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# PROJECT INFORMATION

PROJECT DESCRIPTION	SINGLE STORY SLAB ON GRADE/POLE BARN STYLE OPEN STORAGE MAINTENANCE SHED
SITE LOCATION	CITY OF ROANOKE, VA
SITE ADDRESS	1802 COURTLAND AVE RD, NE
NUMBER OF FLOORS BELOW GRADE	0 (SLAB ON GRADE)
NUMBER OF FLOORS ABOVE GRADE	ONE
PARKING SPACES PROVIDED	SEE CIVIL (NOT INCLUDED)
ACCESSIBLE PARKING SPACES PROVIDED	SEE CIVIL (NOT INCLUDED)

# PROJECT STATISTICS

BELOW GRADE	N/A
MAIN FLOOR	2520SF (COVERED) 928SF (ENCLOSED)
TOTAL AREA	2520SF

# CODE INFORMATION

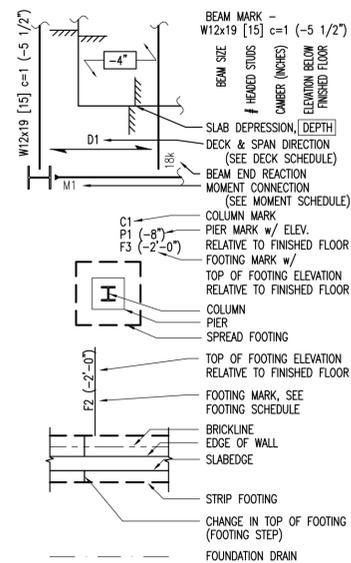
CODE: VIRGINIA UNIFORM BUILDING CODE (2012 IBC w/ AMENDMENTS)

		NOTE
IBC USE GROUP	U	
IBC CONSTRUCTION TYPE	V-B	
ALLOWABLE AREA	5,500	
ALLOWABLE HEIGHT	40 FEET	
ALLOWABLE STORIES	1	
OCCUPANT LOADS (PER IBC 1004.1.2) @ 200 GROSS	13 (5 IN ENCLOSED SPACE)	
FIRE RESISTANCE DATA		
FULLY SPRINKLED	NO	
EXTERIOR BEARING WALLS	NONE	
EXTERIOR NON-LOAD BEARING WALLS	0 HR	
FIRE WALLS	N/A	
EXITS AND STAIRS	0 HOUR	
INTERIOR BEARING WALLS	NONE	
STRUCTURAL FRAME	0 HOUR	
FLOOR CONSTRUCTION	N/A	
ROOF CONSTRUCTION	0 HOUR	
INTERIOR FINISHES	CLASS C	
INTERIOR FLOOR FINISHES	CLASS II	

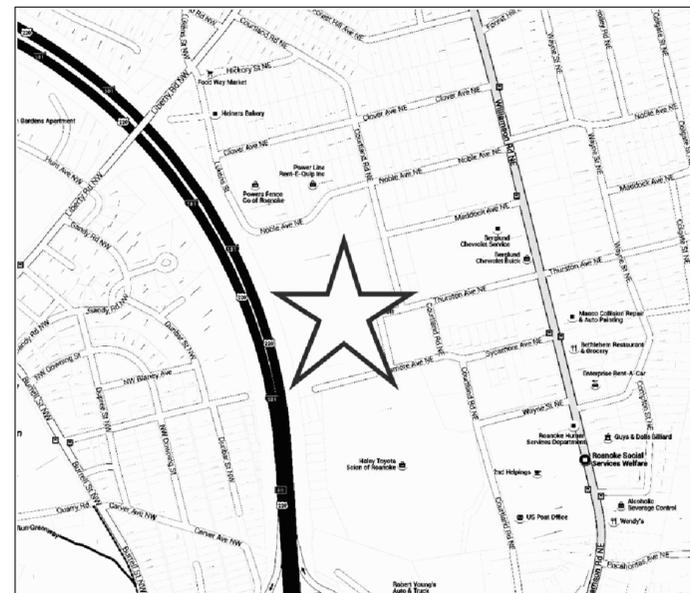
## ABBREVIATIONS

AB	ANCHOR BOLT
AFF	ABOVE FINISH FLOOR
ALT	ALTERNATE
ARCH	ARCHITECTURAL AS REQUIRED
AR	ARCHITECTURAL AS REQUIRED
CJ	CONTROL JOINT
CMU	CONCRETE MASONRY UNIT
CF	CARBON FIBER
CONT	CONTINUOUS
EB	EXPANSION BOLT
EJ	EXPANSION JOINT
EQ	EQUAL
EXIST	EXISTING
EXT	EXTERIOR
FL	FLOOR
FRT	FIRE RETARDANT TREATED
GWB	GYPSON WALL BOARD
HDC	HOT DIPPED GALVANIZED
NA	NOT APPLICABLE
NIC	NOT IN CONTRACT
NTS	NOT TO SCALE
o/c	ON CENTER
PAF	POWDER ACTUATED FASTENER PRESERVATIVE TREATED
R	RADIUS
RE	REFER TO
RO	ROUGH OPENING
SST	SIMPSON STRONG-TIE
TOF	TOP OF FOOTING
TOJ	TOP OF JOIST
TOM	TOP OF MASONRY
TOS	TOP OF STEEL
TOW	TOP OF WALL
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
w/	WITH
w/o	WITHOUT
WWR	WELDED WIRE REINFORCEMENT

# LEGEND



# LOCATION MAP



# MAINTENANCE SHED

1802 COURTLAND RD NE  
CITY OF ROANOKE, VA

JULY 6, 2016

PROJECT NUMBER 16-1012



Structural Design & Consulting

613 Country Club Dr. SE Blacksburg, VA 24060 v. 540-552-7090

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# ARCH. NOTES

ARCHITECTURAL NOTES

BASIS OF DESIGN

DESIGN IS IN ACCORDANCE WITH THE 2012 VIRGINIA UNIFORM STATEWIDE BUILDING CODE (VUSBC).

GENERAL REQUIREMENTS AND CONDITIONS

ALL CONTRACTORS ACKNOWLEDGE UNDERSTANDING OF THE VUSBC AND AGREE TO INCORPORATE ALL REQUIRED ELEMENTS, WHETHER EXPLICITLY INDICATED WITHIN THE DOCUMENTS OR NOT.

CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES AND FOR SAFETY PRECAUTIONS AND PROGRAMS AS THEY RELATE TO THE WORK OF THIS PROJECT.

CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN, ENGINEERING, PERMITTING AND ERECTION OF ALL TEMPORARY SCAFFOLDING, HOISTS, BRACING, FORM WORK, SHEETING, SHORING AND UNDERPINNING NECESSARY TO PERFORM THE WORK.

CONTRACTOR SHALL COORDINATE AND OWNER SHALL PAY FOR SPECIAL INSPECTIONS TO BE PROVIDED BY AN INDEPENDENT TESTING AGENCY AS DEFINED IN IBC SECTION 1704. INSPECTION REPORTS ARE TO BE SUBMITTED TO THE BUILDING OFFICIAL AS DESCRIBED IN SECTION 1704.1.2 FOR ALL APPLICABLE WORK.

THIS DOCUMENTATION IS DESIGNED FOR THE PURPOSE OF PROCURING A GENERAL BUILDING PERMIT. AS SUCH, NOT ALL DETAILS, EQUIPMENT, SYSTEMS OR MATERIAL SELECTIONS ARE INCLUDED IN THE DOCUMENTS. CONTRACTOR SHALL BASE HIS BID ON THE SUPPLIED INFORMATION, AND SHALL ALSO INCLUDE ANY ADDITIONAL DETAILS, EQUIPMENT, SYSTEMS OR MATERIALS REQUIRED TO DELIVER A COMPLETE AND FINISHED PROJECT TO THE OWNER, OR REASONABLY AND NORMALLY INCLUDE IN A COMPLETED PROJECT OF SIMILAR SCOPE, IN COMPLIANCE WITH ALL LAWS, CODES AND ORDINANCES. THE ENGINEER MAKES NO WARRANTY CONCERNING FITNESS FOR PURPOSE OR CONFORMANCE TO ANY USABILITY OR LONGEVITY CRITERION, EXCEPT AS EXPLICITLY REQUIRED BY THE VIRGINIA USBC.

PROVIDE ALL MECHANICAL, ELECTRICAL, PLUMBING, FIRE PROTECTION, DRAWINGS, ENGINEERING, LABOR AND MATERIAL AS REQUIRED TO OBTAIN PERMITS AND COMPLETE PROJECT.

ALL AREAS SHALL BE ACCESSIBLE TO THE HANDICAPPED, IN ACCORDANCE WITH VIRGINIA UNIFORM STATEWIDE BUILDING CODE (VUSBC) AND AMMENDMENTS AND APPLICABLE AMERICANS WITH DISABILITIES ACT (ADA) ACCESSIBILITY GUIDELINES.

CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS AND DRAWING DIMENSIONS PRIOR TO COMMENCING ANY WORK. ANY INCONSISTENCIES WITH THE DRAWINGS SHALL BE REPORTED TO THE ENGINEER IN WRITING PRIOR TO COMMENCING WORK. FAILURE TO REPORT INCONSISTENCIES WILL RELIEVE ENGINEER AND OWNER FROM ANY CLAIM FOR ADDITIONAL WORK REQUIRED RELATED TO THE INCONSISTENCY.

FINISHES, CASEWORK, AND DOORS

HARDWARE SHALL BE HEAVY DUTY COMMERCIAL GRADE, TO BE SELECTED BY OWNER DURING THE CONSTRUCTION PHASE. ALL LOCKS AND LATCHES SHALL COMPLY WITH IBC 1003.3.1.8.

MINIMUM SINGLE EXTERIOR DOOR SIZE SHALL BE 3'-0" WIDE BY 6'-8" TALL. MINIMUM DOUBLE EXTERIOR DOOR SIZE SHALL BE 6'-0" WIDE BY 6'-8" TALL. MINIMUM INTERIOR SINGLE DOOR SIZE SHALL BE 3'-0" WIDE BY 6'-8" TALL, U.N.O.

OVERHEAD DOORS TO BE SELECTED BY THE OWNER DURING CONSTRUCTION. CONTRACTOR SHALL PROVIDE AN ALLOWANCE IN THE BID FOR PURCHASE AND INSTALLATION OF TWO OF THE FOLLOWING DOORS:

MANUFACTURER: OVERHEAD DOOR CORP., 2501 S. STATE HWY. 121, SUITE 200, LEWISVILLE, TX 75067  
MODEL: 610 SERIES, PROFILE TYPE C-187, 18 GAUGE  
SIZE: 14' X 14' DOOR SIZE  
FINISH: POWDERCOAT

HOIST: ELECTRIC HOIST WITH ELECTRIC SENSING EDGE  
SECURITY: BARREL LOCK

\*\*\* NOTE: OWNER SHALL REVIEW AND APPROVE DOOR SUBMITTAL \*\*\*

IN ADDITION TO THE DOOR LOCK, EACH OVERHEAD DOOR SHALL HAVE A KEYPED OPERATION SWITCH ON THE EXTERIOR OF THE BUILDING, AND AN UNKEYED OPERATION SWITCH ON THE INTERIOR OF THE BUILDING

ALL FINISHES AND FIXTURES NOT SHOWN ARE TO BE DETERMINED DURING CONSTRUCTION PHASE; ALL FINISHES AND FIXTURES SHOWN ARE TO BE CONSIDERED PRELIMINARY WITH FINAL SELECTIONS APPROVED BY THE OWNER FROM CONTRACTOR SUPPLIED SAMPLES.

THERMAL AND MOISTURE PROTECTION

INSULATION SCHEDULE:

STUD WALLS: R-19

FLOOR: NONE

CEILING: R21 BATT INSULATION (OVER ENCLOSED PORTION ONLY)

FIBERGLASS BATT INSULATION FOR CONCEALED INSTALLATIONS: FOIL FACED THERMAL BATT INSULATION COMPLYING WITH ASTM C665, TYPE III, CLASS B.

PROVIDE "TYVEK" MOISTURE BARRIER AT ALL EXTERIOR STUD WALLS. OVERLAP & TAPE SEAMS, INCLUDING AT FLASHING, IN DOWNWARD FLOWING DIRECTION. USE ONLY TAPE SUPPLIED BY MOISTURE BARRIER MANUFACTURER. INSTALL

EXTERIOR WALLS AND GABLE ENDS TO RECEIVE VERTICAL METAL SIDING, 26 GAUGE, FACTORY PAINTED, 30 YEAR MINIMUM MATERIAL AND PAINT WARRANTY.

SEALANTS: SHALL BE NON-SAG, SILICONE TYPE. COLOR TO MATCH MASONRY, OR EXTERIOR DOOR FRAMES.

CAP FLASHING AND OTHER NON-SPECIFIC METAL FLASHINGS TO BE MINIMUM 0.063 INCH ALUMINUM, FACTORY FINISHED, COLOR TO BE CHOSEN BY OWNER.

ELECTRICAL

ALL ELECTRICAL DESIGNS, CONSTRUCTION, MATERIALS AND WORKMANSHIP SHALL COMPLY WITH ALL PROVISIONS OF THE 2000 IBC, AND THE 1999 NATIONAL ELECTRIC CODE (NEC) AS A MINIMUM LEVEL OF DETAIL AND QUALITY AND COMPLY WITH ELECTRICAL ENGINEERING SPECIFICATIONS WHERE GIVEN.

ELECTRICAL CONTRACTOR TO PROVIDE ALL SYSTEMS, EQUIPMENT, MATERIALS AND LABOR TO INSTALL A COMPLETE ELECTRICAL SYSTEM FOR PROJECT. CONTRACTOR SHALL INCLUDE ANY ADDITIONAL DETAILS, EQUIPMENT, SYSTEMS OR MATERIALS REQUIRED TO DELIVER A COMPLETE AND FINISHED PRODUCT TO OWNER, OR REASONABLY AND NORMALLY INCLUDE IN COMPLETED PROJECT OF SIMILAR SCOPE, IN COMPLIANCE WITH ALL LAWS, CODES AND ORDINANCES. COORDINATE WITH OWNER PRIOR TO BID TO VERIFY LIGHTING AND POWER REQUIREMENTS. PROVIDE CIRCUIT PANELS, OUTLETS, SWITCHES AND DISCONNECT BOXES AS DIRECTED BY OWNER. PROVIDE CUT-SHEETS FOR ALL PROPOSED LIGHTING TO OWNER FOR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION.

PROVIDE EXIT SIGNS/LIGHTS IN ACCORDANCE WITH IBC 1003.2.10. PROVIDE EMERGENCY LIGHTS IN ACCORDANCE WITH IBC 1003.2.11, 2702.2.3, AND 2702.2.4.

MECHANICAL

ALL MECHANICAL AND PLUMBING DESIGNS, CONSTRUCTION, MATERIALS AND WORKMANSHIP SHALL COMPLY WITH ALL PROVISIONS OF THE 2000 EDITION OF THE "INTERNATIONAL PLUMBING CODE (IPC)", AND THE 2000 EDITION OF THE "INTERNATIONAL MECHANICAL CODE (IMC)", AS A MINIMUM LEVEL ON CONSTRUCTION DETAIL AND QUALITY.

HVAC SYSTEMS SHALL BE DESIGNED AND INSTALLED BY QUALIFIED PERSONS PER THE INTERNATIONAL MECHANICAL CODE AND SHALL INCLUDE REQUIRED MECHANICAL VENTILATION. ALL SYSTEMS SHALL BE IN COMPLIANCE WITH THE INTERNATIONAL ENERGY CONSERVATION CODE.

**BASIS OF DESIGN**  
 STRUCTURAL DESIGN IS IN ACCORDANCE WITH THE 2012 VIRGINIA UNIFORM STATEWIDE BUILDING CODE (USBC).

DESIGN OF CONCRETE STRUCTURES IS BASED ON THE REQUIREMENTS OF "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE" (ACI 318-08).

DESIGN OF LUMBER AND TIMBER PRODUCTS IS BASED ON THE REQUIREMENTS OF THE "NATIONAL DESIGN SPECIFICATION FOR WOOD PRODUCTS", ANSI/AF&PA NDS-2005.

DESIGN OF STRUCTURAL STEEL IS BASED ON THE REQUIREMENTS OF "SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS" AISC, STEEL CONSTRUCTION MANUAL, 13th EDITION.

**LOADS**  
 LIVE LOAD  
 PSLAB ON GRADE 100 PSF  
 ROOF AND ACCESSIBLE ATTIC SPACES 20 PSF

WIND LOAD  
 3-SEC PEAK GUST @ RISK CAT. II 105 MPH  
 IMPORTANCE FACTOR (I): 1.0  
 EXPOSURE: B

SNOW LOAD  
 GROUND SNOW LOAD (PG): 30 PSF  
 DRIFTS/SLIDING CALCULATED PER ASCE 7-05

EARTHQUAKE LOAD  
 SHORT PERIOD FACTORED ACCEL., Ss, Sms, Sds 0.188g, 0.301g, 0.201g  
 1.0 SEC PERIOD ACCELERATION, S1, Sml, Sd1 0.075g, 0.180g, 0.120g  
 SITE CLASS: D  
 SEISMIC USE GROUP: I  
 SEISMIC DESIGN CATEGORY: B

MECHANICAL EQUIPMENT LOADS SHOWN ARE DESIGN MINIMUMS. NO PROVISIONS HAVE BEEN MADE FOR MECHANICAL EQUIPMENT LOADS EXCEPT AS SHOWN. CONTRACTOR SHALL ESTABLISH AND COORDINATE ACTUAL LOADS OF ALL SELECTED EQUIPMENT. SUBMIT ALL SELECTED EQUIPMENT AND ALL ADDITIONAL EQUIPMENT REQUIREMENTS FOR APPROVAL. COORDINATE ALL EQUIPMENT LOADS WITH MATERIAL FABRICATORS.

**GENERAL REQUIREMENTS AND CONDITIONS**  
 WHERE A SECTION OR DETAIL IS SHOWN FOR ONE CONDITION, IT SHALL APPLY TO ALL LIKE CONDITIONS EVEN THOUGH NOT SPECIFICALLY MARKED ON THE PLANS. THE CONTRACTOR SHALL PROTECT THE STRUCTURE DURING CONSTRUCTION AGAINST EARTH PRESSURE, WIND AND OTHER FORCES UNTIL PERMANENT SUPPORTS ARE IN PLACE. WHERE NO SPECIFIC INFORMATION IS GIVEN, CONSTRUCTION SHALL BE PERFORMED IN ACCORDANCE WITH THE PRESCRIPTIVE REQUIREMENTS OF THE INTERNATIONAL BUILDING CODE.

ALL BIDS FOR STRUCTURAL AND OTHER WORK SHALL BE LUMP-SUM TO INCLUDE SPREAD FOOTING OPTION AT ALL LOCATIONS. CONTRACTOR MAY INSTALL DRILLED SHAFTS OR SPREAD FOOTINGS AS SHOWN ON PLANS. NO ADJUSTMENT TO THE BID VALUE SHALL BE MADE FOR FOUNDATION CONDITIONS ENCOUNTERED.

RELATED WORK SPECIFIED ELSEWHERE OR TO BE DESIGNED BY OTHERS.  
 INSERTS, EMBEDS, ANCHOR BOLTS AND ANCHORAGE FOR ATTACHMENT OF NON-STRUCTURAL ITEMS.  
 SIZES AND LOCATIONS OF EQUIPMENT FOUNDATIONS AND PADS  
 RETAINING WALLS, UTILITY STRUCTURES, PAVEMENT, WALKS AND OTHER STRUCTURES OUTSIDE THE BUILDING LINE.

**FOUNDATIONS**  
 THE FOUNDATION HAS BEEN DESIGNED BASED ON THE SUBSURFACE INVESTIGATION PERFORMED ON MAY 24, 2014 BY BARATHA & ASSOCIATES, INC. AND THE ASSOCIATED RECOMMENDATIONS INCLUDED IN THE LETTER DATED MAY 25, 2014 AND SEALED BY MICHAEL BARATHA, PE. FOOTINGS SHALL BEAR ON UNDISTURBED SOILS, CLEAN OF ALL ORGANIC OR OTHER UNSUITABLE MATERIALS IN CONFORMANCE WITH THE LETTER NOTED ABOVE. WHERE ROCK IS ENCOUNTERED AT A DEPTH SHALLOWER THAN 6'-0", THE ALTERNATE SPREAD FOOTING DESIGN CONTAINED IN THIS SET SHALL BE USED INSTEAD OF THE DRILLED SHAFT SHOWN ON THE FOUNDATION PLANS. A VIRGINIA LICENSED GEOTECHNICAL ENGINEER SHALL VERIFY THE SOIL CONDITION AT ALL FOUNDATION ELEMENTS AFTER EXCAVATION AND PRIOR TO PLACING CONCRETE.

THE PREPARED FOUNDATION BEARING SOILS SHALL NOT BE LEFT EXPOSED DURING INCLEMENT WEATHER OR OPEN AND EXPOSED LONGER THAN 24 HOURS WITHOUT MONITORING OF THE GROUND CONDITION.

ALL FOUNDATIONS SHALL BE CENTERED UNDER SUPPORTED WALLS AND COLUMNS, UNLESS NOTED OTHERWISE.

**CONCRETE**  
 CONCRETE SHALL BE PROVIDED BY AN EOR APPROVED, LOCAL READY-MIX PLANT AS FOLLOWS:

DESCRIPTION	UNIT WEIGHT (PCF)	F'c AT 28 DAYS (PSI, MINIMUM)
FOOTINGS & PIERS	150	3000
ALL SLABS/ FLATWORK	150	4500, 6% AIR ENTRAINMENT

MAXIMUM SLUMP AT DELIVERY SHALL BE BETWEEN 3" AND 5" (INCLUSIVE). FOR PUMPED MIXES, SUPERPLASTICIZER MAY BE ADDED TO ACHIEVE A SLUMP NO GREATER THAN 9". SUBMIT ALL MIX DESIGNS TO THE EOR A MINIMUM OF 5 WORKING DAYS PRIOR TO PLACEMENT. ALL CONCRETE PLACED PRIOR TO RECEIVING MIX APPROVAL FROM THE EOR IN WRITING IS AT THE CONTRACTOR'S RISK. GC SHALL COORDINATE WITH OWNER'S TESTING LAB TO REVIEW REBAR PLACEMENT, OBSERVE PLACEMENT, AND OBTAIN TEST CYLINDERS AS REQUIRED BY THE SPECIAL INSPECTIONS PLAN IF REQUIRED.

REINFORCING STEEL SHALL BE ASTM A615 GRADE 60, WELDED WIRE REINFORCEMENT SHALL BE ASTM A185. MINIMUM LAP SPLICES FOR REINFORCING BARS SHALL BE CLASS B, TENSION LAP CONFORMING TO ACI 318. STAGGER LAP SPLICES, UNLESS INDICATED OTHERWISE.

PROVIDE THE MINIMUM CONCRETE COVER FOR REINFORCING BARS:  
 CONCRETE CAST AGAINST/PERM. EXPOSED TO EARTH: 3"  
 ALL OTHER REBAR: 1 1/2"

TYPICAL SLAB ON GRADE SHALL BE 6" THICK CONCRETE REINFORCED WITH #3 BARS EACH WAY AT 1'-0" o/c ON 4" MIN. POROUS FILL, UNLESS NOTED OTHERWISE. ALL SLABS SHALL BE CUT ON 12" CENTERS, MAXIMUM, TO 1/4 OF THE SLAB DEPTH WITHIN 12 HOURS OF PLACEMENT OR AS SOON AS THE CONCRETE CAN SUPPORT THE WEIGHT OF CUTTING EQUIPMENT. CUTS SHALL OCCUR AT ALL REENTRANT CORNERS. DO NOT CUT REINF. BARS.

**STRUCTURAL STEEL**  
 STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING:  
 "W" SHAPES, BEAMS AND COLUMNS: ASTM A992  
 OTHER SHAPES, PLATES AND BARS: ASTM A36, (Fy=36KSI)  
 COLD-FORMED STRUCTURAL STEEL TUBING: ASTM A 500, GRADE B.  
 STEEL PIPE: ASTM A 53, E/S, GRADE B.

ALL BOLTS SHALL BE 3/4" DIAMETER, ASTM A325-N, TYPE 1, UNLESS NOTED OTHERWISE. ANCHOR RODS SHALL BE ASTM F1554 GRADE 36, UNO.

ALL WELDS SHALL BE 3/8" FILLET, ALL AROUND, UNO USING E70XX ELECTRODES. ALL WELDING SHALL BE PERFORMED IN ACCORDANCE WITH AMERICAN WELDING SOCIETY (AWS) CODE D1.1

**POST-INSTALLED ANCHORS**  
 POST-INSTALLED ANCHORS INTO CONCRETE/MASONRY SHALL CONFORM TO THE FOLLOWING UNLESS NOTED OTHERWISE:

	ANCHOR DIAMETER	1"	1 1/4"	1 1/2"
EXPANSION ANCHORS: SST WEDGE ALL OR HILTI KWIK-BOLT 3	MINIMUM EMBEDMENT	3 1/4"	4 1/4"	5"
ADHESIVE ANCHORS: SST SET-XP EPOXY OR HILTI HY200 ADHESIVE	MINIMUM EMBEDMENT	4 1/4"	5"	6 1/4"

ADHESIVE ANCHORS SHALL BE THD ROD CONFORMING TO EITHER ASTM F1554 GRADE 55 OR ASTM A193 GRADE B7. POST INSTALLED ANCHORS MAY NOT BE USED IN PLACE OF CAST-IN-PLACE ANCHORS UNLESS NOTED ON DRAWINGS OR APPROVED IN WRITING BY THE EOR.

**LUMBER AND TIMBER**  
 LUMBER SHALL CONFORM TO SPECIES AND GRADES AS FOLLOWS, UNLESS OTHERWISE NOTED:  
 ALL LUMBER & TIMBER: S. PINE No. 2 OR BETTER  
 PARALLEL STRAND LUMBER (PSL): I-LEVEL TRUS JOIST PARALLAM, Fb=2900PSI; E=2.0x10^6 PSI (BEAMS)  
 I-LEVEL TRUS JOIST PARALLAM, Fb=2400PSI; E=1.8x10^6 PSI (POSTS)  
 LAMINATED VENEER LUMBER (LVL): I-LEVEL TRUS JOIST MICROLLAM, Fb=2600PSI; E=1.9x10^6 PSI

**GENERAL NOTES**  
 TIMBER FASTENERS SHALL BE SELECTED FROM ONE OF THE FOLLOWING, AND THE THREADED SHAFT SHALL BE EMBEDDED NO LESS THAN 2" INTO THE RECEIVING MEMBER, UNO:  
 TIMBERLOK OR LEDGERLOK (FASTENMASTER) RSS/LPS 1/4" (GRK FASTENERS) SDS 1/4" (SIMPSON STRONG-TIE)

LVL AND PSL BEAMS SHALL BE CONTINUOUS OVER SUPPORTS WITHOUT SPLICES UNO. MULTI-PLY LVL & LUMBER BEAMS UP TO 3 PLYS SHALL BE NAILED w/ 2 ROWS OF 0.131"x3" NAILS @ 1'-0" o/c FROM BOTH SIDES. A 3RD ROW IS REQUIRED FOR BEAMS 14" AND DEEPER. 4 PLY BEAMS SHALL BE ASSEMBLED WITH 6" TIMBERLOK SCREWS IN LIEU OF NAILS.

ALL NON-LOAD BEARING STUD WALLS SHALL BE 2x6 SPF STUDS @ 1'-4" o/c MAX. AND ALL EXTERIOR STUD WALLS SHALL BE CONTINUOUSLY SHEATHED WITH ALL SHEATHING EDGES BLOCKED WITH 2x LUMBER U.N.O.

WALL SHEATHING SHALL BE STRUCTURAL I GRADE APA PLYWOOD, 1/2" MINIMUM, SECURED WITH 8d NAILS AT 6" o/c AT ALL EDGES AND 12" o/c IN FIELD, UNO. ROOF SHEATHING SHALL BE STRUCTURAL I GRADE OR APA SPAN-RATED 40/20, 1/2" MINIMUM THICKNESS, SECURED WITH 10d NAILS AT 6" o/c AT ALL EDGES AND 12" o/c IN FIELD, UNO.

ALL LUMBER NOT FULLY ENCLOSED WITHIN THE MOISTURE-PROTECTED ENVELOPE OF THE STRUCTURE SHALL BE PRESERVATIVE TREATED FOR GROUND CONTACT. ALL LUMBER IN DIRECT CONTACT WITH OR WITHIN 4" OF SOIL SHALL BE "FOUNDATION GRADE" PRESERVATIVE TREATED. ALL FASTENERS USED IN CONTACT WITH TREATED LUMBER SHALL BE HOT DIPPED GALVANIZED PER ASTM A153. ALL CONNECTORS USED IN CONTACT WITH TREATED LUMBER SHALL BE GALVANIZED PER ASTM A653 (G185). OPTIONAL: STAINLESS STEEL CONNECTORS AND FASTENERS MEETING ASTM F1667 MAY BE SUBSTITUTED FOR GALVANIZED PRODUCTS ONLY IF ALL GALVANIZED PRODUCTS ARE REPLACED WITH STAINLESS EQUIVALENTS - MIXING OF GALVANIZED AND STAINLESS PARTS IS STRICTLY PROHIBITED.

**PREFABRICATED WOOD TRUSSES**  
 TRUSSES SHALL BE DESIGNED FOR ALL LOADS AS REQUIRED BY LISTED DESIGN CODE, INCLUDING WIND, SNOW AND SEISMIC BUT SHALL NOT BE LESS THAN THE FOLLOWING MINIMUM LOADS:  
 LIVE LOADS:  
 TOP CHORD: 20PSF  
 BOTTOM CHORD: 10PSF

DEAD LOADS:  
 DEAD LOADS SHALL BE COMPUTED FOR BUILDING MATERIALS AS INDICATED AND SHALL NOT BE LESS THAN:  
 TOP CHORD: 15PSF  
 BOTTOM CHORD: 10PSF

TOP CHORD OF ALL TRUSSES SHALL BE DESIGNED TO CARRY A POINT LOAD OF 200# AT UP TO TWO LOCATIONS ALONG THE LENGTH FOR USE IN SUPPORTING PHOTOVOLTAIC SOLAR PANELS. BOTTOM CHORD SHALL BE CAPABLE OF SUPPORTING 300# POINT LOAD AT ANY POINT ALONG THE LENGTH OF THE BOTTOM CHORD

SNOW LOADS AND WIND LOADS SHALL BE BASED ON ASCE 7-10 OR PER LOCAL BUILDING CODE, WHICHEVER IS GREATER.

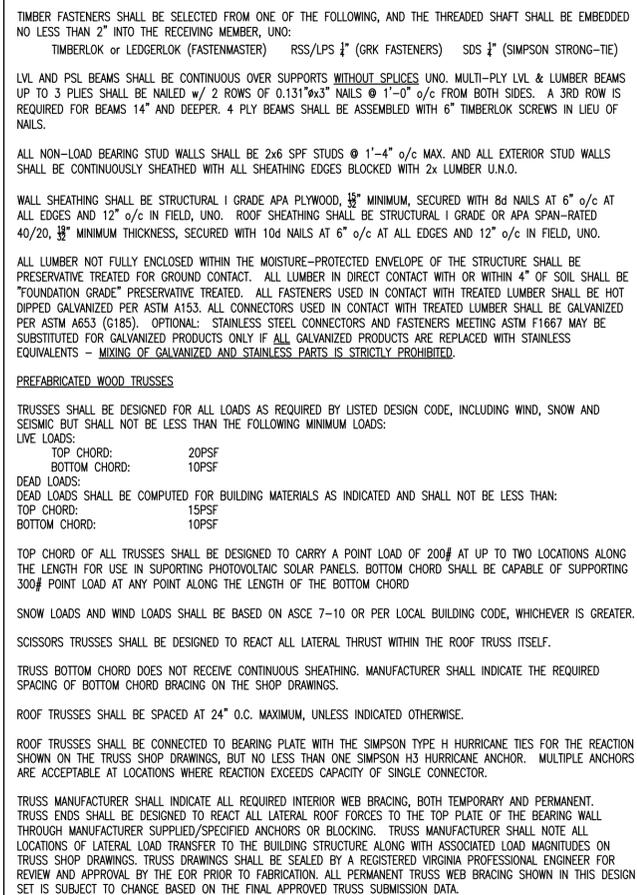
SCISSORS TRUSSES SHALL BE DESIGNED TO REACT ALL LATERAL THRUST WITHIN THE ROOF TRUSS ITSELF.

TRUSS BOTTOM CHORD DOES NOT RECEIVE CONTINUOUS SHEATHING. MANUFACTURER SHALL INDICATE THE REQUIRED SPACING OF BOTTOM CHORD BRACING ON THE SHOP DRAWINGS.

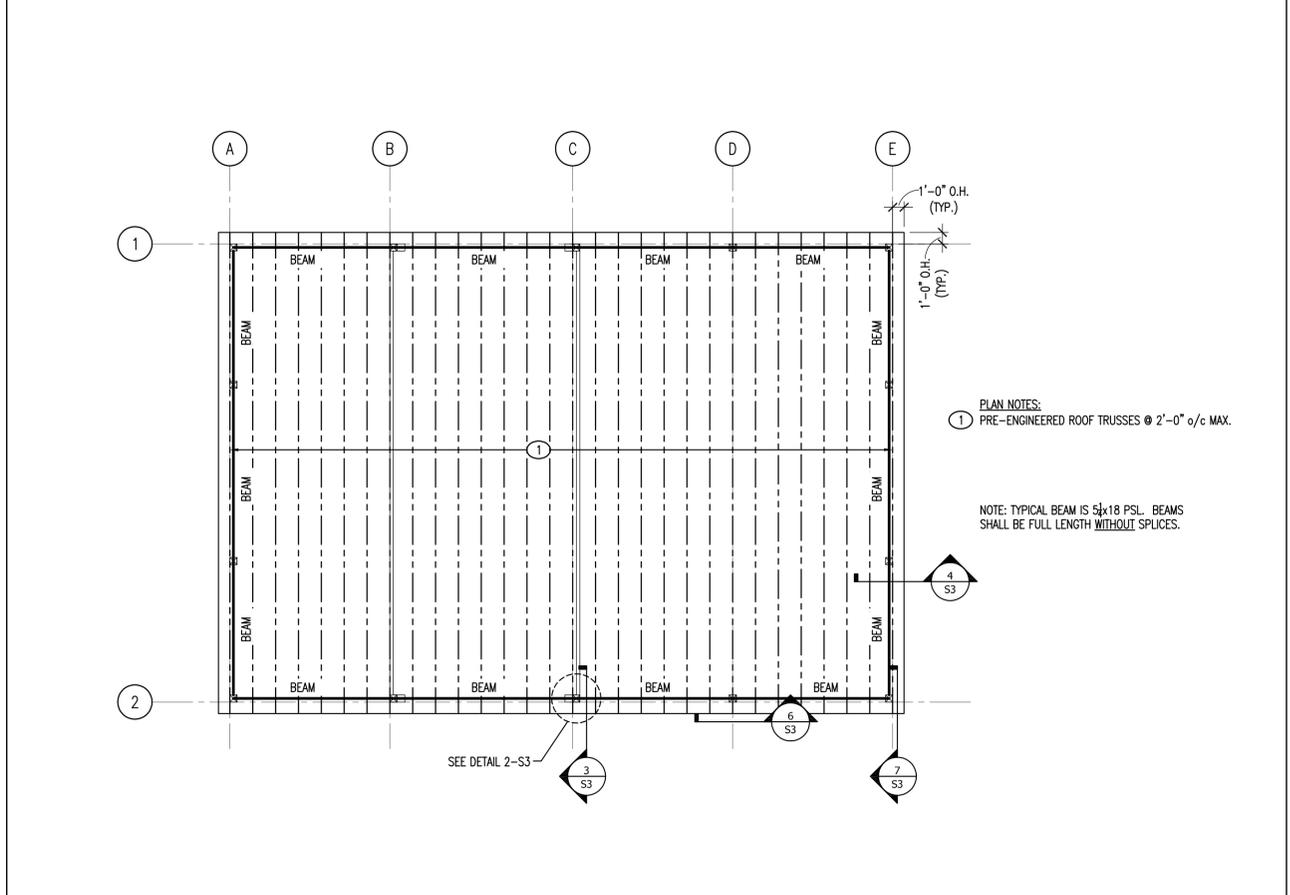
ROOF TRUSSES SHALL BE SPACED AT 24" O.C. MAXIMUM, UNLESS INDICATED OTHERWISE.

ROOF TRUSSES SHALL BE CONNECTED TO BEARING PLATE WITH THE SIMPSON TYPE H HURRICANE TIES FOR THE REACTION SHOWN ON THE TRUSS SHOP DRAWINGS, BUT NO LESS THAN ONE SIMPSON H3 HURRICANE ANCHOR. MULTIPLE ANCHORS ARE ACCEPTABLE AT LOCATIONS WHERE REACTION EXCEEDS CAPACITY OF SINGLE CONNECTOR.

TRUSS MANUFACTURER SHALL INDICATE ALL REQUIRED INTERIOR WEB BRACING, BOTH TEMPORARY AND PERMANENT. TRUSS ENDS SHALL BE DESIGNED TO REACT ALL LATERAL ROOF FORCES TO THE TOP PLATE OF THE BEARING WALL THROUGH MANUFACTURER SUPPLIED/SPECIFIED ANCHORS OR BLOCKING. TRUSS MANUFACTURER SHALL NOTE ALL LOCATIONS OF LATERAL LOAD TRANSFER TO THE BUILDING STRUCTURE ALONG WITH ASSOCIATED LOAD MAGNITUDES ON TRUSS SHOP DRAWINGS. TRUSS DRAWINGS SHALL BE SEALED BY A REGISTERED VIRGINIA PROFESSIONAL ENGINEER FOR REVIEW AND APPROVAL BY THE EOR PRIOR TO FABRICATION. ALL PERMANENT TRUSS WEB BRACING SHOWN IN THIS DESIGN SET IS SUBJECT TO CHANGE BASED ON THE FINAL APPROVED TRUSS SUBMISSION DATA.



GENERAL NOTES NO SCALE 3 ROOF PLAN SCALE: 1/8" = 1'-0" 2



GENERAL NOTES, CONTINUED NO SCALE 3 FOUNDATION PLAN SCALE: 1/8" = 1'-0" 1

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 Field application of any or all design provision(s) in this document constitutes acknowledgement and acceptance of these considerations.

IF THIS BAR IS NOT EXACTLY ONE INCH LONG, THIS DRAWING HAS NOT BEEN REPRODUCED AT FULL SCALE



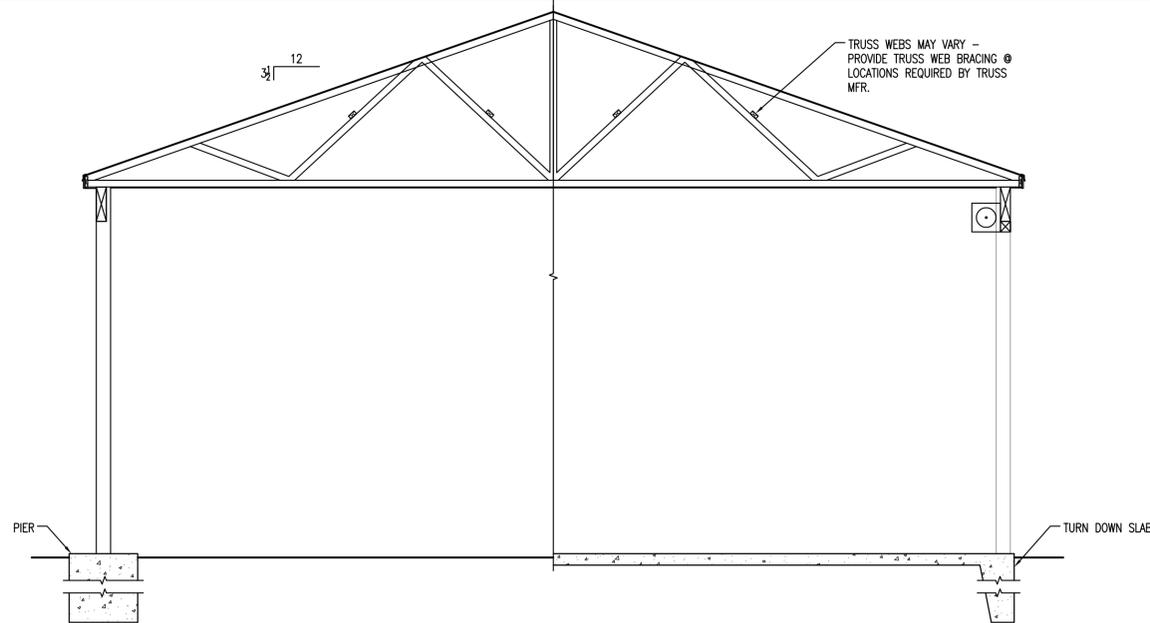
PROJECT  
**MAINTENANCE SHED**  
 1802 COURTLAND RD. NE  
 CITY OF ROANOKE, VIRGINIA

**TRUESDELL ENGINEERING, Inc.**  
 Structural Design & Consulting  
 613 Country Club Dr. SE Blacksburg, VA 24060 v. 540-552-7090  
 www.truesdellengineering.com

REV.	DESCRIPTION	DATE

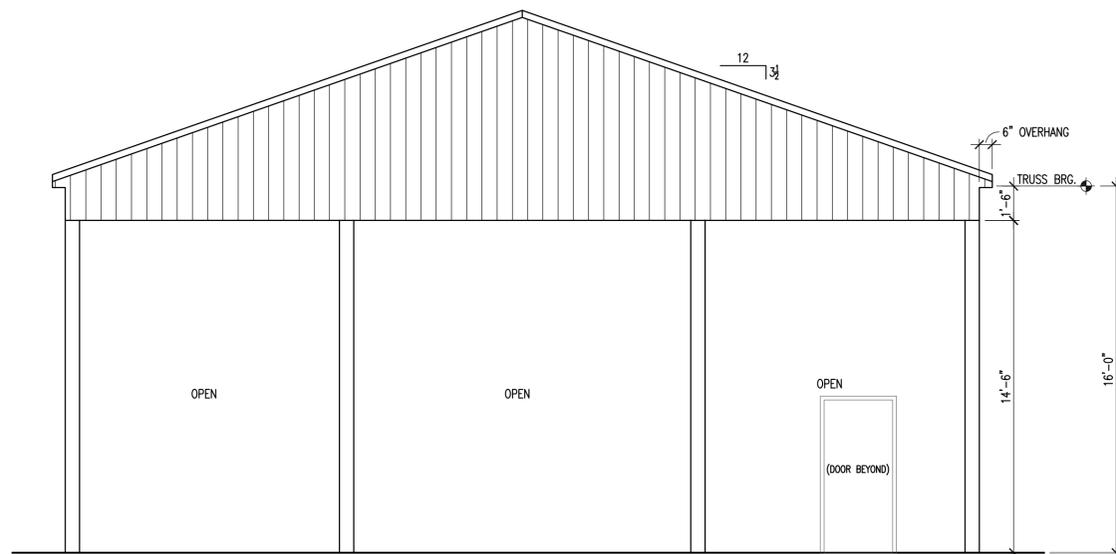
SHEET NAME  
**FOUNDATION PLAN, ROOF PLAN, & GENERAL NOTES**

PROJECT NO. <b>16-1012</b>	SHEET <b>S1</b>
DATE <b>6-JUL-16</b>	<b>02</b> OF <b>04</b>



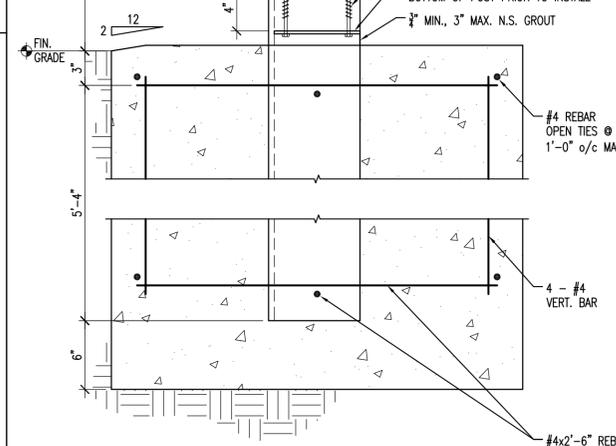
SOUTH ELEVATION

SCALE: 1/4" = 1'-0" 5



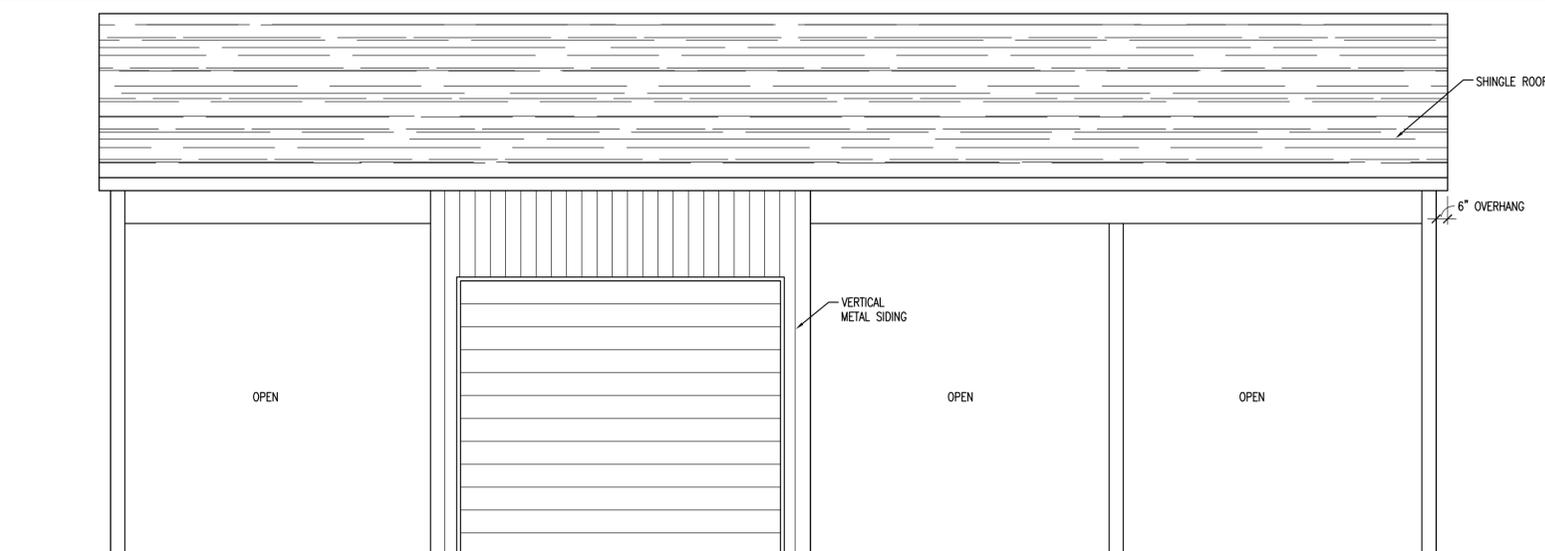
NORTH ELEVATION

SCALE: 1/4" = 1'-0" 4



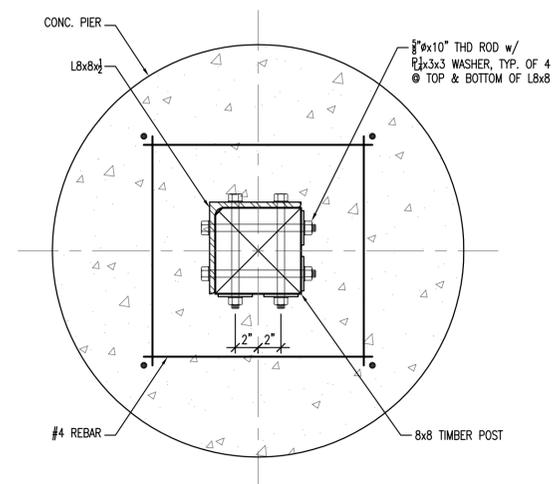
SECTION

SCALE: 1-1/2" = 1'-0" 2



EAST ELEVATION (WEST ELEVATION MIRROR)

SCALE: 1/4" = 1'-0" 3



SECTION

SCALE: 1-1/2" = 1'-0" 1

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**Structural Design & Consulting**

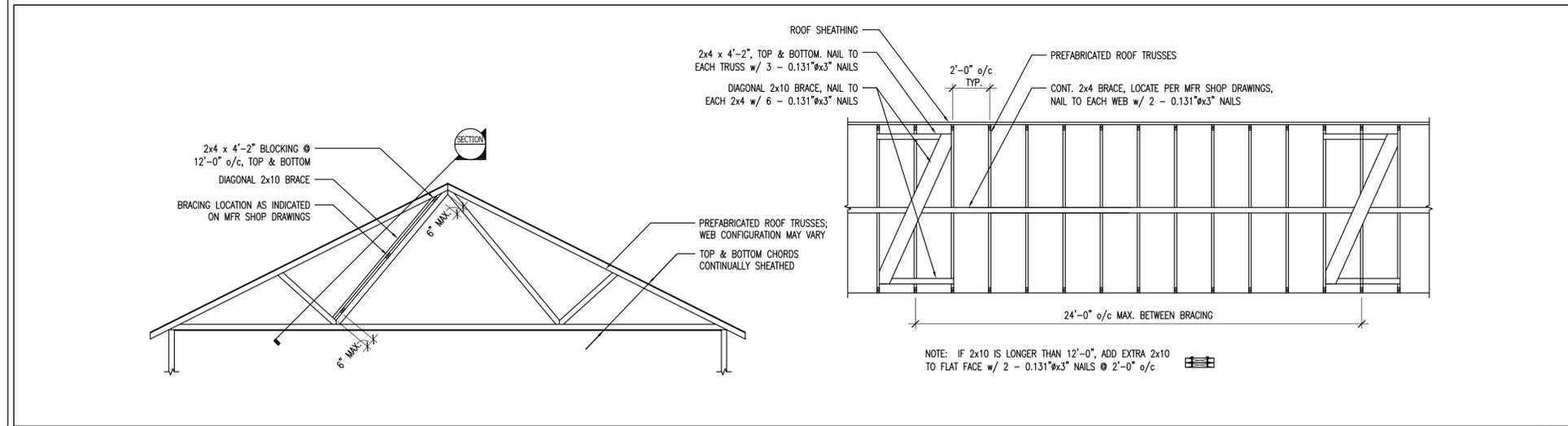
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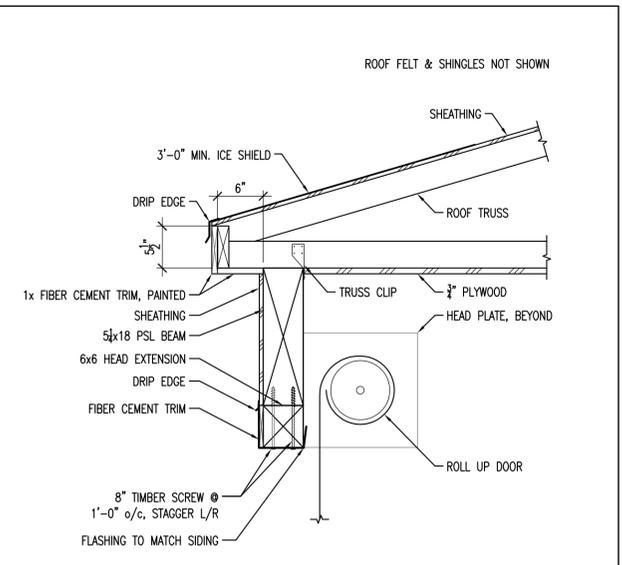
REV.	DESCRIPTION	DATE

SHEET NAME  
**ELEVATIONS, SECTIONS, & DETAILS**

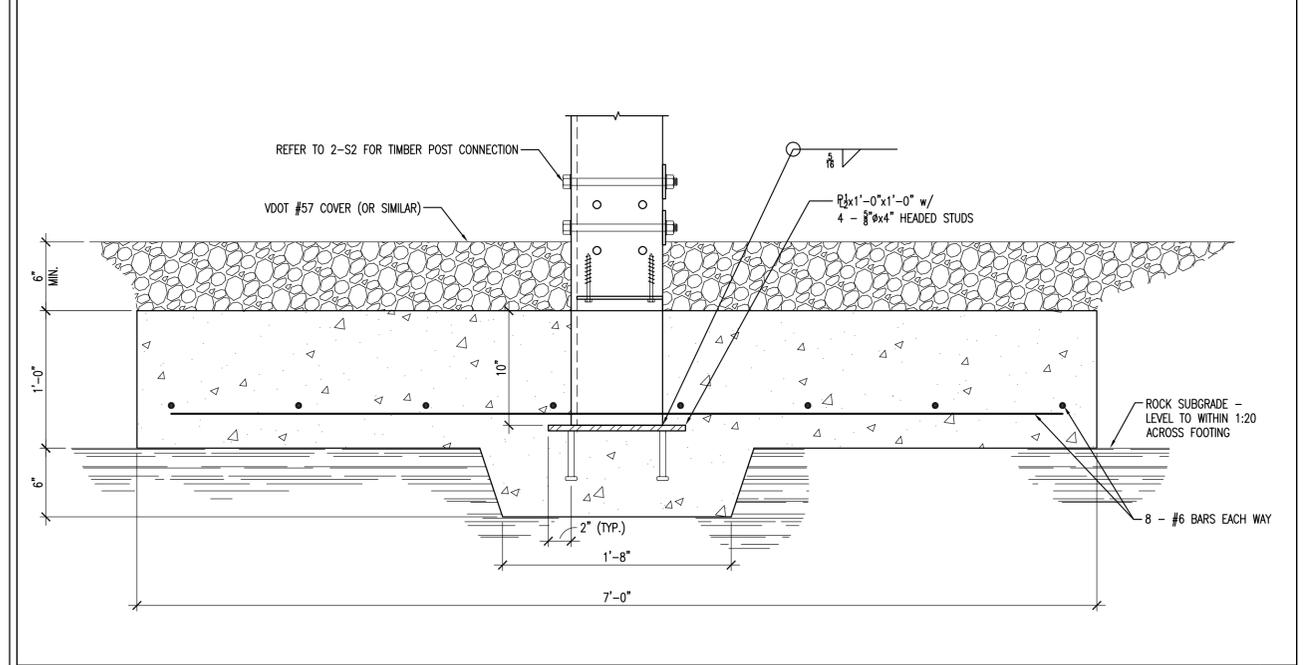
PROJECT NO. <b>16-1012</b>	SHEET <b>S2</b>
DATE <b>6-JUL-16</b>	<b>03 OF 04</b>



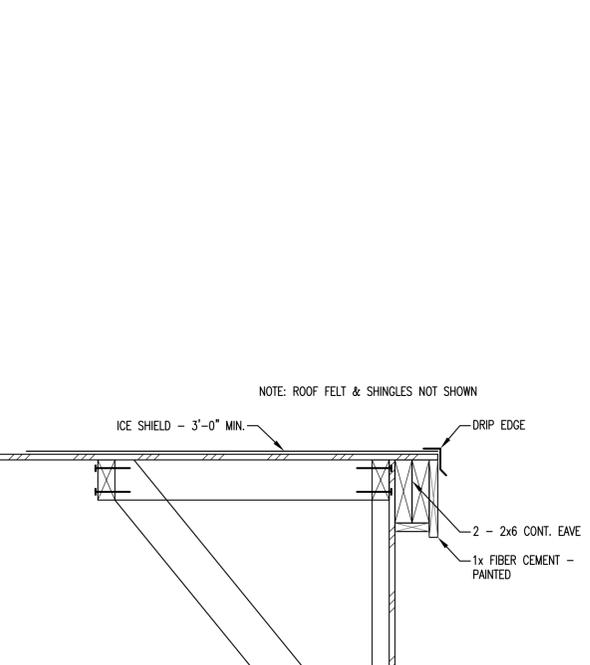
TRUSS WEB BRACING NOT TO SCALE 5



HEAD @ ROLL UP DOOR SCALE: 1" = 1'-0" 3



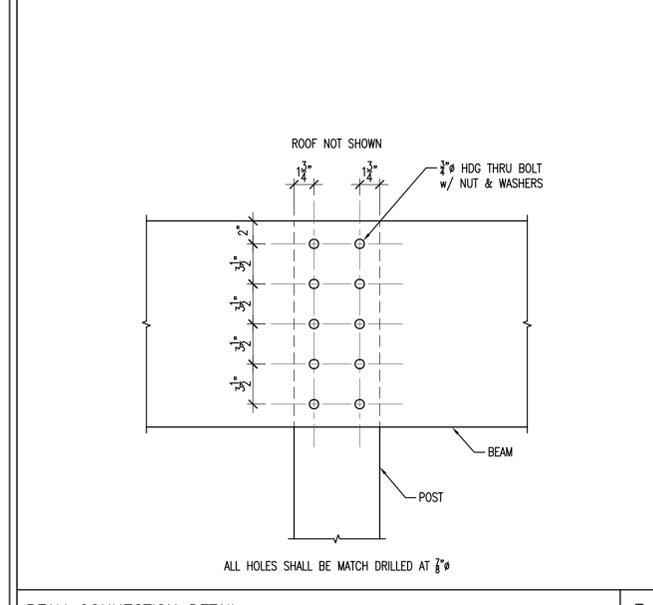
OPTIONAL FOOTING AT SHALLOW ROCK SCALE: 1-1/2" = 1'-0" 8



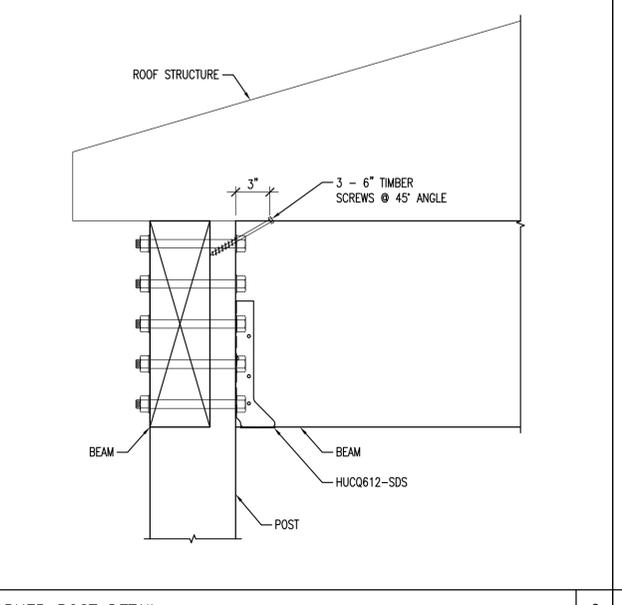
GABLE END SECTION SCALE: 1-1/2" = 1'-0" 4



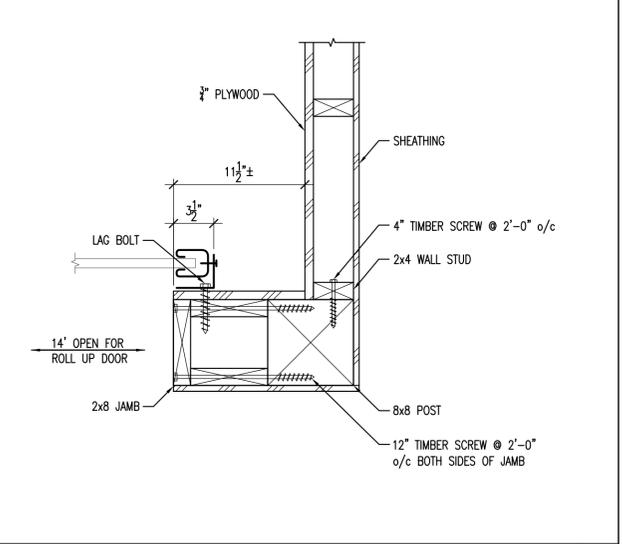
JAMB @ ROLL UP DOOR SCALE: 1-1/2" = 1'-0" 2



BEAM CONNECTION DETAIL SCALE: 1-1/2" = 1'-0" 7



CORNER POST DETAIL SCALE: 1-1/2" = 1'-0" 6

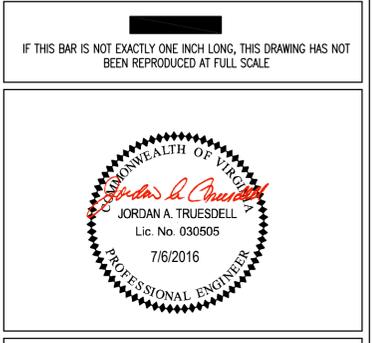


SECTION SCALE: 1-1/2" = 1'-0" 1

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**SECTIONS & DETAILS**

PROJECT NO. 16-1012  
DATE 6-JUL-16  
SHEET S3  
04 OF 04