

GENERAL NOTES

SECTION 1 - GENERAL INFORMATION AND DESIGN CRITERIA

SECTION 1.1 - DOCUMENTS

1.1.1 Structural Drawings are not stand-alone documents. They are augmented by technical specifications and must be coordinated with Architectural, Civil and Mechanical/Electrical/Plumbing/HVAC documents.

1.1.2 General Notes and Typical Details apply generally throughout the project wherever conditions similar to those depicted exist and are not necessarily referenced specifically in the documents.

1.1.3 Structural documents are protected by U.S.A. Copyright Laws, and shall not be used for any purpose other than construction of the building described in the Architectural documents and at the geographic location shown. The structural design described in these documents is not valid for any other purpose, use or location.

COORDINATION

1.1.4 Contractor is responsible for coordinating Structural Documents with other trades and disciplines including; architectural, civil, mechanical, electrical, HVAC and fire protection. Some requirements are not known prior to issue and may change as layout and fabrication drawings are developed. Promptly report deviations and interferences with structural components for resolution by the Engineer.

1.1.5 Contractor shall verify dimensional location and depth of slab recesses and offsets with Architectural Drawings.

1.1.6 Contractor shall verify weights, location and details of structurally supported mechanical equipment prior to construction of the supporting structure. Report deviations from assumed conditions to the Engineer prior to fabricating materials.

1.1.7 Contractor shall verify the location, size and detail of roof openings and curbs for mechanical equipment prior to fabricating materials. Report deviations from assumed conditions to the Engineer before proceeding with work.

1.1.8 Contractor shall verify location and size of floor and roof penetrations and sleeves for mechanical and electrical components. Openings in beams, girders, columns and slabs are subject to prior approval of the Engineer.

1.1.9 Contractor shall verify dimensions, details, plumbness and squareness of existing structures meeting or tying into new construction.

1.1.10 Do not scale plans, details and sections for quantity, length or fit of materials.

REFERENCE ELEVATIONS

1.1.11 Heights of floor and roof decks and various framing components are given on the drawings relative to a reference elevation of 100'-0" (top of concrete at existing first floor).

TEMPORARY BRACING

1.1.12 Structural systems are designed for in-place conditions only. Contractor shall provide temporary bracing of structural components (including but not limited to beams, purlins, joists, columns, trusses, tees, double tees, walls, wall panels, basement walls and structural frame) for conditions that will exist during construction and to meet all regulatory requirements for safety of workmen.

1.1.13 Temporary frame bracing shall remain until installation of permanent structural bracing elements, member connections and floor or roof diaphragms are complete.

SECTION 1.2 - CODES AND STANDARDS

1.2.1 Building Code of jurisdiction : Maine Uniform Building Code (2009 International Building Code (IBC) by adoption)

1.2.2 Structural Concrete Code - American Concrete Institute (ACI) 318

1.2.3 Structural Steel Code - American Institute of Steel Construction (AISC) 360

SPECIAL INSPECTIONS

1.2.4 See sheet S-002 for the list of material and construction inspection requirements.

1.2.5 See Technical Specifications for other materials testing and inspection requirements. See Section 3.4.4 for inspection requirements of post installed anchors.

SECTION 1.3 - DESIGN CRITERIA

1.3.1 Live Loads

Stairs & Corridors	100	psf
Hotel Rooms	55	psf (1)
Kitchen	100	psf
Restaurant, Dining Areas	100	psf
Fitness / Gym	100	psf
Roof	20	psf (2)

Notes:

- Including 15 psf partition loading.
- Not supporting mechanical equipment

1.3.2 Roof Snow Loads

Ground Snow Load	60	psf
Roof Snow Load		
Bldg Main Roof	45	psf
Vestibule Framing	45	psf
Canopy Framing	51	psf
Snow Exposure Factor (Ce)	1.0	
Snow Importance Factor (I)	1.0	
Snow Thermal Factor (Ct)		
Vestibule Framing	1.0	
Canopy Framing	1.2	

1.3.3 Exist Building Dead Loads

Floors		
Flooring	3	psf
8" Hollow Core Plank	56	psf
Ceilings	3	psf
Floor Collateral	5	psf (1)
Floor Sprinklers	3	psf (3)

Roof		
8" Hollow Core Plank	56	psf
Ceilings	3	psf
Roof Collateral	5	psf (1)
Roof Insulation	2	psf
Roof Sprinklers	3	psf (3)
Roofing System	10	psf (2)

1.3.4 New Structure Dead Loads

Canopy		
Roofing System & Insulation	5	psf
Ceilings	3	psf
Collateral	2	psf

Vestibule Roof		
Typical Structure	5	psf
Collateral	3	psf (1)
Ceilings	2	psf
Roofing System & Insulation	10	psf (2)

Notes:

- Collateral loads include; lighting, ductwork, miscellaneous framing.
- Roofing system weight is the maximum unit weight of roofing materials and ballast (where applicable) for which the roof structure is designed.
- Sprinkler loads are for distribution lines and heads, exclusive of mains, which are included separately as concentrated dead loads.

1.3.5 Wind Loads

Base Mean Wind Velocity	100	mph
Wind Exposure Classification	C	
Importance Factor	1.0	

1.3.6 Seismic Loads

Building Risk Category	II
Seismic Importance Factor	1.00
Site Class	D
Mapped Spectral Acceleration, S _s	0.317
Mapped Spectral Acceleration, S ₁	0.077
Spectral Response Coeff, S _{ds}	0.326
Spectral Response Coeff, S _{d1}	0.123
Seismic Design Category	B
Basic Seismic Force Resisting System:	
Intermediate reinforced masonry shear walls	
Analysis Procedure Used:	
Equivalent Lateral Force Procedure	
Seismic Response Coeff, C _s	0.094
Response Modification Factor, R	3.5

1.3.6 Mechanical Units - Assumed weights and locations of roof-supported mechanical equipment are indicated on Roof Framing Plan. Notify Engineer of deviations in weight, location or detail prior to fabrication of materials.

SECTION 2 - FOUNDATIONS AND RELATED EARTHWORK

2.1 No geotechnical information regarding the existing site is available at this time. Based on the available structural drawings, the existing foundation structure consists of a structured slab spanning between grade beams supported over 60 ton capacity concrete filled steel pipe piles that are approximately 40 feet long. It is anticipated that new foundations will also require a deep foundation system. Geotechnical information to be provided by Geotechnical Engineer.

GEOTECHNICAL REPORT

CONCRETE FOOTINGS	
Design Criteria:	
Bearing Material	: TBD
Spread Footing Bearing Capacity	: TBD psf
Continuous Footing Bearing Capacity	: TBD psf

SECTION 3 - STRUCTURAL CONCRETE

SECTION 3.1 - STEEL REINFORCING

3.1.1 STEEL REINFORCING
All bars shall be deformed in accordance with ASTM A615. Reinforcing indicated to be welded shall conform to ASTM A706.

3.1.2 Strength of bars shall be Grade 60

3.1.3 LAPPED SPLICE LENGTHS
Lap reinforcing 24 bar diameters at splices unless noted or detailed otherwise.

3.1.4 Tension splice lengths shall be calculated in accordance with ACI 318. Use Class "B" splices unless noted otherwise

3.1.5 Welded wire fabric splice length (overlap), measured between outermost cross wires of each fabric sheet, shall be at least one spacing of cross wires plus 2 inches, but in no case less than 6 inches.

CONCRETE COVER TO REINFORCING

3.1.6 Clearance from face of concrete to face of reinforcing:	
Footings	3"
Columns	1-1/2" interior, 2" exterior exposure
Walls	1" interior, 2" exterior exposure
Slabs	3/4"

PLACEMENT OF REINFORCING

3.1.7 Offsets in reinforcing bars shall be bent at a ratio of 1 (normal to bar axis) to 6 (parallel to bar axis).

3.1.8 Place first bar of slab reinforcing parallel to side 2 inches from a free edge or half of required bar spacing from face of edge beam.

3.1.9 Single layer reinforcing in walls shall be placed at center of walls unless noted otherwise.

SECTION 3.2 - CONCRETE MIX DESIGNS

3.2.1 Concrete Mix Schedule:

- "HRC" refers to hardrock concrete having air dry unit weight of approximately 145 PCF.
- "LWC" refers to sand lightweight concrete having an air dry unit weight not to exceed 120 PCF.
- Where w/c ratio is not indicated in the Concrete Mix Schedule, it shall be as necessary to meet strength requirements.
- Where the w/c ratio is shown, it shall be adhered to regardless of strength requirements.
- "Strength" is required compressive cylinder strength at an age of 28 days.

Conc. Class	Strength psi	Agg. Type	Agg. Size	Slump Inches	Max w/c	Notes
A	4000	HRC	3/4"	3-5	0.45	
B	3000	HRC	See 3.2.3	8" max	----	

3.2.2 Mix Usage Schedule:

Description of Use	Concrete Class	Air Content
Grouting of Precast Concrete	A	-----
Hollow Core Slab Units		
Masonry Grouting & Bond Beam	B	-----

3.2.3 Type "B" shall utilize sand-gravel fine aggregate only, maximum size of No. 4.

SECTION 3.4 - DRILLED IN ANCHORS

3.4.1 Drill holes with rotary impact hammer drill using carbide tipped bits. Drill bits shall be of the diameter as specified by the anchor manufacturer. All holes shall be drilled perpendicular to the concrete or masonry surface.

3.4.2 Embedded items: Identify position of reinforcing steel and other embedded items prior to drilling holes for anchors. Exercise care in drilling to avoid damaging existing reinforcing or embedded items. Notify the Engineer if reinforcing steel or other embedded items are encountered during drilling. Take precautions as necessary to avoid damaging electrical and telecommunications conduit, and gas lines.

3.4.3 Base Material Strength: Unless otherwise specified, do not drill holes in concrete or masonry until concrete, mortar, or grout has achieved full design strength.

TESTING

3.4.4 Continuous special inspection is required for adhesive anchors. Remove and replace mis-placed or malfunctioning anchors. Clean and fill empty anchor holes and patch failed anchor locations with high-strength nonshrink, nonmetallic grout. Anchors that fail to meet proof load or installation torque requirements shall be regarded as malfunctioning.

EXPANSION, UNDERCUT, SCREW AND ADHESIVE ANCHORS

3.4.5 Concrete base material: provide anchors of size and type shown with ICC-ES or IAPMO-UES compliance required

Expansion Anchors: Hilti Kwik Bolt TZ (ICC-ES ESR-1917)
Simpson Strong-Bolt 2 (ICC-ES ESR-3037)
or Approved Equal

Undercut Anchors: Hilti HDA Undercut Anchors (ICC-ES ESR-1546)
Simpson Torq-Cut (ICC-ES ESR-2705)
or Approved Equal

Screw Anchors: Hilti Kwik HUS-EZ (ICC-ES ESR-3027)
Simpson Titen HD (ICC-ES ESR-2713)
or Approved Equal

Adhesive Anchors: Hilti HIT HY-200 (ICC-ES ESR 3187)
Simpson SET-XP (ICC-ES ESR-2508)
Simpson AT-XP (IAPMO-UES ER-263)
or Approved Equal

Powder Actuated Fasteners: Simpson Powder-Driven Pins (ICC-ES ESR-2138)
Hilti X-U (ICC-ES ESR-2269)
Hilti Low-Velocity Power-Driven Fasteners (ICC-ES ESR-1663, ICC-ES ESR-1752)
or Approved Equal

3.4.6 Grout filled CMU (Concrete Masonry Unit) base material: provide anchors of size and type shown with ICC-ES or IAPMO-UES compliance required

Screw Anchors: Hilti Kwik HUS EZ (ICC-ES ESR-3056)
Simpson Titen HD (ICC-ES ESR-1056)
or Approved Equal

Adhesive Anchors: Hilti HIT-HY 70 (ICC-ES ESR-2682)
Simpson SET-XP (IAPMO-UES ER 265)
Simpson AT-XP (IAPMO-UES ER281)
or Approved Equal

INSTALLATION

3.4.7 Perform anchor installation in accordance with manufacturer's printed installation instructions (MPII).

3.4.8 Protect threads from damage during anchor installation.

NOTE: INFORMATION AND ASSUMPTIONS REGARDING EXISTING STRUCTURE WERE TAKEN FROM RECORD DRAWINGS AS FOLLOWS:
YEAR ISSUED 1984 **ARCHITECT/STRUCTURAL ENGINEER** GROUP ONE, INCORPORATED

DEVIATIONS IN AS BUILT CONDITIONS PERTAINING TO THE NEW CONSTRUCTION INDICATED IN THE STRUCTURAL DRAWINGS SHALL BE SUBMITTED TO THE ARCHITECT AND ENGINEER OF RECORD FOR REVIEW.

DRAWING LIST	
SHEET NUMBER	SHEET NAME
S-000	GENERAL NOTES
S-001	GENERAL NOTES
S-002	STATEMENT OF SPECIAL INSPECTIONS
SD-101	FIRST FLOOR DEMOLITION PLAN
S-100	FIRST FLOOR FRAMING PLAN
S-101	SECOND FLOOR FRAMING PLAN
S-102	ROOF FRAMING PLAN
S-501	DETAILS
S-502	DETAILS

Project:



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REVISIONS

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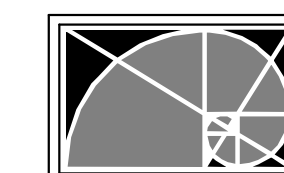
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