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: IBC (2009) International Building Code.
2. Design Live Loads: (Ground Snow load = 50 psf)
   Roof ..... 45 psf + drift as applicable
3. Design wind loads are based on exposure C using 100 mph basic wind speed.
4. Seismic Design Utilizes Analysis Procedure shall be equivelant Lateral Force Proceedure per IBC 2009.

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.
   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 stainless steel.
5. Provide Simpson H2.5A hurricane anchors where timber framing bear on bearing wall 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 indicates laminated veneer lumber beams manufactured by Boise Cascade or approved equal.

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 placed as shown on the site drawings. Underdrains shall be installed to positively drain to a suitable discharge point away from the structure. Refer to site drawings for additional information.
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.

CONCRETE NOTES:

1. All concrete work shall conform to ACI 318–Latest Edition.
2. Concrete strength at 28 days shall be:
   a) 3000 psi for footings, frost walls & piers.
   b) 4000 psi for all slabs on grade.
2. All concrete shall be air entrained 4% to 6% per the specifications.
3. Concrete shall not be placed in water or on frozen ground.
4. 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.
5. Provide PVC sleeves where pipes pass through concrete walls or slabs.
6. 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.
7. Welded wire fabric shall be provided in flat sheets.
8. Fiber reinforced concrete shall conform to ASTM C–1116.
9. 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.
10. Splices of reinforcing bars shall be in accordance with ACI 318. Splices of WWF shall be 6" minimum.
11. Concrete finishes:
    • Slabs: Steel trowel and light broom (non–slip)
    • Walls: Grout cleaned
12. Anchor bolts shall conform to ASTM A36 hot dipped galvanized unless noted otherwise on plan.
13. 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.
14. 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.
15. Provide ½" 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.

LIGHT GAGE METAL FRAMING:

1. Acceptable light gage Manufacturer: Dietrich or Marino
2. The extent of the work for the exterior metal stud wall system is detailed on the Architectural drawings. These notes shall be worked in conjunction with those drawings and the specifications.
3. The following specifications and publications shall be followed.
   a) American iron and steel institute cold form design manual, specification for the design of cold form steel structural members – latest edition.
   b) American society for testing and materials (ASTM).
   c) American institute of steel construction Manual of Steel Construction – Latest Edition.
4. Fabrication of light gage steel shall conform with requirements of ASTM A446 with the following minimum yield points (Fy):
   a) 16 gage. and heavier – Fy = 50,000 psi (Grade D)
   b) 18 gage. – Fy = 33,000 Psi (Grade A)
   c) 20 gage. – Fy = 33,000 PSI (Grade A)
5. Manufacturer of studs, runners, tracks and other framing members shall comply with ASTM C955.
6. Framing components and accessories shall be galvanized per ASTM A525 minimum G60 coating.
7. Screws and other attachment devices shall have a protective coating equivalent to cadmium or zinc plating and shall comply with ASTM A165 Type NS. self tapping screws shall be of the minimum diameter as indicated on the design drawings for each specific attachment detail. Penetration through joined materials shall not be less than three exposed threads.
8. Standard steel shapes, plates, etc. shall conform to the material and finish specifications under Structural Steel Notes.
9. Provide channel shaped studs, joists, runners, tracks, blocking, clip angles, shoes, reinforcements, fasteners and other accessories recommended by the manufacturer for a complete framing system.
10. The wall system shall be designed for a maximum allowable deflection, either horizontal or vertical, of 1/360 of the span in inches measured from point of attachment to structural steel or concrete including affect of studs only, not sheathing board or facing material. Refer to notes for interior partition design criteria.
11. The design internal pressure shall be 7 psf.
12. The lightguage stud framing subcontractor shall submit shop drawings and design calculations as specified in the previous mentioned specifications and publications. The shop drawings and design calculations shall be prepared and sealed by an engineer licensed to practice in the State of Maine. These drawings shall illustrate the design of the steel stud exterior wall framing and sheathing including steel lintels and all necessary structural steel stiffening and bracing.
13. Securely anchor studs in track to floor construction and overhead structure. Provide slip joints where nonbearing vertical studs meet floor or roof structural members allow for 1/2" of vertical live load deflection at slip joints. Do not install steel studs until all dead load has been applied to the structure.
14. Frame all openings larger than two feet with a minimum of double studs or as determined by the design submitted.
15. Welding of framing components will be permitted only where indicated on structural drawings or as approved by the Engineer of Record.
16. Field cutting of holes in steel framing members shall not be permitted.
17. Touch up all steel bared by welding with zinc rich paint.
18. Splices of axially loaded members shall not be permitted.
19. Wire tying of members is not permitted.
20. Complete bearing on supports shall be maintained for studs in axially loaded assemblies.

PRELIMINARY
NOT FOR CONSTRUCTION

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L & L STRUCTURAL
ENGINEERING SERVICES, INC.
SIX Q STREET
SOUTH PORTLAND, MAINE 04106
PHONE: (207) 767–4830
FAX: (207) 799–5432

STATE OF MAINE
JOSEPH H. LEASURE
No. 6242
LICENSED
PROFESSIONAL ENGINEER

Reviewed for Code Compliance
Inspection Division
Portland, Maine
Date: 05/02/17

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BUILDING RENOVATIONS
GENERAL NOTE

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