



2005
 NORTH CAROLINA
 AFFORDABLE
 PASSIVE SOLAR
 PLANBOOK

THE

GOTTAGIE

3 BEDROOM/ 2 BATH
 1188 SQ. FT. TOTAL HEATED SPACE

DRAWN BY: Appalachian State University Energy Center
 Construction Technology Department

State Energy Office



www.energync.net 1-800-662-7131
 N.C. Department of Administration "Ensuring a sustainable energy future"



DISCLAIMER:
 This house plan has been developed under a contract with the North Carolina State Energy Office as part of their ongoing effort to promote energy efficient house designs.

The designs, drawings, and specifications offered are generally suitable for construction in the state of North Carolina. Changes necessary to adapt the designs to other areas should be performed by professionals experienced and competent in passive solar applications. In addition, the working drawings and specifications should be submitted for review to local building officials to insure compliance with code requirements. This review should be done prior to site selection, financial commitments, or construction permit applications.

Neither the State of North Carolina, nor any agency thereof, nor any of the employees makes any warranty, express or implied, or assumes any legal liability or responsibility for any third party use or the results of such use of any information, apparatus, assembly, product, or functional efficiency in this plan or represents that the use by such third party would not infringe upon privately owned designs or rights.

The energy use information and design criteria for energy analysis on this plan has been assumed for the climate conditions found in North Carolina. Neither ASU Energy Center, nor any of their employees or consultants, shall be responsible for variations in the actual performance of this design.

The drawings in this set have been prepared as architectural guidelines for the evaluation of a passive solar house. Items such as heating and cooling equipment, plumbing, and electrical requirements are included, though modifications may be necessary due to the location and the specific site. All modifications should follow energy efficient guidelines; provide continuous exterior insulation, seal all air leaks, create a continuous air and moisture barrier, and insulate and seal all ductwork. The contractor and owner shall follow the requirements of local codes carefully. The contractor is responsible for all fabrication processes, construction techniques, and coordination of work with all trades and subcontractors. Any dimensional errors or omissions from the drawings do not relieve the general contractor of the responsibility to provide a complete project in accordance with genuinely accepted quality standards.

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- A-101 FOUNDATION PLAN
- A-102 1ST FLOOR PLAN
- A-103 ROOF PLAN
- A-201 ELEVATIONS
- A-301 BUILDING SECTIONS
- A-401 DETAILS

LEGEND:

DRAWING TITLE

GRID LOCATION

SHEET NUMBER

SCALE

NORTH

DETAIL

SECTION DETAIL

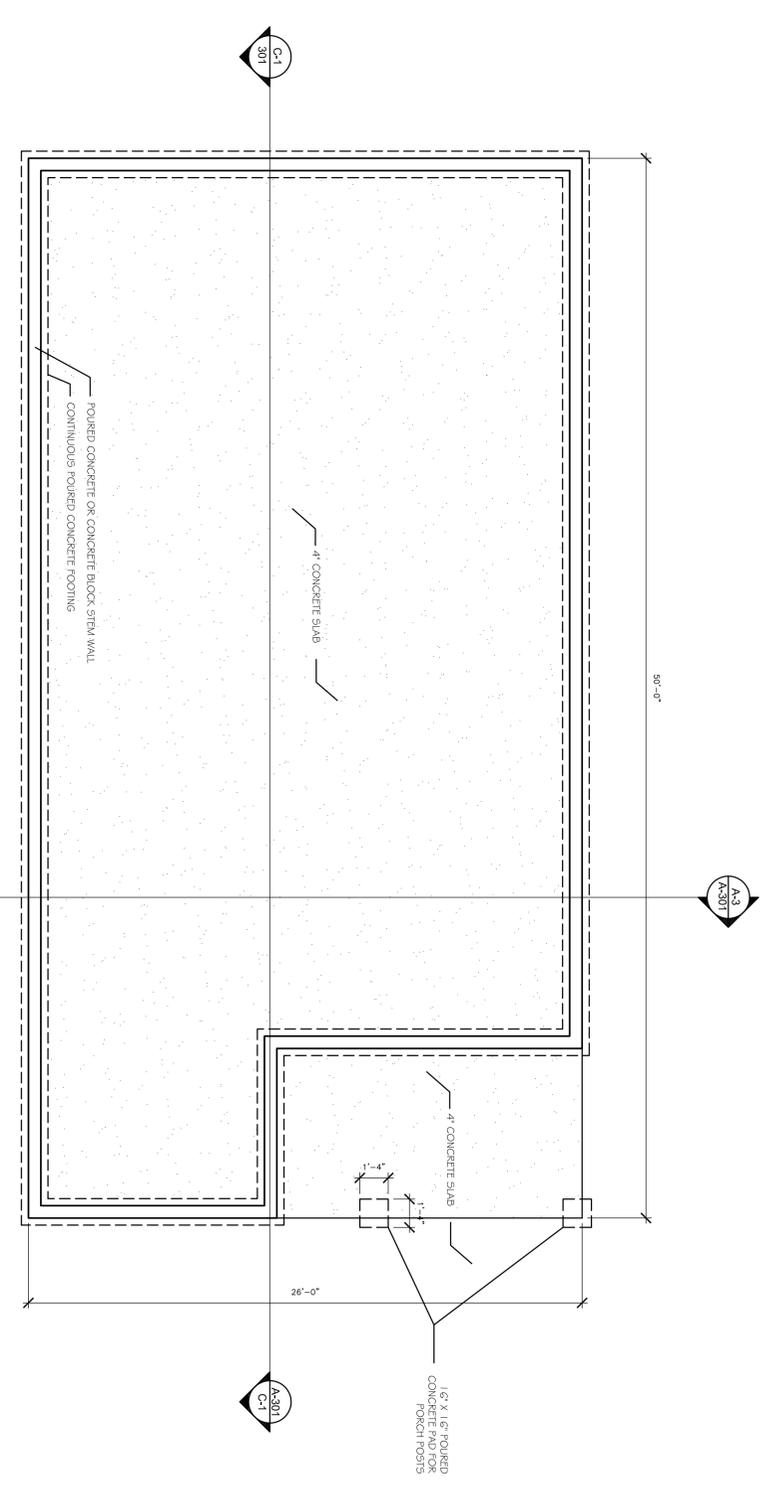
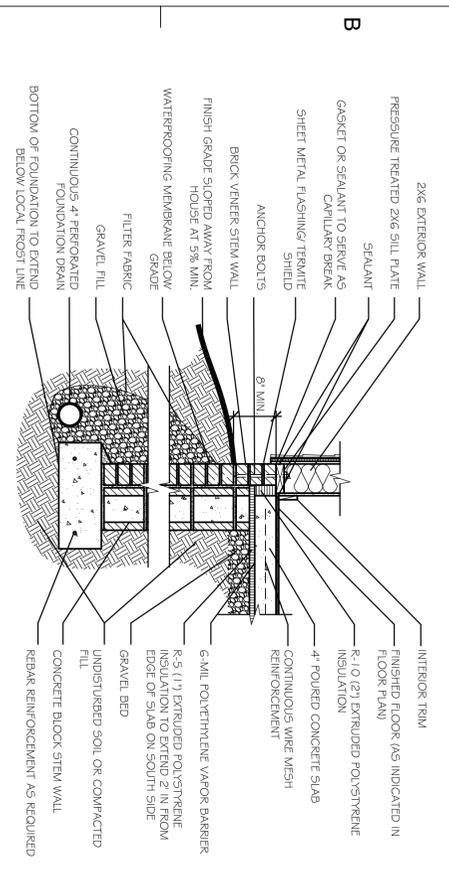
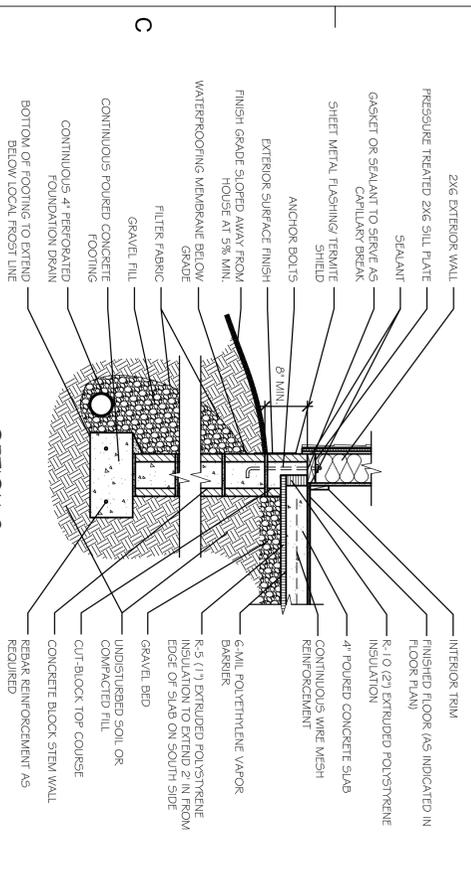
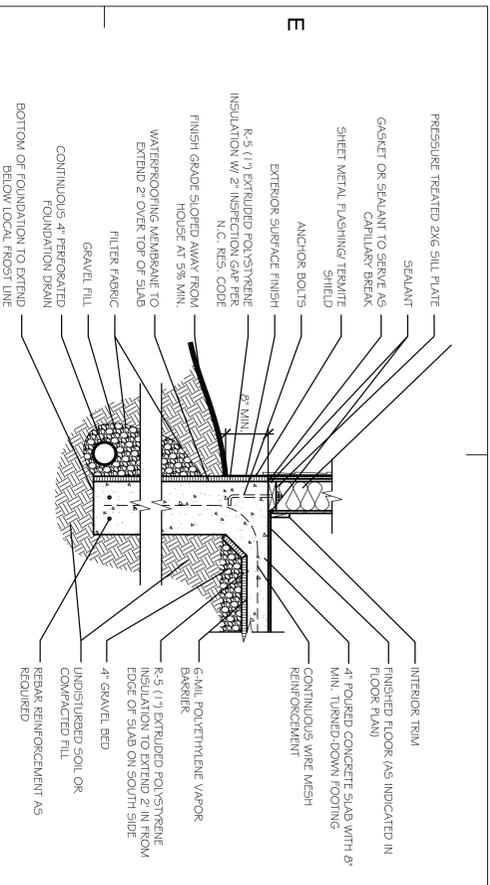
EXTERIOR ELEVATION

BUILDING SECTION

FLOOR PLAN

1/4" = 1'-0"

0 2 4 8



FOUNDATION DETAILS

3/4" = 1'-0"

0 1 2 3

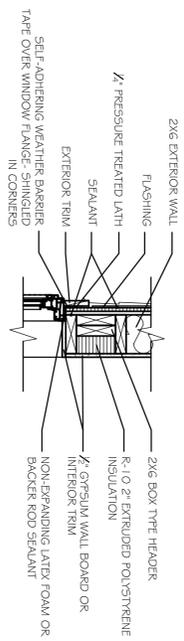
FOUNDATION PLAN

1/4" = 1'-0"

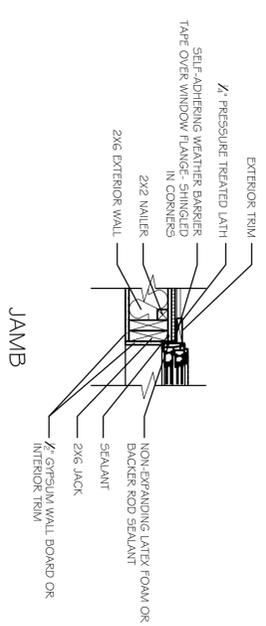
0 4 8



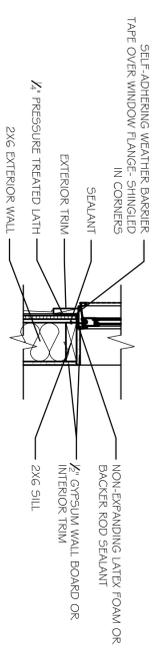
MARK	DATE	DESCRIPTION



INSULATED HEADER

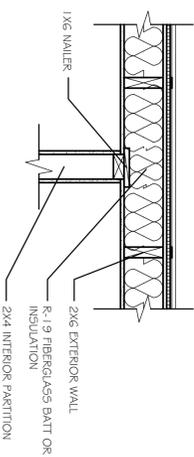


JAMB

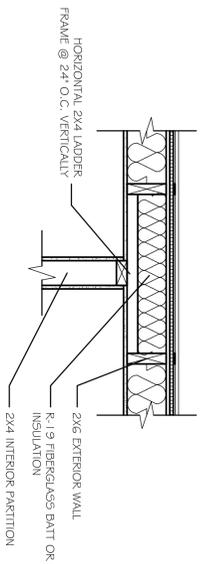


SILL

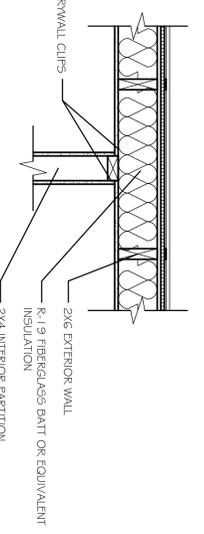
D3 WINDOW AND DOOR DETAILS
A-102 1" = 1'-0" 0 1/2" 1" 2"



OPTION 1:
1X6 MAILER

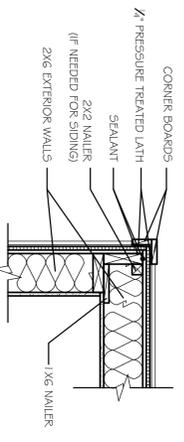


OPTION 2:
2X4 LADDER FRAME

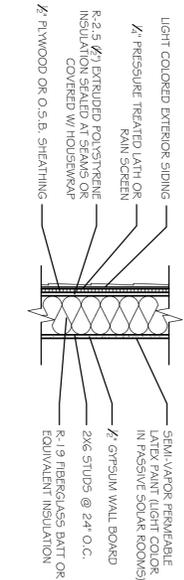


OPTION 3:
DRYWALL CLIPS

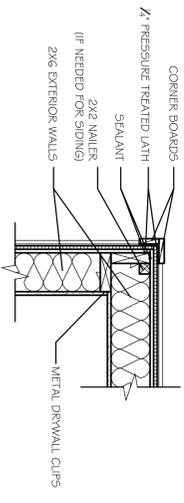
C-1 T-WALL DETAILS
A-102 1" = 1'-0" 0 1/2" 1" 2"



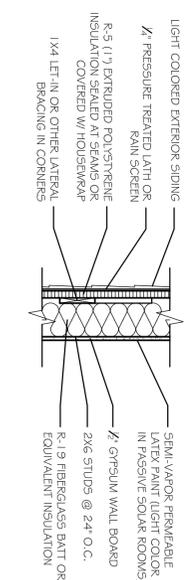
OPTION 1:
3-STUD CORNER



OPTION 1:
R-21.5 W/ PLYWOOD OR O.S.B. SHEATHING



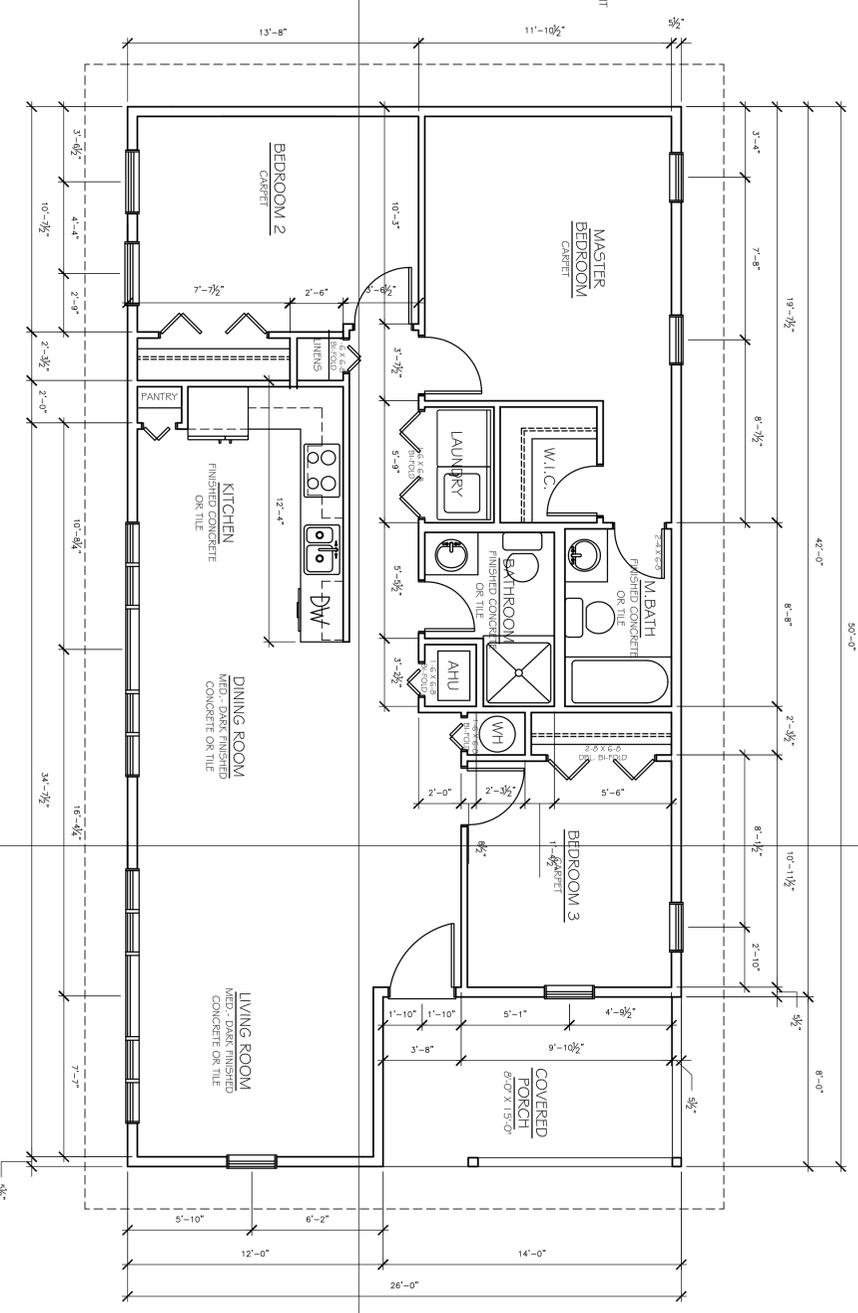
OPTION 2:
DRYWALL CLIPS



OPTION 2:
R-24 W/ LEFT-IN BRACING

A-4 EXTERIOR CORNER DETAILS
A-102 1" = 1'-0" 0 1/2" 1" 2"

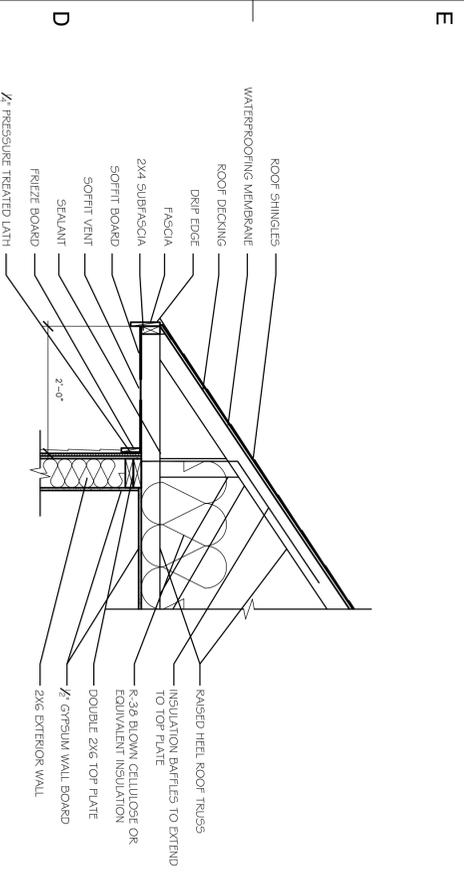
A-3 2X6 EXTERIOR WALL DETAILS
A-102 1" = 1'-0" 0 1/2" 1" 2"



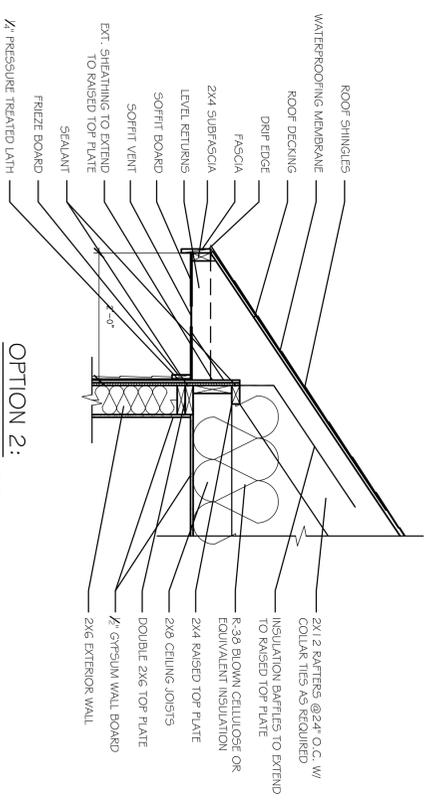
A-4 FLOOR PLAN
A-102 1/4" = 1'-0" 0 2" 4" 8"



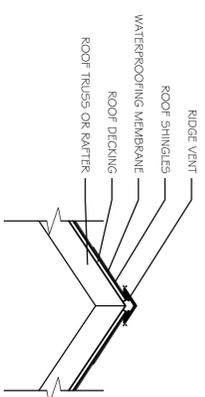
MARK	DATE	DESCRIPTION



OPTION 1:
RAISED HEEL TRUSS

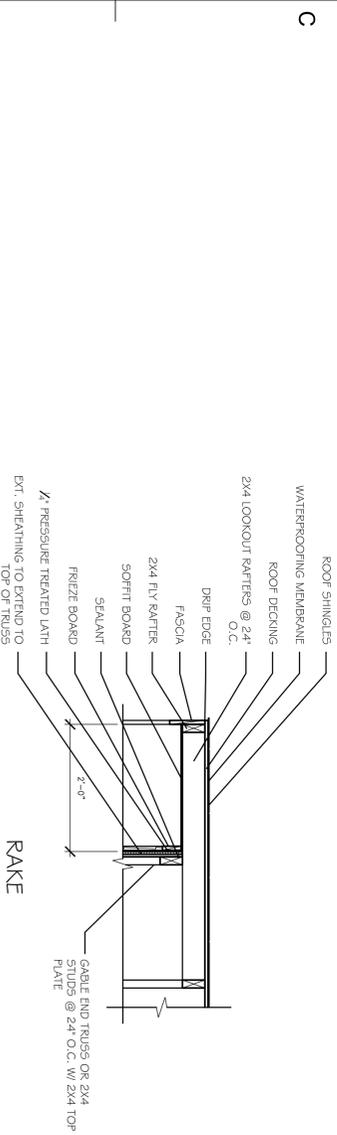


OPTION 2:
RAISED TOP PLATE

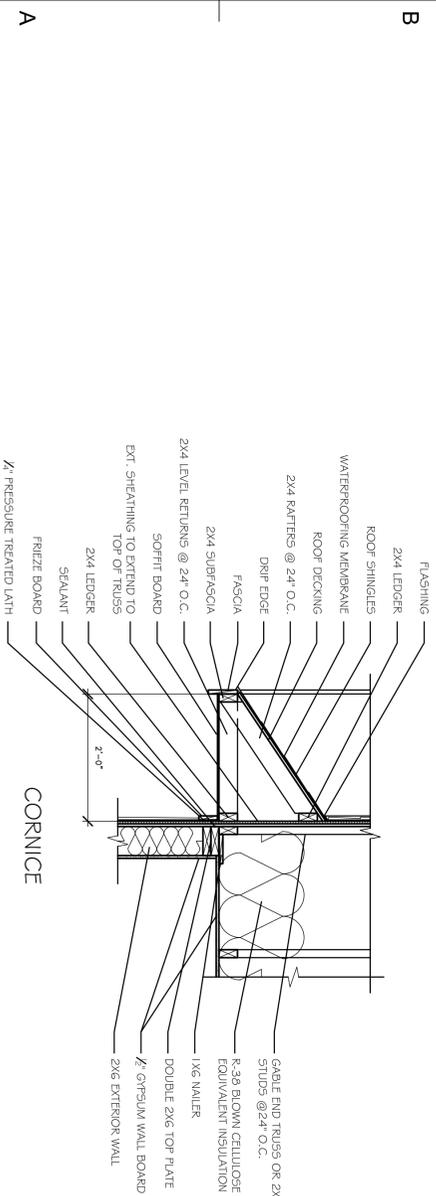


OPTION 3:
RIDGE DETAIL

D-1
A-103
EAVE DETAILS
3/4" = 1'-0"

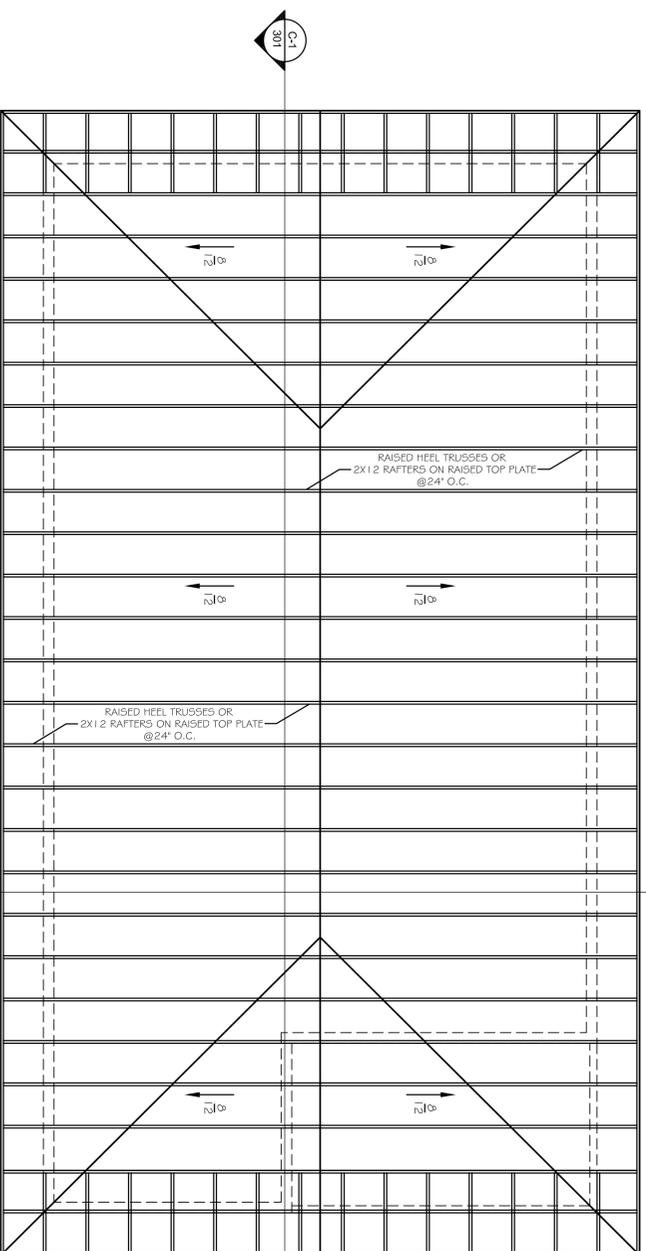


RAKE



CORNICE

A-2
A-103
GABLE WALL DETAILS
3/4" = 1'-0"



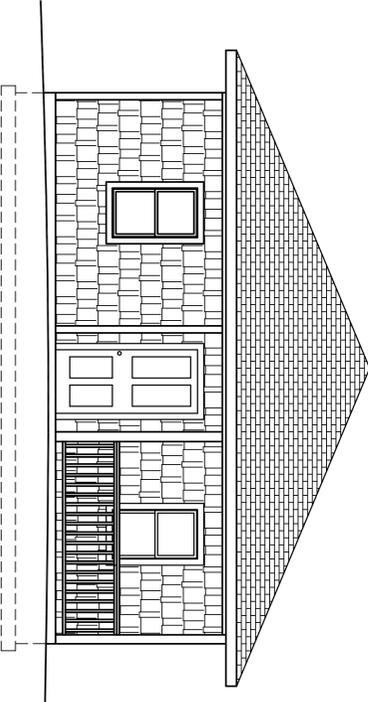
A-4
A-103
ROOF FRAMING PLAN
1/4" = 1'-0"



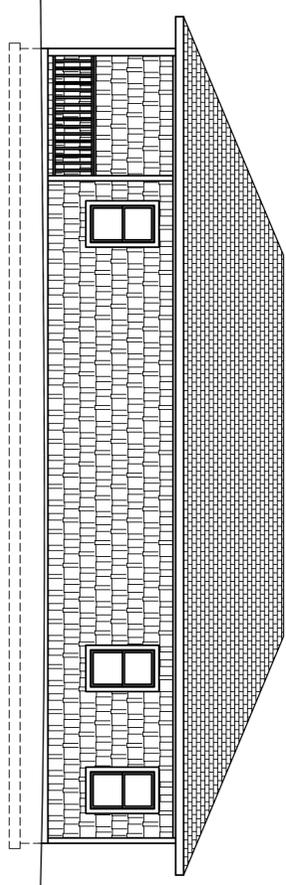
C-1
A-301

ISSUE

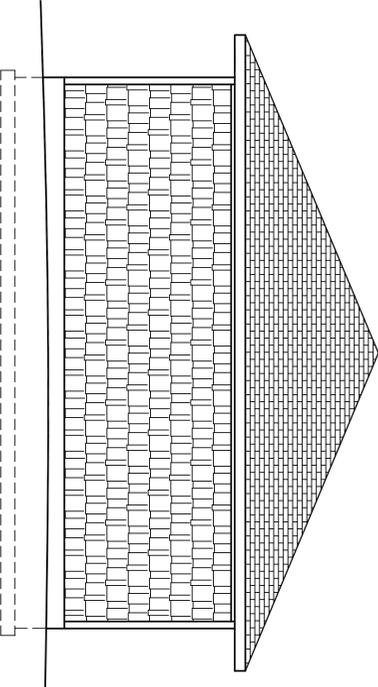
MARK	DATE	DESCRIPTION



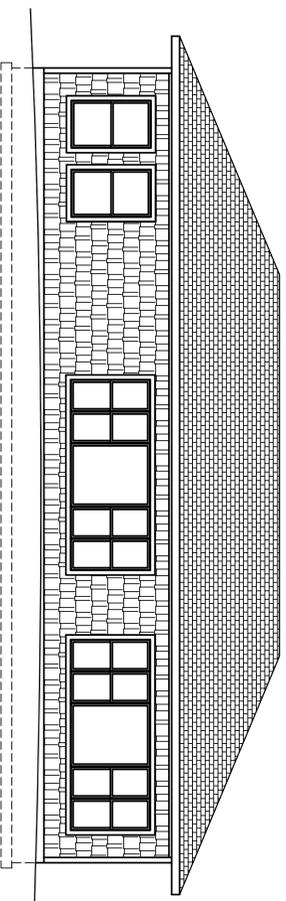
A-4
 A-100' 1/4" = 1'-0" 0 2 4 8
EAST (FRONT) ELEVATION



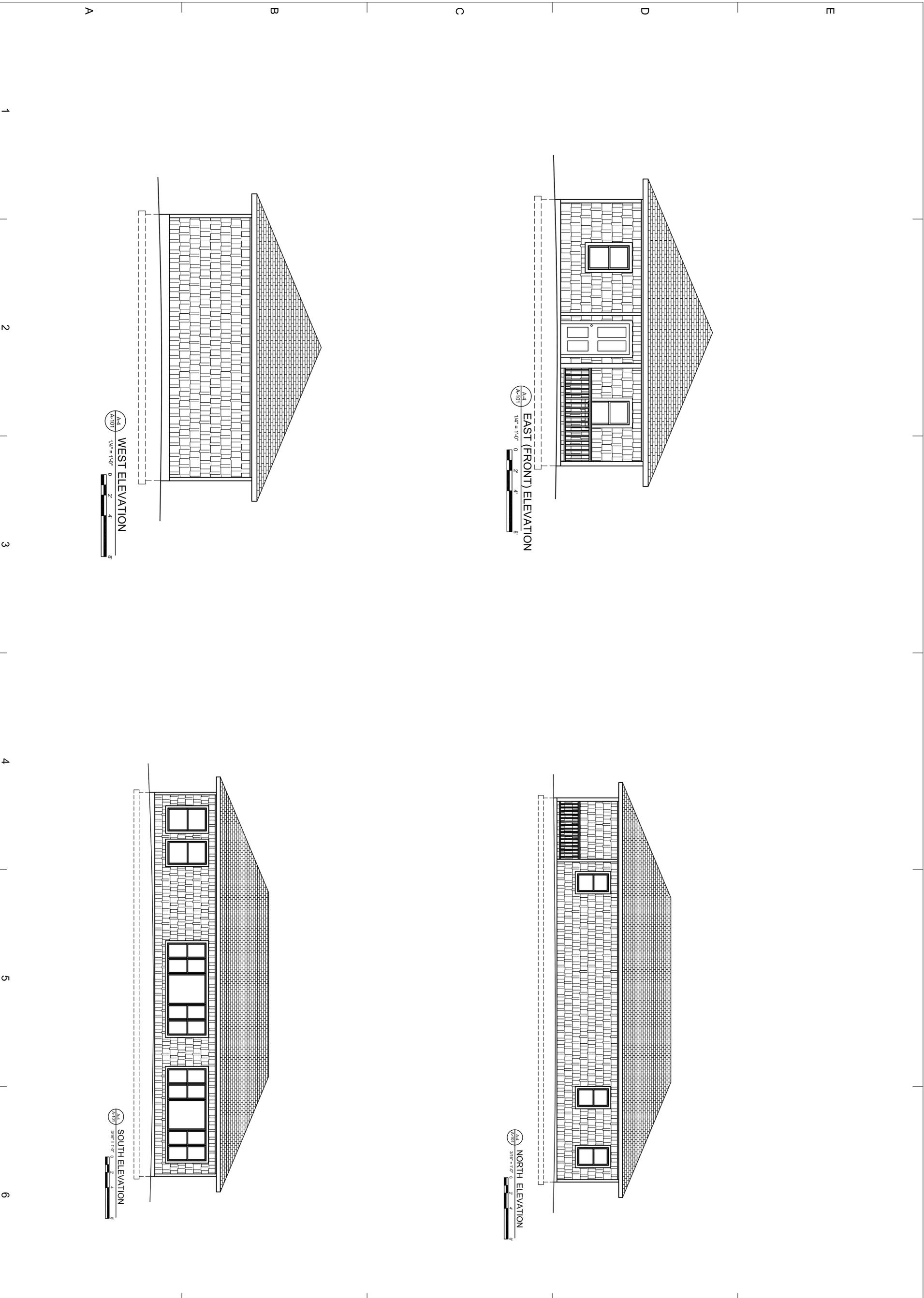
A-4
 A-100' 3/8" = 1'-0" 0 2 4 8
NORTH ELEVATION



A-4
 A-100' 1/4" = 1'-0" 0 2 4 8
WEST ELEVATION



A-4
 A-100' 3/8" = 1'-0" 0 2 4 8
SOUTH ELEVATION

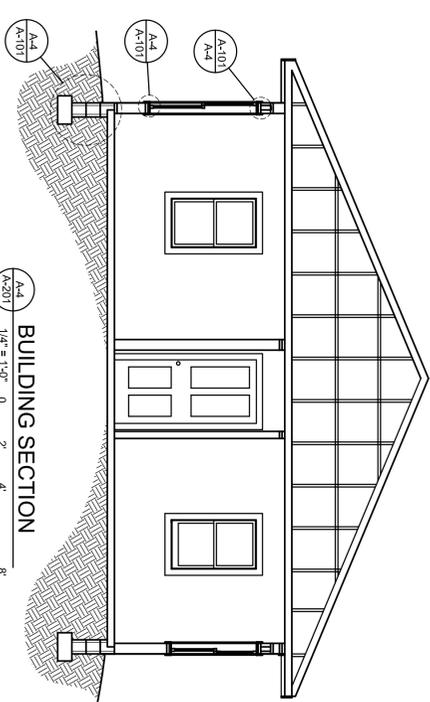
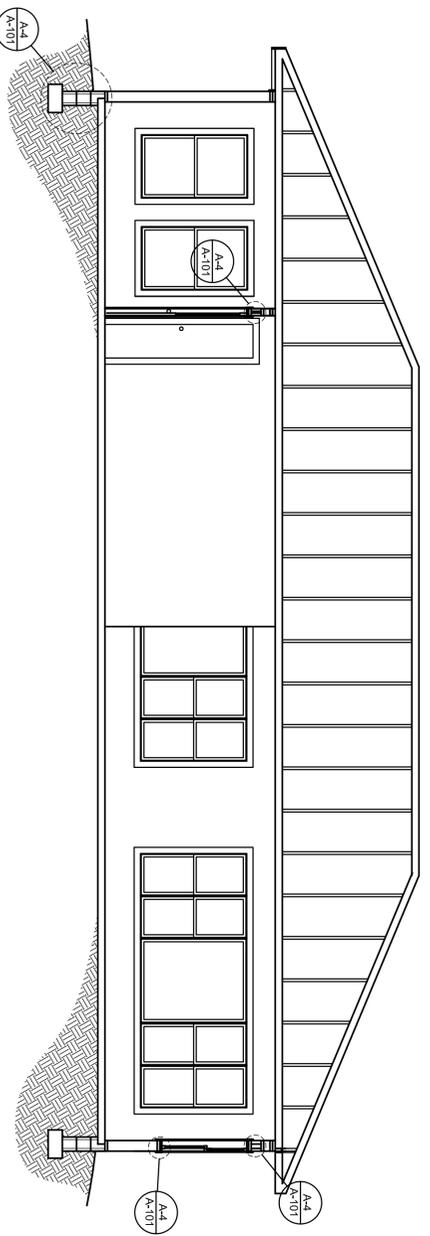
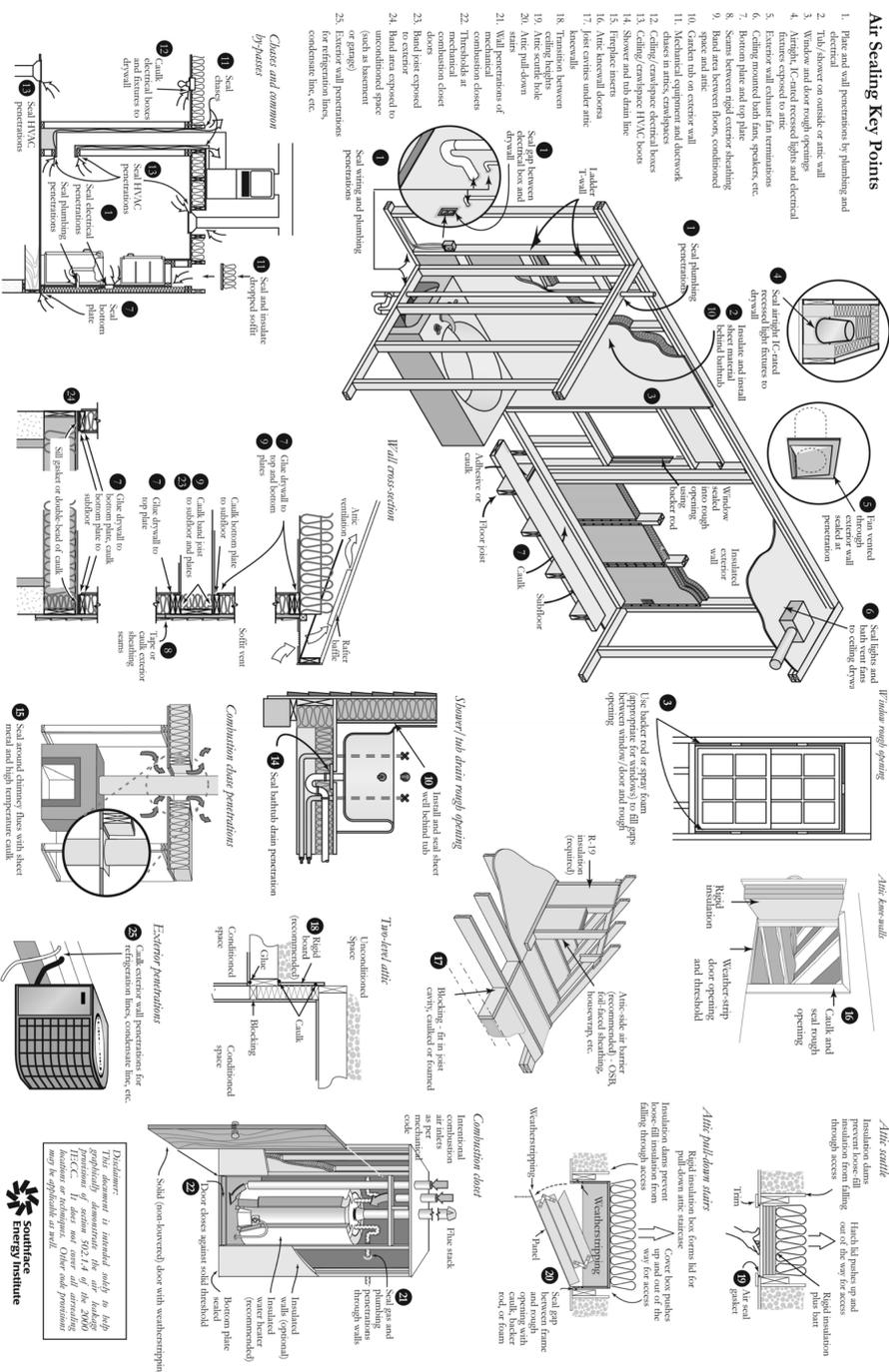


ISSUE

MARK	DATE	DESCRIPTION

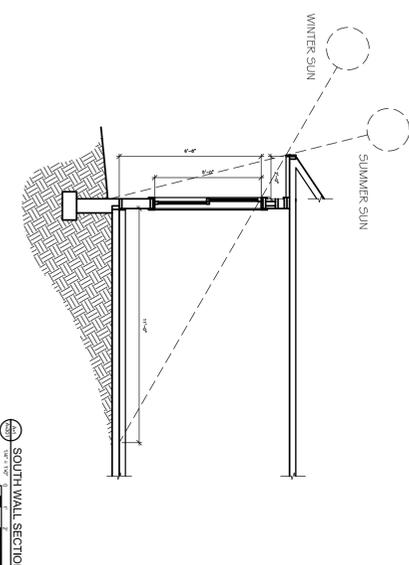
Air Sealing Key Points

1. Pipes and wall penetrations by plumbing and electrical
2. All joints on outside of attic wall
3. All joints on exterior of roof
4. Airtight, U-rated recessed light and electrical fixtures exposed to attic
5. Exterior wall exhaust fan terminations
6. Ceiling mounted bath fans, speakers, etc.
7. Attic pull-down stairs
8. Seams between rigid exterior sheathing
9. Band area between floor, conditioned space and attic
10. Gable ends on exterior wall
11. Chases in attic, condensation chases in attic, condensation chases in attic
12. Ceiling/crawlspace electrical boxes
13. Shower and tub dam line
14. Rigid pipe penetrations
15. Rigid pipe penetrations
16. Rigid pipe penetrations
17. Joint cracks under attic sheathing
18. Transition between
19. Attic pull-down stairs
20. Attic pull-down stairs
21. Wall penetrations of combustion chases
22. Thresholds at mechanical chases
23. Band joint exposed
24. Exterior wall penetrations (such as basement or garage)
25. Exterior wall penetrations for refrigeration lines, condensation lines, etc.



BUILDING SECTION
 A-207 1/4" = 1'-0" 0 2 4 8

BUILDING SECTION
 A-207 1/4" = 1'-0" 0 2 4 8



SOUTH WALL SECTION



Southface Energy Institute

This document is intended only to help significantly demonstrate the air leakage prevention of section 302.14 of the 2006 International Residential Code. Other code provisions may be applicable as well.

2005 AFFORDABLE PASSIVE SOLAR PLANBOOK

THE COTTAGE

State Energy Office
ENERGY
 www.energync.net 1-800-662-7131
 N.C. Department of Administration "Ensuring a sustainable energy future"

MARK	DATE	DESCRIPTION

SECTIONS

SHEET TITLE

SHEET NO.

A-301

DRAWN BY
Energy
 Appalachian CONSTRUCTION TECHNOLOGY DEPARTMENT

ISSUE