GENERAL NOTES:

1. The notes on the drawings are not intended to replace specifications. in addition to general notes. See specifications for requirements
2. Structural drawings shall be used in conjunction with job specifications and architectural, mechanical, electrical, plumbing, and site drawings. Consult, openings, chases, inserts, reglets, sleeves, depressions, and other details not shown on structural drawings.
3. All dimensions and conditions must be verified in the field. Any discrepancies shall be brought to the attention of the engineer before proceeding with the affected part of the work.
4. Do not scale plans.
5. Sections and details shown on any structural drawings shall be considered typical for similar conditions.
6. All propietary products shall be installed in accordance with the manufacturers written instructions.
7. The structure is designed to be self supporting and stable after the erection is complete. It is the contractor's sole responsibility to determine erection procedures and sequencing to ensure the safety of the building and its components during erection. This includes the addition of necessary shoring, sheeting temporary bracing, guys or tiedowns. Such material shall remain the property of the contractor after completion of the project.
8. All applicable federal, state, and municipal regulations shall be followed, including the federal department of labor occupational safety and health act.

DESIGN LOADS:

1. Building code: IRC (2009) International Residential Building Code.
2. Design Live Loads: (Ground Snow load = 50 psf)
   Roof ..... 40 psf + drift as applicable
   Living areas ..... 40 psf
3. Design wind loads are based on exposure C using 100 mph basic wind speed.
4. Seismic Design Utilizes a Bearing wall system: Light frame walls with shear panels – wood structure panels/sheet steel panels. Analysis Procedure shall be equivalent Lateral Force Procedure per IRC 2009.

FOUNDATION NOTES:

1. Foundations have been designed with a presumptive soil bearing capacity of 2000 psf to be verified by the general contractor in the field. If the allowable soil bearing capacity is less than 2000 psf, the excessive soil bearing pressure could result with foundation settlement and movement of the building structure. L&L Structural Engineering shall not be responsible and held harmless for damages resulting from foundation settlement and movement of the structure resulting from inadequate soil bearing capacity.
2. Interior spread footings and exterior strip footings shall be founded on undisturbed native soil or compacted structural fill.
3. Exterior strip and spread footings shall be founded a minimum of 4'–0" below finished site grade.
4. Slabs on grade shall bear on a minimum of 12" of compacted structural fill or compacted ⅜" crushed stone. If loose or undesirable fills are encountered at the slab subgrade level, they shall be over excavated to the surface of the natural soil and replaced with structural fill. Refer to drawings and specifications for vapor barrier requirements. Moist cure slabs in accordance with ACI.
5. Structural fill shall be used at all locations below footings and slabs and adjacent to the foundation walls. Prior to placement of structural fill, remove all topsoil and other unsuitable material. Compacted structural fill shall consist of clean granular material free of organics, loam, trash, snow, ice, frozen soil or any other objectionable material. It shall be well graded within the following limits:

SCREEN OR SIEVE SIZE	PERCENT FINER BY WEIGHT
6 INCH	100
3 INCH	70–100
NO. 4	35–70
NO. 40	5–35
NO. 200	0–5

6. Structural fill (or ⅜" crushed stone) beneath slabs shall be placed in layers not exceeding 6 inches in loose measure and compacted by self–propelled compaction equipment at approximate optimum moisture content to a dry density of at least 95% of the maximum in place dry density as determined by the modified proctor test (ASTM D–1557). For structural fill or 100% of the rodded unit weight as determined by ASTM C–29 for ⅜" crushed stone.
7. Underdrains shall be installed to positively drain to a suitable discharge point away from the structure.
8. Exterior concrete slabs on grade, shall be underlain by at least 4 feet of structural fill meeting gradation and compaction requirements noted above. Reinforce slabs with #4 at 12" each way at center of slab.
9. Backfill both sides of foundation walls simultaniously.
10. Do not backfill basement walls until the first floor structure and basement slab have been completely installed.

CONCRETE NOTES:

1. All concrete work shall conform to ACI 318–Latest Edition.
2. Concrete strength at 28 days shall be:
   a) 4000 psi for basement walls.
   b) 3000 psi for footings, frost walls & piers.
   c) 4000 psi for all slabs on grade.
3. All concrete shall be air entrained 4% to 6% per the specifications.
4. Concrete shall not be placed in water or on frozen ground.
5. Concrete materials:
   A. Portland Cement: ASTM C 150, Type I or Type II unless otherwise acceptable to Architect. Use one brand of cement throughout project, unless otherwise acceptable to Architect.
   B. Normal Weight Aggregates: ASTM C 33. Provide from a single source for exposed concrete. Do not use aggregates containing soluble salts or other substances such as iron sulfides, pyrite, marcasite, or ochre which can cause stains on exposed concrete surfaces.
   C. Light Weight Aggregates: ASTM C 330.
   D. Water: Potable.
   E. Air–Entraining Admixture: ASTM C 260.
   F. High–Range Water–Reducing Admixture (Super Plasticizer): ASTM C 494, Type F or Type G containing not more than 1% chloride ions.
      1. Fiber reinforcement shall be added and distributed prior to incorporation of Super Plasticizer.
   G. Normal range water reducing admixture: ASTM C 494 Type A containing no calcium chloride.
   H. Accelerating Admixture: ASTM C 494 Type C or E.
   I. Calcium Chloride not permited.
6. Provide PVC sleeves where pipes pass through concrete walls or slabs.
7. Reinforcing bars shall conform to ASTM A615 Grade 60 deformed bars, and shall be detailed, fabricated and erected in accordance with ACI 315–Latest edition.
8. Welded wire fabric shall be provided in flat sheets.
9. Fiber reinforced concrete shall conform to ASTM C–1116.
10. Complete shop drawings and schedules of all reinforcing steel shall be prepared by the contractor and submitted to the engineer for review prior to commencement of that portion of the work. All accessories must be shown on the shop drawings. Submit (2) black line prints to the Engineer/Architect.
11. Splices of reinforcing bars shall be in accordance with ACI 318. Splices of WWF shall be 6" minimum.
12. Concrete finishes:
    • Slabs: Steel trowel and light broom (non–slip)
    • Walls: Grout cleaned
13. Anchor bolts shall conform to ASTM A307 or A36 hot dipped galvanized unless noted otherwise on plan.
14. Provide control/construction joints in foundation walls at a maximum spacing of 15 ft. from any corner or 30 ft. along length of wall. At control joints, discontinue every other horizontal bar. At construction joints all reinforcing shall be continuous through the joint.
15. The general contractor shall be responsible for coordination of door bondout locations, slab depression & other required bondouts. Coordinate location of bondouts with Architectural, Mechanical & Plumbing, Electrical and kitchen equipment vendors as necessary to properly install each specific item.
16. Provide ¼" wide x 1" deep control joints in slabs at 15'X15' intervals (225 SF max) as shown on drawings. Clean joint free of dust and debris; fill with elastomeric caulk compatible with concrete.

STRUCTURAL STEEL NOTES:

1. Structural steel fabrication, erection, and connection design shall conform to AISC "Specification for the design, fabrication, and erection of structural steel"–Ninth edition.
2. Structural steel:
   a) Structural steel shall conform to ASTM A–36.
   b) Structural tubing shall conform to ASTM A–500 GR–B
   c) Structural pipe shall conform to ASTM A–53, TYPE E OR S
3. The fabricator shall design connections for the reactions shown on the drawings or the maximum end reaction that can be produced by a laterally supported uniformly loaded beam for each given beam size and span.
4. Field connections shall be bolted using 3/4" diameter ASTM A325 high strength bolts except where field welding is indicated on the drawings.
5. All welding shall conform to AWS D1.1–Latest edition. Welding electrodes shall be E70XX.
6. Structural Steel Primer Paint. TNEMEC 10–99 Alkyd rust inhibitive primer, 2.0 to 3.5 mils dry thickness, or approved alternate.
7. Structural Steel Top Coat for steel permanently exposed to view. TNEMEC series 2 TNEMEC–GLOSS Enamel, 3.0 to 5.0 mils dry thickness, or approved alternate.
8. Complete shop drawings and schedules of all structural steel shall be prepared by the contractor and submitted to the engineer for review prior to commencement of that portion of the work. All accessories must be shown on the shop drawings. Submit (2) black line prints to the Engineer/Architect.

TIMBER FRAMING:

1. All Timber framing shall be in accordance with the AITC timber construction manual or the national design specification (NDS) – latest edition
2. Individual timber framing members shall be visually graded, minimum grade #2 Spruce–Pine–Fir (SPF), kiln dried to 19% maximum moisture content.
3. Timber shall be southern yellow pine treated with ACQ water borne preservative in accordance with AWPA treatment C1 with 0.40 PCF retainage for items in contact with roofing, masonry or concrete with 0.60 PCF retainage for items in contact with earth.
4. Metal connectors shall be used at all timber to timber connections or as noted on the design drawings. All metal connectors in contact with pressure treated timber shall be hot–dippped galvanized.
5. Provide Simpson H2.5A hurricane anchors where timber framing and/or trusses bear on bearing walls and structural beams.
6. Nails and screws not specified shall conform with IBC 2009. All nails and screws in contact with pressure treated timber shall be stainless steel.
7. Provide ½" thick APA rated exterior wall sheathing fastened w/ 10d nails @ 4" o.c. at panel edges and 6" o.c. intermediate. Lap sheathing 1'–0" minimum over existing structure (Where applicable).
8. Provide ⅝" thick APA rated roof sheathing fastened w/ 10d nails @ 6" o.c. at panel edges and intermediate.
9. Provide ¾" thick APA rated floor sheathing fastened w/ construction adhesive and 10d ring shank nails @ 6" o.c. at panel edges and intermediate.
10. LVL indicated laminated veneer lumber beams manufactured by Boise Cascade or approved equal.

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STATE OF MAINE
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rev.	date	description	appr'd
A	05/04/17	FOR DISCUSSION & COORD.	JHL
B	08/18/17	FOR PERMIT & PRICING	JHL

designed by: JHL
drawn by: JH
checked by: JHL
scale: AS NOTED
date: 07/06/2017
plot date: 08/18/2017
project #: 2017–030C

BUILDING LOCATED AT
77 CONGRESS STREET (REAR)
PORTLAND, MAINE

STRUCTURAL RENOVATIONS
GENERAL NOTES

S0.1