

## General Notes

THESE DRAWINGS DO NOT INCLUDE THE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY. THE GENERAL CONTRACTOR SHALL PROVIDE FOR THE SAFETY, CARE OF UTILITIES AND ADJACENT PROPERTIES DURING CONSTRUCTION, AND SHALL COMPLY WITH THE STATE AND FEDERAL SAFETY REGULATIONS.

THE GENERAL CONTRACTOR AND SUBCONTRACTORS SHALL BE RESPONSIBLE FOR SATISFYING ALL APPLICABLE BUILDING CODES REGARDING BUILDING, BUILDING STRUCTURE, ZONING, ELECTRICAL, MECHANICAL, PLUMBING AND FIRE AND OBTAINING ALL PERMITS AND REQUIRED APPROVALS. THE DRAWINGS AND SPECIFICATIONS SHALL NOT PERMIT WORK THAT DOES NOT CONFORM TO THESE CODES. ANY DISCREPANCIES BETWEEN CODE REQUIREMENTS AND THESE PLANS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT.

LIMITED ARCHITECTURAL AND ENGINEERING SERVICE HAS BEEN PROVIDED FOR THIS HOUSE DESIGN. ADDITIONAL CONSTRUCTION DETAILS, INFORMATION AND SPECIFICATIONS ARE NEEDED BY THE GENERAL CONTRACTOR. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE AND LIABLE FOR ALL SPECIFIED HOUSE STRUCTURE THAT THE SPECIFIED STRUCTURE IS AS REQUIRED TO CONSTRUCT THE HOUSE FOR THE LOCATION OF WHERE THIS HOUSE IS BUILT. THE GENERAL CONTRACTOR MUST GET AN APPROVAL OF HOUSE REQUIRED STRUCTURE FROM WITH LOCAL STRUCTURAL ENGINEER.

ELECTRICAL INSTALLATION SHALL CONFORM TO THE LATEST REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE AND THE LOCAL BUILDING AUTHORITY.

MECHANICAL WORK SHALL BE EXECUTED AND INSPECTED IN ACCORDANCE WITH PUBLIC UTILITY REGULATIONS AND LOCAL APPLICABLE CODES.

DO NOT PROCEED IN AREAS OF DISCREPANCY UNTIL ALL SUCH DISCREPANCIES HAVE BEEN FULLY RESOLVED WITH WRITTEN DIRECTION FROM THE ARCHITECT. THE ARCHITECT IS NOT RESPONSIBLE FOR CONSTRUCTION PROCEDURES, TECHNIQUES OR THE FAILURE OF THE SUB-CONTRACTORS TO CARRY OUT THE WORK IN ACCORDANCE WITH THE CONSTRUCTION DOCUMENTS, MANUFACTURER'S SPECIFICATIONS AND RECOMMENDATIONS, INDUSTRY STANDARDS, OR REQUIRED CODES.

WRITTEN DIMENSIONS ALWAYS TAKE PRECEDENCE OVER SCALED DIMENSIONS. DO NOT SCALE DRAWINGS. VERIFY ALL DIMENSIONS SHOWN PRIOR TO BEGINNING ANY WORK AND NOTIFY THE ARCHITECT OF ANY CONFLICTS OR DISCREPANCIES FOR INTERPRETATION OR CLARIFICATION PRIOR TO BEGINNING ANY ASSOCIATED WORK. PLAN DIMENSIONS ARE TAKEN FROM THE CENTER AND FACE OF FRAMING MEMBERS UNLESS OTHERWISE NOTED. SECTION OR ELEVATION DIMENSIONS ARE TO TOP OF CONCRETE, TOP OF PLYWOOD, OR BEAMS UNLESS OTHERWISE NOTED.

IT IS THE RESPONSIBILITY OF THE CONTRACTOR OR OWNER TO VERIFY THE ACCURACY AND COMPLETENESS OF THE DOCUMENTS AS PRESENTED AND TO VERIFY ALL CONDITIONS AND DIMENSIONS AT THE JOB SITE SUFFICIENTLY IN ADVANCE OF THE WORK TO BE PERFORMED TO ASSURE THE ORDERLY PROGRESS OF THE WORK. ANY DISCREPANCIES BETWEEN THESE CONSTRUCTION DOCUMENTS AND ACTUAL JOB SITE CONDITIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT PRIOR TO BEGINNING ANY CONSTRUCTION.

THE GENERAL CONTRACTOR SHALL CHECK AND VERIFY ALL GRADES INCLUDING PAVED AREA SLOPES PRIOR TO PLACING ANY FOUNDATIONS. SURVEY WORK SHOULD BE VERIFIED IN DETAIL. VERIFY ALL DIMENSIONS, CONDITIONS, AND UTILITY LOCATIONS ON THE JOB PRIOR TO BEGINNING ANY WORK OR ORDERING ANY MATERIALS. NOTIFY THE ARCHITECT OF ANY CONFLICTS OR DISCREPANCIES IN THE DRAWINGS IMMEDIATELY. STAKE ALL BUILDING CORNERS AND DRIVEWAY LOCATIONS FOR OWNER, BUILDER, AND DESIGN FIRM.

IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO PROTECT THE EXISTING TREES TO REMAIN AND ADJACENT PROPERTIES FROM DAMAGE DURING CONSTRUCTION. PROVIDE PROTECTIVE FENCING THROUGHOUT CONSTRUCTION.

IT IS THE INTENT AND MEANING OF THESE DRAWINGS THAT THE CONTRACTOR AND EACH SUBCONTRACTOR PROVIDE ALL LABOR, MATERIALS, TRANSPORTATION, SUPPLIES, EQUIPMENT, ETC., TO OBTAIN A COMPLETE JOB WITHIN THE RECOGNIZED STANDARDS OF THE INDUSTRY.

THE CONTRACTOR & HIS SUBCONTRACTORS SHALL MAINTAIN THE PREMISES CLEAN AND FREE OF ALL TRASH, DEBRIS AND SHALL PROTECT ALL ADJACENT WORK FROM DAMAGE, SOILING, PAINT OVERSPRAY, ETC. ALL FIXTURES, EQUIPMENT, GLAZING, FLOORS, ETC. SHALL BE LEFT CLEAN AND READY FOR OCCUPANCY UPON COMPLETION OF THE PROJECT.

FIELD MEASUREMENTS TO BE VERIFIED FOR PROPER FIT AND ATTACHMENT FOR ALL DOORS, WINDOWS, CABINETS, APPLIANCES, HARDWARE, FIXTURES, AND SPECIALIZED EQUIPMENT. ITEMS SHALL BE INSTALLED IN STRICT ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS. ALL WINDOWS AND DOORS DIMENSIONS ARE SHOWN OF AN ACTUAL UNIT SIZE. THE CONTRACTOR MUST LEAVE EXTRA SPACE FOR WINDOWS AND DOORS INSTALLATION.

FLOOR JOIST SUPPLIER TO VERIFY DIMENSIONS AND COORDINATE JOIST LAYOUT PLAN AND APPROPRIATE DETAILS.

ROOF RAFTER AND BEAM SUPPLIER TO VERIFY DIMENSIONS AND COORDINATE RAFTER AND BEAM LAYOUT PLAN AND APPROPRIATE DETAILS.

PROVIDE FIRE & SMOKE DETECTORS AS REQUIRED BY LOCAL JURISDICTION.

PROVIDE INSULATION AROUND ALL PLUMBING AND HEATING LINES EXPOSED TO TEMPERATURE DIFFERENTIALS.

SUBSTITUTION OF "EQUAL" PRODUCTS WILL BE ACCEPTABLE.

IN THE LOCATIONS OF HARSH WINTER CONDITIONS, ROOF AND DECK SURFACES MUST BE MAINTAINED REASONABLY FREE OF ICE AND SNOW TO ENSURE MINIMAL PROBLEMS WITH THESE SURFACES.

CODES HAVING JURISDICTION SHALL BE OBSERVED STRICTLY IN THE CONSTRUCTION OF THE PROJECT. ALL APPLICABLE STATE, COUNTY AND CITY REQUIREMENTS REGARDING BUILDING, BUILDING STRUCTURE, ZONING, ELECTRICAL, MECHANICAL, PLUMBING AND FIRE CODES SHALL BE VERIFIED BY THE GENERAL CONTRACTOR & SUBCONTRACTORS BEFORE COMMENCEMENT OF CONSTRUCTION. ANY DISCREPANCIES BETWEEN CODE REQUIREMENTS AND THESE PLANS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT.

MINOR DETAILS NOT SHOWN OR SPECIFIED BUT NECESSARY FOR PROPER INSTALLATION OR FOR BUILDING CODE COMPLIANCE OR STANDARDS LISTED HEREIN SHALL BE BROUGHT TO THE ATTENTION OF THE CONTRACTOR'S CLARIFICATION.

IF GENERAL CONTRACTOR IS NOT HIRED FOR THE CONSTRUCTION WORK THE OWNER OF THE HOUSE IS RESPONSIBLE FOR ABOVE MENTIONED GENERAL CONTRACTOR'S DUTIES.

# TRUOBA

## Designing Contemporary Houses

 [www.truoba.com](http://www.truoba.com)  
 [info@truoba.com](mailto:info@truoba.com)

### TRUOBA MINI 619

House Area: 44 m<sup>2</sup>

#### INDEX SHEET

- 1 - COVER SHEET
- 2 - SLAB FOUNDATION PLAN
- 3 - CRAWL FOUNDATION PLAN
- 4 - PLUMBING PLAN
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- 6 - ROOF CONSTRUCTION PLAN
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- 15 - MECHANICAL SPECIFICATIONS



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Project Title

**Truoba Mini 619**

Drawing Name

**Cover Sheet**

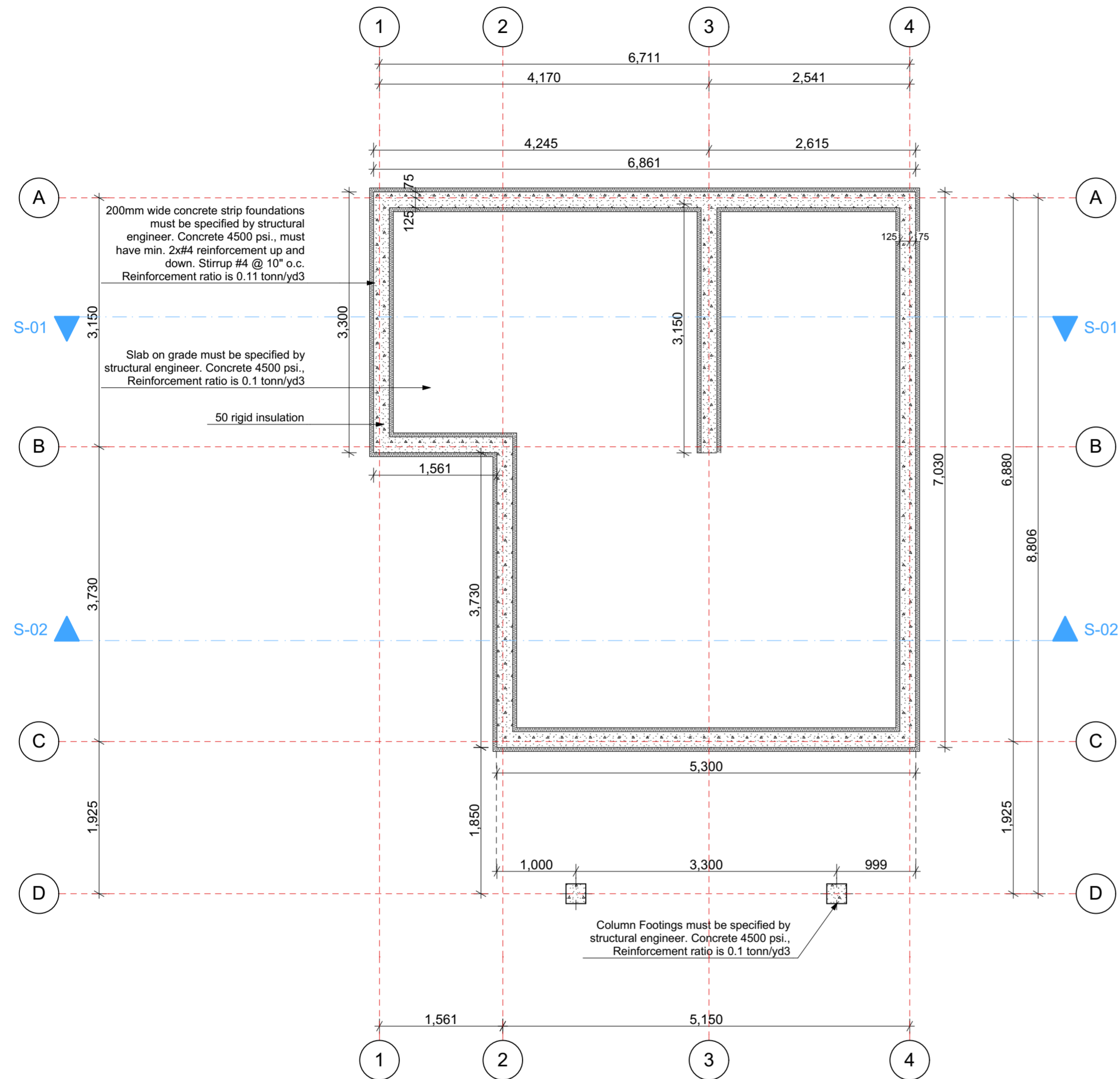
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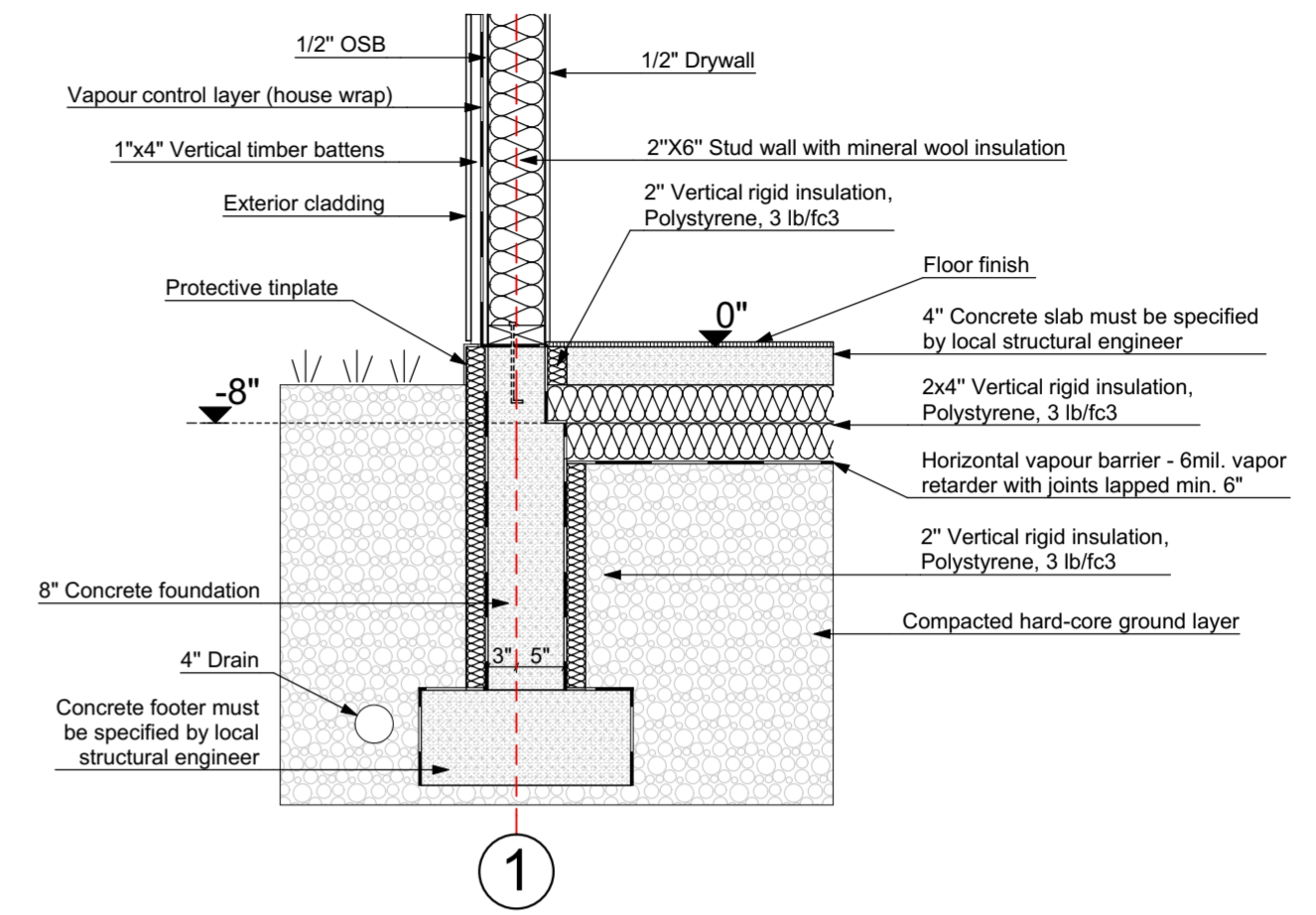
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Layout ID

**1**



**01** Slab Foundation Plan  
1:50



**02** Construction details

NOTES  
Foundation structure must be specified and approved by local structural engineer of a location where this house is built.

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Project Title

**Truoba Mini 619**

Drawing Name

**Slab Foundation Plan**

Drawing Scale

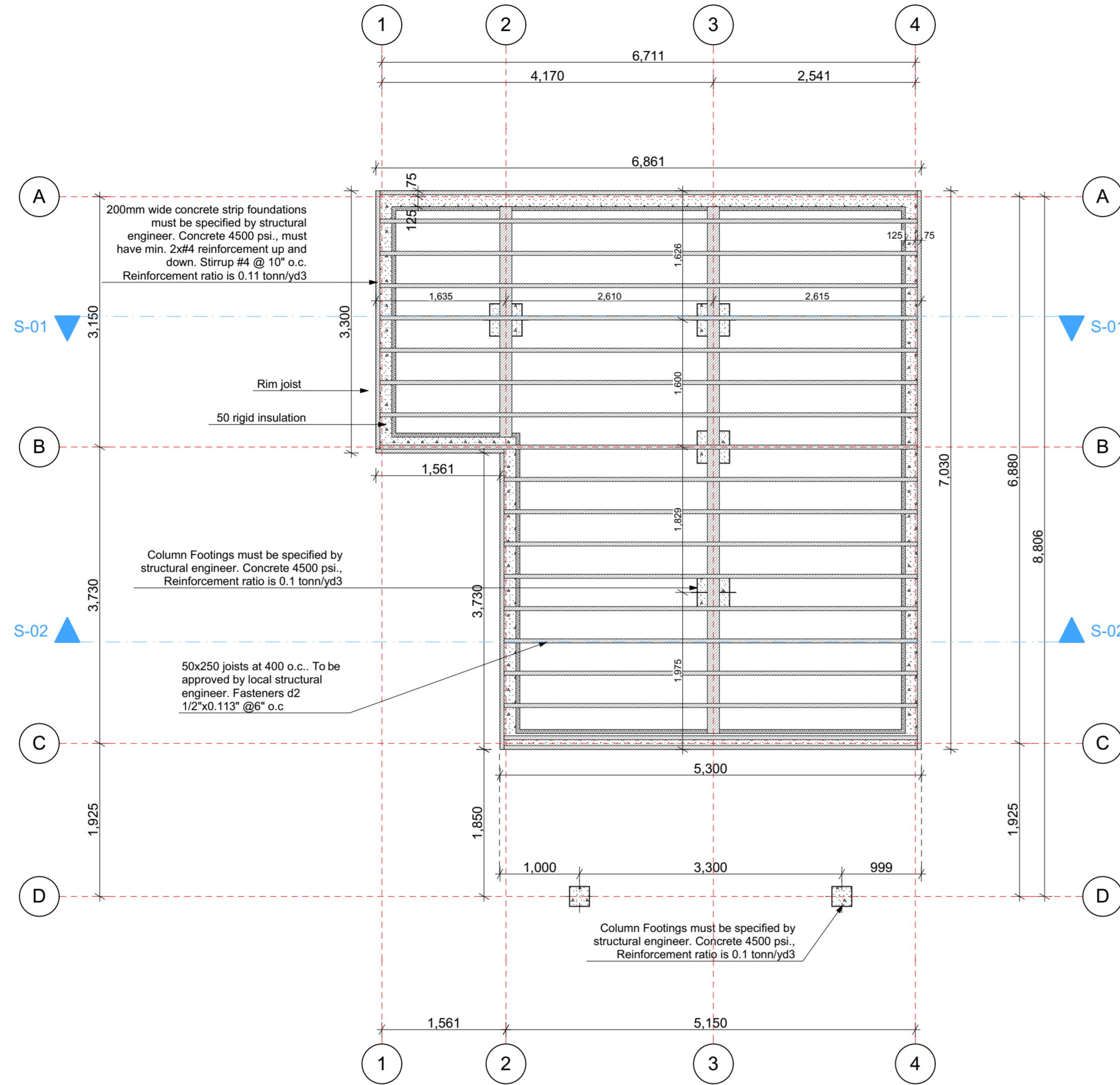
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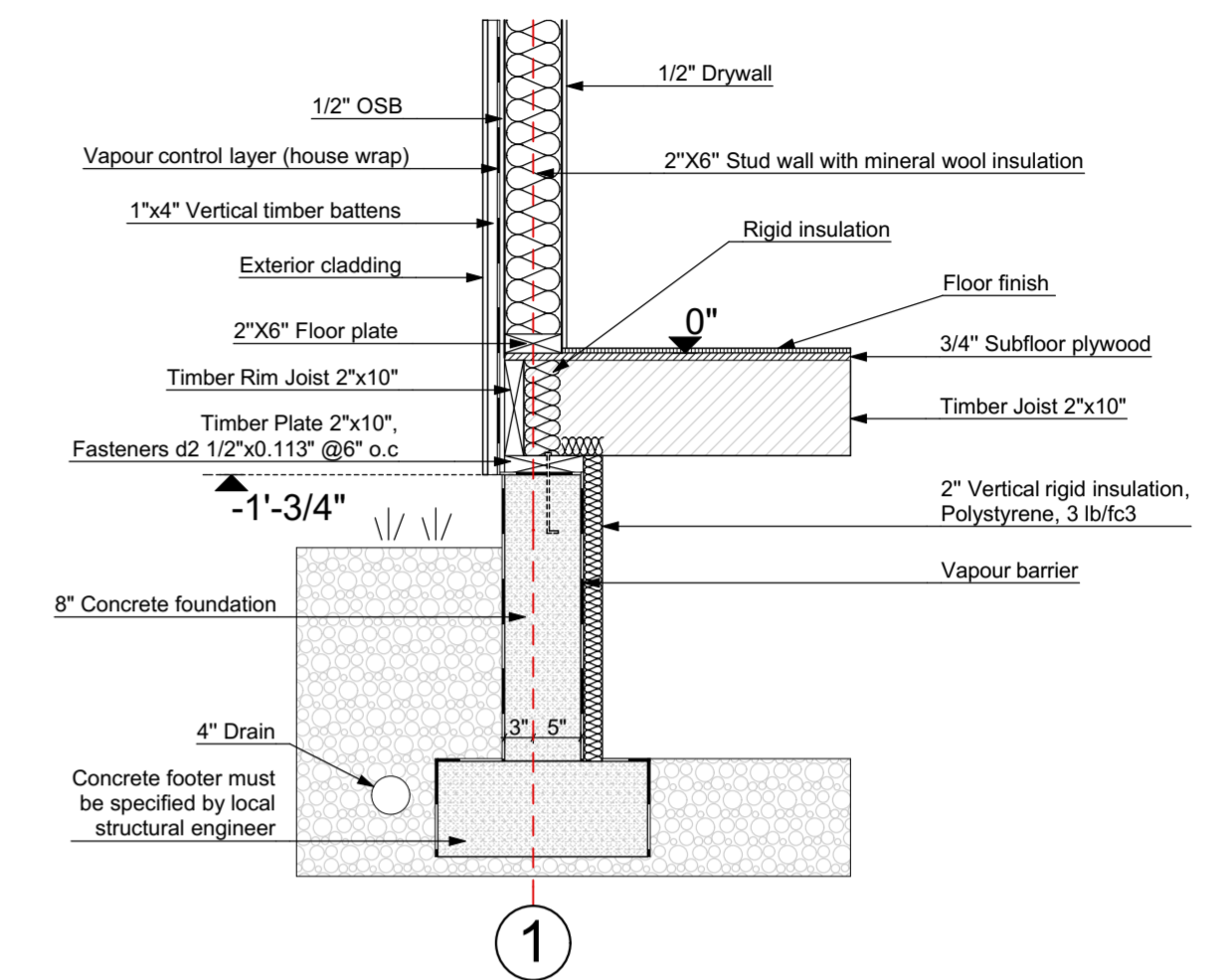
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Layout ID

**2**



**01** Crawl Foundation Plan  
1:50



**03** Construction details

NOTES

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Project Title

**Truoba Mini 619**

Drawing Name

**Crawl Foundation Plan**

Drawing Scale

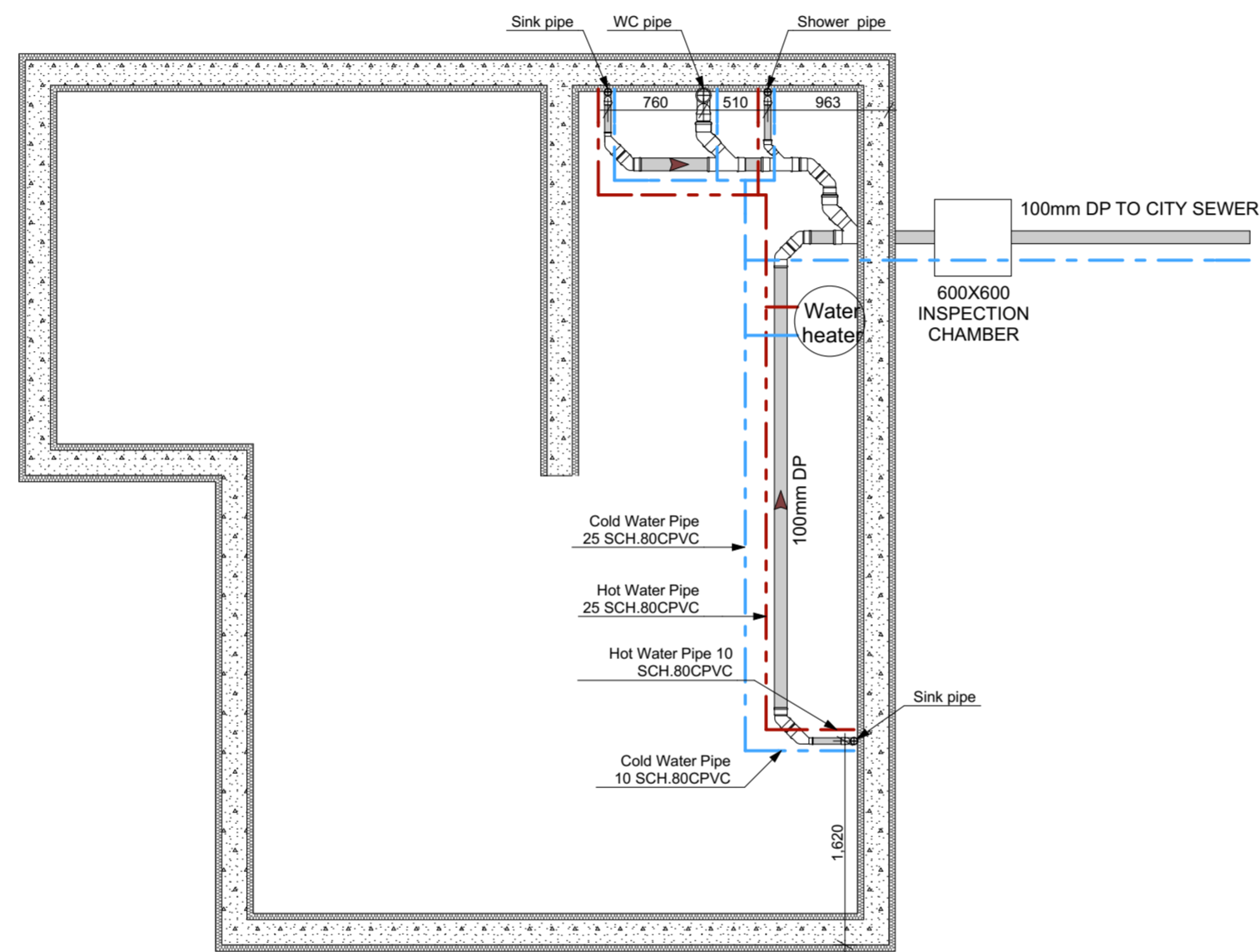
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**A-2**

Layout ID

**3**



01 Plumbing Plan  
1:50

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Project Title

**Truoba Mini 619**

Drawing Name

**Plumbing Plan**

Drawing Scale

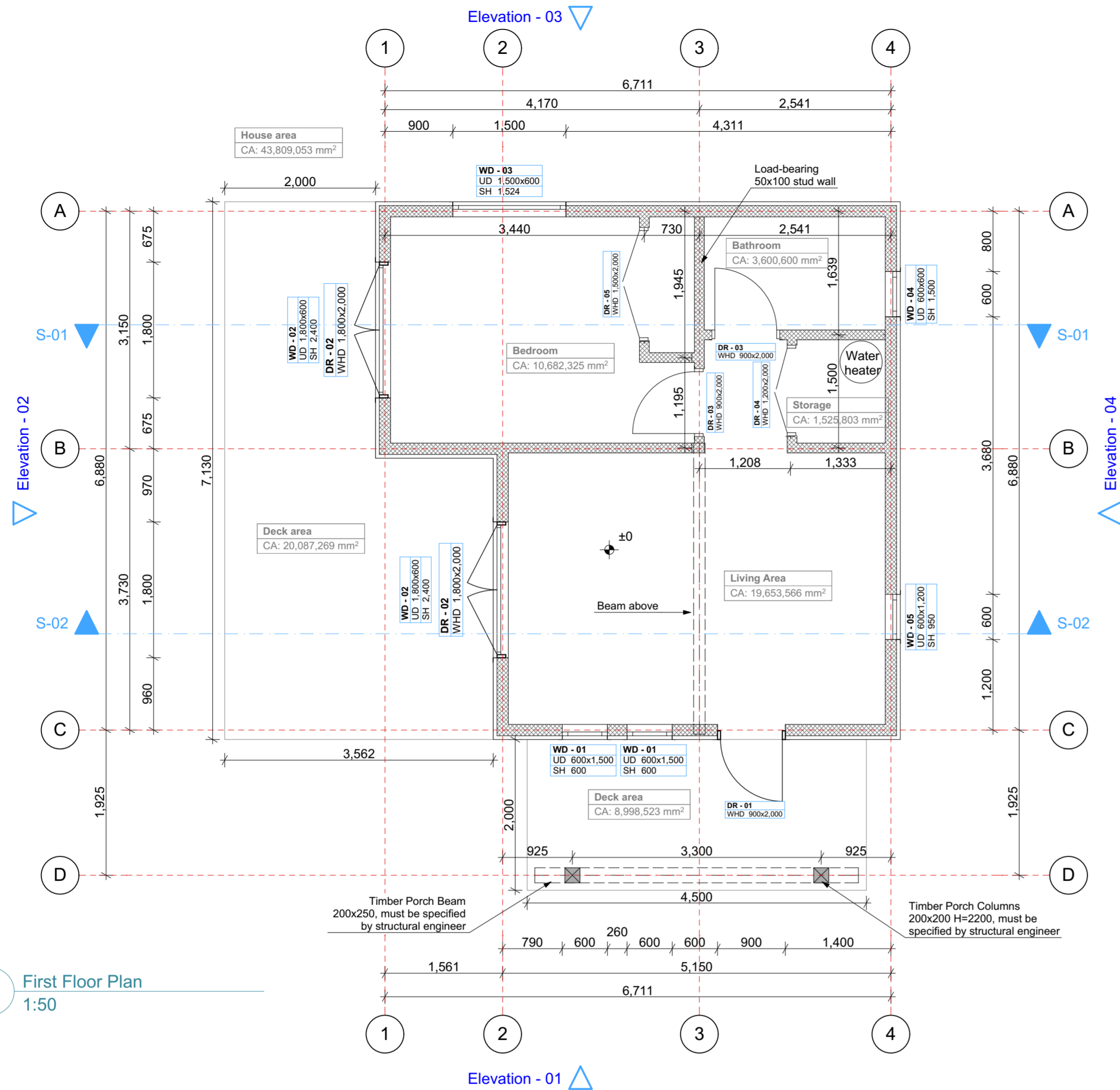
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Layout ID

**4**



01 First Floor Plan  
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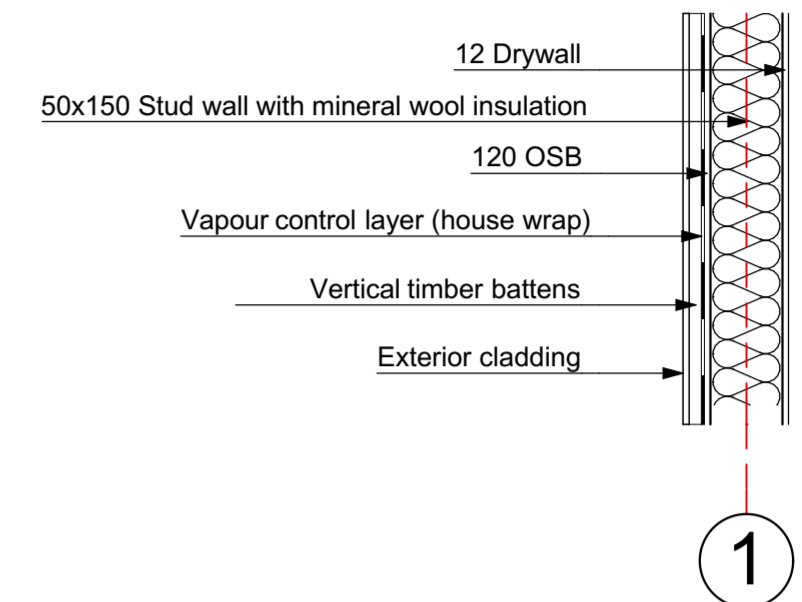
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Quantity	1	2	2	1	1
2D Symbol					
View from Side Opposite to Opening Side					

Window List					
Window Name	WD - 01	WD - 02	WD - 03	WD - 04	WD - 05
W x H Size	600x1,500	1,800x600	1,500x600	600x600	600x1,200
Quantity	2	2	1	1	1
2D Symbol					
View from Side Opposite to Opening Side					

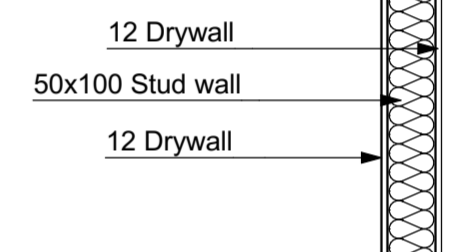
NOTES

- House structure and structural element sizes must be approved by structural engineer.
- Dimensions of the exterior wall taken from the structural wall (2"x6") center. Partition wall dimensions taken from wall center.
- Windows. Double glazed aluminium frame windows with argon or krypton filled gas. Finish in color selected from manufacturer's standard selection as follows: black or dark grey window finish.
- Exterior doors. Double glazed aluminium frame doors with argon or krypton filled gas. Finish in color selected from manufacturer's standard selection as follows: black or dark grey doors finish.
- Interior doors. Timber frame interior doors with the finish of owner's choice. Recommended white or light timber texture door finish.
- Exterior cladding -Western Red Cedar or other type of exterior wood cladding chosen by owner. Exterior finish should be clad using treated and impregnated natural softwood.

EXTERIOR WALL



INTERIOR WALL



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Project Title

**Truoba Mini 619**

Drawing Name

**Floor Plan**

Drawing Scale

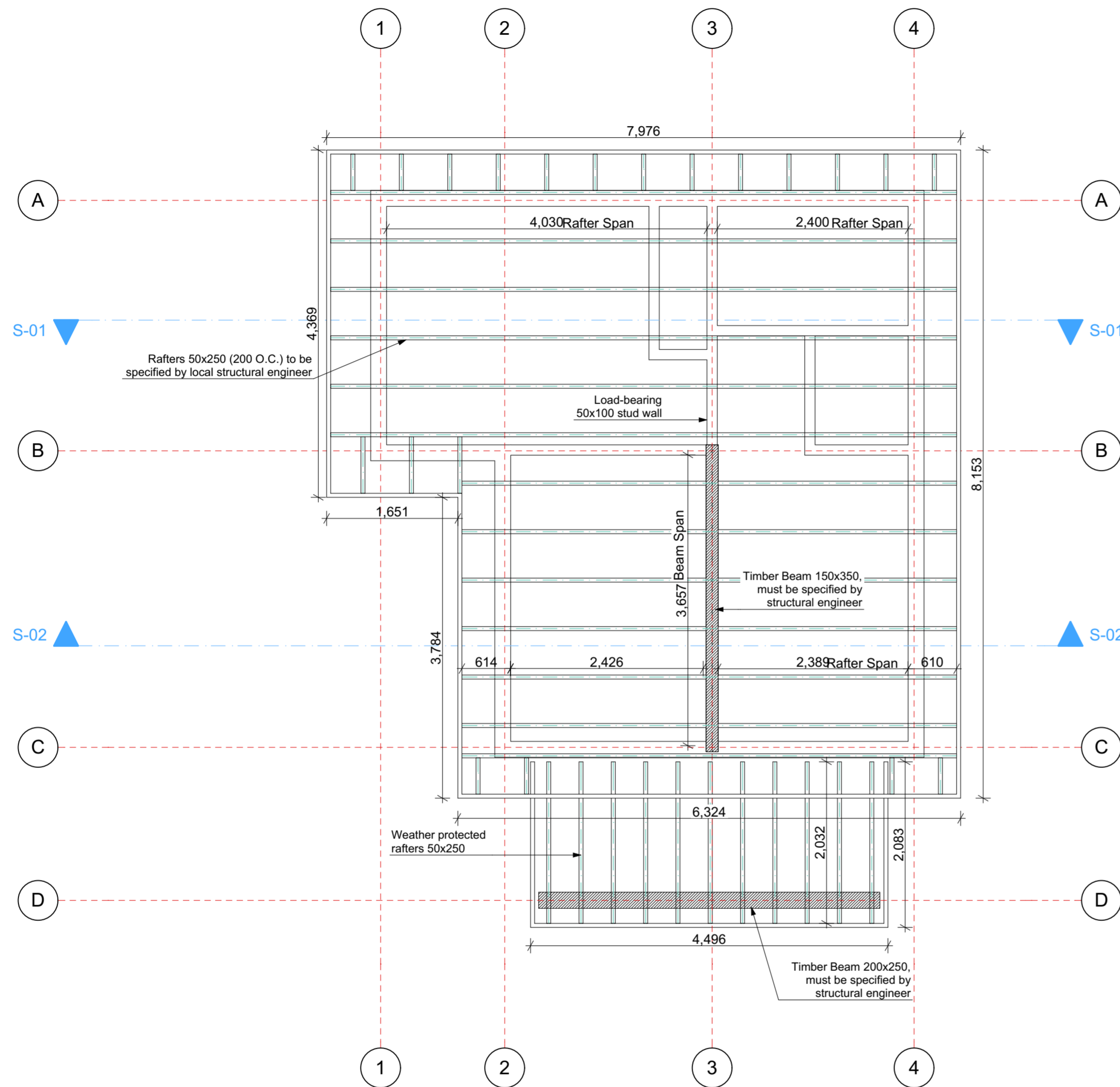
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Sheet Size

**A-2**

Layout ID

**5**



01 Roof Construction Plan  
1:50

NOTES

Roof structural element sizes will vary by the location and requirements of local building codes. Entire roof structure must be specified and approved by local structural engineer of a location where this house is built.

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Project Title

**Truoba Mini 619**

Drawing Name

**Roof Construction Plan**

Drawing Scale

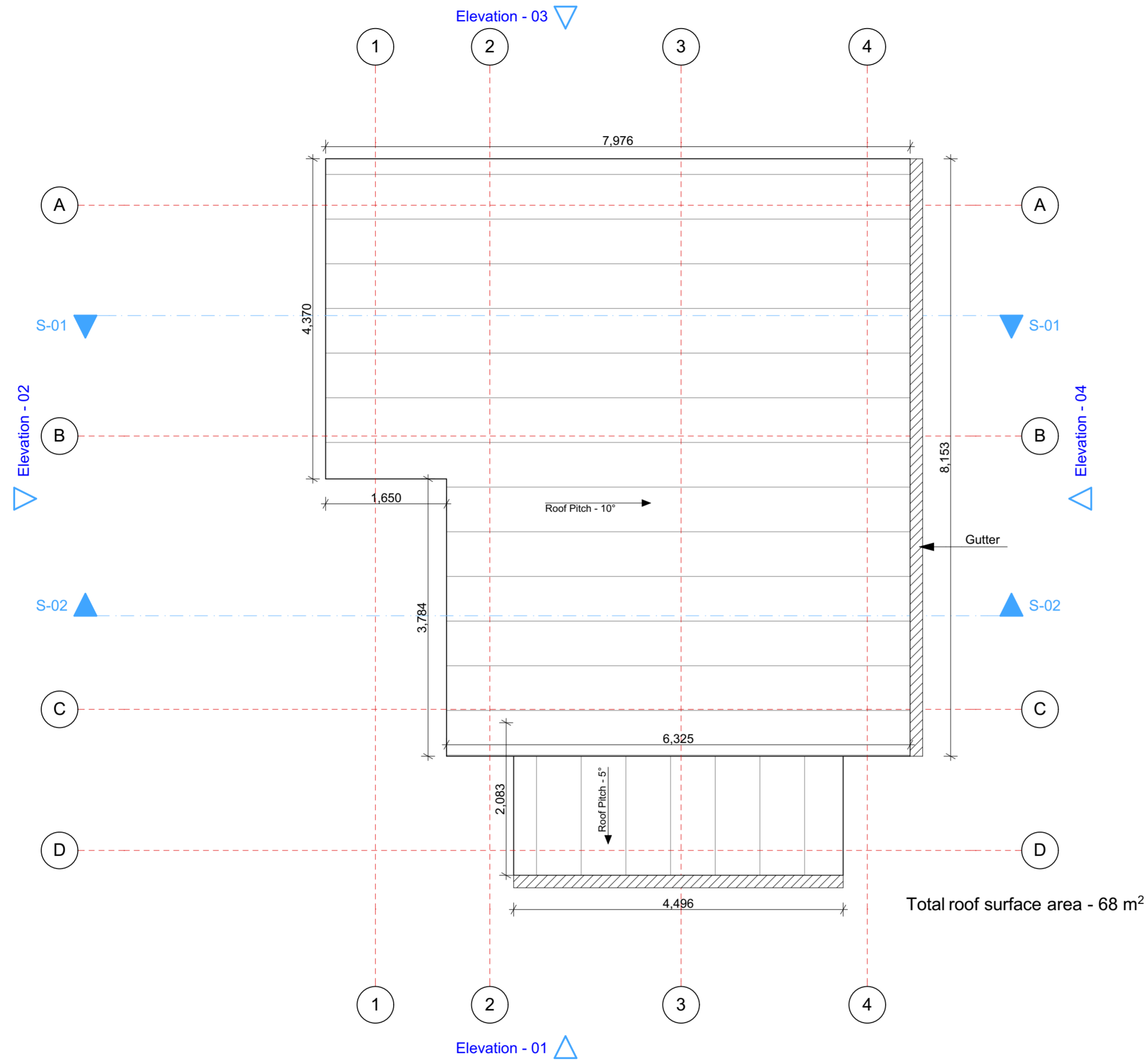
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**A-2**

Layout ID

**6**



01 Roof Plan  
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Project Title

**Truoba Mini 619**

Drawing Name

**Roof Plan**

Drawing Scale

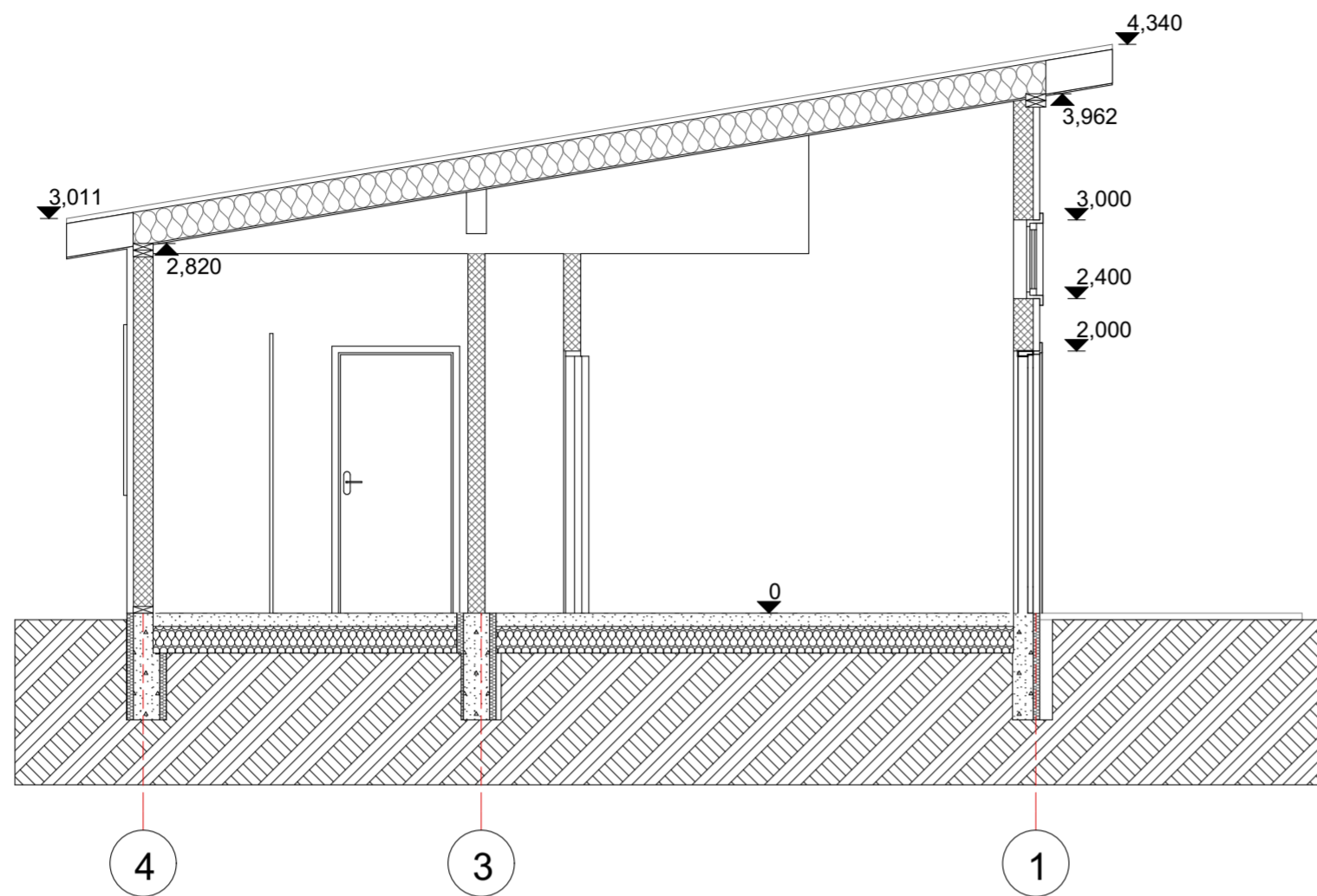
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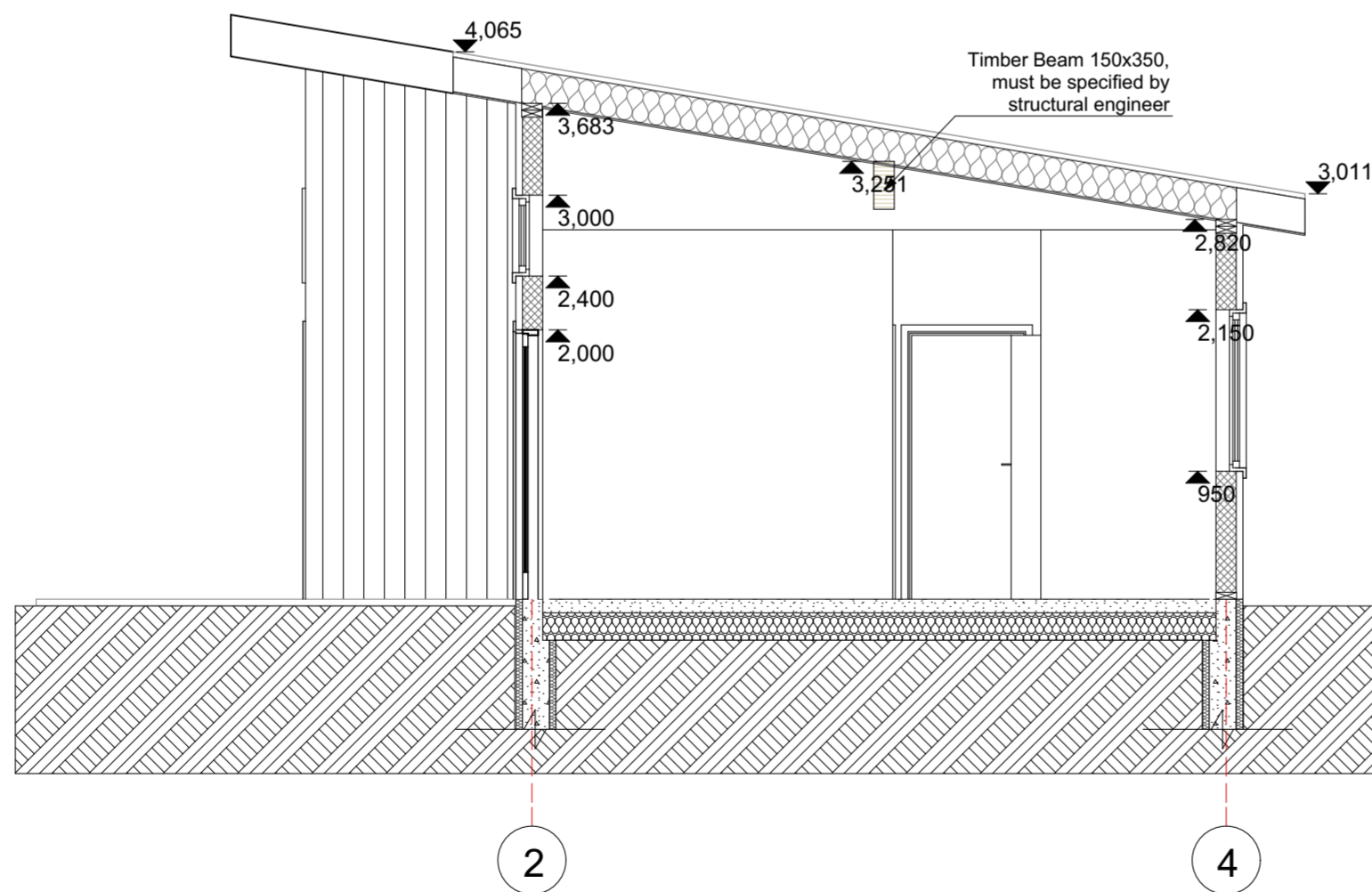
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Layout ID

**7**



01 House Section - 01  
1:50



02 House Section - 02  
1:50

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**Truoba Mini 619**

Drawing Name

**Sections**

Drawing Scale

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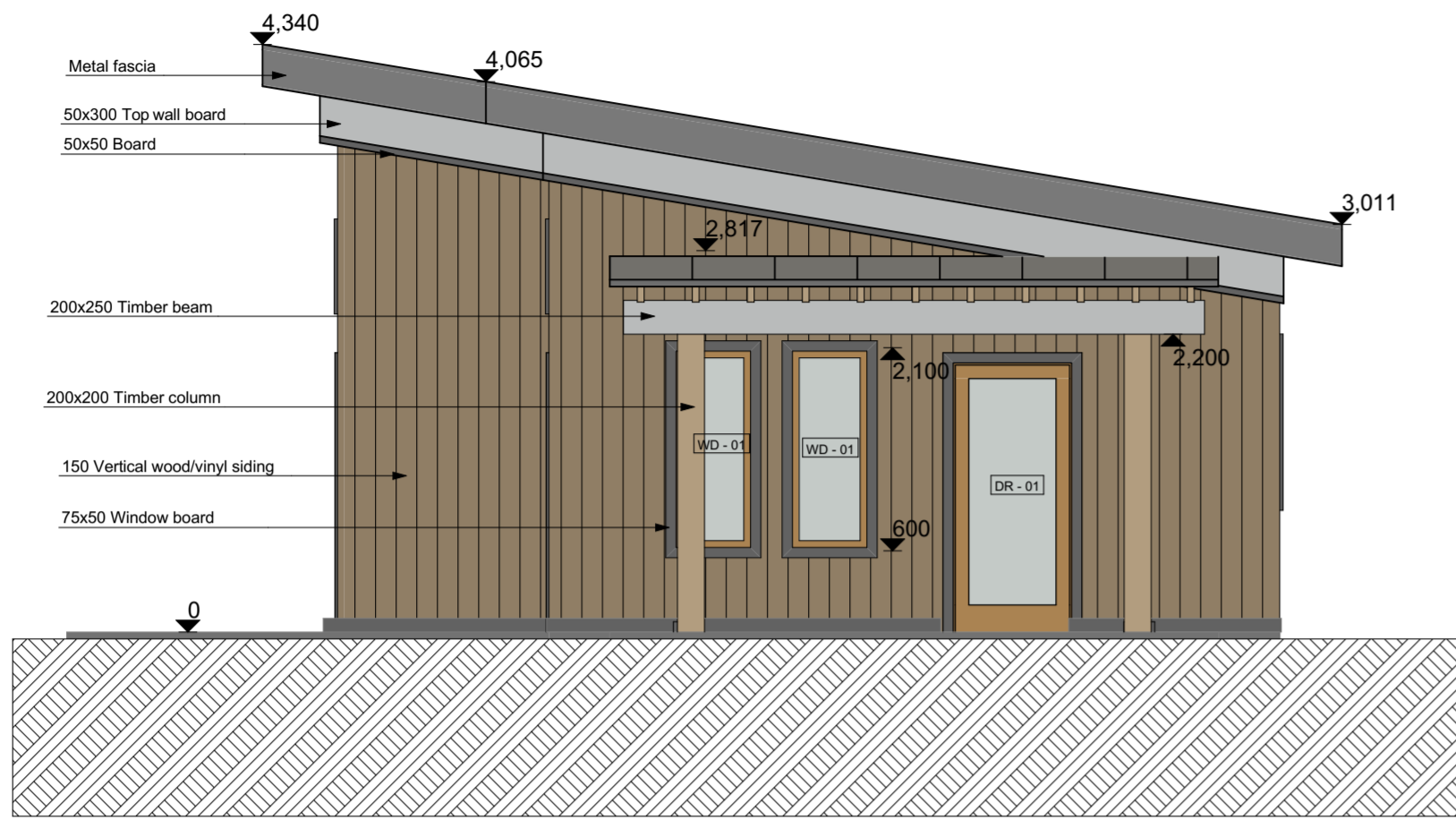
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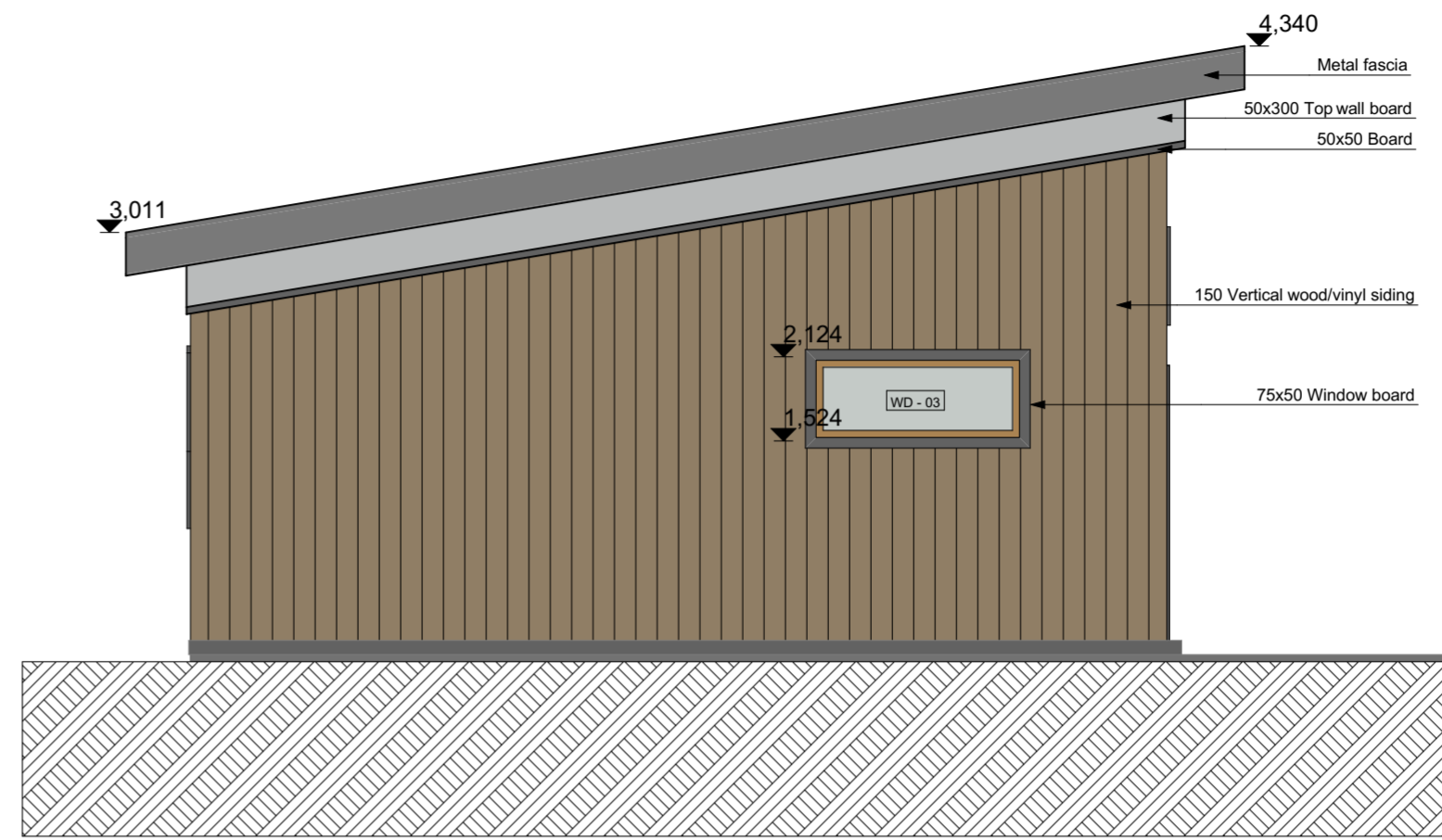
NOTES

All house structure must be specified and approved by local structural engineer of location where this house is built.





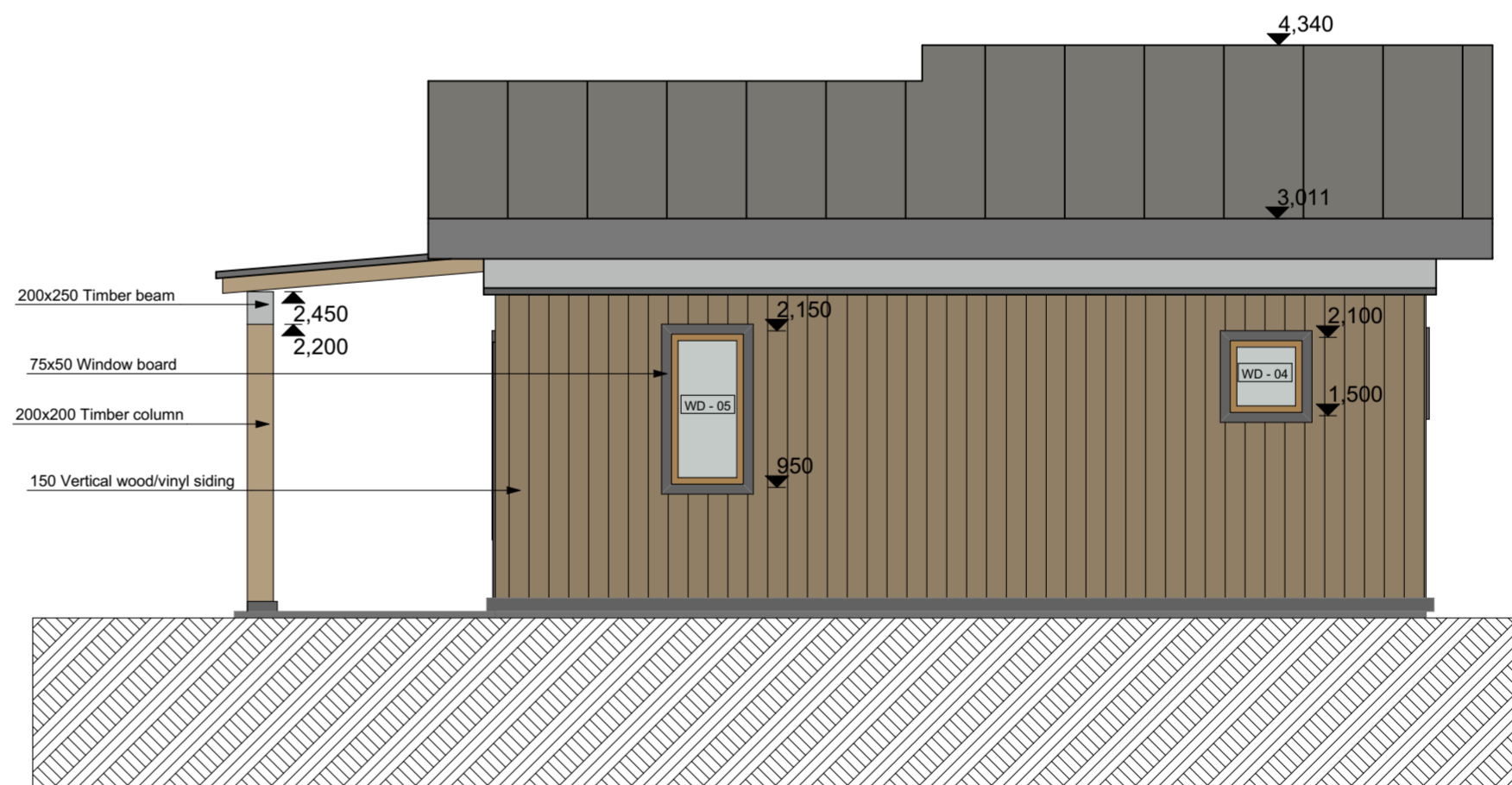
01 House Elevation - 01  
1:50



03 House Elevation - 03  
1:50



02 House Elevation - 02  
1:50



04 House Elevation - 04  
1:50

NOTES

All house structural elements must be specified and approved by local structural engineer of a location where this house is built.

Windows. Double glazed aluminium frame windows with argon or krypton filled gas. Finish in color selected from manufacturer's standard selection as follows: black or dark grey window finish.

Exterior doors. Double glazed aluminium frame doors with argon or krypton filled gas. Finish in color selected from manufacturer's standard selection as follows: black or dark grey doors finish.

Exterior cladding -Western Red Cedar or other type of exterior wood cladding chosen by owner. Exterior finish should be clad using treated and impregnated natural wood.

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Project Title

**Truoba Mini 619**

Drawing Name

**Elevations**

Drawing Scale

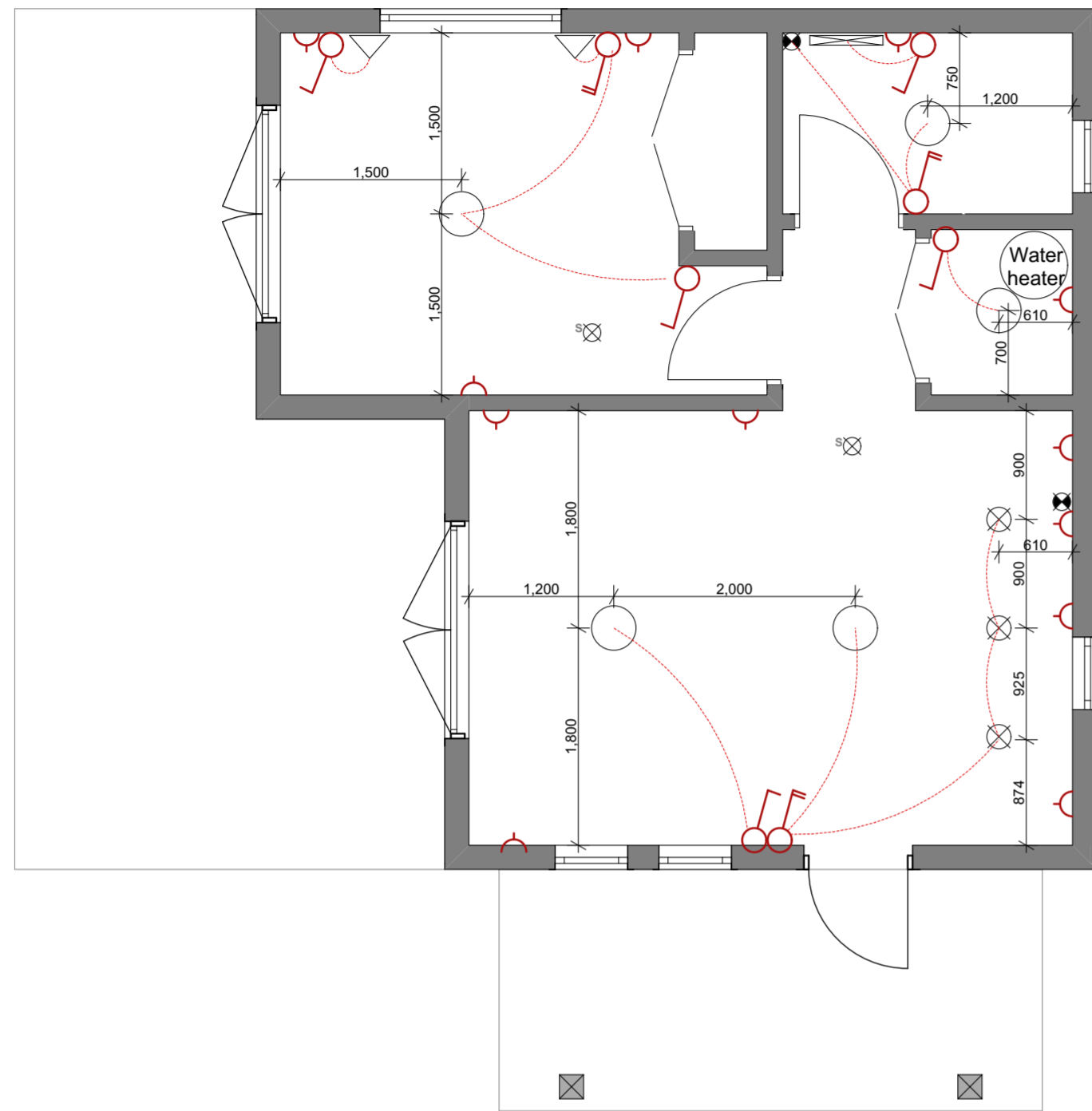
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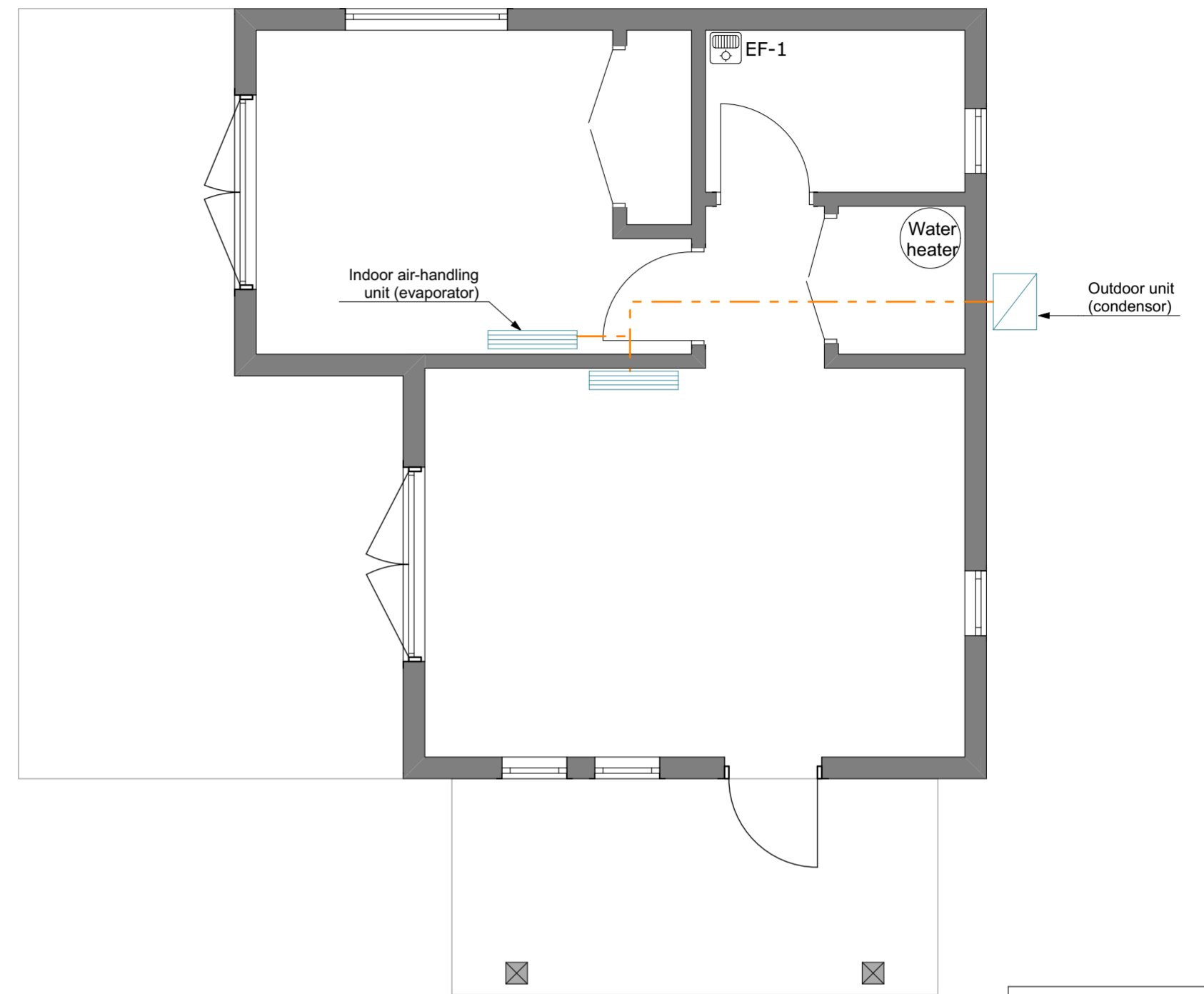
**9**



ELECTRICAL SYMBOLS

☒	Smoke detector
■	Exhaust fan
☐	Outdoor wall light
⊗	Downlight
△	Internal wall spotlight
—	Wall light
○	Ceiling light
⌋	Single outlet for two plugs
⌋⌋	Double outlet for four plugs
⌋	Single switch
⌋⌋	Double switch
⌋⌋⌋	Triple switch
⊕	Ceiling fan + light
⊕	Ceiling fan
TEL	Telephone outlet
TV	Television outlet
INT	Internet outlet

Mini-split heating and cooling system



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Project Title

**Truoba Mini 619**

Drawing Name

**Electrical and HVAC Plan**

Drawing Scale

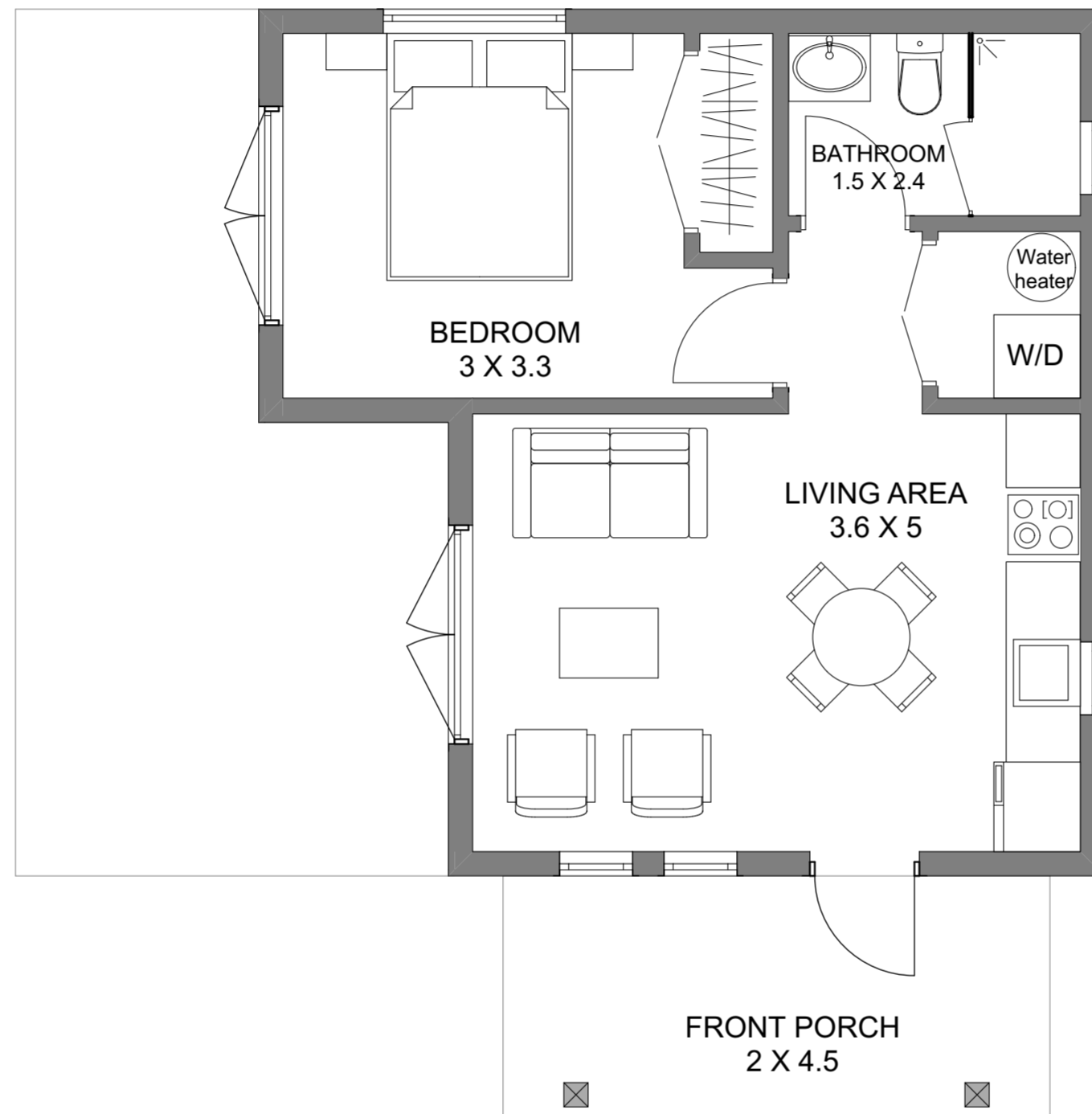
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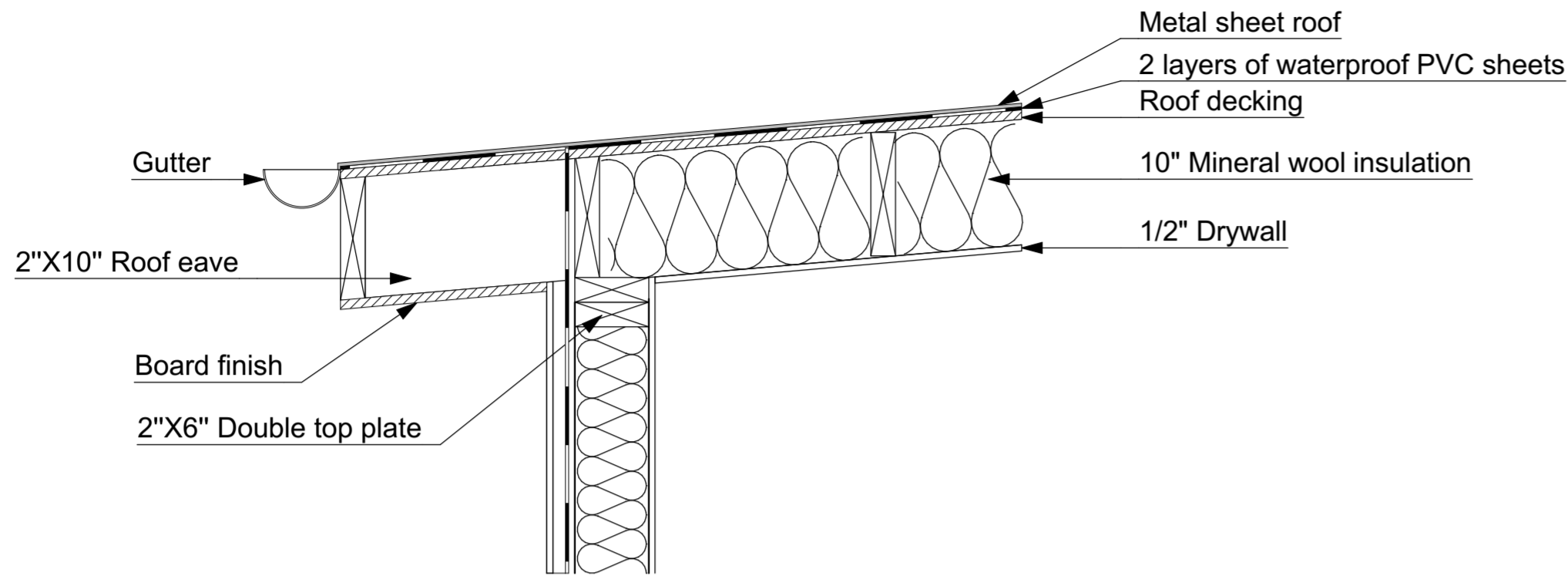
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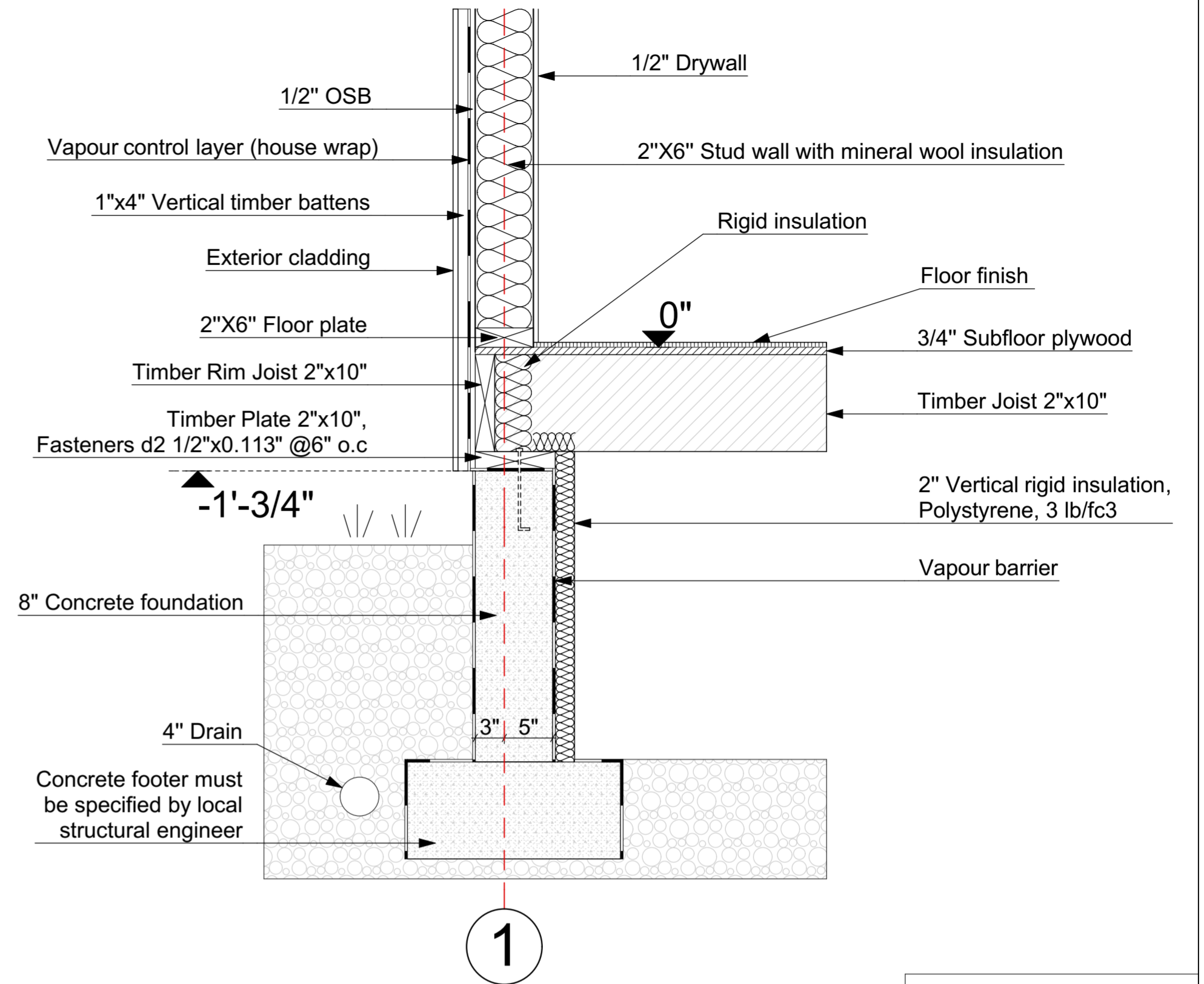
01 First Floor Furniture Plan  
1:50

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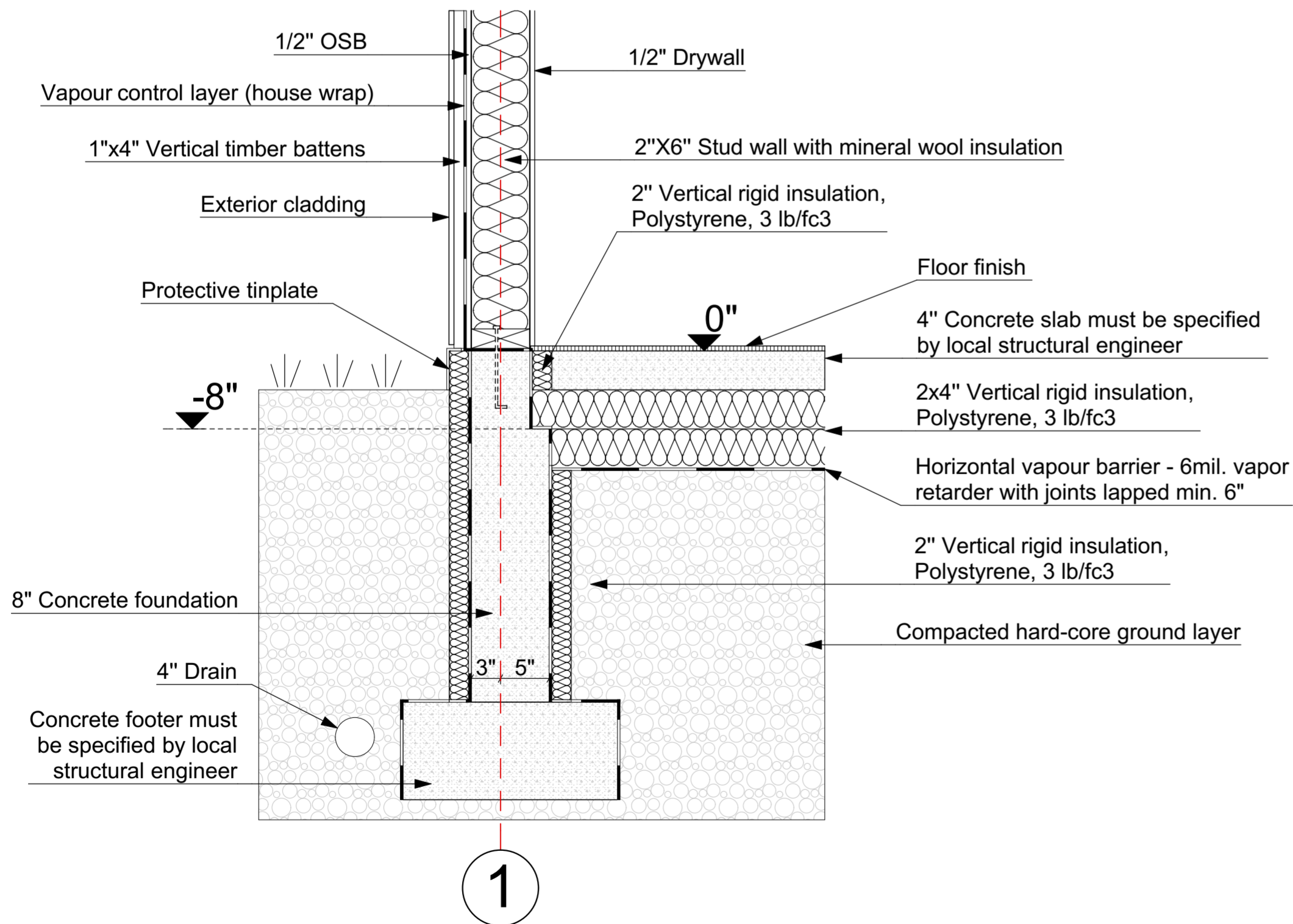
Company Title	
<b>TRUOBA</b>	
<b>UAB Truoba</b> 11-2 Miško street, Kaunas, Lithuania, 53333 email: info@truoba.com tel: +1 844-337-1434 web: www.truoba.com	
Project Title	
<b><u>Truoba Mini 619</u></b>	
Drawing Name	
<b>Furniture Plan</b>	
Drawing Scale	
<b>1:50</b>	
Sheet Size	
<b>A-2</b>	
Layout ID	
<b>11</b>	



01 Wall - Roof Detail



03 Crawl Foundation Detail



02 Slab Foundation Detail

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Project Title

**Truoba Mini 619**

Drawing Name

**Construction Details**

Drawing Scale

Sheet Size

**A-2**

Layout ID

**12**

NOTES  
 All house structural elements must be specified and approved by local structural engineer of a location where this house is built.





# Mechanical Specifications

## MECHANICAL SPECIFICATIONS

### BASIC MECHANICAL REQUIREMENTS:

- ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE REQUIREMENTS OF THE FOLLOWING:
  - LATEST EDITION AND AMENDMENTS OF THE APPLICABLE STATE AND LOCAL CODES.
  - LATEST (OR APPLICABLE) EDITION OF INTERNATIONAL MECHANICAL CODE.
  - LATEST (OR APPLICABLE) EDITION OF NFPA CODE 90A.

- FURNISH AND INSTALL ALL LABOR, MATERIAL, AND EQUIPMENT AND SERVICES NECESSARY FOR COMPLETE AND SAFE INSTALLATION OF THE MECHANICAL SYSTEM INDICATED ON THE DRAWINGS AND NOTED IN THE SPECIFICATIONS HEREINAFTER. MECHANICAL DRAWINGS ARE CONSIDERED DIAGRAMMATIC AND INDICATE GENERAL ARRANGEMENT OF WORK AND SYSTEMS. REFER TO ARCHITECTURAL DRAWINGS TO VERIFY LOCATION OF DEVICES, EQUIPMENT, ETC. CHECK DRAWINGS OF OTHER TRADES TO VERIFY EXACT SPACE CONDITIONS OF DUCTWORK AND EQUIPMENT. MATERIALS SHALL BE NEW, FREE FROM DEFECTS AND LISTED BY ARI OR UL WHERE APPLICABLE. CONTRACTOR SHALL COORDINATE ALL NEW WORK WITH EXISTING CONDITIONS. CONTRACTOR SHALL VISIT SITE AND EXAMINE EXISTING CONDITIONS PRIOR TO BID.
- SUBMIT SIX (6) COPIES OF SHOP DRAWINGS TO OWNER OR ARCHITECT FOR EACH PIECE OF EQUIPMENT TO INCLUDE RTU'S, ASSOCIATED PIPING, HEATERS, EQUIPMENT, DIFFUSERS, INSULATION, FANS, CONTROLS AND DUCTWORK. OBTAIN APPROVAL BEFORE EQUIPMENT IS ORDERED, BUILT, OR INSTALLED.

### INSULATION:

- INSULATE ALL CONCEALED SUPPLY DUCTWORK WITH 2" THICK FIBREGLASS DUCT WRAP WITH VAPOR BARRIER FACING. ALL INSULATION, FASTENERS AND ADHESIVES SHALL MEET NFPA 90A REQUIREMENTS AND UL FLAME SPREAD AND SMOKE DEVELOPED CRITERIA AND SHALL BEAR UL STAMP.

### GAS FIRED HEATING AND A/C UNIT:

- INSTALL WHERE INDICATED AND AS SCHEDULED A PACKAGED AIR COOLED SELF CONTAINED ROOF TOP GAS FIRED HEATING AND DIRECT EXPANSION AIR CONDITIONING UNIT MANUFACTURED BY TRANE. UNIT SHALL BE PROVIDED AND INSTALLED BY LANDLORD.
- UNIT CABINET: CONSTRUCT OF GALVANIZED STEEL, BONDERIZED AND COATED WITH A BAKED ENAMEL FINISH. CABINET INTERIOR SHALL BE INSULATED WITH ONE-INCH THICK NOEPRENE COATED FIBERGLASS. A CONDENSATE DRAIN FOR THE INDOOR COIL SHALL BE PROVIDED. PROVIDE 2" THICK FIBERGLASS THROW AWAY FILTERS WITH MAXIMUM FACE VELOCITY OF 300 FPM.
- UNIT COMPRESSORS: SHALL BE SERVICEABLE, HERMETICALLY SEALED SUCTION PROVIDE MINIMUM ONE YEAR MANUFACTURERS WARRANTY ON COMPRESSOR(S). INDOOR AND OUTDOOR COILS SHALL BE CONSTRUCTED OF ALUMINUM PLATE FINS MECHANICALLY BONDED TO SEAMLESS COPPER TUBES WITH ALL JOINTS BRAZED. INDOOR FANS SHALL BE BELT DRIVEN AND PROVIDED WITH ADJUSTABLE PITCH MOTOR PULLY. OUTDOOR FANS SHALL BE DIRECT DRIVEN PROPELLOR TYPE WITH PERMANENTLY LUBRICATED MOTOR.
- UNIT CONTROLS: PROVIDE PROGRAMMABLE THERMOSTAT WITH REMOTE SPACE SENSOR TO MAINTAIN HEATING AND COOLING SET POINTS. CONTROL UNIT FAN TO RUN CONTINUOUSLY OR ON AUTO-CYCLE. CYCLE BURNER AND COMPRESSORS IN SEQUENCE MAINTAIN SETPOINT. PROVIDE ECONOMIZER CONTROL TO INCLUDE RETURN AIR AND OUTSIDE AIR DAMPERS AND FULLY MODULATING ELECTRIC CONTROL SYSTEM WITH ENTHALPY CHANGE OVER CONTROL AND ADJUSTABLE MIXED AIR THERMOSTAT. ECONOMIZER CONTROL SHALL BE CAPABLE OF INTRODUCING UP TO 100% OUTSIDE AIR. HEATING CONTROLS SHALL CONSIST OF A REDUNDANT GAS VALVE, ELECTRONIC INTERMITTENT PILOT IGNITION, REMOTE PILOT FLAME SENSOR, TIME-DELAY RELAY, LIMIT SWITCHES AND CENTRIFUGAL SWITCH. LOCATE REMOTE SPACE SENSOR WHERE INDICATED ON DRAWING.
- HEAT EXCHANGER: SHALL BE TUBULAR IN DESIGN AND CONSTRUCTED OF CORROSION RESISTANT ALUMINIZED STEEL. HEAT EXCHANGER SHALL CARRY A 5 YEAR WARRANTY. BURNERS SHALL BE CONSTRUCTED OF ALUMINUM PAINTED COLD ROLLED STEEL AND BE OF THE IN-SHOT TYPE.
- ELECTRICAL CONNECTION: PROVIDE A DISCONNECT SWITCH READY FOR A SINGLE POINT POWER CONNECTION.

### EXHAUST FANS:

- ROOF EXHAUST FANS SHALL BE CAPABLE OF HANDLING AIR QUANTITY ON DRAWINGS. FAN TO BE PROVIDED WITH BIRDSCREEN, SHOCK MOUNTS, NEMA 1 DISCONNECT TYPE ELECTRICAL CONNECTION, MANUFACTURER'S ROOF CURB AND SHALL BE CONTROLLED BY INTERLOCK TO HVAC UNIT. TOILET EF SHALL BE GREENHECK MODEL G-70-D OR APPROVED EQUAL. FANS TO BE PROVIDED BY LANDLORD.

### DUCTWORK:

- LOW PRESSURE DUCTWORK: ALL DUCTWORK UNLESS OTHERWISE NOTED SHALL BE FABRICATED OF GALVANIZED SHEET STEEL IN ACCORDANCE WITH THE LATEST EDITION OF THE SMACNA DUCT CONSTRUCTION STANDARDS FOR 2" PRESSURE CLASS. ALL DUCT SIZES SHOWN ARE INSIDE CLEAR DIMENSIONS. FLEXIBLE DUCT CONNECTORS SHALL BE PREINSULATED WHERE INSULATION IS REQUIRED AND SHALL BE CLASSIFIED AS CLASS I OR CLASS O FLEXIBLE CONNECTORS IN ACCORDANCE WITH UL 181. FLEXIBLE CONNECTORS SHALL NOT EXTEND MORE THAN 10 FEET IN LENGTH.
- PROVIDE 1" THICK ACOUSTICAL DUCT LINING WITH AN AVERAGE DENSITY OF 1 1/2 LBS./CF. IN FIRST TEN FEET OF RETURN DUCT AND WHERE INDICATED. DUCT LINER SHALL HAVE FIRE RESISTANT INNER COATING TO PREVENT DELAMINATION OF FIBERS AND SHALL MEET NFPA AND UL REQUIREMENTS.

### ACCESSORIES:

- PROVIDE DUCTWORK ACCESSORIES IN ACCORDANCE WITH SMACNA STANDARDS. PROVIDE TURNING VANES IN ALL RECTANGULAR ELBOWS. WHERE SPACE PERMITS CONTRACTOR MAY PROVIDE RADIUS ELBOWS WITH A STANDARD CENTERLINE RADIUS EQUAL TO 1 1/2 TIMES THEIR WIDTH IN LIEU OF RECTANGULAR ELBOWS SHOWN ON PLANS. ALL RECTANGULAR DUCT TAPS SHALL BE MADE WITH 45 DEGREE ENTRY. ALL ROUND TAPS OVER 6" SHALL BE MADE WITH CONICAL TEES.
- PROVIDE MANUAL VOLUME DAMPERS WHERE INDICATED AND AT ALL TAPS TO INDIVIDUAL DIFFUSERS.

### AIR OUTLETS AND INLETS:

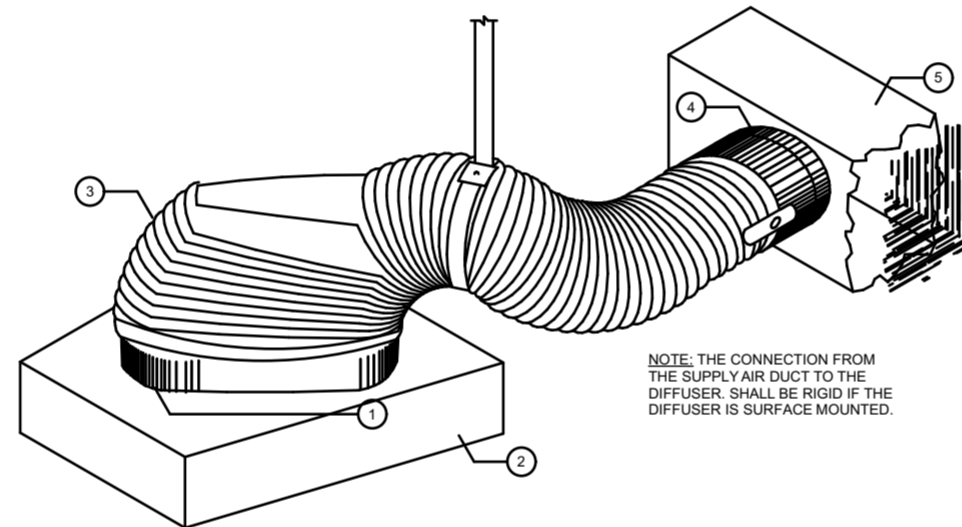
- DIFFUSERS SHALL HAVE AN NC RATING OF NOT MORE THAN 35 FOR ANY OCCUPIED SPACE. THROW AND DROP SHALL MEET MANUFACTURERS PUBLISHED RECOMMENDATIONS. PRIME DIFFUSERS FOR FIELD PAINTING AS INDICATED ON ARCHITECTURAL DRAWINGS.
- LOUVERED FACE SUPPLY DIFFUSERS SHALL BE TITUS MODEL TDC OR APPROVED EQUAL. PROVIDE SQUARE OR ROUND NECK AS INDICATED AND FRAME TYPE TO MATCH CEILING CONSTRUCTION.
- EXHAUST AND RETURN AIR GRILLES SHALL BE TITUS MODEL 350RL STEEL LOUVERED GRILLES WITH 3/4 INCH SPACING.

### CONTROLS:

- PROVIDE PROGRAMMABLE WALL MOUNTED SPACE THERMOSTAT WITH SPACE MOUNTED REMOTE SENSOR TO CONTROL ALL STAGES OF ROOF TOP UNIT HEATING AND COOLING.
- CONTROL ROOF MOUNTED TOILET EXHAUST FANS TO START AND STOP FROM INTERLOCK TO RTU'S OCCUPIED CYCLE.
- PROVIDE DUCT MOUNTED IONIZATION TYPE SMOKE DETECTOR IN RETURN AIR DUCT OF EACH RTU 2000 CFM AND ABOVE. DETECTOR SHALL SHUT DOWN UNIT UPON DETECTION OF PRODUCTS OF COMBUSTION AND ACTIVATE VISIBLE AND AUDIBLE ALARM AND TROUBLE SIGNAL IN AN APPROVED LOCATION.

### TESTING ADJUSTING AND BALANCING:

- AFTER COMPLETION OF THE INSTALLATION OF THE AIR CONDITIONING AND HEATING SYSTEMS AND PRIOR TO ACCEPTANCE BY THE OWNER, AIR HANDLING SYSTEM AND APPURTENANCES APPLICABLE TO THE ABOVE SYSTEM SHALL BE ADJUSTED AND BALANCED TO DELIVER THE AIR QUANTITIES AS SPECIFIED, INDICATED ON THE DRAWINGS, OR AS DIRECTED. BALANCING WORK SHALL BE DONE IN ACCORDANCE WITH AABC OR NEBB PUBLISHED METHODS AND PRACTICES. THE CONTRACTOR SHALL SUBMIT TO THE OWNER OR ENGINEER FOR THEIR EVALUATION AND APPROVAL, SIX (6) COPIES OF THE COMPLETE AIR BALANCE REPORT.



**SUPPLY AIR DIFFUSER CONNECTION**

### SYMBOLS LIST

- ADAPTER FITTING AS REQUIRED; SCREWED TO GRILLE
- SUPPLY AIR DIFFUSER TYPE & SIZE AS SCHEDULED; DIFFUSER TO HAVE OPPOSED BLADE DAMPER WHERE MOUNTED ON PLASTER CEILING.
- PRE-INSULATED FLEX DUCT - SECURED AT BOTH ENDS WITH 1 inch WIDE DRAW BANDS, SUPPORTED FROM STRUCTURE. MAXIMUM LENGTH 5FT
- SPIN-IN FITTING W/DAMPER, VAPOR SEAL PRE-INSULATED FLEX DUCT TO SUPPLY AIR DUCT. OMIT DAMPER WHERE DIFFUSER IS MOUNTED ON PLASTER CEILING.
- SUPPLY AIR DUCT SIZE AS INDICATED ON PLANS.

### FIELD DUCT SIZING CHART

Duct Size	Design Airflow
5"	50
6"	75
7"	110
8"	160
9"	225
10"	300
12"	480
14"	700
16"	1000
18"	1300
20"	1700

### ROUND DUCT SIZE ESTIMATE

Duct Size	Design Airflow
5"	50
6"	85
7"	125
8"	180
9"	240
10"	325
12"	525
14"	750
16"	1200
18"	1500
20"	2000

## MECHANICAL LEGEND

	NEW DUCTWORK
	EXISTING DUCTWORK
	SOUNDLINED DUCTWORK
	DUCT RISING
	DUCT DROPPING
	DUCT SIZE, FIRST FIGURE IS VISIBLE SIDE
	CHANGE IN DUCT ELEVATION: RISE (R) OR DROP (D)
	DUCT WITH FLEXIBLE CONNECTION
	RECTANGULAR TO ROUND DUCT CONNECTION
	DUCT WITH CAPPED END
	TRANSITION
	DUCT SECTION, POSITIVE PRESSURE
	DUCT SECTION, NEGATIVE PRESSURE
	TURNING VANES (SQUARE ELBOW SHOWN)
	CONNECT NEW TAP TO EXISTING DUCTWORK
	MANUAL VOLUME DAMPER
	FLEXIBLE DUCT
	POINT OF CONNECTION - NEW TO EXISTING
	RETURN
	SUPPLY DIFFUSER
	THERMOSTAT
	REMOTE SPACE SENSOR
	GAS METER
	AFF ABOVE FINISHED FLOOR
	CFM CUBIC FEET PER MINUTE
	CLG CEILING
	CD CEILING DIFFUSER
	CR CEILING REGISTER
	DN DOWN
	E, (E) EXISTING, RELOCATE AS REQUIRED
	EF EXHAUST FAN
	FC FLEXIBLE CONNECTION
	FLR FLOOR
	N, (N) NEW
	TAD TRANSFER AIR DUCT
	UON UNLESS OTHERWISE NOTED
	VD VOLUME DAMPER
	G NATURAL GAS
	WH WATER HEATER

RECTANGULAR DUCT SIZE ESTIMATE									
Design	Duct Height - Net inside dimension in inches								
CFM	4"	CFM	6"	CFM	8"	CFM	10"	CFM	12"
60	6x4	60	4x6	90	4x8	120	4x10	150	4x12
90	8x4	110	6x6	160	6x8	215	6x10	270	6x12
120	10x4	160	8x6	230	8x8	310	8x10	400	8x12
150	12x4	215	10x6	310	10x8	430	10x10	550	10x12
180	14x4	270	12x6	400	12x8	550	12x10	680	12x12
210	16x4	320	14x6	490	14x8	670	14x10	800	14x12
240	18x4	375	16x6	580	16x8	800	16x10	950	16x12
270	20x4	430	18x6	670	18x8	930	18x10	1100	18x12
300	22x4	490	20x6	750	20x8	1060	20x10	1250	20x12
330	24x4	540	22x6	840	22x8	1200	22x10	1400	22x12
		600	24x6	930	24x8	1320	24x10	1600	24x12
		650	26x6	1020	26x8	1430	26x10	1750	26x12
		710	28x6	1100	28x8	1550	28x10	1950	28x12
		775	30x6	1200	30x8	1670	30x10	2150	30x12
40	2 1/2 x 10			1300	32x8	1800	32x10	2300	32x12
70	2 1/2 x 14			1400	34x8	1930	34x10	2450	34x12
150	2 1/2 x 30			1500	36x8	2060	36x10	2600	36x12
		100	3 1/2 x 14			2200	38x10	2750	38x12
		220	3 1/2 x 30			2350	40x10	2900	40x12
Rectangular sheet metal duct = .07" on metal duct calculators 3050 42x12									

**INSTRUCTIONS FOR USE**  
 Step One - Identify the volume of air that will be passing through the duct  
 Step Two - Select the duct size from the table that can carry that volume of air  
 Step Three - If desired airflow exceeds the CFM rating, increase to the next duct size  
 Step Four - Listed CFM is based on typical field results and may vary, install dampers  
 Step Five - If duct run exceeds 25', or has excessive transitions, increase to the next size  
 Step Six - Design alone is inadequate, always prove design by test and balance.

## MECHANICAL CODES AND STANDARD

INTERNATIONAL BUILDING CODE	2015 EDITION
INTERNATIONAL ENERGY CONSERVATION CODE	2015 EDITION
INTERNATIONAL EXISTING BUILDING CODE	2015 EDITION
INTERNATIONAL FIRE CODE	2015 EDITION
INTERNATIONAL FUEL AND GAS CODE	2015 EDITION
INTERNATIONAL MECHANICAL CODE	2015 EDITION
INTERNATIONAL PLUMBING CODE	2015 EDITION
INTERNATIONAL PROPERTY MAINTENANCE CODE	2015 EDITION
INTERNATIONAL RESIDENTIAL CODE	2015 EDITION
INTERNATIONAL SWIMMING POOL & SPA CODE	2015 EDITION
NFPA 101 LIFE SAFETY CODE	2015 EDITION
NATIONAL ELECTRICAL CODE	2017 EDITION

### CODES AND STANDARDS

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Company Title

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Project Title

**Truoba Mini 619**

Drawing Name

**Mechanical Specifications**

Drawing Scale

Sheet Size

**A-2**

Layout ID

**15**