

Proposed Area of Disturbance

General Site Permitting Information

- 1) Proposed area of disturbance is .09 acre (Includes excavation, spoil pile, footer drain, etc...) Anytime the disturbed area is greater than 1 acre, an NPDES permit may be required. The disturbed area for several practices does not need to be included in the measured footprint, for NPDES permitting, as per DEP. Such practices for this project are: Heavy Use Area and Animal Trail and Walkway. The disturbed area for NPDES permitting consideration is 1 Ac.
- 2) Name of Receiving Water Body: Un-named Tributary to Ashes Creek West Branch
Distance from Work Area to stream: 100'
- 3) Are there any apparent wet lands within the project work area and/or receiving runoff from the area of disturbance? Possible Minor Inclusions Marked
- 4) Soil type(s) in area of disturbance: MAB and BKC
- 5) Are there any General Permits required for this project? Y
General Construction & Stream Crossing Permit

| | DESIGNED | DRAWN | CHECKED | APPROVED | DATE |
|--|----------|-------|---------|----------|------|
| | SL | SL | | | |
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Barchik
E&S Plan View 1" = 60'



United States Department of Agriculture

Natural Resources Conservation Service

85 Barchi Road, Benton, Pa

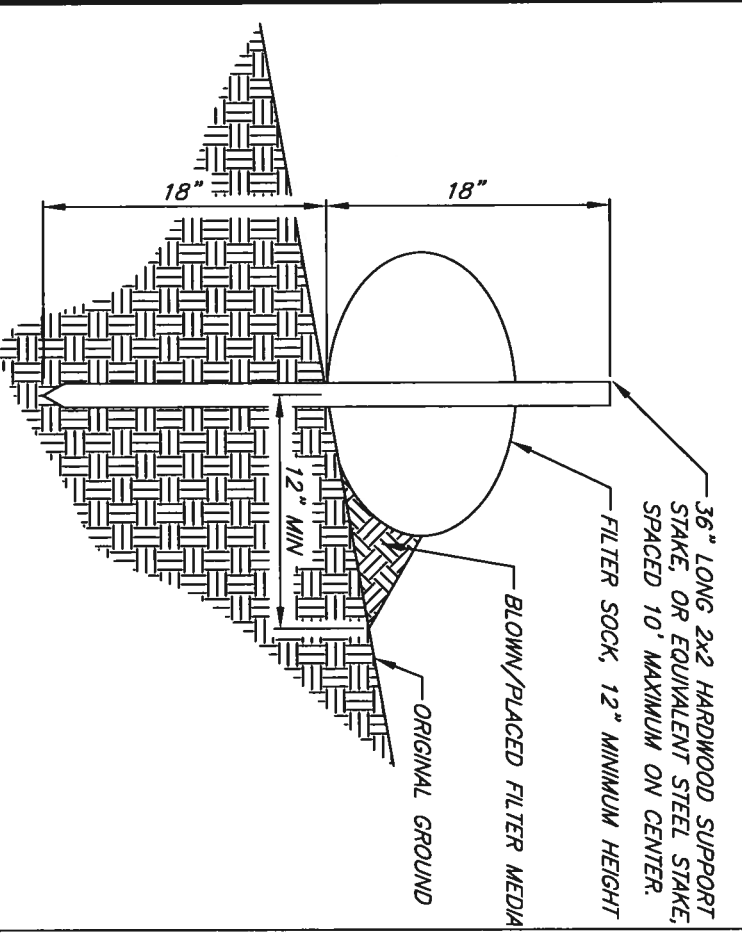
LUZERNE COUNTY, PA

FILE NO: BARCHIK DESIGN.DWG

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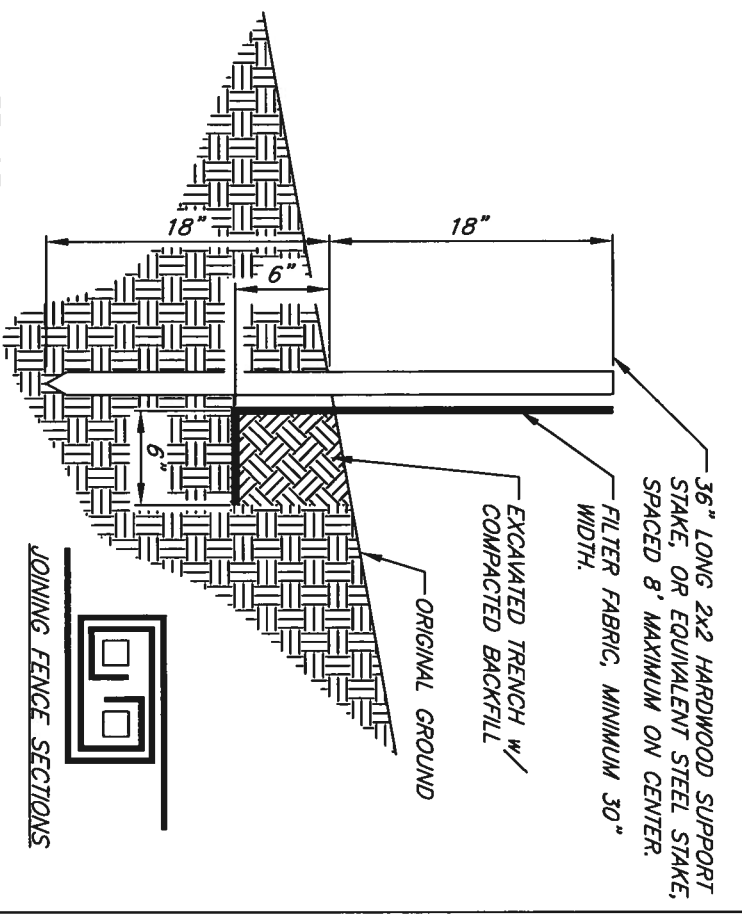
SHEET 2 OF

E&S POLLUTION CONTROL PLAN AND FINAL SEEDING RECOMMENDATIONS



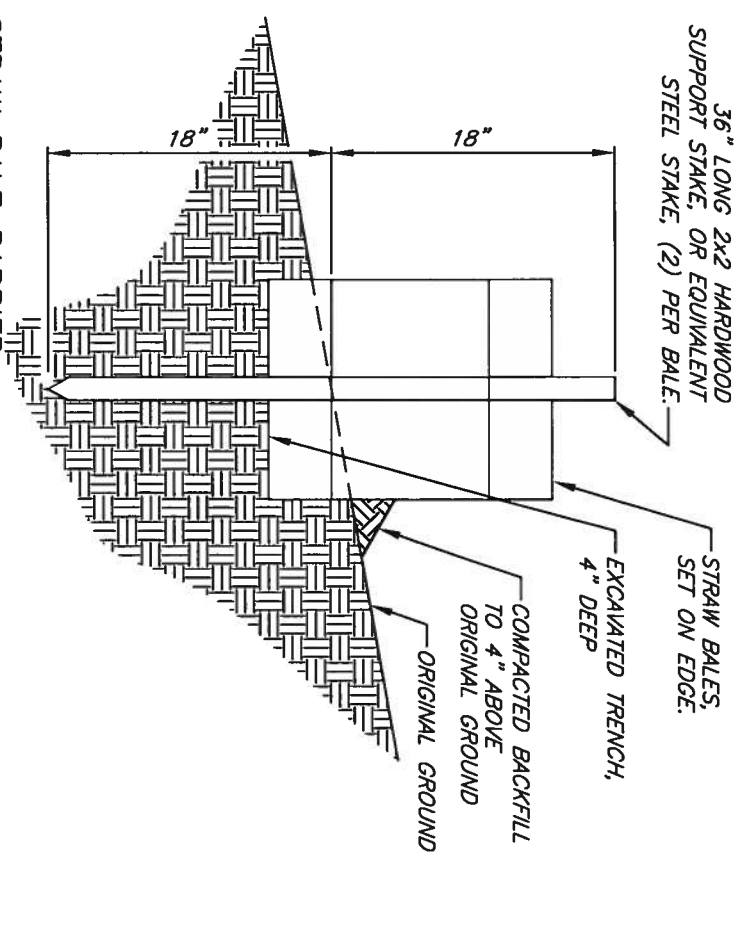
FILTER SOCK

- NOTES:**
1. FILTER SOCK SHALL BE INSTALLED DOWN SLOPE OF THE DISTURBED AREAS OF THE CONSTRUCTION SITE.
 2. TRAFFIC SHALL NOT BE PERMITTED TO CROSS FILTER SOCKS.
 3. FILTER SOCK SHALL BE PLACED AT LEVEL EXISTING GRADE. BOTH ENDS OF THE SOCK SHALL BE EXTENDED AT LEAST 8' UP SLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT.
 4. STAKES MAY BE INSTALLED IMMEDIATELY DOWN SLOPE OF THE SOCK IF SO SPECIFIED BY THE MANUFACTURER.
 5. ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN IT REACHES HALF THE ABOVE GROUND HEIGHT OF THE SOCK.
 6. SOCKS SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT. DAMAGED SOCKS SHALL BE REPAIRED ACCORDING TO THE MANUFACTURER'S SPECIFICATIONS OR REPLACED WITHIN 24 HOURS OF INSPECTION.
 7. BIODEGRADABLE FILTER SOCKS SHALL BE REPLACED AFTER 6 MONTHS; PHOTODEGRADABLE SOCKS AFTER 1 YEAR.
 8. POLYPROPYLENE SOCKS SHALL BE REPLACED ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS.
 9. 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.
 10. ANY SECTION OF SILT FENCE WHICH HAS BEEN UNDERMINED OR TOPPED SHALL BE IMMEDIATELY REPLACED WITH A ROCK FILTER OUTLET.



SILT FENCE

- NOTES:**
1. SILT FENCE SHALL BE INSTALLED DOWN SLOPE OF THE DISTURBED AREAS OF THE CONSTRUCTION SITE.
 2. SILT FENCE SHALL BE PLACED AT LEVEL EXISTING GRADE. BOTH ENDS OF THE FENCE SHALL BE EXTENDED AT LEAST 8' UP SLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT.
 3. FENCE SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT. DAMAGED FENCE SHALL BE REPAIRED ACCORDING TO THE MANUFACTURER'S SPECIFICATIONS AND REPLACED WITHIN 24 HOURS OF INSPECTION.
 4. SEDIMENT SHALL BE REMOVED WHEN ACCUMULATIONS REACH HALF THE ABOVE GROUND HEIGHT OF THE FENCE.
 5. ANY SECTION OF SILT FENCE WHICH HAS BEEN UNDERMINED OR TOPPED SHALL BE IMMEDIATELY REPLACED WITH A ROCK FILTER OUTLET.
 6. FENCE SHALL BE REMOVED AND PROPERLY DISPOSED OF WHEN TRIBUTARY AREA IS PERMANENTLY STABILIZED.
- Seeding Recommendation**
- The seed mixture shall be the following or similar if approved by the NRCs representative.
- Nurse Crop (required with every permanent seed application):
- | | |
|---------------|-----------------|
| Oats | 64 lbs/acre PLS |
| Wheat | 90 lbs/acre PLS |
| Annual Rye | 40 lbs/acre PLS |
| Perennial Rye | 40 lbs/acre PLS |
| PLUS | |
| Tall Fescue | 80 lbs/acre PLS |
- NOTE:** This mixture is suitable for frequent mowing. Do not cut shorter than 4".
- PLS means pure, live, seed. PLS is the product of the percentage of pure seed times percentage germination divided by 100. For example, to secure the actual planting rate for switchgrass, divide 12 lbs PLS by the PLS percentage shown on the seed tag. Thus, if the PLS content of a given seed lot is 35%, divide by .35 to obtain 34.4 lbs of seed, the amount of seed required to plant 1 acre.
- If partial completion of any part of the project is accomplished, and this area will be disturbed again BUT not for a period of 20 days or more, those areas must be seeded with a TEMPORARY cover-seeding.
- Temporary Seed and mulch will be applied at the following rates:
- | | |
|-----------------|-------------|
| Annual Ryegrass | 40 lbs/Acre |
| Winter Rye | 3 Bu/Acre |
| Winter Wheat | 3 Bu/Acre |
| Spring Oats | 3 Bu/Acre |



STRAW BALE BARRIER

- NOTES:**
1. STRAW BALES SHALL BE INSTALLED ACROSS SWALES, WATERWAYS, AND DIVERSIONS WHERE SEDIMENT LADEN RUNOFF COULD LEAVE THE CONSTRUCTION SITE.
 2. STRAW BALE BARRIERS SHALL NOT BE USED FOR PROJECTS EXTENDING MORE THAN 3 MONTHS.
 3. STRAW BALE BARRIERS SHALL BE PLACED AT EXISTING LEVEL GRADE WITH ENDS TIGHTLY ABUTTING THE ADJACENT BALES. THE FIRST STAKE OF EACH BALE SHALL BE ANGLED TOWARD THE ADJACENT BALE TO DRAW THE BALES TOGETHER. STAKES SHALL BE DRIVEN FLUSH WITH THE TOP OF THE BALE. BOTH ENDS OF THE BARRIER SHALL BE EXTENDED AT LEAST 8' UP SLOPE AT 45 DEGREES TO THE MAIN BARRIER ALIGNMENT.
 4. SEDIMENT SHALL BE REMOVED WHEN ACCUMULATIONS REACH ONE THIRD THE ABOVE GROUND HEIGHT OF THE BALE. DAMAGED OR DETERIORATED BALES SHALL BE REPLACED IMMEDIATELY UPON INSPECTION.
 5. ANY SECTION OF THE STRAW BALE BARRIER WHICH HAS BEEN UNDERMINED OR TOPPED SHALL BE IMMEDIATELY REPLACES WITH A ROCK FILTER OUTLET.
 6. BALES SHALL BE REMOVED WHEN THE TRIBUTARY AREA HAS BEEN PERMANENTLY STABILIZED.
- THIS EROSION AND SEDIMENTATION PLAN IS BASED ON THE PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION EROSION AND SEDIMENT POLLUTION CONTROL PROGRAM MANUAL, TECHNICAL GUIDANCE NUMBER 363-2134-008, MARCH 2012.**
- Planting Recommendation**
- Seed can be applied with a drill or broadcast seeder. Broadcast seeding is not permitted. If broadcast, narrow or disk lightly to cover seed. Roll with cultipacker or similar roller in same direction as seeding. (Double drilling gives better distribution of seeding and helps to spread the water while plants are small. Drill first lengthwise and then crosswise (in a zig-zag pattern). Optimum planting time is early spring or mid summer.
7. As soon as seeding is finished, mulch with 3 Tons/Acre of hay or straw, making a layer 1 to 1.5 inches deep. Set disk straight and go over mulch to press straw into the soil. Tackifiers can also be used for anchoring mulch.

1. When grading is finished, apply lime and fertilizer in accordance with soil test recommendations.

2. If soil test results are not available, apply 4 ton per acre of agricultural grade limestone and fertilizer at the rate of 1,000 lbs. Of 10-20-20 or equivalent per acre.

3. Lime and one-half (1/2) the amount of the fertilizer shall be incorporated 4 to 6 inches into the soil.

4. Work area with chisel plow or similar type equipment, making sure lime and fertilizer are worked well into the soil.

5. Follow with the balance of fertilizer and seed.

OWNER RESPONSIBILITIES

ACCESS

1. The owner is responsible for ensuring that all livestock are removed from the work site and that livestock will remain excluded from the work site until the project has received final certification and is approved for use.
2. The owner is to provide reasonable access to the work site.

EXCAVATION NOTES

GENERAL

1. No excavation shall begin until the excavator has complied with all PA One-Call requirements and any utility company responses.
2. All erosion and sedimentation practices shall be installed prior to beginning excavation.
3. OSHA standards shall be followed for all excavation.
4. Topsoil shall be stripped and stockpiled to be re-distributed when the project is complete.
5. All manure-laden soil shall be removed and spread according to the landowner's nutrient management plan.
6. The site shall be excavated until good, stable soil is encountered.
7. If seeps are encountered during excavation, provide clean 2B-stone backfill up to the seep elevation.
8. For Liquid Storage Structures: When hard material is encountered, over-excavate design subgrade by 1.0' and replace with a compacted impermeable layer (i.e. CL/ML) before installing bedding stone; consult with design engineer before doing so.
9. If rock-refusal is met before the design subgrade, changes in design elevations will require NRCS approval.
10. Excess material shall be disposed of as directed by the landowner and the NRCS inspector.
11. A uniform layer of 2B-stone (AASHTO #57), 4" thick shall be placed above subgrade to bed ALL concrete. Stone depth to be measure after compaction. Stone shall not be placed until earthen subgrade elevation and compaction is approved by NRCS inspector.
12. The contractor is responsible for protecting the construction site until the work has been completed and certified by the design engineer. This includes dewatering the site as necessary, as well as preventing upslope runoff from entering the work area. It is strongly recommended that all planned diversions or swales be installed first and all perimeter drain outlets be installed before stone or concrete is placed, if possible.
13. Final grading shall provide positive drainage away from all structures. Swales shall be shaped as necessary along the heavy use area and manure storage to direct stormwater away from the structures.

EARTHFILL

1. Earthen backfill shall be placed in a manner that prevents damage to the structures and allows the structures to assume the loads from the earth backfill gradually and uniformly. The height of the earth backfill adjacent to the structure shall be increased at the same rate on all sides of the structure.
2. Backfill shall be placed in even, horizontal layers. If necessary, over-excavate to an approximately level surface and build subgrade in evenly compacted, horizontal lifts of specified thickness.
3. Backfill shall be placed at optimum moisture content. Backfilled material shall have enough moisture so that when formed into a ball, it will not break if struck sharply with a pencil. Backfilling newly poured walls may not begin until 14-days after the final concrete placement. Compact using the following equipment and lift thickness:
FOOTINGS AND STRUCTURE FLOOR:
 -(3) passes of sheepsfoot or vibratory roller in 6-inch lifts
WITHIN 3 FEET OF WALLS:
 -(3) passes by hand compactor or small, manually directed plate vibrator in 6-inch lifts
BEYOND 3 FEET OF WALLS:
 -(3) passes by track equipment (>4,000 lbs) in 6-inch lifts
 -(4) passes by rubber tired equipment in 6-inch lifts
 -(3) passes of vibratory roller in 6-inch lifts
4. Avoid backfill containing rocks or clods greater than 3" diameter, debris, roots, frozen soil, or other unsuitable material as determined by the NRCS inspector.

PIPES

1. All pipes shall meet minimum material specifications:
 - 1.1. SCH 40 PVC shall meet ASTM-D1785
 - 1.2. SDR-35 shall meet ASTM-D3034
 - 1.3. Corrugated polyethylene tubing shall meet ASTM-F405
2. All fittings shall be pressure-rated, watertight and meet minimum material specifications of pipe.
3. Pipes shall be installed to specified depth and to minimum design grade.
4. Trenches for pipelines shall be free of rocks and sharp-edged materials. A supply of AASHTO #57 bedding, or other suitable granular material, shall be available to bed pipelines in unstable soils or as directed by NRCS inspectors.
5. Pipes shall be backfilled as shown on design details. Any pipe to be placed in a traffic area is to be bedded as per design details and backfilled to the surface with 2A modified or 2RC aggregate. Any pipe not specifically detailed may be backfilled with moist earth, free of large clods or rocks, and hand compacted in 6-inch lifts. DO NOT drive machinery over recently backfilled pipes. Mound backfill 10% of trench depth to allow for settlement.

GEOTEXTILE

ACCESS ROAD USE:

1. Geotextile for roads with normal farm machinery use shall be WOVEN or NON-WOVEN with a minimum tensile strength of 200 pounds.
2. Geotextile for roads with heavy equipment shall be WOVEN or NON-WOVEN with a minimum tensile strength of 315 pounds.

ANIMAL WALKWAY USE:

3. Geotextile shall be WOVEN or NON-WOVEN with a minimum tensile strength of 160 pounds.

PLACED BELOW CONCRETE & ON TOP OF BEDDING STONE USE:

4. Geotextile shall be WOVEN with an Apparent Opening Size (AOS) between 20 and 100, inclusive.
- ALL USES:
 5. Geotextile installed on slopes greater than 8% shall be NON-WOVEN.
 6. Geotextile installed where a wet subgrade is an issue shall be WOVEN or NON-WOVEN. The inspector shall have a discussion with the contractor to see which geotextile type the contractor recommends for the wet subgrade issues. The inspector shall then discuss with the design engineer.
 7. Allow 1' overlap between adjacent panels of geotextile where applicable.

Date _____

Designed _____

Drawn _____

Checked _____

GENERAL CONSTRUCTION NOTES
BARCHIK FARM
LUZERNE COUNTY, PENNSYLVANIA



United States
Department of
Agriculture

File No. _____

Drawing No. _____

Sheet 4 of _____

CONCRETE CONSTRUCTION NOTES

REINFORCEMENT

1. Reinforcing steel is to be Grade 60. Where 6"x6" w2.9xw2.9 (6 gage) is specified, the fabric shall be mats, not rolls, supported on steel chairs. NO CINDER OR CONCRETE BRICKS ARE PERMITTED. Support shall be often enough so reinforcement stays at the required location within the slab or footing. A 5' (MAX) chair spacing is required.
2. Form oil shall not be sprayed on any rebar, waterstops, or concrete.

CONCRETE

1. 4,000 psi 28-day compressive strength
2. MAXIMUM water-cement ratio 0.50
3. Air-content 5 to 7%, with air-entrainment
4. Max concrete temperature is 90°
5. Slump shall be 2 to 4 inches prior to addition of superplasticizing admixtures being added, 3 to 6 inches without use of superplasticizers.
6. Slump can be 7.5 inches MAX with the addition of superplasticizing admixtures.
7. Concrete admixtures shall meet ASTM-C260 for air entrainment, and ASTM C494 Type A, D, F or G for water-reduction and set-retardation and Types C or E for non-corrosive accelerators.
8. Admixtures shall be included in the design mix. Follow dosages and recommendations of manufacturer.
9. The contractor(s) shall provide a design mix to the NRCS for approval prior to ordering concrete. All load tickets shall be provided to and approved by the inspector on site and shall reflect all materials and quantities including admixtures, amount of water (metered water and free moisture in the aggregate), and total size of the batch. The batch ticket must indicate the amount of water that may be added on-site while maintaining the design requirements or no water may be added.
10. The concrete mix design may contain slag: Not to exceed 20% of the cementitious material.

PLACEMENT

1. Concrete shall only be placed in the presence of an NRCS inspector.
2. Placement during hot or cold weather will require a written plan in advance detailing concrete conditions, placement provisions, and a curing plan.
3. Concrete shall not be placed until the subgrade, forms, and steel reinforcements have been inspected and approved by the NRCS. Notification shall be given far enough in advance to provide time for inspection.
4. No water may be added after a superplasticizer.
5. Concrete shall be conveyed from the mixer to the forms as rapidly as practical by methods that will prevent segregation of the aggregates or loss of mortar. Concrete shall be placed within 1.5 hours after the introduction of cement to the aggregate unless an approved set-retarding admixture is used in the mix; during periods of hot weather, it may be necessary to reduce this time.
6. Concrete shall not be dropped more than 5 feet vertically. Superplasticized concrete shall not be dropped more than 12 feet vertically.
7. Formed walls shall be placed in 2' layers unless superplasticizer is used, in which case the maximum layer shall be 5'. Each layer shall be consolidated to ensure a good bond with the preceding layer.
8. Concrete shall be consolidated by vibrating immediately after placement and extend a minimum of 6" into the previously consolidated layer.
9. Concrete shall be worked into corners, angles, and all around reinforcement and embedded items in a manner that prevents segregation or the formation of "honeycombing".
10. Vibration shall not be used to make concrete flow.
11. If the surface of a previously placed layer of concrete has taken a set to the degree that it will not mix with the preceding layer when vibrated, the contractor shall discontinue placing concrete and form a construction joint to avoid a "cold joint". Vinyl waterstop and form material shall be on site prior to starting the placement of any concrete.
12. The landowner has the option of having grooves floated or cut into the structure floor(s) for added traction for animals and equipment. This decision will be conveyed to the contractor(s) during price solicitation.

CURING

1. Concrete shall be allowed to cure at least 24 hours prior to beginning form or reinforcement placement for adjacent construction.
2. No equipment shall be allowed on concrete slabs or floors until the concrete has cured for a minimum of 7 days. This includes any motorized material handling equipment, pallets of forms, etc. Skid loaders used for transporting concrete into forms shall not be allowed on slabs or floors for a minimum of 14 days.
3. Forms for walls shall not be removed for at least 24 hours after placing the concrete. If forms are removed in less than 7 days, the exposed concrete shall be sprayed with curing compound.
4. Curing compound shall be applied in a uniform layer over all surfaces requiring protection at a rate as designated by the manufacturer. Curing compound shall be reapplied if disturbed within 3 hours after being applied.
5. Walls shall be allowed to cure for a minimum of 7 days before installing "Drill set" post bracket anchors. Walls shall be allowed to cure for a minimum of 3 days before installing posts in/on "Wet set" brackets.
6. All wall ties, honey-combing, and air holes $\frac{3}{4}$ " shall be parged with non-shrink grout.
7. Random cracking in the walls and floor shall be evaluated and determined if the concrete needs to be removed or repaired. Removal and repair shall be the responsibility of the contractor and at no increase in cost.
8. If major repairs are required, the contractor shall prepare a written repair plan with all materials and methods clearly stated and shall be approved by the NRCS engineer of authority before proceeding with the repair.

JOINTS

1. Before new concrete is placed on or against concrete that has set, the surface of construction joints shall be cleaned of all laitance and debris by high-pressure water cutting, washing and wire-brushing, or as approved by the engineer. The surface of the in-place concrete shall be cut to expose clean, sound aggregate, but not so deep to undercut the edges of the large aggregate. All construction joints shall be wetted for at least 1-hour prior to new placement and standing water shall be removed.
2. Slab control joints shall be saw-cut as soon as possible, but no later than 24 hours after placement of the concrete, at the intervals indicated on the drawings. All joints shall be water tight and as shown on the detail drawings. The saw-cuts shall be thoroughly cleaned and dried so the sealant and primer will bond to the concrete.
3. For the joints in the drawings that call for an elastomeric sealant, the sealant shall meet the requirements stated in the Construction Specification, included in this design package, and shall also meet the following: The sealant shall be Type 5 (Single Component), Class 25, and meet the requirement for Type I (Able to be immersed in liquid). Some sealants require a primer to be used before the sealant is applied; primers shall be used no matter if the joint is located in a "submerged" condition or not. It is recommended that the primer is supplied by the same manufacturer as the sealant, this will ensure that the sealant and primer are compatible.

TESTING REQUIREMENTS

1. The contractor is responsible for obtaining a 3rd party ACI Certified Technician for field testing of concrete. The concrete plant cannot test their own concrete. Slump, air entrainment, and concrete temperature shall be taken to ensure the concrete meets NRCS requirements.
 - (4) concrete test cylinders shall be taken every 50 cu yds.
 - (3) cylinders to be broken at 28 days and (1) cylinder to be saved for a 56 day break, if necessary. This shall be done for every 50 cu yds sampled.
 - Slump, air entrainment, and concrete temperature shall be recorded for every 50 cu yds as well.
 - All concrete for testing or making cylinders shall be taken from the discharge end of the pump truck. ~~At least results shall be provided to the inspector. The ACI technician shall be present from start of concrete placement until the last concrete truck leaves the site.~~
2. The contractor is responsible for ensuring that the concrete meets the design requirements. The contractor shall test the concrete as needed; slump, air entrainment, concrete temperature, and cylinders. All concrete for testing or making cylinders shall be taken from the discharge end of the pump truck. The NRCS, PACD, or Conservation District inspector may test the concrete as they feel the need to do so. The contractor is not to rely on the inspector to provide the testing service.

Date

Designed: BTO STD DWG 2/2021

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CONCRETE CONSTRUCTION NOTES
BARCHIJK FARM
LUZERNE COUNTY, PENNSYLVANIA

United States
Department of
Agriculture

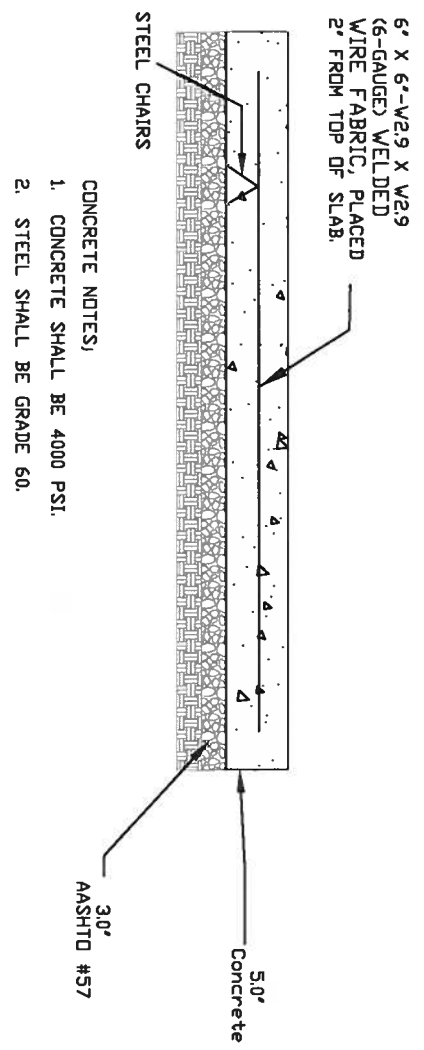


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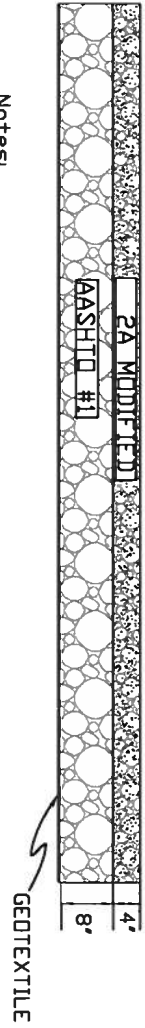
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REINFORCED CONCRETE DETAIL

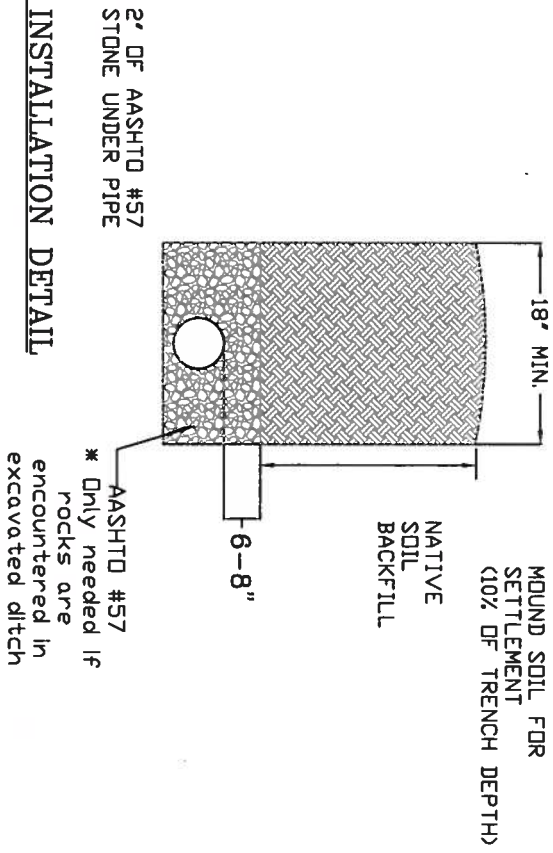


**Access Road Detail
(Typical)**

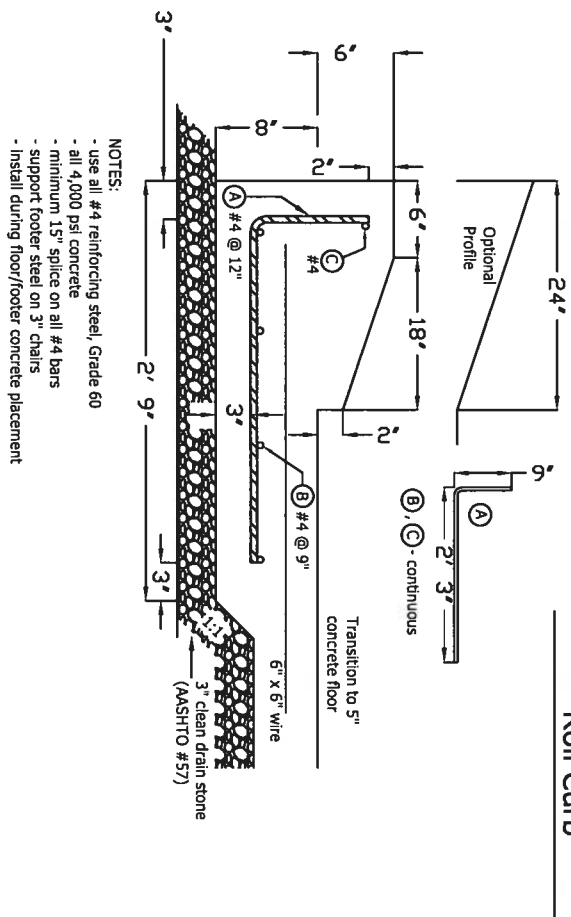


- Notes:
1. Geotextile shall be installed as per construction notes on page 4.
 2. Stone depth shall be measured after compaction.
 3. All stone shall be compacted with a smooth drum, vibratory roller.

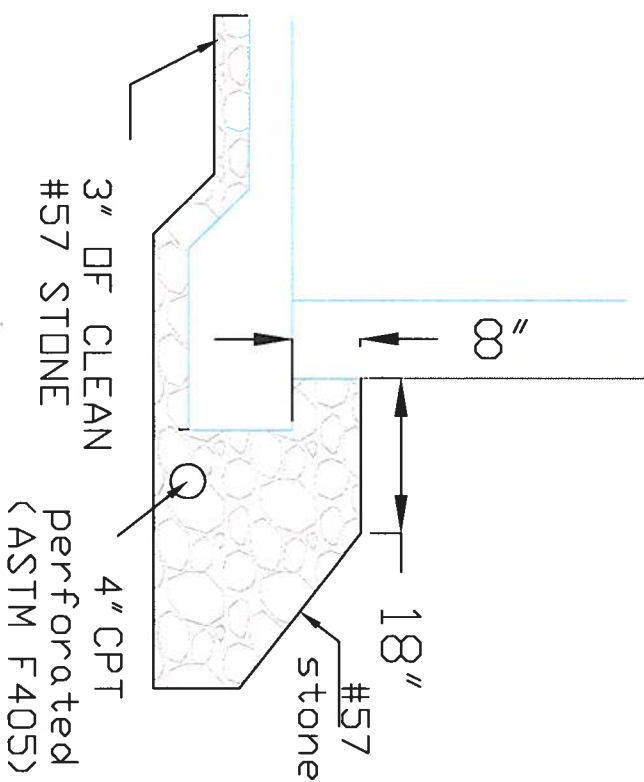
PIPE INSTALLATION DETAIL

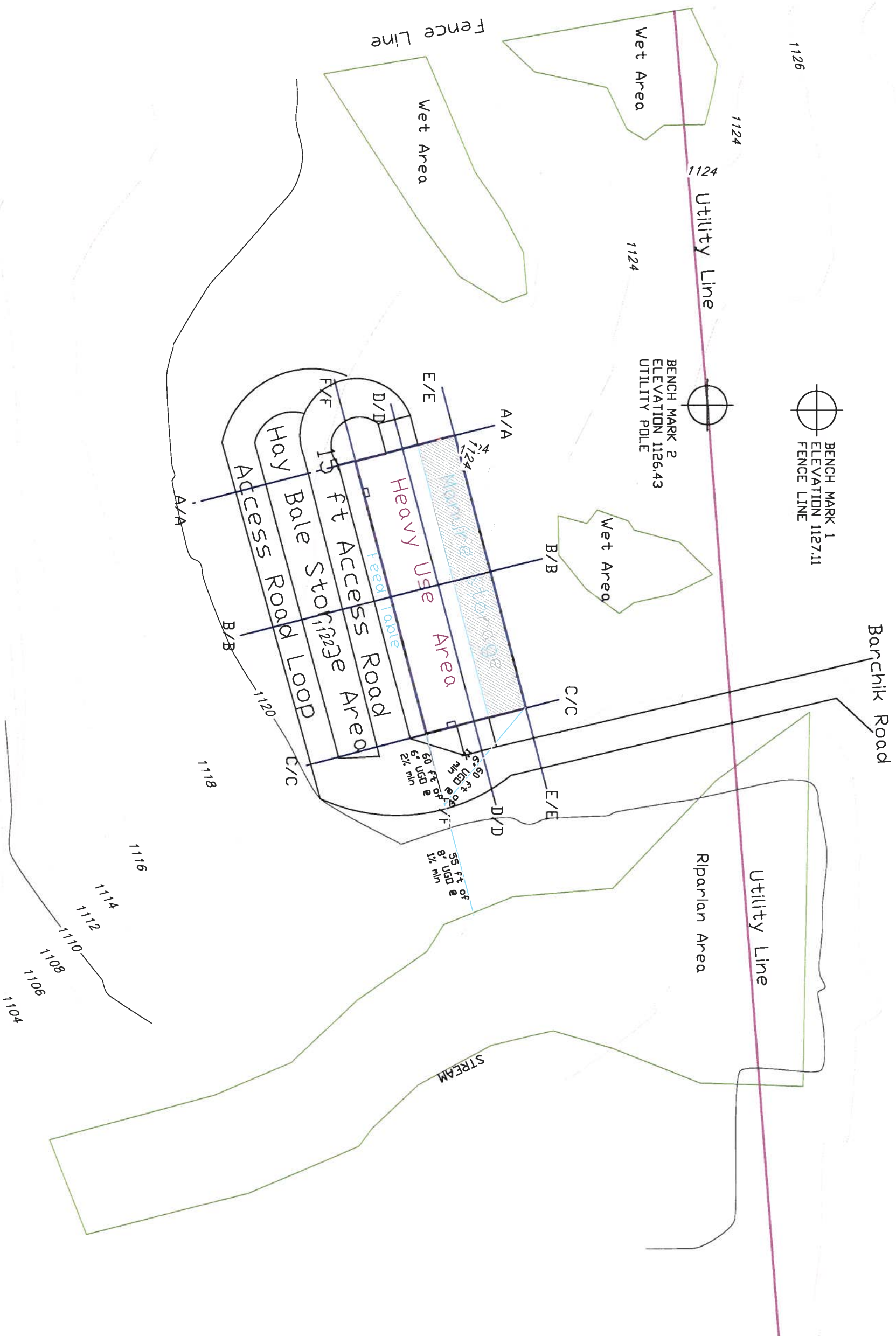


**6" H X 24" W
Roll Curb**



Perimeter Drain Detail





Barchik
Plan View 1" = 50' Scale

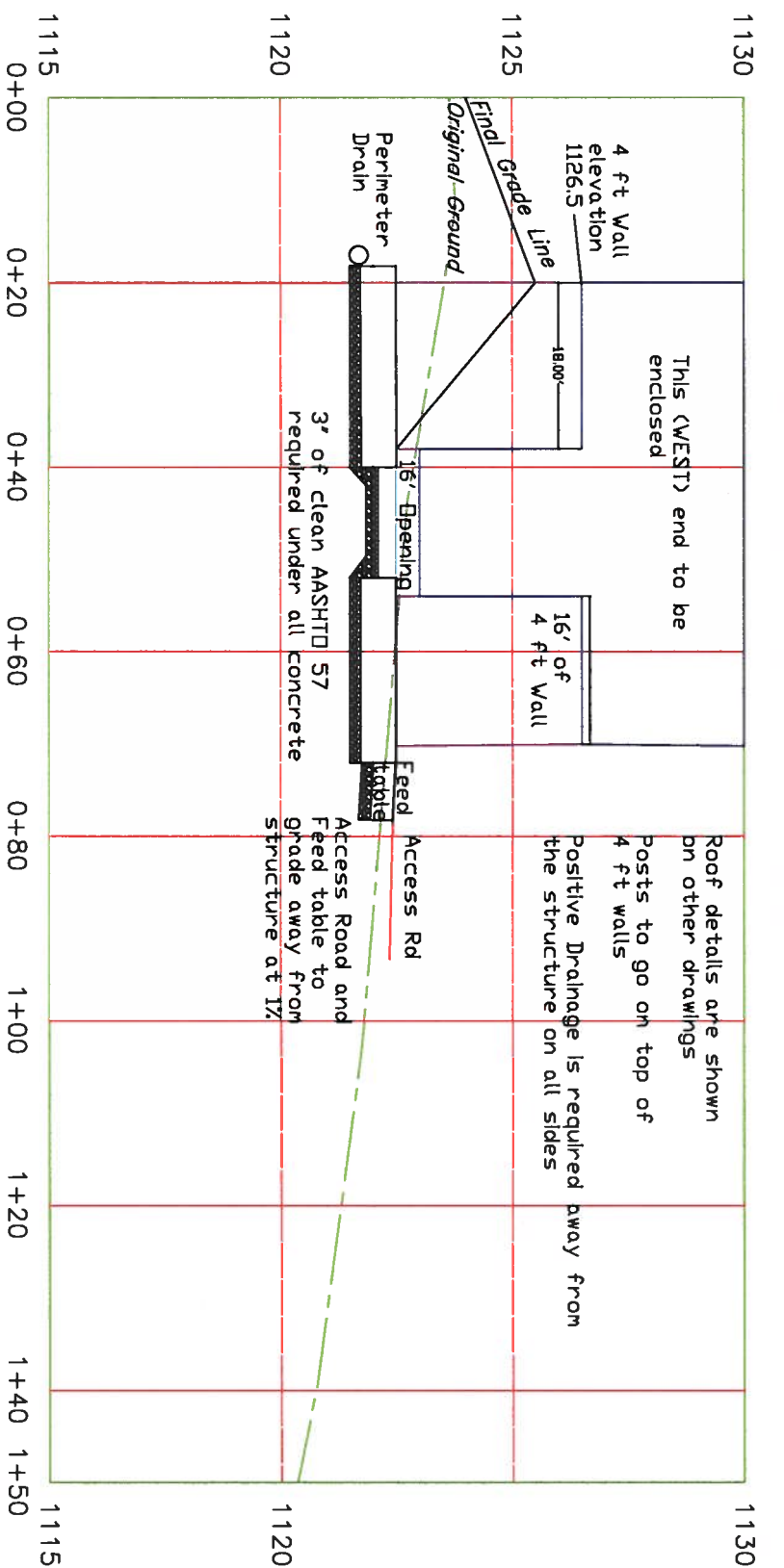
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| APPROVED | | |

USDA United States Department of Agriculture
Natural Resources Conservation Service

85 Barchik Road, Benton

LUZERNE COUNTY, PA

FILE NO. BARCHIK DESIGN.DWG
 DRAWING NO.
 SHEET 7 OF



Alignment -A-A PROFILE

* NO MACHINERY HEAVIER THAN A LAWN MOWER SHALL BE DRIVEN CLOSER THAN 6' OF THE CONCRETE WALLS. THE WALL ARE NOT DESIGNED FOR A SURCHARGE

See perimeter drain detail on page 6

OSHA Regulations must be followed for all construction

Maintain 1 ft of wall exposed above backfill on north side

Final Grade of Backfill slope to be 4:1 or Flatter

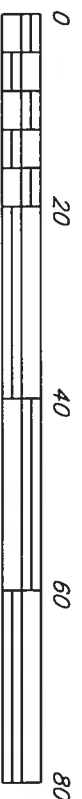
A WELL IS REQUIRED TO SUPPLY WATER TO THE NEW STRUCTURE; THE WELL LOCATION SHALL BE DISCUSSED WITH THE LANDOWNER & THE WELL DRILLER.

THE WELL SHALL BE LOCATED A MIN. OF 100' FROM THE STORAGE STRUCTURE WALLS.

THE PIPELINE FROM THE WELL TO THE PRESSURE TANK AND THE PRESSURE TANK TO BE DETERMINED BY THE WELL DRILLER / PUMP SUPPLIER

THE PIPELINE FROM THE PRESSURE TANK TO THE TROUGHS IS TO BE DESIGNED BY THE FIELD OFFICE.

THE PRESSURE TANK IS TO BE HOUSED IN THE NEW STRUCTURE OR THE EXISTING BARN. THE PRESSURE TANK HOUSING MUST BE INSULATED ENOUGH TO PREVENT THE PRESSURE TANK & PIPELINE FROM FREEZING. THE PIPELINE FROM THE WELL TO THE PRESSURE TANK AND FROM THE PRESSURE TANK TO THE NEW STRUCTURE WILL BE BURIED. IT IS RECOMMENDED THAT A MEANS OF DRAINING THE PIPELINE, BE INSTALLED.



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Barchik
 Cross Section A-A

85 Barchik Road, Benton

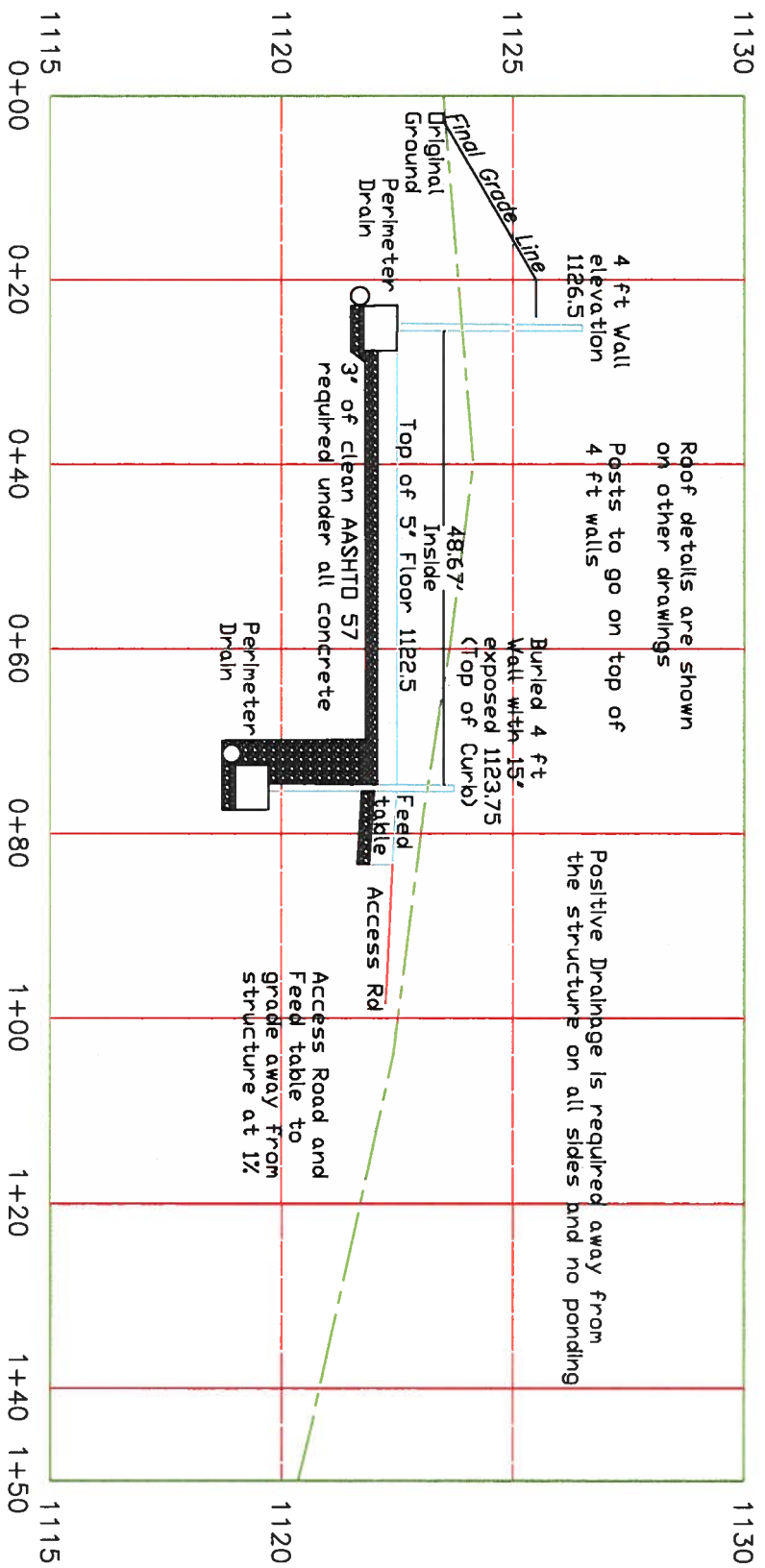
Luzerne COUNTY, PA

United States
 Department of
 Agriculture
 Natural Resources
 Conservation Service

FILE NO.
 BARCHIK DESIGN/DWG

DRAWING NO.

SHEET 8 OF



Alignment -B-B PROFILE

* NO MACHINERY HEAVIER THAN A LAWN MOWER SHALL BE DRIVEN CLOSER THAN 6' OF THE CONCRETE WALLS. THE WALL ARE NOT DESIGNED FOR A SURCHARGE

See Perimeter Drain Detail on Page 6

OSHA Regulations must be followed for all construction

Backfill North wall leaving 1 ft of wall exposed



| | | | |
|----------|----|------|--|
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Barchik
Cross Section B-B



Natural Resources Conservation Service

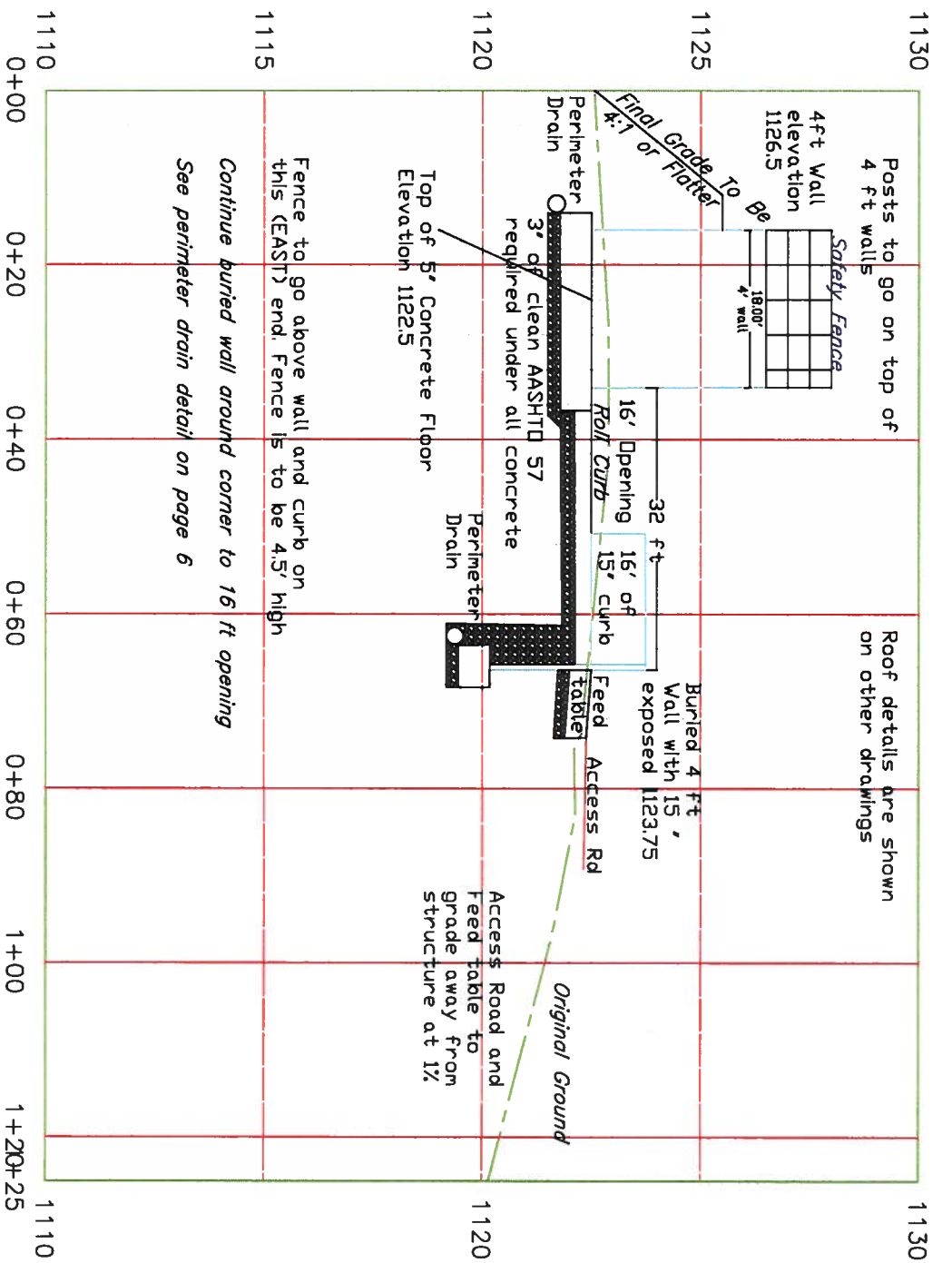
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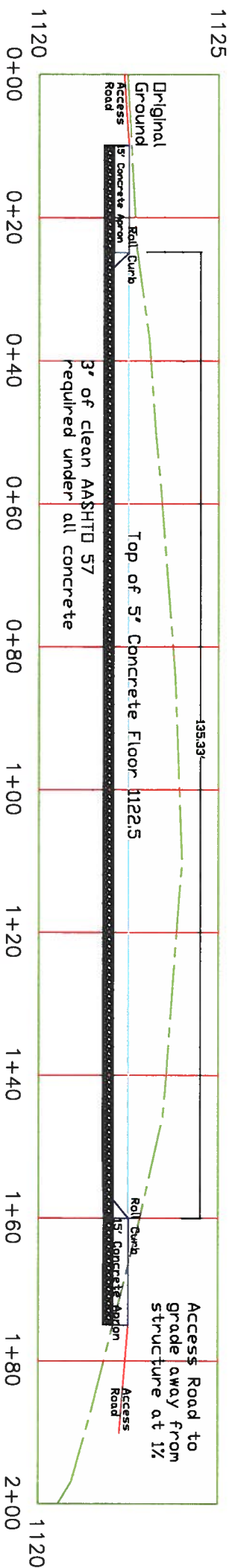


Alignment -C-C PROFILE

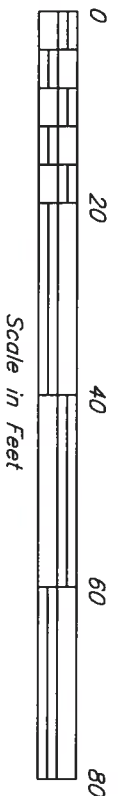
Positive Drainage is required away from structure on all sides and no ponding

* NO MACHINERY HEAVIER THAN A LAWN MOWER SHALL BE DRIVEN CLOSER THAN 6' OF THE CONCRETE WALLS. THE WALL ARE NOT DESIGNED FOR A SURCHARGE

OSHA Regulations must be followed for all construction



Alignment - D-D (1) PROFILE



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| DRAWN | SL | 6/15/21 | |
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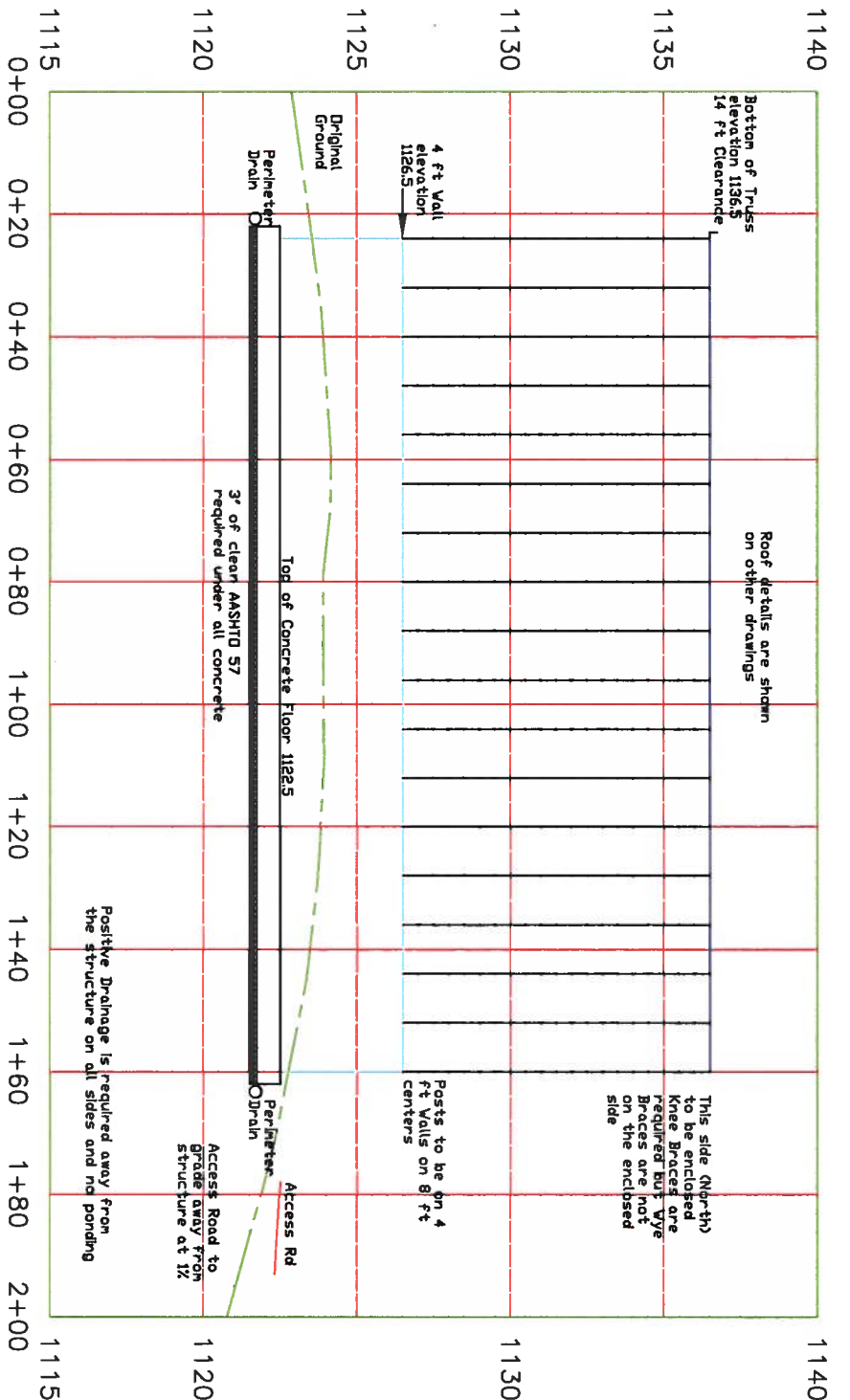
Barchik
Cross Section C-C
Scale 1" = 20'

85 Barchik Road, Benton

LUZERNE COUNTY, PA

USDA United States Department of Agriculture
Natural Resources Conservation Service

FILE NO. BARCHIK DESIGN.DWG
DRAWING NO.
SHEET 10 OF



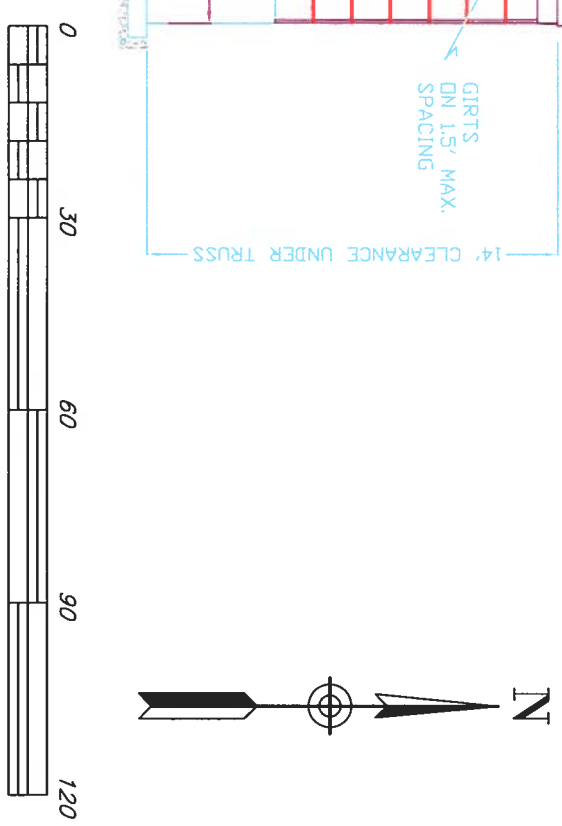
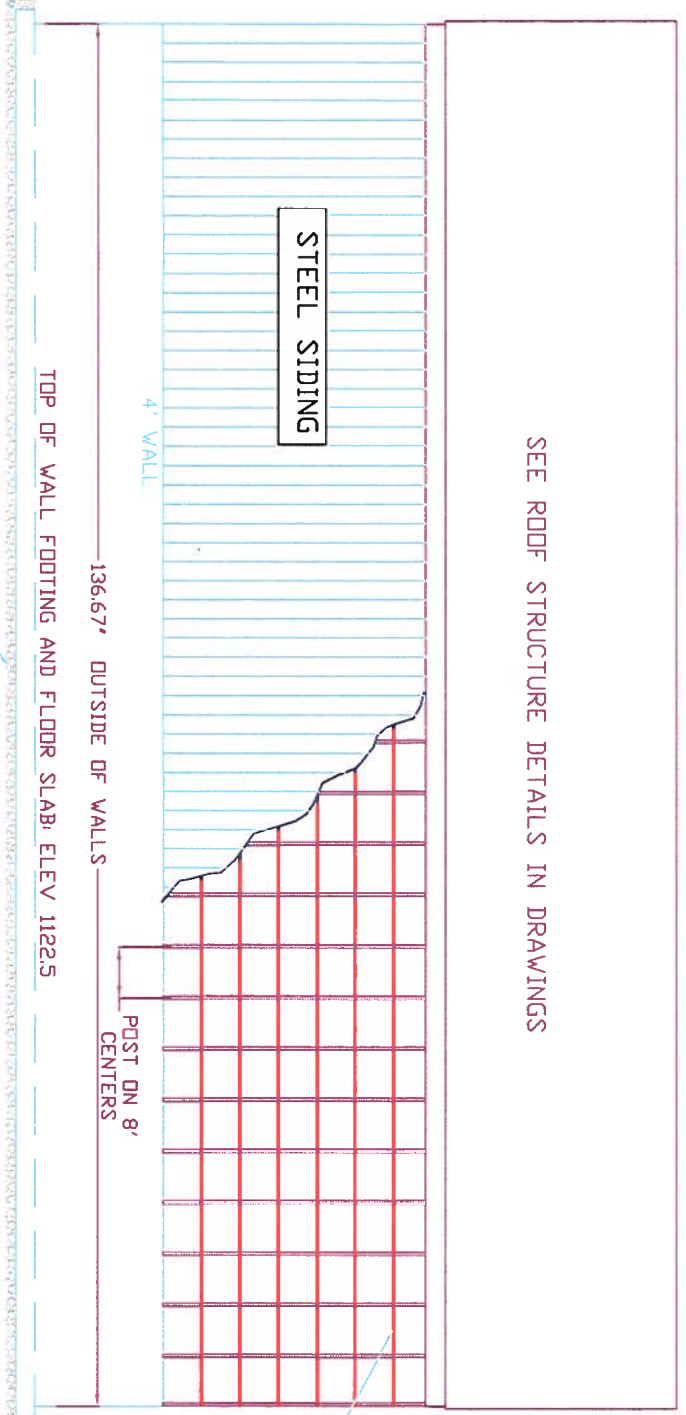
E-E (1) PROFILE

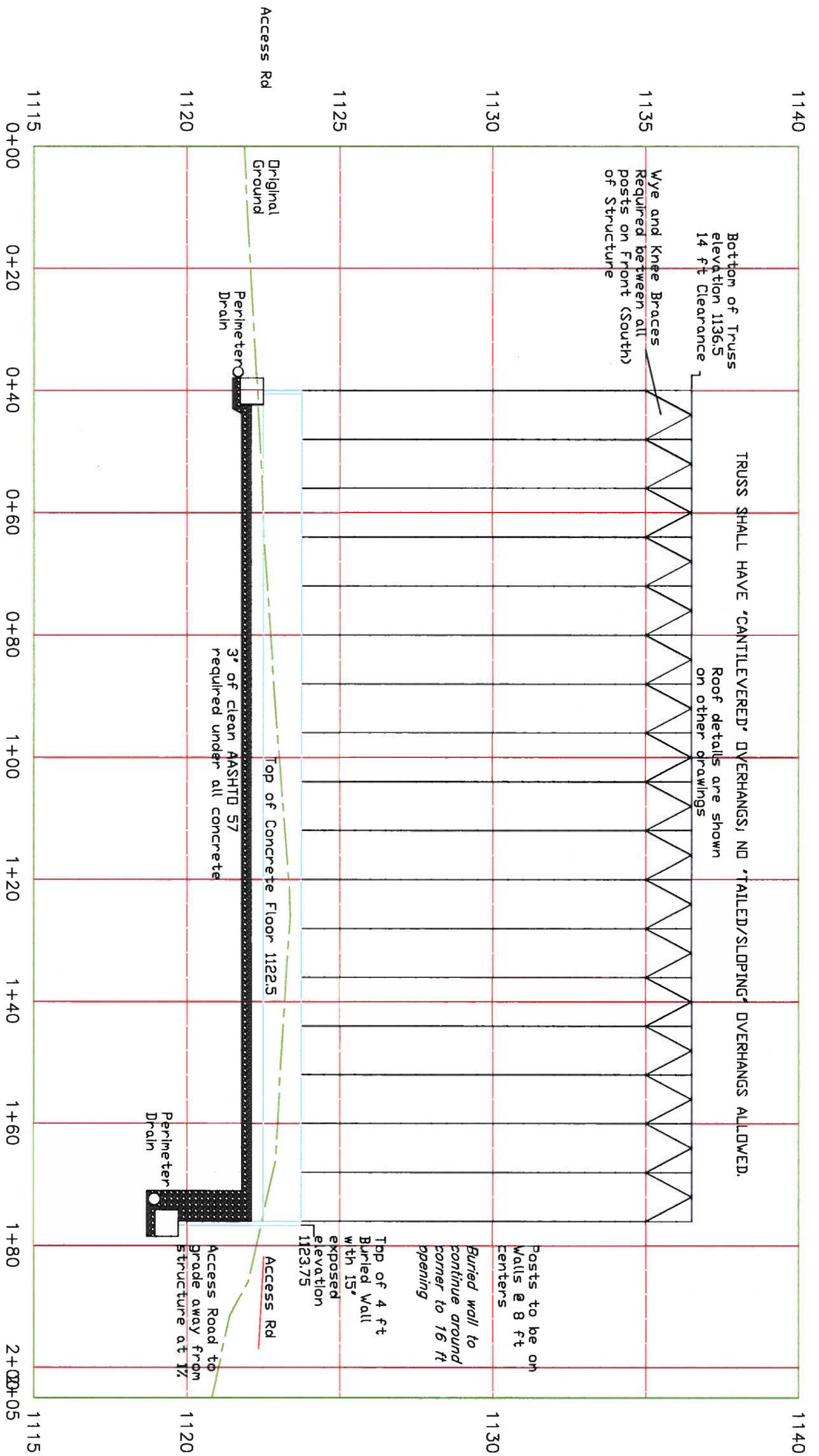
NO MACHINERY HEAVIER THAN A LAWN MOWER SHALL BE DRIVEN CLOSER THAN 6' OF THE CONCRETE WALLS. THE WALL ARE NOT DESIGNED FOR A SURCHARGE
 See perimeter drain detail on page 6
 OSHA Regulations must be followed for all construction

NO VYE BRACES REQUIRED ON ENCLOSED SIDE. KNEE BRACES ARE REQUIRED ON ENCLOSED SIDE

4' WALL

PERIMETER DRAIN REQUIRED ALONG ALL WALLS





F-F PROFILE

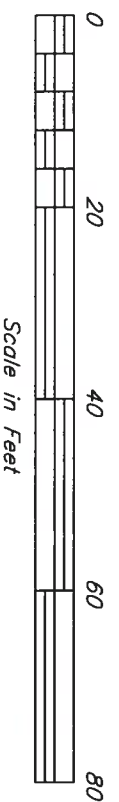
Positive Drainage is required away from the structure on all sides & no ponding

See Perimeter drain detail on page 6

OSHA regulations must be followed for all construction

4 ft above ground wall to butt against buried wall to allow post to sit on buried wall on West end

Buried 4 ft wall to extend a minimum of 1 ft past corner to allow use of standard sturdy-wall bracket on West end



Barchik
Cross Section F-F
Scale 1" = 20'

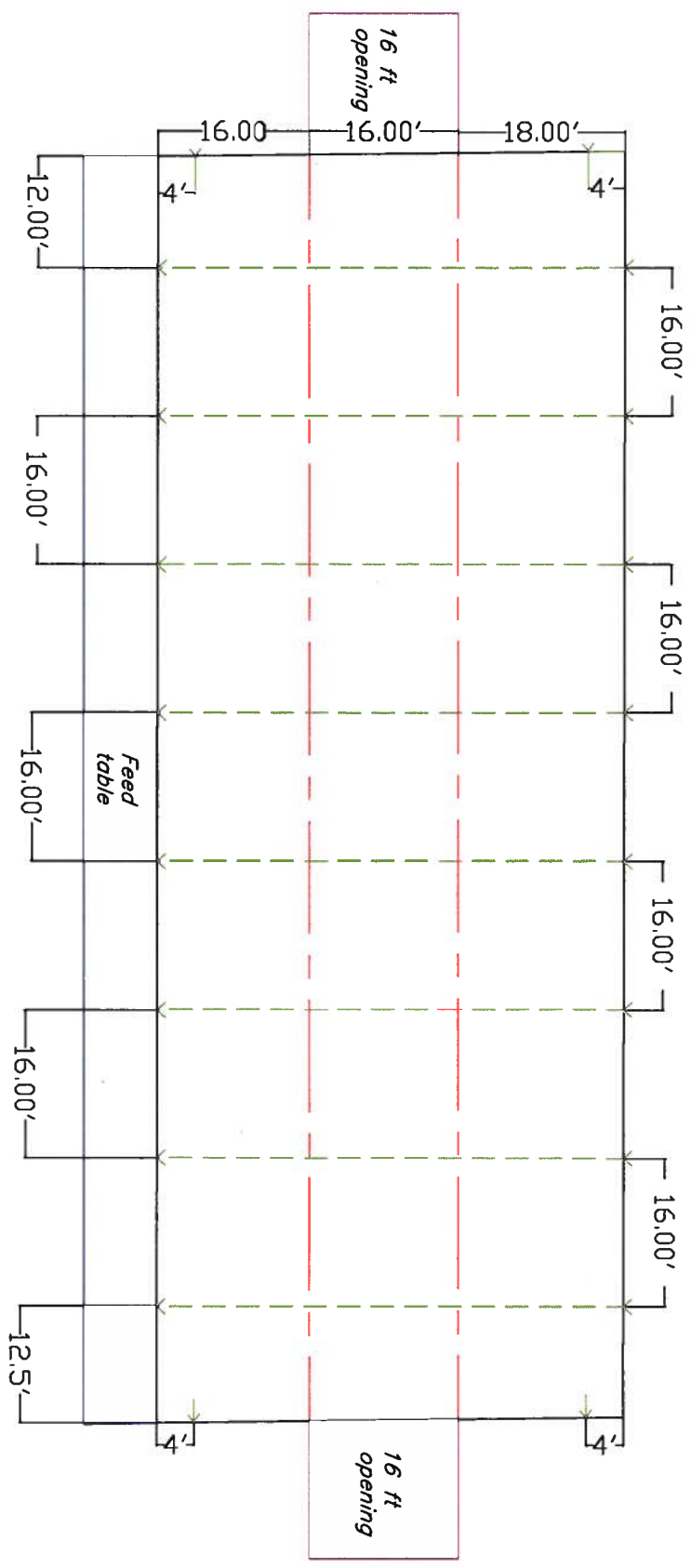
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| DESIGNED | SL | DATE | # |
| DRAWN | SL | 6/15/21 | |
| CHECKED | | | |
| APPROVED | | | |

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85 Barchik Road, Benton

LUZERNE COUNTY, PA

Saw Cut Joint Locations



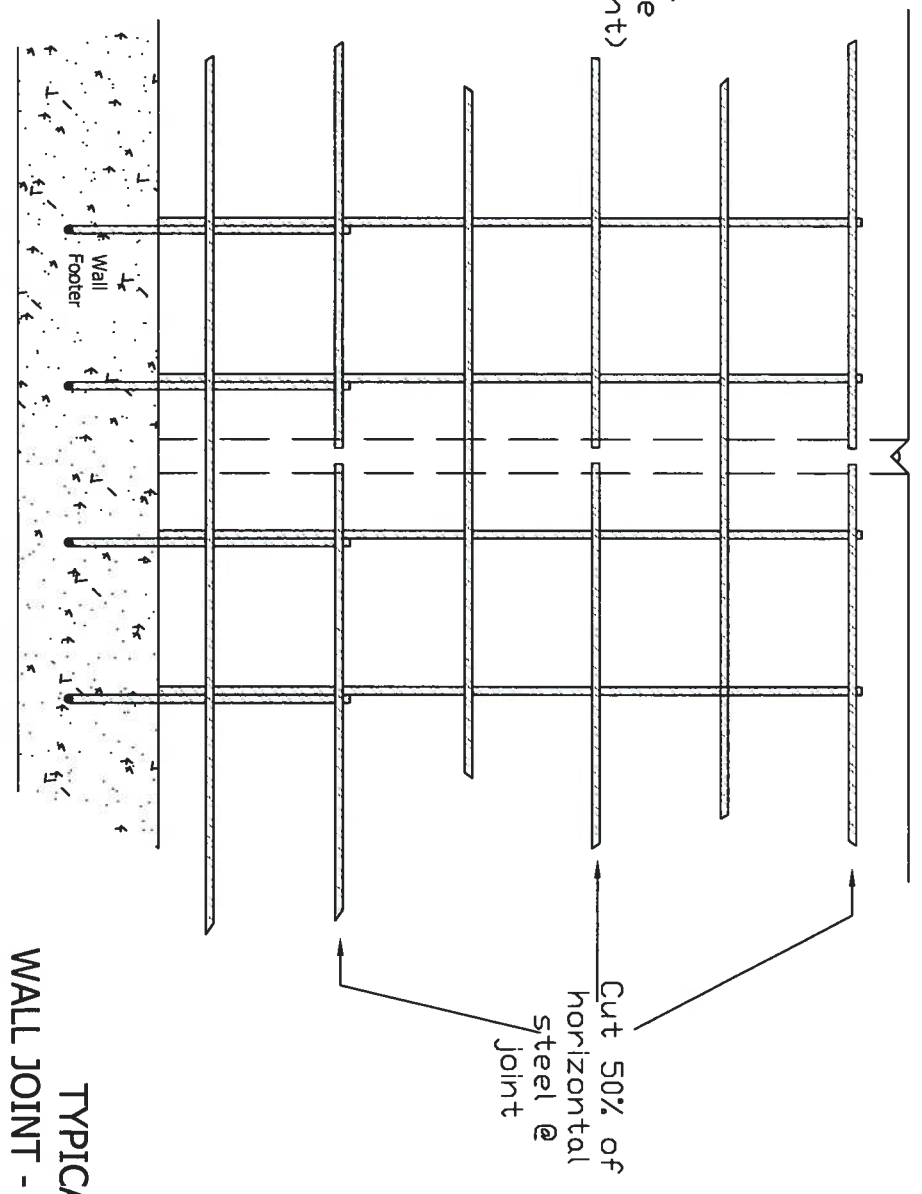
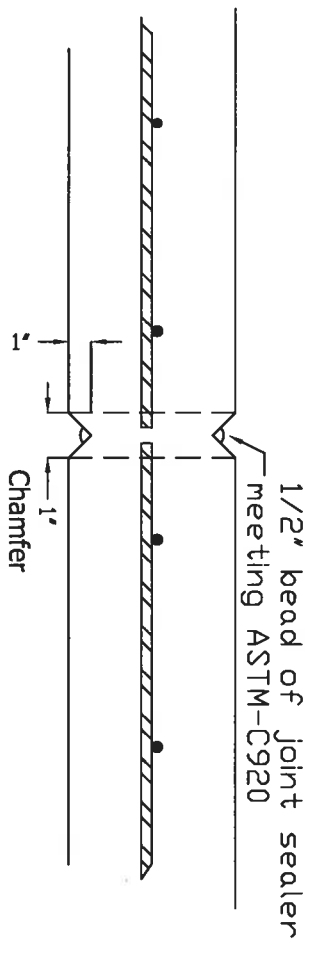
WALL JOINT LOCATIONS SHOULD LINE UP WITH FLOOR JOINTS WHEN POSSIBLE BUT MUST BE OFFSET BY 2 FT FROM A POST EVEN ON GABLE ENDS

Floor joints should follow suite on the feed table

Wall joints needed 4 ft from each corner on gable ends

(5' wall shown; number of horizontal bars to be cut will be determined by wall height)

TYPICAL WALL JOINT - Top View



TYPICAL WALL JOINT - Side View

— — — — — Floor Joints

— — — — — Floor and Wall joints

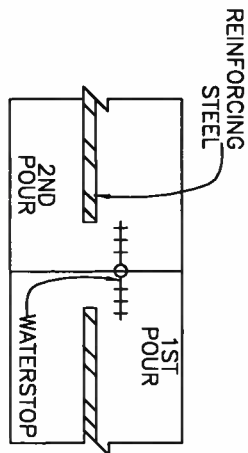
— — — — — Wall Joint

Cut 50% of horizontal steel @ joint

LIQUID TIGHT SLAB JOINTS

(NOT TO SCALE)

JOINT 1



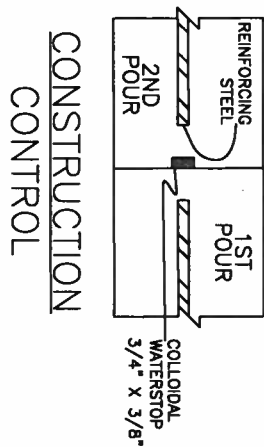
LIQUID TIGHT SLAB/FLOOR JOINTS

GENERAL NOTES:

1. BACKER ROD SHALL BE A LARGER WIDTH THAN THE WIDTH OF THE SAW CUT.
2. SAW CUT OR JOINT FORMER IS ACCEPTABLE FOR JOINT 2.
3. SEALANT DEPTH SHALL BE 1/4" OR SLIGHTLY LESS THAN JOINT WIDTH, WHICHEVER IS LESS.
4. CUT 50% OF THE REINFORCING STEEL DIRECTLY UNDER THE JOINT.

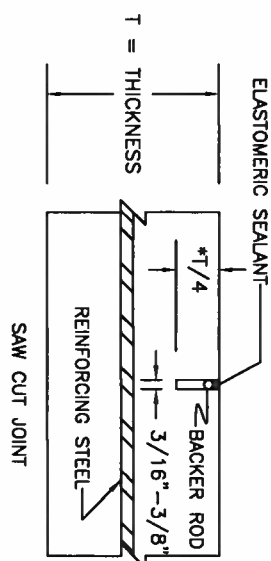
USE JOINT 1 OR 2 FOR TWO POURS AND JOINT 3 FOR CONTINUOUS POURS.

JOINT 2



CONSTRUCTION CONTROL

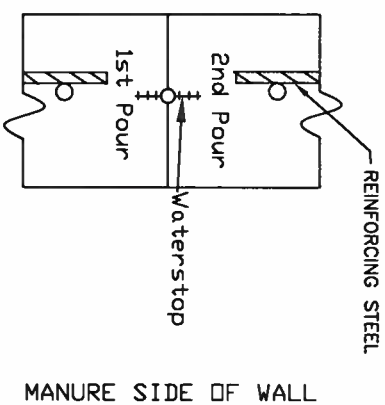
JOINT 3



LIQUID TIGHT WALL JOINTS

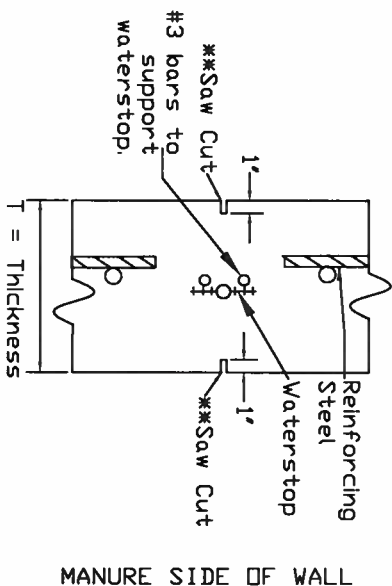
(NOT TO SCALE)

JOINT 4



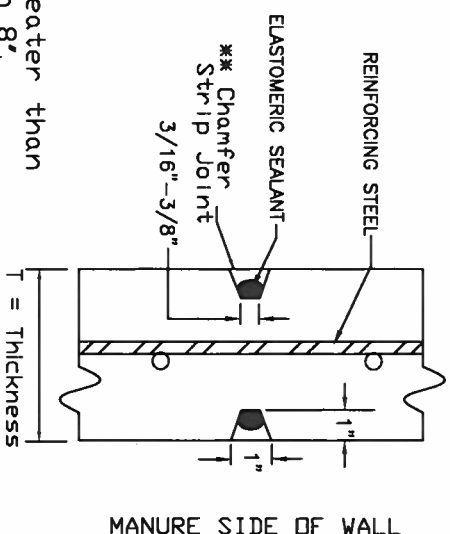
MANURE SIDE OF WALL

JOINT 5



MANURE SIDE OF WALL

JOINT 6



MANURE SIDE OF WALL

LIQUID TIGHT WALL JOINTS

GENERAL NOTES:

1. BE SURE TO CUT EVERY OTHER HORIZONTAL REINFORCING STEEL REBAR DIRECTLY AT THE JOINT.
2. SEALANT DEPTH SHALL BE 1/4" OR SLIGHTLY LESS THAN JOINT WIDTH, WHICHEVER IS LESS.
3. USE JOINT 4 FOR TWO POURS AND JOINTS 5 OR 6 FOR CONTINUOUS POURS.

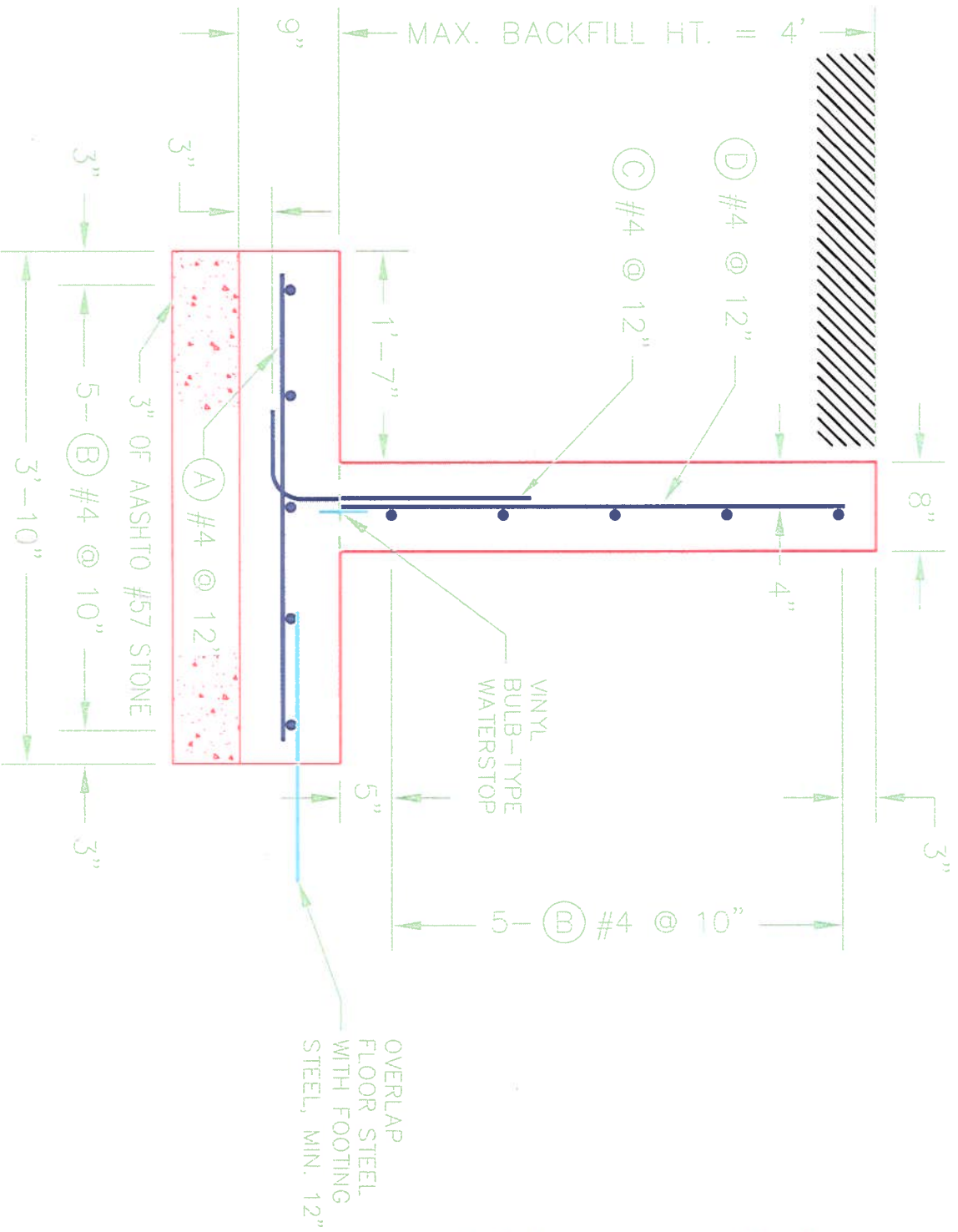
* Saw cut need not be greater than 1" for walls thicker than 8".

** Joint former or chamfer strip optional, Backer Rod and Elastomeric sealant needed in a saw cut joint or if a joint former is used. Elastomeric sealant needed if a chamfer strip is used. Cut and/or joint former or chamfer shall be on both sides of wall and across the top.

| | |
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| Designed | BTO STD DVC |
| Drawn | |
| Checked | |
| Approved by | |

CONCRETE JOINT OPTIONS
 BARCHIK FARM
 LUZERNE COUNTY, PENNSYLVANIA





ESTIMATED QUANTITIES

| | |
|---------------------------------|----------------|
| CONCRETE (0.21 CU.YDS./LIN.FT.) | _____ CU. YDS. |
| STEEL (20.67 FT./LIN. FT.) | _____ FT. |
| STEEL (35.0 FT./CORNER) | _____ FT. |

- CONCRETE SHALL MEET PA 313 OR 561 SPECIFICATION REQUIREMENTS.
- MINIMUM SPLICE LENGTH FOR ALL #4 BARS IS 16".
- STEEL QUANTITY DOES NOT INCLUDE SPLICE LENGTHS.
- REBAR SHALL BE GRADE 60.

GENERAL DESIGN NOTES:

- DRAINAGE SHALL BE AWAY FROM THE WALL.
- THE MINIMUM TOP WIDTH OF THE BACKFILL AGAINST THE WALL SHALL BE EQUAL TO OR GREATER THAN THE BACKFILL HEIGHT.
- MAXIMUM FOOTING CONTACT PRESSURE IS 900 psf/ft.

DESIGN STRENGTHS: WORKING STRESS DESIGN

CONCRETE $f_c = 4,000$ psi STEEL $f_s = 24,000$ psi (GRADE 60)

WALL DESIGN LOADING: 313 STANDARD – LATERAL EARTH PRESSURE VALUES, SEE SECTION IV OF THE FIELD OFFICE TECHNICAL GUIDE.

- MANURE LOAD INSIDE = 65 psf/ft.
- SOIL BACKFILL LOAD OUTSIDE = 60 psf/ft. AND 85 psf/ft.
- NO HORIZONTAL SURCHARGE ADDED.
- SOIL BACKFILL DENSITY = 110 pcf.
- WATER TABLE MUST BE BELOW THE FOOTING ELEVATION



TYPE 2 BAR

STEEL SCHEDULE

| MARK | SIZE | TYPE | R | S | LENGTH |
|------|------|------|-------|-----|--------|
| A | 4 | STR | --- | --- | 3'-6" |
| B | 4 | STR | --- | --- | --- |
| *C | 4 | 2 | 2'-0" | 9" | 2'-9" |
| *D | 4 | STR | --- | --- | 3'-9" |
| L | 4 | 2 | 2'-0" | 9" | 2'-9" |
| L1 | 4 | STR | --- | --- | 3'-9" |

* MARK C & D BARS MAY BE COMBINED TO AVOID SPLICE. THEN MARK C BAR IS 4'-3" x 9".

NOTES:

1. FOR FROST PROTECTION, A 2-FOOT BACKFILL IS REQUIRED.
2. DIMENSIONS ARE TO THE REINFORCING BAR SURFACE.

ADAPTED AND MODIFIED FROM STANDARD DRAWING # PA-020D

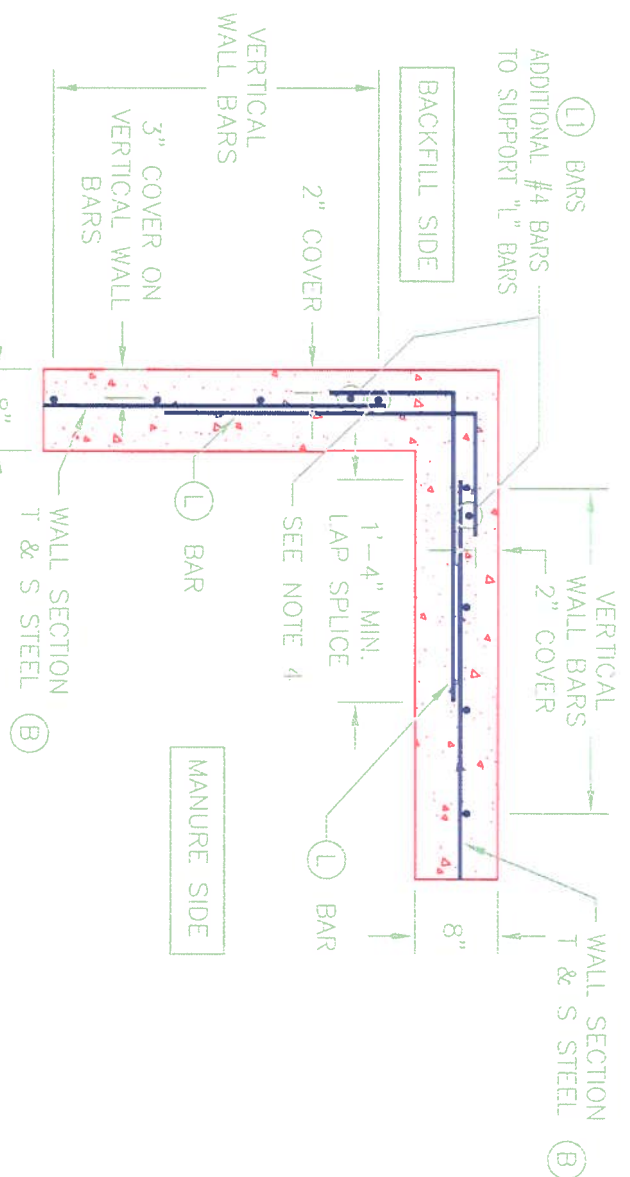
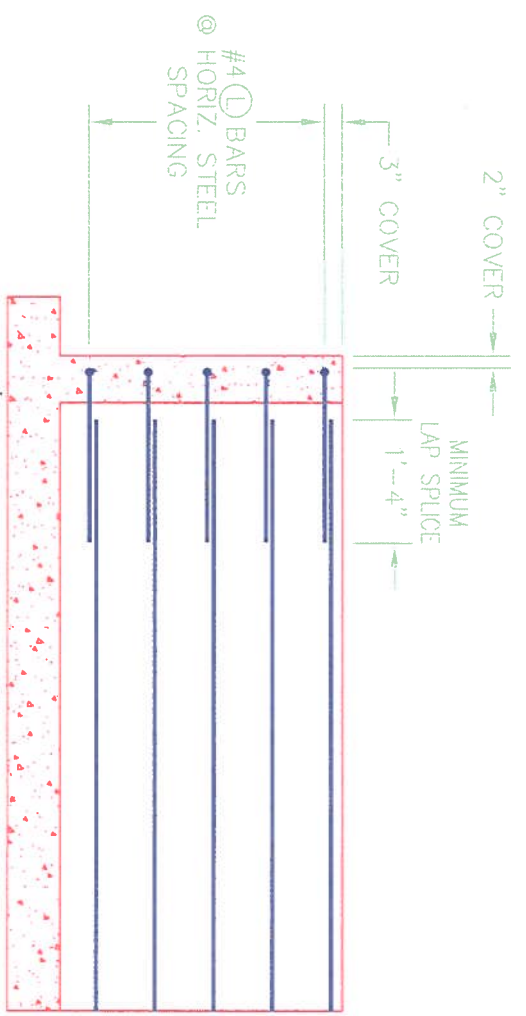
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| Design | _____ | Date | _____ |
| Drawn | BTO | 11/2018 | _____ |
| Checked | _____ | _____ | _____ |
| Approved by | _____ | _____ | _____ |

4' HIGH, T-WALL (W/O SURCHARGE)



File No. _____
Drawing No. _____

Sheet 16 of _____



NOTES:

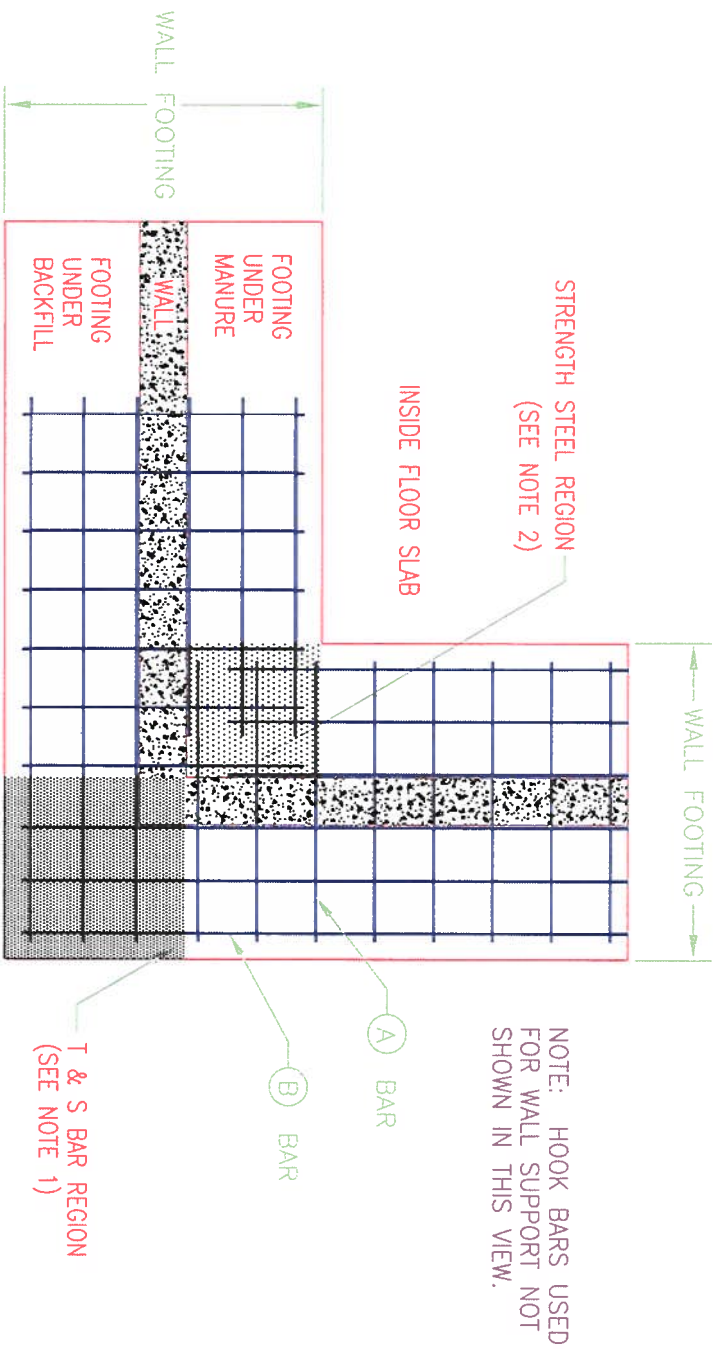
1. THE LONG LEG OF MARK (L) CORNER BAR TO WALL SECTION T&S MARK (B) BAR AS SHOWN.
2. SHORT LEG OF MARK (L) BARS SHALL BE SUPPORTED WITH VERTICAL WALL SUPPORT BAR (L1)
3. 10 MARK (L) BARS PER CORNER. SEE APPROPRIATE WALL DRAWING FOR BAR DIMENSIONS AND QUANTITIES.
4. PLACE FIRST VERTICAL BAR (SEE PLAN VIEW) AT WALL CORNER, OR NO FARTHER THAN ONE-HALF THE VERTICAL BAR SPACING FROM THE CORNER.

ADAPTED AND MODIFIED FROM STANDARD DRAWING # PA-025

ADAPTED AND MODIFIED FROM STANDARD DRAWING # PA-023

NOTES FOR FOOTING STEEL PLACEMENT

- 1.) FOOTING TEMPERATURE AND SHRINKAGE STEEL (T&S) TO BE EXTENDED INTO THIS REGION FROM BOTH SIDES OF CORNER. REGION IS OUTSIDE EXTENSION OF WALLS INCLUDING WALL THICKNESS.
- 2.) STRENGTH STEEL IS EXTENDED INTO THIS REGION FROM BOTH SIDES OF CORNER. REGION IS INSIDE EXTENSION OF THE WALLS. FOOTING SLAB T&S STEEL OUTSIDE THE CORNER REGION TO LAP SPLICE WITH THE STRENGTH STEEL 16 INCHES.
- 3.) IN BOTH CORNER REGIONS, STRENGTH STEEL AND T&S STEEL WILL REQUIRE SWITCHING POSITIONS FROM TOP TO BOTTOM AND VICE VERSA.



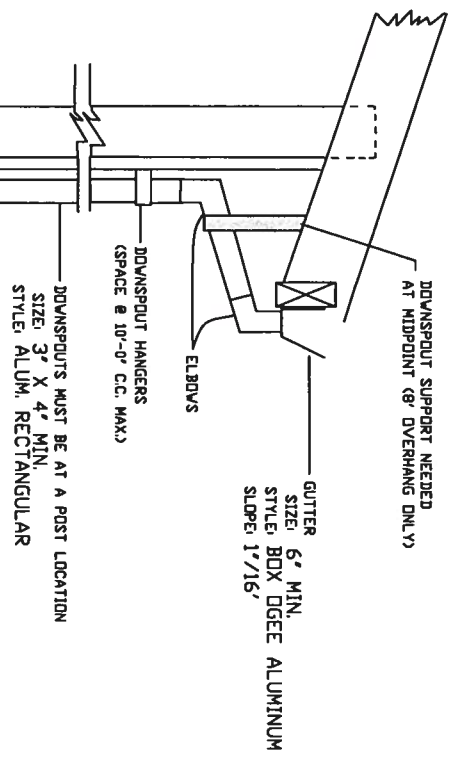
NOTE: HOOK BARS USED FOR WALL SUPPORT NOT SHOWN IN THIS VIEW.

SLAB FOOTING CORNER DETAIL

| Date | By |
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| 11/2018 | RTD |
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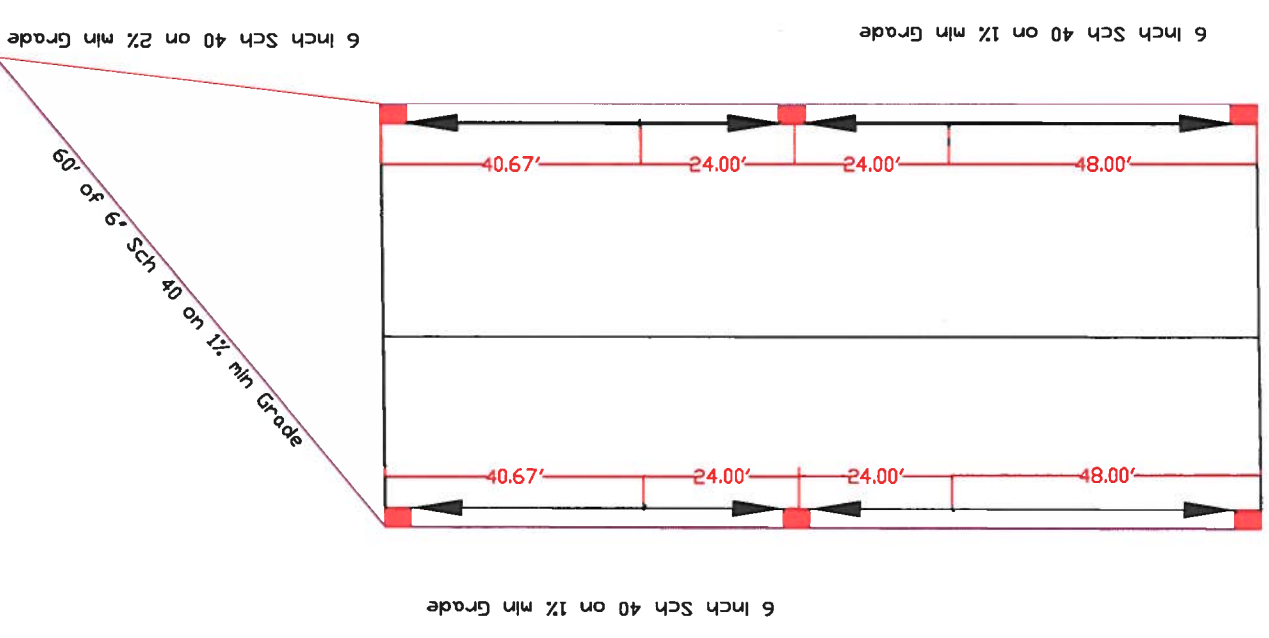
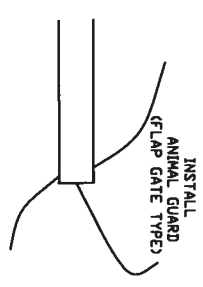
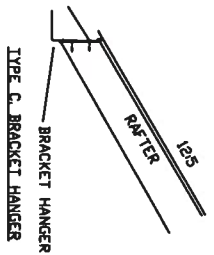
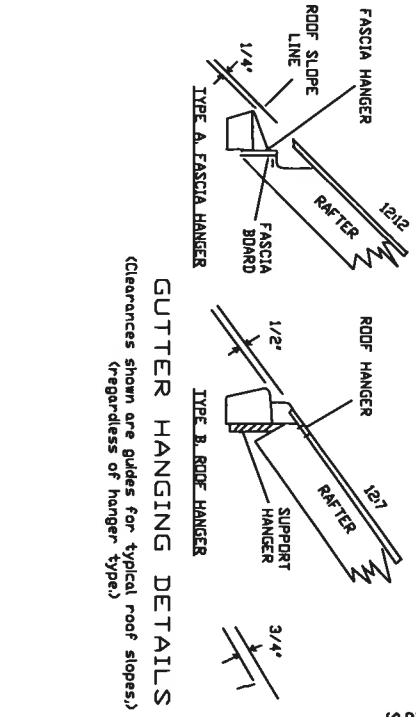
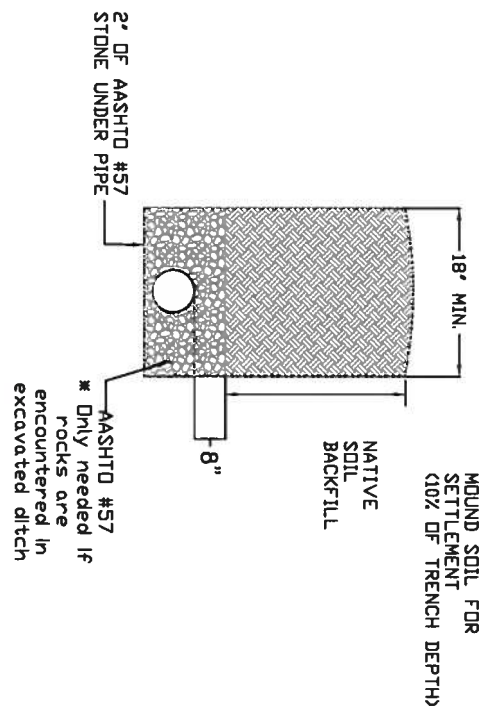
4' WALL CORNER AND WALL FOOTING CORNER DETAILS





- 1) GUTTER HANGERS SHALL BE NAILED TO FASCIA BOARD OR ROOF SHEATHING AT RAFTER LOCATIONS.
- 2) EXPANSION JOINTS SHALL BE INSTALLED EVERY 40' IF NOT FREE-FLOATING.
- 3) GUTTERS SHALL BE PLACED BELOW ROOF SLOPE LINE SO ICE AND SNOW CAN SLIDE CLEAR. STEEPER PITCH REQUIRES LESS CLEARANCE. (SEE DETAIL)
- 4) GUTTERS, TRANSFER LINES, AND OUTLETS SHALL BE PLACED AT THE MINIMUM SLOPES INDICATED IN THE PLAN VIEW.

PIPE INSTALLATION DETAIL



RUN UGD TO OUTLET INTO RIPARIAN AREA STAY BACK FROM STREAM A MINIMUM OF 50 FT. INSTALL A 4X6 R-4 RIP RAP APRON WITH 6 INCHES OF AASHTO 57 BEDDING STONE AT THE PIPE OUTLET.

UGD and PVC downspouts should be installed before pouring feed table.

UGD should be located a minimum of 10 ft out from the walls on the front side.

Perimeter drain should be kept separate but can be in the same trench as the UGD if applicable.

Animal guard and PVC pipe should be used at outlet of perimeter drain.

4X6 r-4
rip rap
rock
apron

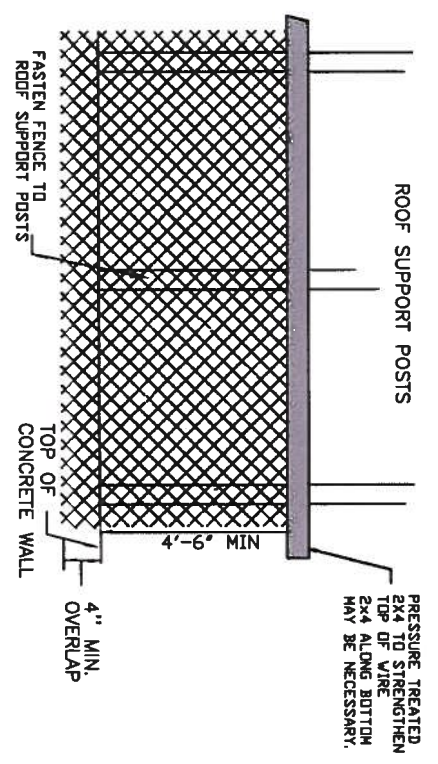
Barchik Construction Details

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USDA United States Department of Agriculture

Natural Resources Conservation Service

85 Barchik Road, Benton PA LUZERNE COUNTY, PA



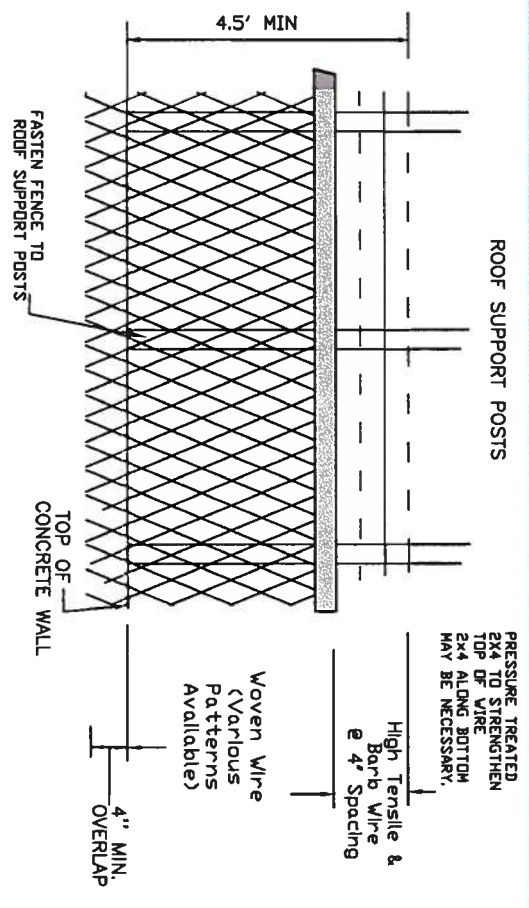
* FENCE ONLY INTENDED TO EXCLUDE HUMANS FROM FALLING OFF OF WALL.

SAFETY FENCE OPTION #1

CONSTRUCTION NOTES

1. A TOP & BOTTOM RAIL MAY BE REQUIRED TO TIGHTEN FENCE ADEQUATELY.
2. ATTACH FABRIC TO OUTSIDE FACE OF ROOF SUPPORT POSTS & CONCRETE WALLS.
3. ALL WIRE FABRIC TO BE 9 GAUGE GALV. STEEL WITH ZINC COATING (ASTM A392 CLASS II) (2oz. per SF) WIRE FABRIC TO BE 2" WOVEN MESH; MIN. TENSILE STRENGTH = 1290 LBS.

FENCE TENSION
 FOR ALL OPTIONS:
 FENCE MUST BE TIGHT ENOUGH SO THAT IT CAN NOT BE PULLED AWAY FROM THE SUPPORTS MORE THAN 4"



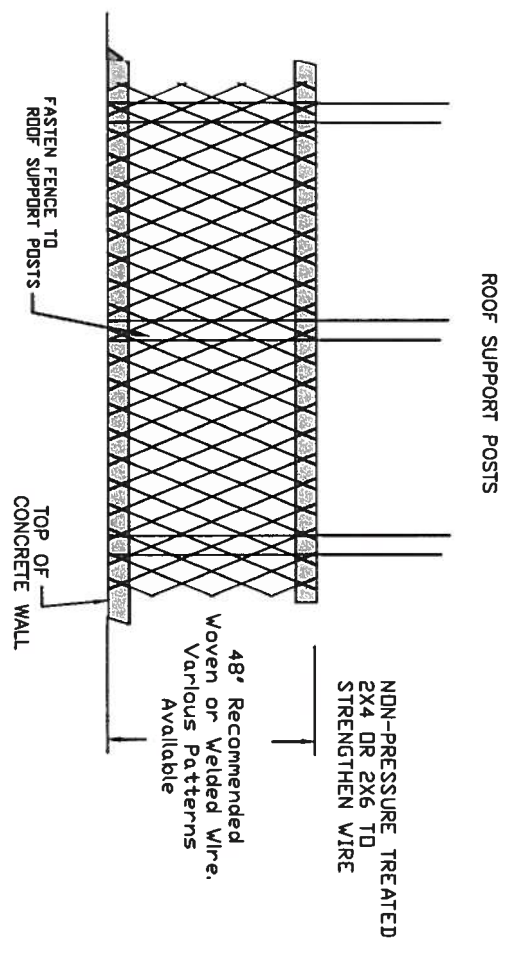
* FENCE ONLY INTENDED TO EXCLUDE HUMANS FROM FALLING OFF OF WALL.

SAFETY FENCE OPTION #2

CONSTRUCTION NOTES

1. A TOP & BOTTOM RAIL MAY BE REQUIRED TO TIGHTEN FENCE ADEQUATELY.
2. ATTACH FABRIC TO OUTSIDE FACE OF ROOF SUPPORT POSTS & CONCRETE WALLS.

WOVEN WIRE, 12.5 GAUGE MIN. AND GALVANIZED OPENINGS NOT TO EXCEED 4"x4". (WELDED WIRE NOT ALLOWED)
 PLUS
 (1) BARBED WIRE AND (2) HIGH TENSILE WIRES @ 4" SPACING TO ACHIEVE MIN. FENCE HEIGHT.



OPTION FOR CATTLE FENCE ALONG THE INSIDE OF THE STORAGE WALLS

TO BE MOUNTED TO INSIDE OF ROOF SUPPORT POSTS

* THIS FENCE IS NOT REQUIRED BUT RECOMMENDED FOR KEEPING CATTLE AWAY FROM STEEL PANELS ON ENCLOSED SIDES & FROM THE PRESSURE TREATED WOOD USED ON THE STRUCTURE. FENCE IS RECOMMENDED WHEREVER CATTLE WILL BE ON TOP OF MANURE STACK, LIKE IN THE STORAGE FACILITY.



Roof Structure Design & Construction Notes

1. Trusses shall be used for this roof. Shop drawings shall be provided to the NRCS design engineer for approval prior to ordering the trusses and 'PE' (Professional Engineer) sealed shop drawings shall be supplied by the Truss Plate Institute certified manufacturer at the time of truss delivery. (Truss and stringer configuration shown in the drawings is for illustration purposes only) NRCS does not design roof trusses.
- *Make the truss designer aware of knee bracing being used.
2. All nails shall have full heads; Clipped heads are not acceptable.
3. All nails and bolts used with pressure treated wood shall be hot-dip galvanized nails that meet the minimum galvanized coating requirements for the most restrictive wood preservative treatment method. (i.e. CCA treated wood requires a minimum coating rating of G-90 however ACQ treated wood requires a coating rating of G-185. When the wood types are mixed, use the G-185 connectors. Consult with individual fastener, hardware manufacturer for recommendations)

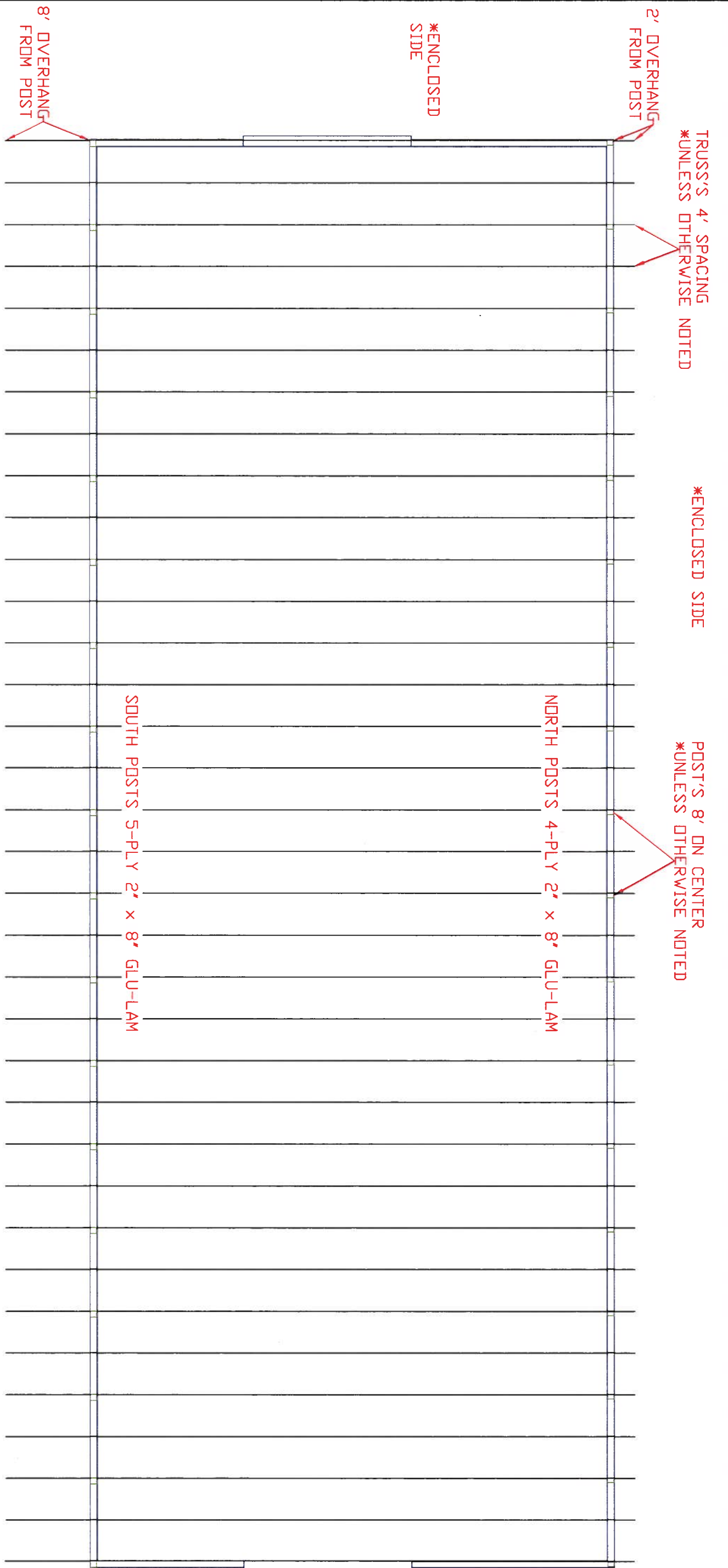
CAUTION : New wood preservative treatment methods require special fasteners and connectors. All plates and fasteners used with ACQ, CBA or CA treatment formulas must conform to ASTM standards; ASTM A153 for Hot-dip fasteners, and A653 for Hot-dip connector and sheet products. This change ~~increases~~ the galvanized coating requirements to a designation of G-185. Stainless steel fasteners and connections may be used in place of Hot-dip galvanized products.

4. Nails for general framing can be common, full head size 16d or larger, smooth nails. General framing includes purlins, diagonal braces, lateral braces, etc.
5. Bolts, screws, or metal plate connectors may be used instead of nails. Such substitutions shall provide a connection of equal or greater strength and durability, according to the National Forest Products Association's (NFPA) National Design Specification. Alternate connectors must be approved by the design engineer.
6. All wood in contact with the ground or manure shall be pressure treated as per American Wood Preserver's Association Standard (posts shall be treated to 0.6 #/cu.ft. and all other wood shall be treated to 0.4 #/cu.ft.)
7. All structural members which includes; All wye and knee bracing, bearing blocks, truss support blocks, and girders/headers) (excluding microlam girders/headers) shall be Southern Yellow Pine or Douglas Fir-Larch No. 2 Grade (Surface dry, used at 19% maximum moisture content). All secondary members such as permanent or continuous bracing shall be (SYP) Southern Pine No. 3, (SPF) Spruce-Pine-Fir No. 2 or better. Purlins shall be SYP No. 2, SPF No. 2, or better if spaced at 2' centers Purlins shall be SYP No. 3 or better if spaced at 1.5' centers
8. Posts are to be 4x5-ply 2' x 8' Glu Laminated in size & pressure treated, #2 grade SYP (Southern Yellow Pine). Posts are to be fully pressure treated the entire height.
9. Girders/Headers:
Twin 13"x9 1/4" 2.0E LVL (Fv=320psi) Fb=2900psi
10. Galvanized angle Iron (1/4" thick x 3" wide both ways) can be installed on the corners of the posts at entrance locations. Other means of post protection may be used if approved by the design engineer.
11. Knee and Wye bracing are required for the posts and girders as shown. Wye bracing shall be installed AFTER all roof framing is complete. No Wye bracing shall be installed on the "inside" of the entrance locations. No Wye bracing shall be installed on enclosed side of structure.
12. Permanent continuous lateral bracing is required, according to the truss MFG drawings. Continuous lateral bracing must be installed with staggered side by side overlap connections (no butt to butt connections). The ends of the braces must extend fully past the truss and allow a 2-nail connection without using toenails.
13. Permanent diagonal bracing is required at each end of the building and at intervals not to exceed what is shown in the drawings. All bracing shall be installed as Per the Truss Plate Institute BCSI-B3 and the detailed drawing.
14. Roofing material shall be steel or aluminum. Steel shall be galvanized steel, painted galvanized steel, or painted steel. Type of roofing to be discussed with landowner prior to bid solicitation. Steel roofing material shall be 29 gauge minimum. Aluminum roofing material shall have a minimum nominal thickness of .018 inches. Galvalume roofing is not permitted for use.
15. Roof fasteners shall be a combination of zinc coated steel and neoprene washer. Double stitch the seams of the roof edges. Typical steel roof shall have fasteners on a 9" spacing on the purlins 24" on center.
16. End trusses shall be faced with roofing material, as specified above. This shall be discussed with the landowner prior to bid solicitation.
17. Ventilation shall be provided at the ridge or through the openings in the end trusses. Ventilation shall be provided to offer at least 2' of opening per 10' of building width.
18. The roof was designed to carry a combined loading of 40 psf, according to ASCE-7 (Most Conservative Combined Load Formula), on 4' spaced trusses. The roof was also designed for a uniform uplift of 16 psf under the entire roof. This roof is designed for 2 enclosed sides; major structural changes may be needed if any more sides are enclosed. Consult with the design engineer if curtains or other means of siding is being considered.

| | | | |
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Barchik
ROOF NOTES





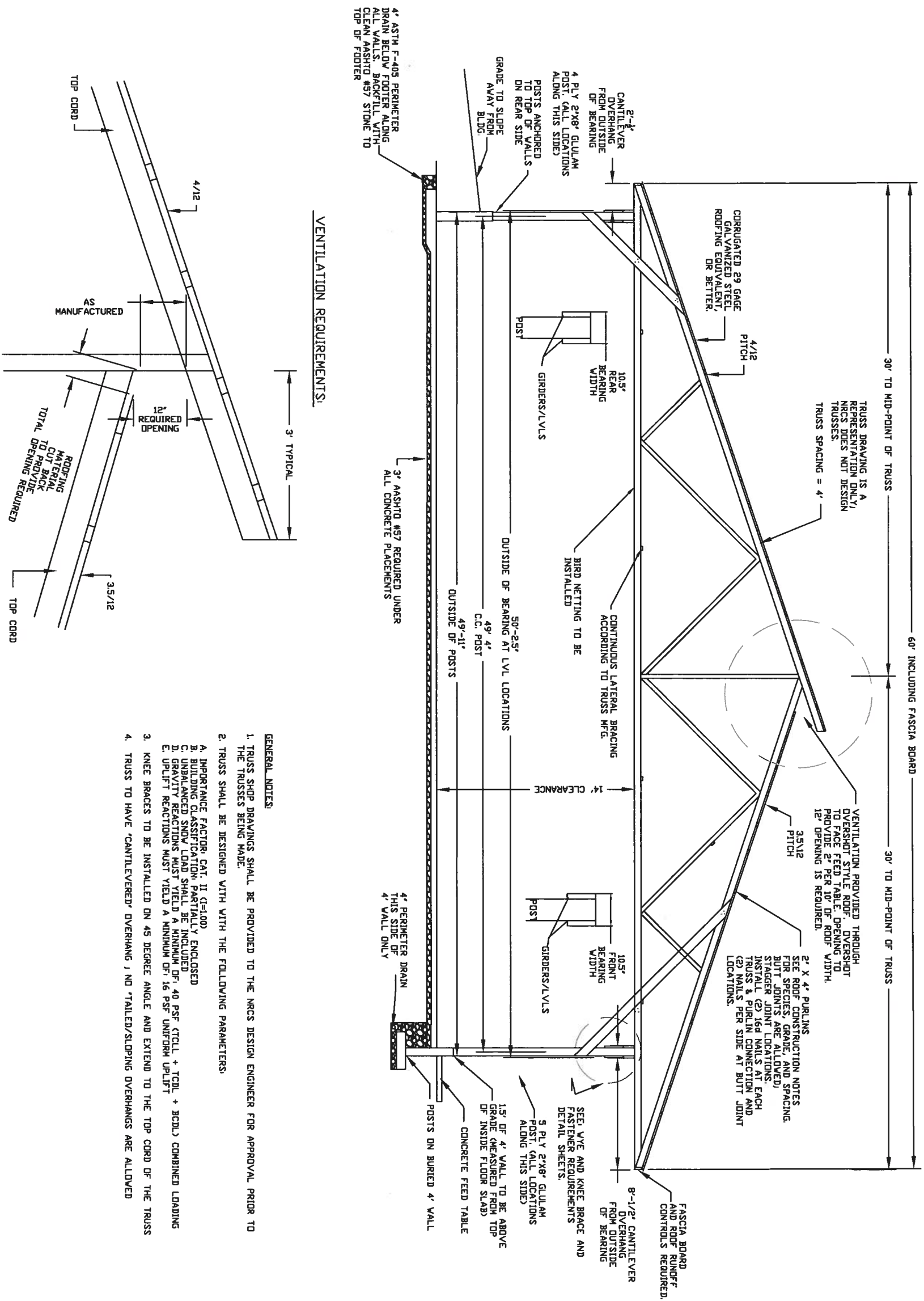
NORTH POSTS:
 4-PLY 2' X 8' GLU-LAM
 SOUTH POSTS:
 5-PLY 2' X 8' GLU-LAM
 POST PLYS TO BE INSTALLED PARALLEL WITH TRUSSES
 ALL GIRDERS 1.75' X 9.25' LVLS
 -DN EACH SIDE OF POST
 INSTALL 2X4 SPRUCE-PINE-FUR (SPF) #1/#2 GRADE GIRTS ON
 THE ENCLOSED SIDES AT 18" SPACING. ATTACH STEEL
 SIDEWALL MATERIAL TO GIRTS. END WALL POSTS SHALL BE
 4-PLY 2' X 6' GLU-LAM @ 8' SPACING UNLESS OTHERWISE
 NOTED. POSTS SHALL EXTEND TO TOP CHORD OF TRUSS.
 REVERSE DIRECTION OF PLYS ON END WALL POSTS SO PLY'S
 FACE TOWARDS INSIDE OF BUILDING.

CARRY GABLE END POSTS TO TOP CHORD OF TRUSS
 EXTEND PURLINS PAST TRUSS BY 5.5' ON THE EAST SIDE

| | DESIGNED | DRAWN | CHECKED | APPROVED | DATE |
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Barchik ROOF DETAILS

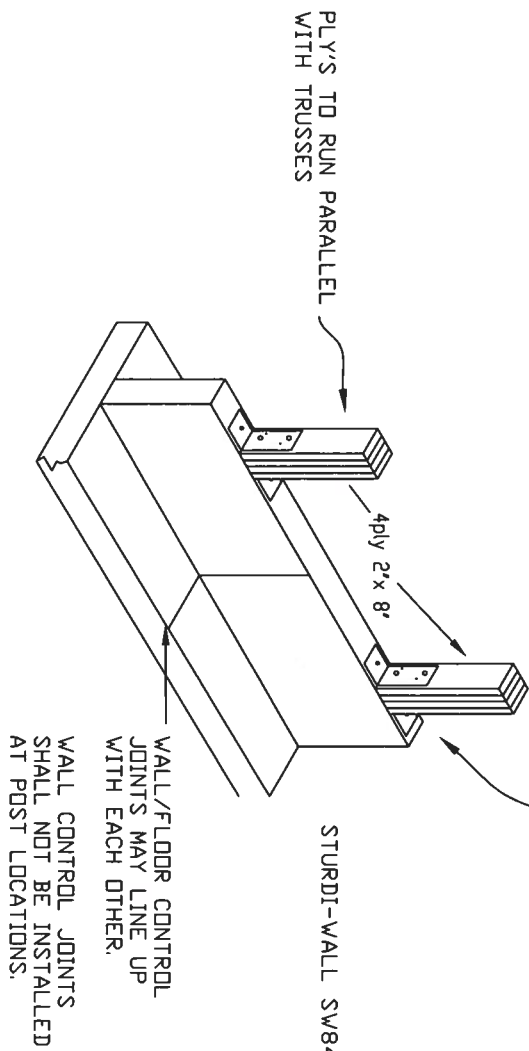
United States
 Department of
 Agriculture
 Natural Resources
 Conservation Service



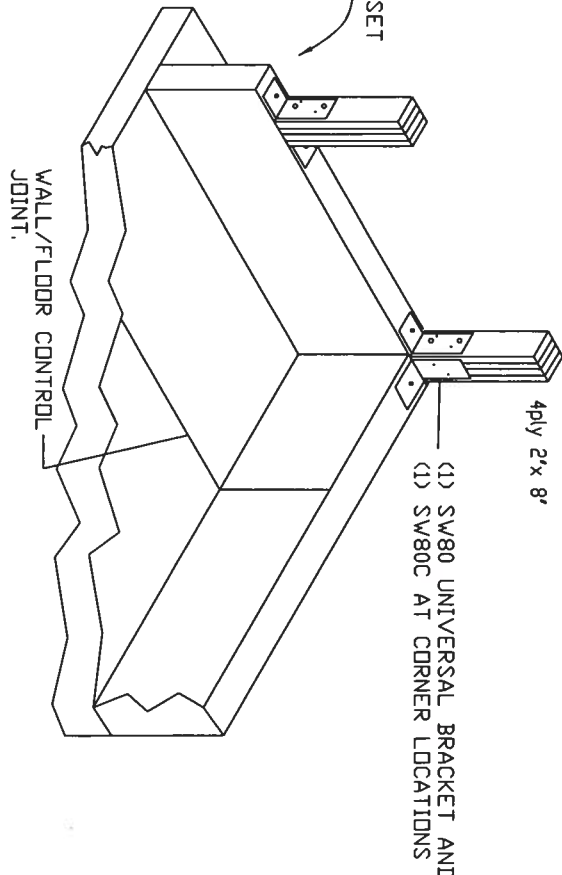
- GENERAL NOTES:**
1. TRUSS SHOP DRAWINGS SHALL BE PROVIDED TO THE NRCS DESIGN ENGINEER FOR APPROVAL PRIOR TO THE TRUSSES BEING MADE.
 2. TRUSS SHALL BE DESIGNED WITH THE FOLLOWING PARAMETERS:
 - A. IMPORTANCE FACTOR CAT. II (I=1.00)
 - B. BUILDING CLASSIFICATION PARTIALLY ENCLOSED
 - C. UNBALANCED SNOW LOAD SHALL BE INCLUDED
 - D. GRAVITY REACTIONS MUST YIELD A MINIMUM OF 40 PSF (TCLL + TCDL + BCDL) COMBINED LOADING
 - E. UPLIFT REACTIONS MUST YIELD A MINIMUM OF 16 PSF UNIFORM UPLIFT
 3. KNEE BRACES TO BE INSTALLED ON 45 DEGREE ANGLE AND EXTEND TO THE TOP CORD OF THE TRUSS
 4. TRUSS TO HAVE 'CANTILEVERED' OVERHANG ; NO 'TAILED'/SLIPING OVERHANGS ARE ALLOWED

POST ON WALL INSTALLATION

BRACKET AT END OF FEED CURB:
EITHER EXTEND CONCRETE PAST OR USE FLAT BRACKET

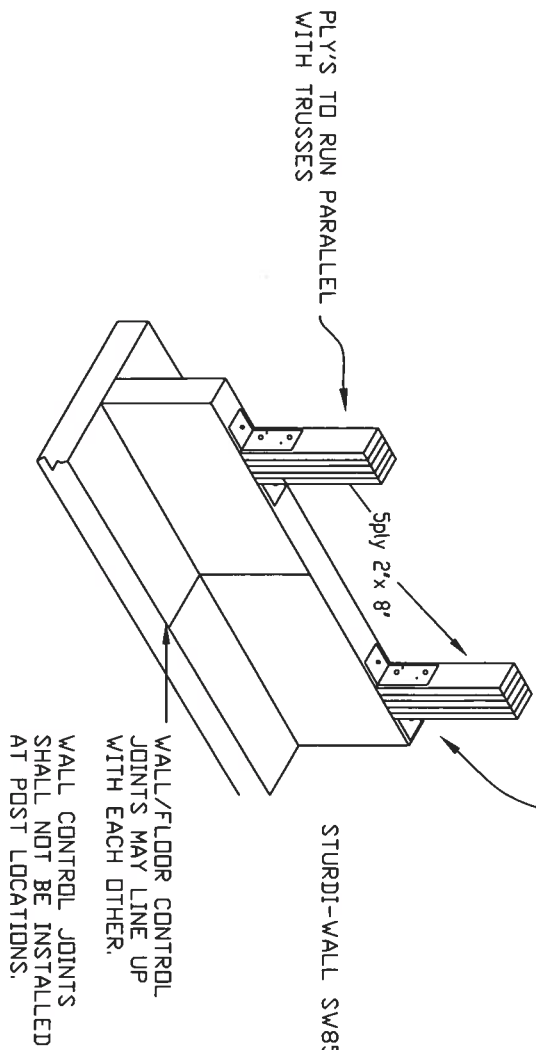


STURDI-WALL SW84GL DRY SET (SHOWN)
5/8" EPOXY OR SCREW TYPE ANCHORS REQUIRED FOR DRY SET INSTALLATION. EXPANSION TYPE ANCHORS ARE NOT ALLOWED.

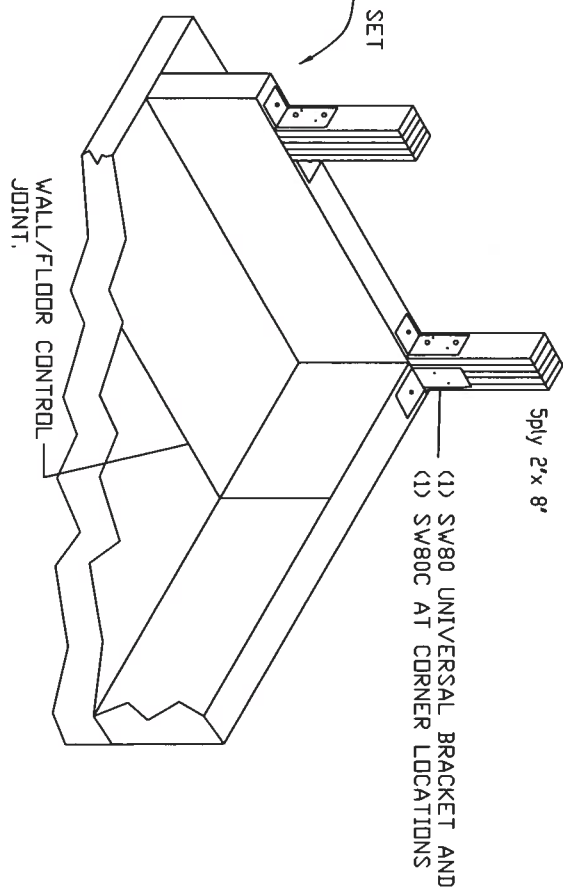


POST ON WALL INSTALLATION

BRACKET AT END OF FEED CURB:
EITHER EXTEND CONCRETE PAST OR USE FLAT BRACKET



STURDI-WALL SW85GL DRY SET (SHOWN)
5/8" EPOXY OR SCREW TYPE ANCHORS REQUIRED FOR DRY SET INSTALLATION. EXPANSION TYPE ANCHORS ARE NOT ALLOWED.



*MIN. EMBEDDED DEPTH OF ANCHORS IS 4.5" INTO CONCRETE

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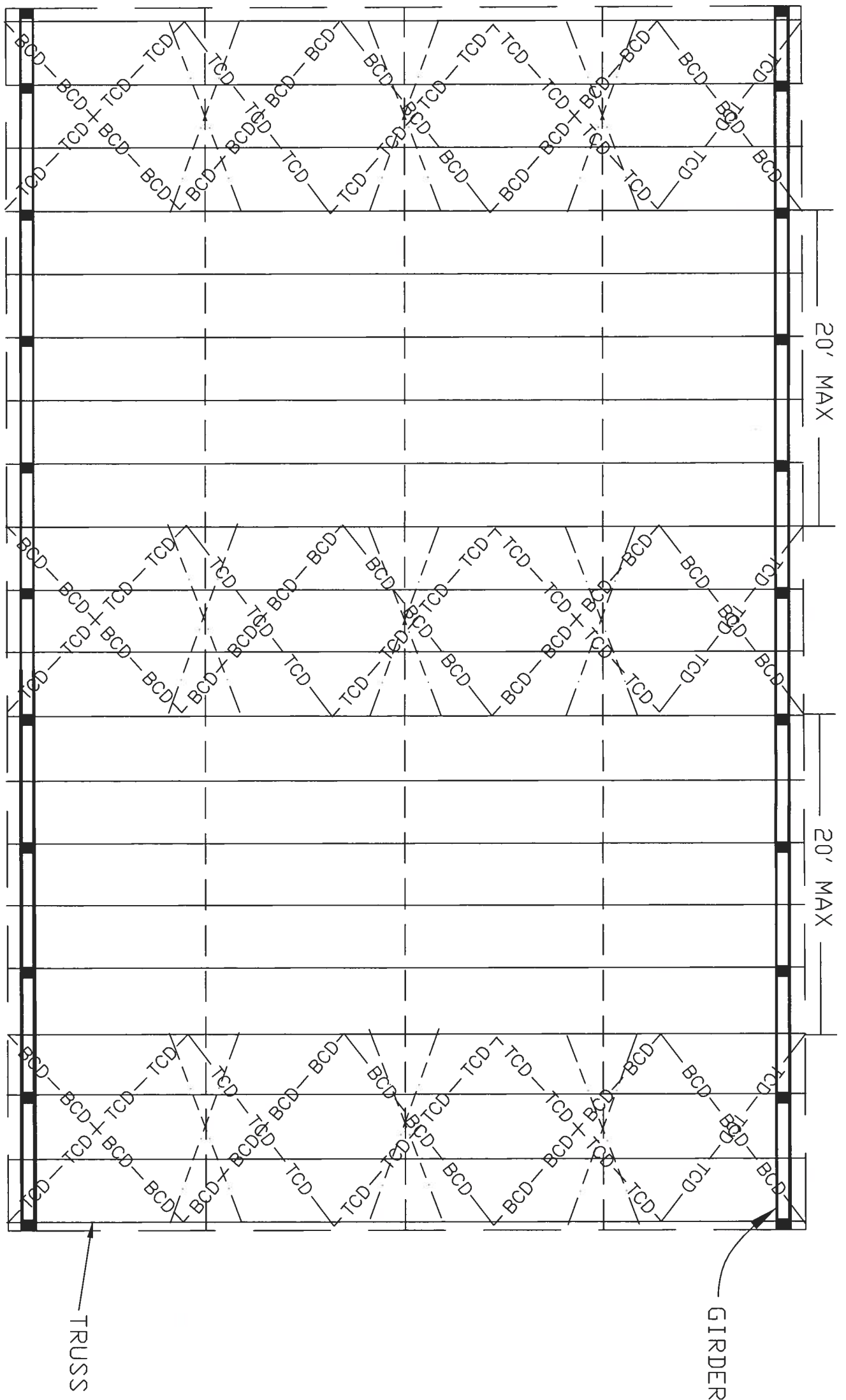
Barchik
POST ON WALLS DETAIL



FILE NO. ROOF DESIGN.DWG

DRAWING NO.

SHEET 5 OF



- CONTINUOUS LATERAL BRACING AS PER TRUSS MFG. RECOMMENDATIONS
- TCD — TOP CHORD DIAGONAL BRACING
- BCD — BOTTOM CHORD DIAGONAL BRACING
- X — WEB MEMBER CROSS BRACING

NOTES:

1. CONTINUOUS LATERAL BRACING SHOWN IS FOR A VISUAL REPRESENTATION ONLY; CONTINUOUS LATERAL BRACING LOCATIONS & SPACING ARE REQUIRED BY THE TRUSS MFG & SHOWN ON THE TRUSS DESIGN DRAWING.
2. ALL BRACING IS 2" X 4" GRADE MARKED LUMBER.
3. ALL CONNECTIONS SHOULD BE MADE WITH 2 - 16d NAILS, ND BUTT JOINTS.

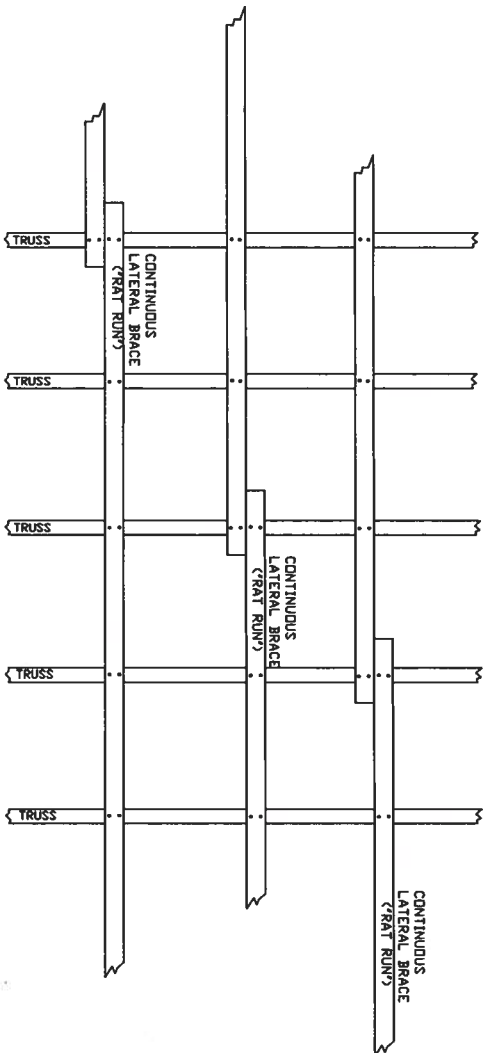
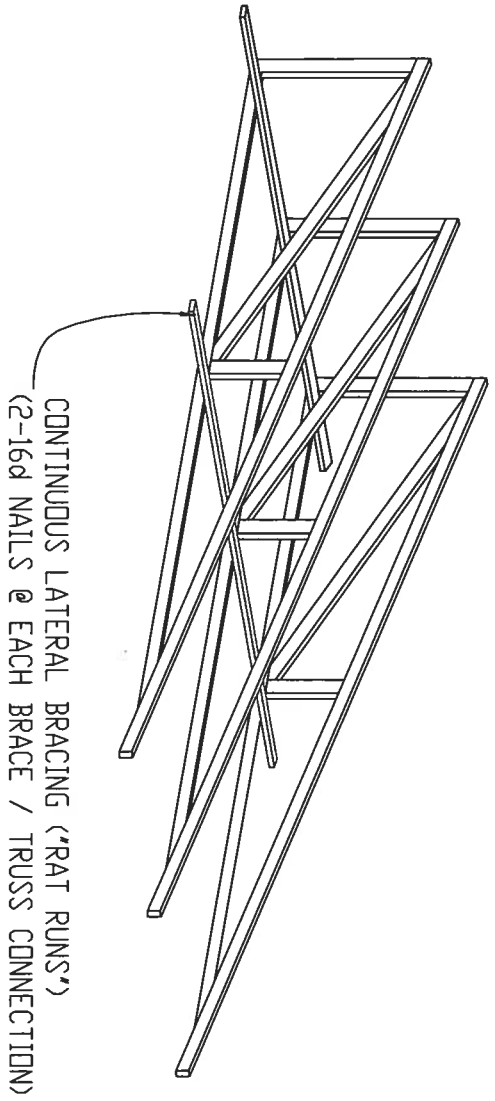
"DRAWING IS NOT TO SCALE"

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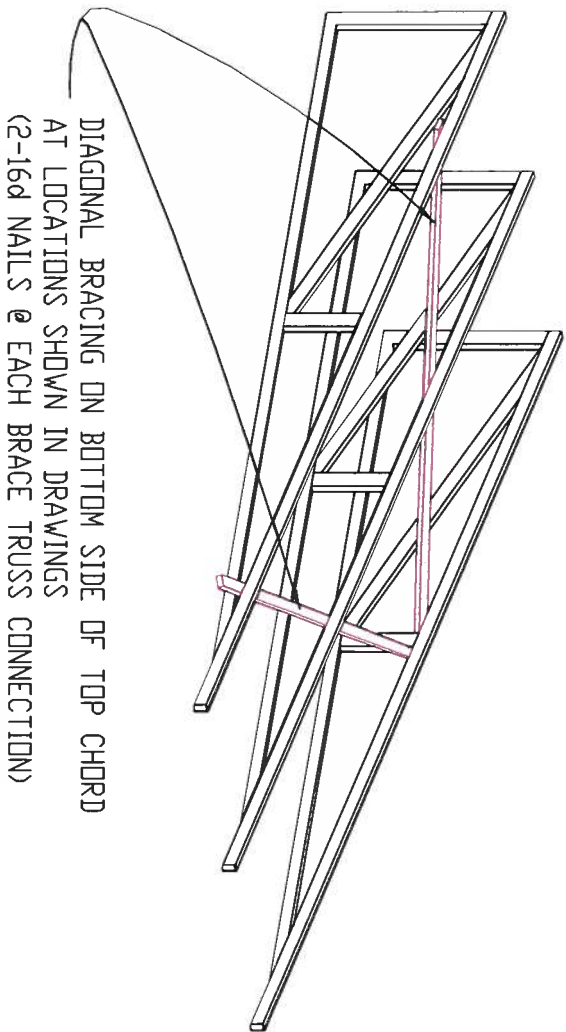
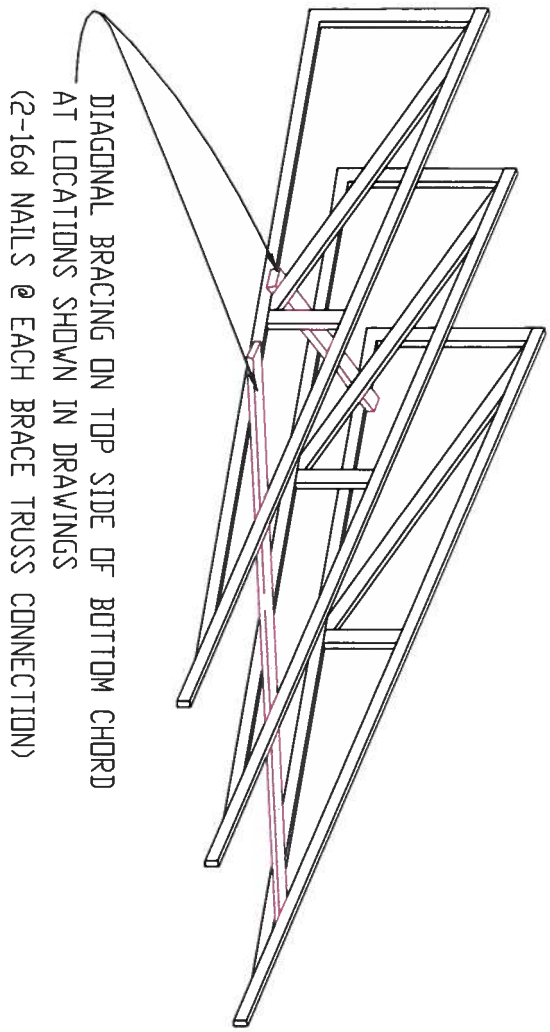
Barchik
ADDITIONAL BRACING DETAIL



CHORD AND DIAGONAL BRACING



JOINTS IN CONTINUOUS LATERAL BRACES SHALL BE STAGGERED, SO THEY DO NOT LINE UP WITH THE NEXT TRUSS. AT A JOINT, EACH BOARD SHALL EXTEND FULLY PAST THE TRUSS, TO ALLOW FOR A TWO NAIL CONNECTION. THESE BRACES ARE AS PER TRUSS MFG. REQUIREMENTS, SHOWN ON THE TRUSS DESIGN.



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CHORD BRACING DETAIL

USDA United States Department of Agriculture
Natural Resources Conservation Service

FILE NO. ROOF DESIGN DWG

DRAWING NO.

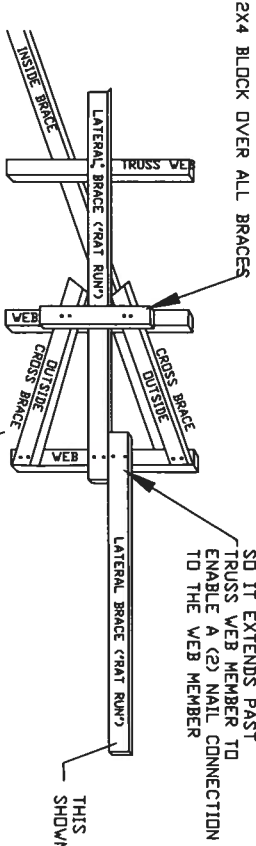
SHEET 7 OF

CROSS BRACING

TO BE INSTALLED AT INTERVALS NOT TO EXCEED 20'
ALONG CONTINUOUS LATERAL BRACING

CROSS BRACING IS REQUIRED ON TRUSS WEBS THAT HAVE A CONTINUOUS LATERAL BRACE

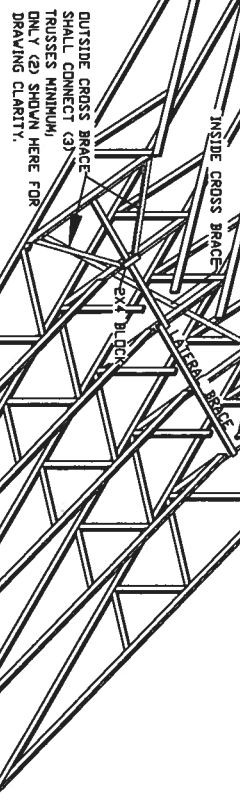
OPTION #1



AT JOINT LOCATIONS, INSTALL LATERAL BRACE SO IT EXTENDS PAST TRUSS WEB MEMBER TO ENABLE A (2) NAIL CONNECTION TO THE WEB MEMBER

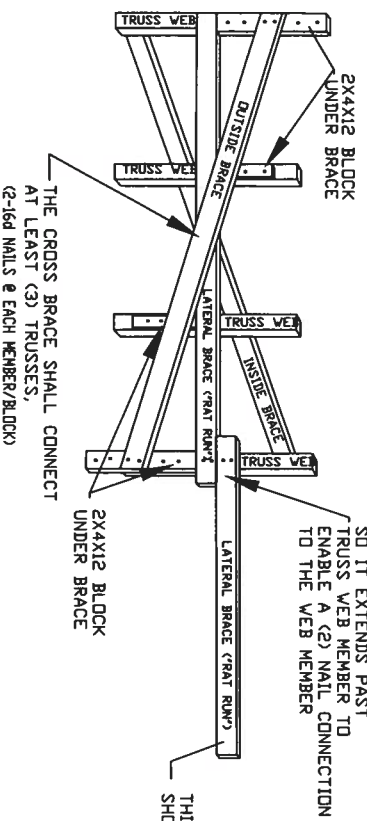
THE INSIDE CROSS BRACE SHALL CONNECT (3) OR (4) TRUSSES. THE OUTSIDE CROSS BRACE SHALL CONNECT (3) TRUSSES MINIMUM. ONLY (2) SHOWN HERE FOR DRAWING CLARITY. (2-16d NAILS @ EACH MEMBER/BLOCK)

* ALL CROSS BRACES SHALL BE INSTALLED AT LESS THAN OR EQUAL TO 45 DEGREE ANGLES



CROSS BRACING IS REQUIRED ON TRUSS WEBS THAT HAVE A CONTINUOUS LATERAL BRACE

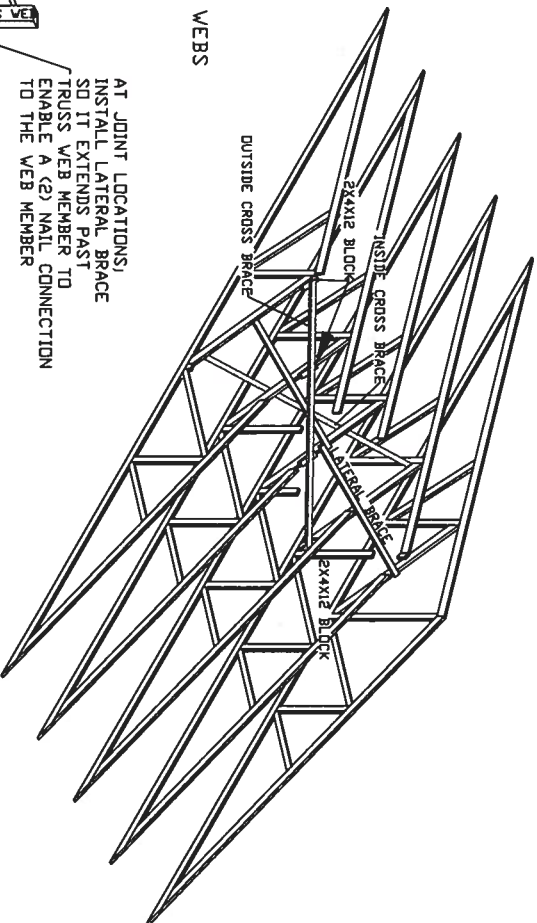
OPTION #2



AT JOINT LOCATIONS, INSTALL LATERAL BRACE SO IT EXTENDS PAST TRUSS WEB MEMBER TO ENABLE A (2) NAIL CONNECTION TO THE WEB MEMBER

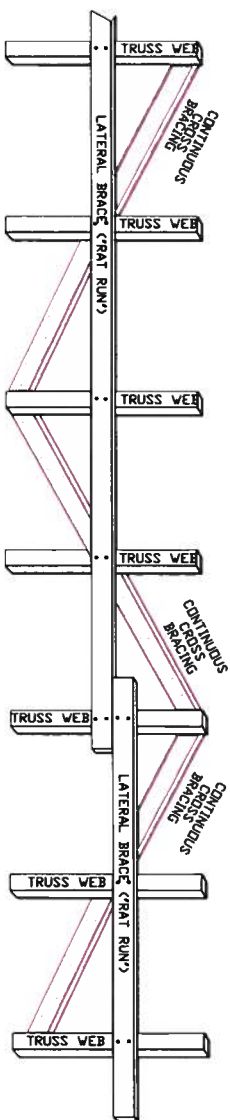
THE CROSS BRACE SHALL CONNECT AT LEAST (3) TRUSSES. (2-16d NAILS @ EACH MEMBER/BLOCK)

* ALL CROSS BRACES SHALL BE INSTALLED AT LESS THAN OR EQUAL TO 45 DEGREE ANGLES



CROSS BRACING IS REQUIRED ON TRUSS WEBS THAT HAVE A CONTINUOUS LATERAL BRACE

OPTION #3

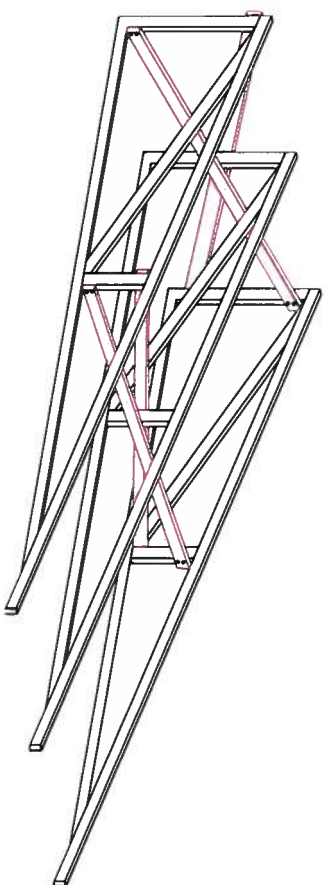


INSTALL 'CONTINUOUS' CROSS BRACING ON THE OPPOSITE SIDE OF THE TRUSS WEB MEMBER AS THE LATERAL BRACE. THE CROSS BRACING MUST RUN THE ENTIRE LENGTH OF THE BUILDING ON THOSE WEB MEMBERS WITH LATERAL BRACING SPECIFIED IN THE TRUSS DESIGN AND AT OTHER LOCATIONS DICTATED BY THE BUILDING DESIGN ENGINEER. (2-16d NAILS @ EACH MEMBER)

* ALL CROSS BRACES SHALL BE INSTALLED AT LESS THAN OR EQUAL TO 45 DEGREE ANGLES

WHEN THE TRUSS DESIGN DOES NOT SHOW ANY CONTINUOUS LATERAL BRACES (TRUSS RUNS) WITHIN THE TRUSS WEBS, THIS OPTION OF CROSS BRACING SHALL BE USED.

OPTION #4



CROSS BRACING SHALL BE LOCATED ON BOTH SIDES OF ALL VERTICAL WEB MEMBERS AS WELL AS ADDITIONAL LOCATIONS AS DETERMINED BY THE BUILDING DESIGN ENGINEER.

THE CROSS BRACE SHALL CONNECT AT LEAST (3) TRUSSES. (2-16d NAILS @ EACH MEMBER/BLOCK)

* ALL CROSS BRACES SHALL BE INSTALLED AT LESS THAN OR EQUAL TO 45 DEGREE ANGLES

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CROSS BRACING DETAIL

WYE AND KNEE BRACE DETAILS

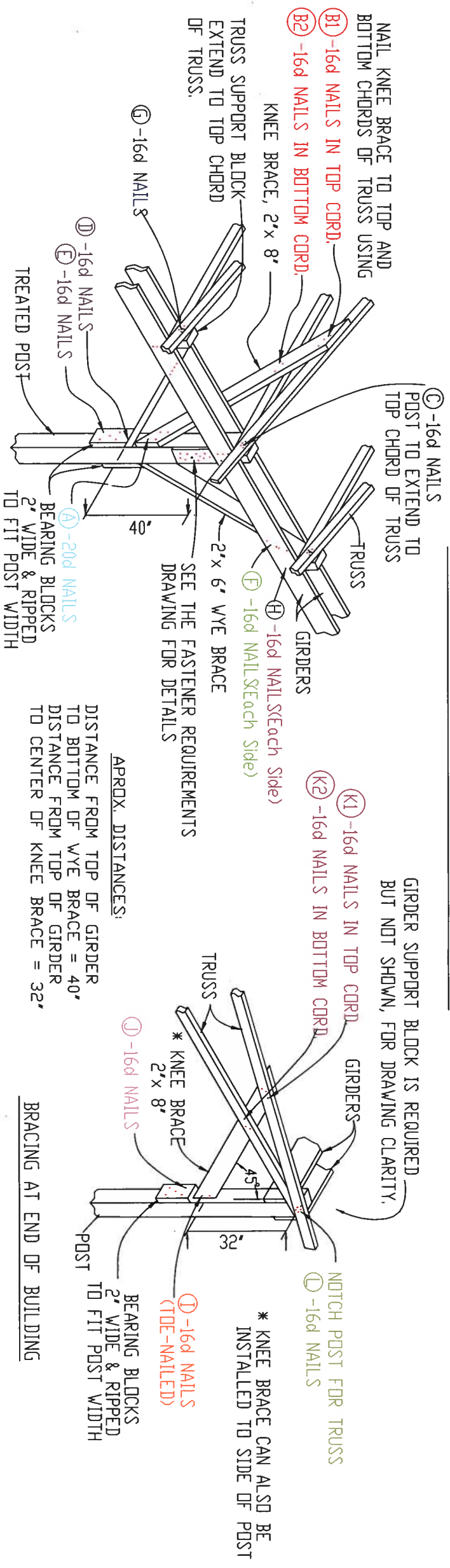


TABLE 1

| *NUMBER OF NAILS REQUIRED | | | |
|---|------------------------------|------------------------------|----------------------------|
| BASED ON THE 'LENGTH' OF ROOF CONTRIBUTING TO THAT CONNECTION | | | |
| JOINT | 22.5' MAX (TRIBUTARY LENGTH) | 27.5' MAX (TRIBUTARY LENGTH) | 38' MAX (TRIBUTARY LENGTH) |
| Hand Driven 20d | 6 | 8 | 9 |
| Hand Driven 16d | 5 | 6 | 8 |
| Hand Driven 16d | 5 | 6 | 8 |
| Power Driven 16d | 7 | 8 | 9 |
| *See Note #5* | | | |
| Power Driven 16d | 2 | 3 | 4 |
| Power Driven 16d | 2 | 3 | 4 |
| Power Driven 16d | 4 | 5 | 6 |
| Power Driven 16d | 4 | 5 | 6 |
| Power Driven 16d | 7 | 8 | 9 |
| *See Note #5* | | | |
| Power Driven 16d | 4 | 4 | 4 |
| *See Note #3* | | | |
| Power Driven 16d | 2 | 3 | 3 |
| Power Driven 16d | 5 | 6 | 7 |
| Hand Driven 16d | 5 | 6 | 8 |
| Hand Driven 16d | 5 | 6 | 8 |
| Power Driven 16d | 6 | 7 | 8 |

NOTES:

1. Posts shall be notched to accommodate trusses. The notch shall be cut flush with the top of the girder so the trusses sit on the notch and on top of both girders equally. Only notch the post 1.5" for the truss. Notch the side of the post, not the center.
2. The truss support blocks at locations between posts can be notched sections of posts or 2x boards. Notches shall be cut and the block positioned in the same fashion as the notches in the posts (described above).
3. JOINT H: If two boards are used instead of a post section then each board shall have (4) nails per side. The boards shall also be nailed together with (6) nails. All nails for this connection can be Power Driven 16d.
4. Hurricane (Tie Down) Straps can also be used to anchor trusses to girders. There shall be a strap(s) installed to anchor the trusses to each girder. If this option is chosen, discuss with the design engineer in advance.
5. JOINT C & G: The amount of nails listed can be distributed between both truss chords.
6. The wye and knee braces shall be installed at a 45 degree angle from the treated post. Install the wye braces after the trusses are set. Do not install Wye Bracing on enclosed sides toward connection.
7. Drill pilot holes as needed to prevent splitting. Nails in split holes do not count toward connection.
8. Nails in contact with pressure-treated wood shall be galvanized.

* THE 16d POWER DRIVEN NAILS ARE BASED ON 0.131 DIAMETER X 3.25" LONG

* THE 20d HAND DRIVEN NAILS ARE BASED ON 0.192 DIAMETER X 4" LONG

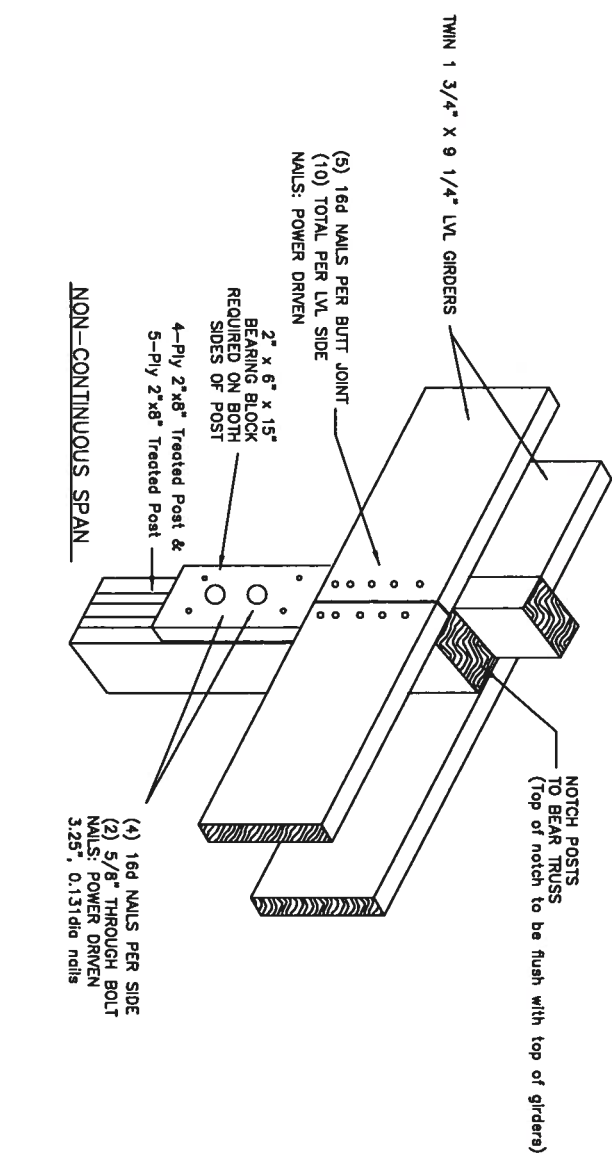
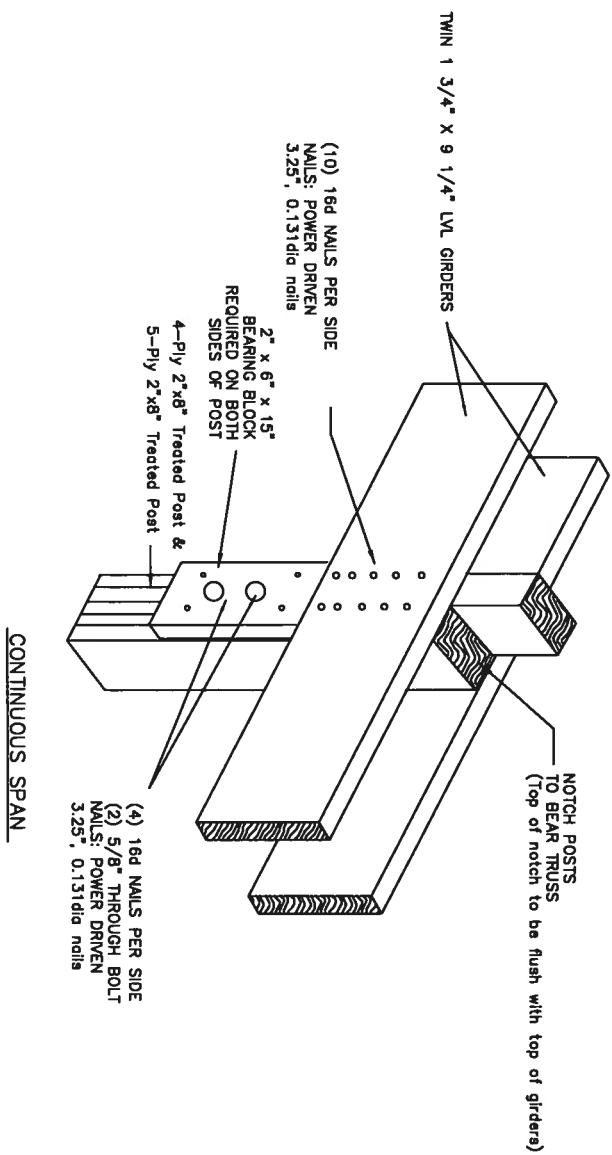
* THE 16d HAND DRIVEN NAILS ARE BASED ON 0.162 DIAMETER X 3.5" LONG

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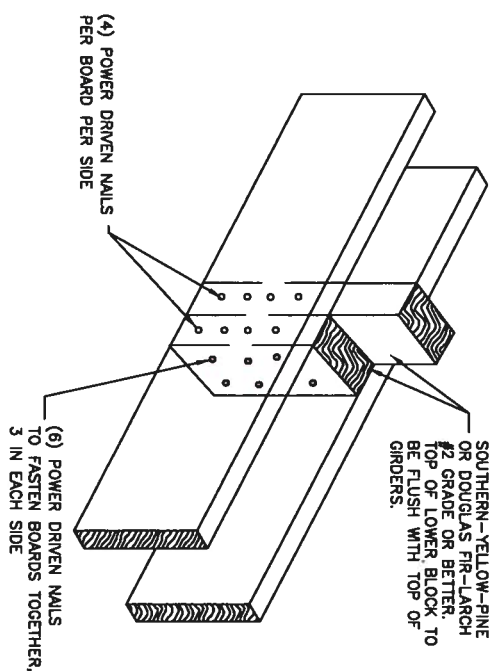
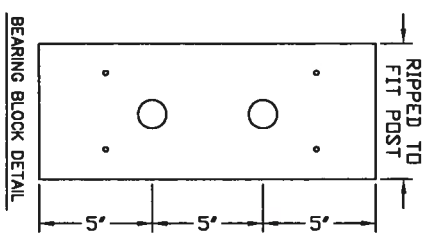
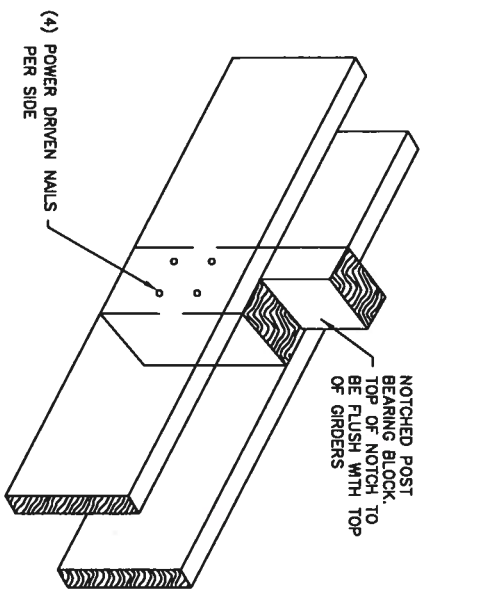
FASTENER REQUIREMENTS AT GIRDER & POST CONNECTIONS

STAGGER BUTT JOINTS; NO POST SHALL HAVE A GIRDER BUTT JOINT ON BOTH SIDES

*ALL POWER DRIVEN NAILS TO BE 3.25" LONG X .131 DIA



OPTIONS FOR TRUSS CONNECTION BETWEEN POSTS



CONSTRUCTION NOTES

1. Bolts shall be installed in the middle of the girder and support block.
2. All nails shall be .131" Diameter x 3.25" Long (Min.).
3. LVL's need to be supported every 2' as per the LVL Manufacturer; A single block, ripped to fit, between the LVL's will suffice. Install (4) power driven nails per side from LVL into the blocking.

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FASTENER DETAIL

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