

SAFETY REGULATIONS

ALL EXCAVATION AND METHODS OF CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE MARYLAND OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (MOSHA) STANDARDS AS SET FORTH IN THE LATEST VERSION OF THE CODE OF MARYLAND REGULATIONS

CONSTRUCTION NOTIFICATION

The Contractor/Owner is to notify the County SOIL CONSERVATION DISTRICT at least 72 hours prior to construction to facilitate any scheduling, layout, or preliminary mobilization necessary to ensure proper construction inspection to enable appropriate certification of the project.

It is the Landowner's responsibility to obtain all County, State, and Federal permits that may be needed, and to maintain this structure and related regulations.

THERE WILL BE NO CHANGES IN SPECIFICATION, DIMENSIONS, OR MATERIALS UNLESS APPROVED BY THE ENGINEER RESPONSIBLE FOR THIS DRAWING. THE DRAWINGS ARE PREPARED COOPERATIVELY BY THE NATURAL RESOURCE CONSERVATION SERVICE FOR THE NAMED LANDOWNER.

CONSTRUCTION FOUND NOT IN ACCORDANCE WITH THESE DRAWINGS AND SPECIFICATIONS SHALL VIOLATE THE COOPERATIVE AGREEMENT AND ALL DRAWINGS, SPECIFICATIONS, AND QUANTITIES ESTIMATE SHALL IMMEDIATELY BE RETURNED TO THE LOCAL NRCS OFFICE.

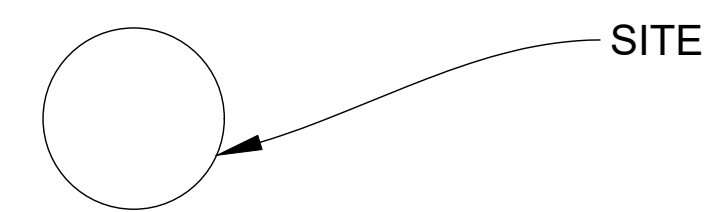
Producers are responsible for securing grading, building, electrical, and plumbing permits to install the required facilities and for properly managing the facility.

CRITICAL INSPECTION ITEMS - (Roofed Waste Storage Facility and/or Covered Feeding Area)
3/20/15

- 1. The landowner will arrange for a pre-construction meeting between the contractor, NRCS and landowner to review the plans, standards and specifications prior to the start of construction.
- 2. There will be no changes in specifications, dimensions, or materials unless approved by the engineer responsible for this drawing.
- 3. The drawings are prepared cooperatively by the Natural Resources Conservation Service for named owner/operator. Construction found not in accordance with these drawings and specifications shall violate the cooperative agreement and all drawings, specifications, and Quantities Estimate shall immediately be returned to the local NRCS office.
- 4. The following is a list of items that must be inspected by the Technician-in-Charge. If cost share is involved, payment may be forfeited if the Technician-in-Charge does not inspect all of the below:
 - Preconstruction Meeting Date: _____ Initials: _____
 - Verify layouts: Date: _____ Initials: _____
 - Verify all subgrades: Date: _____ Initials: _____
 - Verify all subgrade materials CR-6 etc: Date: _____ Initials: _____
 - Verify reinforcing steel grade, size and placement:
 - Footings: Date: _____ Initials: _____
 - Walls and/or curbs: Date: _____ Initials: _____
 - Floor: Date: _____ Initials: _____
 - Inspect all concrete in accordance with specifications:
 - Footings: Date: _____ Initials: _____
 - Walls and/or curbs: Date: _____ Initials: _____
 - Full dimension wall ties: Date: _____ Initials: _____
 - Floor: Date: _____ Initials: _____
 - Proper curing of concrete:
 - Patching wall ties, holes and honeycombing:
 - Roof inspection in accordance with plans:
 - Posts size, material and installation: Date: _____ Initials: _____
 - Preservative treatment or use code: Date: _____ Initials: _____
 - Anchors or embedment installation: Date: _____ Initials: _____
 - Header size, material and installation: Date: _____ Initials: _____
 - Hardware size, spacing, and type: Date: _____ Initials: _____
 - Knee brace (post to truss) size and material: Date: _____ Initials: _____
 - Hardware size, spacing, and type: Date: _____ Initials: _____
 - Y brace (post to header) size and material: Date: _____ Initials: _____
 - Hardware size, spacing, and type: Date: _____ Initials: _____
 - Hurricane straps: Date: _____ Initials: _____
 - Received/reviewed truss design sheet: Date: _____ Initials: _____
 - Purlins material and installation: Date: _____ Initials: _____
 - Hardware size, spacing, and type: Date: _____ Initials: _____
 - Roofing, material and installation: Date: _____ Initials: _____
 - Hardware size, spacing, and type: Date: _____ Initials: _____
 - Subsurface Drainage (if applicable)
 - Trench grade: Date: _____ Initials: _____
 - Drain tubing material: Date: _____ Initials: _____
 - Stone envelope: Date: _____ Initials: _____
 - Backfill placement: Date: _____ Initials: _____
 - Proper outlet and rodent guard: Date: _____ Initials: _____
 - Backfill placement and compaction: Date: _____ Initials: _____
 - Signs in Place (Made of all-weather material): Date: _____ Initials: _____
 - All disturbed areas seeded and mulched: Date: _____ Initials: _____
 - Other items shown on the plans: Date: _____ Initials: _____

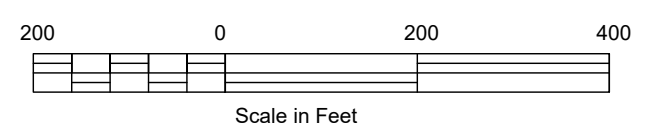
LANDOWNER - SITE NAME

313 WASTE STORAGE FACILITY



REVISED 7/1/2021

LOCATION MAP



USER TO INSERT SHEET LIST TABLE

AS-BUILT STATEMENT
THE CONSERVATION PRACTICE(S) MEETS OR EXCEEDS NRCS STANDARDS AND SPECIFICATIONS

INSPECTED BY _____ SIGNATURE _____ DATE _____

CONSTRUCTION APPROVAL _____ SIGNATURE _____ DATE _____

VERIFIED DISTRICT CONSERVATIONIST _____ SIGNATURE _____ DATE _____

AS BUILT CONTRACT ITEMS:

PRACTICE	Reportable Amount	Contract Amount

USER TO ENTER PRACTICES

OWNER/CONTRACTOR STATEMENT

I CERTIFY THAT THIS DESIGN HAS BEEN EXPLAINED TO ME BY A REPRESENTATIVE OF THE COUNTY SOIL CONSERVATION DISTRICT, AND I UNDERSTAND THE CONTENTS, ALL CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS AND SPECIFICATIONS, I FURTHER UNDERSTAND THAT ALL CONSTRUCTION WILL BE UNDER THE INSPECTION OF THIS OFFICE.

OWNER/OPERATOR SIGNATURE _____ DATE _____

CONTRACTOR'S SIGNATURE _____ DATE _____



Know what's below. Call before you dig.

The Soil Conservation District makes no representation as to the existence or Non-existence of any utilities at the construction site. Shown on these construction drawings are those utilities which have been identified. It is the responsibility of the landowners or operators and contractors to assure themselves that no hazard exists or damage will occur to utilities

MATERIALS LIST

* For bidding purposes only

USER TO ENTER INFORMATION
WASTE MANAGEMENT FACILITY
CONSTRUCTION SEQUENCE

1. A pre-construction meeting with the landowner, contractor, and SCD technicians is required. Contact the Soil Conservation office at least 3 days prior to arrange the preconstruction meeting. Phone PHONE #
2. A conservation technician shall verify cut/grade stakes at the contractors request.
3. Install sediment controls by direction of technician/engineer or as shown on plan (including all stockpiles).
4. Strip topsoil and safely stockpile out of immediate site.
5. Excavate site to staked elevations, with minimum five-foot offset.
6. Excavate for footers, set forms, placement of steel.
7. Place crushed stone, set reinforcement wire.
8. Pour slab, footer, wall, curbs, etc.
9. Set post, girders, trusses, and brace boards.
10. Install footer drain/stone, outlet as directed by technician/engineer.
11. Install roof gutter and outlets.
12. Install safety fence, rails and signs.
13. Backfill and re-grade, establish seedbed.
14. Reseed all disturbed areas to establish vegetative cover (as per recommended).

All disturbed areas to be stabilized within 7 days of completion, using the following recommendations.

Seeding Recommendations

Tall Fescue	65 lb/ac
Perennial Ryegrass or Redtop (tolerates moist sites)	5 lb/ac
White Clover	2 lb/ac
20-40 Fertilizer	5 lb/ac
Ground lime 50% oxides	500 lb/ac
Straw Mulch	3 tons /ac
	2 tons/ac

Dates listed are for plant hardiness Zone 6B, dates will need to be changed for other zones.

Seeding Dates
March 1 thru May 15
August 1 thru October 1

It is the landowner responsibility to obtain All County, State, and Federal permits that may be needed, and to maintain this structure and those regulations.

USER TO ENTER SEEDING INFO

Date: _____

Designed _____

Drawn _____

Checked _____

Approved _____

LANDOWNER - SITE NAME

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COUNTY Soil Conservation District

JOB CLASS # _____

TRACT # _____

United States Department of Agriculture

USDA Natural Resources Conservation Service

File Name: MD_001_0_RoofedStackingWSFSided.dwg

Drawing No. MD_0010

Sheet 1 of 7



USER TO INSERT TOPO SURVEY/PLAN MAP

NOTES:

- IN ORDER FOR THE MANURE TO REMAIN STACKABLE IN THE STORAGE FACILITY, 25% BY VOLUME OF THE MANURE STORAGE FACILITY MUST BE STRAW OR WASTE HAY
- GATES MUST BE PLACED AT ALL OPENINGS OF THE STRUCTURE TO FACILITATE ANIMALS BEING CONFINED DURING INCLEMENT WEATHER OR POOR FIELD CONDITIONS.
- ANIMALS MUST BE EXCLUDED FROM THE WASTE STORAGE AREA AT ALL TIMES. THIS CAN BE ACHIEVED WITH FENCING ACROSS THE FRONT OF THE AREA.

Open Air Manure Storage Safety

3/20/15

Injuries and fatalities occur in confined space manure storages that are enclosed, such as beneath animal quarters, or below-ground reception and pump out pads, and in non-enclosed storages, such as earthen, lined and concrete manure pits and ponds. Non-enclosed manure storages are open to the atmosphere but still meet the definition of a confined space in terms of occupational safety and health. Because of the potential danger of gases around manure storage facilities, ponds, or lagoons; first aid equipment should be supplied nearby. An identified, easily accessible area should be provided for storing safety equipment. The area should be inspected periodically to ensure that all equipment is available and in proper working condition. An emergency action plan should be posted near the safety equipment and near all telephones.

In the case of open air manure storage pits and ponds, some hazards can include:

- A thick liquid and floating crust that make swimming, buoyancy or even moving around very difficult.
- Steep and slippery slopes that can make getting out of manure storages difficult or impossible.
- Localized layers of hazardous gases existing above manure surfaces, especially on hot, humid days with little to no breeze.
- A speeding up of manure gas release from movement, agitation, removal or additional of manure to a storage pond.
- Not having sufficient oxygen to breath if a person is "treading" in manure because of an inability to get out.
- Not being able to see into depths of manure like you can with water.
- A slow response time for adequate emergency actions because of site isolation and remoteness.

Safety guidelines to follow:

1. Make sure everyone that needs to be near manure storage structures understand the hazards that exist, including the effects that the various gases has on them.
2. Make sure the open air manure storage has a fence installed around the perimeter and access gates are locked to keep unauthorized personnel from entering the area.
3. The open air storage should have manure/drowning hazard signs and dangerous gases signs on all sides of the storage at locations that easily visible and made of all-weather material. Where only stackable manure is being stored use signs reading Danger Manure Storage may be used.
4. If you must go into the fenced area of the open manure storage, consider wearing a safety harness with life line attached to a safely located solid object or anchor.
5. Never work alone. The second person's role is to summon help in an emergency and assist with rescue without entering the storage.
6. Safety equipment can include air packs and face masks, nylon line with snap buckles, safety harness, first-aid kits, flotation devices, safety signs, and hazardous atmosphere testing kits or monitors.
7. Move slowly around manure storages as the ground can sometimes be uneven and may cause a person to trip or stumble.
8. Bystanders and non essential workers should stay away from pump out or other accessible areas.
9. There should be no horseplay near the open manure pit or pumping equipment.
10. If equipment malfunctions during agitating or pumping of the manure, shut all equipment off and remove it from the storage before servicing or repairing.
11. If you feel unsure or uncomfortable with what you are getting ready to do near the open manure pit, step back, contact someone and review the situation before proceeding.
12. Toxic gas, and oxygen deficiency gas monitors can be used to determine if unsafe conditions exist.
13. Be prepared to call 911 if an emergency happens. Being prepared means accurately describing the incident, number of victims, and giving specific directions to the site of the emergency.



SIGN REQUIRED FOR ALL MANURE STACKING STRUCTURES.
 PLACE ONE SIGN AT EACH ENTRANCE/ACCESS POINT.
 SIGN TO BE MADE OF DURABLE MATERIAL (PLASTIC/ALUMINUM OR EQUAL)
 MINIMUM SIZE 10"W X 14"H

Compaction Requirements

Areas on which fill is to be placed shall be scarified prior to placement of fill. Fill materials shall be placed in maximum 8 inch thick (before compaction) layers which are to be continuous over the entire length of the fill. The movement of the hauling and spreading equipment over the fill shall be controlled so that the entire surface of each lift shall be traversed by not less than one tread track of heavy equipment or compaction shall be achieved by a minimum of four complete passes of a sheepsfoot, rubber tired or vibratory roller.

The minimum required density is 95% of maximum dry density with moisture content within ±2% of the optimum. Each layer of fill shall be compacted as necessary to obtain that density, and is to be certified by a Geotechnical Engineer at the time of construction. All compaction is to be determined by AASHTO Method T-99 (Standard Proctor). The landowner is responsible for the required compaction testing and shall make all necessary arrangements to have a private geotechnical engineer, or agent, on-site to perform the test as needed during construction. The compaction test results are to be supplied to the field office.

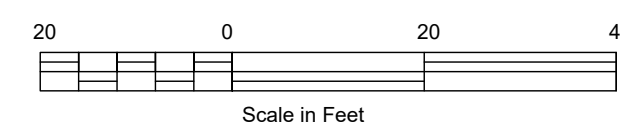
BENCH MARK DESCRIPTIONS

TBM #1 (IP): Elev = ????.??
 Top of 1" X 2" wooden hub, marked by witness lath.

TBM #2: Elev = ????.??
 Top of 1" X 2" wooden hub, marked by witness lath, near NW corner of building.

TBM #3: Elev = ????.??
 Top of bolt in NW corner of concrete.

PLAN VIEW



Date	----
Designed	----
Drawn	----
Checked	----
Approved	----

LANDOWNER - SITE NAME

 COUNTY Soil Conservation District

JOB CLASS #

TRACT #

----, Maryland

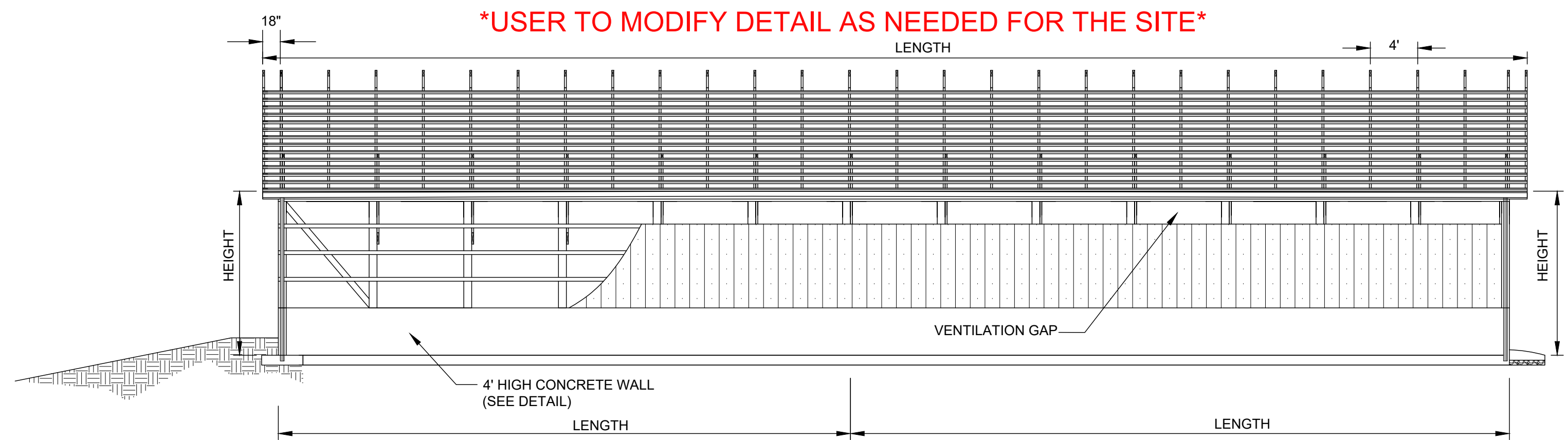


MD_0010_RoofedStackingWSFSigned.dwg

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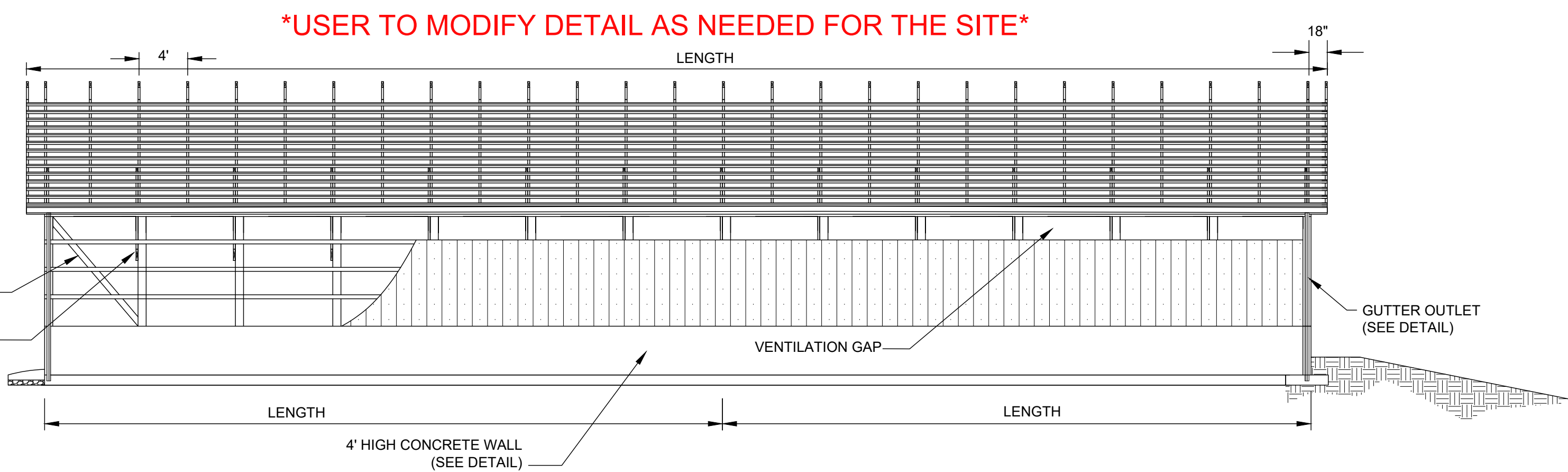
Drawing No.
 MD_0010

Sheet 2 of 7



STRUCTURE WILL BE SIDED WITH MATERIALS EQUIVALENT TO THE ROOFING MATERIAL OR AS APPROVED BY THE ENGINEER RESPONSIBLE FOR THESE DRAWINGS. USE 2" X 4" GIRTS @ 2' O.C. LEAVE A 12" TO 24" VENTILATION GAP BETWEEN TOP OF SIDING AND BOTTOM OF HEADER ON BOTH SIDE WALLS.

WASTE STORAGE STRUCTURE (RIGHT SIDE VIEW)
NOT TO SCALE



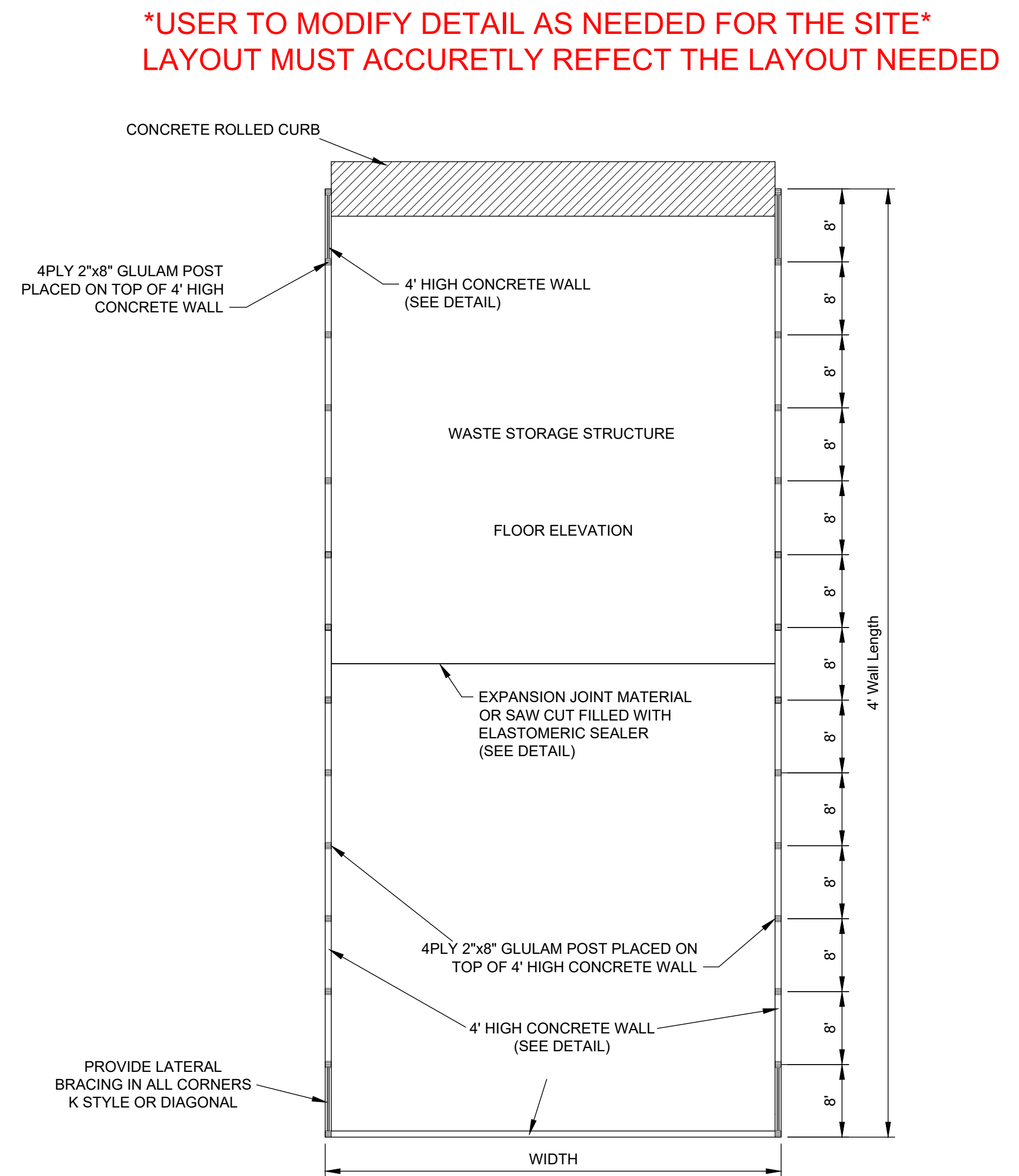
SPECIFY TYPE AND SIZE USE TREATED LUMBER

PROVIDE DIAGONAL BRACING EITHER K STYLE OR DIAGONAL (ALL FOUR CORNERS)

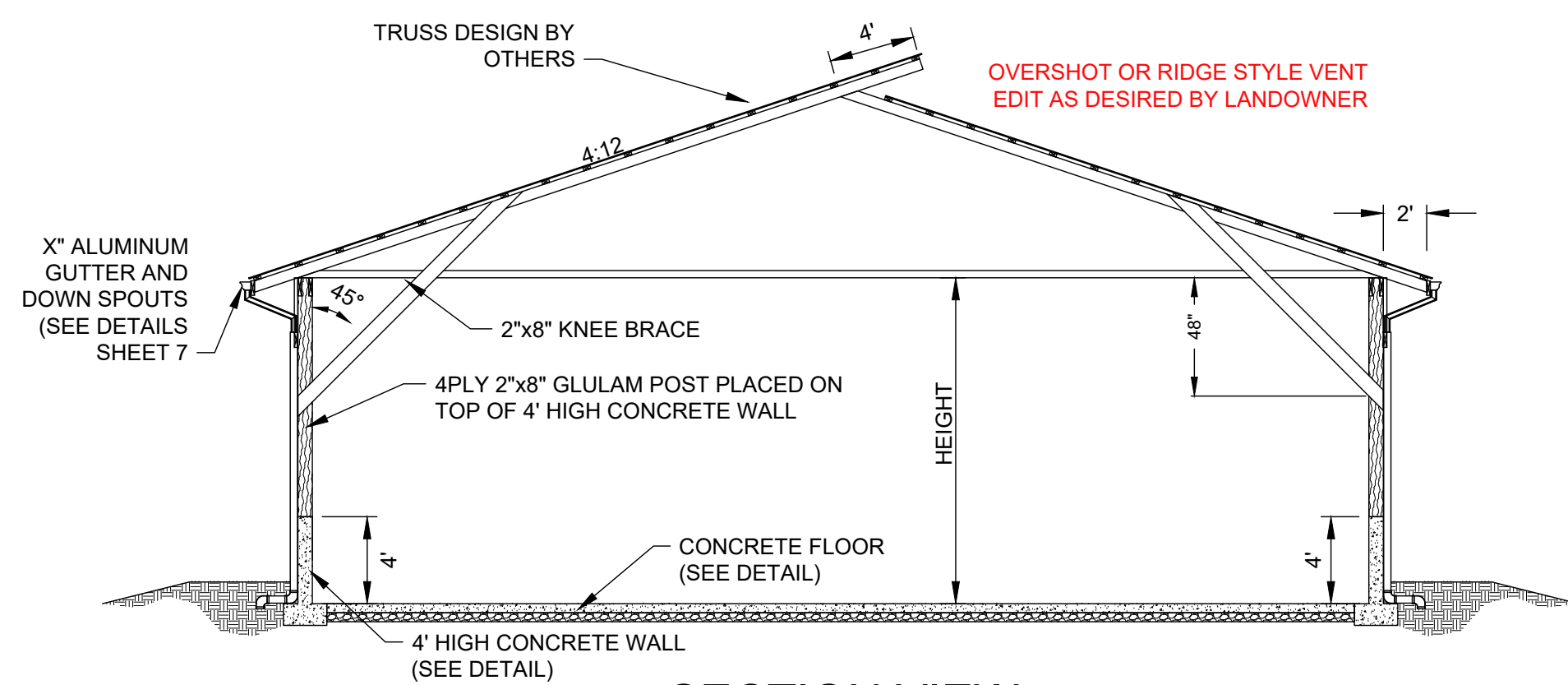
KNEE BRACE 2"x8" SYP

STRUCTURE WILL BE SIDED WITH MATERIALS EQUIVALENT TO THE ROOFING MATERIAL OR AS APPROVED BY THE ENGINEER RESPONSIBLE FOR THESE DRAWINGS. USE 2" X 4" GIRTS @ 2' O.C. LEAVE A 12" TO 24" VENTILATION GAP BETWEEN TOP OF SIDING AND BOTTOM OF HEADER ON BOTH SIDE WALLS.

WASTE STORAGE STRUCTURE (LEFT SIDE VIEW)
NOT TO SCALE



PLAN VIEW
NOT TO SCALE



SECTION VIEW
WASTE STORAGE STRUCTURE
NOT TO SCALE

USER TO MODIFY DETAIL AS NEEDED FOR THE SITE

Date	----
Designed	----
Drawn	----
Checked	----
Approved	----

LANDOWNER - SITE NAME

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COUNTY Soil Conservation District

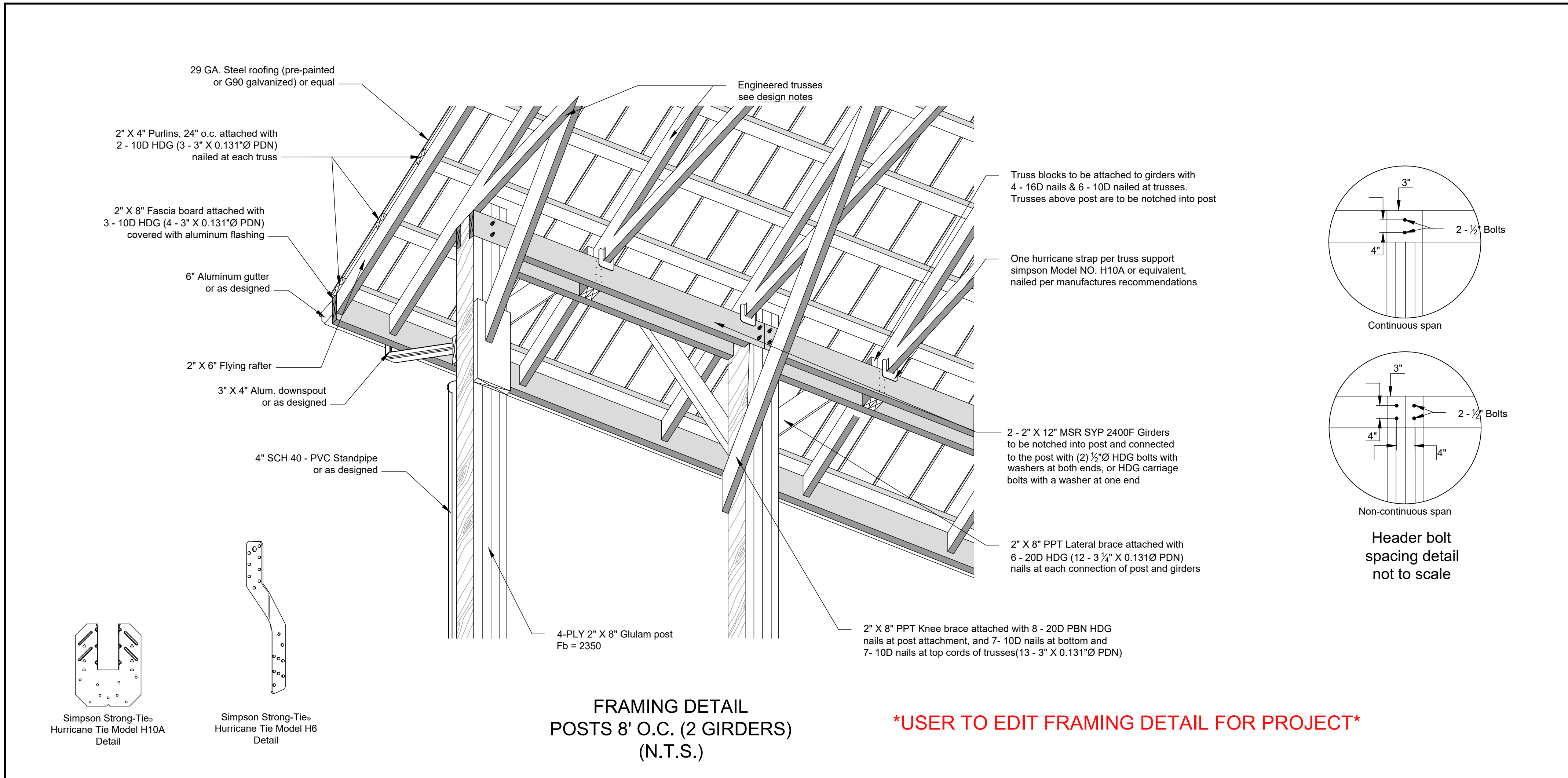
JOB CLASS #

TRACT #

-----, Maryland



File Name	MD_0010_RoofedStackingWSFSided.dwg
Drawing No.	MD_0010
Sheet	3 of 7



TIMBER CONSTRUCTION NOTES
1/2012

- All lumber below the fascia board level shall be preservative pressure treated Southern Yellow Pine, No.2 KD, 19% m.c. or better. All other lumber may be either Southern Yellow Pine or Spruce-Pine-Fir No. 2 or better unless specified otherwise. Protection such as clear preservative, paint, or pressure treatment shall be required for the plywood. Timber shall be pressure treated in accordance with the chart below.

Use Codes for Treated Building Materials	
Use Code for Ground or Manure Contact Lumber	UC4B
Use Code for all other Treated Lumber	UC4A

- All metal hardware and nails shall be stainless steel or hot-dip galvanized (HDG). Stainless steel shall be grade types 304 or 316. Hot dipped galvanized fasteners shall conform to ASTM A 153 and hot-dip galvanized connectors shall conform to ASTM Standard A 653 (Class G-185).
All fasteners, connectors, and any other metal contacting ACZA, ACQ or CA treated wood shall be stainless steel.
There may be additional products (other than stainless steel and hot-dip galvanized) which are suitable for use in treated wood except for the types listed in the note above. These screws and connectors have proprietary anti-corrosion technologies and are acceptable for treated wood exposed to moisture when used according to the hardware manufacturer's recommendations and **must be clearly marked "for use with" the type of treated wood being used.**
- All structural nail connections must be nailed with twisted or ring shank nails.
- Power driven nails (PDN) shall be 0.131 Diameter or larger, deformed shank, and helical (spiral) or annular (ring) type. The number and length of 0.131 diameter power driven nails is specified in parenthesis next to each connection. Pressure shall be applied to wood members to insure tight joints when using power driven nails. The head of the nail may not be countersunk more than 1/16" into the wood.

"Y" BRACING DETAIL
Not to scale

TOP OF HEADER

36"

2" X 8" PPT LATERAL BRACE ATTACHED WITH 6 - 20D HDG (12 - 3 1/2" X 0.131"Ø PDN) NAILS AT EACH CONNECTION OF POST AND GIRDERS

Header bolt spacing detail not to scale

Not to scale

Date _____

Designed _____

Drawn _____

Checked _____

Approved _____

LANDOWNER - SITE NAME

#####

COUNTY Soil Conservation District

JOB CLASS # _____

TRACT # _____

United States Department of Agriculture
Natural Resources Conservation Service

File Name
MD_0010_RoofedStackingWSF1Sided.dwg

Drawing No.
MD_0010

Sheet 4 of 7

DESIGN NOTES

Trusses shown on the drawings are for illustration purposes only. Trusses shall be designed and approved by a licensed engineer. Truss manufacturer shall furnish all drawings and bracing required on trusses. Scissors trusses are acceptable with a level bearing plate.

All Headers shall be nailed together with 12 penny pole barn nails (angled) @ 6 nails /LF or bolted together with 1/2" bolts at 2' O.C. (washers both sides).

If siding is not shown on the design then sides are not permitted.

Headers may be notched into posts in conjunction with truss blocks. See detail.

All other lumber shall be nailed together with 20-penny pole barn nails unless otherwise shown.

Truss Design:

Waste Storage Structure

Span: 40'

Slope: 4 in 12

Overhang: 2' on both sides

Gable end trusses shall be sheathed

Truss Loadings, Header Sizes and Post Spacings:

Ground Snow Load 30 psf, Dead Load 5 psf

Bottom chord Live Load 0 psf, Dead Load 5 psf

Truss Spacing: 4' 0" on center

Headers for the 8' span shall be 2 - 2" x 10" MSR SYP 2400F

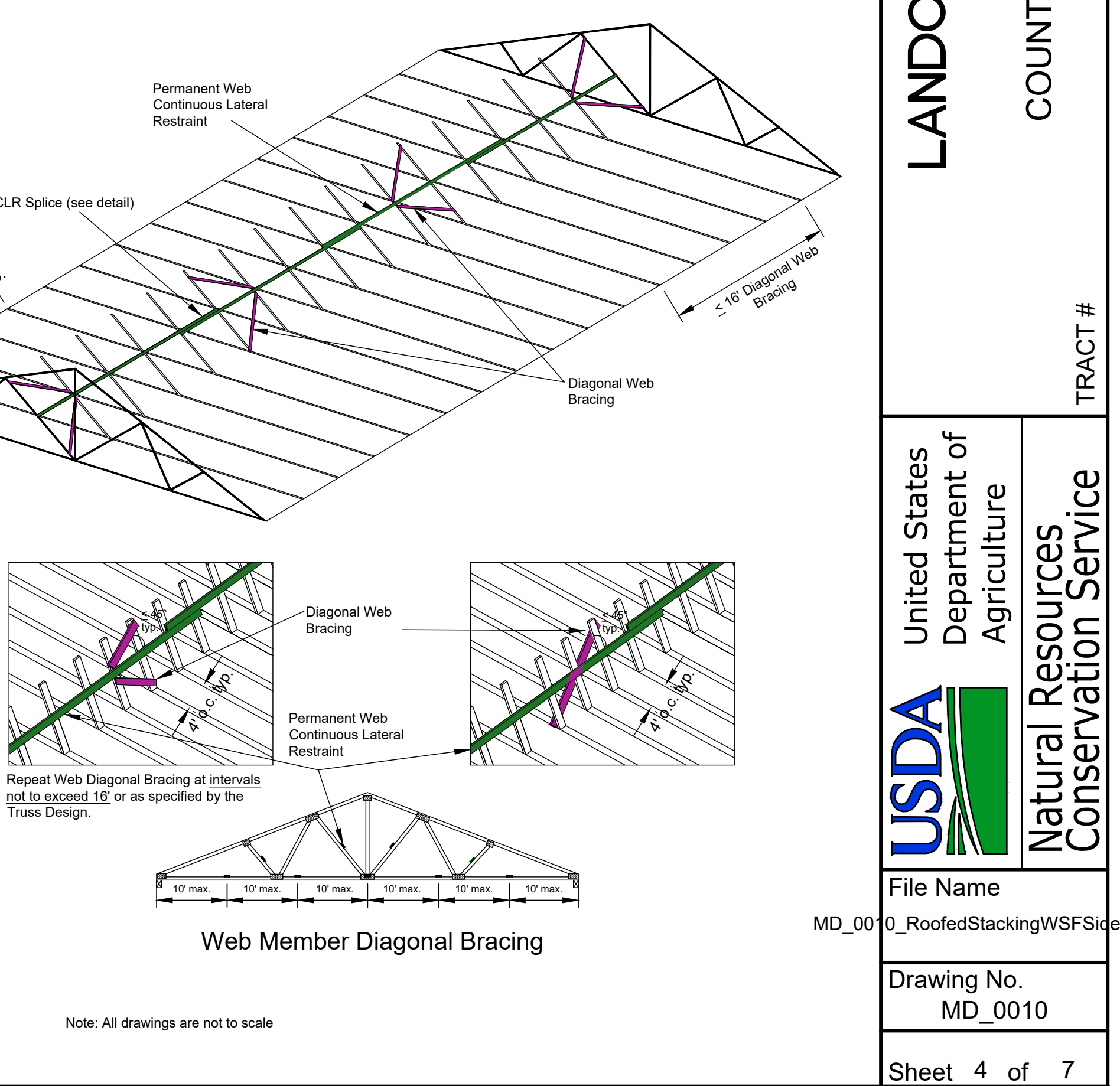
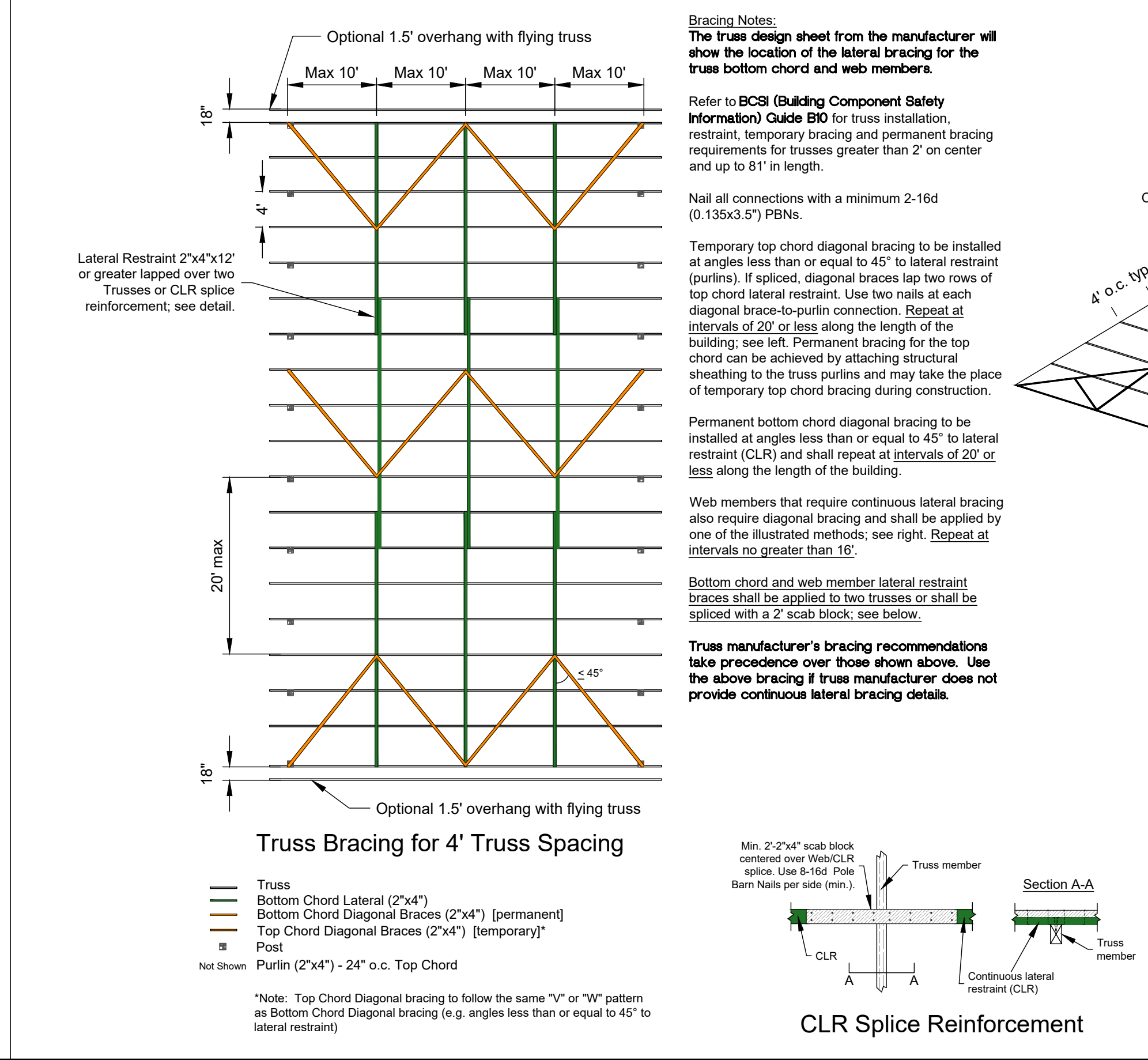
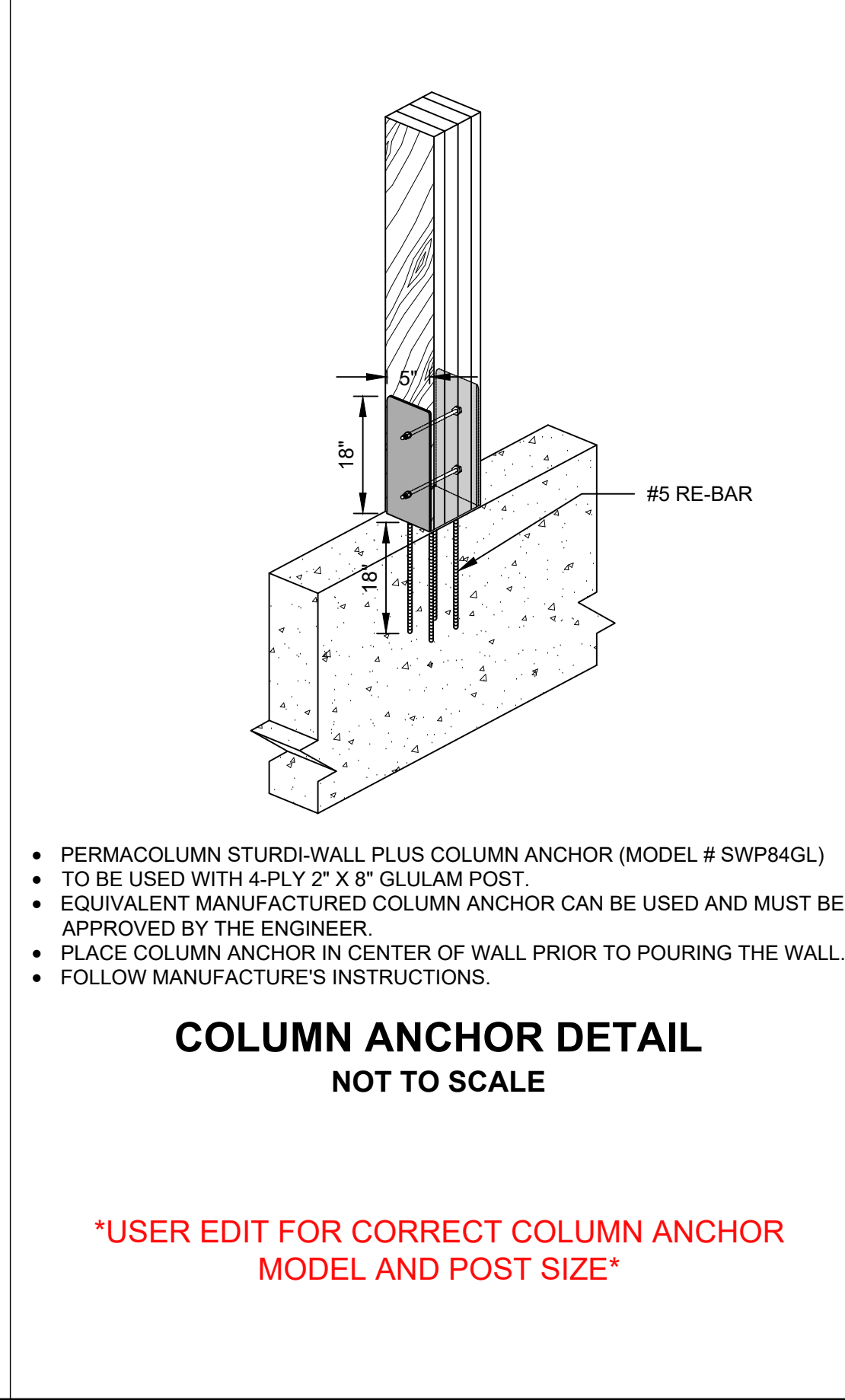
Posts shall be 4ply - 2" x 8" Glulam Post Fb = 2350 psi

Post are spaced at 8'-0" on center

Headers for the 16' span shall be 2-1.75" x 18" LVL's 2.0E with Fiberguard Coating

Posts for the 16' span shall be 8ply 2" x 8" Glulam.

USER TO MODIFY DESIGN NOTES AS NEEDED FOR THE SITE



CROSS SECTION

CROSS SECTION

CONSTRUCTION NOTES (ROOFED STRUCTURES)

1. All materials and construction shall be in accordance with applicable NRCS standards and construction specifications.
2. All components of the completed system shall conform to the lines, grades, elevations, dimensions and material shown on the plans.
3. Any changes in the plans or specifications must be approved by the original approver prior to being made. Changes are to be reviewed by the landowner for concurrence.
4. All lumber shall be Southern Yellow Pine, No. 2 KD, 19% m.c., unless otherwise shown on plan.
5. All truss bracing shall be required as recommended by the truss fabricator.
6. The finished floor elevation shall be a min. 2' above normal water table.
7. Roof material shall be minimum 29 gage Galvalume or Galvanized (G90 or better) steel.
8. Roofing material shall be stored properly in accordance with the manufacturer's recommendations. Roofing material must be covered if stored outside to prevent premature deterioration.
9. When the structure is used for animal confinement, install ¼ inch thick extruded polystyrene foam insulation beneath the entire roof and between the roofing and the wood framing and install a ridge vent specifically designed for animal confinement structures. Galvalume is not permitted for animal confinement structures.
10. Aluminum may be substituted for the steel. The aluminum roofing needs to be properly designed for expansion and contraction and compatibility with other metals. The aluminum roofing shall have a minimum thickness of 0.018 inches, maximum length of 16 feet, sufficient overlap, stainless steel screws for fastening, slotted holes drilled, and neoprene washers used.

PROFILE

Designed	_____	Date	____/____/____
Drawn	_____		
Checked	_____		
Approved	_____		

LANDOWNER - SITE NAME
 #####
 COUNTY Soil Conservation District
 TRACT # _____
 JOB CLASS # _____, Maryland

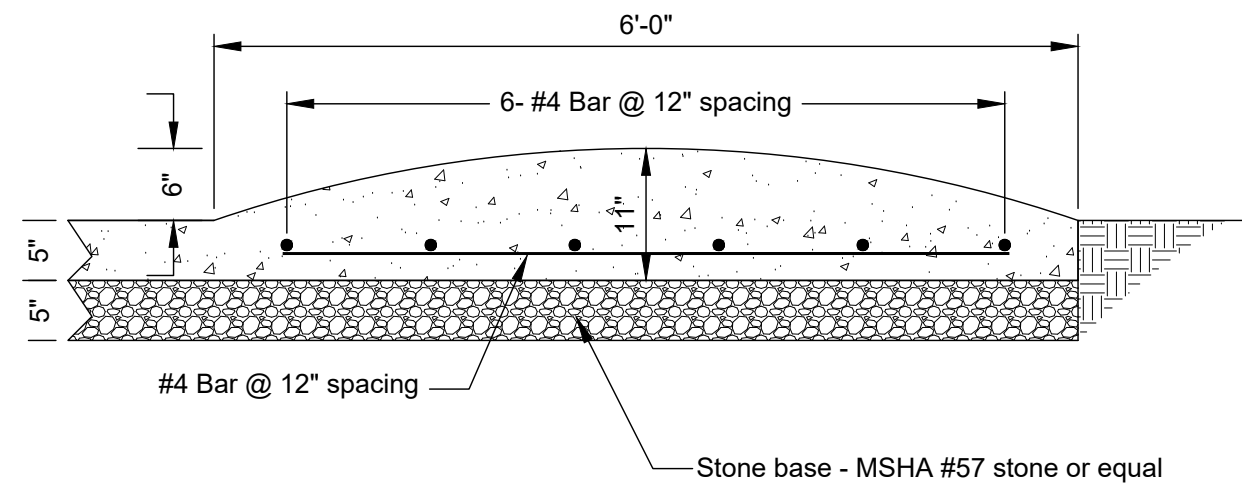


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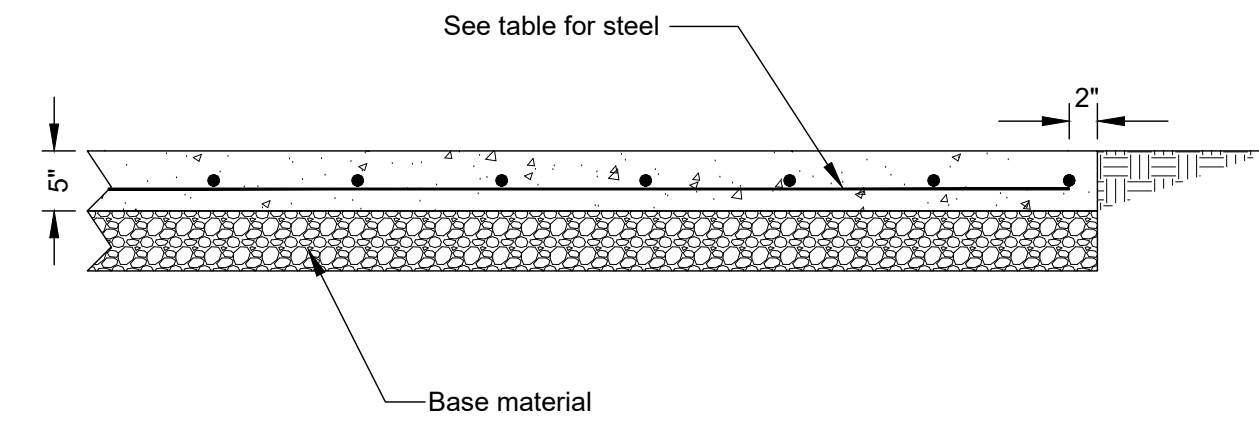
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Drawing No.
 MD_0010

Sheet 5 of 7



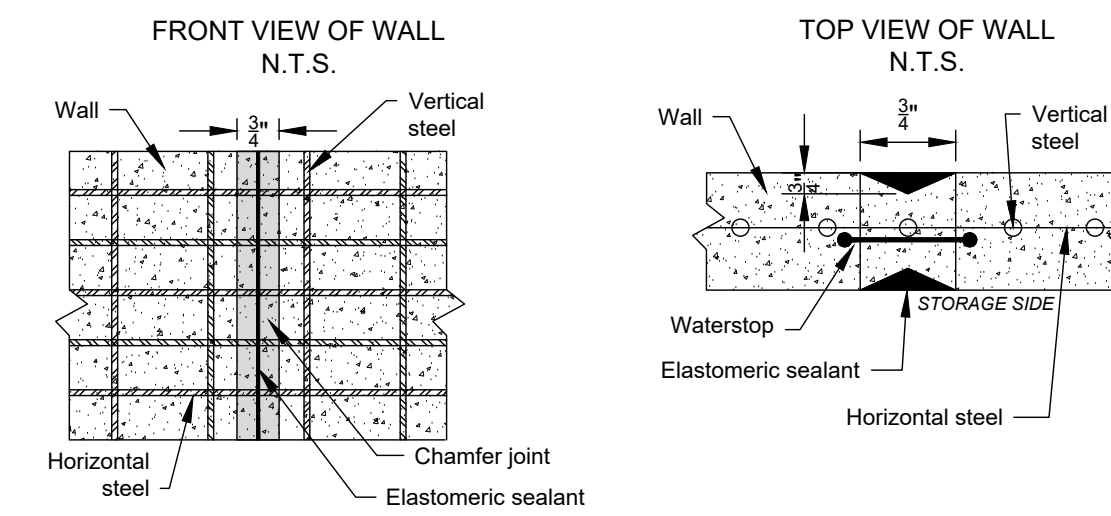
DETAIL OF ROLLED CURB
Not to scale



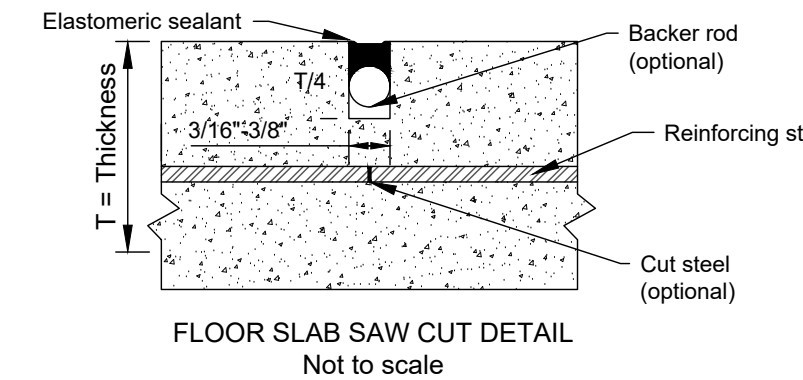
NOTES:
1) 4000 PSI Concrete
2) Grade 60 steel

CONCRETE FLOOR DETAIL
Not to scale

DOUBLE CLICK TO EDIT BLOCK



VERTICAL WALL SAW CUT DETAIL
Not to scale



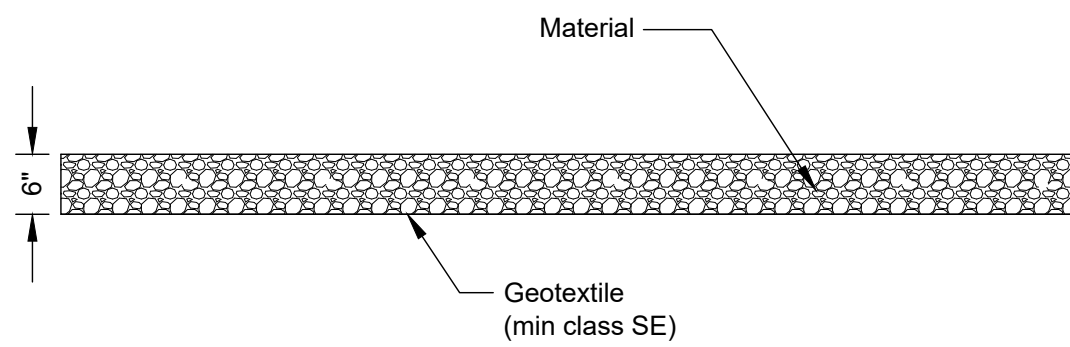
FLOOR SLAB SAW CUT DETAIL
Not to scale

JOINT PLACEMENT REQUIREMENTS:(VERTICAL)

1. Must be used on any wall 2ft and over in height.
2. Space vertical crack control no greater than 60ft apart or as noted on the plan and do not locate at column anchor.
3. Every other horizontal steel bar (50%) shall be cut at the controlled crack joint.
4. Elastomeric sealant shall be installed on inside and outside of wall where controlled crack joint is placed. Installation of vinyl waterstop is recommended.
5. Follow manufacturer's recommendations for installation of the elastomeric sealer.

JOINT PLACEMENT REQUIREMENTS:(SLAB)

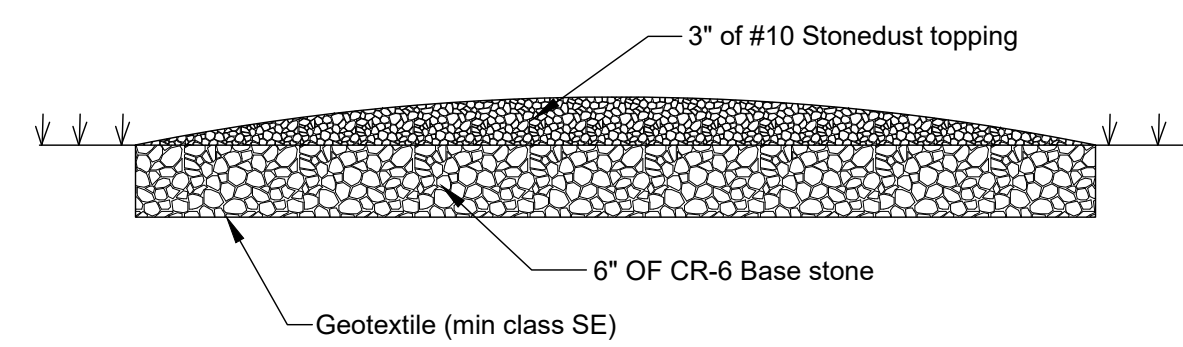
1. Joints shall be cut as soon as aggregate is set, but no later than 24 hours after the concrete placement.
2. Space joints no greater than 60 feet or as shown on design.
3. The saw cut depth shall be a minimum of 1/4 the thickness of the concrete, to a maximum of 2".
4. Cut 50% of the reinforcing steel directly at the joint.(optional)
5. Follow manufacturer's recommendations for installation of the elastomeric sealer.



- GENERAL NOTES:
- Remove topsoil prior to grading and stockpile outside limits of access lane construction.
 - Overlap all filter fabric at least 2 feet.
 - Topsoil shall be used to facilitate revegetation.
 - Seed all disturbed areas according to the seeding specifications.

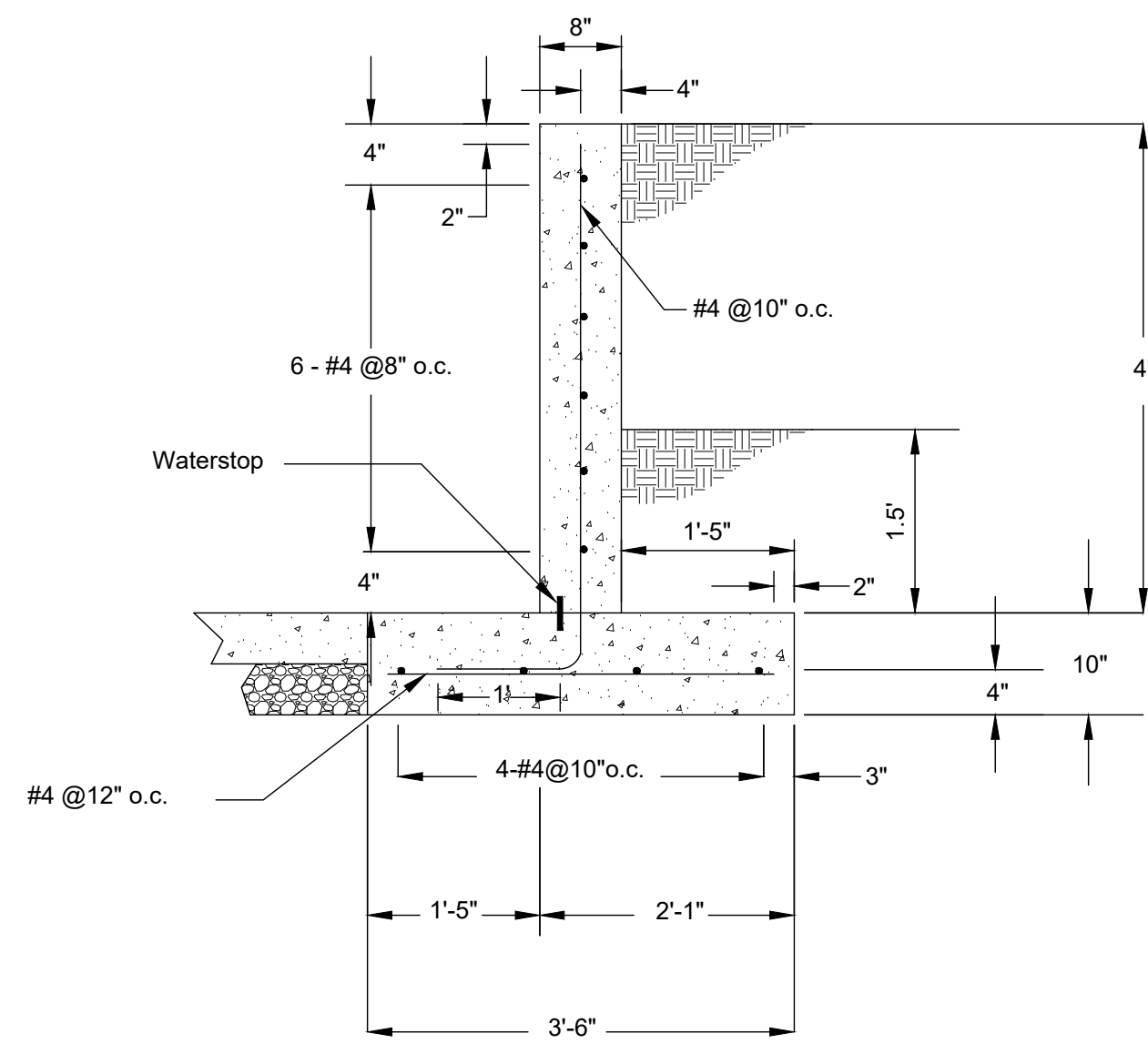
ACCESS LANE
Not to scale

DOUBLE CLICK TO EDIT BLOCK



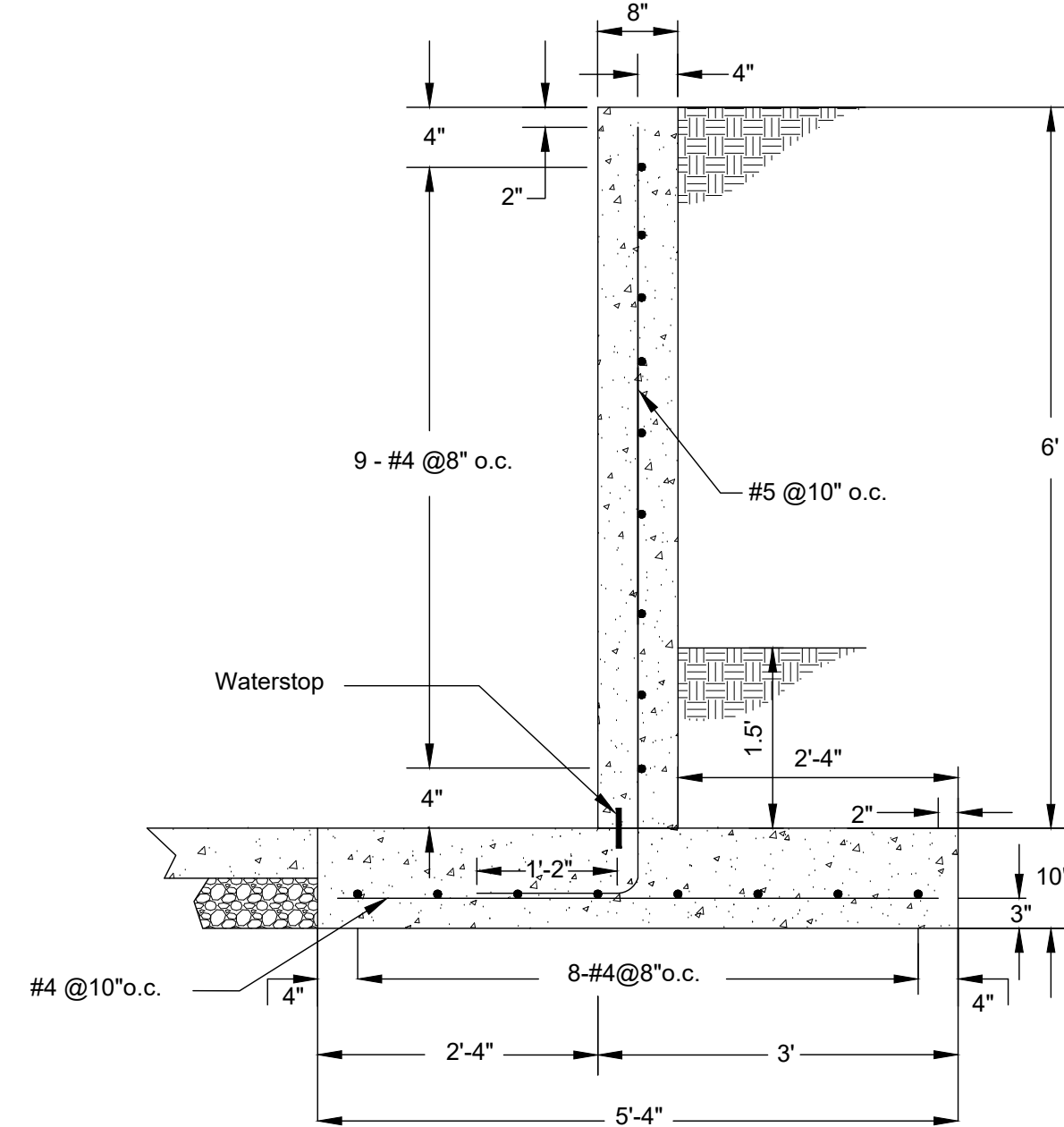
- Construction procedures and notes: Stone Animal Walkway
1. Arrange a pre-construction meeting with conservation technicians.
 2. Grade topsoil down 6" or less as needed or directed.
 3. Place filter fabric on cut grade making sure to straighten out wrinkles etc. overlap all joints between fabric sheets at least 2 feet.
 4. Place 6" of CR-6 base stone on top of geotextile and pack as firmly as possible.
 5. Place 3" of stone dust #10 on the base stone layers with the top surface slightly rounded and packed firmly.
 6. Seed and mulch any disturbed areas according to conservation recommendations.
 7. The landowner and the soil conservation office must approve any changes.

ANIMAL WALKWAY
Not to scale



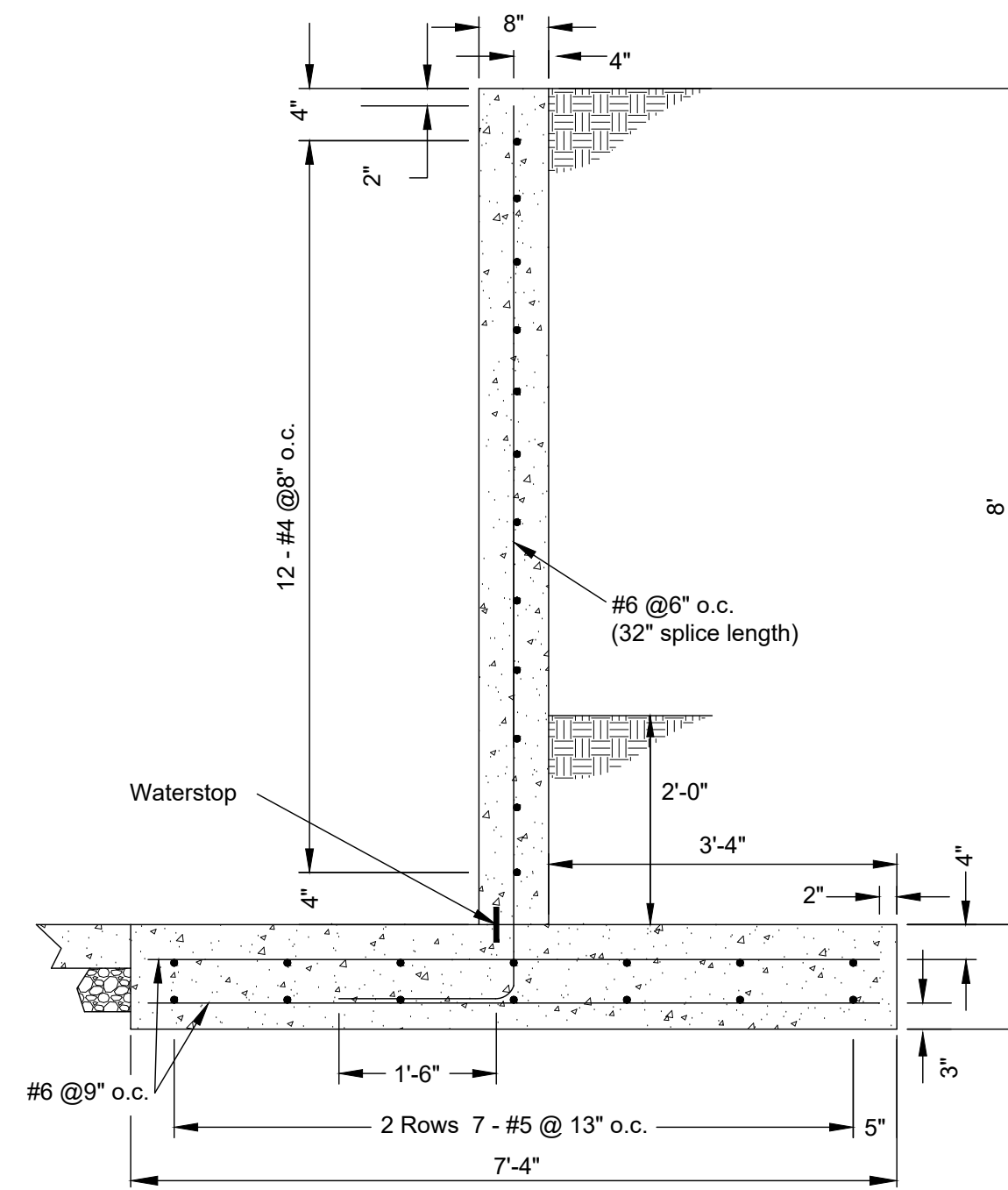
4' RETAINING WALL
CW-4.4.1
Not to scale

- Notes:
- 1) 4000 psi concrete
 - 2) Grade 60 steel
 - 3) Maximum backfill top of wall (4')
 - 4) Minimum backfill 1.5'
 - 5) Concrete slab must be placed before wall is backfilled
 - 6) Maximum surcharge 100 PSF



6' RETAINING WALL
CW-6.6.1
Not to scale

- Notes:
- 1) 4000 psi concrete
 - 2) Grade 60 steel
 - 3) Maximum backfill top of wall (6')
 - 4) Minimum backfill 1.5'
 - 5) Concrete slab must be placed before wall is backfilled
 - 6) Maximum surcharge 100 PSF



8' RETAINING WALL
CW-8.8.2
Not to scale

- Notes:
- 1) 4000 psi concrete
 - 2) Grade 60 steel
 - 3) Maximum backfill top of wall (8')
 - 4) Minimum backfill 2'
 - 5) Concrete slab must be placed before wall is backfilled
 - 6) Maximum surcharge 100 PSF

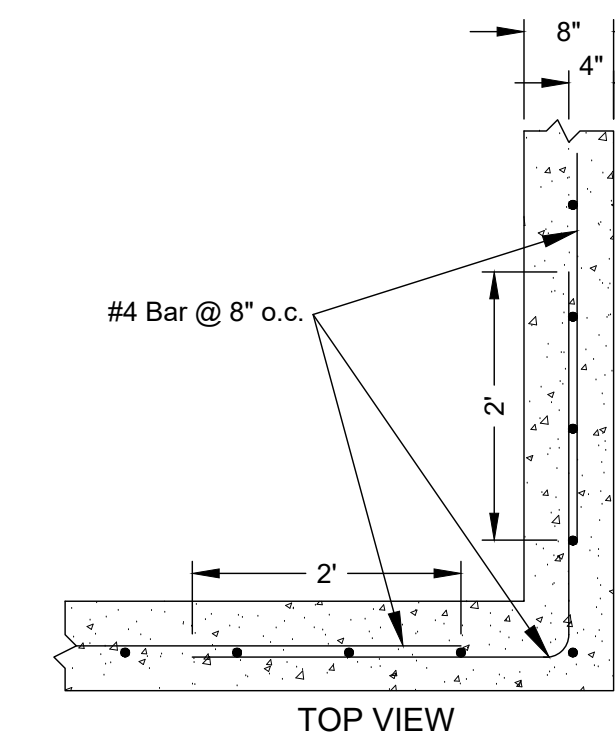
CONCRETE CONSTRUCTION SPECIFICATIONS

Formed Concrete
Revised 7/21

1. All materials and construction shall be in accordance with applicable NRCS Practice Standards and ACI-318.
2. Any changes in the plans or specifications must be approved by the design approver prior to being made. Changes are to be reviewed by the landowner for concurrence.
3. Concrete shall have Type IA or IIA cement, 28-day compressive strength of 4,000 psi, 5% air entrainment and a slump of 3 to 5 inches. Air entrainment admixtures shall conform to ASTM C260.
4. Reinforcing steel shall conform to ASTM A615, Grade 60 steel. All reinforcing material shall be free of dirt, loose rust, scale, oil, paint or other coatings. The steel shall be accurately placed into position, as shown on the plans, and securely restrained and blocked into position prior to placement of concrete. Insertion of steel into fresh concrete is not permitted. Reinforcement steel shall have a minimum of 2 inches of concrete cover against all forms and 3 inches against soil, unless otherwise shown on the plans. Ring steel shall have a minimum overlap of 24 inches. All other reinforcement steel splices shall overlap a minimum of 18 inches. Welded wire mesh shall conform to ASTM A1064 and overlap a minimum of 6 inches. The welding of reinforcing steel is not permitted.
5. Waterstop will be used as shown on the plans and at all cold and construction joints. The type of waterstop will be approved by the field technician prior to use.
6. Plasticizing or plasticizing and retarding admixtures may be used and shall conform to ASTM C1017 or ASTM C494 Types F or G.
7. Concrete forms shall have sufficient strength and rigidity to hold the concrete to withstand the necessary pressure, tamping and vibration without deflection from the prescribed lines. They shall be mortar-tight and constructed so that they can be removed without hammering or prying against the concrete. The inside of the forms shall be oiled with a non-staining mineral oil or thoroughly wet before concrete is placed. Forms may be removed 24 hours after the placement of concrete.
8. Metal ties or anchorages shall be full dimension. Nominal size wall ties are not permitted. Wall tie ends must be broken off and patched with a concrete epoxy or polymer cement. Patching is required on both the inside and outside of concrete structures.
9. Concrete shall be delivered to the site and discharged completely into the forms within 90 minutes after the truck leaves the plant. This time shall be reduced to 45 minutes when the atmospheric temperature is over 90°F. The concrete shall be maintained at a temperature below 90°F during mixing, conveying and placement. Set retarding admixtures may be used to increase mixing time. Water reducing and/or retarding admixtures shall conform to ASTM C494 Types A, B, D, F or G.
10. All concrete for walls shall be consolidated with internal type mechanical vibrators or by rodding. Concrete shall be placed in horizontal lifts not greater than 2 feet. Concrete shall not have a vertical drop greater than 5 feet. An elephant trunk, chute, or similar means shall be used when applicable to minimize the vertical drop. Vibration shall be supplemented by spading and hand tamping as necessary to insure smooth and dense concrete along form surfaces, in corners, and around embedded items.
11. Concrete shall not be placed when the daily minimum atmospheric temperature is less than 40 degrees Fahrenheit unless facilities are provided to prevent the concrete from freezing. The concrete shall be protected from freezing for a minimum of 7 days or the concrete shall be kept at a temperature of 55 degrees Fahrenheit for a minimum of 3 days. Accelerating or water-reducing and accelerating admixtures shall be noncorrosive and conform to the requirements of ASTM C494, Types C and E. Cold weather concreting procedures shall conform to ACI-306.
12. Concrete shall be kept continuously moist for the curing period after the placement of the concrete. Moisture may be applied by spraying or sprinkling as necessary to prevent the concrete from drying. Concrete shall not be exposed to freezing during the curing period. Curing compounds may be used in lieu of the application of moisture. Curing compounds shall conform to ASTM C309, type 2.
13. Defective concrete, honeycombed areas, voids left by the removal of tie rods, ridges on all concrete surfaces permanently exposed to view or exposed to water, shall be repaired immediately after the removal of forms. All voids shall be reamed and completely filled with quickset, non-shrink hydraulic cement, concrete epoxy or polymer cement. Voids left by wall ties shall be patched with a concrete epoxy or polymer modified cement.
14. Concrete top surfaces shall be screeded, troweled and broom finished unless otherwise approved.
15. Walls may be backfilled 7 days after the placement of concrete, unless otherwise approved.
16. Fill material under concrete shall be accomplished by placing maximum 8-inch lifts (before compaction). The lifts shall be compacted by the traversing of the entire surface by not less than one track of the equipment or by a minimum of four complete passes with a sheepsfoot, vibratory, or rubber tire roller.

Compaction around structures (i.e. around pipes, adjacent to walls, etc.) shall be accomplished by placing fill in maximum 4-inch lifts and compacting by means of hand tampers or other manually directed compaction equipment.

The technician shall determine if the moisture content is suitable for fill placement. The contractor shall make adjustments as directed by the technician. The method of compaction shall be approved prior to placement of fill material.
17. The backfill behind walls shall conform to the grades shown on the plans. When placing uncompacted fill provide an additional foot of fill to allow for settlement.
18. Subsurface drainage must be provided as shown on the plans. Drain tubing must meet the requirements of ASTM F677 Heavy Duty.



8' RETAINING WALL CORNER
Not to scale

- Notes:
- 1) 4000 psi concrete
 - 2) Grade 60 steel

Date	-----
Designed	-----
Drawn	-----
Checked	-----
Approved	-----

LANDOWNER - SITE NAME

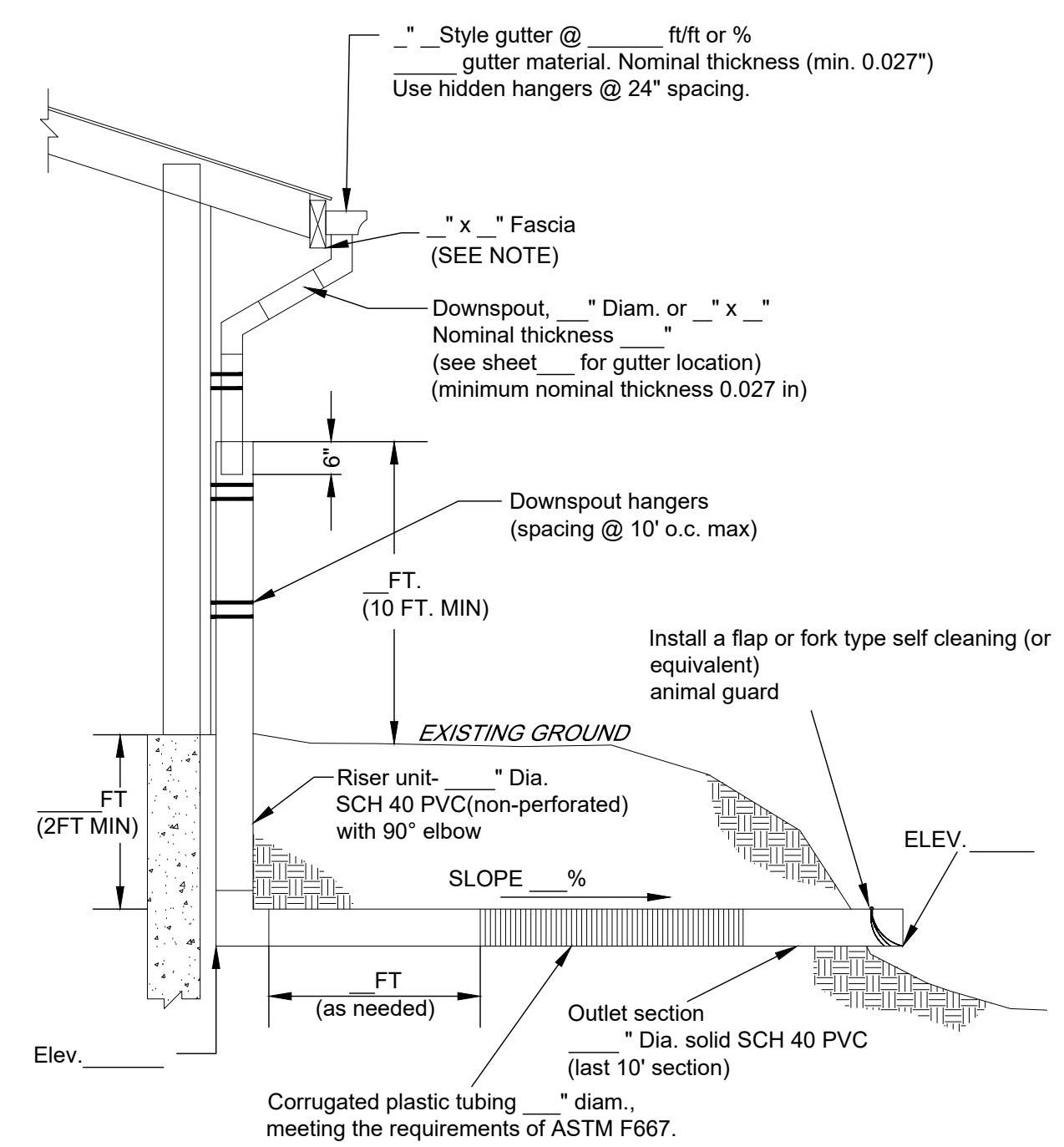
COUNTY Soil Conservation District
JOB CLASS #
TRACT #



File Name
MD_00_0_RoofedStackingWSFSigned.dwg
Drawing No.
MD_0010
Sheet 6 of 7

ROOF GUTTER CONSTRUCTION SPECIFICATIONS

- All materials and construction shall be in accordance with applicable NRCS standards and construction specifications.
- All components of the completed system shall conform to the lines, grades, elevations, dimensions and materials shown on the plans.
- Any changes in the plans or specifications must be approved by the original plan approver prior to being made. Changes are to be reviewed by the landowner for concurrence.
- All disturbed areas shall be fertilized, seeded, and mulched or otherwise stabilized as required on the construction plans.
- Existing fascia boards that are damaged, rotten, otherwise unstable or with a nominal thickness less than 2 inches, shall be replaced.
- Rafter ends that are damaged or rotted shall be repaired.
- All lumber used for fascia boards or for rafter end repair shall have a nominal thickness of 2 inches. Cover all fascia boards with aluminum or vinyl flashing or paint before the roof gutter is installed.
- Down spout outlet connections shall be the manufacturer's preformed (insert) outlets for the given size shown on the design, unless otherwise approved.
- Aluminum gutters and downspouts shall have a minimum thickness of 0.027 inch.
- Galvanized steel gutters and downspouts shall have a minimum thickness of 28 gage.
- Where animals or equipment may come in contact with downspouts, steel pipe, schedule 40 PVC or similar material will be used for the downspout.
- Roof gutter supports shall have a maximum spacing of 24 inches unless otherwise approved. Roof gutters shall be mounted to the fascia board using hidden hangers, bolts and ferrules, gutter screws and ferrules, or cradles. Other methods must be approved by the engineer. Spike and ferrules are not approved.
- Itemized invoices from suppliers shall be provided to verify gutter and downspout size, length, material, material gage, and hanger type.
- The Soil Conservation District makes no representation as to the existence or nonexistence of any utilities at the construction site. Shown on these construction drawings are those utilities, which have been identified. It is the responsibility of the landowners or operators and contractors to assure themselves that no hazard exists or damage will occur to utilities. Miss Utility should be contacted at 1 800-257-7777.



NOTE:
1) Fascia board material to be spruce, pine, fir or better. Cover with aluminum/vinyl flashing or paint prior to installation of roof gutter.
2) No pressure treated lumber allowed

GUTTER OUTLET DETAIL
Not to scale

USER TO MODIFY PER DESIGN

OUTLET PIPE PROFILE
USER TO MODIFY PER DESIGN

DETAIL E-1 SILT FENCE

STANDARD SYMBOL
SF

6 FT MAX. CENTER TO CENTER

36 IN MIN. FENCE POST LENGTH
DRIVEN MIN. 16 IN INTO GROUND

16 IN MIN. HEIGHT OF
WOVEN SLIT FILM GEOTEXTILE

18 IN MIN. DEPTH
INTO GROUND

ELEVATION

36 IN MIN. FENCE
POST LENGTH

WOVEN SLIT FILM
GEOTEXTILE

FENCE POST 18 IN MIN.
ABOVE GROUND

UNDISTURBED
GROUND

FENCE POST DRIVEN
A MIN. OF 16 IN INTO
THE GROUND

CROSS SECTION

EMBED GEOTEXTILE
MIN. OF 8 IN VERTICALLY
INTO THE GROUND. BACKFILL
AND COMPACT THE SOIL ON
BOTH SIDES OF GEOTEXTILE.

STEP 1

POSTS

STAPLE

STEP 2

STAPLE

TWIST POSTS TOGETHER

STEP 3

STAPLE

FINAL
CONFIGURATION

STAPLE

JOINING TWO ADJACENT SILT
FENCE SECTIONS (TOP VIEW)

1 OF 2

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

2011

MARYLAND DEPARTMENT OF ENVIRONMENT
WATER MANAGEMENT ADMINISTRATION

DETAIL E-1 SILT FENCE

STANDARD SYMBOL
SF

CONSTRUCTION SPECIFICATIONS

- USE WOOD POSTS 1 1/2 X 1 1/2 INCH (MINIMUM) SQUARE CUT OF SOUND QUALITY HARDWOOD. AS AN ALTERNATIVE TO WOODEN POST USE STANDARD "T" OR "U" SECTION STEEL POSTS WEIGHING NOT LESS THAN 1 POUND PER LINEAR FOOT.
- USE 36 INCH MINIMUM POSTS DRIVEN 16 INCH MINIMUM INTO GROUND NO MORE THAN 6 FEET APART.
- USE WOVEN SLIT FILM GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS AND FASTEN GEOTEXTILE SECURELY TO UPSLOPE SIDE OF FENCE POSTS WITH WIRE TIES OR STAPLES AT TOP AND MID-SECTION.
- PROVIDE MANUFACTURER CERTIFICATION TO THE AUTHORIZED REPRESENTATIVE OF THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT THE GEOTEXTILE USED MEETS THE REQUIREMENTS IN SECTION H-1 MATERIALS.
- EMBED GEOTEXTILE A MINIMUM OF 8 INCHES VERTICALLY INTO THE GROUND. BACKFILL AND COMPACT THE SOIL ON BOTH SIDES OF FABRIC.
- WHERE TWO SECTIONS OF GEOTEXTILE ADJOIN: OVERLAP, TWIST, AND STAPLE TO POST IN ACCORDANCE WITH THIS DETAIL.
- EXTEND BOTH ENDS OF THE SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPSLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM GOING AROUND THE ENDS OF THE SILT FENCE.
- REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN SILT FENCE OR WHEN SEDIMENT REACHES 25% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN. IF UNDERMINING OCCURS, REINSTALL FENCE.

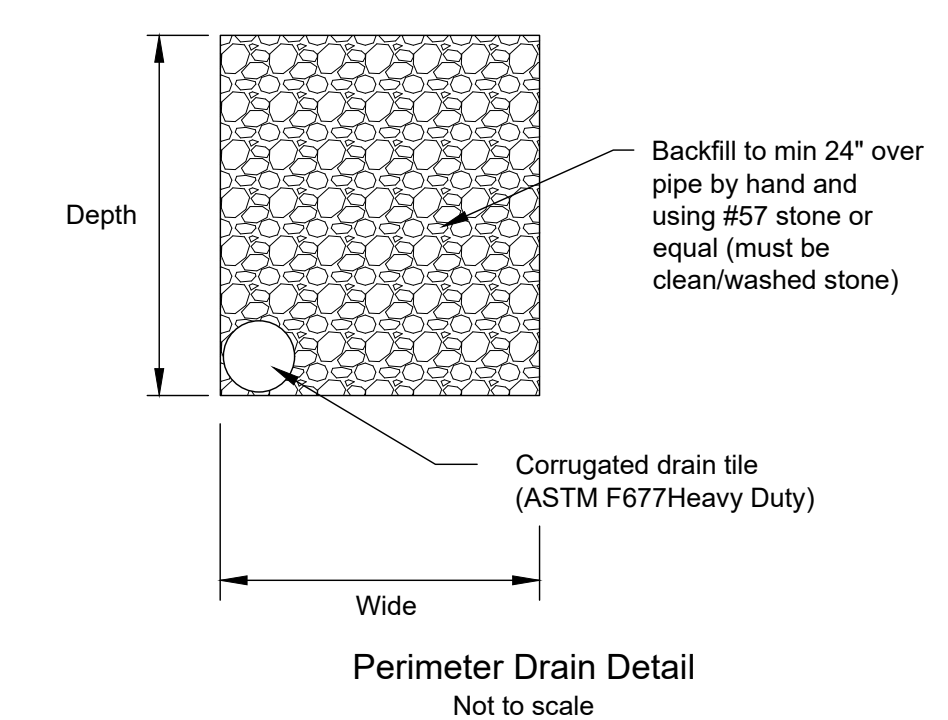
2 OF 2

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

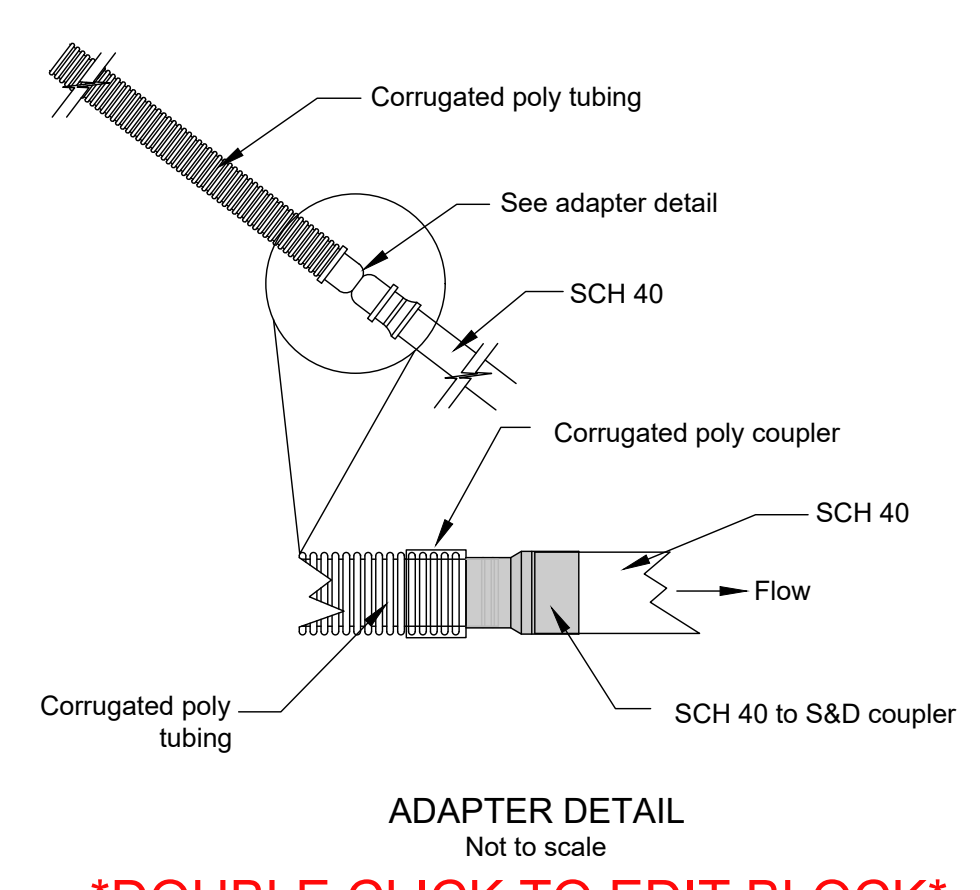
U.S. DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

2011

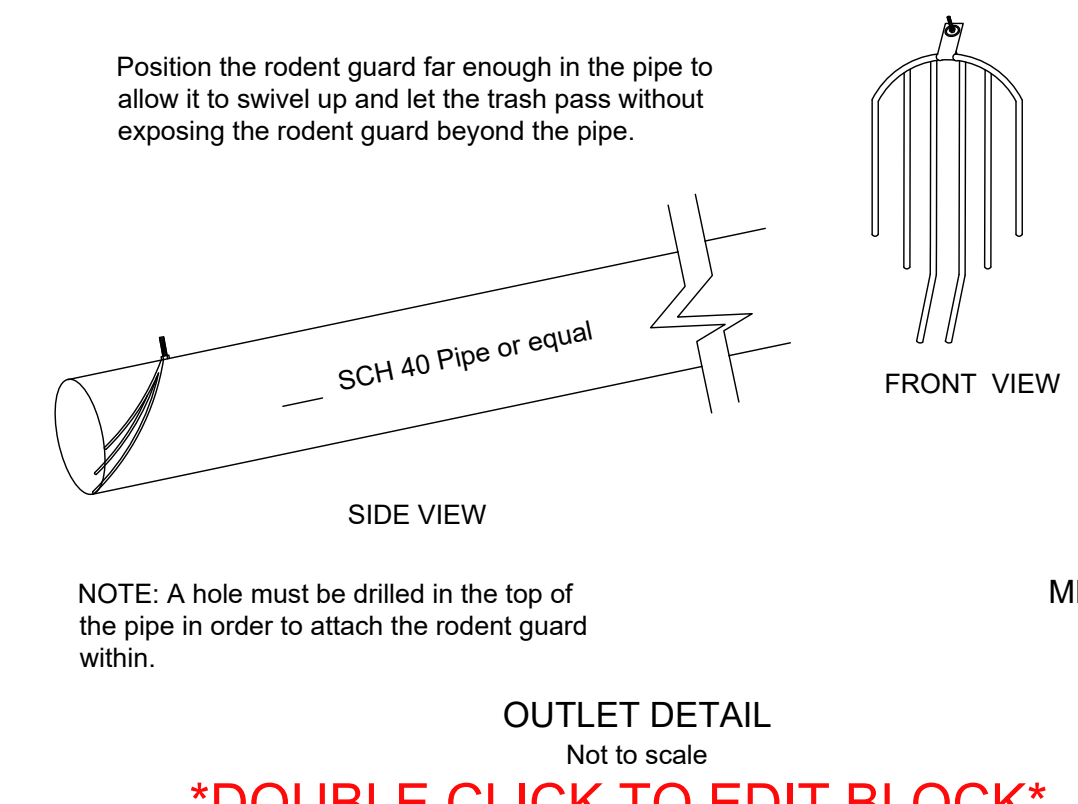
MARYLAND DEPARTMENT OF ENVIRONMENT
WATER MANAGEMENT ADMINISTRATION



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Date _____

Designed _____

Drawn _____

Checked _____

Approved _____

LANDOWNER - SITE NAME

#####

COUNTY Soil Conservation District

JOB CLASS # _____

TRACT # _____

United States
Department of
Agriculture

USDA

Natural Resources
Conservation Service

File Name
MD_0010_RoofedStackingWSF51ced.dwg

Drawing No.
MD_0010

Sheet 7 of 7

