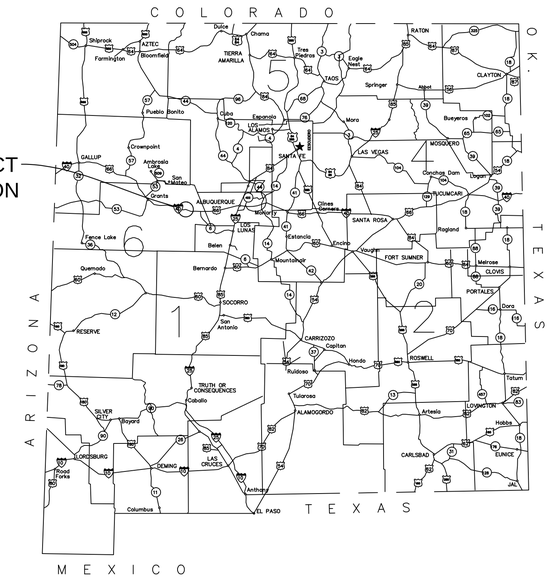
CONSTRUCTION PLANS FOR
BIKE & PEDESTRIAN ROUTE DESIGN
NM 124 - CASA BLANCA RD. TO ENCINAL RD. / TTP-L47
STA. 155+75 TO STA. 252+21.74

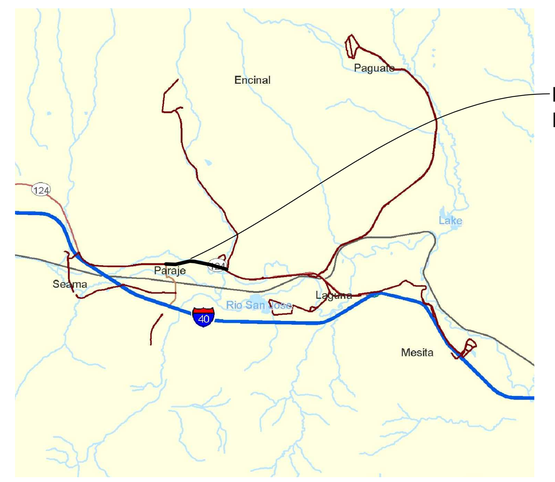
PUEBLO OF LAGUNA

LAGUNA, NEW MEXICO

PROJECT LOCATION



REGIONAL PLAN
NO SCALE



PROJECT LOCATION

LOCATION PLAN
NO SCALE

THIS MATERIAL IS BASED UPON WORK SUPPORTED BY THE FHWA UNDER TIGER II GRANT NO. P-32, COOPERATIVE AGREEMENT NO. DTFH61-11-H-00002.

DESIGNED:	RO			
DRAWN:	CP			
CHECKED:	SC			
APPROVED:	SC	NO.	DATE	BY	REVISION

CONSTRUCTION DOCUMENT

DAVID J. COOPER — NEW MEXICO — 21683 — 11/25/14 — PROFESSIONAL ENGINEER

WESTON SOLUTIONS, INC.
3840 COMMONS AVE.
ALBUQUERQUE, NM 87109
(505) 837-6520

FIERRO & COMPANY, LLC
2929 COORS BLVD. SUITE 307-B
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ENGINEERING OFFICE
P.O. BOX 194
LAGUNA, NM 87026
(505) 552-1200

BIKE & PEDESTRIAN ROUTE DESIGN

NM 124 - CASA BLANCA TO ENCINAL RD.
COVER

SHEET	1 of 61
DWG	1-1
DATE	30NOV14
PROJ	15196.001.001

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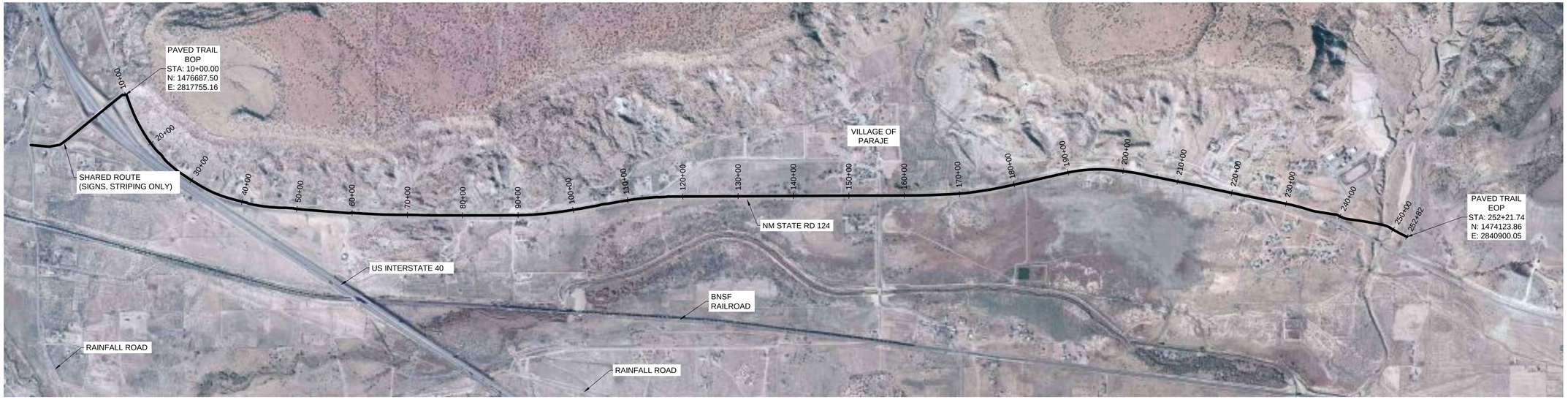

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COUNTY:	CIBOLA COUNTY, NEW MEXICO
ROUTE:	NM 124
PROJECT LOCATION:	CASA BLANCA ROAD TO ENCINAL ROAD
LENGTH:	1.84 MILES
CATEGORY:	NEW TRAIL CONSTRUCTION
SCOPE:	PEDESTRIAN TRAIL CONSTRUCTION & DRAINAGE IMPROVEMENTS
PROJECT DESIGNER:	ROBERT M. OBERDORFER, R.L.A.
PROJECT DEVELOPMENT ENGINEER:	L. BRAD SUMRALL, P.E.

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BIKE & PEDESTRIAN ROUTE DESIGN

NM 124 - CASA BLANCA TO ENCINAL RD. VICINITY MAP

SHEET	2 of 61
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PROJ	15196.001.001

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GENERAL NOTES

1. THE ENGINEER IS NOT RESONSIBLE FOR AND SHALL NOT BE LIABLE TO ANY PARTY WITH RESPECT TO DAMAGES INCURRED AS A CONCEQUENCE OF CHANGES TO ITS DESIGN THAT ARE MADE WITHOUT REVIEW AND WRITTEN APPROVAL OF THE PROFESSIONAL ENGINEER OF RECORD, WHOSE SEAL IS AFFIXED TO THESE PLANS. THE ENGINEER IS NOT RESPONSIBLE FOR CONSTRUCTION MEANS AND METHODS AND IS NOT RESPONSIBLE FOR THE ACTS OR OMISSIONS OF THE CONTRACTOR, SUBCONTRACTORS, OR OTHER PERSONS PERFORMING ANY OF THE WORK INCLUDING THE FAILURE OF ANY OF THEM TO CARRY OUT THE WORK IN ACCORDANCE WITH CONTRACT DOCUMENTS.

2. PRECEDENCE: THE CONSTRUCTION DOCUMENTS INCLUDE PROJECT SPECIFICATIONS AND THESE PLANS. THE PROVISIONS OF THE SPECIFICATIONS SHALL TAKE PRECEDENCE IN RESOLVING ANY CONFLICT, ERROR, AMBIGUITY, OR DISCREPENCY BETWEEN THE SPECIFICATIONS AND THESE PLANS. ACCORDINGLY, WRITTEN NOTATION IN THE PLANS SHALL TAKE PRECEDENCE OVER GRAPHIC DEPICTION.

3. GOVERNING SPECIFICATIONS: THE GOVERNING SPECIFICATIONS FOR THIS PROJECT ARE THE NEW MEXICO DEPARTMENT OF TRANSPORTATION'S (NMDOT) "STANDARD SPECIFICATIONS FOR HIGHWAY AND BRIDGE CONSTRUCTION, 2014 EDITION, EXCEPT AS AMENDED BY THE PROJECT SUPPLEMENTAL SPECIFICATIONS. IN THE EVENT OF A CONFLICT AMONG SPECIFICATIONS, THIS PROJECT'S SPECIFICATIONS SHALL GOVERN.

4. NMDOT STANDARD DRAWINGS: WHERE REFERENCED IN THE PLANS, THE NMDOT STANDARD DRAWINGS ARE CONSIDERED PART OF THE PLAN SET TO THE EXTENT INDICATED.

5. QUANTITIES: ALL QUANTITIES PROVIDED IN THE PLANS ARE ESTIMATED BY THE ENGINEER. PAYMENT AND MEASUREMENT OF QUANTITIES SHALL BE IN ACCORDANCE WITH SECTION 109 -- MEASUREMENT AND PAYMENT OF THE NMDOT STANDARD SPECIFICATIONS.

6. STAKING: CONSTRUCTION STAKING SHALL BE COMPLETED BY THE CONTRACTOR IN ACCORDANCE WITH SECTION 801 OF THE NMDOT SPECIFICATIONS. INFORMATION PERTAINING TO SURVEY MONUMENTATION FOR THIS PROJECT IS PROVIDED ON THESE PLANS.

7. INCIDENTAL EARTHWORK AND GRADING: UNLESS OTHERWISE STATED WITHIN THIS PLAN SET, ALL SIDE SLOPES SHALL BE 3 HORIZONTAL :1 VERTICAL (3:1) MAXIMUM, KEEPING SLOPES FLATTER WHEREVER POSSIBLE. SLOPES SHALL TRANSITION SMOOTHLY TO EXISTING GRADES AND ADJACENT STRUCTURES IN ALL CASES. THE CONTRACTOR SHALL TRANSITION (WARP) SLOPES WHERE NECESSARY TO STAY WITHIN THE RIGHT-OF-WAY OR CONSTRUCTION LIMITS, OR TO AVOID EXISTING STRUCTURES.

8. BORROW: A SOIL BORROW SOURCE WILL BE IDENTIFIED BY THE POL FOR THIS PROJECT PRIOR TO THE START OF CONSTRUCTION.

9. MATCHING GRADES TO EXISTING: STREET AND ROAD GRADES SHALL BE RESTORED BY THE CONTRACTOR TO THE EXISTING GRADES UNLESS OTHERWISE INDICATED ON THE PLANS. CLEAN CUTS AND SMOOTH TRANSITIONS SHALL BE MADE BETWEEN EXISTING PAVEMENT WHICH REMAINS IN PLACE AND PAVEMENT WHICH IS REPLACED. WHEN ABUTTING NEW PAVEMENT TO EXISTING, SAWCUT BACK EXISTING PAVEMENT TO A NEAT, STRAIGHT LINE AS REQUIRED TO REMOVE ANY BROKEN OR CRACKED PAVEMENT.

10. UTILITY LOCATION: THE LOCATIONS OF EXISTING UTILITIES SHOWN ON THE PLANS ARE APPROXIMATE AND OTHER SUCH UTILITIES MAY EXIST WHERE NONE ARE SHOWN ON THE PLANS. THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION BY METHODS INCLUDING, BUT NOT LIMITED TO; NEW MEXICO ONE-CALL, ELECTRONIC DEVICES, AND EXPLORATORY EXCAVATION HOLING. THE CONTRACTOR SHALL CONFORM TO THE PROVISIONS OF THE NMDOT RIGHT-OF-WAY PERMIT AND CONSTRUCTION PERMIT FOR UTILITY LOCATION WITHIN THE NMDOT RIGHT-OF-WAY. UTILITY LOCATION IS INCIDENTAL TO THE WORK AND NO ADDITIONAL PAYMENT WILL BE MADE EXCEPT AS PROVIDED BY THE CONTRACT DOCUMENTS.

11. OVERHEAD UTILITIES: THE CONTRACTOR SHALL DETERMINE, IN ADVANCE OF CONSTRUCTION OPERATIONS, IF OVERHEAD UTILITY LINES, SUPPORT STRUCTURES, POLES, GUYS, ETC. ARE AN OBSTRUCTION TO CONSTRUCTION OPERATIONS. IF ANY OBSTRUCTION IS EVIDENT, THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH THE APPROPRIATE UTILITY OWNER TO REMOVE, SUPPORT AND RECONNECT THE UTILITY TO ACCOMMODATE NEW CONSTRUCTION. ANY COST ASSOCIATED WITH THIS EFFORT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR UNLESS OTHERWISE INDICATED IN THE CONTRACT DOCUMENTS.

12. ALL UNDERGROUND AND OVERHEAD UTILITY OBSTRUCTIONS WILL BE RELOCATED AWAY FROM THE WORK PRIOR TO CONSTRUCTION IN ACCORDANCE WITH SECTION 105.6 OF THE NMDOT STANDARD SPECIFICATIONS .

13. CONTRACTOR SHALL COORDINATE WITH POL WATER UTILITY AUTHORITY ON WATER CONNECTIONS.

14. IN THE EVENT OR ANY CONFLICTS BETWEEN DESIGN DRAWINGS AND EXISTING SITE CONDITION, SUCH DIFFERING SITE CONDITION SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER FOR RESOLUTION.

15. WHEN EXTENDING AN EXISTING CULVERT, REMOVE AND REPLACE THE REFLECTIVE OBJECT MARKER (ALSO REFERRED TO AS A DELINEATOR) TO APPROXIMATELY THE SAME LOCATION RELATIVE TO THE END OF THE CULVERT. IF AN EXISTING OBJECT MARKER IS NOT PRESENT, PROVIDE A NEW A3 TYPE 2 OBJECT MARKER (TRIPLE REFLECTOR) PER NMDOT STANDARD DRAWING 703-01-1/3. REMOVAL AND REPLACEMENT OF, OR PROVIDING A NEW OBJECT MARKER, IS INCIDENTAL TO THE WORK OF EXTENDING THE CULVERT.

16. ANY DESCANSOS (ROADSIDE MEMORIALS) ENCOUNTERED DURING CONSTRUCTION WILL BE HANDLED ACCORDING TO THE GUIDANCE OF NMDOT.

17. ALL NEWLY INSTALLED SIGN POSTS/BASES SHALL BE TYPE 1 BREAKAWAY PER NMDOT STANDARD SPECIFICATION SECTION 701.

ENVIRONMENTAL REQUIREMENTS

1. THE CONTRACTOR SHALL MAKE ALL REASONABLE EFFORTS TO PREVENT EROSION OF SOIL BY MINIMIZING THE AMOUNT OF SOILS THAT ARE EXPOSED AT ANY ONE TIME. SEE ADDITIONAL DUST AND EROSION CONTROL REQUIREMENTS REQUIREMENTS IN NOTE 15, BELOW.

2. THE CONTRACTOR SHALL MAKE ALL REASONABLE EFFORTS TO MINIMIZE CONSTRUCTION NOISE AND EMISSIONS. WORK SHALL BE CONDUCTED DURING NORMAL (DAYLIGHT) WORKING HOURS. EXHAUST EMISSIONS OF CONSTRUCTION EQUIPMENT WILL BE MINIMIZED BY REQUIRING APPLICABLE EMISSION CONTROL DEVICES AND LIMITING IDLING WHEN NOT IN USE.

3. THE CONTRACTOR SHALL DEVELOP A TRAFFIC CONTROL PLAN TO MAINTAIN NECESSARY ACCESS FOR RESIDENTS AND OTHER USERS DURING CONSTRUCTION .

4. APPROPRIATE SAFETY MEASURES, SUCH AS ERECTNG BARRICADES AND POSTING WARNING SIGNAGE, SHALL BE TAKEN BY THE CONTRACTOR TO ENSURE PUBLIC SAFETY DURING CONSTRUCTION.

5. ALL NEW CONSTRUCTION SHALL COMPLY WITH THE APPROPRIATE STANDARDS OF THE AMERICANS WITH DISABILITIES ACCESSIBILITY GUIDELINES (ADAAG).

6. PURSUANT TO THE FISH AND WILDLIFE COORDINATION ACT AND THE MIGRATORY BIRD TREATY ACT, A PERMIT MUST BE OBTAINED FROM THE U.S. FISH AND WILDLIFE SERVICE IF IT BECOMES APPARENT THAT MIGRATORY BIRDS, NESTS, OR EGGS MUST BE REMOVED OR DESTROYED,.

7. CULTURAL RESOURCES RECOMMENDED ELIGIBLE TO THE NATIONAL REGISTER OF HISTORIC PLACES (NRHP) WOULD BE AVOIDED OR MITIGATED AS NEED UNDER INDIVIDUAL PROJECT ACTIVITES. AS NEEDED, PROJECTS IMPACTING WATERWAYS OR WETLANDS WOULD NOT BE CONSTRUCTED UNTIL PROVIDED USACE PERMIT COVERAGE.

8. IF UNANTICIPATED SUBSURFACE CULTURAL MATERIALS ARE IDENTIFIED ANYWHERE IN THE PROJECT AREA DURING CONSTRUCTION ACTIVITIES, THE CONTRACTOR SHALLIMMEDIATELY CEASE WORK AT THAT LOCATION AND CONTACT THE PUEBLO OF LAGUNA IMMEDIATELY FOR DIRECTION ON HOW TO PROCEED. ANY CULTURAL RESOURCES UNCOVERED DURING PROJECT ACTIVITIES MUST BE HANDLED ACCORDING TO THE APPLICABLE FEDERAL AND TRIBAL LAWS.

9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESEEDING ALL DISTURBED AREAS AS INDICATED UNDER NOTE 8 SECTION 632 OF THE SUPPLEMENTAL TECHNICAL SPECIFICATIONS.

10. THE PUEBLO OF LAGUNA WILL OBTAIN NECESSARY USEPA APPROVALS PRIOR TO DISTURBING SOILS ALONG NM 279, IF DESIGNS ALONG THAT ROUTE CHANGE. SOIL DISTURBANCE WITHIN THE JACKPILE URANIMUM MINE PROPOSED NPL/SUPERFUND SITE MAY REQUIRE ADDITIONAL INVESTIGATON AND MITIGATIONS.

11. IF CONTAMINATED SOILS ARE ENCOUNTERED (SUCH AS STAINED, OILY SOIL) DURING CONSTRUCTION, THE CONSTRUCTION CONTRACTOR SHALL STOP ACTIVITIES AT THE AFFECTED AREA AND CONTACT THE APPROPRIATE AUTHORITY FOR INSTRUCTIONS REGARDING HOW TO PROCEED. CONTAMINATEDSOIL WOULD BE TESTED ANDDISPOSED AS REQUIRED BY PUEBLO AND FEDERAL REGULATIONS.

12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPORTING AND CLEANUP OF SPILLS ASSOCIATED WITH PROJECT CONSTRUCTION AND SHALL REPORT AND RESPOND TO SPILLS OF HAZARDOUS MATERIALS SUCH AS GASOLINE, DIESEL, MOTOR OILS, SOLVENTS, CHEMICALS, TOXIC AND CORROSIVE SUBSTANCES, ETC., WHICH MAY BE A THREAT TO PUBLIC HEALTH OR THE ENVIORNMENT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPORITNG DISCOVERIES OF PAST SPILLS AND CURRENT SPILLS NOT ASSOCIATED WITH CONSTRUCTION. REPORTS SHALL BE MADE IMMEDIATELY TO THE NM ENVIRONMENT DEPARYMENT EMERGENCY RESPONSE AT 827-9329(?). NON-EMERGENCIES MAY BE REPORTED TO 428-2500(?) AND THE PROJECT MANAGER.

13. THE CONTRACTOR SHALL COMPLY WITH ALL REGULATIONS OF THE U.S. ENVIRONMENTAL PROTECTION AGENCY, INCLUDING THE NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEMS (NPDES) PROGRAM. FOR INFORMATION, CONTACT THE NPDES CONTACT FOR (LOCATION) AT (PHONE NUMBER). THE CONTRACTOR IS RESPONSIBLE FOR SECURING ALL PERMITS REQUIRED BY FEDERAL, STATE, AND TRIBAL REGULATIONS FOR NPDES COMPLIANCE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PREPARING NPDES APPLICATIONS AND NOIS, DEVELOPING SORMWATER POLLULTION PREVENTION (SWPP) PLANS, AND MONITORING. A COPY OF THE SWPPP, NOI AND OTHER NPDES DOCUMETNATION SHALL BE PROVIDED TO (PLACE) PRIOR TO THE START OF CONSTRUCTION.

14. CLEAN WATER ACT PERMITTING FOR CONSTRUCTION IMPACTS TO WATERS OF THE US AND ADJACENT WELANDS WILL BE OBTAINED PRIOR TO THE ONSET OF CONSTRUCTION OF PERTINENT ROUTES.

15. A SWPPP WILL BE PREPARED FOR PROJECTS RESULTING IN MORE THAN ONE ACRE OF SOIL DISTUBANCE IN ACORDANCES WITH NPDES REGULATIONS TO PROTECT SURFACE WATER RESOURCES FROM EXCESS SEDIMENTATION AND CONTAMINATION DURING CONSTRUCTION.

16. TO MINIMIZE AIR QUALITY IMPACTS DURING CONSTRUCTION, THE CONTRACTOR SHALL COMPLY WITH THE NMDOT STANDARD SPECIFICATIONS FOR HIGHWAY AND BRIDGE CONSTRUCTION SECTION 107.17, AIR QUALITY AND DUST ABATEMENT, (CURRENT?) FOR ALL BURNING OPERATIONS, DUST-PRODUCING-ACTIVITIES, AND OTHER OPERATIONS THAT PRODUCE PARTICULATE MATTER. THESE ACTIVITIES SHALL BE CONDUCTED IN ACCORDANCE WITH STATE AND FEDERAL AIR QUALITY REGULATIONS AS ADMINISTERED BY THE AIR POLLUTION CONTROL BUREAU OF THE NEW MEXICO ENVIRONMENT DEPARTMENT.

17. BEST MANAGEMENT PRACTICES SHALL BE INSTALLED AND MAINTAINED BOTH DURING AND AFTER CONSTRUCTION TO PREVENT, TO THE EXTENT PRACTICABLE, POLLUTANTS IN STORM WATER RUNOFF FROM ENTERING WATERS OF THE U.S.

19. THE CONTRACTOR SHALL PROPERLY HANDLE AND DISPOSE OF ALL ASPHALT PAVEMENT MATERIAL REMOVED ON THE PROJECT BY RECYCLING AND/OR HAULING TO AN APPROVED LANDFILL IN ACCORDANCE WITH THE REGULATIONS OF THE NEW MEXICO SOLID WASTE ACT.

20. ITEMS DESIGNATED FOR REMOVAL WITHOUT SALVAGE, UNSUITABLE CONSTRUCTION MATERIALS, AND DEBRIS FROM CLEARING AND GRUBBING ARE TO BE PLACED IN AN ENVIRONMENTALLY SUITABLE DISPOSAL SITE DECIDED UPON AND COORDINATED BY THE CONTRACTOR WITH THE APPROPRIATE REGULATORY AGENCIES. THE CONTRACTOR SHALL NOTIFY THE PROJECT MANAGER IN WRITING OF THE DETAILS OF DISPOSAL OPERATIONS. BORROW MATERIAL, ROCK WASTE, VEGETATIVE DEBRIS, ETC., SHALL NOT BE PLACED IN WETLAND AREAS, RIVER BED, ARROYO CHANNEL OR AREAS WHICH MAY IMPACT ENDANGERED SPECIES OF ARCHAEOLOGICAL RESOURCES. AN ARACHAEOLOGICAL SURVEY AND ENVIRONMETNAL CLEARANCE SHALL BE OBTAINED BY THE CONTRACTOR BEFORE DISPOSAL SITES ARE ACCEPTED.

21. LANDFILL FEES: THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL LANDFILL DUMPING FEES, NO ADDDITIONAL MEASUREMENT OR PAYMENT WILL BE MADE.

22. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPORTING AND CLEANUP OF SPILLS ASSOCIATED WITH PROJECT CONSTRUCTION AND SHALL REPORT AND RESPOND TO SPILLS OF HAZARDOUS MATERIALS SUCH AS GASOLINE, DIESEL, MOTOR OILS, SOLVENTS, CHEMICALS, TOXIC AND CORROSIVE SUBSTANCES, ETC., WHICH MAY BE A THREAT TO PUBLIC HEALTH OR THE ENVIORNMENT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPORITNG DISCOVERIES OF PAST SPILLS AND CURRENT SPILLS NOT ASSOCIATED WITH CONSTRUCTION. REPORTS SHALL BE MADE IMMEDIATELY TO THE NM ENVIRONMENT DEPARYMENT EMERGENCY RESPONSE AT 827-9329(?). NON-EMERGENCIES MAY BE REPORTED TO 428-2500(?) AND THE PROJECT MANAGER.

ABBREVIATIONS

ABBREVIATION	DESCRIPTION
<	LESS THAN
>	GREATER THAN
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
BOP	BEGINNING OF PROJECT
BVCE	BEGINING VERTICAL CURVE ELEVATION
BVCS	BEGINING VERTICAL CURVE STATION
CBC	CONCRETE BOX CULVERT
CIP	COMPLETE IN PLACE
C_L	CENTERLINE
CMP	CORRUGATED METAL PIPE
CONC.	CONCRETE
CU. FT.	CUBIC FEET
CY	CUBIC YARD
DWG	DRAWING
E	EASTING COORDINATE
ELEC	ELECTRIC
ELEV	ELEVATION
ELEV.	ELEVATION
EOP	END OF PROJECT
FHWA	U.S. FEDERAL HIGHWAY ADMINISTRATION
FT	FEET
H:V	HORIZONTAL: VERTICAL
HP	HIGH POINT
IN	INCH
INV	INVERT
K	RATE OF VERTICAL CURVATURE
LF	LINEAR FEET
LP	LOW POINT
LVC	LENGTH OF VERTICAL CURVE
MAX.	MAXIMUM
MFR.	MANUFACTURER
MIN.	MINIMUM
N	NORTHING COORDINATE
NAD	NORTH AMERICAN DATUM
NAVD	NORTH AMERICAN VERTICAL DATUM
NIC	NOT IN CONTRACT
NMDOT	NEW MEXICO DEPARTMENT OF TRANSPORTATION
O.C.	ON CENTER
OFF.	OFFSET
OHU	OVERHEAD UTILITY
OSHA	OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
PC	POINT OF CURVATURE
PI	POINT OF INTERSECTION
POL	PUEBLO OF LAGUNA
PVI	POINT OF VERTICAL INTERSECTION
R	RADIUS
RCP	REINFORCED CONCRETE PIPE
ROW	RIGHT OF WAY
S	SLOPE
SHT	SHEET
SPEC	SPECIFICATION
SS	SANITARY SEWER
STA.	STATION
STD	STANDARD
SWPPP	STORM WATER POLLUTION PREVENTION PLAN
TBM	TEMPORARY BENCHMARK
TCP	TEMPORARY CONTROL POINT
TYP	TYPICAL
U.S.	UNITED STATES
W	WATER
W/O	WITHOUT
Z	VERTICAL ELEVATION

LEGEND

- 6723 — EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- PEDESTRIAN/BIKE TRAIL CENTERLINE
- NM 124 TRAIL CENTERLINE
- PROPOSED SWALE FLOW DIRECTION
- EXISTING CULVERT
- PROPOSED BEEHIVE DROP INLET
- DROP INLET
- END SECTION
- NEW CULVERT
- WIRE FENCE
- GUARD RAIL
- PIPE RAILING
- RAILING
- RETAINING WALL
- BRIDGE
- X / Y-Z — REFER TO (DETAIL NO.) ON (DRAWING NO.)

SURVEY SYMBOL LEGEND

- SINGLE POST SIGN (AS NOTED)
- MULTI–POST SIGN (AS NOTED)
- DELINEATOR
- POST
- BOLLARD
- GTE — GATE
- CATTLE GUARD
- POWER POLE
- GUY
- LIGHT POLE
- FIRE HYDRANT
- W — WATER METER
- E — ELECTRIC METER
- C — COMMUNICATIONS MANHOLE
- T — TELEPHONE MANHOLE
- SS — SANITARY SEWER MANHOLE
- ST — STORM DRAIN MANHOLE
- CB — CATCH BASIN
- RISER
- TEL — TELEPHONE PEDESTAL
- TV — TELEVISION PEDESTAL
- E — ELECTRIC JUNCTION BOX
- PB — ELECTRIC BOX
- SL — SIGNAL LIGHT BOX
- TB — TELEPHONE BOX
- T — TRANSFORMER
- G — GAS VALVE
- W — WATER VALVE
- C — COMMUNICATIONS VAULT
- W — WATER VAULT
- M — MONTORING WELL
- CONTROL POINT
- FIBER — FIBER OPTIC LINE MARKER
- NGAS — NATURAL GAS LINE MARKER
- X — FENCE
- GAURDRAIL
- OHE — OVERHEAD ELECTRIC
- UGE — UNDERGROUND ELECTRIC
- COM — FIBER OPTIC COMMUNICATION LINE
- CATV — CABLE TELEVISION LINE
- T — UNDERGROUND TELEPHONE

Utility Coordination

Utility	Entity	Name	Phone
Electric	Continental Divide Electric Coop	Steven Morales	505-285-6656 ext 1021
Natural Gas Pipeline	El Paso Natural Gas Company	Bryan Espinosa	505-722-3631
Water & Sewage	Laguna Pueblo Utility Authority	Neal Kie	505-552-9631
Gas	New Mexico Gas Company	Joe Herrera	505-891-6885
Electric	PNM	Charlie Brown	505-241-4441
Phone / Fiber Optic	Qwest / Century Link	Danny Stokes	505-782-5464
General	Multiple Companies	New Mexico One Call	811

DESIGN OF THIS PROJECT IS BASED UPON DESIGN STANDARDS INCLUDED IN THE AASHTO GUIDE FOR THE DEVELOPMENT OF BICYCLE FACILITIES, 2012 EDITION.

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DESIGNED:	RO			
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APPROVED:	SC	NO.	DATE	BY	REVISION

CONSTRUCTION DOCUMENT

DAVID J. COOPER, NEW MEXICO, 21683, 11/25/14, PROFESSIONAL ENGINEER

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BIKE & PEDESTRIAN ROUTE DESIGN

NM 124 - CASA BLANCA TO ENCINAL RD.
GENERAL NOTES

BID NO.	SPEC. ITEM	DESCRIPTION	UNIT	TRAIL		CHANNEL		LANDSCAPING		PERMANENT SIGNING		CONSTRUCTION ENGINEERING		PROJECT TOTALS	
				ESTIMATE	FINAL	ESTIMATE	FINAL	ESTIMATE	FINAL	ESTIMATE	FINAL	ESTIMATE	FINAL	ESTIMATE	FINAL
1	201000	SITE CLEAR & GRUB	AC	4.9										4.9	
2	203000	UNCLASSIFIED EXCAVATION, INCL. PLACEMENT AND COMPACTION TO NEW GRADES, CIP	CY	1490										1490.0	
3	203100	BORROW, INCLUDING HAUL, PLACEMENT, AND COMPACTION, CIP	CY	4600										4600.0	
4	206100	SELECT BACKFILL/ENGINEERED FILL	CY	30										30.0	
5	207000	TRAIL, SHOULDER, & DRIVEPAD SUBGRADE PREPARATION	SY	15100										15100.0	
6	304140	COMPACTED TRAIL BASE COURSE, 4" DEPTH	SY	10500										10500.0	
7	304160	COMPACTED BASE COURSE FOR TRAIL SHOULDERS, DRIVE PADS, 6" DEPTH	SY	4540										4540.0	
8	423002	HOT MIX ASPHALT, TYPE SP-IV, 2" THICK, CIP	SY	11400										11400.0	
9	507100	MODULAR CMU RETAINING WALL, CIP, INCLUDING CRUSHED GRAVEL FOOTING AND BACKFILL (WALL FACE AREA)	SF			940								940.0	
10	511030	STRUCTURAL CONCRETE BRIDGE ABUTMENT & WING WALLS, CLASS AA, WITH CLASS 1 FINISH, CIP	CY			17								17.0	
11	511300	SUBSTRUCTURE CONCRETE FOOTING, CLASS A, INCLUDING SUBGRADE PREP AND BACKFILL, CIP	CY			10								10.0	
12	541101	PRE-ENGINEERED BRIDGE, 10' X 75', CIP, INCLUDING CONC. DECK	EA			1								1	
13	570024	24" CMP CULVERT PIPE, INSTALLED, INCLUDING COUPLING(S) AS NEEDED	LF			76								76.0	
14	570025	24" CULVERT PIPE END SECTION, INSTALLED	EA			4								4.0	
15	570036	36" CMP CULVERT PIPE, INSTALLED, INCLUDING COUPLING(S) AS NEEDED	LF			34								34.0	
16	570037	36" CULVERT PIPE END SECTION, INSTALLED	EA			2								2.0	
17	601000	REMOVAL OF STRUCTURES AND OBSTRUCTIONS	LS			1								1	
18	602010	CLASS B RIPRAP, CIP	TON			360								360.0	
19	603270	SWPPP MANAGEMENT	ALLOW									1		1	
20	603280	SWPPP IMPLEMENTATION	LS									1		1	
21	607079	3-BAR PEDESTRIAN/BICYCLE RAILING, UNPAINTED	LF	435										435.0	
22	607228	REMOVE AND REINSTALL EXISTING WIRE FENCE	LF	850										850.0	
23	607312	STANDARD TUBULAR GATE, 12', SELF-CLOSING WITH 2-WAY LATCH, CIP	EA	1										1	
24	618000	TRAFFIC CONTROL	LS									1		1	
25	621000	CONSTRUCTION MOBILIZATION/DEMOBILIZATION	LS									1		1	
26	627000	PROTECTION OF PROJECT FROM WATER	LS									1		1	
27	632000	NATIVE SEEDING	AC					1.2						1.2	
28	660009	UTILITY RELOCATION ALLOWANCE	ALLOW									1		1	
29	701000	ALUMINUM PANEL SIGN	SF							140				140.0	
30	701030	REMOVE AND RESET PANEL SIGN	EA							11				11	
31	701100	STEEL SIGN POST AND BASE POST, CIP	LF							280				280.0	
32	701101	RECYCLED PLASTIC MILE MARKER POST, CIP	EA							8				8.0	
33	704000	REFLECTORIZED PAINTED STRIPE, 4"	LF							17800				17800.0	
34	704224	REFLECTIVE PLASTIC PAVEMENT STRIPE, 24" WIDE	LF							100				100	
35	801000	CONSTRUCTION STAKING BY CONTRACTOR	LS									1		1	
36	802000	POST-CONSTRUCTION PLANS (RECORD DRAWINGS)	LS									1		1	
37	901000	QC/QA TESTING ALLOWANCE	ALLOW									1		1	

BIKE & PEDESTRIAN ROUTE DESIGN- ADDITIVE ALTERNATIVE: CROSSWALK AND SIGNAGE AT CASA BLANCA RD			UNIT	TRAIL		CHANNEL		LANDSCAPING		PERMANENT SIGNING		CONSTRUCTION ENGINEERING		PROJECT TOTALS	
BID ITEM	SPEC. NO.	DESCRIPTION		ESTIMATE	FINAL	ESTIMATE	FINAL	ESTIMATE	FINAL	ESTIMATE	FINAL	ESTIMATE	FINAL	ESTIMATE	FINAL
1	618000	ADDITIONAL TRAFFIC CONTROL	LS									1		1	
2	701000	ALUMINUM PANEL SIGN	SF							14				14	
3	701030	REMOVE AND RESET PANEL SIGN	EA							1				1	
4	704224	RELFECTIVE PLASTIC PAVEMENT STRIPE, 24" WIDE	LF							100				100	
5	715001	SOLAR POWERED CROSSING BEACON SYSTEM	EA							2				2	
6	716701	SOLAR POWERED LED ROADWAY LUMINAIRE WITH 25' POLE	EA							2				2	
7	XXXXXX	SHORT TRAIL CONNECTION BETWEEN EAST AND SOUTH CROSSWALKS	LS	1										1	

BIKE & PEDESTRIAN ROUTE DESIGN- ADDITIVE ALTERNATIVE: ENCINAL SPUR CONNECTION			UNIT	TRAIL		CHANNEL		LANDSCAPING		PERMANENT SIGNING		CONSTRUCTION ENGINEERING		PROJECT TOTALS	
BID ITEM	SPEC. NO.	DESCRIPTION		ESTIMATE	FINAL	ESTIMATE	FINAL	ESTIMATE	FINAL	ESTIMATE	FINAL	ESTIMATE	FINAL	ESTIMATE	FINAL
1	201000	SITE CLEAR & GRUB	AC	0.2										0.2	
2	203000	UNCLASSIFIED EXCAVATION, INCL. PLACEMENT AND COMPACTION TO NEW GRADES, CIP	CY	5.0										5.0	
3	203100	BORROW, INCLUDING HAUL, PLACEMENT, AND COMPACTION, CIP	CY	240.0										240	
4	207000	TRAIL, SHOULDER, & DRIVEPAD SUBGRADE PREPARATION	SY	790.0										790	
5	304140	COMPACTED TRAIL BASE COURSE, 4" DEPTH	SY	360.0										360	
6	304160	COMPACTED BASE COURSE FOR TRAIL SHOULDERS, 6" DEPTH	SY	215.0										215	
7	423002	HOT MIX ASPHALT, TYPE SP-IV, 2" THICK, CIP	SY	360.0										360	
8	601000	REMOVAL OF STRUCTURES AND OBSTRUCTIONS	LS			1.0								1	
9	603270	ADDITIONAL SWPPP MANAGEMENT	ALLOW									1		1	
10	603280	ADDITIONAL SWPPP IMPLEMENTATION	LS									1		1	
11	607228	REMOVE AND REINSTALL EXISTING WIRE FENCE	LF	15										15	
12	607314	CATTLE GATE, 14'	EA	1										1	
13	618000	ADDITIONAL TRAFFIC CONTROL	LS									1		1	
14	632000	NATIVE SEEDING	AC					0.1						0.1	
15	660009	ADDITIONAL UTILITY RELOCATION ALLOWANCE	ALLOW									1		1	
16	701000	ALUMINUM PANEL SIGN	SF							6				6	
17	701100	STEEL SIGN POST AND BASE POST, CIP	LF							20				20	
18	704000	REFLECTIVE PAINTED PAVEMENT STRIPE, 4" WIDE	LF							644				644	
19	801000	CONSTRUCTION STAKING BY CONTRACTOR	LS									1		1	
20	802000	POST-CONSTRUCTION PLANS (RECORD DRAWINGS)	LS									1		1	
21	901000	QC/QA TESTING ALLOWANCE	ALLOW									1		1	

BIKE & PEDESTRIAN ROUTE DESIGN- ADDITIVE ALTERNATIVE: NM 124 CROSSING			UNIT	TRAIL		CHANNEL		LANDSCAPING		PERMANENT SIGNING		CONSTRUCTION ENGINEERING		PROJECT TOTALS	
BID ITEM	SPEC. NO.	DESCRIPTION		ESTIMATE	FINAL	ESTIMATE	FINAL	ESTIMATE	FINAL	ESTIMATE	FINAL	ESTIMATE	FINAL	ESTIMATE	FINAL
1	701000	ALUMINUM PANEL SIGN	SF							14				14	
2	704224	RELFECTIVE PLASTIC PAVEMENT STRIPE, 24" WIDE	LF							50				50	
3	715001	SOLAR POWERED CROSSING BEACON SYSTEM	EA							2				2	
4	716701	SOLAR POWERED LED ROADWAY LUMINAIRE WITH 25' POLE	EA							2				2	

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DRAWN: CP
CHECKED: SC
APPROVED: SC

NO.	DATE	BY	REVISION

CONSTRUCTION DOCUMENT

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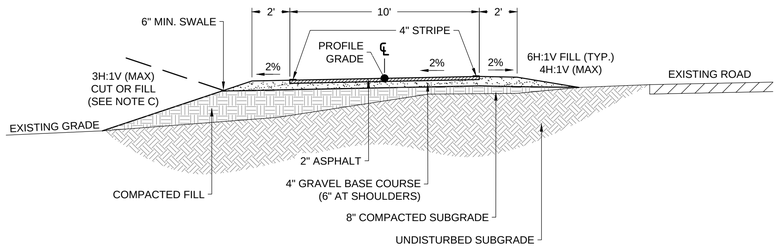
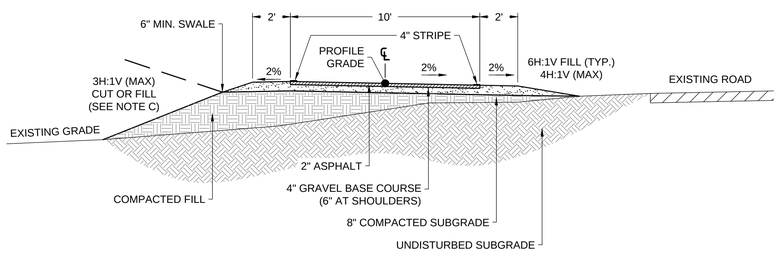
BIKE & PEDESTRIAN ROUTE DESIGN

NM 124 - CASA BLANCA TO ENCINAL RD. SUMMARY OF QUANTITIES

SHEET 4 of 61
DWG 1-4
DATE 30NOV14
PROJ 15196.001.001



1 ASPHALT TRAIL SECTION



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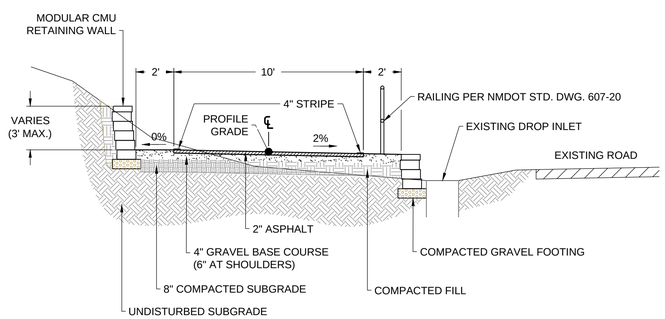
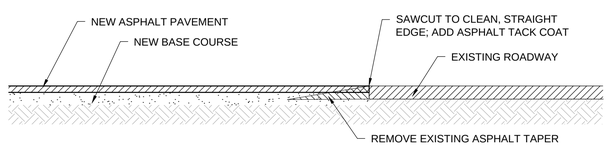
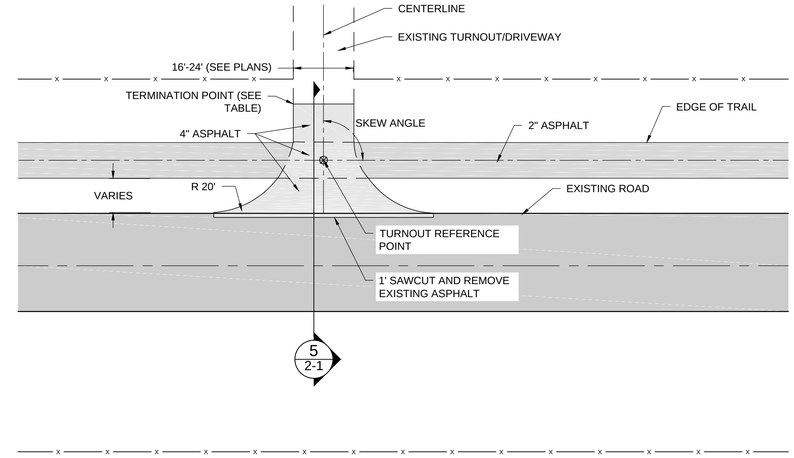


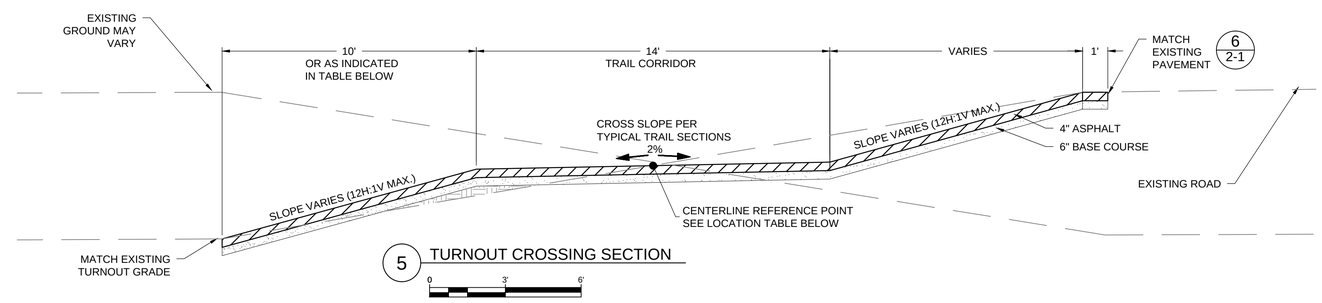
3 ASPHALT TRAIL SECTION WITH RETAINING WALL



6 SAWCUT DETAIL



4 TURNOUT PLAN VIEW



5 TURNOUT CROSSING SECTION

CONSTRUCTION NOTES

A ASPHALT IS SUPERPAVE IV PER NMDOT SPEC. SECTION 423.

B COMPACTION MINIMUM IS 95% PER ASTM D-1557.

C CUT/FILL SLOPES PER EMBANKMENT HEIGHT / CUT DEPTH:
<2': 4H : 1V
>2': 3H : 1V
ALL CUT ON FILL SLOPES BETWEEN A TRAIL AND A HIGHWAY SHALL BE 4:1 MAX.

D RETAINING WALL BLOCKS ARE TO BE FLAT, SPLIT-FACED MODULAR CMU WITH 6" CRUSHED GRAVEL FOOTING, INSTALLED PER MANUFACTURER'S RECOMMENDATIONS. SEE SUPPLEMENTAL TECHNICAL SPECIFICATIONS FOR ADDITIONAL INFORMATION.

DRIVEWAY CROSSING LOCATIONS

Trail Centerline Station	Northing	Easting	Skew Angle	Termination Point (From Edge of Trail)
27+04.95	1475309.3037'	2818701.7768'	90	approx. 14" to Cattle guard
43+21.05	1474685.0656'	2820173.4247'	90	approx. 3'-6" to Cattle guard
48+58.98	1474643.4353'	2820709.8658'	90	approx. 4' to Cattle guard
68+30.63	1474521.6751'	2822676.4463'	90	approx 6' to Fenceline
77+30.07	1474513.4216'	2823575.7655'	97	10'
86+97.97	1474513.1564'	2824543.6634'	90	10'
92+46.91	1474531.0811'	2825092.0555'	77	approx. 6'-10" to Fenceline
103+50.68	1474672.2152'	2826185.2717'	90	10'
108+24.37	1474755.0461'	2826651.2181'	90	10'
110+99.96	1474798.4541'	2826923.3456'	90	10'
148+78.30	1474866.3043'	2830699.0447'	90	approx. 8'-10" to Cattle guard
149+76.06	1474866.7520'	2830796.7944'	90	10'
172+01.07	1474924.9355'	2833019.7782'	90	approx. 3'-5" to Cattle guard
203+27.92	1475256.1575'	2836099.4193'	90	approx. 6'-10" to Fenceline
206+42.24	1475193.6835'	2836407.4625'	72	approx. 8' to Fenceline
222+20.51	1474873.6470'	2837952.8704'	94	approx. 8'-9" to Cattle guard

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APPROVED:	SC	NO.	DATE	BY	REVISION

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DAVID J. COOPER 21683 11/25/14 PROFESSIONAL ENGINEER

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BIKE & PEDESTRIAN ROUTE DESIGN

NM 124 - CASA BLANCA TO ENCINAL RD.
TRAIL TYPICAL SECTIONS

1

Total Volume Table

Station	Fill Area (sq ft)	Cut Area (sq ft)	Fill Volume (cu yd)	Cut Volume (cu yd)	Cumulative Fill Vol (cu yd)	Cumulative Cut Vol (cu yd)
11+00.00	21.20	1.80	0.00	0.00	0.00	0.00
12+00.00	18.93	0.00	74.32	3.33	74.32	3.33
13+00.00	9.26	0.00	52.21	0.00	126.53	3.33
14+00.00	36.02	0.00	83.85	0.00	210.38	3.33
15+00.00	38.11	0.00	137.21	0.00	347.59	3.33
16+00.00	0.31	0.47	71.11	0.86	418.70	4.20
17+00.00	2.79	2.00	5.75	4.56	424.45	8.76
18+00.00	11.61	0.00	26.67	3.70	451.11	12.45
19+00.00	21.63	0.00	61.52	0.00	512.64	12.45
20+00.00	3.63	0.00	46.75	0.00	559.39	12.45
21+00.00	9.63	0.00	24.55	0.00	583.94	12.45
22+00.00	25.32	0.00	64.73	0.00	648.66	12.45
23+00.00	22.08	21.07	87.62	39.75	736.28	52.21
24+00.00	19.38	0.00	76.87	38.56	813.14	90.76
25+00.00	32.72	0.00	96.38	0.00	909.53	90.76
26+00.00	28.68	0.00	113.64	0.00	1023.17	90.76
27+00.00	0.73	0.33	54.45	0.60	1077.61	91.37
28+00.00	1.55	8.37	4.22	16.07	1081.84	107.44
29+00.00	3.02	25.56	8.46	62.83	1090.29	170.26
30+00.00	4.97	15.51	14.81	75.92	1105.11	246.18
31+00.00	4.68	12.32	17.90	51.45	1123.00	297.63
32+00.00	10.68	3.27	28.45	28.87	1151.46	326.50
33+00.00	14.64	0.00	46.93	6.05	1198.38	332.55
34+00.00	0.39	1.04	27.84	1.92	1226.22	334.47
35+00.00	9.71	20.26	18.74	39.26	1244.96	373.73
36+00.00	10.34	33.50	37.22	99.05	1282.18	472.78
37+00.00	7.51	9.13	33.13	78.60	1315.30	551.38
38+00.00	9.17	12.92	30.93	40.76	1346.24	592.14
39+00.00	9.21	5.92	34.08	34.83	1380.32	626.96
40+00.00	2.19	5.20	21.14	20.55	1401.46	647.52
41+00.00	4.42	4.57	12.13	18.19	1413.58	665.71
42+00.00	0.34	6.80	8.90	20.89	1422.48	686.60
43+00.00	0.52	3.88	1.59	19.74	1424.07	706.33
44+00.00	13.01	0.00	25.05	7.17	1449.12	713.50
45+00.00	20.41	0.00	61.89	0.00	1511.01	713.50
46+00.00	10.32	0.00	56.92	0.00	1567.93	713.50
47+00.00	15.31	0.22	47.47	0.41	1615.40	713.91
48+00.00	9.64	0.10	46.20	0.58	1661.60	714.49
49+00.00	0.00	14.10	17.82	26.32	1679.42	740.81
50+00.00	5.21	0.04	9.66	26.22	1689.09	767.04
51+00.00	14.96	0.00	37.32	0.07	1726.40	767.11
52+00.00	31.50	0.50	86.04	0.92	1812.44	768.03
53+00.00	21.93	0.00	98.95	0.92	1911.39	768.95
54+00.00	25.77	0.00	88.34	0.00	1999.73	768.95
55+00.00	5.05	2.56	57.06	4.74	2056.79	773.68
56+00.00	12.91	0.00	33.24	4.74	2090.04	778.42
57+00.00	12.60	0.00	47.24	0.00	2137.27	778.42
58+00.00	11.74	0.00	45.08	0.00	2182.35	778.42
59+00.00	15.69	0.00	50.80	0.00	2233.15	778.42
60+00.00	8.36	0.96	44.56	1.76	2277.71	780.18
61+00.00	3.85	0.02	22.58	1.82	2300.28	782.00
62+00.00	5.87	0.02	18.00	0.07	2318.28	782.07
63+00.00	0.73	15.59	12.22	28.90	2330.50	810.97
64+00.00	7.82	14.89	15.83	56.43	2346.33	867.40
65+00.00	7.09	18.39	27.61	61.63	2373.94	929.03
66+00.00	1.99	21.33	16.82	73.56	2390.76	1002.59
67+00.00	3.83	10.66	10.79	59.24	2401.55	1061.83
68+00.00	11.94	0.00	29.21	19.73	2430.76	1081.56
69+00.00	30.40	0.00	78.42	0.00	2509.18	1081.56
70+00.00	32.13	0.00	115.81	0.00	2624.99	1081.56
71+00.00	7.03	2.48	72.52	4.59	2697.51	1086.15
72+00.00	6.23	2.35	24.53	8.96	2722.04	1095.11

2

Total Volume Table

Station	Fill Area (sq ft)	Cut Area (sq ft)	Fill Volume (cu yd)	Cut Volume (cu yd)	Cumulative Fill Vol (cu yd)	Cumulative Cut Vol (cu yd)
73+00.00	12.26	0.10	34.25	4.54	2756.30	1099.65
74+00.00	16.27	0.00	52.83	0.19	2809.13	1099.84
75+00.00	28.06	0.00	82.08	0.00	2891.22	1099.84
76+00.00	3.71	0.07	58.83	0.14	2950.04	1099.98
77+00.00	18.26	0.00	40.68	0.14	2990.72	1100.11
78+00.00	25.07	0.00	80.24	0.00	3070.97	1100.11
79+00.00	28.65	0.00	99.49	0.00	3170.46	1100.12
80+00.00	24.18	0.00	97.84	0.00	3268.30	1100.12
81+00.00	15.74	0.00	73.92	0.00	3342.22	1100.12
82+00.00	10.71	0.02	48.97	0.04	3391.18	1100.16
83+00.00	11.13	0.00	40.44	0.04	3431.62	1100.20
84+00.00	19.85	0.00	57.37	0.00	3489.00	1100.20
85+00.00	21.49	0.00	76.56	0.00	3565.55	1100.20
86+00.00	18.37	0.00	73.81	0.01	3639.36	1100.21
87+00.00	1.39	0.74	36.59	1.37	3675.96	1101.58
88+00.00	6.49	0.16	14.59	1.66	3690.55	1103.23
89+00.00	18.04	0.00	45.43	0.29	3735.98	1103.52
90+00.00	15.35	0.00	61.84	0.00	3797.82	1103.52
91+00.00	9.10	0.00	45.28	0.00	3843.10	1103.52
92+00.00	5.79	0.00	27.58	0.00	3870.68	1103.52
93+00.00	20.77	0.00	49.19	0.00	3919.87	1103.52
94+00.00	22.01	0.00	79.18	0.00	3999.05	1103.52
95+00.00	20.43	0.00	78.59	0.00	4077.63	1103.52
96+00.00	26.60	0.00	87.08	0.00	4164.72	1103.52
97+00.00	15.47	0.00	77.90	0.00	4242.61	1103.52
98+00.00	3.81	0.00	35.70	0.00	4278.31	1103.52
99+00.00	12.70	0.00	30.56	0.00	4308.88	1103.52
100+00.00	24.31	0.00	68.53	0.00	4377.41	1103.52
101+00.00	15.17	0.00	73.12	0.00	4450.52	1103.52
102+00.00	17.43	0.00	60.38	0.00	4510.91	1103.52
103+00.00	29.71	9.03	87.31	16.71	4598.21	1120.24
104+00.00	3.07	0.00	60.71	16.71	4658.92	1136.95
105+00.00	3.86	0.00	12.85	0.00	4671.77	1136.95
106+00.00	28.26	11.97	59.53	22.93	4731.30	1159.88
107+00.00	15.76	0.00	81.45	21.80	4812.75	1181.68
108+00.00	6.93	0.00	42.02	0.00	4854.77	1181.68
109+00.00	0.00	7.61	12.83	14.09	4867.61	1195.77
110+00.00	0.10	4.32	0.19	22.08	4867.80	1217.85
111+00.00	0.00	6.76	0.19	20.52	4867.99	1238.37
112+00.00	3.98	0.09	7.37	12.70	4875.36	1251.07
113+00.00	22.01	0.00	48.13	0.17	4923.49	1251.24
114+00.00	23.88	0.02	84.99	0.05	5008.48	1251.28
115+00.00	7.99	0.00	59.02	0.05	5067.50	1251.33
116+00.00	9.58	0.00	32.58	0.00	5100.08	1251.33
117+00.00	41.90	0.00	95.04	0.00	5195.13	1251.33
118+00.00	44.22	0.00	160.00	0.00	5355.12	1251.33
119+00.00	25.29	0.00	128.72	0.00	5483.84	1251.33
120+00.00	18.85	0.00	81.73	0.00	5565.57	1251.33
121+00.00	33.83	0.21	97.55	0.40	5663.13	1251.73
122+00.00	27.15	0.01	112.92	0.42	5776.04	1252.14
123+00.00	5.89	0.00	61.17	0.02	5837.21	1252.16
124+00.00	2.12	0.00	14.83	0.00	5852.04	1252.16
125+00.00	6.36	0.00	15.72	0.00	5867.76	1252.16
126+00.00	9.79	0.00	29.91	0.00	5897.67	1252.16
127+00.00	15.39	0.00	46.62	0.00	5944.29	1252.16
128+00.00	21.28	0.00	67.91	0.00	6012.20	1252.16
129+00.00	16.17	0.00	69.36	0.00	6081.55	1252.16
130+00.00	20.10	0.00	67.18	0.00	6148.73	1252.16
131+00.00	17.85	0.00	70.29	0.00	6219.02	1252.16
132+00.00	16.45	0.02	63.53	0.05	6282.55	1252.21
133+00.00	15.94	0.00	59.99	0.05	6342.54	1252.26
134+00.00	16.84	0.00	60.71	0.00	6403.25	1252.26

3

Total Volume Table

Station	Fill Area (sq ft)	Cut Area (sq ft)	Fill Volume (cu yd)	Cut Volume (cu yd)	Cumulative Fill Vol (cu yd)	Cumulative Cut Vol (cu yd)
135+00.00	16.04	0.00	60.89	0.00	6464.14	1252.26
136+00.00	23.21	0.00	72.68	0.00	6536.82	1252.26
137+00.00	24.14	0.00	87.68	0.00	6624.50	1252.26
138+00.00	25.95	0.00	92.76	0.00	6717.26	1252.26
139+00.00	25.90	0.00	96.03	0.00	6813.29	1252.26
140+00.00	30.82	0.00	105.03	0.00	6918.32	1252.26
141+00.00	26.79	0.00	106.68	0.00	7025.00	1252.26
142+00.00	21.95	0.00	90.26	0.00	7115.26	1252.26
143+00.00	15.93	0.00	70.15	0.00	7185.40	1252.26
144+00.00	18.15	0.00	63.11	0.00	7248.51	1252.26
145+00.00	19.01	0.00	68.81	0.00	7317.32	1252.26
146+00.00	18.15	0.00	68.81	0.00	7386.13	1252.26
147+00.00	24.40	0.00	78.79	0.00	7464.92	1252.26
148+00.00	31.18	0.00	102.93	0.00	7567.85	1252.26
149+00.00	12.24	0.00	80.41	0.00	7648.26	1252.26
150+00.00	0.94	0.96	24.40	1.77	7672.66	1254.03
151+00.00	9.58	0.08	19.48	1.92	7692.14	1255.95
152+00.00	5.71	0.49	28.31	1.05	7720.45	1257.00
153+00.00	2.90	0.04	15.93	0.98	7736.38	1257.98
154+00.00	0.26	0.08	5.84	0.23	7742.22	1258.21
155+00.00	6.01	16.15	11.59	30.07	7753.82	1288.28
156+00.00	0.34	0.22	11.76	30.31	7765.57	1318.59
157+00.00	19.35	0.00	36.46	0.41	7802.04	1319.00
158+00.00	30.87	0.00	92.99	0.01	7895.03	1319.00
159+00.00	31.42	0.08	115.36	0.14	8010.38	1319.15
160+00.00	34.23	0.00	121.59	0.14	8131.97	1319.29
161+00.00	27.41	0.00	114.15	0.01	8246.12	1319.30
162+00.00	34.42	0.00	114.51	0.01	8360.63	1319.31
163+00.00	27.12	0.00	113.96	0.00	8474.59	1319.31
164+00.00	15.96	0.00	79.76	0.00	8554.36	1319.31
165+00.00	5.40	0.00	39.54	0.00	8593.90	1319.31
166+00.00	0.49	0.26	10.90	0.49	8604.80	1319.80
167+00.00	3.67	0.00	7.70	0.49	8612.51	1320.29
168+00.00	24.11	0.00	51.46	0.00	8663.96	1320.29
169+00.00	1.98	0.00	48.32	0.00	8712.29	1320.29
170+00.00	8.62	0.00	19.63	0.00	8731.92	1320.29
171+00.00	12.69	0.00	39.46	0.00	8771.38	1320.29
172+00.00	1.43	0.03	26.15	0.05	8797.53	1320.34
173+00.00	15.10	0.00	30.62	0.05	8828.16	1320.39
174+00.00	12.92	0.00	51.90	0.00	8880.05	1320.39
175+00.00	13.68	0.00	49.27	0.00	8929.32	1320.39
176+00.00	8.31	0.00	40.73	0.00	8970.05	1320.39
177+00.00	3.26	0.54	21.43	1.00	8991.48	1321.39
178+00.00	5.42	0.00	16.08	1.00	9007.57	1322.40
179+00.00	7.68	0.00	24.25	0.00	9031.82	1322.40
180+00.00	11.70	0.00	35.89	0.00	9067.71	1322.40
181+00.00	24.46	1.34	66.97	2.49	9134.67	1324.89
182+00.00	14.81	0.00	72.72	2.49	9207.39	1327.37
183+00.00	0.00	0.48	27.43	0.89	9234.83	1328.27
184+00.00	1.50	0.00	2.77	0.89	9237.60	1329.16
185+00.00	4.15	0.00	10.45	0.00	9248.05	1329.16
186+00.00	4.66	0.00	16.31	0.00	9264.36	1329.16
187+00.00	6.06	0.00	19.86	0.00	9284.22	1329.16
188+00.00	5.33	0.01	21.10	0.02	9305.32	1329.18
189+00.00	45.36	0.15	93.86	0.29	9399.18	1329.48
190+00.00	14.54	0.00	110.97	0.28	9510.15	1329.75
191+00.00	4.18	0.00	34.67	0.00	9544.82	1329.75
192+00.00	1.72	0.08	10.91	0.15	9555.74	1329.90
193+00.00	29.49	0.00	57.84	0.15	9613.57	1330.05
194+00.00	5.18	0.00	64.25	0.00	9677.82	1330.05
195+00.00	0.34	2.15	10.21	3.99	9688.04	1334.04
196+00.00	0.47	20.47	1.50	42.03	9689.53	1376.08

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Total Volume Table

Station	Fill Area (sq ft)	Cut Area (sq ft)	Fill Volume (cu yd)	Cut Volume (cu yd)	Cumulative Fill Vol (cu yd)	Cumulative Cut Vol (cu yd)
197+00.00	2.10	0.53	4.76	39.02	9694.29	1415.10
198+00.00	4.35	0.00	11.95	0.98	9706.24	1416.08
199+00.00	10.29	0.00	27.14	0.00	9733.37	1416.08
200+00.00	27.08	0.08	69.23	0.14	9802.60	1416.22
201+00.00	15.19	0.00	78.29	0.14	9880.89	1416.36
202+00.00	16.46	0.00	58.64	0.00	9939.53	1416.36
203+00.00	0.59	0.60	31.58	1.12	9971.11	1417.48
204+00.00	4.48	0.07	9.38	1.24	9980.49	1418.72
205+00.00	16.62	0.03	39.07	0.18	10019.56	1418.90
206+00.00	15.40	0.42	59.30	0.83	10078.86	1419.73
207+00.00	14.63	0.00	55.60	0.77	10134.47	1420.50
208+00.00	4.31	0.00	35.07	0.00	10169.53	1420.50
209+00.00	3.25	0.00	13.99	0.00	10183.53	1420.50
210+00.00	2.25	0.04	10.18	0.07	10193.70	1420.57
211+00.00	1.76	0.00	7.43	0.07	10201.14	1420.64
212+00.00	2.61	0.00	8.09	0.00	10209.23	1420.64
213+00.00	6.15	0.00	16.22	0.00	10225.46	1420.64
214+00.00	8.08	0.00	26.36	0.00	10251.82	1420.64
215+00.00	12.93	0.00	38.92	0.00	10290.74	1420.64
216+00.00	30.00	0.00	79.50	0.00	10370.24	1420.64
217+00.00	35.03	0.00	120.42	0.00	10490.65	1420.64
218+00.00	22.29	0.00	106.10	0.00	10596.75	1420.64
219+00.00	8.04	0.00	56.16	0.00	10652.91	1420.64
220+00.00	9.95	0.00	33.30	0.00	10686.21	1420.64
221+00.00	17.92	0.00	51.61	0.00	10737.82	1420.64
222+00.00	2.57	0.02	37.94	0.04	10775.77	1420.68
223+00.00	0.45	1.25	5.58	2.36	10781.35	1423.04
224+00.00	0.00	4.64	0.83	10.92	10782.18	1433.96
225+00.00	9.79	0.27	18.14	9.09	10800.31	1443.05
226+00.00	11.63	0.00	39.67	0.49	10839.98	1443.54
227+00.00	2.30	0.15	25.80	0.28	10865.78	1443.82
228+00.00	2.39	0.00	8.69	0.28	10874.47	1444.10
229+00.00	23.69	0.00	48.30	0.00	10922.77	1444.10
230+00.00	36.70	0.00	111.84	0.00	11034.61	1444.10
231+00.00	34.92	0.00	132.69	0.00	11167.31	1444.10
232+00.00	25.62	0.00	112.17	0.00	11279.47	1444.10
233+00.00	36.67	0.00	115.40	0.00	11394.87	1444.10
234+00.00	35.72	0.00	134.09	0.00	11528.96	1444.10
235+00.00	30.63	0.00	122.79	0.00	11651.75	1444.10
236+00.00	13.98	0.05	82.58	0.08	11734.34	1444.18
237+00.00	0.00	3.36	25.89	6.30	11760.23	1450.49
238+00.00	8.72	0.00	16.16	6.22	11776.38	1456.71
239+00.00	8.45	0.00	31.81	0.00	11808.19	1456.71
240+00.00	6.56	0.00	27.80	0.00	11835.99	1456.71
241+00.00	9.10	0.00	29.01	0.00	11865.00	1456.71
242+00.00	24.60	0.00	62.58	0.00	11927.57	1456.71
243+00.00	11.61	0.59	67.05	1.08	11994.63	1457.79
244+00.00	23.45	0.00	64.93	1.08	12059.56	1458.88
245+00.00	13.86	0.00	69.07	0.00	12128.63	1458.88
246+00.00	13.77	0.00	51.14	0.00	12179.77	1458.88
247+00.00	4.41	0.00	33.67	0.00	12213.44	1458.88
248+00.00	0.03	2.37	8.23	4.39	12221.67	1463.27
249+00.00	10.02	0.03	18.63	4.40	12240.30	1467.67
250+00.00	5.63	0.59	29.00	1.14	12269.30	1468.81
251+00.00	5.08	0.13	19.83	1.33	12289.13	1470.13
252+00.00	9.72	0.00	27.41	0.24	12316.54	1470.37

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DESIGNED: RO
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APPROVED: SC

NO.	DATE	BY	REVISION

CONSTRUCTION DOCUMENT

DAVID J. COOPER, NEW MEXICO, 21683, PROFESSIONAL ENGINEER, 11/25/14

WESTON SOLUTIONS, INC.
3840 COMMONS AVE.
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PUEBLO OF LAGUNA
DEPARTMENT OF PUBLIC WORKS
ENGINEERING OFFICE
P.O. BOX 194
LAGUNA, NM 87026
(505) 552-1200

BIKE & PEDESTRIAN ROUTE DESIGN

NM 124 - CASA BLANCA TO ENCINAL RD.
EARTHWORK TABLES

SHEET 6 of 61
DWG 2-2
DATE 30NOV14
PROJ 15196.001.001

TRAIL SURFACING QUANTITIES				SUBGRADE PREP	COMPACTED BASE COURSE, 4"	COMPACTED BASE COURSE, 6"	2" HOT MIX ASPHALT, TYPE SP-IV
			BID ITEM:	207000	304140	304160	423002
DESCRIPTION	BEGIN STATION	END STATION	LF	SY	SY	SY	SY
10'-WIDE ASPHALT TRAIL	10+00	26+97	1697	2640	1886	754	1886
10'-WIDE ASPHALT TRAIL	27+13	43+09	1596	2483	1773	709	1773
10'-WIDE ASPHALT TRAIL	43+33	48+48	515	801	572	229	572
10'-WIDE ASPHALT TRAIL	48+72	68+23	1951	3035	2168	867	2168
10'-WIDE ASPHALT TRAIL	68+39	77+02	863	1342	959	384	959
10'-WIDE ASPHALT TRAIL	77+18	86+91	973	1514	1081	432	1081
10'-WIDE ASPHALT TRAIL	87+07	92+40	533	829	592	237	592
10'-WIDE ASPHALT TRAIL	92+56	103+43	1087	1691	1208	483	1208
10'-WIDE ASPHALT TRAIL	103+59	108+17	458	712	509	204	509
10'-WIDE ASPHALT TRAIL	108+33	110+92	259	403	288	115	288
10'-WIDE ASPHALT TRAIL	111+08	116+08	500	778	556	222	556
10'-WIDE ASPHALT TRAIL	116+50	148+71	3221	5010	3579	1432	3579
10'-WIDE ASPHALT TRAIL	148+87	149+69	82	128	91	36	91
10'-WIDE ASPHALT TRAIL	149+85	155+58	573	891	637	255	637
10'-WIDE ASPHALT TRAIL	156+04	167+66	1162	1808	1291	516	1291
10'-WIDE ASPHALT TRAIL	168+41	171+94	353	549	392	157	392
10'-WIDE ASPHALT TRAIL	172+10	203+20	3110	4838	3456	1382	3456
10'-WIDE ASPHALT TRAIL	203+36	206+34	298	464	331	132	331
10'-WIDE ASPHALT TRAIL	206+50	222+09	1559	2425	1732	693	1732
10'-WIDE ASPHALT TRAIL	222+33	226+96	463	720	514	206	514
10'-WIDE ASPHALT TRAIL	227+48	239+71	1223	1902	1359	544	1359
10'-WIDE ASPHALT TRAIL	239+83	240+22	39	61	43	17	43
10'-WIDE ASPHALT TRAIL	240+33	247+57	724	1126	804	322	804
10'-WIDE ASPHALT TRAIL	248+00	252+22	422	656	469	188	469
16'-WIDE DRIVEWAY TURNOUT	26+97	27+13		68		68	136
	68+23	68+39		86		86	172
	77+02	77+18		82		82	164
	86+91	87+07		81		81	162
	92+40	92+56		90		90	180
	103+43	103+59		80		80	160
	108+33	108+33		78		78	156
	110+92	111+08		80		80	160
	148+71	148+87		85		85	170
	149+69	149+85		82		82	164
	171+94	172+10		83		83	166
	203+20	203+36		89		89	178
	206+34	206+50		100		100	200
24'-WIDE DRIVEWAY TURNOUT	43+09	43+33		92		92	184
	48+48	48+72		112		112	224
	222+09	222+33		106		106	212
		TOTALS		38,200	26,290	11,910	29,078

RAILINGS, FENCING, AND RETAINING WALL QUANTITIES			BID ITEM #	507100	606000	606050	607079	607228	607312
				MODULAR CMU RETAINING WALL ***	METAL BARRIER, W-BEAM	BARRIER END TREATMENT, TYPE II	3-BAR SAFETY RAIL	REM, REBUILD WIRE FENCE IN NEW LOCATION	STANDARD TUBULAR GATE, 12', CIP
DESCRIPTION	BEGIN STATION	END STATION	LOCATION	SF	LF	EA	LF	LF	EA
MODULAR CMU RETAINING WALL	22+50	23+10	8' RIGHT	240					
	40+40	42+45	7' LEFT	520					
	40+40	42+45	7' RIGHT	460					
INSTALL W-BEAM METAL BARRIER	40+15	42+79	8-15' RT.		264	2			
UNPAINTED STEEL PIPE RAILING	22+50	23+10	7.5' RIGHT				60		
	40+42.50	42+42.50	6.5' RIGHT				200		
	167+62	167+66	6-10' LT.				6		
	167+60	167+66	6-11' RT.				8		
	168+41	168+45	6-9' LT.				5		
	168+41	168+44	6-8' RT.				4		
	247+47	248+08	8-15' LT.				70		
	247+47	248+08	8-15' RT.				70		
RELOCATE EXISTING WIRE FENCE	22+45	23+18	14-26' LT.					84	
	27+40	42+20	9' LEFT					1480	
	205+20	205+98	12-24' LT.					82	
	234+72	236+25	10' LEFT					146	
	236+25	236+25	6-10' RT.					4	
INSTALL TUBULAR STEEL GATE	236+25	236+25	6' LT- 6' RT						1
TOTALS				1220	264	2	423	1796	1

*** STATIONING AND AREAS SHOWN FOR MODULAR CMU WALL ARE APPROXIMATE AND MAY VARY DUE TO FIELD CONDITIONS.

INCIDENTAL ITEMS		
DESCRIPTION	LOCATION	INCIDENTAL TO ITEM NO.
WATER FOR PROJECT	PROJECT	ANY/ALL
EARTHWORK HAUL	PROJECT	203000, 203100
EARTHWORK PLACEMENT, COMPACTION, FINE GRADING	PROJECT	203000, 203100
FENCE REMOVAL AND REPLACEMENT TO SAME LOCATION	PROJECT	203000, 203100
GRAVEL FOOTING FOR MODULAR CMU RETAINING WALLS	STA. 22+50 TO 23+10, STA. 40+40 TO 42+45	507100
CONCRETE FORM LINER	STA. 167+65.50, STA. 168+40.50	511030
REINFORCING STEEL AND RELATED APPURTENANCES	STA. 167+65.50, STA. 168+40.50	511030, 511300
CONCRETE BRIDGE DECK AND ANY NECESSARY REINFORCING	STA. 167+65.50 TO 168+40.50	541101
SANDBLAST AND REPAINT EXISTING STEEL GRATE FOR RE-USE IN NEW DROP INLET	STA. 27+73.89, STA. 82+53.57	623021

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I:\Projects\15196\100\NM124EAST\Summary\QTY\Schedule.dwg November 26, 2014 - 11:44am

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APPROVED:	SC	NO.	DATE	BY	REVISION

CONSTRUCTION DOCUMENT

WESTON SOLUTIONS, INC.
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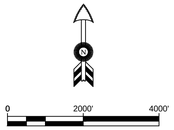
BIKE & PEDESTRIAN ROUTE DESIGN

NM 124 - CASA BLANCA TO ENCINAL RD.
SCHEDULES

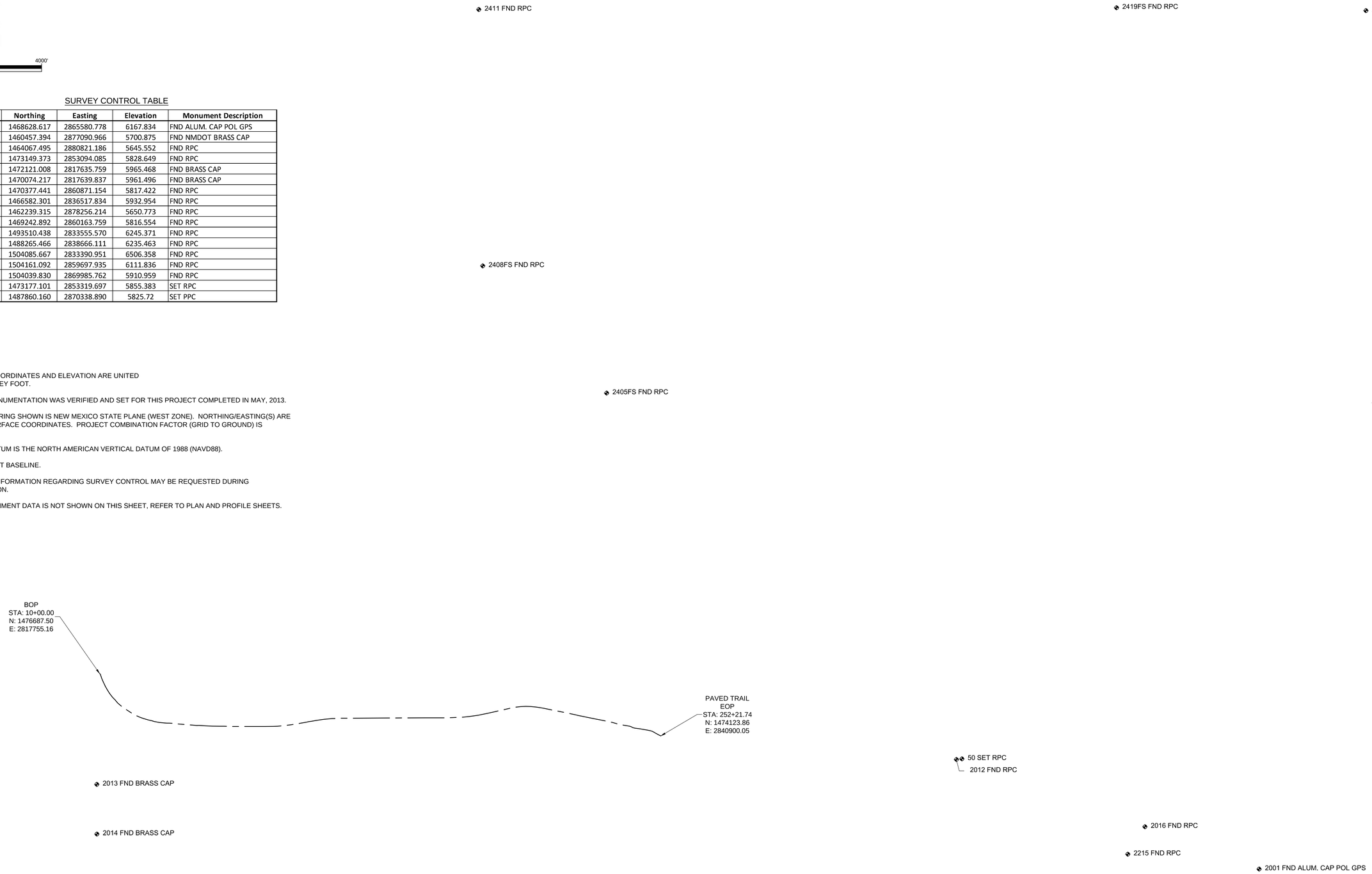


SURVEY CONTROL TABLE

Point No.	Northing	Easting	Elevation	Monument Description
2001	1468628.617	2865580.778	6167.834	FND ALUM. CAP POL GPS
2002	1460457.394	2877090.966	5700.875	FND NMDOT BRASS CAP
2011	1464067.495	2880821.186	5645.552	FND RPC
2012	1473149.373	2853094.085	5828.649	FND RPC
2013	1472121.008	2817635.759	5965.468	FND BRASS CAP
2014	1470074.217	2817639.837	5961.496	FND BRASS CAP
2016	1470377.441	2860871.154	5817.422	FND RPC
2110	1466582.301	2836517.834	5932.954	FND RPC
2128	1462239.315	2878256.214	5650.773	FND RPC
2215	1469242.892	2860163.759	5816.554	FND RPC
2408FS	1493510.438	2833555.570	6245.371	FND RPC
2405FS	1488265.466	2838666.111	6235.463	FND RPC
2411	1504085.667	2833390.951	6506.358	FND RPC
2419FS	1504161.092	2859697.935	6111.836	FND RPC
2421FS	1504039.830	2869985.762	5910.959	FND RPC
50	1473177.101	2853319.697	5855.383	SET RPC
51	1487860.160	2870338.890	5825.72	SET PPC

SURVEY NOTES

1. UNITS FOR COORDINATES AND ELEVATION ARE UNITED STATES SURVEY FOOT.
2. CONTROL MONUMENTATION WAS VERIFIED AND SET FOR THIS PROJECT COMPLETED IN MAY, 2013.
3. BASIS OF BEARING SHOWN IS NEW MEXICO STATE PLANE (WEST ZONE). NORTHING/EASTING(S) ARE MODIFIED SURFACE COORDINATES. PROJECT COMBINATION FACTOR (GRID TO GROUND) IS 1.0002802078.
4. VERTICAL DATUM IS THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).
5. STATIONING AT BASELINE.
6. ANY OTHER INFORMATION REGARDING SURVEY CONTROL MAY BE REQUESTED DURING CONSTRUCTION.
7. IF TRAIL ALIGNMENT DATA IS NOT SHOWN ON THIS SHEET, REFER TO PLAN AND PROFILE SHEETS.



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NO.	DATE	BY	REVISION

CONSTRUCTION DOCUMENT

DAVID J. COOPER, NEW MEXICO, 21683, 11/25/14, PROFESSIONAL ENGINEER

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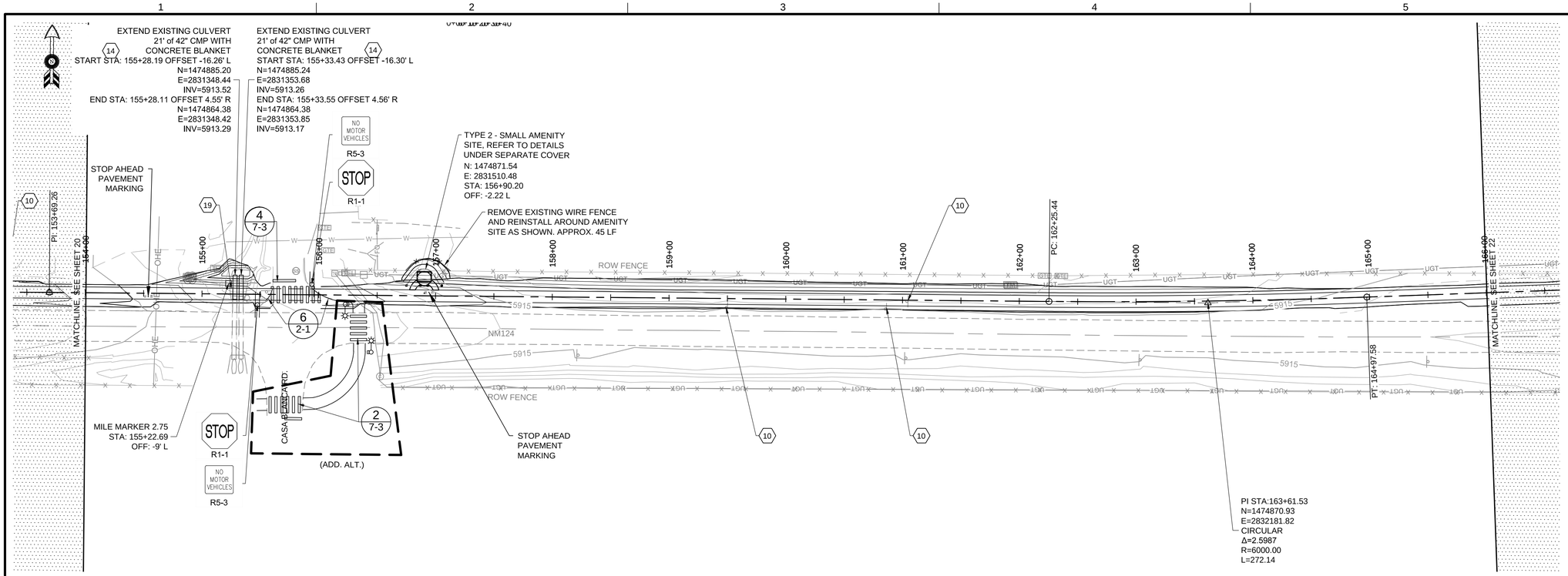
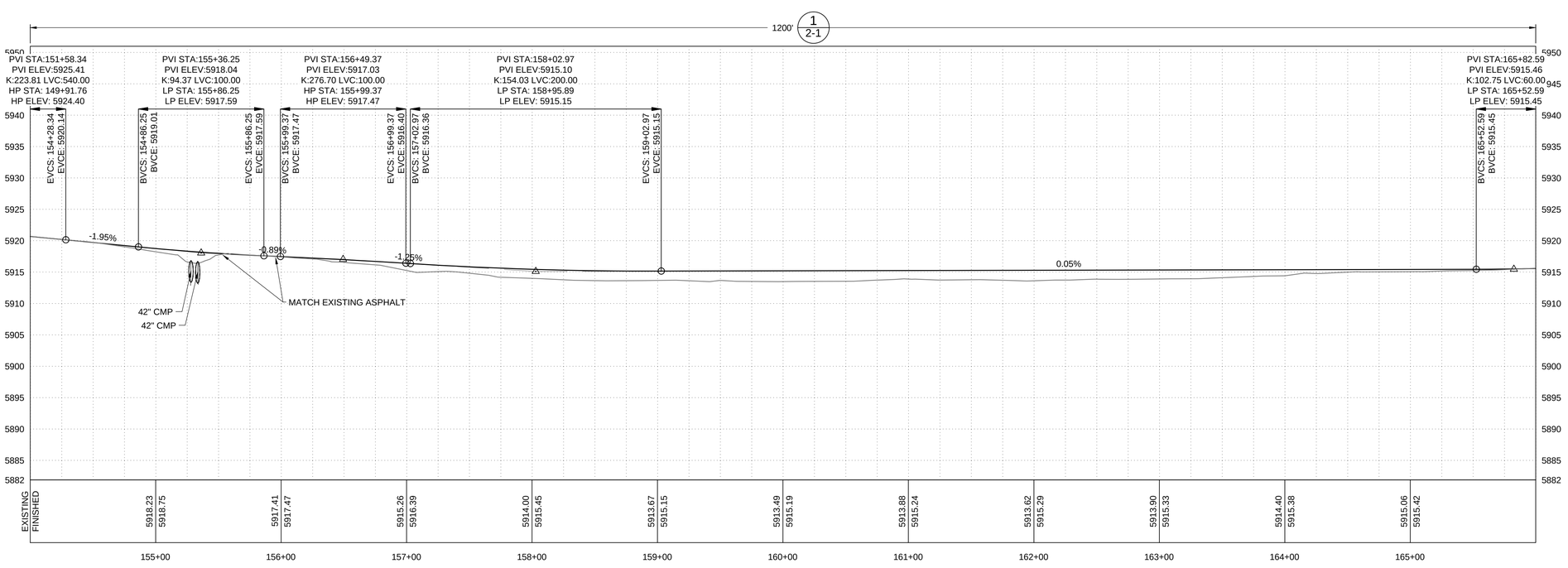
(505) 552-1200

BIKE & PEDESTRIAN ROUTE DESIGN

NM 124 - CASA BLANCA TO ENCINAL RD.





KEYED NOTES

10 RELOCATE EXISTING SIGN. COORDINATE LOCATION WITH ENGINEER.

14 BEVEL ENDS OF NEW CULVERT PIPES AT 3H:1V AND INSTALL CONCRETE BLANKET WITH SAFETY GRATES PER NMDOT STD. DWG. 511-14.

19 REMOVE AND DISPOSE OF EXISTING CONCRETE SLOPE APRON; CUT PIPE END SQUARE.

CONSTRUCTION NOTES

A GRADE CULVERT INLETS TO THE GENERAL SHAPE SHOWN. SLOPES SHALL BE NO STEEPER THAN 2.5H:1V.

B REFER TO SHEETS 7-1 TO SHEETS 7-3 FOR SIGNAGE AND PAVEMENT MARKING DETAILS.

C CROSSWALK SIGNAGE AND PAVEMENT MARKINGS FOR THE CASA BLANCA ROAD CROSSING ON THE NORTH SIDE OF THE INTERSECTION SHALL BE INSTALLED ON THE SECTION OF NM-124 TRAIL THAT IS TO BE COMPLETED FIRST, WHETHER IT BE THE EAST OR WEST SECTION.

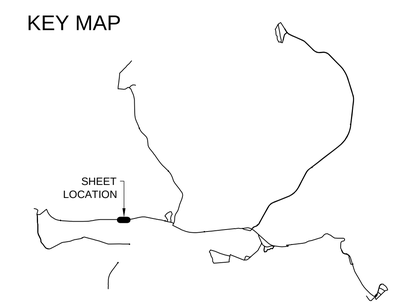
D UNDER SEPARATE COVER, A TRAIL HAS BEEN DESIGNED ON THE WEST SIDE OF CASA BLANCA ROAD, SOUTH OF THE INTERSECTION OF NM-124 AND CASA BLANCA ROAD. THE CROSSWALKS AND SIGNAGE FOR THE NM-124 AND CASA BLANCA ROAD CROSSINGS ON THE EAST AND SOUTH SIDES OF THE INTERSECTION SHALL BE INSTALLED WITH THE TRAIL PROJECT THAT IS CONSTRUCTED LAST, WHETHER IT BE THE NM-124 TRAIL, OR THE CASA BLANCA ROAD TRAIL.

E THE SHORT TRAIL CONNECTION BETWEEN THE EAST AND SOUTH CROSSWALKS OF THE NM-124 AND CASA BLANCA ROAD INTERSECTION SHALL BE A PAVED TRAIL MATCHING THE DESIGN OF EITHER THE NM-124 OR CASA BLANCA ROAD TRAIL, DEPENDING ON WHICH PROJECT IT IS CONSTRUCTED WITH. THE AREA OF THE CONNECTION TRAIL SHALL BE GRADED AND CONSTRUCTED AT THE DIRECTION OF THE OWNER AND ENGINEER AT THE TIME OF CONSTRUCTION.

0 50' 100'
HORIZONTAL

0 10' 20'
VERTICAL

KEY MAP



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I:\Projects\15196\100\NM124E\STP\PNM124E.dwg December 02, 2014 - 7:44am

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NO.	DATE	BY	REVISION

CONSTRUCTION DOCUMENT

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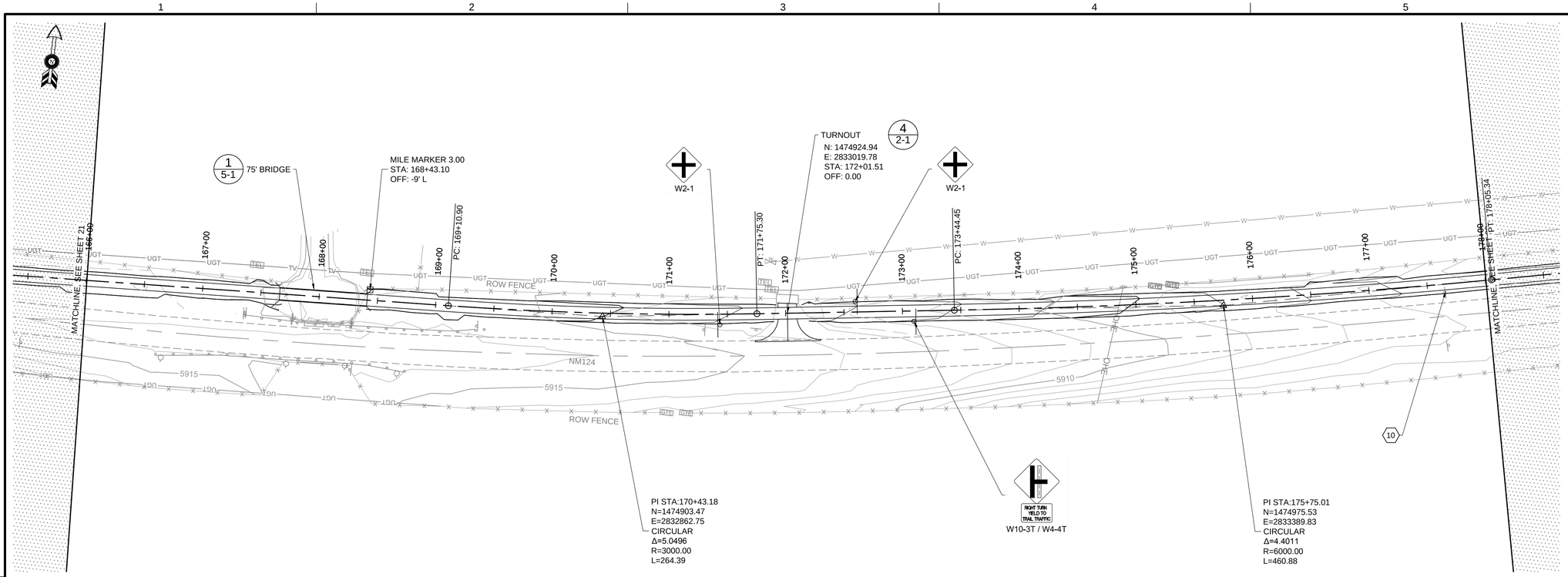
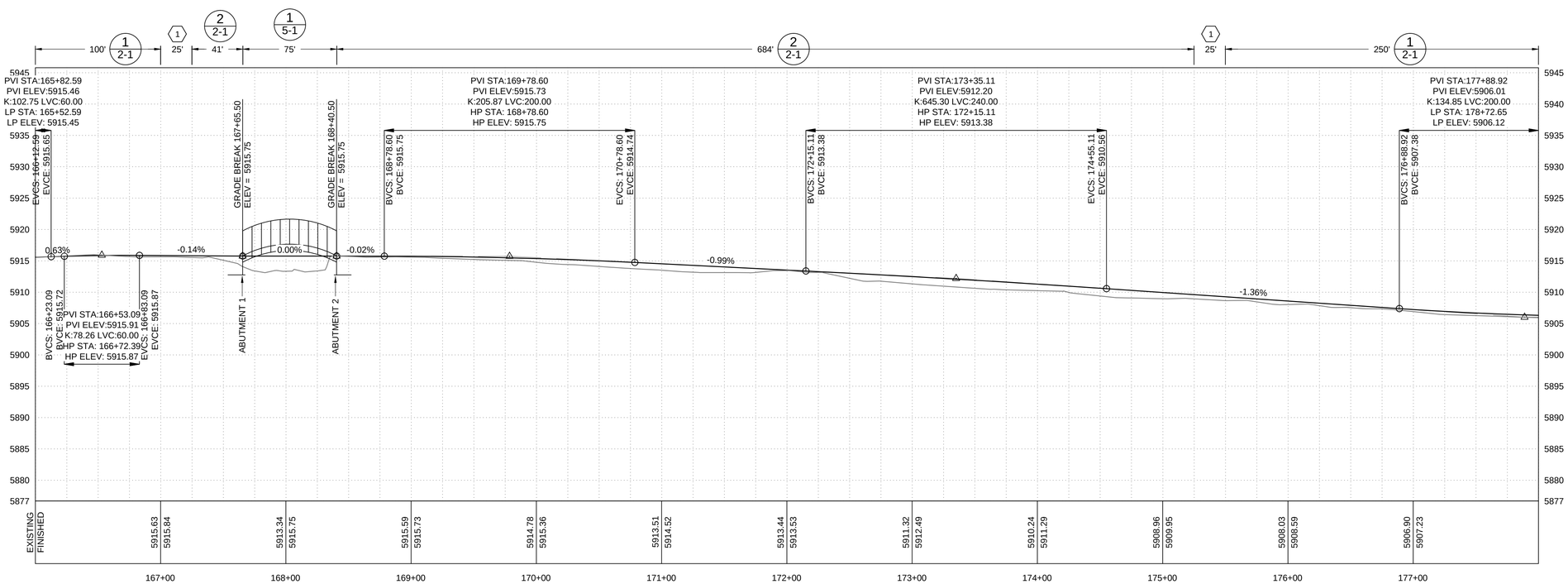
BIKE & PEDESTRIAN ROUTE DESIGN

NM 124 - CASA BLANCA TO ENCINAL RD. PLAN & PROFILE SHEET

DWG 3-13
DATE 30NOV14
PROJ 15196.001.001





KEYED NOTES

1 TRANSITION TRAIL CROSS SLOPE BETWEEN TYPICAL SECTIONS.

10 RELOCATE EXISTING SIGN. COORDINATE LOCATION WITH ENGINEER.

CONSTRUCTION NOTES

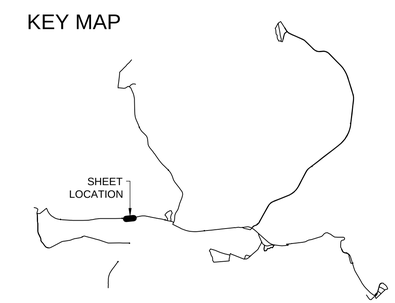
A GRADE CULVERT INLETS TO THE GENERAL SHAPE SHOWN. SLOPES SHALL BE NO STEEPER THAN 2.5H:1V.

B REFER TO SHEETS 7-1 TO SHEETS 7-3 FOR SIGNAGE AND PAVEMENT MARKING DETAILS.

0 50' 100'
HORIZONTAL

0 10' 20'
VERTICAL

KEY MAP



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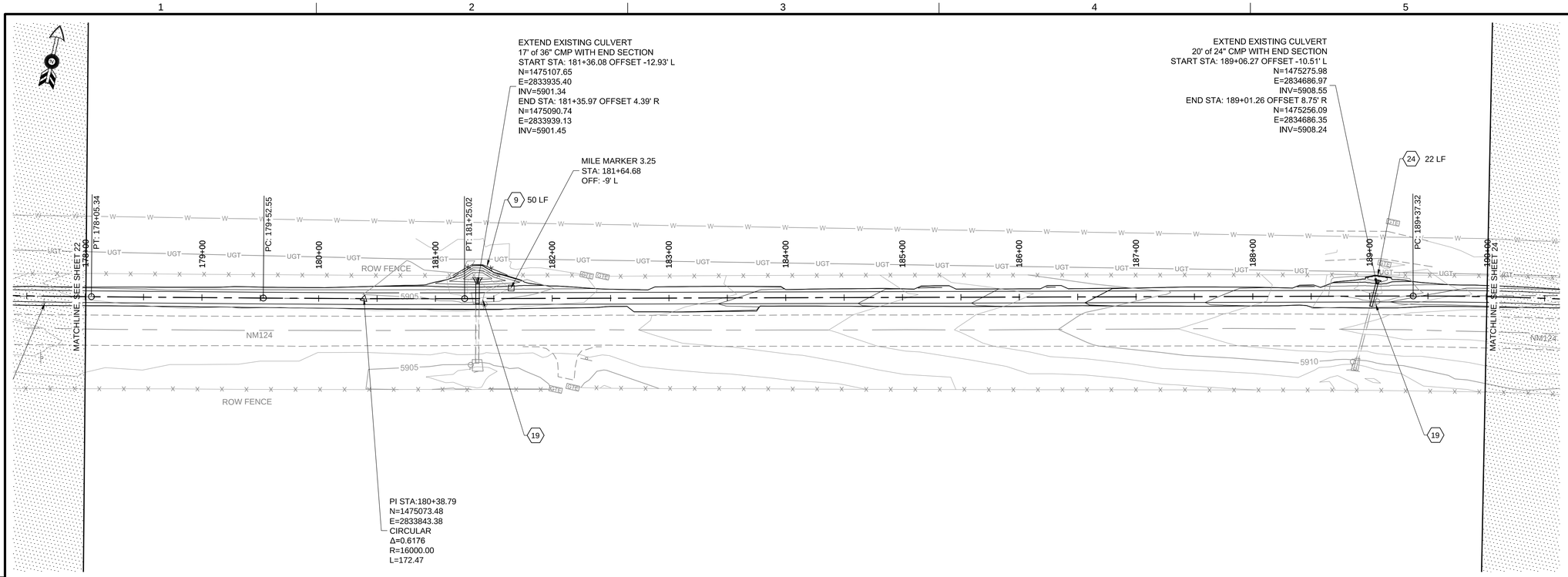
(505) 552-1200

BIKE & PEDESTRIAN ROUTE DESIGN

NM 124 - CASA BLANCA TO ENCINAL RD.
PLAN & PROFILE SHEET



KEYED NOTES

9 REMOVE EXISTING WIRE FENCE AND REINSTALL AROUND CULVERT PIPE INLET GRADING AS SHOWN.

19 REMOVE AND DISPOSE OF EXISTING CONCRETE SLOPE APRON; CUT PIPE END SQUARE.

24 INSTALL CMU RETAINING WALL PER MFR. INSTRUCTIONS.

CONSTRUCTION NOTES

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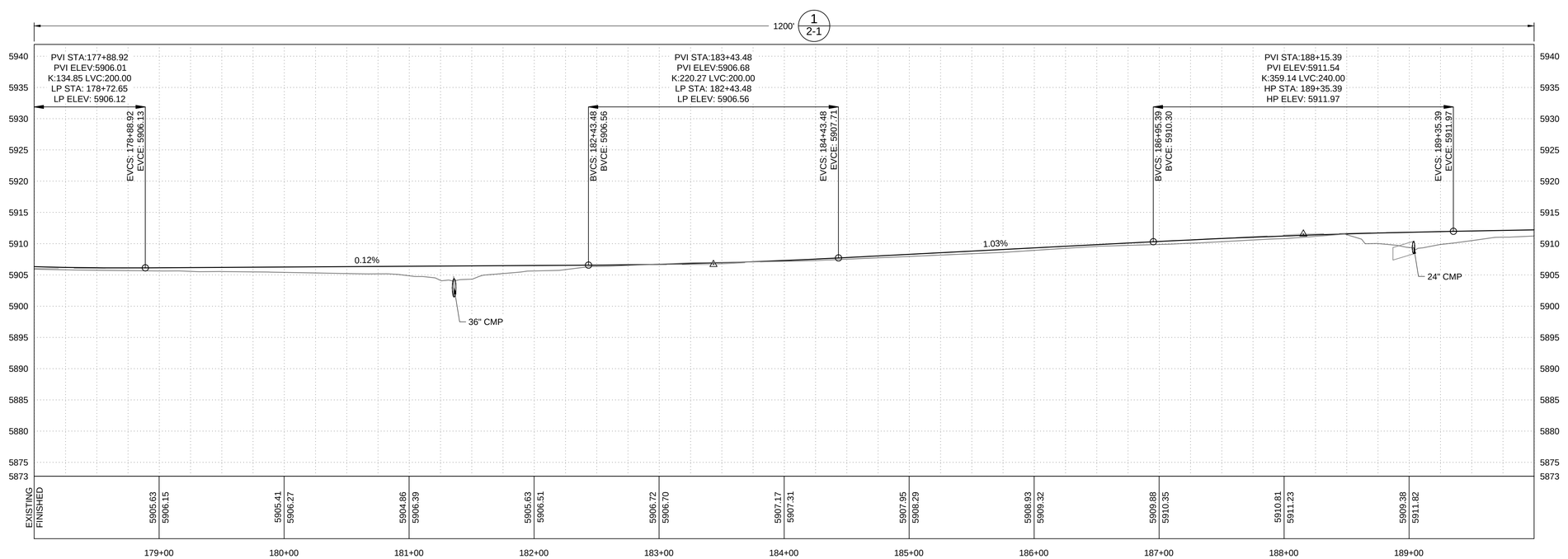
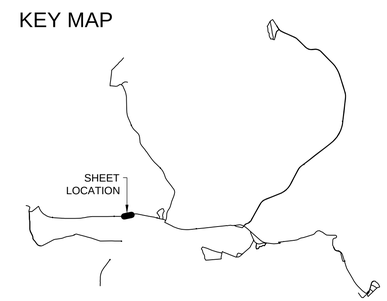


0 50' 100'
HORIZONTAL

0 10' 20'
VERTICAL

KEY MAP



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BIKE & PEDESTRIAN ROUTE DESIGN

NM 124 - CASA BLANCA TO ENCINAL RD.
PLAN & PROFILE SHEET

SHEET	23 of 61
DWG	3-15
DATE	30NOV14
PROJ	15196.001.001

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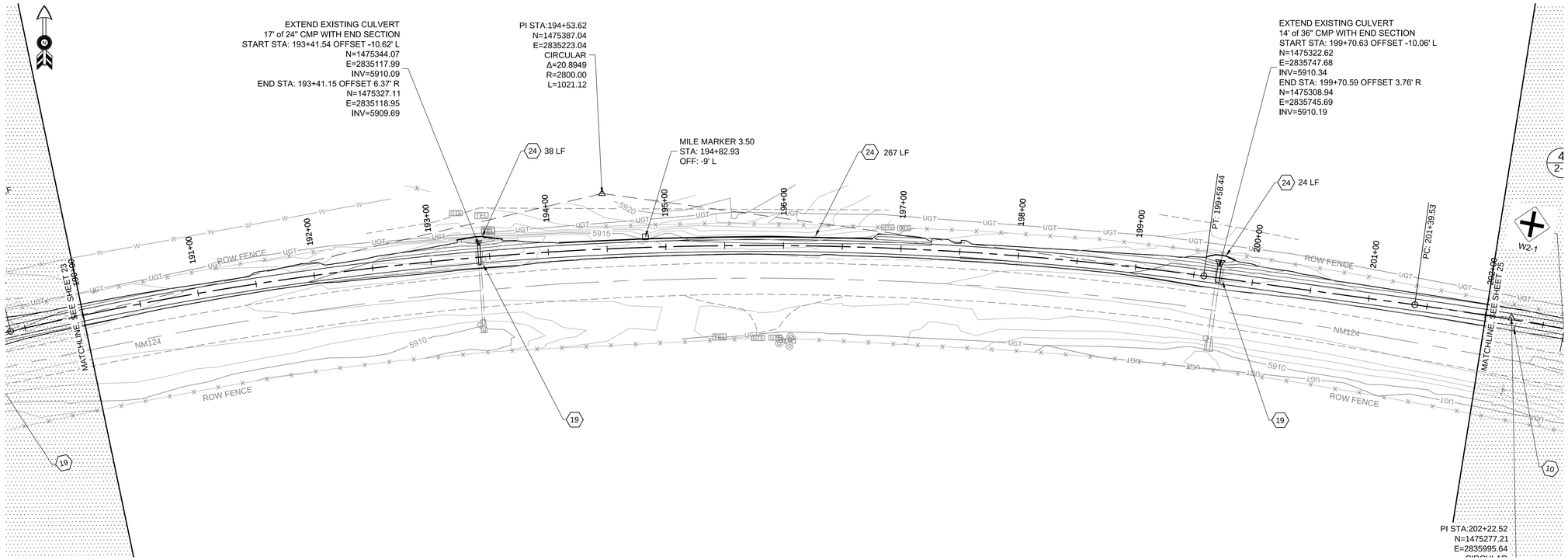


KEYED NOTES

1 TRANSITION TRAIL CROSS SLOPE BETWEEN TYPICAL SECTIONS.

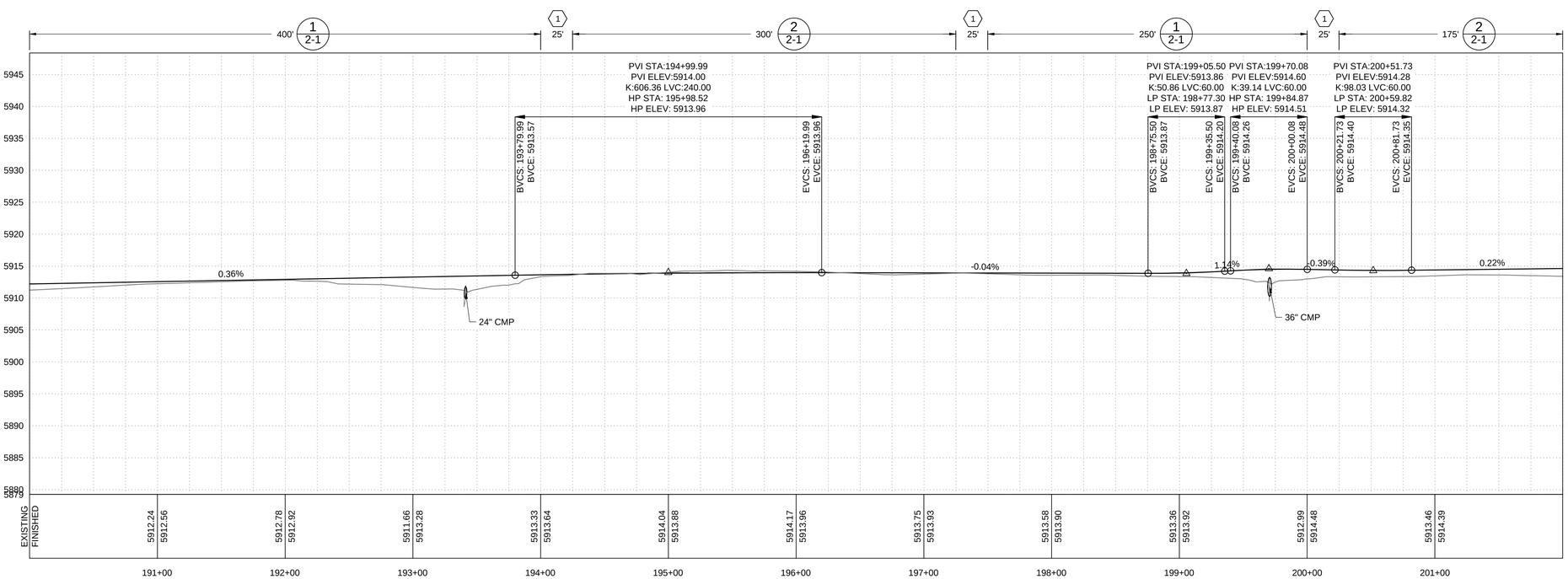
19 REMOVE AND DISPOSE OF EXISTING CONCRETE SLOPE APRON; CUT PIPE END SQUARE.

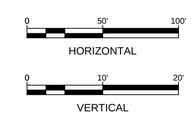
24 INSTALL CMU RETAINING WALL PER MFR. INSTRUCTIONS.

CONSTRUCTION NOTES

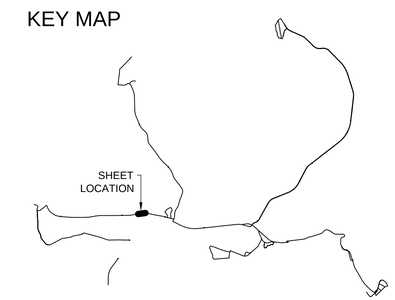
A GRADE CULVERT INLETS TO THE GENERAL SHAPE SHOWN. SLOPES SHALL BE NO STEEPER THAN 2.5H:1V.

B REFER TO SHEETS 7-1 TO SHEETS 7-3 FOR SIGNAGE AND PAVEMENT MARKING DETAILS.





KEY MAP



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NM 124 - CASA BLANCA TO ENCINAL RD. PLAN & PROFILE SHEET

SHEET	24 of 61
DWG	3-16
DATE	30NOV14
PROJ	15196.001.001

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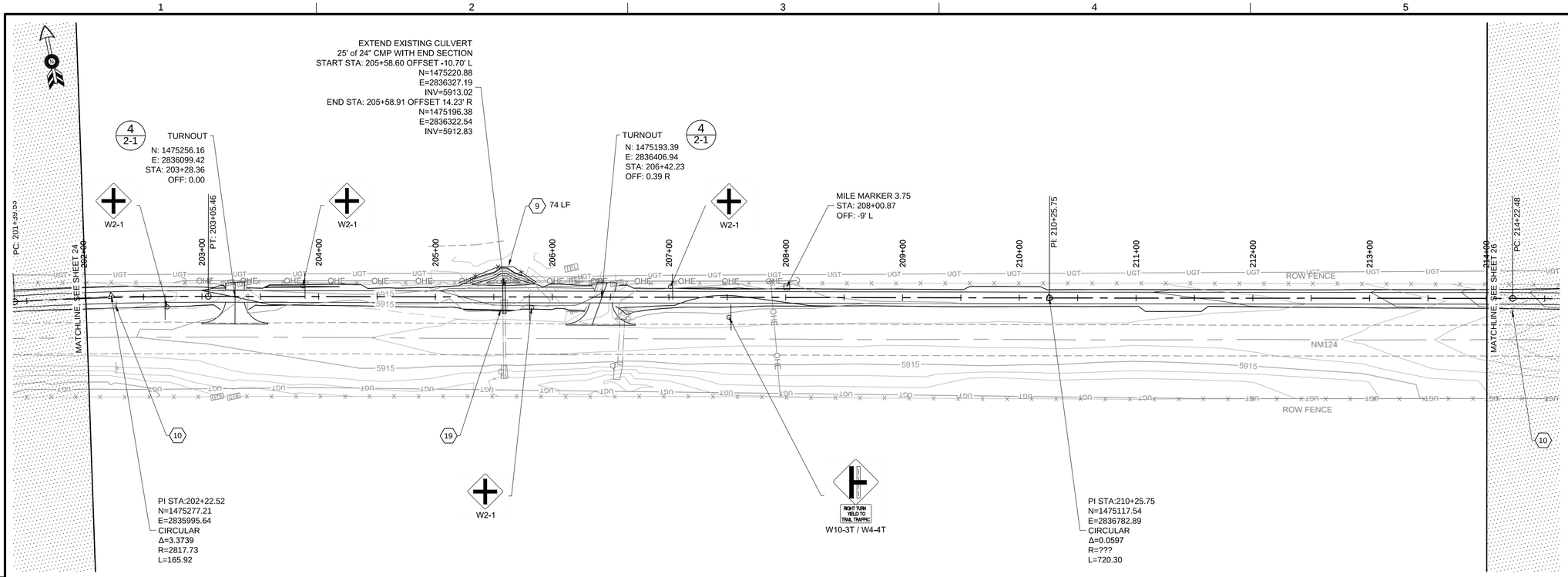

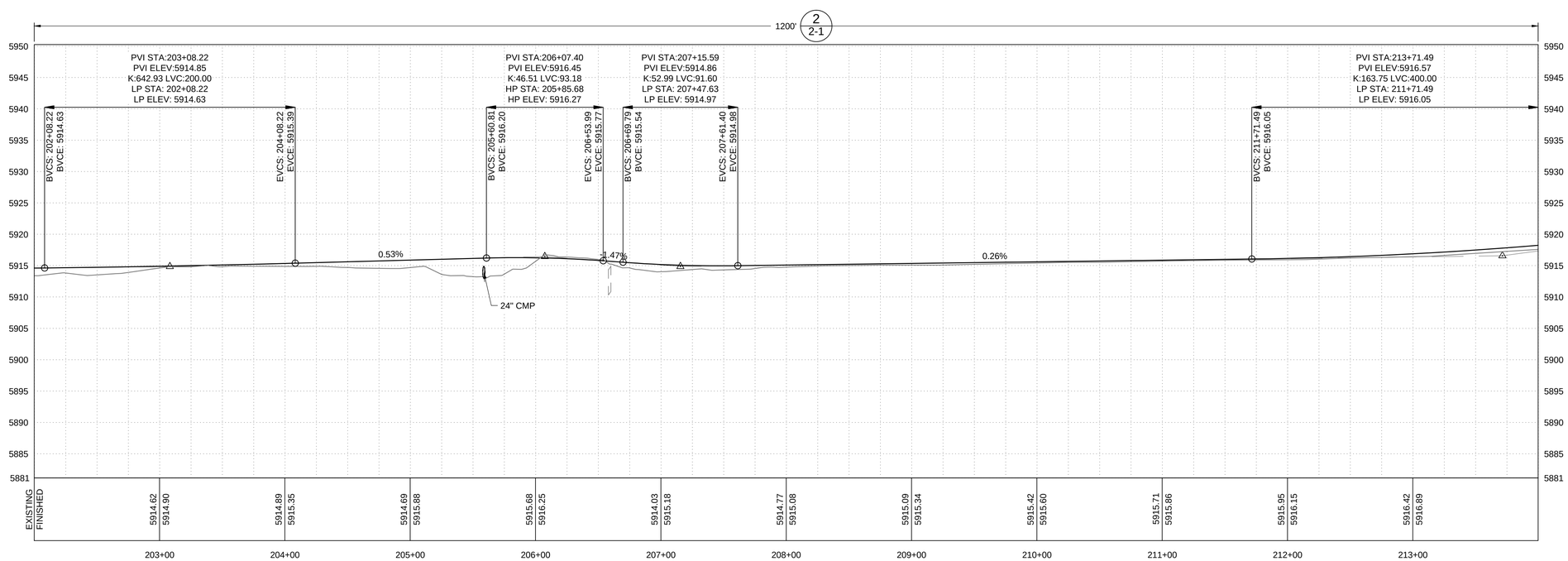

KEYED NOTES

9 REMOVE EXISTING WIRE FENCE AND REINSTALL AROUND CULVERT PIPE INLET GRADING AS SHOWN.

10 RELOCATE EXISTING SIGN. COORDINATE LOCATION WITH ENGINEER.

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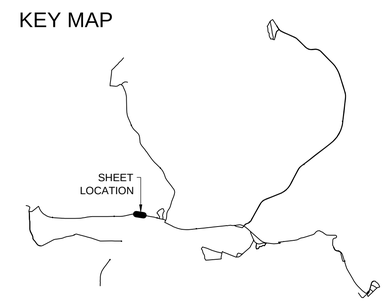
0 50' 100'
HORIZONTAL

0 10' 20'
VERTICAL

KEY MAP



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BIKE & PEDESTRIAN ROUTE DESIGN

NM 124 - CASA BLANCA TO ENCINAL RD.
PLAN & PROFILE SHEET

SHEET	25 of 61
DWG	3-17
DATE	30NOV14
PROJ	15196.001.001

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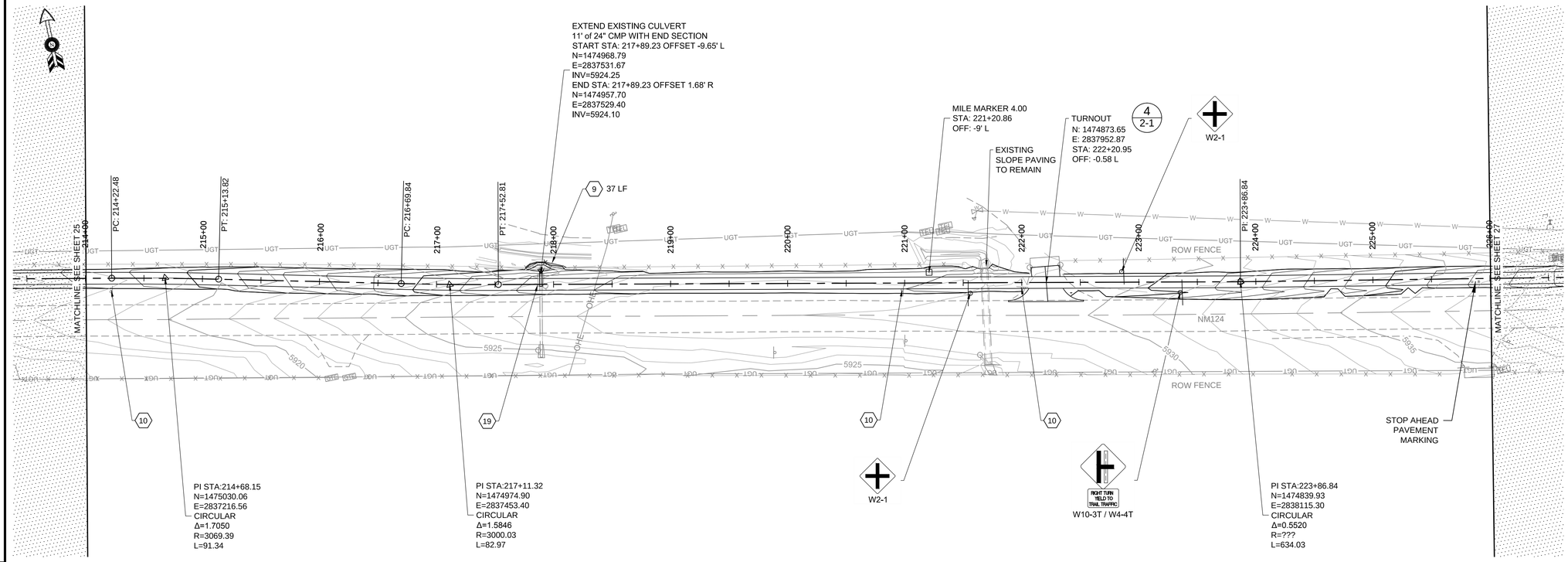

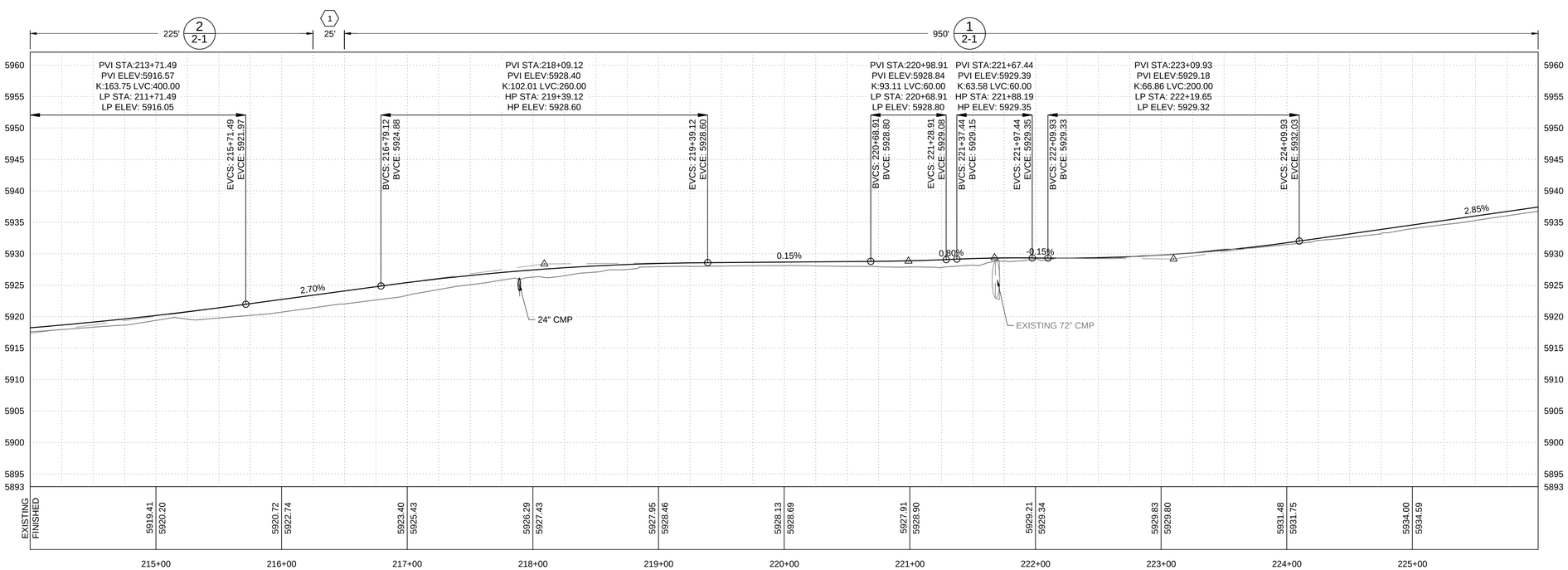

KEYED NOTES

1 TRANSITION TRAIL CROSS SLOPE BETWEEN TYPICAL SECTIONS.

9 REMOVE EXISTING WIRE FENCE AND REINSTALL AROUND CULVERT PIPE INLET GRADING AS SHOWN.

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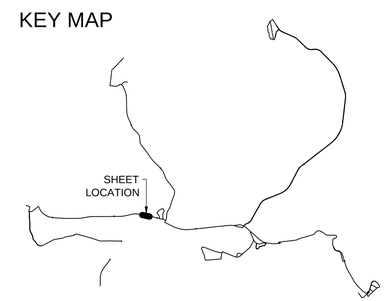
0 50' 100'
HORIZONTAL

0 10' 20'
VERTICAL

KEY MAP



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I:\Projects\15196\100\NM124EAST\Pn\NM124E.dwg November 26, 2014 - 11:52am

DESIGNED:	RO			
DRAWN:	CP			
CHECKED:	SC			
APPROVED:	SC	NO.	DATE	BY	REVISION

CONSTRUCTION DOCUMENT

DAVID J. COOPER, NEW MEXICO, 21683, PROFESSIONAL ENGINEER, 11/25/14

WESTON SOLUTIONS
WESTON SOLUTIONS, INC.
3840 COMMONS AVE.
ALBUQUERQUE, NM 87109
(505) 837-6520

Fierro&Company
FIERRO & COMPANY, LLC
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ENGINEERING OFFICE
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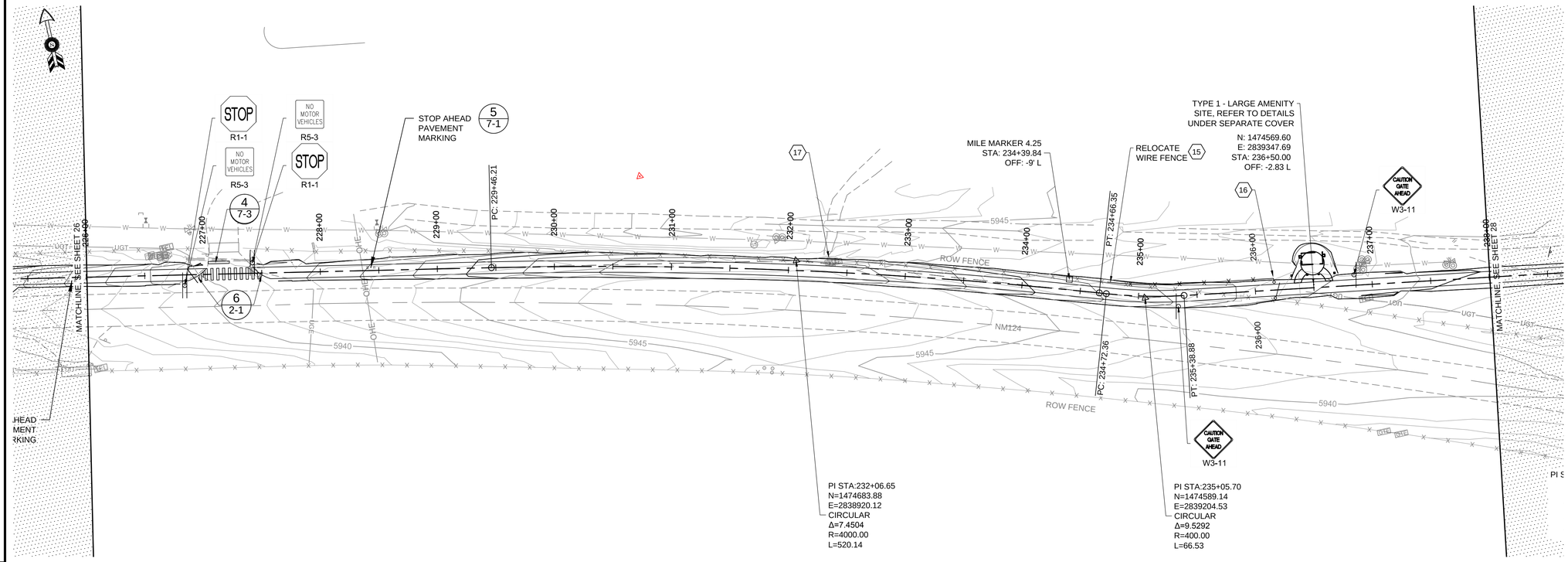
LAGUNA, NM 87026
(505) 552-1200

BIKE & PEDESTRIAN ROUTE DESIGN

NM 124 - CASA BLANCA TO ENCINAL RD.
PLAN & PROFILE SHEET

SHEET	26 of 61
DWG	3-18
DATE	30NOV14
PROJ	15196.001.001



KEYED NOTES

1 TRANSITION TRAIL CROSS SLOPE BETWEEN TYPICAL SECTIONS.

15 STA. 234+72 TO 236+25, 10' LT TO 10' RT (APPROX.), RELOCATE 160 LF OF EXISTING WIRE RIGHT OF WAY FENCE 5' FROM EDGE OF TRAIL.

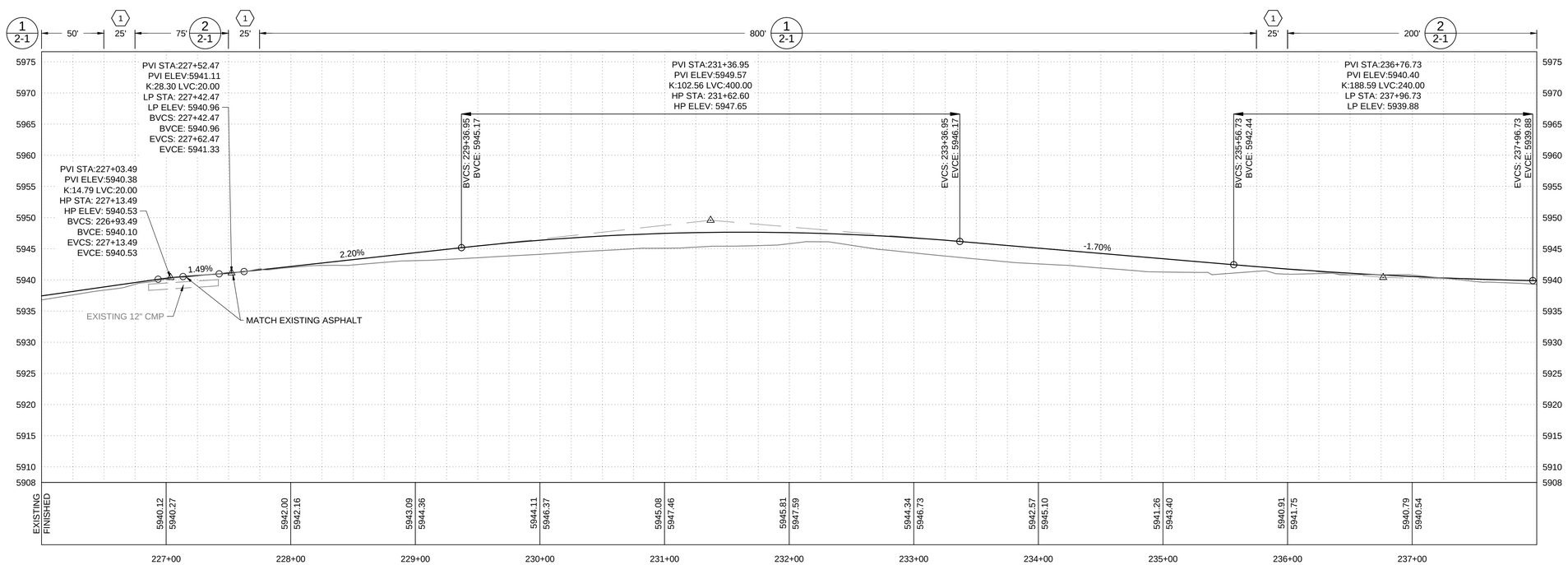
16 STA. 236+25, 7' LT TO 7' RT - INSTALL 14' 6-BAR TUBE LIVESTOCK GATE PER NMDOT STD. DWG. 607-01 WITH SELF-CLOSING HINGES AND TWO-WAY LIVESTOCK GATE LATCH. PROVIDE SHOP DRAWINGS.

17 REMOVE AND DISPOSE OF EXISTING GATE AND ANGLE-IRON FRAME; REPLACE WITH ADDITIONAL WIRE TO MATCH EXISTING.

CONSTRUCTION NOTES

A GRADE CULVERT INLETS TO THE GENERAL SHAPE SHOWN. SLOPES SHALL BE NO STEEPER THAN 2.5H:1V.

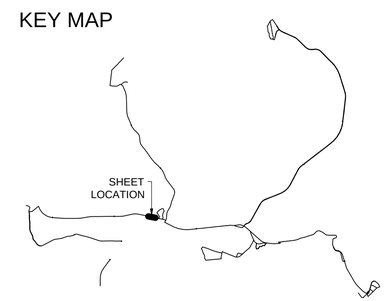
B REFER TO SHEETS 7-1 TO SHEETS 7-3 FOR SIGNAGE AND PAVEMENT MARKING DETAILS.



0 50' 100'
HORIZONTAL

0 10' 20'
VERTICAL

KEY MAP



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CONSTRUCTION DOCUMENT

DAVID J. COOPER NEW MEXICO 21683 11/25/14 PROFESSIONAL ENGINEER

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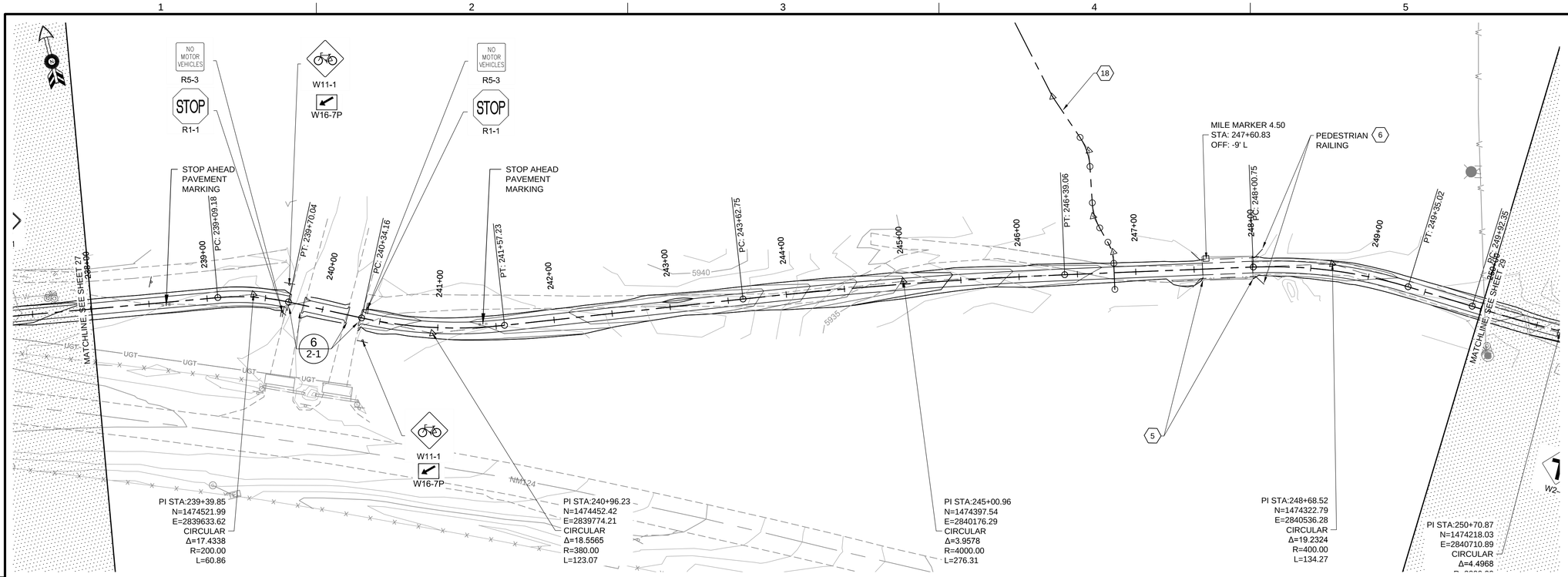
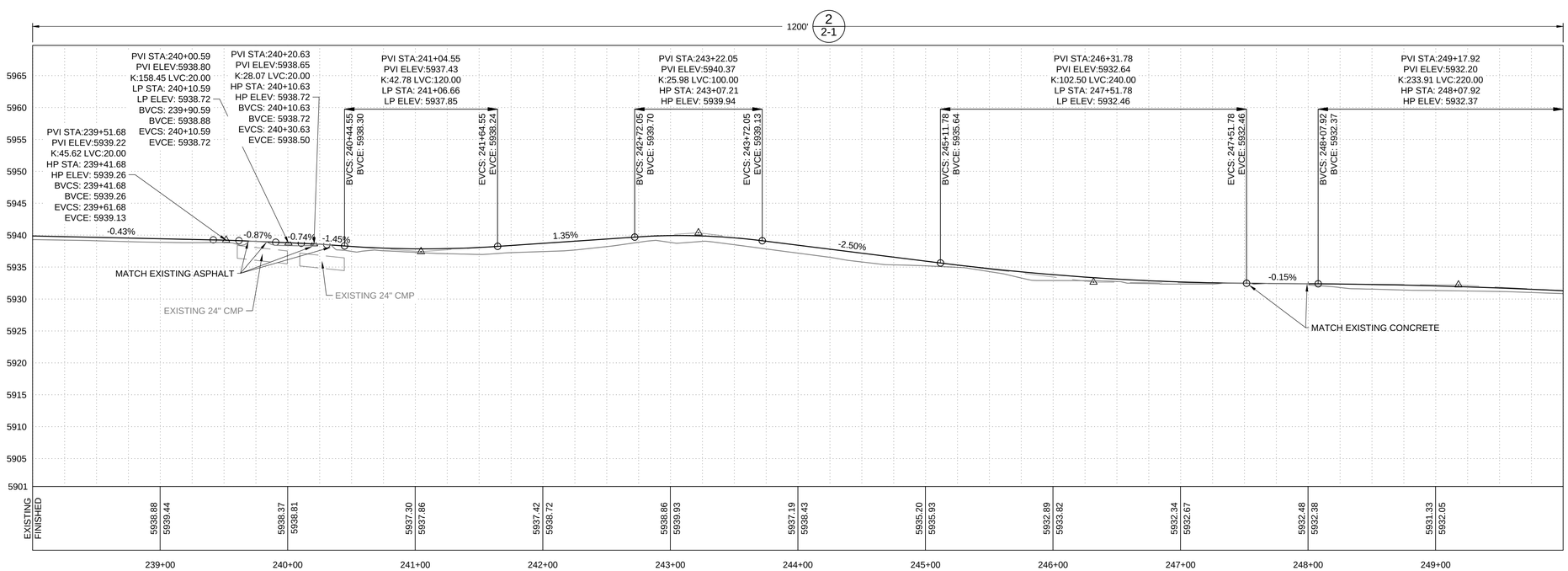
BIKE & PEDESTRIAN ROUTE DESIGN

NM 124 - CASA BLANCA TO ENCINAL RD.
PLAN & PROFILE SHEET

SHEET	27 of 61
DWG	3-19
DATE	30NOV14
PROJ	15196.001.001





KEYED NOTES

5 TRAIL SURFACE TO MATCH CONCRETE DECK OF EXISTING BRIDGE.

6 STA. 247+47 TO STA. 248+08, 8' TO 15' RT AND LT – BUILD 70 LF OF STEEL PIPE PEDESTRIAN RAILING 3' FROM TRAIL EDGE, BOTH SIDES. TURN LAST 10' OF RAILING AT EACH END AT 45° ANGLE TO TRAIL. REFER TO NMDOT STANDARD DRAWING 607-20 AND DECK MOUNT DETAILS REFERENCED IN THIS PLAN SET.

18 K'AWAIKA CENTER TRAIL (BY OTHERS - NIC)

CONSTRUCTION NOTES

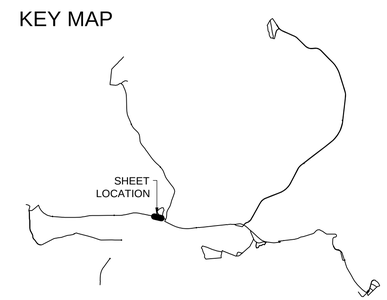
A GRADE CULVERT INLETS TO THE GENERAL SHAPE SHOWN. SLOPES SHALL BE NO STEEPER THAN 2.5H:1V.

B REFER TO SHEETS 7-1 TO SHEETS 7-3 FOR SIGNAGE AND PAVEMENT MARKING DETAILS.

0 50' 100'
HORIZONTAL

0 10' 20'
VERTICAL

KEY MAP



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NO.	DATE	BY	REVISION

CONSTRUCTION DOCUMENT

DAVID J. COOPERSMITH NEW MEXICO 21683 11/25/14 PROFESSIONAL ENGINEER

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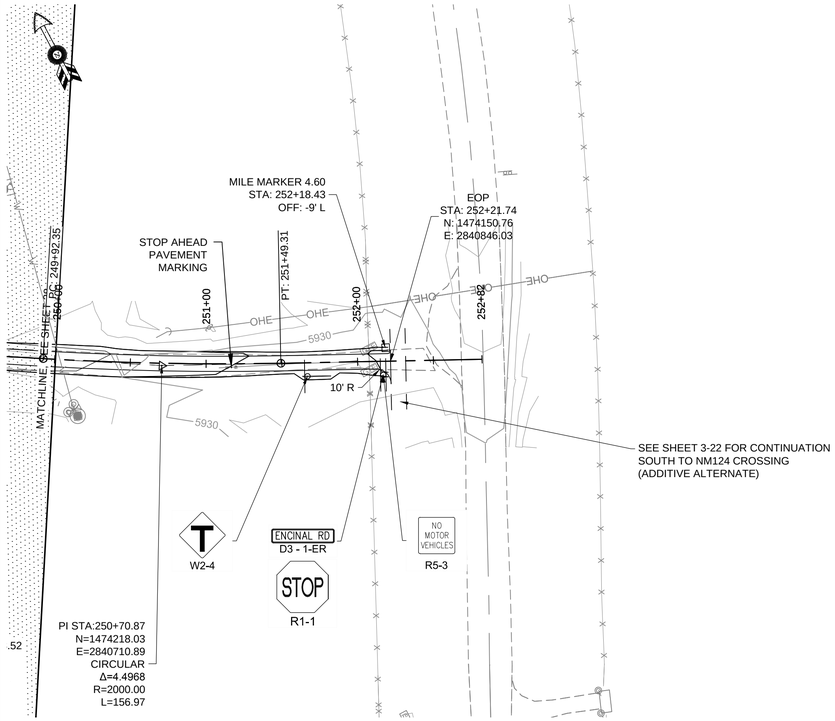
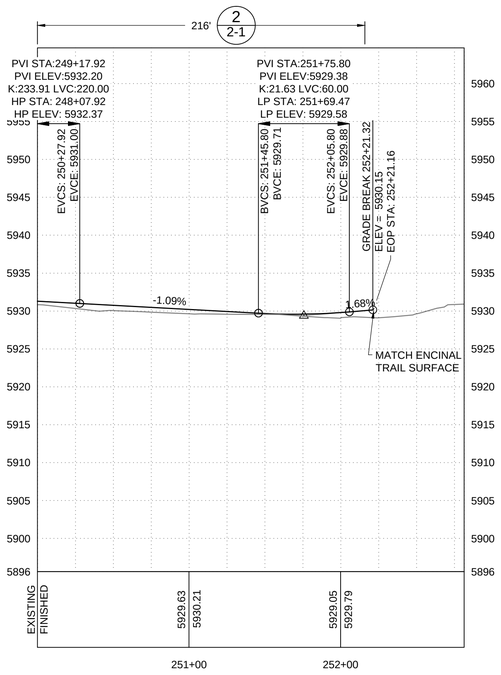
BIKE & PEDESTRIAN ROUTE DESIGN

NM 124 - CASA BLANCA TO ENCINAL RD. PLAN & PROFILE SHEET

SHEET	28 of 61
DWG	3-20
DATE	30NOV14
PROJ	15196.001.001





KEYED NOTES

CONSTRUCTION NOTES

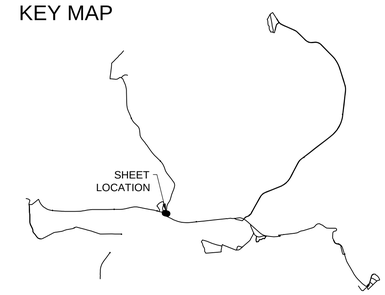
A GRADE CULVERT INLETS TO THE GENERAL SHAPE SHOWN. SLOPES SHALL BE NO STEEPER THAN 2.5H:1V.

B REFER TO SHEETS 7-1 TO SHEETS 7-3 FOR SIGNAGE AND PAVEMENT MARKING DETAILS.

0 50' 100'
HORIZONTAL

0 10' 20'
VERTICAL

KEY MAP



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DRAWN:	CP
CHECKED:	SC
APPROVED:	SC

NO.	DATE	BY	REVISION

CONSTRUCTION DOCUMENT

DAVID J. COOPER 21683 11/25/14 PROFESSIONAL ENGINEER

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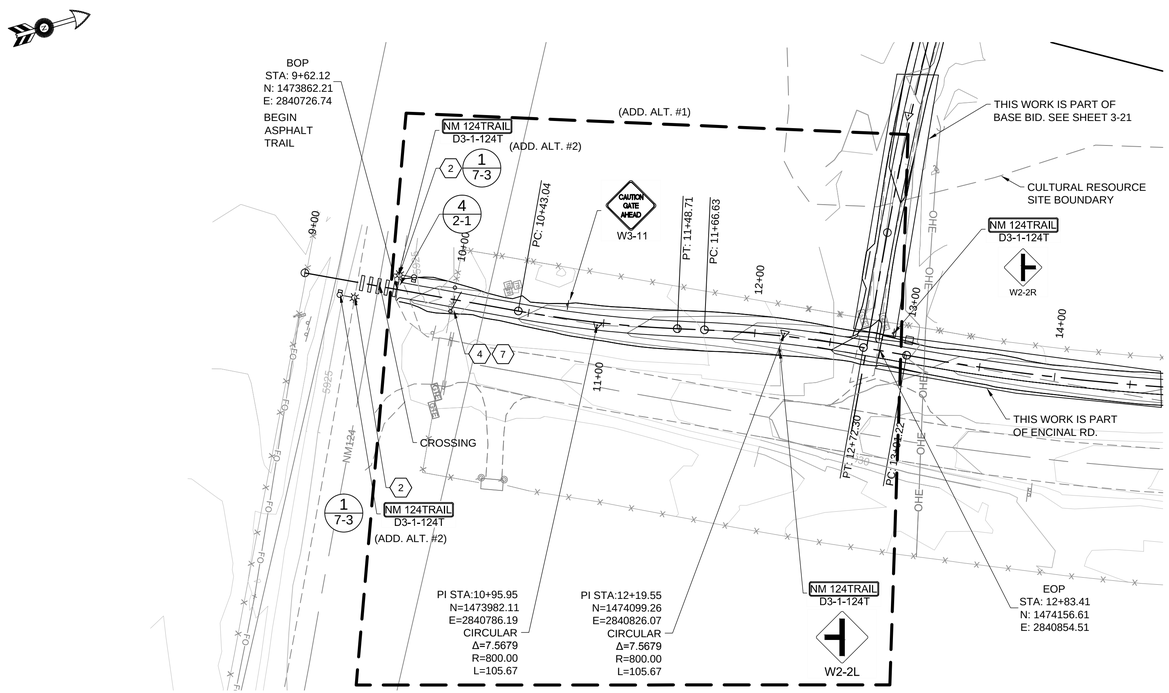
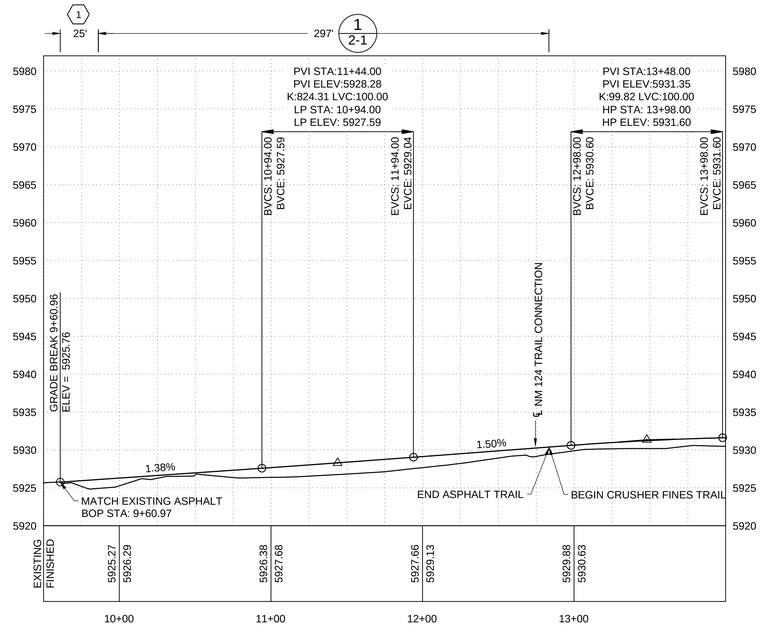
BIKE & PEDESTRIAN ROUTE DESIGN

NM 124 - CASA BLANCA TO ENCINAL RD. PLAN & PROFILE SHEET

DWG	3-21
DATE	30NOV14
PROJ	15196.001.001





KEYED NOTES

1 TRANSITION CROSS SLOPE BETWEEN TYPICAL SECTIONS OVER 25 FEET.

2 SOLAR POWERED LED STREET LIGHT AND CROSSING BEACON.

4 REMOVE EXISTING FENCE AND INSTALL NEW TERMINAL POSTS TWO FEET (2'-0") FROM EDGE OF TRAIL, EACH SIDE.

7 REMOVE AND DISPOSE OF EXISTING GATE AND ANGLE-IRON FRAME; REPLACE WITH 14' 6-BAR TUBE LIVESTOCK GATE PER NMDOT STD. DWG. 607-01 WITH SELF-CLOSING HINGES AND TWO-WAY LIVESTOCK GATE LATCH. PROVIDE SHOP DRAWINGS.

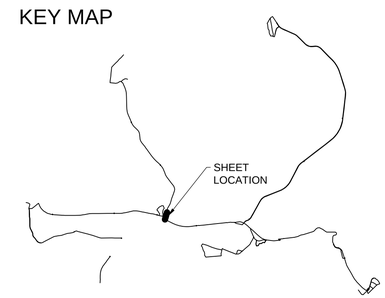
CONSTRUCTION NOTES

A CONSTRUCTION ON THIS SHEET TO BE COMPLETED ONLY IF BID ADDITIVE ALTERNATE #1 IS AWARDED AS PART OF CONTRACT.

0 50' 100'
HORIZONTAL

0 10' 20'
VERTICAL

KEY MAP



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I:\Projects\15196\100\NM124EAST\PnPEncinal124.dwg December 02, 2014 - 7:49am

DESIGNED:	RO
DRAWN:	CP
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APPROVED:	SC

NO.	DATE	BY	REVISION

CONSTRUCTION DOCUMENT

DAVID J. COOPER 21683 PROFESSIONAL ENGINEER 11/25/14

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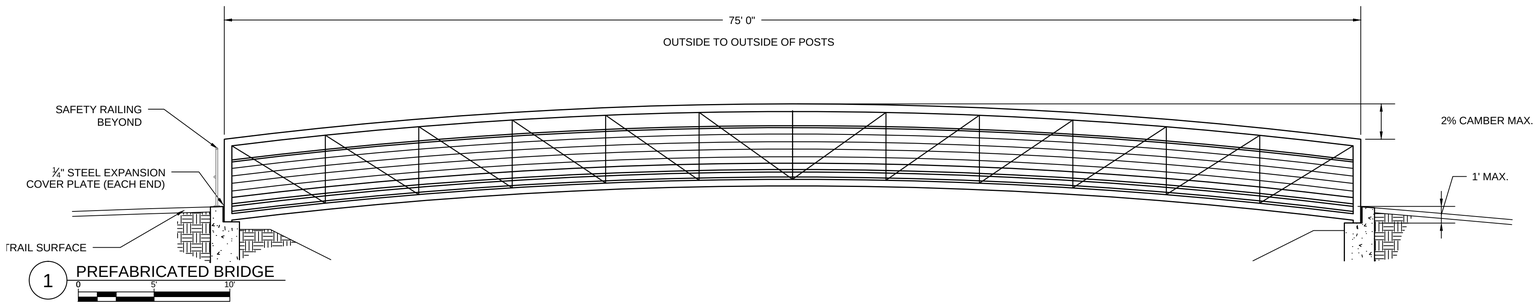
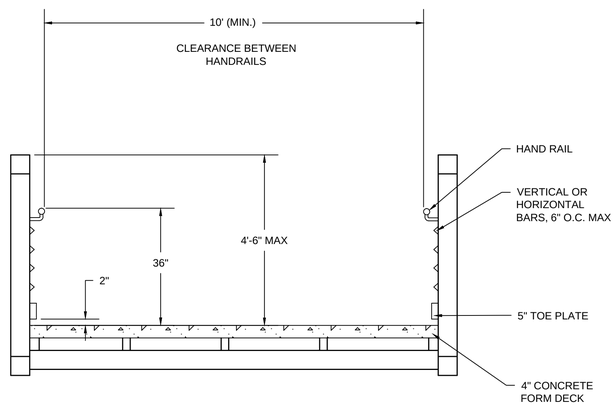
BIKE & PEDESTRIAN ROUTE DESIGN

NM 124 - CASA BLANCA TO ENCINAL RD.
ADD. ALT. NM124 AT ENCINAL RD.

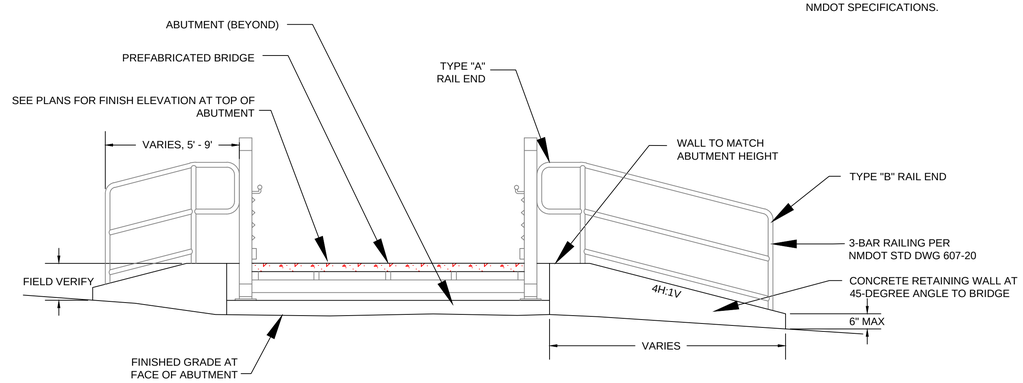
SHEET	30 of 61
DWG	3-22
DATE	30NOV14
PROJ	15196.001.001



1 PREFABRICATED BRIDGE
0 5' 10'



2 PREFABRICATED BRIDGE SECTION
0 2' 4'



3 REINFORCED CONCRETE RATAINING WALL ELEVATION
NOT TO SCALE

STRUCTURAL NOTES - EARTHWORK

1. AFTER CLEARING AND GRUBBING, REMOVE EXISTING MATERIAL TO 2'-0" BELOW BOTTOM OF FOOTING AND 2'-0" BEYOND EDGES OF FOOTING. SLOPE SIDES OF EXCAVATIONS AS REQUIRED FOR SLOPE STABILITY.

2. PREPARATION OF SUBGRADE: AFTER EXCAVATIONS HAVE BEEN COMPLETED, SUBGRADE SHALL BE SCARIFIED, DISCED OR OTHERWISE LOOSENED TO A MINIMUM DEPTH OF 12 INCHES, MOISTENED OR DRIEDAS NECESSARY (TO WITHIN +/- 2 PERCENTAGE POINTS OF OPTIMUM MOISTURE CONTENT) AND COMPACTED TO NOT LESS THAN 95% OF MAXIMUM DENSITY PER ASTM 1557.

3. FILL AND BACKFILL BENEATH AND ADJACENT TO THE FOOTING, ABUTMENT AND WALL SHALL BE PLACED IN UNIOFRM LAYERS NOT TO EXCEED 8: IN THICKNESS BEFORE COMPACTION AND SHALL BE COMPACTED TO NOT LESS THAN 95% OF MAXIMUM DENSITY. ALL COMPACTION SHALL BE PERFORMED WHEN THE MATERIAL TO BE COMPACTED IS AT ITS OPTIMUM MOISTURE CONTENT (+/- 2 PERCENTAGE POINTS).

4. ENGINEERED FILL TO BE EXCAVATED SITE SOIL OR APPROVED MATERIAL PER NMDOT SPECIFICATIONS.

GENERAL STRUCTURAL NOTES

STRUCTURAL DESIGN CRITERIA

CODES AND MANUALS:
NEW MEXICO STATE DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR HIGHWAY AND BRIDGE CONSTRUCTION", 2014
INTERNATIONAL BUILDING CODE, 2009 EDITION
AASHTO SPECIFICATIONS AND DESIGN GUIDES
ASCE 7-05, "MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES"
ACI 318-08 "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE"
AISC "MANUAL OF STEEL CONSTRUCTION", 13TH EDITION
AWS WELDING CODES AS APPLICABLE

GRAVITY LOADS
GENERAL: STRUCTURES SHALL BE DESIGNED FOR THE ACTUAL WEIGHT OF THE STRUCTURE, PLUS ADDITIONAL DEAD LOADS AS SHOWN.

	DEAD LOAD	LIVE LOAD
PEDESTRIAN BRIDGE		AS REQD BY AASHTO; 85 psf MINIMUM 10,000 pound VEHICLE LOAD SEE SPECIFICATIONS

WIND LOADS

BASIC WIND SPEED (3 SECOND GUST):	V = 90 mph
IMPORTANCE FACTOR:	I = 0.87 (OCCUPANCY CATEGORY I)
EXPOSURE CATEGORY:	C
DESIGN WIND PRESSURE OF COMPONENTS & CLADDING	AS REQD BY ASCE 7; 30 psf MINIMUM

SEISMIC LOADS

SPECTRAL RESPONSE ACCELERATIONS	Ss = 0.385 S1 = 0.114
SPECTRAL RESPONSE COEFFICIENTS:	Sds = 0.383 Sd1 = 0.179
SITE CLASS	D
IMPORTANCE FACTOR	I = 1.00 (OCCUPANCY CATEGORY I)
SEISMIC DESIGN CATEGORY	C
EQUIVALENT LATERAL FORCE PROCEDURE	
BRIDGE	

BASIC SEISMIC FORCE RESISTING SYSTEM: BY BRIDGE MANUFACTURER

EARTHWORK

DESIGN BEARING PRESSURE	1500 psf
ACTIVE PRESSURE	Pa = 50 psf/ft
AT-REST PRESSURE	Po = 60 psf/ft
PASSIVE PRESSURE	Pp = 250 psf/ft

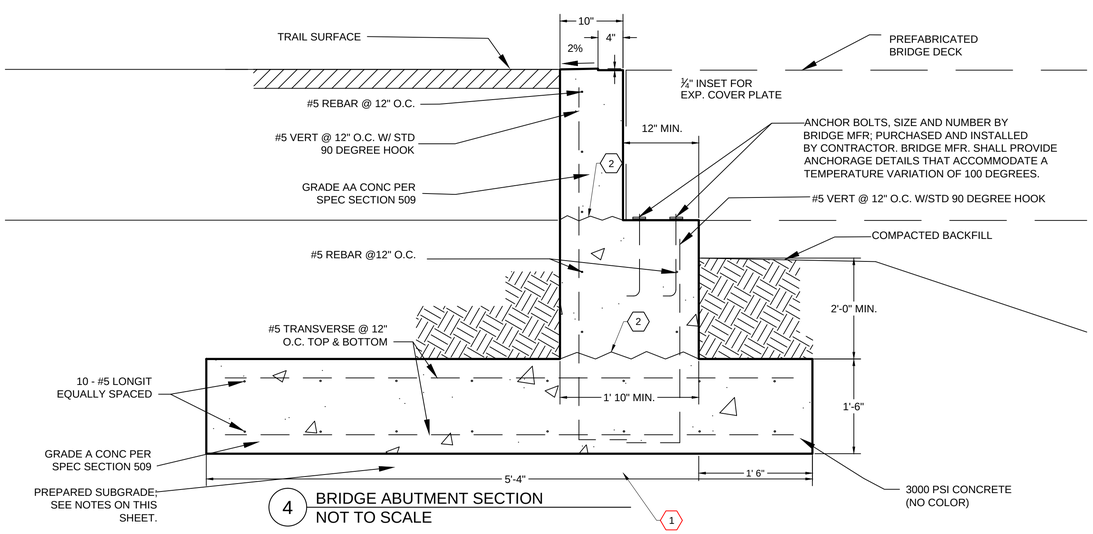
STRUCTURAL MATERIALS

COMPLY WITH THE NEW MEXICO STATE DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR HIGHWAY AND BRIDGE CONSTRUCTION", AND AS FOLLOWS:
WIDE FLANGE STEEL SHAPES: ASTM A992, Fy = 50,000 psi
STEEL TUBE SHAPES: ASTM A500, GRADE B, Fy = 46,000 psi
STEEL PIPES: ASTM A53 TYPE E OR S, GRADE B, Fy = 35,000 psi
ANCHOR RODS EMBEDDED INTO CONCRETE: ASTM F1554, Fy = 36,000 psi MINIMUM

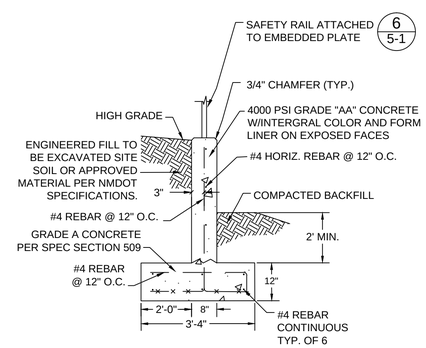
PREFABRICATED STRUCTURES

PEDESTRIAN BRIDGE

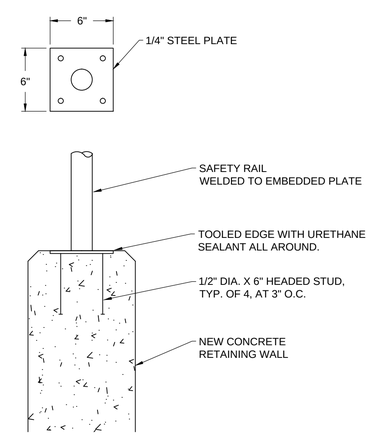
1. BRIDGE SHALL BE DESIGNED, DETAILED AND FABRICATED BY MANUFACTURER EXPERIENCED IN THE PRODUCTION OF PREFABRICATED BRIDGES AND IN ACCORDANCE WITH REQUIREMENTS AS INDICATED IN THE CONSTRUCTION DOCUMENTS.
2. SUBMIT FOR REVIEW COMPLETE DESIGN CALCULATIONS STAMPED BY AN ENGINEER REGISTERED IN THE STATE OF NEW MEXICO INDICATING THAT BRIDGE HAS BEEN DESIGNED TO ALL APPLICABLE REQUIREMENTS.
3. SUBMIT FOR REVIEW COMPLETE SHOP DRAWINGS INDICATING SIZES AND SHAPES, CONNECTION DETAILS, ETC. FOR THE PREFABRICATED BRIDGE STRUCTURE.
4. PROVIDE PRIMING AND FINISHES FOR ALL BRIDGE COMPONENTS AS INDICATED.



4 BRIDGE ABUTMENT SECTION
NOT TO SCALE



5 CONCRETE RETAINING WALL
NOT TO SCALE



6 EMBEDDED STEEL PLATE DETAIL
NOT TO SCALE

DESIGNED:	RO			
DRAWN:	CP			
CHECKED:	SC			
APPROVED:	SC	NO.	DATE	BY	REVISION

INFORMATION ONLY

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BIKE & PEDESTRIAN ROUTE DESIGN

NM 124 - CASA BLANCA TO ENCINAL RD.
BRIDGE AND RAILING DETAILS

SHEET	31 of 61
DWG	5-1
DATE	30NOV14
PROJ	15196.001.001

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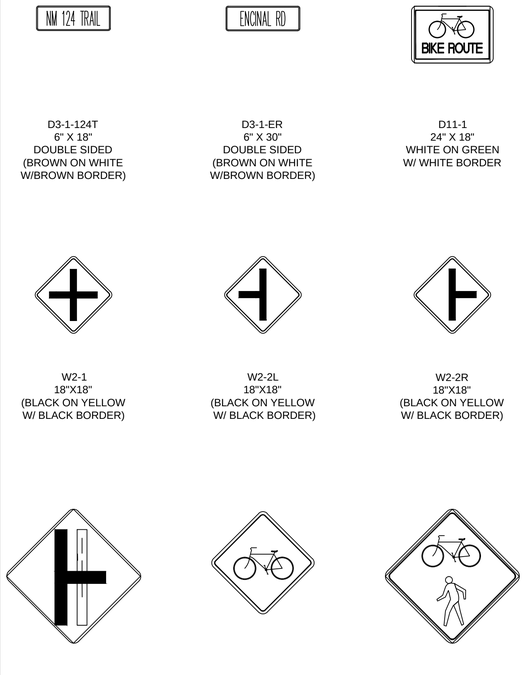
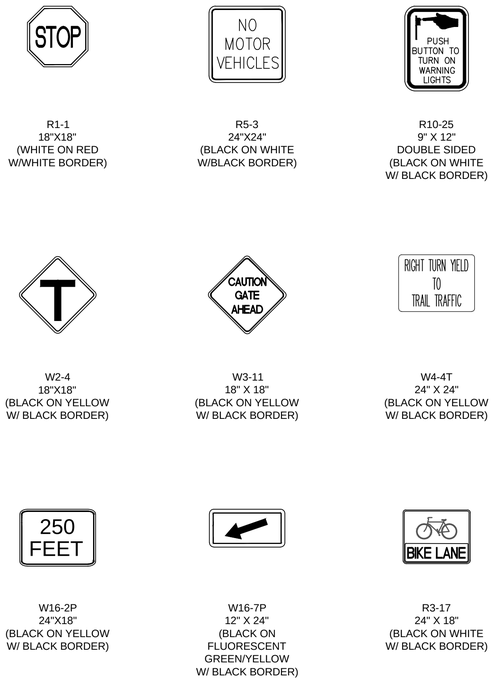
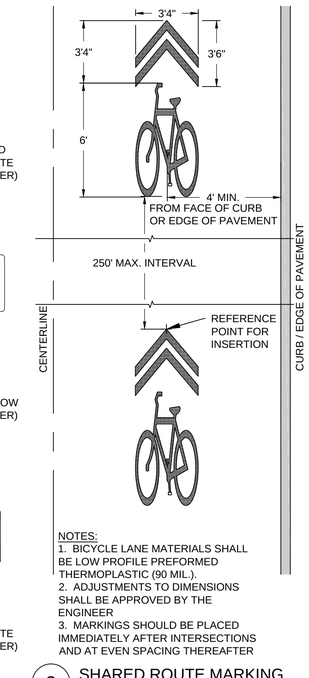


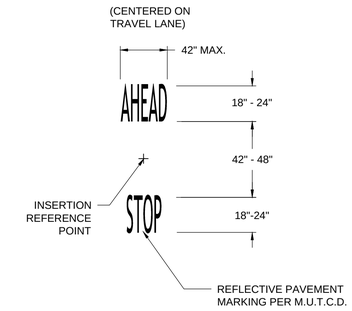
1 SIGN FACES
NTS



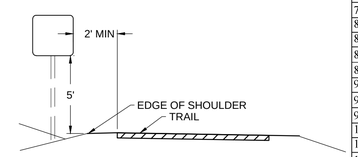


NOTES:
1. BICYCLE LANE MATERIALS SHALL BE LOW PROFILE PREFORMED THERMOPLASTIC (90 MIL.).
2. ADJUSTMENTS TO DIMENSIONS SHALL BE APPROVED BY THE ENGINEER
3. MARKINGS SHOULD BE PLACED IMMEDIATELY AFTER INTERSECTIONS AND AT EVEN SPACING THEREAFTER

2 SHARED ROUTE MARKING
0 4' 8'



3 STOP AHEAD PAVEMENT MARKING
NOT TO SCALE



4 SIGN POST LOCATION
NTS

SIGNS EXIT 104 SHARED ROUTE								
BID ITEM 701000 ALUMINUM PANEL SIGN					BID ITEM 701100 STEEL POST		BID ITEM 701100 STEEL BASE POST	
NORTHING	EASTING	DESCRIPTION	(SF)	NO. OF FACES	(LF)	NO. POSTS	(LF)	NO. POSTS
1475654.2225'	2816076.4120'	W11-1	4	1	7.5	1	3.5	1
1475654.2225'	2816076.4120'	W16-7P	2	1				
1475759.3464'	2816087.3141'	D11-1	3	1	6.5	1	3.5	1
1475795.1544'	2816144.6099'	W11-1	4	1	7.5	1	3.5	1
1475795.1544'	2816144.6099'	W16-7P	2	1				
1475917.8227'	2816054.1812'	W11-1	4	1	7.5	1	3.5	1
1475917.8227'	2816054.1812'	W16-7P	2	1				
1476652.8351'	2817695.6597'	W11-1	4	1	7.5	1	3.5	1
1476652.8351'	2817695.6597'	W16-7P	2	1				
1476700.2429'	2817660.6755'	W11-1	4	1	7.5	1	3.5	1
1476699.5358'	2817661.3826'	W16-7P	2					
1476700.2429'	2817660.6755'	D11-1	3	1	6.5	1	3.5	1
1475785.2231'	2816611.0682'	R3-17	3	1	6.5	1	3.5	1
1476243.1228'	2817185.3815'	R3-17	3	1	6.5	1	3.5	1
1476531.7987'	2817540.4624'	R3-17	3	1	6.5	1	3.5	1
TOTALS			36	11	50.5	7	24.5	10

SIGNS INTERSECTION OF ENCINAL RD TO NM 124 CROSSING OFF ENCINAL ALIGNMENT								
BID ITEM 701000 ALUMINUM PANEL SIGN					BID ITEM 701100 STEEL POST		BID ITEM 701100 STEEL BASE POST	
STATION	OFFSET	DESCRIPTION	(SF)	NO. OF FACES	(LF)	NO. POSTS	(LF)	NO. POSTS
9+25.15	10 RT	W11-15	6.25	1	COMBINE WITH OVERHEAD LIGHT POLE FOR RRFB			
9+25.15	10 RT	W16-7P	2	1				
9+25.15	10 RT	R1-1	2.25	1				
9+25.15	10 RT	R5-3	4	1				
9+25.15	10 RT	R10-25	1.5	1				
9+71.50	10 LT	W11-15	6.25	1	COMBINE WITH OVERHEAD LIGHT POLE FOR RRFB			
9+71.50	10 LT	W16-7P	2	1				
9+71.50	10 LT	R1-1	2.25	1				
9+71.50	10 LT	R5-3	4	1				
9+71.50	10 LT	R10-25	1.5	1				
12+17.17	10 RT	W2-2L	2.25	1	6.5	1	3.5	1
12+17.17	10 RT	D3-1-124T	1.5	2				
12+89.89	13 LT	W2-2R	2.25	1	6.5	1	3.5	1
12+89.89	13 LT	D3-1-124T	1.5	2				
TOTALS			39.5	16	13	2	7	2

BID ITEM NO. 701030: REMOVE AND RESET PANEL SIGN		
STATION	OFFSET	QUANTITY
10+04.88	13 LT	1
14+58.12	9 RT	1
20+16.45	7 RT	1
43+62.09	2 RT	1
45+99.72	5 RT	1
48+34.70	11 RT	1
55+32.45	5 RT	1
75+33.92	9 RT	1
83+15.42	7 RT	1
83+16.05	8 RT	1
96+42.30	5 RT	1
96+42.32	4 RT	1
103+22.79	4 RT	1
110+74.12	3 RT	1
115+90.29	2 LT	1
121+60.28	7 RT	1
121+60.48	8 RT	1
130+41.62	6 RT	1
142+33.53	7 RT	1
149+33.53	2 RT	1
151+10.23	3 RT	1
152+43.83	2 RT	1
153+30.57	3 RT	1
159+48.98	8 RT	1
160+86.59	7 RT	1
161+04.53	0 LT	1
177+65.37	6 RT	1
202+25.73	7 RT	1
214+22.56	10 RT	1
220+97.67	6 RT	1
222+00.44	5 RT	1
TOTAL		31

BID ITEM 704750: THERMOPLASTIC PAVEMENT MARKING - NM 124 EXIT 104-TO ENCINAL RD			
Station	Final Offset	DESCRIPTION	QUANTITY
11+14.67	2 LT	STOP_AHEAD	1
115+10.24	3 RT	STOP_AHEAD	1
117+41.87	3 LT	STOP_AHEAD	1
154+53.92	3 RT	STOP_AHEAD	1
156+94.30	3 LT	STOP_AHEAD	1
225+87.57	3 RT	STOP_AHEAD	1
228+43.31	3 LT	STOP_AHEAD	1
238+64.61	3 RT	STOP_AHEAD	1
241+38.82	3 LT	STOP_AHEAD	1
251+20.64	2 RT	STOP_AHEAD	1
TOTAL			10

BID ITEM 704734: THERMOPLASTIC PAVEMENT MARKING - EXIT 104 SHARED ROUTE			
Northing	Easting	DESCRIPTION	QUANTITY
1475748.8256'	2816410.6548'	SHARROW	1
1475749.8963'	2816285.9794'	SHARROW	1
1475760.1083'	2816408.5948'	SHARROW	1
1475761.8513'	2816285.8098'	SHARROW	1
1475765.8393'	2816509.5232'	SHARROW	1
1475774.9186'	2816087.0742'	SHARROW	1
1475777.5844'	2816506.2283'	SHARROW	1
1475787.4495'	2816088.3821'	SHARROW	1
1475802.4000'	2816622.5300'	OMIT ARROW	1
1475979.4600'	2816849.1300'	OMIT ARROW	1
1476142.0900'	2817048.5600'	OMIT ARROW	1
1476272.8100'	2817208.1500'	OMIT ARROW	1
1476417.2200'	2817385.2400'	OMIT ARROW	1
1476561.8400'	2817562.3200'	OMIT ARROW	1
TOTAL			14

SIGNS NM 124 EXIT 104 TO ENCINAL ROAD								
BID ITEM 701000 ALUMINUM PANEL SIGN					BID ITEM 701100 STEEL POST		BID ITEM 701100 STEEL BASE POST	
STATION	OFFSET	DESCRIPTION	(SF)	NO. OF FACES	(LF)	NO. POSTS	(LF)	NO. POSTS
10+05.56	10 LT	R1-1	2.25	1				
10+05.56	10 LT	R5-3	4	1	6.5	1	3.5	1
12+66.85	10 LT	W16-2P	3	1				
12+66.85	10 LT	W11-1	4	1	6.5	1	3.5	1
26+45.92	10 RT	W2-1	2.25	1	6.5	1	3.5	1
27+64.23	10 LT	W2-1	2.25	1	6.5	1	3.5	1
28+32.11	12 RT	W10-3T	6.25	1				
28+32.11	12 RT	W4-4T	4	1	7.5	1	3.5	1
42+54.53	10 RT	W2-1	2.25	1	6.5	1	3.5	1
43+84.40	10 LT	W2-1	2.25	1	6.5	1	3.5	1
44+52.40	12 RT	W10-3T	6.25	1				
44+52.40	12 RT	W4-4T	4	1	7.5	1	3.5	1
47+97.17	10 RT	W2-1	2.25	1	6.5	1	3.5	1
49+22.40	10 LT	W2-1	2.25	1	6.5	1	3.5	1
49+91.35	12 RT	W10-3T	6.25	1				
49+91.35	12 RT	W4-4T	4	1	7.5	1	3.5	1
67+73.37	10 RT	W2-1	2.25	1	6.5	1	3.5	1
68+89.31	10 LT	W2-1	2.25	1	6.5	1	3.5	1
69+59.03	14 RT	W10-3T	6.25	1				
69+59.03	14 RT	W4-4T	4	1	7.5	1	3.5	1
76+68.81	10 RT	W2-1	2.25	1	6.5	1	3.5	1
77+88.56	10 LT	W2-1	2.25	1	6.5	1	3.5	1
78+57.31	12 RT	W10-3T	6.25	1				
78+57.31	12 RT	W4-4T	4	1	7.5	1	3.5	1
86+38.76	10 RT	W2-1	2.25	1	6.5	1	3.5	1
87+56.71	10 LT	W2-1	2.25	1	6.5	1	3.5	1
88+27.41	12 RT	W10-3T	6.25	1				
88+27.41	12 RT	W4-4T	4	1	7.5	1	3.5	1
91+87.36	10 RT	W2-1	2.25	1	6.5	1	3.5	1
93+74.72	12 RT	W10-3T	6.25	1				
93+74.72	12 RT	W4-4T	4	1	7.5	1	3.5	1
102+89.42	10 RT	W2-1	2.25	1	6.5	1	3.5	1
104+08.92	10 LT	W2-1	2.25	1	6.5	1	3.5	1
104+78.45	12 RT	W10-3T	6.25	1				
104+78.45	12 RT	W4-4T	4	1	7.5	1	3.5	1
107+64.19	10 RT	W2-1	2.25	1	6.5	1	3.5	1
108+81.95	9 LT	W2-1	2.25	1	6.5	1	3.5	1
110+42.60	10 RT	W2-1	2.25	1	6.5	1	3.5	1
111+57.71	10 LT	W2-1	2.25	1	6.5	1	3.5	1
112+28.02	12 RT	W10-3T	6.25	1				
112+28.02	12 RT	W4-4T	4	1	7.5	1	3.5	1
115+90.80	10 RT	R1-1	2.25	1				
115+90.80	10 RT	R5-3	4	1	6.5	1	3.5	1
116+55.34	10 LT	R1-1	2.25	1				
116+55.34	10 LT	R5-3	4	1	6.5	1	3.5	1
148+17.20	10 RT	W2-1	2.25	1	6.5	1	3.5	1
150+34.52	10 LT	W2-1	2.25	1	6.5	1	3.5	1
151+02.45	12 RT	W10-3T	6.25	1				
151+02.45	12 RT	W4-4T	4	1	7.5	1	3.5	1
155+49.30	10 RT	R1-1	2.25	1				
155+49.30	10 RT	R5-3	4	1	6.5	1	3.5	1
155+94.33	10 LT	R1-1	2.25	1				
155+94.33	10 LT	R5-3	4	1	6.5	1	3.5	1
171+42.08	10 RT	W2-1	2.25	1	6.5	1	3.5	1
172+59.29	10 LT	W2-1	2.25	1	6.5	1	3.5	1
173+27.95	12 RT	W10-3T	6.25	1				
173+27.95	12 RT	W4-4T	4	1	7.5	1	3.5	1
202+69.34	10 RT	W2-1	2.25	1	6.5	1	3.5	1
203+86.03	10 LT	W2-1	2.25	1	6.5	1	3.5	1
205+81.99	10 RT	W2-1	2.25	1	6.5	1	3.5	1
207+02.76	10 LT	W2-1	2.25	1	6.5	1	3.5	1
207+69.76	12 RT	W10-3T	6.25	1				
207+69.76	12 RT	W4-4T	4	1	6.5	1	3.5	1
221+55.95	10 RT	W2-1	2.25	1	6.5	1	3.5	1
222+83.08	10 LT	W2-1	2.25	1	6.5	1	3.5	1
223+51.24	12 RT	W10-3T	6.25	1				
223+51.24	12 RT	W4-4T	4	1	7.5	1	3.5	1
226+81.54	10 RT	R1-1	2.25	1				
226+85.14	10 RT	R5-3	4	1	6.5	1	3.5	1
227+43.05	10 LT	R1-1	2.25	1				
227+43.05	10 LT	R5-3	4	1	6.5	1	3.5	1
235+33.5	10 RT	W3-11	2.25	1	6.5	1	3.5	1
236+84.8	10 LT	W3-11	2.25	1	6.5	1	3.5	1
239+65.20	10 RT	R1-1	2.25	1				
239+65.20	10 RT	R5-3	4	1	6.5	1	3.5	1
239+67.70	15 LT	W11-1	4	1				
239+67.70	15 LT	W16-7P	2	1	7.5	1	3.5	1
240+36.66	16 RT	W11-1	4	1	6.5	1	3.5	1
240+37.35	10 LT	R1-1	2.25	1				
240+37.35	10 LT	R5-3	4	1	6.5	1	3.5	1
251+71.93	10 RT	W2-4	2.25	1	6.5	1	3.5	1
252+21.76	10 RT	D3-1-ER	2.5	2				
252+21.76	10 RT	R1-1	2.25	1				
252+21.76	10 RT	R5-3	4	1	6.5	1	3.5	1
NORTHING: 1476769.7355'	EASTING: 2817695.643	W11-1	4	1				
NORTHING: 1476769.7355'	EASTING: 2817695.643	W16-2P	3		7.5	1	3.5	1
TOTALS			294.25	86	397.5	59	206.5	59

DESIGNED:	RO		
DRAWN:	CP		
CHECKED:	SC		
APPROVED:	SC		
NO.	DATE	BY	REVISION

CONSTRUCTION DOCUMENT

DAVID J. COOPER NEW MEXICO 21683 11/25/14 PROFESSIONAL ENGINEER

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BIKE & PEDESTRIAN ROUTE DESIGN

NM 124 - CASA BLANCA TO ENCINAL RD. SIGNAGE AND MARKINGS

SHEET 32 of 61
DWG 7-1
DATE 30NOV14
PROJ 15196.001.001

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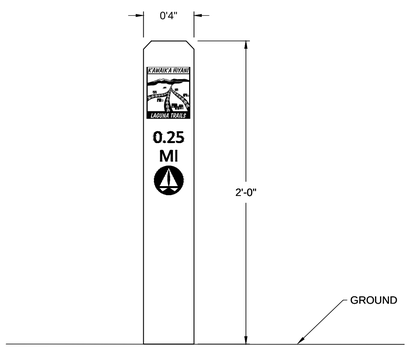
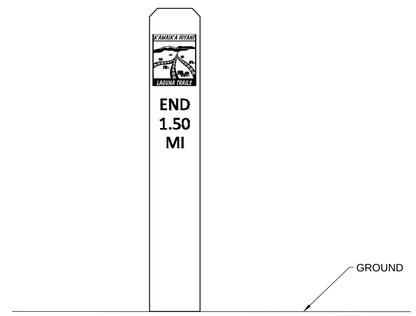
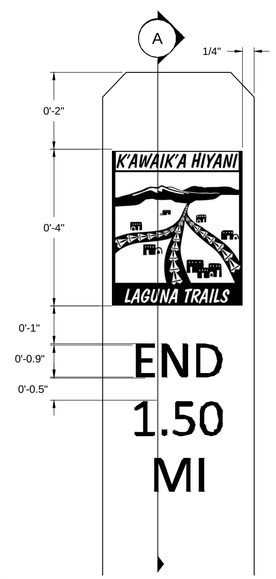
BID ITEM 701101: RECYCLED PLASTIC MILE MARKER POST, CIP#EA.		
STATION	OFFSET	DESCRIPTION
10+22.24	9 LT	MM 0.00
23+13.92	9 LT	MM 0.25
36+39.76	9 LT	MM 0.50
49+61.47	9 LT	MM 0.75
62+82.11	9 LT	MM 1.00
76+02.64	9 LT	MM 1.25
89+22.77	9 LT	MM 1.50
102+44.42	9 LT	MM 1.75
115+62.41	9 LT	MM 2.00
128+82.71	9 LT	MM 2.25
142+02.70	9 LT	MM 2.50
155+22.69	9 LT	MM 2.75
168+43.13	9 LT	MM 3.00
181+64.89	9 LT	MM 3.25
194+82.94	9 LT	MM 3.50
208+00.87	9 LT	MM 3.75
221+20.86	9 LT	MM 4.00
234+39.84	9 LT	MM 4.25
247+60.61	9 LT	MM 4.50
252+18.73	9 LT	MM 4.58



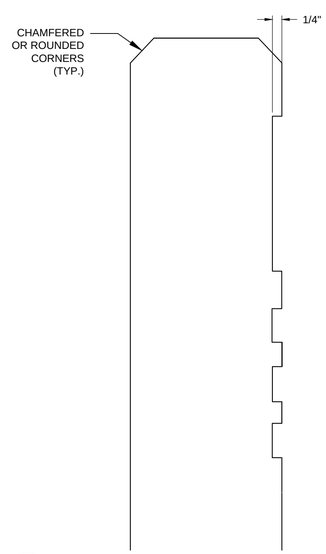
1 MILE MARKER MILEAGE POST
0 1/2' 1'



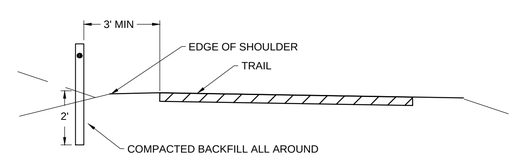
2 MILE MARKER END POST
0 1/2' 1'



4 MILE MARKER LAYOUT
1"=2"



A SECTION A - MILE MARKER TEXT AND LOGO INSET
1"=2"



5 TRAIL MARKER PLACEMENT
TRAIL SEPARATED FROM ROAD

NOTES

A TRAIL MARKERS TO BE MADE OF RECYCLED PLASTIC WITH EMBOSSED LETTERING AND SCREEN PRINTED LOGO IMAGE ON AN ALUMINUM PLATE RECESSED. LOGO AND DIRECTIONAL ARROW WILL BE PROVIDED ELECTRONICALLY.

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APPROVED:	SC	NO.	DATE	BY	REVISION

CONSTRUCTION DOCUMENT

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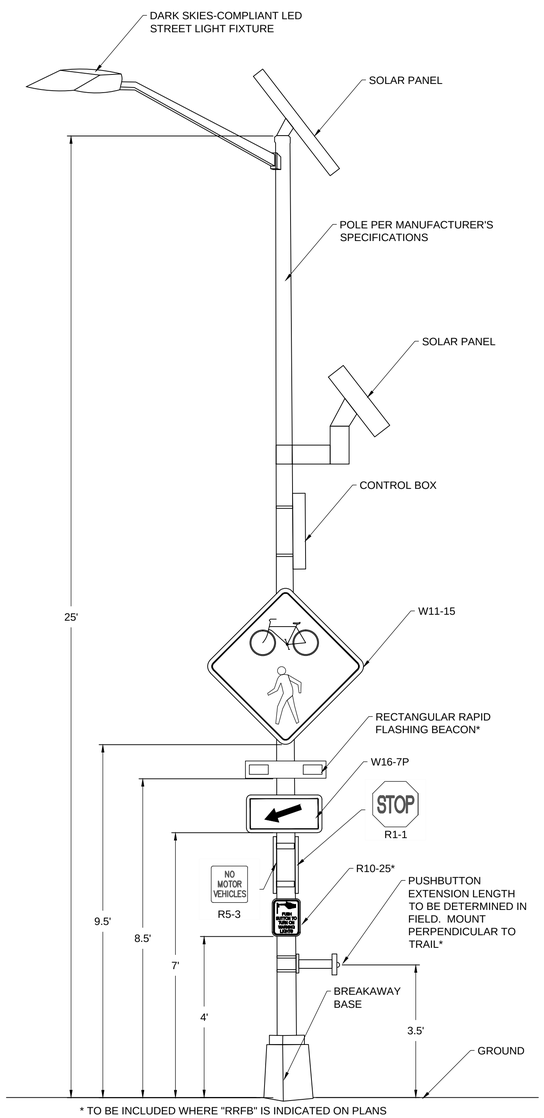
BIKE & PEDESTRIAN ROUTE DESIGN

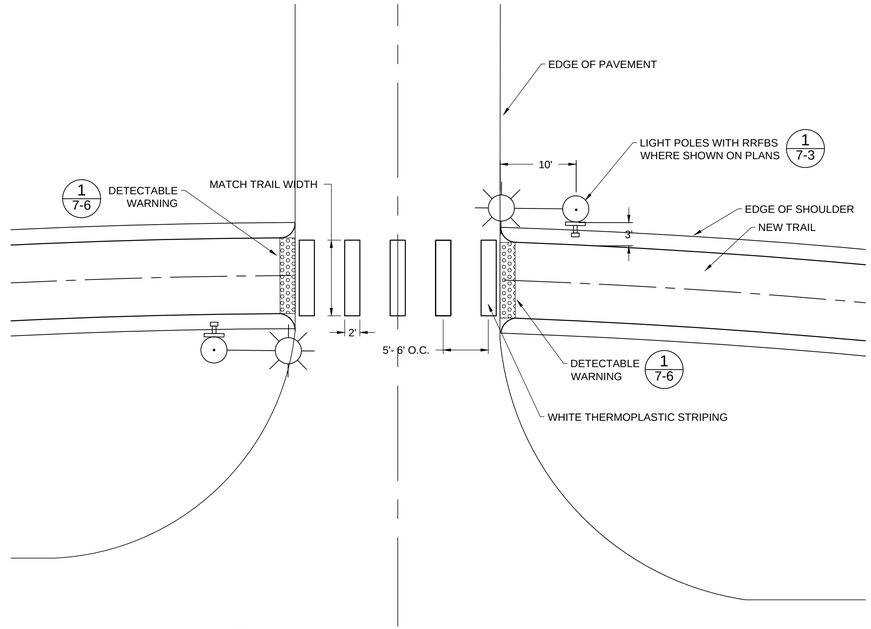
NM 124 - CASA BLANCA TO ENCINAL RD.
MILE MARKERS

SHEET	33 of 61
DWG	7-2
DATE	30NOV14
PROJ	15196.001.001

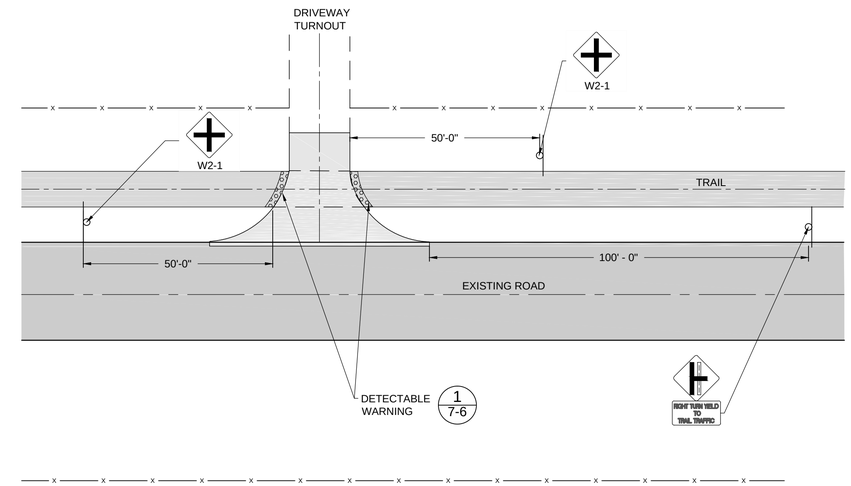


* TO BE INCLUDED WHERE "RRFB" IS INDICATED ON PLANS

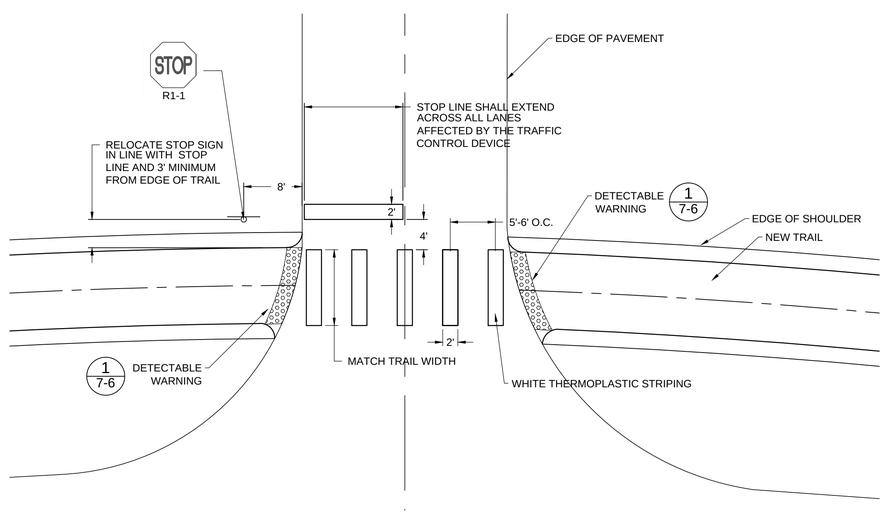
1 RRFB SIGNPOST CONFIGURATION
1" = 1/2'



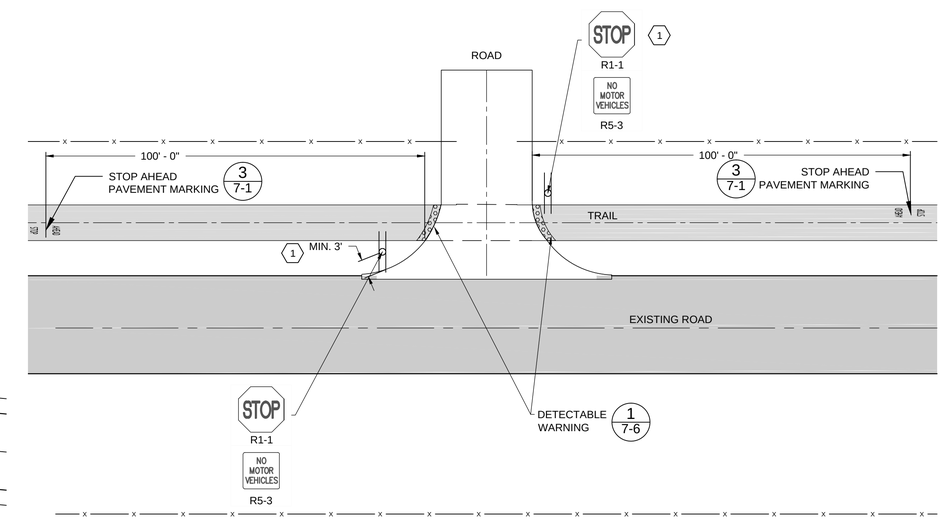
2 CROSSWALK CONFIGURATION WITH RRFB
0 10' 20'



3 DRIVEWAY TURNOUT SIGNAGE PLAN
PLAN VIEW



4 CROSSWALK CONFIGURATION AT STOP INTERSECTION
0 10' 20'



5 CROSSING SIGNAGE PLAN
PLAN VIEW

KEYED NOTES

1 SEE SIGN LOCATION TABLE FOR OFFSET FROM TRAIL CENTERLINE.

NOTES

A ALL STRIPING AND SIGNAGE SHALL BE IN ACCORDANCE WITH THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), 2009 EDITION.

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CONSTRUCTION DOCUMENT

DAVID J. COOPER, NEW MEXICO, 21683, 11/25/14, PROFESSIONAL ENGINEER

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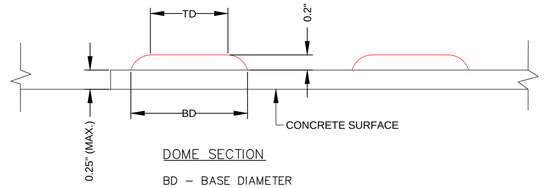
BIKE & PEDESTRIAN ROUTE DESIGN

NM 124 - CASA BLANCA TO ENCINAL RD.
CROSSING SIGNAGE DETAILS

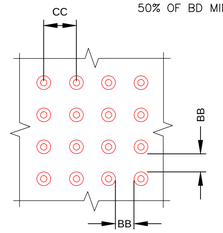
SHEET	34 of 61
DWG	7-3
DATE	30NOV14
PROJ	15196.001.001

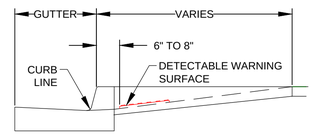
I:\Projects\15196\100\NM124EASTS\Signs and Signals B.dwg November 26, 2014 - 11:57am



DOME SECTION

BD – BASE DIAMETER
0.9" MIN. TO 1.4" MAX
TD – TOP DIAMETER
50% OF BD MIN TO 65% OF BD MAX

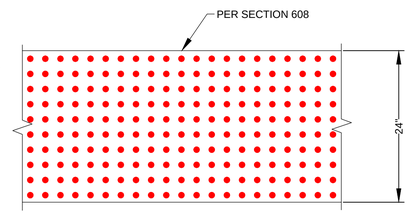




LOCATION

DOME SPACING

CC – CENTER TO CENTER SPACING
1.6" MIN. TO 2.4" MAX
BB – BASE TO BASE SPACING
0.65" MIN



DEFINITIONS:

DETECTABLE WARNINGS – A SURFACE FEATURE BUILT IN OR APPLIED TO WALKING SURFACES OR OTHER ELEMENTS TO WARN OF HAZARDS ON A CIRCULATION PATH TO AID PERSONS WITH VISUAL IMPAIRMENTS
CURB LINE – A LINE AT THE FACE OF THE CURB THAT MARKS THE TRANSITION BETWEEN THE SIDEWALK AND THE GUTTER OR ROADWAY

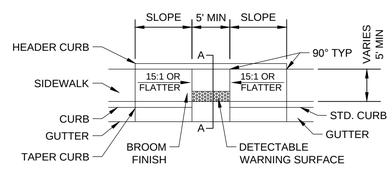
LOCATION:
1. DETECTABLE WARNING SURFACES SHALL BE PROVIDED WHERE A CURB RAMP OR LANDING CONNECTS TO A CROSSWALK AND OR PEDESTRIAN ROUTE CROSSING A ROADWAY.
2. DETECTABLE WARNING SURFACES SHALL BE LOCATED SO THAT THE EDGE NEAREST THE CURB LINE IS 6" MINIMUM AND 8" MAXIMUM FROM THE CURB LINE.
3. MEDIAN AND REFUGE ISLANDS SHALL HAVE DETECTABLE WARNINGS. DETECTABLE WARNINGS AT CUT THROUGH ISLAND SHALL BE SEPARATED BY A 24" MINIMUM LENGTH OF WALKWAY WITHOUT WARNINGS

DOME SPACING:
DETECTABLE WARNING SURFACES SHALL EXTEND 24" MIN. IN THE DIRECTION OF TRAVEL AND FULL WIDTH OF THE CURB RAMP, LANDING, OR TRANSITION. DOMES SHALL BE ALIGNED ON A SQUARE GRID IN THE PREDOMINANT DIRECTION OF THE CROSS WALK TO PERMIT WHEELS TO ROLL BETWEEN DOMES.

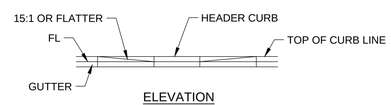
EXCEPTION: DETECTABLE WARNINGS SHALL NOT BE REQUIRED ON CUT THROUGH ISLANDS WHERE THE CROSSINGS ARE CONTROLLED BY SIGNALS AND ARE TIMED FOR FULL CROSSING ON MEDIANS LESS THEN 7' WIDE

NOTES:
1. DETAILS SPECIFIED ON THIS PLAN APPLY TO ALL CONSTRUCTION OR RECONSTRUCTION OF STREETS, CURBS, OR SIDEWALKS BY ALL PUBLIC AGENCIES AND BY ALL PRIVATE ORGANIZATIONS CONSTRUCTING FACILITIES FOR PUBLIC USE.
2. SIDEWALK RAMPS ARE TO BE LOCATED AS SPECIFIED ON THE PLANS OR AS DIRECTED BY THE ENGINEER.
3. THE TOP OF THE JOINT FILLER FOR ALL RAMP TYPES SHALL BE FLUSH WITH THE ADJACENT CONCRETE.
4. ALL PRODUCTS USED FOR THE DETECTABLE WARNING SURFACES SHALL BE ON THE DEPARTMENT'S APPROVED PRODUCT LIST.
5. PRODUCTS SHALL BE CAST-IN-TACT AND VERIFY COLOR WITH A/E.
6. PER SECTION 705 FROM NMDOT'S ADA STANDARD FOR TRANSPORTATION FACILITIES – "DETECTABLE WARNING SURFACES SHALL CONTRAST VISUALLY WITH ADJACENT WALKING SURFACES EITHER LIGHT-NO-DARK, OR DARK-ON-LIGHT."

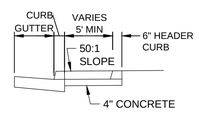
1 DETECTABLE WARNING
0 10' 20'



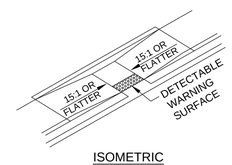
PLAN



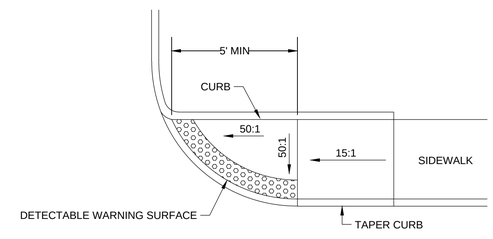
ELEVATION



SECTION "A-A"



ISOMETRIC



2 DETECTABLE WARNING
0 4' 8'

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CONSTRUCTION DOCUMENT

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BIKE & PEDESTRIAN ROUTE DESIGN

NM 124 - CASA BLANCA TO ENCINAL RD.
DETECTABLE WARNING

SHEET	37 of 61
DWG	7-6
DATE	30NOV14
PROJ	15196.001.001

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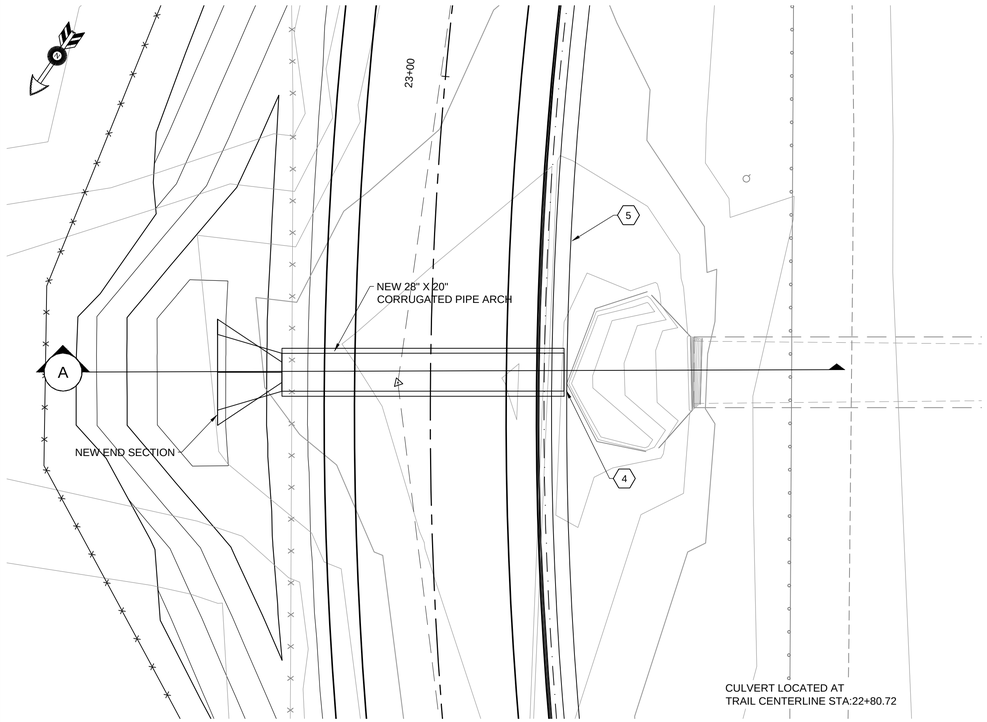
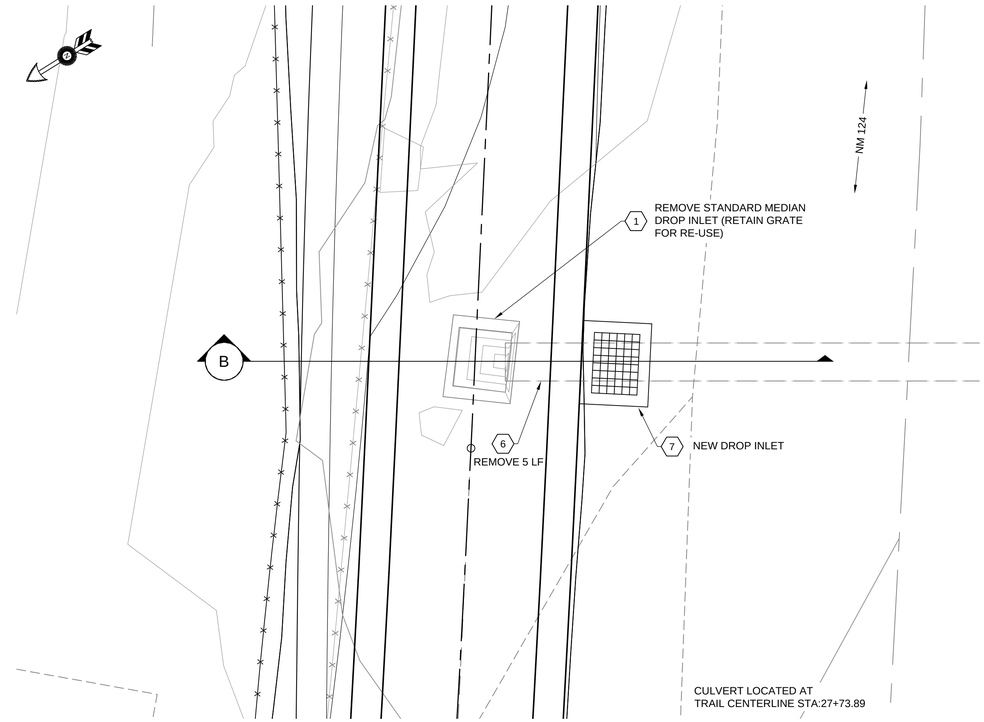


1 CULVERT PLAN VIEW



2 CULVERT PLAN VIEW

KEYED NOTES

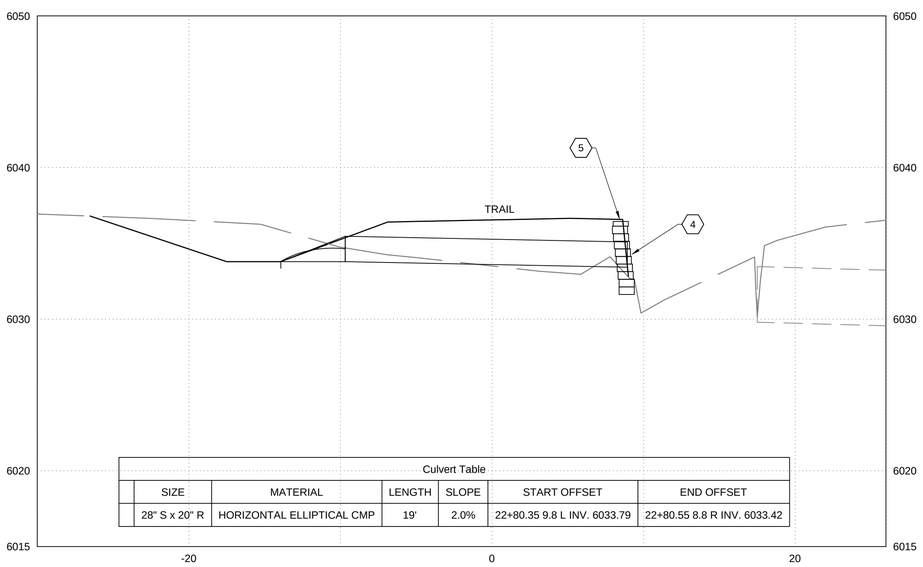
1 REMOVE AND DISPOSE OF EXISTING CONCRETE DRAINAGE STRUCTURE, AS INDICATED.

4 PIPE TO TERMINATE FLUSH WITH WALL FACE. CUT BLOCKS AS NEEDED TO CONFORM TO SHAPE OF PIPE. BLOCK PIECES SMALLER IN SIZE THAN 1/2 BLOCK SHALL BE SECURED IN PLACE USING MFR. APPROVED ADHESIVE.

5 INSTALL MODULAR CMU RETAINING WALL WITH FILTER FABRIC AND GRAVEL BACKFILL, PER MANUFACTURER'S INSTRUCTIONS. TOP OF WALL TO MEET EXISTING GROUND. STEP AS NEEDED TO FOLLOW GRADE.

6 REMOVE AND DISPOSE OF METAL CULVERT PIPE, AS INDICATED.

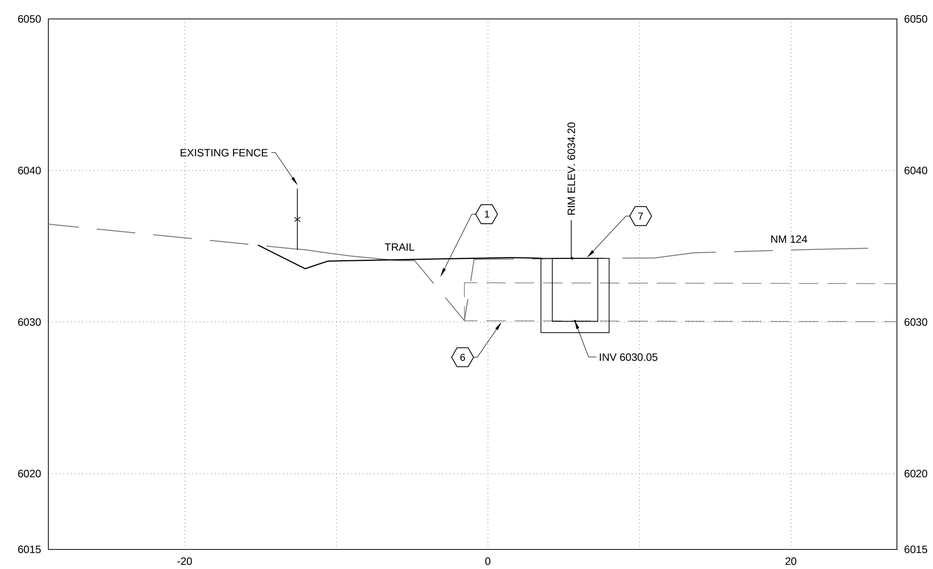
7 BUILD NEW CONCRETE DROP INLET USING EXISTING SALVAGED STEEL GRATE. REFER TO NMDOT STANDARD DRAWINGS 623-01 TO 621-03. INSIDE DIMENSION 3' X 4'.

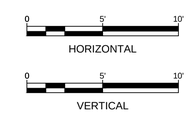


Culvert Table

SIZE	MATERIAL	LENGTH	SLOPE	START OFFSET	END OFFSET
28" S x 20" R	HORIZONTAL ELLIPTICAL CMP	19'	2.0%	22+80.35 9.8 L INV. 6033.79	22+80.55 8.8 R INV. 6033.42

A CULVERT SECTION VIEW





B CULVERT SECTION VIEW

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BIKE & PEDESTRIAN ROUTE DESIGN

NM 124 - CASA BLANCA TO ENCINAL RD.
CULVERT DETAILS

SHEET	42 of 61
DWG	10-1
DATE	30NOV14
PROJ	15196.001.001

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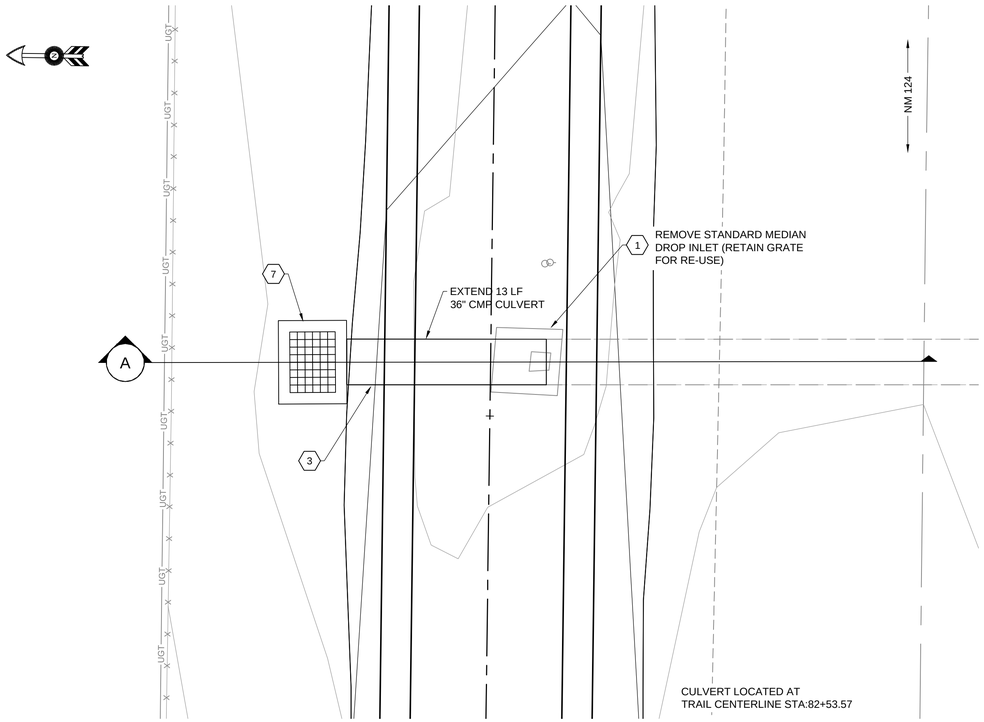
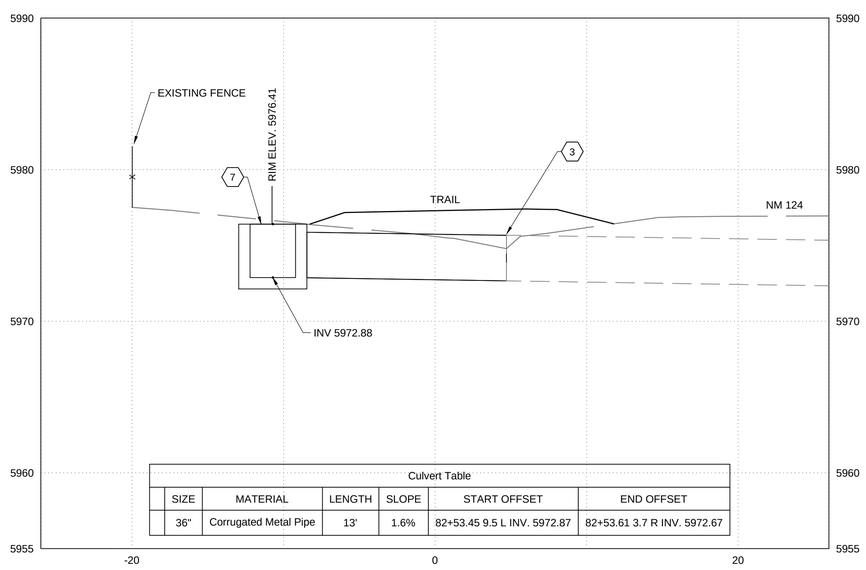


1 CULVERT PLAN VIEW



Culvert Table

SIZE	MATERIAL	LENGTH	SLOPE	START OFFSET	END OFFSET
36"	Corrugated Metal Pipe	13'	1.6%	82+53.45 9.5 L INV. 5972.87	82+53.61 3.7 R INV. 5972.67

A CULVERT SECTION VIEW

KEYED NOTES

1 REMOVE AND DISPOSE OF EXISTING CONCRETE DRAINAGE STRUCTURE, AS INDICATED.

3 EXTEND CULVERT PIPE AS INDICATED. CUT END OF EXISTING PIPE TO CLEAN, STRAIGHT, EDGE, AND INSTALL APPROPRIATE COUPLING.

7 BUILD NEW CONCRETE DROP INLET USING EXISTING SALVAGED STEEL GRATE. REFER TO NMDOT STANDARD DRAWINGS 623-01 TO 621-03. INSIDE DIMENSION 3' X 4'.

0 5' 10'
HORIZONTAL

0 5' 10'
VERTICAL

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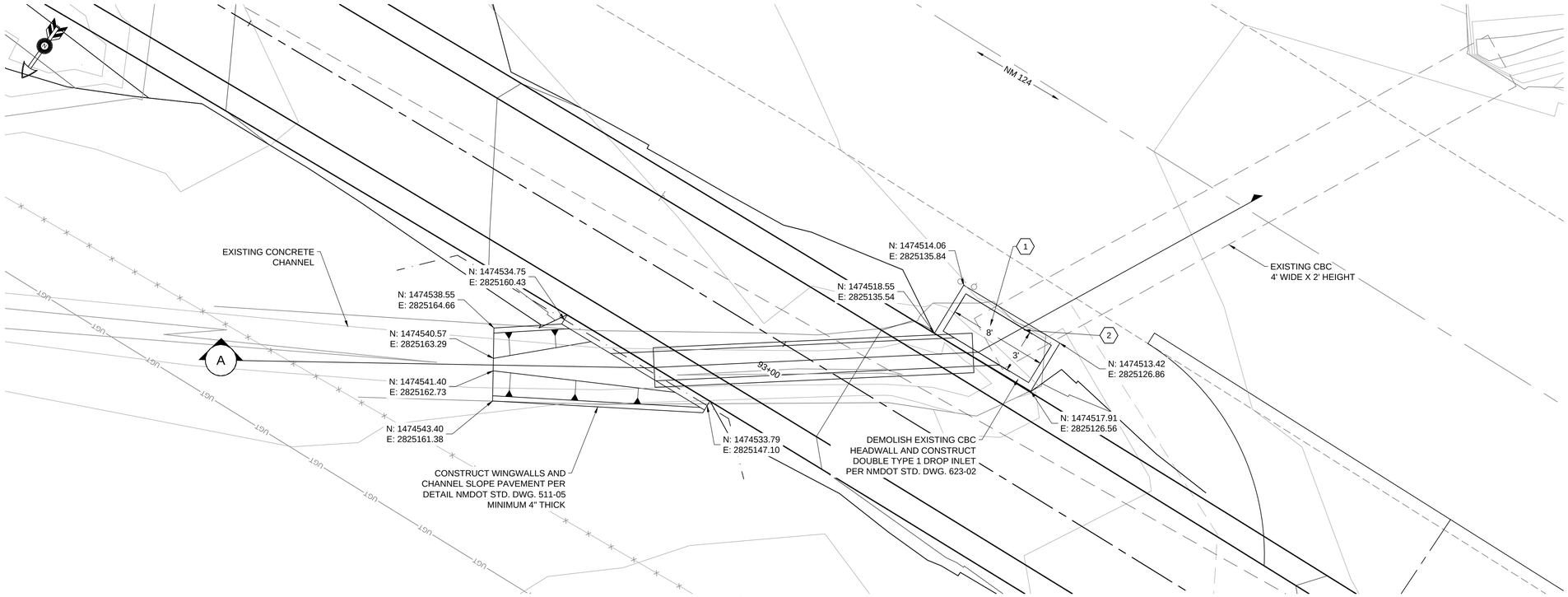
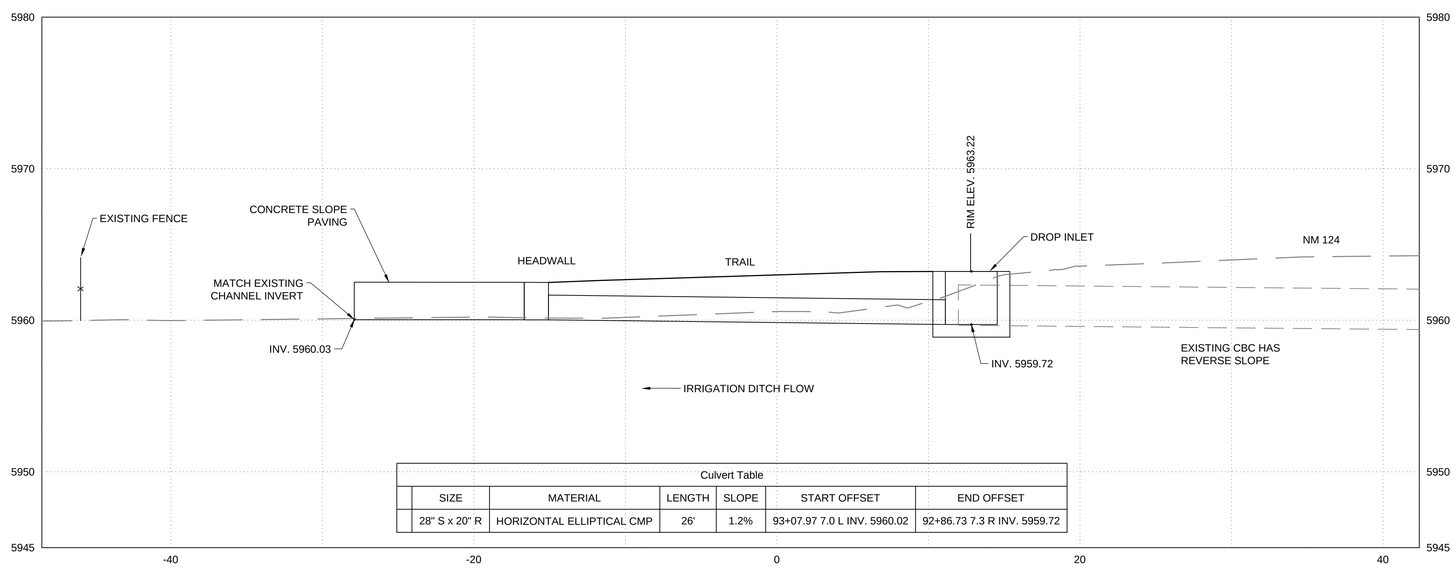
BIKE & PEDESTRIAN ROUTE DESIGN

NM 124 - CASA BLANCA TO ENCINAL RD.
CULVERT DETAILS

SHEET	43 of 61
DWG	10-2
DATE	30NOV14
PROJ	15196.001.001



1 CULVERT PLAN VIEW



Culvert Table

SIZE	MATERIAL	LENGTH	SLOPE	START OFFSET	END OFFSET
28" S x 20" R	HORIZONTAL ELLIPTICAL CMP	26'	1.2%	93+07.97 7.0 L INV. 5960.02	92+86.73 7.3 R INV. 5959.72

A CULVERT SECTION VIEW

KEYED NOTES

1 REMOVE AND DISPOSE OF EXISTING CONCRETE DRAINAGE STRUCTURE, AS INDICATED.

2 SAWCUT TO CLEAN EDGE; DOWEL NEW REBAR 6" MIN INTO EXISTING CONCRETE.

0 5' 10'
HORIZONTAL

0 5' 10'
VERTICAL

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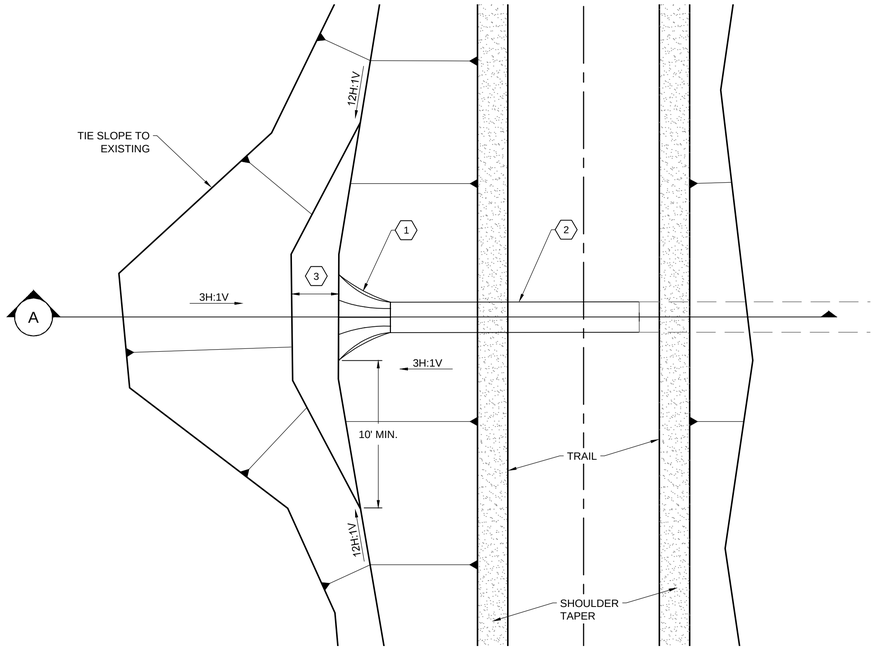
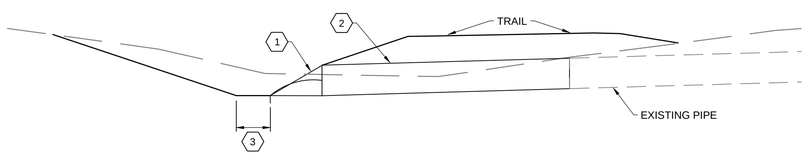
BIKE & PEDESTRIAN ROUTE DESIGN

NM 124 - CASA BLANCA TO ENCINAL RD. CULVERT DETAILS

SHEET	44 of 61
DWG	10-3
DATE	30NOV14
PROJ	15196.001.001



1 TYPICAL CULVERT GRADING PLAN VIEW



A TYPICAL CULVERT GRADING SECTION VIEW

Culvert Table						
	SIZE	MATERIAL	LENGTH	SLOPE	START OFFSET	END OFFSET
	36"	Corrugated Metal Pipe	18'	0.7%	11+38.55 9.0 L INV. 6042.08	11+38.70 8.8 R INV. 6041.96
	36"	Corrugated Metal Pipe	21'	2.4%	14+64.42 13.3 L INV. 6037.70	14+64.59 7.5 R INV. 6037.21
	24"	Corrugated Metal Pipe	16'	0.9%	18+77.00 10.5 L INV. 6034.99	18+77.10 5.8 R INV. 6034.84
	30"	Corrugated Metal Pipe	16'	1.9%	25+74.19 9.6 L INV. 6032.54	25+74.03 6.8 R INV. 6032.23
	30"	Corrugated Metal Pipe	5'	8.4%	33+61.61 8.3 L INV. 6026.42	33+61.33 3.1 L INV. 6025.98
	30"	Corrugated Metal Pipe	5'	8.6%	33+65.13 8.2 L INV. 6026.42	33+64.84 3.1 L INV. 6025.98
	36"	Corrugated Metal Pipe	20'	1.6%	35+60.88 12.3 L INV. 6023.22	35+60.20 7.4 R INV. 6022.92
	36"	Corrugated Metal Pipe	18'	6.4%	51+79.76 9.9 L INV. 6023.39	51+79.89 7.6 R INV. 6022.28
	36"	Corrugated Metal Pipe	13'	3.0%	59+46.39 11.0 L INV. 6028.03	59+45.20 1.7 R INV. 6027.64
	36"	Corrugated Metal Pipe	6'	1.5%	75+56.02 13.4 L INV. 5991.94	75+56.45 7.8 L INV. 5991.85
	36"	Corrugated Metal Pipe	13'	1.6%	82+53.45 9.5 L INV. 5972.87	82+53.61 3.7 R INV. 5972.67
	36"	Corrugated Metal Pipe	17'	2.1%	103+11.94 10.2 L INV. 5933.59	103+11.92 7.0 R INV. 5933.23
	36"	Corrugated Metal Pipe	18'	1.8%	106+38.72 11.1 L INV. 5927.58	106+38.20 6.7 R INV. 5927.25
	36"	Corrugated Metal Pipe	16'	2.0%	113+40.40 9.3 L INV. 5921.61	113+40.40 7.1 R INV. 5921.28
	24"	Corrugated Metal Pipe	21'	0.0%	121+43.26 13.8 L INV. 5916.39	121+43.22 7.2 R INV. 5916.38
	24"	Corrugated Metal Pipe	13'	0.3%	139+41.30 17.1 L INV. 5914.71	139+41.26 4.3 L INV. 5914.67
	24"	Corrugated Metal Pipe	13'	0.2%	139+45.80 17.1 L INV. 5914.87	139+45.57 4.1 L INV. 5914.85
	42"	Corrugated Metal Pipe	21'	1.1%	155+28.19 16.3 L INV. 5913.52	155+28.11 4.5 R INV. 5913.29
	42"	Corrugated Metal Pipe	21'	0.5%	155+33.43 16.3 L INV. 5913.26	155+33.55 4.6 R INV. 5913.17
	36"	Corrugated Metal Pipe	17'	-0.6%	181+36.08 12.9 L INV. 5901.34	181+35.97 4.4 R INV. 5901.45
	24"	Corrugated Metal Pipe	20'	1.6%	189+06.27 10.5 L INV. 5908.55	189+01.26 8.7 R INV. 5908.24
	24"	Corrugated Metal Pipe	17'	2.3%	193+41.54 10.6 L INV. 5910.09	193+41.15 6.4 R INV. 5909.69
	36"	Corrugated Metal Pipe	14'	1.1%	199+70.63 10.1 L INV. 5910.34	199+70.59 3.8 R INV. 5910.19
	24"	Corrugated Metal Pipe	25'	0.8%	205+58.60 10.7 L INV. 5913.02	205+58.91 14.2 R INV. 5912.83
	24"	Corrugated Metal Pipe	11'	1.3%	217+89.23 9.7 L INV. 5924.25	217+89.23 1.7 R INV. 5924.10

Culvert Table						
	SIZE	MATERIAL	LENGTH	SLOPE	START OFFSET	END OFFSET
	28" S x 20" R	HORIZONTAL ELLIPTICAL CMP	19'	2.0%	22+80.35 9.8 L INV. 6033.79	22+80.55 8.8 R INV. 6033.42
	28" S x 20" R	HORIZONTAL ELLIPTICAL CMP	26'	1.2%	93+07.97 7.0 L INV. 5960.02	92+86.73 7.3 R INV. 5959.72

KEYED NOTES

1 INSTALL NEW END SECTION TO MATCH PIPE TYPE AND DIAMETER.

2 EXTEND CULVERT PIPE AS INDICATED. CUT END OF EXISTING PIPE TO CLEAN, STRAIGHT, EDGE, AND INSTALL APPROPRIATE COUPLING.

3 1.5X PIPE DIAMETER.

EG
FG

0 5' 10'
HORIZONTAL

0 5' 10'
VERTICAL

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NM 124 - CASA BLANCA TO ENCINAL RD.
TYPICAL CULVERT EXTENSION DETAIL

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DATE	30NOV14
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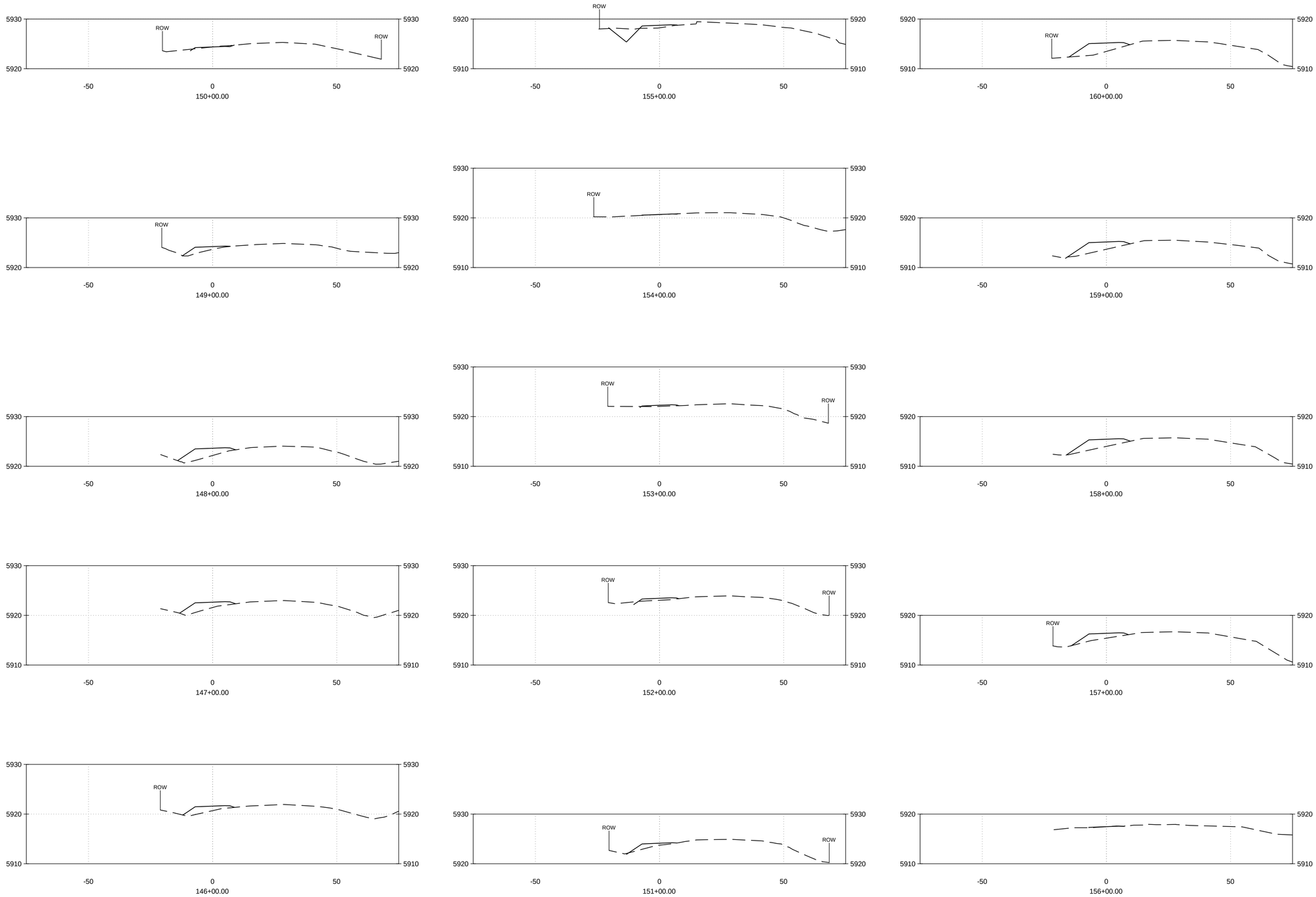

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NM 124 - CASA BLANCA TO ENCINAL RD. TRAIL CROSS SECTIONS

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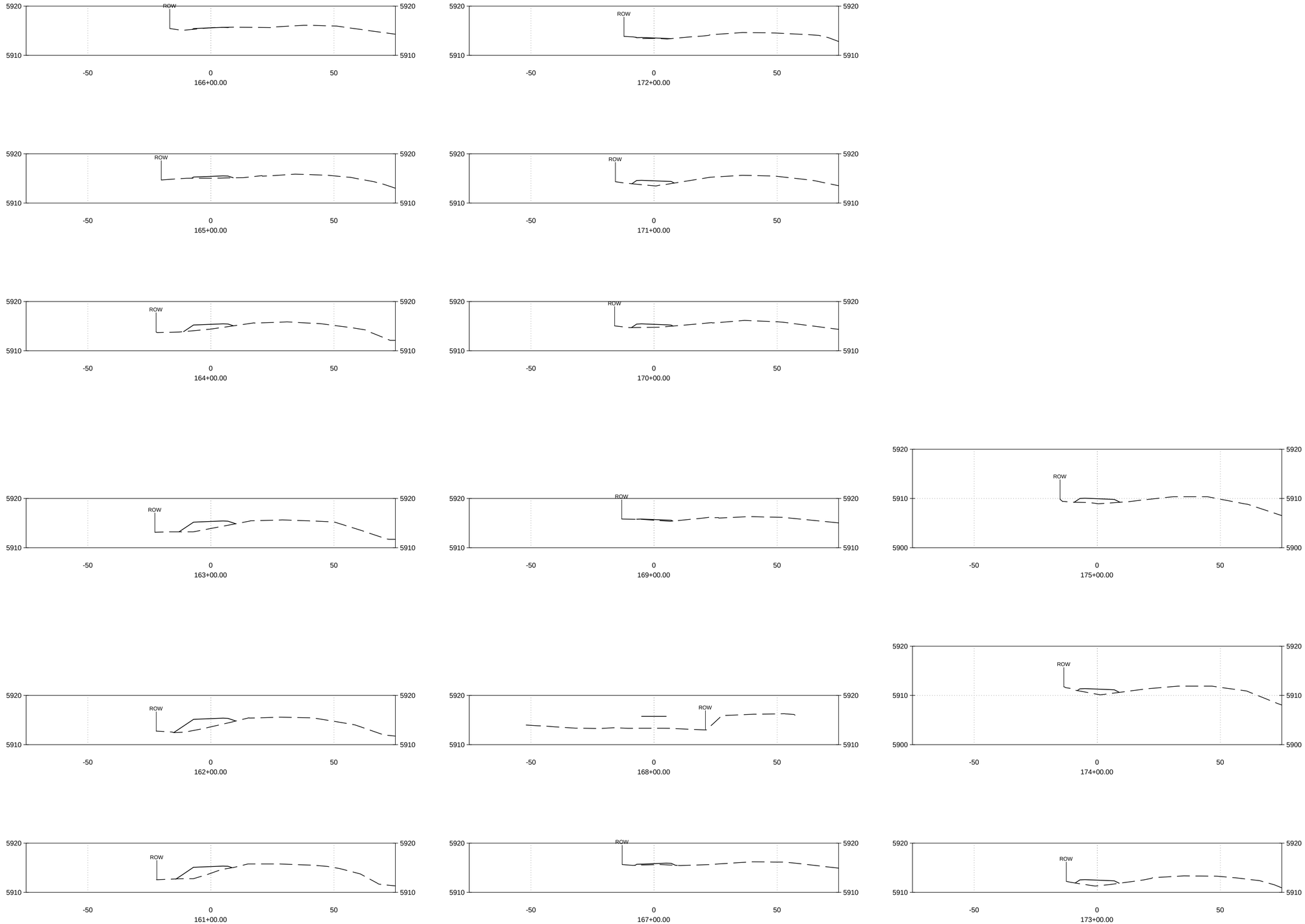

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NM 124 - CASA BLANCA TO ENCINAL RD. TRAIL CROSS SECTIONS

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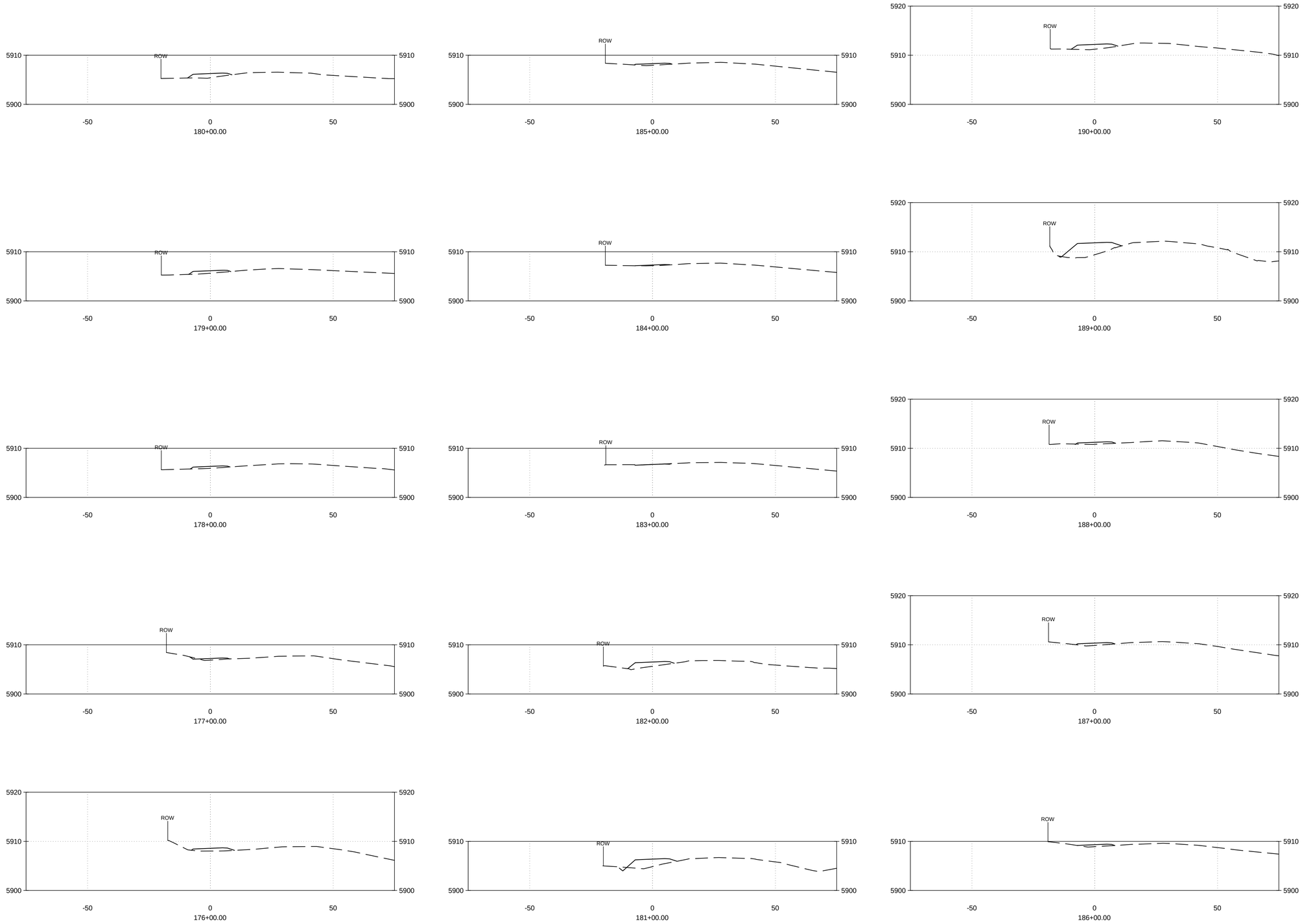

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NM 124 - CASA BLANCA TO ENCINAL RD.
TRAIL CROSS SECTIONS

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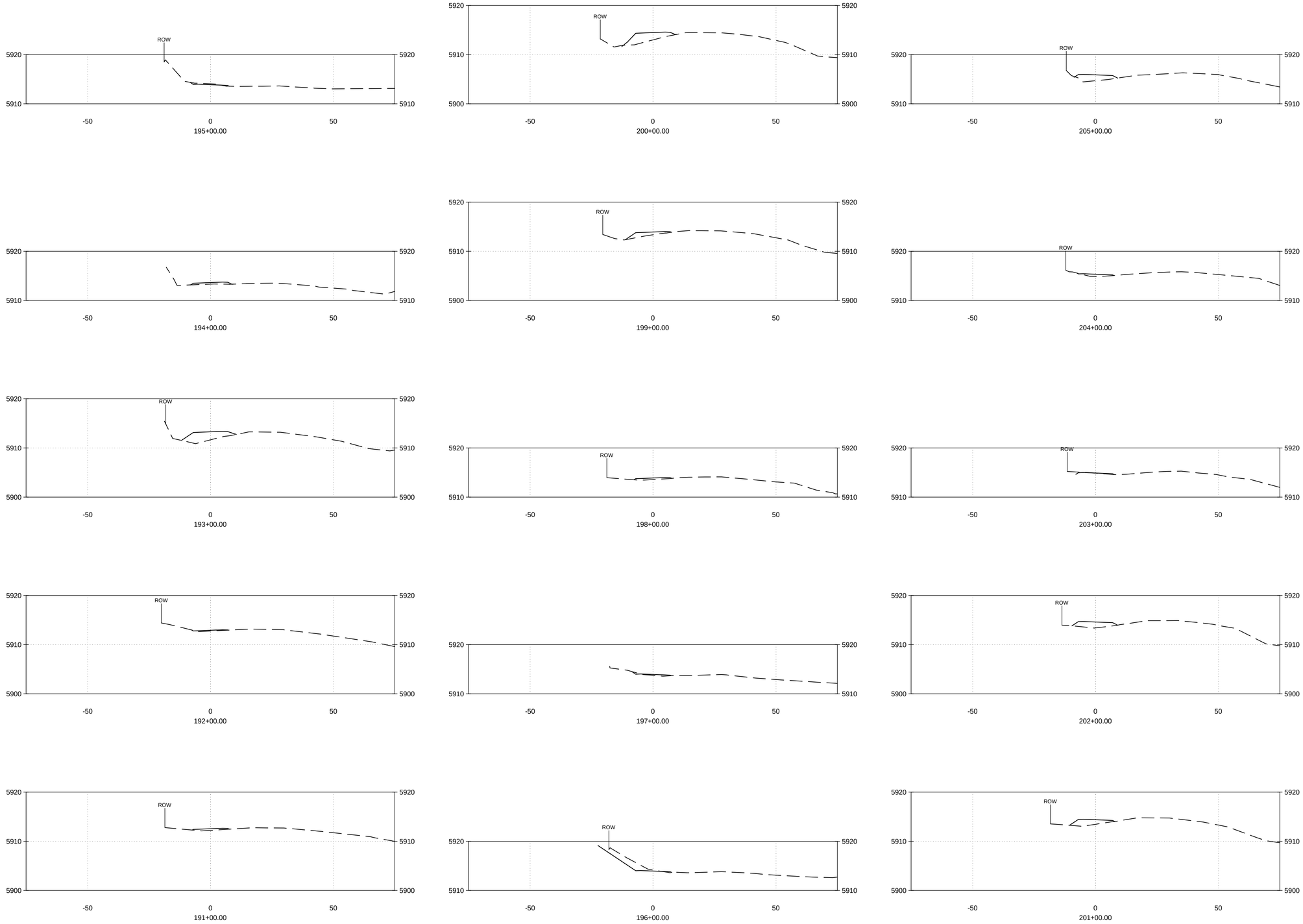

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NM 124 - CASA BLANCA TO ENCINAL RD.
TRAIL CROSS SECTIONS

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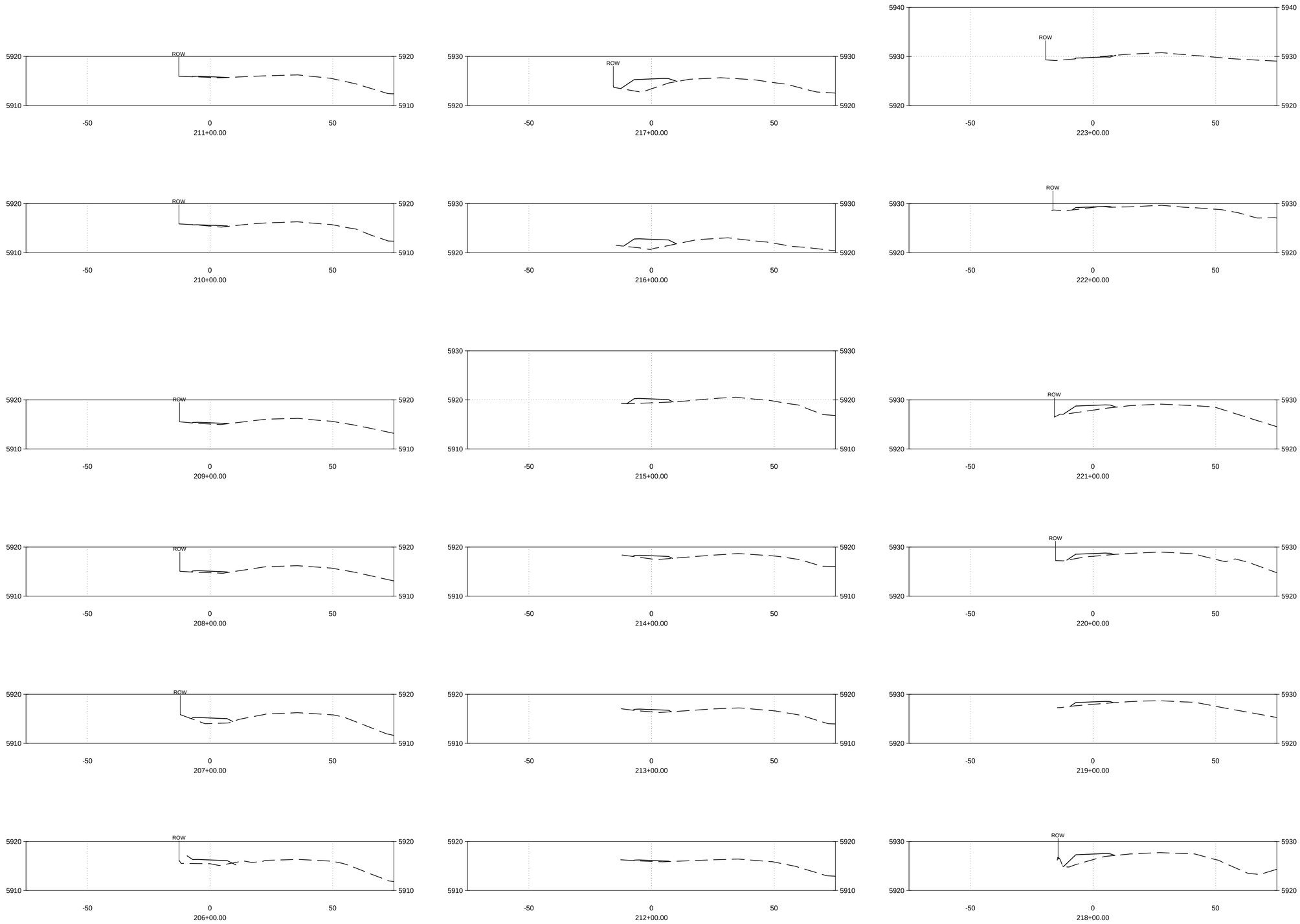

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NM 124 - CASA BLANCA TO ENCINAL RD.
TRAIL CROSS SECTIONS

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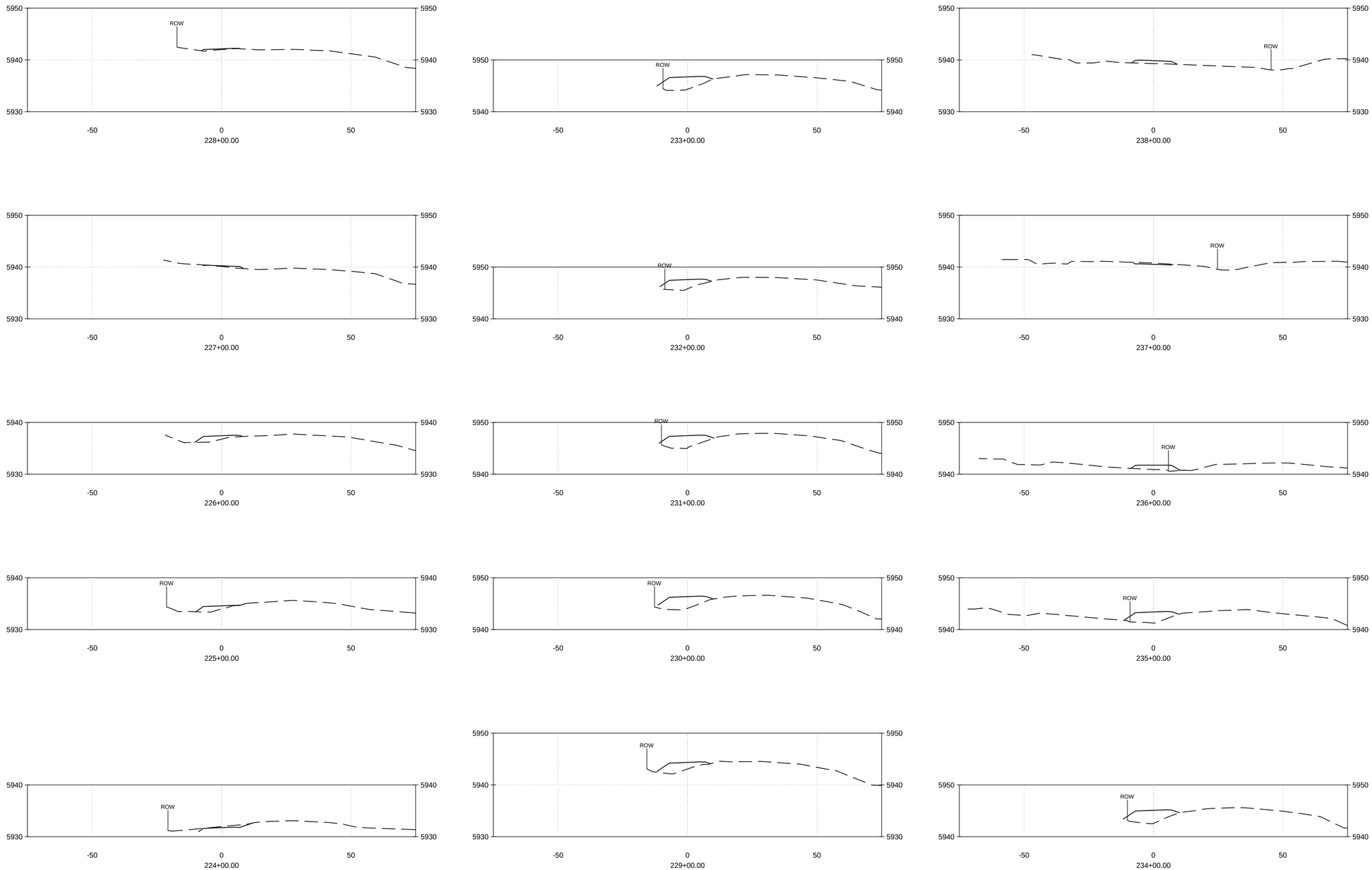

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NM 124 - CASA BLANCA TO ENCINAL RD. TRAIL CROSS SECTIONS

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DWG 11-15
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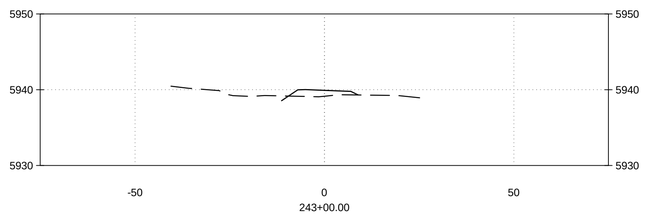

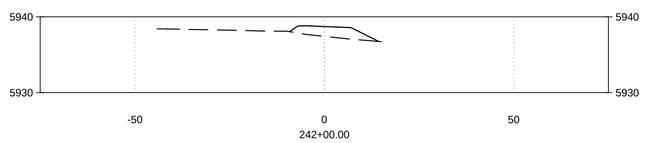

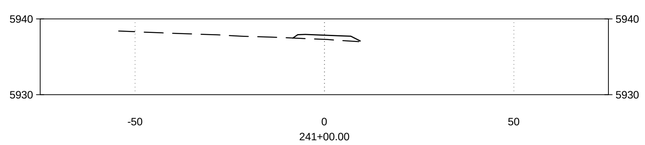

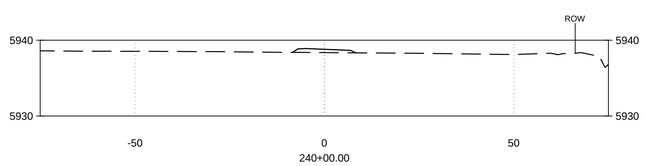

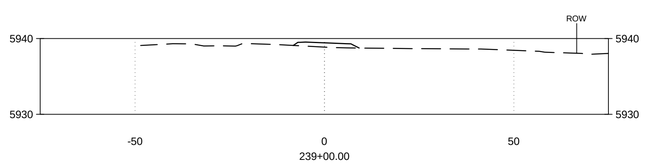

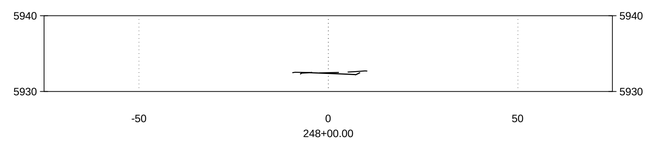

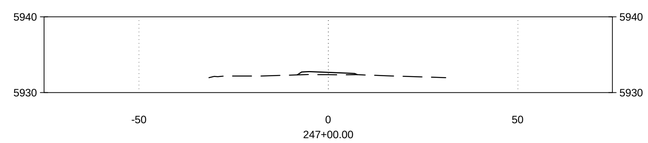

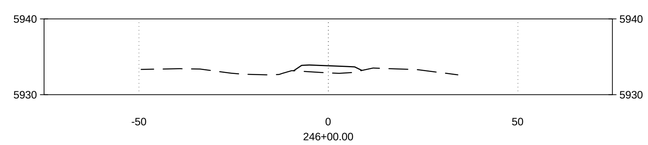

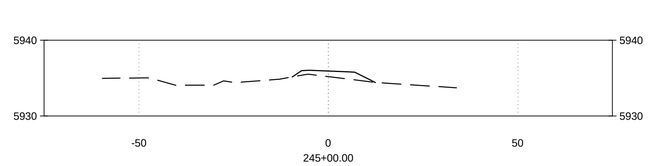

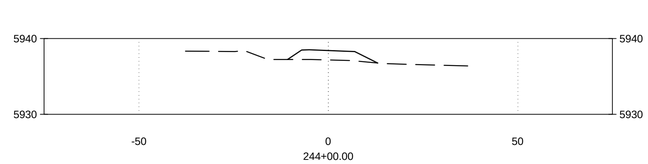

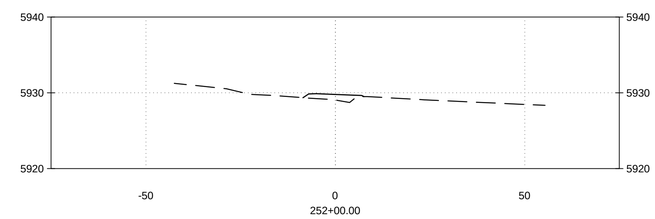

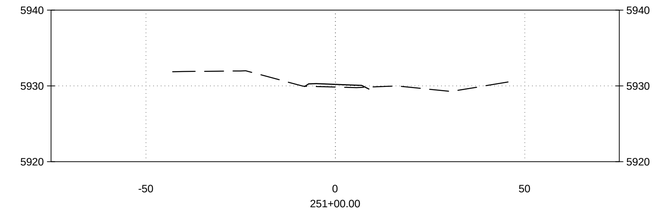

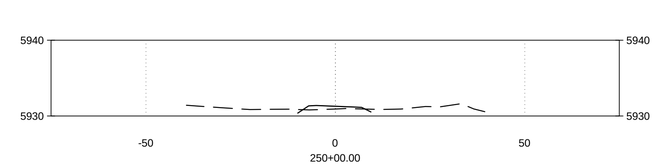

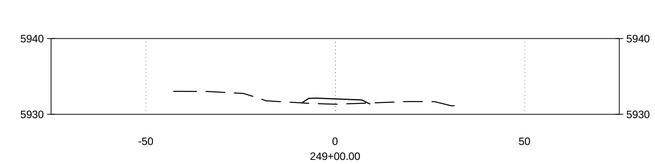

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NM 124 - CASA BLANCA TO ENCINAL RD.
TRAIL CROSS SECTIONS

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