GENERAL NOTES - STRUCTURAL

1. 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. The contractor shall coordinate all disciplines, verifying size and location of all openings, whether shown on structural drawings or not, as called for on architectural, mechanical, or electrical drawings. In the case of work in an existing building the contractor shall scan existing structure to locate all rebar in the area of the new core/opening using ground penetrating radar and notify the engineer of record for review prior to coring/cutting. Conflicts, inconsistencies, or other difficulties affecting structural work shall be called to the architect or engineer's attention for direction before proceeding.

3. 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 Lee's Summit, Missouri.

4. These drawings are for this specific project and no other use is authorized.

5. Structural Design Load Criteria:

   A. Floor Live = 50psf + 15psf partition load (Typcial)
      = 100psf (Lobby)
      Floor Dead = 50psf
   B. This project is designed to resist the most critical effects resulting from the load combinations of section 1605.3 of the 2018 International Building Code.

6. Concrete:

   A. All concrete for foundation walls 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. All concrete for interior flat work shall develop minimum ultimate compressive design strength of 4000 psi in 28 days, but not less than 560 pounds of cement shall be used per cubic yard of concrete regardless of strengths obtained, not over 5.5 gallons of water per 100 pounds of cement and not over 4 inches of slump. Concrete mix shop drawing shall contain testing data proving concrete design mix shrinkage is less than 0.034% at 28 days in accordance with ASTM C157 (air drying method only).
   C. The preceding minimum mix requirements may have water-reducing admixtures conforming to ASTM C494 added to the mix at manufacturer's dosage rates for improved workability.
   D. The preceding minimum mix requirements may have up to 15% maximum of the cement content replaced with an approved ASTM C618 Class C fly ash, provided the total minimum cementitious content is not reduced.
   E. Combined aggregate (coarse plus fine) for all concrete shall be well graded from coarsest to finest with no more than 18 percent and not less than 8 percent retained on an individual sieve, except that less than 8 percent may be retained on coarsest sieve and on No. 50 and finer sieves. Submit this gradation report with the concrete mix design shop drawings.
   F. All concrete is reinforced concrete unless specifically called out as unreinforced. Reinforce all concrete not otherwise shown with same steel as in similar sections or areas. Any details not shown shall be detailed per ACI 315 and meet requirements of ACI 318, current editions.
   G. Contractor shall verify that all concrete inserts, reinforcing and embedded items are correctly located and rigidly secured prior to concrete placement.
   H. Construction joints in beams, slabs, and grade beams shall occur at midspan (middle third) unless noted otherwise. Provide 2 x 4 horizontal keys at construction joints for shear transfer.
   I. No aluminum items shall be embedded in any concrete.

7. Reinforcing Steel:

   A. All reinforcing steel shall conform to the requirements of ASTM A615 or A706 grade 60 steel. Welded plain wire fabric shall be supplied in sheets and conform to the requirements of ASTM A185.

   B. Clear coverage of concrete over reinforcing steel shall be as follows:

Concrete placed against earth	3"
Formed concrete against earth	2"
Slabs	1"
Other	2"

   All coverage shall be nominal bar diameter minimum.
   C. All dowels shall be the same size and spacing as adjoining main bars (splice lap 48 bar diameters or 24" minimum unless noted otherwise).
   D. At corners of all walls, beams, and grade beams supply corner bars (minimum 2'-0" in each direction or 48 bar diameters) in outside face of wall, matching size and spacing of horizontal bars. Where there are no vertical bars in outside face of wall, supply 3 - #4 vertical support bars for corner bars.
   E. Bars marked continuous and all vertical steel shall be lapped 48 bar diameters (2'-0" minimum) at splices and embedments, unless shown otherwise. Splice top bars near midspan and splice bottom bars over supports, unless noted otherwise.
   F. At all holes in concrete walls and slabs, add 2 - #5 bars (opening dimension plus 96 diameters long) at each of four sides and add 2 - #5 x 5'-0" diagonally at each of four corners of hole. Openings in 8" thick walls are reinforced similar, but with 1 - #5 instead of 2 - #5, respectively.
   G. 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.

8. 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 contractor shall coordinate an on-site meeting with the post-installed anchor manufacturer field representative to educate the construction team on the anchor installation guidelines and requirements.
   B. Mechanical anchors used in cracked and uncracked concrete shall have been tested and qualified for use in accordance with ACI 355.2 and ICC-ES AC193. All anchors shall be installed per the anchor manufacturer's written instructions.
   C. Adhesive anchors used in cracked and uncracked concrete shall have been tested and qualified for use in accordance with ICC-ES AC308. All anchors shall be installed per the anchor manufacturer's written instructions.
   D. Mechanical anchors used in solid grouted masonry shall have been tested and qualified for use in accordance with ICC-ES AC01. All anchors shall be installed per the anchor manufacturer's written instructions.
   E. Adhesive anchors used in solid grouted masonry shall have been tested and qualified for use in accordance with ICC-ES AC58. All anchors shall be installed per the anchor manufacturer's written instructions.
   F. Anchors used in hollow concrete masonry shall have been tested and qualified in accordance with ICC-ES AC106 or ICC-ES AC58 as appropriate. All anchors shall be installed per the anchor manufacturer's written instructions with appropriate screen tubes used for adhesives.

9. Foundations:

   A. Footings are designed to bear on undisturbed soil capable of safely sustaining 1500 psf.
   B. Contractor shall provide for dewatering at excavations from either surface water or seepage.
   C. Moisture content in soils beneath building locations should not be allowed to change after footing excavations and after grading for slabs on grade are completed. If subgrade materials become desiccated or softened by water or other conditions, recompact materials to the density and water content specified for engineered fill. DO not place concrete on frozen ground.

10. Shop Drawing Review:

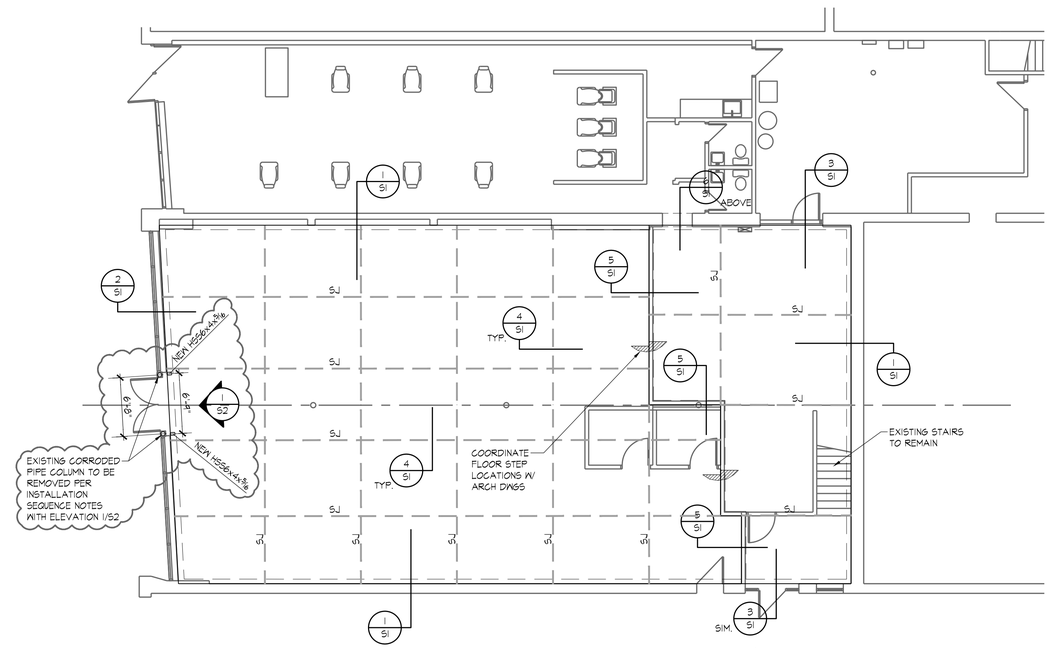
   A. Bob D. Campbell and Company, Inc. will review the General Contractor's (GC) shop drawings and related submittals (as indicated below) with respect to the ability of the detailed work, when complete, to be a properly functioning integral element of the overall structural system designed by Bob D. Campbell 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.
      1) Concrete mix designs and material certificates including admixtures and compounds applied to the concrete after placement.
      2) Reinforcing steel shop drawings including erection drawings and bending details. Bar list will not be reviewed for correct quantities.
      3) Miscellaneous anchors shown on the structural drawings.
   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.

11. 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. Special inspections shall be required for the items indicated 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) Placement of Concrete
      2) Testing of Concrete
      3) Bolts in Concrete
      5) Placement of Reinforcing Steel
      6) Post-Installed Anchors
   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:

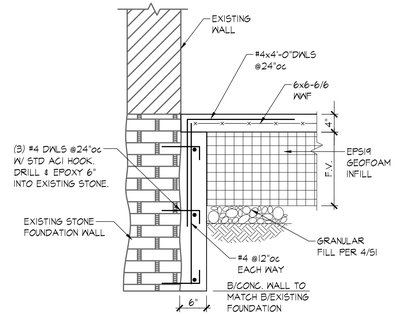
   A. All drawings in the structural set (S-series drawings) are the copyrighted work of Bob D. Campbell and company, Inc. These drawings may not be photographed, traced, or copies in any manner without the written permission of Bob D. Campbell and Company, Inc. Exception: Original drawings may be printed 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, Richard C. Crabtree, 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 S-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.



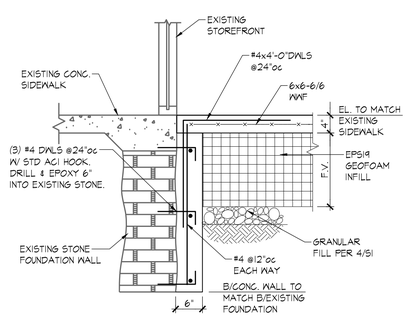
FLOOR FRAMING PLAN

1/8" = 1'-0"

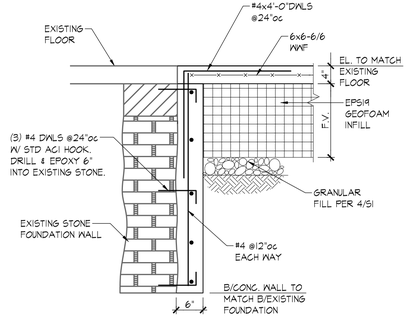
NOTES:
1. REFER TO GENERAL NOTES ON THIS SHEET.



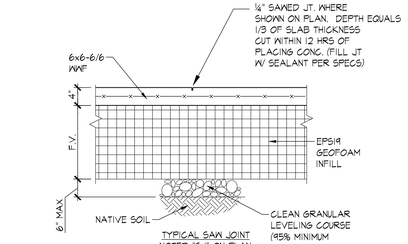
SECTION 1/S1 — 3/4" = 1'-0"



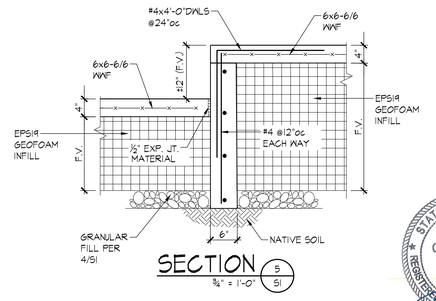
SECTION 2/S1 — 3/4" = 1'-0"



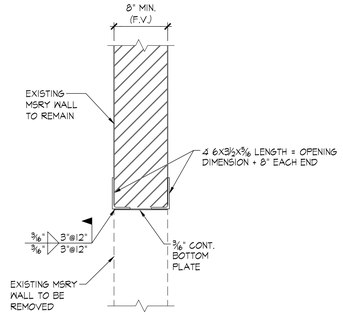
SECTION 3/S1 — 3/4" = 1'-0"



SECTION 4/S1 — 3/4" = 1'-0"



SECTION 5/S1 — 3/4" = 1'-0"



LINTEL INSTALLATION SEQUENCE

1. SCORE BED JOINT AT TOP OF NEW OPENING, EXTEND 8" PAST JAMB OF NEW OPENING EACH END. DO NOT OVER-CUT JOINTS.
2. INSERT HORIZONTAL LEG OF 6X3½ ANGLE INTO SCORED BED JOINT.
3. REPEAT STEPS 1 & 2 FOR OPPOSITE SIDE OF WALL. REMOVE EXISTING WALL TO CREATE NEW OPENING.
4. WELD 3/8" PLATE TO BOTTOM OF 6X4 ANGLES.

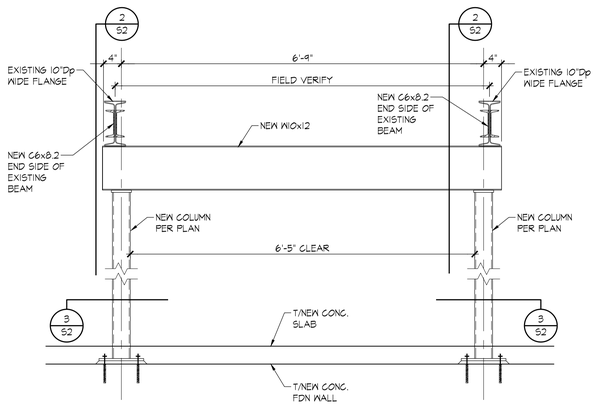
NOTE: MAX OPENING WIDTH = 5'-0"

SECTION 6/S1 — 3/4" = 1'-0"

STATE OF MISSOURI — RICHARD C. CRABTREE NUMBER E-027441 — REGISTERED PROFESSIONAL ENGINEER — 8/26/20

BOB D. CAMPBELL & CO.
Structural Engineers Since 1957
4338 Belleview Ave. 816.531.4144
Kansas City, MO 64111 www.bdc-engrs.com

One, LLC.	
725 NW Eagle Ridge Circle	
Lee's Summit, Missouri 64081	
SCALE: AS NOTED	DRAWN BY: SJB
DATE: 8/26/20	CHECKED BY: RCC
PROJECT: New Floor Framing	
32 SE 3rd Street	
Lee's Summit, Missouri 64063	
BOB D. CAMPBELL & CO., INC.	DRAWING NUMBER
4338 Belleview	S1
Kansas City, Missouri 64111 (816) 531-4144	

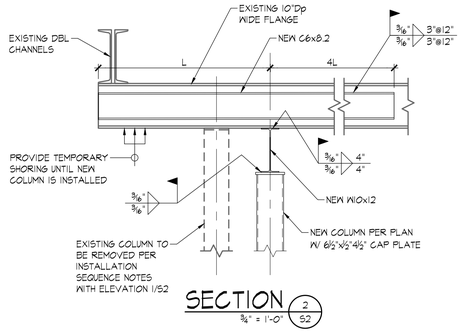


INSTALLATION SEQUENCE

1. INSTALL TEMPORARY SHORING AT THE END OF EXISTING BEAMS.
2. INSTALL EPOXY ANCHORS FOR NEW COLUMNS.
3. INSTALL NEW BEAM AND COLUMNS.
4. INSTALL BEAM REINFORCING CHANNELS.
5. REMOVE EXISTING COLUMNS.
6. REMOVE SHORING.

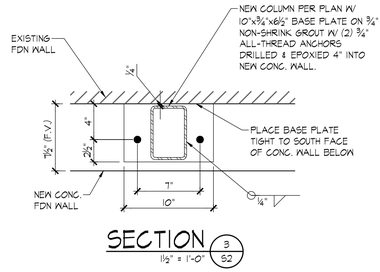
ELEVATION 1/52

3/4" = 1'-0"



SECTION 2/52

3/4" = 1'-0"



SECTION 3/52

1½" = 1'-0"

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RICHARD
C. CRABTREE
NUMBER
E-027441
REGISTERED PROFESSIONAL ENGINEER

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Lee's Summit, Missouri 64063

BOB D. CAMPBELL & CO., INC.
4338 Belleview
Kansas City, Missouri 64111 (816) 531-4144

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