

GENERAL NOTES - STRUCTURAL

- I. The contractor shall verify dimensions and conditions before construction and notify the engineer of any discrepancies, inconsistencies, or difficulties affecting the work before proceeding.
2. All design and construction work for this project shall conform to the requirements of the 2018 International Building Code, as amended by the City of Kansas City, Missouri.
3. These drawings are for this specific project and no other use is authorized.
4. Concrete:
- A. All concrete for footings) shall develop minimum ultimate compressive design strength of 3500 psi in 28 days, but not less than 500 pounds of cement shall be used per cubic yard of concrete regardless of strengths obtained, not over 6 gallons of water per 100 pounds of cement and not over 4 inches of slump.
- B. Contractor shall verify that all concrete inserts, reinforcing and embedded items are correctly located and rigidly secured prior to concrete placement.
- C. No aluminum items shall be embedded in any concrete.
5. Reinforcing Steel:
- A. All reinforcing steel shall conform to the requirements of ASTM A615 or A106 grade 60 steel.
- B. Clear coverage of concrete over reinforcing steel shall be as follows:
- Concrete placed against earth 3"
- All coverage shall be nominal bar diameter minimum.
- C. Accessories shall be as specified in latest edition of the ACI Detailing Handbook and the concrete Reinforcing Steel Institute Design Handbook. Maximum accessory spacing shall be 4'-0" on center, and all accessories on exposed surfaces are to have plastic coated feet.
6. Structural Steel:
- A. All structural steel beams shall be ASTM A992, grade 50 steel and all miscellaneous steel shall be ASTM A36, grade B. Fabrication and erection shall be in accordance with AISC 308-16 "Code of Standard Practice for Steel Buildings and Bridges" in the 15th Edition of the AISC Steel Construction Manual.
- B. All welding shall conform to the recommendations of the AWS.
- C. All bolts not otherwise specified shall be 3/4" diameter high strength (ASTM A325-N). All bolts shall be fully pretensioned.
- D. All anchor bolts shall be 3/4" diameter, ASTM F1554, grade 36 unless noted otherwise. Washers of minimum size and thickness for the given anchor diameter in Table 14-2 of the AISC Steel Construction Manual shall be provided at every column anchor bolt. Washers shall have a standard size hole for the anchor bolt.
7. Post-Installed Anchors:
- A. Post-installed anchors shall be used only where specified on the drawings unless approved in writing by the engineer of record. See drawings for anchor diameter, spacing and embedment. Performance values of the anchors shall be obtained for specified products using appropriate design procedures and/or standards as required by the governing building code. Anchors installed in concrete shall have an ICC-ES Evaluation Service Report. Special inspection is required for all post-installed anchors. The general contractor shall coordinate an on-site meeting with the post-installed anchor manufacturer field representative and subcontractor performing the anchor installation to educate the construction team on the anchor installation guidelines and requirements. The contractor shall send a record copy of the meeting meetings to the design team.
- B. Mechanical anchors used in cracked and uncracked concrete shall have been tested and qualified for use in accordance with ACI 308.2 and ICC-ES ECR143. All anchors shall be installed per the anchor manufacturer's written instructions.
8. Foundations:
- A. Spread footings, grade beams, and retaining walls are designed to bear on undisturbed soil capable of safely sustaining 2,000 psi.
- B. All foundation excavations shall be inspected by a qualified soil engineer, approved by the architect, and/or structural engineer, prior to placement of steel or concrete. This inspection shall be at the owner's expense.
9. Timber and Wood Framing:
- A. Quality and construction of wood framing members and their fasteners for load supporting purposes not otherwise indicated on the drawings shall be in accordance with the 2018 International Building Code.
- B. All studs, joists, and top and bottom plates shall be Douglas Fir No. 2 grade visually graded lumber, with an allowable fiber stress in bending of 1000 psi minimum and an elastic modulus of 1,600,000psi unless noted otherwise.
- C. Sill plates shall be bolted to concrete walls or steel beams with 1/2" diameter bolts at 32" on center. Plates in direct contact with concrete shall be treated lumber.
- D. Joist hangers shall have Uniform Building Code approval and shall be equal to Simpson Strong Tie "LUS" for wood application.
- E. Service condition - dry with moisture content at or below 19% in service.
- F. Laminated veneer lumber (LVL) shall have an allowable flexural stress (F<sub>b</sub>) of 2600 psi (reduced by size factor) and an elastic modulus (E) of 2,000,000 psi.

10. Shop Drawing Review:

- A. Bob D. Campbell and Company, Inc. will review the General Contractor's (GC) shop drawings and related submittals (as indicated below) with respect to the ability of the detailed work, when complete, to be a properly functioning integral element of the overall structural system designed by Bob D. Campbell and Company, Inc.
- B. Prior to submittal of a shop drawing or any related material to Bob D. Campbell and Company, Inc., the GC shall:
- 1) Review each submission for conformance with the means, methods, techniques, sequences and operations of construction and safety precautions and programs incidental thereto, all of which are the sole responsibility of the GC.
- 2) Review and approve each submission.
- 3) Stamp each submission as approved.
- C. Bob D. Campbell and Company, Inc. shall assume that no submission comprises a variation unless the GC advises Bob D. Campbell and Company, Inc. with written documentation.
- D. Shop drawings and related material (if any) required are indicated below. Should Bob D. Campbell and Company, Inc. require more than ten (10) working days to perform the review, Bob D. Campbell and Company, Inc. shall so notify the GC.
- E. Bob D. Campbell and Company, Inc. shall review shop drawings and related materials with comments provided that each submission has met the above requirements. Bob D. Campbell and Company, Inc. shall return without comment unrequired material or submissions without GC approval stamp.

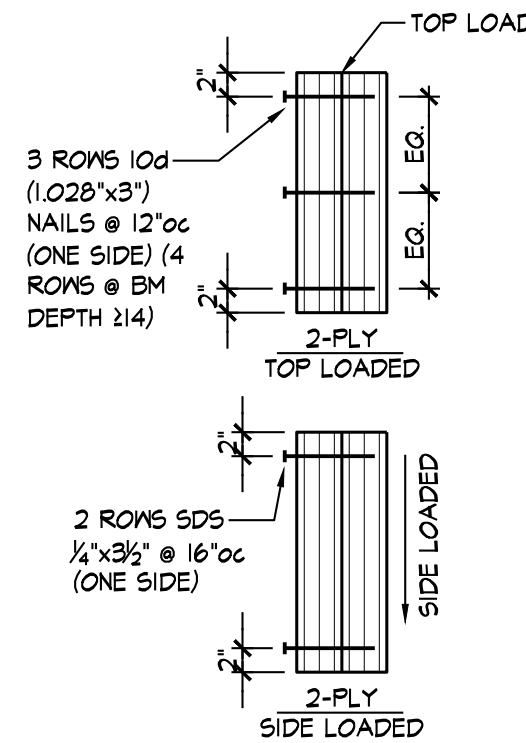
II. Statement of Structural Special Inspection:

- A. The structural design for this project is based on completion of special inspections during construction in accordance with section 1704 of the 2018 International Building Code. The owner shall employ one or more qualified special inspectors to provide the required special inspections.
- B. The following inspections and tests are required with the frequency (continuous or periodic) as defined within the referenced section or standard listed below. The General Contractor shall provide notification to the inspector when items requiring inspection are ready to be inspected and provide access for those inspections.
- 1) Steel Construction per Section 1705.2 and the quality assurance requirements of AISC 341 Chapter J (as referenced by AISC 360)
- 2) Concrete Construction per Section 1705.3 and Table 1705.3
- a. Reinforcing Steel Placement
- b. Post Installed Anchors
- c. Concrete Sampling and Testing
- C. The special inspector shall furnish inspection reports to the building official, owner, architect and structural engineer, and any other designated person.
- D. All discrepancies shall be brought to the immediate attention of the contractor for correction, then, if uncorrected, to the proper design authority, building official and structural engineer.
- E. The special inspector shall submit a final signed report stating that the work requiring special inspection was to the best of the inspector's knowledge, in conformance with the approved plans and specifications and the applicable workmanship provisions of the building code.

12. Copyright and Disclaimer:

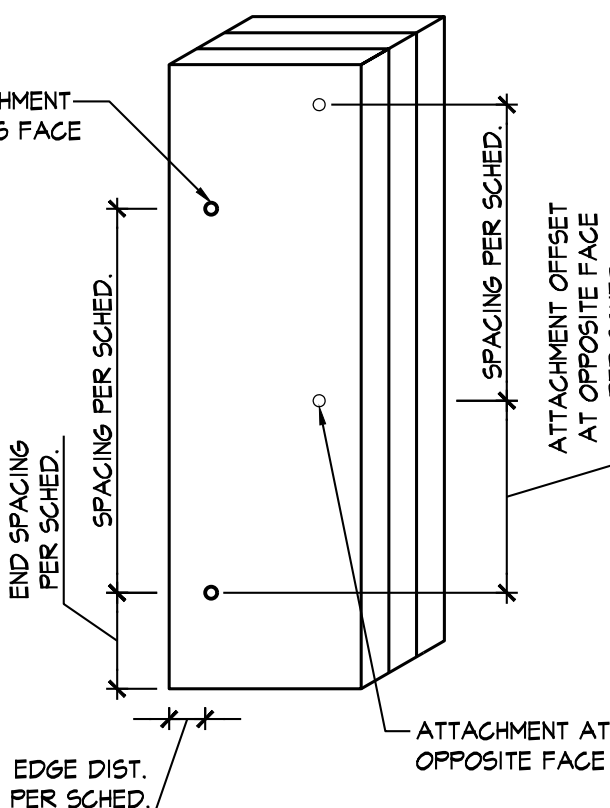
- A. All drawings in the structural set (5-series drawings) are the copyrighted work of Bob D. Campbell and Company, Inc. These drawings may not be photographed, traced, or copies in any manner without the written permission of Bob D. Campbell and Company, Inc. Exception: Original drawings may be printed for distribution to the owner, architect, and general contractor for coordination, bidding, and construction. Subcontractors may not reproduce these drawings for any purpose or in any manner.
- B. I, Michael J. Tolbe, P.E., registered engineer and a representative of Bob D. Campbell and Company, Inc., do hereby accept professional responsibility as required by the professional registration laws of this state for the structural design drawings consisting of 5-series drawings. I hereby disclaim responsibility for all other drawings in the construction document package, they being the responsibility of other design professionals whose seals and signed statements may appear elsewhere in the construction document package.

TYPICAL MULTI-PLY BEAM CONNECTION



3/4" = 1'-0" SLO

TYPICAL MULTI-PLY STUD CONNECTION



1/2" = 1'-0" SLO

HEADER SCHEDULE

MARK	HEADER	JAMB STUDS	NOTES
H1	(2) 2x10 w/ 1/2" PLYWOOD SPACER P	2 JACK / 1 KING	
H2	(2) 1 3/4" x 7/4" LVLs	3 JACK	
H3	(2) 1 3/4" x 9/4" LVLs	3 JACK	

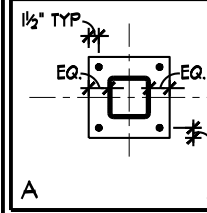
- NOTES:
1. JAMB STUDS SHALL MATCH SIZE & GRADE OF WALL STUDS UNO.
2. WHERE BEAM IS NOTED "U" OR "UPSET", ALL JAMB STUDS NOTED WILL EXTEND TO DOUBLE TOP PLATE.
3. ALL EXTERIOR LUMBER TO BE TREATED.
4. PROVIDE SQUASH BLOCKS AT TRUSSES & BLOCKING FRAMING WHERE JAMBS OR STUD PACKS ARE DISCONT. QUANTITY TO MATCH JAMB OR STUD PACK ABOVE.
5. PROVIDE 1/2" PLYWOOD SPACER PLS AT HEADERS CONSTRUCTED WITH 2x LUMBER.
6. AT CONTRACTOR'S OPTION PROVIDE GLULAM IN LIEU OF PLS.
7. REFER TO DTL 1/51.0 FOR MULTI-PLY MEMBER CONNECTION REQUIREMENTS.
8. ATTACH JAMB AND KING STUDS TOGETHER PER CONNECTION TYPE 24 IN NAILING SCHEDULE ON SHEET S1.0.

COLUMN SCHEDULE

TYPE	SIZE	BASE P	SHAPE	CONNECTION
C1	H563 1/2 x 3 1/2 x 4	1/2" x 4" x 4" (B/BASE P EL. 1" BELOW F.F.)	A	(4) 3/4" x 1" Lg. HILTI KH EZ SCREW ANCHORS

- NOTES:
1. SEE PLAN FOR ORIENTATION OF COLUMNS.
2. ALL ANCHOR BOLTS SHALL BE ASTM F1554, GRADE 36 UNO.
3. SET BASE PLATES ATOP 1" GROUT.

SHAPE (NOT TO SCALE)



SPREAD FOOTING SCHEDULE

MARK	SIZE	REINFORCING
S1.0	3'-0" x 3'-0" x 10" Dp.	(4) #4x2'-6" EACH WAY, BOTTOM

- NOTES:
1. SPREAD FOOTINGS LOCATED AT INTERIOR WITH STEEL COLUMNS BEARING ATOP SHALL BE LOCATED AT 8 1/2" BELOW FINISH FLOOR.

NAILING SCHEDULE (REFER TO NOTES #1 and #2)

CONNECTION	ATTACHMENTS (REF NOTE #3 and #4)
1 JOIST TO SILL OR GIRDER	3- 3" x 0.131" NAILS-TOENAIL 2- 8d NAILS-TOENAIL EACH END
2 BRIDGING TO JOIST	2- 3" x 0.131" NAILS-TOENAIL EACH END 16d BOX NAILS AT 16" o.c. MAX. FACE NAILING
3 SOLE PLATE TO JOIST OR BLOCKING & TRUSS TO TOP P	3" x 0.131" NAILS AT 8" o.c.-TYPICAL 4- 3" x 0.131" NAILS AT 16" o.c.-BRACED WALL PANELS
4 TOP PLATE TO STUD	3- 3" x 0.131" NAILS-END NAIL 2- 16d NAILS-END NAIL
5 STUD TO SOLE PLATE	4- 3" x 0.131" NAILS-TOENAIL OR 3- 3" x 0.131" NAILS-END NAIL
6 DOUBLE STUDS	3" x 0.131" NAILS AT 8" o.c.-FACE NAIL 16d BOX NAILS AT 24" o.c. MAX. FACE NAIL
7 DOUBLED TOP PLATES	3" x 0.131" NAILS AT 12" o.c.-FACE NAIL 16d BOX NAILS AT 16" o.c. MAX. FACE NAIL
8 DOUBLE TOP PLATE LAPS AND INTERSECTIONS	12- 3" x 0.131" NAILS 8- 16d NAILS
9 BLOCKING BETWEEN JOISTS OR RAFTERS TO TOP PLATE	3- 3" x 0.131" NAILS -TOENAIL 3- 8d NAILS-TOENAIL
10 RIM JOIST TO TOP PLATE	3" x 0.131" NAILS AT 6" o.c.-TOENAIL 10d NAILS AT 6" o.c. MAX.-TOENAIL
11 TOP PLATE LAPS AND INTERSECTIONS	3- 3" x 0.131" NAILS-FACE NAIL 2- 16d NAILS-FACE NAIL
12 CONTINUOUS HEADER, TWO PIECES	3" x 0.131" NAILS AT 10" o.c. ALONG EACH EDGE 16d NAILS AT 16" o.c. MAX. ALONG EACH EDGE-TOENAIL
13 CEILING JOISTS TO PLATE	5- 3" x 0.131" NAILS-TOENAIL 3- 8d NAILS-TOENAIL
14 CONTINUOUS HEADER TO STUD	4- 3" x 0.131" NAILS-TOENAIL 4- 8d NAILS-TOENAIL
15 CEILING JOISTS, LAPS OVER PARTITIONS	4- 3" x 0.131" NAILS-FACE NAIL 3- 16d NAILS-FACE NAIL
16 CEILING JOISTS TO PARALLEL RAFTERS	4- 3" x 0.131" NAILS-FACE NAIL 3- 16d NAILS-FACE NAIL
17 RAFTER TO PLATE	3- 3" x 0.131" NAILS-TOENAIL 3- 8d NAILS-TOENAIL
18 1" BRACE TO EACH STUD AND PLATE	2- 3" x 0.131" NAILS-FACE NAIL 2- 8d NAILS-FACE NAIL
19 BUILT-UP CORNER AND MULTIPLE STUDS	3" x 0.131" NAILS AT 16" o.c. 16d NAILS AT 24" o.c. MAX.
20 BUILT-UP GIRDER AND BEAMS	3" x 0.131" NAILS AT 24" o.c. FACE NAILED TOP AND BOTTOM STAGGERED ON OPPOSITE SIDES 3- 3" x 0.131" NAILS AT ENDS AND EACH SPLICE 2- 20d NAILS AT ENDS AND EACH SPLICE
21 BUILT-UP LAMINATED VENEER LUMBER BEAMS	3" x 0.131" NAILS AT 6" o.c. TOP AND BOTTOM ALONG EDGE 16d NAILS AT 12" o.c. TOP AND BOTTOM ALONG EDGE
22 2" PLANKING	4- 3" x 0.131" NAILS AT EACH SUPPORT 16d NAILS AT EACH SUPPORT
23 RIM BOARD TO TRUSS	2 - 3" x 0.131" FACE NAILS (17/18 @ EA TRUSS) 2- 10d NAILS - FACE NAILS (17/18 @ EA TRUSS)
24 BUILT-UP STUD PACK COLUMN	REFER TO DETAIL 6/S1.1 REFER TO DETAIL 6/S1.1

- NOTES:
1. ALL NAILS SHALL BE AS NOTED UNLESS OTHERWISE SPECIFIED ON STRUCTURAL DRAWINGS OR ALTERNATE PROVIDED BY ENGINEER IN WRITING.
2. CONDITIONS NOT SPECIFIED SHALL BE IN ACCORDANCE WITH CURRENT INTERNATIONAL BUILDING CODE.
3. NAILING DESIGNATION:
- 4- 3" x 0.131" NAILS
- DIAMETER IN INCHES
- NAIL LENGTH
- QUANTITY
4. ALL NAILS NOTED AS 8d, 10d, 16d, ETC. SHALL BE COMMON NAILS UNLESS NOTED BOX.
5. REFER TO SHEARNAIL SCHEDULE FOR ADDTL NAILING REQUIREMENTS

TYPICAL SYMBOL LEGEND:

- A - BEAM OR HEADER PER SCHED ON S1.0
- A-U - UPSET BEAM OR HEADER PER SCHED ON S1.0
- B - FOOTING TYPE PER SCHED ON S1.0

BUILT-UP STUD PACK COLUMN ATTACHMENT SCHEDULE

NUMBER OF PLIES	ATTACHMENT AT COLUMN STUD PACKS SUPPORTING BEAMS	ATTACHMENT AT WALL STUD PACKS SUPPORTING TRUSSES
2-PLY MEMBERS	8d NAILS AT 12" o.c. 1" FROM EDGE, W/ OPPOSITE EDGE NAILED FROM OPPOSITE SIDE OFFSET 6", @ 12" o.c. W/ FIRST NAIL 2" FROM EA. END	8d NAILS AT 12" o.c. 1" FROM EDGE, W/ OPPOSITE EDGE NAILED FROM OPPOSITE SIDE OFFSET 6", @ 12" o.c. W/ FIRST NAIL 2" FROM EA. END
3-PLY MEMBERS	20d NAILS AT 16" o.c. 1 1/2" FROM EDGE W/ OPPOSITE EDGE NAILED FROM OPPOSITE SIDE OFFSET 6", @ 16" o.c. W/ FIRST NAIL 3" FROM EA. END	8d NAILS AT 12" o.c. 1" FROM EDGE, W/ OPPOSITE EDGE NAILED FROM OPPOSITE SIDE OFFSET 6", @ 12" o.c. W/ FIRST NAIL 2" FROM EA. END
4-PLY MEMBERS	1/4"x5" SIMPSON SDS SCREWS AT 16" o.c. 1 1/2" FROM EDGE W/ OPPOSITE EDGE SCREWED FROM OPPOSITE SIDE OFFSET 8", @ 16" o.c. W/ FIRST SCREW 4" FROM EA. END	3 PLIES ATTACHED PER 3-PLY ATTACHMENT WITH 4TH 4 5TH PLY ATTACHED AT OPPOSITE SIDES WITH 8d NAILS AT 12" o.c. IN 2 ROWS, 1 1/2" FROM EDGE, OFFSET ROWS 6"
5-PLY MEMBERS	1/4"x6" SIMPSON SDS SCREWS AT 12" o.c. 1 1/2" FROM EDGE W/ OPPOSITE EDGE SCREWED FROM OPPOSITE SIDE OFFSET 6", @ 12" o.c. W/ FIRST SCREW 4" FROM EA. END	3 PLIES ATTACHED PER 3-PLY ATTACHMENT WITH 4TH 4 5TH PLY ATTACHED AT OPPOSITE SIDES WITH 8d NAILS AT 12" o.c. IN 2 ROWS, 1 1/2" FROM EDGE, OFFSET ROWS 6"
6-PLY MEMBERS	1/4"x8" SIMPSON SDS SCREWS AT 12" o.c. 1 1/2" FROM EDGE W/ OPPOSITE EDGE SCREWED FROM OPPOSITE SIDE OFFSET 6", @ 12" o.c. W/ FIRST SCREW 4" FROM EA. END	3-PLIES ATTACHED PER 3-PLY ATTACHMENT WITH 4TH 4 5TH PLY ATTACHED WITH 8d NAILS AT 12" o.c. IN 2 ROWS, 1 1/2" FROM EDGE, OFFSET ROWS 6" AND 5TH AND 6TH PLIES ATTACHED WITH 1/4"x5" SIMPSON SDS SCREWS AT 12" o.c. IN 2 ROWS, 1 1/2" FROM EDGE, OFFSET ROWS 6" o.c. W/ FIRST SCREW 4" FROM EA. END

- NOTES:
1. ALL BUILT-UP STUD PACKS MUST ALIGN FLOOR-TO-FLOOR WITH SOLID BLOCKING (SQUASH BLOCKS) AT FLOOR CAVITIES.
2. EXTEND ALL STUD PACKS TO COLUMNS UNLESS NOTED OTHERWISE.
3. ALL NAILS ARE COMMON NAILS UNLESS NOTED OTHERWISE.

Architects Planners Designers  
730 N. Ninth  
P.O. BOX 28208  
Kansas City, MO 64108  
jgr@jgarchitects.com



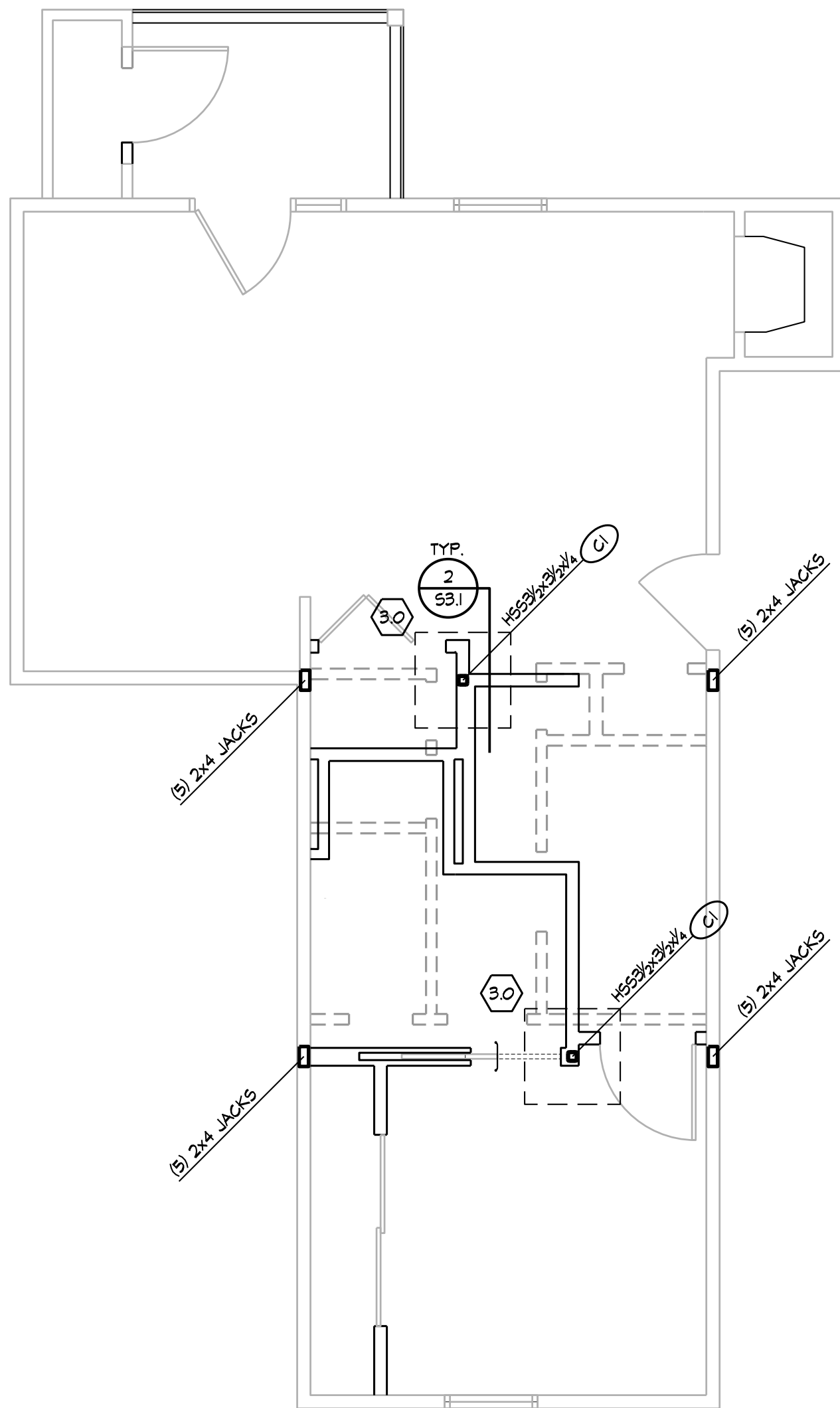
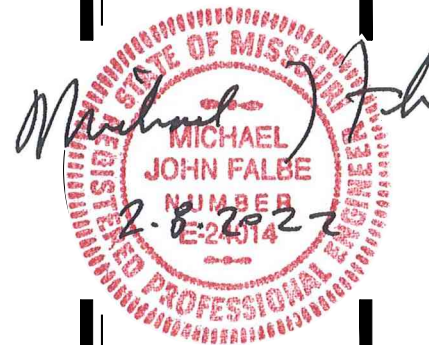
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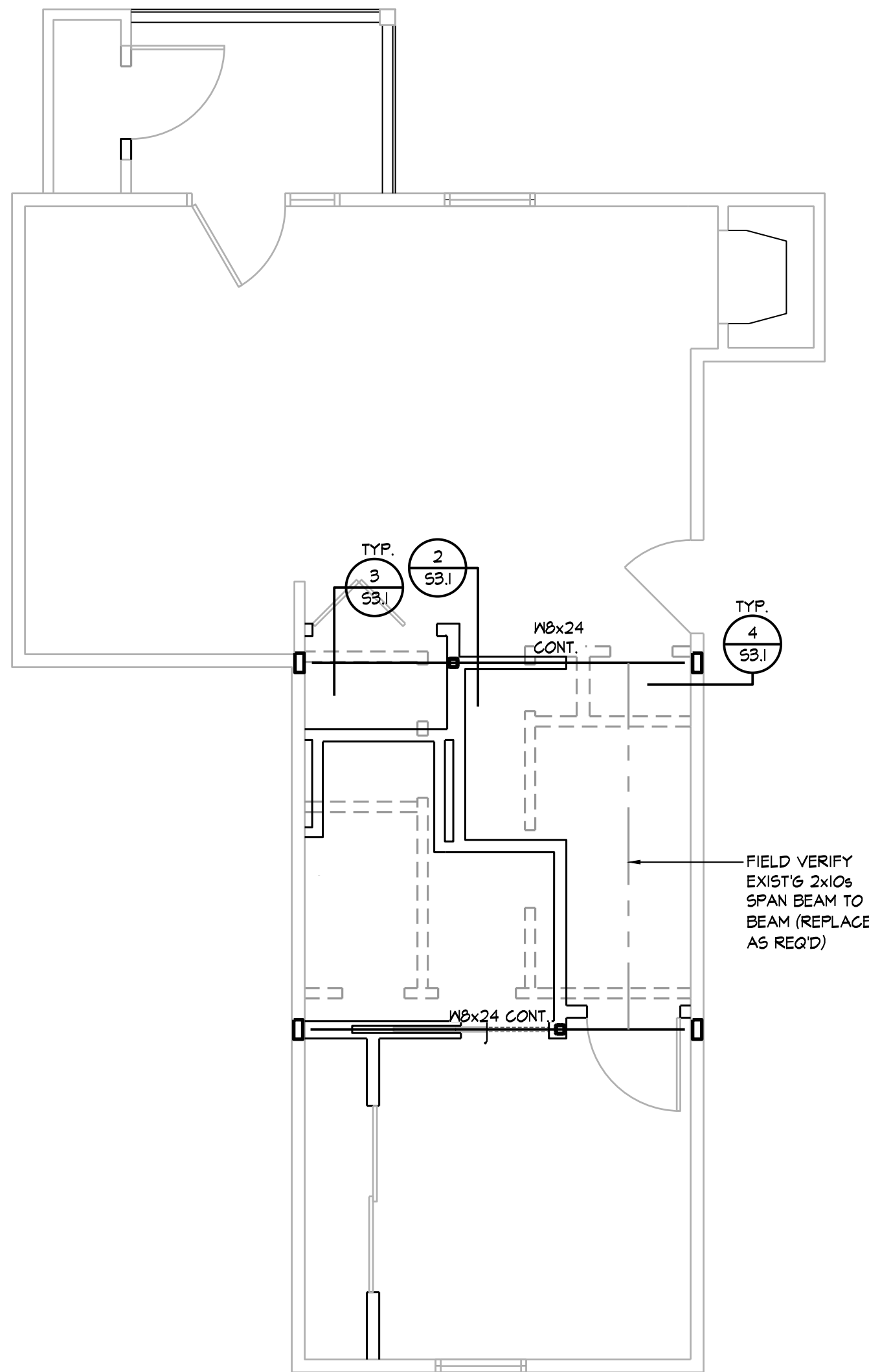


FOUNDATION PLAN - UNIT A

1/4" = 1'-0"

NOTES:

1. REFER TO GENERAL NOTES ON SHEET S1.0
2. REFER TO COLUMN & FOOTING SCHEDULES ON SHEET S1.0
3. REFER TO ARCHITECTURAL DRAWINGS FOR DIMENSIONS NOT SHOWN

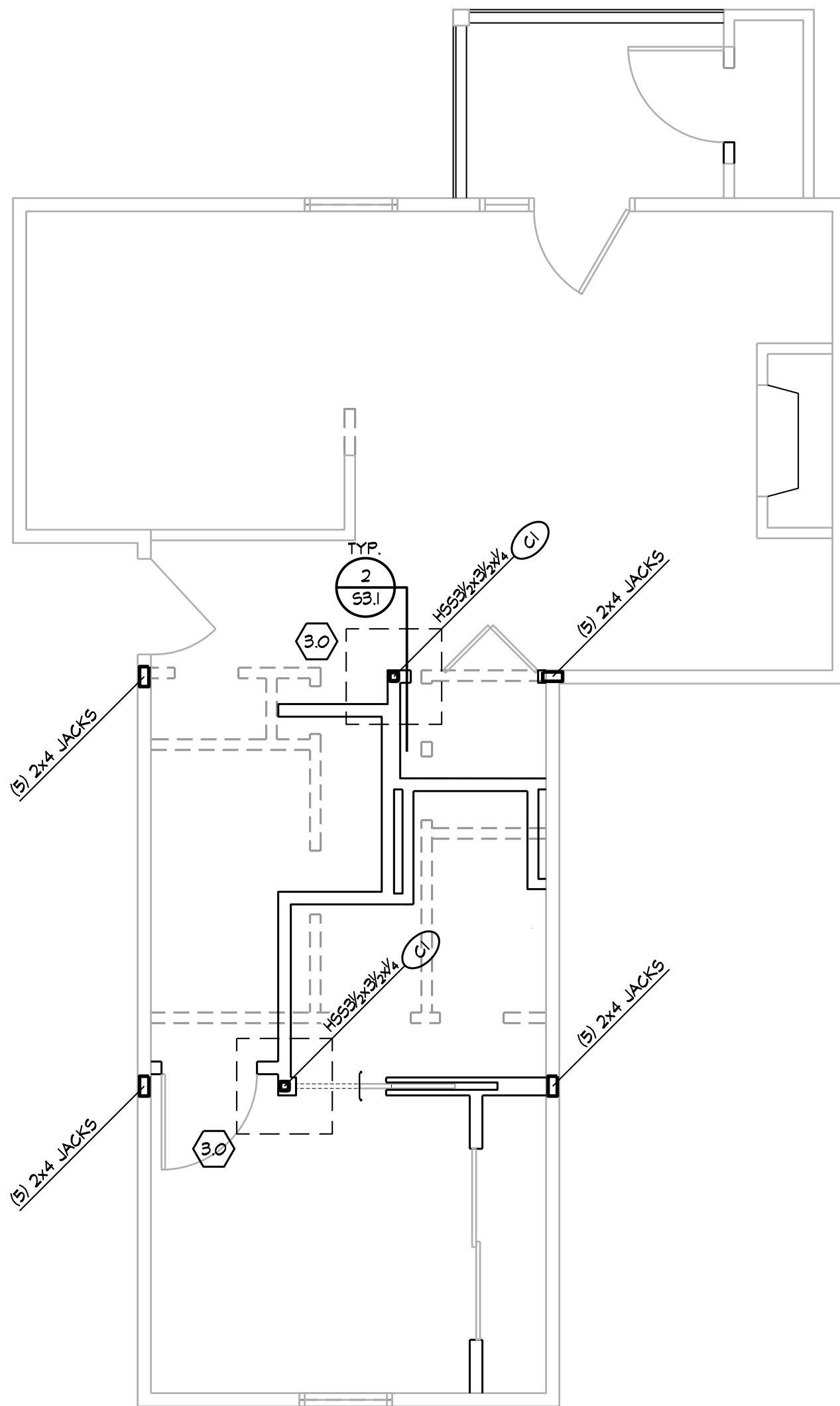


SECOND FLOOR FRAMING PLAN - UNIT A

1/4" = 1'-0"

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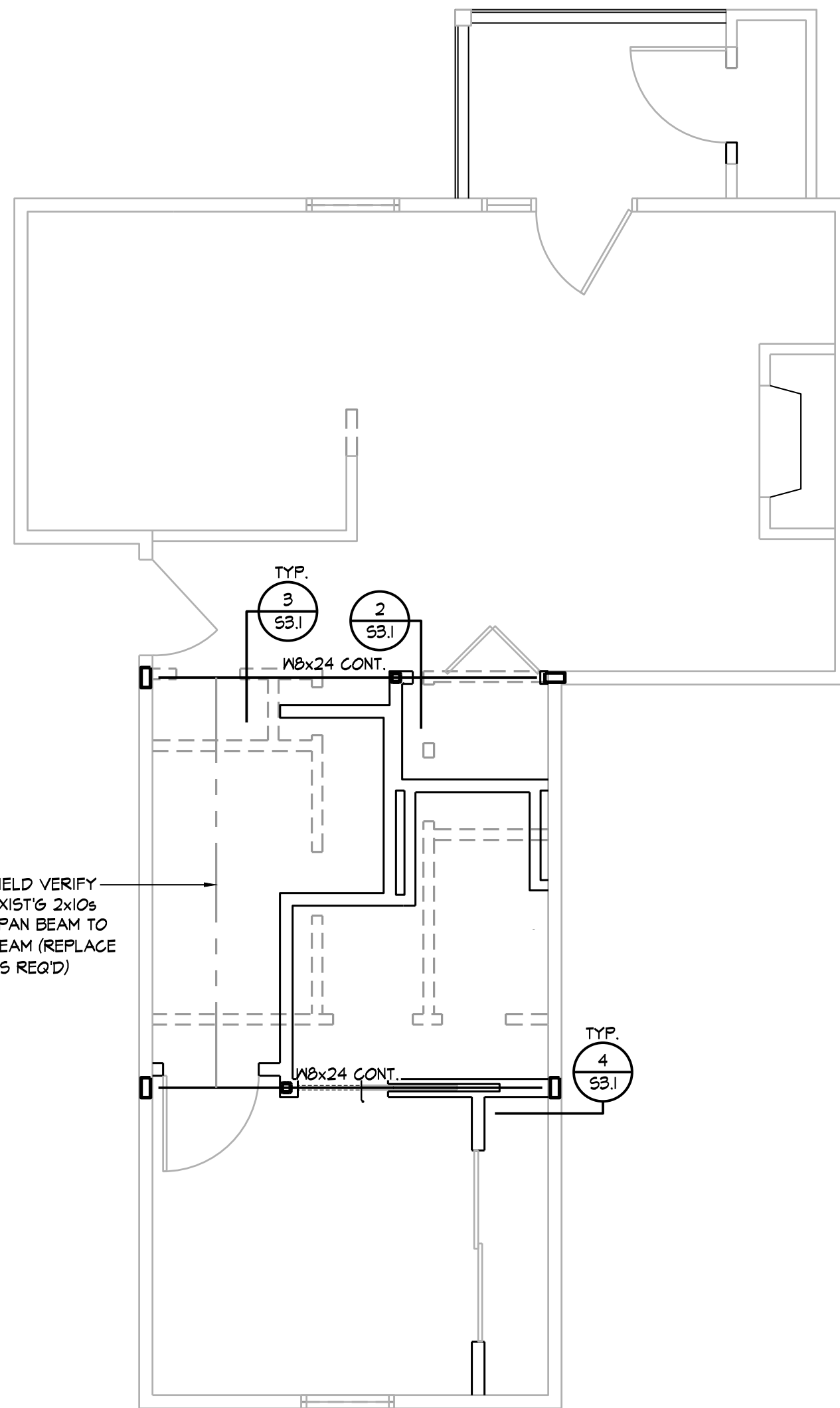


FOUNDATION PLAN - UNIT B

1/4" = 1'-0"

NOTES:

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3. REFER TO ARCHITECTURAL DRAWINGS FOR DIMENSIONS NOT SHOWN



SECOND FLOOR FRAMING PLAN - UNIT B

1/4" = 1'-0"

NOTES:

1. REFER TO GENERAL NOTES ON SHEET S1.0
2. REFER TO ARCHITECTURAL DRAWINGS FOR DIMENSIONS NOT SHOWN



NOTES:

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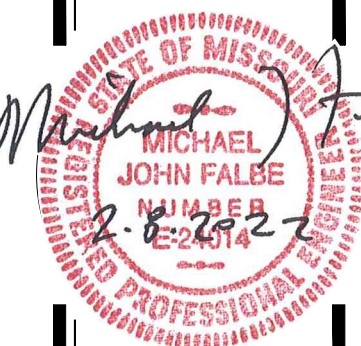
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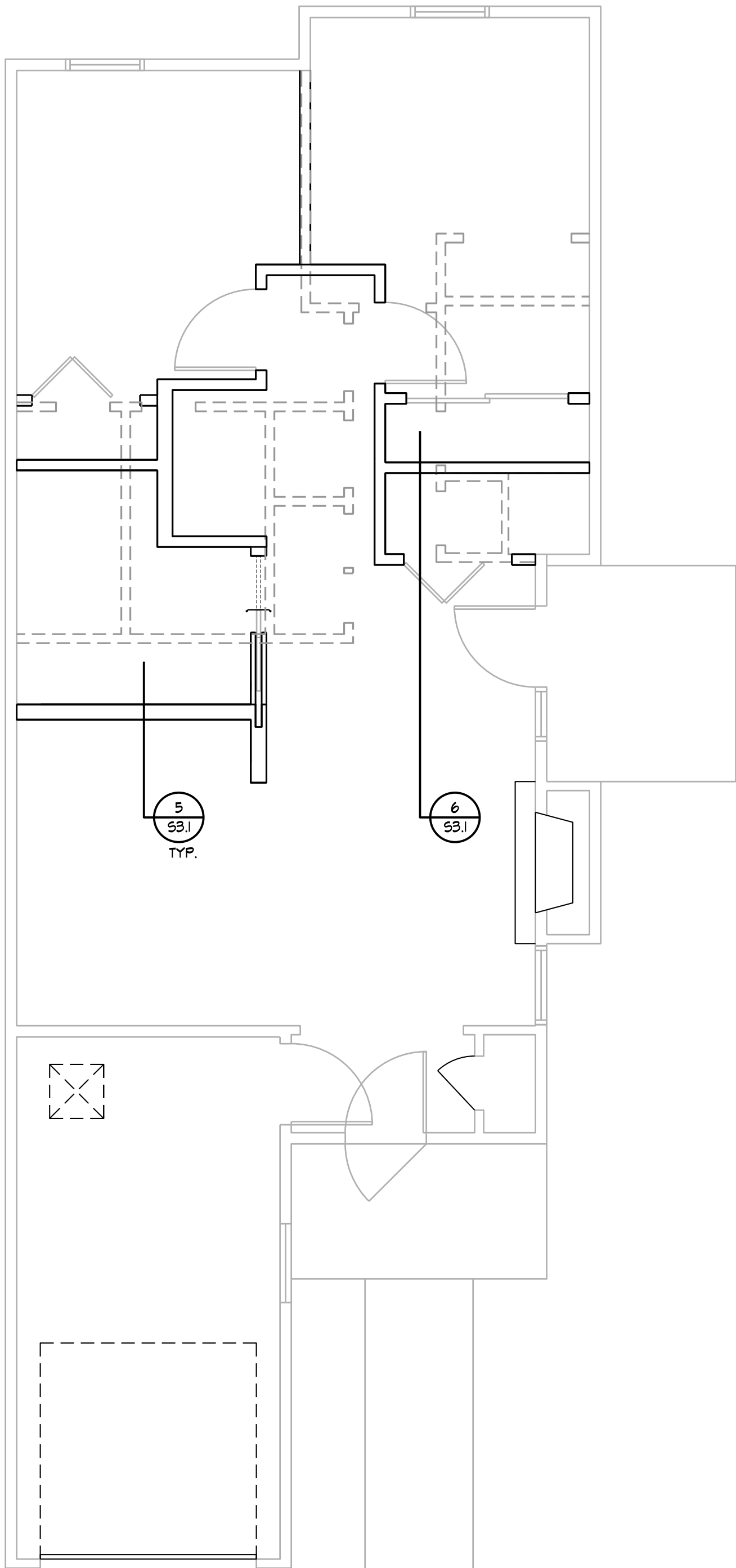


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JOB:	21-3157
SHEET:	

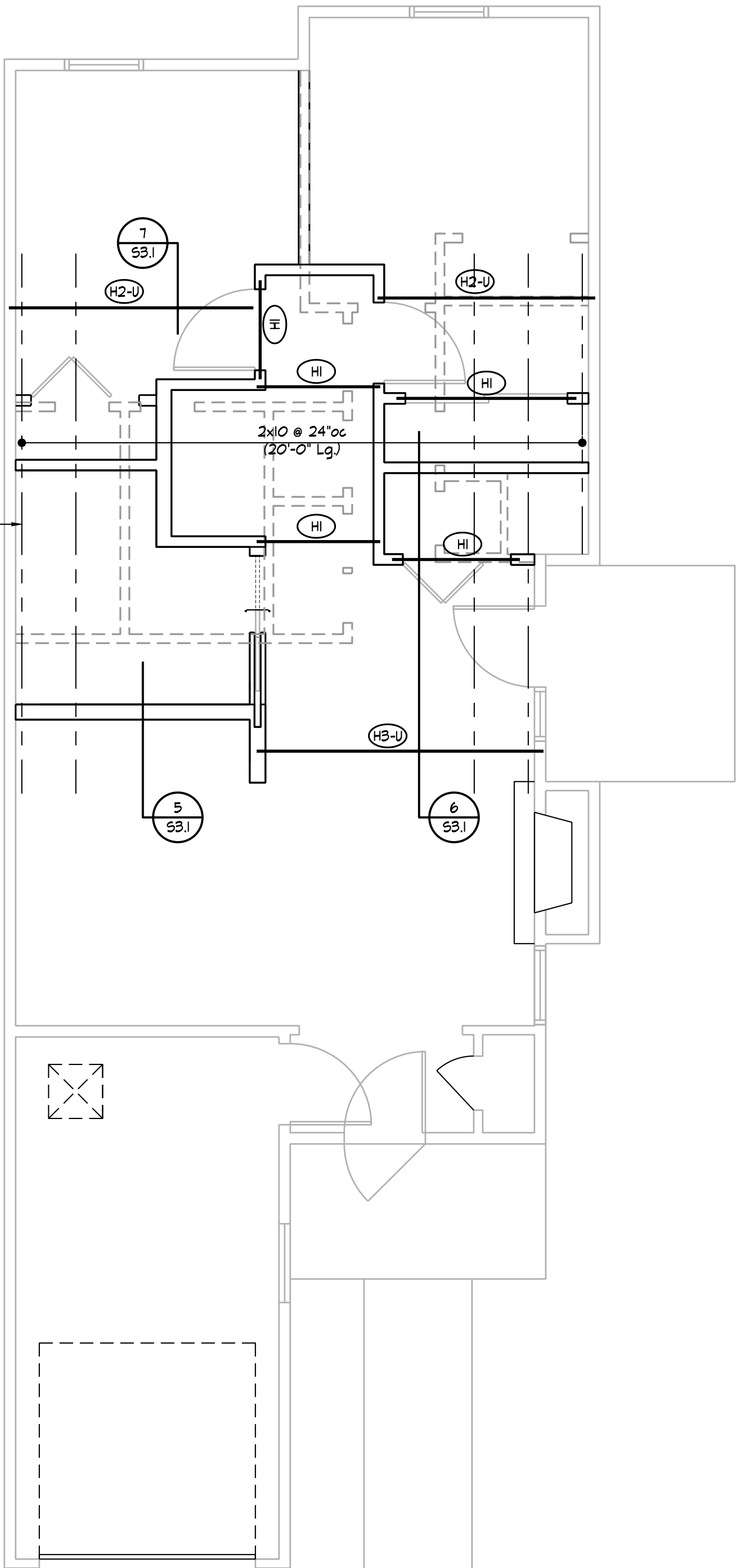


FOUNDATION PLAN - UNIT E

1/4" = 1'-0"

- NOTES:
1. REFER TO GENERAL NOTES ON SHEET S1.0
  2. REFER TO COLUMN & FOOTING SCHEDULES ON SHEET S1.0
  3. REFER TO ARCHITECTURAL DRAWINGS FOR DIMENSIONS NOT SHOWN

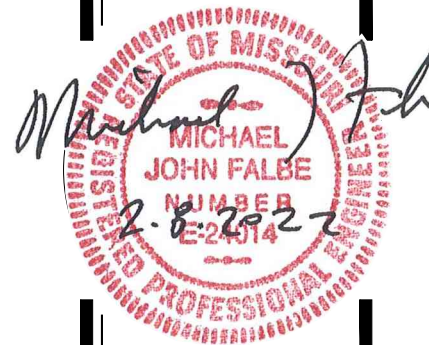
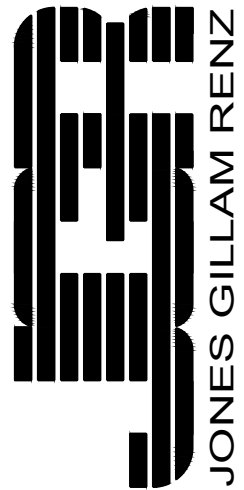
NOTE: ATTACH 2x10s  
TO EXIST'G TRUSS  
BOTTOM CHORDS w/  
1/4"Øx3" Lg. SIMPSON  
SDS SCREENS @ 12'oc



ROOF FRAMING PLAN - UNIT E

1/4" = 1'-0"

- NOTES:
1. REFER TO GENERAL NOTES ON SHEET S1.0
  2. REFER TO HEADER SCHEDULE ON SHEET S1.0
  3. REFER TO ARCHITECTURAL DRAWINGS FOR DIMENSIONS NOT SHOWN







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