

- GENERAL NOTES
1. ALL WORK TO CONFORM TO 2006 BC Building Code.
 2. BUILDING DESIGNED UNDER PART 9 OF BUILDING CODE.
 3. STRUCTURAL ELEMENTS OF BUILDING DESIGNED UNDER PART 4 OF BUILDING CODE.
 4. THIS BUILDING IS INTENDED FOR RESIDENTIAL OCCUPANCY.
 5. FINISHES CONFLICT WITH SCALED DIMENSIONS, NOTES TAKE PRECEDENCE.
 6. ALL TRADING LUMBER TO BE DRY 24HR SPF UNLESS OTHERWISE NOTED.
 7. ALL UNITS TO BE 2-2Y10 UNLESS OTHERWISE NOTED. Refer to Page 3 for framed earth wall construction details.

- FOUNDATION NOTES
1. FOUNDATIONS ARE TO BEAR ON UNDISTURBED LEVEL SOIL BELOW FROST LEVEL. DEVOID OF ANY ORGANIC MATERIAL AND STERILIZED AS REQUIRED TO MAINTAIN THE REQUIRED DEPTH.
 2. MIN. SOIL BEARING PRESSURE OF 2000 PSF.
 3. CONCRETE 3,000 PSI (20 MPa).
 4. CONCRETE SLABS TO HAVE CONTROL JOINTS AT 25' (MAXIMUM) EACH WAY.
 5. ALL WOOD IN CONTACT WITH CONCRETE TO BE PRESSURE TREATED OR PROTECTED WITH 15# ROLLED ROOFING.

DETAIL 3B NOTES

- 3B.1 Unnotched Post under beam over
- 3B.2 2x10 Sapek 1860 decking, attached to rafters w/ 3" decking screws (2 per rafter)
- 3B.3 6 mil poly vapour/barrier, lapped and taped at seams, stapled to decking
- 3B.4 2 layers of 4" rigid insulation (R48), all joints staggered and taped. Insulation mechanically fastened w/ screws or nails (with washers) to the deck over the rafters
- 3B.5 8" steel strap and bracket (pins post to beam)
- 3B.6 rafters shimmed to appropriate height w/ solid blocking
- 3B.7 1" threaded rod w/ timber washers
- 3B.8 1cm in-fill between beams
- 3B.9 1"x12" anchor bolt
- 3B.10 see 3A.9
- 3B.11 1/4" gasket flattened for 3x8 rafter hangers or 2x4 ledger
- 3B.12 concrete half fire in-fill (see pg 5 for framed earth wall spec)
- 3B.13 grey water panner (see page 7)
- 3B.14 metal roof fastening (min 6" top over roofing mat)
- 3B.15 28 gauge tin skirt slopes away from building for min 2"
- 3B.16 FRAMED SOUTH WALL
- metal siding and flashing
- building paper
- 1" plywood
- R20 insulation
- 6 mil poly on warm side of insulation
- #12 2x6 D. Fir studs and plates 2' O/C
- doubled top plate
- Every rafter to bear directly on stud
- 3B.17 8x10 #1 D. Fir beam
- 3B.18 0.45" EPDM roofing. All penetrations flashed, seams sealed and lapped, adhered to rigid insulation

REVISIONS

NO.	DATE	DESCRIPTION	BY
1	Nov 21, 08	Initial Draft Drawings	
2	February 18, 09	Full rough set (no engineering)	
3	February 27, 09	Added water collection and grey water	
4	July 22, 10	Added sheet 4A	

PROJECT: Newton Earthship (xxxx Yellowhead Hwy)

CAD DWG FILE: C:\USERPROJECTS\DRAWINGS\EARTHSHIELD\NEWTON\CKP

DRAWN BY: C. Newton

Ground Snow Load: S_s = 2.5 kPa (rein load S_r = 0.3 kPa)

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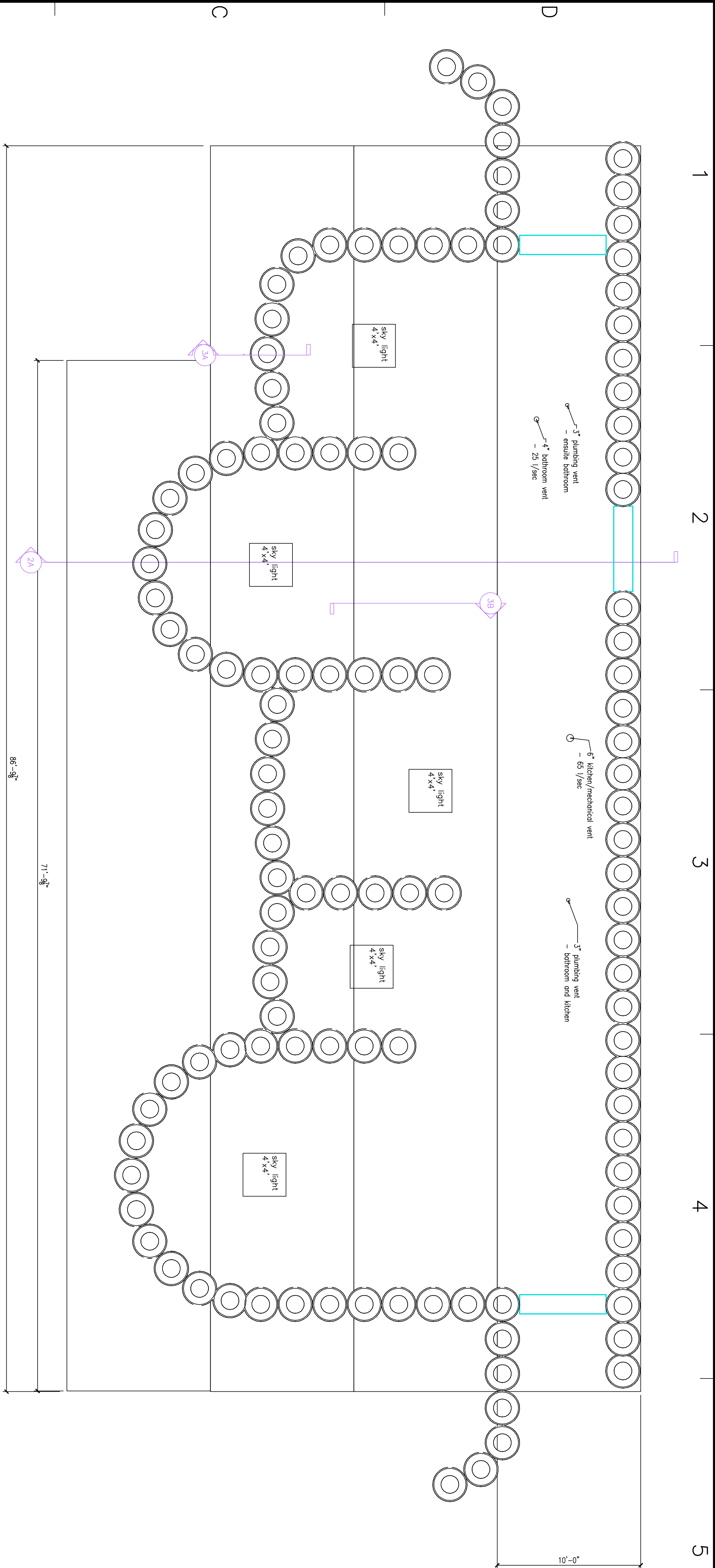
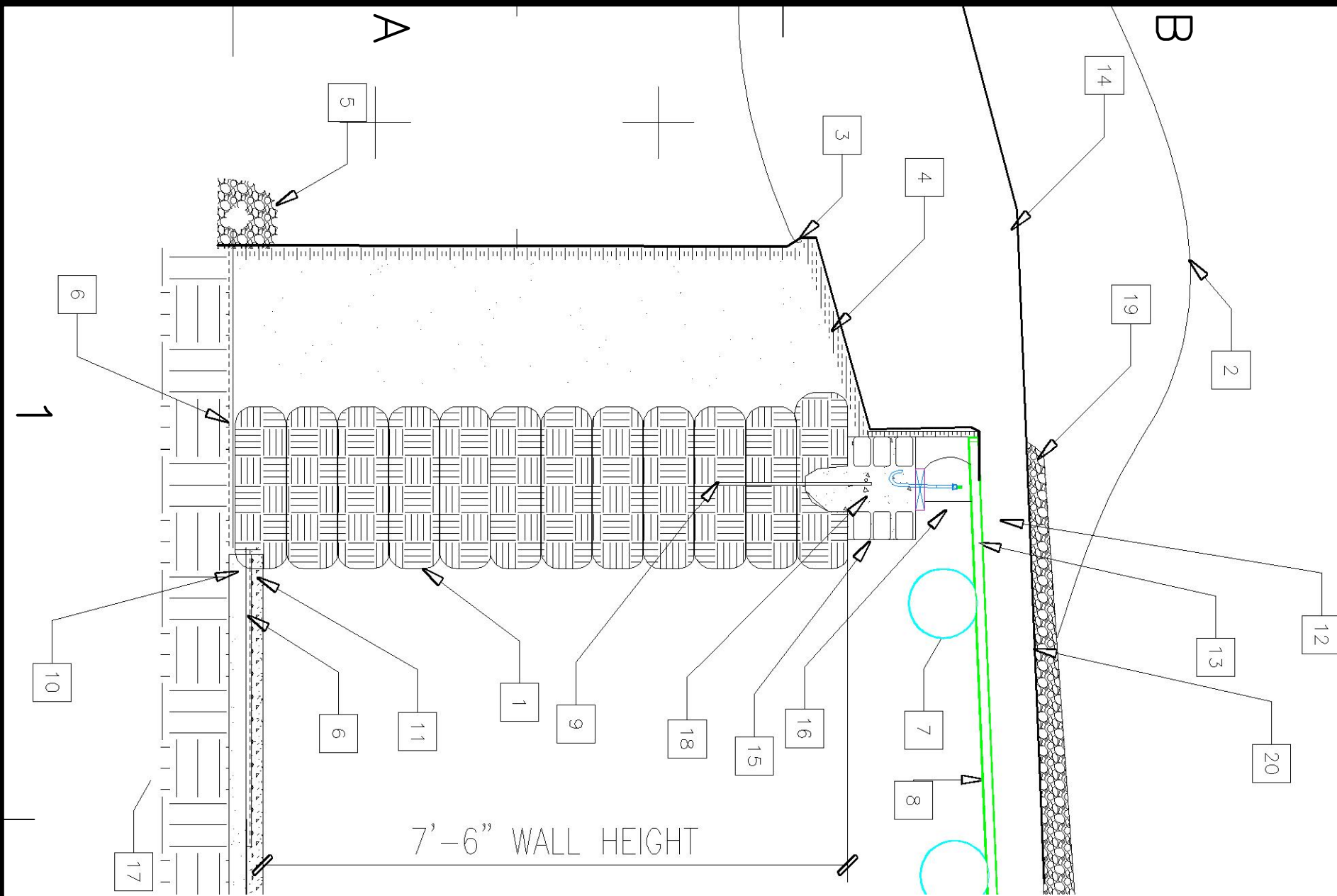
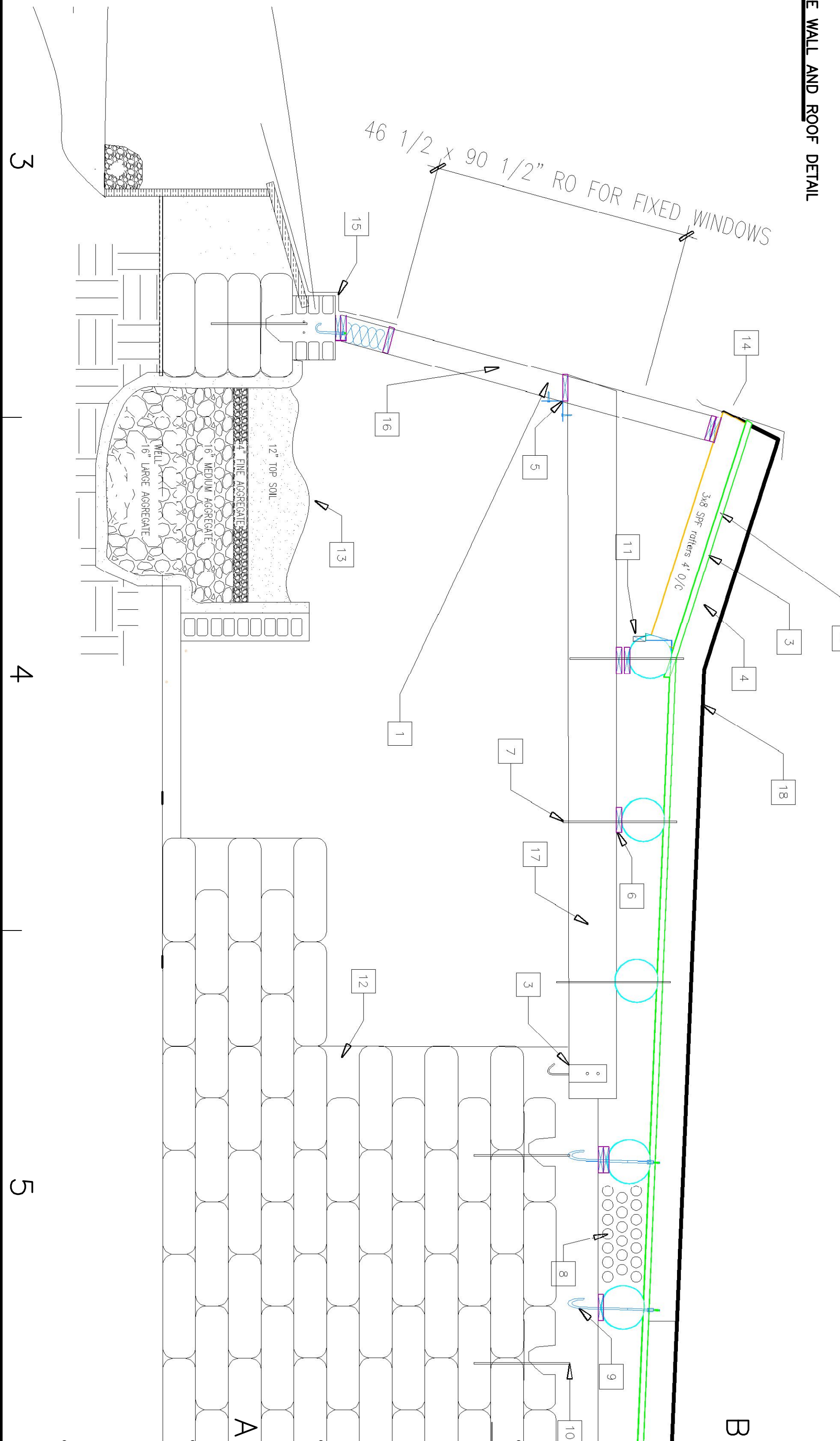
SHEET TITLE: C Newton Engineering

ROOF: Membrane and Insulation

Scale: $\frac{1}{4}"=1'$

SHEETNUMBER

SHEET 4A OF 7

3A
7/8" EXTERIOR WALL DETAIL3B
7/8" GREENHOUSE WALL AND ROOF DETAIL

- DETAIL 3A NOTES
- 3A.1 RAINED EARTH WALL (90% connection) using rafted, steel balled bricks (2'-6" ø). See framed earth wall spec on page 5.
- 3A.2 EARTH BEEN ON NORTH EDGE OF ROOF TO CHANNEL WATER TO CISTERN (see page 4). Also acts as ballast for roof membrane.
- 3A.3 6 MIL BLACK POLY LAPPED MIN 6"
- 3A.4 2" RIGID INSULATION (R10)
- 3A.5 FRENCH DRAIN - 4" perforated pipe in crushed stone sloped to drain, (the drain with 6 mil poly to form underground gutter)
- 3A.6 1" RIGID INSULATION w/ 6 MIL POLY vapour barrier
- 3A.7 12" ø LAPPED SPF #1 LOG ROOF RAFTERS 2' O/C
- 3A.8 see note 3B.2
- 3A.9 6 mil poly on warm side of insulation
- 3A.10 4" COMPACTED SAND
- 3A.11 FINISHED FLOOR (4" re-inforced concrete)
- 3A.12 see note 3B.3
- 3A.13 see note 3B.3
- 3A.14 porticle channel to cistern for roof runoff
- 3A.15 concrete bond beam form
- 3A.16 concrete bond beam w/ 1"x12" anchor bolts 72" O/C
- 3A.17 undisturbed or compacted soil
- 3A.18 8" wide concrete bond beam w/ 2 continuous runs 10 mm rebar
- 3A.19 2" tier rock
- 3A.20 see note 3B.18