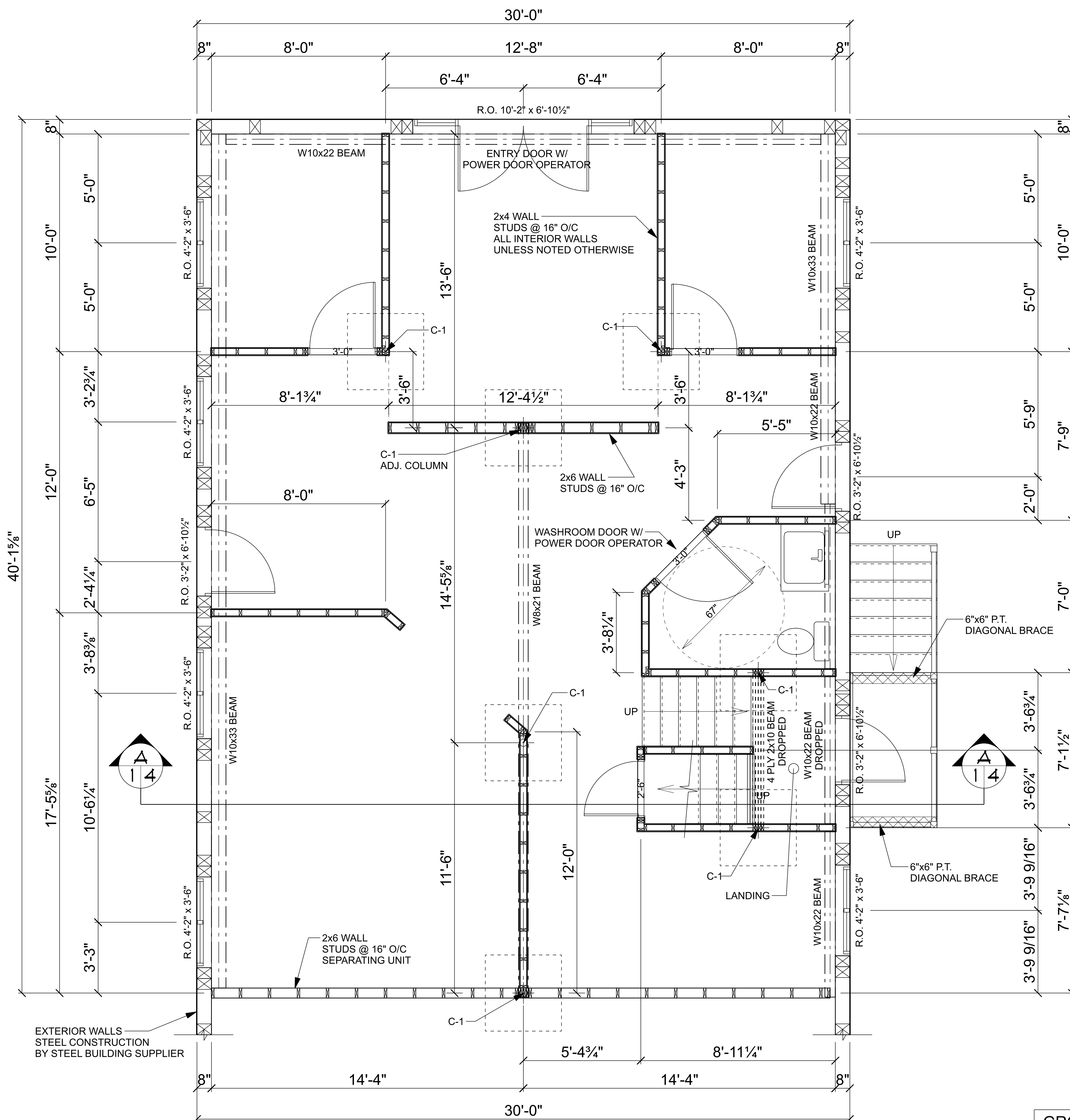




**Certificate of Authorization**  
**Laurel Ridge Consulting Inc.**

No. 4461 Date: 07/16/2021



**MAIN FLOOR**  
SCALE: 3/8" = 1'-0"

ALL STRUCTURAL STEEL BY STEEL BUILDING SUPPLIER

**GENERAL NOTES**

- CONCRETE:
- ALL RELEVANT CSA STANDARDS, PROVINCIAL AND FEDERAL BUILDING CODES, WORKMAN'S COMPENSATION BOARD, AND LOCAL BY-LAWS SHOULD APPLY TO THIS PROJECT.
  - THE FOUNDATION DESIGN ASSUMES A SAFE ALLOWABLE SOIL BEARING VALUE OF 1500 PSF. WITH TOLERABLE SOIL SHIFTING CHARACTERISTICS. THE OWNER/CONTRACTOR IS RESPONSIBLE TO OBTAIN A SOILS INVESTIGATION REPORT TO VERIFY THIS ASSUMPTION AND TO ASSESS WHETHER INTOLERABLE SOIL SWELLING CONTRACTION WILL BE PREVALENT AT THE BUILDING LOCATION. NO RESPONSIBILITY ACCEPTED FOR THE DESIGN ASSUMPTIONS MADE FOR A NEW FOUNDATION REDESIGN RESULTING FROM CONTRARY SOIL CONDITIONS, SHOULD THE ACTUAL SOIL CONDITIONS VARY FROM THE ASSUMED CRITERIA THE OWNER/ CONTRACTOR SHOULD PROCEED WITH CONST.
  - ALL PILES ARE DESIGNED AS CAST-IN-PLACE FRICTION ELEMENTS ASSUMING AN ALLOWABLE SKIN FRICTION CAPACITY OF 300 PSF. ALL HOLES SHALL BE DRILLED TO THE DEPTHS AND DIMENSIONS AS NOTED IN THE DRAWINGS. ALL SPREAD BEAMS (BELL) PILES HAVE BEEN DESIGNED AS END BEARING UNITS WITH MINIMUM ASSUMED SAFE ALLOWABLE BEARING OF 2500 PSF ON STIFF DRY UNDISTURBED CLAY OR HARD PAN. THE OWNER/CONTRACTOR IS RESPONSIBLE FOR VERIFYING THIS ASSUMPTION WITH A SOIL TEST. UNLESS A SOIL TEST REPORT IS SUBMITTED, THE STRUCTURAL ENGINEER ACCEPTS NO LIABILITY FOR THIS ASSUMPTION NOR FOR ANY REDESIGN OF THE FOUNDATION RESULTING FROM CONTRARY SOIL CONDITIONS. PLACE BOTTOM OF PILE WELL ABOVE FROST LINE. THE OWNER/CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY IF THE DEPTHS INDICATED CANNOT BE ATTAINED. DURING EXCAVATION FOR THE FOUNDATION OR DURING INSTALLATION OF THE PILES, IF UNSTABLE MATERIAL OR GROUND WATER IS ENCOUNTERED, NOTIFY THE ENGINEER IMMEDIATELY BEFORE PROCEEDING WITH CONSTRUCTION. THE OWNER/CONTRACTOR SHALL VIBRATE THE TOP 10'-0" OF THE PILE AND SHALL KEEP THE TOP OF THESE PILES FROM FREEZING. IF NECESSARY, HEAT SHALL BE APPLIED TO THE TOP OF THESE PILES FOR 4 DAYS.
  - CONCRETE SHALL CONFORM TO THE FOLLOWING:
- | NAME                      | CONC. TYPE | STRENGTH        | MAX AGG. | SLUMP | PAIR | EXPOSURE CLASS |
|---------------------------|------------|-----------------|----------|-------|------|----------------|
| PILES                     | TYPE 50    | 32MPA @ 28 DAYS | 3/4"     | 5"    | 4-7% | S-2            |
| FOOTINGS                  | TYPE 50    | 32MPA @ 28 DAYS | 3/4"     | 5"    | 4-7% | S-2            |
| GRADE BEAMS               | TYPE 10    | 25MPA @ 28 DAYS | 3/4"     | 5"    | 4-7% | F-2            |
| WALLS                     | TYPE 10    | 25MPA @ 28 DAYS | 3/4"     | 5"    | 4-7% | F-2            |
| ICE WALLS                 | TYPE 10    | 25MPA @ 28 DAYS | 3/8"     | 5"    | 4-7% | F-2            |
| BASEMENT & INTERIOR SLABS | TYPE 10    | 25MPA @ 28 DAYS | 3/4"     | 5"    | NONE | N              |
| GARAGE & EXTERIOR SLABS   | TYPE 10    | 32MPA @ 28 DAYS | 3/4"     | 8"    |      | C-2            |
- ALL REBAR SHALL BE NEW BILLET DEFORMED BARS, GRADE 400 MPA. ALL REBAR SHALL BE FREE FROM RUST, MUD, OIL OR OTHER MATERIAL WHICH WOULD REDUCE BOND. ALL REBAR SHALL BE DETAILED AND PLACED IN ACCORDANCE WITH THE LATEST A.C.I. DETAILED MANUAL. ALL SPLICES FOR REINFORCING STEEL SHALL BE IN ACCORDANCE WITH MANITOBA BUILDING CODE AND SHALL BE LOCATED IN THE MIDDLE OF PILE SPANS FOR TOP HORIZONTAL REBAR AND DIRECTLY OVER BEAM SUPPORTS FOR THE BOTTOM HORIZONTAL REBAR. ALL FOUNDATION REBAR SHALL BE INSTALLED ON THE INSIDE FACE OF THE FOUNDATION WITH 1 1/2" OF CONCRETE COVER UNLESS OTHERWISE NOTED ON THE DRAWINGS.
  - ALL OPENINGS IN CONCRETE BEAMS OR FOUNDATION WALLS AND SLABS SHALL BE FRAMED WITH 2-15M BARS ALL SIDES OF OPENINGS UNLESS NOTED OTHERWISE ON THE DRAWINGS. THIS REBAR SHALL EXTEND A MINIMUM OF 30" BEYOND THE OPENING IN ALL DIRECTIONS.
  - THE CONTRACTOR SHALL MECHANICALLY VIBRATE ALL CONCRETE. THE CONTRACTOR SHALL ENSURE ALL CONCRETE PLACED DURING COLD WEATHER SHALL BE PROTECTED FROM FREEZING IN ACCORDANCE WITH CANADA'S S1 STANDARD AND IN NO INSTANCE SHALL BE HEATED FOR LESS THAN FOUR DAYS.
  - ALL CONCRETE WALL AND FOUNDATION REBAR SHALL BE BENT MINIMUM 24" AROUND CORNERS BOTH DIRECTION OR USE 24"x24" CORNER BARS OF EQUAL SIZE.
  - ALL DIMENSIONS AND ELEVATIONS NOTED ON THESE DRAWINGS SHALL BE VERIFIED BY THE OWNER/CONTRACTOR PRIOR TO STARTING CONSTRUCTION. THE OWNER/CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY UPON NOTING ANY DIMENSIONAL DISCREPANCIES PRIOR TO COMMENCING CONST.
  - THE STRUCTURAL AND VAPOUR BARRIERS DETAILS AS NOTED ON THE CONSTRUCTION DRAWINGS SHALL BE STRICTLY ADHERED TO BY THE CONTRACTOR ON SITE. NO DEVIATION FROM THE DETAILS SHOWN ON THE DRAWINGS SHALL BE PERMITTED UNLESS WRITTEN APPROVAL IS OBTAINED BY THE ENGINEER APPROVING THE CHANGE.
  - INSPECTIONS WILL NOT BE PROVIDED BY THE ENGINEER ON RECORD UNLESS UNDER SPECIAL ARRANGEMENT.
  - BEAMS REQUIRE RESTRAINT AGAINST LATERAL DISPLACEMENT AND ROTATION AT POINTS OF BEARING.
  - MULTIPLE MEMBER PSL BEAMS TO BE LAMINATED IN ACCORDANCE WITH THE PARALLAM PSL SPECIFIER'S GUIDE.
  - WEB STIFFENERS AND MULTIPLE MEMBER CONNECTIONS FOR "I" JOISTS TO BE INSTALLED IN ACCORDANCE WITH THE NASCOR INSTALLATION GUIDE AND DETAILS.
  - CAUTION:  
ALL FLOORS WHICH ARE SLAB ON GRADE AND SHALLOW SPREAD OR STRIP FOOTINGS MAY EXPERIENCE MOVEMENT AND CRACKING DUE TO HEAVING AND SOIL EXPANSION RESULTING FROM THE NATURE OF THE CLAY SOIL. PREVIOUS AND PRESENT LEVELS OF VEGETATION AT THE SITE, SOIL MOISTURE LEVELS AND CONSTRUCTION PRACTICES. THE STRUCTURAL ENGINEER ACCEPTS NO LIABILITY FOR THIS CRACKING AND/OR MOVEMENT.
- WOOD:
- ALL LUMBER SHALL CONFORM TO LATEST NLGA STANDARD GRADING RULES FOR CANADIAN LUMBER.
  - ALL LUMBER SHALL BE SPRUCE #2 GRADE OR BETTER.
  - LINTELS SHALL BEAR ON AT LEAST ONE STUD AT EACH END.
  - ALL ROOF TRUSSES ARE TO BE PREFABRICATED AND DESIGNED IN ACCORDANCE WITH THE LATEST EDITION OF CSA 086. SHOP DRAWINGS, INCLUDING CONNECTION DETAILS, BEARING THE STAMP OF A REGISTERED PROFESSIONAL ENGINEER, SHALL BE SUBMITTED TO THE CONSULTANT FOR APPROVAL BEFORE COMMENCEMENT OF FABRICATION. TIMBER FOR ROOF TRUSSES AND RAFTERS SHALL BE STRUCTURALLY GRADED IN ACCORDANCE WITH NLGA STANDARD GRADING RULES FOR CANADIAN LUMBER (LATEST EDITION). MATERIAL MAY BE #2 SPRUCE OR EQUAL. MATERIAL SHALL BE STRAIGHT GRAINED AND KILN DRIED.
  - TRUSS MANUFACTURER TO DESIGN, FABRICATE AND SUPPLY COMPLETE ROOF FRAMING SYSTEM.
- STRUCTURAL STEEL:
- STRUCTURAL STEEL SHALL BE DESIGNED, FABRICATED AND ERRECTED IN ACCORDANCE WITH THE CAN/CASAS-16-09 BY FULLY CERTIFIED MEMBERS OF THE CANADIAN INSTITUTE OF STEEL CONSTRUCTION
  - ALL STRUCTURAL STEEL SHALL CONFORM TO THE CAN/CSA G40.21-350W CLASS C TO SIZES AND SHAPES INDICATED IN THE DRAWINGS. ALL ANGLES AND PLATES SHALL BE G40.21-300W. NO SUBSTITUTIONS IN GRADES OR SIZES ARE PERMITTED WITHOUT WRITTEN APPROVAL OF THE STRUCTURAL ENGINEER.
  - ALL FABRICATIONS SHALL BE CARRIED OUT IN PLANT FACILITIES CERTIFIED BY THE CANADIAN WELDING BUREAU TO CSA S16-09 AND S136. SITE FABRICATION IS NOT PERMITTED WITHOUT WRITTEN APPROVAL FROM THE STRUCTURAL ENGINEER.
  - ALL WELDING SHALL BE PERFORMED IN ACCORDANCE WITH THE CSA W59 BY WELDERS FULLY CERTIFIED FOR STRUCTURAL WELDING BY THE CANADIAN BUREAU TO CSA W47.1. ALL BASE AND CAP PLATES SHALL BE FULLY WELDED TO COLUMNS.
  - STRUCTURAL FASTENERS SHALL BE A325 BOLTS. ANCHOR BOLTS SHALL BE 18" LONG CW 3" HOOK (A307) UNLESS NOTED OTHERWISE ON STRUCTURAL DRAWINGS. BASE AND CAP PLATES SHALL BE 1/2" THICK. CAP PLATES TO HAVE MIN. 4 BOLT (A325) CONNECTION UNLESS NOTED OTHERWISE ON STRUCTURAL DRAWINGS.
  - PROVIDE TEMPORARY GUYING AND BRACING AS NECESSARY TO PROVIDE STABILITY FOR THE WHOLE STRUCTURE UNTIL DECKING AND PERMANENT BRACING ARE SECURED IN PLACE.
  - HOLES ARE NOT PERMITTED IN THE TOP FLANGES UNLESS NOTED OTHERWISE IN THE DRAWINGS.
  - INTERIOR STEEL SHALL BE PAINTED WITH ONE COAT OF RED OXIDE PRIMER AFTER HAVING BEEN CLEANED TO SSPC-SF2.
  - CLEAN ALL FIELD WELDS AND TOUCH UP WITH PRIMER TO MATCH SHOP COAT.
  - DESIGN AND FABRICATE CONNECTIONS FOR THE FULL STRENGTH OF THE MEMBER. SPLICING OF MEMBERS IS NOT PERMITTED UNLESS WRITTEN APPROVAL FROM THE STRUCTURAL ENGINEER HAS BEEN PROVIDED.
  - ALL STEEL EXPOSED TO WEATHER SHALL BE GALVANIZED.

- GROUP D OCCUPANCY
- TRAVEL DISTANCE BETWEEN EXITS 25m (82'-0 1/4") MAX.
- ALL EXITS TO HAVE EXIT SIGNS WITH EMERGENCY LIGHTING
- ALL REQUIRED EXITS TO HAVE FIRE EXTINGUISHER
- ONE WHEELCHAIR ACCESSABLE WASHROOM WITH A POWER DOOR OPERATOR ON MAIN FLOOR
- MAIN ENTRY DOOR TO BE EQUIPPED WITH A POWER DOOR OPERATOR
- ALL SAFETY MEASURES REQUIRED BY HEALTH AND SAFETY AUTHORITIES TO BE IN PLACE E.I. FIRST AID, EYE WASHING STATION

PROJECT:

SHOP D UNIT 1  
INDUSTRIAL RD  
STEINBACH MB  
R5G 0Z1

SHEET TITLE:  
MAIN FLOOR PLAN

DRAWN BY: CS

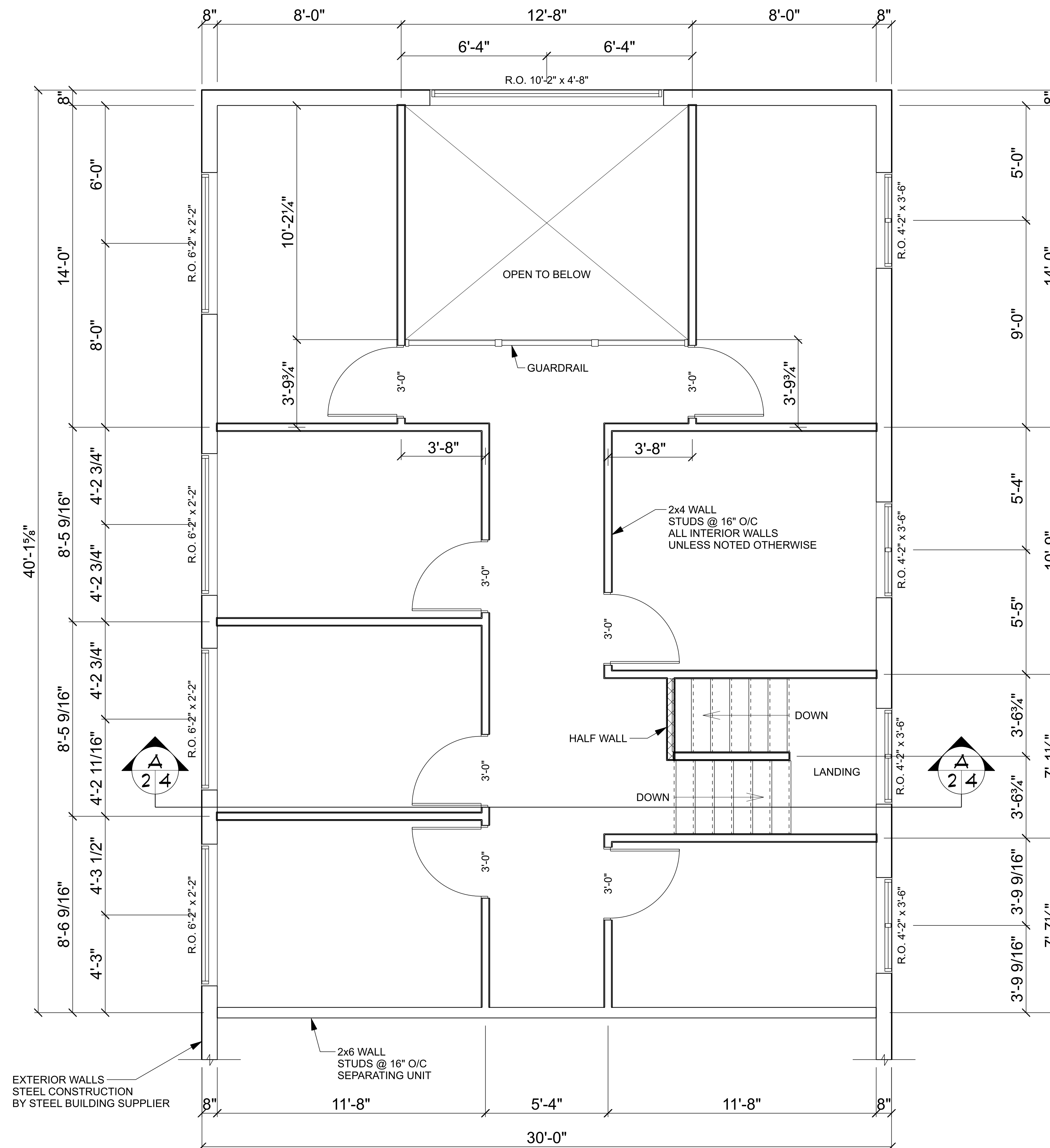
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**2nd FLOOR PLAN**  
SCALE: 3/8" = 1'-0"

ALL STRUCTURAL STEEL BY STEEL BUILDING SUPPLIER

**AVEDO INC.**

110 INDUSTRIAL RD, STEINBACH, MB R5G 0Z1  
PHONE: 1-833-692-8336  
WEBSITE: [avedo.ca](http://avedo.ca)

PROJECT:  
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SHEET TITLE:  
**2nd FLOOR PLAN**

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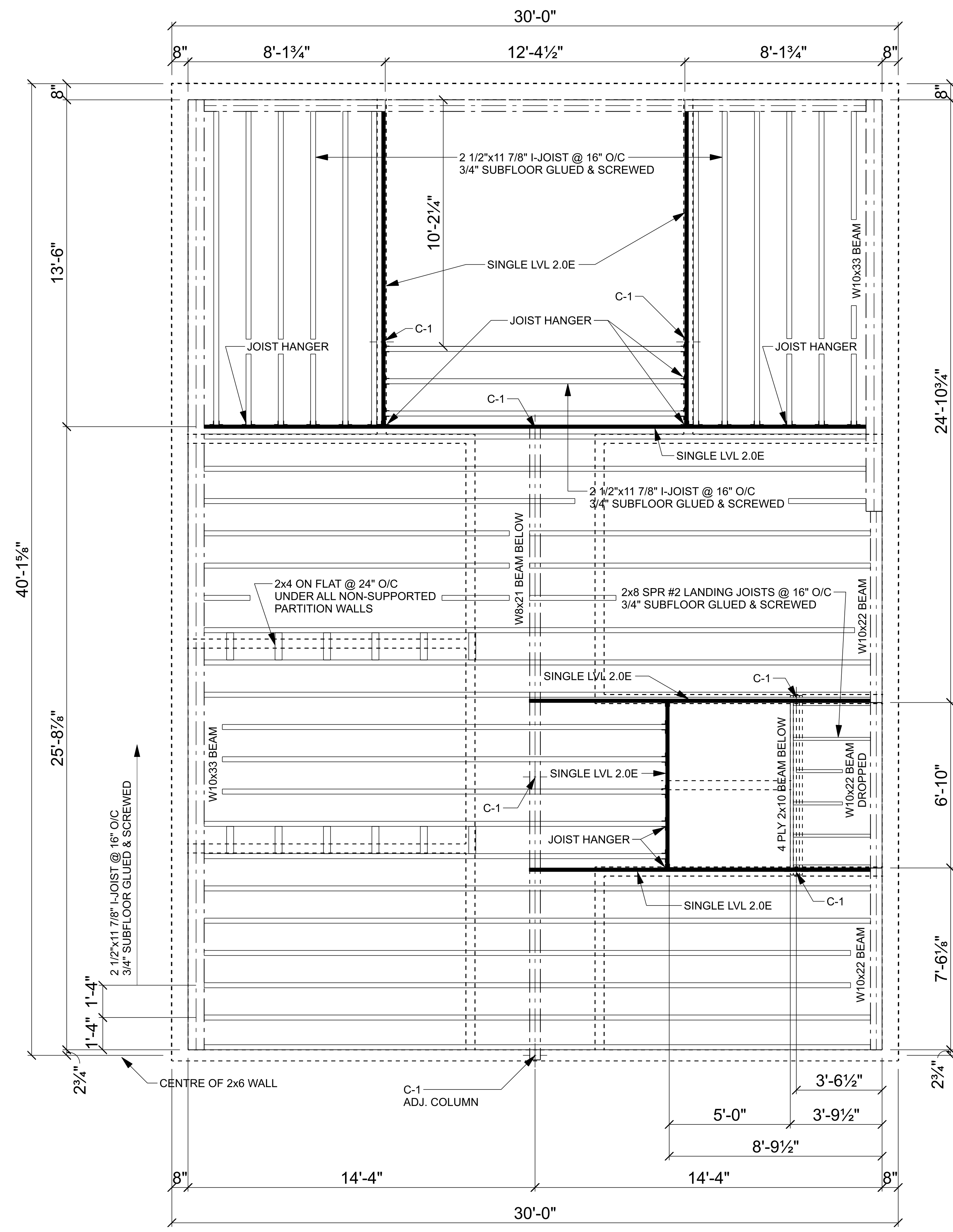
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**JOIST LAYOUT**  
SCALE: 3/8" = 1'-0"

ALL STRUCTURAL STEEL BY STEEL BUILDING SUPPLIER

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SHEET TITLE: **JOIST LAYOUT**

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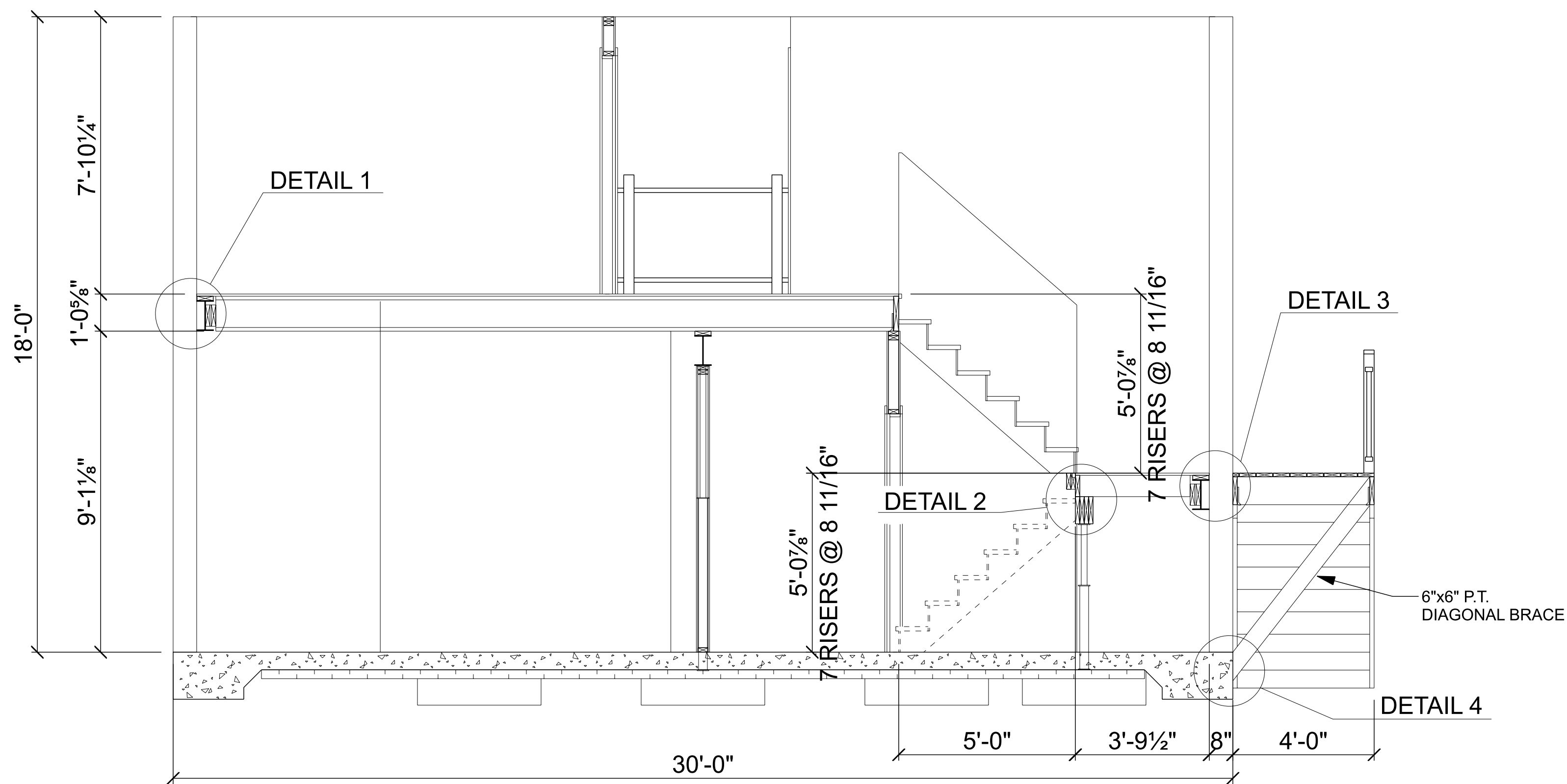
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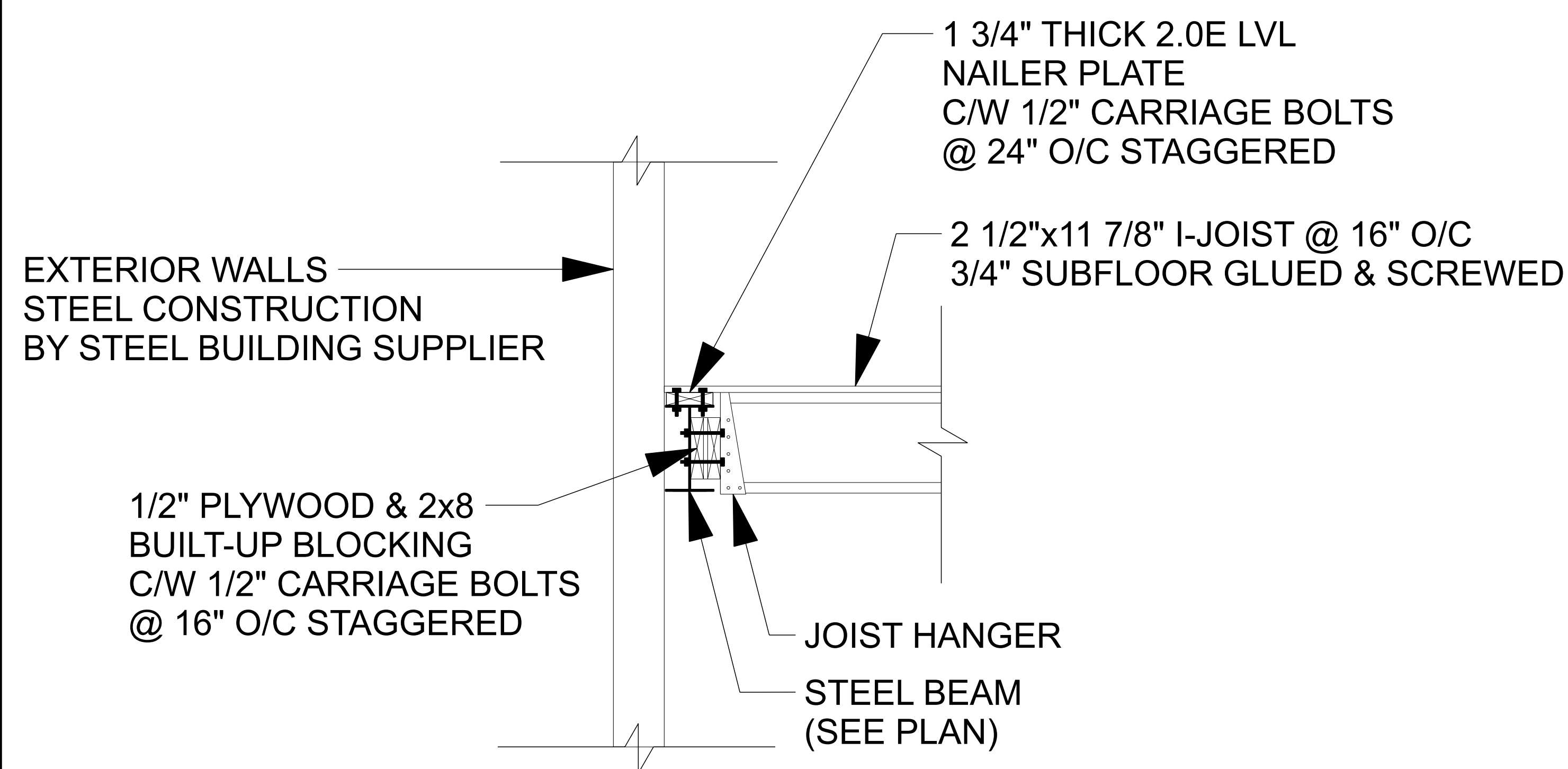
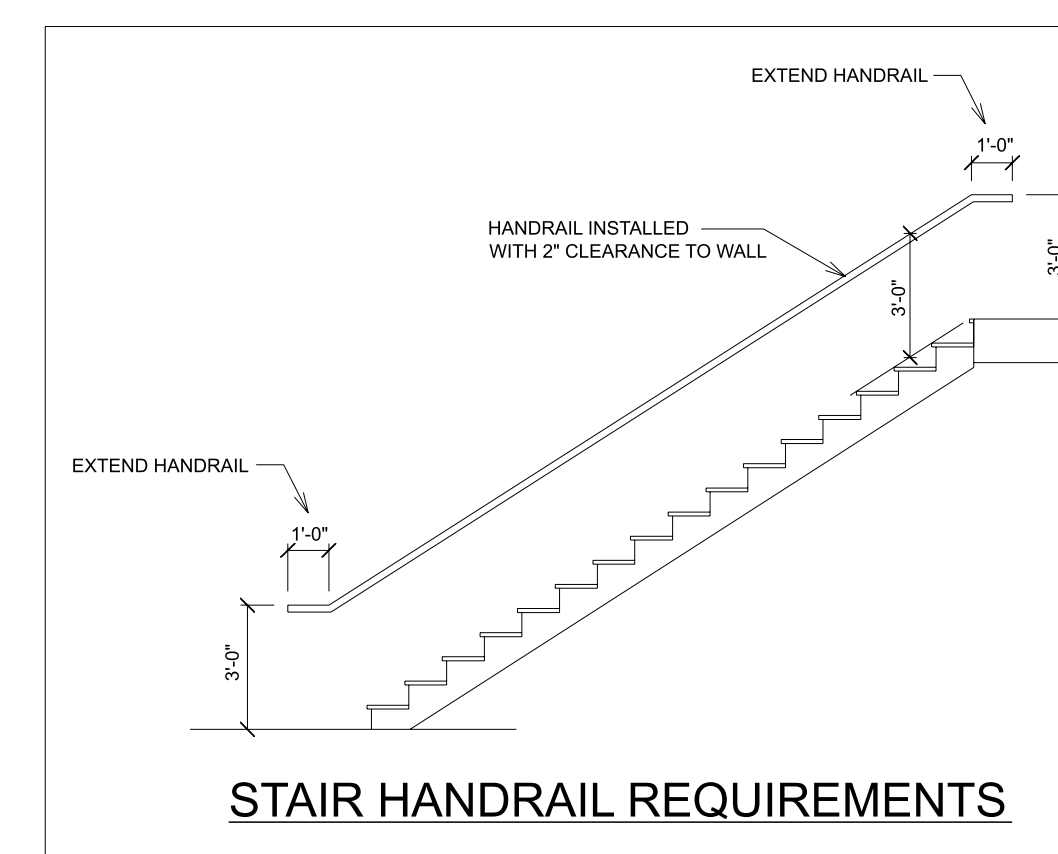
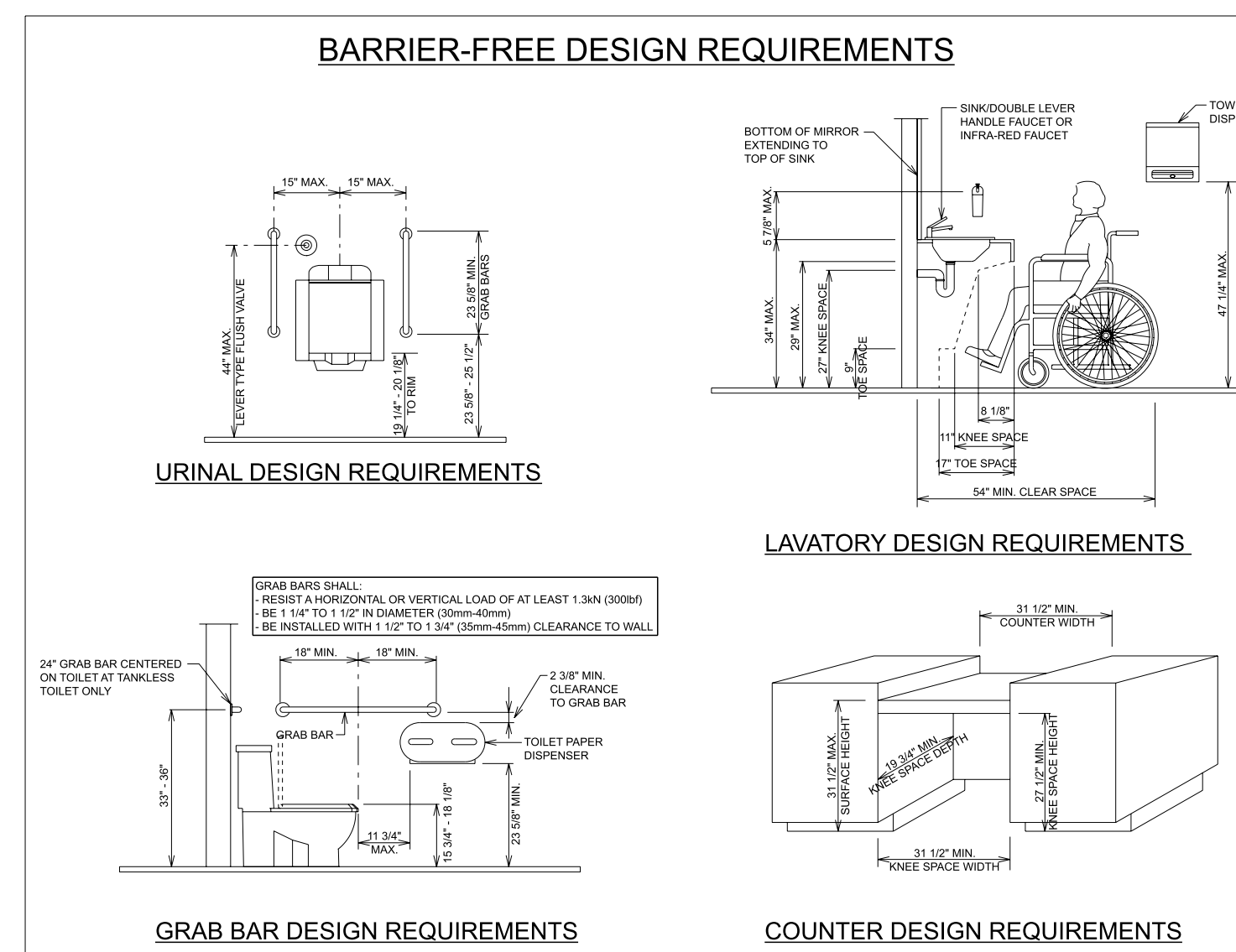
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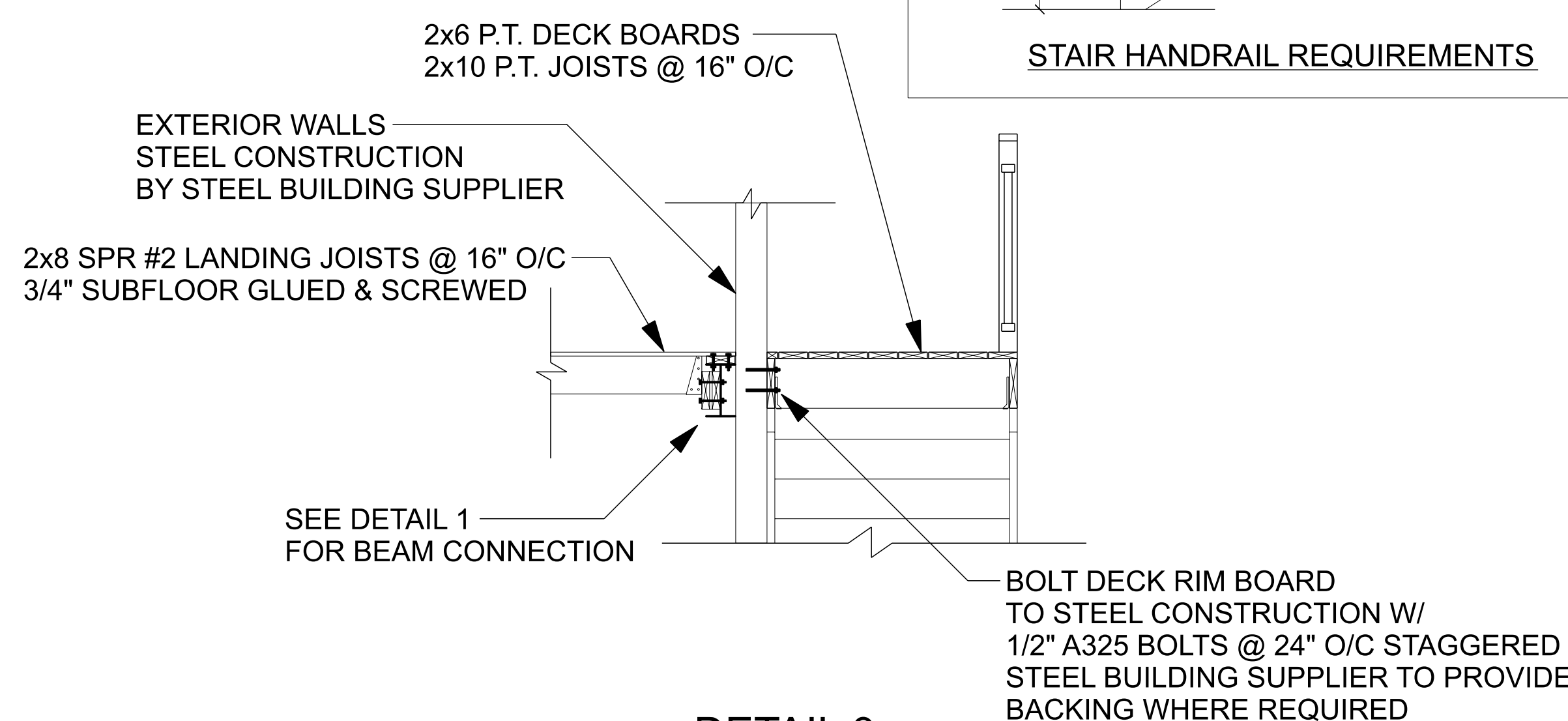
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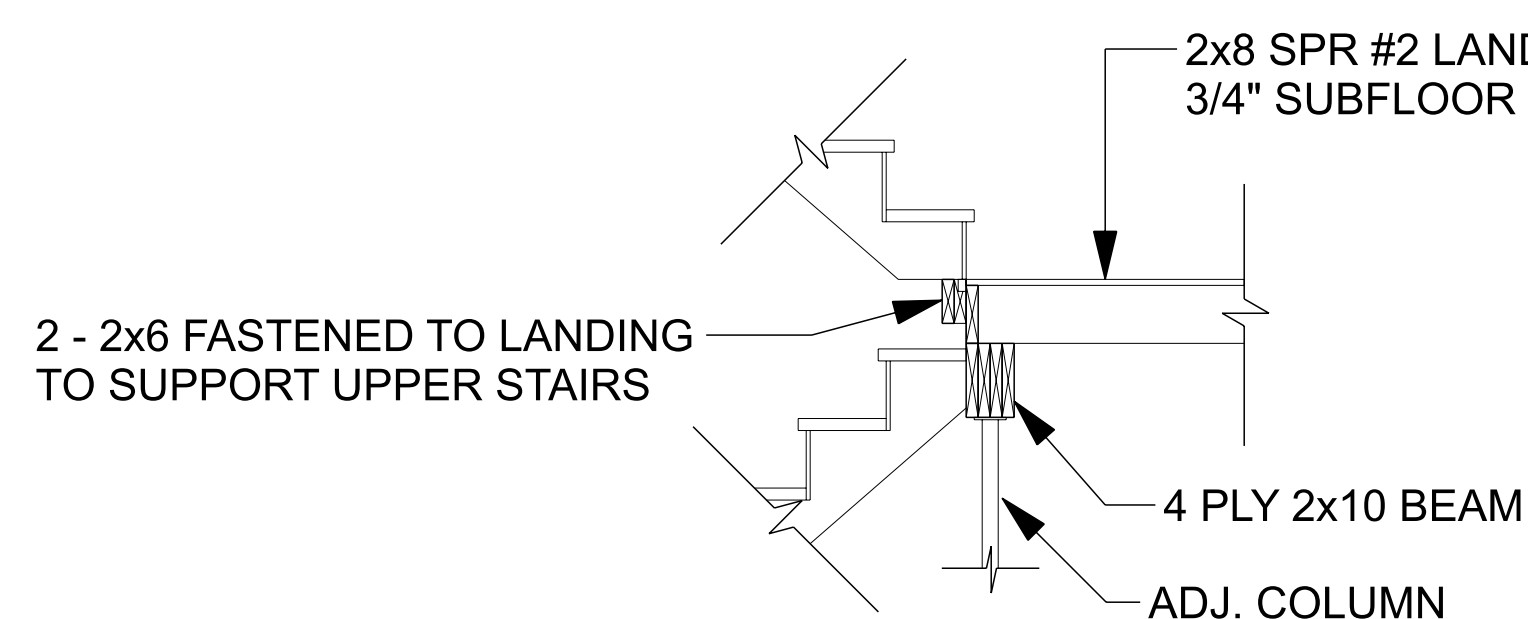
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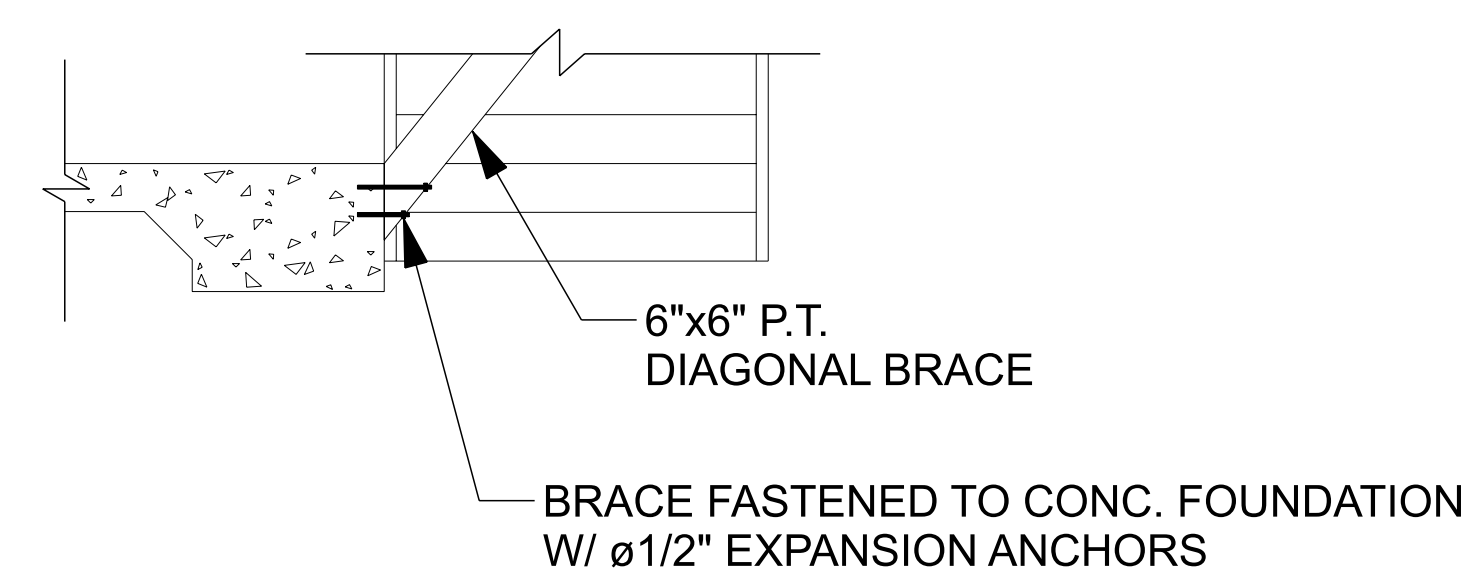
**DETAIL 1**  
SCALE: 1" = 1'-0"



**DETAIL 3**  
SCALE: 1/2" = 1'-0"



**DETAIL 2**  
SCALE: 1/2" = 1'-0"



**DETAIL 4**  
SCALE: 1/2" = 1'-0"

ALL STRUCTURAL STEEL BY STEEL BUILDING SUPPLIER

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SHEET TITLE: **SECTIONS & DETAILS**

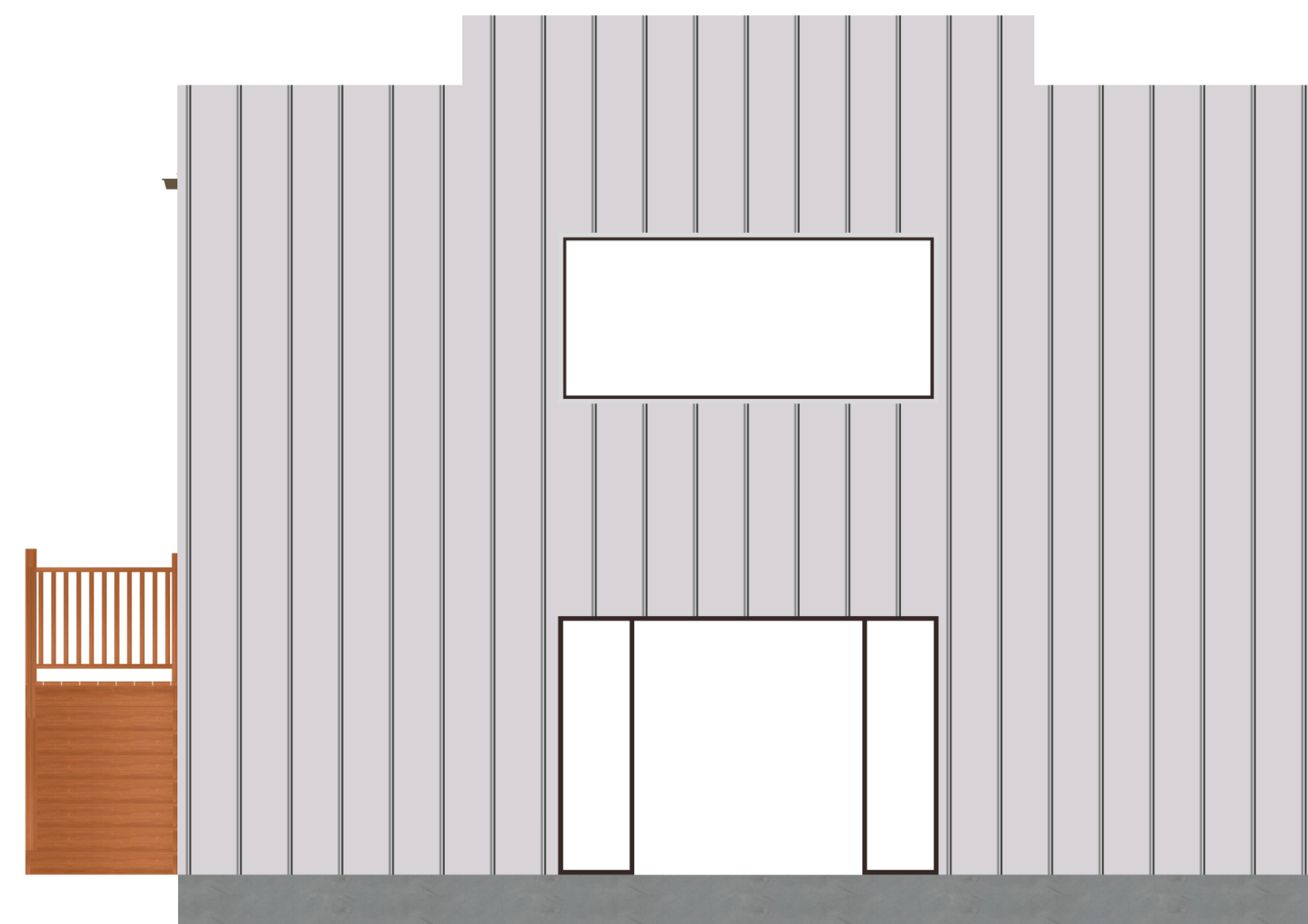
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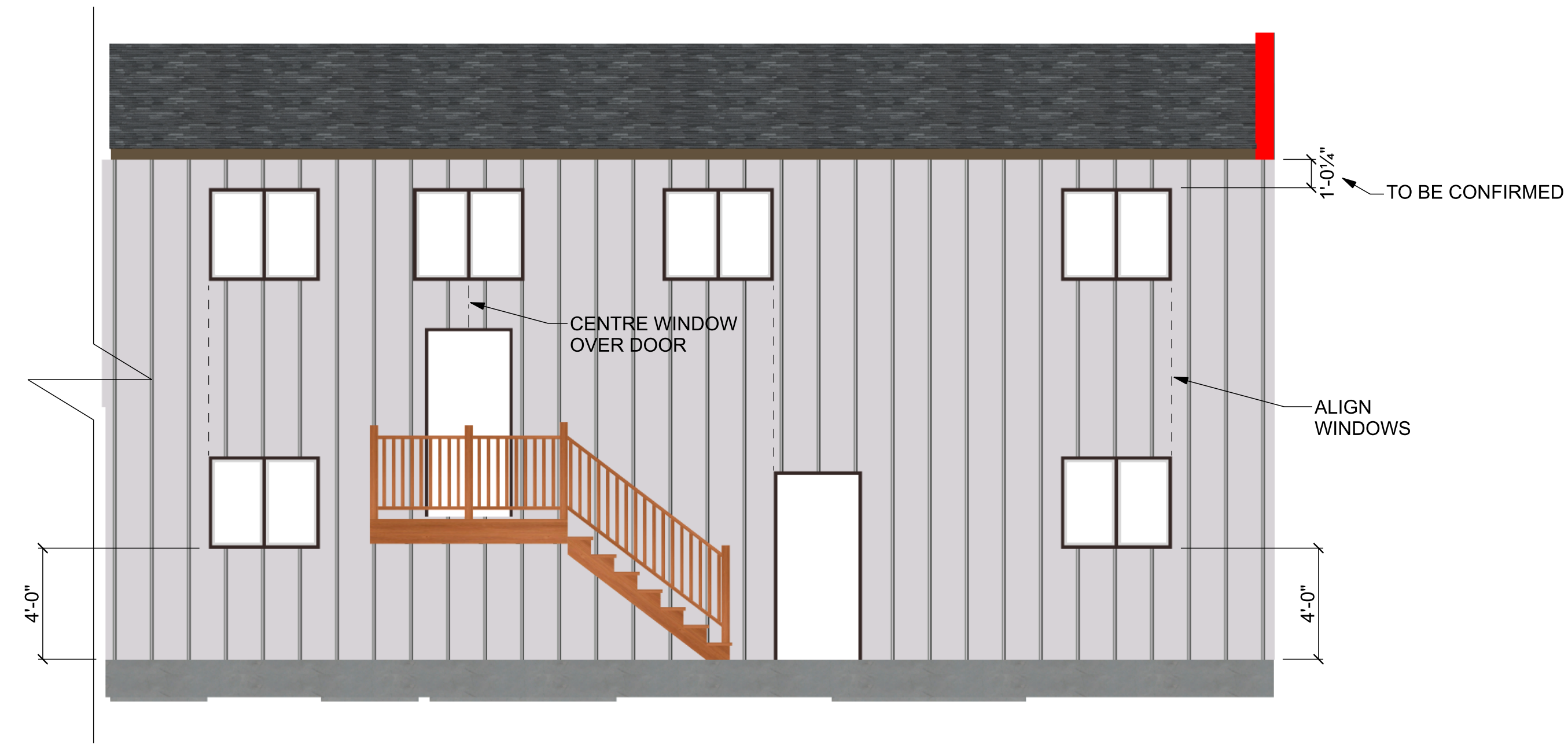


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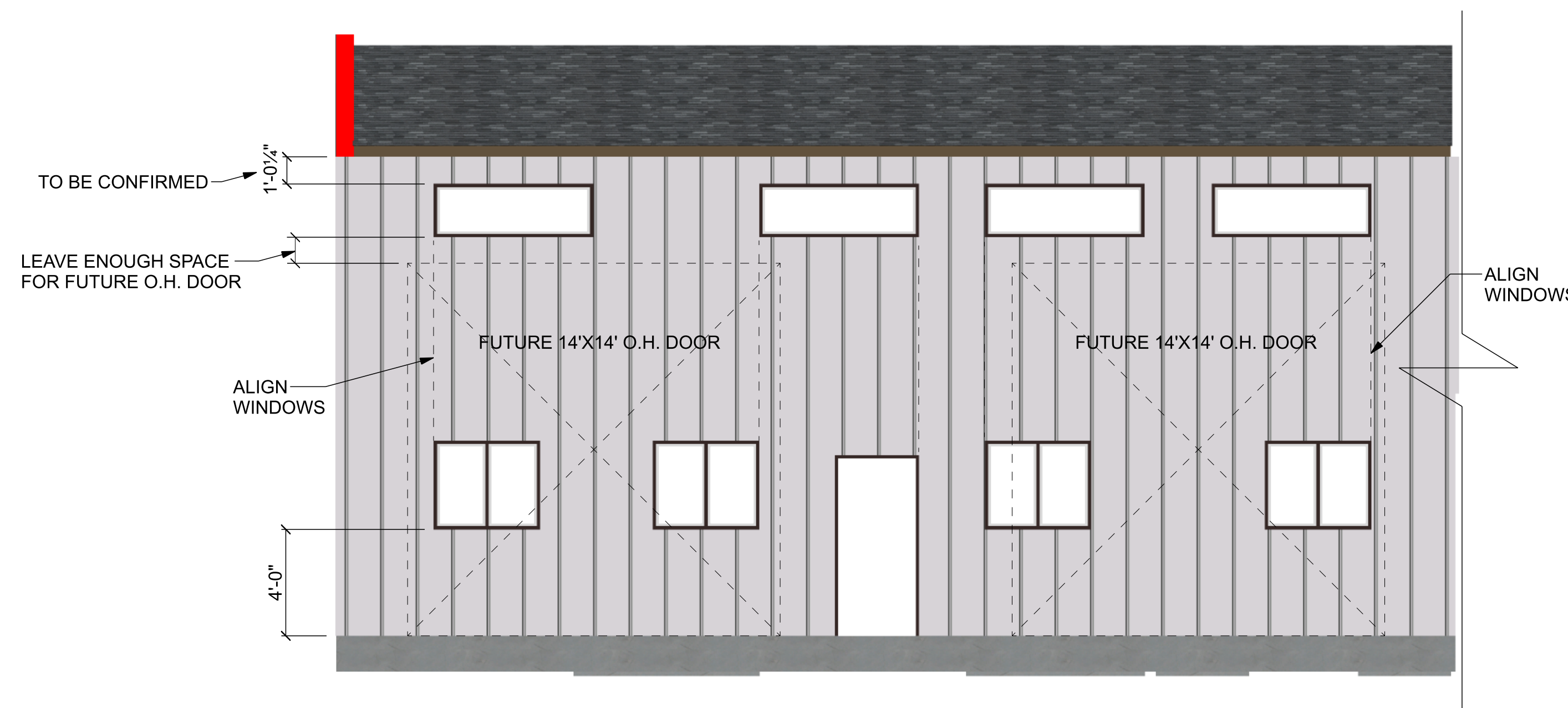
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**FRONT ELEVATION**  
SCALE: 1/4" = 1'-0"



**RIGHT ELEVATION**  
SCALE: 1/4" = 1'-0"



**LEFT ELEVATION**  
SCALE: 1/4" = 1'-0"

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SHEET TITLE:  
**ELEVATIONS**

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