

RESIDENTIAL ROOM ADDITION TYPICAL PLOT PLAN

2024 IRC

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Boulder City
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Henderson
Building & Fire Safety Department
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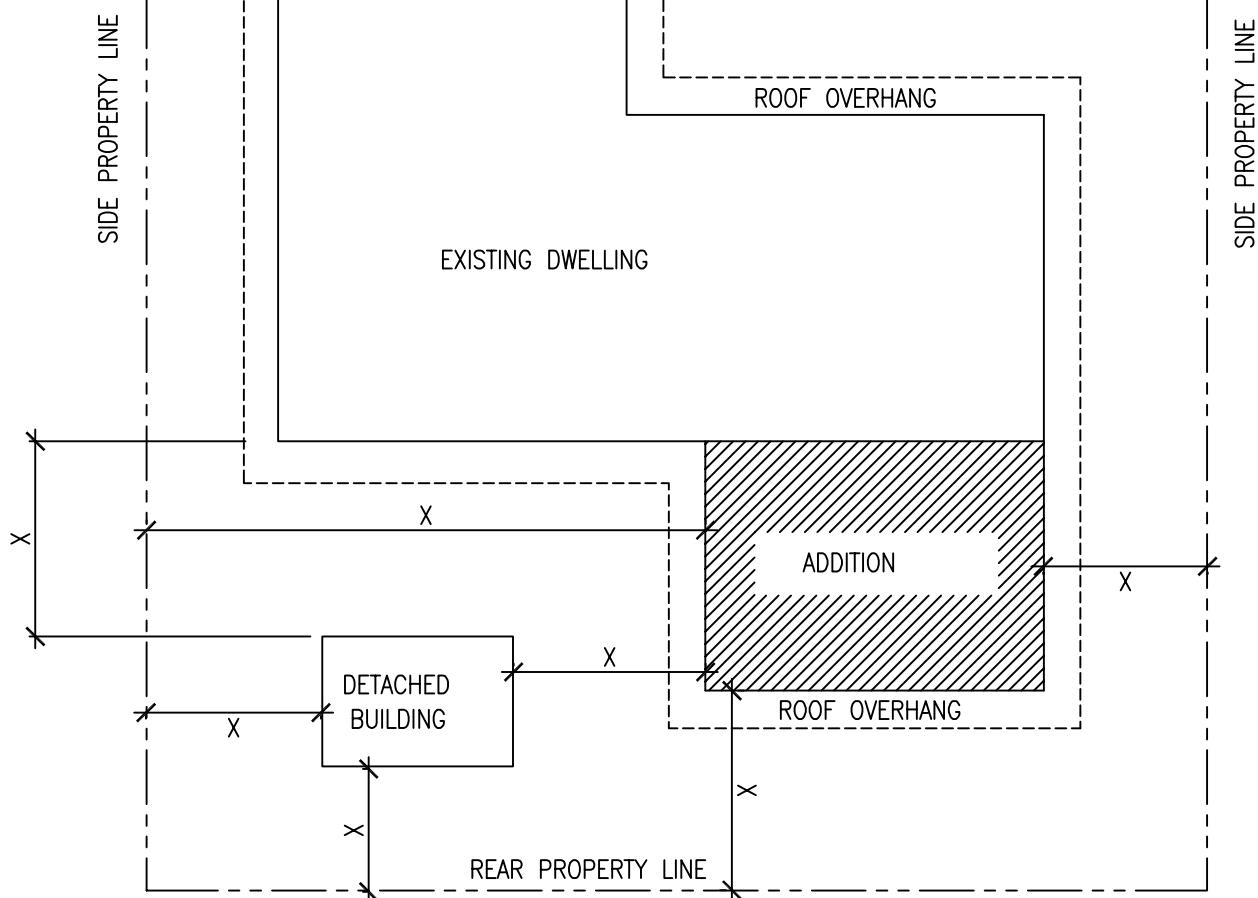
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Building & Safety
495 S. Main Street
Las Vegas, NV 89101
(702) 229-6251

- THIS IS ONLY AN EXAMPLE OF THE INFORMATION REQUIRED ON PERMIT APPLICATION DOCUMENTS. THIS IS NOT INTENDED TO BE A CONSTRUCTION DOCUMENT.
- PROVIDE TWO SETS OF PLANS
- PENCIL (ERASABLE) DRAWINGS ARE NOT ACCEPTABLE

STREET AND ADDRESS

FRONT PROPERTY LINE

SHOW ALL DIMENSIONS
MARKED X AS APPLICABLE



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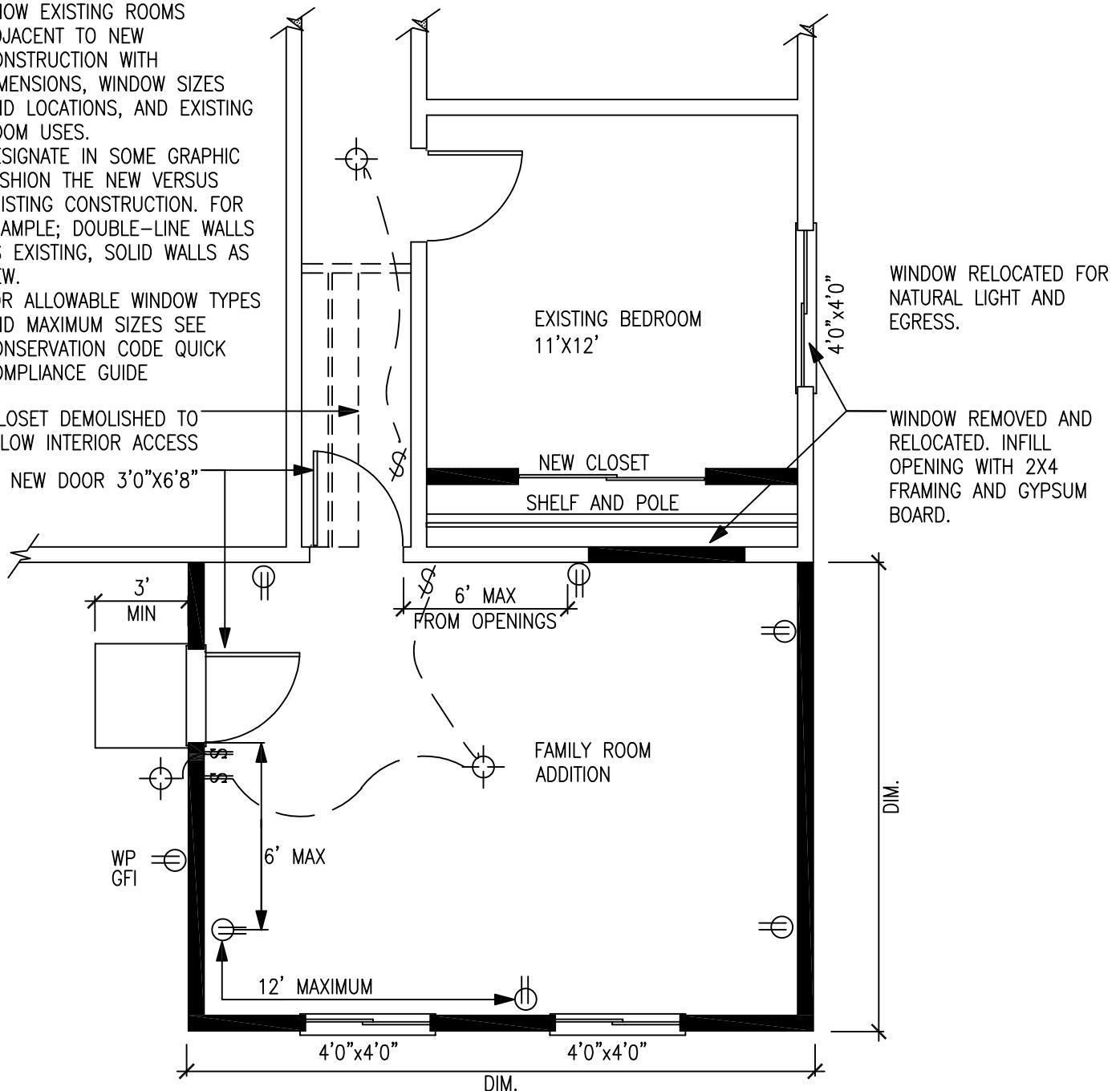
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1180 Military Tribute Place
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(702) 799-7605

RESIDENTIAL ROOM ADDITION TYPICAL FLOOR PLAN

2024 IRC

| | | | |
|---|--|--|---|
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|---|--|--|---|

- SHOW EXISTING ROOMS ADJACENT TO NEW CONSTRUCTION WITH DIMENSIONS, WINDOW SIZES AND LOCATIONS, AND EXISTING ROOM USES.
- DESIGNATE IN SOME GRAPHIC FASHION THE NEW VERSUS EXISTING CONSTRUCTION. FOR EXAMPLE; DOUBLE-LINE WALLS AS EXISTING, SOLID WALLS AS NEW.
- FOR ALLOWABLE WINDOW TYPES AND MAXIMUM SIZES SEE CONSERVATION CODE QUICK COMPLIANCE GUIDE
- CLOSET DEMOLISHED TO ALLOW INTERIOR ACCESS



- PROVIDE 8% OF THE FLOOR AREA IN GLAZED OPENINGS (WINDOWS, GLASS DOORS, SKYLITES) IN ALL HABITABLE ROOMS. RELOCATE EXISTING REQUIRED GLAZING THAT IS REMOVED FOR REMODEL OR ADDITION. IN LIEU OF NATURAL LIGHTING ARTIFICIAL LIGHTING MAY BE PROVIDED CAPABLE OF PRODUCING 6 FOOT-CANDLES 30" ABOVE THE FLOOR
- GROUND FAULT CIRCUIT INTERRUPTERS ARE REQUIRED FOR KITCHENS, BATHROOMS, GARAGES, AND EXTERIOR OUTLETS.
- ARC-FAULT INTERRUPTERS ARE REQ. FOR ALL BEDROOMS, FAMILY ROOMS, DINING ROOMS, LIVING ROOMS, PARLORS, LIBRARIES, DENS, SUNROOMS, RECREATION ROOMS, CLOSETS, HALLWAYS, OR SIMILAR ROOMS OR AREAS, INCLUDING ALTERATIONS TO EXISTING BRANCH CIRCUIT WIRING.

| | | | |
|--|---|--|--|
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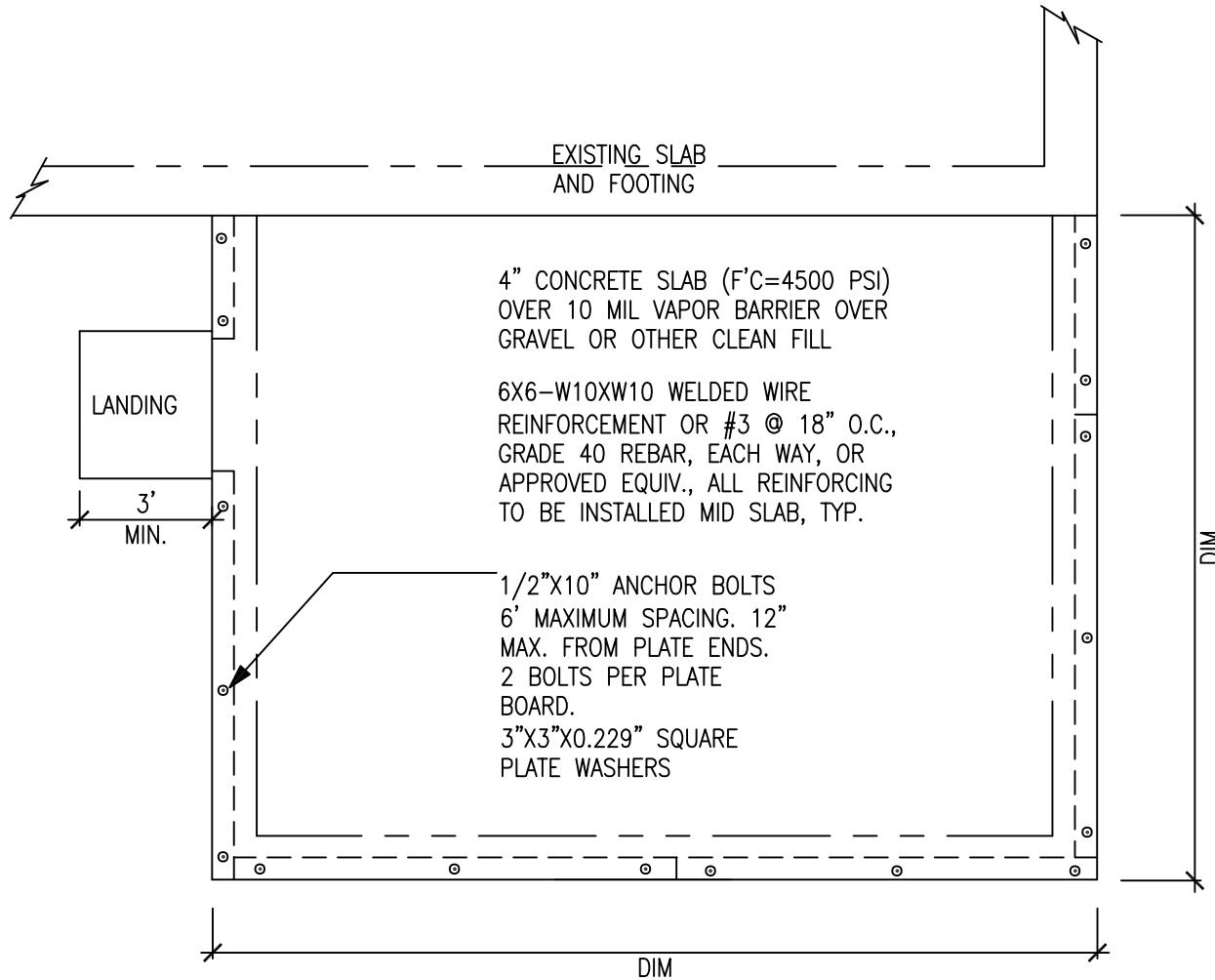
RESIDENTIAL ROOM ADDITION TYPICAL FOUNDATION PLAN 2024 IRC

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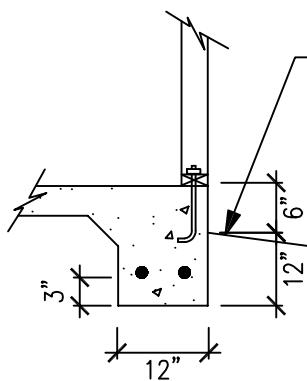
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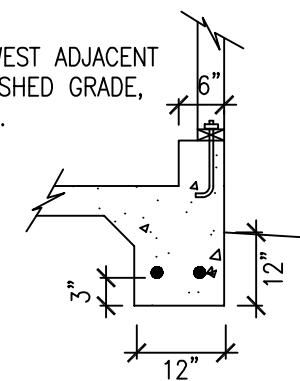


TYPICAL FOOTING CROSS SECTIONS

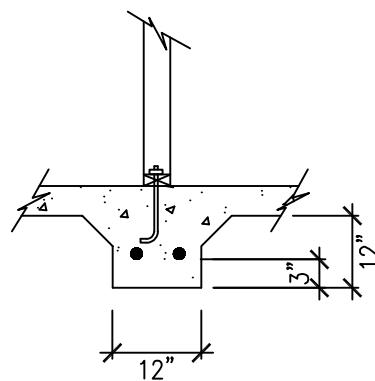
EXTERIOR BEARING WALL



GARAGE RAISED CURB



INTERIOR BEARING WALL



FOOTINGS REQUIRE 2 #4 REINFORCEMENT BARS LOCATED A MINIMUM OF 3" CLEAR FROM THE BOTTOM OF THE FOOTING.

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RESIDENTIAL ROOM ADDITION TYPICAL CROSS SECTION

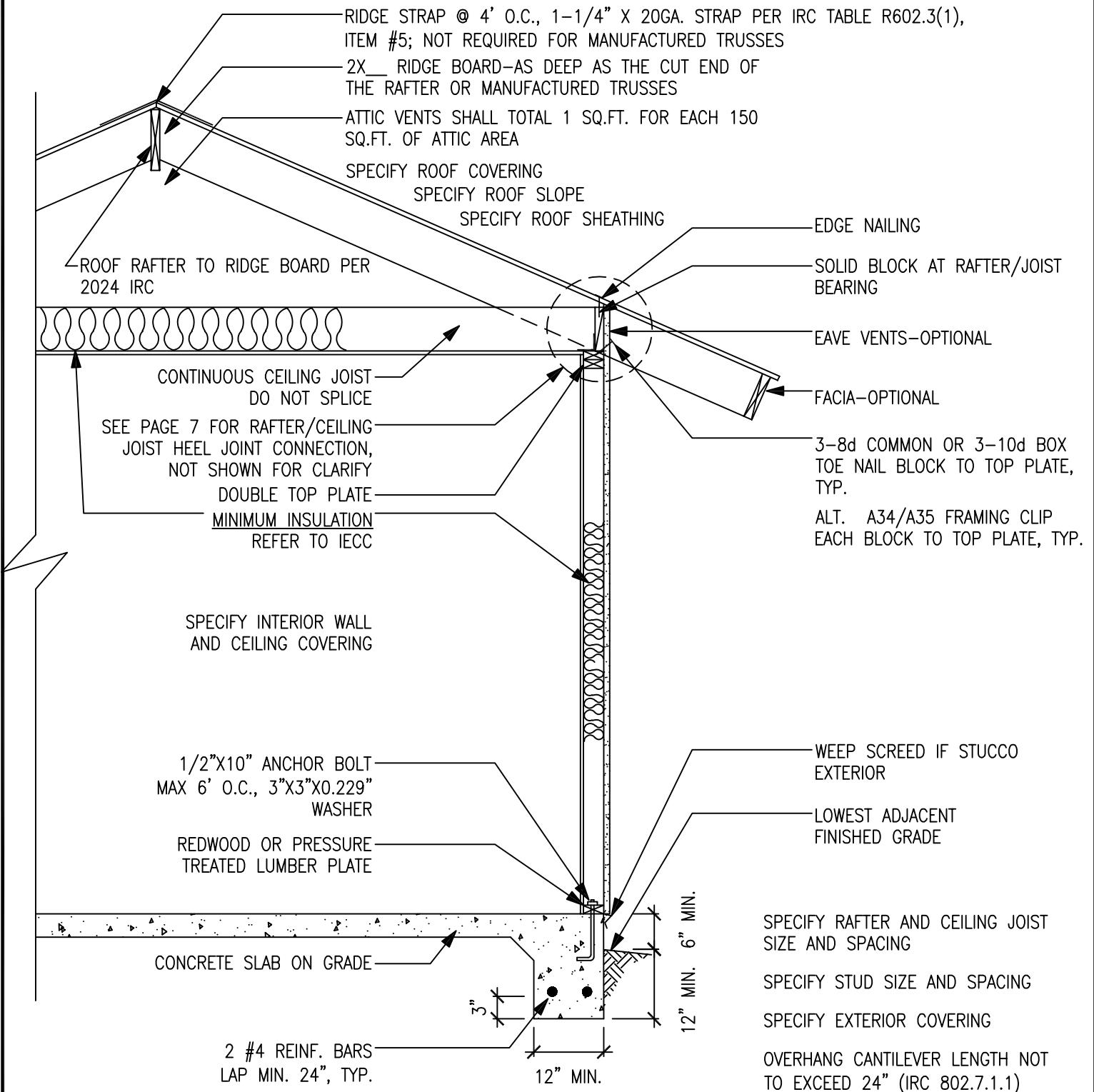
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RESIDENTIAL ROOM ADDITION TYPICAL ELEVATION

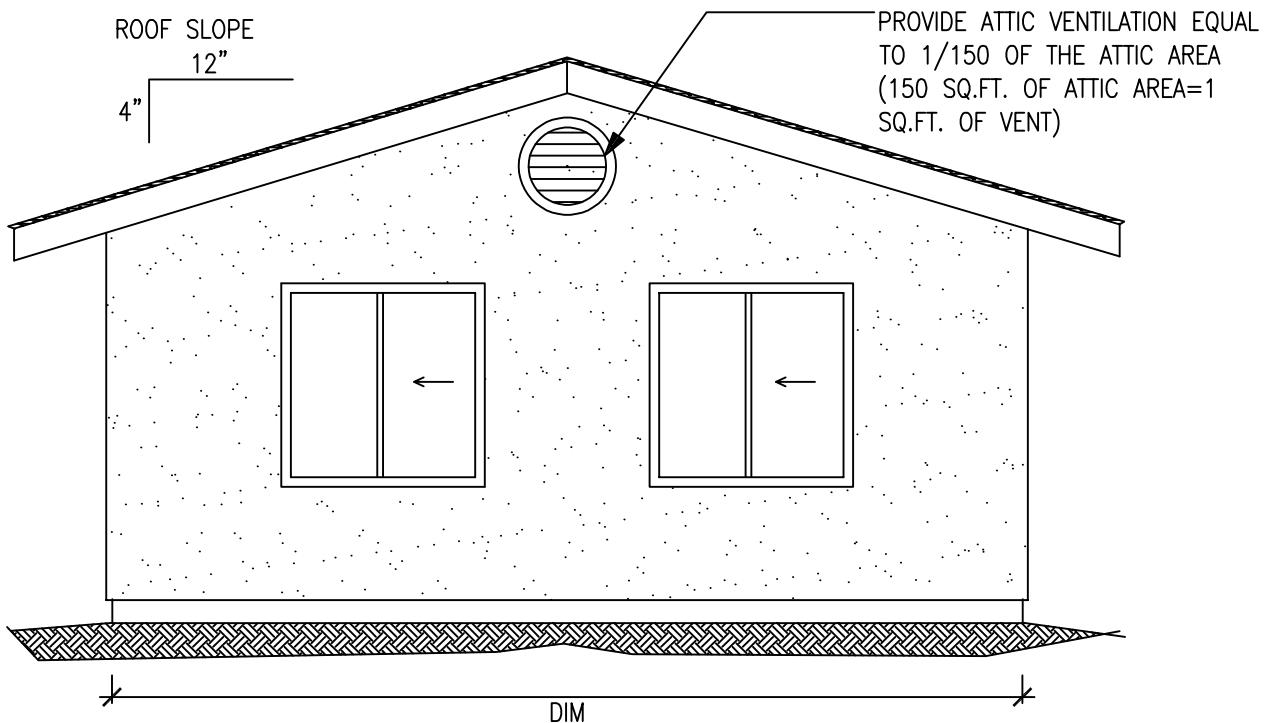
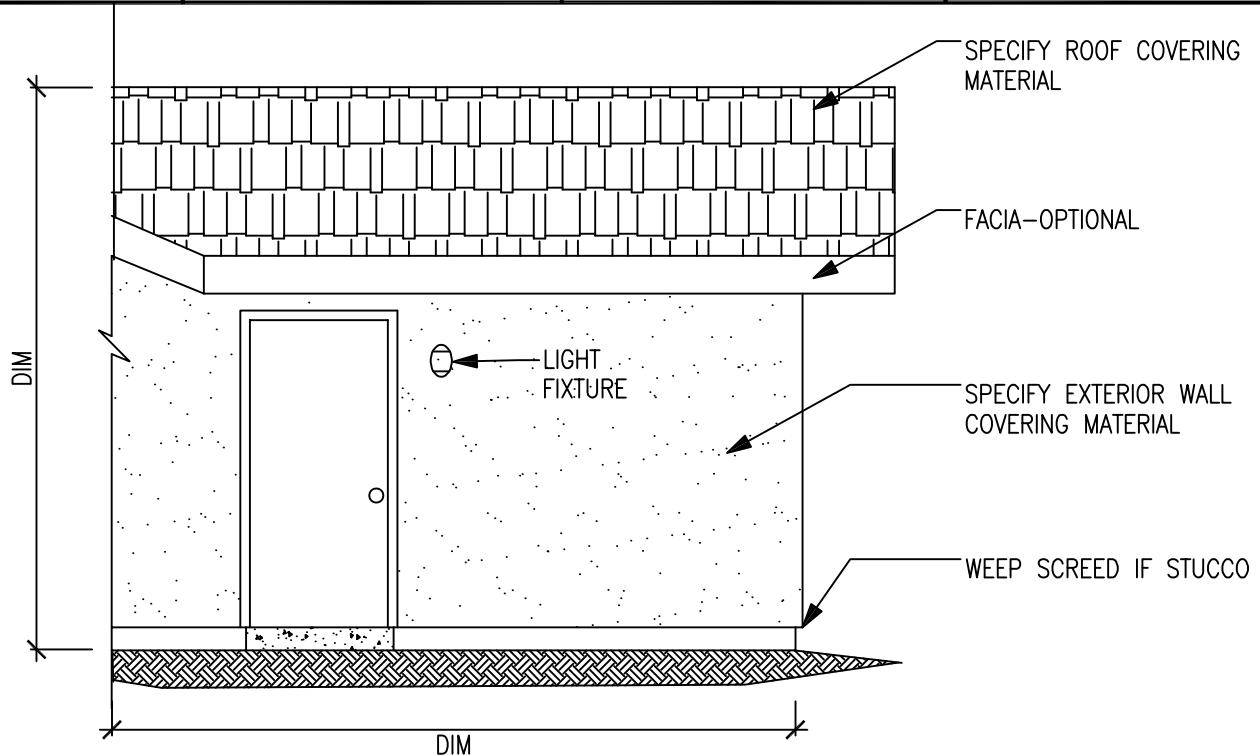
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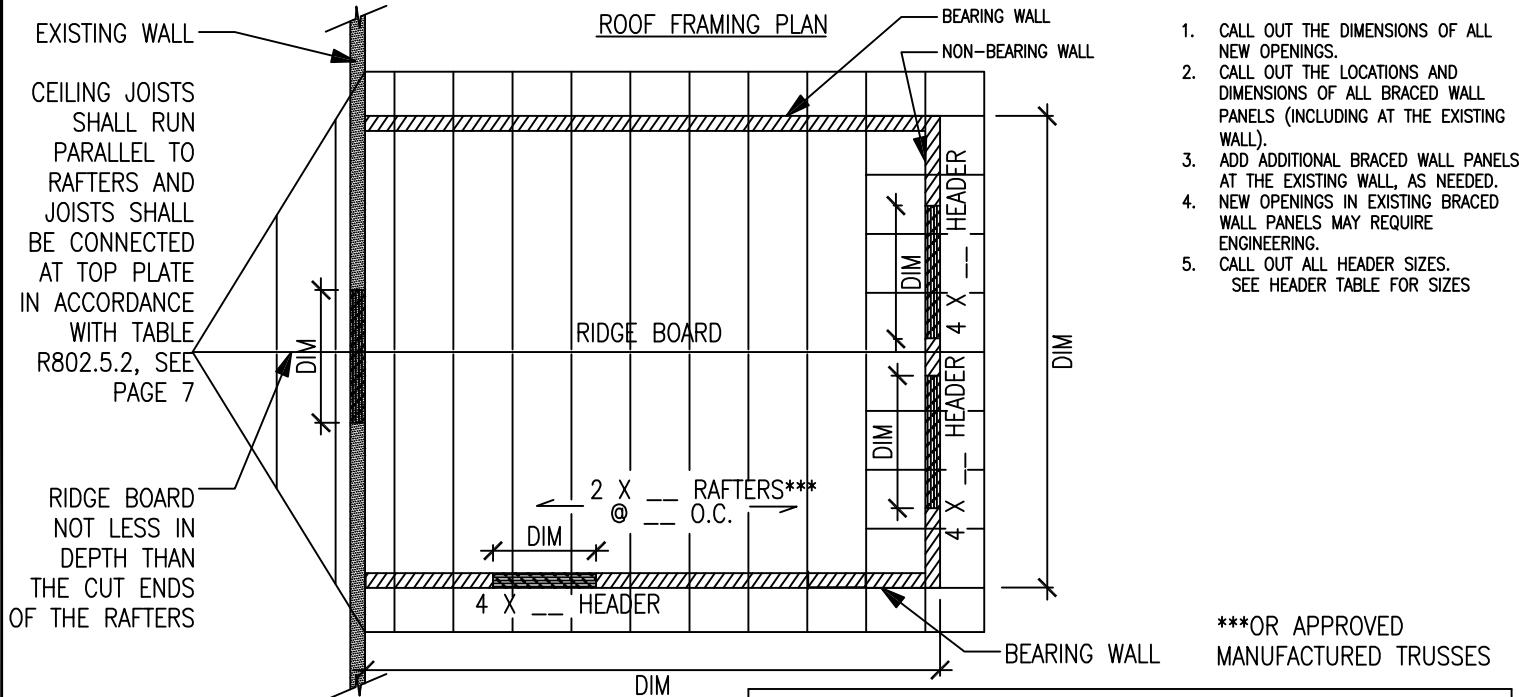
RESIDENTIAL ROOM ADDITION TYPICAL FRAMING PLAN

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HEADER TABLE (DL = 20 psf, LL = 20 psf)

| ALL HEADERS DOUGLAS FIR LARCH #2 | | |
|----------------------------------|------------------------------|-----------------------------|
| HEADER | BEARING WALL MAX SPAN | # OF JACK AND KING STUDS |
| 4X6 | 4'-0" | 1 |
| 4X8 | 6'-0" | 2 |
| 4X10 | 8'-0" | 3 |
| | | |
| HEADER | NON-BEARING WALL MAX SPAN | # OF JACK AND KING STUDS |
| 4X4 | 4'-0" | 1 |
| 4X6 | 6'-0" | 2 |
| 4X8 | 8'-0" | 3 |

ALL ADDITIONAL SPANS THAT EXCEED MAX SPAN REQUIRE ENGINEERING

RAFTER SIZES BASED ON 2018 IRC:

CEILING JOIST TABLE R802.5.1(1) *

ROOF RAFTER TABLE R802.4.1(2) **

NOTE: THE TABULATED ROOF RAFTER SPANS ASSUME THAT CEILING JOISTS ARE LOCATED AT THE BOTTOM OF THE ATTIC SPACE OR THAT SOME OTHER METHOD OF RESISTING THE OUTWARD PUSH OF THE RAFTERS OR THE BEARING WALLS, SUCH AS RAFTER TIES, IS PROVIDED AT THAT LOCATION.

* UNINHABITABLE ATTIC WITHOUT STORAGE, LIVE LOAD = 10 psf, L/A = 240

** ROOF LIVE LOAD = 20 psf, CEILING NOT ATTACHED TO ROOF RAFTERS

ROOF DEAD LOAD = 20 psf, $L/\Delta = 180$

a. RAFTER SPAN SHALL BE MEASURED ALONG THE HORIZONTAL PROJECTION OF RAFTER

RAFTER & JOIST SPAN TABLE BASED ON DOUGLAS FIR/LARCH #2

| SIZE | SPACING | CEILING JOIST MAX SPAN | ROOF RAFTER MAX SPAN ^a |
|------|---------|------------------------|-----------------------------------|
| 2x4 | 12" | 12'-5" | - |
| 2x4 | 16" | 11'-3" | - |
| 2x4 | 24" | 9'-10" | - |
| 2x6 | 12" | 19'-6" | 14'-7" |
| 2x6 | 16" | 17'-8" | 12'-7" |
| 2x6 | 24" | 15'-0" | 10'-4" |
| 2x8 | 12" | 25'-8" | 18'-5" |
| 2x8 | 16" | 23'-4" | 16'-0" |
| 2x8 | 24" | 19'-1" | 13'-0" |
| 2x10 | 12" | - | 22'-6" |
| 2x10 | 16" | - | 19'-6" |
| 2x10 | 24" | 23'-3" | 15'-11" |
| 2x12 | 12" | - | 26'-0" |
| 2x12 | 16" | - | 22'-7" |
| 2x12 | 24" | - | 18'-6" |

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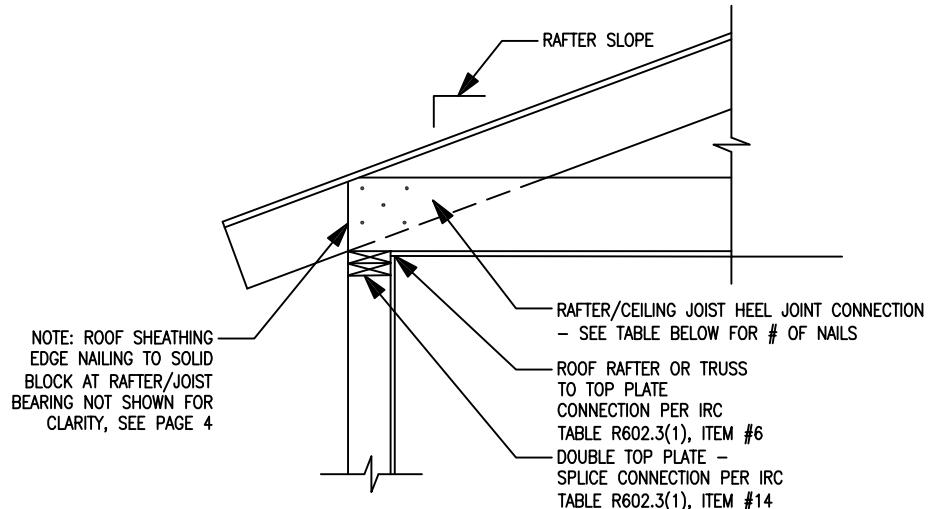
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RAFTER/CEILING JOIST HEEL JOINT CONNECTION

| RAFTER/CEILING JOIST HEEL JOINT CONNECTIONS | | | | | |
|---|-------------------------|------------------|----|----|--|
| RAFTER SLOPE | RAFTER SPACING (INCHES) | ROOF LIVE LOAD | | | |
| | | 20 psf | | | |
| | | ROOF SPAN (FEET) | | | |
| | | 12 | 24 | 26 | |
| REQ'D # OF 16d COMMON NAILS PER HEEL JOIST SPLICE | | | | | |
| 3:12 | 12 | 3 | 5 | 8 | |
| | 16 | 4 | 7 | 10 | |
| | 19.2 | 4 | 8 | 12 | |
| | 24 | 5 | 10 | 12 | |
| 4:12 | 12 | 3 | 4 | 6 | |
| | 16 | 3 | 5 | 8 | |
| | 19.2 | 3 | 6 | 9 | |
| | 24 | 4 | 8 | 11 | |
| 5:12 | 12 | 3 | 5 | 5 | |
| | 16 | 3 | 4 | 6 | |
| | 19.2 | 3 | 5 | 6 | |
| | 24 | 3 | 6 | 9 | |

SEEIRC TABLE R802.5.2 FOR ADDITIONAL NOTES
NOT REQUIRED FOR APPROVED MANUFACTURED TRUSSES

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RESIDENTIAL ROOM ADDITION SUPPLEMENTAL INFORMATION 2024 IRC

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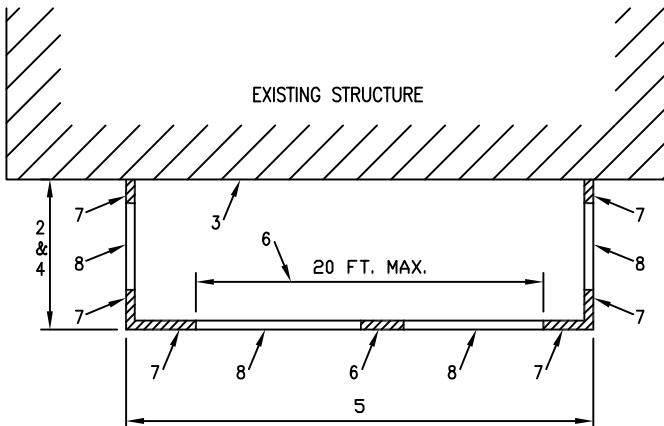
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THE RESIDENTIAL ADDITION MUST CONFORM TO ALL OF THE FOLLOWING TO UTILIZE THIS HANDOUT. IF THE ADDITION CANNOT COMPLY WITH THESE ITEMS, YOU MAY PROVIDE A DESIGN CONFORMING TO THE PRESCRIPTIVE REQUIREMENTS OF THE INTERNATIONAL RESIDENTIAL CODE OR AN ENGINEERED DESIGN.

BRACED WALL LINES MUST BE CONSTRUCTED TO PROVIDE LATERAL BRACING FOR THE ADDITION. THE SAMPLE FLOOR PLAN BELOW SHOWS A TYPICAL ADDITION AND THE BRACED WALL LINES REQUIRED. ADDITIONAL INTERIOR WALLS MAY BE CONSTRUCTED WITHIN THE SPACE, HOWEVER, ARE NOT SHOWN HERE.

ROOF/CEILING DEAD LOAD SHALL NOT EXCEED 20 PSF AND WALL DEAD LOAD SHALL NOT EXCEED 15 PSF IN ACCORDANCE WITH IRC TABLE R602.10.3(4), ITEMS #4 AND #5.



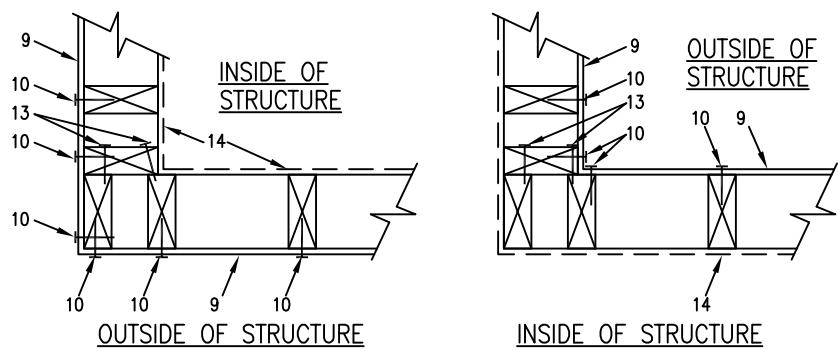
SAMPLE FLOOR PLAN - NOTES ON PLAN REFER TO NOTES BELOW

| BRACED WALL PANEL LENGTH AND ADJACENT CLEAR OPENING HEIGHT REQUIREMENTS FOR FULL HEIGHT WALL PANELS IN A CONTINUOUSLY SHEATHED WALL | | |
|---|---------------------------------------|--|
| HEIGHT OF WALL | FULL HEIGHT WALL PANEL MINIMUM LENGTH | MAXIMUM OPENING HEIGHT TO THE FULL HEIGHT WALL PANEL |
| 8-FEET | 32-INCHES | 80-INCHES |
| | 24-INCHES | 64-INCHES |
| 9-FEET | 36-INCHES | 90-INCHES |
| | 27-INCHES | 72-INCHES |
| 10-FEET | 40-INCHES | 100-INCHES |
| | 30-INCHES | 80-INCHES |

MAXIMUM OPENING HEIGHT SHALL BE MEASURED FROM THE BOTTOM OF SILL TO THE UNDERSIDE OF THE HEADER.
A MINIMUM OF 20 PERCENT OF THE LENGTH OF THE WALL MUST BE CONSTRUCTED FULL HEIGHT OF THE WALL IN PANELS OF A MINIMUM WIDTH LISTED IN THE TABLE.

NOTES :

1. MAXIMUM OF ONE-STORY OR 10-FEET IN HEIGHT MEASURED FROM BOTTOM OF FOUNDATION SILL PLATE TO TOP OF WALL DOUBLE TOP PLATE.
2. BRACED WALL LINES PERPENDICULAR TO THE STRUCTURE MAY BE A MAXIMUM OF 16-FEET IN LENGTH.
3. VERIFY EXISTING BUILDING BRACED WALL LINE HAS AT LEAST 2 FULL HEIGHT BRACED WALL PANELS WITH HEIGHT/LENGTH RATIO NOT GREATER THAN 3.5 OR (1) FULL HEIGHT BRACED WALL PANEL WITH HEIGHT/LENGTH RATIO 1 OR LESS.
4. BRACED WALL LINES WITH A LENGTH 16-FEET OR LESS SHALL HAVE NOT LESS THAN TWO FULL HEIGHT BRACED WALL PANELS WITH MINIMUM LENGTH PER TABLE ABOVE OR ONE FULL HEIGHT BRACED WALL PANEL WITH MINIMUM LENGTH OF 48 INCHES OR MORE IN ACCORDANCE WITH IRC SECTION R602.10.2.3.
5. BRACED WALL LINES PARALLEL TO THE STRUCTURE MAY BE A MAXIMUM OF 25-FEET IN LENGTH.
6. ADDITIONAL INTERMEDIATE FULL HEIGHT BRACED WALL PANEL REQUIRED ALONG BRACED WALL LINE IF SPACING BETWEEN FULL HEIGHT BRACED WALL PANELS EXCEEDS 20-FEET.
7. PROVIDE FULL HEIGHT BRACED WALL PANELS AT EACH CORNER OF ADDITION. SEE THE TABLE ABOVE FOR THE MINIMUM LENGTH OF EACH FULL HEIGHT BRACED WALL PANEL. FOR OTHER POSSIBLE END CONDITIONS ALONG BRACED WALL LINE SEE IRC FIGURE R602.10.7.
8. LOCATION WHERE DOORS, WINDOWS AND OTHER OPENINGS ARE ALLOWED. FOR HEIGHT OF OPENING ALLOWED SEE THE TABLE ABOVE.
9. ENTIRE LENGTH OF BRACED WALL LINE, INCLUDING ABOVE AND BELOW OPENINGS, SHALL BE SHEATHED ON ONE SIDE WITH MINIMUM 3/8-INCH, 24/0 SPAN EXTERIOR RATED STRUCTURAL PANEL (OSB, PLYWOOD, ETC.).
10. SHEATHING TO BE NAILED WITH 8d COMMON NAILS AT 6-INCHES ON CENTER AT EDGES AND 12-INCHES ON CENTER AT INTERMEDIATE SUPPORTS.
11. MAXIMUM STUD SPACING IS 16-INCHES ON CENTER.
12. ALL BRACED WALL LINES SHALL BE PROVIDED WITH A CONTINUOUS REINFORCED CONCRETE FOUNDATION (12-INCHES WIDE BY 12-INCHES MINIMUM DEPTH BELOW GRADE).
13. 16d NAILS AT 12-INCHES ON CENTER.
14. GYPSUM BOARD ON THE INTERIOR OF THE STRUCTURE.
15. ALL FULL HEIGHT BRACED WALL PANELS SHALL HAVE AT MINIMUM (TWO) 1/2-INCH DIAMETER ANCHOR BOLTS BUT SPACING NOT TO EXCEED 6-FOOT ON CENTER MAX., WITH AN EMBEDMENT DEPTH OF 7-INCHES. EACH PIECE OF FOUNDATION SILL PLATE SHALL HAVE MINIMUM TWO BOLTS PLACED NOT MORE THAN 12-INCHES OR LESS THAN 4-INCHES FROM EACH END OF EACH PIECE. THE BOLTS SHALL BE LOCATED WITHIN THE MIDDLE THIRD OF THE WIDTH OF THE PLATE. ALL ANCHOR BOLTS SHALL HAVE 3-INCH X 3-INCH X 0.229-INCH PLATE WASHERS.



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