

CITY OF TUCSON INCLUSIVE HOME DESIGN

I. THIS ORDINANCE APPLIES TO ALL DWELLING UNITS (SITE BUILT HOMES) PERMITTED FOR CONSTRUCTION IN THE CITY OF TUCSON.
 2. PROVIDE AT LEAST ONE EXTERIOR ACCESSIBLE ROUTE AND ENTRANCE. THE ROUTE MAY ORIGINATE FROM THE CARPORT, DRIVEWAY, PUBLIC STREET OR SIDEWALK. THE SLOPE OF THIS ROUTE SHALL NOT EXCEED ONE-FOOT VERTICAL RISE PER TWENTY FEET HORIZONTAL DISTANCE (1:20), UNLESS A RAMP PER 2018 IRC IS CONSTRUCTED. (NOTE: INDICATE THE EXTERIOR ACCESSIBLE ROUTE AND ACCESSIBLE ENTRANCE ON SINGLE FAMILY RESIDENCE SITE PLAN).
 3. ACCESSIBLE ENTRANCE: PROVIDE MINIMUM ONE NO-STEP LEVEL ENTRANCE THAT IS A MINIMUM 32" WIDE AND MEETS THE DOOR HARDWARE REQUIREMENTS PER THIS ORDINANCE. (NOTE: EXIT DOORS ARE REQUIRED TO BE 36" MINIMUM AND THE GARAGE SHALL NOT BE USED AS AN EXIT). THE ACCESS FLOOR SHALL HAVE A MINIMUM 36" WIDE HALLWAY AND ACCESSIBLE DOORS TO ALL SPACES AND ELEMENTS TO BE MINIMUM 28" DOOR.
 4. CHANGE IN FLOOR LEVELS AND THRESHOLDS, AT THE ACCESSIBLE ENTRANCE AND ALONG ACCESSIBLE ROUTES MAY BE 1/2" HIGH MAXIMUM. THIS MUST BE BEVELED FROM 1/4" TO 1/52" MAXIMUM WITH A SLOPE NOT STEEPER THAN 1" RISE IN 2' RUN (1:2).

5. DOOR HARDWARE: HANDLES, PULL LATCHES, LOCKS AND OTHER OPERABLE PARTS ON ACCESSIBLE DOORS SHALL HAVE A SHAPE THAT IS EASY TO GRASP WITH ONE HAND AND THAT DOES NOT REQUIRE TIGHT GRASPING, PINCHING OR TWISTING OF THE WRIST TO OPERATE. LEVER HARDWARE SATISFIES THE REQUIREMENTS OF THIS PROVISION.

BATHROOM WALL REINFORCEMENT: IN ALL BATHROOMS ON THE ACCESSIBLE ROUTE REINFORCEMENT SHALL BE INSTALLED TO ALLOW FUTURE INSTALLATION OF GRAB BARS ON WALLS ADJACENT TO THE TUB AND TOILET. IN ADDITION, REINFORCEMENT SHALL BE INSTALLED IN SHOWER COMPARTMENTS FOR FUTURE INSTALLATION OF GRAB BARS. THIS REINFORCEMENT SHALL BE INSTALLED FLUSH WITH THE STUDS AND AT THE FOLLOWING LOCATIONS: (NOTE: ALL BATHROOMS, IF MORE THAN ONE, ARE TO BE ACCESSIBLE. AT LEAST ONE BATHROOM IS REQUIRED ON ACCESSIBLE FLOOR CLOSET, LAVATORY, AND BATHTUB OR SHOWER). TOILET: 33"-36" ABOVE THE FLOOR ON ALL ADJACENT WALLS. HORIZONTAL LENGTH OF REINFORCEMENT SHALL BE SUFFICIENT TO ALLOW A 42" GRAB BAR AND 24" REAR GRAB BAR. (NOTE: NOTHING IN THE ORDINANCE REQUIRES THAT TOILET BE PLACED BY A SIDEWALL).

TUB: HORIZONTAL LENGTH REINFORCEMENT SHALL BE SUFFICIENT TO ALLOW FOR:

a) BACK WALL: TWO BACKING REINFORCEMENTS, ONE BACKING REINFORCEMENT HORIZONTAL POSITION 33" MINIMUM AND 36" MAXIMUM ABOVE THE FLOOR, AND ONE BACKING REINFORCEMENT 9" ABOVE THE RIM OF THE BATHTUB. EACH BACKING REINFORCEMENT SHALL BE 24" LONG MINIMUM AND SHALL BE 24" MAXIMUM FROM THE HEAD END WALL AND 12" MAXIMUM FROM THE FOOT END WALL.

b) FOOT END WALL: ONE BACKING REINFORCEMENT 24" LONG MINIMUM ON THE FOOT END WALL AT THE FRONT EDGE OF THE BATHTUB.

c) HEAD END WALL: ONE BACKING REINFORCEMENT 12" LONG MINIMUM ON THE HEAD END WALL AT THE FRONT EDGE OF THE BATHTUB.

d) SHOWER COMPARTMENTS SHALL HAVE BACKING ON A MINIMUM OF TWO WALLS NOT TO INCLUDE CONTROL VALVE WALL MOUNTED AT 33"-36" ABOVE SHOWER FLOOR.

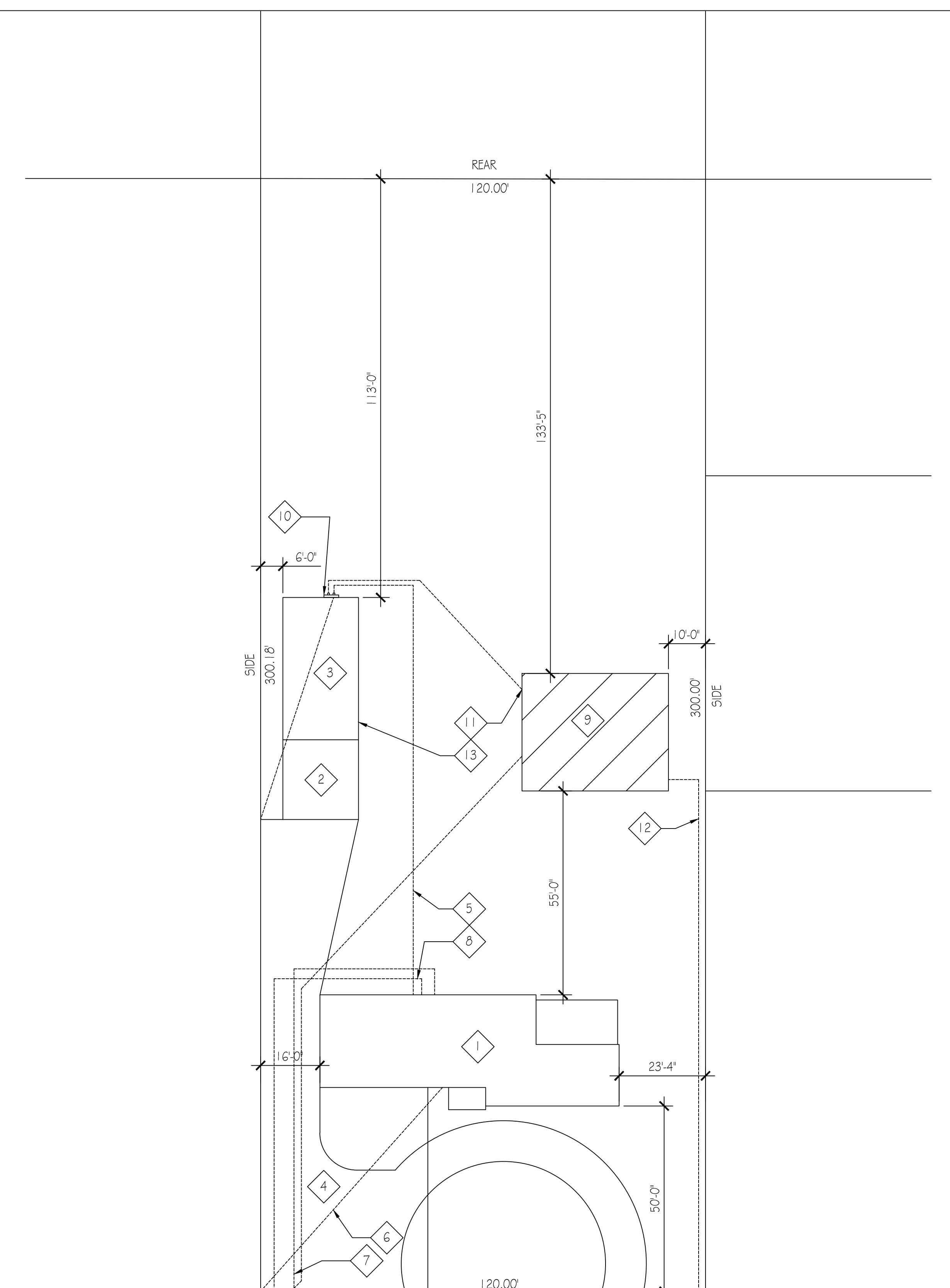
ALL REINFORCEMENT SHALL BE CAPABLE OF RESISTING SHEAR AND BENDING FORCES OF A MINIMUM OF 250 POUNDS. REINFORCEMENT IS NOT REQUIRED AT THE LOCATION OF VANITIES, LINEN CLOSETS, AND PRE-MOLDED SHOWER-TUB SURROUNDS, OR IN A ROOM CONTAINING ONLY A SINK AND A TOILET, PROVIDED THAT THE ROOM DOES NOT CONTAIN THE ONLY SINK OR TOILET ON THE ACCESSIBLE FLOOR OF THE HOME.

ELECTRICAL:

a) ALL LIGHT CONTROLS SHALL BE PLACED NO HIGHER THAN 48", ON CENTER, ABOVE THE FLOOR.
 b) WHERE PRACTICAL, ALL ELECTRICAL RECEPTACLES SHALL BE PLACED NO LOWER THAN 15", ON CENTER, ABOVE THE FLOOR.
 c) ALL THERMOSTATS SHALL BE PLACED NO HIGHER THAN 54", ON CENTER, ABOVE THE FLOOR.

EXCEPTIONS TO THESE PROVISIONS ARE AS FOLLOWS:

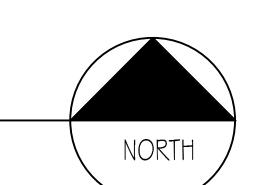
1. ELECTRICAL RECEPTACLES SERVING A DEDICATED USE.
2. APPLIANCE MOUNTED CONTROLS OR SWITCHES.
3. A SINGLE OUTLET WHERE ALL OF THE FOLLOWING CONDITIONS ARE MET:
 - a) THE OUTLET IS ABOVE A LENGTH OF COUNTERTOP THAT IS UNINTERRUPTED BY A SINK OR APPLIANCE.
 - b) AT LEAST ONE RECEPTACLE IS PROVIDED FOR THAT LENGTH OF COUNTERTOP; AND
 - c) ALL OTHER RECEPTACLES PROVIDED FOR THAT LENGTH OF COUNTERTOP SET NO HIGHER THAN 48".
4. FLOOR ELECTRICAL RECEPTACLES
5. PLUMBING FIXTURE CONTROLS.
6. HVAC DIFFUSERS.
7. CEILING FAN MOUNTED CONTROLS.



LIND RD.

SITE PLAN

1' = 10'



SPECIAL INSPECTIONS

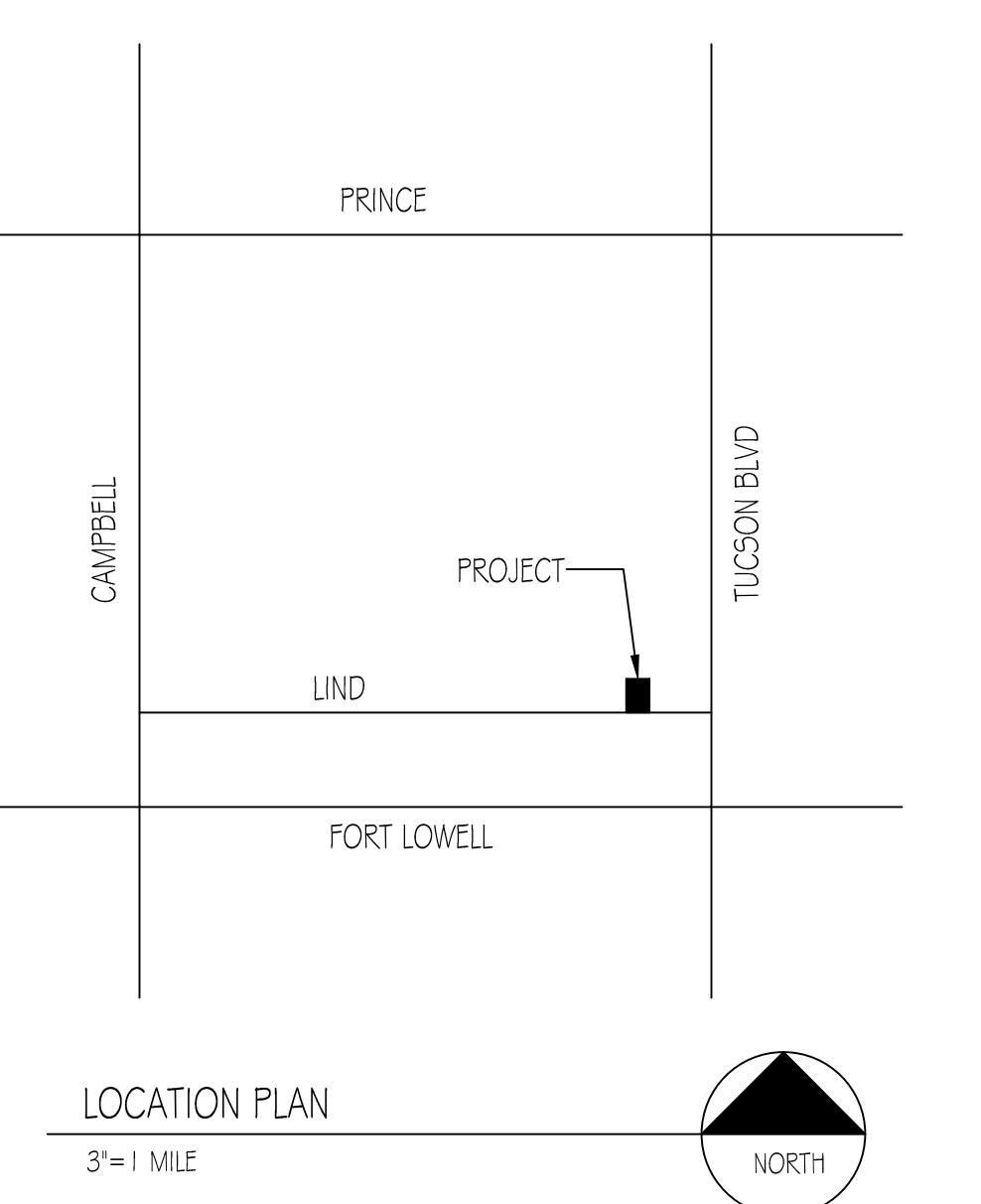
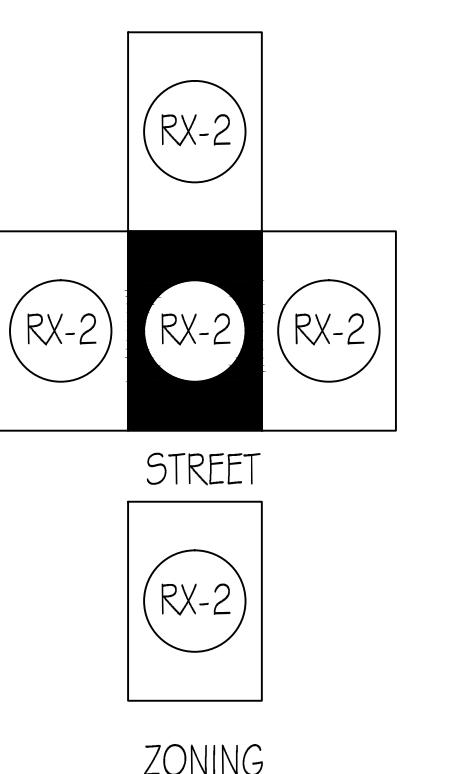
1. N/A

DEFERRED SUBMITTALS

1. TRUSS DRAWINGS N/A
2.

SITE PLAN KEY NOTES

- 1 EXISTING DWELLING UNIT "1"
- 2 EXISTING CARPORT
- 3 EXISTING STORAGE
- 4 EXISTING DRIVEWAY
- 5 EXISTING ELECTRIC SERVICE ENTRANCE, BREAKER PANEL "1", U.G.
- 6 EXISTING WATER METER, MAIN LINE & SERVICE ENTRANCE
- 7 EXISTING / PROPOSED MAIN SEWER LINE
- 8 EXISTING MAIN GAS LINE
- 9 PROPOSED SECOND DWELLING UNIT "2"
- 10 EXISTING DUAL METER PANEL
- 11 PROPOSED ELECTRICAL SUB PANEL "B"
- 12 PROPOSED WATER METER & SERVICE ENTRANCE
- 13 PROPOSED LOCATION FOR EV RECEPTACLE



GENERAL NOTES
 1. ALL CONSTRUCTION SHALL CONFORM TO THE 2018 INTERNATIONAL RESIDENTIAL CODE (IRC).
 2. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS AT THE JOB SITE AND REPORT ANY DISCREPANCIES TO THE OWNER, IN WRITING, BEFORE PROCEEDING WITH THE WORK.
 3. OMISSIONS AND CONFLICTS BETWEEN VARIOUS ELEMENTS OF THE DRAWINGS, NOTES, AND DETAILS SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER AND RESOLVED BEFORE PROCEEDING WITH THE WORK.
 4. DO NOT USE SCALED DIMENSIONS. WHERE NO DIMENSION IS GIVEN CONSULT THE OWNER FOR CLARIFICATION BEFORE PROCEEDING WITH THE WORK.
 5. DETAILS SHALL BE INCORPORATED INTO THE PROJECT AT ALL APPROPRIATE LOCATIONS WHETHER SPECIFICALLY CALLED OUT OR NOT.

6. GENERAL CONTRACTOR (GC) SHALL COORDINATE ALL DRAWINGS, REPORT ANY DISCREPANCIES TO THE OWNER, AND SECURE THE OWNER'S GUIDANCE BEFORE PROCEEDING WITH THE WORK.
 SITE NOTES
 1. THE GENERAL CONTRACTOR (GC) SHALL STAKE ALL SITE DEVELOPMENT AND SECURE THE OWNERS APPROVAL BEFORE REMOVING ANY VEGETATION OR NATURAL FEATURES.
 2. THE GC IS RESPONSIBLE FOR VERIFYING THE EXACT LOCATION OF EXISTING UTILITIES IN THE FIELD.

SUBDIVISION

N/A

LEGAL DESCRIPTION

RICHLAND HEIGHTS LOT 9 BLK 17

PARCEL

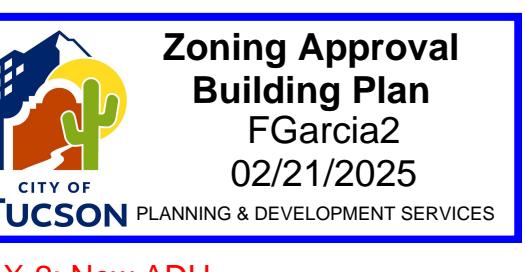
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LOT COVERAGE CALCULATIONS

LOT SIZE	34,765 S.F.
SQ FT OF PROPOSED SECOND DWELLING	1,250 S.F.
SQ FT OF EXISTING DWELLING	2,221 S.F.
SQ FT OF EXISTING DETACHED CARPORT/STORAGE	1,222 S.F.
SQ FT OF STORAGE	S.F.
SQ FT OF PATIO	included
SQ FT OF VEHICULAR AREA	4,064 S.F.
TOTAL LOT COVERAGE	8,757 S.F.
PERCENT OF LOT COVERAGE	25%
MAXIMUM HEIGHT OF NEW STRUCTURE	16'9"

DRAWING INDEX:

- 1 - SITE PLAN
- 2 - FOUNDATION
- 3 - FLOOR PLAN
- 3.1 - DIMENSION PLAN
- 4 - SECTIONS
- 5 - DETAILS
- DETAILS
- 6 - ELEVATIONS
- 7 - ROOF PLAN
- 8 - MECHANICAL PLAN
- 9 - PLUMBING WATER PLAN
- 9 - PLUMB. DWV &
- 10 - ELECTRICAL PLAN



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SITE PLAN
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FOUNDATION NOTES

1. SOIL BEARING CAPACITY SHALL BE 1500 PSI IN LIEU OF A SOILS ENGINEERING REPORT @ 18" MIN. DEPTH.

2. ALL FOOTINGS SHALL REST ON UNDISTURBED SOIL; NO FOOTINGS ARE TO BE SUPPORTED ON FILL.

3. ALL FOOTINGS SHALL EXTEND A MINIMUM 12" INTO NATIVE SOIL PER IRC 2018 SEC R403.1.4.

4. ALL REINFORCING STEEL SHALL BE NEW BILLET STEEL, INTERMEDIATE GRADE DEFORMED BARS, MINIMUM 24" LAP.

5. ALL REINFORCING SHALL BE ACCURATELY AND SECURELY PLACED PRIOR TO PLACEMENT OF CONCRETE.

6. PROVIDE A FIVE YEAR GUARANTEED TERMITE PRE-TREATMENT THROUGHOUT, WITH WRITTEN WARRANTY.

7. ALL SLABS SHALL REST ON A MINIMUM 4" CLEAN ABC FILL, COMPAKTED TO 95%, PER IRC 2018.

8. CROSS-REFERENCE FOUNDATION PLAN WITH FRAMING PLAN FOR BEARING REQUIREMENTS.

9. CROSS-REFERENCE FOUNDATION PLAN WITH PLUMBING PLAN AS REQUIRED.

10. PLUMBING CONTRACTOR SHALL VERIFY CENTERLINE LOCATION OF ALL PLUMBING FIXTURES PRIOR TO ROUGH PLUMBING.

11. USE 2500 PSI CONCRETE AT FOOTINGS, 2500 PSI ELSEWHERE (28 DAY MINIMUM VALUES). ALL CONCRETE SHALL CONFORM TO LATEST ACI SPECIFICATIONS.

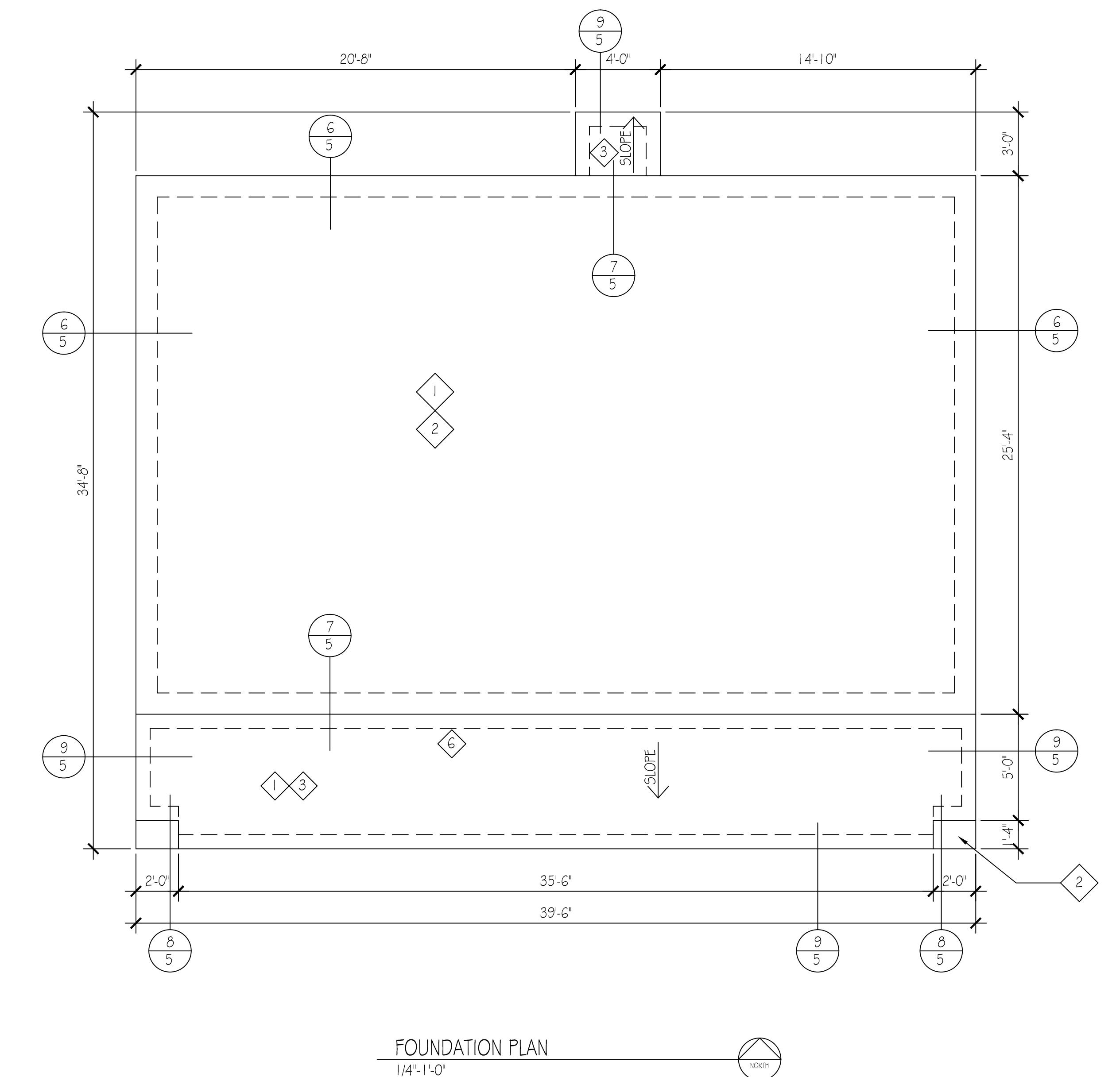
12. LIMIT POURS TO 400 SF, PROVIDE CONTROL JOINTS AT EDGES.

13. ALL INTERIOR CONCRETE SLABS SHALL HAVE A SMOOTH STEEL TROWEL FINISH. ALL EXTERIOR SLABS AND WALKS SHALL HAVE A BROOM FINISH, UNLESS NOTED OTHERWISE.

14. EXIT LANDINGS AT DOORS SHALL HAVE A FLOOR OR LANDING ON EACH SIDE OF EACH EXTERIOR DOOR. THE FLOOR OR LANDING AT THE EXTERIOR DOOR SHALL NOT BE MORE THAN 1.5 INCHES (38 MM) LOWER THAN THE TOP OF THE THRESHOLD. THE LANDING SHALL BE PERMITTED TO HAVE A SLOPE, SLOPING AWAY FROM THE BUILDING NOT TO EXCEED 0.25 UNIT VERTICAL IN 12 UNITS HORIZONTAL (2-PERCENT THE WIDTH OF EACH LANDING SHALL NOT BE LESS THAN THE DOOR SERVED. EVERY LANDING SHALL HAVE A MINIMUM DIMENSION OF 36 INCHES (914 MM) MEASURED IN THE DIRECTION OF TRAVEL PER IRC SEC. R311.4.3

FOUNDATION KEY NOTES

- 1 > 4" CONCRETE SLAB ON 4" ABC FILL FFE 100'-0"
- 2 > 4" CONCRETE SLAB ON 4" ABC FILL FFE 99'-8"
- 3 > ELECTRICAL LINE TO ISLAND PER IRC 2018
- 4 > COLD WATER TO ISLAND PER IRC 2018
- 5 > LANDING PER IRC 2018 SECTION R311.4.3 1/2" MAX @ ENTRY DOOR



DATE
November 2024

FOUNDATION
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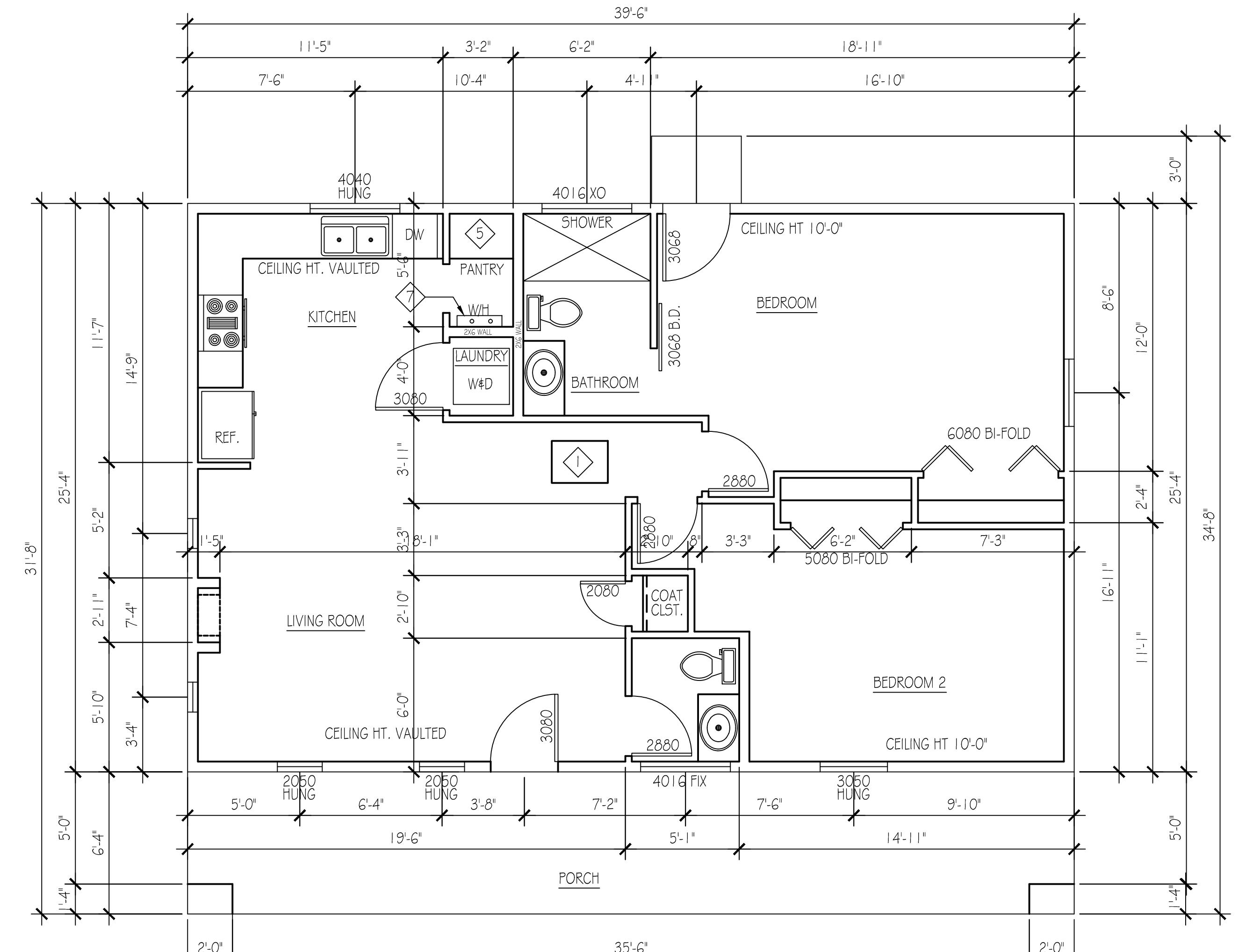
ROBERT PUTMAN & SARA MOBLEY
2411 E. LIND ROAD UNIT 2
TUCSON, AZ.

85719



2

REVISION
A



DIMENSION PLAN
1/4" = 1'-0"

NORTH

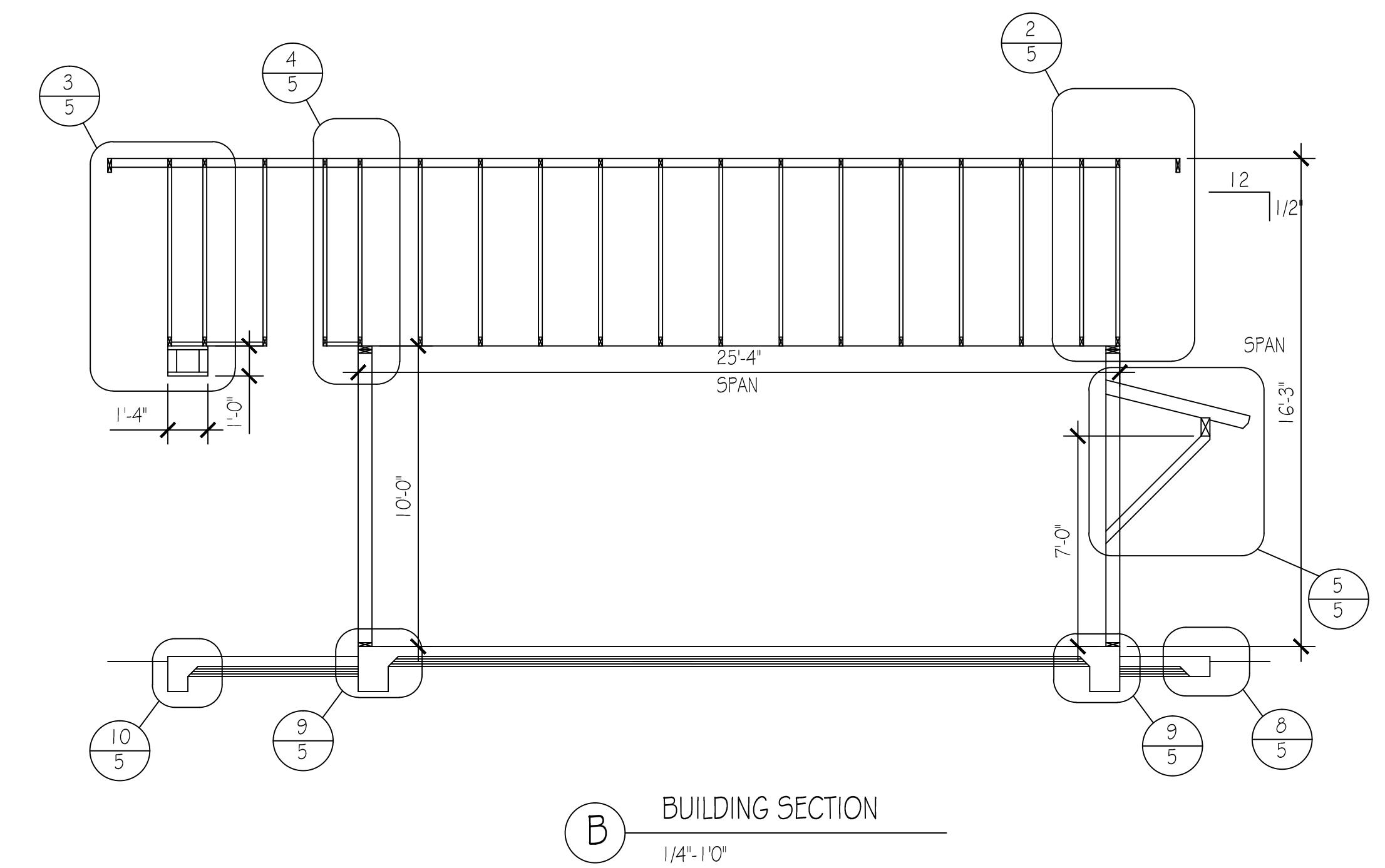
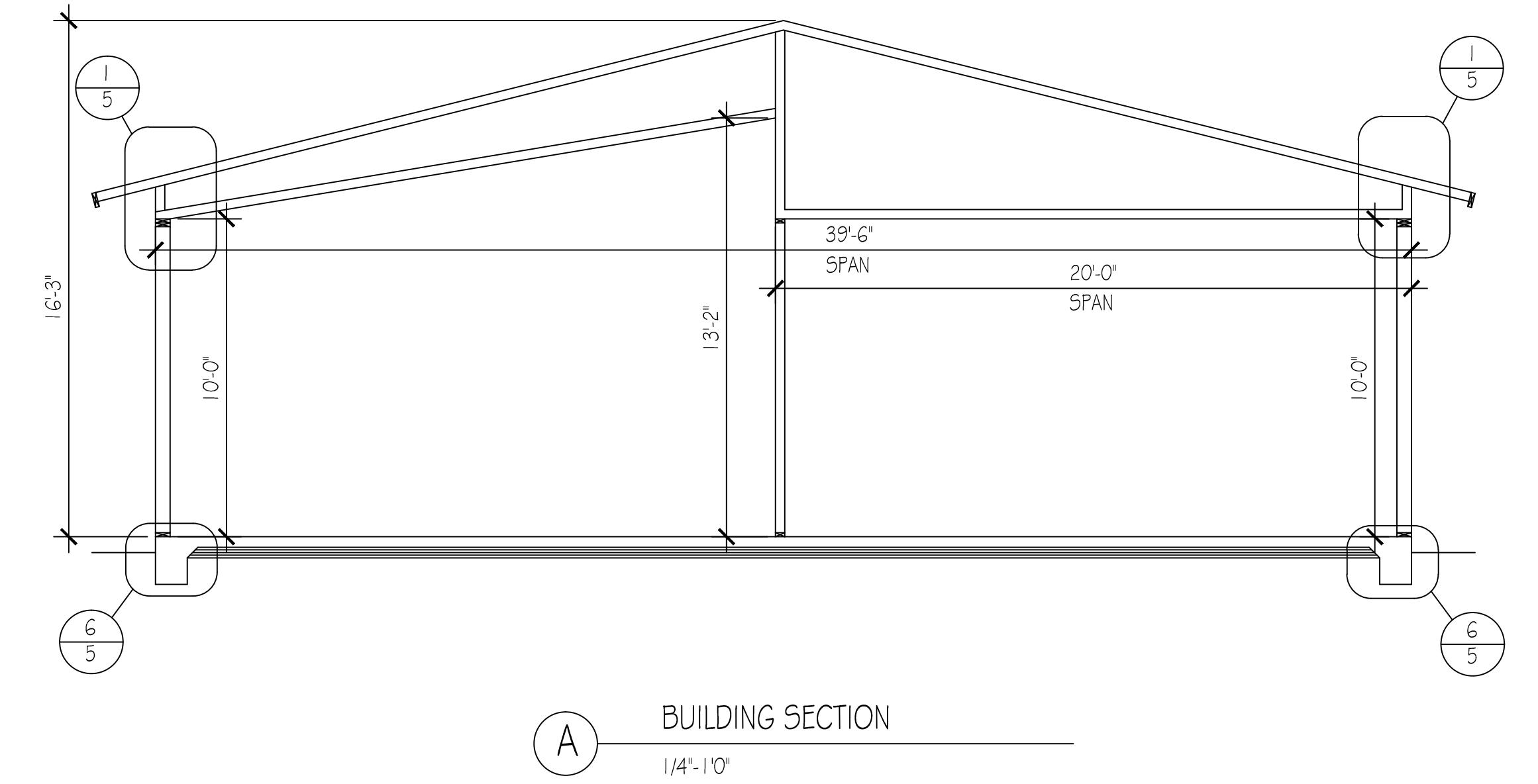


TX-2: New ADU

3.	ROBERT PUTMAN & SARA MOBLEY 2411 E. LIND ROAD UNIT 2 TUCSON, AZ. 85719	DIMENSION PLAN	DESERT WOLF DRAFTING DRAFTOTER02@GMAIL.COM TUCSON AZ	DATE November 2024	REVISION △
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SECTION NOTES

1. TYPICAL HEADER HEIGHT TO BE 8'-0", UNO.
2. BLOCKING AND FIRE STOPS PER IRC 2018.
3. USE PRESSURE TREATED SILL PLATES THRU-OUT (IRC 2018).
4. PROVIDE ADEQUATE DRAINAGE PER IRC 2018.
5. PROVIDE VAPOR BARRIER AND WEEP SCREED AS PER AS PER SEC. R703.6.



4	ROBERT PUTMAN & SARA MOBLEY 2411 E. LIND ROAD UNIT 2 TUCSON, AZ. 85719	CROSS SECTION	DESERT WOLF DRAFTING DRAFTOTERO2@GMAIL.COM TUCSON AZ	DATE November 2024	REVISION A
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ELEVATION KEY NOTE

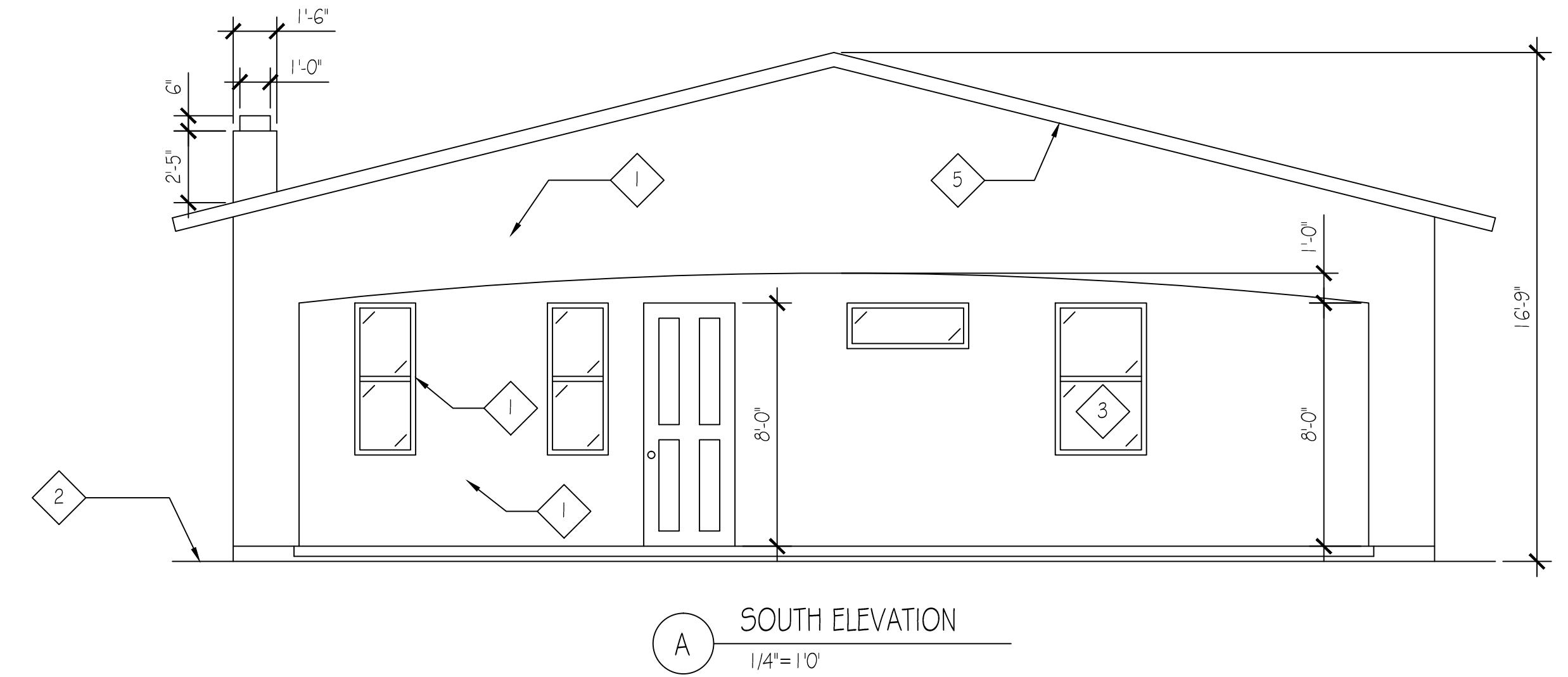
1 PER MANUFACTURE SPEC'S
WESTERN ONE KOTE STUCCO
ICBO # ER-3899 0/1" FOAM
0/2 VAPOR BARRIER PAPER

2 FINAL GRADE

3 BUCK ALL WINDOWS

4 2X FASCIA

5 2X FLY RAFTER



ATTIC VENTILATION

(PER IRC 2018 R806)

1001/150 = 6.67 SQ. FT. REQUIRED

1.7158 sq.ft. x 4 = 6.86 PROVIDED

LOCATE VENTS ON ROOF

SEE SCUPPER PLAN

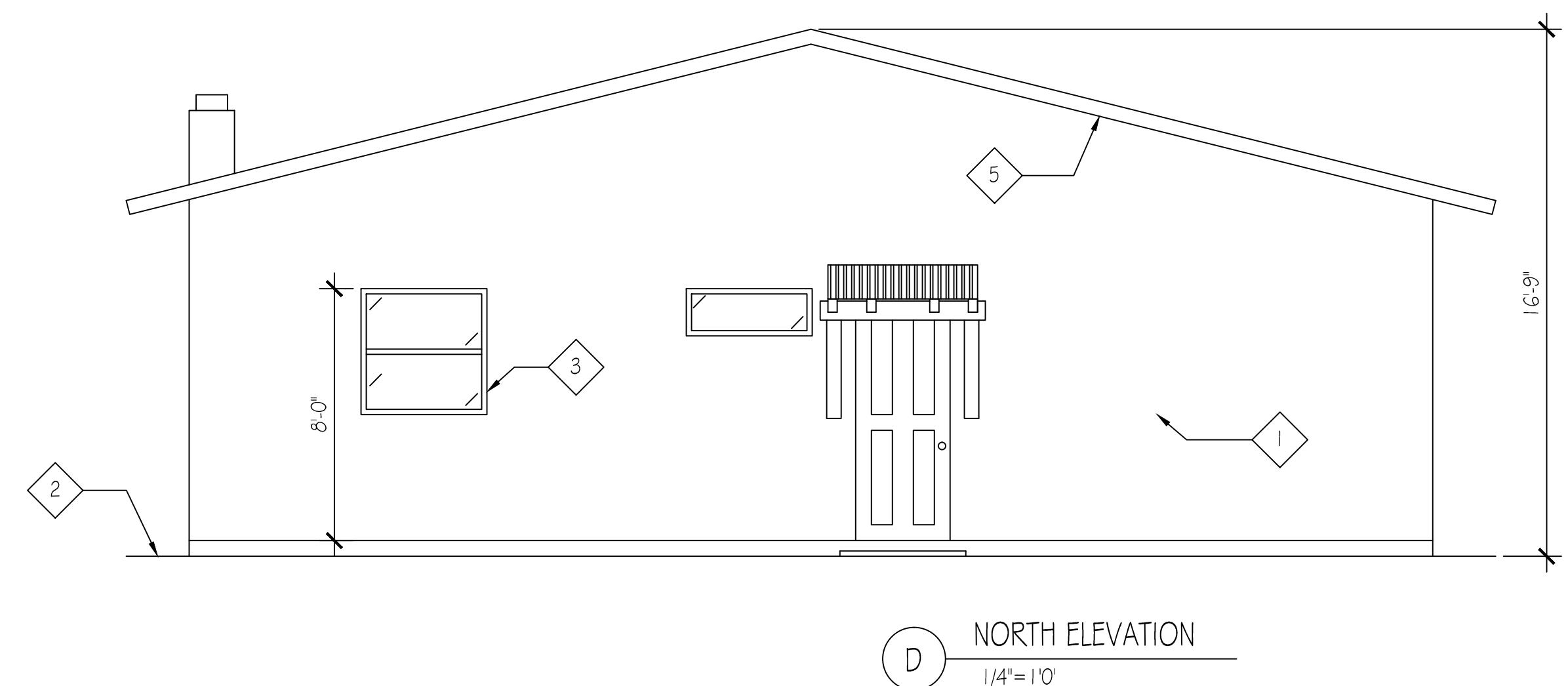
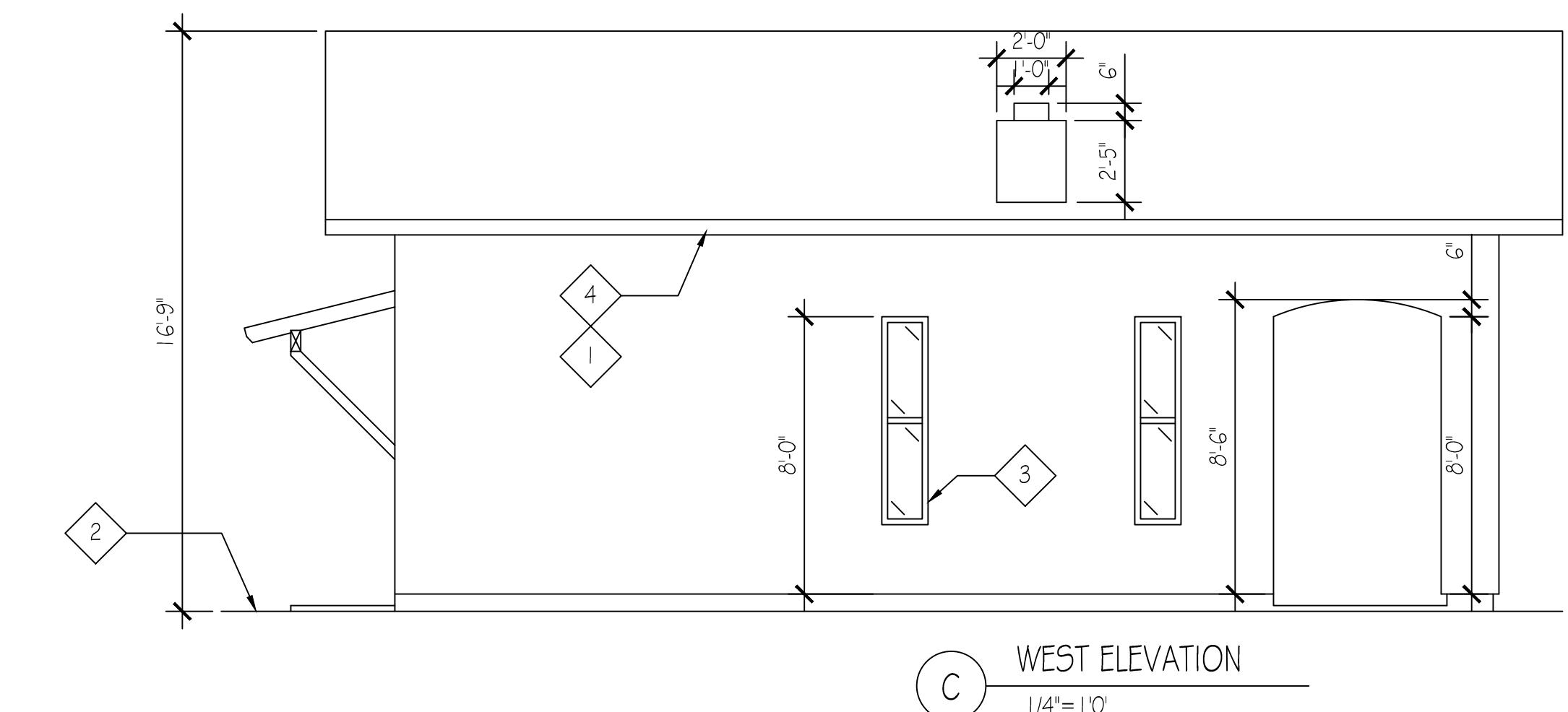
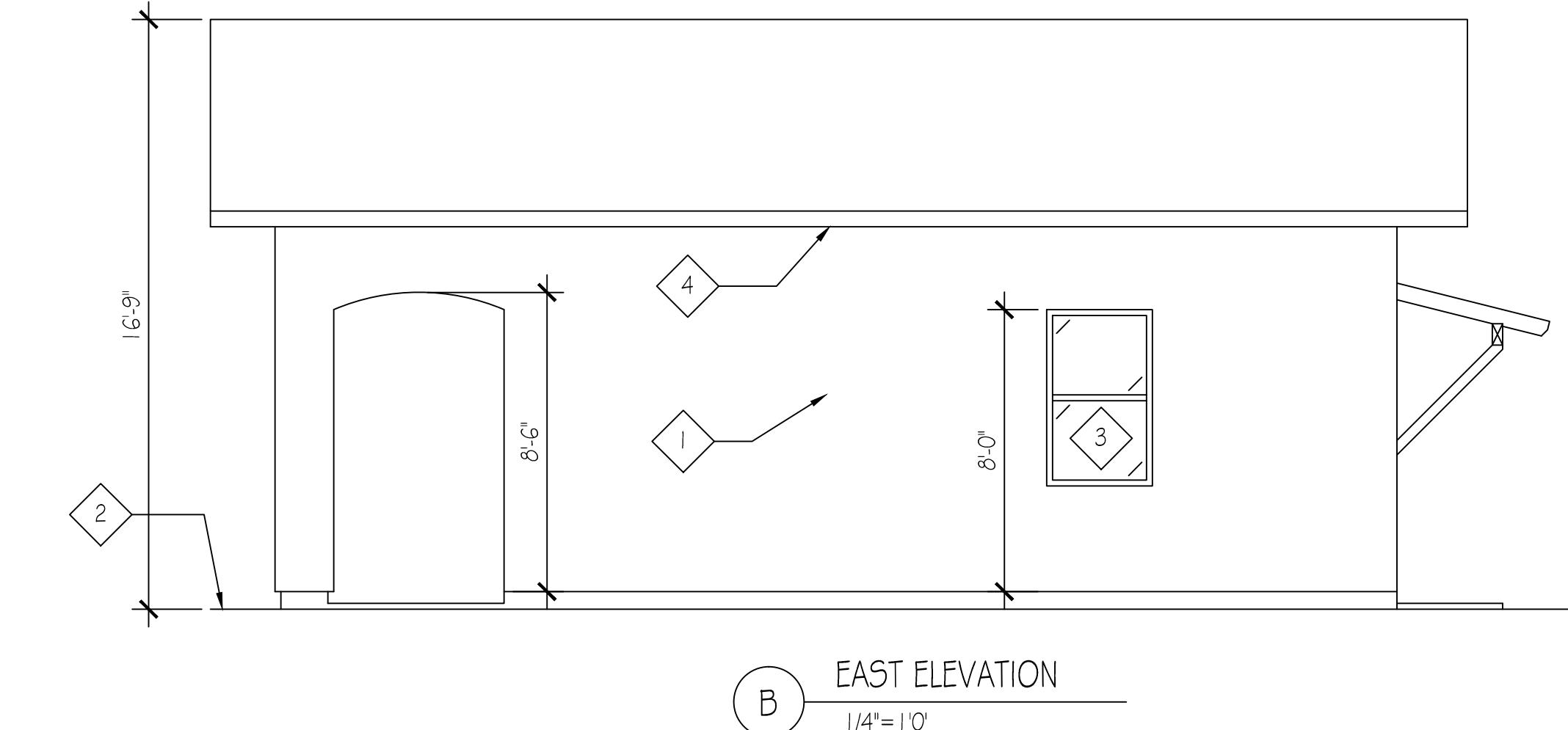
18x18 BOX FLAT ROOF VENT

NON-ATTIC VENTILATION

(PER IRC 2018 R806.5)

INSTALL MINIMUM R-5 RIGID BOARD

INSULATION PER TABLE R806.5



6	ROBERT PUTMAN & SARA MOBLEY 2411 E. LIND ROAD UNIT 2 TUCSON, AZ. 85719	ELEVATION	DESERT WOLF DRAFTING DRAFTOTER02@GMAIL.COM TUCSON AZ	DATE November 2024	REVISION △
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FRAMING NOTES

1. ALL LUMBER TO BE GRADED AND STAMPED.

2. MATERIALS:
 STUDS D.F. #2 OR BETTER
 BEAMS D.F. #1 OR BETTER
 JOISTS D.F. #2 OR BETTER
 SHEATHING 1 / 2" CDXOSB (CCX @ OVERHANGS), PLYWOOD STRUCTURAL GRADE 1, DFPA GRADE STAMPED.

3. ALL FRAMING MEMBERS SHALL NOT EXCEED 19% MOISTURE CONTENT

4. ALL SOLE PLATES TO BE PRESSURE TREATED.

5. USE PRE-MANUFACTURED TRUSSES FOR THE FRAMING MEMBERS AS SHOWN. THE GENERAL CONTRACTOR SHALL SUBMIT TRUSS DRAWINGS, ANCHORING AND CONNECTIONS, BLOCKING AND STRESS DIAGRAMS, STAMPED AND SIGNED BY AN ARIZONA REGISTERED PROFESSIONAL ENGINEER FOR APPROVAL BY THE PLAN CHECK/BUILDING INSPECTION AGENCY PRIOR TO ERECTION.

6. PROVIDE NON-COMBUSTIBLE FLASHING THROUGHOUT.

7. ALL FRAMING, NAILING AND CONNECTIONS PER IRC 2018.

8. ALL EXPOSED LUMBER SHALL BE ROUGH SAWN.

9. PLYWOOD 8d @ 6" O.C. AT EDGES, AND 12" O.C. AT INTERMEDIATE SUPPORTS. USE BOX WIRE NAILS AND PLYWOOD CLIPS SPACED AT 24" O.C.

10. ALL SHEATHING SHALL BE PROVIDED WITH BEARING AT CENTERLINE OF RAFTERS AND FULL BEARING AT THE EDGES.

11. METAL FRAMING DEVICES SHALL BE MANUFACTURED BY SIMPSON COMPANY OR EQUAL.

12. PROVIDE TECO CLIPS OR SIMPSON H2.5 OR EQUAL CONNECTORS AT EVERY OTHER STUD AT THE BOTTOM PLATE AND THE SAME AT THE TOP PLATE, EXTERIOR STUD WALLS ONLY.

13. BOLT HOLES SHALL BE 1/16" OVERSIZE. THREADS SHALL NOT BEAR ON WOOD OR STEEL. ALL BOLTS SHALL BE RE-TIGHTENED PRIOR TO ENCLOSING. ALL BOLTS SHALL BE ASTM A307.

14. BRACED WALL PANEL SHALL BE AT LEAST 48 INCHES IN LENGTH, COVERING A MINIMUM OF THREE STUD SPACES WHERE STUDS ARE SPACED 16 INCHES (406 MM) ON CENTER AND COVERING A MINIMUM OF TWO STUD SPACES WHERE STUDS ARE SPACED 24 INCHES

FRAMING KEY NOTE

- 1 PRE-MANUFACTURED TRUSS @ 24" o.c.
- 2 RIDGE
- 3 2X FASCIA
- 4 2X FLY RAFTER
- 5 2X OUT RIGGERS @ 48" O.C. TURNED FLAT
- 6 GABLE END TRUSS
- 7 2X BLOCKING TURNED FLAT @ 24" O.C.
- 8 CEILING MOUNTED AIR HANDLER
- 9 4 X 6 ROOF RAFTERS @ 16" O.C.
- 10 DOUBLE 2X6 @ EA. CORNER W/ RSP4 TOP & BOTTOM
- 11 SIMPSON ST18 STRAP FROM BEAM TO STUD
- 12 WALL ON TOP OF TRUSS
- 13 RIDGE
- 14 (3) 2X6'S NAILED STAGGERED TOGETHER
- 15 300 SQ. FT. ZONE FOR FUTURE SOLAR PANELS

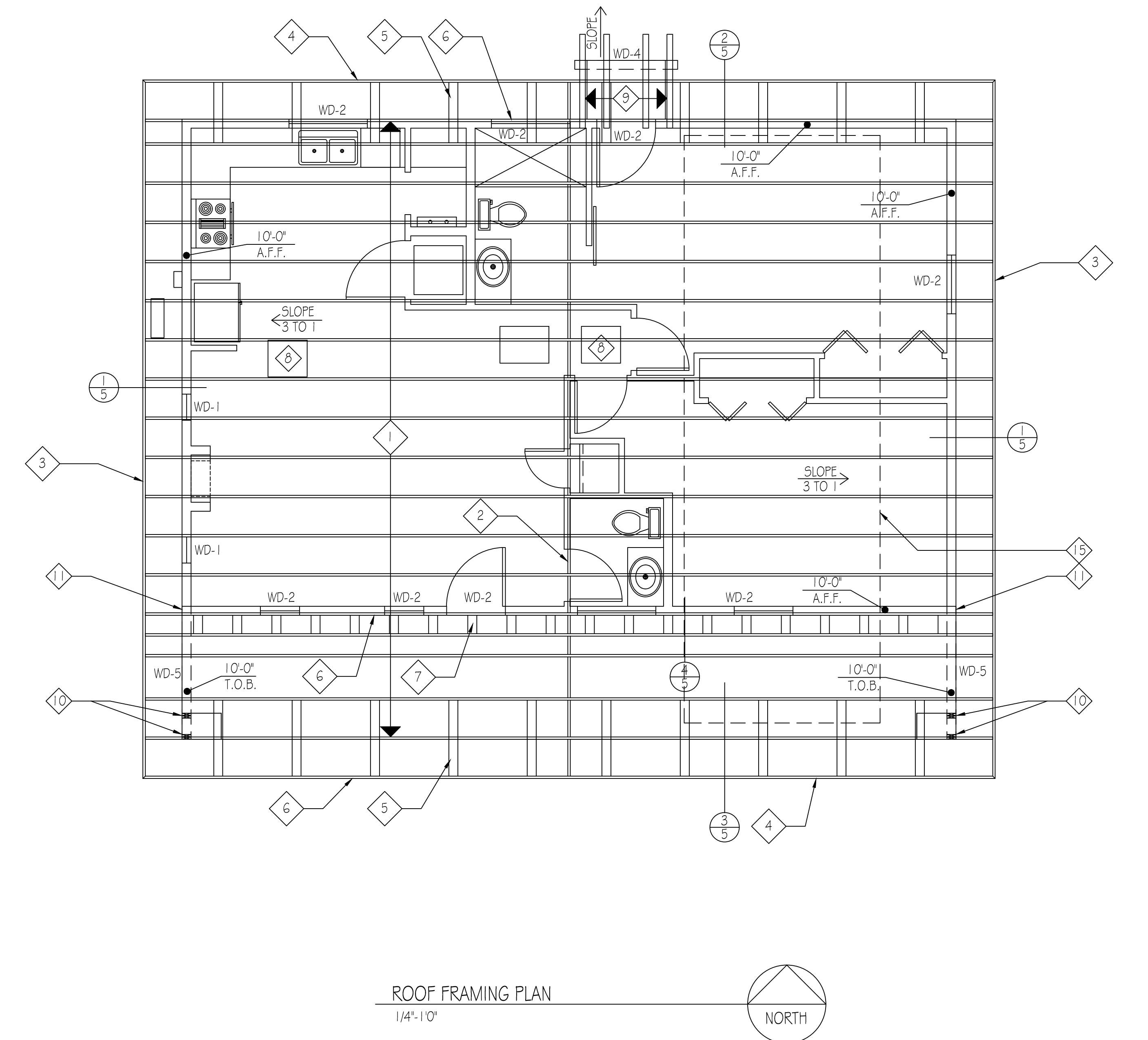
DEAD LOAD = 15 LBS
LIVE LOAD = 20 LBSATTIC VENTILATION
(PER IRC 2018 R806)842/150 = 5.61 SQ. FT. REQUIRED
1.7158 sq.ft. X 4 = 6.86 PROVIDEDLOCATE VENTS ON ROOF
SEE SCUPPER PLAN

18 x 18 BOX FLAT ROOF VENT

WOOD HEADER & POST SCHEDULE	
MARK	SIZE
WD-1	2'-0" TO 3'-0" = 2-2 X 4 ON EDGE
WD-2	3'-0" TO 5'-0" = (2) 2 X 6 ON EDGE
WD-3	5'-0" TO 7'-0" = (2) 2 X 8 ON EDGE
WD-4	4 X 8 SOLID WOOD BEAM
WD-5	6 X 12 SOLID WOOD BEAM

NON-ATTIC VENTILATION
(PER IRC 2018 R806.5)

INSTALL MINIMUM R-5 RIGID BOARD INSULATION PER TABLE R806.5



MECHANICAL NOTES

1. ALL CONSTRUCTION SHALL CONFORM TO THE 2018 INTERNATIONAL RESIDENTIAL BUILDING CODE (IRC) AS ADOPTED BY SANTA CRUZ COUNTY.

2. ALL MECHANICAL WORK SHALL BE ACCOMPLISHED BY A LICENSED MECHANICAL CONTRACTOR (MC) IN ACCORDANCE WITH IRC 2018 CHAPTERS 13& 19.

3. DUCTWORK INSTALLED IN UNCONDITIONED SPACE WILL HAVE A MINIMUM OF R-6 INSULATION, AND SNY DUCT WORK INSTALLED OUTSIDE THE BUILDING ENVELOPE WILL HAVE A MINIMUM OF R-8 INSULATION

4. MC SHALL USE SMACNA GUIDELINES FOR LOW PRESSURE DUCTWORK CONSTRUCTION.

5. DUCT SIZES ARE SHEET METAL DIMENSIONS.

6. MC SHALL GIVE THE OWNER ONE COMPLETE SET OF OPERATING AND MAINTENANCE INSTRUCTIONS AND SHALL GUARANTEE THE ENTIRE SYSTEM FOR ONE YEAR FROM THE DATE OF FINAL ACCEPTANCE BY THE OWNER.

7. ALL ROOF MOUNTED MECHANICAL EQUIPMENT SHALL BE MOUNTED ON APPROVED STAND PER MANUFACTURER'S SPECIFICATIONS.

8. ALL PIPING SHALL CONFORM TO 2018 IRC STANDARDS

9. ALL SUPPLY AND RETURN DUCTS SHALL BE MINED WITH 1" ACOUSTIC LINER.

10. MC MAY SUBSTITUTE EQUIVALENT EQUIPMENT WITH PRIOR APPROVAL FROM THE OWNER.

11. DUCTWORK SHALL BE CONSTRUCTED OF 24 GAUGE GALVANIZED METAL PER SMACNA STANDARDS AND 2018 IRC CHAPTER 16.

12. SUPPLY AIR DUCTWORK TO BE LOCATED IN FURR-DOWNS, SOFFITS AND ATTIC SPACES.

13. PROVIDE PLENUM FOR VERTICAL FLOW OF RETURN AIR (MIN. 18") AND IN ACCORDANCE WITH ALL CLEARANCES REQUIRED BY THE MFR. AND IRC SEC M1307.3

14. PROVIDE UNDERCUT DOORS FOR RETURN AIR EXCEPT AS NOTED IN 2018 IRC SEC. M1602

15. PROVIDE FLEXIBLE CONNECTIONS AT EQUIPMENT FOR SUPPLY DUCT.

16. PROVIDE WEATHERPROOF SHUT-OFF ON ALL OUTDOOR EQUIPMENT.

17. PROVIDE WEATHERPROOF 120V RECEIPT. WITHIN 6' OF ALL OUTDOOR HVAC EQUIPMENT.

18. PROVIDE 3X8 DTR FOR DRYER, TO COMPLY WITH 2018 IRC SEC M1501.

19. VERIFY WH FLUE REQUIREMENTS PER 2018 IRC M1801.

20. ALL MECHANICAL SHALL COMPLY WITH 2018 IRC CHAPTERS 12-24

21. ENERGY CERTIFICATE PER 2018 IRC SEC. N1101.14 WITH 2018IRC CHAPTERS 12-24

2 EXHAUST FAN PER IRC 2018 TABLE M1505.4.4.

3 4" DRYER EXHAUST DUCT THROUGH ROOF

4 4 X 10 RANGE EXHAUST DUCT THROUGH ROOF

5 DISCONNECT BOX

6 CONDENSER

7 MECHANICAL CONTRACTOR TO INSTALL CONDENSATION 3/4" PVC AS PER 2018IRC

8 NAVIEN TANKLESS WATER HEATER MODEL # NPE-180A2

9 INSTALL INTAKE / EXHAUST PIPES PER MANUFACTURE SPECIFICATIONS

10 20" X 30" (1167 CFM) RETURN AIR

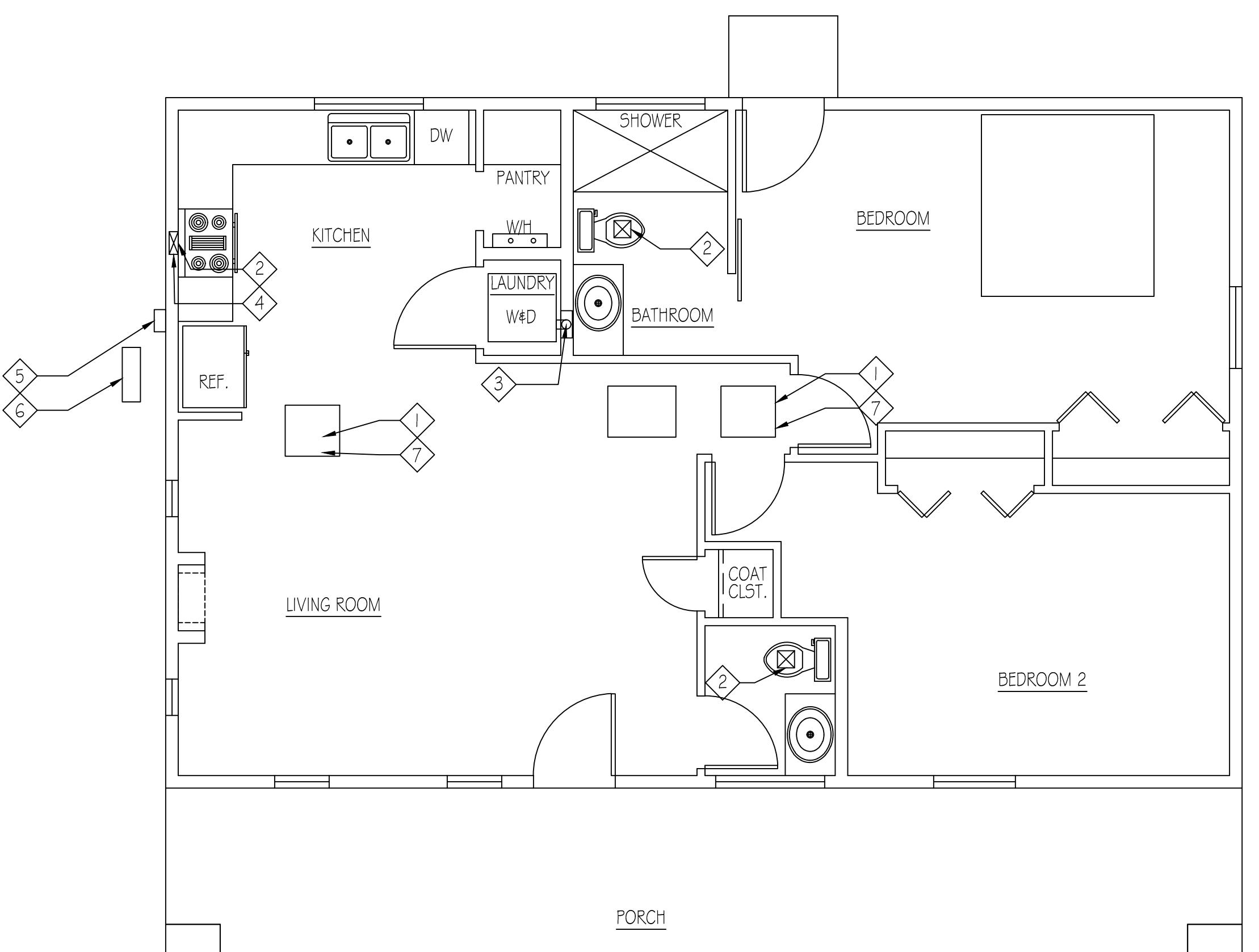
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12

SYMBOLS & ABBREVIATIONS

C & R	COMBUSTION & RELIEF
CFM	CUBIC FOOT PER MINUTE
R.A.	RETURN AIR
DTW	DUCT THROUGH WALL
DTR	DUCT THROUGH ROOF

**WHOLE HOUSE MECHANICAL VENTILATION SYSTEM
PER IRC 2018 SEC. M1505.4.1-1505.4.4**



MECHANICAL PLAN

1/4" = 1-0"

**REVIEWED FOR
BUILDING CODE
COMPLIANCE**

K. Van Karsen
02/24/2025

PLANNING AND DEVELOPMENT SERVICES

8

DESERT WOLF DRAFTING	DATE	REVISION
DRAFT0TER02@GMAIL.COM	November 2024	△
TUCSON AZ		

MECHANICAL

ROBERT PUTMAN & SARA MOBLEY
2411 E. LIND ROAD UNIT 2
TUCSON, AZ. 85719

PLUMBING NOTES

1. ALL CONSTRUCTION SHALL CONFORM TO THE 2018 INTERNATIONAL RESIDENTIAL CODE (IRC) AS ADOPTED BY PIMA COUNTY.

2. DOMESTIC HOT AND COLD WATER PIPING AS PER 2018IRC.

ABOVE GRADE: PROVIDE TYPE "M" COPPER WITH 50/50 SOLDERED WROUGHT COPPER FITTINGS.

UNDER SLAB: PROVIDE TYPE "L" HARD DRAWN COPPER WITH 95/5 SOLDERED WROUGHT COPPER FITTINGS. SHEATH IN PLASTIC PERIRC.

3. ABS (SCHEDULE 40) WASTE LINES MAY BE USED PROVIDED INSTALLATION AND SEALS CONFORM TO LOCAL STANDARDS. TERMINATE WITH A TWO-WAY GRADE CLEAN-OUT (GCO) AND SWITCH TO APPROVED PIPE PRIOR TO LEAVING THE SITE AS REQUIRED FOR SEWER CONNECTION.

4. PROVIDE 1/4" PER FOOT SLOPE FOR WASTE LINES.

5. PROVIDE CLEANOUTS PERIRC 707.0 AND LOCAL CODES.

6. PLUMBING CONTRACTOR (PC) SHALL SECURE ANY AND ALL PERMITS AND INSPECTIONS INCIDENTAL TO THE WORK, AND SHALL ADHERE TO ANY AND ALL CODES HAVING JURISDICTION.

7. PC SHALL DO ALL EXCAVATION AND BACK FILL INCIDENTAL TO THE WORK.

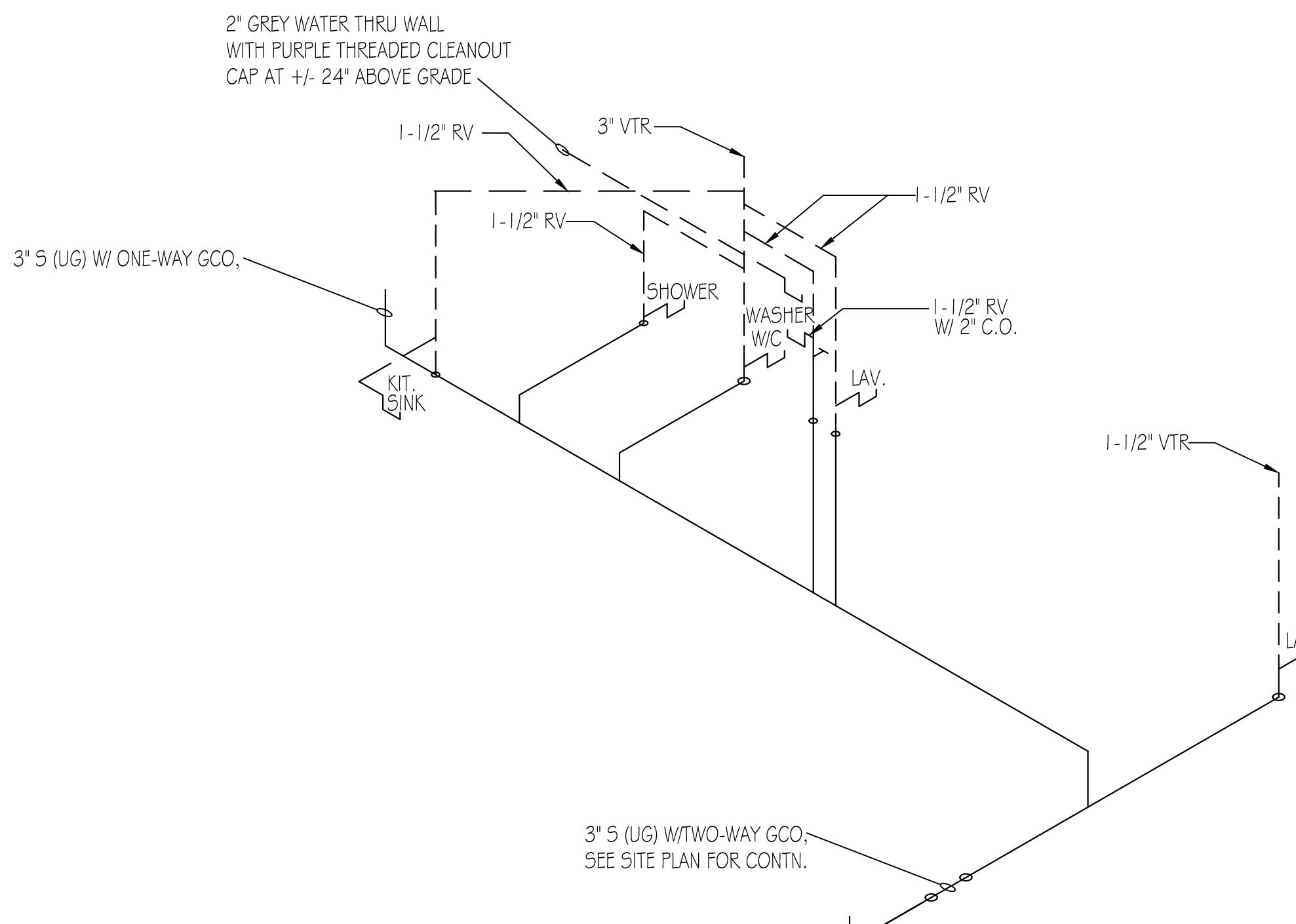
8. PC SHALL BE RESPONSIBLE FOR FINAL WASTE, GAS, AND WATER HOOKUPS ON ALL EQUIPMENT REQUIRING SUCH.

9. THERE SHALL BE NO COPPER FITTINGS BELOW GRADE.

10. PC SHALL GUARANTEE THE MATERIALS AND WORKMANSHIP FOR ONE YEAR FROM THE DATE OF FINAL ACCEPTANCE BY THE OWNER.

11. FIXTURES TO COMPLY WITHIRC CHAPTER 15 AND LOCAL AMENDMENTS. WATER CLOSETS 1.6 GALLONS PER FLUSH MAX. SINKS AND SHOWER HEAD TO BE 3 GALLONS PER MINUTE MAX.

12. PROVIDE AIR HAMMERS AT THE ENDS OF PLUMBING RUNS.



RISER DIAGRAM
NO SCALE

PLUMBING FIXTURE CONNECTION SCHEDULE										
Fixture	Waste	Vent	DCW	DHW	F.U.	Qty.	Tot	W-F.U.	Tot	
P-1 WATER CLOSET	3"	2"	1/2"			2.2	2	4.4	3	6
P-2 LAVATORY	2"	1-1/2"	1/2"	1/2"	.7	2	1.4	1	2	
P-3 TUB/SHOWER COMBO	2"	1-1/2"	1/2"	1/2"	1.4	0	0	2	0	
P-4 TUB	2"	1-1/2"	1/2"	1/2"	1.4	0	0	2	0	
P-5 SHOWER	2"	1-1/2"	1/2"	1/2"	1.4	1	1.4	2	2	
P-6 KITCHEN SINK	2"	1-1/2"	1/2"	1/2"	2.5	1	2.5	2	2	
P-7 CLOTHES WASHER	2"	1-1/2"	1/2"	1/2"	1.4	1	1.4	2	2	
P-8 HOSE BIBB					2.5	2	5.0			
P-9 WATER HEATER		1"	1"							
GRAND TOTAL							16.1		14	
TOTAL DEVELOPED LENGTH = 200'										
47 - 54 P.S.I. MINIMUM WATER PRESSURE										
5/8" WATER METER / METER # 18891729										

PLUMBING LEGEND									
Symbol	Abbreviation	Explanation							
—	WASTE	WASTE							
— — —	DCW	DOMESTIC COLD WATER							
— - -	DHW	DOMESTIC HOT WATER							
GAS-GAS-G	GAS	GAS							
— P&TRV DRAIN	P&TRV DRAIN	PRESSURE & TEMP RELIEF VALVE DRAIN							
○ RV, OV, CV.	RV, OV, CV.	RE OVER OR CIRCUIT VENT							
○ VTR	VTR	VENT THROUGH ROOF							
— HB	HB	HOSE BIBB							
— S O V	S O V	SHUT OFF VALVE							
— G C O	G C O	GRADE CLEAN OUT							
△ P&TRV	P&TRV	PRESSURE & TEMP RELIEF VALVE							

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NOTE OPTIONAL:

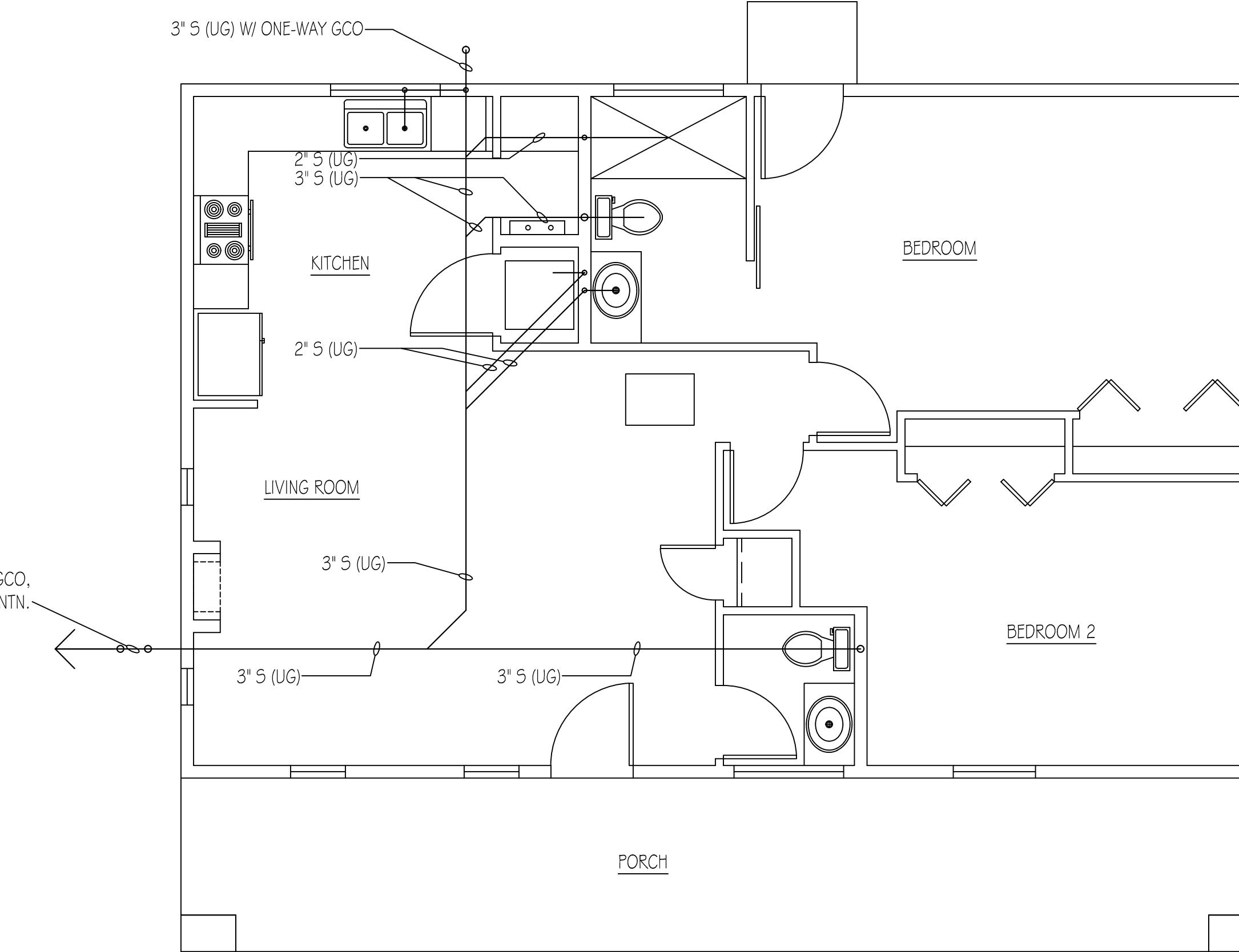
A MANIFOLD SYSTEM FOR HOT & COLD WATER IS TO BE USED FOR ALL DISTRIBUTION LINES FROM THE MANIFOLD TO FIXTURES TO BE 1/2" PEX OR COPPER PIPING EXCEPT 3/4" TO MASTER TUB

GRAY WATER PIPING SECTION P2601.2.1

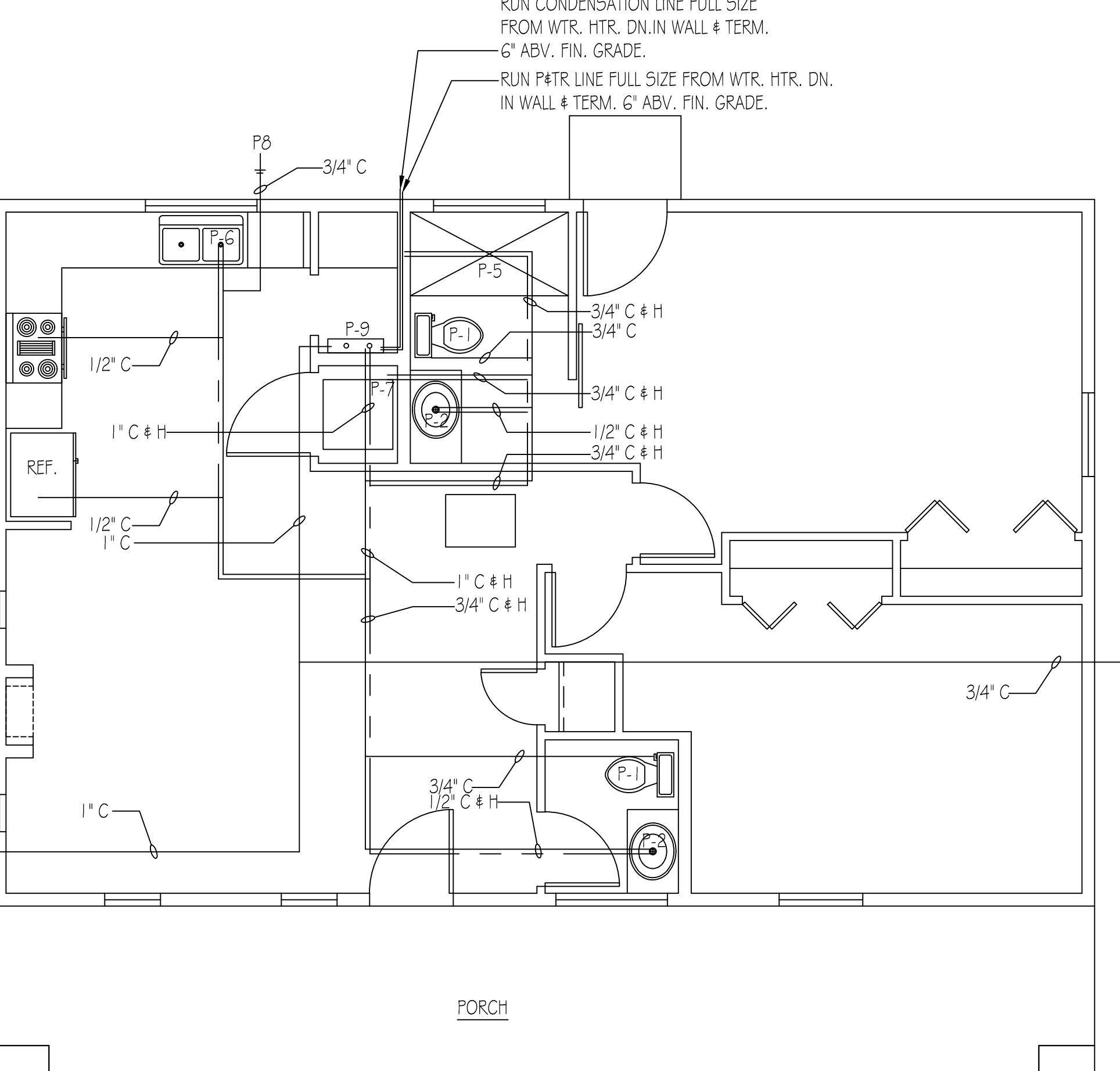
1. All new single family and duplex residential dwelling units shall include either a separate multiple pipe outlet or a diverter valve, and outside "stub-out" installation on the clothes washing machine hook-ups, to allow separate discharge of gray water for direct irrigation.

2. All new single family residential dwelling units shall include a building drain or drains for lavatories, showers, and bathtubs, segregated from drains for all other plumbing fixtures, and connected a minimum of three (3) feet from the limits of the foundation, to allow for future installation of a distributed gray water system.

3. All gray water systems shall be designed and operated according to the provisions of the applicable permit authorized by ADEQ under the Arizona Administrative Code, Title 18, Chapter 9.



PLUMBING WASTE PLAN
1/4" = 1'-0"



PLUMBING WATER PLAN



9
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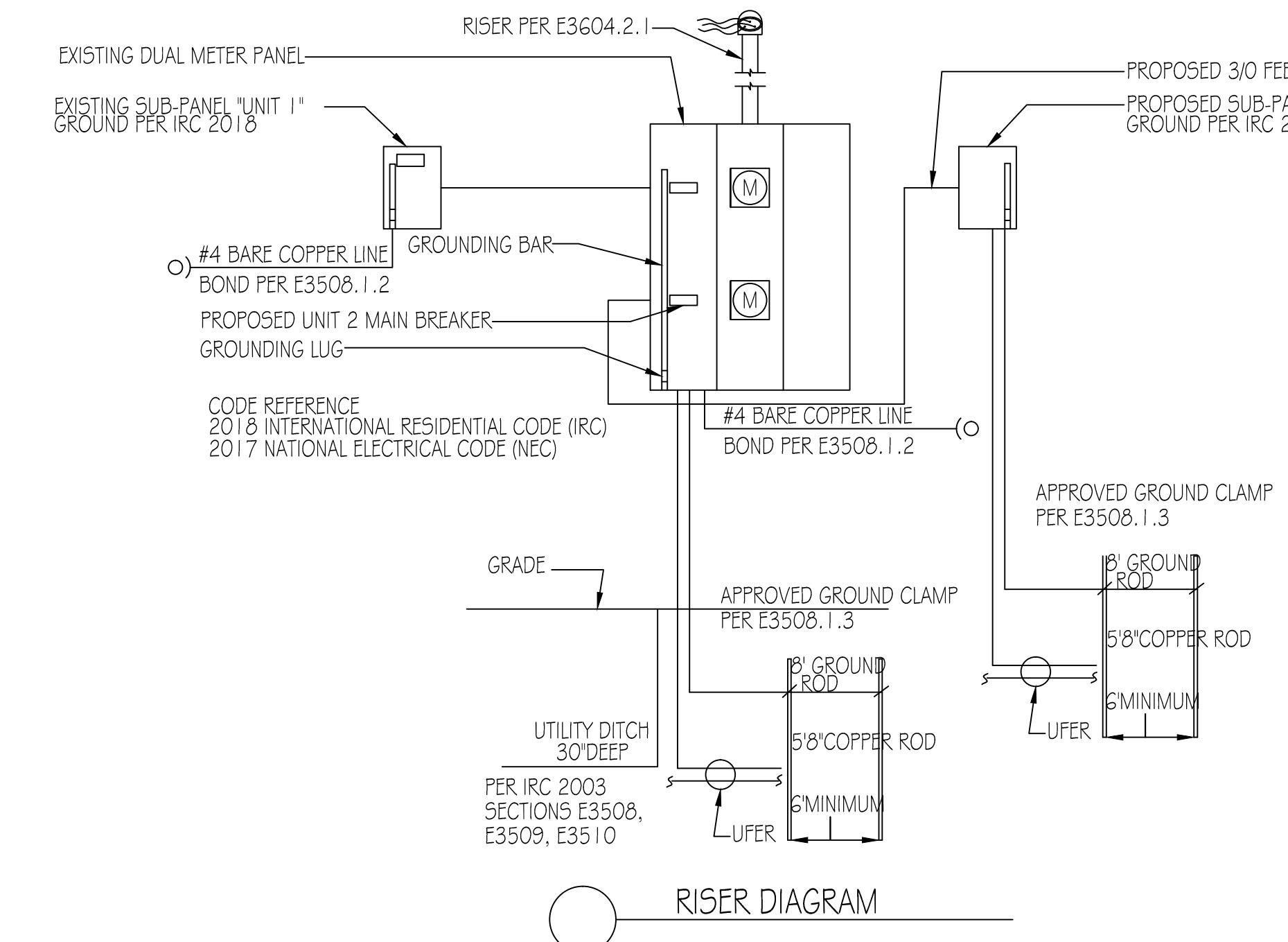
REVISION
DATE
November 2024

ELECTRICAL PLAN NOTES

1. ALL CONSTRUCTION SHALL CONFORM TO THE 2018 INTERNATIONAL RESIDENTIAL CODE (IRC) AS ADOPTED BY PIMA COUNTY.
2. ELECTRICAL PANELS SHALL BE SQUARE "D", TYPE "QO".
3. MINIMUM WIRE SIZE SHALL BE #12 (CU). ALL BRANCH CIRCUIT WIRE SHALL BE "TW".
4. VERIFY EXACT LOCATION AND REQUIREMENTS OF MECHANICAL EQUIPMENT, THERMOSTAT, AND CONTROL WIRING, SIZE OF EQUIPMENT (H AMPS, VOLTAGE, ETC.) PRIOR TO ROUGH-IN AND COMPLY AS REQUIRED.
5. ELECTRICAL CONTRACTOR SHALL DO ALL WIRING NECESSARY AND CONNECT ALL SPECIAL CONTROLS FURNISHED BY THE MECHANICAL CONTRACTOR.
6. FUSES FOR MOTORS SHALL BE TYPE "FRN". FUSES FOR PANEL FEEDERS SHALL BE TYPE "KTN".
7. ALL DISCONNECT SWITCHES FOR MOTORS SHALL BE HP RATED. MOTORS SHALL BE PROTECTED WITH PROPER SIZED FUSETRONS.
8. IF ELECTRICAL CONDUCTORS USED ARE ALUMINUM, TERMINATE AND SPLICING AS RECOMMENDED BY THE MANUFACTURER AND AS FOLLOWS:

CLEAN CONDUCTORS WITH A WIRE BRUSH AND APPLY "NO-OXID GRADE A" SPECIAL SEALING PASTE THOROUGHLY AS SOON AS CONDUCTORS ARE CLEANED.

USE AL/CU TYPE LUGS, CONNECTORS, ETC. WITH FACTORY FILLED CONNECTOR PASTE.
9. THE FOLLOWING ITEMS MAY BE USED WHERE PERMITTED BY CODE:

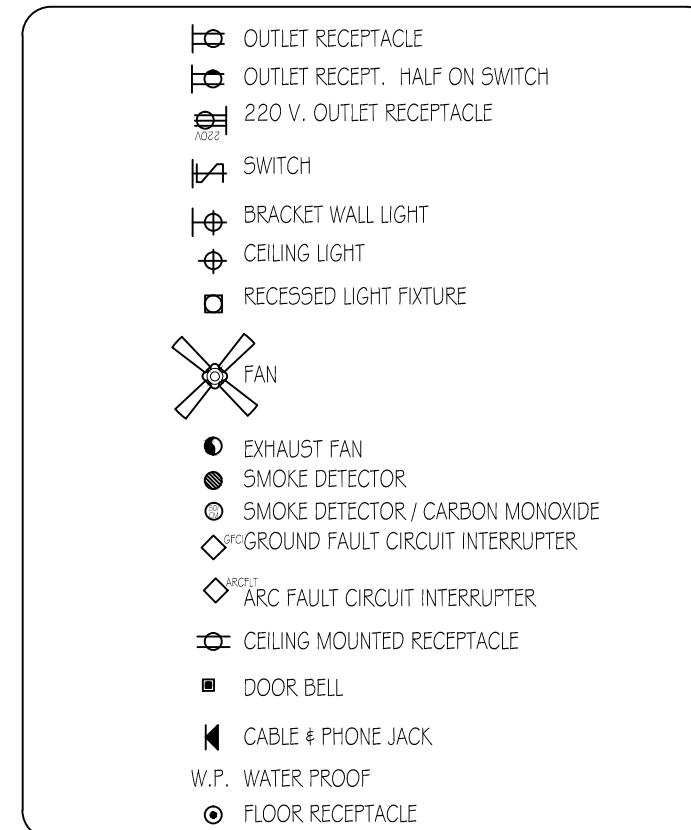


LOAD CALCULATIONS

1001 SQ. FT X 3	=	3003 WATTS
2 SMALL APPLIANCE	=	3000 WATTS
RANGE	=	5000 WATTS
DISP./DISHWASHER	=	1200 WATTS
WASHER	=	1500 WATTS
DRYER	=	5000 WATTS
MICROWAVE	=	1350 WATTS
WATER HEATER	=	24000 WATTS
REFRIG	=	1500 WATTS
<hr/>		
TOTAL	=	45,553 WATTS

1ST 10,000 @ 100%	10,000
35,553 X 40% =	14,221
EV @ 100% =	7,800
A/C @ 100% =	5,200
	<hr/>
	37,221 / 240 = 156 AMPS

200 AMP MAIN OK



PANFI SCHEDUIF "2

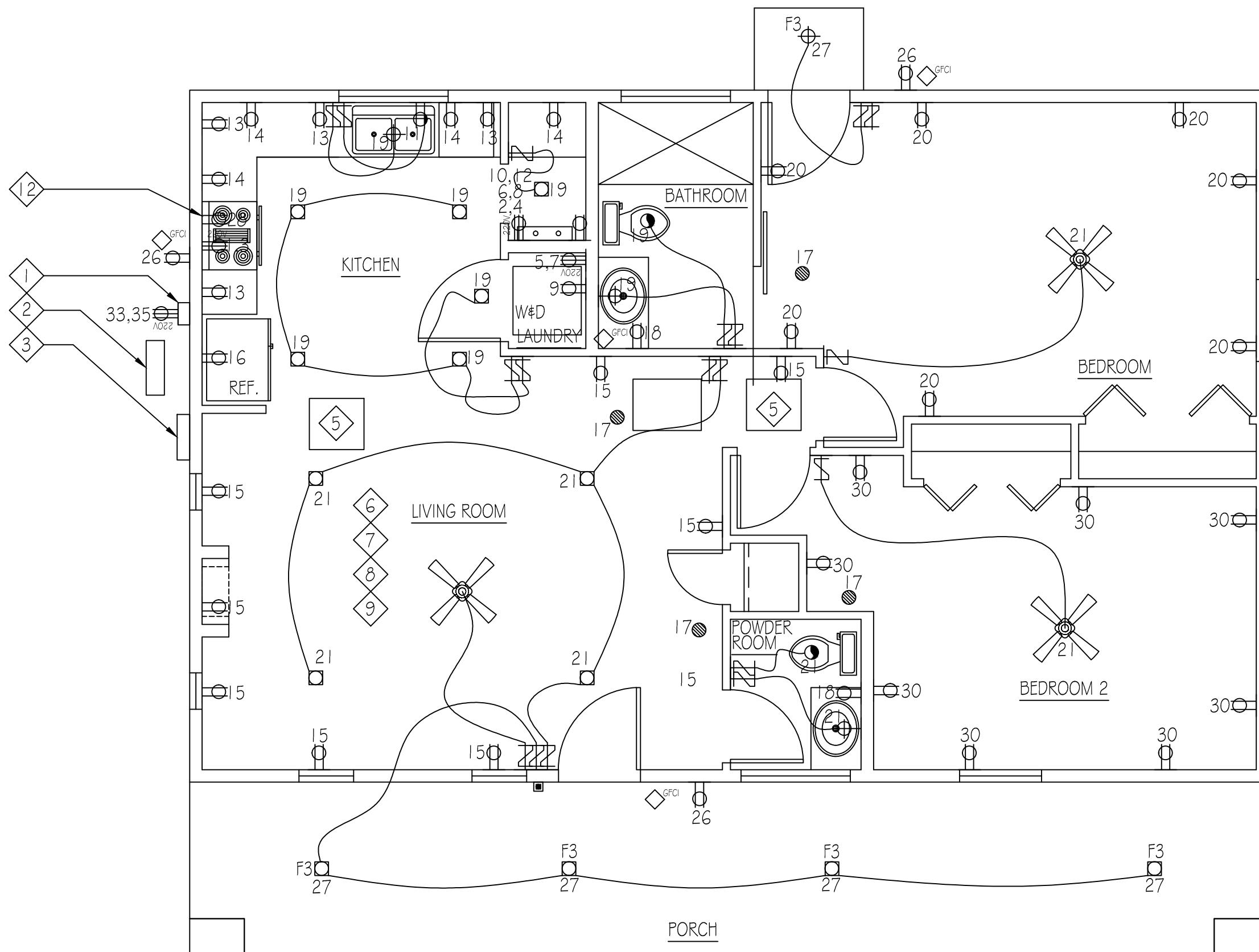
120/240V		SINGLE PHASE 3 W				(200) AMP MAIN			
CIRCUIT DESCRIPTION		CKT	BKR	WIRE	WIRE	BKR	CKT	CIRCUIT DESCRIPTION	
RANGE	1	50 2	#6	#8 CU	40 2	2	4	WATER HEATER	
RANGE	3		CU			2			
DRYER	5	30 2	#10	#8 CU	40 2	6	8	WATER HEATER	
DRYER	7		CU			2			
LAUNDRY	9	20	#12 CU	#8 CU	40 2	10	12	WATER HEATER	
DISP./DISHWASHER	11	20	#12 CU			2			
KITCHEN APPLIANCE GFCI	13	20	#12 CU	#12 CU	20	14	KITCHEN APPLIANCE GFCI		
LIVING ROOM	15	15	#14 CU	#12 CU	20	16	REFRIGERATOR		
SMOKE DETECTORS	17	15	#14 CU	#12 CU	20	18	BATHROOM GFCI		
GENERAL LIGHTING	19	15	#14 CU	#14 CU	15	20	BEDROOM		
GENERAL LIGHTING	21	15	#14 CU	#12 CU	20	26	OUTDOOR RECEPTS		
SPARE	23	15	#14 CU	#14 CU	15	28	MICROWAVE / HOOD VENT		
SPARE	25	15	#14 CU	#14 CU	15	30	BEDROOM 2		
OUTDOOR LIGHTING	27	15	#14 CU	#14 CU	15	32	SPARE		
SPARE	29	15	#14 CU	#10 CU	40 2	34	EV READY		
SPARE	31	15	#14 CU	CU		36			
MINI SPLIT	33	35	#10 CU	#12 CU	30 2	38	FOR FUTURE PV SOLAR ELECTRIC		
	35	2	CU	#14 CU		40			

16. ELECTRICAL LOCATIONS SHOWN ARE APPROXIMATE, UNO. ALL LIGHT FIXTURES IN CLOSETS TO BE A MIN 18" FROM SHELVES.
17. CEILING FANS PER IRC 2018.
18. DISCONNECTS AT HVAC EQUIPMENT SHALL NOT BE SUPPORTED BY OR ATTACHED TO HVAC EQUIPMENT.
19. PROVIDE SMOKE DETECTORS PER IRC 2018. LOCATE A MINIMUM 36" FROM MECHANICAL SUPPLY OR RETURN GRILLE. LOCATE AS INDICATED UNO.
20. ALL RECEPTACLES SERVING KITCHEN AND LAUNDRY PER IRC 2018 SEC E3902.16.
21. LOCATE EXTERIOR OUTLET WITHIN 25 FT. OF ROOF TOP UNIT AS PER IRC
22. ALL BRANCH CIRCUITS THAT SUPPLY 120-VOLT, SINGLE PHASE, 15 AND 20 AMPERE OUTLETS INSTALLED IN FAMILY ROOMS, DINING ROOMS, LIVING ROOMS, PARLORS, LIBRARIES, DENS, BEDROOMS, SUN ROOMS, RECREATION ROOMS, CLOSETS, HALLWAYS, AND SIMILAR ROOMS OR AREAS SHALL BE PROTECTED BY A COMBINATION TYPE AEC-FAULT CIRCUIT INTERRUPTER INSTALLED TO PROVIDE PROTECTION OF THE BRANCH CIRCUIT. E3902.12
23. TAMPER RESISTANT RECEPTACLES ARE REQUIRED IN AREAS SPECIFIED IN SECTION E4002.14, EXCEPTIONS ARE MORE THAN 5.5 FEET ABOVE THE FLOOR, RECEPTACLES ARE PART OF A LUMINAIRE OR APPLIANCE AND A SINGLE RECEPTACLE FOR A SINGLE APPLIANCE OR A DUPLEX RECEPTACLE FOR TWO APPLIANCES WHERE RECEPTACLES ARE LOCATED IN SPACES DEDICATED FOR THE APPLIANCE AND, UNDER CONDITIONS OF NORMAL USE THE APPLIANCES ARE NOT EASILY MOVED FROM ONE SPACE TO ANOTHER.
24. A MINIMUM OF 90 PERCENT OF THE LAMPS IN PERMANENTLY INSTALLED LIGHTING FIXTURES SHALL BE HIGH-EFFICACY LAMPS OR A MINIMUM OF 90 PERCENT OF THE PERMANENTLY INSTALLED LIGHTING FIXTURES SHALL CONTAIN ONLY HIGH-EFFICACY LAMPS.
25. FACEPLATE GROUNDING PER SECTION E4001.1.1 AS PER IRC 2018

(PIMA COUNTY) OUTDOOR LIGHTING CODE CALCULATIONS

1. PROJECT LOCATION IN AREA = E3
2. TOTAL SITE AREA = .80 ACRE
3. TOTAL ALLOWABLE LUMENS (SHIELDED) $.80 \times 55,000 = 44,000$
TOTAL ALLOWABLE LUMENS (UNSHIELDED) $.80 \times 11,000 = 8,800$
(INCLUDES MAIN HOUSE & 2ND DWELLING)

(INCLUDES MAIN HOUSE & 2ND DWELLING)				
Fixture Type	Max Quantity	Lumens EA.	Shielding	Total Lumens
F1	0	900	SHIELDED	0
F2	3	1100	UNSHIELDED	3300
F3		FULL CUT OFF PER 101.2.1		



ELCTRICAL PLAN

ELECTRICAL KEY NOTES

DISCONNECT BOX
A / C CONDENSER
200 AMP SUB PANEL
CARBON MONOXIDE PER IRC 2018 SEC. R315
AIR HANDLER
CONTRACTOR TO INSTALL ELECTRICAL TO RECEIVE
A PHOTOVOLTAIC SYSTEM FOR FUTURE USE
LOCATION OF FUTURE PHOTOVOLTAIC ELECTRICAL
BOX
INSTALLATION OF AN SRCC COMPLIANT SOLAR WATER HEATING SYSTEM
PROVIDE (2) INSULATED 3/4" COPPER LINES AND (2) PAIRS OF CONTROL
WIRES (MIN. 18 AWG) EXTENDING FROM THE WATER HEATER LOCATION
(OR FUTURE STORAGE TANK LOCATION) TO THE PROPOSED ROOF AREA.
PROVIDE AN ACCESS AREA (MIN. 30" HEAD
CLEARANCE) IN THE ATTIC DIRECTLY ABOVE THE
WATER HEATER LOCATION (OR FUTURE STORAGE
TANK LOCATION).
NEMA 14-50R RECEPTACLE (VEHICLE CHARGING RECEPT.)
SEE SITE PLAN FOR LOCATION
MINI SPLIT CONDENSOR
MINI SPLIT REGISTER
HOOD VENT

ELECTRICAL

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