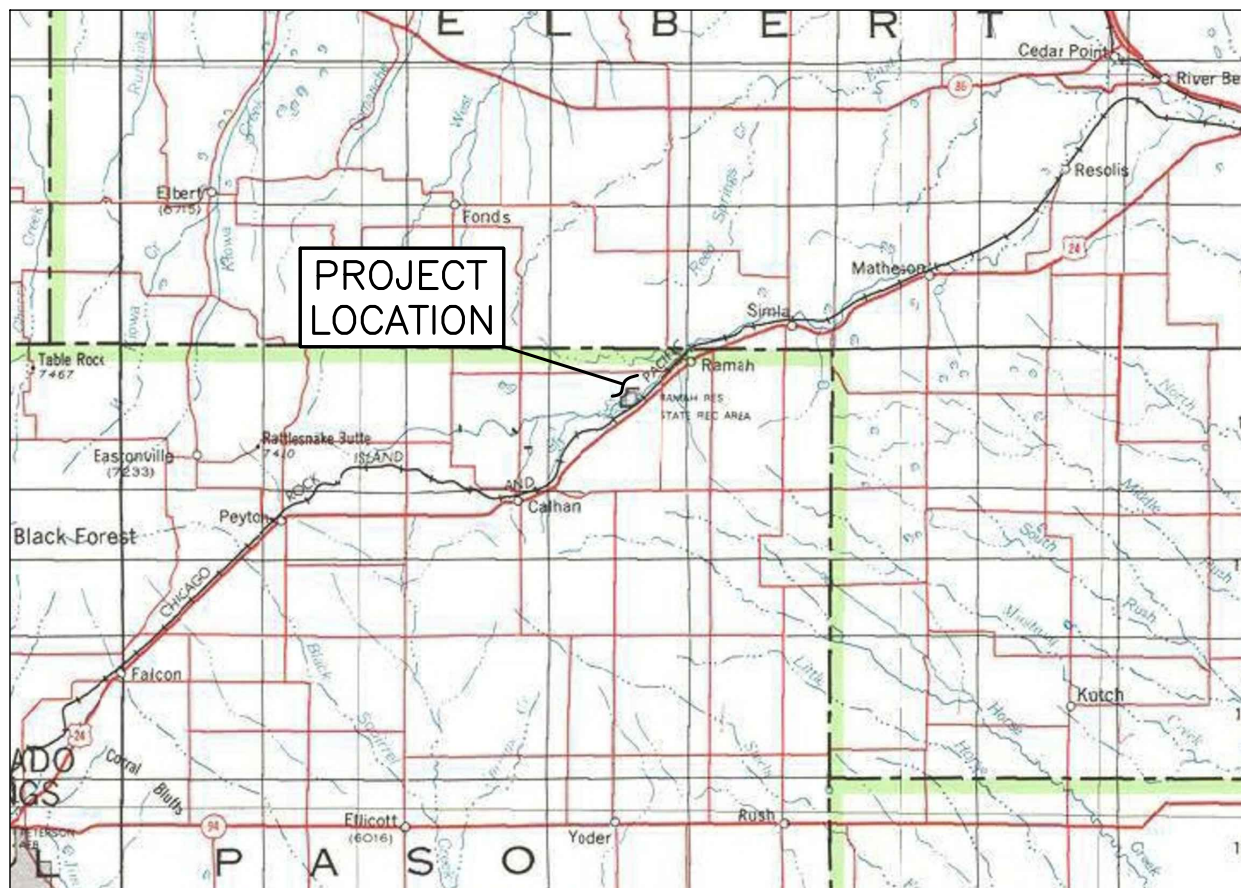
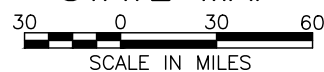


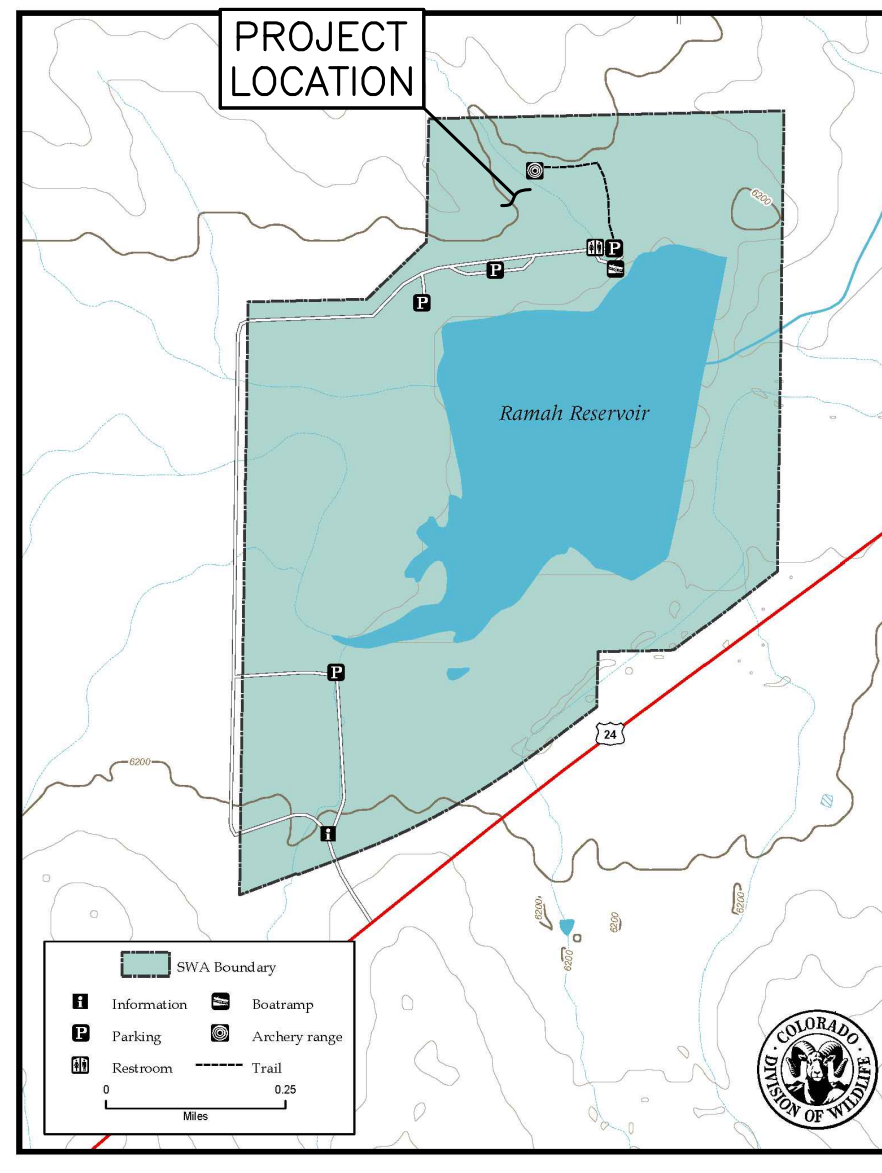
STATE MAP



PROJECT VICINITY MAP



Ramah Reservoir State Wildlife Area



Sheet List Table	
Sheet Number	Sheet Title

DESIGN
SHOOTING RANGE



REVISIONS:	DATE	BY

DESIGNER:	Z.H.	08/18
DRAFTER:	Z.H. & J.T.N.	08/18
CHECKED BY:		
APPROVED:		
CHIEF ENGR.:		

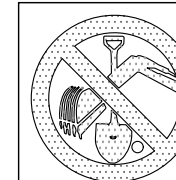
DATE	PROJECT NO.	SHEET NO.	OF 14
		01	

Project Address:

Project Location:
Latitude:
Longitude:

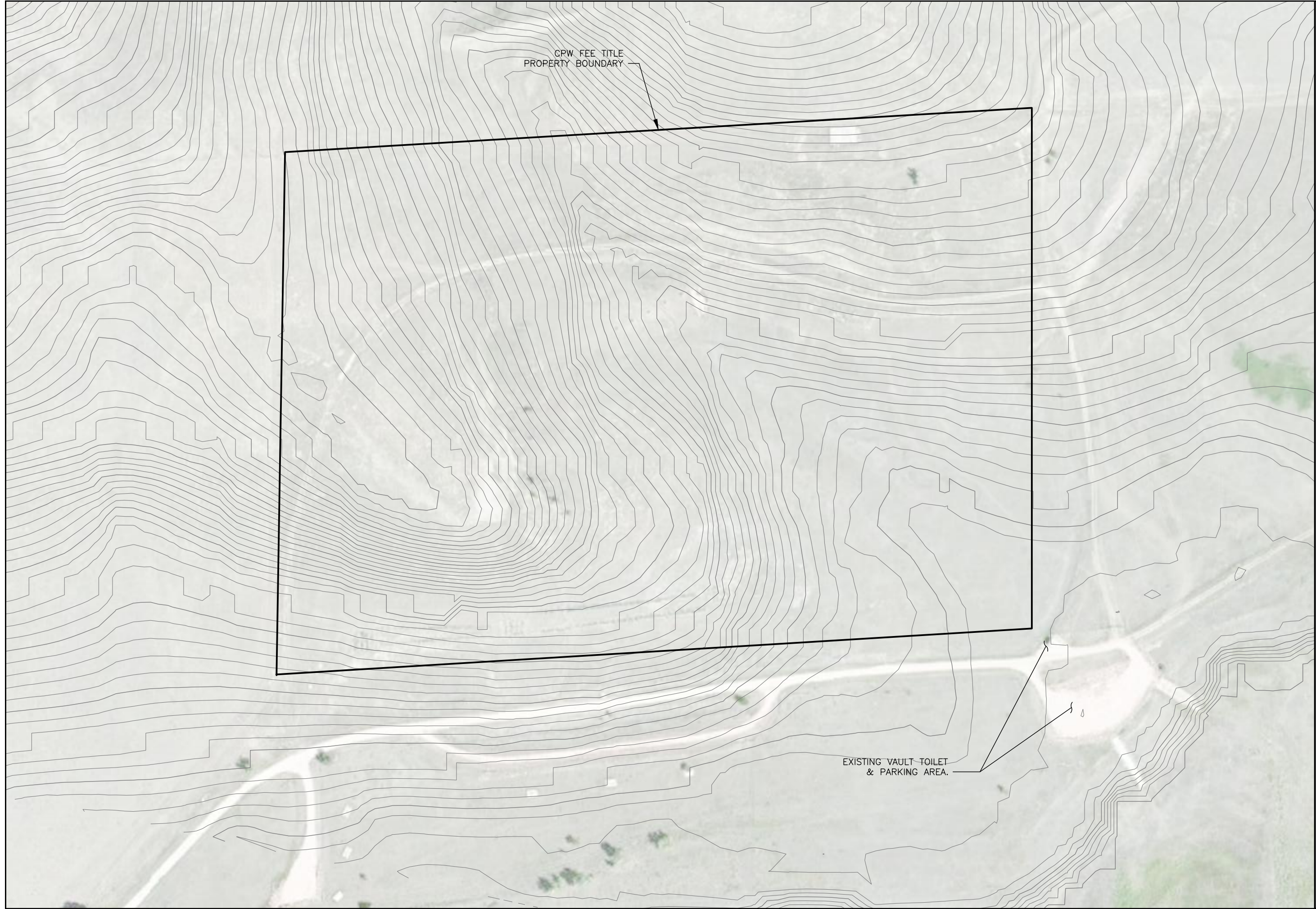
PARKS & WILDLIFE PROJECT CONTACTS

PROJECT PHONE NUMBER	XXX-XXX-XXXX
ENGINEERING SECTION	303-291-7391
PROPERTY TECH/HATCHERY MANAGER	XXX-XXX-XXXX
REGIONAL ENGINEER	XXX-XXX-XXXX
DESIGN ENGINEER	303-291-XXXX




FOR BURIED UTILITY INFORMATION
CALL 811
TWO BUSINESS DAYS
BEFORE YOU DIG
UTILITY NOTIFICATION CENTER
OF COLORADO (UNCC) OR
COMMON GROUND ALLIANCE (CGA)

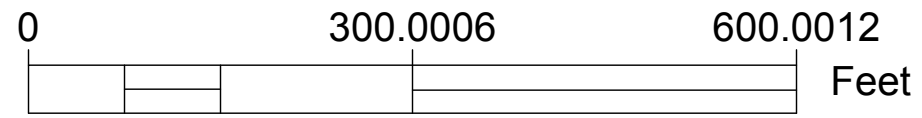
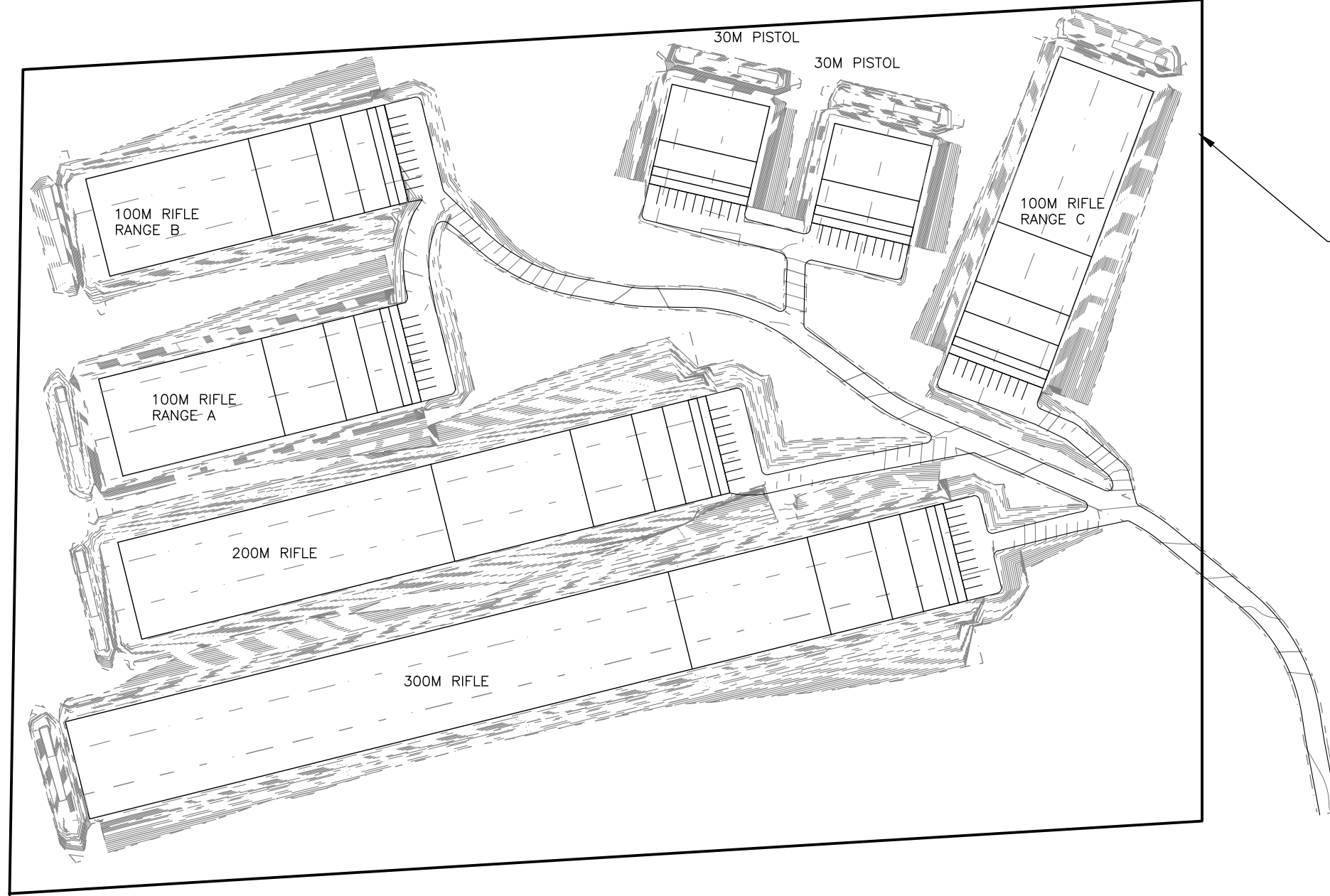
RAMAH RES. SWA
COVER SHEET



CPW FEE TITLE
PROPERTY BOUNDARY

EXISTING VAULT TOILET
& PARKING AREA.

		DESIGN SHOOTING RANGE
DATE	BY	
10/18	10/18	
REVISIONS:		
DESIGNER:	Z.H.	
DRAFTER:	Z.H. & J.T.N.	
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APPROVED:		
CHIEF ENGR.:		
DATE	PROJECT NO.	SHEET NO.
	-----	02
		OF 14
RAMAH RES. SWA SITE MAP		



DESIGN

SHOOTING RANGE

REVISIONS:	DATE	BY

DESIGNER:	Z.H.	07/18
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PROJECT NO.	
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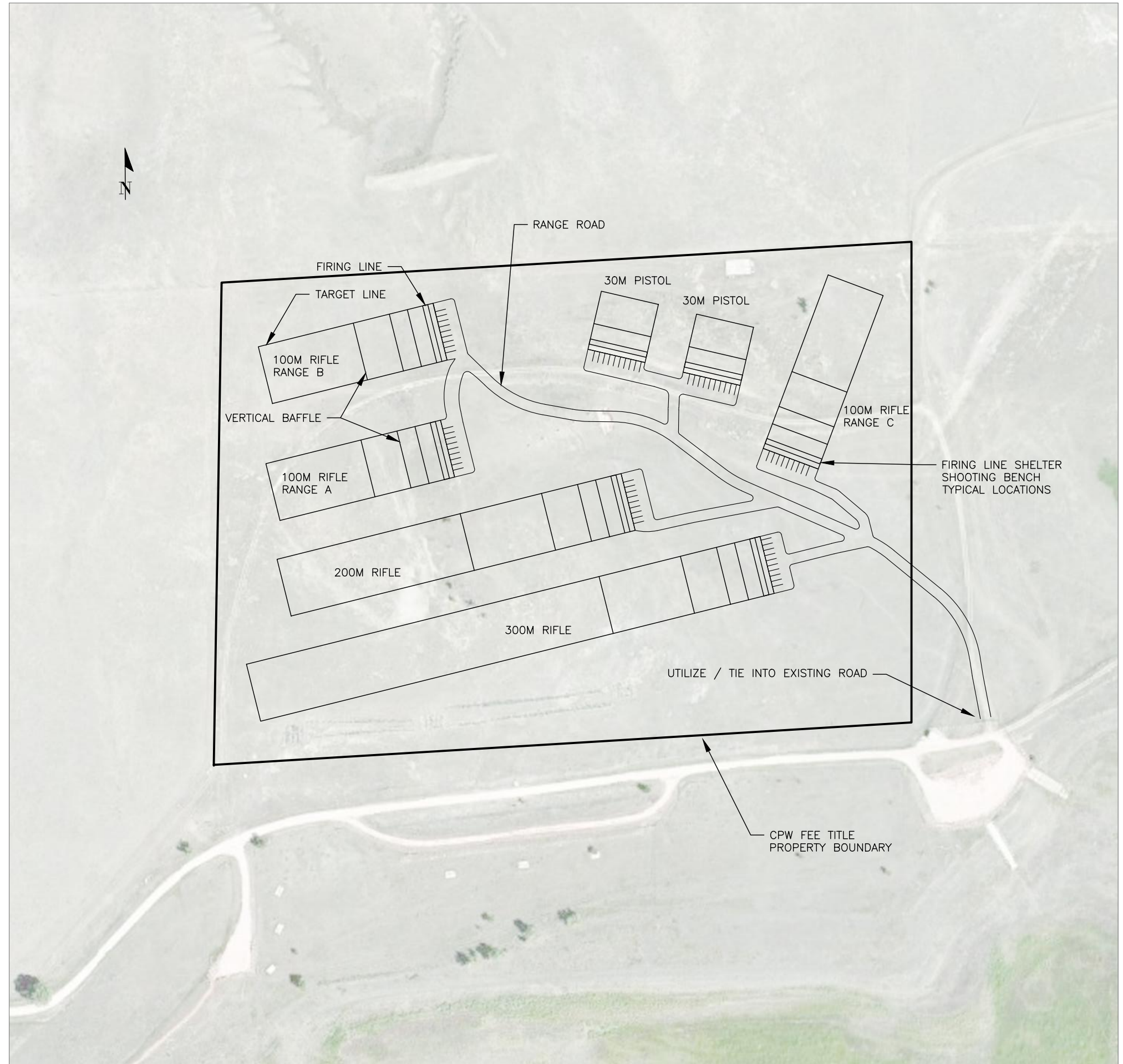
RAMAH RES. SWA

RSRP REVISION V1.0

02OCT2018 - RAMAH SHOOTING RANGE PROJECT (RSRP)

NOTES:

- 1) NONE OF THE RANGES SHOWN BELOW REQUIRE BAFFLES ASSUMING RANGE USE AS AND HOW INTENDED (NON-MOVING POINT TARGET) BASED ON DEPT. OF ENERGY RANGE DESIGN GUIDANCE.
- 2) BAFFLES MAY BE INCLUDED ON ANY OF THE RANGES, TO ANY DEGREE DESIRED.
- 3) CPW REGIONAL LEADERSHIP WILL DETERMINE THE PRIORITY OF CONSTRUCTION INCLUSIONS (IE. BAFFLES VS MORE RANGE LANES) WITH RESPECT TO BUDGET LIMITATIONS
- 4) EVERY RANGE SHOWN HERE HAS 10 LANES, EACH LANE 10 FEET WIDE. THE MUZZLE OF A FIREARM WILL BE 20' INSIDE THE RANGE GALLERY, WELL WITHIN THE RANGE SIDE BERMS.
- 5) EVERY RANGE SIDE BERM WILL EXTEND 10 FEET BEHIND THE REAR EDGE OF FIRING LINE PAD FOR ADDED SAFETY. SIDE BERMS ARE 10 FEET HIGH WITH 1:1 SIDE SLOPES
- 6) THE DOE RANGE TEMPLATES WERE USED, AS WELL AS DOE DESIGN GUIDANCE TO ENSURE A RESPONSIBLE AND SUSTAINABLE RANGE FACILITY.
- 7) NRA GUIDELINES WERE USED IN LIEU OF THE DOE GUIDELINES WITH RESPECT TO CO-LOCATING ACTIVE RANGES IN ORDER TO IMPROVE SPACE UTILIZATION WITHIN THE PROPERTY.
- 8) EACH RANGE GALLERY MAY INCLUDE A COVERED FIRING LINE TO PROVIDE SHADE FOR USERS, AS WELL AS LIMITED INCLEMENT WEATHER SHELTER
- 9) FIRING LINE MAY UTILIZE CONCRETE PAD OR TRAIL TYPE AGGREGATE FOR SURFACING, ADA COMPLIANT
- 10) EACH FIRING LANE MAY UTILIZE A SHOOTING BENCH (SEE TYPICAL DETAIL) OR SIMILAR RESTED, SUPPORTED POSITION



DESIGN

SHOOTING RANGE



DATE	BY

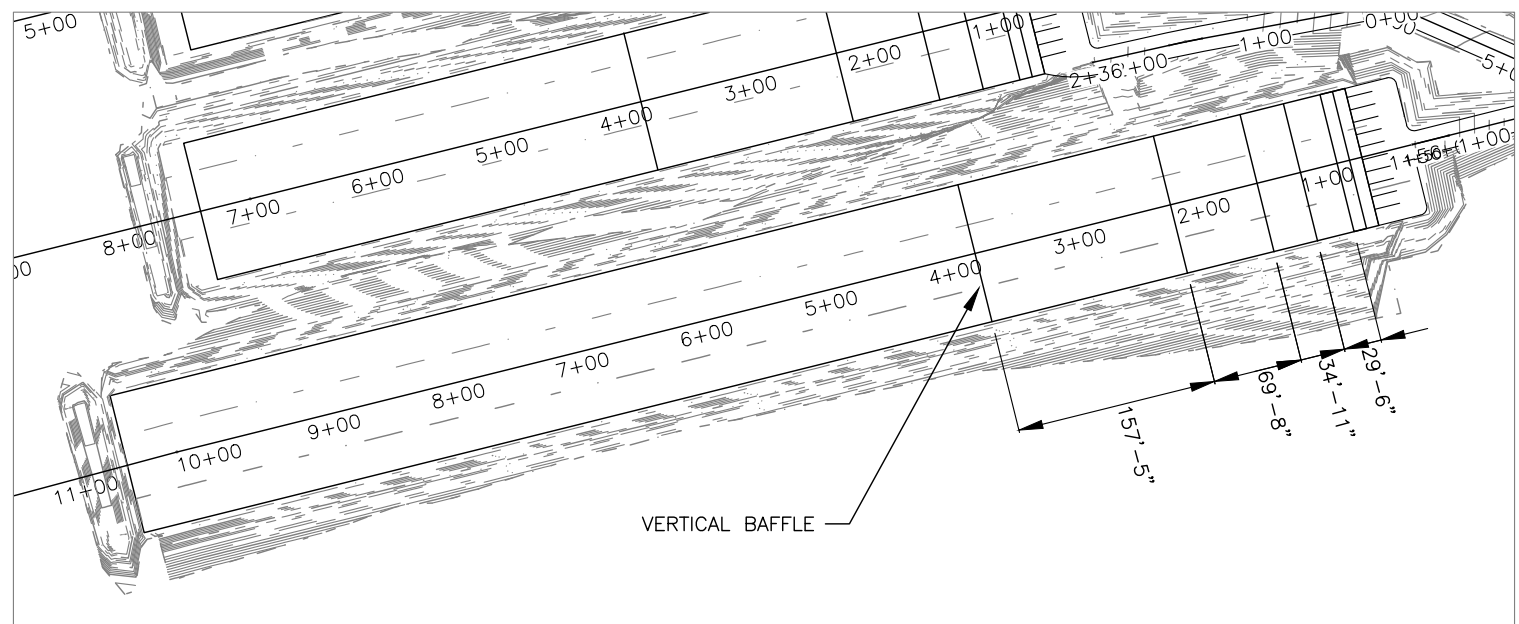
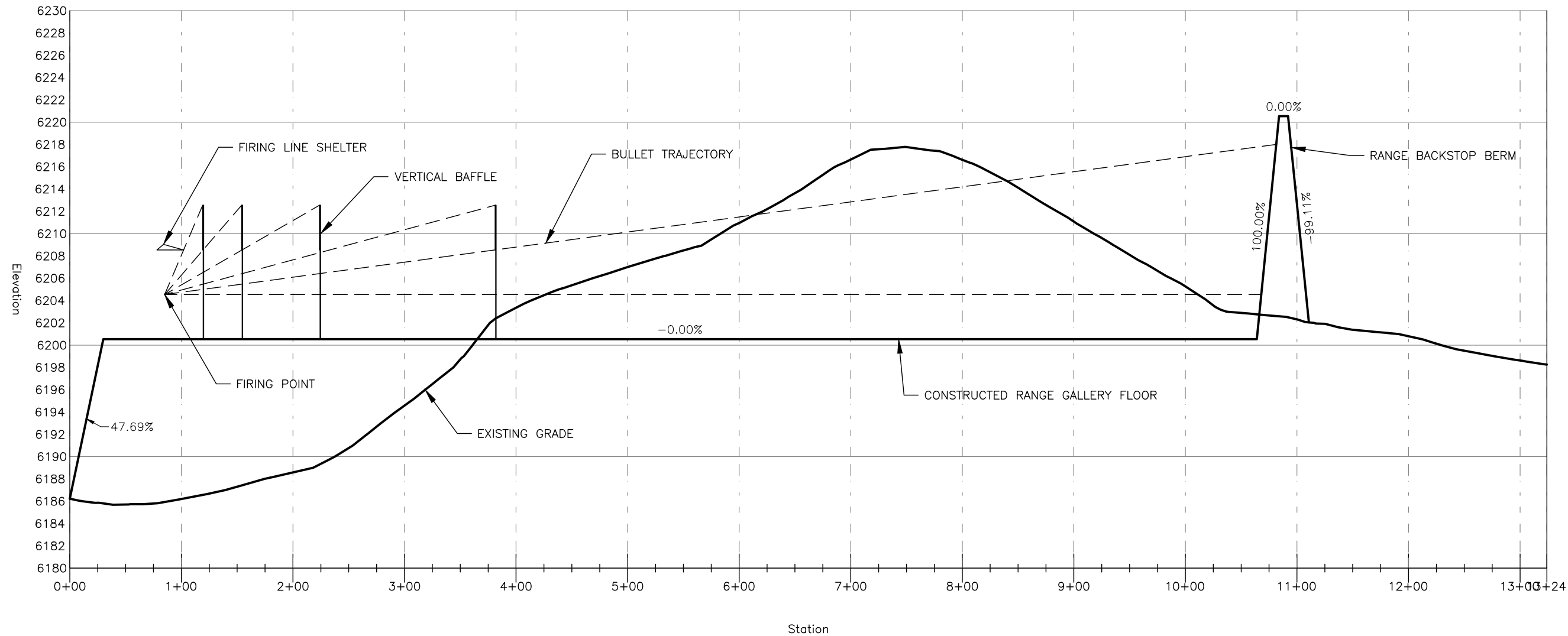
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RAMAH RES. SWA

RSRP REVISION V1.0

300M Rifle Bay Alignment - (1) Profile



DESIGN
SHOOTING RANGE



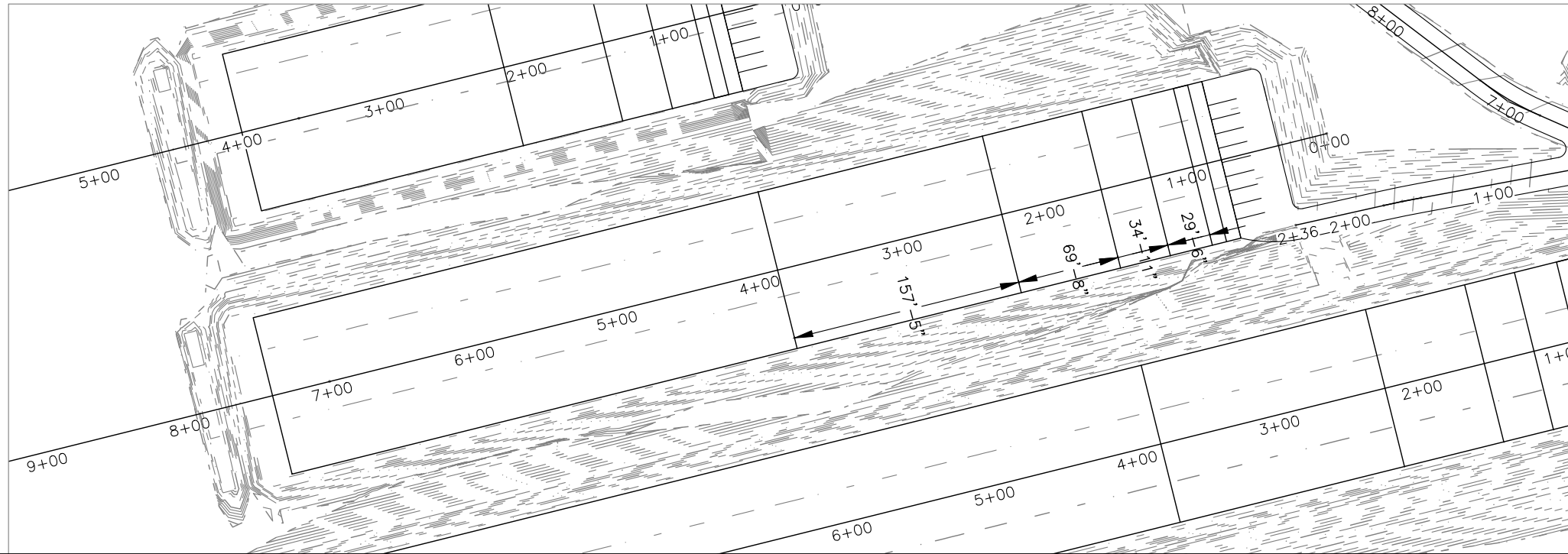
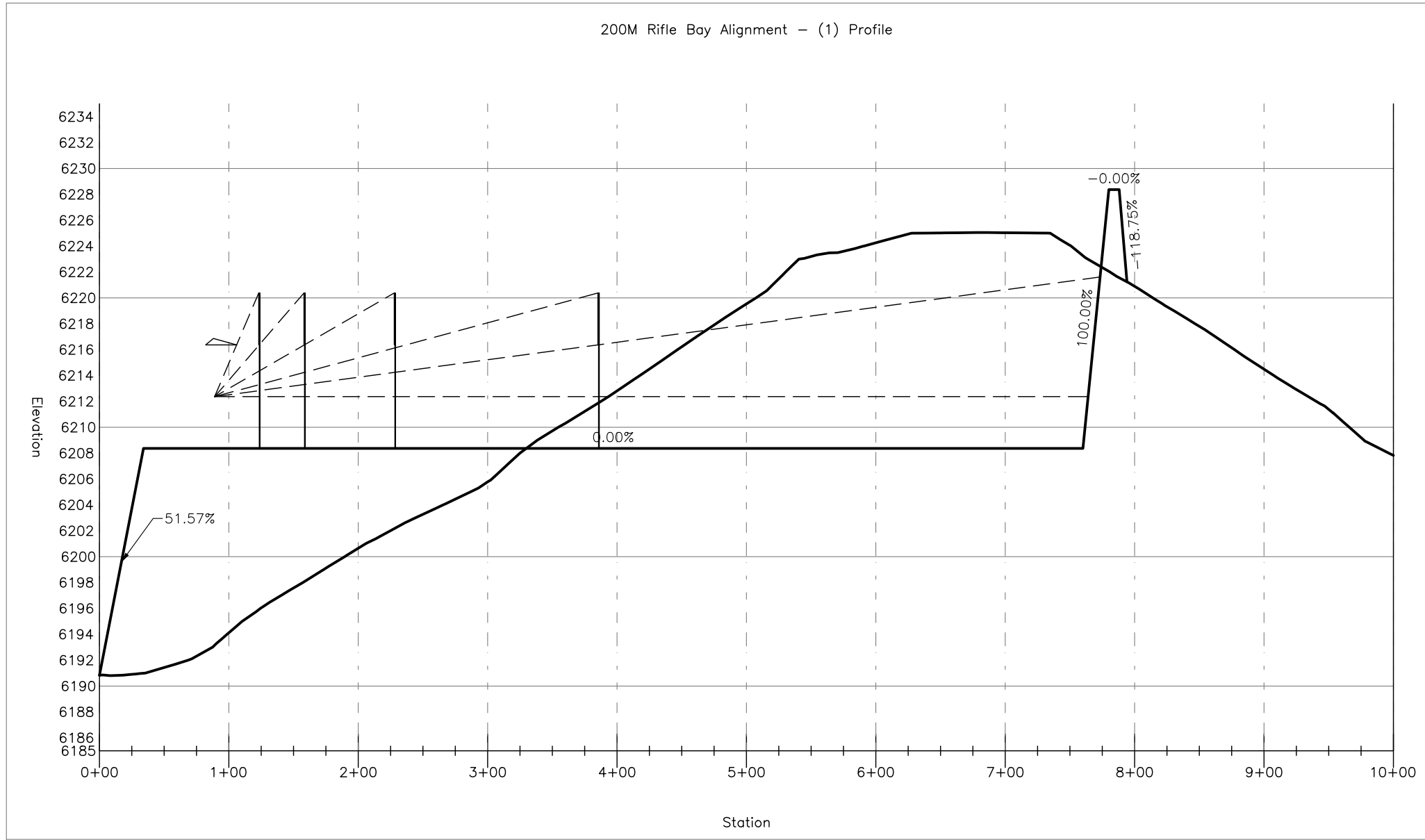
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APPROVED:			
CHIEF ENGR.:			

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RAMAH RES. SWA
RANGE GALLERY PROFILES 1

200M Rifle Bay Alignment - (1) Profile



DESIGN

SHOOTING RANGE

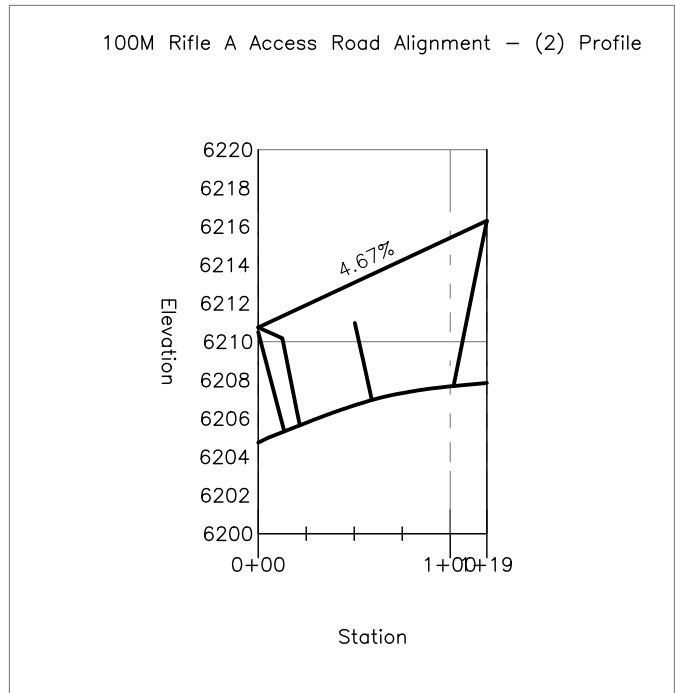
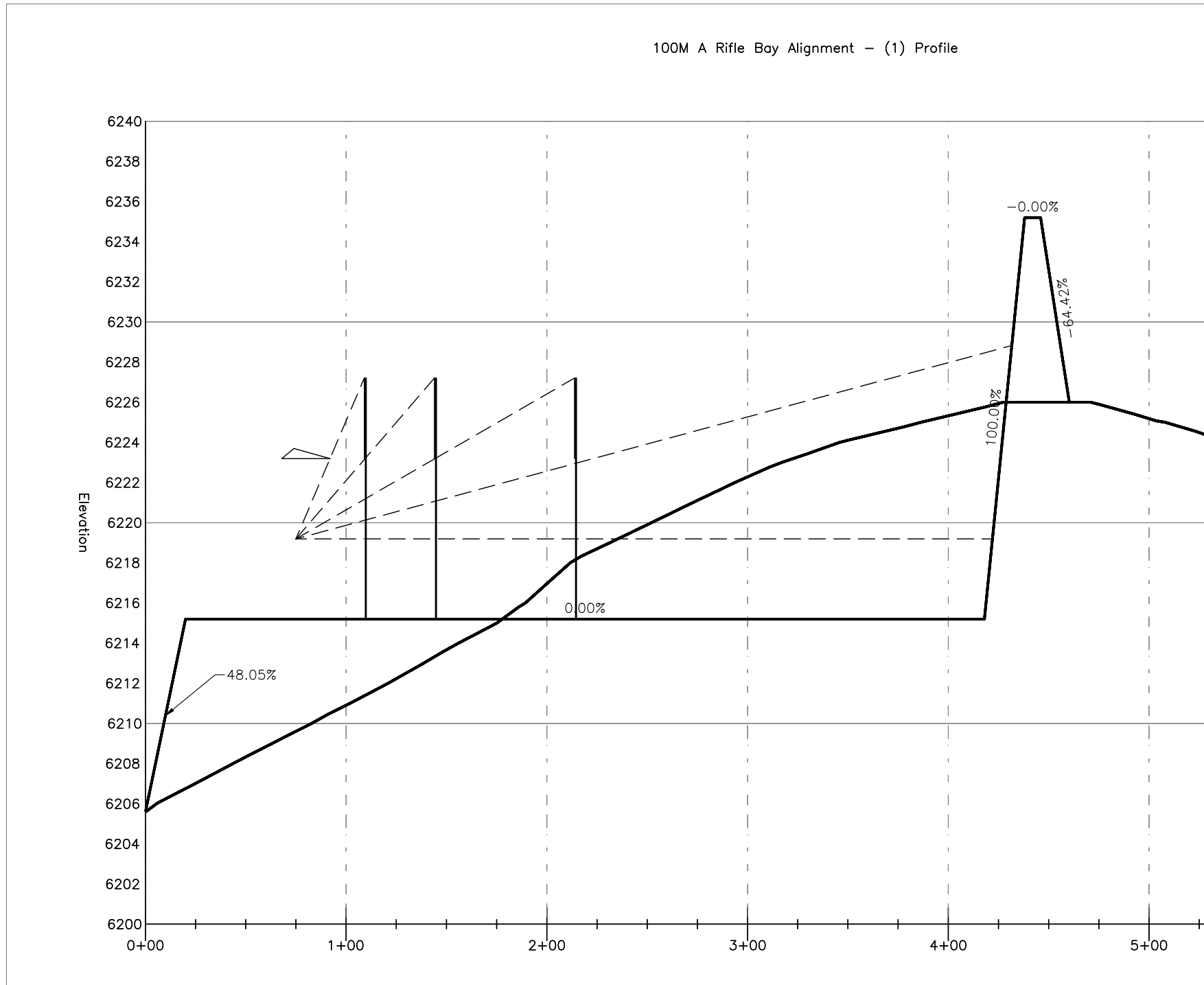


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RAMAH RES. SWA
RANGE GALLERY PROFILES 1



RAMAH RES. SWA

RANGE GALLERY PROFILES 1

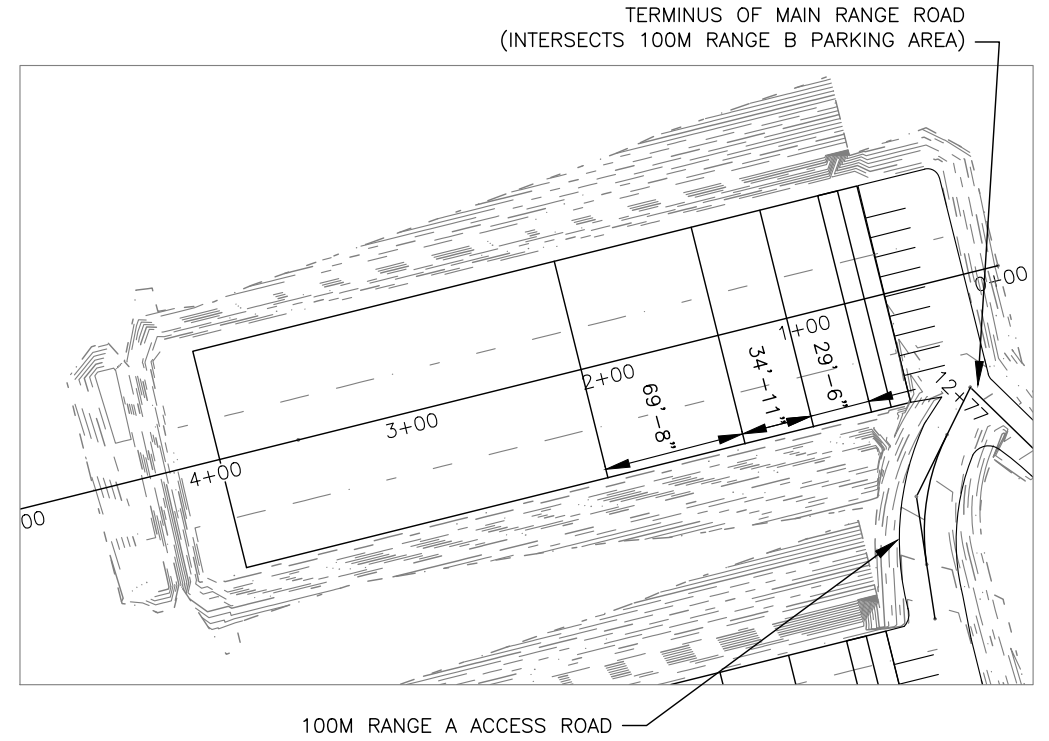
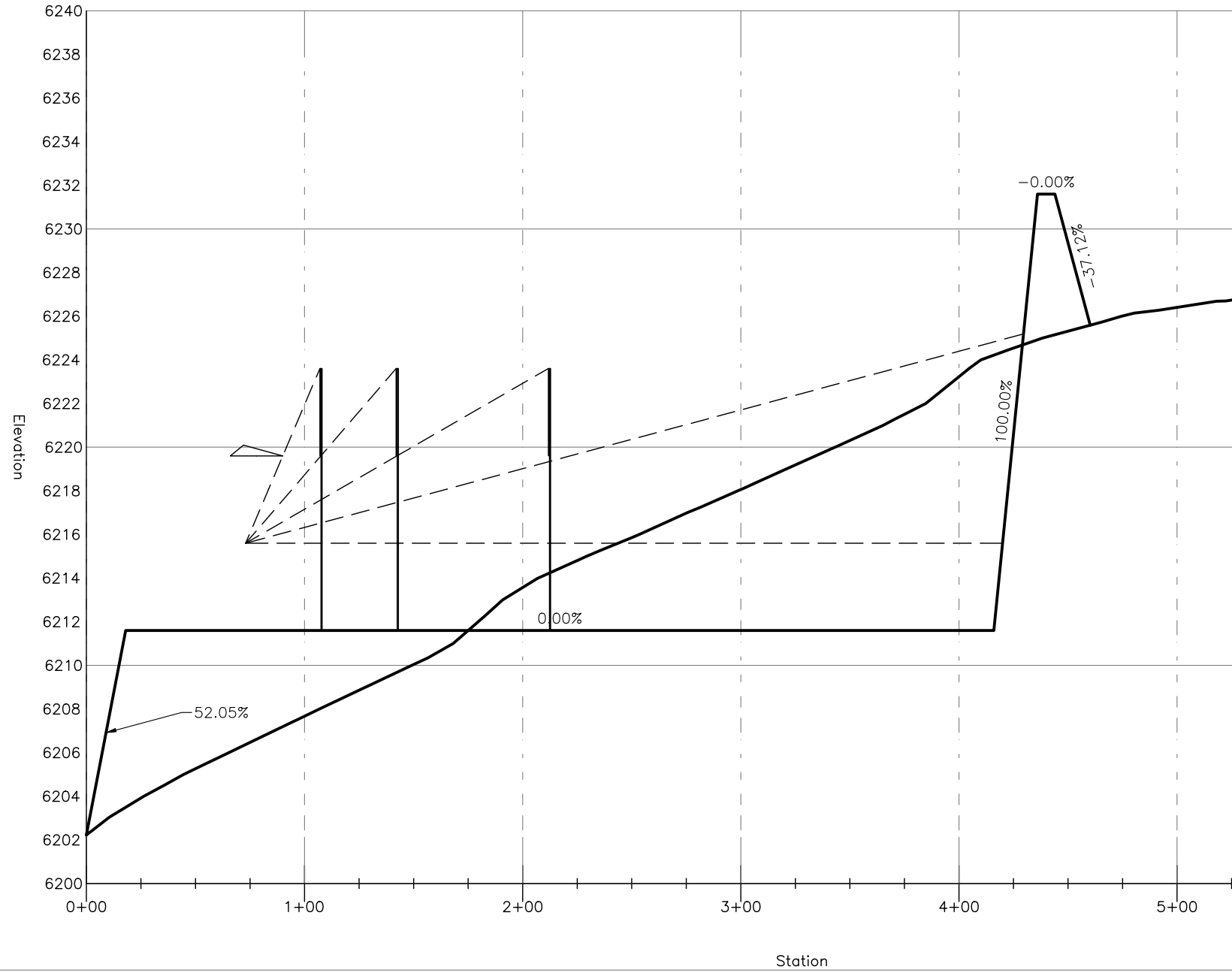
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SHOOTING RANGE

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100M B Rifle Bay Alignment - (1) Profile



DESIGN

SHOOTING RANGE



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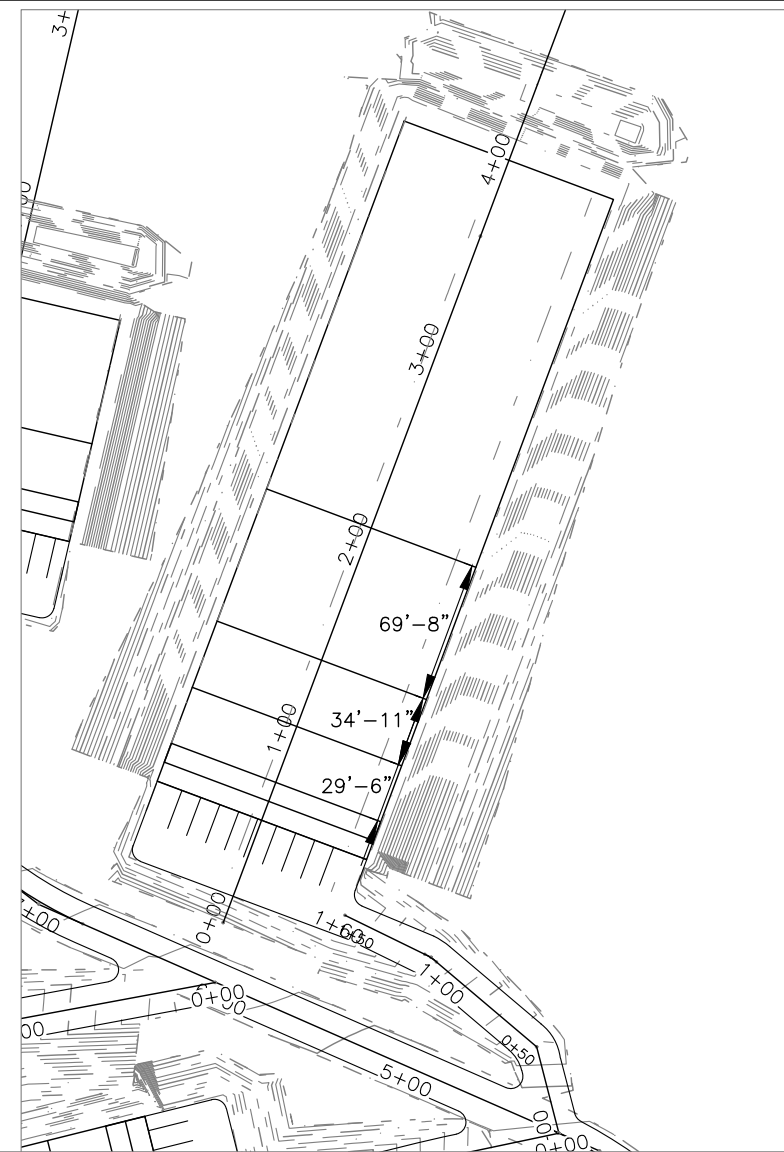
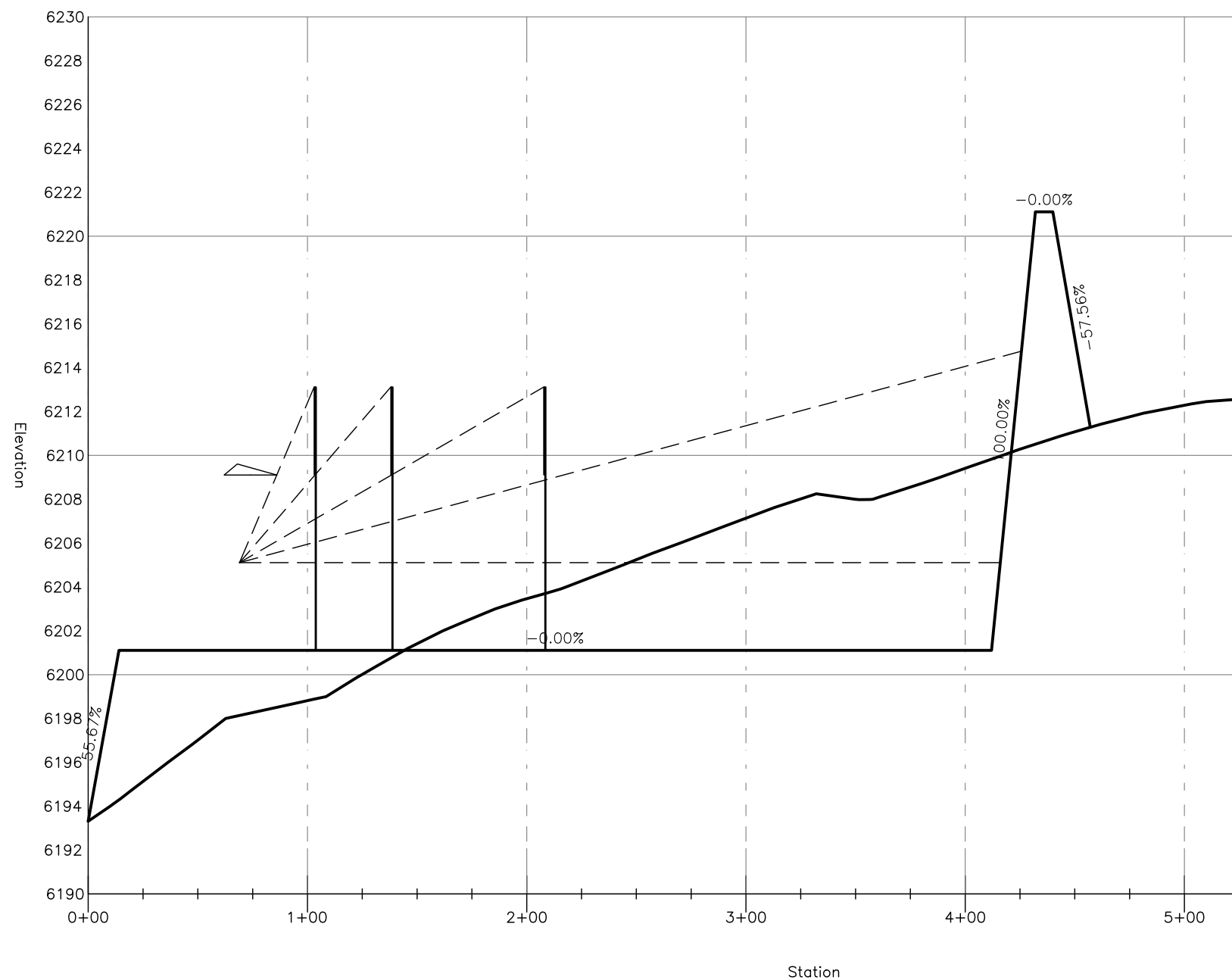
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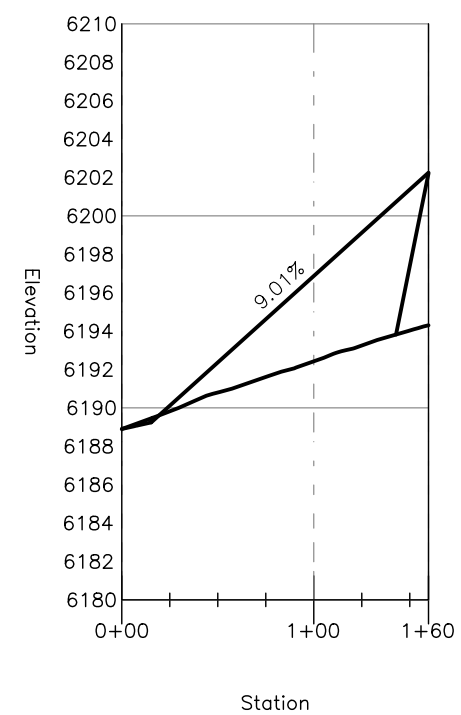
RAMAH RES. SWA

RANGE GALLERY PROFILES 1

100M C Rifle Bay Alignment - (1) Profile



100M Rifle Range C Access Alignment - (1) Profile



REVISIONS:	DATE	BY

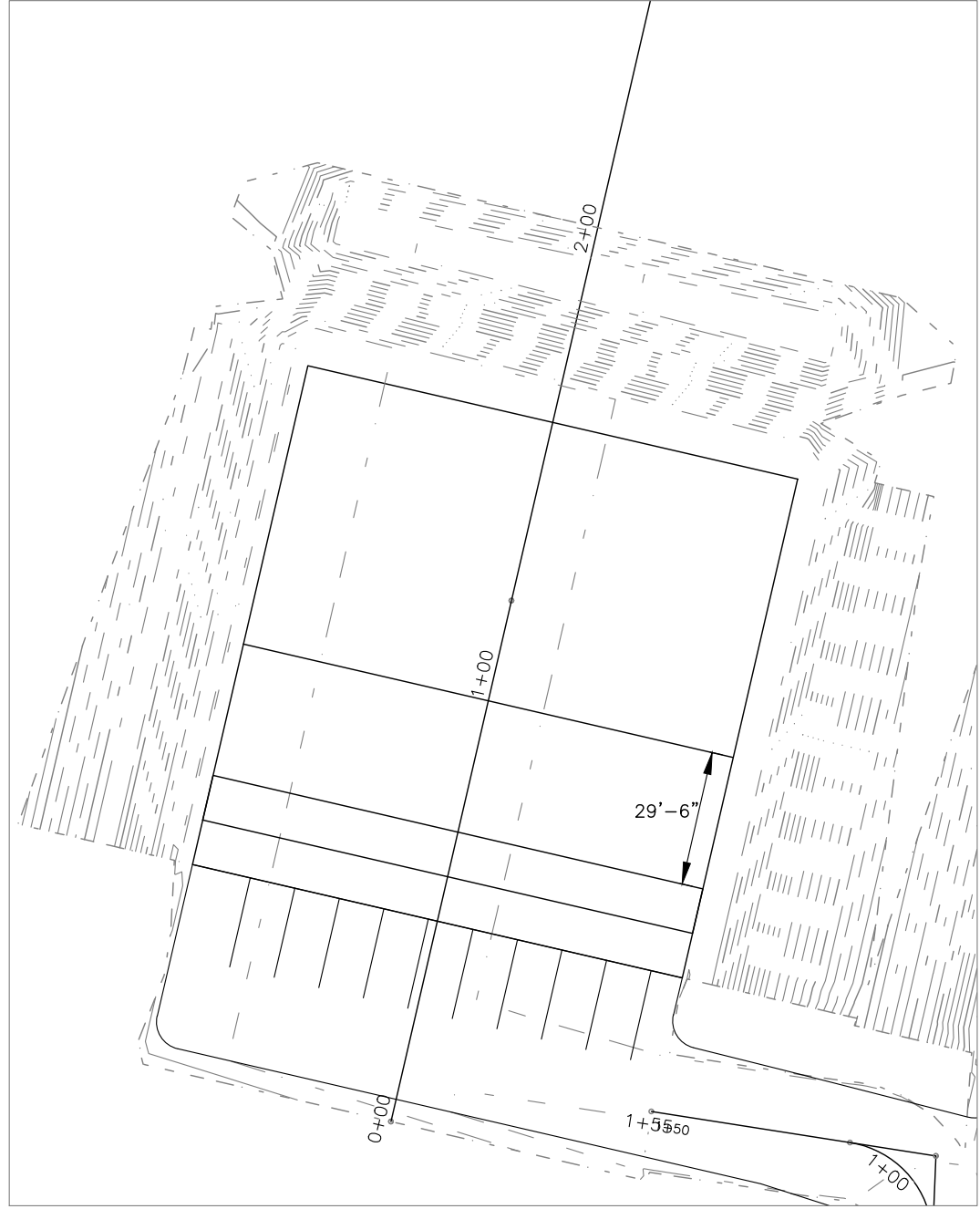
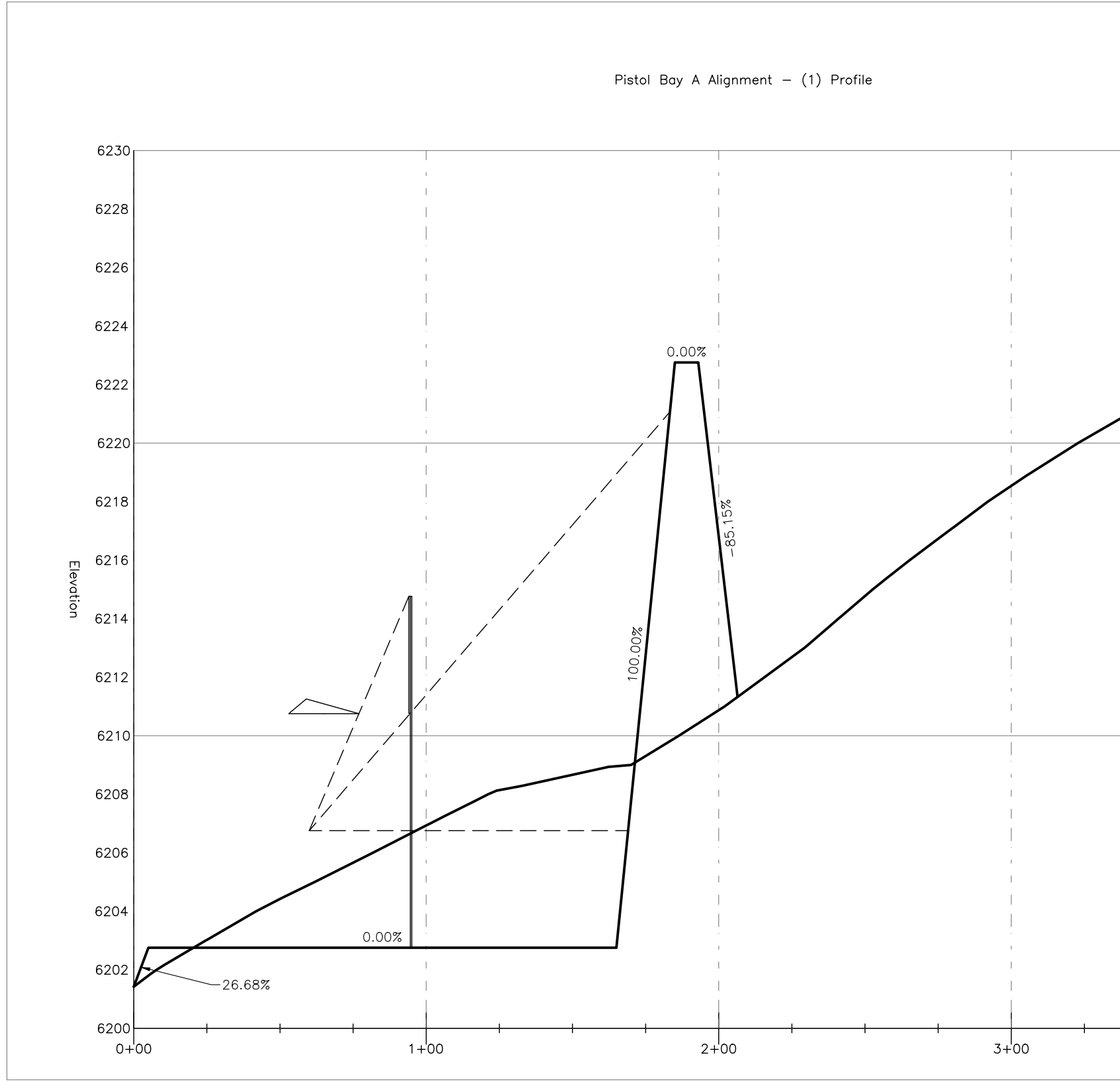
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RAMAH RES. SWA
RANGE GALLERY PROFILES 1

DESIGN
SHOOTING RANGE

Pistol Bay A Alignment - (1) Profile



RAMAH RES. SWA

RANGE GALLERY PROFILES 1

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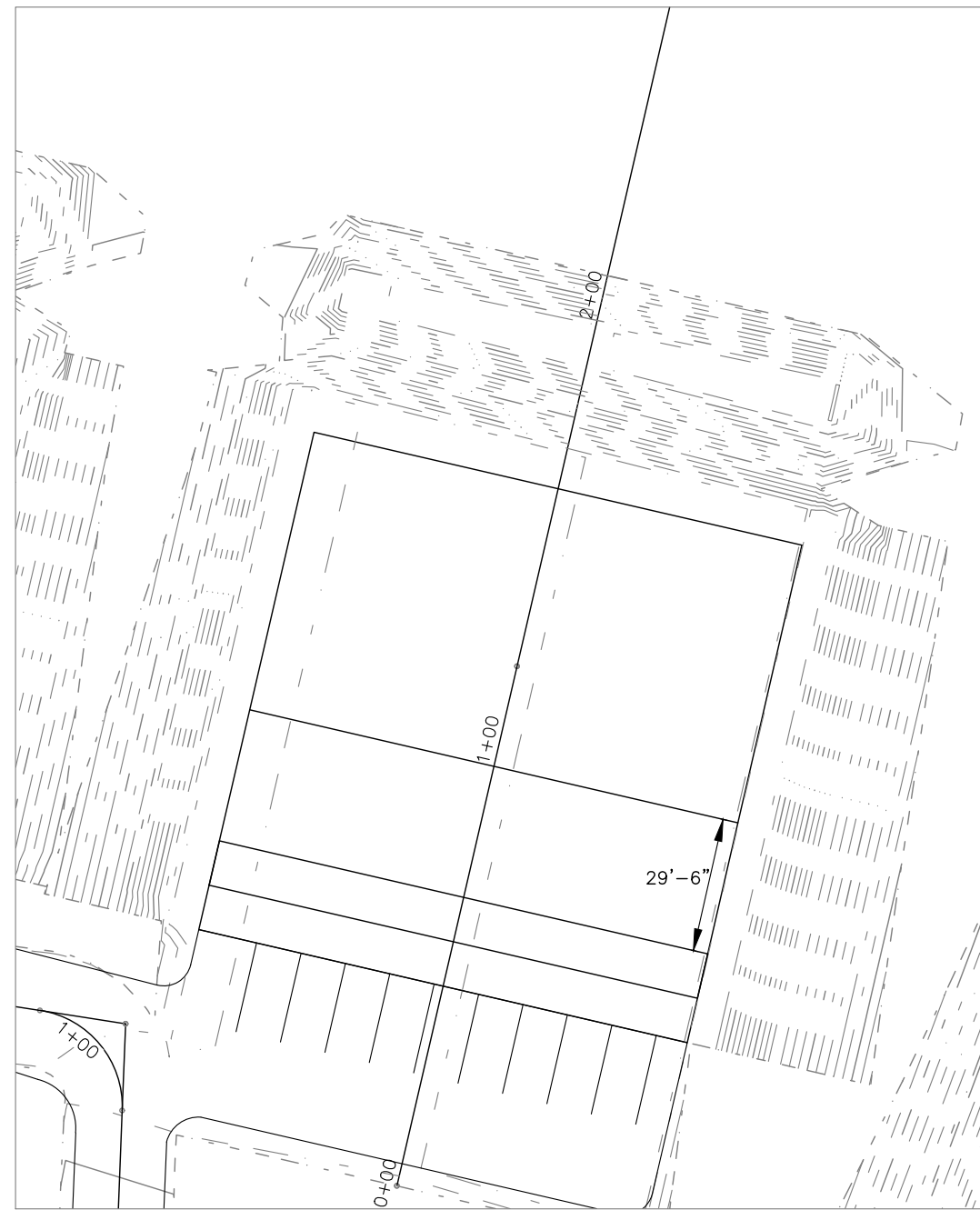
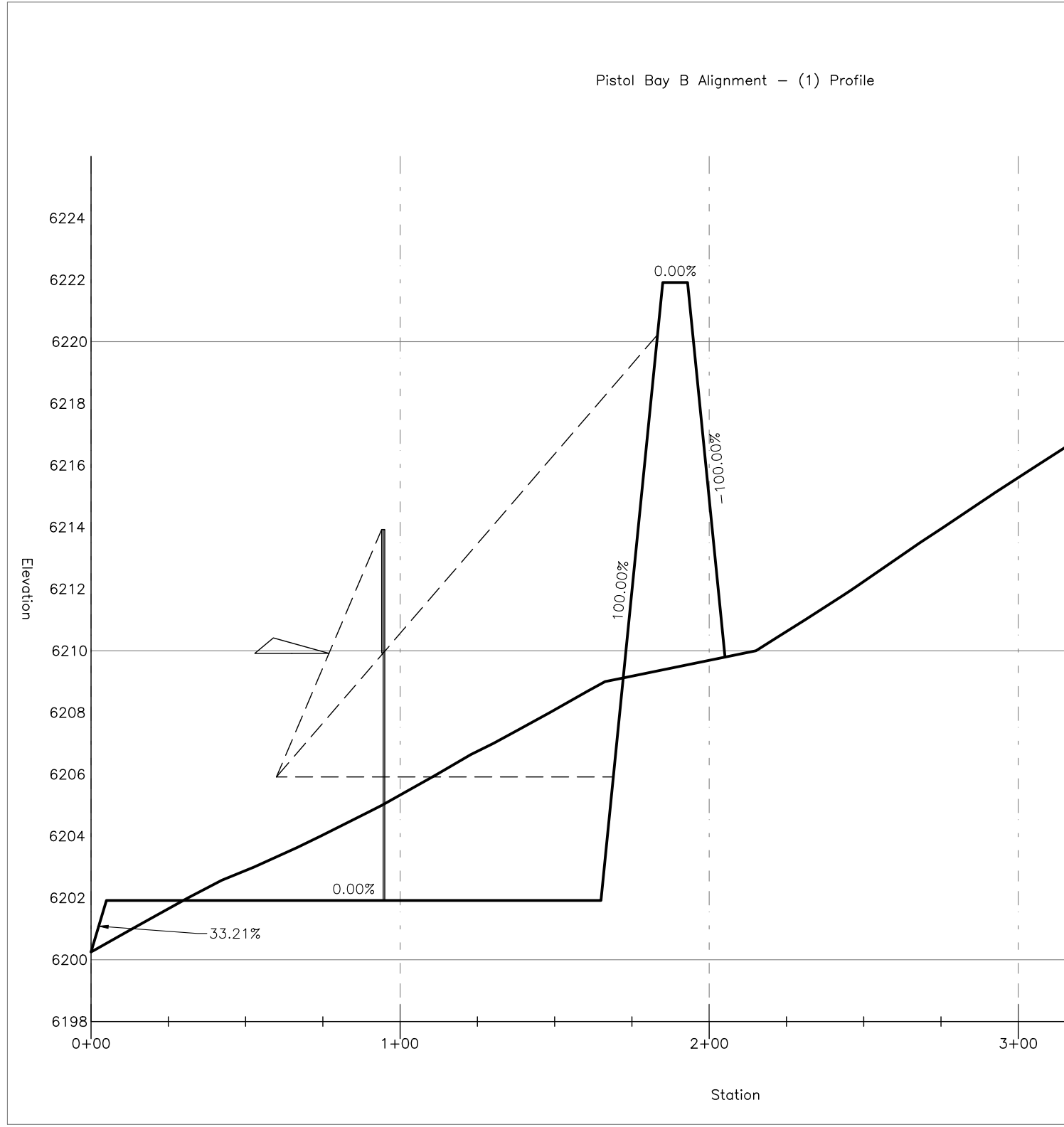
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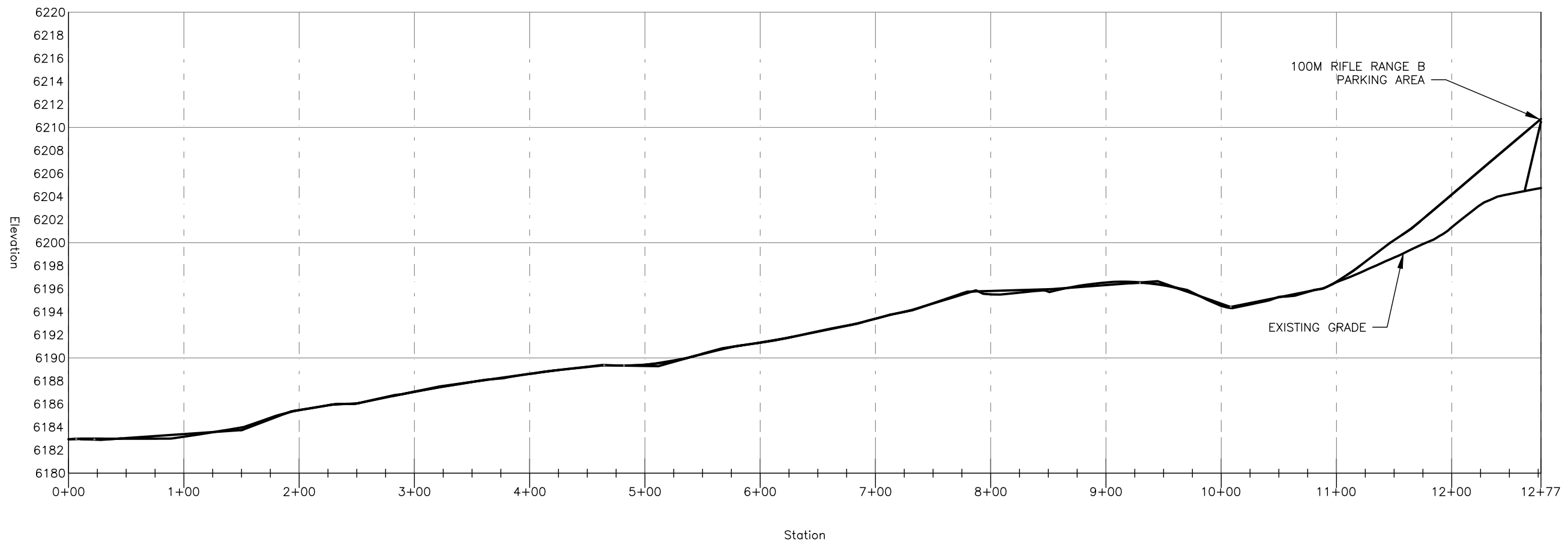
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SHOOTING RANGE

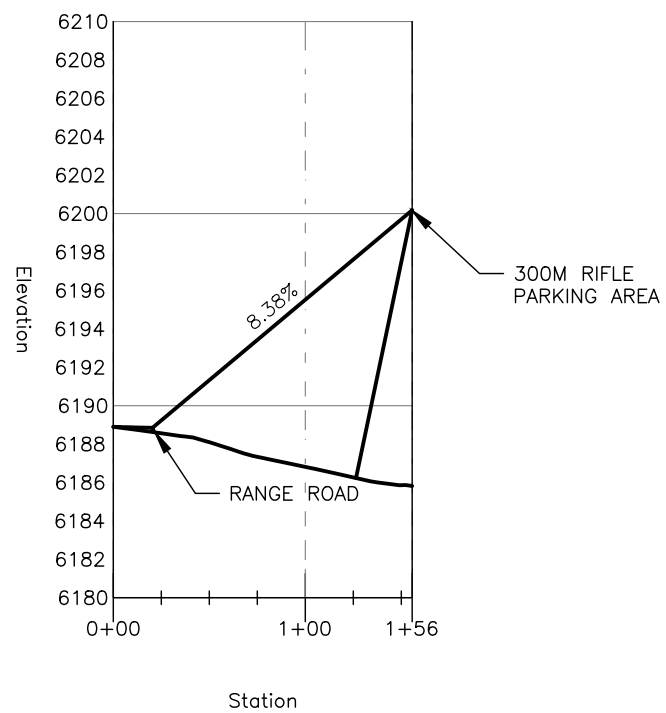


RAMAH RES. SWA		DESIGN	
RANGE GALLERY PROFILES 1		SHOOTING RANGE	
			
DATE	DESIGNER	REVISIONS	BY
PROJECT NO.	Z.H. & J.T.N.	10/18	
SHEET NO.	CHECKED BY:	10/18	
06	APPROVED:		
OF 14	CHIEF ENGR.:		

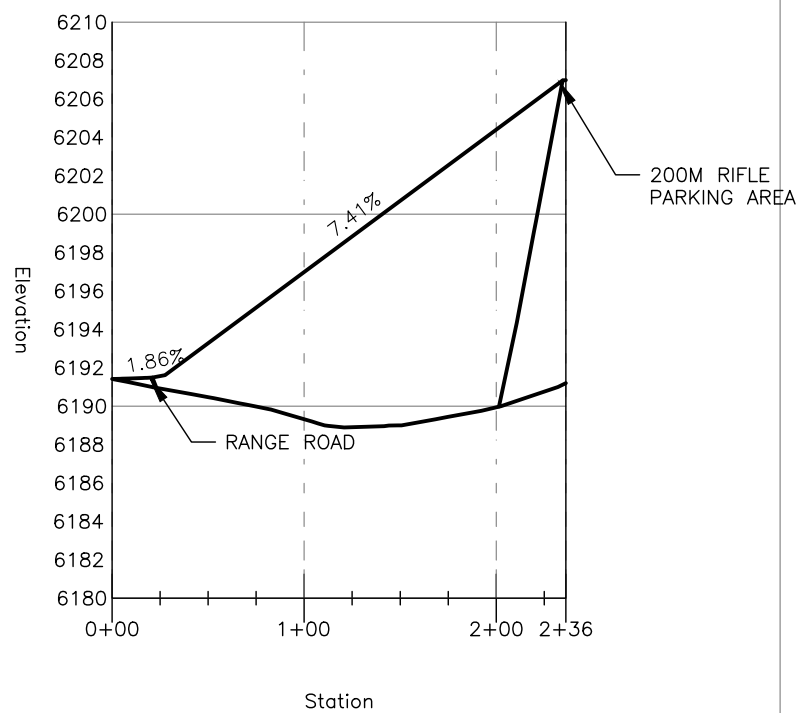
Range Road Alignment - (3) Profile



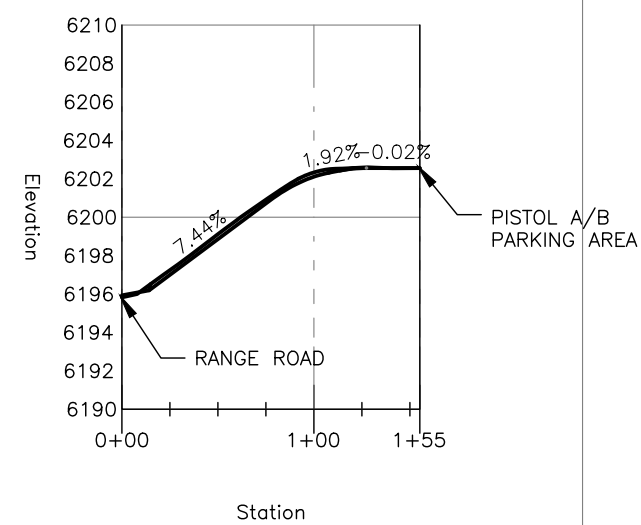
300M Rifle Access Road Alignment - (1) Profile



200M Rifle Range Access Alignment - (1) Profile



Pistol Ranges Access Road Alignment - (1) Profile



DESIGN

SHOOTING RANGE



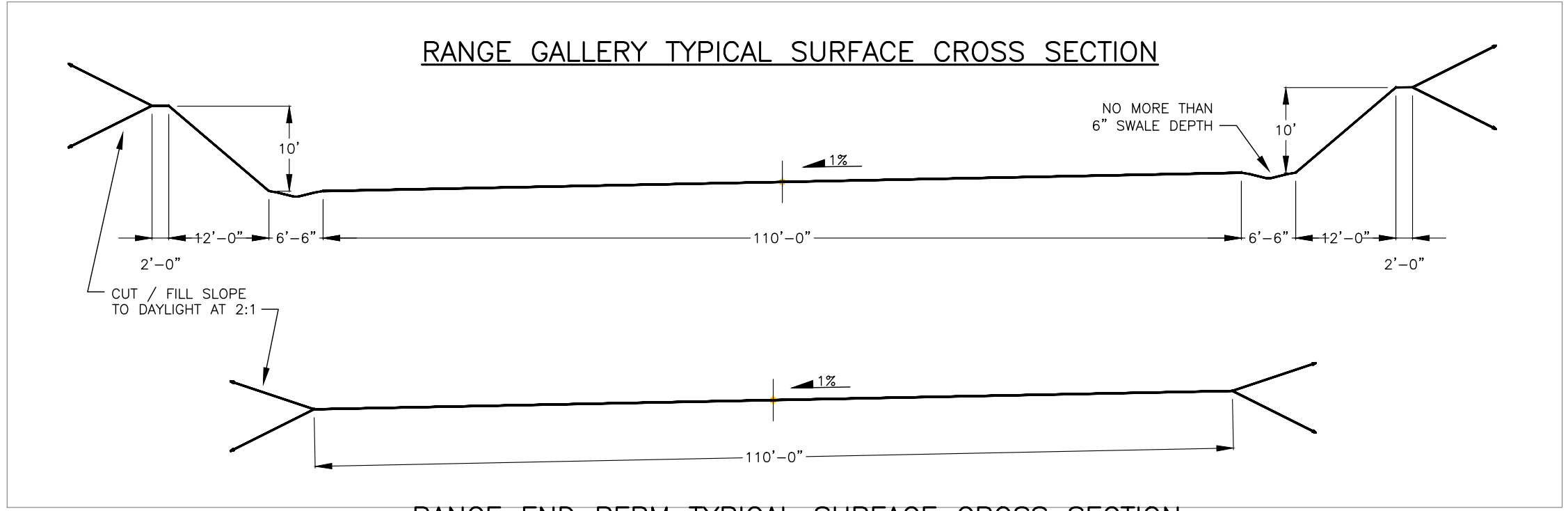
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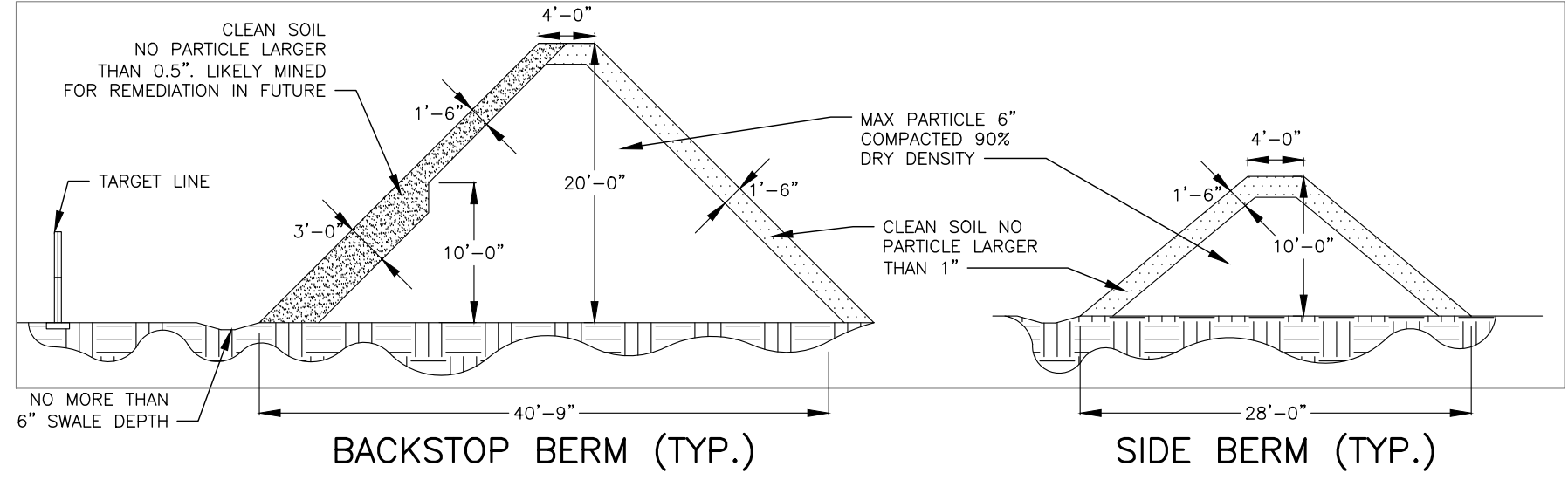
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RAMAH RES. SWA

ROAD PROFILES 1



**RANGE END BERM TYPICAL SURFACE CROSS SECTION
(FACE OF RANGE BACKSTOP BERM)**



DESIGN
SHOOTING RANGE



BY	
DATE	
REVISIONS:	

10/18	Z.H.	Z.H. & J.T.N.
10/18	DESIGNER:	DRAFTER:
	CHECKED BY:	APPROVED:
		APPROVED:
		CHIEF ENGR.:

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RAMAH RES. SWA
BERM & GALLERY SECT. (TYP.)

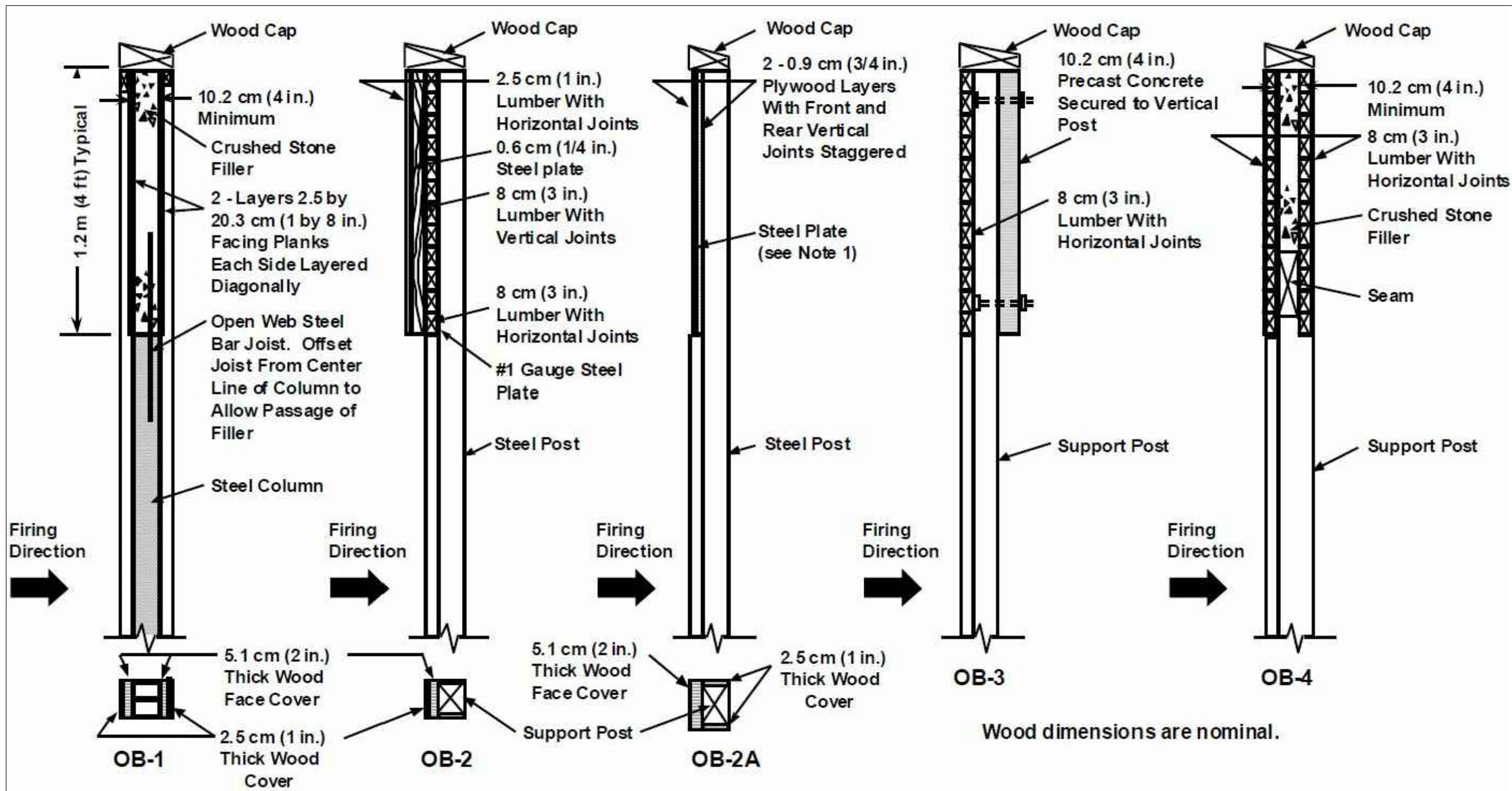


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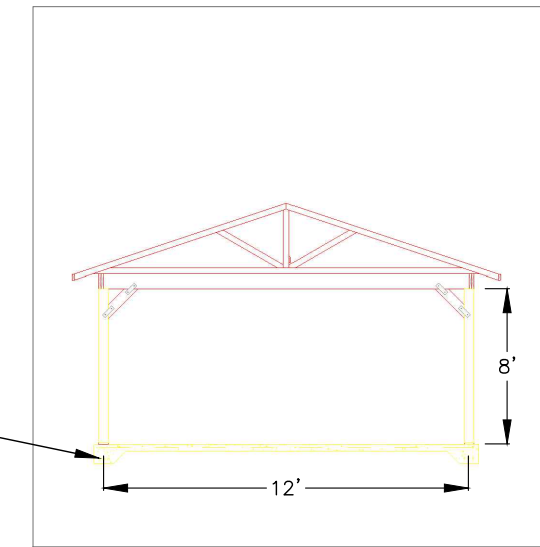
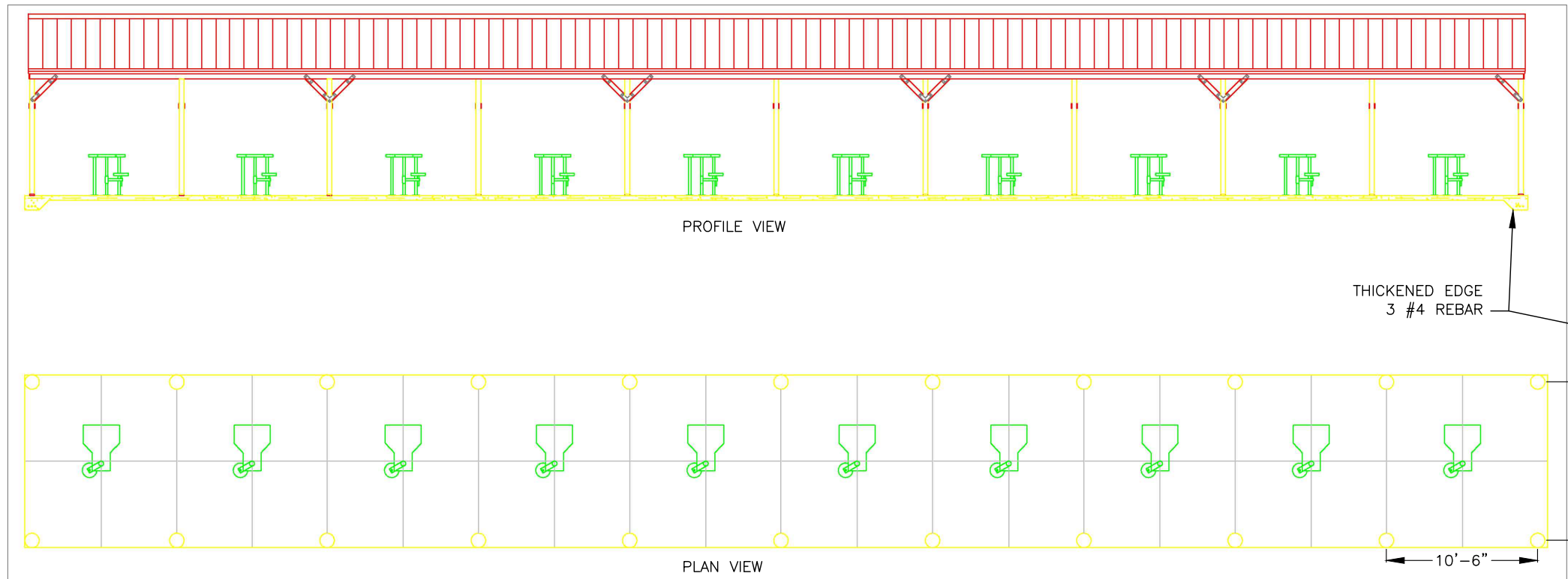
DATE:	07/18
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RAMAH RES. SWA
BAFFLE SECTIONS (TYP.)



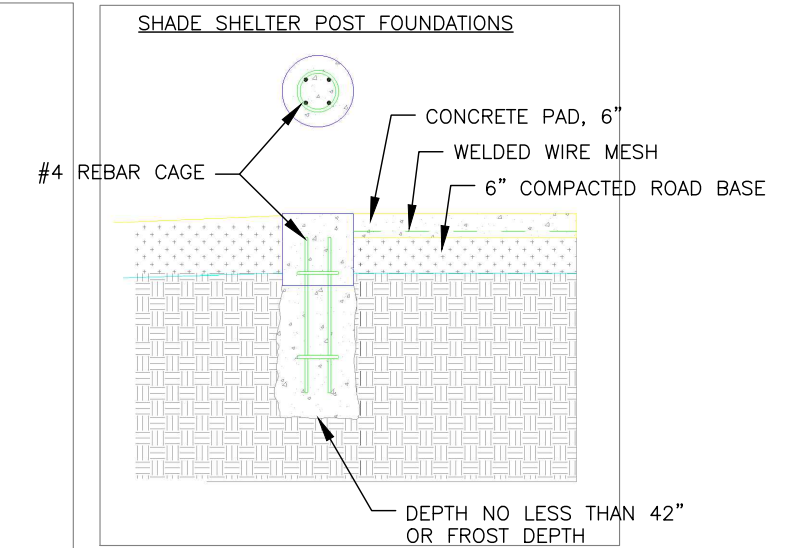
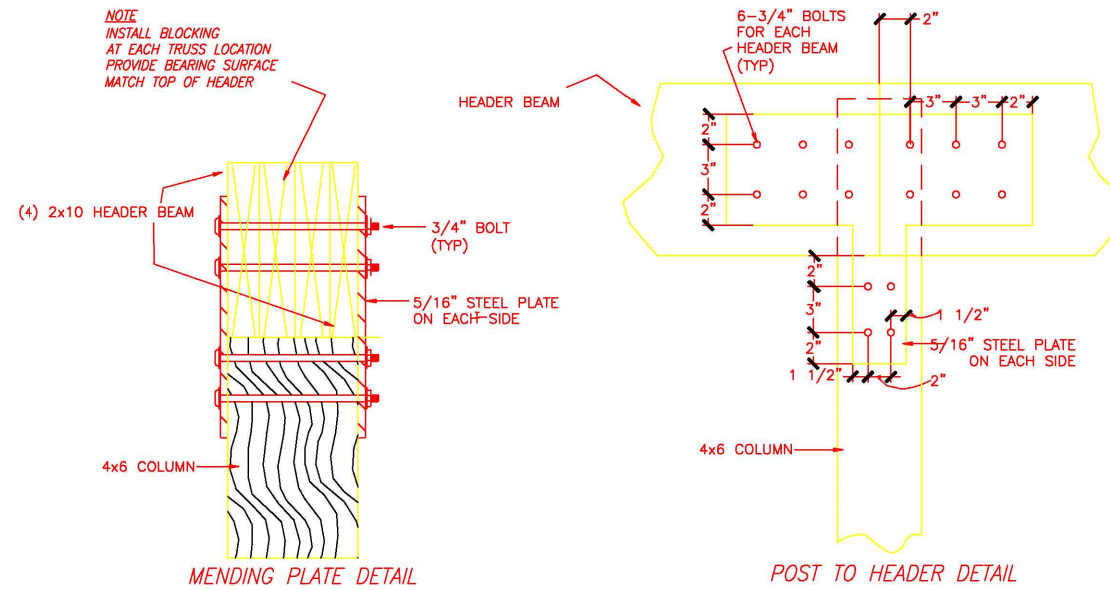
- NOTES:
- A) BAFFLE SECTION SHALL PROVIDE NO LESS THAN FOUR VERTICAL FEET OF BULLET-PROOF SURFACE
 - B) BAFFLE SHALL BE AS WIDE AS THE RANGE GALLERY IT IS CONSTRUCTED WITHIN, MEASURED FROM THE SIDE BERM TOE OF FILL
 - C) BOTTOM OF BAFFLE SHALL BE NO LESS THAN EIGHT FEET ABOVE THE RANGE GALLERY FLOOR
 - D) BAFFLE VERTICAL POSTS SHALL BE NO LESS THAN 6"x6" FIR OR APPROVED ALTERNATE, ANCHORED IN 3.5KSI CONCRETE, TO A DEPTH OF NO LESS THAN 6'.

SHADE SHELTER



GENERAL NOTES FOR CONSTRUCTIONS

1. ALL BOLT HOLES IN STEEL PLATES AND BEAM BRACKETS SHALL UTILIZE STANDARD HOLES DRILLED 1/16" LARGER THAN THE NOMINAL BOLT DIAMETER.
2. THE MINIMUM SPACING BETWEEN THE CENTER OF BOLT HOLES IN EACH ROW SHALL BE 3 INCHES.
3. THE MINIMUM SPACING BETWEEN ROWS OF BOLT HOLES SHALL BE 2 INCHES.
4. THE MINIMUM EDGE DISTANCE BETWEEN ANY BOLT HOLE AND THE EDGE OF WOOD MEMBER SHALL BE 4 TIMES THE NOMINAL BOLT DIAMETER. THE MINIMUM EDGE DISTANCE BETWEEN ANY BOLT HOLE AND THE EDGE OF STEEL PLATE SHALL BE 2 1/2 TIMES THE NOMINAL BOLT DIAMETER.
5. ALL BOLTS USED IN THE CONNECTIONS SHALL BE ASTM A 325 BOLTS OF THE DIAMETER SHOWN ON THE DRAWINGS.
7. ALL STEEL SIDE PLATES SHOWN OCCUR ON BOTH SIDES OF POST.
8. SHOP PRIME AND PAINT WITH MATTE BLACK ALL SIDES OF ALL STEEL PLATES.



NOTES:

- A) CONTRACTOR SHALL SUBMIT FIRING LINE SHELTER SHOP DRAWINGS TO THE CPW PROJECT MANAGER PRIOR TO PURCHASE OF ANY MATERIALS OR CONSTRUCTION OF ANY KIND.
- B) FIRING LINE SHELTER SHALL, AT A MINIMUM, PROVIDE BALLISTIC IMPERMEABLE PROTECTION SIMILAR TO OR IN EXCESS OF THE VERTICAL BAFFLE, EXTENDING 12 FEET IN FRONT OF THE FIRING POSITION OR INSTALLED SHOOTING BENCH.

DESIGN

SHOOTING RANGE



REVISIONS:	DATE	BY

DESIGNER:	Z.H.	10/18
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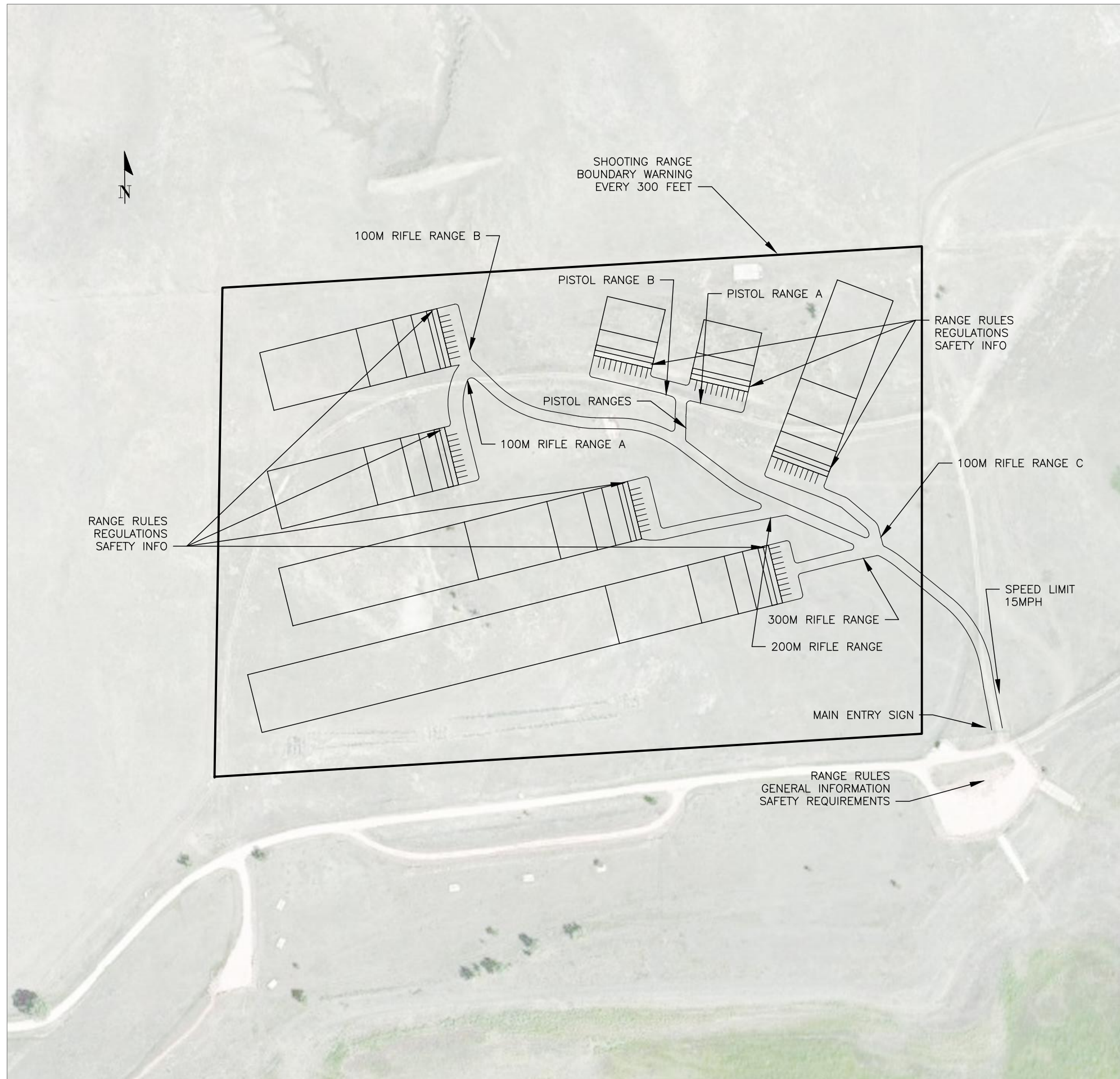
DATE	PROJECT NO.	SHEET NO.	OF 14
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RAMAH RES. SWA
SHADE STRUCTURE SECT. (TYP.)

SIGN PLAN

NOTES:

- 1) ALL TRAFFIC SIGNAGE SHALL BE FULLY COMPLIANT WITH COLORADO DEPARTMENT OF TRANSPORTATION (CDOT) REQUIREMENTS AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
- 2) CDOT STANDARD SPECIFICATION SECTION 614 APPLIES UNLESS EXCEPTED BY THE PROJECT MANAGER.
- 3) COLORADO PARKS AND WILDLIFE (CPW) SIGNAGE STANDARDS SHALL ALSO APPLY TO NON-TRAFFIC RELATED VISUAL COMMUNICATION DEVICES.
- 4) EVERY FIRING SHALL HAVE RANGE RULES, SAFETY REQUIREMENTS, AND INFORMATION PANEL IMMEDIATELY AVAILABLE AND CLEARLY POSTED IN ADDITION TO FLYER DISTRIBUTION SYSTEMS
- 5) ALL POSTED SIGNAGE NOT AFFILIATED WITH TRAFFIC CONTROL MUST COMPLY WITH OSHA LEGIBILITY REQUIREMENTS & SPECIFICATIONS TO ENSURE ABSOLUTE CLARITY



BY	
DATE	
REVISIONS:	

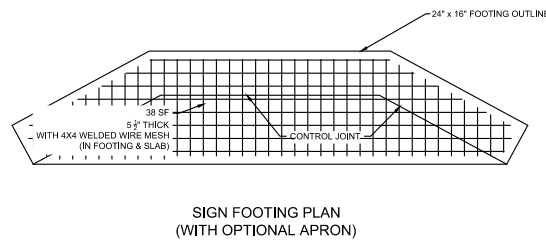
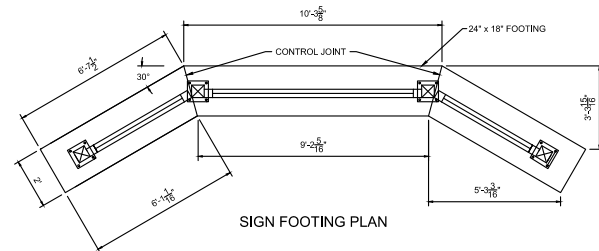
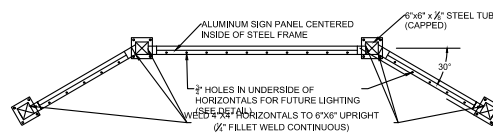
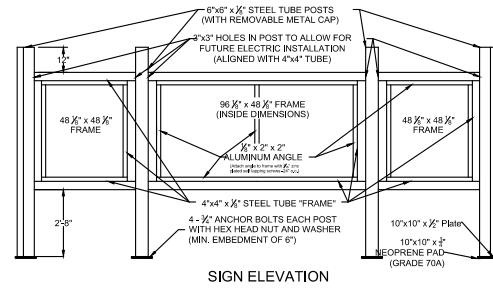
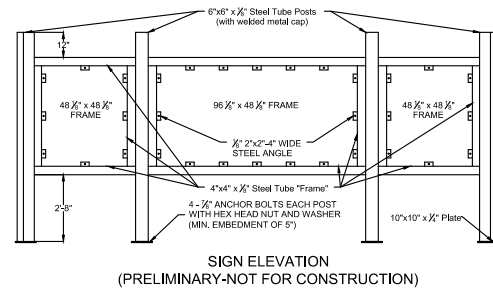
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RAMAH RES. SWA
RSRP REVISION V1.0

DESIGN
SHOOTING RANGE

MAIN ENTRANCE SIGN

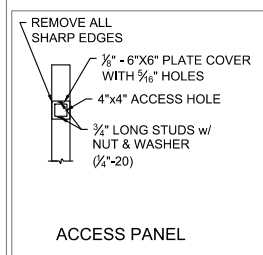
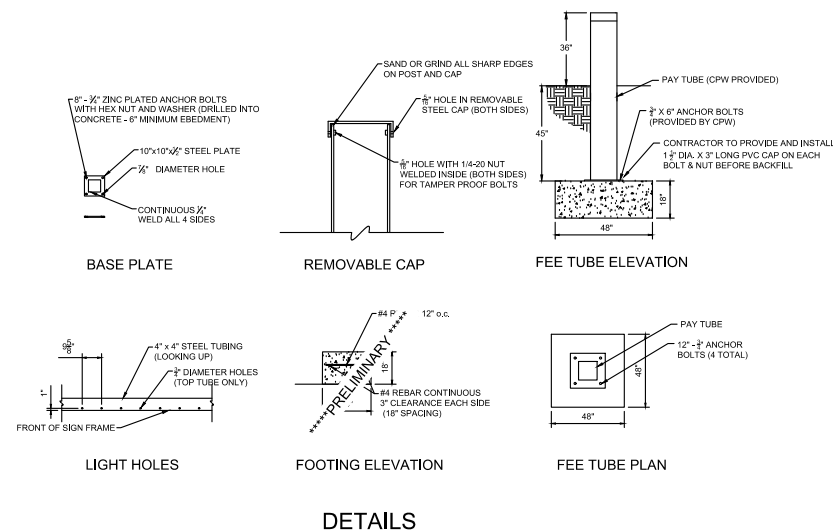
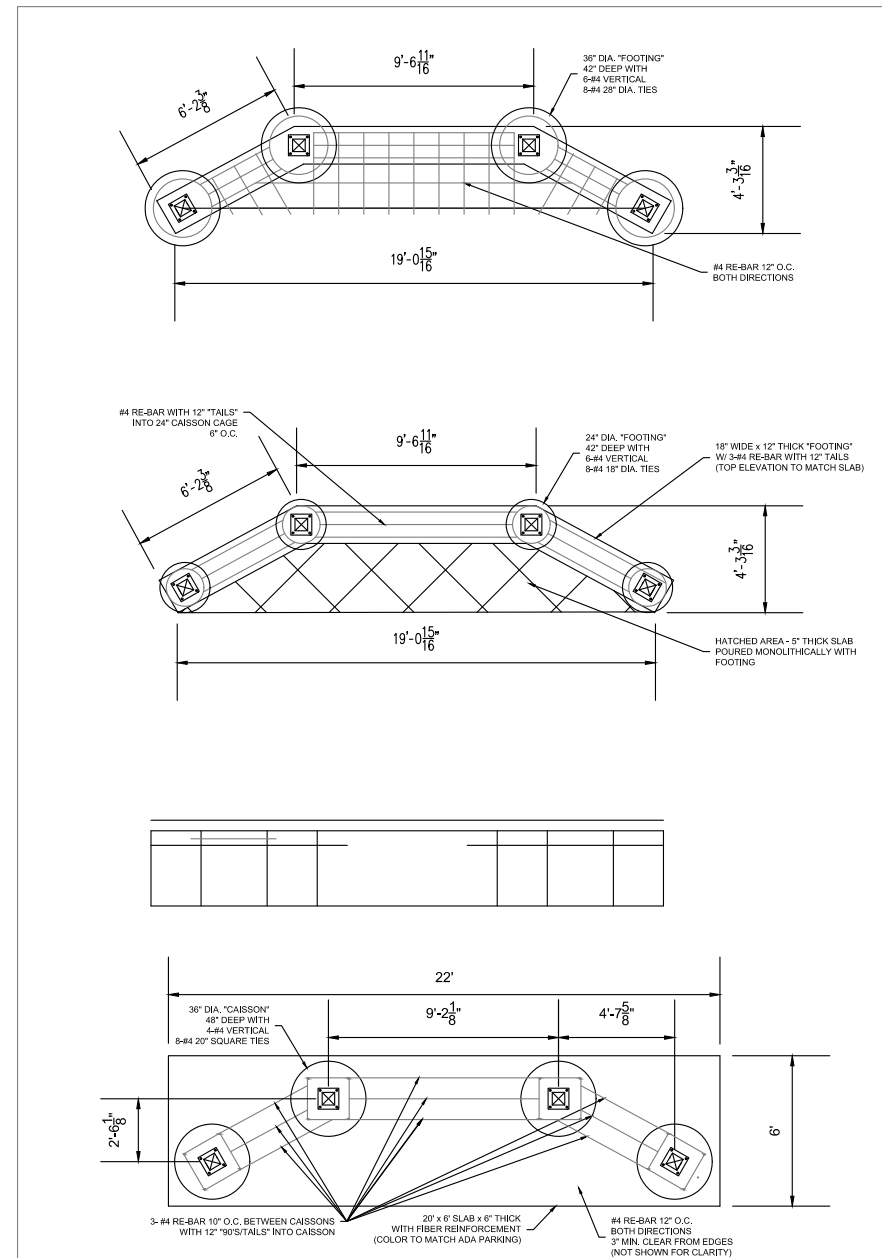


NOTES:

- ALL WELDS SHALL BE GROUND SMOOTH AND HAVE A NEAT APPEARANCE
- ALL METAL SHALL BE GROUND OR SANDED TO REMOVE ALL SHARP EDGES
- CONTRACTOR RESPONSIBLE FOR PROVIDING ALL NECESSARY HARDWARE
- OWNER (CPW) SHALL PROVIDE ALUMINUM SIGNS, CONTRACTOR SHALL INSTALL SIGN PANELS INTO SIGN FRAME
- ATTACH SIGN TO ANGLE WITH 1/4"-20 X 3/4" GRADE 18-8 STAINLESS STEEL FLAT SOCKET SECURITY CAP SCREW NYLON HEX NUTS ON BACK
- LARGER SIGN SHALL HAVE 9 EQUALLY SPACED BOLTS, AS SHOWN ON THE DRAWING
- SMALLER SIGNS SHALL HAVE 6 EQUALLY SPACED BOLTS (EACH), AS SHOWN ON THE DRAWING
- ALUMINUM SIGN SHALL BE CENTERED IN THE STEEL FRAME ON ALL SIDES (ie. FRONT TO BACK)
- 3/4" ANCHOR BOLTS MAY BE WEDGE/EXPANSION TYPE OR "ALL THREAD" ANCHORED WITH EPOXY (Sika® AnchorFix®-1 OR APPROVED EQUAL)
- STEEL SHALL BE UNPAINTED
- ACTUAL DIMENSIONS SHALL HAVE A 1/4" TOLERANCE
- LARGE PANEL SHALL HAVE 10 - 3/4" HOLES, SMALL PANELS SHALL HAVE 5 - 3/4" HOLES, FOR FUTURE LIGHTS
- EACH 6" X 6" POST SHALL HAVE 2-3" SQUARE HOLES CUT WHERE THE 4" HORIZONTAL MEMBER MEETS THE POST (TO ALLOW FUTURE ELECTRICAL WIRING INSIDE)

NOTES:

- CONCRETE SHALL HAVE A MINIMUM 28 DAY STRENGTH OF 4,000 PSI
- CONCRETE SHALL BE TINTED WITH DAVIS COLORS MESA BUFF (DAVIS COLORS 5447) OR APPROVED EQUAL
- CONCRETE SHALL HAVE PROPEX FIBERMESH 300 OR APPROVED EQUAL
- CONCRETE SHALL HAVE A MEDIUM BROOM FINISH
- OPTIONAL SLAB IS 38 SQUARE FEET - 5 1/2" THICK
- IF OPTIONAL APRON IS CHOSEN, APRON AND FOOTING SHALL HAVE 6 X 6 W1.4 X W1.4 WIRE MESH
- ALL REINFORCING SHALL HAVE A 3" CLEARANCE FROM FORMS AND THE CONCRETE SURFACE
- ANCHOR BOLTS MAY BE WEDGE/EXPANSION TYPE OR "ALL THREAD" ANCHORED WITH EPOXY (Sika® AnchorFix®-1 OR APPROVED EQUAL).



DESIGN
SHOOTING RANGE

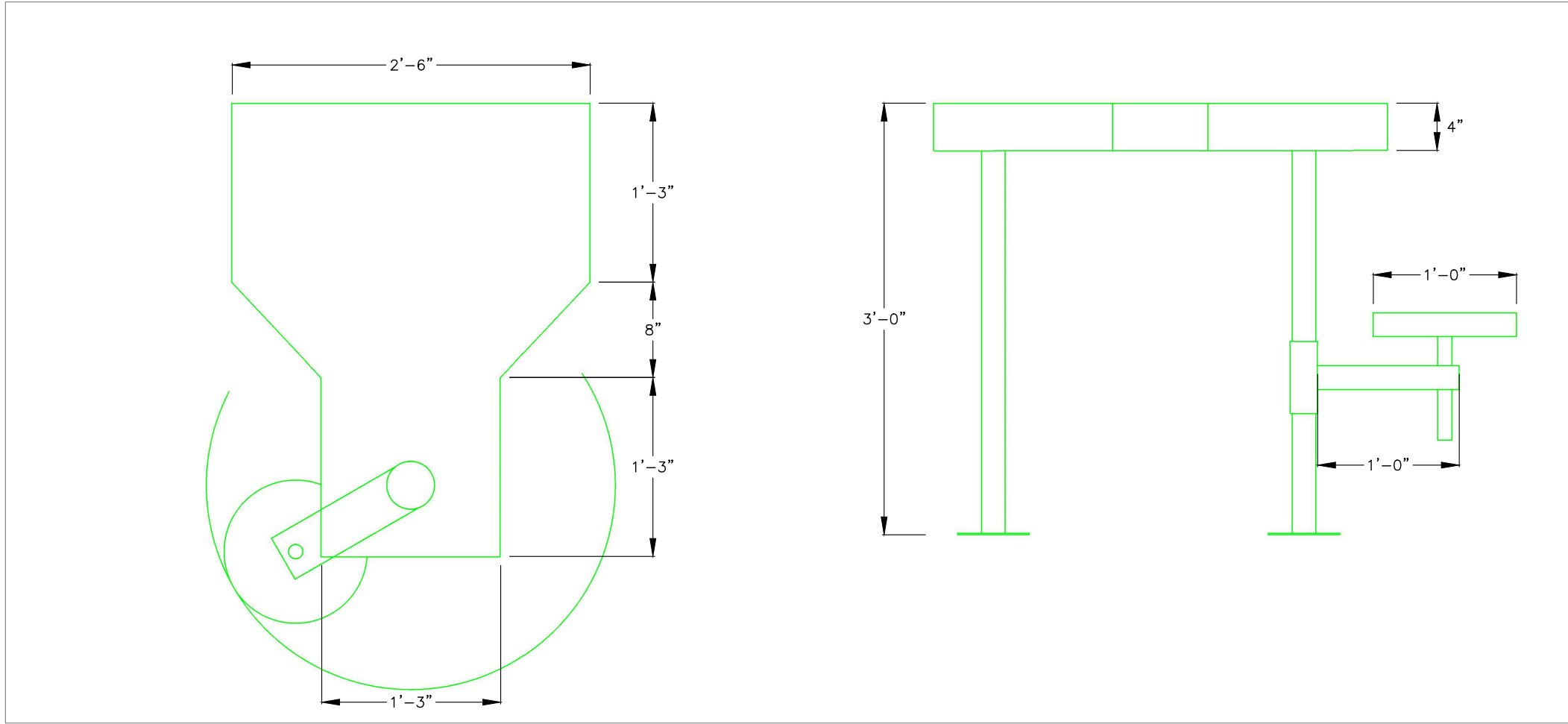


BY	
DATE	
REVISIONS:	

DESIGNER:	Z.H.	10/18
DRAFTER:	Z.H. & J.T.N.	10/18
CHECKED BY:		
APPROVED:		
CHIEF ENGR.:		

DATE	PROJECT NO.	SHEET NO.	OF 14
		05	

RAMAH RES. SWA
RSRP REVISION V1.0



- NOTES:
- A) SHOOTING BENCH SHALL BE IMPERVIOUS TO WEATHER
 - B) BENCH DESIGN, REINFORCEMENT, ATTACHMENTS, AND FITTINGS SHALL BE REVIEWED AND ACCEPTED BY THE CPW PROJECT MANAGER PRIOR TO PURCHASE BY THE CONTRACTOR.
 - C) AT LEAST ONE BENCH AT EACH RANGE GALLERY SHALL BE ADA ACCESSIBLE OR BENCHES SHALL BE DESIGNED SUCH THAT ANY/EVERY BENCH CAN BE CONFIGURED AS ACCESSIBLE.



DESIGN
SHOOTING RANGE



REVISIONS:	DATE	BY

DATE	PROJECT NO.	SHEET NO.	OF
10/18		14	14

DESIGNER:	Z.H.

DRAFTER:	Z.H. & J.T.N.

CHECKED BY:	APPROVED:	APPROVED:	CHIEF ENGR.:

RAMAH RES. SWA
SHADE STRUCTURE SECT. (TYP.)