HUERFANO COUNTY BUILDING AUTHORITY BOARD AGENDA

December 19, 2024 at 3:00 PM
Commissioners Meeting Room - 401 Main Street, Suite 309, Walsenburg, CO 81089

Office: 719-738-3000 ex 200 | Fax: 719-738-3996

Join via Google Meet: meet.google.com/jtn-scsu-ecp | **Meeting ID:** jtn-scsu-ecp

1. **PLEDGE OF ALLEGIANCE**
2. **ROLL CALL**
3. **MINUTES REVIEW**
   - **a.** Meeting Minutes from 11/21/24
4. **APPOINTMENTS**
5. **NEW BUSINESS**
   - **a.** Alternative Build TBD BP-24-201 Heggen
   - **b.** Reference Checks for New Contractors
6. **OLD BUSINESS**
7. **DISCUSSION**
   - **a.** Electrical Power
8. **ADJOURNMENT**
9. **UPCOMING MEETINGS**

HUERFANO COUNTY BUILDING AUTHORITY BOARD MINUTES

November 21, 2024 at 3:00 PM
Commissioners Meeting Room - 401 Main Street, Suite 309, Walsenburg, CO 81089

Office: 719-738-3000 ex 200 | Fax: 719-738-3996

Join via Google Meet: meet.google.com/jtn-scsu-ecp | **Meeting ID:** jtn-scsu-ecp

Join via Google Meet: https://meet.google.com/ | **Meeting ID:** jtn-scsu-ecp

1. **PLEDGE OF ALLEGIANCE**
2. **ROLL CALL**

   Present were Board Members Mary Norby, Ryan Gies, Frank Kirkpatrick, and Aliyah Field. Staff Members Ryan Sablich on virtual, Cheri Chamberlain Present. Special Guest Bob Martin. Attendees present: Chris Morales, Steph and Dylan Thomsen, and Kelli Santacruz was virtual.

3. **MINUTES REVIEW**
   a. Meeting Minutes

      Motion made by Frank Kirkpatrick to approve the minutes as written, second by Ryan Gies. Motion passes unanimously.

4. **APPOINTMENTS**
5. **NEW BUSINESS**
   a. Thomsen- Refund BP-24-114

      Motion made by Ryan Gies and second by Frank Kirkpatrick to refund building permit 24-114 minus the non-refundable plan review fee which would be in the amount of $844.93. Motion passed unanimously.

   b. Santacruz- Renew building permit 19-028

      Motion made by Frank Kirkpatrick and second by Aliyah Field to table the request to continue BP 19-028 after it has been inspected by an engineer. Motion passed unanimously.

6. **OLD BUSINESS**
   a. Update on Chris Morales 17-145

      Motion made by Frank Kirkpatrick and second by Ryan Gies to extend the permit as long as the electrical permit is brought to current active status, finish the electrical rough-in and have it

inspected and passed by the state electrical inspector, within the next six months and then have the Huerfano County Building Inspectors do an inspection within the six months.

7. DISCUSSION

a. Changes to 2021 Building Codes

Talked about wind speeds around the surrounding areas as requested by the HCBA. Decision was made to bring it back down from 130mph to 115 mph.

8. ADJOURNMENT

9. UPCOMING MEETINGS

Huerfano County

Huerfano County Land Use and Building Department

401 Main St
Ste 304
Walsenburg, CO 81089
(719) 738-1220, x506

PERMIT

BP-24-201 **RESIDENTIAL NEW CONSTRUCTION**

SITE ADDRESS: NO SITUS ADDRESS UNKNOWN
PRIMARY PARCEL: 15755
PROJECT NAME: HEGGEN- ALTERNATIVE BUILD RESIDENCE

ISSUED:
EXPIRES: 06/14/2025

APPLICANT: Heggen, David & Deana
516 Meadow Knoll Court
KELLER, TX 76248
817-675-2477

OWNER: David & Deana Heggen
516 Meadow Knoll Court
KELLER, TX 76248

PERMIT DETAILS

Detail Name	Detail Value
Scope of Work	site built residential
Zoning District	AGRICULTURAL
Is The Intended Use Single Or Multi-Family?	Single Family
The Homeowner/Property Owner Associations (HOA/POA)in This List Require Their Approval Before Submitting This Application. If Your HOA/POA is in The List Please Upload The Approval Letter.	1-MY HOA/POA IS NOT LISTED
Enter Building Height	18
Residential Occupancy Type (If your Construction Type is not VB and/or your Occupancy Type is not listed, fees will be calculated manually based on valuations in the 2015 ICC Fee Schedule adopted in Resolution 19-15. Fees are calculated at 1.15% of project valuation plus a permit review fee equal to 10% of the permit fee.)	R-3 Residential, one-and two-family VB
Construction Type	VB-Unprotected Wood Fram.
New Residential Square Footage	3999
Utility, basement, garage, shed square footage	1474
No. of Stories	2
Setback Front	214
Setback Rear	428
Setback Side	40
Enter number of existing structures on-site	0
Does project require a CUP, variance, or rezoning?	Y
Floodplain Click HERE to review the FEMA map.	No

Huerfano Cou

Huerfano County Land Use and Building Department

401 Main St
Ste 304
Walsenburg, CO 81089
(719) 738-1220, x506

I hereby certify that this Application is made with full knowledge of the design standards, all fees, procedures, public hearing and meeting requirements contained in the Huerfano County Land Use Regulations. Furthermore, I understand that this permit does not relieve me of any obligation to meet all legally binding subdivision rules, regulations, and covenants as adopted by my property owners' association, if applicable. All documents submitted may be subject to internet publishing. I Certify

VALUATIONS:		
R-3 VB Residential, one- and two-family	2100.00	$243,915.00
U VB Utility, miscellaneous	847.00	$38,894.24
R-3 VB Residential, one- and two-family	1211.00	$140,657.65
U VB Utility, miscellaneous	627.00	$28,791.84
R-3 VB Residential, one- and two-family	688.00	$79,911.20
	Total:	**$532,169.93**

FEES:	**Paid**	**Due**
Utility Fee		$778.39
Residential New Building Permit Fee		$5,341.56
Res Plan Review Fee		$612.00
Totals :		**$6,731.95**

REQUIRED INSPECTIONS

Underground Plumbing	Drywall or Lath
Underground Electric	Roof Sheathing and Nailing
Underground Mechanical	Plumbing Final
Foundation	Electrical Final
Footings	Mechanical Final
Framing	Building Final
Plumbing Rough-In	Radon System
Electrical Rough-In	Addressing
Mechanical Rough-In	Final
Insulation	

ACCOUNT FILE MAINTENANCE INQUIRY ONLY

Account 15755 Flag R LEGAL DESCRIPTION Acres
Name HEGGEN, DAVID LOUIS & LOT 8 BLK 1 PINON HILLS EST
Address 1 DEANA BORGHILD HEGGEN #1 357-351 382-734
Address 2 516 MEADOW KNOLL COURT 361697 369794 369793
Address 3 369795 428703 428704
Address 4 KELLER 428705 428706 428707
State/Zip TX 76248 0000 432486 SRVY 1245
Property
Map Num 28-5157-303-01-008
Prev Name1 REYNOLDS, DONALD J & ELEANOR O
Prev Name2 REYNOLDS, DONALD J & CAROLYN J

	VALUES-ASSD	TAXABLE	EXEMPT
	LAND	5859	

Use 0100 City 00000 Subdv 0460
Anlys 000 Tax/Dst 1S0 Zone 00
Exempt Late File Advrt Y Bnkrpt N Conf TOTALS 5859
ACRES: Master Legal Value Ignore PP $ 14508 Exemption N
0000000500 000 500 NOV # NOD #

CHANGES

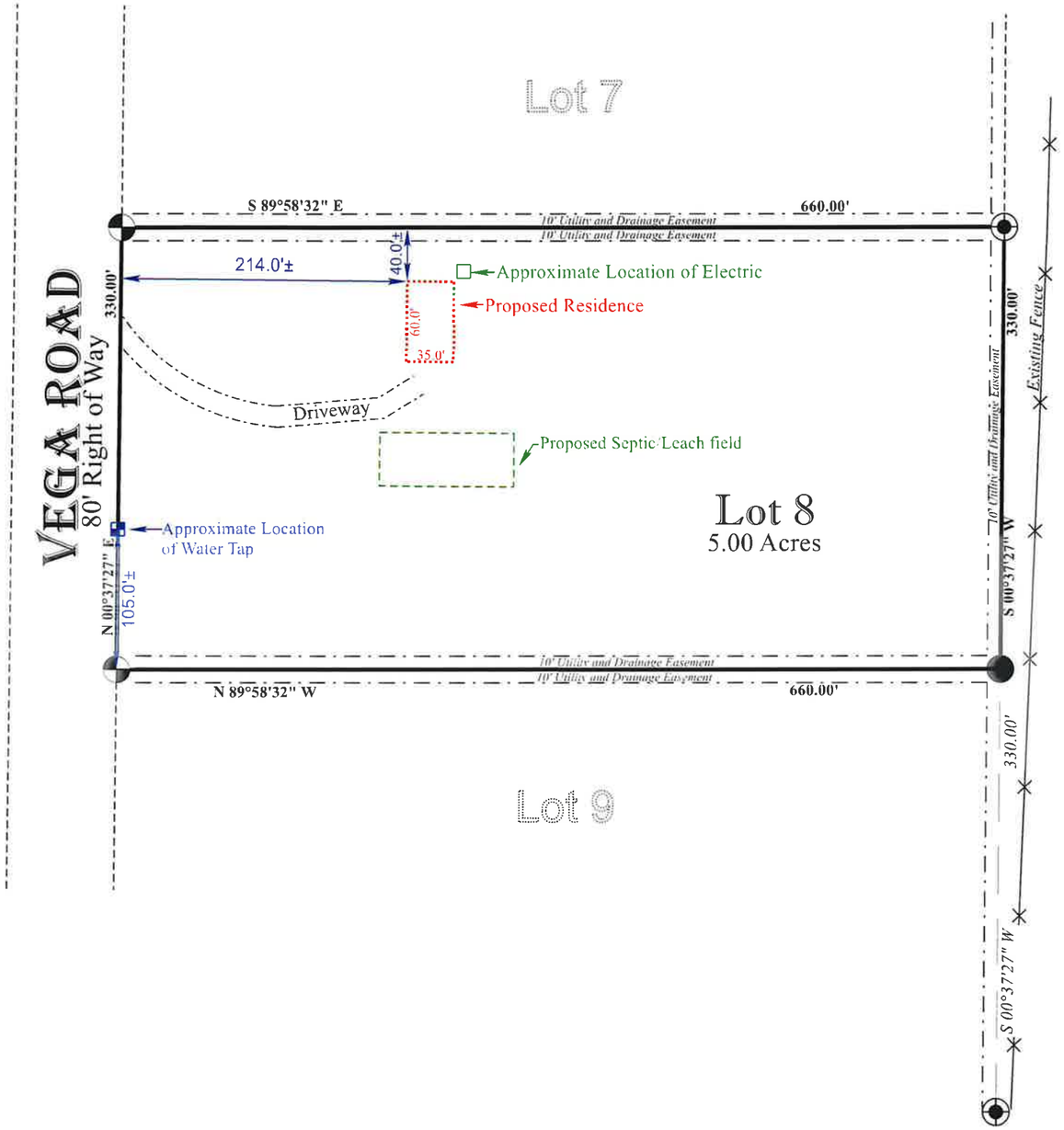
Parcel On 03/18/2024 By COHUPTON
Name On 10/06/2023 By COHUPTON
Values On 08/10/2010 By ELISHA
Legal On 03/18/2024 By COHUPTON

CMD1-Value Change CMD2-Legal Change
CMD3-Both Changes CMD4-Sales Change
CMD22-Abort Entry HELP-More Details

Plot Plan

FOR DAVID AND DEANA HEGGEN

LOT 8, BLOCK 1, PINION HILLS ESTATES, UNIT No. 1
COUNTY OF HUERFANO, STATE OF COLORADO



Scale 1" = 100'
(U.S. Survey Feet)

William S. Bechavet, PLS No. 38103
BH2 Land Surveying, LLC

BH² LAND SURVEYING, LLC
P.O. Box 20399, Colorado City, CO 81019
Phone: 719-676-2072
Email: bh2@ghvalley.net

Scale 1" = 100'	Date: 1-16-2024	Drawn By: WSB
	Sheet 1/1	Job No. 2023-037

PROJECT INFORMATION

AUTHORITY:
Las Animas / Huerfano Counties District Health Department
412 Benedicta Avenue
Trinidad, CO 81082
719-846-2213

SITE:
This on-site wastewater treatment system was designed for:
David Heggen
Address TBD
Walsenburg, CO 81089
Lot 8, Block 1, Pinon Hills Estates #1

DESIGN DATA:
- 3 Bedrooms
- Design Required to be based on 2 people per bedroom or 6 people

Average Daily Flow = (6) * 75 GPD / Person = 450gpd

SOILS SPECIFIC SITE INFORMATION:

Soils based off soil evaluation by Aaron Chavez of the Las Animas and Huefano County Health Department on 8/1/2023
- 0 - 2'-0" Sandy Loam Type 1 Soil
- 2'-0" - 4'-0" Decomposed Sandstone Type R-0
- Limiting layer @ 2'-0"

SUMMARY OF SYSTEM DESIGN:

- Due to a limiting layer at 2' and decomposed sandstone less than 2', a pressure distributed, mound system with a min. 3' layer of sand to be used.

INDEX OF DRAWINGS

GENERAL NOTES

This design is in accordance with Las Animas / Huerfano Counties District Health Department and State of Colorado requirements. Installation, inspection and maintenance shall also be in accordance with these requirements and are the responsibility of others.

The guidelines, rules and regulations Las Animas / Huerfano Counties District Health Department and the Colorado Department of Health and Environment are hereby specified and made part of this design where applicable.

1. The Contractor is responsible for ensuring that the minimum distances below are maintained between the soil treatment area or septic tank and the physical features listed:

	Soil Treatment	Septic Tank
Springs, wells or suction lines	100'	50'
Potable water supply	25'	10'
Cistern	25'	25'
Dwelling or occupied building	20'	5'
Property Line	10'	10'
Subsoil drain	25'	10'
Lake, water course or stream	50'	50'
Dry gulches	25'	10'

2. Sewage pipe crossings or encroachments with water conveyance pipe is acceptable provided that the water conveyance pipe is encased for a minimum distance of ten (10) feet on each side of the crossing. Such length of pipe shall be used with a minimum Schedule 40 rating with sufficient diameter to easily slide over and completely encase the water conveyance. Ridged end caps of at least Schedule 40 rating shall be glued or secured in a watertight fashion to the ends of the encasement pipe. A hole of sufficient size to accommodate the pipe shall be drilled in the lower most section of the ridged end cap so that the conveyance pipe rests on the bottom of the encasement pipe. The area in which the pipe passes through the end caps shall be sealed with an underground sealant compatible with the piping used.

3. Sewer line from building to septic tank shall be laid on a grade of two (2) percent. Bends in the sewer line shall be limited to 22 degrees, 45 degrees or long sweep quarter bends.

4. This sewage disposal system is not designed to carry any loads applied by vehicles or equipment. Schedule 40 PVC pipe shall be installed where vehicles will cross any portion of the system. If necessary, provide a physical barrier around the absorption bed to protect it from vehicle or equipment traffic.

5. Schedule 40 pipe shall extend in to and out of the septic tank a minimum of 5'.

6. Design, fabrication and structural integrity of the septic tank is the responsibility of the tank manufacturer. Fiberglass, fiberglass-reinforced polyester, or plastic tank shall meet the minimum design and structural criteria of IAPMO/ANSI Z2000-2007 (American Standards for Fabricated Septic Tanks) and certified by a professional engineer as meeting these standards. The tank shall also meet requirements set forth in El Paso County Health Department Environmental Health Division On-site Waste Water Treatment Systems Regulations.

7. Final location of soil treatment area shall be confirmed in the field by the contractor and coordinated with the owner, El Paso County Health Department Environmental Health Division and Engineer prior to construction.

SYSTEM INFORMATION (TIMED & PRESSURE DOSED SYSTEM)

CALCULATIONS:

House - 3 Bedrooms
-Design Flow (Q) = 75 GPD/person x 6 people = 450 GPD

-Septic Tank
Tank shall have capacity to hold 48 hours of effluent or 450 x 2 = 900 gallons. The minimum tank size for 3 bedroom residence is 1000 gallons, so therefore a plastic 1000 gallon infiltrator septic tank is required.

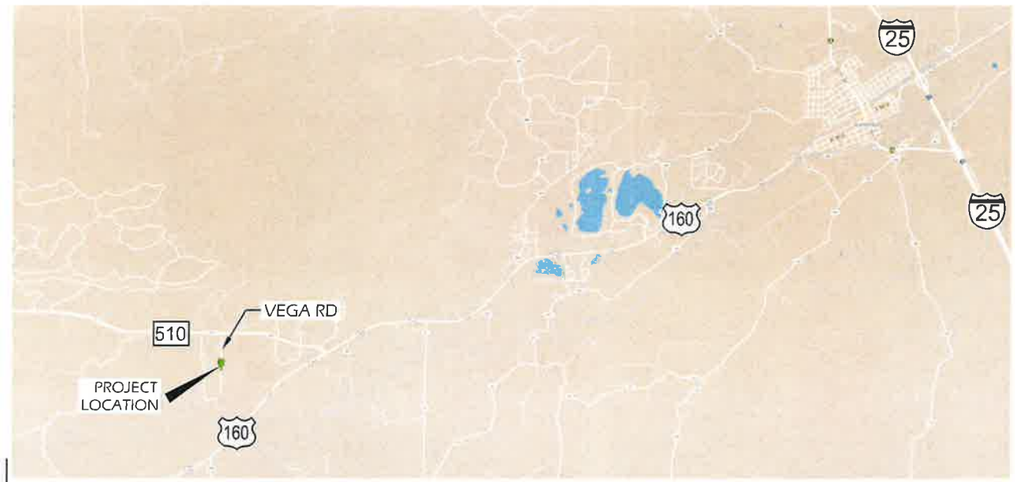
-Pump Tank
Tank shall be 60% of septic tank, so therefore 600 gallon min. flow equalization or pump tank is required, However due to local availability, a plastic 540 Gallon Infiltrator Pump Tank by is to be used.

-Soil Treatment Area (STA) Size
A = 450 GPD = 563 SF
Secondary Sands = 0.8GPD/SF
No. of panels (12 SF each): 563 SF = 47 Panels, use 48 panels (2 Laterals of 24)
12 SF/panel

-Dosing
Lateral Volume: ft of Pipe x Volume / Ft
(? LATERALS) X DIST' =(2)(88') x.078 Gallons per foot (1 1/4" sch 40) = 13.7 Gallons
Drainback: ft of Pipe x Volume / Ft
82' x .174 Gallons per foot (2" sch 40) = 14.3 Gallons
Maximum Dose Volume: 25% of Q + Drainback
(.25*Q)=.25(450) + 14.3 = 126.8 Gallons
Minimum Dose Volume
4 * Lateral Volume + Drainback = 4(13.7)+14.3= 69.1 Gallons

Recommended Dose Volume = 100 Gallons

PUMP INFORMATION:
ORENCO HH PF3005 Orenco High Head 1/2 hp 30gpm 120v Single Phase pump.
Pump included in Orenco ProPak™



NORTH
VICINITY MAP
NTS

COLORADO REGISTERED
DARLENE KAY EVETTS HORN
42686
PROFESSIONAL ENGINEER
JULY 8, 2024

APPROVED SET
FOR CONSTRUCTION BY
AARON CHAVEZ OF THE
LA-HC-DHD ON 7-8-2024

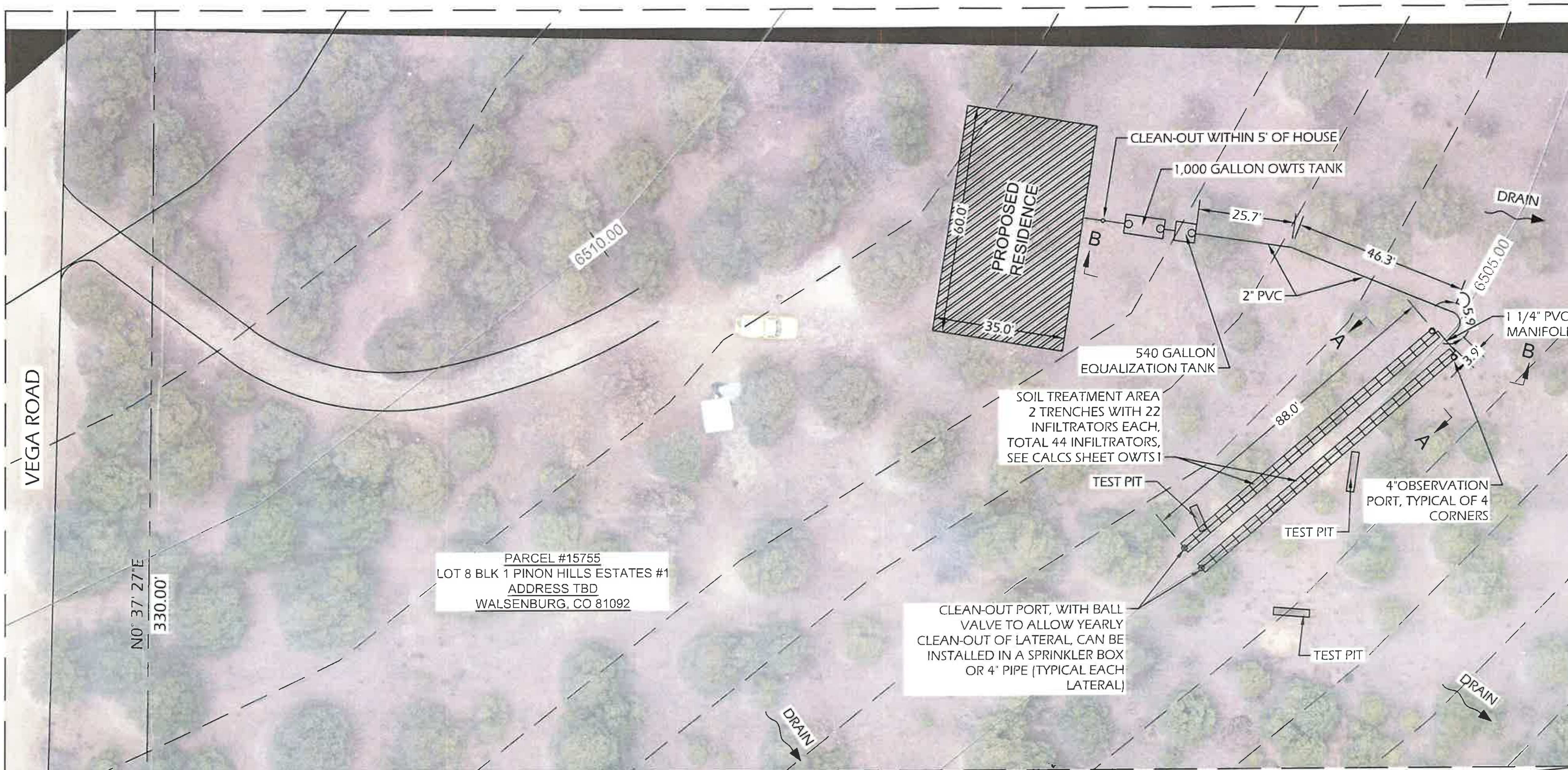
DK Horn Engineering & Design Inc.
2441 S PRAIRIE AVE
PUEBLO, CO 81005
TEL 719.696.8274

OWTS FOR HEGGEN REDIDENCE
ADDRESS TBD - VEGA RD
LOT 8, BLOCK 1, PINON HILLS ESTATES #1
WALSENBURG, CO 81089

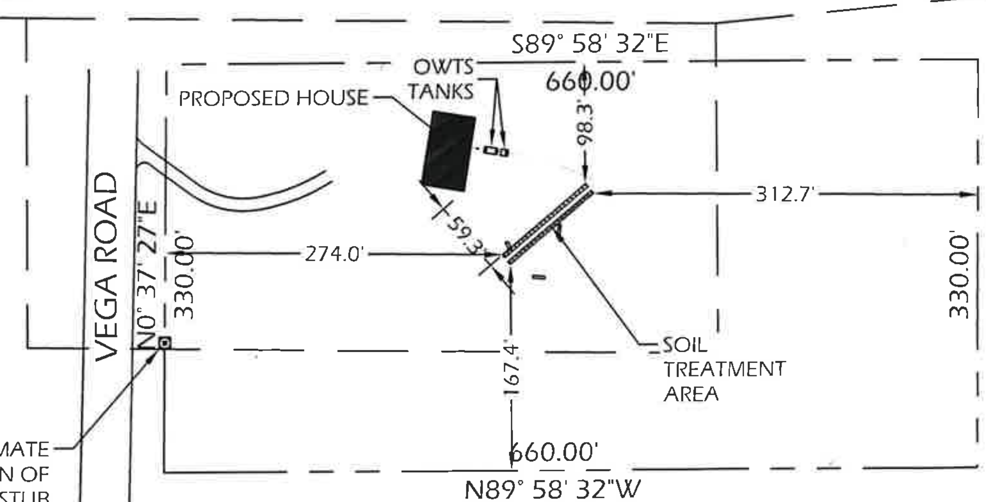
PROJECT NUMBER: 2024-029
DRAWN BY: AVM
REVIEWED BY: DKH
DATE: APRIL 30, 2024

ISSUE RECORD:

COVER SHEET
CALCULATIONS
1



NORTH
PLOT PLAN
1"=40'



NORTH
KEY PLAN
1"=150'

APPROVED SET
FOR CONSTRUCTION BY
AARON CHAVEZ OF THE
LA-HC-DHD ON 7-8-2024

DK Horn Engineering & Design Inc.
2441 S PRAIRIE AVE
PUEBLO, CO 81005
TEL 719.696.8274

OWTS FOR HEGGEN REDIDENCE ADDRESS TBD - VEGA RD

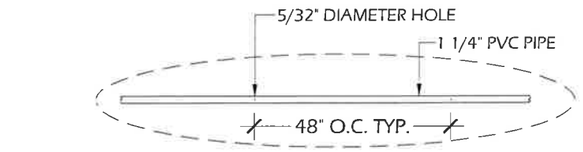
LOT 8, BLOCK 1, PINON HILLS ESTATES #1
WALSENBURG, CO 81089

PROJECT NUMBER:
DRAWN BY:
REVIEWED BY:
DATE: APRIL 30, 2024

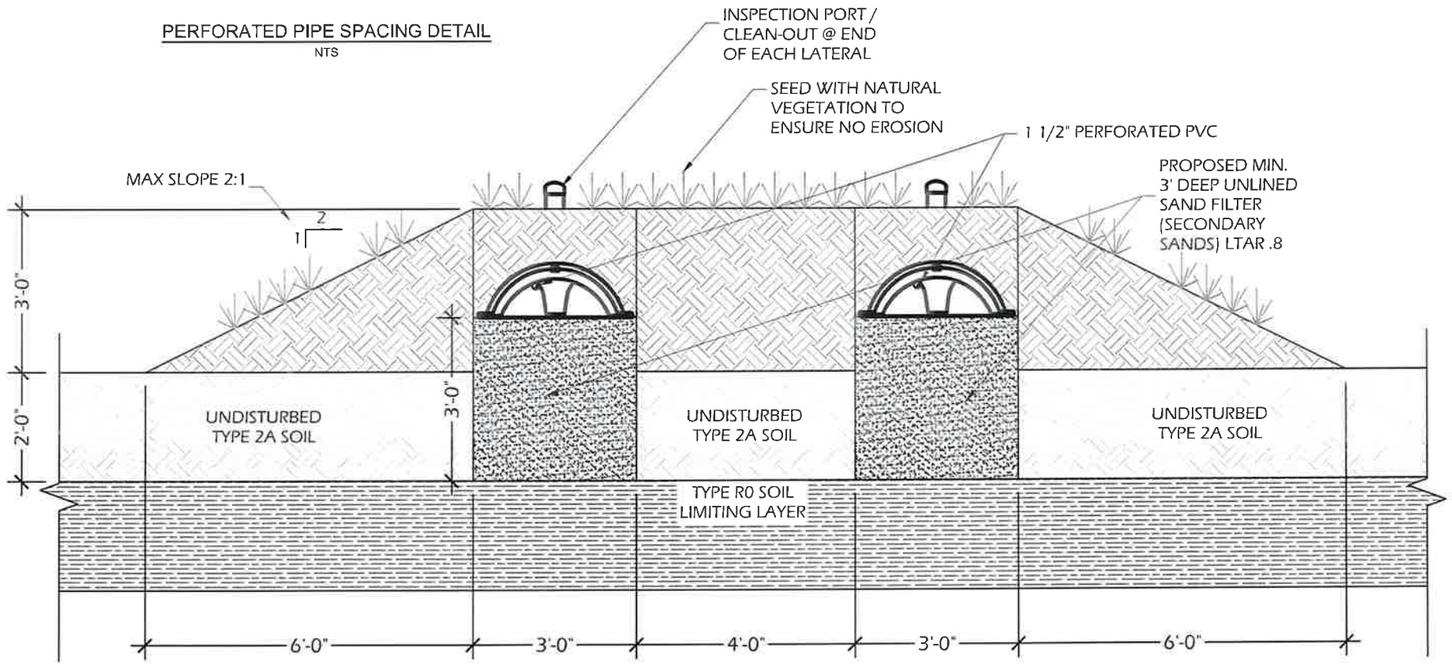
ISSUE RECORD:

SITE PLAN

2



PERFORATED PIPE SPACING DETAIL
NTS



SECTION A-A
NTS

COLORADO REGISTERED DARLENE KAY EVETTS HORN 42686 JULY 8, 2024 PROFESSIONAL ENGINEER

APPROVED SET
FOR CONSTRUCTION BY
AARON CHAVEZ OF THE
LA-HC-DHD ON 7-8-2024

DK Horn Engineering & Design Inc.
2441 S PRAIRIE AVE
PUEBLO, CO 81005
TEL 719.696.8274

OWTS FOR HEGGEN RESIDENCE
ADDRESS TBD - VEGA RD

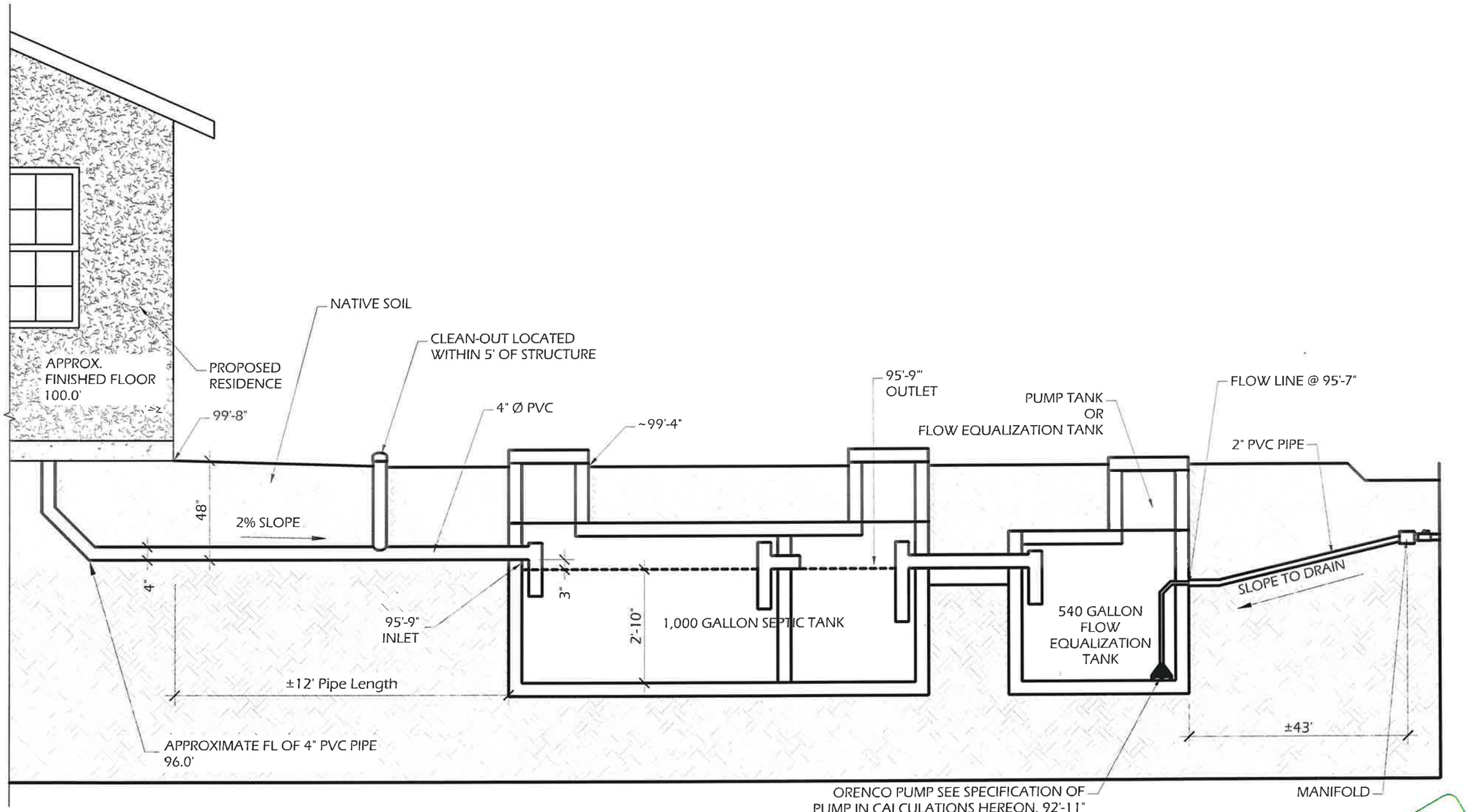
LOT 8, BLOCK 1, PINON HILLS ESTATES #1
WALSENBURG, CO 81089

PROJECT NUMBER: 20-1409
DRAWN BY: JAH
REVIEWED BY: DKH
DATE: APRIL 10, 2024

ISSUE RECORD:

SECTION A-A

3



SECTION B-B
1/2"=1'-0"

DK Horn Engineering & Design Inc.
2441 S PRAIRIE AVE
PUEBLO, CO 81005
TEL 719.696.8274

OWTS FOR HEGGEN REDIDENCE
ADDRESS TBD - VEGA RD

LOT 8, BLOCK 1, PINON HILLS ESTATES #1
WALSENBURG, CO 81089

PROJECT NUMBER: 2024-029
DRAWN BY: JAM
REVIEWED BY: DKH
DATE: APRIL 30, 2024

ISSUE RECORD:

COLORADO REGISTERED
DARLENE KAY EVETTS HORN
42686
JULY 8, 2024
PROFESSIONAL ENGINEER

APPROVED SET
FOR CONSTRUCTION BY
AARON CHAVEZ OF THE
LA-HC-DHD ON 7-8-2024

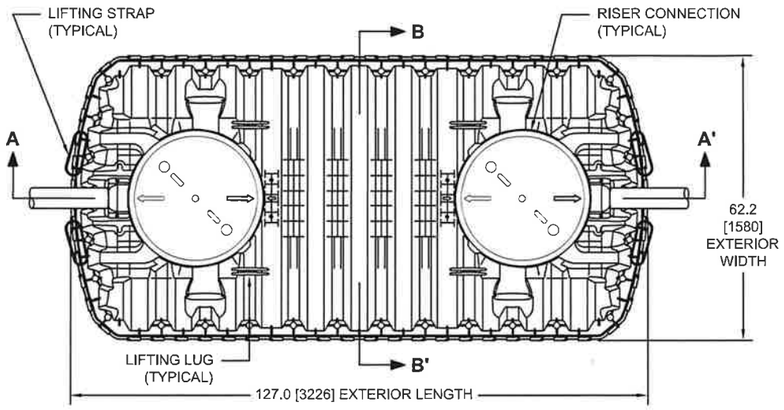
SECTION B-B

4

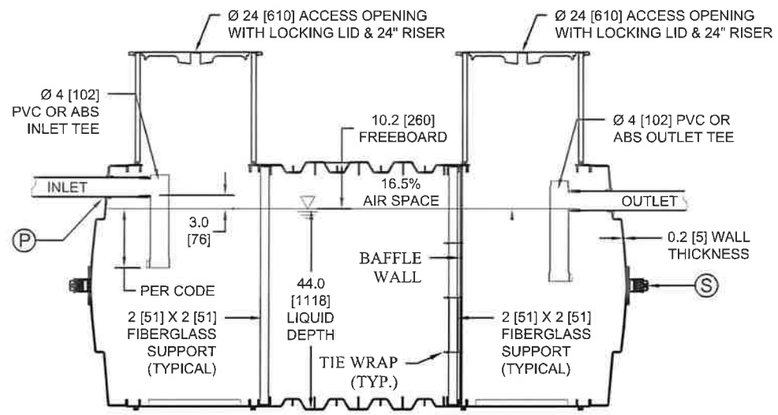
OWTS SEPTIC TANK NOTES

1. Access risers shall be sealed to prevent the intrusion of ground water and surface water into the system.
2. Install all access risers to grade.
3. Install 2 foot of cover and 2 inches of direct burial insulation on the septic tank.
4. The septic tank shall be constructed to withstand earth and hydrostatic pressures at the installed depth, both when full and empty.
5. Drill $\frac{1}{8}$" diameter hole in the pump line within the septic tank to facilitate drainback (Pressure Distribution Systems Only).
6. The Discharge Assembly for the pumping system is to have a disconnect union accessible accessible from grade to allow for pump replacement. (Pressure Distribution Systems Only).
7. All electrical connections must be housed in a UL approved waterproof splice box.
8. The pump control panel is to be mounted in a manner allowing alarms to be seen and heard, and must be readily accessible.

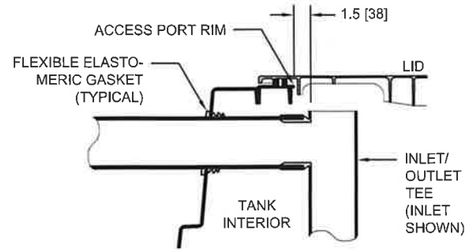
Infiltrator Plastic Septic Tanks - 1287 Gallons



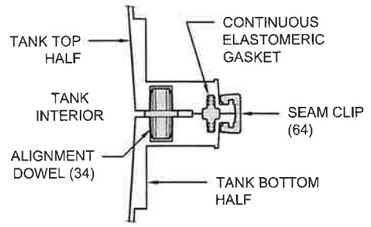
TOP VIEW



SECTION A - A'



Ⓟ PIPE PENETRATION SECTION DETAIL

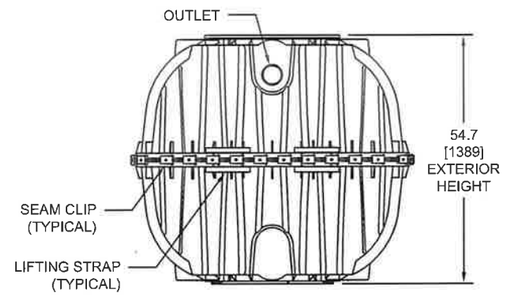


Ⓢ MID-HEIGHT SEAM SECTION DETAIL

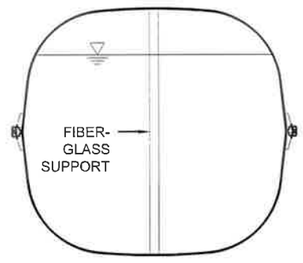
TANK EXTERIOR	
LENGTH	127.0 [3226]
WIDTH	62.2 [1580]
HEIGHT	54.7 [1389]

LIQUID DEPTH	44.0 [1118]
INVERT DROP	3.0 [76]
FREEBOARD	10.2 [260]

TOTAL CAPACITY	1287 GAL [4872 L]
WORKING VOLUME	1094 GAL [4141 L]



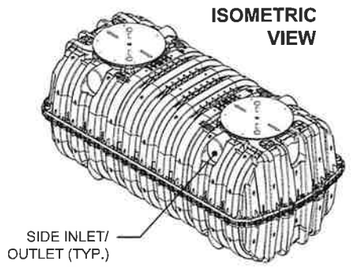
END VIEW



SECTION B - B'

NOTES:

1. ALL DRAWING DIMENSIONS IN INCHES [MILLIMETERS] OR AS NOTED.
2. EXTERIOR OF ACCESS OPENING LID INCLUDES THE FOLLOWING WARNING IN ENGLISH, FRENCH & SPANISH: "DANGER DO NOT ENTER: POISON GASES."
3. TANK MARKINGS WILL INCLUDE: MANUFACTURER NAME, MODEL NUMBER, LIQUID CAPACITY, DATE OF MANUFACTURE, MAXIMUM BURIAL DEPTH, INLET, AND OUTLET.
4. MAXIMUM BURIAL DEPTH IS 48 in [1219 mm].
5. MINIMUM BURIAL DEPTH IS 6 in [152 mm].
6. TANK IS FOR NON-TRAFFIC APPLICATIONS.
7. AIRSPACE IS 16.5%.
8. OUTLET TEE IS COMPATIBLE WITH AN EFFLUENT FILTER.
9. INTERIOR LENGTH TO WIDTH RATIO IS 2.3:1 (118.8-INCH LENGTH / 51.7-INCH WIDTH = 2.3).



ISOMETRIC VIEW

COLORADO REGISTERED DARLENE KAY EVETTS HORN 42686 JULY 8, 2024 PROFESSIONAL ENGINEER

APPROVED SET
FOR CONSTRUCTION BY
AARON CHAVEZ OF THE
LA-HC-DHD ON 7-8-2024

DK Horn Engineering & Design Inc.
2441 S PRAIRIE AVE
PUEBLO, CO 81005
TEL 719.696.8274

OWTS FOR HEGGEN REDIDENCE
ADDRESS TBD - VEGA RD

LOT 8, BLOCK 1, PINON HILLS ESTATES #1
WALSENBURG, CO 81089

PROJECT NUMBER: 20240579
DRAWN BY: MM
REVIEWED BY: DKH
DATE: APRIL 30, 2024

ISSUE RECORD:

TANK DETAIL

5

OWTS SEPTIC TANK NOTES

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6. The Discharge Assembly for the pumping system is to have a disconnect union accessible accessible from grade to allow for pump replacement. (Pressure Distribution Systems Only).
7. All electrical connections must be housed in a UL approved waterproof splice box.
8. The pump control panel is to be mounted in a manner allowing alarms to be seen and heard, and must be readily accessible.

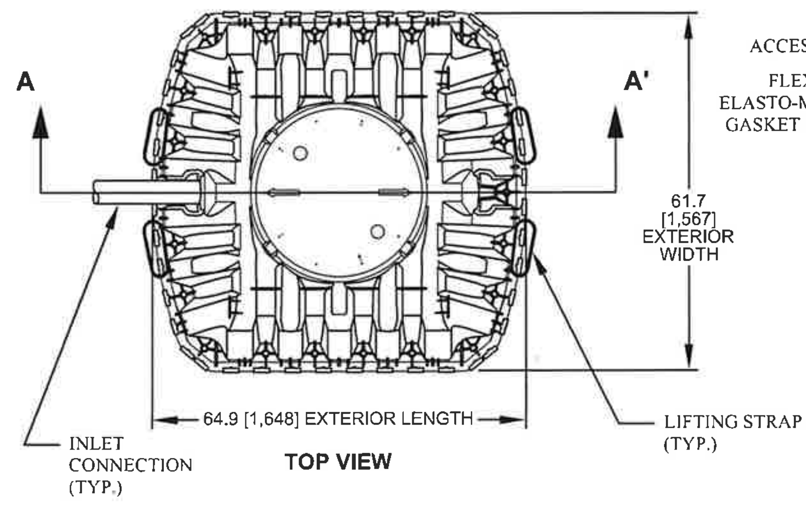
DOSING INFORMATION

540 GALLON PUMP TANK
475 USABLE GALLONS
= 10 GALLONS PER INCH

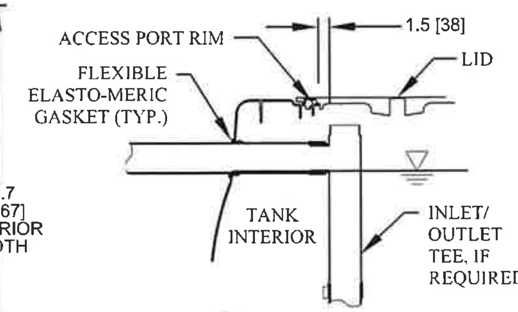
100 Gallon Dose = 10"

* PUMP & FILTER INFORMATION *
ORENCO PROPAK SIMPLEX EFFLUENT PUMP PACKAGE TO BE USED (WHICH INCLUDES BUT NOT LIMITED TO, PUMP, VAULT, SPLICE BOX, DISCHARGE ASSEMBLY, CONTROL PANEL, AND POLYETHYLENE AND PVC FILTER) RATED FOR 50GPM IS RECOMMENDED FOR THIS SITE

Infiltrator Plastic Septic Tanks - 552 Gallons

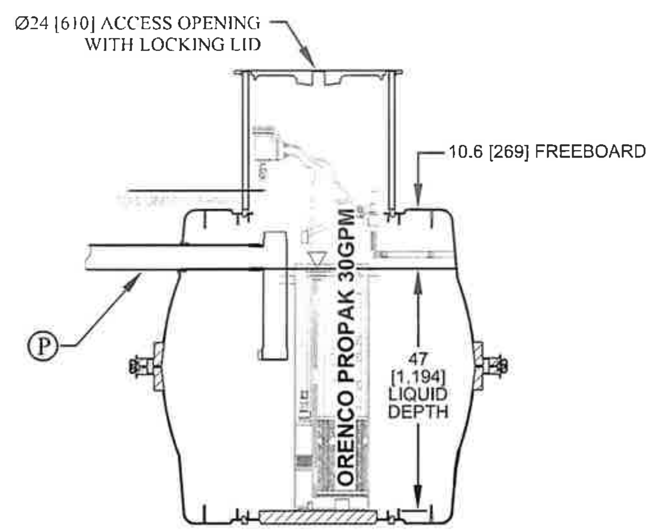


TOP VIEW

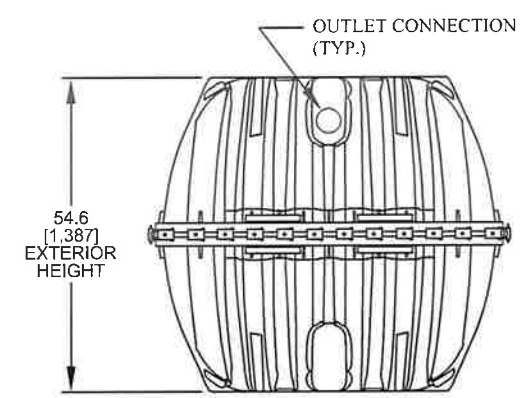


(P) PIPE PENETRATION SECTION DETAIL

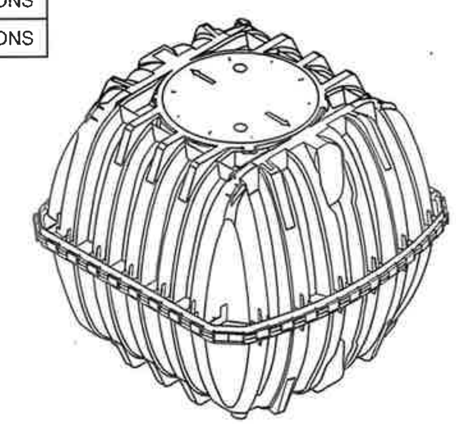
TOTAL CAPACITY	552 GALLONS
WORKING VOLUME	475 GALLONS



SECTION A- A'



END VIEW



ISOMETRIC VIEW

NOTES:
1. ALL DRAWING DIMENSIONS IN INCHES [MILLIMETERS] OR AS NOTED.
2. EXTERIOR OR ACCESS OPENING LID INCLUDES THE FOLLOWING WARNING IN ENGLISH, FRENCH & SPANISH: "DANGER DO NOT ENTER: POISON GASES."
3. TANK MARKINGS WILL INCLUDE: MANUFACTURING NAME, MODEL NUMBER, LIQUID CAPACITY, DATE OF MANUFACTURE CODE, MAXIMUM BURIAL DEPTH, INLET, AND OUTLET.
4. THE TANK MAY BE BACKFILLED WITH SUITABLE NATIVE SOIL. SEE INSTALLATION INSTRUCTIONS FOR GUIDANCE. IF THE NATIVE SOIL DOES NOT MEET THE INSTALLATION INSTRUCTIONS GUIDANCE THEN BACKFILLING WITH SELECT MATERIAL WILL BE REQUIRED.
5. MAXIMUM BURIAL DEPTH IS 48 in [1,219 mm].
6. MINIMUM BURIAL DEPTH IS 6 in [152 mm].
7. TANK IS FOR NON-TRAFFIC APPLICATIONS.
8. AIRSPACE IS 13.9%
9. INLET TEE MAY NOT BE REQUIRED BY DESIGN.

COLORADO REGISTERED PROFESSIONAL ENGINEER
DARLENE KAY EVETTS HORN
42686
JULY 8, 2024

APPROVED SET
FOR CONSTRUCTION BY
AARON CHAVEZ OF THE
LA-HC-DHD ON 7-8-2024

DKHorn Engineering & Design Inc.
2441 S PRAIRIE AVE
PUEBLO, CO 81005
TEL 719.696.8274

OWTS FOR HEGGEN REDIDENCE
ADDRESS TBD - VEGA RD
LOT 8, BLOCK 1, PINON HILLS ESTATES #1
WALSENBURG, CO 81089

PROJECT NUMBER: 2024-029
DRAWN BY: AIM
REVIEWED BY: DKH
DATE: APRIL 30, 2024

ISSUE RECORD:

TANK DETAIL
6

Pump Selection for a Pressurized System - Single Family Residence Project

Heggen Residence / Lot 8, Block 1, Pinon Hills Estates #1

Parameters

Discharge Assembly Size	2.00	inches
Transport Length	82	feet
Transport Pipe Class	40	
Transport Line Size	2.00	inches
Distributing Valve Model	None	
Max Elevation Lift	10	feet
Manifold Length	10	feet
Manifold Pipe Class	40	
Manifold Pipe Size	1.25	inches
Number of Laterals per Cell	2	
Lateral Length	88	feet
Lateral Pipe Class	40	
Lateral Pipe Size	1.25	inches
Orifice Size	5/32	inches
Orifice Spacing	4	feet
Residual Head	5	feet
Flow Meter	None	inches
'Add-on' Friction Losses	0	feet

Calculations

Minimum Flow Rate per Orifice	0.68	gpm
Number of Orifices per Zone	46	
Total Flow Rate per Zone	31.9	gpm
Number of Laterals per Zone	2	
% Flow Differential 1st/Last Orifice	9.7	%
Transport Velocity	3.1	fps

Frictional Head Losses

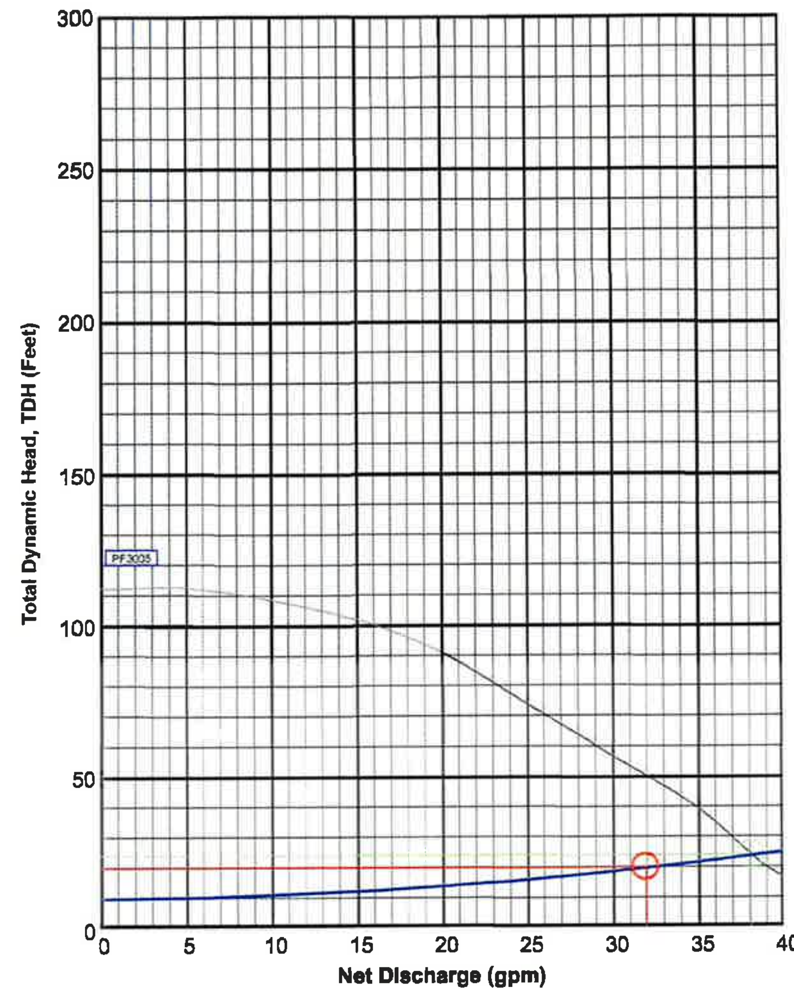
Loss through Discharge	2.0	feet
Loss in Transport	1.4	feet
Loss through Valve	0.0	feet
Loss in Manifold	0.3	feet
Loss in Laterals	1.2	feet
Loss through Flowmeter	0.0	feet
'Add-on' Friction Losses	0.0	feet

Pipe Volumes

Vol of Transport Line	14.3	gals
Vol of Manifold	0.8	gals
Vol of Laterals per Zone	13.7	gals
Total Volume	28.7	gals

Minimum Pump Requirements

Design Flow Rate	31.9	gpm
Total Dynamic Head	19.9	feet



PumpData

PF3005 High Head Effluent Pump
30 GPM, 1/2HP
115/230V 1Ø 60Hz, 200V 3Ø 60Hz

Legend

System Curve:
Pump Curve:
Pump Optimal Range:
Operating Point:
Design Point:

Orenco SYSTEMS — PROTECTING THE WORLD'S WATER

DKHorn Engineering & Design Inc.

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OWTS FOR HEGGEN REDIDENCE
ADDRESS TBD - VEGA RD

LOT 8, BLOCK 1, PINON HILLS ESTATES #1
WALSENBURG, CO 81089

PROJECT NUMBER: 2024-079
DRAWN BY: AJM
REVIEWED BY: DKH
DATE: APRIL 30, 2024

ISSUE RECORD:

COLORADO REGISTERED PROFESSIONAL ENGINEER — DARLENE KAY EVETTS HORN — 42686 — JULY 8, 2024

APPROVED SET
FOR CONSTRUCTION BY
AARON CHAVEZ OF THE
LA-HC-DHD ON 7-8-2024

PUMP CURVE

7

OWTS Maintenance

1. Control the amount of water discharged into the system. Your system is designed to handle a specific amount of water. Larger volumes of water will overload the absorption field. To control the amount of water discharged into the system you should:
   - Repair any leaking faucet or toilet immediately.
   - Divert run-off water from roof eaves, drainpipes and foundation drains away from the absorption field.

2. Normal amounts of these household products will not harm a septic system:
   - Soaps, detergents, and bleaches.
   - Wastewater from a home water softener may cause a slight shortening of the life of the absorption field because of the extra volume of water that's used. The salts from water softeners will not harm the septic system.

3. DO NOT dispose of these items in your system:

   These materials do not decompose in the septic tank: Household items such as facial tissues, tampons, sanitary napkins, cigarette butts, coffee grounds, egg shells, oily waste or grease from cooking, bones, paper towels, newspaper, wrapping paper, rags and disposable diapers.
   Materials such as strong acids, photographic chemicals, and above normal amounts of drain cleaners may upset the biological process in the septic tank.
   Latex paint, wastewater from a pottery hobby and sheet rock mud remain in suspension in the septic tank, and then flow into the absorption field and clog the pores of the soil.

   Note: There are many chemical products for sale that claim to improve the digestion process in the septic tank. DKHorn does not endorse any of these products. With proper care and maintenance, the system should work well without added chemicals.

4. Regularly inspect the level of sludge and scum in the septic tank.
   DKHorn recommends that tanks be inspected once a year by a licensed OWTS installer.

   The rate at which sludge and scum accumulate in the septic tank varies greatly from one household to the next. It is important to have your tank inspected regularly (once per year) or if you wish to do this inspection yourself, follow these instructions:

   - Before the septic is pumped, measure scum depth
     a. Attach a 6-inch square board to the bottom of a stick about 6 feet long.
     b. At the outlet end of your tank, extend the stick through the scum layer to find the bottom of the baffle or effluent pipe.
     c. Mark your stick to indicate that point.
     d. Raise the stick unit you "feel" or see the bottom of the scum layer.
     e. Mark your stick again to indicate that point.
     f. If the two pencil marks are 3 inches apart or less, or if the scum surface is within 1-inch of the top of the outlet baffle, the tank requires cleaning.

   - Measuring sludge depth
     a. Wrap 3-feet of white rag or toweling around a long stick.
     b. Place the stick into the sludge, behind the outlet baffle if possible.
     c. Hold the stick there for several minutes.
     d. Remove the stick noting the sludge line.
     e. If the sludge line is within 12-inches of the outlet baffle, or within 18 inches of the outlet fitting, the tank requires cleaning

   - After the septic is pumped
     a. Inspect the Tank for any visible cracking, leaking or worn out parts. It is important that the tank is watertight so that no ground water is getting into the tank nor water from the tank is seeping into the ground.
     b. It is also important to inspect the inlet and outlet pipes for presence of water entering the tank.
     c. The effluent filter (if being used) should also be inspected. Pull out the filter and hose the contents back into the tank.

5. Regularly remove the sludge and scum from the septic tank.

   Sludge and scum must be pumped out of the septic tank before they reach the outlet tee or baffle, or they will flow out into the absorption field and clog the pores of the soil so it can no longer absorb liquid.

   At a minimum, DKHorn recommends that tanks be pumped every four years. Check with your local health department for special requirements.
   Keep your absorption field in good condition.

   Cut grass and weeds growing on the absorption field often.

   Absorption fields usually are installed at very shallow depths. Because of this; (1) vehicles must be kept off absorption fields (2) buildings, corrals for livestock, fences and trenches should not be constructed on top of absorption fields and (3) trees and shrubbery should not be planted within or immediately adjacent to the field.

   Some septic systems have two or more absorption fields. Valves connect these fields so the wastewater flow can be alternated between fields. If you have such a system, you should switch the diverter valve every summer.

OWTS Maintenance - Do's and Dont's for your OWTS

DO'S & DONT'S - MAINTENANCE AND CARE OF YOUR OWTS SYSTEM

- DO inspect your septic system every year
- DO pump out septic tank every four years
- DO keep records of pumping, inspections and other maintenance
- DO repair leaking faucets and toilets
- DO conserve water to reduce wastewater
- DO divert roof drains and surface water away from the absorption field
- DO call a professional when you have questions
- DON'T drive or park over any part of your septic system
- DON'T use commercial septic tank additives
- DON'T dig or build on top of your septic system
- DON'T plant anything over the absorption field (non-irrigated, native grasses are ok)
- DON'T flush non-biodegradable items into your system, such as diapers, tampons, etc.
- DON'T irrigate the soil treatment area.

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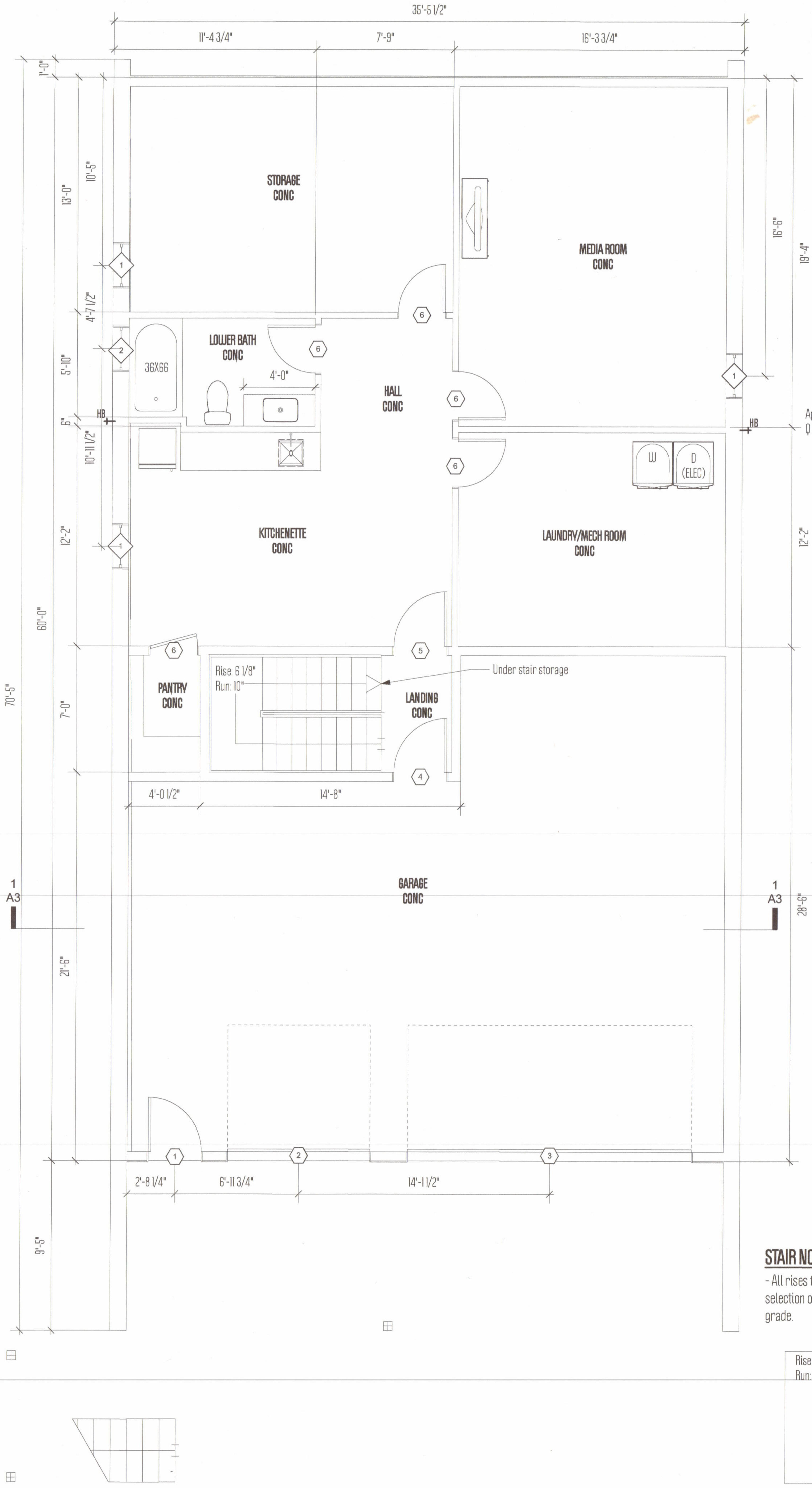
ISSUE RECORD:

MAINTENANCE & CARE NOTES

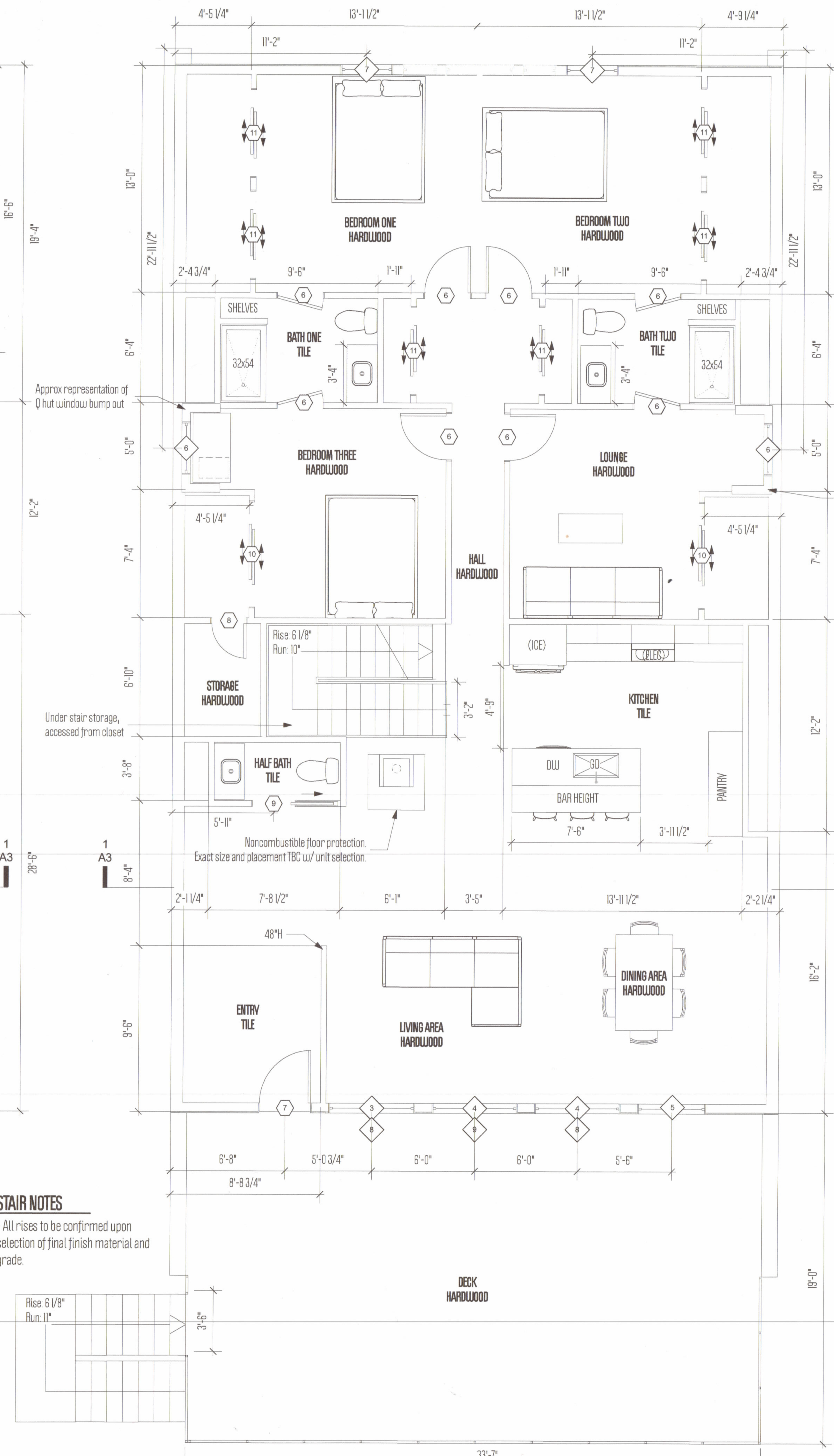
8



1 **Lower Level Floor Plan**
Scale: 1/4" = 1'-0"

MECHANICAL NOTES

- Mini split heat pumps to be used throughout the home.
- Garage to be unheated.
- Domestic hot water heater located in mech room.



STAIR NOTES

- All rises to be confirmed upon selection of final finish material and grade.

2 **Main Level Floor Plan**
Scale: 1/4" = 1'-0"

3 **Upper Level Floor Plan**
Scale: 1/4" = 1'-0"

BUILDING INFO + DESIGN CRITERIA

Project Location: TBD Vega Rd. Walsenburg, CO 81089
HOA: Pinion Hills Estates - Lot 8
Elevation: 6,870'
Jurisdiction: Huerfano County
Adopted Building Codes: 2021 IRC, IMC, IFGC, IEBC, + IECC w/ Resolution 23-25

Frost Depth: 37"
Snow Load: 38 psf
Wind Load: 130 mph
Winter Temp: 0°

BUILDING AREA

Lower Level Living Area = 1,256sf
Main Level Living Area = 2,045sf
Upper Level Living Area = 688sf

Total Living Area = 3,989sf

Garage = 844sf
Deck = 629sf

Total Lot Coverage = 5,462sf

Window Schedule

Mark	Qty	W	H	Configuration	Notes
1	3	2'6"	3'9"	Casement	
2	1	2'6"	1'6"	Fixed Glass	
3	1	5'0"	5'6"	Custom	18" Casement Panel
4	2	5'0"	5'6"	Fixed Glass	
5	1	4'0"	5'6"	Custom	18" Casement Panel
6	2	3'0"	4'0"	Casement	Egress
7	2	3'0"	3'2"	Casement	Egress
8	2	5'0"	3'0"	Fixed Glass	
9	1	5'0"	4'0"	Fixed Glass	
10	2	2'0"	3'0"	Casement	
11	1	4'0"	3'0"	Fixed Glass	

Door Schedule

Mark	Qty	W	H	Style	Notes
1	1	3'0"	6'8"	Swing	Ext.
2	1	8'0"	7'0"	Overhead	
3	1	16'0"	7'0"	Overhead	
4	1	3'0"	6'8"	Swing	Ext., Self latching/self closing, ≥20min fire
5	1	3'0"	6'8"	Swing	
6	13	2'8"	6'8"	Swing	
7	1	3'0"	7'0"	Swing	Ext. Full glass
8	1	2'0"	5'9"	Swing	Exact size and top shape TBC as built
9	1	2'6"	6'8"	Pocket	
10	2	6'0"	6'8"	Sliding	
11	6	5'0"	6'8"	Sliding	

SCHEDULE NOTES

- All measurements are approximate unit sizes and not rough openings. Manufacturer and/or contractor shall dictate required rough opening requirements.
- All windows must meet or exceed U 0.32.

N

NOTES

GENERAL
- All construction is to comply with the 2021 international building codes, as well as all other guidelines and specifications required by the governing town/county. County R+U value exceptions can be found in additional notes.

FINAL GRADING
- Provide positive drainage away from foundation perimeter.
- Framing to begin at least 6" above final grade.

BUILDING THERMAL ENVELOPE
- The building's thermal envelope shall be durably sealed to limit infiltration. The following shall be caulked, gasket, weatherstripped, or otherwise sealed:
  - All joints, seams, and penetrations.
  - Openings between window and door assemblies and their respective jambs and framing.
  - Utility penetrations.
  - Rim joist junctions.
  - Any other source of infiltration.
- Provide air sealing between unconditioned and conditioned space.
- Recessed lighting fixtures are to be air tight, IC rated, and sealed to drywall.
- Showers and tubs located on exterior walls should be provided with insulation and an air barrier separating them from the exterior wall.

INSULATION
- Roof: Min R38
- Framed Walls: Min R19 or R13 cavity + R5 continuous
- Basement Walls: Min R10 continuous or R13 cavity
- Slabs: Unheated - Slab edge Min R10 to 2', Heated - Min R5 under slab, Min R10 slab edge.
- Framed Floors: Min R30

FIREPLACES AND WOODSTOVES
- Install wood stove or zero clearnace wood fireplace according to manufacturers recommendations and in accordance with all local codes and standards.
- Chimney to extend 2' higher than roof 10' away and have spark arrestor.

UTILITY TIE-INS
- Point of use back flow protection.

RADON
- Mitigation measures are required in all new construction.

STAIRS
- Provide stairs with no greater than 7 3/4" max risers and no less than 10" treads. Variation of either will be no greater than 3/8". Stair nosings must be a minimum of 3/4" with solid risers.
- All stair runs with four or more risers must have a continuous handrail on at least one side, spaced 1 1/2" from the wall and between 34"-38" above a line running parallel to the nosings. Handrail must terminate in a newel post or return to the wall.

RAILINGS/GUARDRAILS
- Provide guardrails at least 36" high around decks with max openings of 4".
- Use decay resistant materials at all decks and exterior railings/guardrails.

MECHANICAL, ELECTRIC, AND PLUMBING
- Contractor to provide exhaust fans with a min. ventilation rate of 50 CFM for intermittent ventilation, 20 CFM for continuous, exhausted directly to the outside OR a min. of 3 SF glazing, half of which must be operable.
- Smoke detectors to be located in each bedroom and bedroom corridor, and at each story. Alarm devices are to be interconnected so that actuation of one alarm will activated all alarms and all alarms are wired to the electrical system with a battery backup.
- Carbon monoxide alarms to be located outside of each sleeping area in the immediate vicinity of the bedrooms, at mechanical room, and at door between garage and residence.
- Dryer, kitchen, and bath fan to be vented separately to exterior.
- Water heater unit generating a spark or flames shall be raised 18" A.F.F.

FIREBLOCKING
-To be installed in accordance with IRC at:
  - Concealed draft openings, including furred spaces at ceiling and floor elevations and 10' intervals along the length of the wall.
  - All interconnections between concealed vertical and horizontal spaces such as occur at soffits, drop ceilings and cove ceilings.
  - Concealed spaces between stair stringers at top and bottom of run and between studs along and in line with the run of the stairs if the walls under stairs are unfinished.
  - Openings around vents, pipes, ducts, chimneys, fireplaces, and similar that afford passage for fire at ceiling and floor levels with noncombustible materials.
  - Openings between attic spaces and chimney chases for factory-built chimneys.

Window Schedule

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1	3	2'6"	3'9"	Casement	
2	1	2'6"	1'6"	Fixed Glass	
3	1	5'0"	5'5"	Custom	18" Casement Panel
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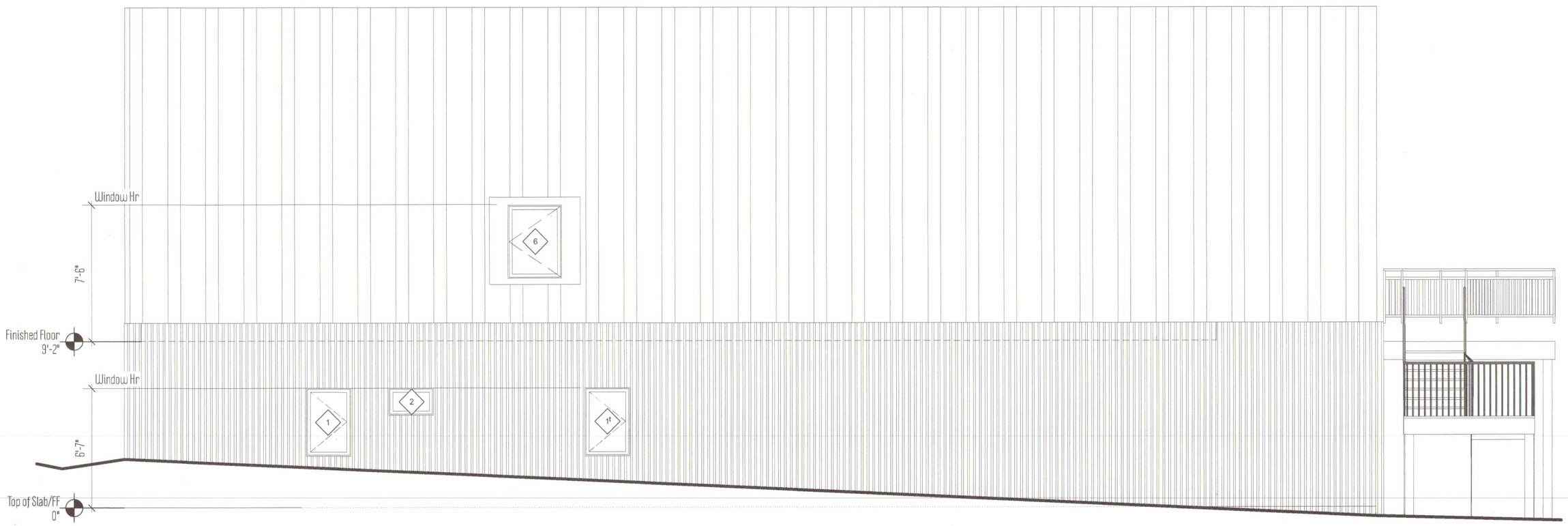
2	1	8'0"	7'0"	Overhead	
3	1	16'0"	7'0"	Overhead	
4	1	3'0"	6'8"	Swing	Ext., Self latching/self closing, ≥20min fire
5	1	3'0"	6'8"	Swing	
6	13	2'8"	6'8"	Swing	
7	1	3'0"	7'0"	Swing	Ext. Full glass
8	1	2'0"	6'9"	Swing	Exact size and top shape TBD as built
9	1	2'6"	6'8"	Pocket	
10	2	6'0"	6'8"	Sliding	
11	6	5'0"	6'8"	Sliding	

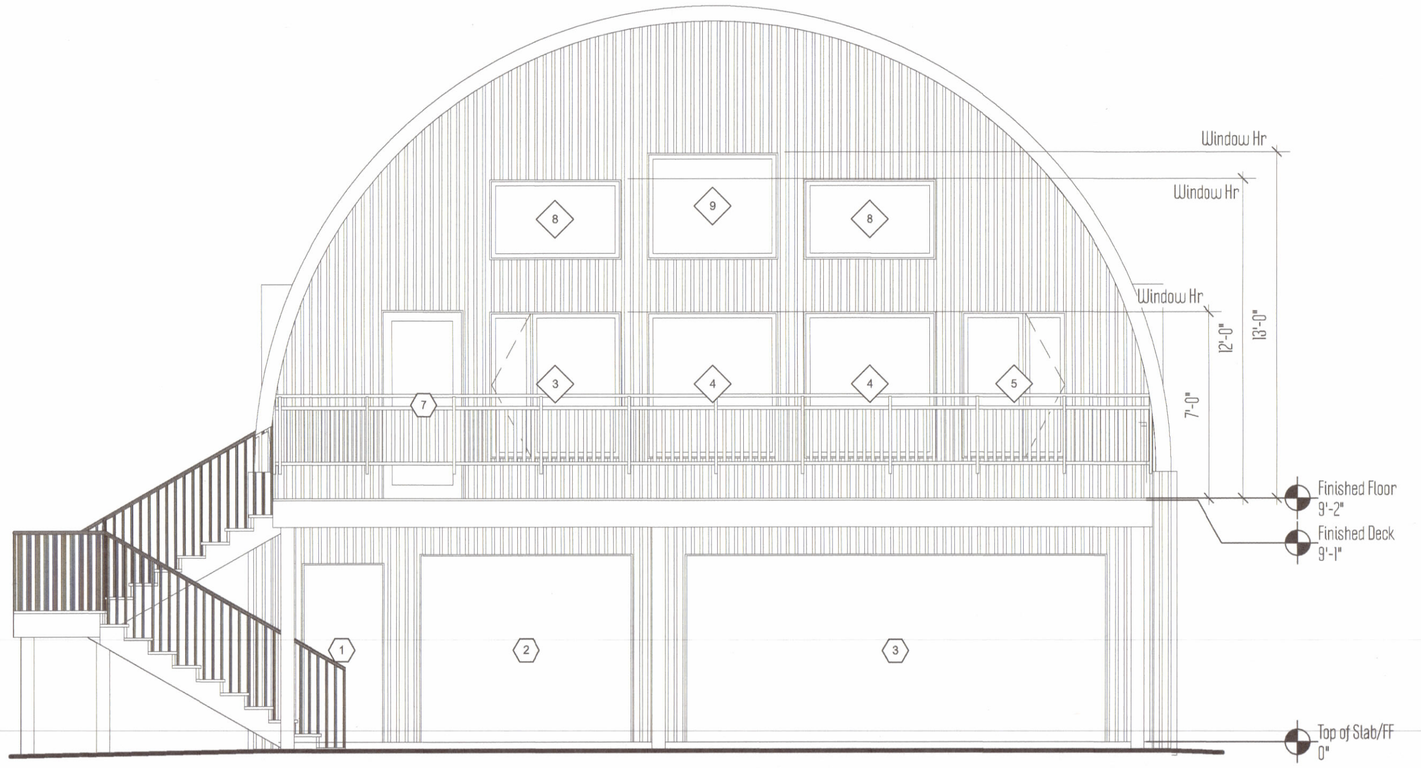
SCHEDULE NOTES

- All measurements are approximate unit sizes and not rough openings. Manufacturer and/or contractor shall dictate required rough opening requirements.
- All windows must meet or exceed U 0.32.



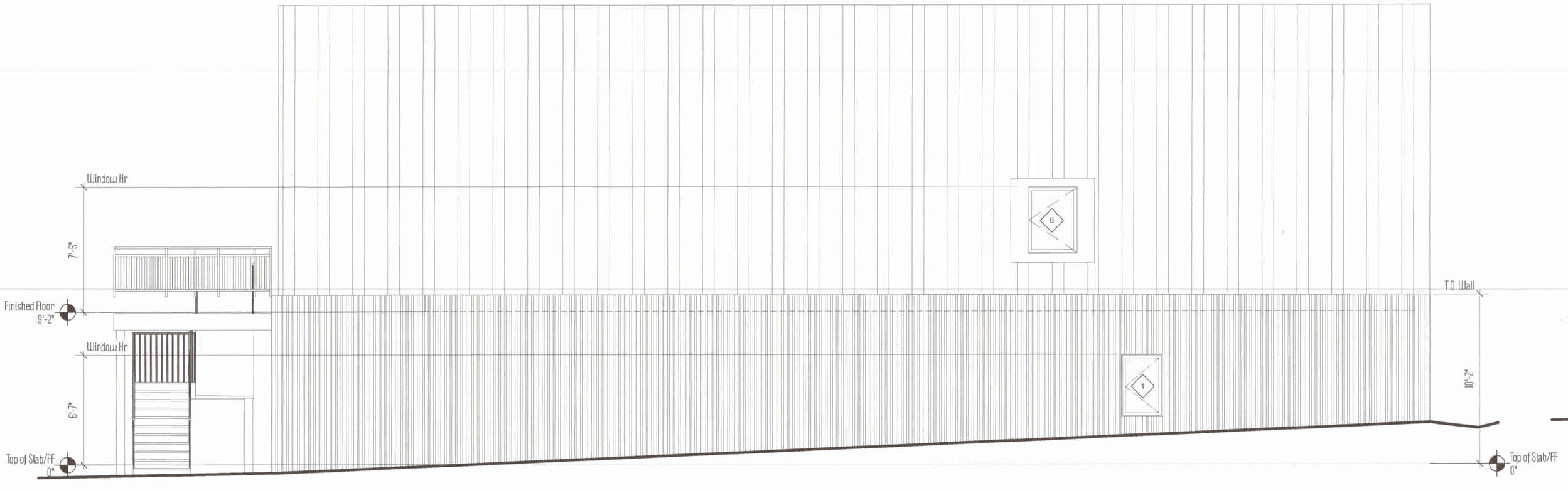
West Elevation
Scale: 1/4" = 1'-0"

1



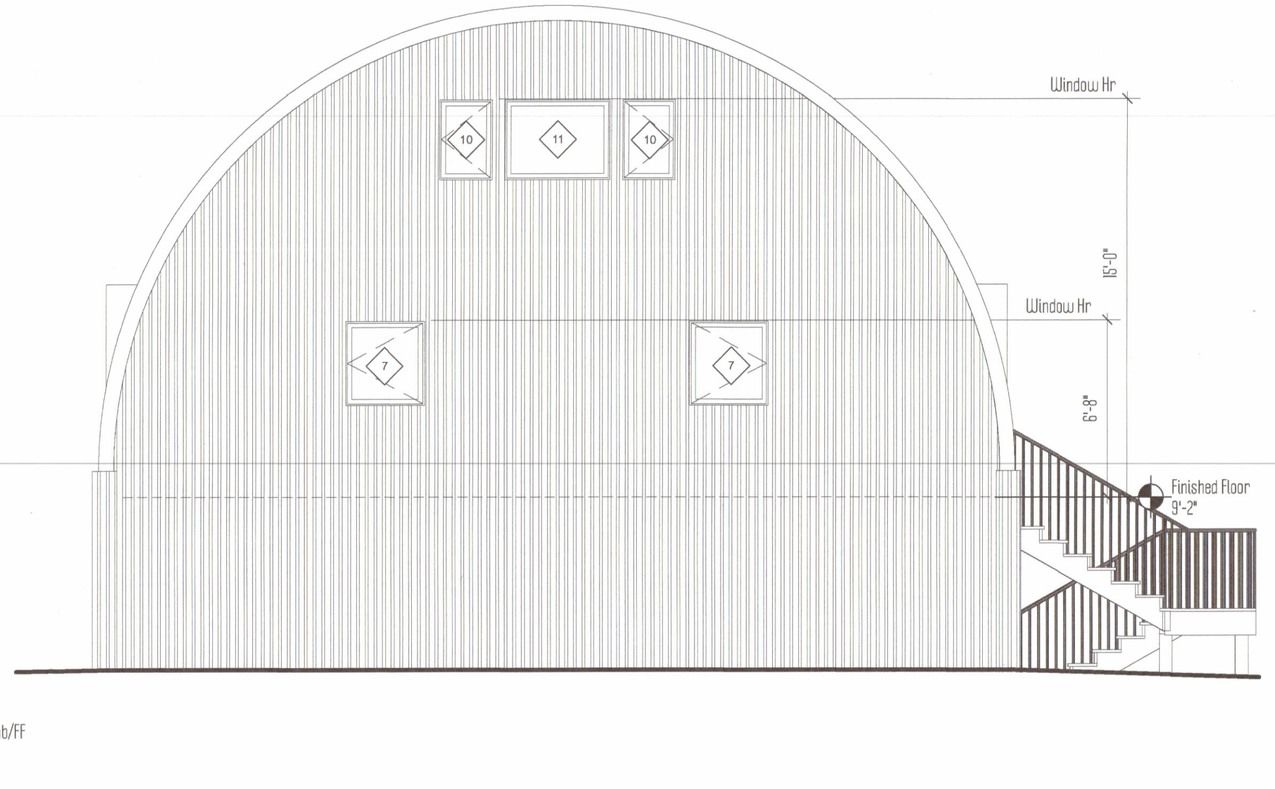
South Elevation
Scale: 1/4" = 1'-0"

2



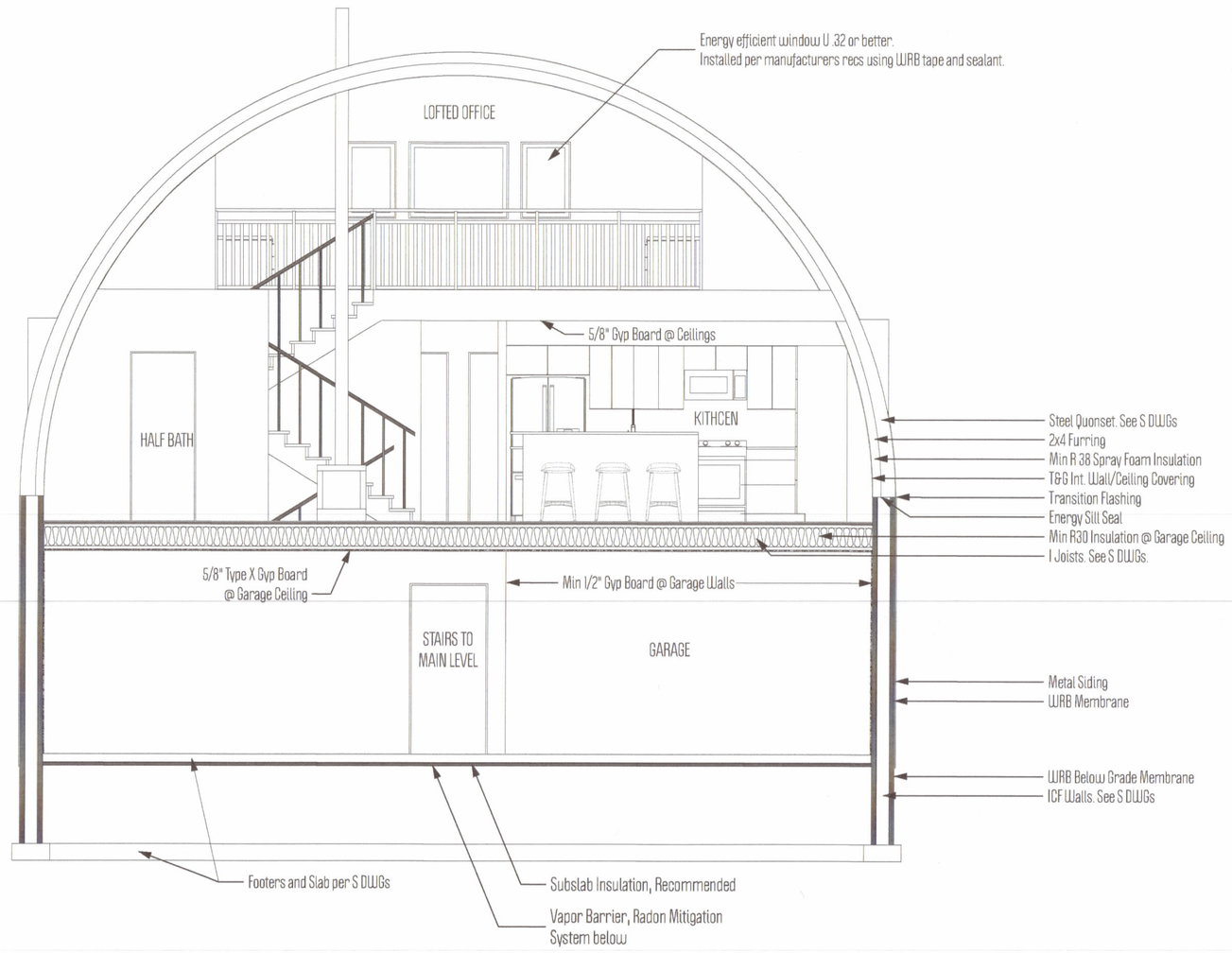
East Elevtion
Scale: 1/4" = 1'-0"

3



North Elevation
Scale: 1/4" = 1'-0"

4



N-S Section Looking W

1

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

STRUCTURAL NOTES

BUILDING CODE

1) REFERENCE: INTERNATIONAL RESIDENTIAL CODE, 2021 EDITION, AS AMENDED BY THE MUNICIPALITY HAVING JURISDICTION OVER THIS PROJECT.

SOILS/CONCRETE/REBAR/DRAINAGE

2) FOUNDATION DESIGN IS BASED ON THE ASSUMPTION THAT THE EXISTING SOIL AT THE BOTTOM OF THE EXCAVATION FOR THE FOUNDATION HAS LOW SWELL POTENTIAL, BASED ON A MAP PUBLISHED BY THE COLORADO GEOLOGICAL SURVEY WHICH SHOWS THE LOCATION OF VARIOUS TYPES OF SOILS IN THE FRONT RANGE URBAN CORRIDOR. THE DESIGN ENGINEER'S EXPERIENCE INDICATES THAT CLAYEY/SILTY SAND SOILS EXIST AT THIS SITE. IT IS EXPECTED THAT THIS SOIL HAS LOW SWELL POTENTIAL AND IS CAPABLE OF SUPPORTING FOOTINGS, PADS, AND WALLS-ON-GRADE IMPOSING A MAXIMUM BEARING PRESSURE OF 2,000 PSF, AS SPECIFIED IN IRC TABLE NO. R401.4.1, "WITH A BALANCED DEAD LOAD OF 600 PSF TO MINIMIZE DIFFERENTIAL MOVEMENT. AN "OPEN HOLE" OBSERVATION SHALL BE PERFORMED AT THE OWNER'S EXPENSE UNDER THE SUPERVISION OF MARK BENJAMIN P.E., AS SOON AS THE EXCAVATION WORK IS COMPLETED TO VERIFY THIS ASSUMPTION. AS AN ALTERNATIVE, A COPY OF ANY PREVIOUS SOILS REPORT MAY BE FORWARDED TO MARK BENJAMIN P.E. TO VERIFY THIS ASSUMPTION. IF THIS OPTION IS AVAILABLE, INCLUDE A COPY OF THE SOILS REPORT WITH THE BUILDING PERMIT APPLICATION FOR THE BUILDING OFFICIALS' USE. AS A FURTHER OPTION, THE SOIL TYPE ASSUMED IS SAND, SILTY SAND, CLAYEY SAND, SILTY GRAVEL, OR CLAYEY GRAVEL (SW, SP, SM, GM, OR GC). IF THE BUILDING OFFICIAL DEEMS THAT THIS IS THE SOIL THAT EXISTS AT THIS LOCATION, OR IF A COMPETENT INDIVIDUAL (CONTRACTOR OR EXCAVATOR) CAN MAKE THIS DETERMINATION TO THE BUILDING OFFICIAL'S SATISFACTION, FORWARD THIS INFORMATION TO MARK BENJAMIN P.E. PER IRC R405 CONSTRUCTION OF A PERIMETER SUBDRAIN SYSTEM WITH A VISIBLE SUMP PIT OR DAYLIGHT DRAIN IN THE BASEMENT AREA IS REQUIRED.

3) PER R403.1, PLACE FOOTINGS ON UNDISTURBED SOIL BELOW LOCALLY MANDATED FROST DEPTH. IN CASE SOIL IS DISTURBED, RECOMPACT IT TO 95% STANDARD PROCTOR DENSITY OR PER GEOTECHNICAL REPORT. EXCEPTIONS FOR BEARING ON SOLID ROCK PER R403.1.4.1.

4) ALL FOUNDATION CONCRETE SHALL DEVELOP 3000 PSI COMPRESSIVE STRENGTH IN 28 DAYS; THE AGGREGATE SHALL BE 1 INCH MAXIMUM SIZE. THE CEMENT IN ALL CONCRETE IN CONTACT WITH EARTH SHALL BE TYPE II OR TYPE II MODIFIED UNLESS OTHERWISE NOTED. MAXIMUM SLUMP SHALL BE 4" IN WALLS, BEAMS AND FOOTINGS, 3" IN STRUCTURAL SLABS, 5" IN SLABS-ON-GRADE, AND 8" IN DRILLED CONCRETE PIERS (AKA CAISSONS). WATER IN EXCESS OF 1.0 GALLONS PER CUBIC YARD CANNOT BE ADDED AT THE SITE WITHOUT APPROVAL OF THE DESIGN ENGINEER. CAISSONS MUST HAVE 6" MINIMUM SLUMP, WHICH MAY MEAN SUPPLEMENTING THE MIX WITH ADDITIONAL CEMENT OR PLASTICIZER IN ORDER TO ACHIEVE THE 3000 PSI 28-DAY STRENGTH REQUIREMENT. SEE R404.1.3.

5) BFNN ON FOUNDATION PLAN REFERS TO FOOTING FORMS BY BIGFOOT SYSTEMS (WWW.BIGFOOTSYSTEMS.COM) OR EQUIVALENT. NN REFERS TO SIZE (BF28 IS 28" DIAMETER). INSTALL APPROPRIATE SIZE CONSTRUCTION TUBE (I.E. SONOTUBE) ON TOP TO HEIGHT REQUIRED. PLACE FOOTING FORM WITH CONSTRUCTION TUBE IN HOLE AND BACKFILL PRIOR TO FILLING WITH CONCRETE.

6) PER R506.2.2 CONCRETE SLAB BASE SHALL BE 4" THICK BASE OF CLEAN GRADED SAND, GRAVEL, CRUSHED STONE, CRUSHED CONCRETE OR CRUSHED BLAST-FURNACE SLAG PASSING A 2" SIEVE SHALL BE PLACED ON THE PREPARED SUBGRADE WHERE THE SLAB IS BELOW GRADE. PER R506.2.3 VAPOR RETARDER SHALL BE A 6-MIL POLYETHYLENE OR APPROVED VAPOR RETARDER WITH JOINTS LAPPED NOT LESS THAN 6" SHALL BE PLACED BETWEEN THE CONCRETE FLOOR SLAB AND THE BASE COURSE. RADON PROTECTION SHALL BE PER APPENDIX AF103.1.

7) CONCRETE FOR EXTERIOR FLATWORK (SEE BELOW FOR INTERIOR FLATWORK) PER TABLE R402.2 SHALL DEVELOP 3500 PSI COMPRESSIVE STRENGTH IN 28 DAYS, HAVE A MINIMUM OF 6 - 94# SACKS OF CEMENT PER CUBIC YARD, A MAXIMUM WATER/CEMENT RATION OF 0.53, AND AIR ENTRAINMENT BETWEEN 5.5% & 6.5%. SUBSTITUTE MIXES CONTAINING FLY ASH AND "POZZOLITH" ARE ACCEPTABLE AS LONG AS THEY MEET THE 3500 PSI STRENGTH. "JITTERBUGGING" DURING PLACEMENT IS NOT RECOMMENDED. SAWCUT OR TOOLED CONTROL JOINTS SHALL BE PLACED AT A MAXIMUM SPACING OF 8' TO 10'. APPLICATION OF SPRAY MEMBRANE CURING COMPOUND AT A RATE OF NO MORE THAN 200 S.F. PER GALLON AFTER FINISHING IS STRONGLY RECOMMENDED. WHERE SLABS BUTT UP AGAINST CONCRETE OR MASONRY WALLS, PROVIDE TWO (2) 1/4" WIDE STRIPS OF TEMPERED MASONITE WITH SILICONE LUBRICANT BETWEEN THEIR SMOOTH FACES AS A PERIMETER SLIP JOINT UNLESS EXPANSION JOINTS ARE SHOWN ON THE DRAWINGS. PROVIDE SAWCUT OR SCORED CONTROL JOINTS IN ALL INTERIOR "FLOATING" SLABS-ON-GRADE AT A 14' MAXIMUM SPACING IN ANY DIRECTION AND 3' PARALLEL TO THE FOUNDATION WALLS, WITH THEIR DEPTH EQUAL TO ONE-FOURTH OF THE SLAB THICKNESS, UNLESS THERE IS A GEOTECHNICAL REPORT WITH A MORE STRINGENT REQUIREMENT. THE OWNER ASSUMES ALL THE RISKS AND LIABILITY FOR POSSIBLE FUTURE DAMAGE TO CONCRETE SLABS-ON-GRADE EVEN IF CONSTRUCTION OF THE SLABS ADHERES TO ALL ENGINEERING RECOMMENDATIONS AND DESIGNS.

8) ALL REINFORCING STEEL BARS SHALL CONFORM TO ASTM A615 GRADE 60, EXCEPT FOR COLUMN TIES, BEAM STIRRUPS AND EMBEDDED PLATE ANCHORS, WHICH SHALL BE GRADE 40. CONCRETE PROTECTION FOR REINFORCEMENT SHALL BE IN ACCORDANCE WITH IRC SECTION R403.1.5.3. MAKE ALL BARS CONTINUOUS AROUND CORNERS OR PROVIDE CORNER BARS OF EQUAL SIZE AND SPACING. PLACE 2 - #5 GRADE 40 OR 2 - #4 GRADE 60 BARS (1 EACH FACE) WITH 2'-0" PROJECTION AROUND ALL OPENINGS IN THE CONCRETE. IN GRADE BEAMS, BOTTOM SPLICES SHALL BE AT THE DRILLED PIERS AND TOP SPLICES SHALL BE AT MIDSPAN.

9) IF USED, NUDURA ICF WALLS SHALL HAVE THE FOLLOWING MINIMUM REINFORCEMENT AT ALL WALL OPENINGS: 2 - #4 HORIZONTAL REBAR APPROXIMATELY 24" ABOVE THE TOP OF THE OPENING AND EXTENDING 24" PAST THE OPENING ON EITHER SIDE; 2 - #4 HORIZONTAL REBAR APPROXIMATELY 2" ABOVE THE TOP OF THE OPENING AND EXTENDING 24" PAST THE OPENING ON EITHER SIDE; 2 - #4 VERTICAL BARS ON EACH SIDE OF THE OPENING (FULL HEIGHT); 2 - #4 HORIZONTAL BARS APPROXIMATELY 2" BELOW THE BOTTOM OF THE OPENING AND EXTENDING 24" PAST THE OPENING ON EITHER SIDE. DECREASE THE STANDARD VERTICAL REBAR SPACING BETWEEN WALL OPENINGS BY 50% WHEN WALL OPENINGS ARE WITHIN 6' OF EACH OTHER. INSTALL 2 - #4 VERTICAL BARS AT ALL CORNERS (FULL HEIGHT). INSTALL 2 - #5 VERTICAL BARS DIRECTLY BENEATH ALL BEAM AND GIRDER POINT LOADS (FULL HEIGHT). INSTALL 2 - #4 HORIZONTAL BARS AT THE TOP AND BOTTOM OF EACH WALL POUR. MINIMUM REBAR LAP LENGTH SHALL BE 40 BAR DIAMETERS. CONSTRUCTION SHALL CONFORM TO ALL GUIDELINES PROVIDED BY THE ICF MANUFACTURER.

10) SLOPE FINISHED SOIL GRADE AND ANY PAVING AWAY FROM THE BUILDING ON ALL SIDES TO PROVIDE POSITIVE SURFACE DRAINAGE AT THE RATE OF 3/4" PER LINEAR FOOT, UNLESS THERE IS A GEOTECHNICAL REPORT WITH MORE STRINGENT RECOMMENDATIONS. PROVIDE DRAINAGE CONDUITS AND COLLECTION AS NEEDED FOR ROOF RUNOFF. LANDSCAPING ADJACENT TO THE FOUNDATION SHOULD CONSIST OF A 5-FOOT-WIDE STRIP OF INERT GROUND COVER SUCH AS ROCK OR BARK WITH AN UNDERLYING LAYER OF IMPERVIOUS SOIL OR GEOTEXTILE MEMBRANE. IRRIGATION SHALL BE DESIGNED SO AS NOT TO DISCHARGE WATER ON THIS STRIP. SEE R403.1.5.

STRUCTURAL STEEL

11) ALL STRUCTURAL STEEL SHALL CONFORM TO ASTM A36/A572 GRADE 50 OR A992 MATERIAL WITH A 50,000 PSI YIELD STRESS. PIPE COLUMNS SHALL CONFORM TO ASTM A53 GRADE B OR A36. COLUMNS SHALL BE FIXED LENGTH, UNO. ANY ADJUSTABLE COLUMNS SHALL HAVE MINIMUM 3" OF THREAD EXPOSED. BOLTS SHALL CONFORM TO ASTM DESIGNATION A307 UNLESS OTHERWISE NOTED. ALL FABRICATION AND ERECTION SHALL BE IN ACCORDANCE WITH AMERICAN INSTITUTE FOR STEEL CONSTRUCTION SPECIFICATIONS AND STANDARDS. IF COLUMNS ARE SPECIFIED IN TERMS OF REQUIRED CAPACITY INSTEAD OF SIZE, THE CONTRACTOR SHALL PROVIDE LOAD RATING INFORMATION ON THE PRODUCT THAT IS PLANNED TO BE USED PRIOR TO INSTALLATION.

LUMBER/FRAMING

12) ALL PRESSURE-TREATED FOUNDATION DIMENSION LUMBER (INCLUDING PORTIONS OF POLE BARN POLES IN THE GROUND) SHALL BE NO. 2 GRADE HEM-FIR OR BETTER. ALL PRESSURE-TREATED MATERIALS SHALL BEAR "FDN" GRADE MARKS OF A RECOGNIZED GRADING AUTHORITY, AND SHALL BE INSTALLED IN ACCORDANCE WITH BOTH IRC SECTION R404.2.1 THROUGH R404.2.6 AND THE LATEST EDITION OF THE MANUAL ENTITLED "ALL-WEATHER WOOD FOUNDATION SYSTEM DESIGN, FABRICATION, AND INSTALLATION", PUBLISHED BY THE NATIONAL FOREST PRODUCTS ASSOCIATION, WASHINGTON, D.C.

13) ALL LUMBER MATERIAL SHALL BE NO. 2 GRADE HEM-FIR OR BETTER, WITH A BASE MINIMUM ALLOWABLE EXTREME FIBER BENDING STRESS FOR MEMBERS (FB) OF 850 PSI EXCLUDING ADJUSTMENT FACTORS FOR USE, SIZE, LOAD DURATION, ENVIRONMENT, ETC., UNLESS OTHERWISE NOTED. WHERE THE TERM "DOUG-FIR" APPEARS ON THE DRAWINGS, THIS DENOTES NO. 2 GRADE DOUGLAS FIR OR BETTER, HAVING AN FB EQUAL TO 875 PSI. TOP PLATES MUST BE NO. 2 GRADE DOUGLAS FIR OR BETTER, OR NO. 2 GRADE HEM-FIR IF THE FRAMING MEMBERS BEARING ON WALLS ARE STACKED ABOVE THE STUDS. STUDS SHALL BE STANDARD GRADE OR BETTER.

14) FRAMING FOR WIND SPEEDS LESS THAN OR EQUAL TO 140 MPH:

A. STANDARD FRAMED WALL HEADERS, UNO, SHALL BE 2 - 2 X 8'S BEARING ON SINGLE TRIMMER STUDS FOR OPENINGS LESS THAN 4 FEET WIDE; 2 - 2 X 10'S BEARING ON DOUBLE TRIMMER STUDS (UNLESS NOTED OTHERWISE) FOR OPENINGS 4 FEET TO 6 FEET WIDE. ALL OPENINGS OVER 6 FEET WIDE SHALL HAVE ENGINEERED HEADERS. IF 3 OR MORE STUDS ARE INDICATED AS A COLUMN, THE STUDS SHALL BE BUNDLED AND NAILED TOGETHER WITH ONE 16D NAIL PER VERTICAL FOOT, AND THE TOP AND BOTTOM PLATES SHALL BE INTERRUPTED SO THAT THE BEAMS CAN BEAR DIRECTLY ON STEEL COLUMNS WITH STEEL PLATES OR BUNDLED WOOD COLUMNS, AND SO THAT THE COLUMNS CAN BEAR DIRECTLY ON A BEAM OR THE FOUNDATION WALL.

B. FLOOR JOISTS SHOULD NOT RUN "WILD" MORE THAN 3' PAST THE CENTER LINE OF ANY BEAM. DOUBLE-UP ALL FLOOR JOISTS WHICH ARE PARALLEL TO PARTITIONS ABOVE UNLESS OTHERWISE NOTED. FLOOR SHEATHING SHALL BE 3/4" T&G SECURED WITH 8D NAILS AT A 6" SPACING AT PANEL AND DIAPHRAGM EDGES AND AT A 12" SPACING AT PANEL FIELD OR 2" 16 GAGE STAPLES AT A 4" SPACING AT PANEL AND DIAPHRAGM EDGES AND AT AN 8" SPACING AT PANEL FIELD, EDGES UNBLOCKED

C. FRAMED WALLS SHALL BE BRACED WITH SOLID 7/16" STRUCTURAL PANEL SHEATHING, WITH 8D NAILS AT A 6" SPACING AT PANEL AND SHEAR WALL EDGES AND AT A 12" SPACING AT PANEL FIELD OR 1-3/4" 16 GAGE STAPLES AT A 3" SPACING AT PANEL AND DIAPHRAGM EDGES AND 6" AT PANEL FIELD TO MEET THE REQUIREMENTS OF IRC SECTION R602.3, UNLESS A DIFFERENT DESIGN IS SHOWN ON THE DRAWINGS. BLOCKING NOT LESS THAN 2" NOMINAL IN THICKNESS SHALL BE PROVIDED AT ALL WALL SHEATHING HORIZONTAL PANEL JOINTS. TALL GABLE WALLS AT VAULTED CEILINGS SHALL HAVE FULL HEIGHT STUDS: NOMINAL FOR UNDER 16' TALL; ENGINEERED LUMBER (I.E. LSL) FOR OVER 16' TALL. DO NOT STACK WALL SECTIONS VERTICALLY UNLESS OVER FLOOR DIAPHRAGM.

15) ALL PRE-MANUFACTURED CONNECTORS SPECIFIED SHALL BE PROVIDED BY SIMPSON STRONG-TIE COMPANY. FOR ANY SUBSTITUTIONS SUBMIT 3 COPIES OF SHOP DRAWINGS AND SPECIFICATIONS FOR REVIEW AND APPROVAL TO MARK BENJAMIN P.E. 7 DAYS PRIOR TO ORDERING.

16) WHERE BEAMS ARE INDICATED ON THE PLANS WITH THE LETTERS "LVL", 1-3/4" WIDE LAMINATED VENEER LUMBER MEMBERS HAVING A MINIMUM FLEXURAL STRESS OF 2600 PSI, A MODULUS OF ELASTICITY OR "E-VALUE" OF 1,800,000 PSI AND A MINIMUM HORIZONTAL SHEAR STRESS OF 285 PSI SHALL BE INSTALLED. APPROVED PRODUCTS ARE "MICRO-LAMS" OR "PARALLAMS" MANUFACTURED BY TRUS JOIST-MACMILLAN, "RIGIDLAMS" MANUFACTURED BY ROSEBURG FOREST PRODUCTS, "GANG-LAMS" MANUFACTURED BY LOUISIANA-PACIFIC, "TEC-LAMS" MANUFACTURED BY TECTON LAMINATES, OR "VERSA-LAMS" MANUFACTURED BY BOISE-CASCADE. THE PLANS WILL INDICATE THE QUANTITY NEEDED TO BUILD UP A SINGLE BEAM AND THE MINIMUM STANDARD DEPTH NEEDED. PER R502.8.2, MODIFICATIONS TO ENGINEERED WOOD PRODUCTS SHALL BE PER MANUFACTURER RECOMMENDATION OR APPROVED BY ENGINEER.

17) WHERE BEAMS ARE INDICATED ON THE PLANS WITH THE LETTERS "LSL", OR WHERE ENGINEERED I-JOISTS ARE INSTALLED, 1-1/4" OR 3-1/2" WIDE LAMINATED STRAND LUMBER MEMBERS HAVING A MINIMUM FLEXURAL STRESS OF 1700 PSI, A MODULUS OF ELASTICITY OR "E-VALUE" OF 1,300,000 PSI (800,000 PSI FOR RIM JOIST USE ONLY), AND A MINIMUM HORIZONTAL SHEAR STRESS OF 285 PSI SHALL BE INSTALLED. THE ONLY APPROVED PRODUCTS ARE "TIMBERSTRAND" MANUFACTURED BY TRUS JOIST MACMILLAN, "RIGIDRIM" MANUFACTURED BY ROSEBURG FOREST PRODUCTS, AND "INNERSEAL" MANUFACTURED BY LOUISIANA-PACIFIC. THE PLANS WILL INDICATE THE QUANTITY NEEDED TO BUILD UP A SINGLE BEAM AND THE MINIMUM STANDARD DEPTH NEEDED. PER R502.8.2, MODIFICATIONS TO ENGINEERED WOOD PRODUCTS SHALL BE PER MANUFACTURER RECOMMENDATION OR APPROVED BY ENGINEER.

DECKS

18) ALL DECK LUMBER MATERIAL SHALL BE NO. 1 GRADE DOUG-FIR, OR SOUTHERN YELLOW PINE, OR BETTER, WITH A BASE MINIMUM ALLOWABLE EXTREME FIBER BENDING STRESS FOR MEMBERS (FB) OF 1000 PSI EXCLUDING ADJUSTMENT FACTORS FOR USE, SIZE, LOAD DURATION, ENVIRONMENT, ETC., UNLESS OTHERWISE NOTED. PRESERVATIVE TREATED LUMBER SHALL BE USED PER R317.1.8.

19) PRESERVATIVE TREATED WOOD USED IN DECKS, HIGH MOISTURE CONTENT GREENHOUSES OR SIMILAR MOISTURE LADEN PROJECTS SHALL HAVE CONNECTORS AND FASTENERS THAT ARE COMPATIBLE WITH THE CHEMICALS USED PER R507.2.3. CONTACT THE PRESSURE TREATED WOOD SUPPLIER TO OBTAIN THE SPECIFICATIONS AND CHOOSE CONNECTORS AND FASTENERS ACCORDINGLY. BOTH CONNECTORS AND FASTENERS SHALL BE MATCHED (I.E. IF STAINLESS STEEL CONNECTORS ARE REQUIRED, STAINLESS STEEL FASTENERS OF THE SAME GRADE MUST BE USED.)

20) PROVIDE DECK LATERAL LOAD CONNECTIONS IN ACCORDANCE WITH IRC SECTION R507.9.2 INSTALL (2) HORIZONTAL 1500 LB CAPACITY DTT2Z HOLD DOWNS PER FIGURE R507.9.2(1) OR (4) 750 LB CAPACITY DTT1Z SECURED WITH MIN. 3/8" LAG WITH 3" PENETRATION TO SOLID LUMBER PER FIGURE R507.9.2(2)(DOES NOT REQUIRE CONNECTION THROUGH RIM JOIST INTO FLOOR JOISTS). EXAMPLE FIGURES CAN BE FOUND HERE: HTTPS://CODES.ICCSAFE.ORG/CONTENT/IRC2021/CHAPTER-5-FLOORS#IRC2021_PT03_CH05_SECR507.2

SPECIAL OBSERVATIONS

21) PART-TIME MONITORING OF THE STEEL QUONSET BUILDING INSTALLATION COULD BE REQUIRED BY THE AHJ, IN WHICH INITIAL OBSERVATIONS WILL BE MADE BY A REPRESENTATIVE OF CROWN JADE DESIGN AND ENGINEERING AT THE GENERAL CONTRACTOR'S EXPENSE FOR THE PURPOSE OF DETERMINING THAT PROPER MATERIALS AND METHODS WERE UTILIZED. REVIEW THIS THOROUGHLY PRIOR TO INSTALLATION. FOR ANY QUESTIONS, CONTACT CJDE. SEE 2021 IBC SECTION 1705.2.

22) BUILDING DEPARTMENT REQUIRED ENGINEER INSPECTIONS/OBSERVATIONS AS NOTED IN THE CONTRACT MEANS WHEN THE AUTHORITY HAVING JURISDICTION (AHJ OR BUILDING DEPARTMENT) REQUIRES THE ENGINEER TO PERFORM CERTAIN OBSERVATIONS TO VERIFY CONFORMANCE WITH THE DRAWINGS (I.E. OEO, FOOTING, FOUNDATION, SPECIAL INSPECTIONS, ETC.). ALLOW AMPLE TIME FOR CJDE TO SCHEDULE SAID OBSERVATIONS. SEVERAL DAYS' NOTICE IS NOT SUFFICIENT AND DOES NOT REQUIRE CJDE TO MEET THAT SCHEDULE.

PLAN COORDINATION

23) THIS FOUNDATION DESIGN IS BASED ON DRAWINGS/LOADS PREPARED BY DUROSPAN, DATED 9/6/2024, THEIR MODEL NO. Q35-17. IT SHALL BE THE RESPONSIBILITY OF THE OWNER AND HIS FOUNDATION CONTRACTOR TO MAKE SURE THAT THIS FOUNDATION PLAN FITS THE ANCHOR BOLT PLAN PROVIDED BY DUROSPAN.

24) ALL DIMENSIONS SHOWN ON STRUCTURAL DRAWINGS ARE BASED ON DIMENSIONS AND INFORMATION FURNISHED BY ARCHITECTS, CONTRACTORS, OR OTHERS, AND ARE INTENDED TO LOCATE STRUCTURAL COMPONENTS RELATIVE TO NON-STRUCTURAL COMPONENTS. THE DESIGN ENGINEER MUST BE NOTIFIED IN WRITING OF ANY DEVIATION IN EXCESS OF THREE INCHES (3") PRIOR TO COMMENCEMENT OF WORK ON COMPONENTS WHICH MIGHT BE AFFECTED BY LOCATION CHANGES. IN NO WAY CAN THE DESIGN ENGINEER BE RESPONSIBLE FOR THE ULTIMATE PRECISE LOCATION OR PLACEMENT OF ANY COMPONENT.

25) RELEASE OF THE PLANS COMPLETED BY THE STRUCTURAL P.E. CONTEMPLATES FURTHER COOPERATION BETWEEN THE OWNER, HIS GENERAL CONTRACTOR AND THE STRUCTURAL P.E. DESIGN AND CONSTRUCTION PLANS ARE COMPLEX. THE STRUCTURAL P.E. AND HIS CONSULTANTS HAVE PERFORMED THE SERVICES WITH DUE CARE AND DILIGENCE, ALTHOUGH EVERY DETAIL CANNOT BE ANTICIPATED AND IS DEPENDENT ON MANY FACTORS WHICH MAY REQUIRE CHANGES TO THE PLANS... ANY AMBIGUITY OR DISCREPANCY DISCOVERED BY THE USE OF THE PLANS SHALL BE REPORTED IMMEDIATELY TO THE STRUCTURAL P.E. A FAILURE TO NOTIFY THE STRUCTURAL P.E. OF ANY ISSUE IN WRITING SHALL RELIEVE THE STRUCTURAL P.E. FROM RESPONSIBILITY FOR ADDITIONAL COSTS, DAMAGES, OR LIABILITY THEREFROM. CHANGES MADE FROM THE PLANS WITHOUT THE CONSENT OF THE STRUCTURAL P.E. ARE UNAUTHORIZED, AND SHALL RELIEVE THE STRUCTURAL P.E. OF RESPONSIBILITY FOR ALL CONSEQUENCES ARISING OUT OF SUCH CHANGES.

DESIGN LOAD VALUES (IN PSF)

GROUND, (NON-REDUCIBLE BELOW 30) SNOW (PG) = 38 #
ROOF, DEAD = 10
ROOF, MAX WIND = 28.04 *
FLOOR, DEAD = 20
FLOOR, LIVE = 40
CEILING, DEAD = 5
SEISMIC DESIGN CATEGORY = B

\# BASED ON AN ELEVATION OF 6930 FEET ABOVE SEA LEVEL. AS SUBJECT TO THE PROCEDURES OF ASCE 7.

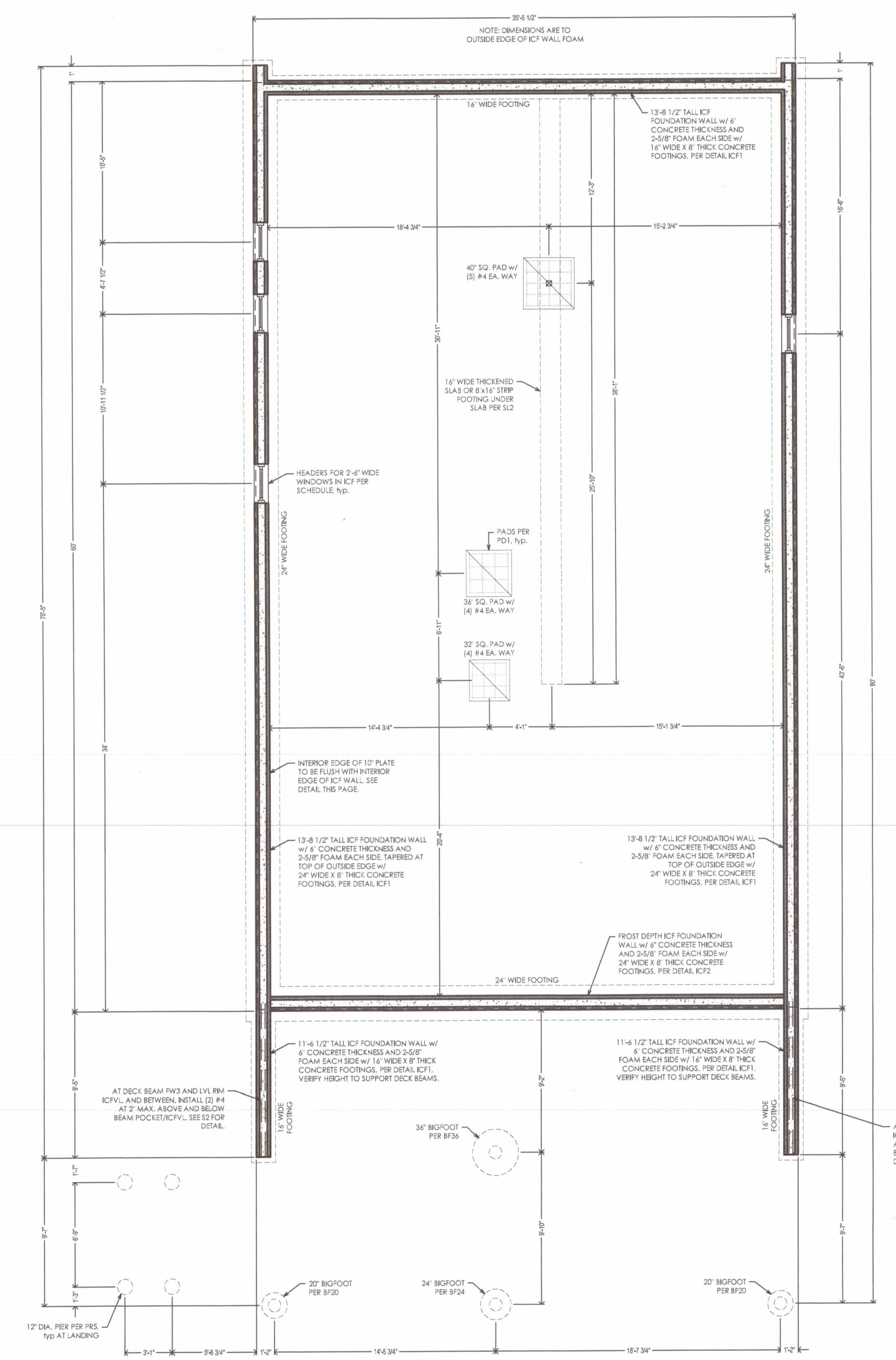
* BASED ON A 130 MPH V-ULTIMATE WIND SPEED AT I.B.C. EXPOSURE "C", AS SUBJECT TO THE CURRENT ASCE 7 REQUIREMENTS REGARDING GROUND ELEVATION (#) FACTOR KE OF 0.78; REFER TO CODE TABLES FOR OTHER ZONE LOAD VALUES, WITH APPROPRIATE FACTORS APPLIED BY THE BUILDING MANUFACTURER; REFER TO SPECIFICATIONS, NOTES, AND LOADS ON BUILDING MANUFACTURER'S DRAWINGS.

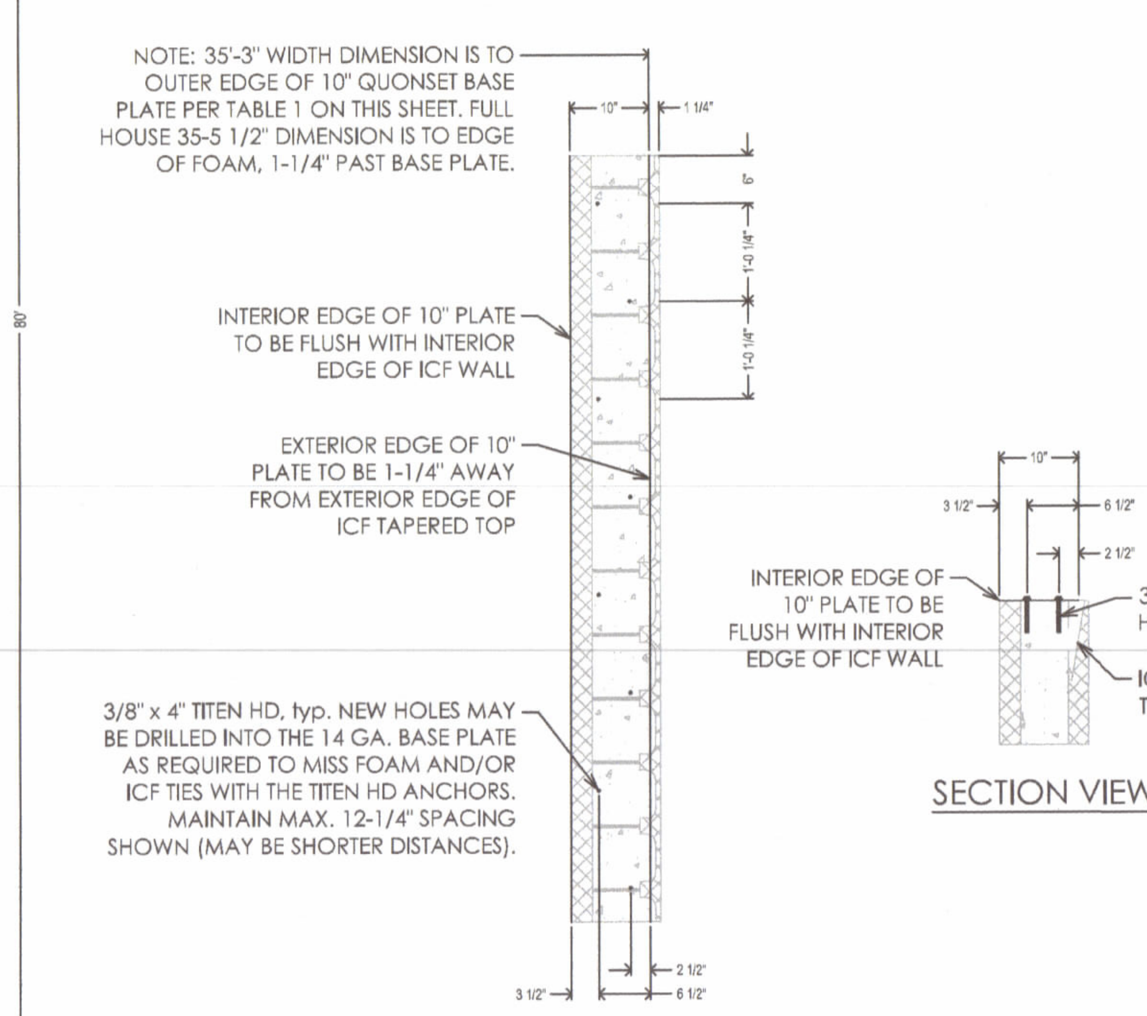
FOUNDATION WIDTH
INDUSTRIAL BASE CONNECTOR
TABLE 1
DURO SPAN HAND WELDED BASEPLATE
MANUAL FOR ERECTION OF STEEL
PAGE 5

MODEL	WIDTH
19-09	19'-3"
21-10	21'-3"
23-11	23'-3"
25-10	25'-3 1/2"
25-12	25'-3"
27-13	27'-3"
28-12	28'-3 1/2"
30-14	30'-3"
32-13	32'-3 1/2"
33-15	33'-3"
34-13	34'-3 1/2"
35-14	35'-3 1/2"
35-17	35'-3"
37-15	37'-3 1/2"
38-14	38'-3 1/2"

FOUNDATION LENGTH
INDUSTRIAL BASE CONNECTOR
TABLE 2
DURO SPAN HAND WELDED BASEPLATE
MANUAL FOR ERECTION OF STEEL
PAGE 6

NUMBER OF ARCHES	PACKAGE 0
9	19'-4.5"
10	21'-5"
11	23'-5.5"
12	25'-6"
13	27'-6.5"
14	29'-7"
15	31'-7.5"
16	33'-8"
17	35'-8.5"
18	37'-9"
19	39'-9.5"
20	41'-10"
21	43'-10.5"
22	45'-11"
23	47'-11.5"
24	50'-0"
25	52'-0.5"
26	54'-1"
27	56'-1.5"
28	58'-2"
29	60'-2.5"
30	62'-3"
31	64'-3.5"
32	66'-4"
33	68'-4.5"
34	70'-5"
35	72'-5.5"
36	74'-6"
37	76'-6.5"
38	78'-7"
39	80'-7.5"
40	82'-8"
41	84'-8.5"
42	86'-9"
43	88'-9.5"
44	90'-10"
45	92'-10.5"
46	94'-11"
47	96'-11.5"
48	99'-0"
49	101'-0.5"
50	103'-1"





QUONSET PLATE AT TAPERED TOP ICF WALL DETAIL

SCALE: 1/2" = 1'

DUTY OF COOPERATION

RELEASE OF THE PLANS COMPLETED BY THE STRUCTURAL P.E. CONTEMPLATES FURTHER COOPERATION AMONG THE OWNER, HIS CONTRACTOR, AND THE STRUCTURAL P.E.. DESIGN AND CONSTRUCTION ARE COMPLEX. ALTHOUGH THE STRUCTURAL P.E. AND HIS CONSULTANTS HAVE PERFORMED THEIR SERVICES WITH DUE CARE AND DILIGENCE, THEY CANNOT GUARANTEE PERFECTION. COMMUNICATION IS IMPERFECT, AND EVERY CONTINGENCY CANNOT BE ANTICIPATED. ANY AMBIGUITY OR DISCREPANCY DISCOVERED BY THE USE OF THESE PLANS SHALL BE REPORTED IMMEDIATELY TO THE STRUCTURAL P.E. A FAILURE TO COOPERATE BY A SIMPLE NOTICE TO THE STRUCTURAL P.E. SHALL RELIEVE THE STRUCTURAL P.E. FROM RESPONSIBILITY FOR ANY ADDITIONAL COSTS, DAMAGES OR LIABILITY THEREFROM. CHANGES MADE FROM THE PLANS WITHOUT THE CONSENT OF THE STRUCTURAL P.E. ARE UNAUTHORIZED, AND SHALL RELIEVE THE STRUCTURAL P.E. OF RESPONSIBILITY FOR ALL CONSEQUENCES ARISING OUT OF SUCH CHANGES.

ICF WINDOW HEADER SCHEDULE

OPENING SIZE	WALL THICKNESS	BOTTOM REBAR WITHIN 8" OF TOP OF OPENING	TOP REBAR CONTINUOUS WITH WALL TOP REBAR	ADDITIONAL REBAR
LESS THAN 10'	8" CONC (13" ICF)	(2) #4	(1) #4	NONE REQUIRED
	6" CONC (11" ICF)	(1) #4 - 2" UP (1) #4 - 8" UP	(1) #4	NONE REQUIRED
10-16'	8" CONC (13" ICF)	(2) #4	(1) #4	(1) #4 WITHIN 12"
	6" CONC (11" ICF)	(1) #4 - 2" UP (1) #4 - 8" UP	(1) #4	(1) #4 - 10"-12" UP

NOTES: MINIMUM HEADER HEIGHT TO BE 16"
CONTACT CROWN JADE DESIGN AND ENGINEERING FOR SHORTER HEIGHT OR WIDER WIDTH

S1 FOUNDATION PLAN and NOTES

SCALE: 3/16" = 1'

N

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HEGGEN RESIDENCE

NEW QUONSET HOME AT TBD VEGA RD. HUERFANO COUNTY

CLIENT:
DAVID AND DEANNA HEGGEN
516 MEADOW KNOLL CT.
KELLER, TX
PHONE: 817-675-2477

DRAFTED BY:
EVAN CHEADLE
ENGINEERING REVIEW:
MARK BENJAMIN / DOUG INGERSOLL / SETH HOOVER
ENGINEER OF RECORD:
MARK BENJAMIN, P.E.

SCALE:
1/4" = 1' U.N.O.
SHEET SIZE: D (24X36)

FOUNDATION PLAN & NOTES

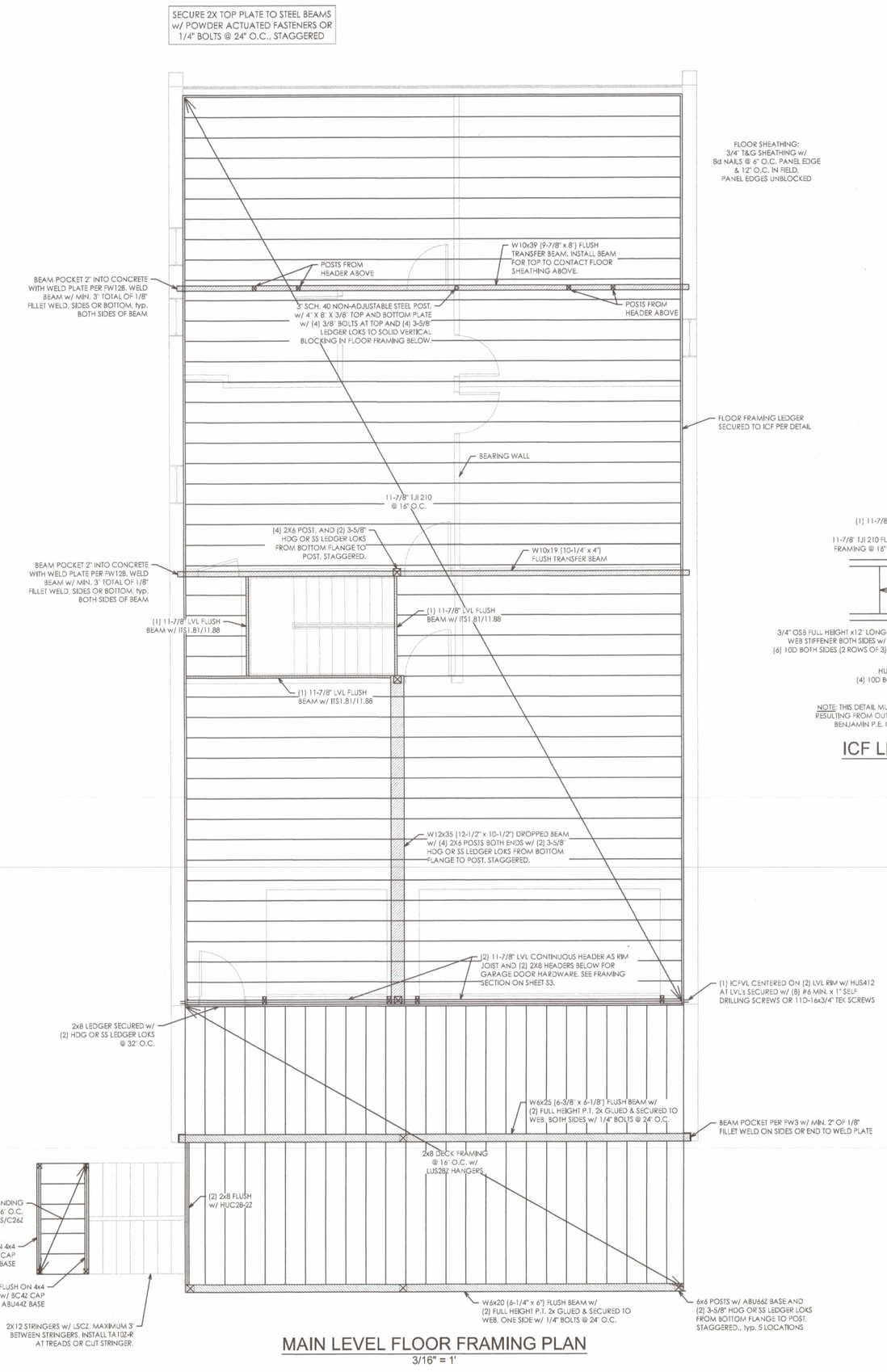
FINAL
DATE
10/15/2024

FINAL

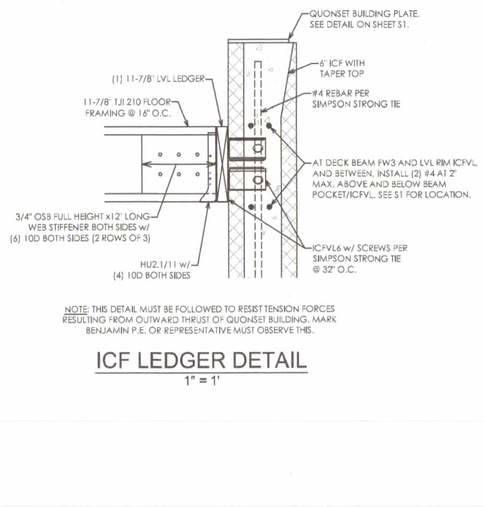
10/15/2024
COLORADO REGISTERED PROFESSIONAL ENGINEER MARK BENJAMIN 38390
Mark Benjamin
Digitally signed by Mark Benjamin Date: 2024.10.15 12:30:03 -06'00'

ENGINEERS JOB #
HGND1-24179

SHEET
S1

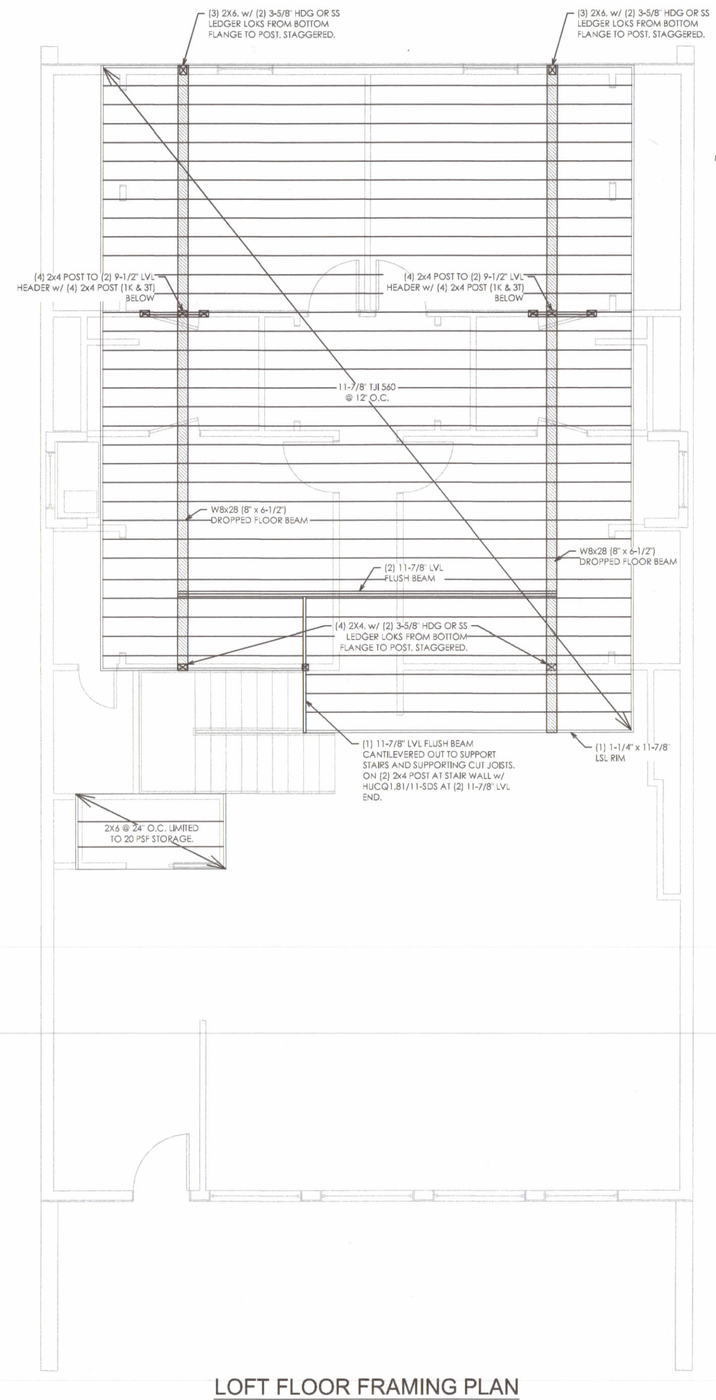


MAIN LEVEL FLOOR FRAMING PLAN
3/16" = 1'



NOTE: THIS DETAIL MUST BE FOLLOWED TO RESIST TENSION FORCES RESULTING FROM OUTWARD THRUST OF QUONSET BUILDING. MARK BENJAMIN P.E. OR REPRESENTATIVE MUST OBSERVE THIS.

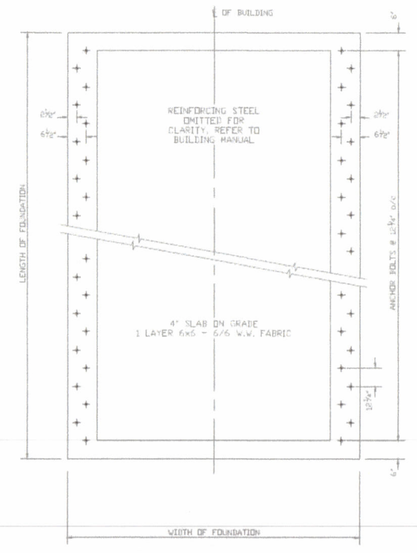
ICF LEDGER DETAIL
1" = 1'



LOFT FLOOR FRAMING PLAN
3/16" = 1'

DURO SPAN HAND WELDED BASEPLATE MANUAL FOR ERECTION OF STEEL PAGE 8

PACKAGE 0 - ANCHOR BOLT PLAN



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SCALE: 3/16" = 1'

S2 FLOOR FRAMING PLAN

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ENGINEER OF RECORD:
MARK BENJAMIN, P.E.

SCALE:
1/4" = 1' U.N.O.
SHEET SIZE: D (24X36)

FLOOR FRAMING PLAN

FINAL

DATE
10/15/2024

FINAL

10/15/2024

COLORADO REGISTERED PROFESSIONAL ENGINEER
MARK BENJAMIN
38390
COPIES OF THE ELECTRONICALLY SIGNED STAMP ARE INVALID

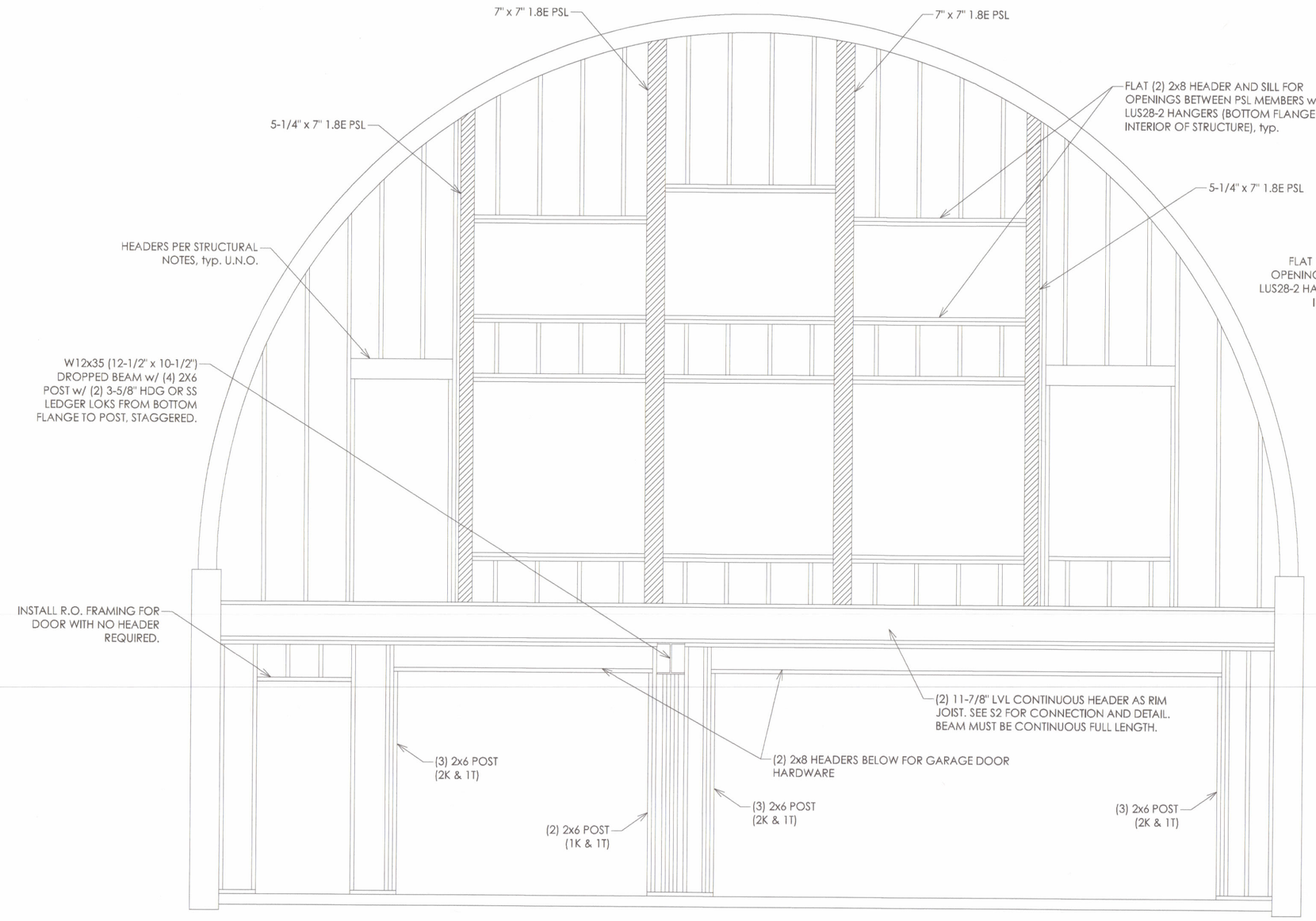
Mark Benjamin
Digitally signed by Mark Benjamin
Date: 2024.10.15 13:30:29 -06'00'

ENGINEERS JOB #
HGND1-24179

SHEET
S2

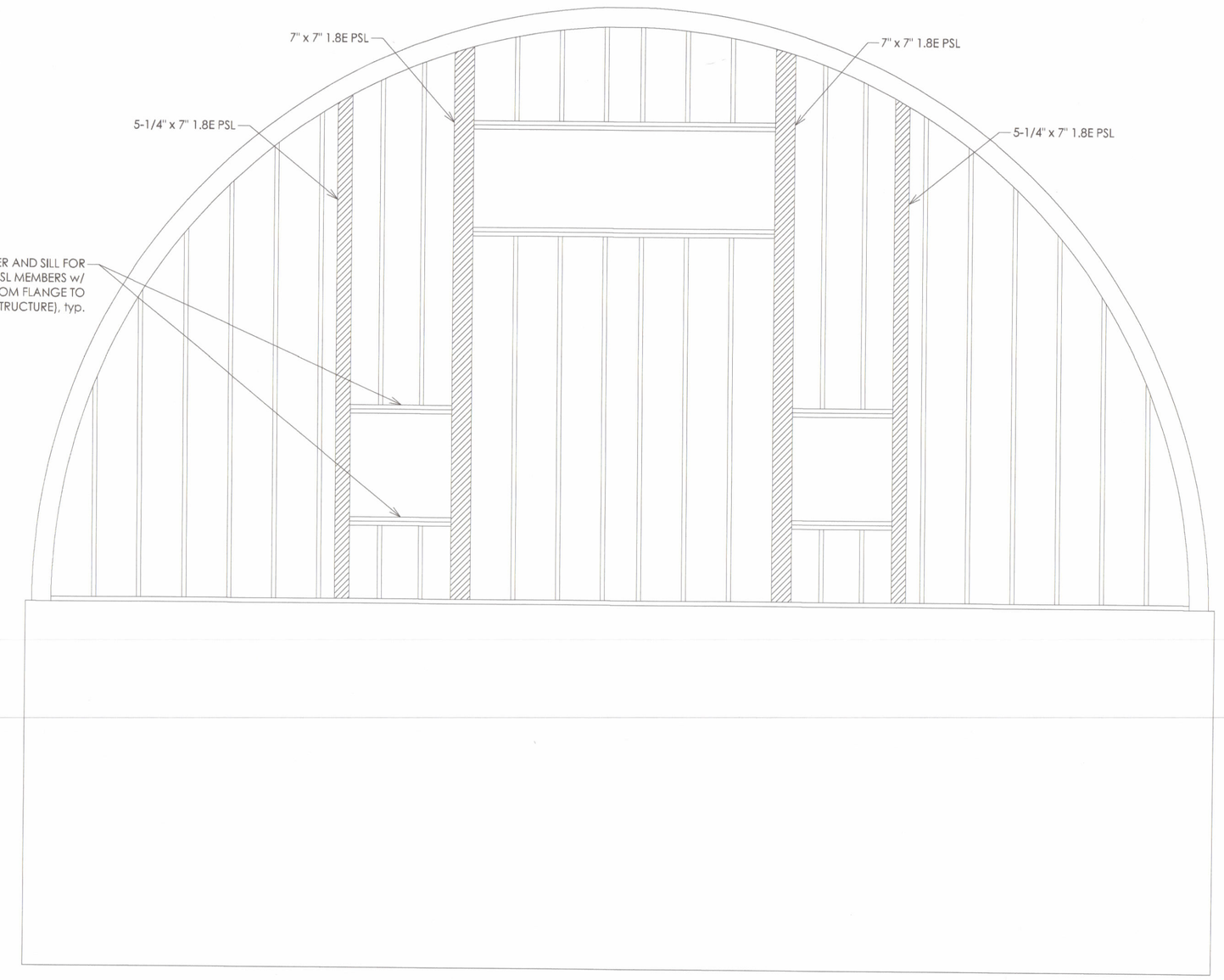
2x8 STUD WALLS AT FRONT MAIN LEVEL AND BACK. GARAGE LEVEL FRONT WALL MAY BE 2x6 STUDS @ 16" O.C.

ALL PSL MEMBERS NOTED TO BE SECURED w/ (2) LS70 ANGLES AT TOP AND BOTTOM w/ (10) 10D EA. AT BOTTOM AND (4) TEK SCREWS EA. TO QUONSET ARCH AT TOP



FRONT WALL FRAMING SECTION

3/8" = 1'



REAR WALL FRAMING SECTION

3/8" = 1'

S3 STRUCTURAL SECTIONS

SCALE: 3/8" = 1'

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CLIENT:
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516 MEADOW KNOLL CT.
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PHONE: 817-675-2477

DRAFTED BY:
EVAN CHEADLE
ENGINEERING REVIEW:
MARK BENJAMIN / DOUG INGERSOLL / SETH HOOVER
ENGINEER OF RECORD:
MARK BENJAMIN, P.E.

SCALE:
1/4" = 1' U.N.O.
SHEET SIZE: D (24X36)

STRUCTURAL SECTIONS

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COLORADO REGISTERED PROFESSIONAL ENGINEER MARK BENJAMIN 38390
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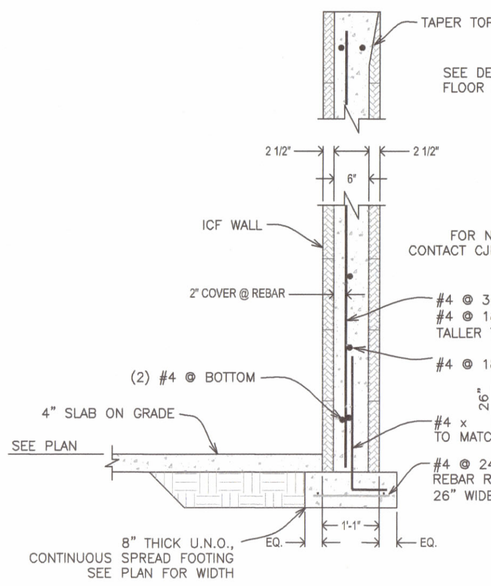
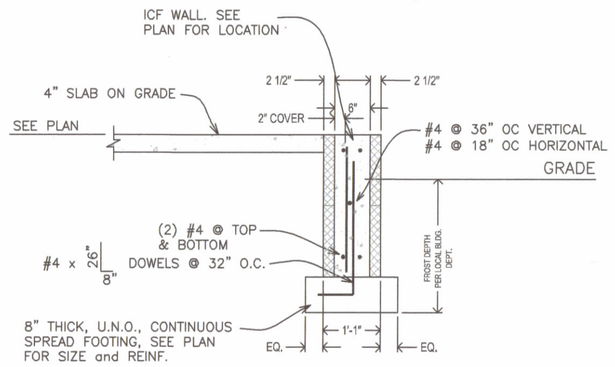
SHEET
S3



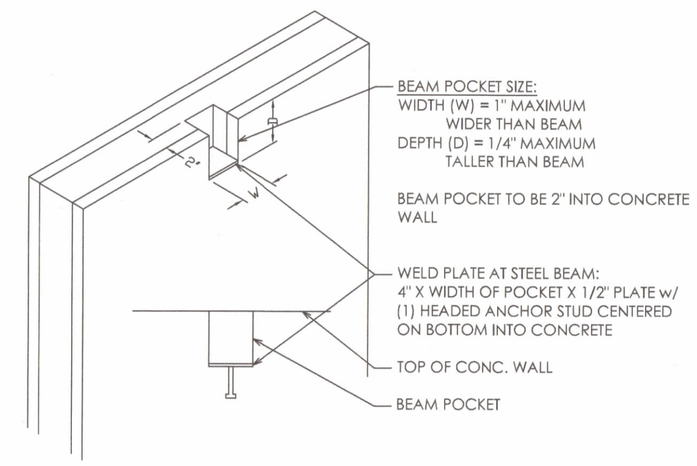
STEM WALL REINFORCEMENT SCHEDULE			
MIN."H"	MAX."H"	"C" BARS	"B" BARS
2'-8"	3'-11"	2 – #4 TOP & BOTTOM	#4 @ 64"
3'-11"	5'-11"	2 – #4 T & B	#4 @ 36"
5'-11"	7'-11"	2 – #4 T & B PLUS #4 @ 36" INT	#4 @ 36"
7'-11"	8'-11"	2 – #4 T & B PLUS #4 @ 18" INT	#4 @ 18"
8'-11"	9'-11"	2 – #4 T & B PLUS #4 @ 18" INT	#4 @ 18"
9'-11"	10'-11"	2 – #4 T & B PLUS #4 @ 18" INT	#4 @ 18"
"T & B" DENOTES TOP AND BOTTOM HORIZONTAL BARS			
"INT" DENOTES INTERMEDIATE HORIZONTAL BARS EVENLY SPACED BETWEEN TOP AND BOTTOM BARS			
#5 GRADE 40 BARS MAY BE SUBSTITUTED FOR #4 GRADE 60			

10' MAX. HEIGHT EXCEPT AS REQUIRED FOR FROST PROTECTION

ICF1 ICF WALL WITH SLAB
NOT TO SCALE



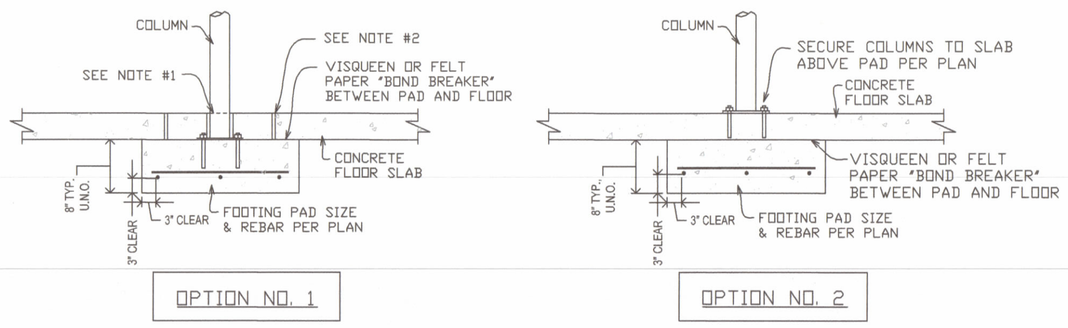
ICF2 ICF FROSTWALL WITH SLAB
NOT TO SCALE



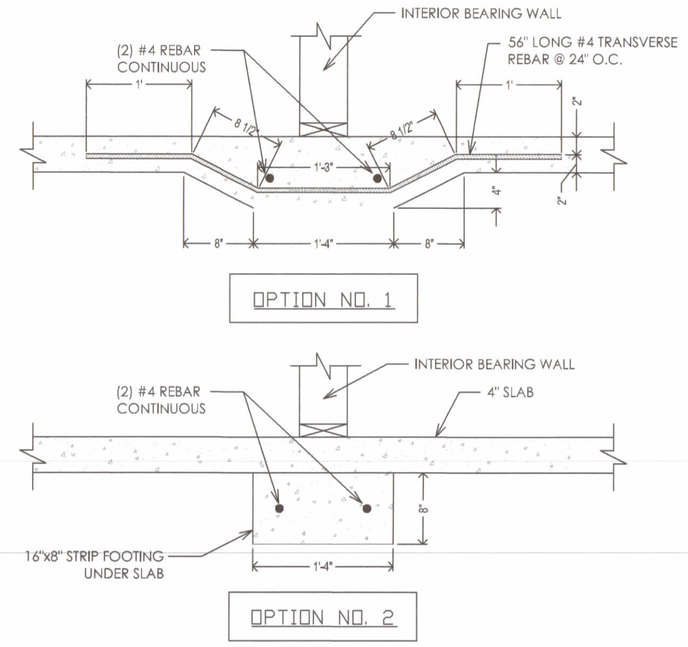
FW12B ICF BEAM POCKET DETAIL w/ WELD PLATE
SCALE AS NOTED

1. WRAP WITH CORRUGATED OR 3/8" CARPET PAD TO ISOLATE COLUMN FROM FLOOR SLAB.

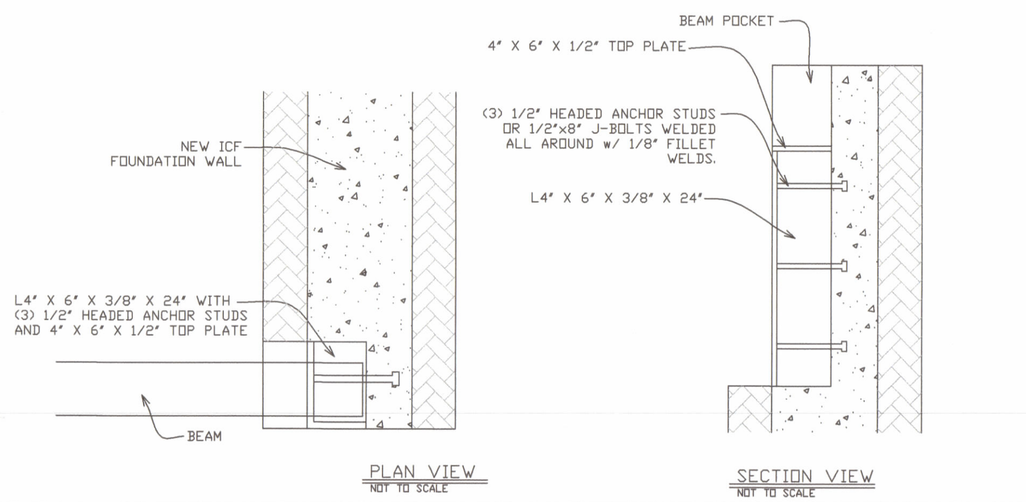
2. IF SLAB IS POURED BEFORE COLUMN IS PLACED, PROVIDE A 1'-0" SAQUARE CAP FLUSH WITH THE FINISHED FLOOR SURROUNDED WITH 1/2" THICK EXPANSION JOINT MATERIAL (EITHER CELLULOSE OR ASPHALT- IMPREGNATED CELOTEX ARE APPROVED)



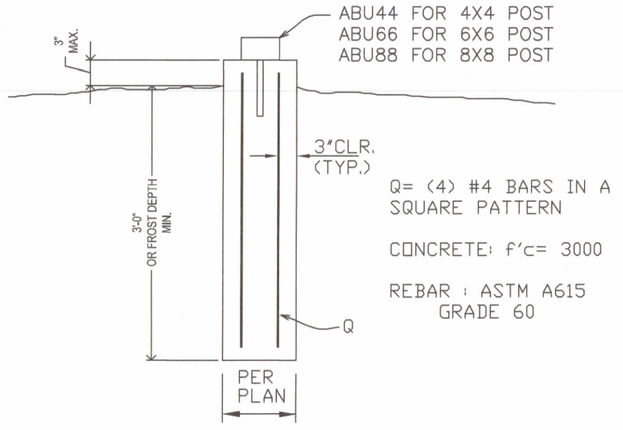
PD1 INTERIOR FOOTING DETAIL
NOT TO SCALE



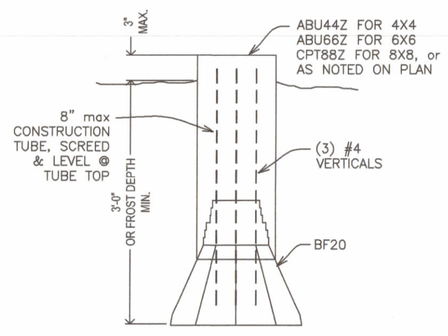
SL2 THICKENED SLAB DETAIL
NOT TO SCALE



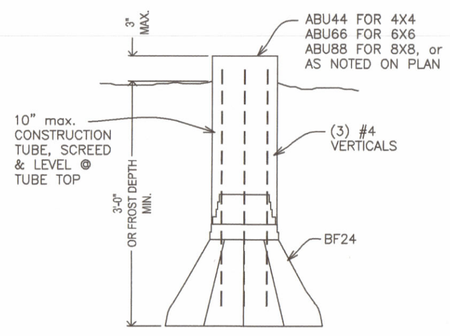
FW3 CORNER BEAM POCKET DETAIL
NOT TO SCALE



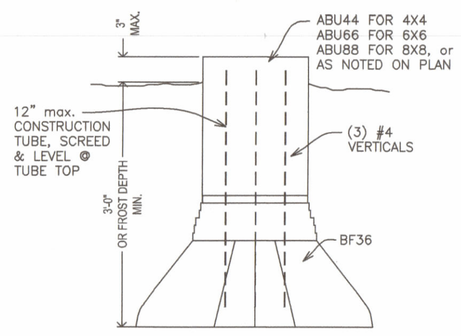
PR5 DRILLED PIER DETAIL
NOT TO SCALE



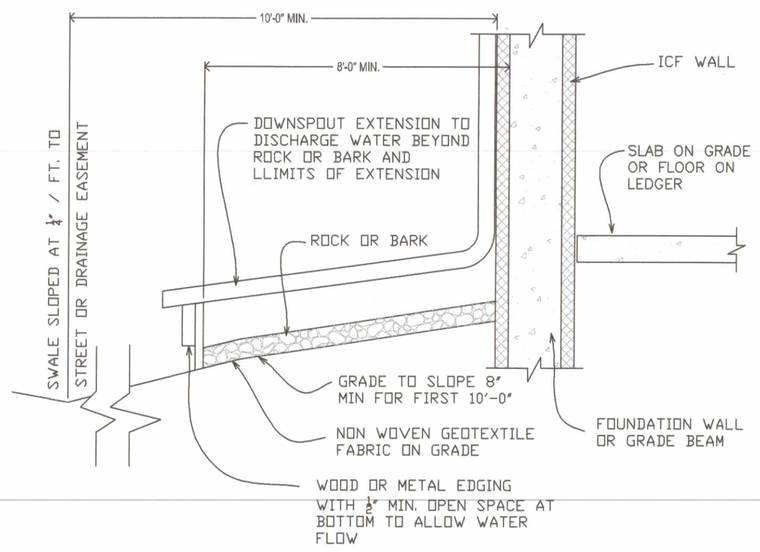
BF20 20" BIGFOOT
NOT TO SCALE



BF24 24" BIGFOOT
NOT TO SCALE



BF36 36" BIGFOOT
NOT TO SCALE



LS7 LANDSCAPE SECTION
NOT TO SCALE

S4 STRUCTURAL DETAILS

NOT TO SCALE

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S4

Huerfano County Land Use
401 Main Street, Suite 304
Walsenburg, Colorado 81089
719-738-1220, Ext. 506

Contractor Licensing Requirements (other jurisdictions)

Pueblo Regional Building Department-
Requires three written and signed references as well as project history

City of Alamosa-
Requires three references and contact information

Las Animas County-
No references required

Pikes Peak Regional Building Department-
Requires three reference request forms as well as project history