

GENERAL NOTES:

- STRUCTURAL DRAWINGS SHALL BE IN CONJUNCTION WITH JOB SPECIFICATIONS AND ARCHITECTURAL, MECHANICAL, ELECTRICAL, PLUMBING, AND SITE DRAWINGS. CONSULT THESE DRAWINGS FOR LOCATIONS AND DIMENSIONS OF OPENINGS, CHASES, NIBS, REGLETTS, SLEEVES, DEPRESSIONS, AND OTHER DETAILS NOT SHOWN ON THE STRUCTURAL DRAWINGS.
- 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.
- THE STRUCTURE IS DESIGNED TO BE SELF SUPPORTING AND STABLE AFTER THE BUILDING IS COMPLETE. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO DETERMINE ERECTION PROCEDURES AND SEQUENCE TO ENSURE SAFETY OF THE STRUCTURE AND PERSONNEL DURING ERECTION. THIS INCLUDES THE ADDITION OF THE NECESSARY SHORING, SHEETING, TEMPORARY BRACING, GUTS OR TIEDOWNS, SUCH MATERIAL SHALL REMAIN THE PROPERTY OF THE CONTRACTOR AFTER COMPLETION OF THE PROJECT.
- ALL APPLICABLE FEDERAL, STATE AND MUNICIPAL REGULATIONS SHALL BE FOLLOWED, INCLUDING THE FEDERAL DEPARTMENT OF LABOR OCCUPATIONAL SAFETY AND HEALTH ACT.
- IT IS THE OWNER'S SOLE RESPONSIBILITY TO EMPLOY ONE OR MORE SPECIAL INSPECTORS (IF REQUIRED) TO PROVIDE INSPECTIONS IN COMPLIANCE WITH ALL APPLICABLE REQUIREMENTS OF IBC 2003.

STRUCTURAL DESIGN CRITERIA:

1. BUILDING CODE: IBC 2003 INTERNATIONAL BUILDING CODE

2. DESIGN WIND LOADS - MAIN WIND FORCE RESISTING SYSTEM:
DESIGN WIND SPEED = 70 MPH
BUILDING EXPOSURE CATEGORY = B

3. SNOW:
GROUND SNOW LOAD = 60 PSF
IMPORTANCE FACTOR, I = 1.0
EXPOSURE FACTOR, Ce = 0.7
FLAT ROOF SNOW LOAD = 42 PSF

4. ROOF DEAD LOAD:
TOP CHORD = 10.0 PSF
BOTTOM CHORD = 10.0 PSF

5. LIVE LOADS:
FLOOR LIVE = 50.0 PSF
PARTITION LOAD = 20.0 PSF

6. DESIGN SEISMIC CRITERIA:
EQUIVALENT LATERAL FORCE PROCEDURE
USE GROUP (CATEGORY) = I
SDs = 0.328
SD1 = 0.124
SEISMIC DESIGN CATEGORY = C
SITE CLASS = D
R = 7.0
Cd = 1.0
SEISMIC RESISTING SYSTEM = LIGHT FRAMED WALLS WITH SHEAR PANELS
SEISMIC BASE SHEAR, V = 0.047 x W

FOUNDATION NOTES:

- FOUNDATION DESIGNED BASED ON AN ASSUMED MAXIMUM ALLOWABLE BEARING PRESSURE OF 2500 PSF. IT IS THE RESPONSIBILITY OF THE OWNER/CONTRACTOR TO VERIFY THE SOIL BEARING CAPACITY. NOTIFY THE ENGINEER AND STOP WORK IF CLAY, MET SOILS, FILL, OR OTHER DELETERIOUS MATERIALS ARE ENCOUNTERED.
- DEPTH OF EXTERIOR FOUNDATIONS IS BASED ON A FROST FIELD. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE PROCEEDING WITH THE AFFECTED PART OF THE WORK.
- NO HORIZONTAL JOINT WILL BE PERMITTED IN THE WALLS UNLESS NOTED OTHERWISE.
- FOUNDATION CONTRACTOR SHALL SET COLUMN ANCHOR RODS AND LEVELING PLATES, INCLUDING GROUTING, AS PER THE STRUCTURAL STEEL CONTRACTOR'S DRAWINGS.
- EXCAVATING AND BACK FILLING AT NEAR FOUNDATION WALLS SHALL BE DONE SUCH THAT SYMMETRICAL LOADING SHALL BE MAINTAINED ON BOTH SIDES. WHERE DESIGN CONDITIONS REQUIRE EXCAVATION AND BACK FILLING, THE CONTRACTOR SHALL REMAIN IN FULL CONTROL OF THE EXCAVATION AND SHALL PROVIDE FULL SUPPORT.
- CONTRACTOR SHALL BE RESPONSIBLE FOR DESIGN, INSTALLATION, AND FINAL CLEARANCE OF ANY NEEDLING, SHORING, OR BRACING OF EXISTING STRUCTURES.
- VAPOR BARRIER BENEATH SLAB SHALL BE "STEGO WRAP" OR APPROVED EQUAL.
POLYETHYLENE IS NOT AN ALTERNATE PRODUCT.

CONCRETE NOTES:

- ALL CONCRETE WORK SHALL CONFORM TO ACI-318.
- ALL CONCRETE EXCEPT INTERIOR AND EXTERIOR SLABS ON GROUND SHALL BE 3000 PSI AT 28 DAYS AND A MAXIMUM SLUMP OF 400 PSI. ALL BEAMS AND EXTERIOR WALLS SHALL BE 4000 PSI. ALL 28 DAYS AND A MAXIMUM SLUMP OF 400 PSI. ALL AGGREGATE SHALL BE ¾" (WALL/FOOTINGS) AND ½" (SLABS ON GROUND).
- CONCRETE TO REMAIN EXPOSED TO WEATHER SHALL BE AIR ENTRAINED. NO AIR ENTRAINMENT IN INTERIOR CONCRETE SLABS.
- CONCRETE SHALL NOT BE PLACED IN WATER OR ON FROZEN GROUND.
- REINFORCING BARS SHALL CONFORM TO ASTM A615 GRADE 60. DEFERRED BARS SHALL BE DETAILED AND FABRICATED IN ACCORDANCE TO ACI-318 LATEST EDITION, AND PLACED IN ACCORDANCE WITH ACI-318.
- SPLICES OF REINFORCING BARS SHALL BE IN ACCORDANCE WITH ACI-318.
- ANCHOR RODS SHALL CONFORM TO ASTM F854-36.
- HOOCS NOT DIMENSIONED SHALL BE ACI STANDARD HOOKS.
- CONCRETE COVER OVER REINFORCEMENT SHALL BE AS FOLLOWS:
CONCRETE CAST AGAINST EARTH = 3"
CONCRETE EXPOSED TO EARTH OR WEATHER = 1½"
CONCRETE NOT EXPOSED TO EARTH OR WEATHER = ¾"

STRUCTURAL STEEL NOTES - GENERAL

- STRUCTURAL STEEL FABRICATION, ERECTION, AND CONNECTION DESIGN SHALL CONFORM TO AISC "SPECIFICATION FOR THE DESIGN, FABRICATION, AND ERECTION OF STRUCTURAL STEEL" 9th EDITION.
- ALL STEEL SHAPES AND PLATES TO BE ASTM A36 UNLESS NOTED OTHERWISE. ALL WF SHAPES TO BE ASTM A992 GR 50.
- STRUCTURAL TUBING SHALL CONFORM TO ASTM A500, GRADE B. STEEL PIPES SHALL BE A53, GRADE B.
- THE DESIGN OF CONNECTIONS NOT SHOWN ON THE DRAWINGS SHALL BE PROVIDED BY THE FABRICATOR. CONNECTIONS SHALL BE DESIGNED FOR THE FORCES SHOWN, OR IF NOT SHOWN, EACH CONNECTION SHALL BE CAPABLE OF SUPPORTING ONE HALF THE TOTAL ALLOWABLE UNIFORM LOAD CAPACITY OF THE MEMBER, PER AISC MANUAL OF STEEL CONSTRUCTION. FABRICATOR SHALL PROVIDE CALCULATIONS SEALED BY A PROFESSIONAL ENGINEER LICENSED TO PRACTICE IN THE STATE OF MAINE FOR ALL CONNECTIONS.
- ALL BOLTED CONNECTIONS SHALL BE MADE WITH ¾" ASTM A325 HIGH STRENGTH BOLTS.
- WELDING SHALL BE IN ACCORDANCE WITH AWS D1.1 - LATEST EDITION. ALL WELDS SHALL BE MADE WITH E70XX ELECTRODES.
- STEEL BEAMS AND COLUMNS SHALL BE CUT FROM FULL LENGTH STOCK. UNAUTHORIZED SPLICES WILL BE CAUSE FOR REJECTION.
- STRUCTURAL STEEL SHALL BE PAINTED WITH A SHOP APPLIED COAT OF THE FABRICATOR'S RUST INHIBITIVE PRIMER.
- PROVIDE ½" THRU BOLTS STAGGERED @ 24" O.C. FOR ATTACHMENT OF 2x NAILER AT TOP & BOTTOM OF WF BEAM (COORDINATE w/ PLANS)

WOOD FRAMING NOTES:

- STRUCTURAL LUMBER: SPRUCE PINE FIR NO.1/N2 OR BETTER
F_c = 1050 PSI F_v = 140000 PSI
- DESIGN CODE: IBC 2003 / NATIONAL DESIGN SPECIFICATIONS FOR WOOD CONSTRUCTION BY THE NATIONAL FOREST PRODUCTS ASSOCIATION.
- NAILING REQUIREMENTS FOR PLYWOOD SHEATHING:
PROVIDE 8d NAILS AS FOLLOWS UNLESS SHOWN OTHERWISE:
8d NAILS @ 6" O.C. ALONG PANEL EDGES
8d NAILS @ 12" O.C. AT ALL PANEL EDGES
PROVIDE BLOCKING AT ALL PANEL EDGES
- SPIKE TOGETHER ALL FRAMING MEMBERS WHICH ARE BUILT-UP USING MULTIPLE 2x LUMBER.
- PROVIDE GALVANIZED METAL TIES EQUAL TO SIPSPON H25 SUBRICANE TIES BETWEEN ROOF RAFTERS OR TRUSSES AND SUPPORTING WALL MEMBERS, UNLESS SHOWN OTHERWISE. PROVIDE GALVANIZED METAL CONNECTORS EQUAL TO SIPSPON T26 TRUSS CONNECTOR BETWEEN ALL ROOF SCISSOR TRUSSES AND SUPPORTING WALL MEMBERS, UNLESS SHOWN OTHERWISE.
- PROVIDE PRESSURE TREATED LUMBER FOR ALL LUMBER IN CONTACT WITH MASONRY OR CONCRETE.
- ROOF SHEATHING: 5/8" APA RATED SHEATHING, EXTERIOR OR STRUCTURAL I OR II RATED SHEATHING, SPAN RATING 327/6 (TRUSSES), 24/2 (JOISTS). INSTALL SHEETS WITH FACE GRAIN DIRECTION PERPENDICULAR TO SUPPORTING MEMBERS.
- PROVIDE ½" THRU BOLTS STAGGERED @ 24" O.C. FOR ATTACHMENT OF 2x NAILER AT TOP OR BOTTOM OF WF BEAM (COORDINATE w/ PLANS)
- WALL CONSTRUCTION - FIRST FLOOR: FRAMING AS SHOWN ON PLANS
STUD HEIGHT UP TO 10'-6"
1 ½" 2x TOP PLATE
¾" CDX SHEATHING
- ROOF CONSTRUCTION:
FRAMING AS SHOWN ON PLANS
¾" APA RATED PLYWOOD SHEATHING (REFER TO NOTE #7)
PROVIDE 8d NAILS @ 12" O.C. ALONG FRAMING MEMBERS.
- ALL NAILS, SPIKES, BOLTS, ETC. FASTENING MEMBERS TO PRESSURE TREATED LUMBER SHALL BE EITHER STAINLESS STEEL OR HEAVY GALVANIZED.

WOOD TRUSS NOTES:

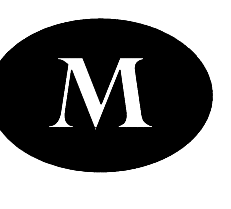
- DESIGN CRITERIA FOR ROOF SYSTEM:
A. LIVE LOAD (SNOW) PER STRUCTURAL DESIGN CRITERIA
B. DEAD LOAD PER STRUCTURAL DESIGN CRITERIA
C. WIND LOAD PER STRUCTURAL DESIGN CRITERIA
D. LOAD COMBINATIONS PER STRUCTURAL DESIGN CRITERIA
E. ALL WELDS SHALL BE MADE WITH E70XX ELECTRODES
F. PROVIDE BOTTOM CHORD CAMBER EQUAL TO THE TRUSS DEAD LOAD DEFLECTION.
- MATERIALS:
A. STRESS GRADED LUMBER, METAL PLATE CONNECTORS
- APPLICABLE SPECIFICATIONS:
A. NATIONAL DESIGN SPECIFICATIONS FOR STRESS GRADE LUMBER AND ITS FASTENING (NDS).
B. MOST RECENT AISC STANDARDS.
C. DESIGN SPECIFICATIONS FOR LIGHT METAL PLATE CONNECTED WOOD TRUSSES, TPI LATEST EDITION.
- BRACING:
A. TRUSS MANUFACTURER SHALL SPECIFY ALL BRACING FOR BOTH TEMPORARY CONSTRUCTION LOADING AND FOR PERMANENT LATERAL SUPPORT OF GABLE END TRUSS AND COMPRESSION MEMBERS, AS WELL AS ERECTION PROCEDURES.
B. MINIMUM BRACING REQUIREMENTS AND INSTRUCTIONS FURNISHED BY TRUSS MANUFACTURER SHALL INCLUDE AND CONFORM TO HB-91.
C. ALL TEMPORARY AND PERMANENT BRACING SHALL BE MINIMUM 2x4 SPP No. 2 MATERIAL CONNECTED WITH MINIMUM 2-1/2" NAILS AT ALL CONNECTIONS, UNLESS OTHERWISE SPECIFIED BY TRUSS MANUFACTURER OR HB-91.
D. THE FABRICATOR SHALL COMPLY WITH THE COMMENTARY TO THE NDS FOR THE DESIGN OF TRUSS BRACING. METAL PLATE CONNECTED WOOD TRUSSES, HB-91 IT IS THE RESPONSIBILITY OF THE INSTALLER/CONTRACTOR TO PROPERLY RECEIVE, UNLOAD, STORE, HANDLE, INSTALL, AND BRACE TRUSSES TO PROTECT LIFE AND PROPERTY.
- ALL FABRICATED TRUSSES SHALL RECEIVE THE TPI MARK OF APPROVAL IN ACCORDANCE WITH THE TRUSS PLATE INSTITUTE PROCEDURES.
- SUBMIT TRUSS SHOP DRAWINGS FOR REVIEW PRIOR TO TRUSS MANUFACTURE.
- ANY VARIATIONS BY THE TRUSS MANUFACTURER FROM THESE DRAWINGS INCLUDING BUT NOT LIMITED TO THE NEED FOR BIRD FOOTINGS SHALL BE CLEARLY NOTED ON THE TRUSS DRAWINGS. APPROPRIATE DETAILS SHALL BE PROVIDED, WHICH SHOW SUCH VARIATIONS. ALL VARIATIONS SHALL BE APPROVED BY THE ENGINEER.

| CURRENT REVISION | | |
|------------------|---------|-----------------------------|
| # | DATE | DESCRIPTION |
| 1 | 11/5/08 | FLOOR ROOF FRAMING FOR HVAC |

AVENUE AUTO CO. ANNEX
745-757 FOREST AVE.

PORTLAND

MacLeod Structural Engineers, PA



404 Main Street
Gorham, Maine 04038
phone: (207) 839-0980
fax: (207) 839-0982

Copyright © 2006 MacLeod Structural Engineers, P.A.
Reproduction of This Document Without The Written Consent Of
MacLeod Structural Engineers, P.A. is Prohibited.

THIS DRAWING IS ISSUED

DATE: 4/24/08

Submitted For Review

STATE OF MAINE
REGISTERED PROFESSIONAL ENGINEER
BRUCE W. MACLEOD
No. 5422
EXPIRES 12/31/2010

This Drawing Shall Be Considered A "Tentative Drawing" ONLY when it is stamped with the Engineer's Seal & Signature. Otherwise, it shall be considered a final drawing. This drawing shall not be reproduced without the written consent of the Engineer.

| | |
|------------------|--------------------|
| ME License 55422 | MA License 45530 |
| RI License 20851 | RI License 07910 |
| NY License 81302 | NY License 9282000 |

DRN BY: DMB
CHKD BY: BWN
DATE: 10/17/07
SCALE: AS NOTED
PROJ. NO.: 3008-202

SHEET TITLE:

STRUCTURAL NOTES

S4 OF