N/A
		Sheet Subset: PCD	Subset Sheets: 1 of 1

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

- Format \*  
 3D Design Modeling Electronic Files \_\_\_\_\_  
 Horizontal Control \_\_\_\_\_  
 Vertical Control \_\_\_\_\_  
 Roadway Alignment \_\_\_\_\_  
 Original Terrain Data \_\_\_\_\_  
 Other: \_\_\_\_\_

\* Specify the information format, i.e., 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: Trail Improvements

**SURVEY WORK TO BE PERFORMED BY OTHERS:**

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

- A complete passing Base Line report (completed within 6 months prior to the start of the project)  
 An instrument calibration Certification (completed within 6 months prior to the start of the project)  
 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  
 Clearing and Grubbing Limits (Section 201)  
 Removal Limits (Section 202)  
 Reset Items (Section 210)  
 Excavation and Embankment (Section 203)

- Excavation  
 Unclassified  
 Strippling  
 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	Grid (Y/N)	Grade (Y/N)	Special Interval
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-

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

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

Grid (Y/N)	Special Interval	Special Offset
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-

Tangent Interval	Curve Interval	Special Interval	Special Offset
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-

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

- 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 shall 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 CDOT 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 5 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 3D Design Modeling Electronic Files) Earthwork Quantity report to the Engineer prior to completion of twenty percent (20%) of the planned earthwork in any phase as per the CDOT Survey Manual. A printed copy of the As Staked (or 3D Design Modeling Electronic Files) 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 its 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.

10. 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): \_\_\_\_\_

11. The Contractor's surveyor shall submit the following (prior to surveying on the project) to the Engineer:  
 All required Instrument Calibrations

As Constructed	MINERAL MOBILITY IMPROVEMENTS – BID 1 SURVEY TABULATIONS	Project No./Code
No Revisions:		C M810-019
Revised:	Designer: MJE Detailer: MJE	Structure Numbers N/A N/A
Void:	Sheet Subset: SURV	Sheet 01 of 01

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Print Date:	8/22/2024	Sheet Revisions
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Vert. Scale:	N/A	Init.



TABULATION OF REMOVALS AND RESETS

FROM		ITEM NUMBER		TO		HCL		202-00010	202-00200	202-00203	202-00206	202-00210	210-00827	215-00010
STATION	OFFSET	STATION	OFFSET	STATION	OFFSET	EA	SY	LF	SY	SY	SY	EA	EA	
10+85.06	103.73' LT	10+98.41	104.7' LT	MINERAL AVE HCL		--	16	--	--	--	--	--	--	
10+98.41	104.7' LT	47+94.47	53.01' LT	MINERAL AVE HCL		--	--	--	--	--	--	--	--	
27+73.75	91.08' LT	--	--	MINERAL AVE HCL		--	--	--	--	--	--	--	1	
27+81.79	90.51' LT	--	--	MINERAL AVE HCL		--	--	--	--	--	--	--	1	
28+27.43	94.88' LT	--	--	MINERAL AVE HCL		--	--	--	--	--	--	--	1	
28+56.00	83.91' LT	--	--	MINERAL AVE HCL		--	--	--	--	--	--	--	1	
29+43.25	96.52' LT	--	--	MINERAL AVE HCL		--	--	--	--	--	--	--	1	
29+73.71	98.57' LT	--	--	MINERAL AVE HCL		1	--	--	--	--	--	--	--	
30+24.78	93.45' LT	--	--	MINERAL AVE HCL		--	--	--	--	--	--	--	1	
32+55.43	93.25' LT	--	--	MINERAL AVE HCL		--	--	--	--	--	--	--	1	
35+31.85	102.32' LT	--	--	MINERAL AVE HCL		--	--	--	--	--	--	--	1	
47+49.49	53.52' RT	48+06.00	72.98' RT	MINERAL AVE HCL		--	54	--	--	--	--	--	--	
47+58.15	44.36' LT	48+00.64	44.90' LT	MINERAL AVE HCL		--	--	--	--	--	78	--	--	
47+76.55	43.16' RT	48+07.60	41.98' RT	MINERAL AVE HCL		--	--	--	--	--	34	--	--	
47+76.57	45.75' RT	48+06.74	90.47' RT	MINERAL AVE HCL		--	--	65	--	--	--	--	--	
47+79.14	58.06' RT	--	--	MINERAL AVE HCL		--	--	--	--	--	--	1	--	
47+82.76	56.05' RT	--	--	MINERAL AVE HCL		--	--	--	--	--	--	1	--	
47+86.13	46.42' RT	48+00.04	56.79' RT	MINERAL AVE HCL		--	--	--	13	--	--	--	--	
48+33.86	41.85' RT	48+68.52	41.98' RT	MINERAL AVE HCL		--	--	--	--	--	38	--	--	
48+35.62	87.72' RT	48+41.06	57.40' RT	MINERAL AVE HCL		--	--	32	--	--	--	--	--	
48+36.44	70.81' RT	48+93.89	45.09' RT	MINERAL AVE HCL		--	93	--	--	--	--	--	--	
48+41.06	57.40' RT	48+53.60	46.87' RT	MINERAL AVE HCL		--	--	--	11	--	--	--	--	
48+53.60	46.87' RT	48+85.03	44.29' RT	MINERAL AVE HCL		--	--	42	--	--	--	--	--	
<b>TOTALS</b>						<b>1</b>	<b>163</b>	<b>139</b>	<b>24</b>	<b>150</b>	<b>2</b>	<b>8</b>		

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File Name: LITN0001_RH_BID-1-Tabs.dwg		Date: _____		C M810-019	
Horiz. Scale: N/A		Comments		MINERAL MOBILITY IMPROVEMENTS - BID 1	
Vert. Scale: N/A		Init.		REMOVALS	
 DAVID EVANS AND ASSOCIATES INC. 1600 Broadway Street Suite 600 Denver Colorado 80202 Phone: 720.946.0869		PUBLIC WORKS DEPT. 2255 W. Berry Avenue Littleton, CO 80120 PHONE 303-795-3863 FAX 303-795-3856		Designer: SARD Detailer: CLLE	
		No Revisions: _____ Revised: _____ Void: _____		Structure Numbers: N/A Subst Sheets: 01 of 07	
				Sheet Subst: TABS	

TABULATION OF CONCRETE FLAT WORK									
FROM		TO		HCL		412-01000	608-00006	608-00010	610-00020
STATION	OFFSET	STATION	OFFSET	SY	SY	CONCRETE PAVEMENT (10 INCH)	CONCRETE SIDEWALK (6 INCH)	CONCRETE CURB RAMP	MEDIAN COVER MATERIAL (PATTERNED CONCRETE)
100+98.05	10.20' LT	48+13.04	48.92' LT	--	6755				--
47+54.25	53.85' RT	48+06.61	64.23' RT	--	36				--
47+82.25	44.03' LT	48+06.41	43.84' LT	18	--				--
47+83.65	43.90' RT	48+12.64	43.56' RT	23	--				--
48+08.77	63.19' RT	48+11.36	78.67' RT	--	--			16	--
48+38.95	43.47' RT	48+69.44	43.27' RT	24	--				--
48+41.18	78.64' RT	48+42.95	64.42' RT	--	--			14	--
48+42.95	64.42' RT	49+00.15	46.30' RT	--	62				--
48+48.84	55.18' RT	48+64.26	45.73' RT	--	--				89
48+64.26	45.73' RT	48+90.87	46.08' RT	--	--			23	--
<b>TOTALS</b>				<b>66</b>	<b>6854</b>			<b>52</b>	<b>89</b>

TABULATION OF AGGREGATE BASE COURSE				
FROM		TO		304-06007
STATION	OFFSET	STATION	OFFSET	AGGREGATE BASE COURSE (CLASS 6)
100+98.05	10.20' LT	48+13.04	48.92' LT	CY
				1124
<b>TOTALS</b>				<b>1124</b>

Print Date: 8/27/2024	Sheet Revisions	As Constructed	MINERAL MOBILITY IMPROVEMENTS – BID 1	Project No./Code
File Name: LITN0001_RH_BID-1-Tabs.dwg	Date: _____	No Revisions:	TABULATION OF QUANTITIES	C M810-019
Horiz. Scale: N/A	Comments	Revised:	ROADWAY	Structure Numbers
Vert. Scale: N/A	Init.	Void:		N/A
			Design: SARD	24364
1600 Broadway Street Suite 600 Denver, Colorado 80202 Phone: 720.946.0969			Detailer: CLLE	N/A
			Sheet Subst: TABS	Sheet 13
			Subset Sheets: 02 of 07	



**SUMMARY OF TRAFFIC ITEMS**

Item No.	Item Name	Unit	Qty
202-00250	Removal of Pavement Marking	SF	6000
202-00810	Removal of Ground Sign	EA	4
202-00821	Removal of Sign Panel	EA	7
202-00828	Removal of Traffic Signal Equipment	LS	1
202-00830	Removal of Traffic Signal Face	EA	4
210-00760	Reset Luminaire	EA	1
210-00809	Reset Blankout Sign (Fiber Optic)	EA	1
210-00810	Reset Ground Sign	EA	9
210-00815	Reset Sign Panel	EA	4
503-00012	Drilled Shaft (12 Inch)	LF	7
503-00042	Drilled Shaft (42 Inch)	LF	17
613-00206	2 Inch Electrical Conduit (Bored)	LF	140
613-00306	3 Inch Electrical Conduit (Bored)	LF	50
613-01200	2 Inch Electrical Conduit (Plastic)	LF	440
613-01300	3 Inch Electrical Conduit (Plastic)	LF	240
613-07003	Type Three Pull Box	EA	1
613-10000	Wiring	LS	1
614-00011	Sign Panel (Class I)	SF	140
614-00012	Sign Panel (Class II)	SF	140
614-00216	Steel Sign Post (2x2 Inch Tubing)	LF	290
614-01554	Steel Signpost (4 Inch Round)(Slipbase)	LF	39
614-01572	Steel Sign Support (2-1/2 Inch Round NP-40)(Post & Slipbase)	LF	170
614-10160	Signal Head Backplate	EA	3
614-70150	Pedestrian Signal Face (16) (Countdown)	EA	1
614-70336	Traffic Signal Face (12-12-12)	EA	5
614-70448	Traffic Signal Face (12-12-12-12)	EA	1
614-72858	Pedestal Pole (3 Foot 6 Inch)	EA	1
614-72860	Pedestrian Push Button	EA	5
614-80001	Flashing Beacon (Solar Powered)	EA	5
614-81011	Traffic Signal-Light Pole (1 Mast Arm) (Install Only)	EA	1
627-00008	Modified Epoxy Pavement Marking	GAL	180
627-00070	Preformed Thermoplastic Pavement Marking	SF	140
627-30405	Preformed Thermoplastic Pavement Marking (Word- Symbol)	SF	1340
627-30410	Preformed Thermoplastic Pavement Marking (Xwalk-Stop Line)	SF	930
627-30411	Preformed Thermoplastic Pavement Marking (Xwalk-Stop Line)(Special)	SF	910

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As Constructed

No Revisions:

Revised:

Void:

MINERAL MOBILITY IMPROVEMENTS – BID 1  
 TRAFFIC ENGINEERING QUANTITIES  
 SUMMARY OF TRAFFIC ITEMS

Designer: AMSC Structure Numbers N/A

Detailer: AMSC N/A

Sheet Subset: TABS Subset Sheets: 04 of 07

Project No./Code

C M810-019

24364

Sheet 15





S.G. NO.	SHEET	LOCATION	STATION	DIRECTION	S.G. CODE	SIGN PANEL SIZE		BACKGROUND COLOR	LEGEND		S.G. PANEL / SP.		REMOVE GROUND SIGN	REMOVE SIGN PANEL	RESET GROUND SIGN	RESET S.G. PANEL	RESET BLANKOUT SIGN	S.G. STEEL POST 1 1/2" X 2 1/2" TUBING	S.G. STEEL POST 1 1/2" X 2 1/2" TUBING	NOTES		
						W	H		CLASS I	CLASS II												
						EA	EA		EA	EA												
53A	7	MINERAL AVE			S/S			GREEN	W/ONG AVE T90DS													
53B	7	MINERAL AVE			S/S			GREEN	W/ MINERAL AVE T90DS													
53C	7	MINERAL AVE			R-1			RED	STOP													
54	7	MINERAL AVE			R3-7			WHITE	BKE JANE													
55	7	MINERAL AVE			SPECIAL			RED	RTD BUS STOP													
56	7	MINERAL AVE			M6-3			YELLOW	SIGNAL HEAD													
57	8	MINERAL AVE			R3-3			WHITE	NO PARKING (SYMBOL)													
58	8	MINERAL AVE	45-83	RIGHT	R3-4			WHITE	BEGN RIGHT TURN LANE YELD TO BIKES												RESET GROUND SIGN	
59	8	MINERAL AVE	49-58	RIGHT	R3-3			WHITE	NO PARKING (SYMBOL)													RESET GROUND SIGN
60	8	MINERAL AVE	45-83	RIGHT	SPECIAL	30 X 36		WHITE	RIGHT TURN SHARE LANE	7.5												
61	8	MINERAL AVE			R3-7			WHITE	BKE JANE													
62	9	MINERAL AVE			SPECIAL			RED	RTD BUS STOP													
63A	9	MINERAL AVE	47-75	LEFT	BLANKOUT			BLACK	NO RIGHT TURN (BLANKOUT)													
63B	9	MINERAL AVE			M1-8 (L2)			WHITE	BICYCLE ROUTE (L2)						1							RESET SIGN PANEL TO PROPOSED TRAFFIC POLE
63C	9	MINERAL AVE			M1-3 (MOD)			GREEN	BICYCLE ROUTE (HIGH LINE CANAL TRAIL)						1							RESET SIGN PANEL TO PROPOSED TRAFFIC POLE
63D	9	MINERAL AVE			M6-3			GREEN	DIRECTIONAL ARROW						1							RESET SIGN PANEL TO PROPOSED TRAFFIC POLE
63E	9	MINERAL AVE			M6-4			GREEN	DIRECTIONAL ARROW						1							RESET SIGN PANEL TO PROPOSED TRAFFIC POLE
63F	9	MINERAL AVE			M11-2			PYG	PEDESTRIAN													REMOVE SIGN PANEL
63G	9	MINERAL AVE	47-75	LEFT	M11-5	36 X 36		PYG	BICYCLE/PEDESTRIAN	3.0												S.G. PANEL ON PROPOSED VAST ARM
63H	9	MINERAL AVE			M4-2a			YELLOW	NO OUTLET													
63I	9	MINERAL AVE			M4-2a			YELLOW	NO OUTLET													
63J	9	MINERAL AVE			R-1			RED	STOP													
63K	9	MINERAL AVE			S/S			GREEN	S PENNSULA DR BCDW													
63L	9	MINERAL AVE			S/S			GREEN	W/ MINERAL AVE T90DS													
63M	9	MINERAL AVE			M1-8 (L2)			WHITE	BICYCLE ROUTE (L2)													
63N	9	MINERAL AVE			M1-3 (MOD)			GREEN	BICYCLE ROUTE (HIGH LINE CANAL TRAIL)													
63O	9	MINERAL AVE			M6-3			GREEN	DIRECTIONAL ARROW													
63P	9	MINERAL AVE			M6-4			GREEN	DIRECTIONAL ARROW													
63Q	9	MINERAL AVE			M11-2			PYG	PEDESTRIAN													
63R	9	MINERAL AVE	49-58	RIGHT	M11-5	36 X 36		PYG	BICYCLE/PEDESTRIAN	3.0												
63S	9	MINERAL AVE			SPECIAL			RED	RTD BUS STOP													
63T	9	MINERAL AVE	47-75	LEFT	R3-5L	30 X 36		WHITE	MANDATORY MOVEMENT LANE CONTROL	7.5												
63U	9	HIGH LINE CANAL	37+38	LEFT	SPECIAL	30 X 30		WHITE	TRAIL LINES	3.0												
63V	10	MINERAL AVE			M6-3			YELLOW	SIGNAL HEAD													
63W	10	MINERAL AVE			R2-1 (L1)			WHITE	SPEED LIMIT 40													
63X	10	MINERAL AVE			SPECIAL			RED	RTD BUS STOP													
63Y	10	MINERAL AVE			R3-7			WHITE	BKE JANE													
63Z	10	MINERAL AVE			SS-2			WHITE	END SCHOOL ZONE													
64	10	MINERAL AVE			R2-1 (L1)			WHITE	SPEED LIMIT 40													
65	10	MINERAL AVE			R2-4			WHITE	BEGN RIGHT TURN LANE YELD TO BIKES													
66A	10	MINERAL AVE			S-1			YELLOW	SCHOOL													
66B	10	MINERAL AVE			M6-3P			YELLOW	A-EAG (PLAQUE)													
66C	10	MINERAL AVE			SPECIAL	30 X 36		WHITE	RIGHT TURN SHARE LANE	7.5												
66D	10	MINERAL AVE			M1-B (L2)			WHITE	BICYCLE ROUTE (L2)													
66E	10	MINERAL AVE			M1-B (L1)			WHITE	BICYCLE ROUTE (L1)													
66F	10	MINERAL AVE			M6-3			GREEN	DIRECTIONAL ARROW													
66G	10	MINERAL AVE			M6-4			GREEN	DIRECTIONAL ARROW													
66H	10	MINERAL AVE			R3-7R			WHITE	RIGHT LANE MUST TURN RIGHT													
66I	10	MINERAL AVE			R2-7			WHITE	KEEP RIGHT													
66J	10	MINERAL AVE			OK3-L			YELLOW	COLLECT VARIER													
66K	10	MINERAL AVE						YELLOW	COLLECT VARIER													
SHEET TOTALS										10.75	53.0		2	2	4	4	1	1	12.5	52		
PROJECT TOTALS										46.5	48.0		2	2	6	4	1	1	64	52		

NOTES:  
 1. TRAFFIC SIGN INVENTORY COMPLETED MARCH 2023. CONDITIONS OF SIGNS MAY HAVE CHANGED SINCE INVENTORY COMPLETION.  
 2. LOCATIONS OF SIGNS AND POST HEIGHTS ARE APPROXIMATE. SEE OBJECT STANDARDS S-614-1 AND S-614-2.  
 3. EXISTING SIGNS SHALL BE MAINTAINED/RELOCATED AS NECESSARY DURING CONSTRUCTION. ANY EXISTING SIGNS THAT CONFLICT WITH TEMPORARY SIGNS SHALL BE MASKED OR REMOVED. THE COST OF MAINTAINING, RELOCATING OR MASKING EXISTING SIGNS DURING CONSTRUCTION IS INCLUDED IN THE PRICE OF WORK.

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 DAVID EVANS AND ASSOCIATES INC. 1600 Broadway Street Suite 600 Denver, Colorado 80202 Phone: 720.946.0869			
Sheet Revisions Date: _____ Comments: _____ Init: _____		PUBLIC WORKS DEPT. 2255 W. Berry Avenue Littleton, CO 80120 PHONE 303-795-3863 FAX 303-795-3856	
As Constructed No Revisions: _____ Revised: _____ Void: _____		MINERAL MOBILITY IMPROVEMENTS - BID 1 TRAFFIC ENGINEERING QUANTITIES TABULATION OF SIGNS Designer: AMSC Detailer: TMSM Sheet Subset: TABS	
Project No./Code C M810-019		Structure Numbers N/A N/A Sheet 18 of 07	

TABULATIONS OF REMOVALS									
ITEM NUMBER		HCL		202-00200	202-00203	202-00206	202-00210	202-00240	202-00806
FROM	TO	STATION	OFFSET	REMOVAL OF SIDEWALK	REMOVAL OF CURB AND GUTTER	REMOVAL OF CONCRETE CURB RAMP	REMOVAL OF CONCRETE PAVEMENT	REMOVAL OF ASPHALT MAT (PLANING)	REMOVAL OF WALKWAY
STATION	OFFSET	STATION	OFFSET	SY	LF	SY	SY	SY	LF
202+60.00	0'00' RT	220+15.11	0.00' RT					8345	
205+57.04	21.81' RT	205+98.95	60.84' RT		72				
205+57.04	21.81' RT	205+84.30	24.04' RT	19					
205+79.48	21.94' LT	206+03.11	64.40' LT		59				
205+79.48	21.94' LT	205+91.63	23.48' LT	9					
205+84.30	24.04' RT	205+97.65	36.62' RT			11			
205+87.41	19.94' LT	206+53.96	19.94' LT				80		
205+91.63	23.48' LT	206+00.71	35.11' LT			5			
206+00.71	35.11' LT	206+03.11	60.40' LT	17					
206+04.80	28.10' LT	206+34.48	27.85' LT					144	
206+36.12	64.28' LT	206+58.13	21.88' LT		57				
206+36.12	64.28' LT	206+39.61	31.96' LT	19					
206+39.61	31.96' LT	206+48.08	23.70' LT			5			
206+40.27	60.56' RT	206+73.97	21.95' RT		64				
206+41.50	35.85' RT	206+56.81	23.19' RT			5			
206+48.08	23.70' LT	206+58.13	21.88' LT	7					
206+56.81	23.19' RT	206+73.97	21.95' RT	12					
216+84.55	21.85' RT	216+94.16	22.01' RT		11				
216+84.55	21.85' RT	217+06.24	24.71' RT	13					
216+94.16	22.01' RT	217+14.72	64.80' RT				32		
217+06.24	24.71' RT	217+18.00	35.80' RT			10			
217+29.59	84.31' RT	217+72.04	34.18' RT			33			
217+72.04	34.18' RT	218+01.85	22.03' RT		38				
217+72.04	34.18' RT	217+83.29	22.74' RT			11			
217+83.29	22.74' RT	218+01.85	22.03' RT	12					
218+36.31	21.51' RT	218+57.70	22.19' RT		23				
218+36.31	21.51' RT	218+57.70	22.19' RT	14					
218+38.37	22.76' LT	218+76.05	21.30' LT		35				
218+38.37	22.76' LT	218+46.22	22.53' LT	6					
218+43.20	28.47' LT	218+59.65	27.82' LT						6
218+44.24	27.09' RT	218+61.48	22.37' RT						20
218+46.22	22.53' LT	218+57.30	22.15' LT			5			
218+57.30	22.15' LT	218+76.05	21.30' LT	12					
TOTALS				128	359	85	145	8489	26

TABULATIONS OF UTILITIES						
ITEM NUMBER		HCL		202-04005	210-04010	210-04050
STATION	OFFSET	STATION	OFFSET	CLEAN VALVE BOX	ADJUST MANHOLE	ADJUST VALVE BOX
				EACH	EACH	EACH
206+17.97	10.20' RT	JACKASS HILL RD		1		1
206+25.06	18.15' RT	JACKASS HILL RD		1		1
206+24.24	39.32' RT	JACKASS HILL RD		1		1
206+24.28	28.08' LT	JACKASS HILL RD		1		1
206+26.50	44.43' RT	JACKASS HILL RD		1		1
217+12.85	42.55' RT	JACKASS HILL RD		1		1
217+14.59	42.50' RT	JACKASS HILL RD		1		1
217+17.61	71.97' RT	JACKASS HILL RD		1		1
217+18.25	41.65' RT	JACKASS HILL RD		1		1
217+29.30	29.24' RT	JACKASS HILL RD		1		1
218+38.95	12.76' LT	JACKASS HILL RD		1		1
218+44.51	8.47' RT	JACKASS HILL RD		1		1
218+47.24	4.88' RT	JACKASS HILL RD			1	
218+66.46	23.49' RT	JACKASS HILL RD		1		1
218+72.84	20.10' RT	JACKASS HILL RD		1		1
219+84.14	11.77' RT	JACKASS HILL RD		1		1
219+87.79	14.25' RT	JACKASS HILL RD		1		1
219+89.08	7.25' RT	JACKASS HILL RD			1	
219+93.72	11.69' RT	JACKASS HILL RD		1		1
TOTALS				17	2	17

Print Date: 6/18/2024	File Name: TABS.dwg	Horiz. Scale: N/A	Vert. Scale: N/A	Y2K ENGINEERING 1921 S. Alma School Rd. Suite 204 Denver, Colorado 80202 Phone: 720.946.0989	DAVID EVANS AND ASSOCIATES INC. 1600 Broadway Street, Suite 800 Denver, Colorado 80202 Phone: 720.946.0989	0000	Date:	Comments	Init.	As Constructed	MINERAL MOBILITY IMPROVEMENTS - BID 1 TABULATION OF QUANTITIES REMOVALS AND UTILITIES	Project No./Code C M810-019
Sheet Revisions										Designer: CM	Structure Numbers	N/A
No Revisions:										Detailer: CM	Sheet Subsets: TABS	N/A
Void:										Sheet Subsets: 1 of 4	Sheet	19

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TABULATIONS OF CONCRETE FLAT WORK			
FROM	TO	HCL	
		STATION	OFFSET
205+57.03	205+72.52	22.50' RT	22.50' RT
205+72.52	206+00.37	28.00' RT	28.00' RT
205+79.79	206+02.50	64.46' LT	64.46' LT
205+94.66	206+44.59	19.90' LT	19.90' LT
206+02.79	206+07.66	38.67' LT	38.67' LT
206+31.59	206+36.42	25.52' LT	25.52' LT
206+36.72	206+58.13	22.38' LT	22.38' LT
206+38.43	206+65.31	22.50' RT	22.50' RT
206+65.31	206+73.97	22.50' RT	22.50' RT
216+84.55	217+10.92	27.29' RT	27.29' RT
217+10.92	217+19.13	44.76' RT	44.76' RT
217+46.12	217+52.25	26.92' RT	26.92' RT
217+52.25	218+01.85	22.50' RT	22.50' RT
218+36.31	218+61.48	22.83' RT	22.83' RT
218+38.39	218+76.10	21.85' LT	21.85' LT
218+45.32	218+58.55	23.23' LT	23.23' LT
218+46.10	218+57.40	22.64' RT	22.64' RT
		29	203
			71

TABULATIONS OF ASPHALT			
FROM	TO	HCL	
		STATION	OFFSET
202+60.00	220+15.11	0.00' RT	0.00' RT
206+04.80	206+34.48	27.85' LT	27.85' LT
ALLOWANCE FOR POTENTIAL FULL-DEPTH REPLACEMENT		212	7
		212	376
			923

TABULATIONS OF TRAIL			
FROM	TO	HCL	
		STATION	OFFSET
218+40.07	218+61.48	27.33' RT	27.33' RT
218+38.39	218+61.45	27.82' LT	27.82' LT
			31

TABULATIONS OF MISCELLANEOUS ITEMS			
FROM	TO	HCL	
		STATION	OFFSET
204+97	205+40	14.0' LT	14.0' LT
204+97	205+40	14.0' LT	14.0' LT
205+64	205+86	0.0' RT	0.0' RT
206+56	206+75	0.0' RT	0.0' RT
206+98	207+41	12.0' RT	12.0' RT
206+99	207+42	12.0' LT	12.0' LT
216+83	217+01	14.0' RT	14.0' RT
218+10	218+47	13.5' LT	13.5' LT
218+27	218+47	13.5' RT	13.5' RT
218+38	218+46	0.0' RT	0.0' RT
218+57	218+93	12.0' LT	12.0' LT
218+57	218+73	12.6' RT	12.6' RT
218+58	218+80	0.0' LT	0.0' LT
			17
			292

TABULATIONS OF CURB AND GUTTER			
FROM	TO	HCL	
		STATION	OFFSET
205+65.61	205+99.01	60.84' RT	60.84' RT
205+79.79	206+04.56	64.29' LT	64.29' LT
206+34.66	206+58.13	19.97' LT	19.97' LT
206+40.12	206+65.31	20.00' RT	20.00' RT
216+94.12	217+14.91	65.02' RT	65.02' RT
217+25.59	218+01.85	20.00' RT	20.00' RT
218+36.31	218+61.48	20.34' RT	20.34' RT
218+38.39	218+76.10	19.36' LT	19.36' LT
			550

Print Date: 8/27/2024	Sheet Revisions	As Constructed	MINERAL MOBILITY IMPROVEMENTS - BID 1	Project No./Code
File Name: TABS.dwg	Date:	No Revisions:	TABULATION OF QUANTITIES	C MB10-019
Horiz. Scale: N/A	Comments:	Revised:	ROADWAY	24364
Vert. Scale: N/A	Init.	Void:	Structure Numbers	N/A
			Detailer: CM	N/A
			Sheet Subset: TABS	2 of 4
DAVID EVANS AND ASSOCIATES INC. 1600 Broadway Street, Suite 800 Denver, Colorado 80202 Phone: 720.946.0989				Sheet
				20

TABULATION OF PAVEMENT MARKINGS

SIGNING & STRIPING PLAN SUBSET SHEET NUMBER	627-00008			627-00070		627-30405			627-30410		627-30411
	Modified Epoxy Pavement Marking [GAL]			Preformed Thermoplastic Pavement Marking [SF]		Preformed Thermoplastic Pavement Marking [Word- Symbol] [SF]			Preformed Thermoplastic Pavement Marking [Xwalk-Stop Line] [SF]		Preformed Thermoplastic Pavement Marking [Xwalk-Stop Line] (Special) [SF]
	4" Solid Yellow [LF]	4" Solid White [LF]	8" Solid White [LF]	4" White - Conflict Marking		Bike Symbol & Arrow (11 SF) [EA]	Yield Line Triangle (Half Size) (0.8 SF) [EA]	Yield Line Triangle (Full Size) (3 SF) [EA]	Stop Line [LF]	X-Walk [SF]	Conflict Marking (Green) [SF]
1	285	305	345			2				180	
2	1015	990	1225	30		2					285
3	1100	1105	1355			4					
4	1065	965	1170	40		4	6	8	15	234	145
PROJECT TOTALS (LF OR EA)	3465	3365	4095	70		12	6	8	15		
PROJECT TOTALS (SF)	1155	1122	2730			132	5	24	30	414	430
PROJECT TOTALS (GAL)	11.6	11.3	27.3				161		444		
		50.2									

Print Date: 6/18/2024	File Name: TABS.dwg	Horiz. Scale: N/A	Vert. Scale: N/A	Y&K ENGINEERING 1921 S Alma School Rd. Suite 204 Denver, CO 80210 www.ykeng.com	DAVID EVANS AND ASSOCIATES INC. 1600 Broadway Street, Suite 800 Denver, Colorado 80202 Phone: 720.946.0989	0000	Date:	Comments	Init.	As Constructed	MINERAL MOBILITY IMPROVEMENTS – BID 1 TRAFFIC ENGINEERING QUANTITIES TABULATION OF PAVEMENT MARKINGS	Project No./Code C M810-019
										No Revisions:	Designer: CM Detailer: CM	Structure Numbers 24364
										Void:	Sheet Subset: TABS	Sheet 21
											Subst Sheets: 3 of 4	



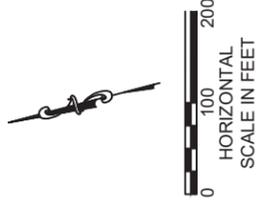
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FAX 303-795-3856

SIGN NO	SHEET	LOCATION	STATION/MP	DIRECTION	SIGN CODE	SIGN PANEL SIZE		BACKGROUND COLOR	LEGEND	SIGN PANEL ( SF)		REMOVE GROUND SIGN	REMOVE SIGN PANEL	RESET GROUND SIGN	SIGN STEEL POST ( 2" X 2" TUBING)	SIGN STEEL POST ( 2 1/2" X 2 1/2" TUBING)	NOTES
						W	H			CLASS I	CLASS II						
1	1	JACKASS HILL RD	202+00	LEFT	R7-9a	12	18	WHITE	NO PARKING BIKE LANE	1.5		EA	EA		12		
2	1	JACKASS HILL RD	202+00	RIGHT	R7-9a	12	18	WHITE	NO PARKING BIKE LANE	1.5					12		
3	2	JACKASS HILL RD	204+25	LEFT	R7-9a	12	18	WHITE	NO PARKING BIKE LANE	1.5					12		
4	2	JACKASS HILL RD	204+25	RIGHT	R7-9a	12	18	WHITE	NO PARKING BIKE LANE	1.5					12		
5A	2	JACKASS HILL RD	204+63	RIGHT	W6-1	36	36	YELLOW	DIVIDED ROADWAY		9.0					13	
5B	2	JACKASS HILL RD	204+63	RIGHT	W3-1P ( 25)	18	18	YELLOW	25 MPH	2.3							
6	2	JACKASS HILL RD	205+65	CENTER	R4-7	18	24	WHITE	KEEP RIGHT	3.0					12		
7	2	JACKASS HILL RD	205+69	RIGHT	R10-15	24	30	WHITE	TURNING VEHICLES YIELD TO BIKES AND PEDESTRIANS	5.0					13		
8	2	S CURTICE CT	206+05	LEFT	R1-1			RED	STOP				1				RESET GROUND SIGN
9	2	W JAMISON WAY	206+41	RIGHT	R1-1			RED	STOP				1				RESET GROUND SIGN
10	2	JACKASS HILL RD	206+58	LEFT	R10-15	24	30	WHITE	TURNING VEHICLES YIELD TO BIKES AND PEDESTRIANS	5.0					13		
11	2	JACKASS HILL RD	206+74	CENTER	R4-7	18	24	WHITE	KEEP RIGHT	3.0					12		
12	2	JACKASS HILL RD	207+27	LEFT	R7-9a	12	18	WHITE	NO PARKING BIKE LANE	1.5					12		
13A	2	JACKASS HILL RD	207+75	LEFT	W6-1	36	36	YELLOW	DIVIDED ROADWAY		9.0					13	
13B	2	JACKASS HILL RD	207+75	LEFT	W3-1P ( 25)	18	18	YELLOW	25 MPH	2.3							
14	2	JACKASS HILL RD	209+43	LEFT	R7-9a	12	18	WHITE	NO PARKING BIKE LANE	1.5					12		
15	3	JACKASS HILL RD	212+78	LEFT	R7-9a	12	18	WHITE	NO PARKING BIKE LANE	1.5					12		
16A	4	JACKASS HILL RD		RIGHT	W11-2			FYG	PEDESTRIAN			1					REMOVE GROUND SIGN
16B	4	JACKASS HILL RD		RIGHT	W16-9P			FYG	AHEAD			1					REMOVE SIGN PANEL
17A	4	JACKASS HILL RD	216+36	RIGHT	W11-15	36	36	FYG	BIKE AND PED CROSSING ( ADVANCE RRFBS ASSEMBLY)		9.0				13		
17B	4	JACKASS HILL RD	216+36	RIGHT	W16-9P	24	8	FYG	AHEAD		1.3						
17C	4	JACKASS HILL RD	216+36	RIGHT	W13-1P ( 25)	18	18	FYG	25 MPH		2.3						
18	4	JACKASS HILL RD	216+92	RIGHT	R10-15	24	30	WHITE	TURNING VEHICLES YIELD TO BIKES AND PEDESTRIANS	5.0					13		
19	4	S PRINCE ST	217+39	RIGHT	W1-2L	36	36	YELLOW	CURVE		9.0				13		
20	4	S PRINCE ST	217+50	RIGHT	R1-1			RED	STOP				1				RESET GROUND SIGN
21A	4	JACKASS HILL RD		RIGHT	W11-2				PEDESTRIAN			1					REMOVE GROUND SIGN
21B	4	JACKASS HILL RD		RIGHT	W16-7P				ARROW			1					REMOVE SIGN PANEL
21C	4	JACKASS HILL RD		RIGHT	R1-6				STALE LAW YIELD TO PEDESTRIANS WITHIN CROSSWALK			1					REMOVE SIGN PANEL
22	4	JACKASS HILL RD	218+38	RIGHT	R1-6	12	36	WHITE	STALE LAW YIELD TO PEDESTRIANS WITHIN CROSSWALK	3.0					13		
23	4	TRAIL	218+43	LEFT	R1-2	18	18	RED	YIELD	2.3					12		
24A	4	JACKASS HILL RD	218+49	LEFT	W11-15	36	36	FYG	BIKE AND PED CROSSING ( RRFBS ASSEMBLY)		9.0				13		
24B	4	JACKASS HILL RD	218+49	LEFT	W16-7P	24	23	FYG	ARROW	3.8							
24C	4	JACKASS HILL RD	218+49	LEFT	W11-15	36	36	FYG	BIKE AND PED CROSSING ( RRFBS ASSEMBLY)		9.0						INSTALL SIGN PANEL BACK TO BACK
24D	4	JACKASS HILL RD	218+49	LEFT	W16-7P	24	23	FYG	ARROW	3.8							INSTALL SIGN PANEL BACK TO BACK
25A	4	JACKASS HILL RD	218+55	RIGHT	W11-15	36	36	FYG	BIKE AND PED CROSSING ( RRFBS ASSEMBLY)		9.0				13		
25B	4	JACKASS HILL RD	218+55	RIGHT	W16-7P	24	23	FYG	ARROW	3.8							
25C	4	JACKASS HILL RD	218+55	RIGHT	W11-15	36	36	FYG	BIKE AND PED CROSSING ( RRFBS ASSEMBLY)		9.0						INSTALL SIGN PANEL BACK TO BACK
25D	4	JACKASS HILL RD	218+55	RIGHT	W16-7P	24	23	FYG	ARROW	3.8							INSTALL SIGN PANEL BACK TO BACK
26	4	TRAIL	218+63	RIGHT	R1-2	18	18	RED	YIELD	2.3					12		
27	4	JACKASS HILL RD	218+65	RIGHT	R1-6	12	36	WHITE	STALE LAW YIELD TO PEDESTRIANS WITHIN CROSSWALK	3.0					13		
28A	4	JACKASS HILL RD		LEFT	W11-2				PEDESTRIAN			1					REMOVE GROUND SIGN
28B	4	JACKASS HILL RD		LEFT	W16-7P				ARROW			1					REMOVE SIGN PANEL
28C	4	JACKASS HILL RD		LEFT	R1-6				STALE LAW YIELD TO PEDESTRIANS WITHIN CROSSWALK			1					REMOVE SIGN PANEL
29	4	JACKASS HILL RD	218+40	LEFT	R7-9a	12	18	WHITE	NO PARKING BIKE LANE	1.5					12		
30	4	JACKASS HILL RD	218+40	RIGHT	R7-9a	12	18	WHITE	NO PARKING BIKE LANE	1.5					12		
31	4	JACKASS HILL RD	220+10	LEFT	W11-15	36	36	WHITE	BIKE AND PED CROSSING	9.0					13		
31A	4	JACKASS HILL RD	220+10	LEFT	W16-9P	24	18	WHITE	AHEAD	3.0							
31B	4	JACKASS HILL RD	220+10	LEFT	W13-1P ( 25)	18	18	FYG	25 MPH	2.3					202		
<b>SHEET TOTALS</b>										79	76	3	5	3	202	104	

NOTES:  
1. TRAFFIC SIGN INVENTORY COMPLETED MARCH 2023. CONDITIONS OF SIGNS MAY HAVE CHANGED SINCE INVENTORY COMPLETION.  
2. LOCATIONS OF SIGNS AND POST LENGTHS ARE APPROXIMATE. SEE STANDARDS S-614-1 AND S-614-8.  
3. EXISTING SIGNS SHALL BE MAINTAINED/RELOCATED AS NECESSARY DURING CONSTRUCTION. ANY EXISTING SIGNS THAT CONFLICT WITH TEMPORARY SIGNS SHALL BE MASKED OR REMOVED. THE COST OF MAINTAINING, RELOCATING, OR MASKING EXISTING SIGNS DURING CONSTRUCTION IS INCLUDED IN THE PRICE OF WORK.  
4. INSTALLATION OF OVERHEAD AND GROUND-MOUNT CLASS III GUIDE SIGN PANELS WILL USE RETROREFLECTIVE SHEETING CONFORMING TO TYPE IV AND TYPE XI AS DEFINED IN THE CDOT RETROREFLECTIVE SHEETING MATERIALS GUIDE.

<b>Print Date:</b> 6/18/2024 <b>File Name:</b> TABS.dwg <b>Horiz. Scale:</b> N/A <b>Vert. Scale:</b> N/A <b>DAVID EVANS AND ASSOCIATES INC.</b> 1600 Broadway Street Suite 800 Denver Colorado 80202 Phone: 720.946.0989 <b>Y&amp;K ENGINEERING AND ASSOCIATES</b> 1921 S Arma School Rd. Suite 204 Denver Colorado 80210 www.ykeng.com	 <b>PUBLIC WORKS DEPT.</b> 2255 W. Berry Avenue Littleton, CO 80120 PHONE 303-795-3863 FAX 303-795-3856	<b>As Constructed</b> No Revisions: Revised: Void: 	<b>MINERAL MOBILITY IMPROVEMENTS – BID 1</b> TRAFFIC ENGINEERING QUANTITIES TABULATION OF SIGNS Designer: CM Detailer: CM Sheet Subset: TABS 	<b>Project No./Code</b> C M810-019 24364 Sheet 22 
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Print Date: 8/22/2024  
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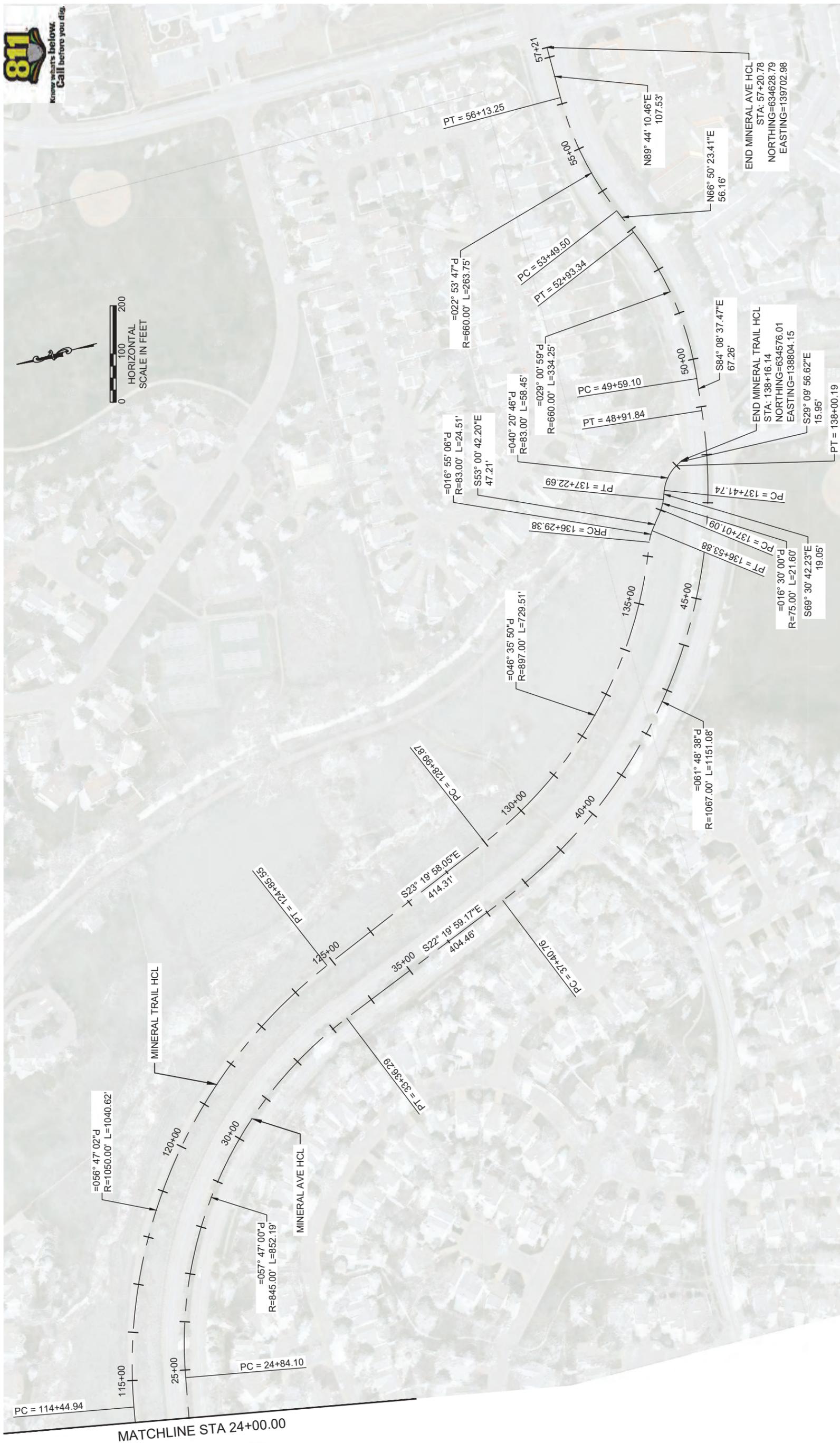
Sheet Revisions	
Date:	Comments

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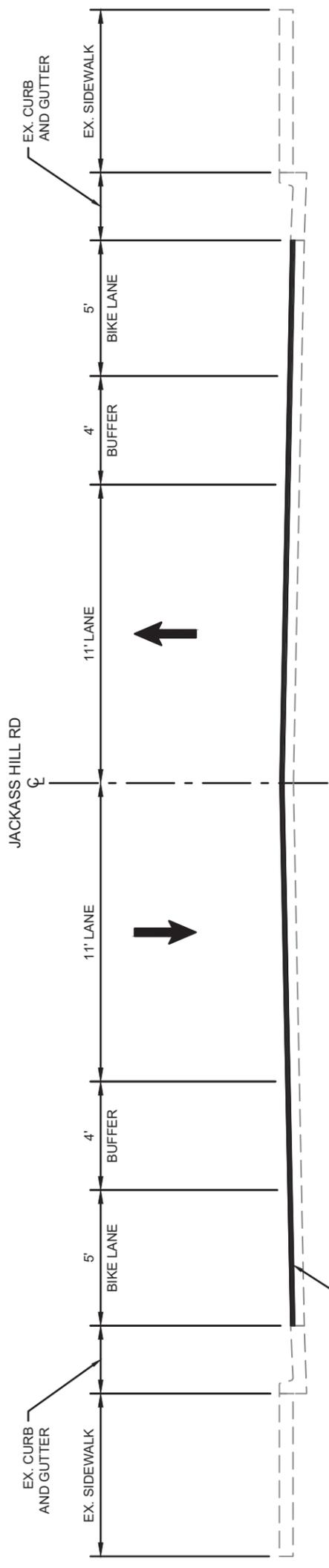
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Designer: MJE	Structure Numbers	N/A	N/A
Detailer: MJE	Sheet Subset: GEO		
	Sheet Sheets:	01 of 02	

Project No./Code	C MB10-019
	24364
	23



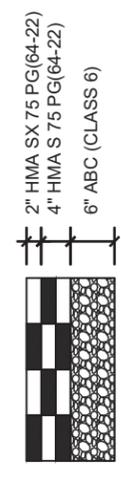
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DAVID EVANS AND ASSOCIATES INC. 1600 Broadway Street Suite 600 Denver, Colorado 80202 Phone: 720.946.0869		Sheet Subsets: GEO	
Sheet Revisions		Sheet Subsets: 02 of 02	
Date:	Comments:	MINERAL MOBILITY IMPROVEMENTS - BID 1	
		HORIZONTAL GEOMETRY PLAN	
		As Constructed	
		No Revisions:	
		Revised:	
		Void:	
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		Littleton Colorado	





2" MILL AND OVERLAY  
HOT MIX ASPHALT  
(GRADING SX)(75)(PG 64-22)

JACKASS HILL ROAD  
STA 202+60 TO STA 205+03.45  
STA 207+10.81 TO STA 218+15.84



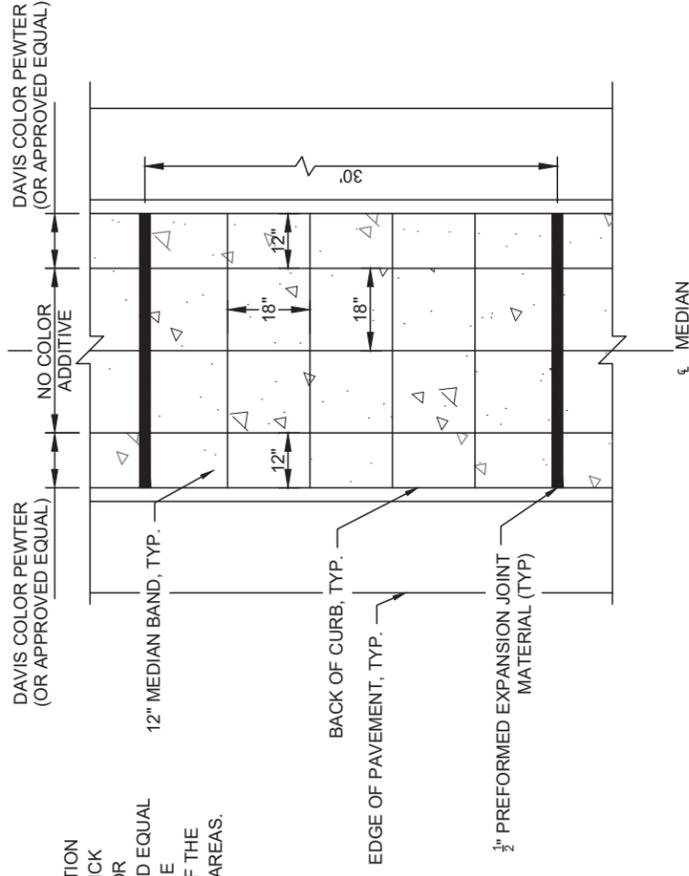
FULL DEPTH PAVEMENT SECTION FOR ASPHALT PATCHING  
(AS NEEDED AND WITH CONCURRENCE FROM ENGINEER)

**NOTES:**

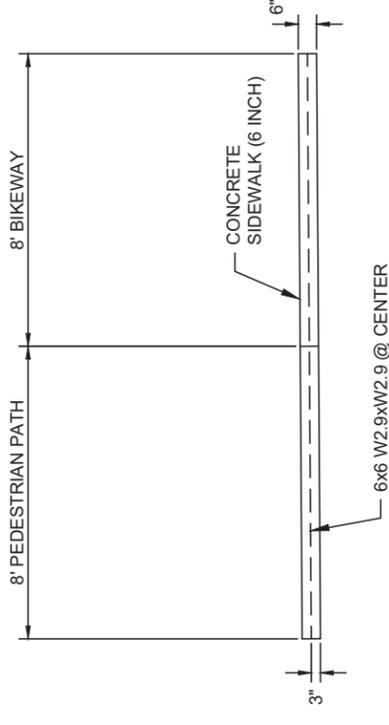
- IF EXISTING PAVEMENT DEMONSTRATES INSTABILITY, ADDITIONAL CRACKING, OR OTHER SUBSURFACE DEFICIENCIES AFTER 2" MILLING HAS BEEN COMPLETED, CONTRACTOR SHALL CONSULT WITH THE ENGINEER REGARDING MITIGATION PROCEDURES. UPON ENGINEER APPROVAL, CONTRACTOR SHALL PATCH DEFICIENT AREA WITH A FULL DEPTH PAVEMENT SECTION ACCORDING TO THE DETAILS SHOWN ON THIS SHEET.
- IF ASPHALT PATCH IS REQUIRED IN AN AREA GREATER THAN 80 SQUARE FEET, CONTRACTOR SHALL SCARIFY THE TOP 6" OF SUBGRADE, MOISTURE TREAT THE NATIVE MATERIAL TO CREATE AN OPTIMUM MOISTURE CONDITION, AND RECOMPACT PRIOR TO ADDING ABC. THIS RECONDITIONING, MOISTURE TREATMENT, AND RECOMPACTION SHALL NOT BE MEASURED AND PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE WORK.

Print Date: 6/18/2024 File Name: TYP-DET.dwg Horiz. Scale: 1" = 5' Vert. Scale: N/A	<b>Sheet Revisions</b>		<b>As Constructed</b>		MINERAL MOBILITY IMPROVEMENTS – BID 1 JACKASS HILL RD – TYPICAL SECTION		Project No./Code C M810-019		
	Date:	Comments:	No Revisions:	Revised:	Void:	Designer: CM	Detailer: CM	Structure Numbers	Sheet
0000		PUBLIC WORKS DEPT. 2255 W. Berry Avenue Littleton, CO 80120 PHONE 303-795-3863 FAX 303-795-3856		Designer: CM Detailer: CM		Structure Numbers N/A N/A		Sheet 26	
 DAVID EVANS AND ASSOCIATES INC. 1600 Broadway Street, Suite 800 Denver, Colorado 80202 Phone: 720.946.0969		 Littleton Colorado PUBLIC WORKS DEPT. 2255 W. Berry Avenue Littleton, CO 80120 PHONE 303-795-3863 FAX 303-795-3856		Sheet Subset: TYPs 1 of 1		Subst Sheets: 1 of 1		Sheet 26	

\*NOTE: ALL INTERSECTION ISLANDS SHALL BE BRICK PATTERN, DAVIS COLOR PEWTER OR APPROVED EQUAL AND APPROVED BY THE ENGINEER OUTSIDE OF THE SIDEWALK AND RAMP AREAS.

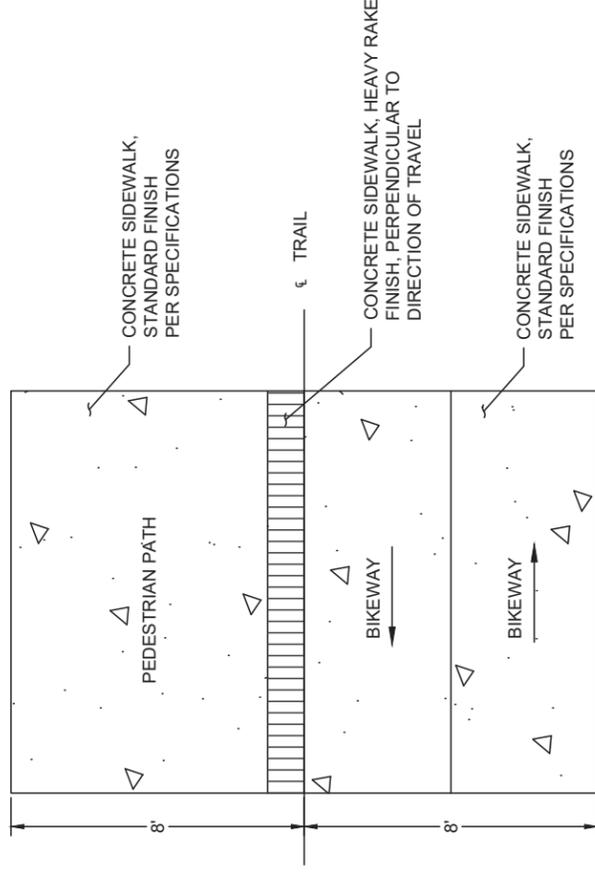


MEDIAN COVER MATERIAL (PATTERNED CONCRETE) DETAIL



\*NOTE: ALL REINFORCEMENT STEEL SHALL BE IN SHEETS. LAP ALL JOINTS A MINIMUM OF 6"

BIKEWAY REINFORCEMENT DETAIL  
NTS



TRAIL/PATH SEPARATION DETAIL  
NTS

Print Date: 8/27/2024

File Name: LITN0001\_RH\_BID-1-TypSecs01.dwg

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Sheet Revisions

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Void:

Designer: SARD  
Detailer: SARD

Sheet Subset: CD

Structure Numbers  
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N/A

Subset Sheets: 01 of 01

MINERAL MOBILITY IMPROVEMENTS – BID 1  
MINERAL AVE – CONSTRUCTION DETAILS

Project No./Code  
C MB10-019

24364

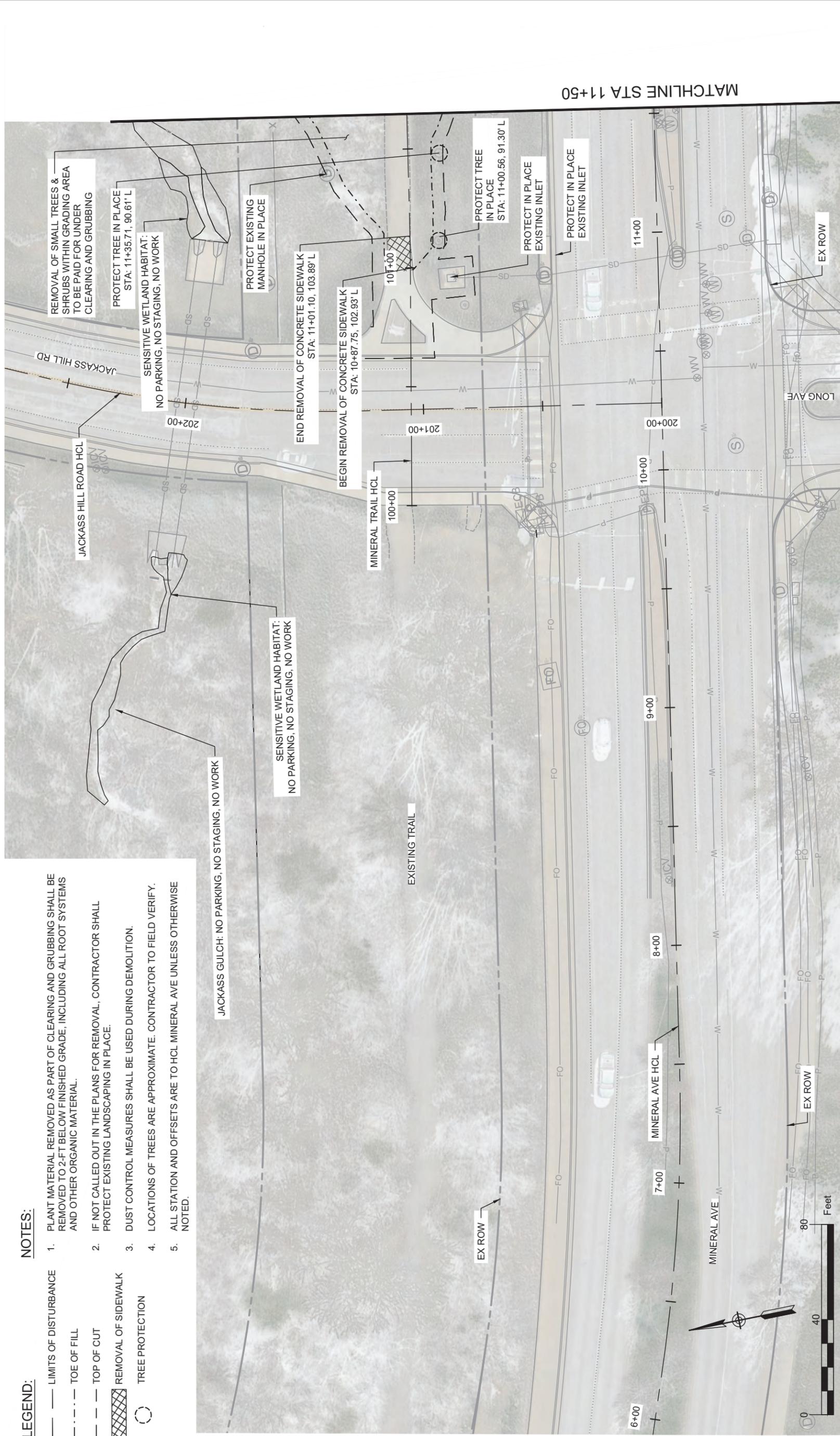
Sheet 27

**LEGEND:**

- LIMITS OF DISTURBANCE
- - - - - TOE OF FILL
- - - - - TOP OF CUT
- ▨ REMOVAL OF SIDEWALK
- TREE PROTECTION

**NOTES:**

1. PLANT MATERIAL REMOVED AS PART OF CLEARING AND GRUBBING SHALL BE REMOVED TO 2-FT BELOW FINISHED GRADE, INCLUDING ALL ROOT SYSTEMS AND OTHER ORGANIC MATERIAL.
2. IF NOT CALLED OUT IN THE PLANS FOR REMOVAL, CONTRACTOR SHALL PROTECT EXISTING LANDSCAPING IN PLACE.
3. DUST CONTROL MEASURES SHALL BE USED DURING DEMOLITION.
4. LOCATIONS OF TREES ARE APPROXIMATE. CONTRACTOR TO FIELD VERIFY.
5. ALL STATION AND OFFSETS ARE TO HCL MINERAL AVE UNLESS OTHERWISE NOTED.



MATCHLINE STA 11+50

Print Date: 8/27/2024

File Name: LITN0001\_RH\_BID-1-Removal Plans.dwg

Horiz. Scale: 1"=40' Vert. Scale: N/A



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Phone: 720.946.0969

**Sheet Revisions**

Date:	Comments	Init.

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**As Constructed**

No Revisions:

Revised:

Void:

MINERAL MOBILITY IMPROVEMENTS – BID 1  
MINERAL AVE – REMOVAL PLAN  
BEGIN TO STA 11+50

Designer: MJE

Detailer: MJE

Structure Numbers: N/A

Sheet Subset: REM

Subset Sheets: 01 of 09

Project No./Code

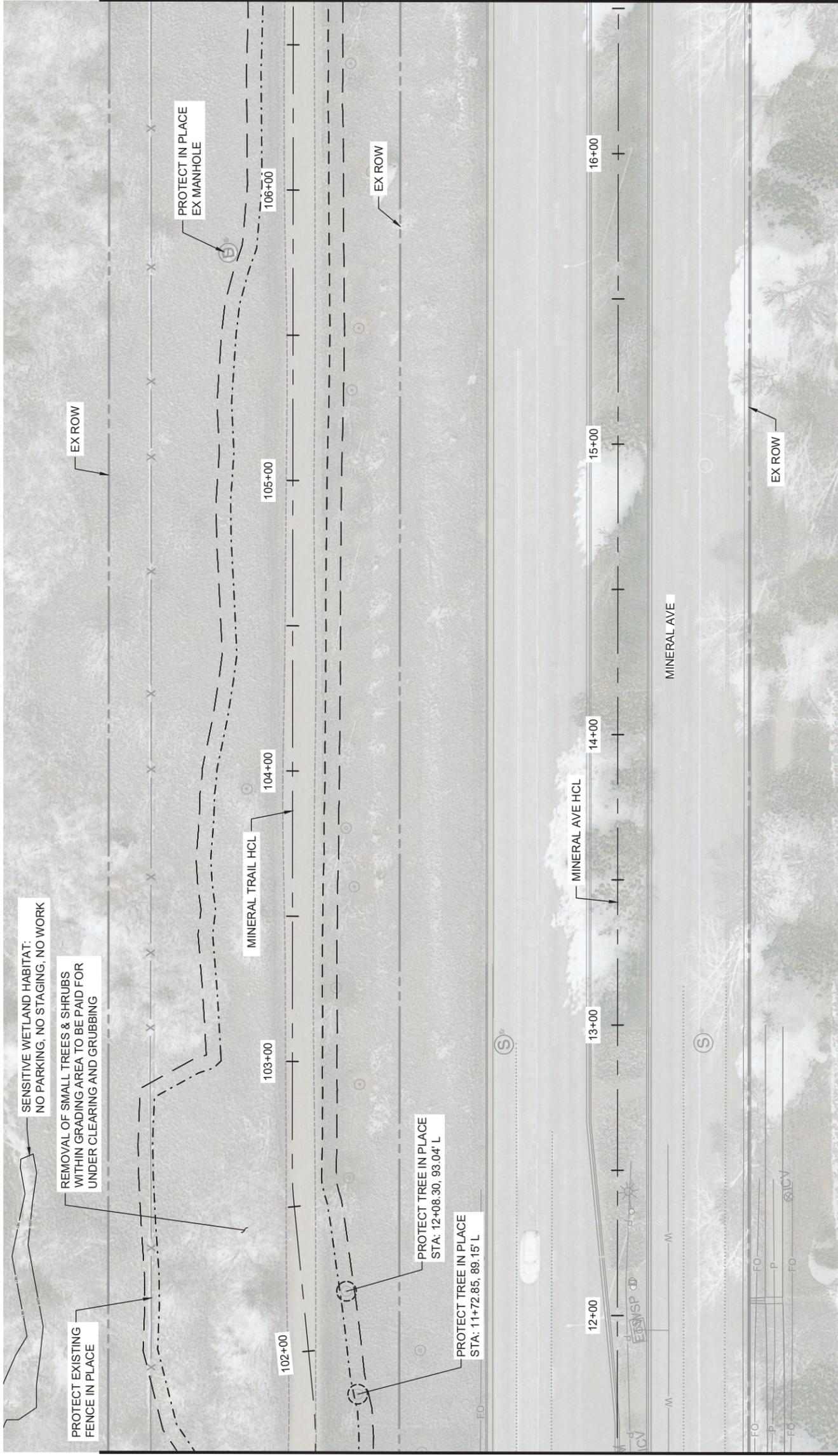
C M810-019

24364

Sheet 28

MATCHLINE STA 11+50

MATCHLINE STA 16+50



**LEGEND:**

- LIMITS OF DISTURBANCE
- - - - - TOE OF FILL
- - - - - TOP OF CUT
- TREE PROTECTION

**NOTES:**

1. PLANT MATERIAL REMOVED AS PART OF CLEARING AND GRUBBING SHALL BE REMOVED TO 2-FT BELOW FINISHED GRADE, INCLUDING ALL ROOT SYSTEMS AND OTHER ORGANIC MATERIAL.
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Print Date: 8/22/2024  
 File Name: LITN0001\_RH\_BID-1-Removal Plans.dwg  
 Horiz. Scale: 1"=40' Vert. Scale: N/A

Sheet Revisions	
Date:	Comments

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No Revisions:	
Revised:	
Void:	

MINERAL MOBILITY IMPROVEMENTS – BID 1	
MINERAL AVE – REMOVAL PLAN	
STA 11+50 TO STA 16+50	
Designer: MJE	Structure Numbers: N/A
Detailer: MJE	N/A
Sheet Subset: REM	Sheet Sheets: 02 of 09

Project No./Code	
C M810-019	
24364	
Sheet	29

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**LEGEND:**

- LIMITS OF DISTURBANCE
- - - - - TOE OF FILL
- - - - - TOP OF CUT

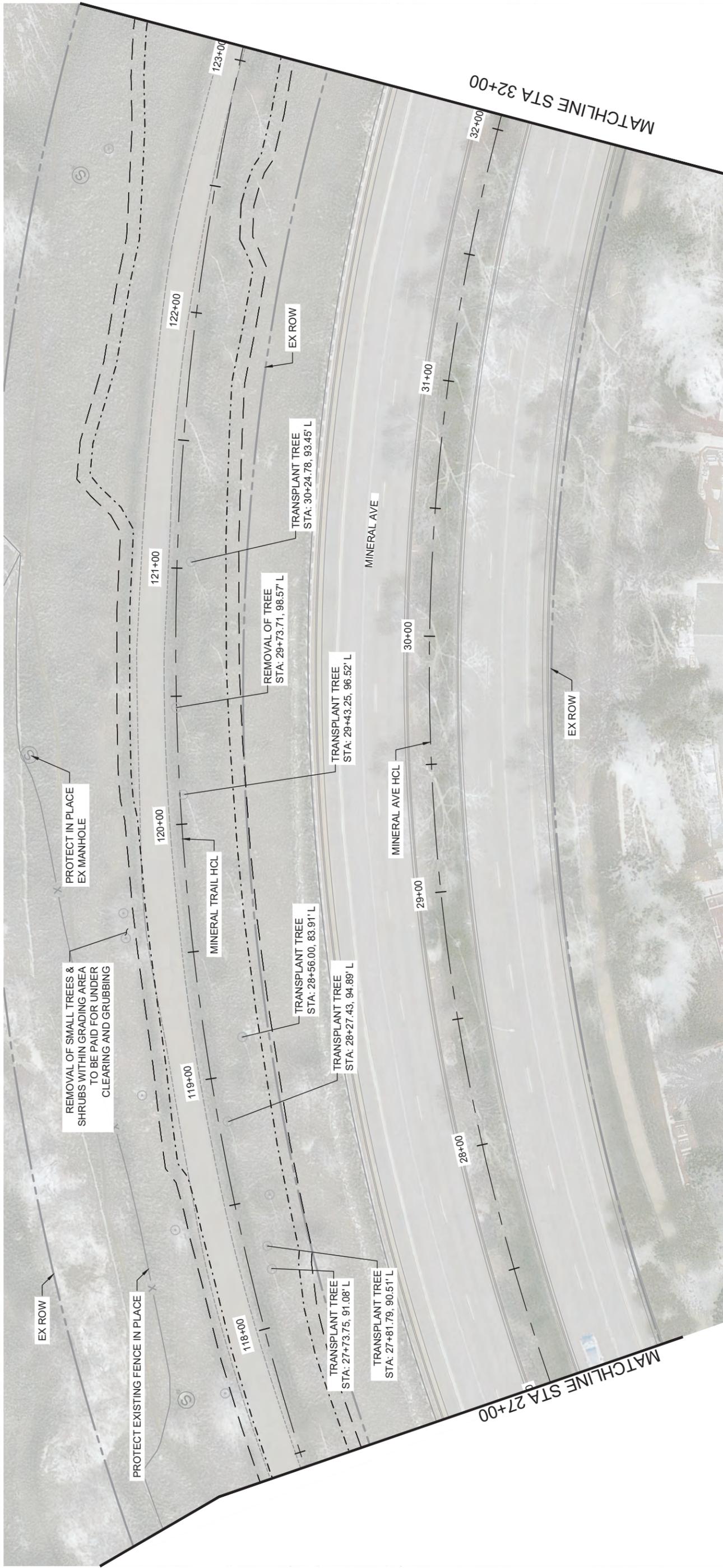
**NOTES:**

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File Name: LITN0001_RH_BID-1-Removal Plans.dwg		Date:	Comments	No Revisions:		MINERAL AVE – REMOVAL PLAN		C M810-019	
Horiz. Scale: 1"=40'				Revised:		STA 22+00 TO STA 27+00		24364	
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						Sheet Subset: REM		Subset Sheets: 04 of 09	
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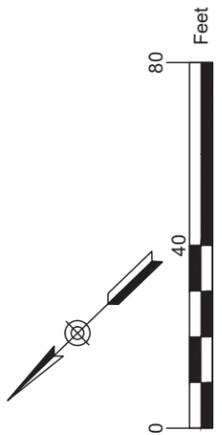


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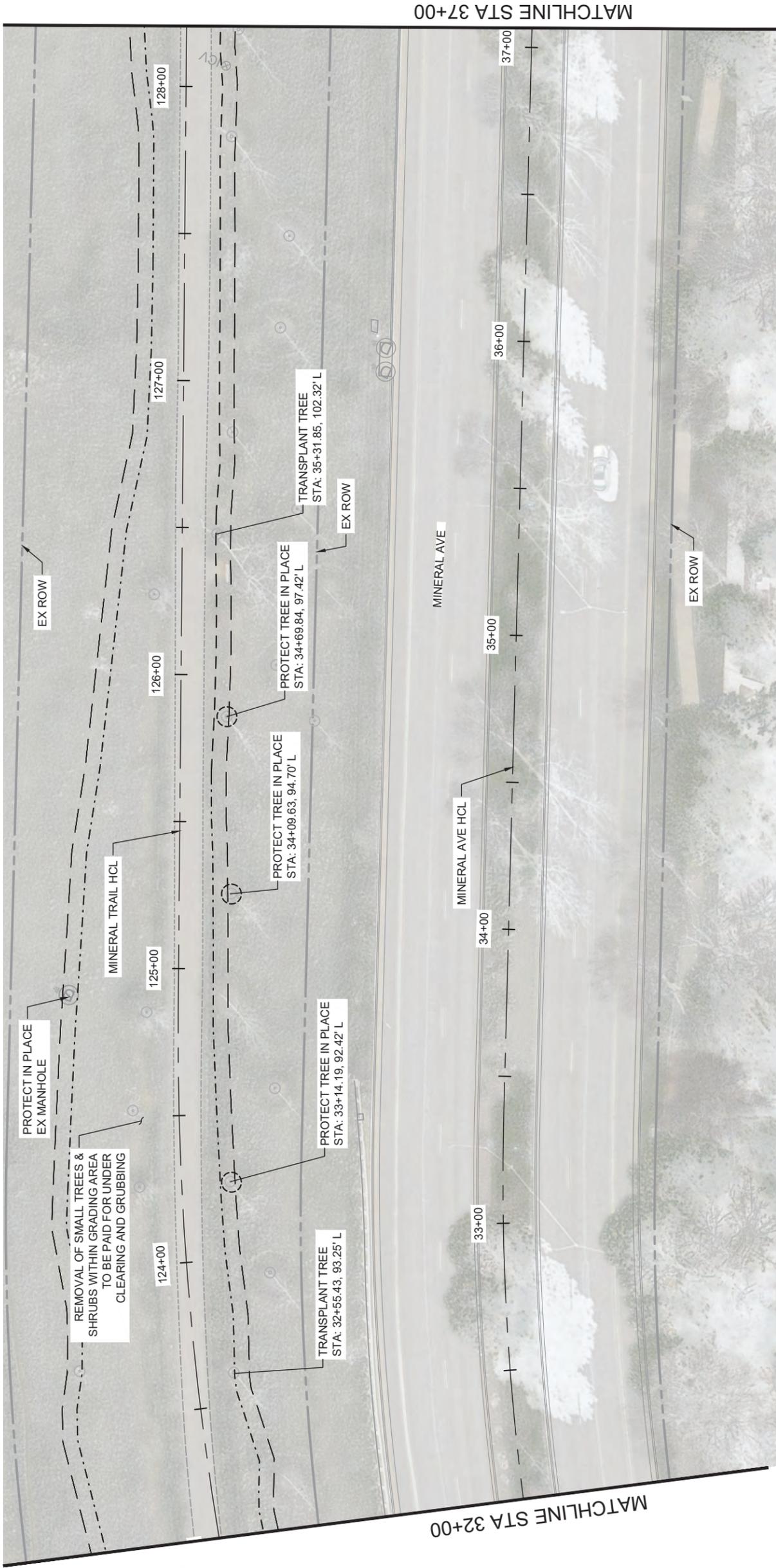
- LIMITS OF DISTURBANCE
- - - - - TOE OF FILL
- - - - - TOP OF CUT

**NOTES:**

1. PLANT MATERIAL REMOVED AS PART OF CLEARING AND GRUBBING SHALL BE REMOVED TO 2-FT BELOW FINISHED GRADE, INCLUDING ALL ROOT SYSTEMS AND OTHER ORGANIC MATERIAL.
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Print Date: 8/22/2024 File Name: LITN0001_RH_BID-1-Removal Plans.dwg Horiz. Scale: 1"=40' Vert. Scale: N/A	<p><b>PUBLIC WORKS DEPT.</b>                  2255 W. Berry Avenue                  Littleton, CO 80120                  PHONE 303-795-3863                  FAX 303-795-3856</p>	<b>As Constructed</b> No Revisions: Revised: Void:	MINERAL MOBILITY IMPROVEMENTS – BID 1 MINERAL AVE – REMOVAL PLAN STA 27+00 TO STA 32+00 Designer: MJE Detailer: MJE Sheet Subset: REM														
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Comments	Date	Init.															
<p><b>DAVID EVANS AND ASSOCIATES INC.</b>                  1800 Broadway Street Suite 800                  Denver Colorado 80202                  Phone: 720.946.0969</p>			Structure Numbers N/A Detailer: MJE N/A Sheet Subset: REM 05 of 09 Sheet 32														



**LEGEND:**

- LIMITS OF DISTURBANCE
- - - TOE OF FILL
- - - TOP OF CUT
- TREE PROTECTION

**NOTES:**

1. PLANT MATERIAL REMOVED AS PART OF CLEARING AND GRUBBING SHALL BE REMOVED TO 2' BELOW FINISHED GRADE, INCLUDING ALL ROOT SYSTEMS AND OTHER ORGANIC MATERIAL.
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Print Date: 8/22/2024		Sheet Revisions		As Constructed		MINERAL MOBILITY IMPROVEMENTS – BID 1		Project No./Code	
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Horiz. Scale: 1"=40'				Revised:		STA 32+00 TO STA 37+00		24364	
Vert. Scale: N/A				Void:		Designer: MJE		Structure Numbers	
 DAVID EVANS AND ASSOCIATES INC. 1600 Broadway Street Suite 600 Denver Colorado 80202 Phone: 720.946.0969						Detailer: MJE		N/A	
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								Sheet 33	

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- LEGEND:**
- LIMITS OF DISTURBANCE
  - - - - TOE OF FILL
  - - - - TOP OF CUT
  - TREE PROTECTION

**NOTES:**

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Print Date: 8/22/2024  
 File Name: LITN0001\_RH\_BID-1-Removal Plans.dwg  
 Horiz. Scale: 1"=40' Vert. Scale: N/A

Sheet Revisions	
Date:	Comments

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No Revisions:	
Revised:	
Void:	

MINERAL MOBILITY IMPROVEMENTS - BID 1	
MINERAL AVE - REMOVAL PLAN	
STA 37+00 TO STA 42+00	
Designer: MJE	Structure Numbers N/A
Detailer: MJE	N/A
Sheet Subset: REM	Subst Sheets: 07 of 09

Project No./Code	
C M810-019	
24364	
Sheet	34

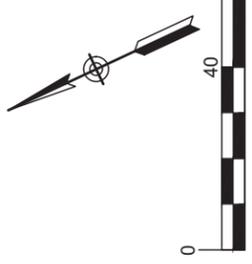


**LEGEND:**

- LIMITS OF DISTURBANCE
- - - TOE OF FILL
- - - TOP OF CUT

**NOTES:**

1. PLANT MATERIAL REMOVED AS PART OF CLEARING AND GRUBBING SHALL BE REMOVED TO 2' BELOW FINISHED GRADE, INCLUDING ALL ROOT SYSTEMS AND OTHER ORGANIC MATERIAL.
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Print Date: 8/22/2024  
 File Name: LITN0001\_RH\_BID-1-Removal Plans.dwg  
 Horiz. Scale: 1"=40' Vert. Scale: N/A

Sheet Revisions	
Date:	Comments

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 Revised:  
 Void:

MINERAL MOBILITY IMPROVEMENTS – BID 1  
 MINERAL AVE – REMOVAL PLAN  
 STA 42+00 TO STA 47+00  
 Designer: MJE  
 Detailer: MJE  
 Structure Numbers: N/A  
 Sheet Subset: REM  
 Subst Sheets: 08 of 09

Project No./Code  
 C M810-019  
 24364  
 Sheet 35

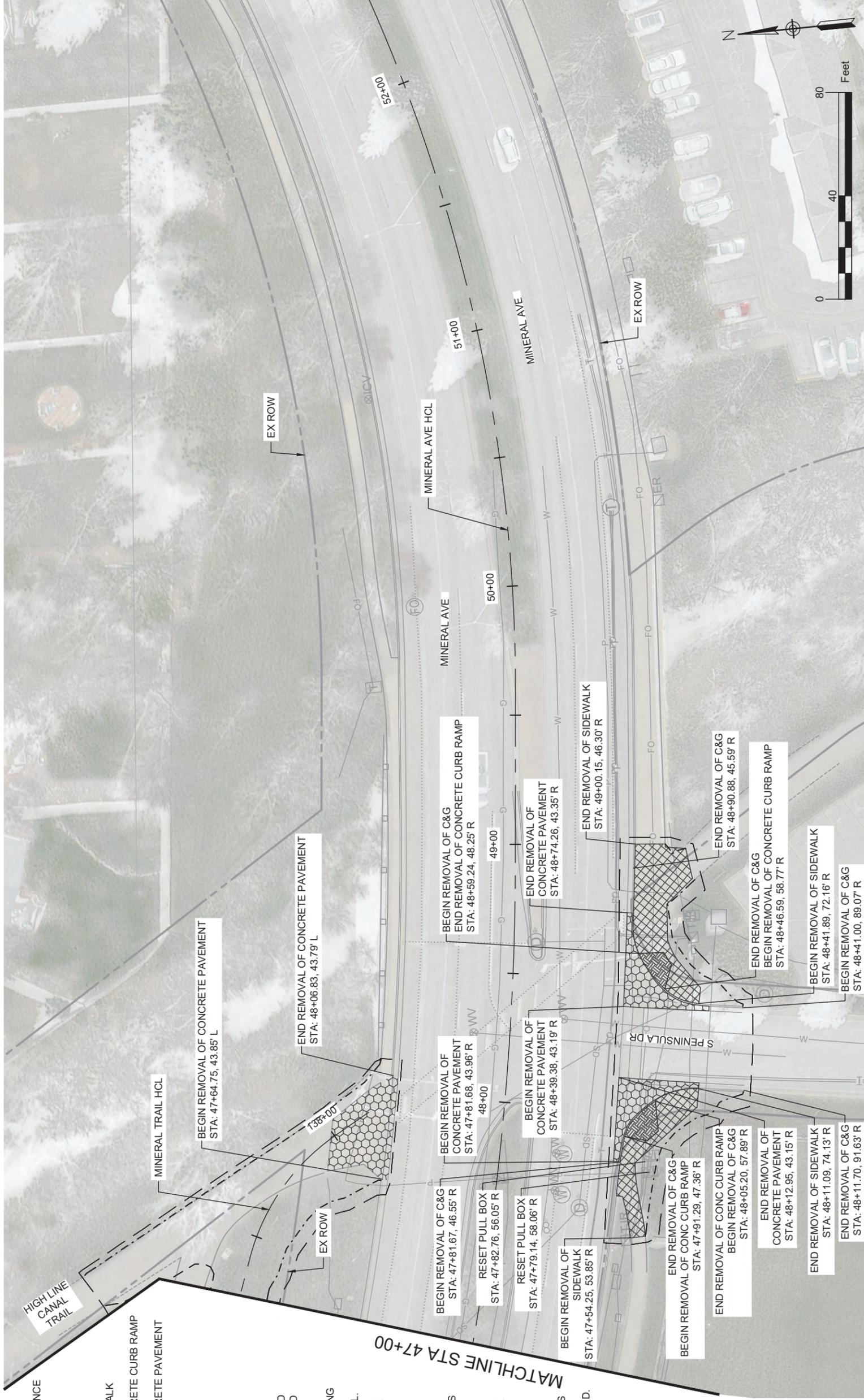
**DAVID EVANS AND ASSOCIATES INC.**  
 1800 Broadway Street Suite 800  
 Denver Colorado 80202  
 Phone: 720.946.0969

**LEGEND:**

- LIMITS OF DISTURBANCE
- - - - TOE OF FILL
- - - - TOP OF CUT
- ▨ REMOVAL OF SIDEWALK
- ▨ REMOVAL OF CONCRETE CURB RAMP
- ▨ REMOVAL OF CONCRETE PAVEMENT

**NOTES:**

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**Sheet Revisions**

Date:	Comments	Init.

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MINERAL MOBILITY IMPROVEMENTS – BID 1  
MINERAL AVE – REMOVAL PLAN  
STA 47+00 TO END

Designer: MJE

Detailer: MJE

Sheet Subset: REM

Structure Numbers: N/A

Structure Numbers: N/A

Subset Sheets: 09 of 09

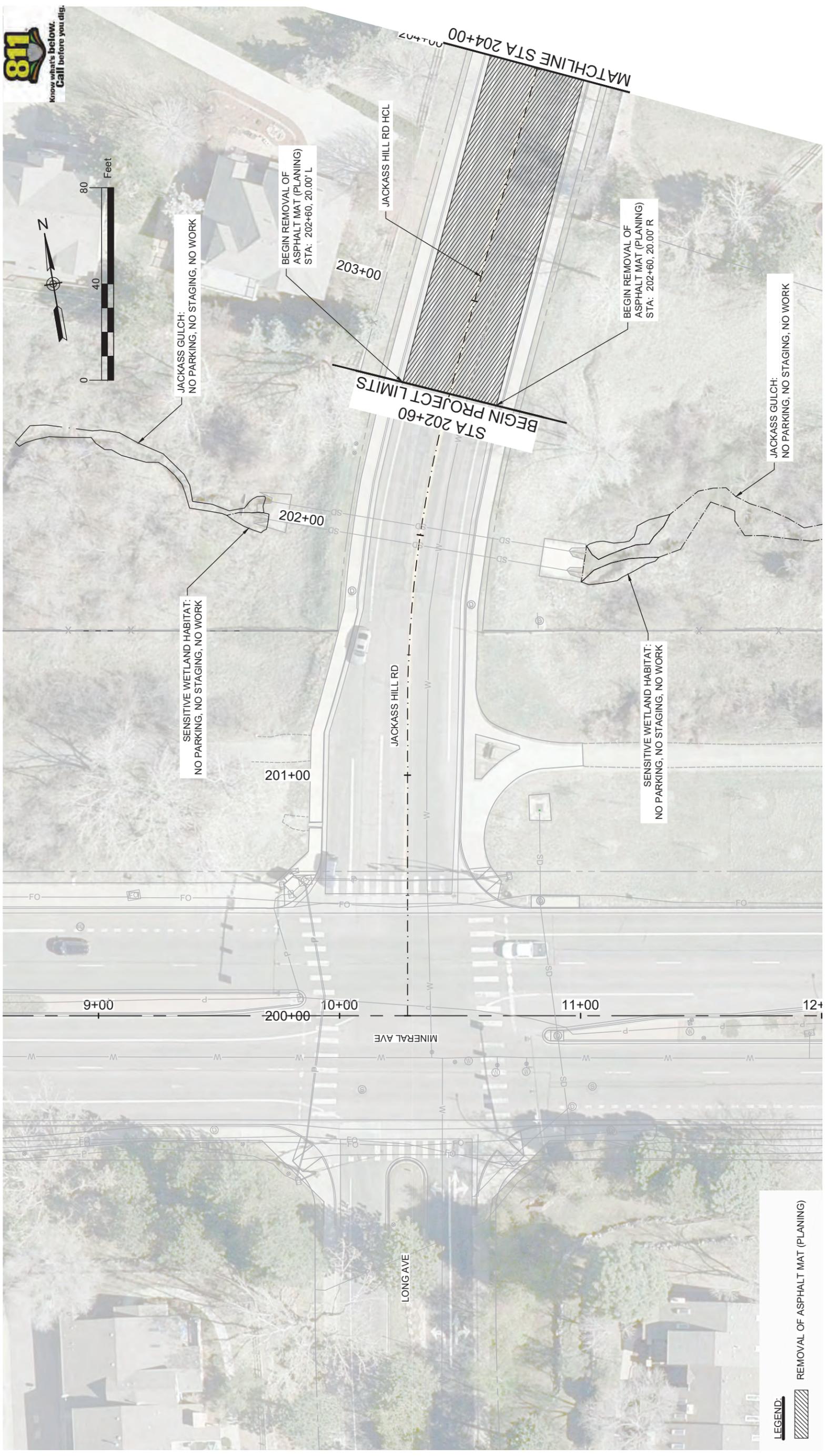
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C M810-019

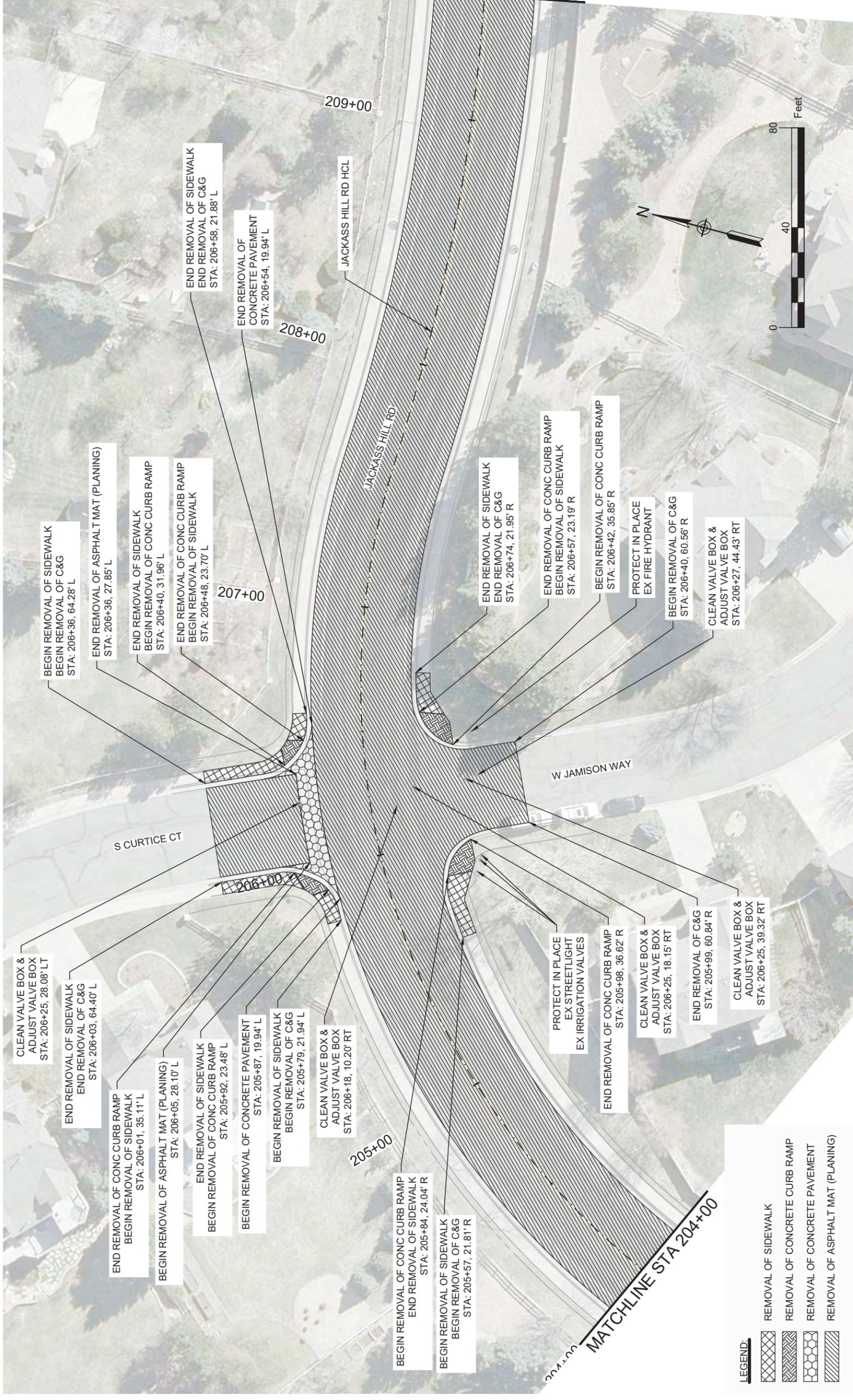
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36

Sheet



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	Date:	Comments:			
 DAVID EVANS AND ASSOCIATES INC. 1600 Broadway Street, Suite 800 Denver, Colorado 80202 Phone: 720.946.0989	 PUBLIC WORKS DEPT. 2255 W. Berry Avenue Littleton, CO 80120 PHONE 303-795-3863 FAX 303-795-3856		Designer: CM Detailer: CM Sheet Subset: REM	Structure Numbers N/A N/A	Sheet 37

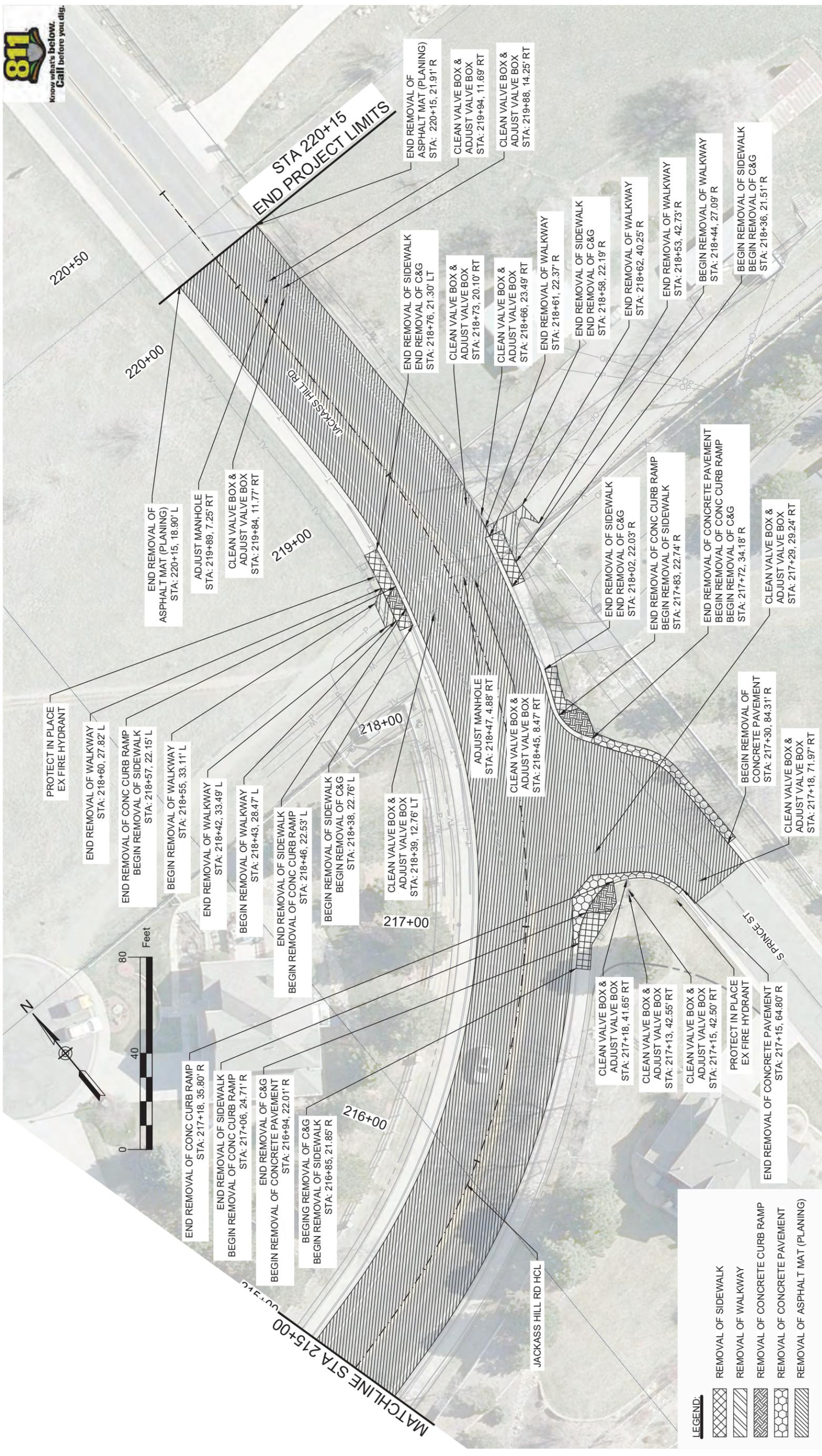


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File Name: RM-PLN.dwg		C M810-019	
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Y2K ENGINEERING 1921 S Alma School Rd. Suite 204 Denver, Colorado 80210 www.y2keng.com		Designer: CM Detailer: CM Structure Numbers: N/A Sheet Subsets: REM 2 of 4	
<b>As Constructed</b> No Revisions: Revised: Void:		Sheet Subsets: REM 2 of 4 Structure Numbers: N/A Sheet: 38	
<b>Sheet Revisions</b> Date:      Comments      Init.		PUBLIC WORKS DEPT. 2255 W. Berry Avenue Littleton, CO 80120 PHONE 303-795-3863 FAX 303-795-3856	
		0000	



**LEGEND:**  
 REMOVAL OF ASPHALT MAT (PLANNING)

Print Date: 6/18/2024 File Name: RM-PLN.dwg Horiz. Scale: 1" = 40' Vert. Scale: N/A		 <b>DAVID EVANS AND ASSOCIATES INC.</b> 1600 Broadway Street, Suite 800 Denver, Colorado 80202 Phone: 720.946.0989		 <b>PUBLIC WORKS DEPT.</b> 2255 W. Berry Avenue Littleton, CO 80120 PHONE 303-795-3863 FAX 303-795-3856		Project No./Code C M810-019 24364 Sheet 39	
		<b>Sheet Revisions</b>		<b>As Constructed</b>		<b>MINERAL MOBILITY IMPROVEMENTS – BID 1          JACKASS HILL ROAD – REMOVAL PLANS          STA 209+50 TO STA 215+00</b>	
Date:	Init.	Comments	No Revisions:	Revised:	Void:	Designer: CM	Structure Numbers
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						Sheet Subsets: REM	Subset Sheets: 3 of 4

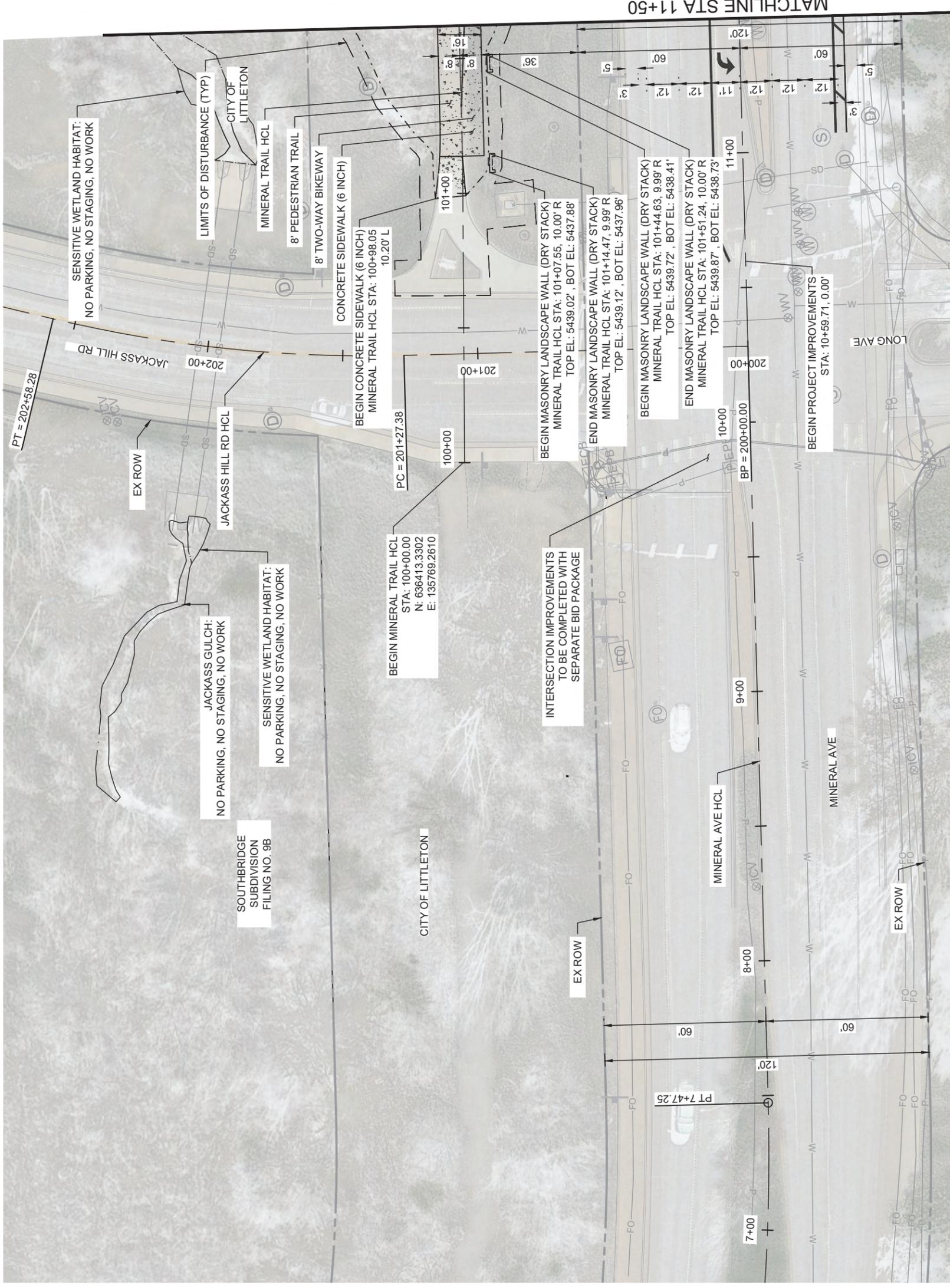


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Date:	Comments	Init.																	
<b>Littleton Colorado</b> PUBLIC WORKS DEPT. 2255 W. Berry Avenue Littleton, CO 80120 PHONE 303-795-3863 FAX 303-795-3856				MINERAL MOBILITY IMPROVEMENTS - BID 1 JACKASS HILL ROAD - REMOVAL PLANS STA 215+00 TO STA 220+15 Designer: CM Detailer: CM Sheet Subset: REM Structure Numbers: N/A Subst Sheets: 4 of 4															
<b>DAVID EVANS AND ASSOCIATES INC.</b> 1600 Broadway Street, Suite 800 Denver Colorado 80202 Phone: 720.946.0989 				Sheet 40															

- LEGEND:**
- LIMITS OF DISTURBANCE
  - - - TOP OF CUT
  - - - - - TOE OF FILL
  - ▨ CONCRETE SIDEWALK (6 INCH)

**NOTES:**

1. SEE SIGNING & STRIPING PLAN FOR TRAFFIC REMOVALS AND IMPROVEMENTS.
2. ALL STATIONS AND OFFSETS ARE TO HCL MINERAL AVE UNLESS OTHERWISE NOTED.



MATCHLINE STA 11+50

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 File Name: LITN0001\_RH\_BID-1-Plans.dwg  
 Horiz. Scale: 1"=40' Vert. Scale: N/A



Sheet Revisions	
Date:	Comments

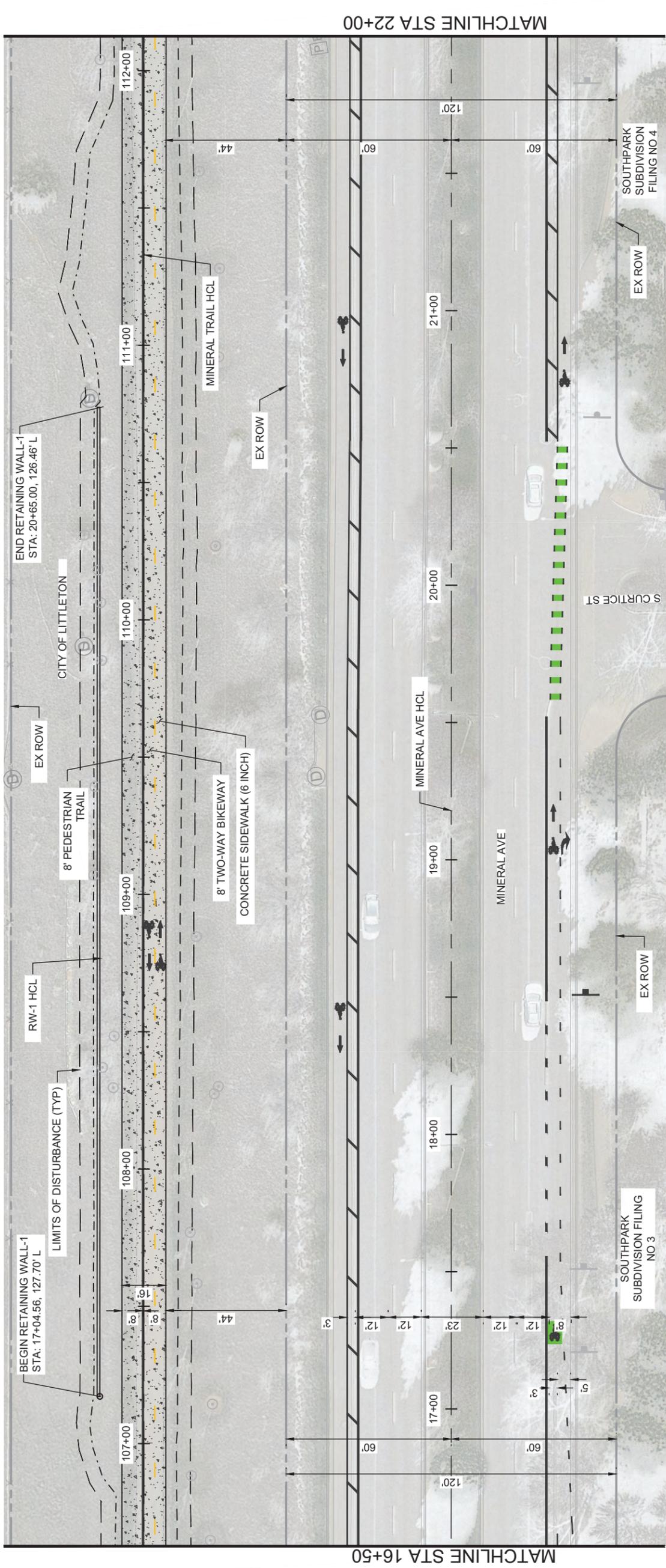
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**As Constructed**  
 No Revisions:  
 Revised:  
 Void:

MINERAL MOBILITY IMPROVEMENTS – BID 1  
 MINERAL AVE – ROADWAY PLAN  
 BEGIN TO STA 11+50  
 Designer: MJE  
 Detailer: MJE  
 Sheet Subset: RDPL

Project No./Code  
 C M810-019  
 Structure Numbers: 24364  
 Subsets: 01 of 09  
 Sheet: 41





- LEGEND:**
- LIMITS OF DISTURBANCE
  - TOP OF CUT
  - TOE OF FILL
  - CONCRETE SIDEWALK (6 INCH)
- NOTES:**
1. SEE SIGNING & STRIPING PLAN FOR TRAFFIC REMOVALS AND IMPROVEMENTS.
  2. ALL STATIONS AND OFFSETS ARE TO HCL MINERAL AVE UNLESS OTHERWISE NOTED.
  3. FOR ADDITIONAL INFORMATION ON RETAINING WALL SEE RETAINING WALL PLAN AND PROFILE SHEET.



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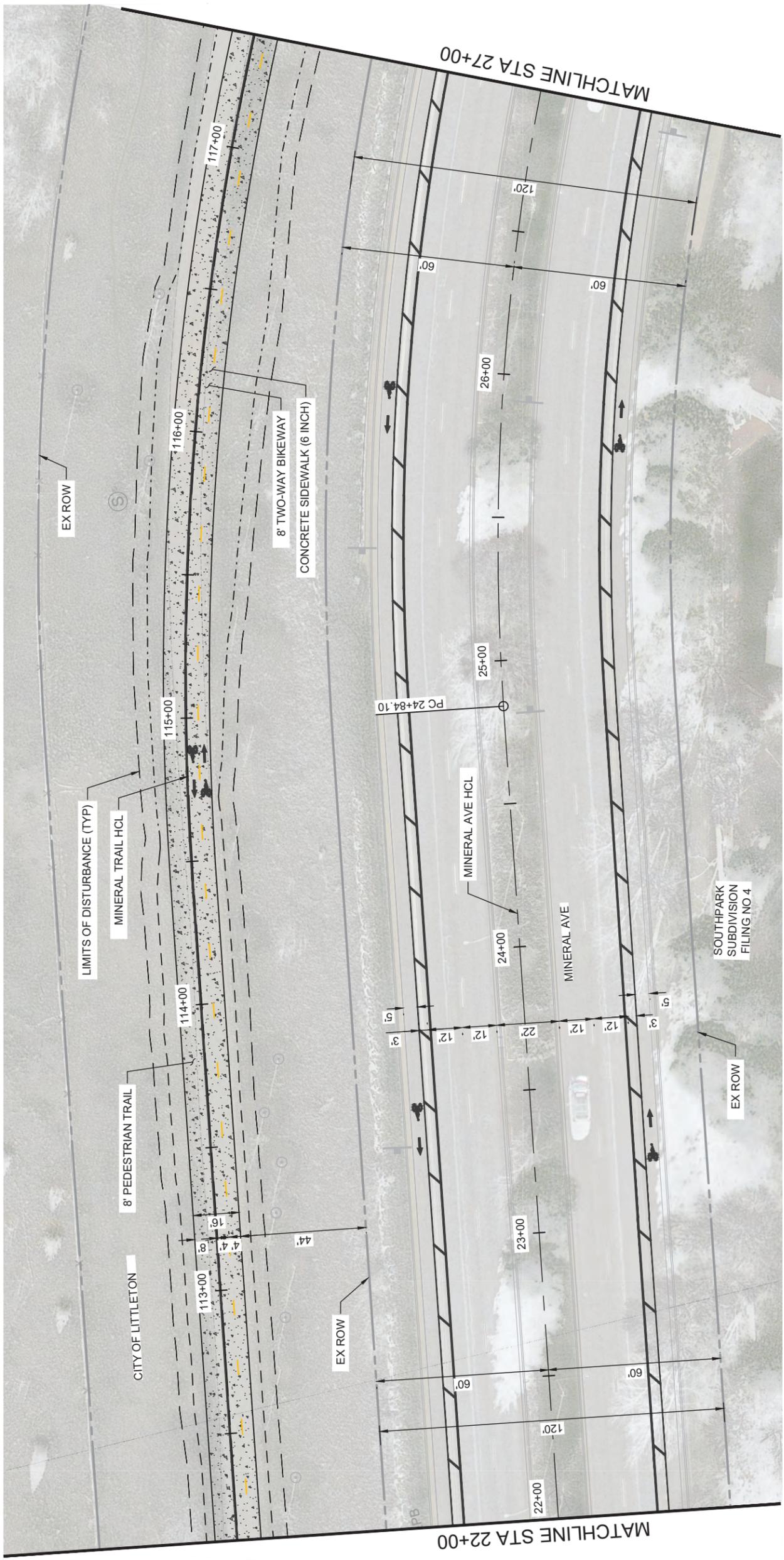
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 Littleton, CO 80120  
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 Denver Colorado 80202  
 Phone: 720.946.0969

**As Constructed**  
 No Revisions:  
 Revised:  
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MINERAL MOBILITY IMPROVEMENTS – BID 1  
 MINERAL AVE – ROADWAY PLAN  
 STA 16+50 TO STA 22+00  
 Designer: MJE  
 Detailer: MJE  
 Structure Numbers: N/A  
 Sheet Subset: RDPL  
 Subst Sheets: 03 of 09

Project No./Code  
 C M810-019  
 24364  
 Sheet 43



- LEGEND:**
- LIMITS OF DISTURBANCE
  - TOP OF CUT
  - TOE OF FILL
  - CONCRETE SIDEWALK (6 INCH)
- NOTES:**
1. SEE SIGNING & STRIPING PLAN FOR TRAFFIC REMOVALS AND IMPROVEMENTS.
  2. ALL STATIONS AND OFFSETS ARE TO HCL MINERAL AVE UNLESS OTHERWISE NOTED.



Print Date: 8/22/2024 File Name: LITN0001_RH_BID-1-Plans.dwg Horiz. Scale: 1"=40'    Vert. Scale: N/A		Sheet Revisions Date:    Comments:    Init.:		As Constructed No Revisions: Revised: Void:		MINERAL MOBILITY IMPROVEMENTS – BID 1 MINERAL AVE – ROADWAY PLAN STA 22+00 TO STA 27+00		Project No./Code C M810-019			
CITY OF LITTLETON PUBLIC WORKS DEPT. 2255 W. Berry Avenue Littleton, CO 80120 PHONE 303-795-3863 FAX 303-795-3856		DAVID EVANS AND ASSOCIATES INC. 1800 Broadway Street Suite 800 Denver Colorado 80202 Phone: 720.946.0969		Designer: MJE Detailer: MJE		Structure Numbers N/A N/A		Sheet Subsets: RDPL Subset Sheets: 04 of 09		Sheet 44	

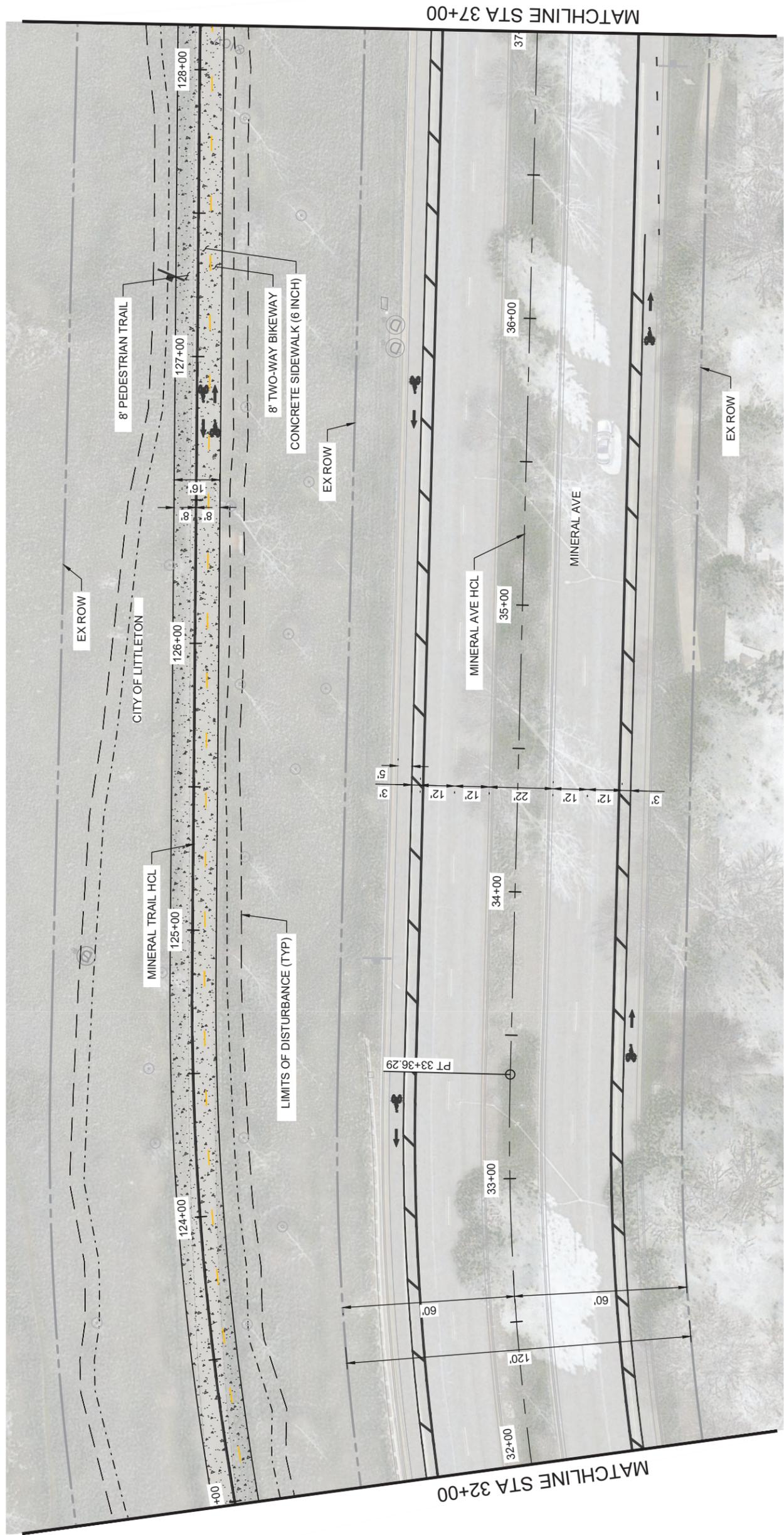


- LEGEND:**
- LIMITS OF DISTURBANCE
  - TOP OF CUT
  - TOE OF FILL
  - CONCRETE SIDEWALK (6 INCH)

**NOTES:**

1. SEE SIGNING & STRIPING PLAN FOR TRAFFIC REMOVALS AND IMPROVEMENTS.
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Print Date: 8/22/2024		Sheet Revisions	
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As Constructed No Revisions: Revised: Void:		MINERAL MOBILITY IMPROVEMENTS – BID 1 MINERAL AVE – ROADWAY PLAN STA 27+00 TO STA 32+00 Designer: MJE Detailer: MJE Sheet Subset: RDPL	
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24364		N/A	
Sheet		Subset Sheets:	
45		05 of 09	



- LEGEND:**
- LIMITS OF DISTURBANCE
  - - - TOP OF CUT
  - · - · - · TOE OF FILL
  - ▨ CONCRETE SIDEWALK (6 INCH)
- NOTES:**
1. SEE SIGNING & STRIPING PLAN FOR TRAFFIC REMOVALS AND IMPROVEMENTS.
  2. ALL STATIONS AND OFFSETS ARE TO HCL MINERAL AVE UNLESS OTHERWISE NOTED.

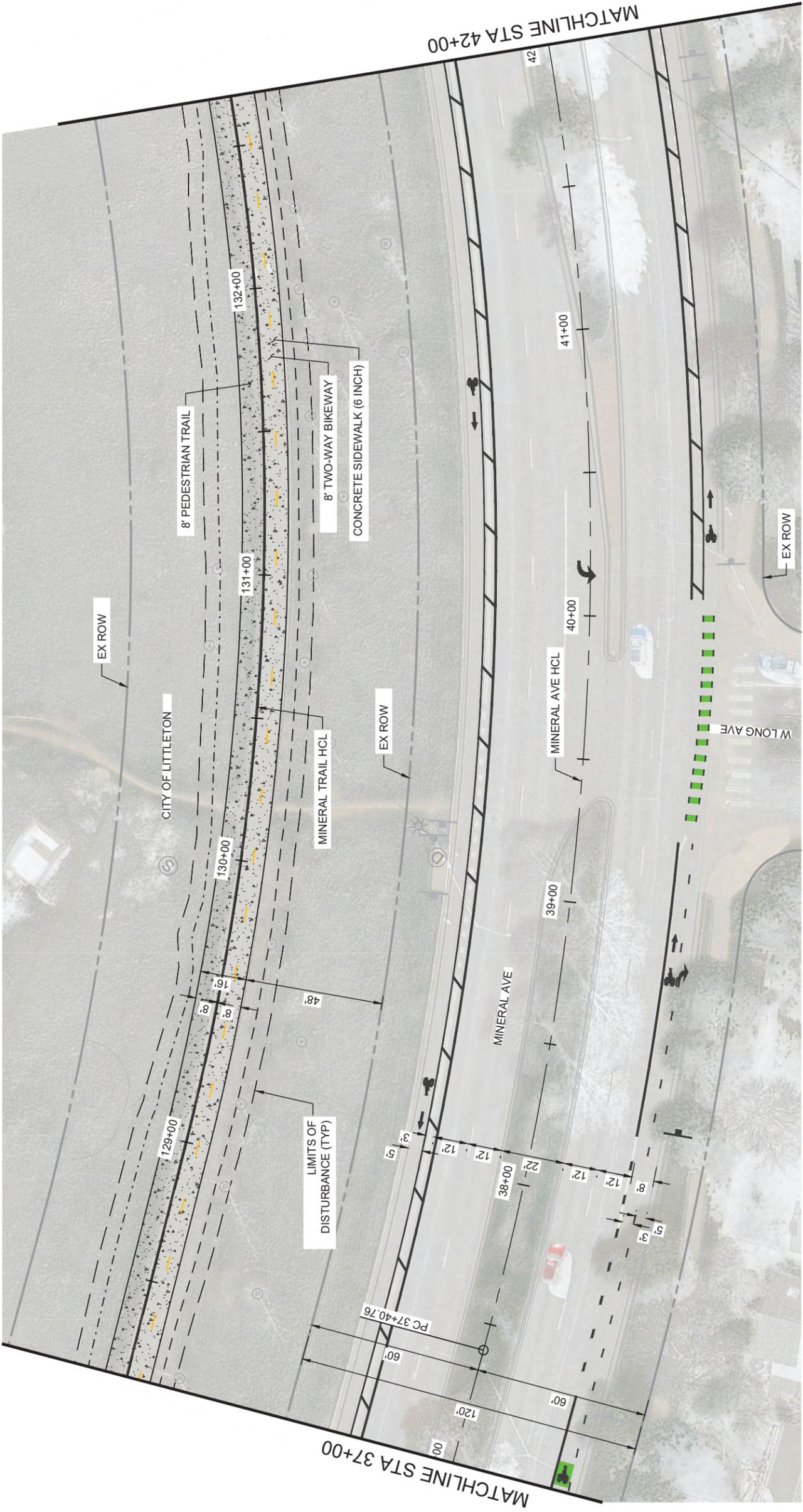
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File Name: LITN0001_RH_BID-1-Plans.dwg		Date:	Comments	MINERAL MOBILITY IMPROVEMENTS – BID 1	
Horiz. Scale: 1"=40'				MINERAL AVE – ROADWAY PLAN	
Vert. Scale: N/A				STA 32+00 TO STA 37+00	
<p><b>DAVID EVANS AND ASSOCIATES INC.</b>                  1800 Broadway Street Suite 800                  Denver Colorado 80202                  Phone: 720.946.0969</p>				Designer: MJE	Structure Numbers
				Detailer: MJE	N/A
				Sheet Subset: RDPL	Subset Sheets: 06 of 09
				Revised:	N/A
				Void:	N/A
				As Constructed	
				No Revisions:	

**LEGEND:**

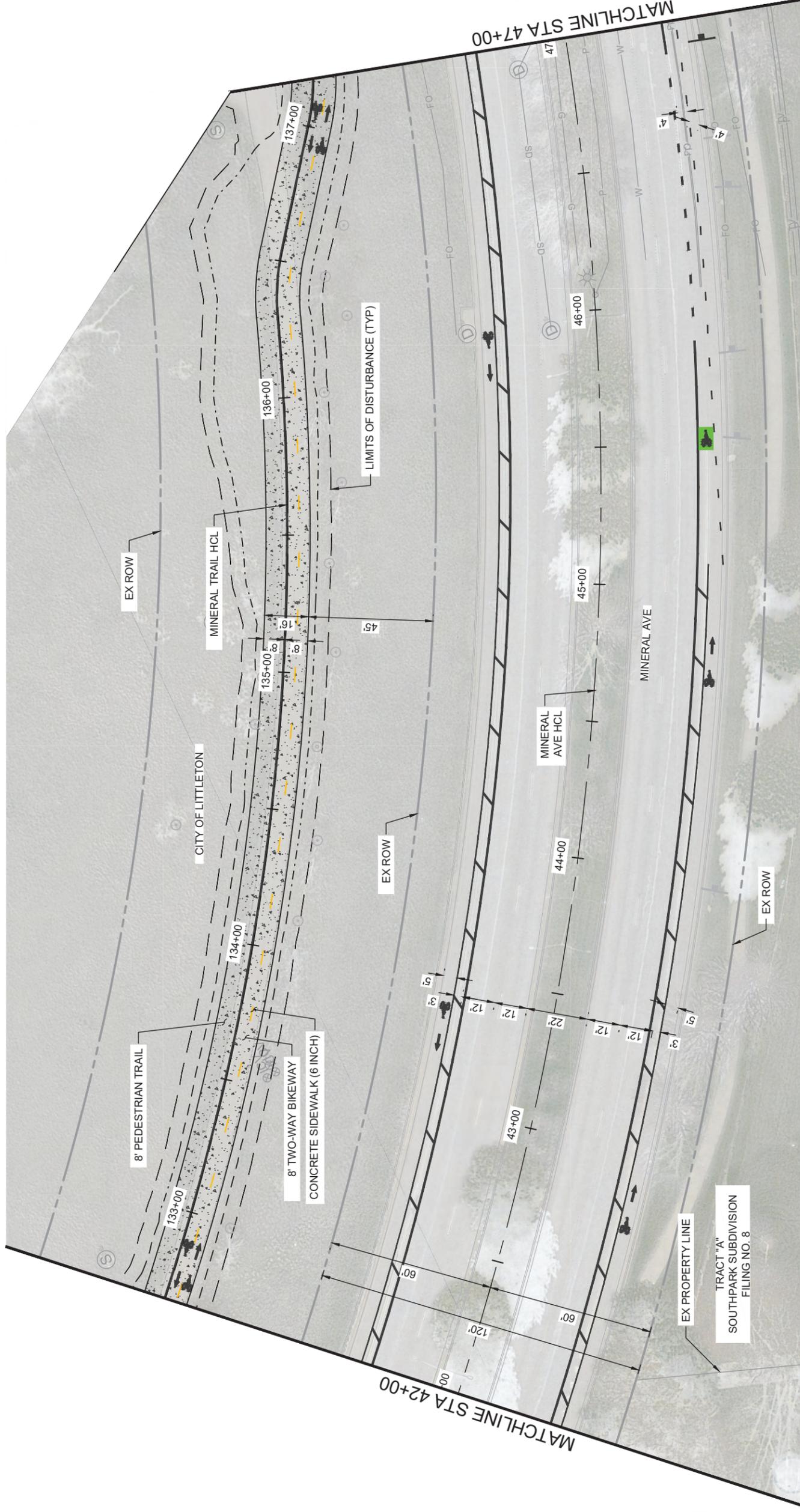
---	LIMITS OF DISTURBANCE
---	TOP OF CUT
---	TOE OF FILL
[Pattern]	CONCRETE SIDEWALK (6 INCH)

**NOTES:**

- SEE SIGNING & STRIPING PLAN FOR TRAFFIC REMOVALS AND IMPROVEMENTS.
- ALL STATIONS AND OFFSETS ARE TO HCL MINERAL AVE UNLESS OTHERWISE NOTED.



Print Date: 8/22/2024	Sheet Revisions		Project No./Code
File Name: LITN0001_RH_BID-1-Plans.dwg	Date:	Comments	MINERAL MOBILITY IMPROVEMENTS - BID 1
Horiz. Scale: 1"=40'			MINERAL AVE - ROADWAY PLAN
 DAVID EVANS AND ASSOCIATES INC. 1600 Broadway Street Suite 600 Denver Colorado 80202 Phone: 720.946.0969			STA 37+00 TO STA 42+00
			Designer: MJE
			Detailer: MJE
			Structure Numbers
			N/A
			Sheet Subsets: RDPL
			Subst Sheets: 07 of 09
			Sheet
			47



- LEGEND:**
- LIMITS OF DISTURBANCE
  - TOP OF CUT
  - - - - - TOE OF FILL
  - [Pattern] CONCRETE SIDEWALK (6 INCH)
- NOTES:**
1. SEE SIGNING & STRIPING PLAN FOR TRAFFIC REMOVALS AND IMPROVEMENTS.
  2. ALL STATIONS AND OFFSETS ARE TO HCL MINERAL AVE UNLESS OTHERWISE NOTED.

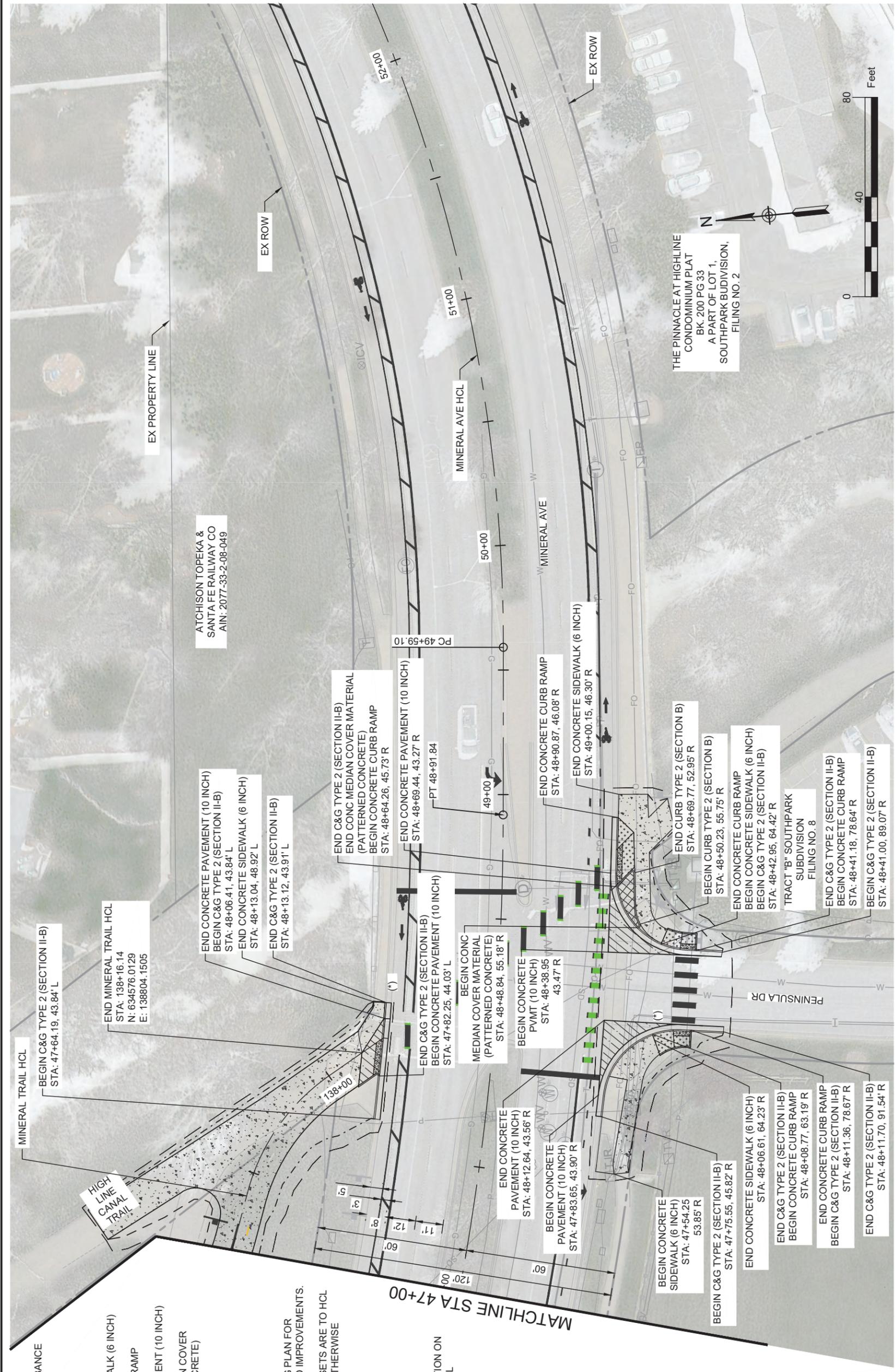
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File Name: LITN0001_RH_BID-1-Plans.dwg		Date:	Comments	MINERAL MOBILITY IMPROVEMENTS - BID 1	
Horiz. Scale: 1"=40'				MINERAL AVE - ROADWAY PLAN	
Vert. Scale: N/A				STA 42+00 TO STA 47+00	
 DAVID EVANS AND ASSOCIATES INC. 1800 Broadway Street Suite 800 Denver Colorado 80202 Phone: 720.946.0969				Designer: MJE	Structure Numbers
				Detailer: MJE	N/A
				Sheet Subset: RDPL	Subset Sheets: 08 of 09
					Sheet 48

**LEGEND:**

---	LIMITS OF DISTURBANCE
---	TOP OF CUT
---	TOE OF FILL
[Pattern]	CONCRETE SIDEWALK (6 INCH)
[Pattern]	CONCRETE CURB RAMP
[Pattern]	CONCRETE PAVEMENT (10 INCH)
[Pattern]	CONCRETE MEDIAN COVER (PATTERNED CONCRETE)

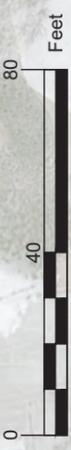
- NOTES:**
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  - ALL STATIONS AND OFFSETS ARE TO HCL MINERAL AVE UNLESS OTHERWISE NOTED.

**PLAN NOTES:**  
 (\*) FOR ADDITIONAL INFORMATION ON GRADING SEE GRADING DETAIL SHEETS

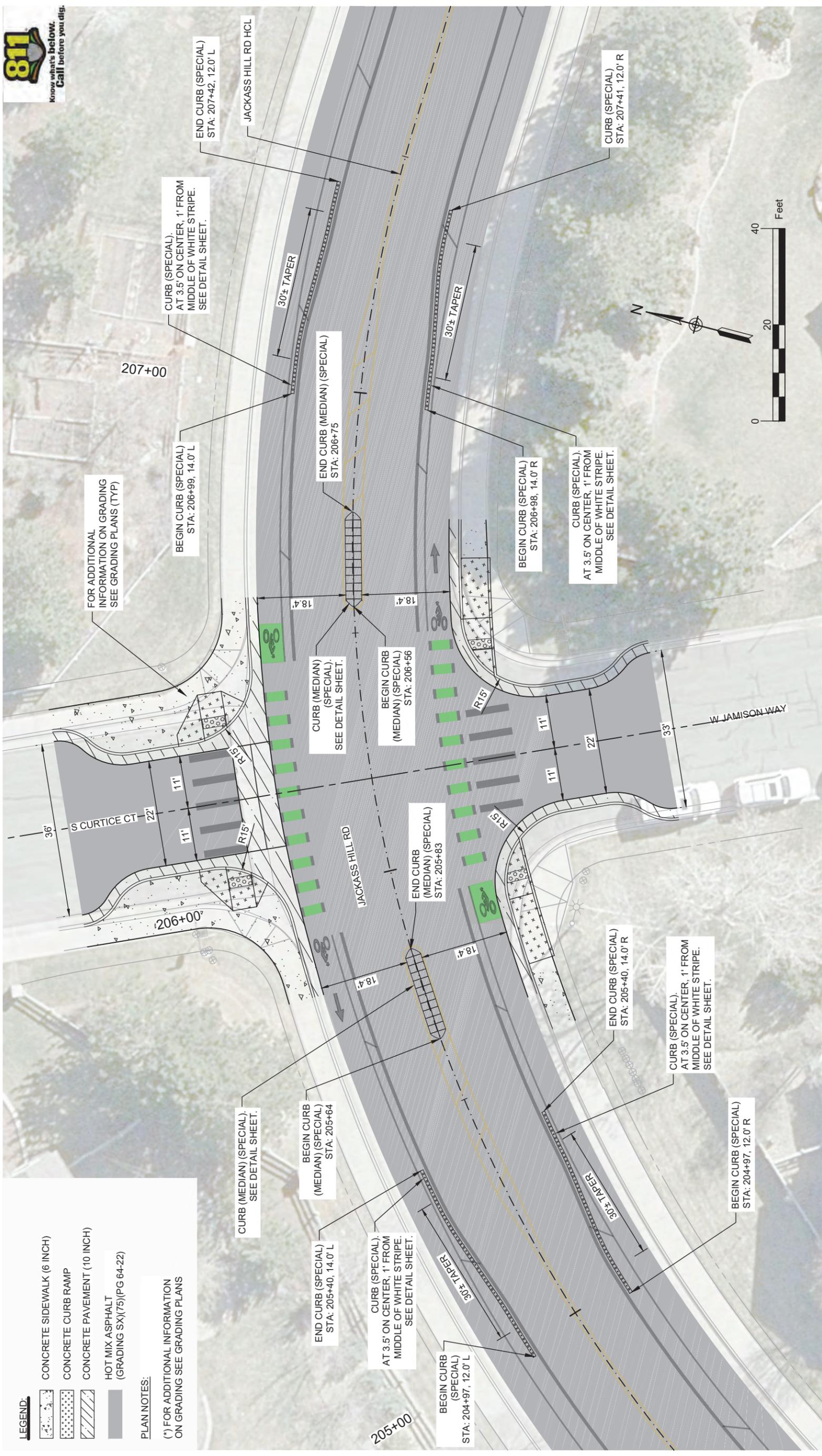


THE PINNACLE AT HIGHLINE CONDOMINIUM PLAT BK 200 PG 33 A PART OF LOT 1, SOUTHPARK BUDIVISION, FILING NO. 2

ATCHISON TOPEKA & SANTA FE RAILWAY CO AIN: 2077-33-2-08-049



Print Date: 8/22/2024	File Name: LITN0001_RH_BID-1-Plans.dwg	Horiz. Scale: 1"=40'	Vert. Scale: N/A															
<p>1600 Broadway Street Suite 600 Denver, Colorado 80202 Phone: 720.946.0969</p>																		
<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: Void:	
Date:	Comments	Init.																
MINERAL MOBILITY IMPROVEMENTS – BID 1 MINERAL AVE – ROADWAY PLAN STA 47+00 TO END		Project No./Code C M810-019																
PUBLIC WORKS DEPT. 2255 W. Berry Avenue Littleton, CO 80120 PHONE 303-795-3863 FAX 303-795-3856		Designer: MJE Detailer: MJE Structure Numbers: N/A N/A Sheet Subset: RDPL Subset Sheets: 09 of 09																
0000		Sheet 49																



**LEGEND:**

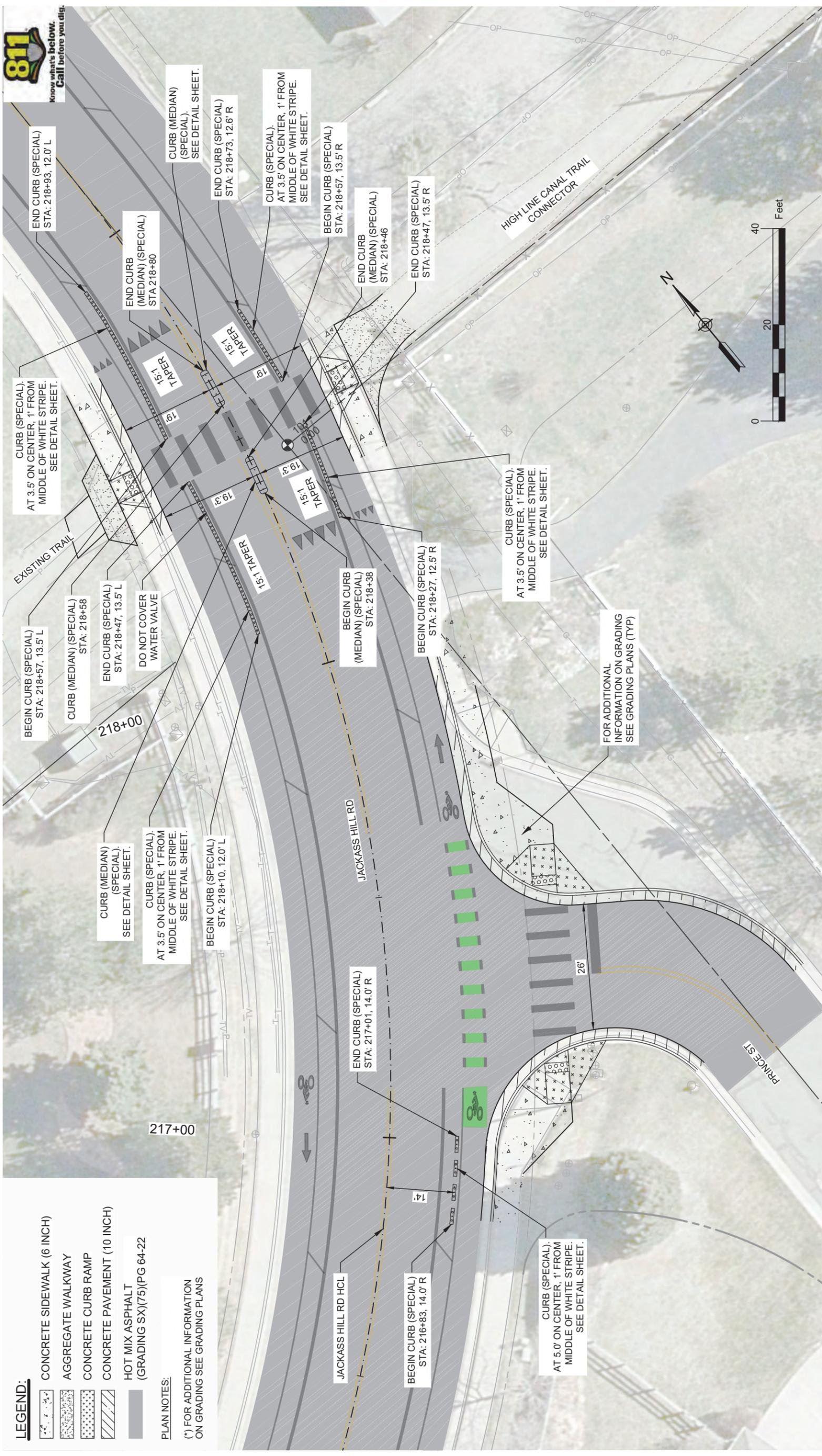
- CONCRETE SIDEWALK (6 INCH)
- CONCRETE CURB RAMP
- CONCRETE PAVEMENT (10 INCH)
- HOT MIX ASPHALT (GRADING SX)(75)(PG 64-22)

**PLAN NOTES:**

(\*) FOR ADDITIONAL INFORMATION ON GRADING SEE GRADING PLANS



		<b>PUBLIC WORKS DEPT.</b> 2255 W. Berry Avenue Littleton, CO 80120 PHONE 303-795-3863 FAX 303-795-3856		<b>As Constructed</b> No Revisions: Revised: Void:		<b>Project No./Code</b> C MB10-019 Designer: CM Detailer: CM Structure Numbers Sheet Subset: RDPL Sheet 1 of 2																
Print Date: 3/13/2024 File Name: RD-PLN.dwg Horiz. Scale: 1" = 20' Vert. Scale: N/A		Sheet Revisions <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Date:</th> <th>Comments</th> <th>Init.</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>		Date:	Comments	Init.															Project No./Code C MB10-019 Designer: CM Detailer: CM Structure Numbers Sheet Subset: RDPL Sheet 1 of 2	
Date:	Comments	Init.																				

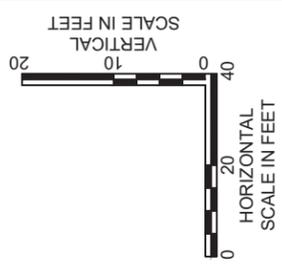
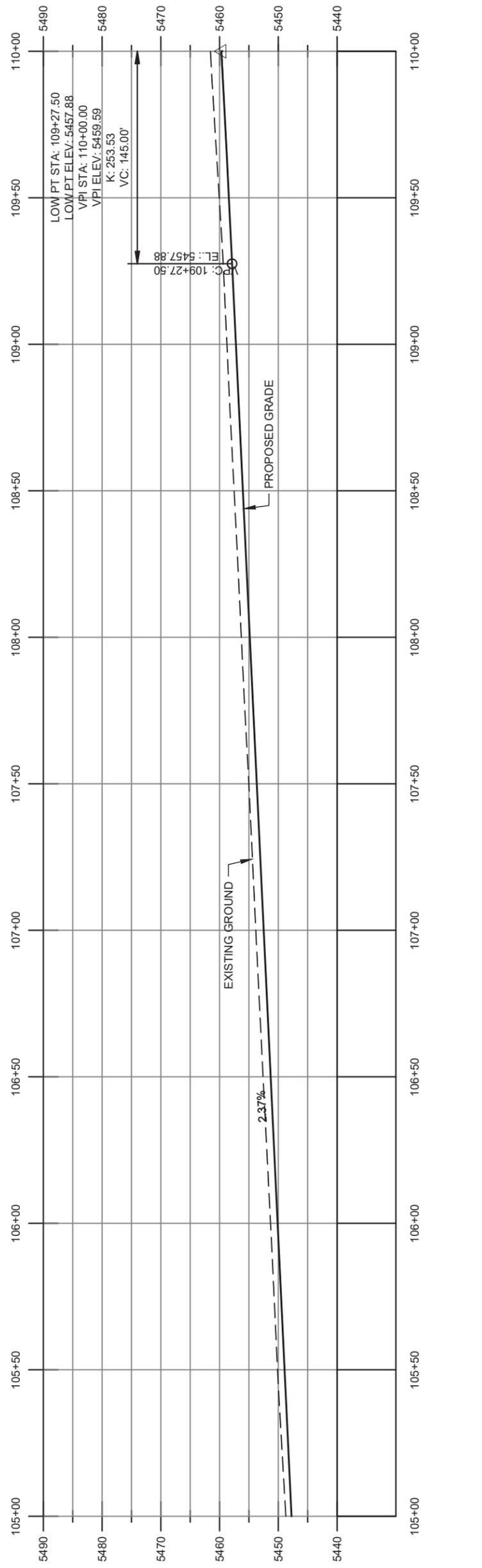
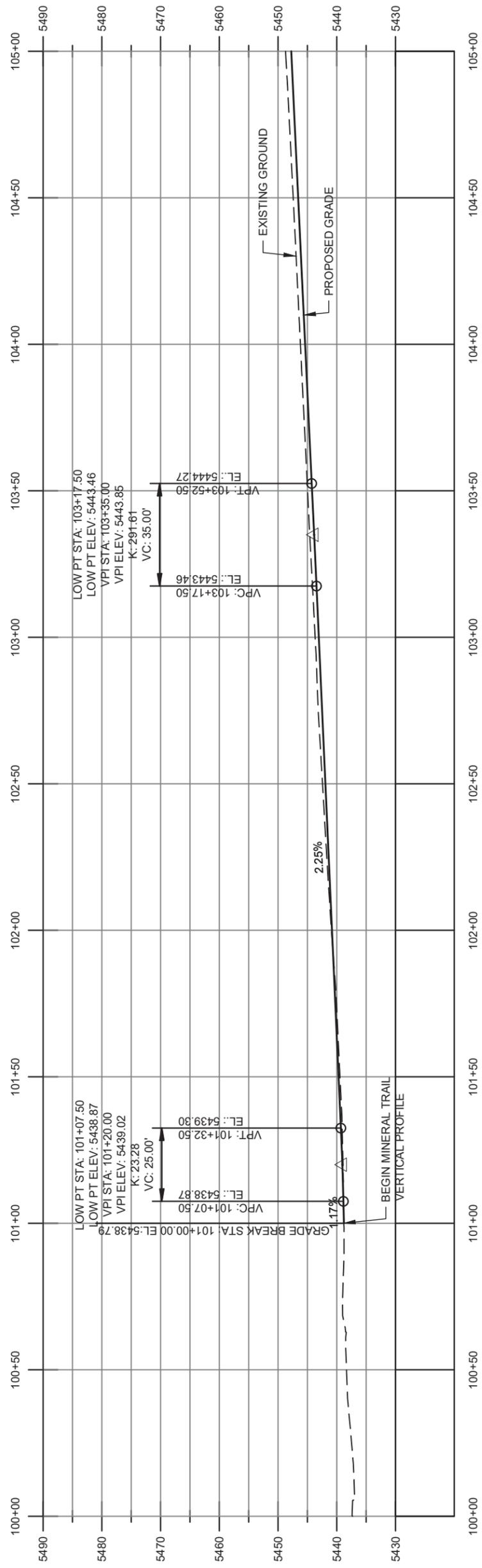


- LEGEND:**
- CONCRETE SIDEWALK (6 INCH)
  - AGGREGATE WALKWAY
  - CONCRETE CURB RAMP
  - CONCRETE PAVEMENT (10 INCH)
  - HOT MIX ASPHALT (GRADING SX(75)(PG 64-22)

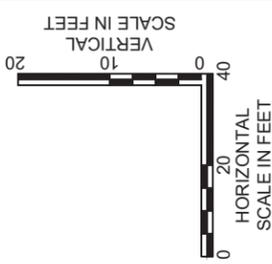
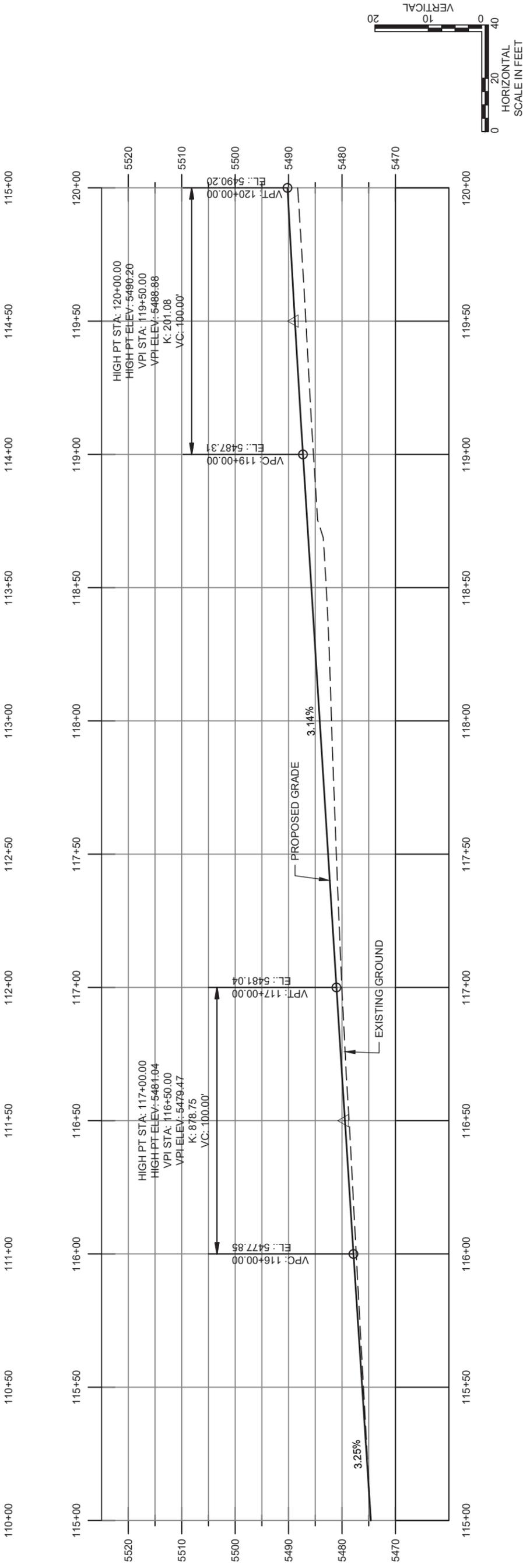
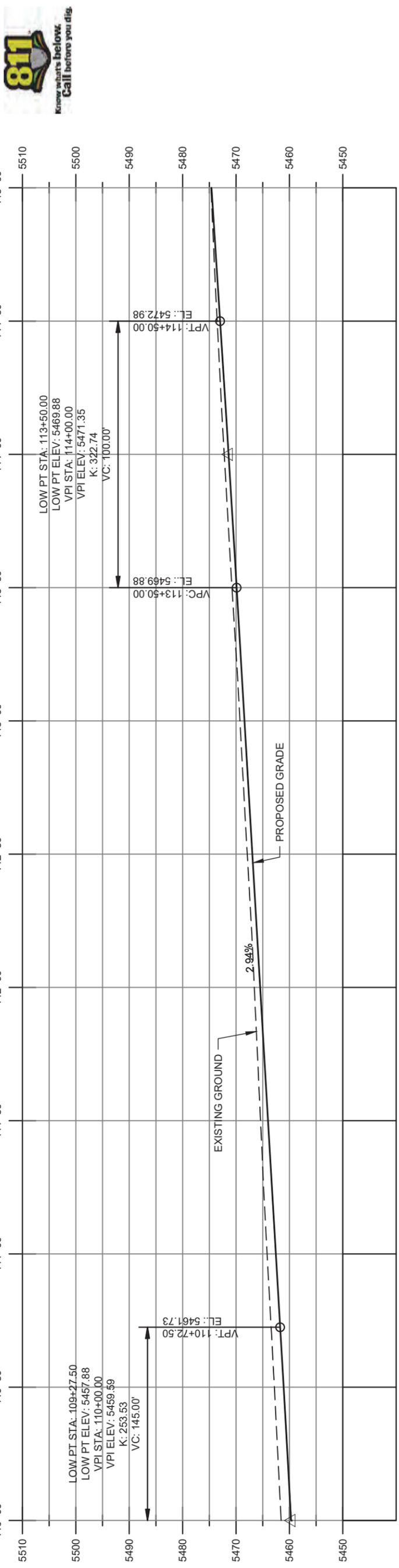
**PLAN NOTES:**  
 (\*) FOR ADDITIONAL INFORMATION ON GRADING SEE GRADING PLANS



Print Date: 3/13/2024 File Name: RD-PLN.dwg Horiz. Scale: 1" = 40' Vert. Scale: N/A  <b>DAVID EVANS AND ASSOCIATES INC.</b> 1600 Broadway Street, Suite 800 Denver, Colorado 80202 Phone: 720.946.0989	<b>Sheet Revisions</b>		 <b>PUBLIC WORKS DEPT.</b> 2255 W. Berry Avenue Littleton, CO 80120 PHONE 303-795-3863 FAX 303-795-3856	<b>As Constructed</b> No Revisions: Revised: Void:	<b>Project No./Code</b> C M810-019 Designer: CM Detailer: CM Structure Numbers: N/A Sheet Subset: RDPL Subset Sheets: 2 of 2	Sheet 51
	Date:	Comments:				

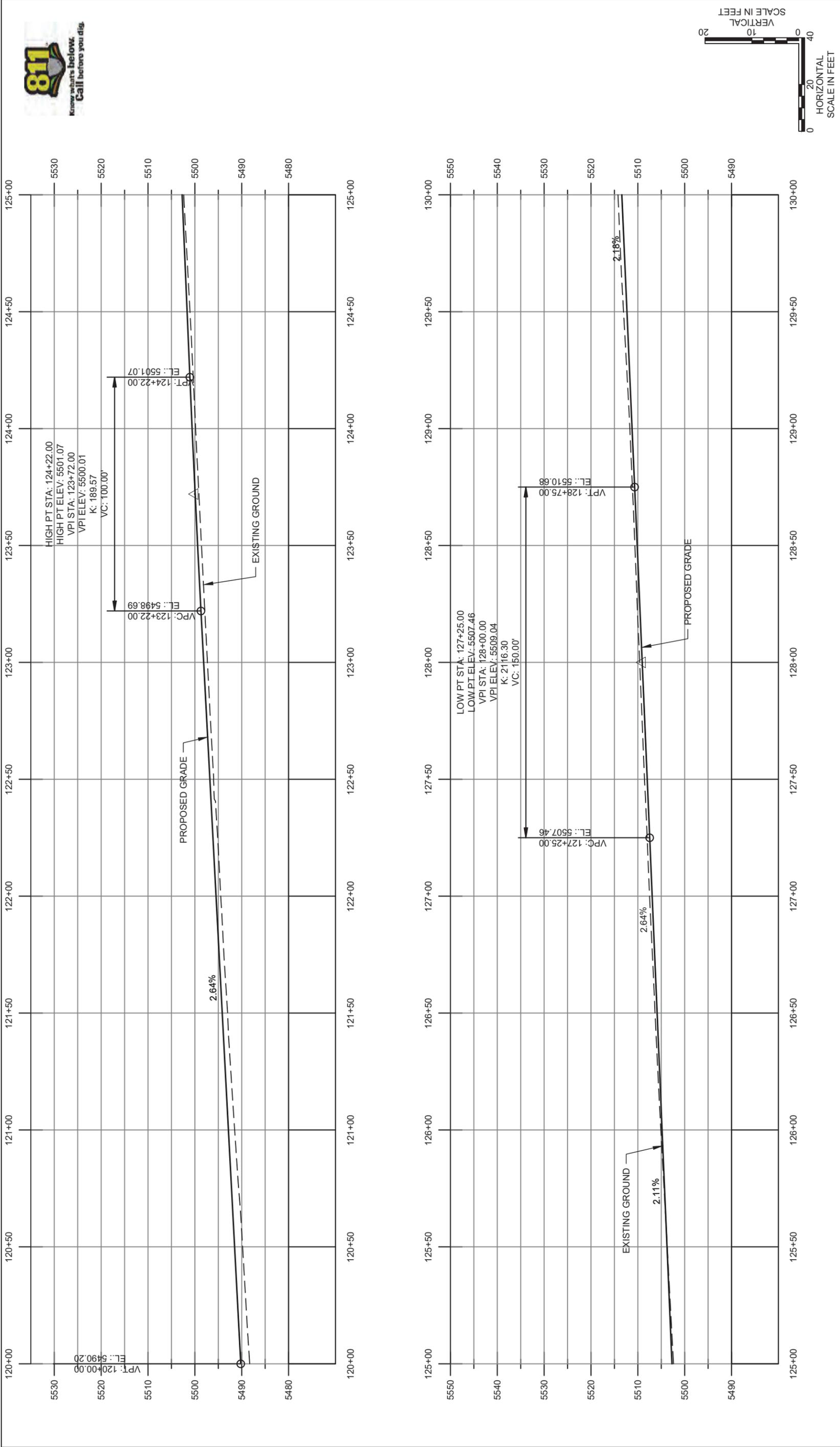


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Horiz. Scale: 1" = 40'		Vert. Scale: N/A	
 DAVID EVANS AND ASSOCIATES INC. 1600 Broadway Street Suite 600 Denver, Colorado 80202 Phone: 720.946.0869		MINERAL MOBILITY IMPROVEMENTS – BID 1 TRAIL PROFILE BEGIN TO STA 110+00	
0000		Designer: MJE Detailer: MJE Structure Numbers: N/A Sheet Subsets: PROF	
Sheet Revisions Date: _____ Comments: _____ Init.: _____		Sheet Sheets: 01 of 05	
PUBLIC WORKS DEPT. 2255 W. Berry Avenue Littleton, CO 80120 PHONE 303-795-3863 FAX 303-795-3856		As Constructed No Revisions: Revised: Void:	

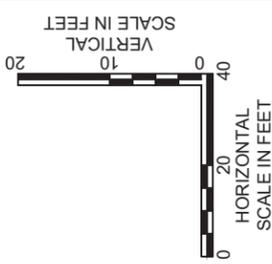


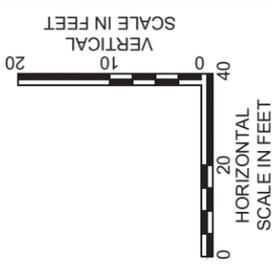
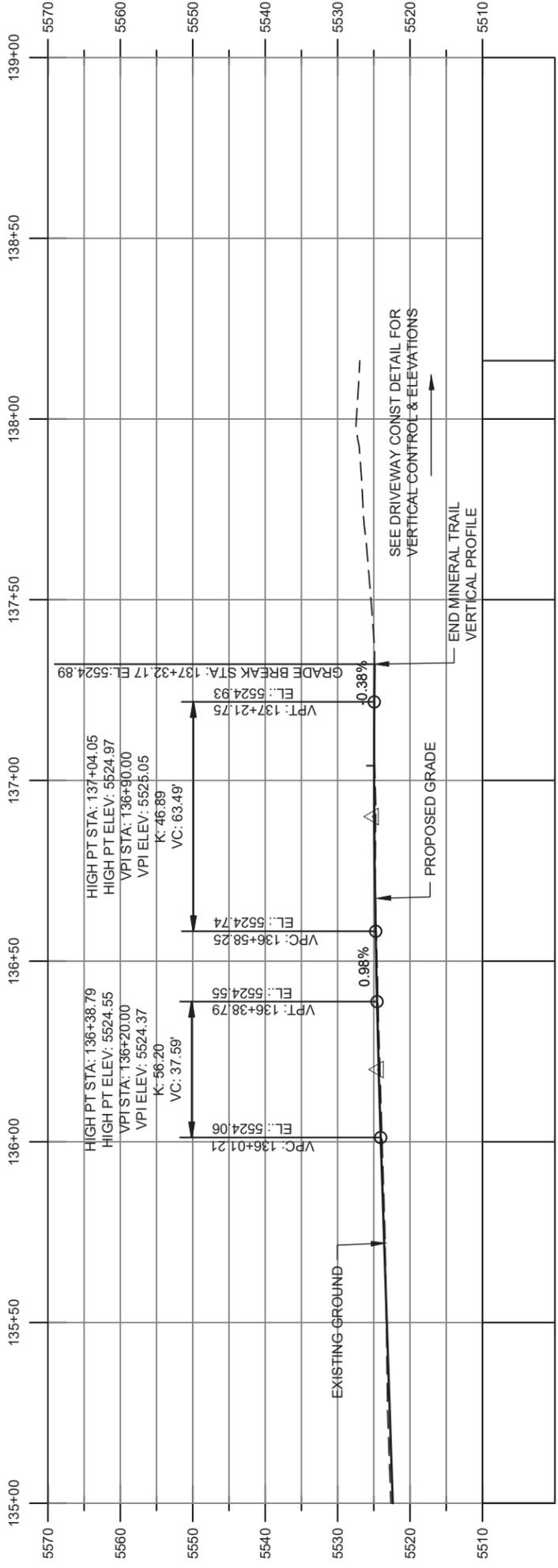
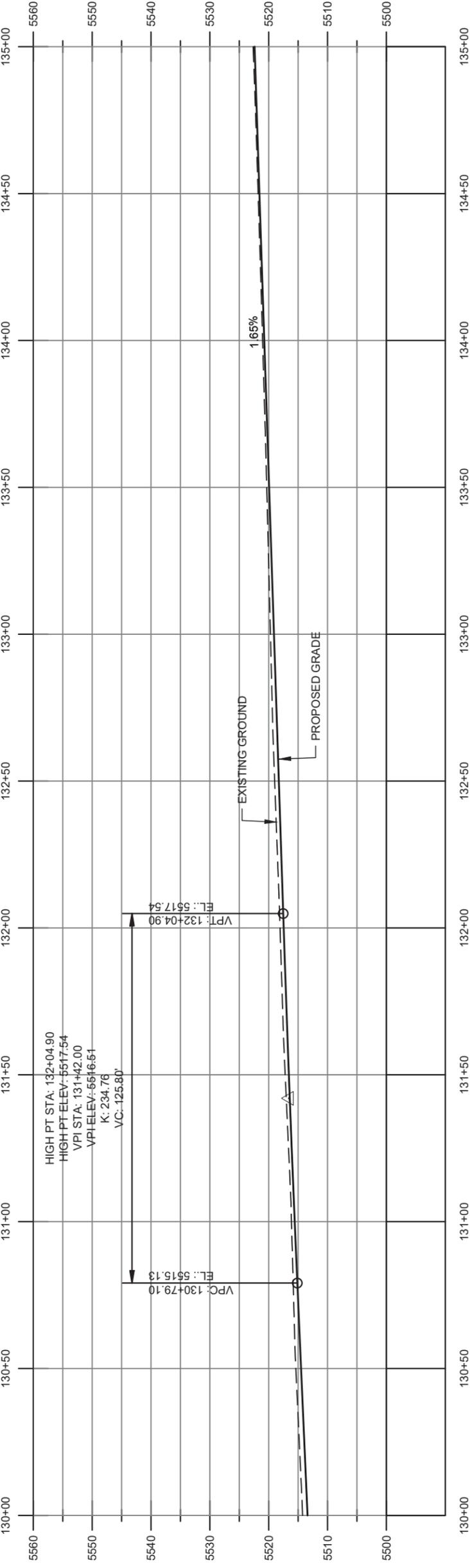
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Horiz. Scale: 1" = 40'				TRAIL PROFILE	
Vert. Scale: N/A				STA 110+00 TO STA 120+00	
 DAVID EVANS AND ASSOCIATES INC. 1600 Broadway Street Suite 600 Denver, Colorado 80202 Phone: 720.946.0969				Designer: MJE	Structure Numbers
				Detailer: MJE	N/A
				Sheet Subset: PROF	Subset Sheets: 02 of 05
					Sheet 53

**Littleton Colorado**  
 PUBLIC WORKS DEPT.  
 2255 W. Berry Avenue  
 Littleton, CO 80120  
 PHONE 303-795-3863  
 FAX 303-795-3856



Print Date: 8/22/2024 File Name: LITN0001_RH_BID-1-Trail_Profile.dwg Horiz. Scale: 1" = 40'    Vert. Scale: N/A		<b>Littleton Colorado</b> PUBLIC WORKS DEPT. 2255 W. Berry Avenue Littleton, CO 80120 PHONE 303-795-3863 FAX 303-795-3856		<b>As Constructed</b> No Revisions: Revised: Void:		MINERAL MOBILITY IMPROVEMENTS – BID 1 TRAIL PROFILE STA 120+00 TO STA 130+00 Designer: MJE Detailer: MJE Sheet Subset: PROF		Project No./Code C M810-019 Structure Numbers 24364 N/A N/A Sheet 54 of 05	
Sheet Revisions Date:    Comments    Init.									





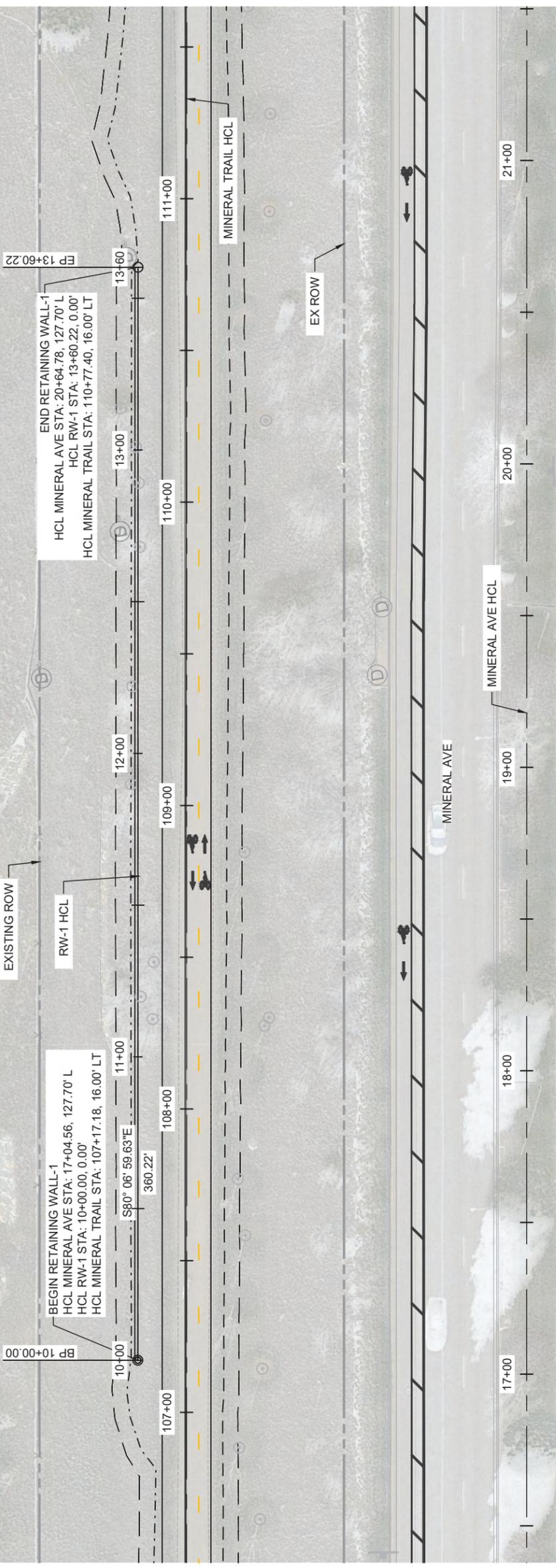
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 Horiz. Scale: 1" = 40'  
 Vert. Scale: N/A

**DAVID EVANS AND ASSOCIATES INC.**  
 1600 Broadway Street Suite 600  
 Denver, Colorado 80202  
 Phone: 720.946.0869

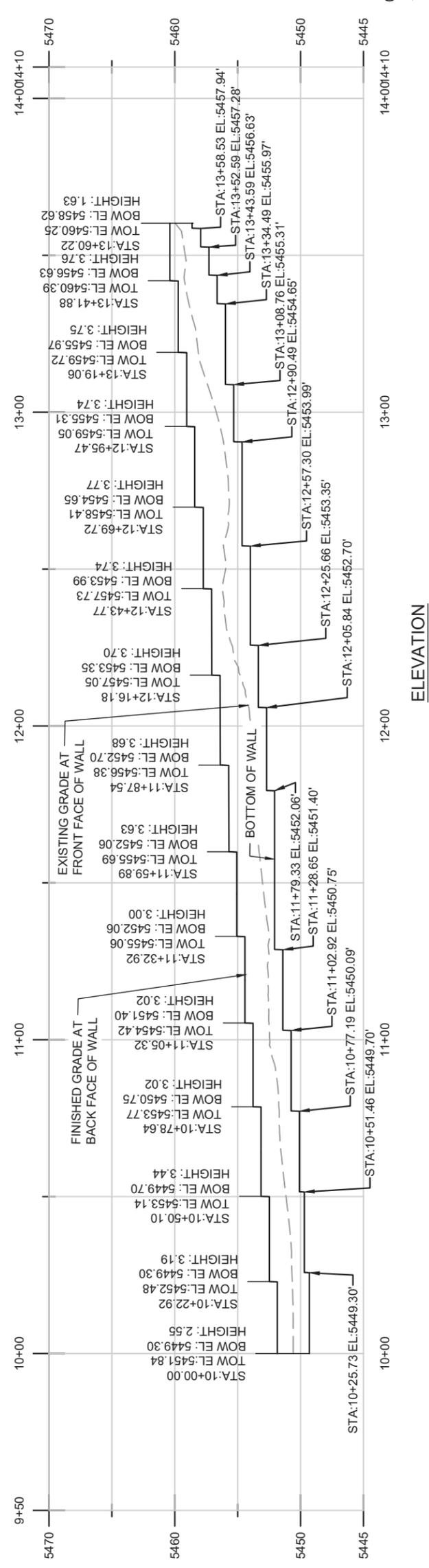
**Littleton Colorado**  
 PUBLIC WORKS DEPT.  
 2255 W. Berry Avenue  
 Littleton, CO 80120  
 PHONE 303-795-3863  
 FAX 303-795-3856

Sheet Revisions	
Date:	Comments

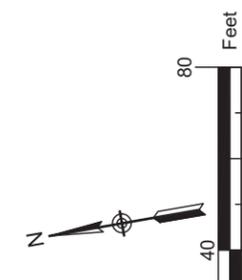
As Constructed	MINERAL MOBILITY IMPROVEMENTS - BID 1 TRAIL PROFILE STA 130+00 TO END	Project No./Code C M810-019
No Revisions:		
Revised:		
Void:		
Designer: MJE	Structure Numbers	24364
Detailer: MJE		
Sheet Subset: PROF	Subset Sheets: 04 of 05	Sheet 55



PLAN



ELEVATION



NOTES:

- EXISTING GROUND IS BASED ON GIS TOPOGRAPHY. WITH LIMITED ACCURACY. RETAINING WALL LAYOUT AND ELEVATIONS ARE PROVIDED FOR REFERENCE ONLY. CONTRACTOR SHALL PROVIDE A FINAL RETAINING WALL DESIGN FOR APPROVAL PRIOR TO BEGINNING CONSTRUCTION AND MATCH EXISTING GRADES.
- CONTRACTOR TO SPECIFY AND GET APPROVAL OF WALL TYPE AND COLOR FROM THE CITY OF LITTLETON.
- SEE UTILITY PLANS FOR ADDITIONAL UTILITY INFORMATION.
- WALL ELEVATIONS ARE FOR ESTIMATION PURPOSES ONLY. WALL MAY BE ADJUSTED BY THE MANUFACTURER OR CONTRACTOR BASED ON FIELD CONDITIONS AND THE BLOCK USED. ADDITIONALLY, TOP OF WALL SHALL NOT BE LOWER THAN FINISHED GRADE AND EXPOSED WALL FACE SHALL NOT EXCEED 2.5-FT.
- FOR ADDITIONAL INFORMATION ON THE TYPICAL SECTION REFER TO THE "RETAINING WALL 1- GENERAL NOTES & TYPICAL SECTIONS" SHEET.

Print Date: 8/22/2024		Project No./Code							
File Name: LITN0001_RH_BID-1-RW-P&P.dwg		C M810-019							
Horiz. Scale: 1"=40'		Vert. Scale: N/A							
 1600 Broadway Street Suite 600 Denver Colorado 80202 Phone: 720.946.0969		Designer: MJE Detailer: MJE Structure Numbers: N/A Sheet Subset: PROF Subset Sheets: 05 of 05							
Sheet Revisions <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> </tbody> </table>		Date:	Comments	Init.				As Constructed No Revisions: Revised: Void:	
Date:	Comments	Init.							
PUBLIC WORKS DEPT. 2255 W. Berry Avenue Littleton, CO 80120 PHONE 303-795-3863 FAX 303-795-3856		MINERAL MOBILITY IMPROVEMENTS - BID 1 RETAINING WALL 1 GENERAL LAYOUT							

**GENERAL NOTES:**  
ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE COLORADO DEPARTMENT OF TRANSPORTATION (CDOT) 2023 STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE STABILITY OF THE STRUCTURE DURING CONSTRUCTION.

STATIONS, ELEVATIONS, AND DIMENSIONS CONTAINED IN THESE PLANS ARE BASED ON TOPOGRAPHIC SURVEY, WITH LIMITED ACCURACY. LAYOUT AND ELEVATIONS ARE PROVIDED FOR REFERENCE ONLY. THE CONTRACTOR SHALL VERIFY ALL DEPENDENT DIMENSIONS IN THE FIELD BEFORE ORDERING OR FABRICATING ANY MATERIAL.

THE INFORMATION SHOWN ON THESE PLANS CONCERNING THE TYPE AND LOCATION OF UNDERGROUND UTILITIES IS NOT GUARANTEED TO BE ACCURATE OR ALL-INCLUSIVE. THE CONTRACTOR IS RESPONSIBLE FOR MAKING THEIR OWN DETERMINATION AS TO THE TYPE AND LOCATION OF UNDERGROUND UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE THERETO. THE CONTRACTOR SHALL CONTACT THE UTILITY NOTIFICATION CENTER OF COLORADO AT 1-800-922-1987 AT LEAST 2 DAYS (NOT INCLUDING THE DAY OF NOTIFICATION) PRIOR TO ANY EXCAVATION OR OTHER EARTHWORK.

**STRUCTURAL DESCRIPTION:**  
MASONRY LANDSCAPE WALL  
LENGTH ALONG LAYOUT LINE = 360'-3"  
HEIGHT VARIES FROM 1'-8" TO 3'-9"  
LOCATED ALONG NORTH SIDE OF MINERAL TRAIL

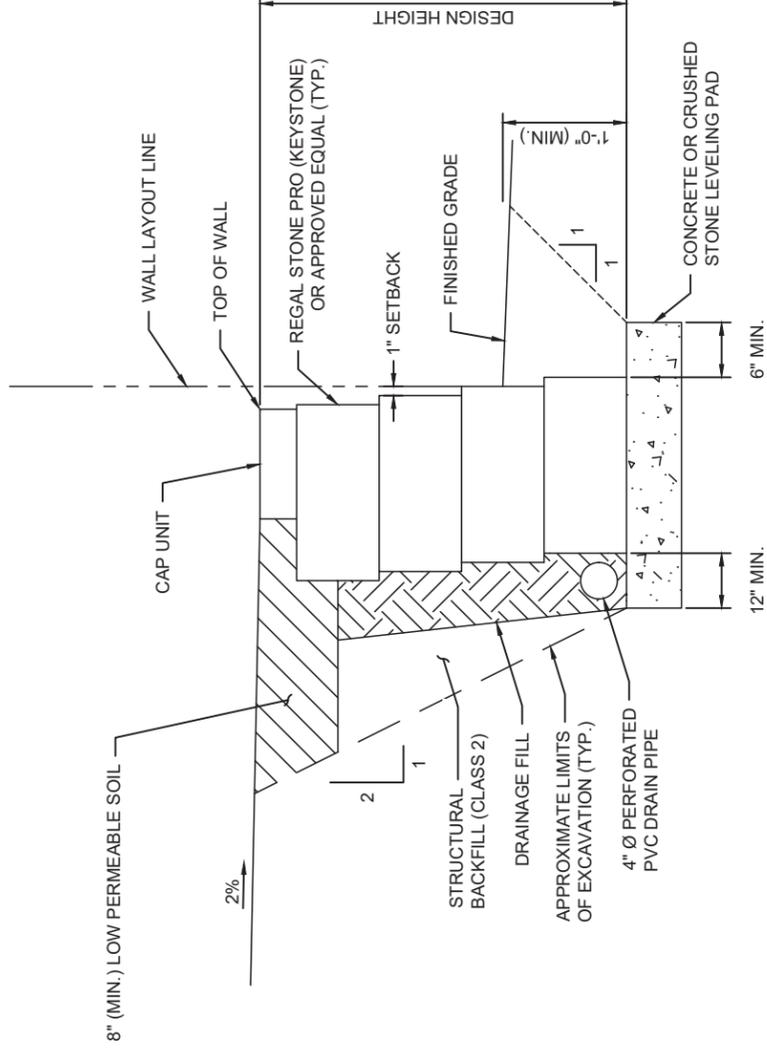
- NOTES:**
- FOR WALL ALIGNMENT AND ELEVATION DETAILS, SEE GENERAL LAYOUT SHEET.
  - WALL MANUFACTURER IS RESPONSIBLE FOR BLOCK DETAILING AS APPROVED BY DESIGNER.
  - LOW PERMEABLE SOIL, DRAINAGE FILL, PERFORATED PIPE AND LEVELING PAD MATERIAL SHALL BE INCLUDED IN ITEM 504-08255 MASONRY LANDSCAPE WALL (DRY STACK).

**DESIGN DATA:**  
AASHTO, 9TH EDITION LRFD, WITH CURRENT INTERIMS  
GEOTECHNICAL INVESTIGATION AND RECOMMENDATIONS ARE THE RESPONSIBILITY OF THE WALL CONTRACTOR

WALL MANUFACTURER IS RESPONSIBLE FOR WALL DESIGN



Know what's below.  
Call before you dig.



TYPICAL SECTION  
(LOOKING DOWN STATION)  
(NOT TO SCALE)

LANDSCAPE WALL QUANTITIES			
ITEM NO.	DESCRIPTION	UNIT	TOTAL
206-00000	STRUCTURE EXCAVATION	CY	47
206-00200	STRUCTURE BACKFILL (CLASS 2)	CY	46
504-08255	MASONRY LANDSCAPE WALL (DRY STACK)	SF	1139

Print Date: 8/27/2024

File Name: LITN0001\_BAS\_BID-1-TypSect-WALL-DETAIL.dwg

Horiz. Scale: ##### Vert. Scale: N/A



DAVID EVANS  
AND ASSOCIATES INC.  
1600 Broadway Street Suite 600  
Denver, Colorado 80202  
Phone: 720.946.0669

Sheet Revisions

Date:	Comments	Init.

PUBLIC WORKS DEPT.  
2255 W. Berry Avenue  
Littleton, CO 80120  
PHONE 303-795-3863  
FAX 303-795-3856



As Constructed

No Revisions:  
Revised:  
Void:

MINERAL MOBILITY IMPROVEMENTS – BID 1  
RETAINING WALL  
NOTES & TYPICAL SECTION

Designer: CTDA  
Detailer: CLLE  
Sheet Subset: WALL

Structure Numbers: N/A  
Subset Sheets: 01 of 01

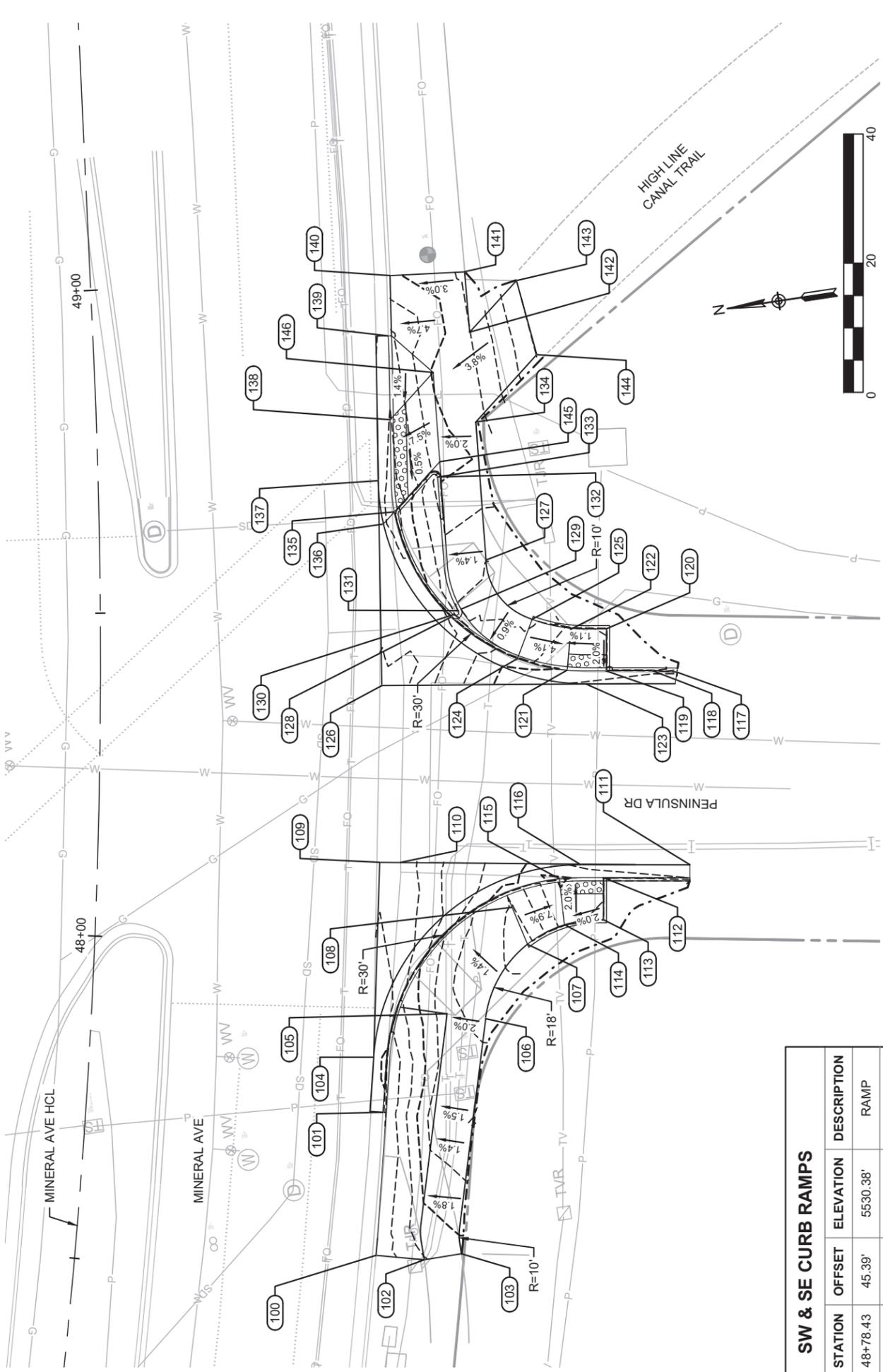
Project No./Code

C MB10-019

24364

Sheet 57

POINT NO.	STATION	OFFSET	ELEVATION	DESCRIPTION
100	47+54.31	46.37'	5530.46'	SWK, ME
101	47+75.55	45.82'	5530.06'	FL, ME
102	47+54.25	53.85'	5530.79'	SWK, ME
103	47+55.57	59.50'	5530.93'	SWK, ME
104	47+83.65	43.90'	5530.10'	SAWCUT, ME
105	47+90.62	54.88'	5531.34'	SWK
106	47+90.19	60.87'	5531.47'	SWK
107	48+01.32	66.81'	5531.68'	RAMP
108	48+06.61	64.23'	5531.62'	RAMP
109	48+12.64	43.56'	5530.26'	SAWCUT, ME
110	48+12.70	46.78'	5530.23'	SAWCUT, FL, ME
111	48+13.54	91.48'	5531.37'	SAWCUT, ME
112	48+11.35	78.17'	5531.11'	FL
113	48+05.30	78.38'	5531.27'	RAMP
114	48+04.36	72.40'	5531.12'	RAMP
115	48+11.00	71.39'	5530.97'	FL
116	48+13.12	74.60'	5531.25'	PC, EOP
117	48+41.00	89.07'	5531.18'	FL, ME
118	48+41.19	85.35'	5531.16'	FL
119	48+41.18	78.14'	5531.09'	FL
120	48+47.23	78.17'	5531.22'	RAMP
121	48+41.29	72.11'	5531.03'	FL
122	48+47.22	72.71'	5531.15'	RAMP
123	48+39.30	74.94'	5531.23'	PC
124	48+42.95	64.42'	5530.87'	FL
125	48+48.68	66.71'	5531.44'	RAMP
126	48+38.95	43.47'	0.00'	FL, ME
127	48+57.39	59.66'	5531.39'	SWK
128	48+49.07	54.19'	5530.65'	FL
129	48+50.23	55.75'	5531.42'	SWK
130	48+49.41	54.54'	5531.15'	TOC
131	48+49.99	55.32'	5531.42'	TOC
132	48+69.77	52.95'	5530.98'	SWK
133	48+69.74	52.45'	5531.48'	TOC
134	48+77.68	58.58'	5531.10'	SWK
135	48+64.74	45.64'	5530.24'	FL
136	48+62.98	43.92'	5530.45'	RAMP
137	48+69.44	43.27'	5530.51'	PC



POINT NO.	STATION	OFFSET	ELEVATION	DESCRIPTION
138	48+78.43	45.39'	5530.38'	RAMP
139	48+90.88	45.59'	5530.50'	FL, ME
140	49+00.15	46.30'	5530.95'	SWK, ME
141	49+00.21	57.83'	5531.24'	SWK, ME
142	48+90.89	58.18'	5531.19'	SWK
143	48+98.49	65.78'	5531.80'	SWK, ME
144	48+87.19	68.39'	5531.81'	SWK, ME
145	48+71.99	52.84'	5530.92'	RAMP
146	48+85.20	52.28'	5531.03'	RAMP

**CURB RAMP DETAIL- PENINSULA AND MINERAL**

**NOTES:**

1. PRIOR TO START OF CONSTRUCTION, CONTRACTOR TO CONFIRM TIE-IN ELEVATIONS. IF THERE ARE DISCREPANCIES, THE CONTRACTOR SHALL NOTIFY THE CITY AND ENGINEER OF RECORD PRIOR TO CONSTRUCTION.
2. CONCRETE CURB RAMP PAY AREA INCLUDES ALL RAMP MATERIALS REQUIRED TO CONSTRUCT, INCLUDING BUT NOT LIMITED TO CURB, DETECTABLE WARNING SURFACE, CONCRETE AND CURB AND GUTTER.
3. SIDEWALK AND RAMPS MUST MEET CURRENT ADA STANDARDS. CROSS SLOPE SHALL NOT EXCEED 2% EXCEPT AT TRANSITION PANELS.
4. TRANSITION PANELS SHALL BE TO THE NEAREST JOINT.

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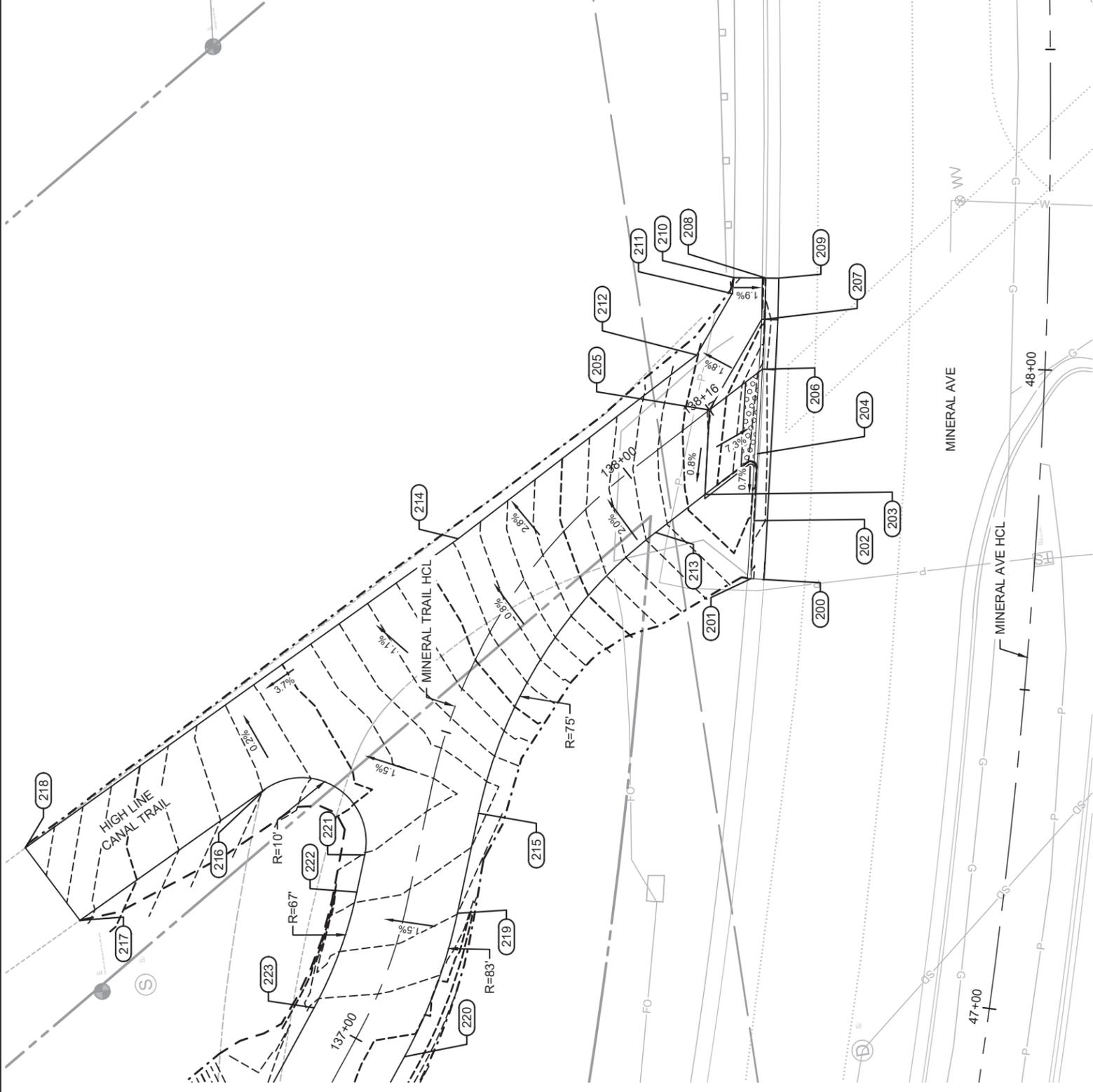
As Constructed	MINERAL MOBILITY IMPROVEMENTS - BID 1	Project No./Code
No Revisions:	CONSTRUCTION DETAILS	C M810-019
Revised:	PENINSULA AND MINERAL	
Void:		
	Designer: MJE	Structure
	Detailer: MJE	Numbers
	Sheet Subset: DET	Subset Sheets: 01 of 02
		Sheet 58

**NOTES:**

1. PRIOR TO START OF CONSTRUCTION, CONTRACTOR TO CONFIRM TIE-IN ELEVATIONS. IF THERE ARE DISCREPANCIES, THE CONTRACTOR SHALL NOTIFY THE CITY AND ENGINEER OF RECORD PRIOR TO CONSTRUCTION.
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4. TRANSITION PANELS SHALL BE TO THE NEAREST JOINT.

**NORTH DRIVEWAY - HLC**

POINT NO.	STATION	OFFSET	ELEVATION	DESCRIPTION
200	47+64.19	-41.82'	5526.59'	SAWCUT, ME
201	47+64.19	-43.84'	5526.85'	FL, ME
202	47+73.63	-43.96'	5526.46'	FL
203	47+77.38	-51.89'	5527.16'	DWY
204	47+84.53	-44.03'	5526.48'	FL
205	47+91.25	-51.91'	5527.22'	DWY
206	47+98.29	-43.96'	5526.54'	FL
207	48+06.41	-43.84'	5526.52'	FL
208	48+13.12	-43.91'	5526.68'	FL, ME
209	48+13.16	-41.89'	5526.75'	SAWCUT, ME
210	48+13.04	-48.92'	5527.22'	SWK
211	48+10.41	-49.04'	5527.18'	SWK
212	48+00.17	-54.26'	5526.99'	SWK
213	47+70.62	-59.17'	5526.69'	TRAIL
214	47+67.28	-89.77'	5525.24'	TRAIL
215	47+21.23	-82.63'	5524.30'	TRAIL
216	47+21.14	-116.15'	5523.61'	TRAIL
217	46+93.95	-142.11'	5522.73'	TRAIL, ME
218	47+05.63	-152.05'	5522.19'	TRAIL, ME
219	47+03.98	-84.03'	5524.60'	TRAIL
220	46+78.64	-89.03'	5525.08'	TRAIL
221	47+11.88	-99.48'	5524.21'	TRAIL
222	47+05.38	-99.98'	5524.36'	TRAIL



**DRIVEWAY DETAIL- HIGH LINE CANAL TRAIL AND MINERAL AVE**

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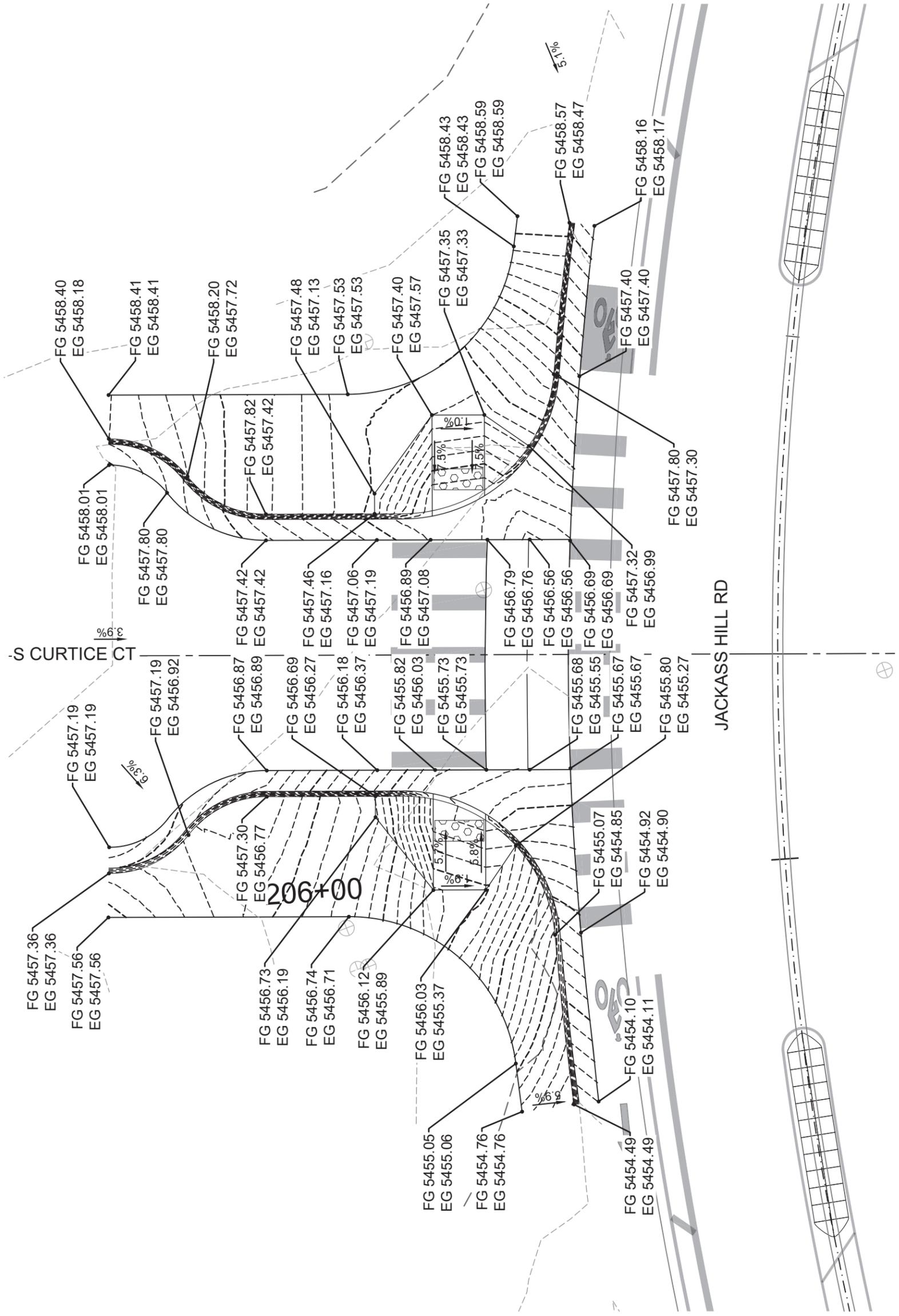
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MINERAL MOBILITY IMPROVEMENTS - BID 1	CONSTRUCTION DETAILS
HIGH LINE CANAL TRAIL AND MINERAL	
Designer: MJE	Structure Numbers
Detailer: MJE	N/A
Sheet Subset: DET	Subset Sheets: 02 of 02

Project No./Code
C M810-019
24364
Sheet 59

HORIZONTAL SCALE IN FEET



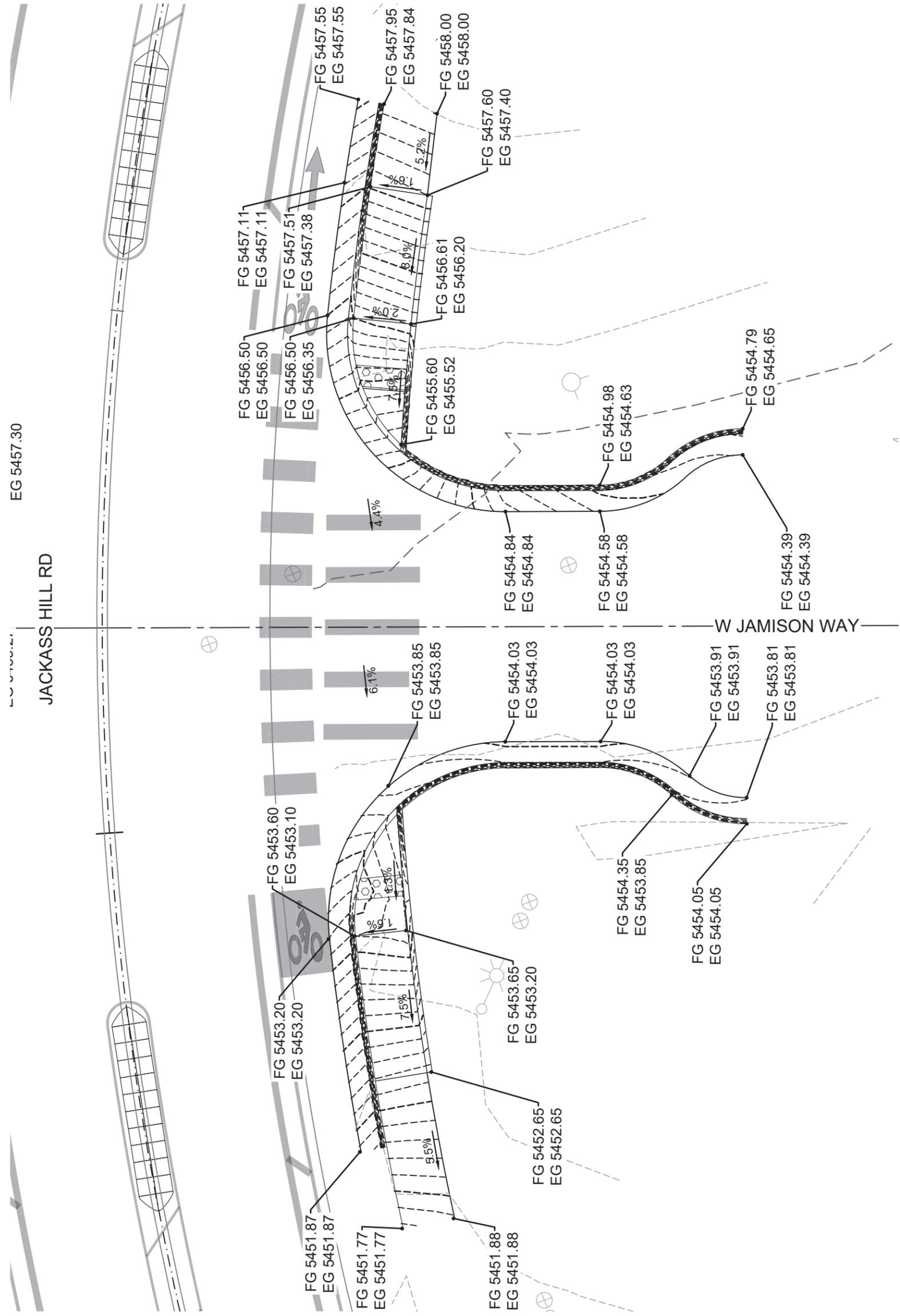
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PUBLIC WORKS DEPT. 2255 W. Berry Avenue Littleton, CO 80120 PHONE 303-795-3863 FAX 303-795-3856			Designer: CM Detailer: CM		Sheet Subsets: DET		Subset Sheets: 1 of 4	

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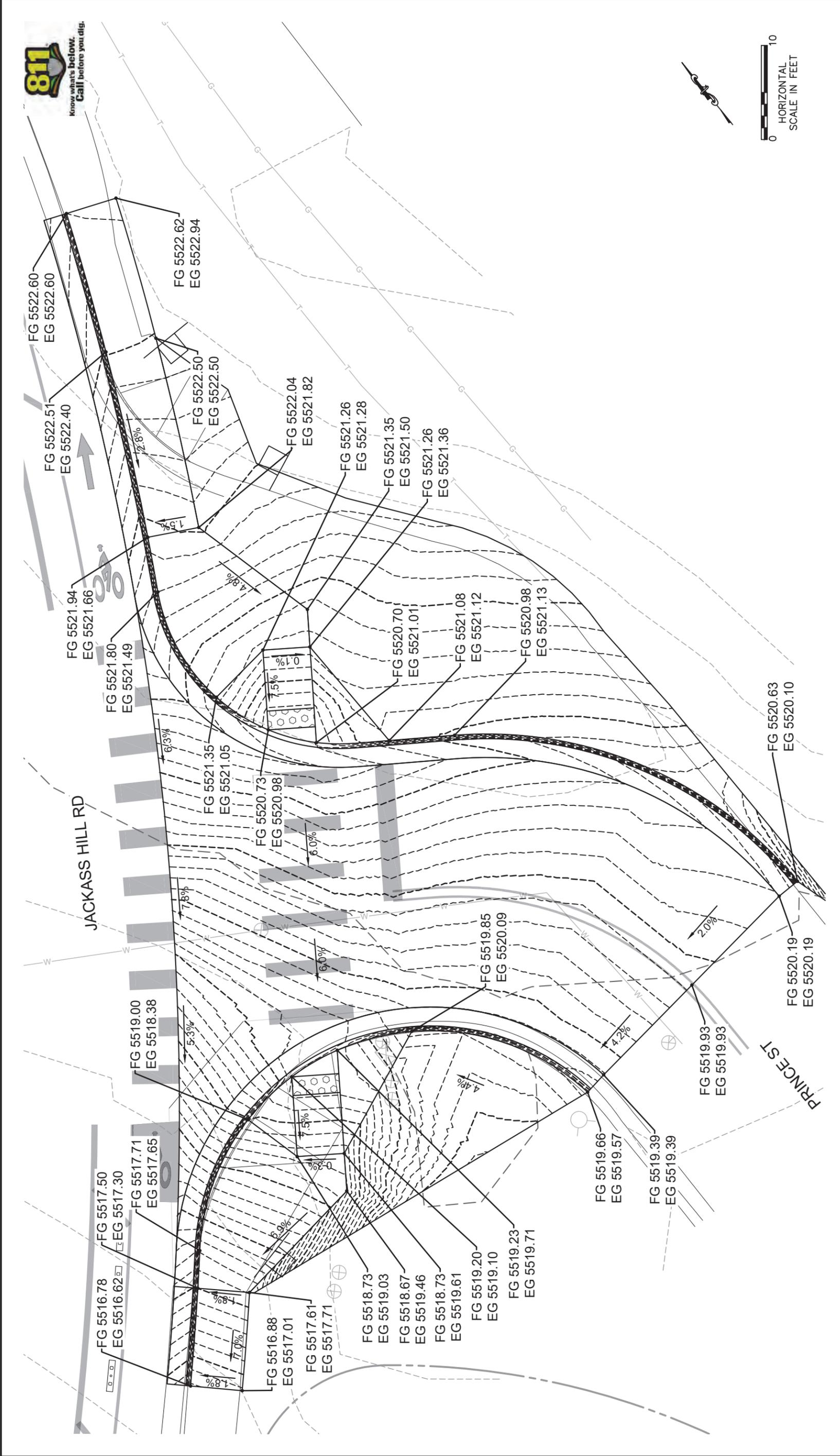
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HORIZONTAL SCALE IN FEET  
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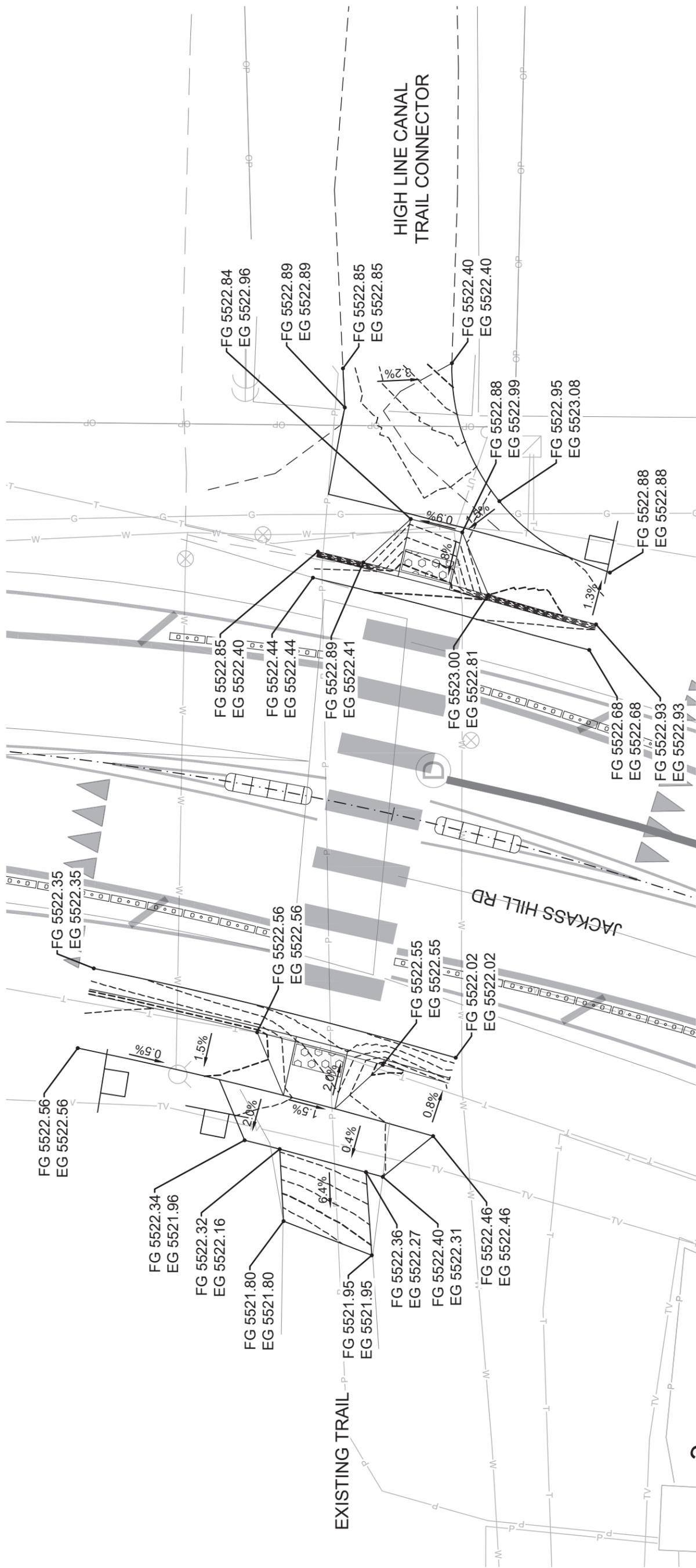


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0000			YJK ENGINEERING 1921 S Alma School Rd. Suite 204 Denver, CO 80210 www.yjkeng.com	Designer: CM Detailer: CM	N/A N/A	24364
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**1. SITE DESCRIPTION**

The Contractor shall comply with all CDOT contractual requirements, and all requirements associated with the CDFS-SCP on this project. The SWMP Administrator for Construction shall update the SWMP to reflect current project site conditions.

**A. PROJECT SITE LOCATION:**

The project site is in the City of Littleton, Colorado. The project includes the Mineral Avenue Trail and Mineral Avenue between Jackass Hill Road and Peninsula Drive, and Jackass Hill Road between Mineral Avenue and Prince Street.  
 Legal: Sections 32 and 33, Township 5S, Range 68W; 6<sup>th</sup> Principal Meridian in Arapahoe County, CO  
 Location or address of construction office:

**B. PROJECT SITE DESCRIPTION:**

- The general project scope consists of the following:
- Full replacement of the Mineral Avenue Trail between Jackass Hill Road and Peninsula Drive
  - Replacement of sidewalk, curb and gutter, and concrete pavement along Mineral Avenue at Peninsula Drive and at the intersection of Jackass Hill Road and Curfice Court
  - Restriping Mineral Avenue between Jackass Hill Road and Peninsula Drive
  - Restriping Jackass Hill Road between Mineral Avenue and Prince Street
  - Signal Modification at Mineral Avenue and Peninsula Drive

**C. PROPOSED SCHEDULE FOR SEQUENCE FOR MAJOR CONSTRUCTION ACTIVITIES:**

Stabilize all areas that are not paved or landscaped through establishment of vegetation cover. Before commencement of construction all initial erosion control measures including: erosion logs, aggregate bags, plastic fence, concrete washout structure, and vehicle tracking pad must be installed (see initial SWMP plans for details). Permanent seeding is required at all locations within the project area that required grading and land disturbance during construction (see Final SWMP plans for details).

**D. ACRES OF DISTURBANCE:**

1. Total area of construction site (LOC (PERMITTED AREA)): 15.78 acres
2. Total area of proposed disturbance (LDA): 8.39 acres
3. Total area of seeding: 1.48 acres
4. Total area of pre-project impervious surface: 428954 sq. ft.
5. Total area of final impervious surface: 447852 sq. ft.

**E. EXISTING SOIL DATA:**

Soil Type	Texture	Hydrologic Soil Group	Surface Runoff
Buick loam, 5 to 9 percent slopes (BxD)	loam/clay loam/sandy clay loam	C	Medium
Fondis silt loam, 1 to 3 percent slopes (FdB)	silt loam/clay/clay loam	C	Low
Nunn loam, 1 to 3 percent slopes (NIB)	loam/clay loam	C	Medium
Renohill Lite Thedalund complex, 9 to 30 percent slopes (RIE)	loam/clay/clay loam/bedrock	D	High

Data Source(s): NRCS Web Soil Survey, accessed July 2023

**F. EXISTING VEGETATION, INCLUDING PERCENT OF VEGETATIVE COVER:**

During design, the SWMP Administrator for Design in consultation with the Engineer will determine if the SWMP Administrator for Design or the SWMP Administrator for Construction will conduct the Vegetation Transects. If the site is disturbed, an Adequate Reference Site(s) may be utilized, refer to the permit.

Pre-Construction Date of survey: \_\_\_\_\_ Percent Existing Vegetative Cover: \_\_\_\_\_  
 Description of existing vegetation: \_\_\_\_\_  
 Method for determining percent vegetative cover: \_\_\_\_\_  
 Include a map or table showing transect locations, photos documenting pre-Construction vegetative cover,

and methodology used to determine existing vegetative cover to SWMP tab 17:

Post-Construction Date of survey: \_\_\_\_\_ Percent Vegetative Cover: \_\_\_\_\_  
 Description of vegetation: \_\_\_\_\_  
 The method used to determine pre-construction percent cover shall be used to determine post construction percent cover.  
 Include map or table showing transect locations, photos documenting post-Construction vegetative cover, and methodology used to determine existing vegetative cover to SWMP tab 17:

**G. POTENTIAL POLLUTANTS SOURCES:**

Refer to Potential Pollutant Sources in SWMP Section 4A. The SWMP Administrator for Construction shall prepare a list of all potential pollutants and their locations in accordance with subsection 107.25.

**H. DRAINAGE PATTERNS AND RECEIVING WATER(S):**

1. Description of drainage patterns from the Site:  
 Both Mineral Ave and Jackass Hill Rd are normally crowned. Water flows from the center of the roadway towards the curb and gutter where it is collected by the Arapahoe County Municipal Stormwater system. Water generally flows north to south along Jackass Hill Rd and east to west along Mineral Ave.
2. Names of immediate and ultimate receiving water(s) on site:  
 Runoff along both Jackass Hill Rd and Mineral Ave. gets deposited into the Arapahoe County Municipal Stormwater System. Jackass Gulch receives runoff from the work area encompassing the Mineral Avenue Trail.
3. Description of all stream crossings located within the Construction Site Boundary:  
 N/A

Location	Stream Name	Description Of Any Disturbed Upland Areas
N/A		

**I. ALLOWABLE NON-STORMWATER DISCHARGES:**

Discharge Description	Site Map #	Method Statement (Location)
N/A		

#Concrete washout water associated with the washing of concrete tools and concrete mixer chutes can be discharged to the ground if site is managed accordingly to prevent the water from leaving the site as surface runoff or reaching receiving waters.

**J. DIVERSION CRITERIA:**

1. Is a diversion planned for the Site? Yes \_\_\_ No \_\_\_ X \_\_\_.
2. If yes, complete information below:
  - a. What is the 2-year peak flow for the waterway being diverted (cubic feet per second)?
  - b. What are the monthly averages if available? (provide averages for Jan- Dec if available)
  - c. What is the upstream contributing drainage area and imperviousness?
  - d. A method statement must be prepared by the Contractor and approved by CDOT for each diversion. Diversion structures must minimize soil transport and erosion within the entire diversion, minimize erosion during discharge, and minimize run-on into the diversion and meet the conditions in the SCP.
  - e. If the conditions in the SCP cannot be met and an alternative is required, CDOT must approve the alternative and then it must be submitted and approved by CDPHE's Water Quality Control Division prior to implementation.

**K. ALTERNATIVE TEMPORARY STABILIZATION SCHEDULE:**

If applicable, provide a description of the alternative temporary stabilization schedule. If temporary stabilization exceeds the 14-day schedule, then the SWMP must document the constraints necessitating the alternative schedule, provide the alternative schedule, and identify all the locations where the alternative schedule is applicable on the site map. Alternative temporary stabilization schedules must be approved by CDOT prior to implementation]

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