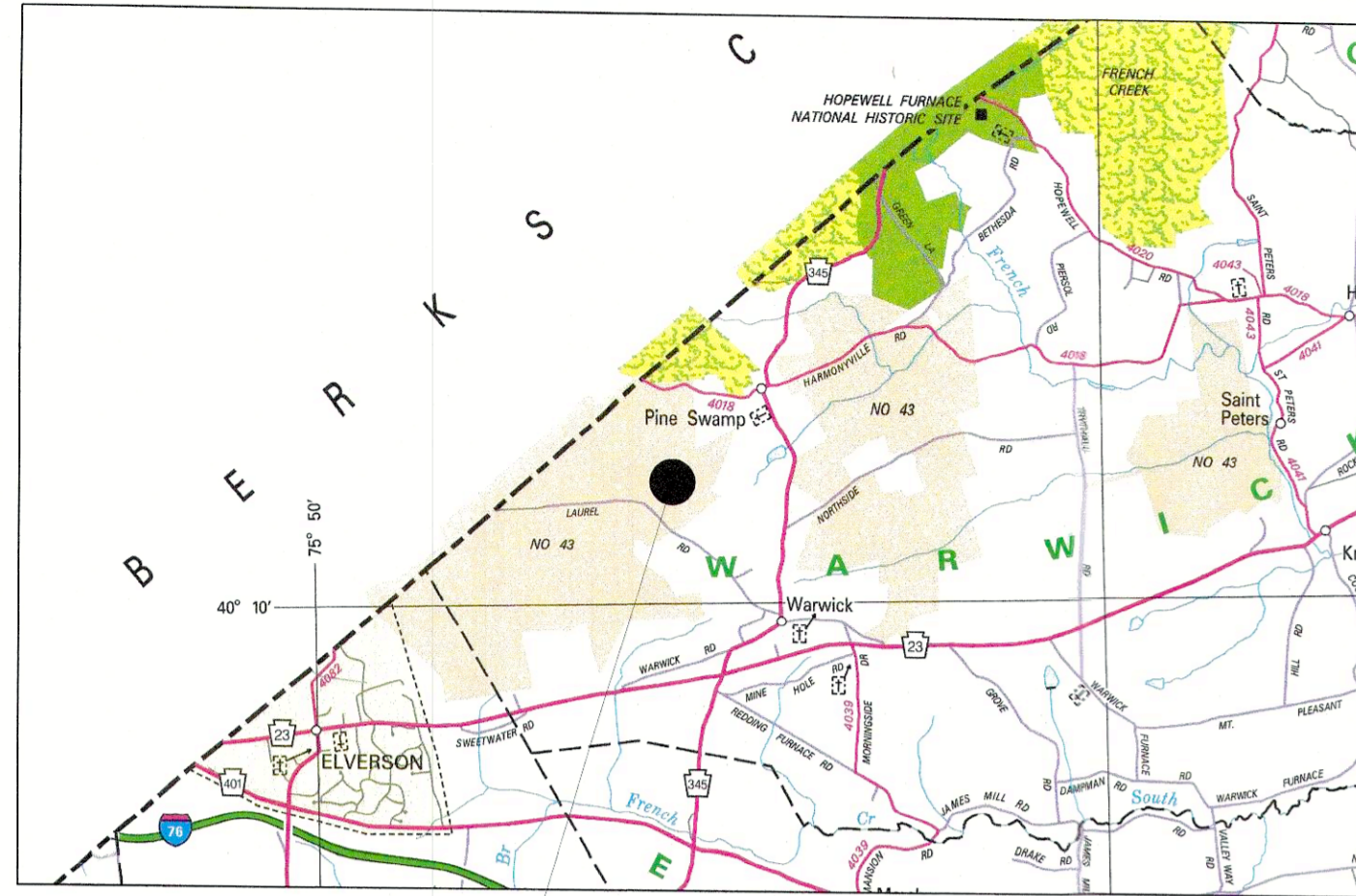


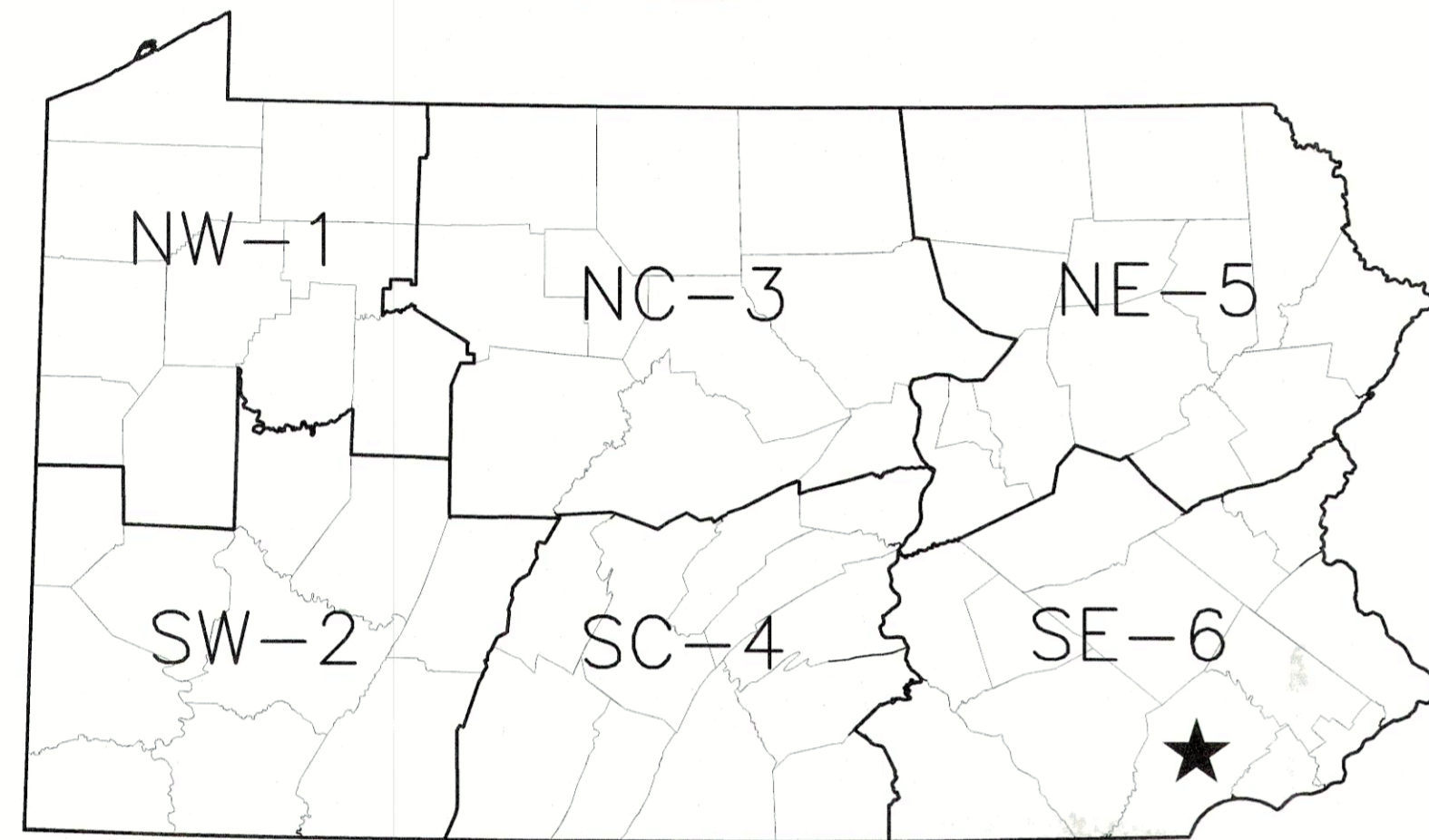
PENNSYLVANIA GAME COMMISSION

SGL NO. 043

SHOOTING RANGE IMPROVEMENTS



SITE LOCATION
NO SCALE



★ = GEO N40.175209°/-75.797022°W

WARWICK TOWNSHIP, CHESTER COUNTY
NOVEMBER 2023

GENERAL NOTES:

1. THIS PROJECT IS LOCATED ON STATE GAME LAND (SGL) #043 IN WARWICK TOWNSHIP, CHESTER COUNTY. THE SITE IS LOCATED APPROXIMATELY 1.0 MILES NORTHWEST OF S.R. 345 AT WARWICK PA. THE SITE AND ADJACENT PROPERTY IS OWNED BY THE PA GAME COMMISSION (PGC).
2. WORK HOURS SHALL BE DURING NORMAL PGC BUSINESS HOURS MONDAY-FRIDAY, 7:45 AM TO 4:00 PM EST. DIFFERENT WORK HOURS MUST HAVE PRIOR WRITTEN APPROVAL BY THE PGC. REQUESTS FOR DIFFERENT HOURS MUST BE SUBMITTED AT LEAST TWO (2) BUSINESS DAYS IN ADVANCE.
3. THE EXISTING STABILIZED ACCESS DRIVE AND ADJOINING PARKING LOTS OFF OF LAUREL LANE IS TO SERVE AS ACCESS AND STAGING AREAS FOR THE PROJECT.
4. THE SHOOTING RANGE WILL BE CLOSED DURING CONSTRUCTION ACTIVITIES. THE CONTRACTOR SHALL FURNISH AND INSTALL ANY NEEDED SIGNS, BARRICADES, WARNING TAPES, ETC. TO PROTECT AND PROHIBIT ACCESS TO THE PROJECT AREA DURING CONSTRUCTION. THE PGC SHALL POST "RANGE CLOSED" SIGNS ALONG THE ACCESS DRIVE LEADING TO THE SITE ALONG LAUREL ROAD.
5. THE CONTRACTOR SHALL REMOVE EXISTING PGC SIGNAGE PRIOR TO CONSTRUCTION AND WILL REINSTALL THE SIGNS AFTER WORK IS COMPLETE.
6. SHELTERS SHOULD BE ALIGNED CORRESPONDING TO THE TARGETS DOWN RANGE. PGC STAFF WILL FINALIZE LAYOUT OF SHELTERS AND SPACING PRIOR TO PROCEEDING WITH FURTHER CONSTRUCTION.
7. REMOVE AND PROPERLY DISPOSE OF ALL CONSTRUCTION DEBRIS.
8. RESTORE ANY DISTURBED VEGETATED AREAS WITH 4" OF TOP SOIL, SEED AND MULCH.
9. CONTRACTOR IS RESPONSIBLE FOR LOCAL BONDING AND ANY ROADWAY DAMAGE, INCLUDING PGC ROADS.

SHEET INDEX:

1. COVER PAGE
2. EXISTING CONDITIONS
3. EROSION AND SEDIMENT CONTROL PLAN
4. SITE PLAN WITH PROPOSED CONDITIONS
5. DETAIL SHEET 1
6. DETAIL SHEET 2



PHOTOGRAPH OF EXISTING BERM
NO SCALE



PHOTOGRAPH OF PROPOSED LOCATION
NO SCALE



PHOTOGRAPH OF PROPOSED LOCATION
NO SCALE



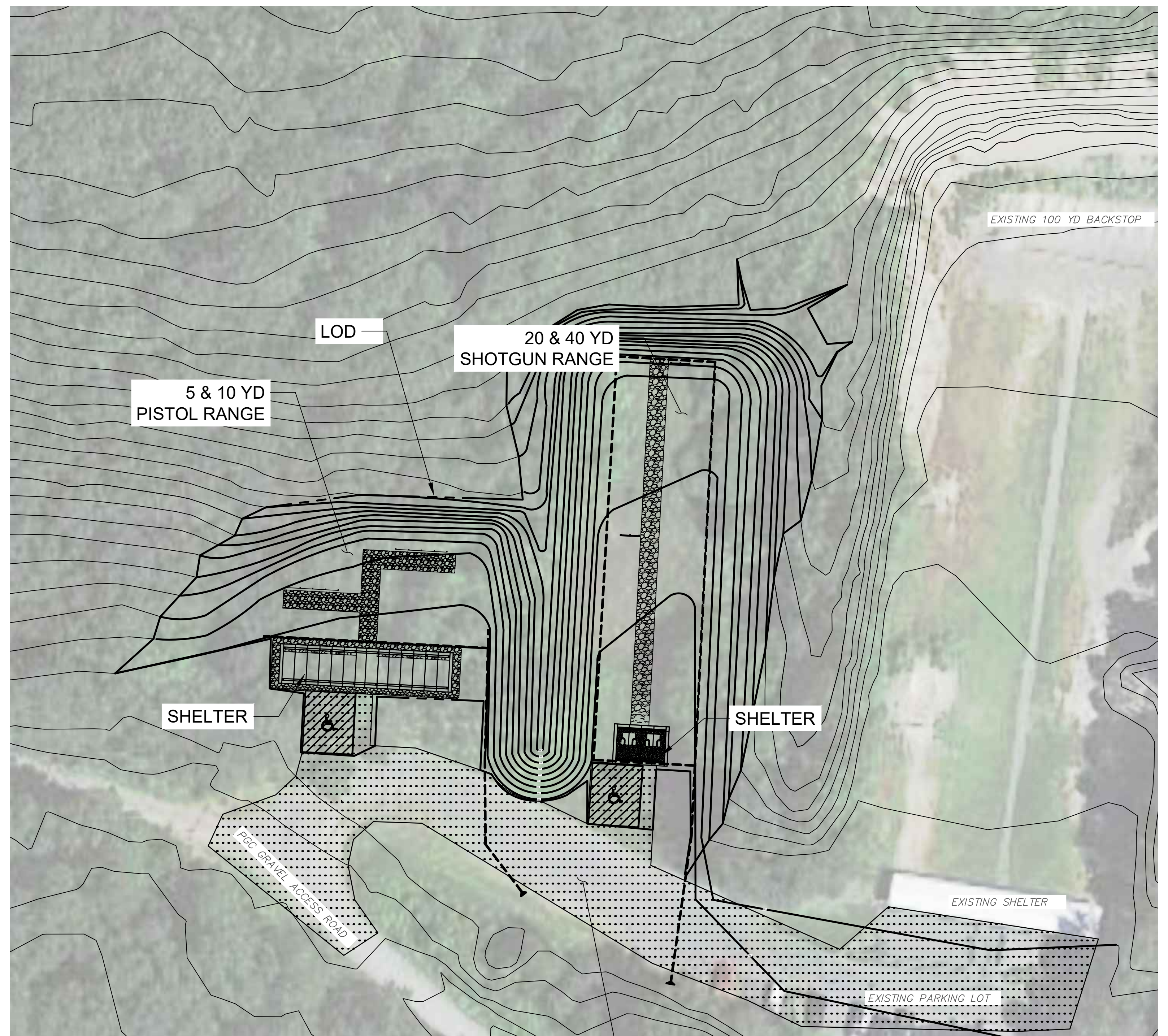
PHOTOGRAPH OF EXISTING ACCESS ROAD
NO SCALE



Dial 8-1-1 or 1-800-242-1776 not less than 3 business days nor more than 10 business days prior to the start of excavation.
Coordinate your projects via Coordinate PA at www.paonecall.org.

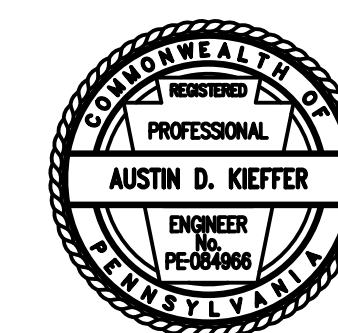


PENNSYLVANIA GAME COMMISSION		
STATE GAME LANDS #043	WARWICK TWP	CHESTER CO.
PISTOL & SHOTGUN SHOOTING RANGE CONSTRUCTION		
COVER PAGE		
REVISIONS	PROJECT NO.	PGC-043-23
▲	DRAWN BY:	ACL
▲	DATE:	11/21/2023
▲	SHEET NO.	1 OF 6

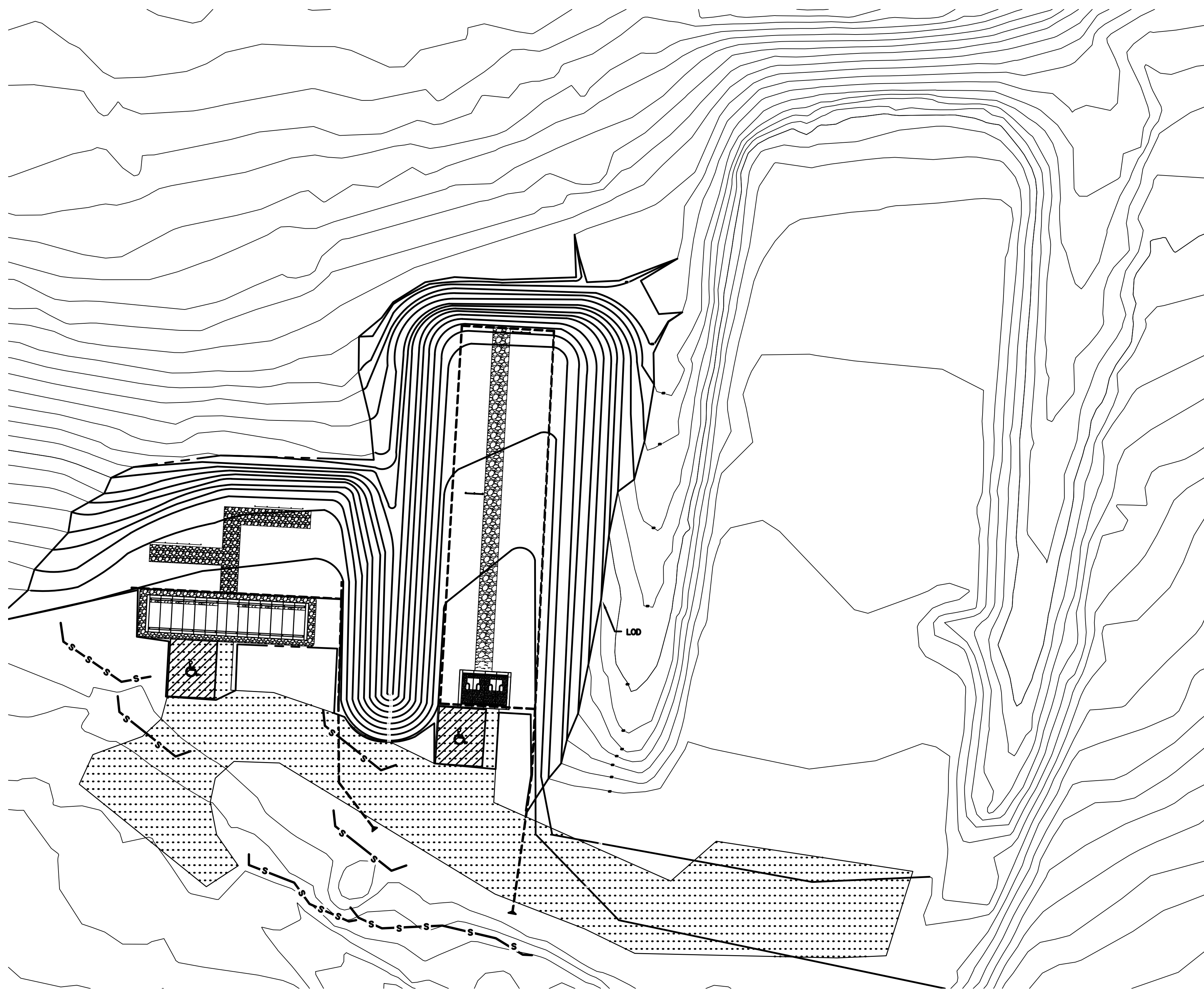


SHOOTING RANGE CONSTRUCTION TASKS:

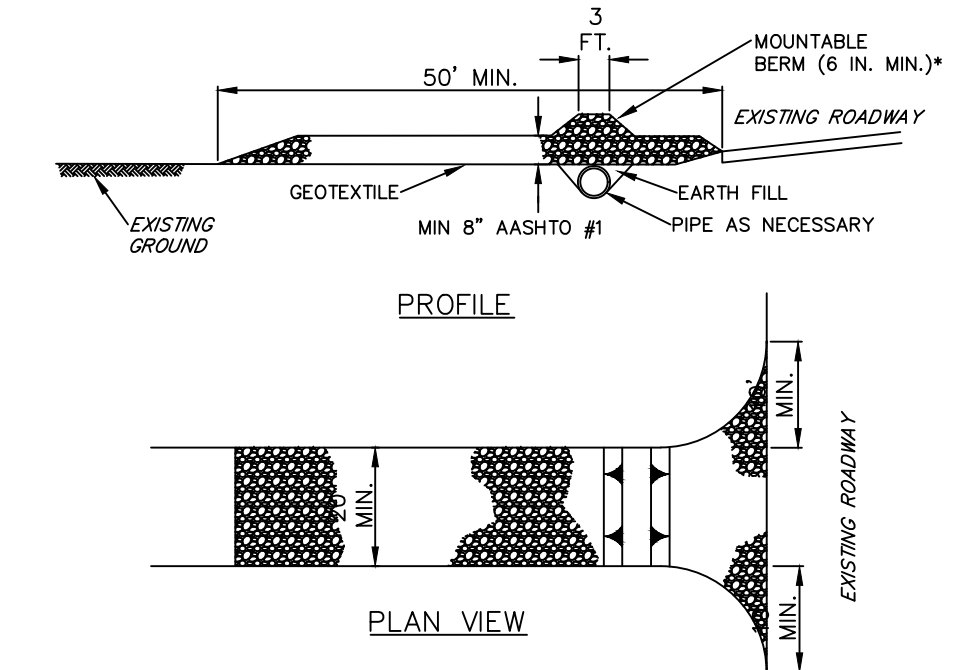
1. CLEAR AND GRUB RANGE FLOOR AND BERM AREAS TO EXPAND RANGE & PROVIDE LINE OF SIGHT (VOLUME- VARIOUS UNDERGROWTH AND TREES 6"-12" STUMP DIAMETER).
 - 1.1 CLEARED VEGETATION IS PERMITTED TO REMAIN ON SITE FOR DISPOSAL; ON SITE LOCATION TO BE DETERMINED BY PGC PERSONNEL.
2. EXCAVATE TO PROVIDE TWO (2) SHOOTING RANGE SHELTERS (SEE DETAILS); ONE (1) SHOTGUN, ONE (1) PISTOL, AND APPURTENANCES.
3. PROVIDE CONCRETE PAD BELOW SHELTERS WITH 4" FRENCH DRAIN ALONG DRIP LINE.
4. PROVIDE 2A COARSE AGGREGATE AS SUBBASE UNDER PAD, ALONG PROPOSED PAD, AND ACCESS DRIVE (SEE DRAWINGS FOR DETAILS AND LOCATIONS).
5. INSTALL BACKSTOP FOR BAYS AT 10 & 45 YARDS.
6. CONSTRUCT 8' WIDE BERM WITH 2:1 SLOPES BETWEEN RANGES.
7. PROVIDE 2A COARSE AGGREGATE AND AASHTO #10 WALKWAY; EXTEND TO 40 YARDS.
8. PROVIDE 2A COARSE AGGREGATE AND AASHTO #10 WALKWAY FOR PISTOL BAYS; EXTEND TO 10 YARDS.
9. PROVIDE ADDITIONAL AASHTO #10 ON BACKSTOPS.
10. EXISTING ACCESS ROAD AND PARKING LOT TO BE GRADED AND CROWNED WITH 2A, AS DESIGNATED ON PLANS AND AS DIRECTED BY PGC PERSONNEL, BEFORE TAR AND CHIP APPLICATION.



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EXISTING CONDITIONS & GRADING PLAN		
REVISIONS	PROJECT NO.	PGC-043-23-1
▲	DRAWN BY:	AA
▲	DATE:	11/21/2023
▲	SHEET NO.	2 OF 6



PLAN - PROPOSED RANGE
1/32 IN = 1 FT



* MOUNTABLE BERM USED TO PROVIDE PROPER COVER FOR PIPE

NOTES:

REMOVE TOPSOIL PRIOR TO INSTALLATION OF ROCK CONSTRUCTION ENTRANCE. EXTEND ROCK COVER FULL WIDTH OF ENTRANCE.

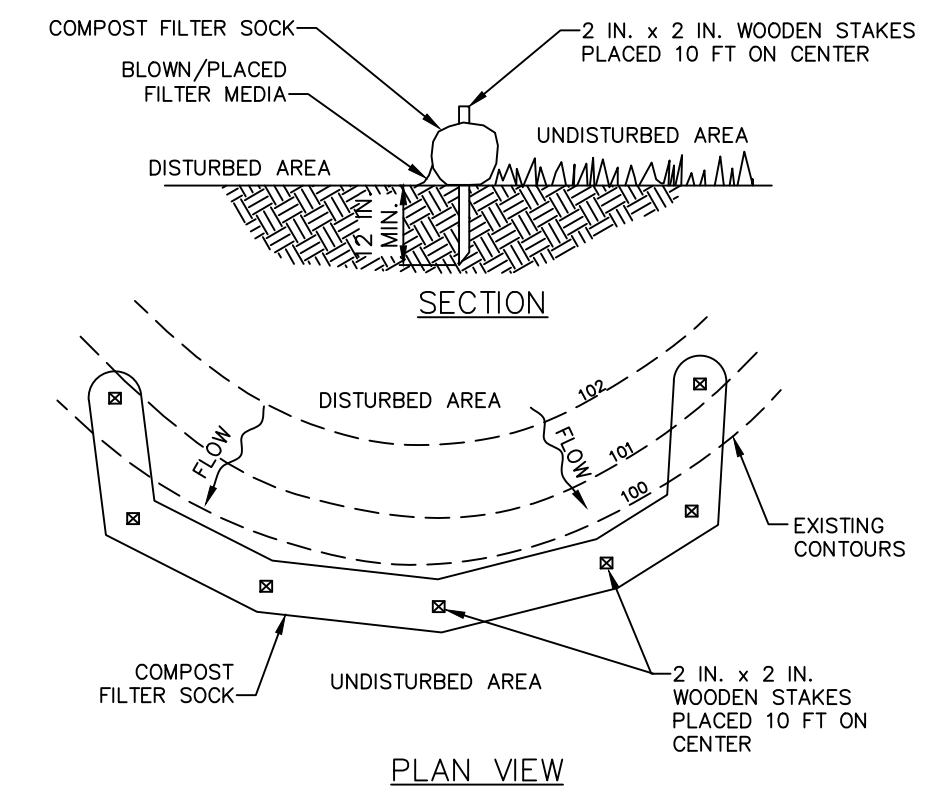
RUNOFF SHALL BE DIVERTED FROM ROADWAY TO A SUITABLE SEDIMENT REMOVAL BMP PRIOR TO ENTERING ROCK CONSTRUCTION ENTRANCE.

MOUNTABLE BERM SHALL BE INSTALLED WHEREVER OPTIONAL CULVERT PIPE IS USED AND PROPER PIPE COVER AS SPECIFIED BY MANUFACTURER IS NOT OTHERWISE PROVIDED. PIPE SHALL BE SIZED APPROPRIATELY FOR SIZE OF DITCH BEING CROSSED.

MAINTENANCE: ROCK CONSTRUCTION ENTRANCE THICKNESS SHALL BE CONSTANTLY MAINTAINED TO THE SPECIFIED DIMENSIONS BY ADDING ROCK. A STOCKPILE SHALL BE MAINTAINED ON SITE FOR THIS PURPOSE. ALL SEDIMENT DEPOSITED ON PAVED ROADWAYS SHALL BE REMOVED AND RETURNED TO THE CONSTRUCTION SITE IMMEDIATELY. IF EXCESSIVE AMOUNTS OF SEDIMENT ARE BEING DEPOSITED ON ROADWAY, EXTEND LENGTH OF ROCK CONSTRUCTION ENTRANCE BY 50 FOOT INCREMENTS UNTIL CONDITION IS ALLEVIATED OR INSTALL WASH RACK, WASHING THE ROADWAY OR SWEEPING THE DEPOSITS INTO ROADWAY DITCHES, SEWERS, CULVERTS, OR OTHER DRAINAGE COURSES IS NOT ACCEPTABLE.

STANDARD CONSTRUCTION DETAIL #3-1
ROCK CONSTRUCTION ENTRANCE

NOT TO SCALE



NOTES:

SOCK FABRIC SHALL MEET STANDARDS OF TABLE 4.1 OF THE PA DEP EROSION CONTROL MANUAL. COMPOST SHALL MEET THE STANDARDS OF TABLE 4.2 OF THE PA DEP EROSION CONTROL MANUAL.

COMPOST FILTER SOCK SHALL BE PLACED AT EXISTING LEVEL GRADE. BOTH ENDS OF THE BARRIER SHALL BE EXTENDED AT LEAST 8 FEET UP SLOPE AT 45 DEGREES TO THE MAIN BARRIER ALIGNMENT. MAXIMUM SLOPE LENGTH ABOVE ANY BARRIER SHALL NOT EXCEED THAT SPECIFIED FOR THE SIZE OF THE SOCK AND THE SLOPE OF ITS TRIBUTARY AREA.

TRAFFIC SHALL NOT BE PERMITTED TO CROSS COMPOST FILTER SOCKS.

ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN IT REACHES 1/2 THE ABOVE GROUND HEIGHT OF THE BARRIER AND DISPOSED IN THE MANNER DESCRIBED ELSEWHERE IN THE PLAN.

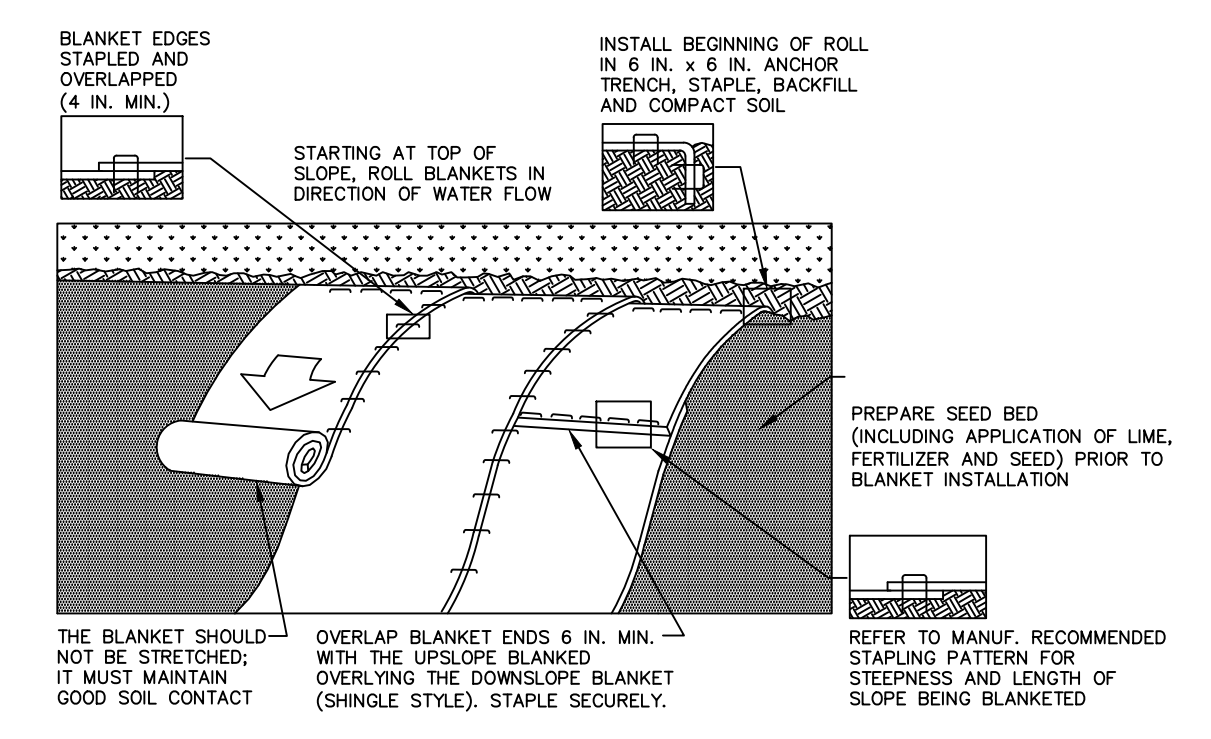
COMPOST FILTER SOCKS SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT. DAMAGED SOCKS SHALL BE REPAIRED ACCORDING TO MANUFACTURER'S SPECIFICATIONS OR REPLACED WITHIN 24 HOURS OF INSPECTION.

BIODEGRADABLE COMPOST FILTER SOCKS SHALL BE REPLACED AFTER 6 MONTHS; PHOTODEGRADABLE SOCKS AFTER 1 YEAR. POLYPROPYLENE SOCKS SHALL BE REPLACED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.

UPON STABILIZATION OF THE AREA TRIBUTARY TO THE SOCK, STAKES SHALL BE REMOVED. THE SOCK MAY BE LEFT IN PLACE AND VEGETATED OR REMOVED. IN THE LATTER CASE, THE MESH SHALL BE CUT OPEN AND THE MULCH SPREAD AS A SOIL SUPPLEMENT.

STANDARD CONSTRUCTION DETAIL #4-1
COMPOST FILTER SOCK

NOT TO SCALE



NOTES:

SEED AND SOIL AMENDMENTS SHALL BE APPLIED ACCORDING TO THE RATES IN THE PLAN DRAWINGS PRIOR TO INSTALLING THE BLANKET.

PROVIDE ANCHOR TRENCH AT TOE OF SLOPE IN SIMILAR FASHION AS AT TOP OF SLOPE.

SLOPE SURFACE SHALL BE FREE OF ROCKS, CLODS, STICKS, AND GRASS.

BLANKET SHALL HAVE GOOD CONTINUOUS CONTACT WITH UNDERLYING SOIL THROUGHOUT ENTIRE LENGTH. LAY BLANKET LOOSELY AND STAKE OR STAPLE TO MAINTAIN DIRECT CONTACT WITH SOIL. DO NOT STRETCH BLANKET.

THE BLANKET SHALL BE STAPLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

BLANKETED AREAS SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT UNTIL PERENNIAL VEGETATION IS ESTABLISHED TO A MINIMUM UNIFORM 70% COVERAGE THROUGHOUT THE BLANKETED AREA. DAMAGED OR DISPLACED BLANKETS SHALL BE RESTORED OR REPLACED WITHIN 4 CALENDAR DAYS.

STANDARD CONSTRUCTION DETAIL #11-1
EROSION CONTROL BLANKET INSTALLATION

NOT TO SCALE

E&S NOTES:

ALL EXCESS FILL MATERIAL TO BE STORED AND/OR DISPOSED OF SHALL BE OUTSIDE OF THE 50' FLOODPLAIN, AT AN UPLAND LOCATION ON EXISTING ROADWAY.

CONTRACTOR WILL STABILIZE ALL DISTURBED AREAS IMMEDIATELY AFTER ALL EARTH DISTURBANCE ACTIVITIES CEASE. DURING NON-GERMINATION PERIODS, MULCH MUST BE APPLIED AT A RATE OF 1.2 LBS./SY.

IMMEDIATELY UPON DISCOVERING UNFORESEEN CIRCUMSTANCES POSING THE POTENTIAL TO ACCELERATE EROSION/SEDIMENTATION, THE PGC SHALL IMPLEMENT ADDITIONAL APPROPRIATE BMPs TO MITIGATE THE PROBLEM.

THE PGC SHALL NOTIFY DEP OF ANY REVISION TO THIS PLAN FOR REVIEW AND APPROVAL PRIOR TO INITIATING ANY CHANGES.

ALL CONSTRUCTION WASTE WILL BE REMOVED FROM THE SITE AND DISPOSED OF IN ACCORDANCE WITH ALL DEP SOLID WASTE MANAGEMENT REGULATIONS; 25 PA CODE 260.1 ET SEQ. 271.1 ET SEQ. NO WASTE SHALL BE BURIED, BURNED, OR DUMPED AT THE SITE.

ALL SEDIMENT COLLECTED FROM BMPs SHALL BE RESTORED TO UPLAND AREAS AND STABILIZED.

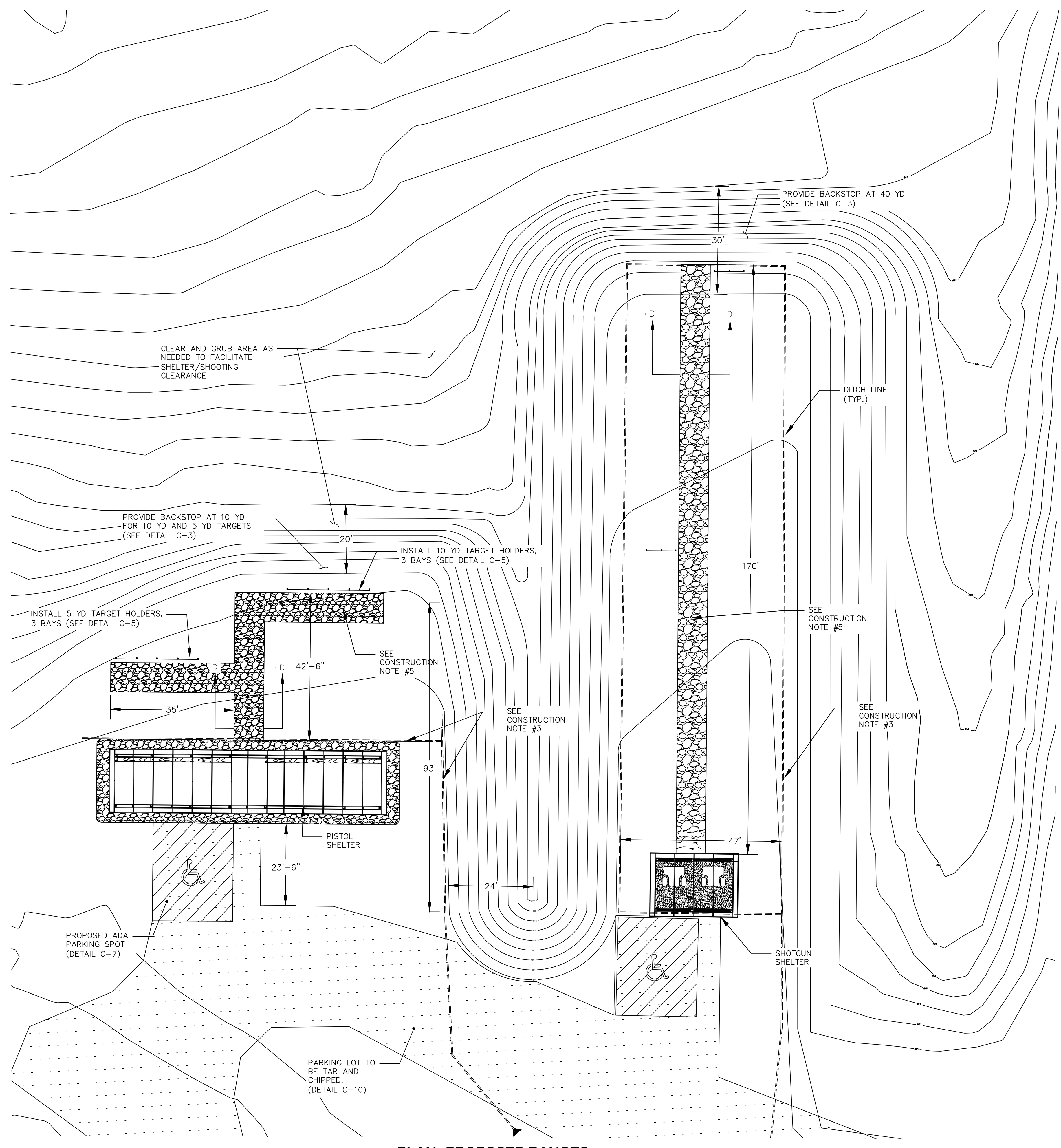
BMPs SHALL NOT BE REMOVED UNTIL 70% VEGETATIVE COVER IS ESTABLISHED ACROSS THE ENTIRE PROJECT AREA. EXPOSED ROAD SURFACE SHALL BE COVERED WITH A 4-INCH LAYER OF COMPACTED #2A COARSE AGGREGATE.

PERMANENT STABILIZATION IS DEFINED AS A MINIMUM UNIFORM 70% PERENNIAL COVER OR OTHER MEANS WITH A DENSITY CAPABLE OF RESISTING ACCELERATED EROSION AND SEDIMENTATION.

ALL BMPs SHALL REMAIN IN PLACE UNTIL THE SITE IS STABILIZED. MAINTENANCE OF BMPs INCLUDES WEEKLY INSPECTIONS AND AFTER EACH RAINFALL EVENT. IF A BMP FAILS TO PERFORM AS EXPECTED, REPLACEMENT MAY BE NECESSARY.

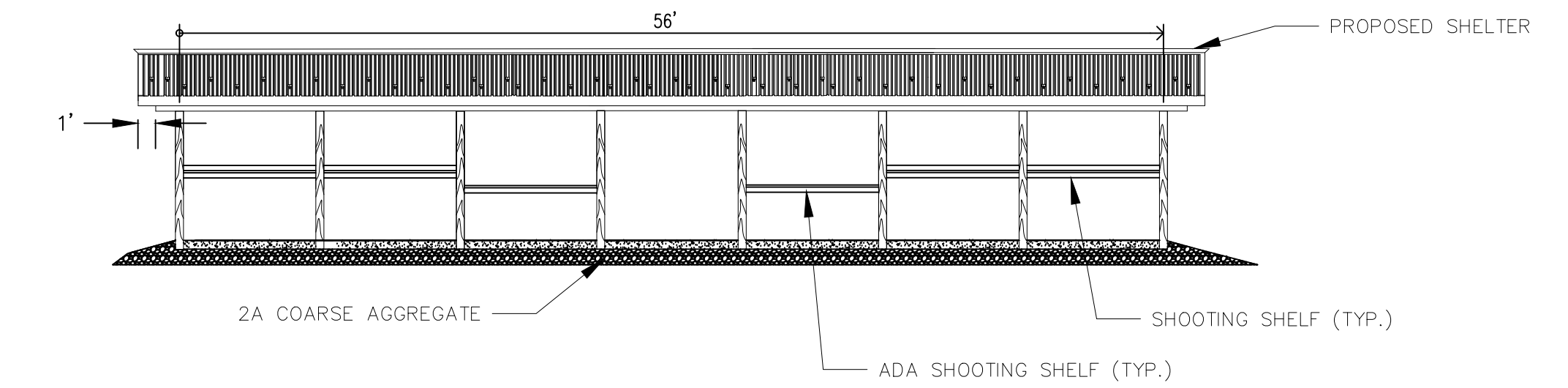


PENNSYLVANIA GAME COMMISSION		
STATE GAME LANDS #043	WARWICK TWP	CHESTER CO.
PISTOL & SHOTGUN SHOOTING RANGE CONSTRUCTION		
E&S PLAN		
REVISIONS	PROJECT NO.	PGC-043-23-1
	DRAWN BY:	AG
	DATE:	11/21/2023
	SHEET NO.	3 OF 6

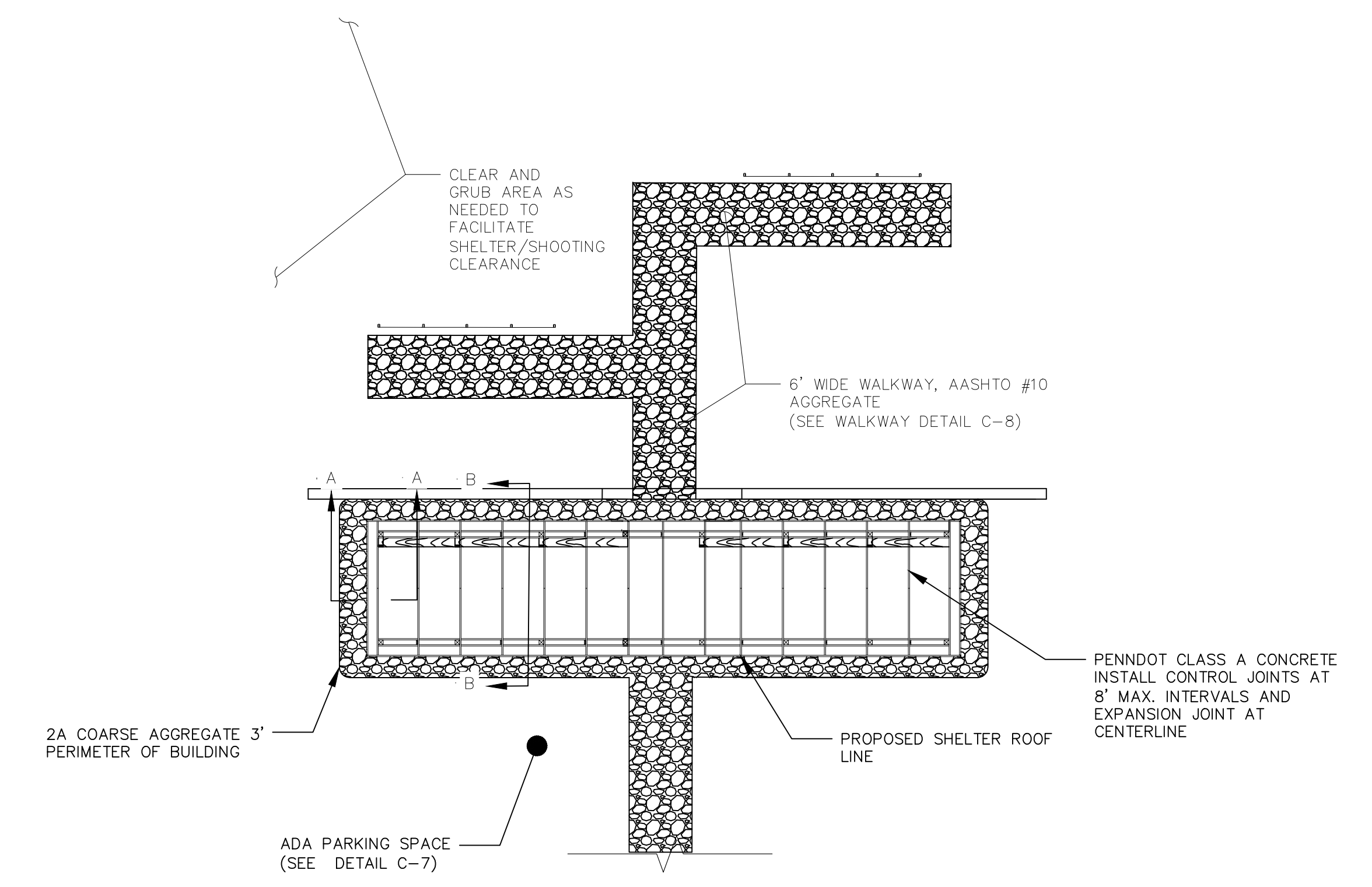


PLAN - PROPOSED RANGES
1/16 IN = 1 FT

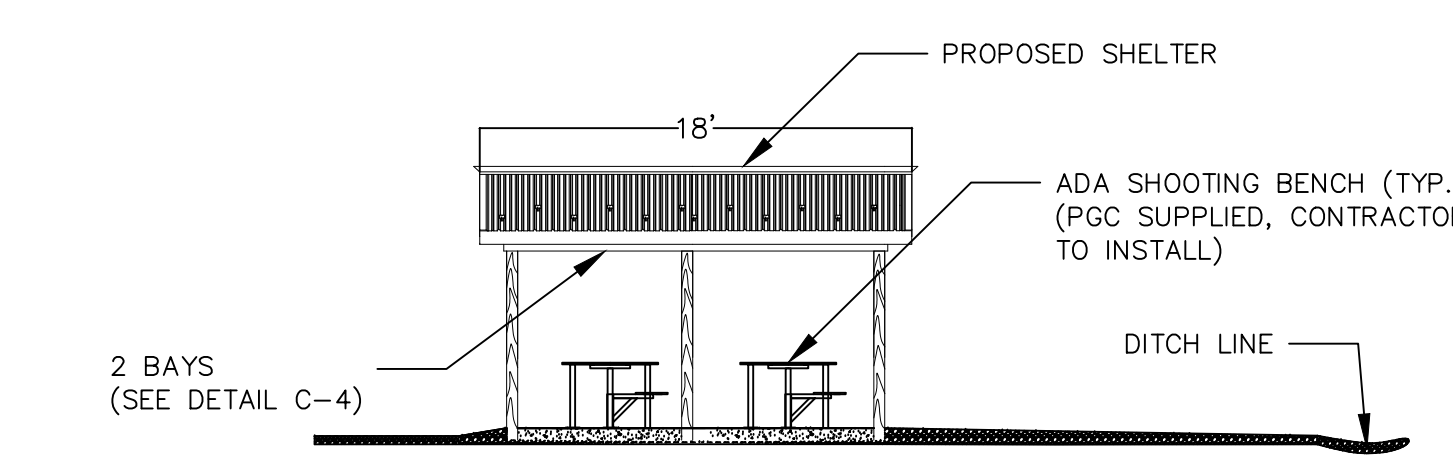
- SHOOTING RANGE (PISTOL AND SHOTGUN) CONSTRUCTION TASKS:**
- PISTOL RANGE:**
- (1) DESIGNATED HANDICAPPED PARKING SPACE. (SEE DETAIL)
 - PROVIDE (1) BACKSTOP FOR 5 & 10 YARD RANGES. (SEE DETAIL)
 - PROVIDE DITCH LINE WITH 4" PERFORATED DRAIN PIPE WITH FILTER SOCK
 - INSTALL ENTIRE LENGTH OF RANGE FLOOR AT BOTH RANGES. (SEE DETAIL)
 - WALKWAY ON RANGE FLOOR NOT TO EXCEED 1:20 SLOPE.
 - REMOVE SOD AND PLACE 6' WIDE X 8" DEEP 2A COURSE AGGREGATE TOPPED WITH 2" AASHTO #10. (DETAIL 8)



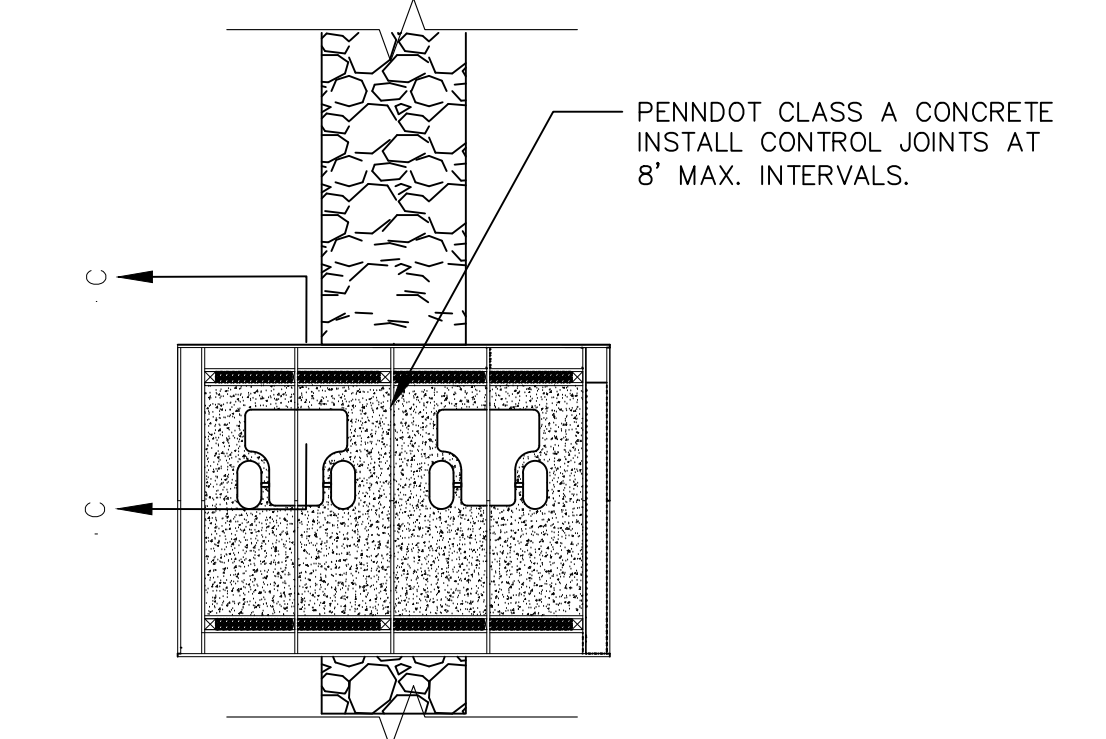
ELEVATION - PROPOSED PISTOL RANGE (FACING DOWNRANGE)
1/8 IN = 1 FT



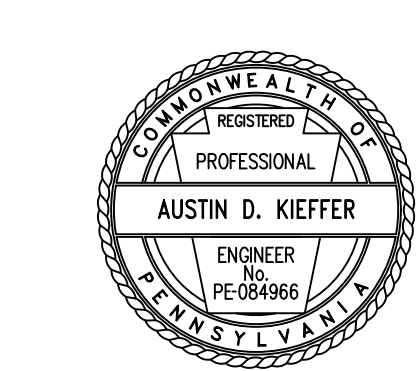
PLAN - PROPOSED PISTOL RANGE
3/32 IN = 1 FT



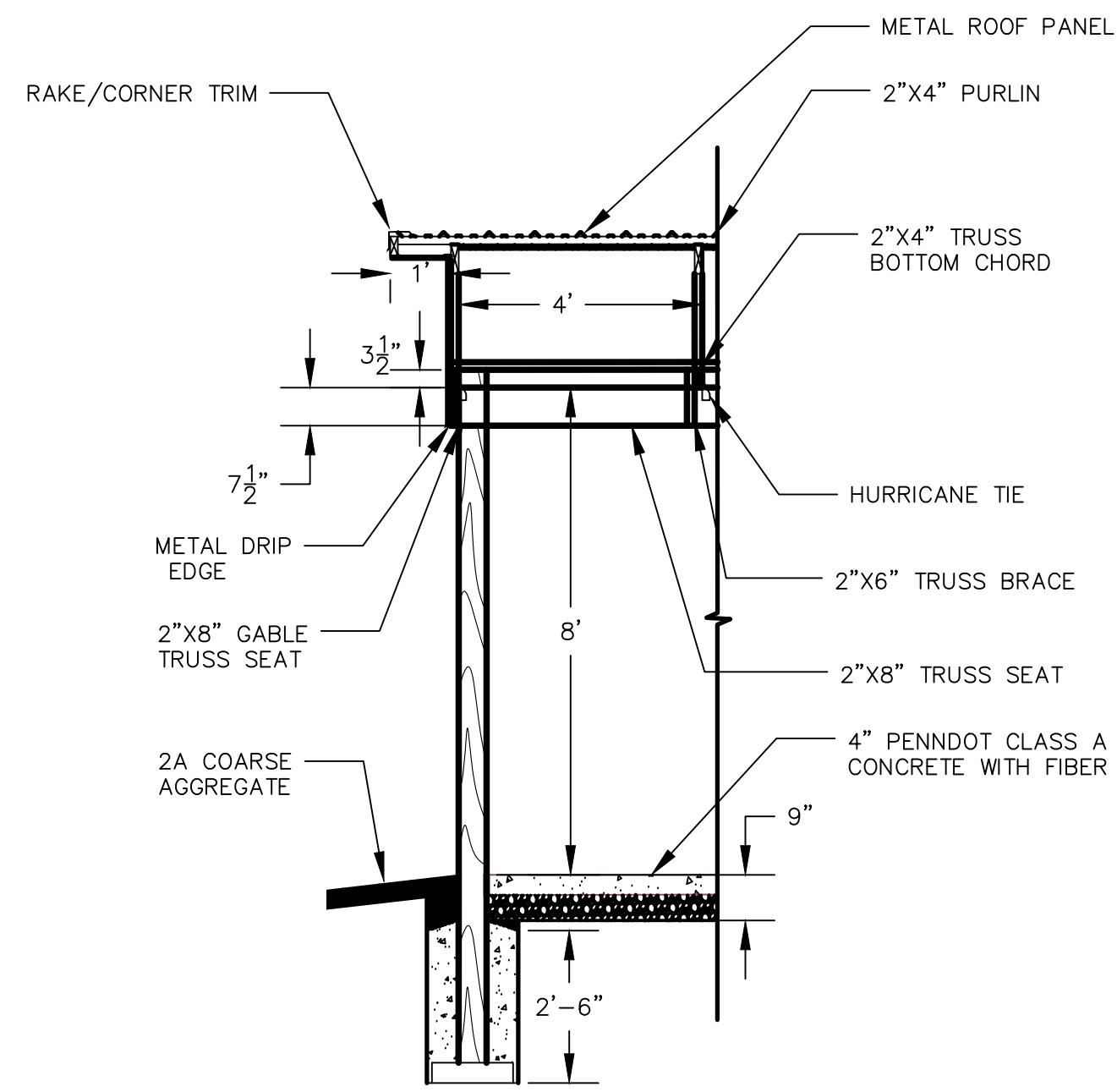
PLAN - PROPOSED SHOTGUN RANGE
1/8 IN = 1 FT



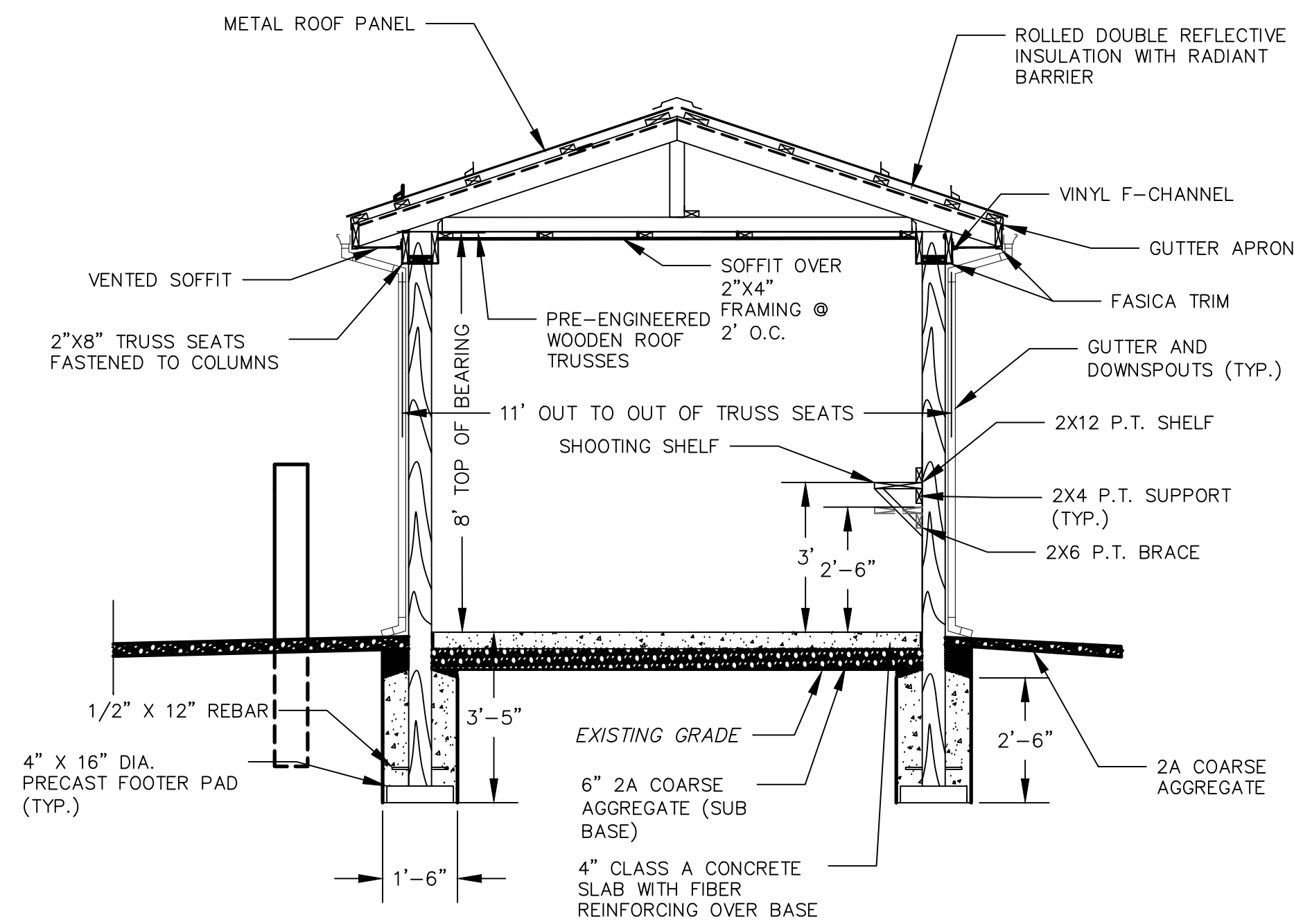
PLAN - PROPOSED SHOTGUN RANGE
1/8 IN = 1 FT



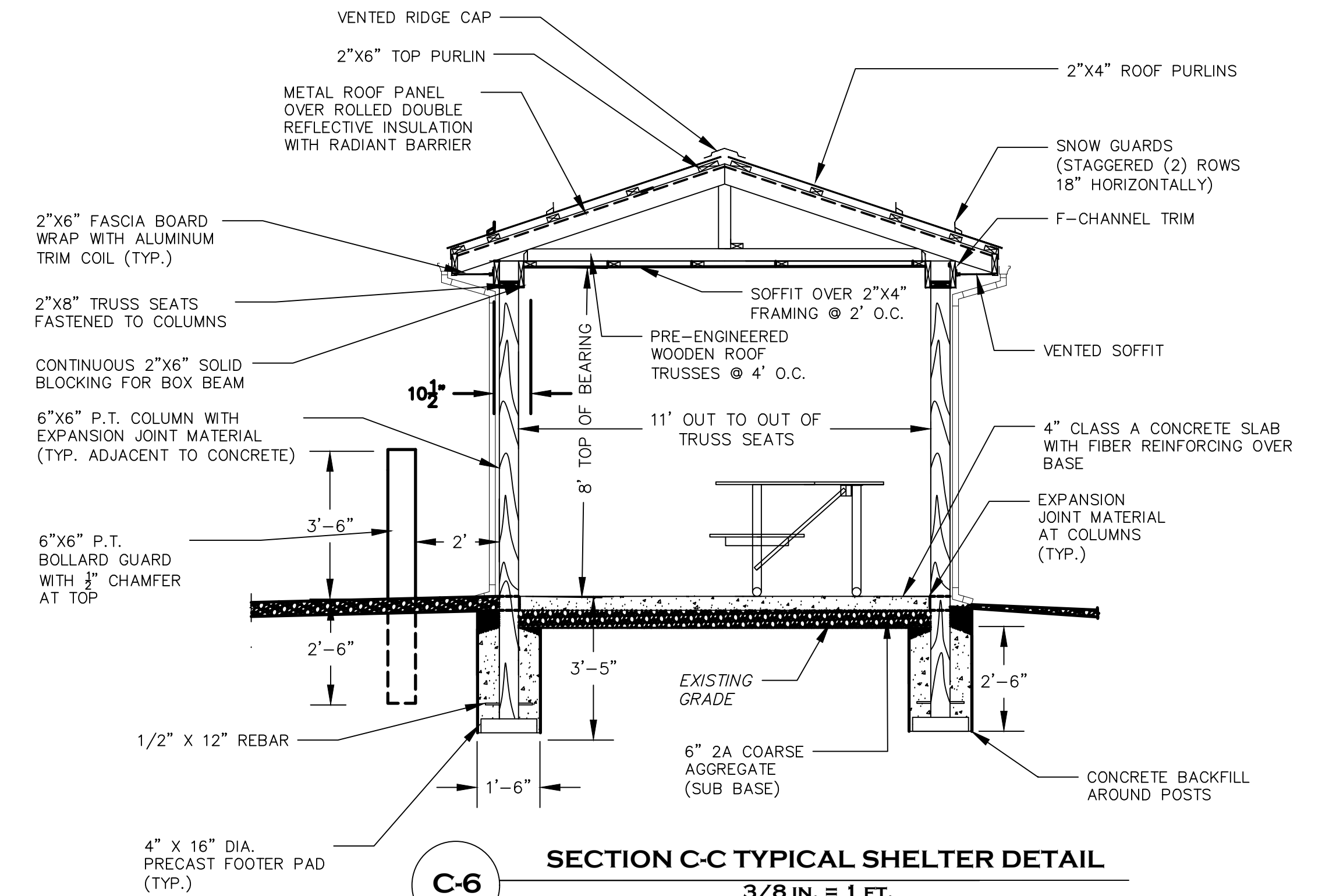
PENNSYLVANIA GAME COMMISSION		
STATE GAME LANDS #043	WARWICK TWP	CHESTER CO.
PISTOL & SHOTGUN SHOOTING RANGE CONSTRUCTION		
SITE AND GRADING PLAN		
REVISIONS	PROJECT NO.	PGC-043-23-1
	DRAWN BY:	AG
	DATE:	11/21/2023
	SHEET NO.	4 OF 6



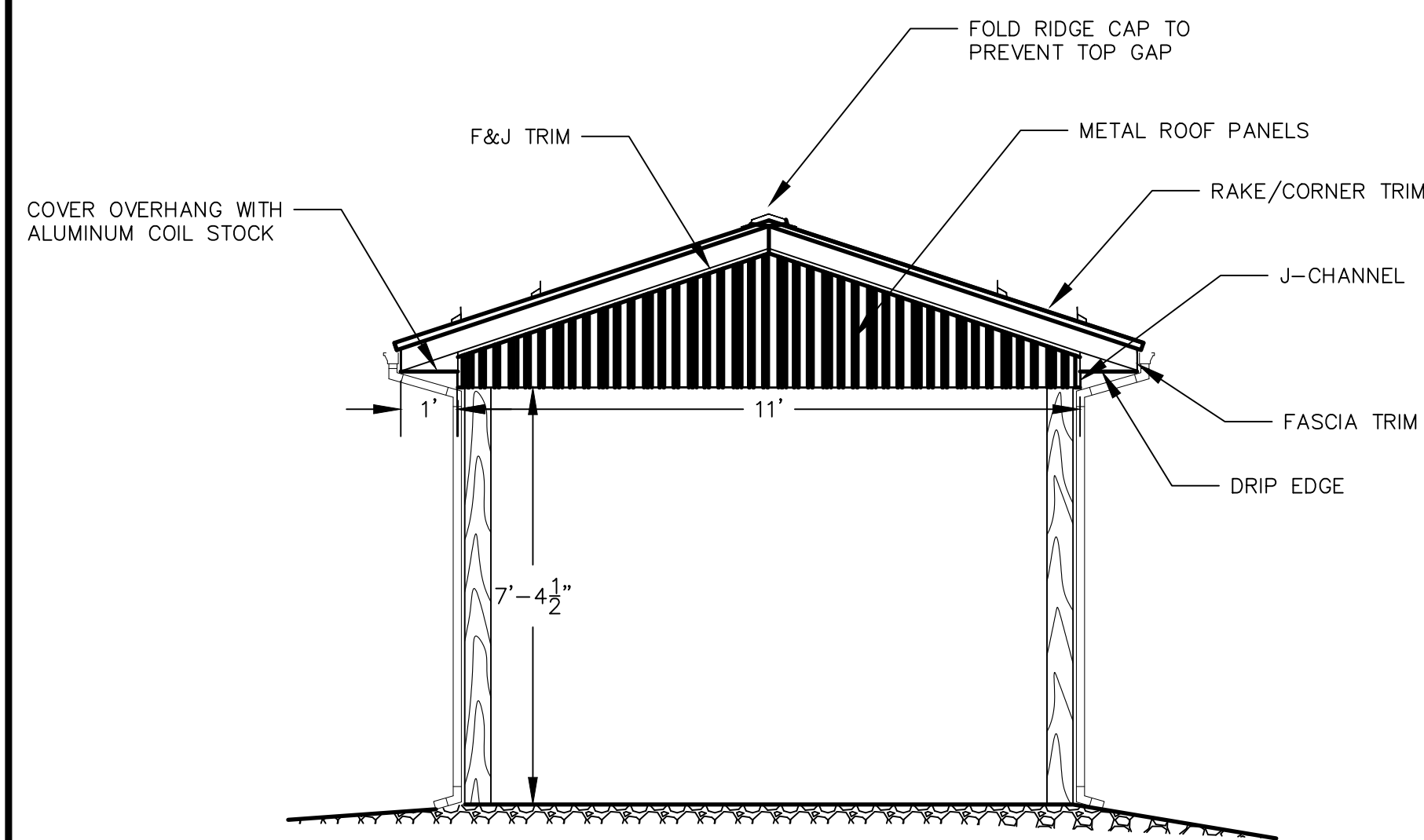
C-1 SECTION A-A TYPICAL SHELTER GABLE DETAIL
3/8 IN. = 1 FT.



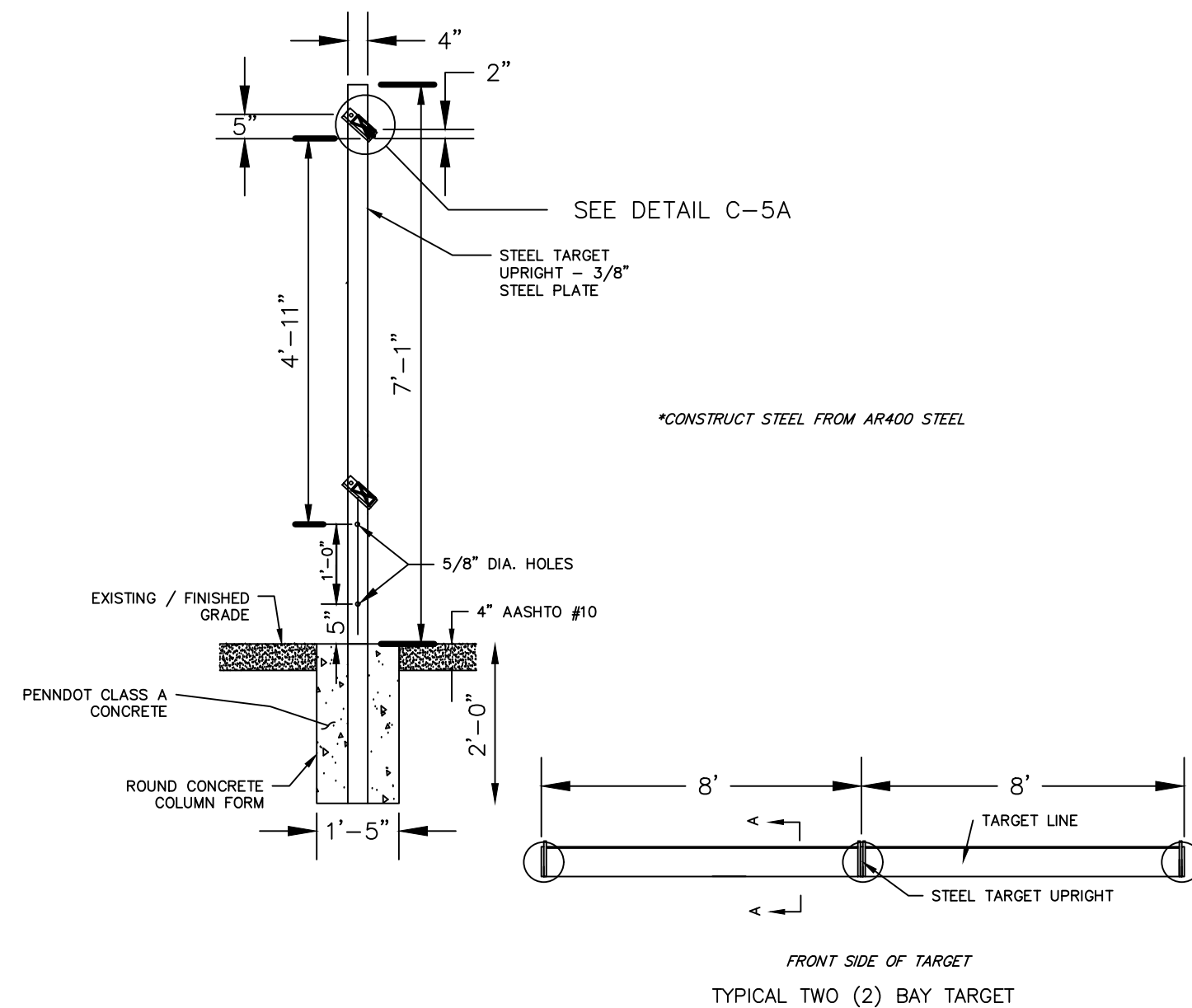
C-4 SECTION B-B TYPICAL SHELTER DETAIL
3/8 IN. = 1 FT.



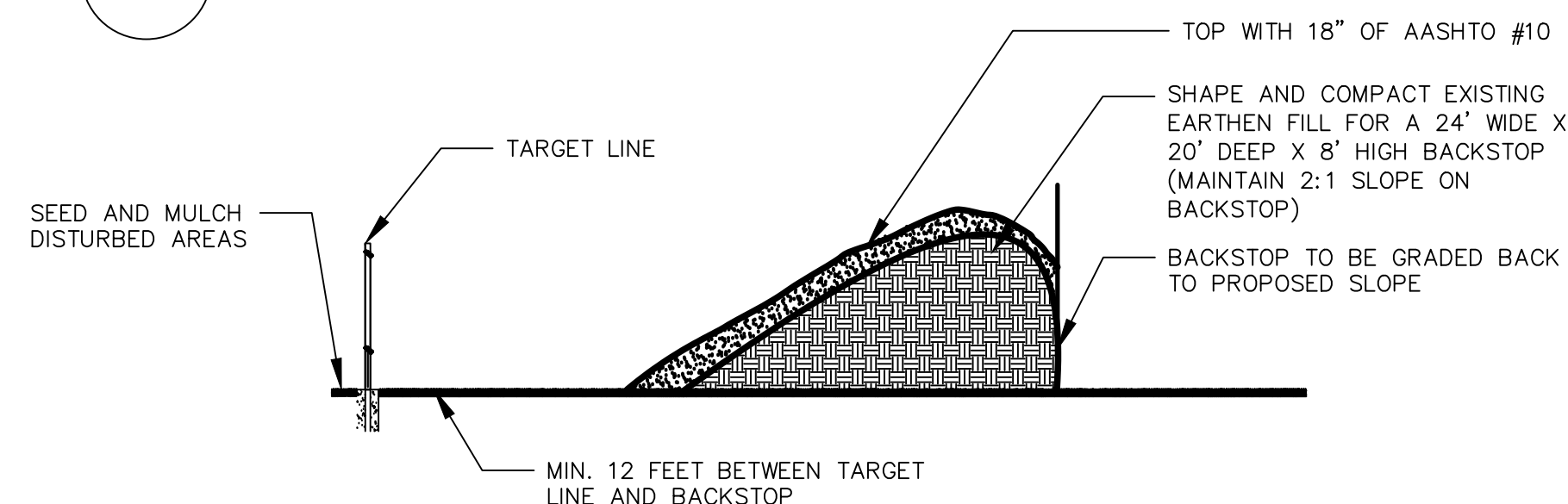
C-6 SECTION C-C TYPICAL SHELTER DETAIL
3/8 IN. = 1 FT.



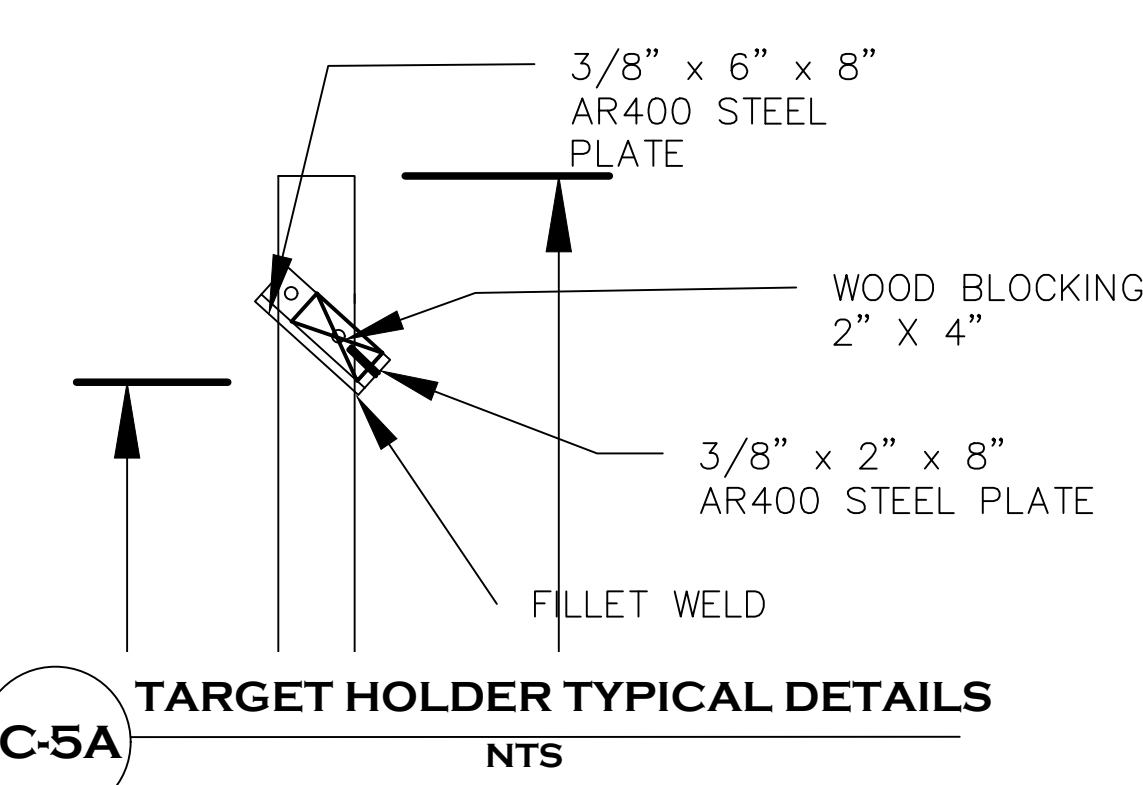
C-2 TYPICAL SHELTER END GABLE ELEVATION
3/8 IN. = 1 FT.



C-5 TARGET HOLDER TYPICAL DETAILS
1/2 IN. = 1 FT.



C-3 SHOTGUN AND PISTOL SHOOTING RANGES BACKSTOP DETAIL
1/8 IN. = 1 FT.

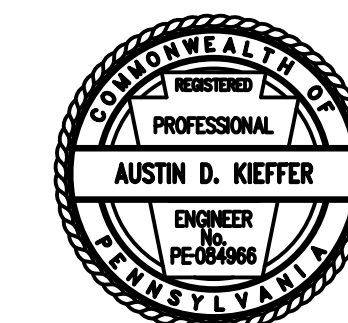


C-5A TARGET HOLDER TYPICAL DETAILS
NTS

FASTENER SCHEDULE - SHOOTING STATION SHELTER

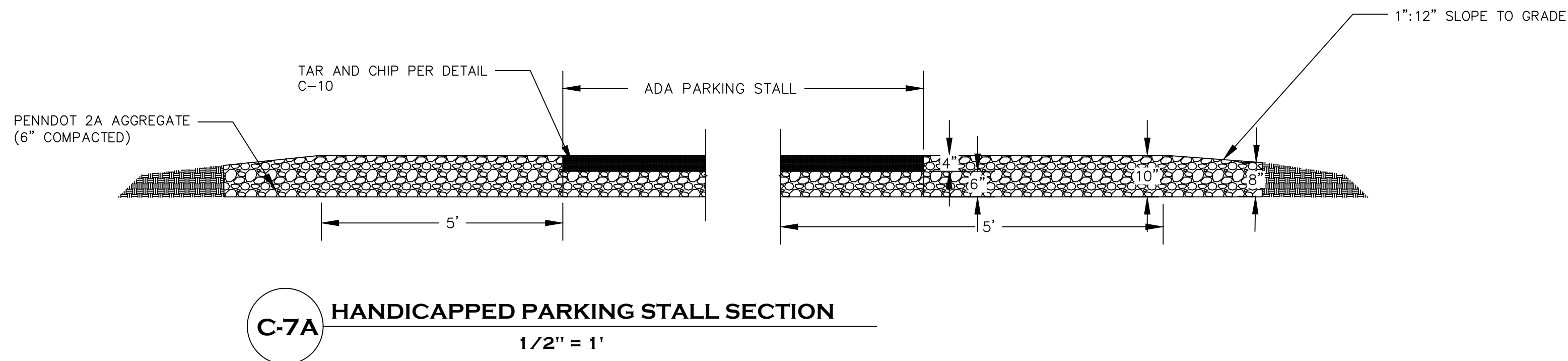
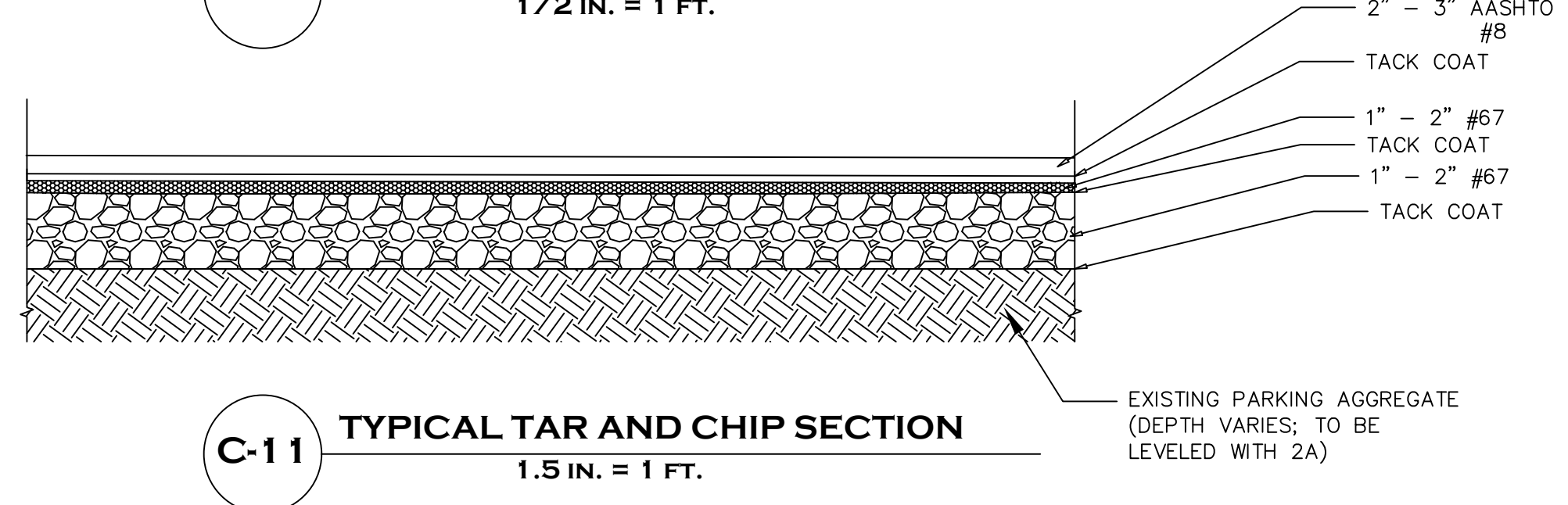
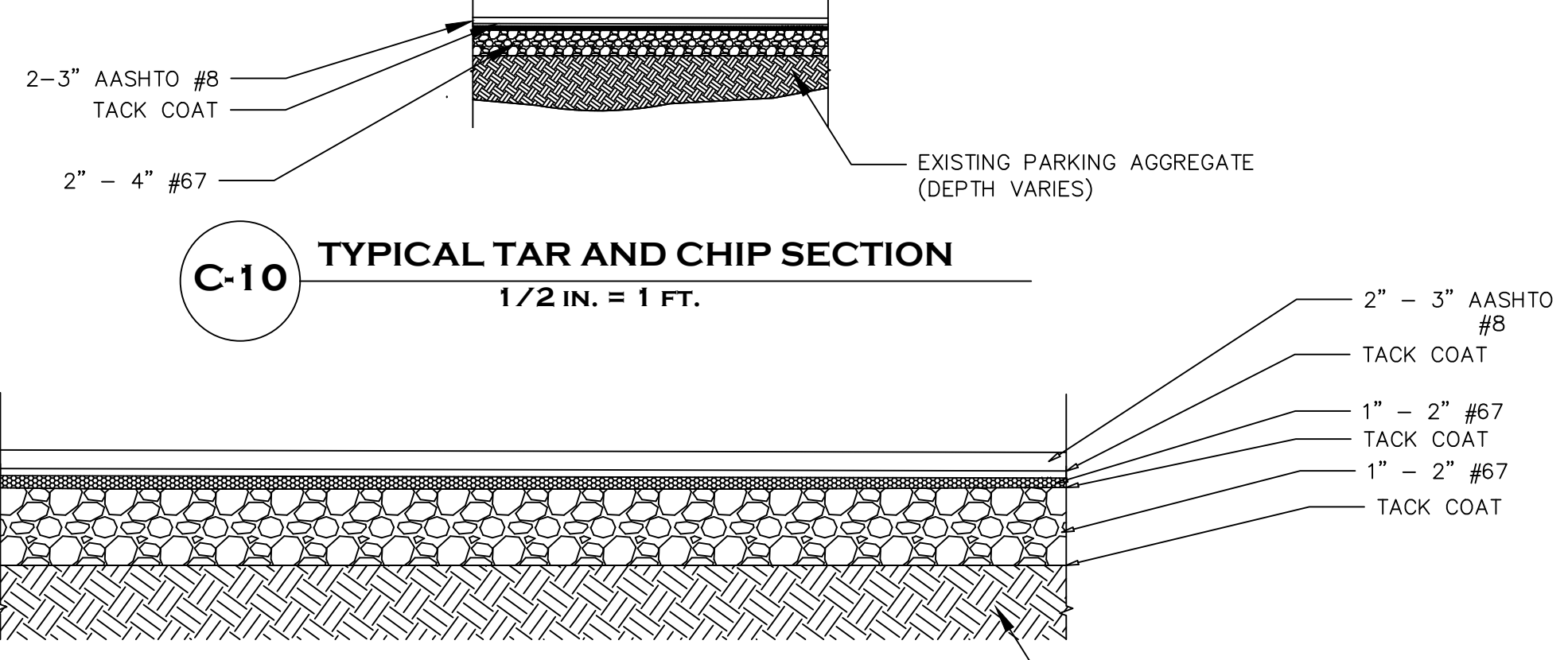
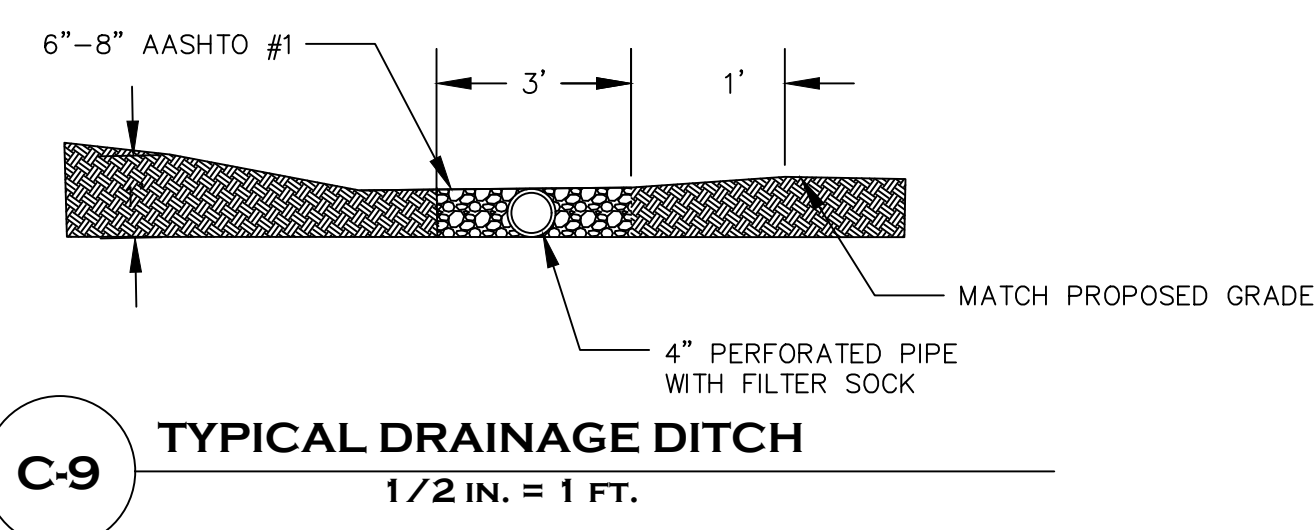
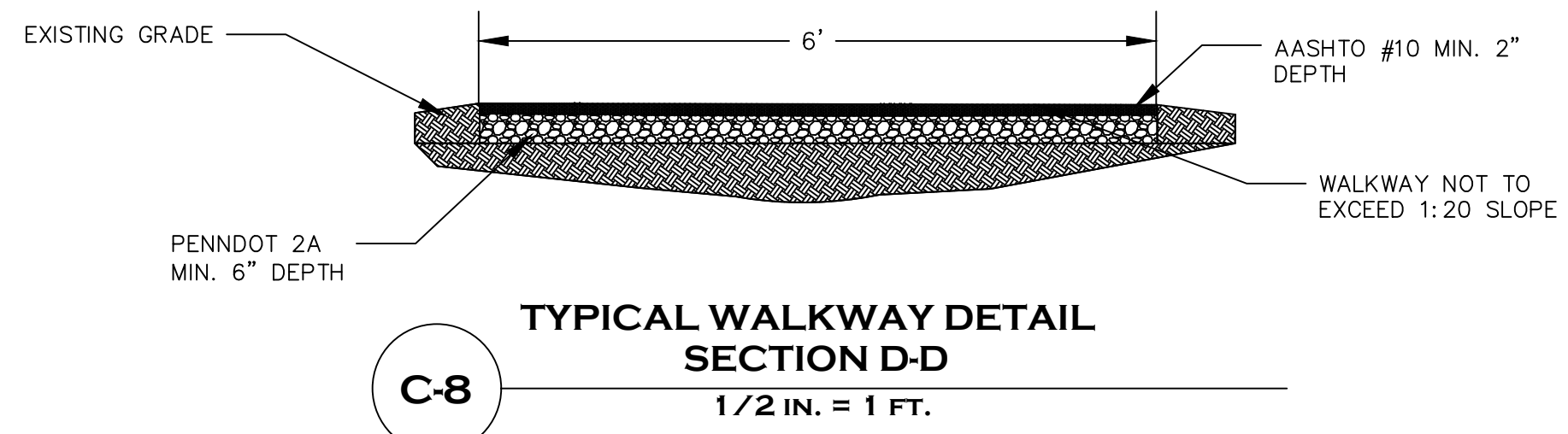
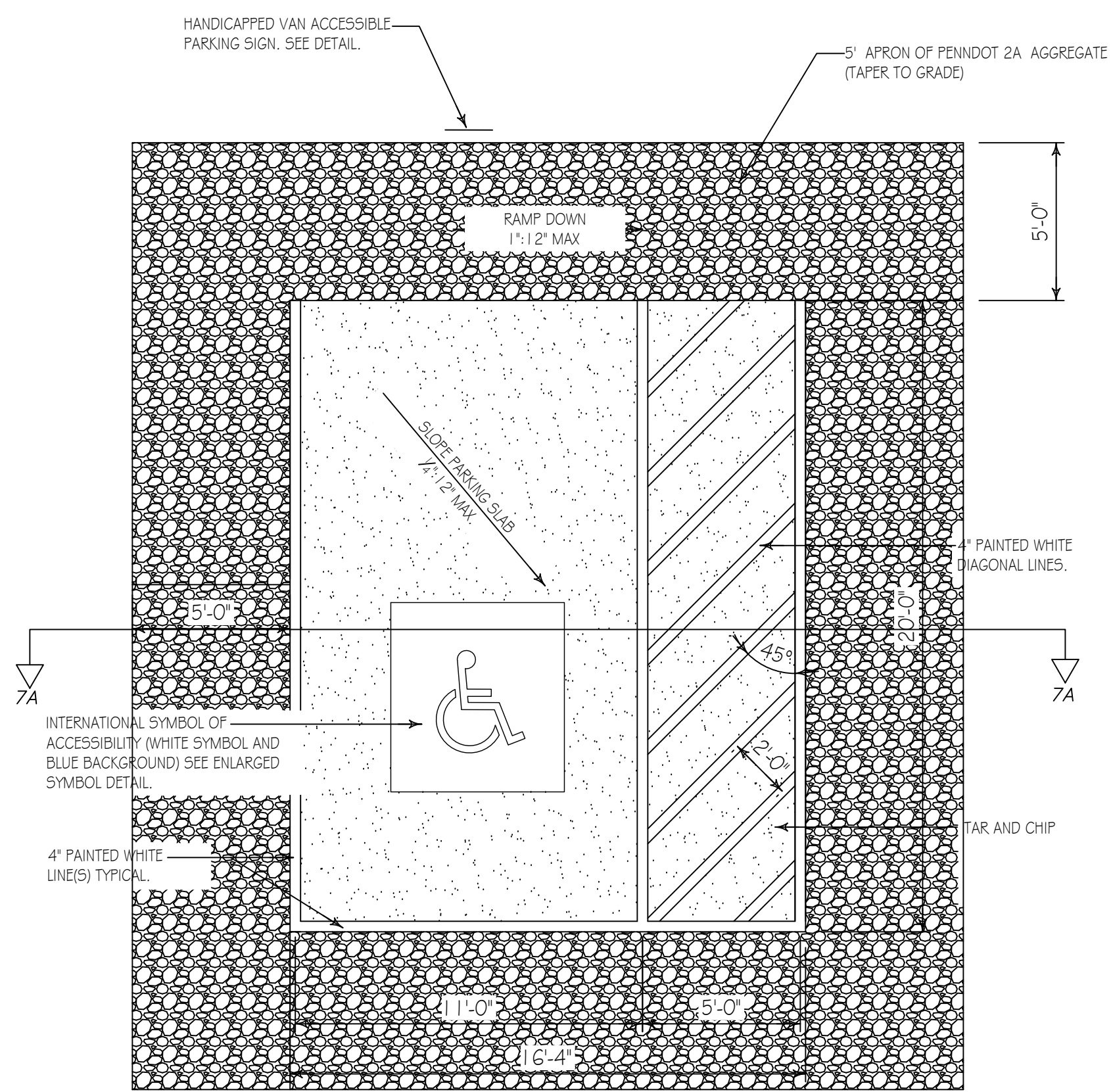
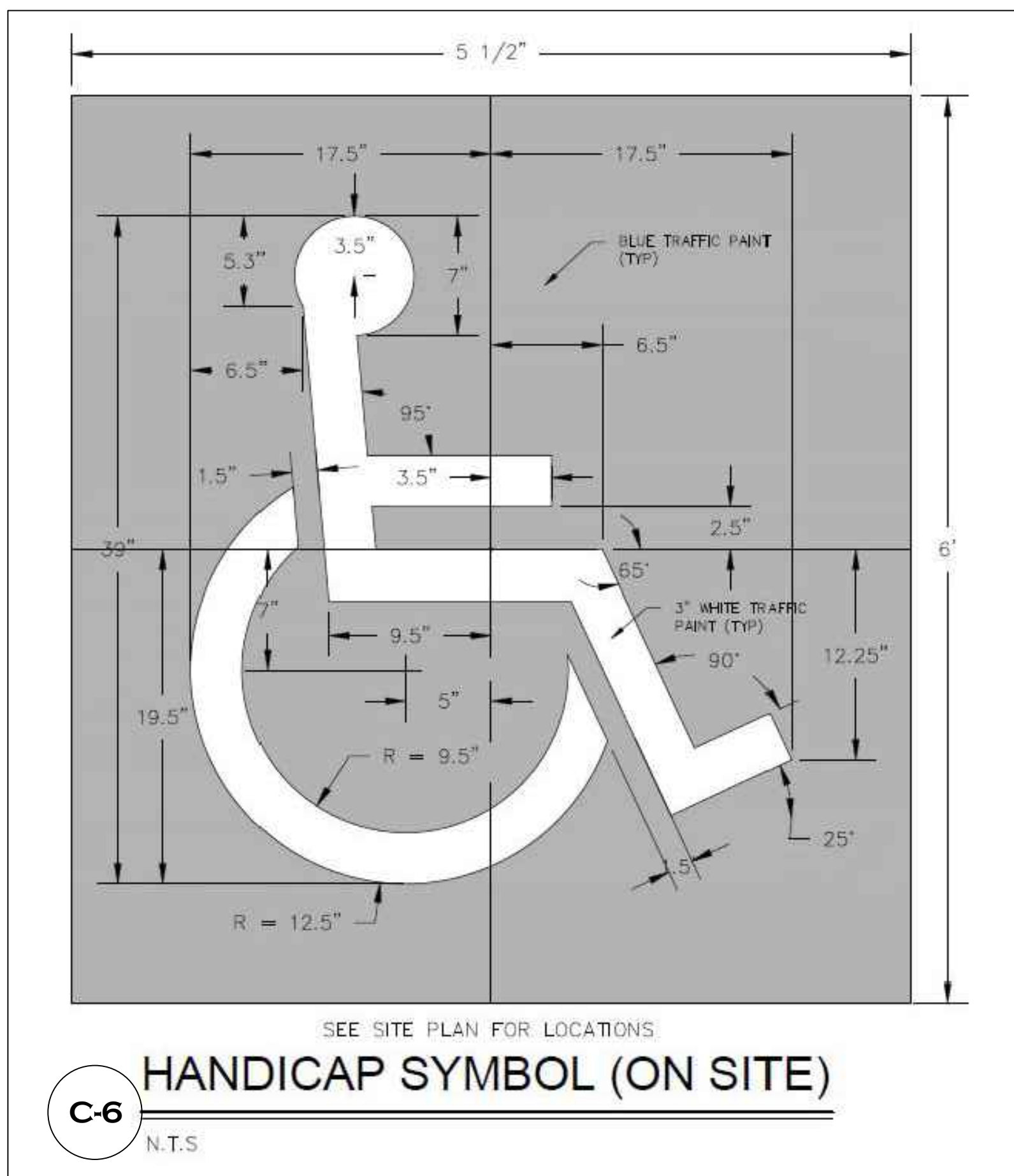
CONNECTION	PER CONNECTION
TRUSS SEATS TO POST	TWO 2" x 10" GALVANIZED CARRIAGE BOLTS or (4) GRK RUGGED STRUCTURAL SCREWS 7x100
TRUSSES TO TRUSS SEATS**	SIMPSON STRONG-TIE H1Z HURRICANE TIE (2-MAX) #/ 8d GALVANIZED NAILS
PURLINS TO TRUSSES (TOP CHORD)	(3) 3" x .131 RING SHANK, HOT DIPPED GALVANIZED NAILS
FASCIA BOARD TO TRUSS ENDS	(3) 3" x .131 RING SHANK, HOT DIPPED GALVANIZED NAILS
2"x4" LONGITUDINAL BRACE TO TRUSS LOWER CHORD	(3) 3" x .131 RING SHANK, HOT DIPPED GALVANIZED NAILS
2"x4" DIAGONAL PORTAL BRACE TO TRUSS UPPER CHORDS	(3) 3" x .131 RING SHANK, HOT DIPPED GALVANIZED NAILS
2"x4" LONGITUDINAL TOP AND BOTTOM SHELF SUPPORTS TO POST OF HANDGUN RANGE	(3) #10 - 3" SCREWS
2"x4" BRACE FROM SHELF TO POST	(3) #10 - 3" SCREWS
2"x12" SHELF TO 2"x4" SUPPORT	(8) #10 - 3" SCREWS
SHOOTING BENCH LEGS ATTACHMENT TO CONCRETE SLAB	(4) 3/8" x 3" GALVANIZED LDT TAPCON (PER BENCH)

** TRUSSES MAY ALSO BE CONNECTED TO THE TRUSS SEATS WITH 2"x6" SCRAPS ON (1) SIDE OF TRUSSES WHEN NOT POSITIONED ASIDE OF A COLUMN POST. PROVIDE (3) - 3" x .131 RING SHANK, HOT DIPPED GALVANIZED NAILS PER SIDE PER CONNECTION.



PENNSYLVANIA GAME COMMISSION
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DETAILS

REVISIONS	PROJECT NO.	PGC-043-23-1
▲	DRAWN BY:	ACL
▲	DATE:	11/21/2023
▲	SHEET NO.	5 OF 6



PENNSYLVANIA GAME COMMISSION		
STATE GAME LANDS #043	WARWICK TWP	CHESTER CO.
PISTOL & SHOTGUN SHOOTING RANGE CONSTRUCTION		
DETAILS CONT.		
REVISIONS	PROJECT NO.	PGC-043-23-1
	DRAWN BY:	AD
	DATE:	11/21/2023
	SHEET NO.	6 OF 6