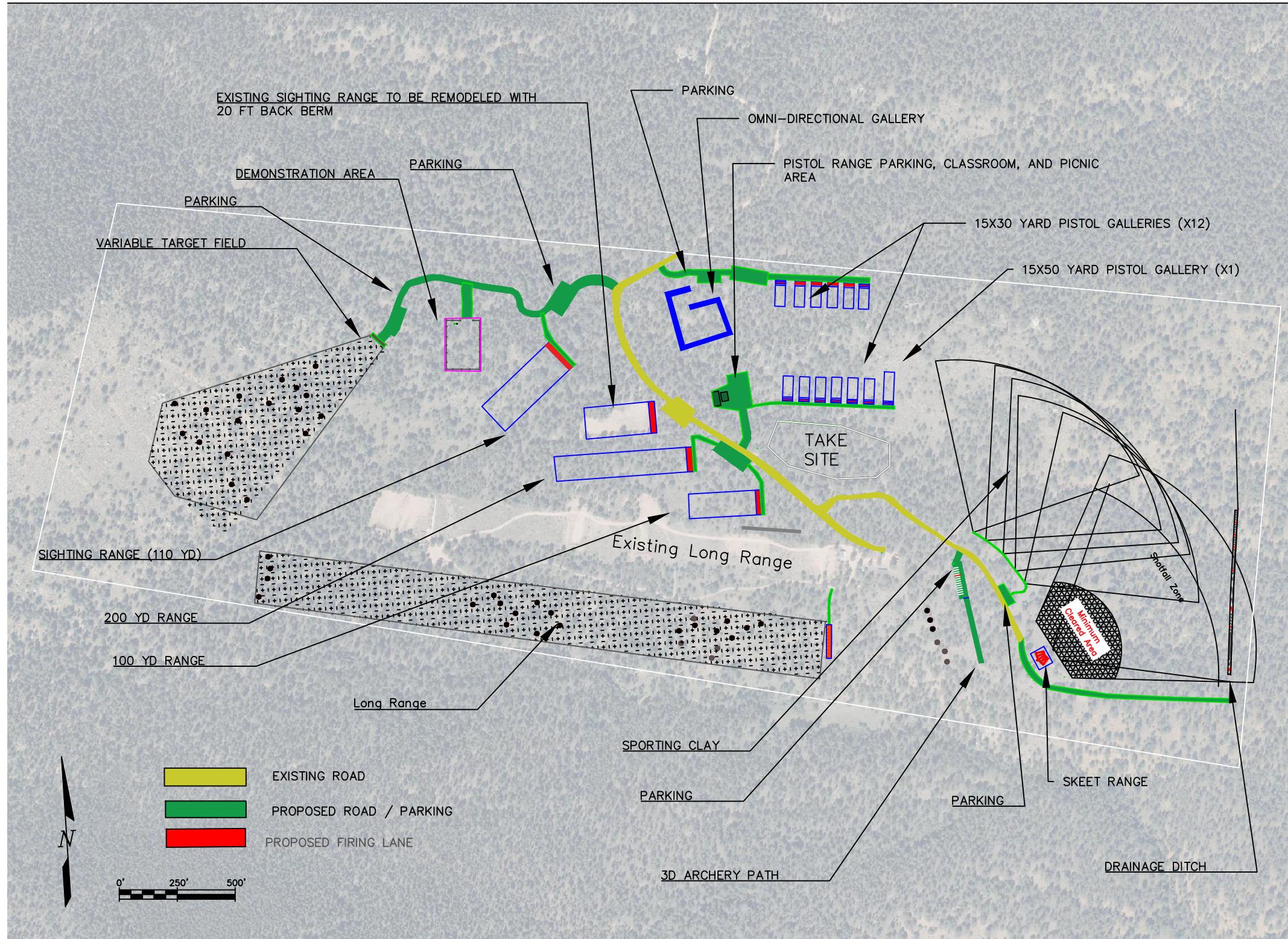


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CAMP FICKES SHOOTING RANGE OVERVIEW:

- 1: OFFERS DIVERSE SHOOTING OPTIONS FROM A VARIABLE TARGET RANGE, TO A 3D ARCHERY COURSE
- 2: 13 NEW PISTOL RANGES
- 3: OMNI-DIRECTIONAL RANGE
- 4: RECREATIONAL AREA FOR LARGE GROUPS
- 5: NEW RIFLE RANGES
- 6: SPORTING CLAY AND SKEET SHOOTING
- 7: CLASSROOM AND PICNIC AREA
- 8: INCREASED SAFETY STANDARDS
- 9: NEW PARKING AREAS

SKEET AND SPORTING CLAY RANGES NOTES:

- 1: THE SKEET SURFACE DANGER ZONE (SDZ) USED IS BASED ON THE D.O.E.'S CONSERVATIVE MODEL. THE SDZ WAS TRIMMED BACK SLIGHTLY TO SHOW A MORE REALISTIC EXPECTATION

EXISTING SIGHTING RANGE NOTES:

- 1: 1: 20 FT BACK BERM WILL BE ADDED, AND THE RANGE WILL BE EXPANDED TO A UNIFORM 100 YARD DISTANCE

DEMONSTRATION AREA NOTES:

- 1: AREA FOR INSTRUCTION AND LEARNING, NO SHOOTING ALLOWED

LONG RANGE NOTES:

- 1: LONG RANGE INCLUDES STEEL TARGETS AT UNKNOWN DISTANCES FOR REALISTIC SCENARIOS

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CAMP FICKES SHOOTING RANGE

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PISTOL GALLERIES

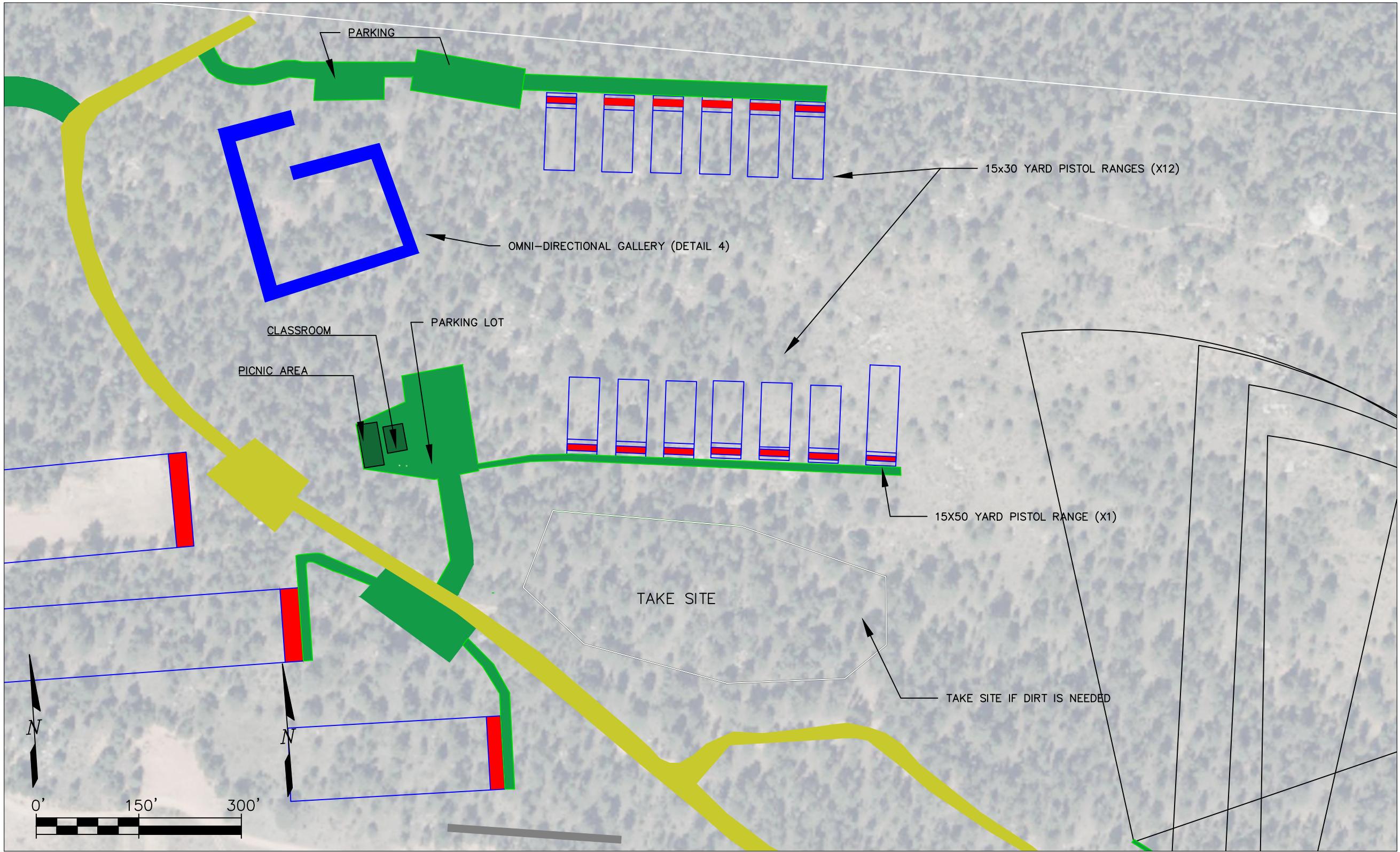
NOTES:

- 1: MULTIPLE 50 AND 30 YARD RANGES TO MAXIMIZE PISTOL SHOOTING AREA
- 2: PARKING LOT ATTACHED TO GALLERIES INCLUDES A CLASSROOM AND PICNIC AREA
- 3: BACK BERMS TAKE ADVANTAGE OF THE NATURAL CONTOURS TO DECREASE THE AMOUNT OF DIRT WORK NEEDED

OMNIDIRECTIONAL RANGE

NOTES:

- 1: OMNI-DIRECTIONAL RANGES OFFER ADVANCED PROTECTION TO USERS AND THE SURROUNDINGS



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CAMP FICKES SHOOTING RANGE

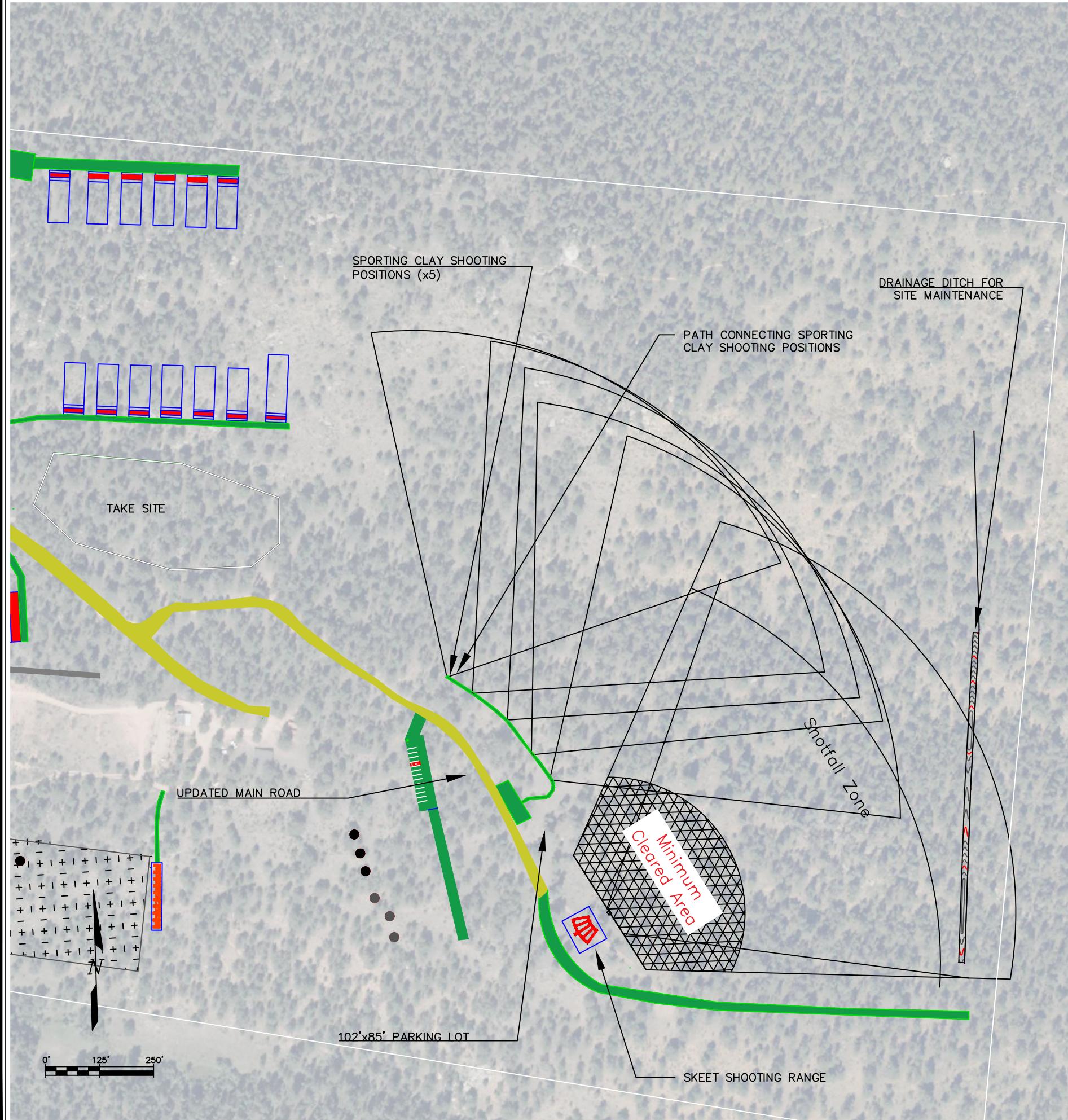


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SKEET AND SPORTING CLAY RANGES NOTES:

- SDZ USED IS BASED ON THE D.O.E'S CONSERVATIVE MODEL. THE SDZ WAS TRIMMED TO SHOW A MORE REALISTIC EXPECTATION
- IF THE SKEET RANGE IS BUILT, THE MAIN ROAD WILL HAVE TO FOLLOW THE NEW PATH SHOWN, OR BE CLOSED OFF COMPLETELY
- ALL WATER WITHIN SHOTFALL ZONES OF SPORTING CLAY & SKEET MUST BE TREATED FOR LEAD CONTAMINATION
- SWALE WAS ADDED TO RETAIN WATER FROM SHOTFALL AREA. WATER COLLECTED CAN BE DREDGED FOR SHOTFALL
- PARKING LOT PROVIDES ACCESS FOR BOTH SPORTING CLAY AND SKEET SHOOTING
- SPORTING CLAY OFFERS A WIDE LANDSCAPE, MANY DIVERSE ELEVATIONS, AND TARGET PATHS TO GIVE SHOOTERS THE BEST EXPERIENCE
- EACH SPORTING CLAY SHOOTING POSITION WILL BE DEFINED BY TWO 7 FT 4"X4" WOODEN POSTS TO INDICATE ALLOWED RANGE OF MOTION AND SHOT ANGLE

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CAMP FICKES SHOOTING RANGE

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ARCHERY RANGE

NOTES:

- 1: PATH CONSISTS OF 6 LEVEL SHOOTING PADS
- 2: TWO 4"X4"X7' WOOD POSTS WILL BE ADDED TO EACH SHOOTING POSITION TO DESIGNATE SHOOTER SPOTS AND RESTRICT SHOOTING ANGLES
- 3: 3D TARGETS CAN BE PLACED ANYWHERE WITHIN RESPECTIVE SHOOTING LANES RELATIVE TO SHOOTING PADS; THIS OFFERS MANY DIFFERENT POSITIONS AND ELEVATIONS FOR TARGET(S)



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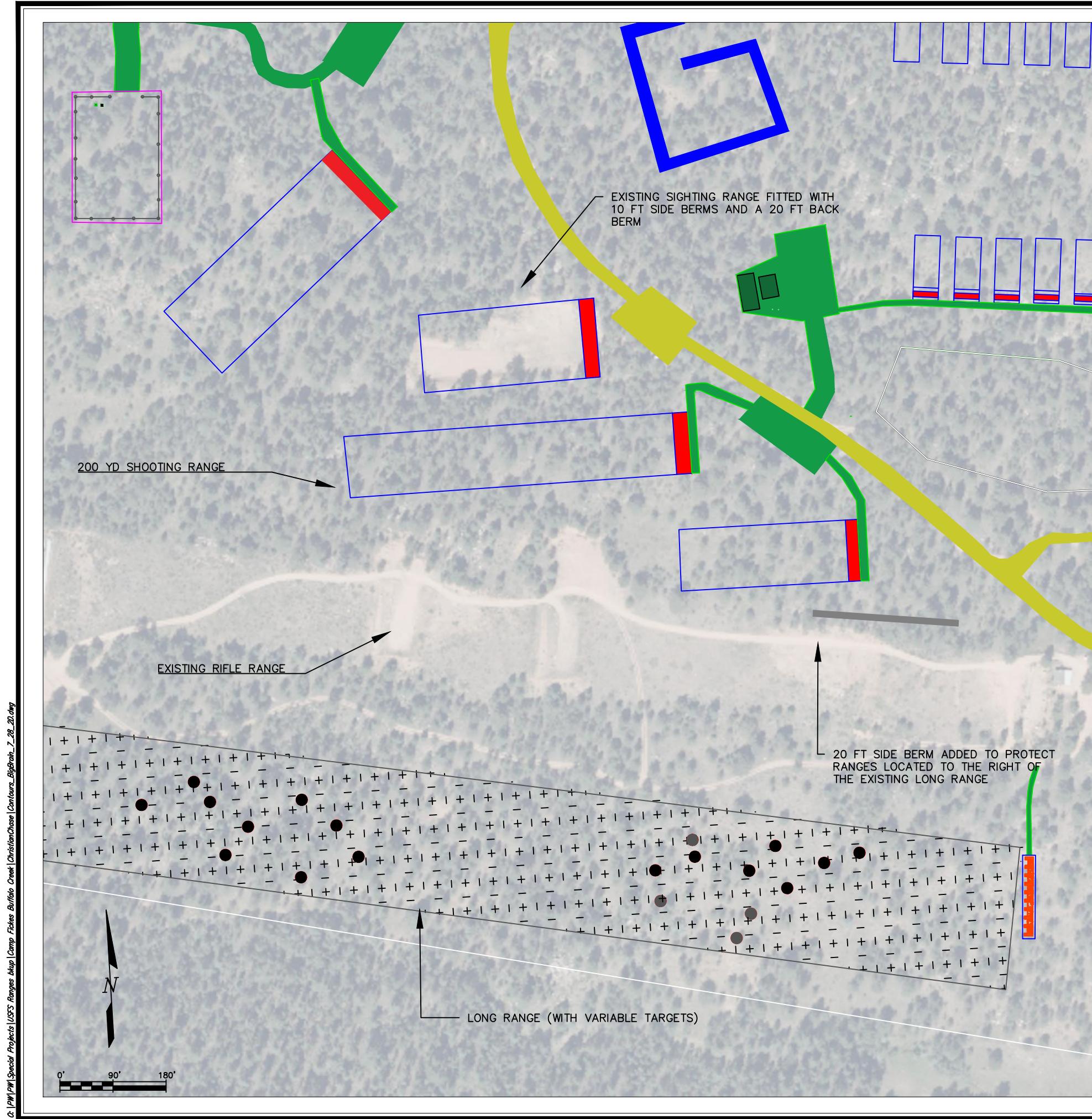
CAMP FICKES SHOOTING RANGE

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EXISTING RIFLE RANGE- 20 FT BERM

- NOTES:
- 1: TO PROTECT PEOPLE TO THE NORTH OF THE EXISTING RIFLE RANGE, A 20 FT BERM IS USED TO PROTECT THE BACKS OF SHOOTERS
 - 2: ADDITION OF OVERHEAD EYEBROW BAFFLE TO EXISTING RIFLE RANGE IS SUGGESTED TO INCREASE SAFETY

EXISTING SIGHTING RANGE

- NOTES:
- 1: A 20 FT BACK BERM IS NEEDED ACCORDING TO DOE SAFETY STANDARDS
 - 2: UPDATING THE RANGE TO A UNIFORM 100 YARDS IS SUGGESTED TO INCREASE USABLE AREA

LONG RANGE WITH VARIABLE TARGETS

- NOTES:
- 1: FURTHEST TARGET AROUND 850 YARDS
 - 2: TARGETS OFFER DIFFERENT DISTANCES AND ELEVATIONS FOR A UNIQUE SHOOTING EXPERIENCE

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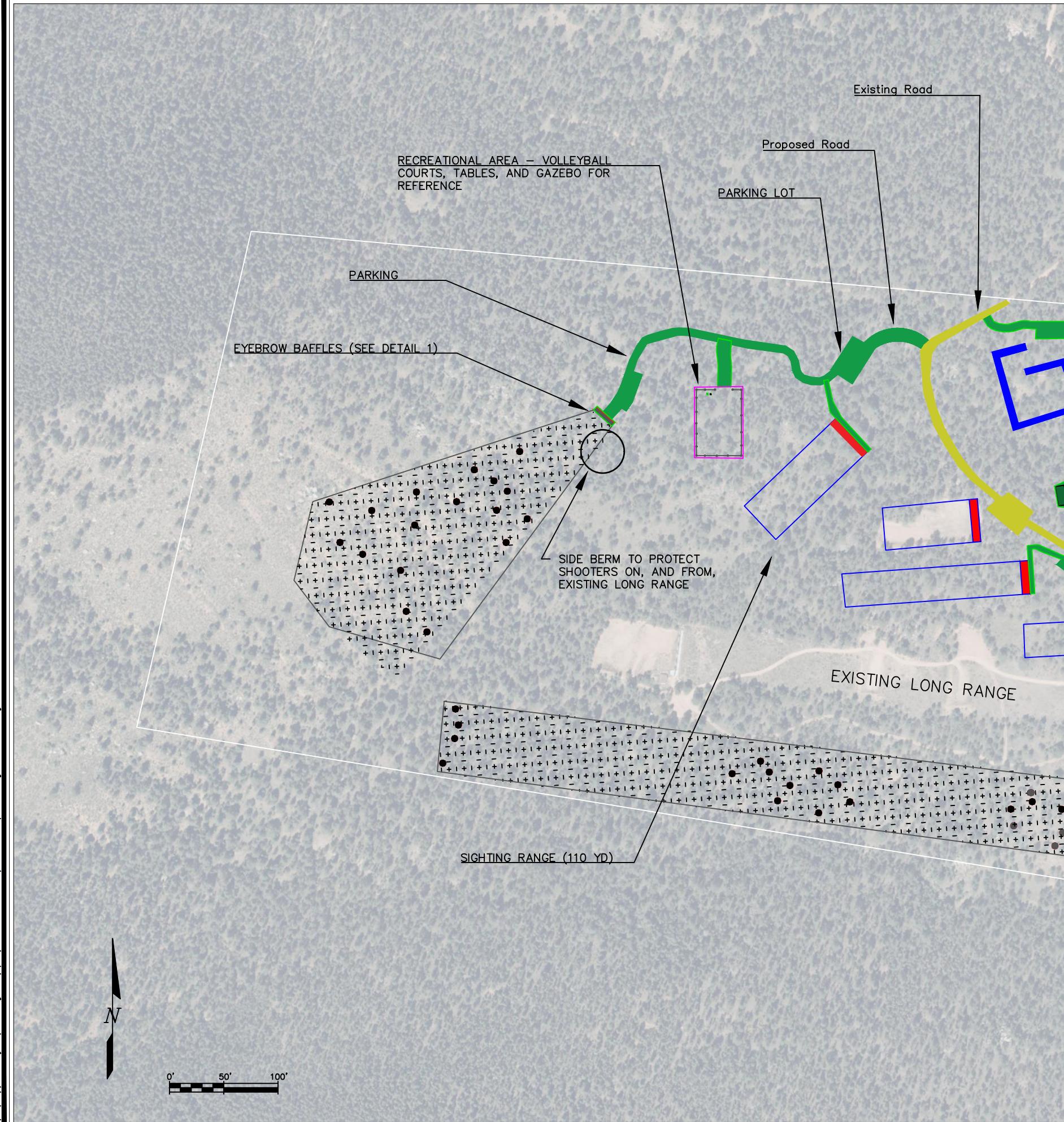
CAMP FICKES SHOOTING RANGE

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**LONG RANGE (300 YD)****NOTES:**

- 1: OVERHEAD AND GROUND BAFFLES ARE ADDED TO THE LONG RANGE TO INCREASE SAFETY OF RANGE. BAFFLE PROFILE IS SHOWN IN SHEET 14
- 2: A SIDE BERM IS ATTACHED TO "LONG RANGE 300 YD" TO ADD SAFETY AND ENSURE SAFE BULLET TRAJECTORY

TARGET FIELD**NOTES:**

- 1: GABIONS ARE ADDED TO THE TARGET FIELD TO RESTRICT SHOOTING ANGLES AND FOCUS GUNFIRE TOWARDS TARGETS
- 2: TARGETS USED WILL HAVE 10 FT BACK BERMS AND USE STEEL TARGETS.
- 3: TARGETS ARE PLACED AT A MINIMUM 100 YDS TO PREVENT SPALLING.
- 4: TARGET FIELD AND EXISTING LONG RANGE MUST NOT OPERATE AT THE SAME TIME

RECREATIONAL AREA**NOTES:**

- 1: FENCE IS ADDED AROUND OUTER PERIMETER AS AN ADDITIONAL SAFETY MEASURE
- 2: APPROPRIATE SIGNAGE IS TO BE ERECTED INDICATING UNSAFE AREAS

SIGHTING RANGE (100 YD)**NOTES:**

- 1: BAFFLES ARE ADDED TO INCREASE SAFETY. A BAFFLE PROFILE CAN BE SEEN IN SHEET 14

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CAMP FICKES SHOOTING RANGE

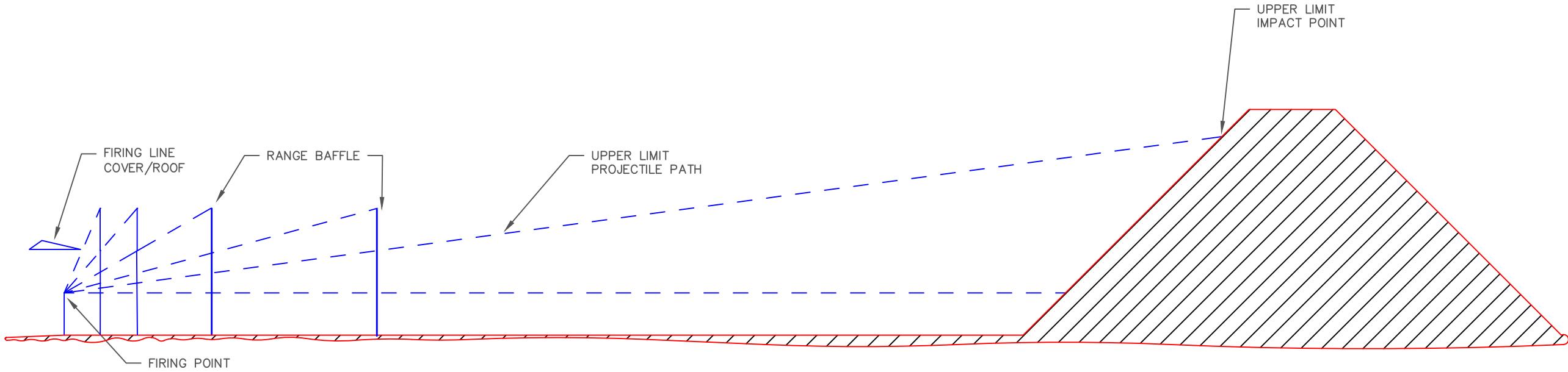
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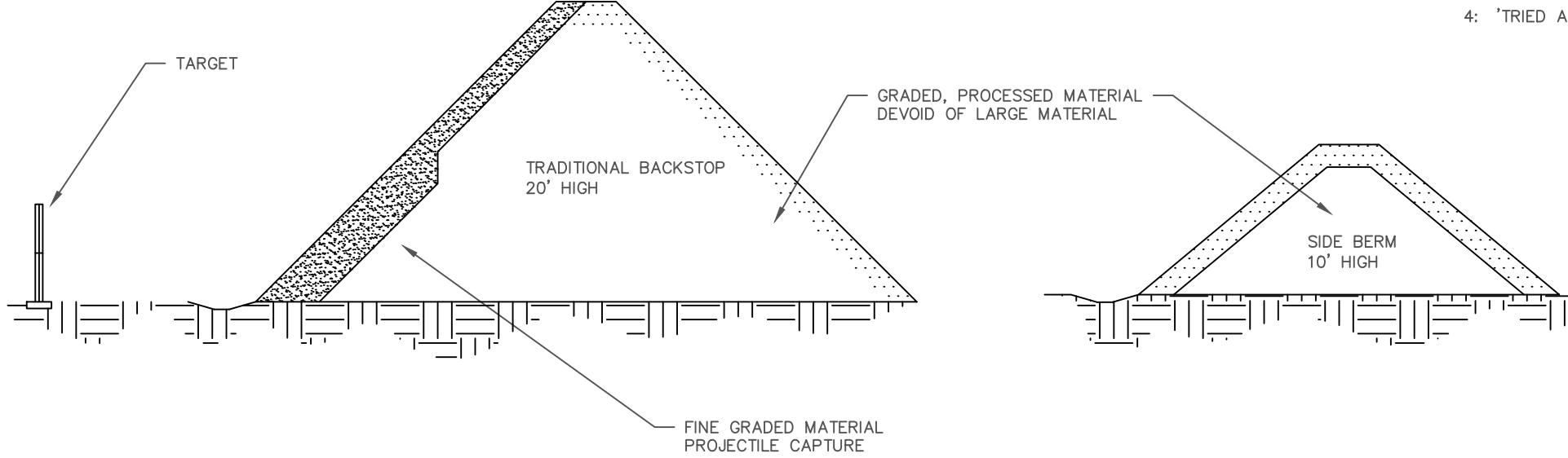
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TYPICAL RANGE BAFFLE EXPLANATION



BERM BACKSTOP TYPICAL SECTION



NOTES REGARDING BERMS AND BACKSTOPS:

- 1: DESIGNED TO READILY FACILITATE CAPTURE AND RECLAMATION OF PROJECTILES
 - 2: RICOCHET HAZARDS ARE REDUCED BY REMOVAL OF LARGE, HARD PARTICLES AND ANGLING SURFACES TO PROMOTE SAFE ENERGY DIFFUSION IN THE INTENDED MATERIALS
 - 3: PROJECTILE RECLAMATION IN THE CAPTURE MEDIA MAY BE PERFORMED AT A FREQUENCY DETERMINED BY THE OPERATOR THAT MAY REFLECT CONCENTRATION OR AVAILABILITY
 - 4: 'TRIED AND TRUE' CONTAINMENT METHODS APPLIED

7: [PW] PW Special Projects | USFS Ranges bkp | Camp Fickes Buffalo Creek | Christian Chase | Contours_BigBrain_7_28_20.dwg

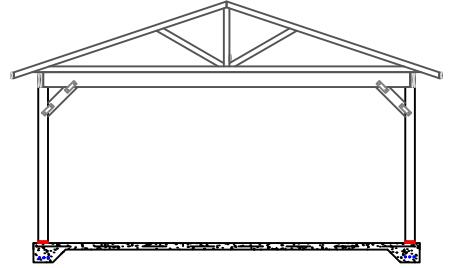
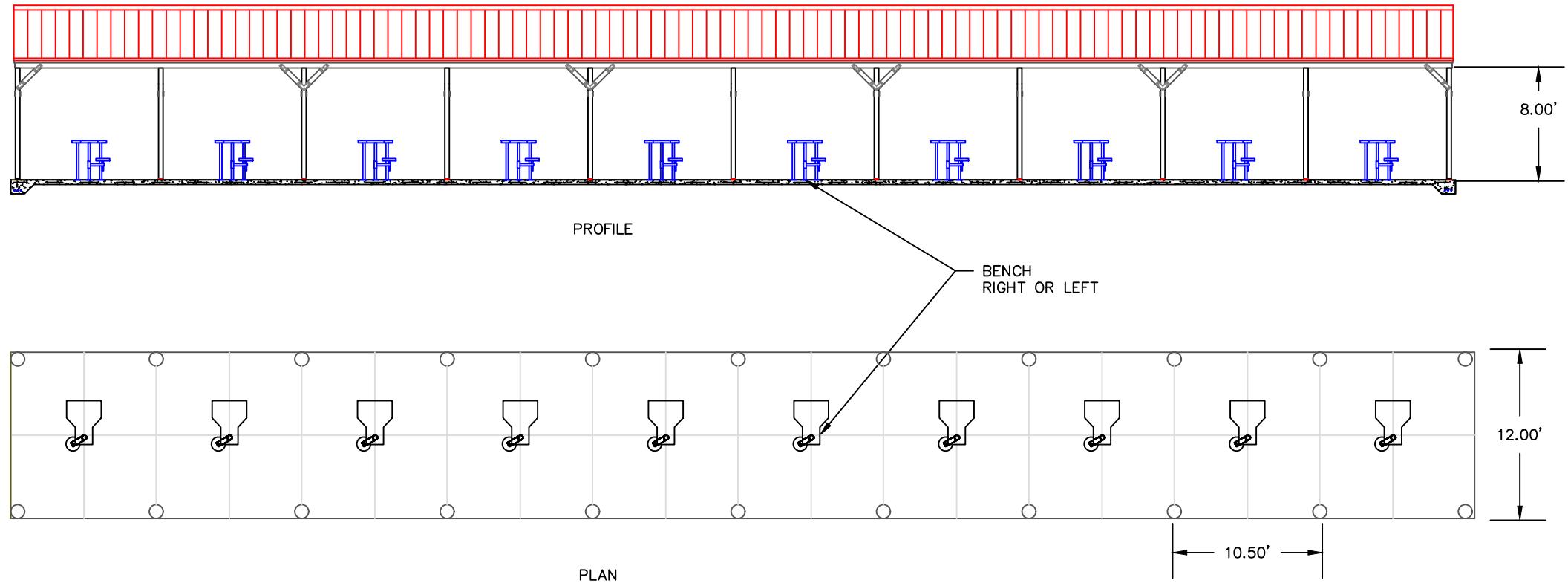
GENERAL RANGE PROFILE WITH EYEBROW BAFFLE

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| GENERAL RANGE PROFILE WITH EYEBROW BAFFLE | | INDEX OF REVISIONS | |
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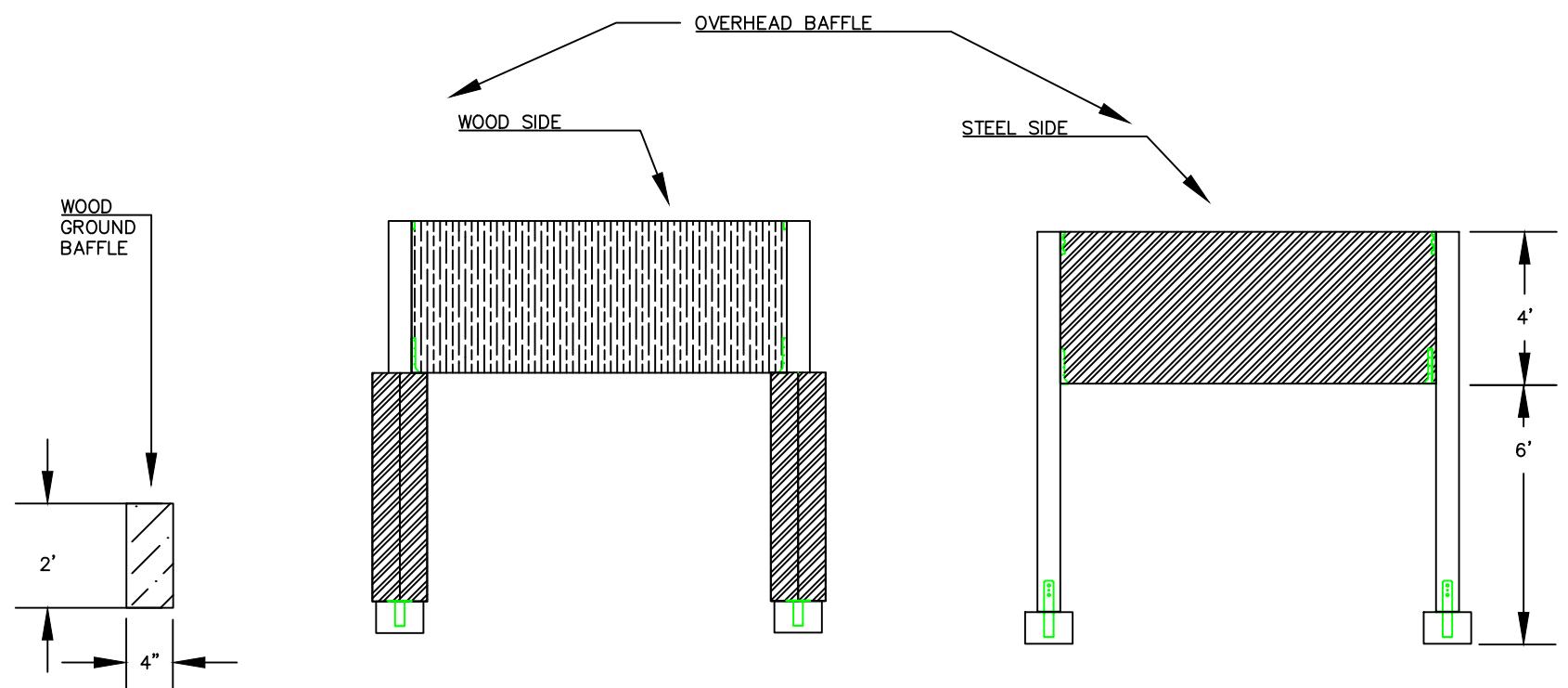
EYEBROW BAFFLE DESIGN



OVERHEAD AND GROUND BAFFLE

NOTES:

- 1) WOOD SIDE PREVENTS SPALLING AND HELPS REDUCE RICOHET
- 2) BAFFLE IS DESIGNED TO SLOW DOWN PROJECTILE SPEED AND ELIMINATE POSSIBILITY OF UNDESIRABLE BULLET PATH



**CAMP FICKES SHOOTING RANGE
(DETAIL 1)**

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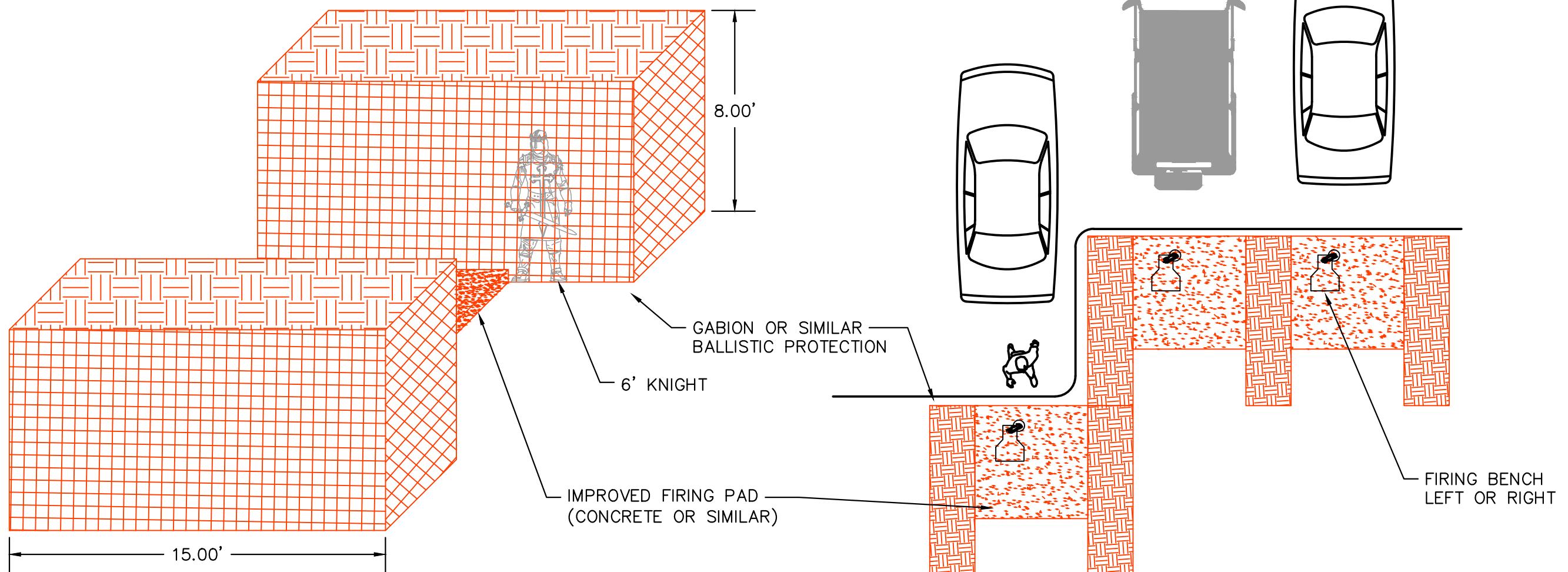
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PROTECTED FIRING POSITION

NOTES:

- 1) EMPLACED WHERE REQUIRED FOR SAFETY
 - 2) TYPICALLY WELDED WIRE MESH BASKET,
EARTH OR ROCK FILLED
 - 3) FIRE RETARDANT, RESILIENT
 - 4) MAY INCLUDE ROOF STRUCTURE



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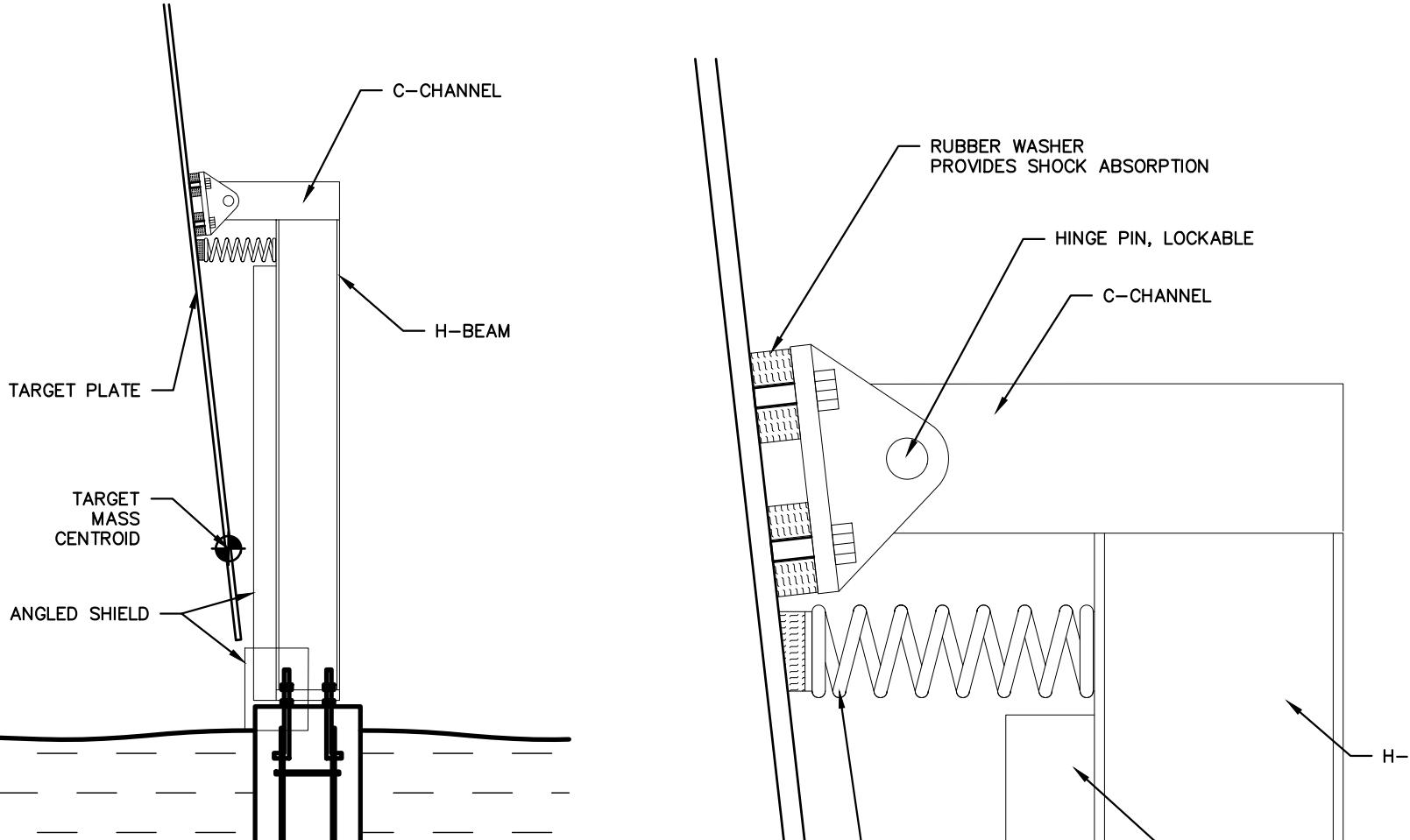
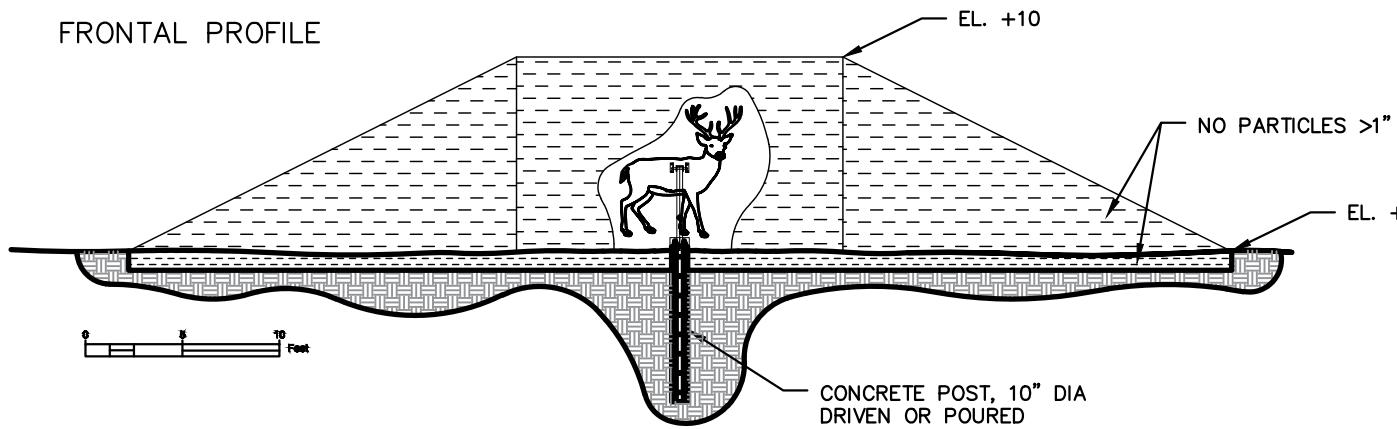
GABIONS (DETAIL 2)

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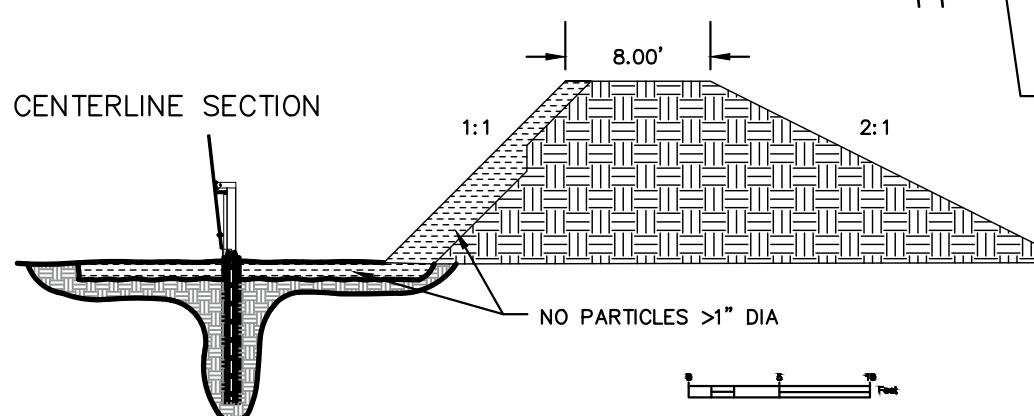
COLORADO Engineering Division

SINGLE PLATE, GAME ANIMAL SILHOUETTE TARGET

FRONTAL PROFILE



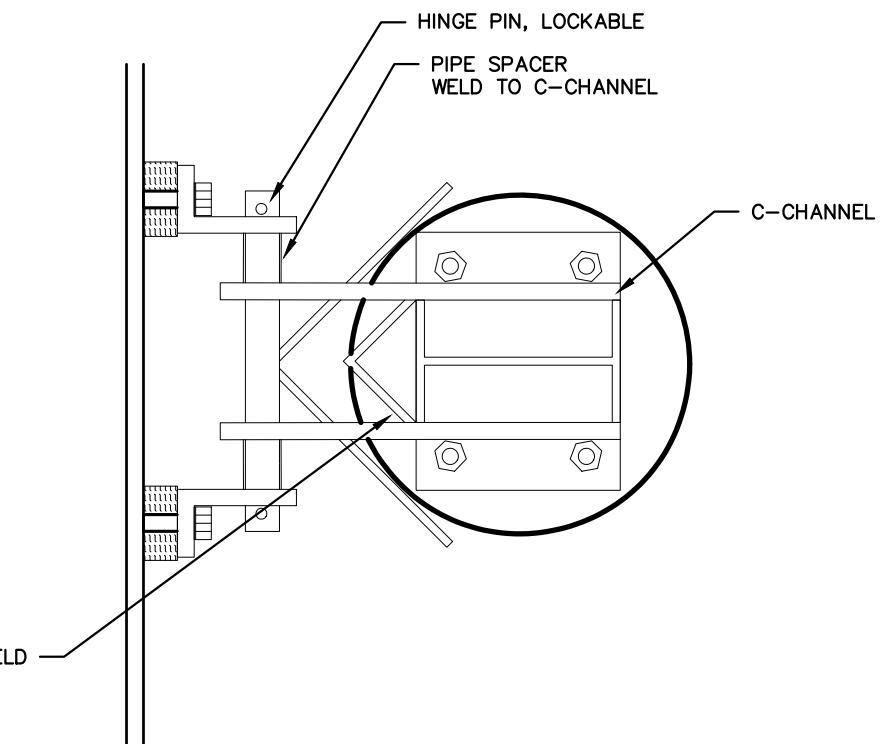
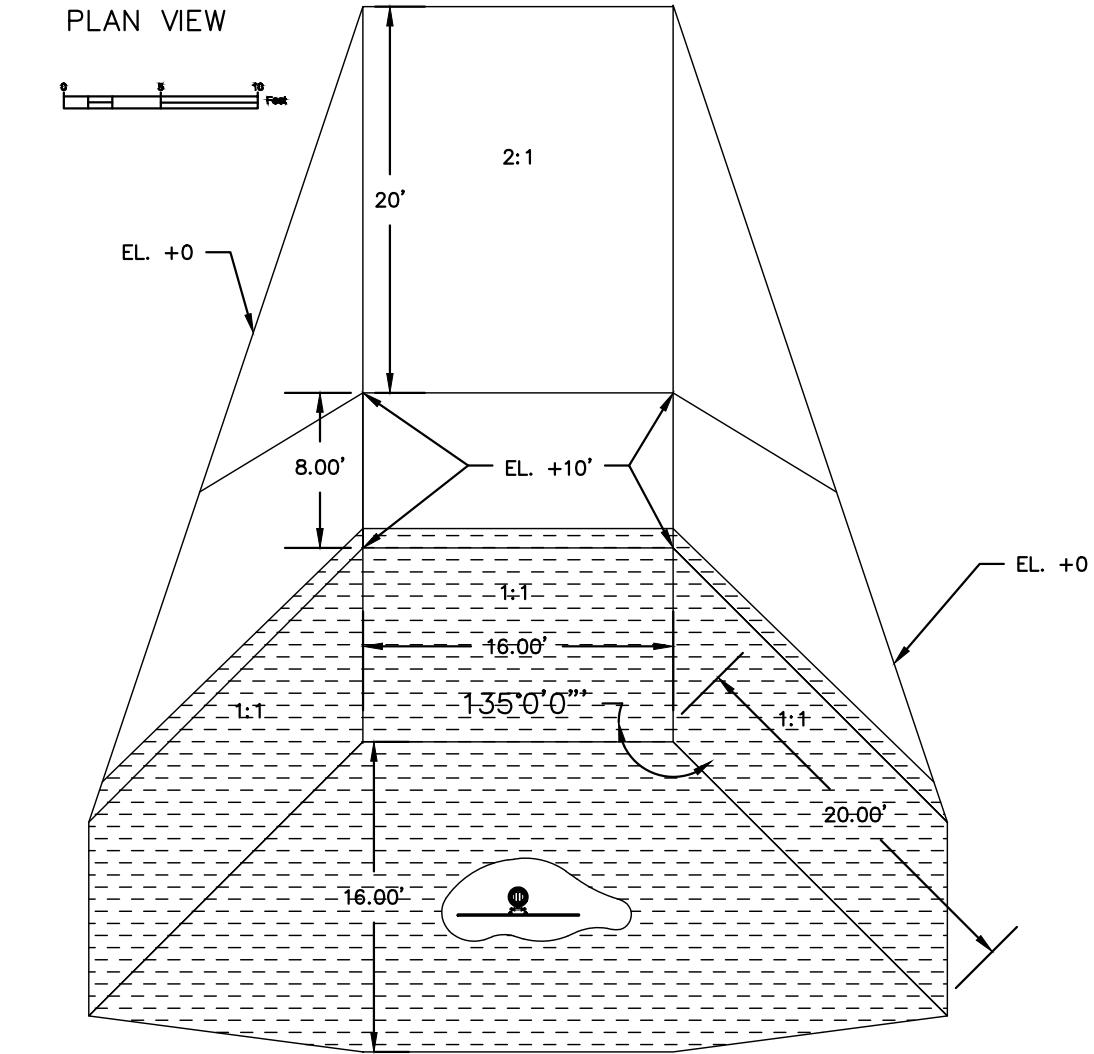
CENTERLINE SECTION



NOTES:

- 1) STRUCTURAL JOINTS AND INTERFACES FEATURE FULL PENETRATION WELDS
- 2) CONTRACTOR SHALL SUBMIT SHOP DRAWINGS PRIOR TO FABRICATION
- 3) ALTERNATIVE STRUCTURAL DESIGN AND VALUE ENGINEERING IS HIGHLY ENCOURAGED
- 4) TARGET LONGEVITY, THEFT RESISTANCE, AND EASE OF MAINTENANCE ARE PRIORITY
- 5) COMPRESSION SPRING, WHEN USED, SHALL BE PERMANENTLY AFFIXED TO TARGET FRAME

PLAN VIEW



SINGLE PLATE TARGET (DETAIL 3)

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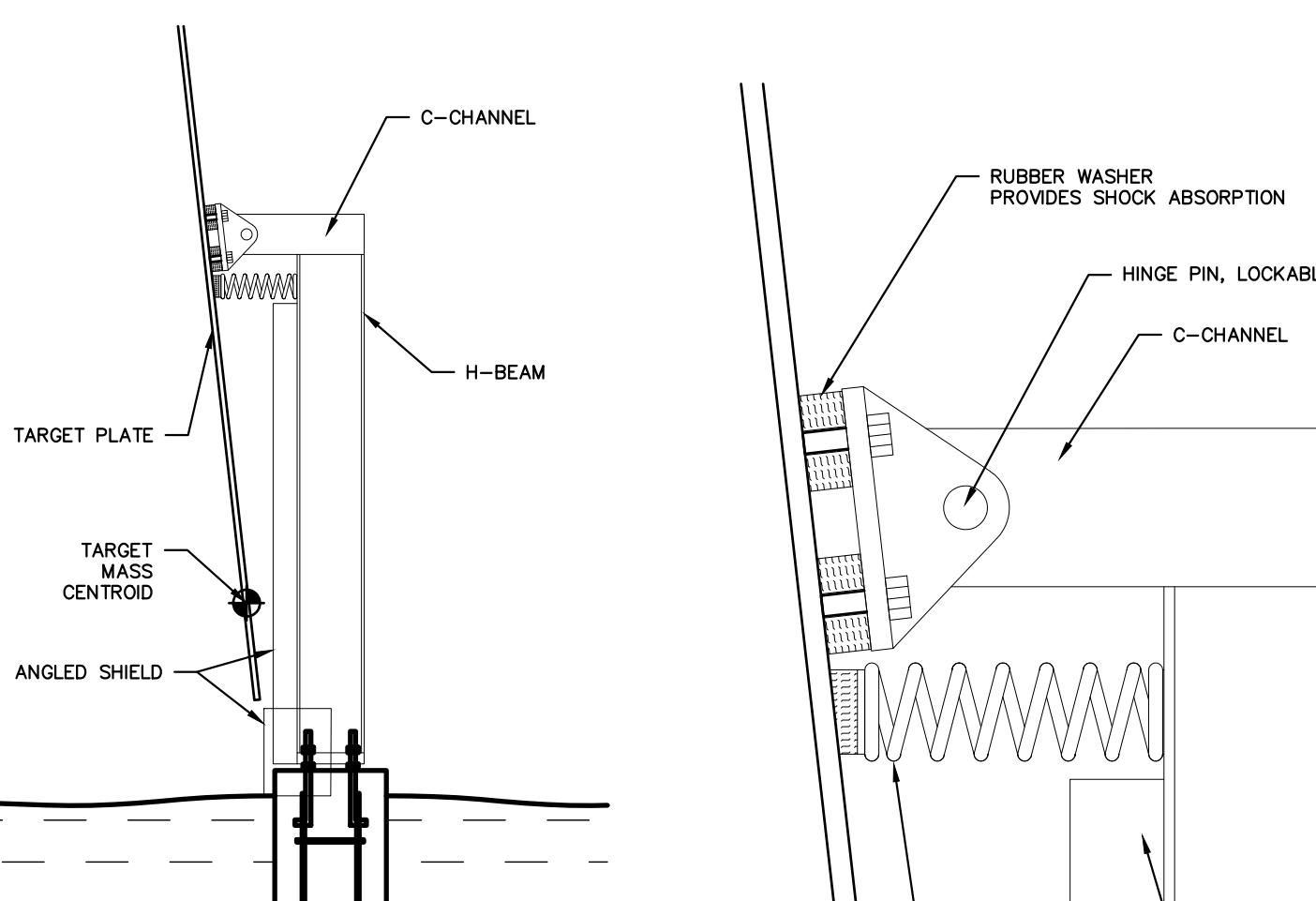
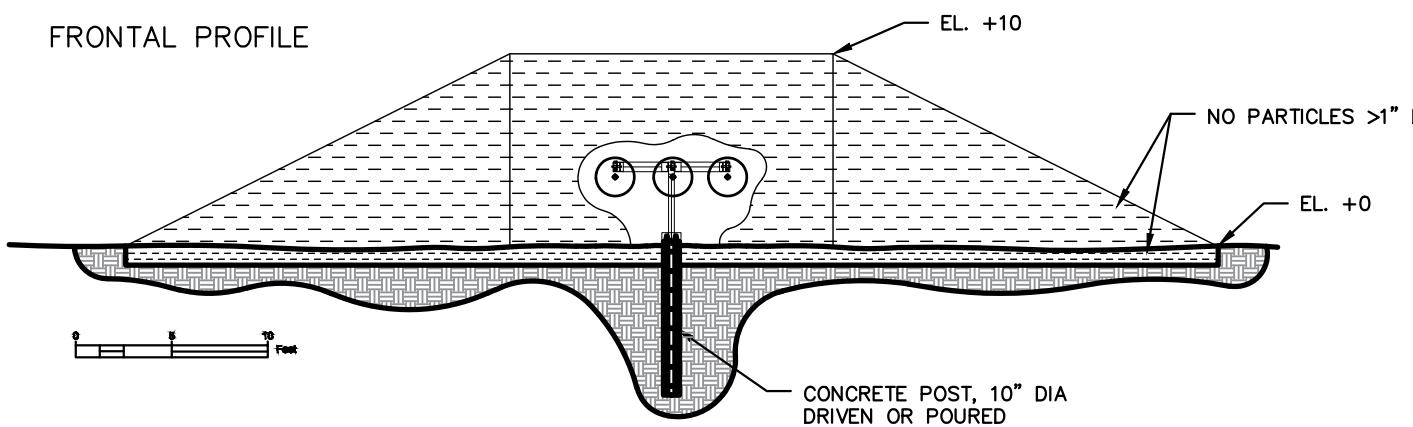
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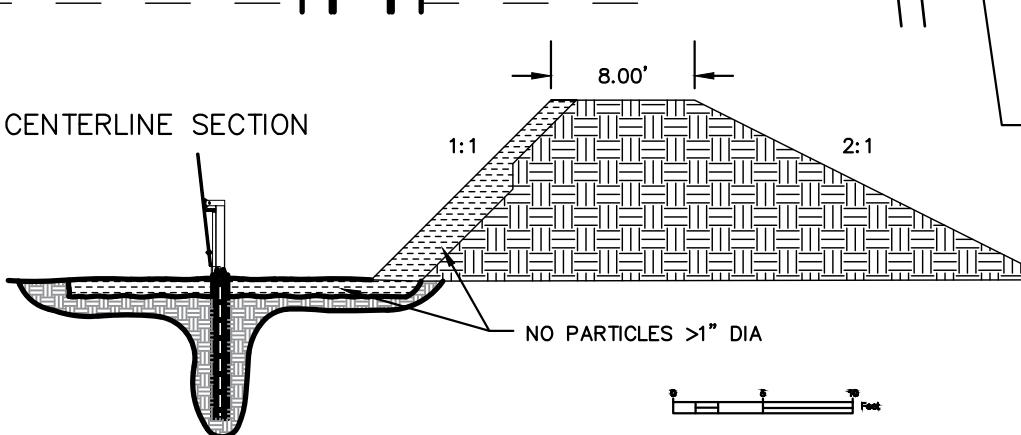
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SINGLE PLATE, GAME ANIMAL SILHOUETTE TARGET

FRONTAL PROFILE



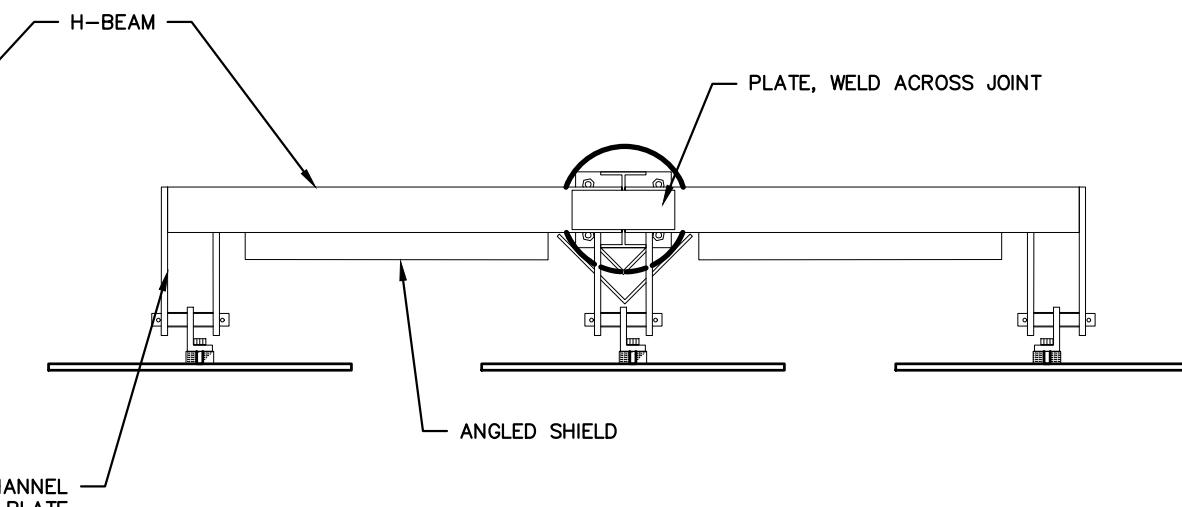
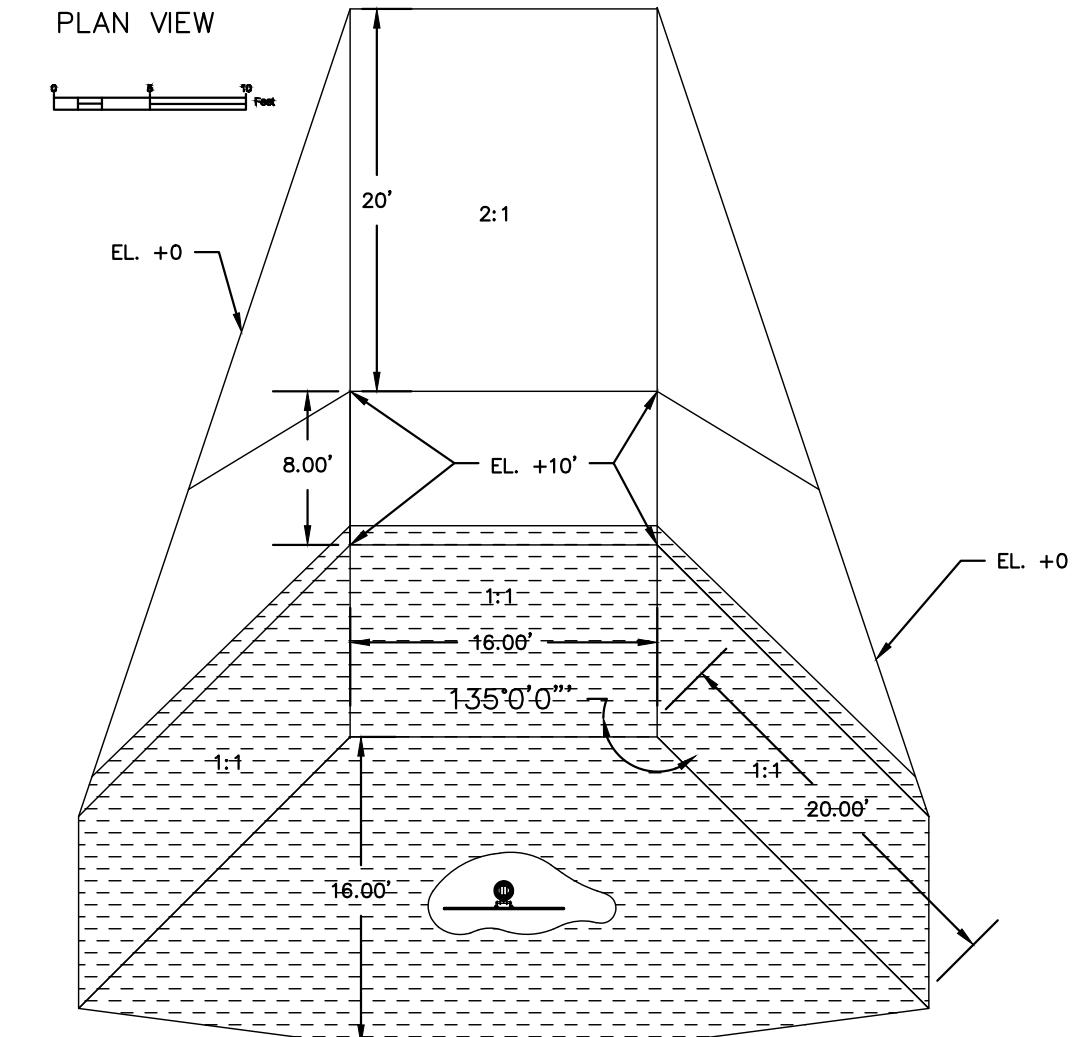
CENTERLINE SECTION



NOTES:

- 1) STRUCTURAL JOINTS AND INTERFACES FEATURE FULL PENETRATION WELDS
- 2) CONTRACTOR SHALL SUBMIT SHOP DRAWINGS PRIOR TO FABRICATION
- 3) ALTERNATIVE STRUCTURAL DESIGN AND VALUE ENGINEERING IS HIGHLY ENCOURAGED
- 4) TARGET LONGEVITY, THEFT RESISTANCE, AND EASE OF MAINTENANCE ARE PRIORITY
- 5) COMPRESSION SPRING, WHEN NEEDED, SHALL BE PERMANENTLY AFFIXED TO FRAME POST

PLAN VIEW



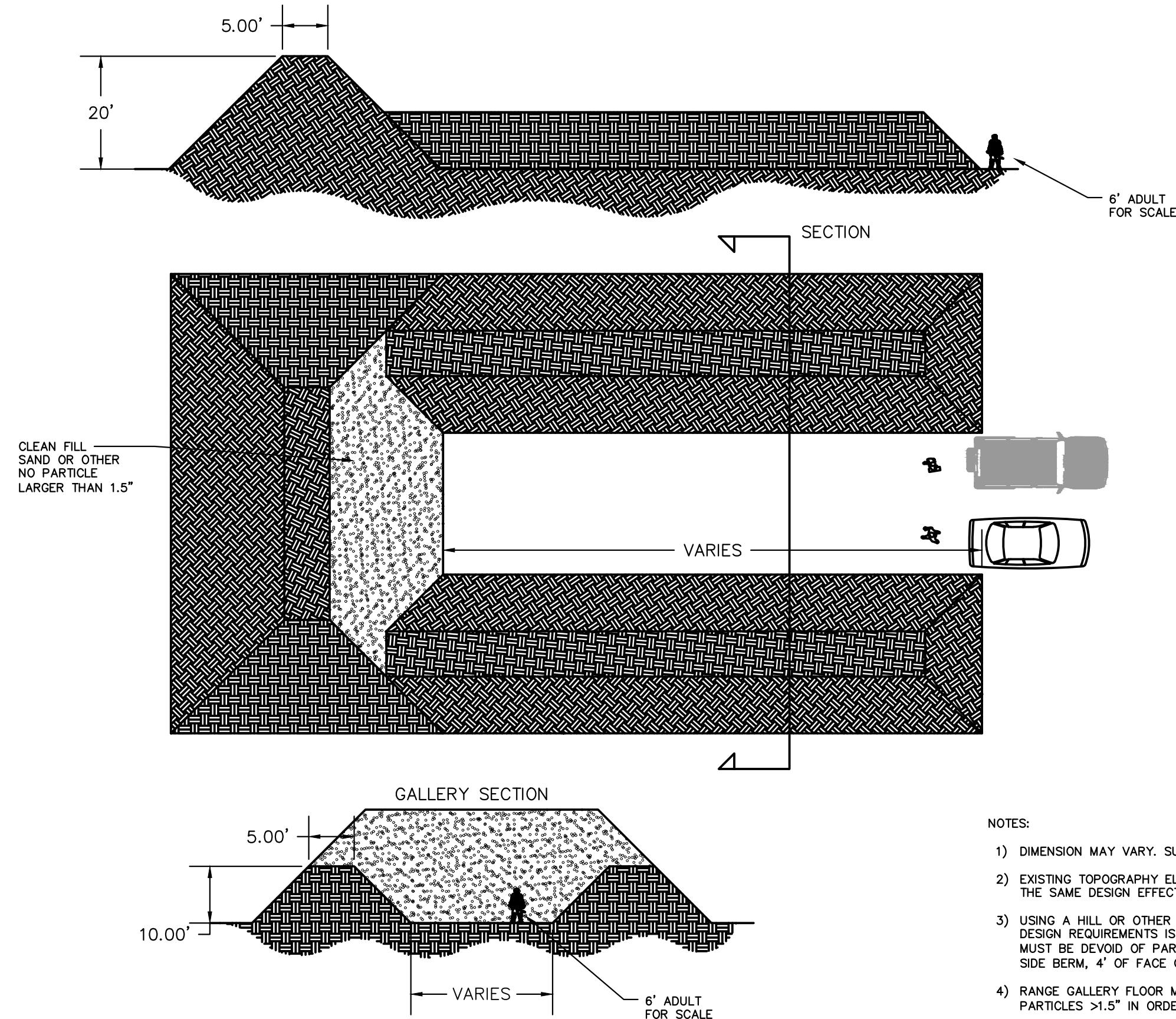
MULTI-PLATE TARGET (DETAIL 4)

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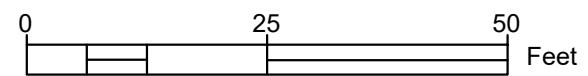
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2 BENCH GALLERY TYPICAL

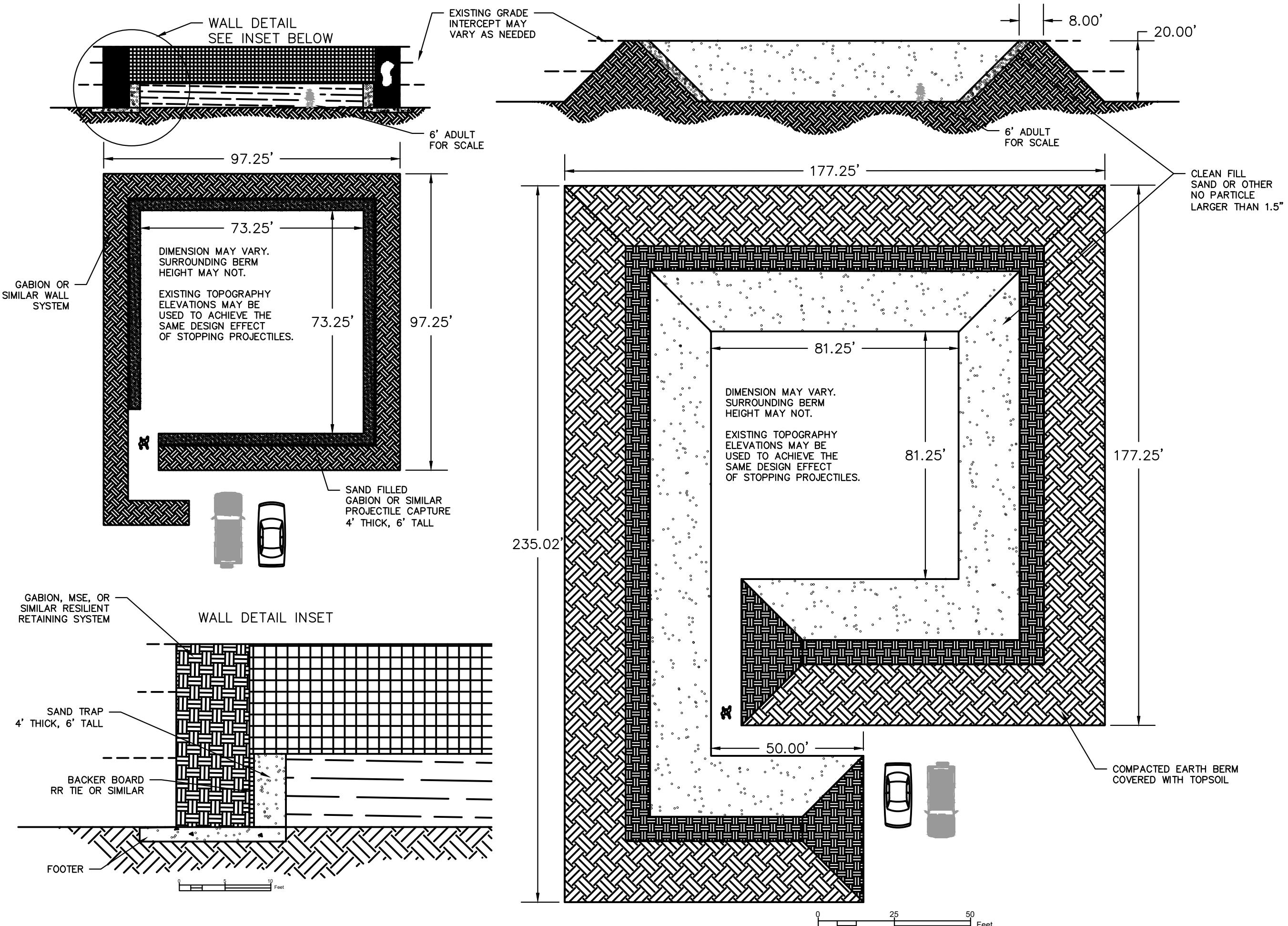
NOTES

- 1) DIMENSION MAY VARY. SURROUNDING BERM HEIGHT MAY NOT
 - 2) EXISTING TOPOGRAPHY ELEVATIONS MAY BE USED TO ACHIEVE THE SAME DESIGN EFFECT OF STOPPING PROJECTILES.
 - 3) USING A HILL OR OTHER EXISTING FEATURE TO ACHIEVE THE DESIGN REQUIREMENTS IS TOTALLY ACCEPTABLE. FEATURES MUST BE DEVOID OF PARTICLES >1.5" WITHIN 1' OF FACE ON SIDE BERM, 4' OF FACE ON END BERM
 - 4) RANGE GALLERY FLOOR MUST ALSO BE COMBED FOR LARGE PARTICLES >1.5" IN ORDER TO REDUCE HAZARD
 - 5) MULTIPLE GALLERIES MAY BE CONJOINED IN PARALLEL TO SHARE SIDE BERMS



OMNIDIRECTIONAL GALLERY (DETAIL 4)

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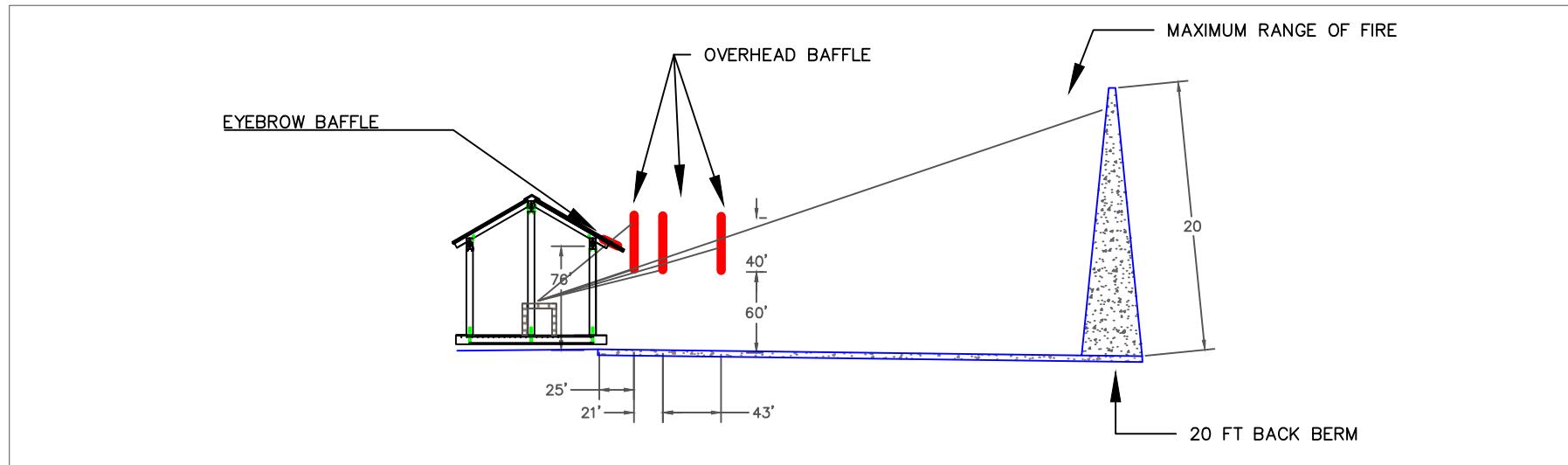


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SHOOTING RANGE BAFFLE PROFILES

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110 YARD SIGHTING RANGE BAFFLE PROFILE



NOTES:

- 1) THE GROUND BAFFLES ARE PLACED TO INTERCEPT PROJECTILES MOVING TO INTERCEPT THE RANGE GALLERY FLOOR AT LESS THAN OR EQUAL TO 10 DEGREES, MEASURED FROM TRAJECTORY TO RANGE FLOOR. (ANGLE OF INCIDENCE)
- 2) OVERHEAD BAFFLES ARE PLACED SO AS TO PREVENT AN UNINTERRUPTED PROJECTILE FROM ACHIEVING A TRAJECTORY FROM THE FIRING POINT THAT WOULD ENABLE IT TO DEPART THE RANGE GALLERY WITHOUT FIRST STRIKING THE END BERM
- 3) BAFFLES ARE DESIGNED AND SIZED SO AS TO MEET OR EXCEED DOE AND DOD CRITERIA FOR A CORRESPONDING PROJECTILE CALIBER AND ENERGY USING A VARIETY OF MATERIALS
- 4) OVERHEAD AND GROUND BAFFLES MAY BE MITIGATED THROUGH OTHER SAFETY MECHANISMS THAT ACHIEVE SIMILAR ENERGY DISRUPTION AND INTERCEPTION SUCH AS PREPARED GALLERY FLOOR (SCREENED, D95<1.5*, TILLED) OR A HYBRID OVERHEAD BAFFLE THAT INCLUDES A MUCH BROADER SURFACE. THIS HYBRID COULD INCLUDE A DEFLECTING PLATE OR 'EYEBROW' SIMILAR TO THAT SHOWN ABOVE THE FIRING POINT