1. BUILDING CODE:

A. INTERNATIONAL BUILDING CODE – 2009 EDITION

B. ASCE 7-05 MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES

2. MINIMUM LOADING REQUIREMENTS:

A. ROOF SNOW LOADS: LOADS: (EXCEPT AT DRIFTING SNOW LOCATIONS AND THOSE LISTED BELOW)
   a. GROUND SNOW LOAD: P_G = 60.0 PSF
      i. IMPORTANCE FACTOR: I = 1.0
      ii. COLD ROOF SLOPE FACTOR: C_S = 1.0
      iii. THERMAL FACTOR: C_T = 1.1
      iv. EXPOSURE FACTOR: C_E = 1.0
      v. TERRAIN CATEGORY: C
   b. FLAT ROOF SNOW LOAD: P_F = 46.2 PSF (USED 50 PSF FOR DESIGN)
   c. DRIFT – DUE TO PERIMETER RAILS AND SCREENING, A UNIFORM SNOW LOAD OF 65 PSF WAS USED FOR DESIGN OF THE MAIN ROOF THROUGHOUT

B. ROOF DEAD LOAD: 25.0 PSF. (UNO)

C. ROOF LIVE LOAD:
   a. STANDARD ROOF LIVE LOAD: 20 PSF

D. FLOOR LIVE LOADS:

	UNIFORM	CONCENTRATED	PARTITION
a. BALCONIES (EXTERIOR) 1 & 2 FAMILY <100 SF	100 PSF		
b. ELEVATOR MACHINE ROOM GRATING	300 #		
c. OFFICE BUILDINGS			
i. LOBBIES AND 1ST FLOOR CORRIDORS	100 PSF	2,000#	
ii. OFFICES	50 PSF	2,000#	15 PSF
iii. CORRIDORS ABOVE 1ST FLOOR	80 PSF	2,000#	
d. RESIDENTIAL			
i. 1 & 2 FAMILY DWELLINGS			
1. HABITABLE AND SLEEPING	40 PSF		
e. WALKWAYS & ELEVATED PLATFORMS	60 PSF		

E. WIND:

   a. FACTORS:
      i. BASIC WIND SPEED: 100 MPH
      ii. EXPOSURE CATEGORY: "D"
      iii. IMPORTANCE FACTOR: CATEGORY II - 1.0
      iv. BUILDING HEIGHT: <48'
      v. ENCLOSURE CLASSIFICATION: ENCLOSED
      vi. INTERNAL PRESSURE COEFFICIENT: 0.18 +/-

   b. WIND DESIGN PRESSURE – BUILDING IS NOT A WIND-BORNE DEBRIS REGION, THEREFORE NO OPENING PROTECTION IS NOT REQUIRED.

      i. COMPONENTS AND CLADDING
         1. END ZONE WIDTH: 4.5 FEET
         2. WALLS
            a. ZONE 4: FIELD 32.6 PSF; -35.3 PSF
            b. ZONE 5: END ZONES 32.6 PSF; -43.6 PSF

      ii. ROOF UPLIFT (IBC 2009)
         1. ZONE 1: FIELD 13.2 PSF/ -32.6 PSF
         2. ZONE 2: PERIMETER 13.2 PSF/ -54.7 PSF
         3. ZONE 3:CORNERS 13.2 PSF/ -82.2 PSF
         4. STRIP WIDTH 4.5 FEET

F. SEISMIC
   a. COEFFICIENTS:
      i. RESPONSE SPECTRAL ACC. (0.2 SEC.) S_S = 0.314G
      ii. RESPONSE SPECTRAL ACC. (1.0 SEC.) S_1 = 0.08G
      iii. SOIL CLASSIFICATION: D
      iv. SITE COEFFICIENTS: F_A = 1.20; F_V = 1.70
      v. MAX. CONSIDERED EARTHQUAKE ACC @ 5% DAMPED DESIGN: S_{DS} = 0.324; S_{D1} = 0.128
      vi. BUILDING CATEGORY: II - STANDARD
      vii. SEISMIC DESIGN CATEGORY FOR 0.1 AND 1.0 SECONDS: B
      viii. FUNDAMENTAL PERIOD T_A = 0.368 SEC
      ix. SEISMIC RESPONSE COEFFICIENT CS = 0.108
      x. SEISMIC BASE SHEAR: V=56 KIPS (EQUIVALENT LATERAL FORCE PROCEDURE)

   b. DESIGN COEFFICIENTS AND FACTORS FOR SEISMIC FORCE RESISTING SYSTEMS
      i. BUILDING FRAME SYSTEM
         1. ORDINARY STEEL CONCENTRICALLY BRACED FRAMES
            a. RESPONSE MODIFICATION R = 3 ¼ (USED R=3)
            b. SYSTEM OVERSTRENGTH FACTOR Ω_0 = 2
            c. DEFLECTION AMPLIFICATION FACTOR C_D = 3 ¼

      ii. MOMENT RESISTING FRAME SYSTEMS
         1. ORDINARY STEEL MOMENT FRAMES
            a. RESPONSE MODIFICATION R = 3 ½ (USED R=3)
            b. SYSTEM OVERSTRENGTH FACTOR Ω_0 = 3
            c. DEFLECTION AMPLIFICATION FACTOR C_D = 3

3. STRUCTURAL STEEL SHALL BE DESIGNED USING THE 13TH EDITION OF THE AISC STEEL CONSTRUCTION MANUAL. STEEL BEAMS SHALL CONFORM TO ASTM A992, FY = 50KSI; MISCELLANEOUS PLATES, SHAPES, CHANNELS, ANGLES ETC. SHALL CONFORM TO ASTM A36, FY = 36KSI. ALL STEEL SUPPORTING MECHANICAL EQUIPMENT AND TO RECEIVE FIREPROOFING SHALL BE UNPAINTED AND UNPRIMED. STEEL TUBING: COLD-FORMED STEEL TUBING COMPLYING WITH ASTM A500. STEEL PIPE: ASTM A53, STANDARD WEIGHT (SCHEDULE 40), UNLESS ANOTHER WEIGHT IS INDICATED OR REQUIRED BY STRUCTURAL LOADS.

4. STEEL JOIST SHALL CONFORM TO THE LATEST S.J.I. STANDARDS.

5. SEE ARCHITECTURAL WALL SECTIONS AND DETAILS FOR MISCELLANEOUS STEEL.

6. FASTENED METAL DECKING TO STEEL BEAMS, BAR JOIST, AND PERIMETER ANGLES PER DIVISION 5 OF SPECIFICATIONS AND STRUCTURAL DETAILS.

7. PROVIDE L4 X 4 X ¼" SLAB SUPPORT ANGLE AS REQUIRED AT COLUMNS WHERE STRUCTURAL MEMBERS DO NOT FRAME IN AT ALL FOUR SIDES.

8. BASE PLATE ANCHOR BOLTS IN NEW CONSTRUCTION SHALL BE
   A. ANCHOR RODS: 3/4" Ø ASTM F1554, UNO
   B. NUTS: ASTM A563, GRADE A
   C. WASHERS: ASTM F4367

9. INSPECTION REPORTS SHALL BE FURNISHED TO THE OWNER, BUILDING OFFICIAL, ARCHITECT AND SER. DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE CONTRACTOR AND IF NOT CORRECTED, SHALL BE REPORTED TO THE OWNER, BUILDING OFFICIAL, ARCHITECT AND SER.

10. STRUCTURAL STEEL JOISTS
   A. JOISTS SHALL CONFORM TO THE REQUIREMENTS OF THE STEEL JOIST INSTITUTE (SJI) STANDARD SPECIFICATIONS AND INSTALLATION REQUIREMENTS.
   B. PROVIDE CONTINUOUS BAR JOIST BOTTOM CHORD "UPLIFT BEARING" AT THE FIRST PANEL POINT FROM EACH END AND SIZED AS REQUIRED TO SATISFY THE NET WIND UPLIFT REQUIREMENTS LISTED IN THE MINIMUM LOAD REQUIREMENTS.
   C. JOIST MANUFACTURER SHALL DESIGN ROOF JOISTS FOR A NET WIND UPLIFT OF -18 PSF. ALLOWABLE STRESSES SHALL NOT BE INCREASED BY 1/3 ALLOWABLE STRESS FACTOR FOR WIND LOADING.
   D. K-SERIES AND KCS-SERIES JOISTS SHALL BE DESIGNED BY A REGISTERED PROFESSIONAL ENGINEER IN THE STATE OF MAINE AND DESIGN CALCULATIONS SHALL BE SUBMITTED FOR REVIEW AND SHALL BE CONSIDERED AN INTEGRAL PART OF THE BAR JOIST SHOP SUBMITTAL. FINAL APPROVAL OF JOIST SHOPS IS CONTINGENT UPON REVIEW AND ACCEPTANCE OF THE JOIST CALCULATIONS.
   E. WELD BAR JOIST TO BEAMS OR BEARING PLATES WITH (2) FILLET WELDS AT EACH END. SIZE AND LENGTH AS INDICATED ON THE STRUCTURAL DRAWINGS OR AS REQUIRED BY THE STEEL JOIST INSTITUTE.

CONNECTIONS:

1. ALL DETAILS ARE CONCEPTUAL ONLY AND DO NOT INDICATE THE REQUIRED NUMBER OF BOLTS OR WELD SIZES, UNLESS SPECIFICALLY NOTED OTHERWISE.

2. FIELD CONNECTIONS SHALL BE FIELD BOLTED WITH A325N HIGH STRENGTH BOLTS (U.N.O.) EXCEPT WHERE SLIP CRITICAL CONNECTIONS ARE REQUIRED AND NOTED BY A325 (SC) ON THE DRAWINGS. WASHERS SHALL CONFORM TO ASTM F436, NUTS SHALL CONFORM TO ASTM A563 PROVIDE SLIP CRITICAL (SC) CONNECTIONS AT ALL MOMENT CONNECTIONS, BRACED FRAMES, RELIEVING ANGLES AND WHERE OTHERWISE NOTED.

3. ALL SLIP CRITICAL (S.C.) BOLTED CONNECTIONS SHALL BE CHECKED AND INSPECTED USING ONE OF THE FOLLOWING:
   A. TURN OF THE NUT
   B. CALIBRATED WRENCH
   C. ALTERNATE DESIGN FASTENER
   D. DIRECT TENSION INDICATOR
   E. ALL OTHER BOLTED CONNECTIONS SHALL BE TIGHTENED TO "SNUG TIGHT" CONDITION UNLESS NOTED OTHERWISE.

4. UNLESS NOTED OTHERWISE, CONNECTIONS SHALL BE WELDED OR BOLTED WITH ¾" DIAMETER BOLTS (BEARING TYPE, DESIGNATION N, THREADS IN SHEAR PLANE) BEAM TO COLUMN CONNECTIONS SHALL BE FULL DEPTH (BOLT SPACING 3" ON-CENTER).

5. OVERSIZE OR SLOTTED HOLES SHALL NOT BE USED FOR ANY CONNECTIONS UNLESS SPECIFICALLY INDICATED ON THE DRAWINGS OR APPROVED IN WRITING BY ENGINEER OF RECORD.

6. MINIMUM NUMBER OF BOLTS PER CONNECTION SHALL BE 2.

7. ALTERNATE CONNECTIONS WILL BE ACCEPTED ONLY WITH THE WRITTEN APPROVAL OF THE ENGINEER OF RECORD; HOWEVER, THE ENGINEER SHALL BE THE SOLE JUDGE OF ACCEPTABILITY. THE CONTRACTOR'S BID SHALL ANTICIPATE THE USE OF THOSE SPECIFIC DETAILS SHOWN ON THE DRAWINGS. IN ANY EVENT THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN OF SUCH ALTERNATE DETAILS.

8. ALL WELDS INDICATED SHALL BE THE MINIMUM WELD SIZED SPECIFIED BY THE AISC MANUAL OF STEEL DESIGN (SINGLE PASS AS REQUIRED) ALL BUTT AND FULL PENETRATION WELDS SHALL BE MADE USING RUN OFF TABS THAT SHALL BE REMOVED AND GROUND SMOOTH AFTER WELD IS COMPLETED. ALL WELD BACK UP BARS SHALL BE REMOVED AND GROUND SMOOTH AFTER WELD IS COMPLETED.

9. SHOP CONNECTIONS, UNLESS NOTED OTHERWISE, SHALL BE WELDED. UNLESS OTHERWISE INDICATED ON THE DRAWINGS, BEAM CONNECTION CAPABILITIES SHALL BE CALCULATED IN ACCORDANCE WITH AISC'S "THE STEEL CONSTRUCTION MANUAL", 13TH EDITION, FOR EACH SHEAR CONNECTION PROVIDE THE GREATER OF THE FOLLOWING SHEAR CAPACITIES:

   A. BEAMS: SUPPORT A REACTION ® EQUAL TO HALF TOTAL UNIFORM LOAD CAPACITY OF BEAM FOR GIVEN SHAPE, SPAN AND STEEL SPECIFICATION (AISC) WITH EFFECT OF CONCENTRATED LOADS ACCOUNTED FOR OR THE (UNFACTORED) REACTIONS SHOWN ON PLAN, WHICHEVER IS GREATER.

10. CONNECTION DESIGN IS THE RESPONSIBILITY OF THE FABRICATOR FOR OTHER THAN THE STANDARD CONNECTIONS NOTED ON DETAIL [REFERENCE TYPICAL CONNECTION DETAIL HERE]. CONNECTIONS CALCULATIONS SHALL BE SIGNED, SEALED BY A PE REGISTERED IN THE PROJECT STATE AND SUBMITTED FOR REVIEW WITH THE SHOP DRAWINGS. SEE PROJECT SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS. PARTIAL SUBMITTAL PACKAGES SHALL BE RETURNED.

SPECIAL INSPECTIONS

1. SPECIAL INSPECTIONS: AN INDEPENDENT INSPECTIONS PROGRAM AND SCHEDULE SHALL BE ARRANGED BY THE BUILDING OWNER AND THE STRUCTURAL ENGINEER OF RECORD.

2. A QUALIFIED PERSON APPROVED BY THE BUILDING OFFICIALS SHALL MAKE SPECIAL INSPECTIONS IN ACCORDANCE WITH CHAPTER 17 OF THE IBC-2009 AND AS DEFINED. SPECIAL INSPECTOR SHALL OBSERVE WORK FOR CONFORMANCE WITH THE APPROVED DRAWINGS AND SPECIFICATIONS.

3. INSPECTION REPORTS SHALL BE FURNISHED TO THE OWNER, BUILDNG OFFICIAL, ARCHITECT AND SER. DISCREPENCIES SHALL BE BROUGHT TO THE ATTENTION OF THE CONTRACTOR AND IF NOT CORRECTED, SHALL BE REORTED TO THE OWNER, BUILDNG OFFICIAL, ARCHITECT AND SER.

4. THE FOLLOWING TYPES OF WORK SHALL RECEIVE SPECIAL INSPECTION OVERSITE: STRUCTRUAL STEEL FABRICATION, ERECTION AND CONNECTIONS, METAL DECK FASTENING, INSTALLATION OF REINFORCING STEEL FOR CONCRETE, ALL CONCRETE PLACEMENT AND STRENGTH TESTING, AND STRUCTURAL FILL PLACEMENT.

FIELD TESTING

1. BOLTED CONNECTIONS: 100% OF COMPONENTS AND FASTENERS IN SLIP CRITICAL CONNECTIONS, AS IDENTIFIED IN THE PROJECT CONTRACT DOCUMENTS SHALL BE VISUALLY INSPECTED AND TESTED FOR TIGHTNESS IN ACCORDANCE WITH AISC SPECIFICATIONS FOR STRUCTURAL JOINTS, PARTS 8 AND 9.

2. CHECK BY CALIBRATION TORQUE WRENCH 25% OF BOLTS IN EACH NON-SC SHEAR CONNECTION BUT NOT LESS THAN (2) PER CONNECTION.

3. FIELD WELDED CONNECTIONS: PERFORM TESTING IN ACCORDANCE WITH ANSI/AWS D1.1, CHAPTER 6.

4. CONDUCT TESTING OF 10% OF WELDS ON STRUCTURAL STEEL BY DYE PENETRATION OR MAGNETIC PARTICLE TESTING.

5. CONDUCT TESTING OF 100% OF GROOVE, PLUG, OR SLOT WELDS IN STRUCTURAL STEEL BY ULTRASONIC TESTING OR OTHER NONDESTRUCTIVE TESTING APPROVED BY ENGINEER OF RECORD.

6. RADIOGRAPHICALLY TEST 5% OF ALL FULL PENETRATION WELDS.

7. THE STRUCTURAL FABRICATOR AND ERECTOR SHALL SCHEDULE ALL WORK TO ALLOW THE ABOVE INSPECTION AND TESTING REQUIREMENTS TO BE COMPLETED.

A1 STRUCTURAL NOTES

FOUNDATIONS:

1. THE SITE SHALL BE PREPARED IN ACCORDANCE WITH THE GEOTECHNICAL REPORT PREPARED BY R.W. GILLESPIE & ASSOCIATES, INC., DATED 03 MARCH 2017. FOUNDATION DESIGNS BASED ON THE SOILS REPORT REFERENCED ABOVE. FOUNDATION SYSTEMS HAVE BEEN DESIGNED WITH AN ASSUMED BEARING CAPACITY OF XXX PS. THE ALLOWABLE BEARING PRESSURE SHALL BE VERIFIED BY THE OWNER'S TESTING AGENCY PRIOR TO PLACING FOOTING CONCRETE.

2. ALL BEDDING AND FILL PROFILES BENEATH ELEVATED STRUCTURAL ONE-WAY SLABS, PILE FOUNDATION, AND GRADE BEAMS SHALL COMPLY WITH THE RECOMMENDATIONS PROVIDED IN THE GEOTECHNICAL REPORT REFERENCED ABOVE.

3. REFER TO DRAWINGS FOR VAPOR BARRIER REQUIREMENTS. MOIST CURE SLABS IN ACCORDANCE WITH ACI.

4. 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.

5. EXTERIOR CONCRETE SLABS ON GRADE BY SITE/CIVIL.

6. FOUNDATION WALL REINFORCING WILL BE ADJUSTED AS REQUIRED NOT TO INTERFERE WITH BASE PLATE ANCHOR BOLTS

7. EXCAVATIONS FOR BUILDING FOUNDATIONS AND STRUCTURES SHALL BE IN ACCORDANCE WITH OSHA REQUIREMENTS. BRACED EXCAVATIONS SHALL BE DESIGNED BY A PROFESSIONAL ENGINEER REGISTERED IN THE PROJECT STATE. DO NOT UNDERMINE EXISTING ADJACENT FOUNDATIONS.

8. INTERSECTING CONCRETE WALLS SHALL BE TIED WITH #4 L-BARS 3'-0" LONG (BENT 18-INCHES – 18-INCHES), SPACED AT 12-INCHES ON-CENTER, OUTSIDE FACE ONLY, UNLESS NOTED OTHERWISE ON THE DRAWINGS.

9. IN NO CASE SHALL HEAVY EQUIPMENT BE PERMITTED CLOSER THAN 8'-0" FROM ANY FOUNDATION/BASEMENT WALL. IF THE CONTRACTOR DEEMS IT NECESSARY TO OPERATE SUCH EQUIPMENT CLOSER THAN 8'-0", THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE AND, AT HIS OWN EXPENSE, PROVIDE ADEQUATE SUPPORTS OR WALL BRACES TO WITHSTAND THE ADDITIONAL LOADS SUPERIMPOSED FROM SUCH EQUIPMENT.

10. CONCRETE SHALL NOT BE PLACED ON FROZEN GROUND OR IN WATER.

CONCRETE:

1. CONCRETE WORK SHALL COMPLY WITH ACI 301 "SPECIFICATIONS FOR STRUCTURAL CONCRETE BUILDINGS"; ACI 318 "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE"; AND ACI 315 "ACI DETAIL MANUAL", AND CRSI "MANUAL OF STANDARD PRACTICE".

2. CONTRACTOR SHALL PROVIDE TIES AND BRACING WHERE NECESSARY DURING CONSTRUCTION, TO REMAIN IN PLACE UNTIL THE STRUCTURES ARE COMPLETE.

3. CONCRETE SHALL BE:
   a. PILE CAPS AND FOUNDATION/GRADE BEAM WALLS: 4,000 PSI AT (28) DAYS. SLUMP SHALL NOT EXCEED 5-INCHES (W/C = 0.49). (AIR ENTRAINED)
   b. INTERIOR STRUCTURAL ONE-WAY SLABS: 4,000 PSI CONCRETE AT (28) DAYS. SLUMP SHALL NOT EXCEED 5-INCHES (W/C = 0.47). (NO AIR)
   c. INTERIOR ELEVATED SLABS ON DECK: 3,500 PSI CONCRETE AT (28) DAYS. SLUMP SHALL NOT EXCEED 6-INCHES (W/C = 0.49). (NO AIR)

4. SEE DIVISION 3 SPECIFICATIONS FOR CONCRETE AND ADMIXTURE MATERIALS:

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. 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.

8. ALL CONSTRUCTION JOINTS FOR SLABS SHALL BE KEY JOINTED AT MID-SPAN WITH REINFORCING DISCONTINUOUS AT JOINT.

9. FLOOR SLAB CONTROL JOINTS SHALL BE PLACED AS SHOWN ON THE FOUNDATION PLAN (SLAB ON GRADE) OR AS DIRECTED BY THE ENGINEER. UNLESS OTHERWISE NOTED, CONTROL JOINTS WILL BE SPACED NOT TO EXCEED 15'-0" ON-CENTER IN BOTH DIRECTIONS AND SHALL BE FILLED WITH SEALANT AT THE COMPLETION OF THE PROJECT.

10. CONTRACTOR WILL CHECK WITH EACH TRADE TO ASSURE CORRECT LOCATION, SIZE, LINE AND ELEVATION OF SLEEVES, BOND-OUTS, ETC. REQUIRED IN CONCRETE FLOORS AND WALLS.

11. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FLOOR DRAIN SETTING AND EXTENTS OF AREA SLOPE TO DRAIN DEVELOPMENT. SEE ARCHITECTURAL AND PLUMBING PLANS TO ENSURE COMPLETE AREA DRAINAGE.

12. WELDING OF REINFORCEMENT IS NOT PERMITTED.

13. MECHANICAL EQUIPMENT RESTING ON THE CONCRETE FLOOR SLAB SHALL HAVE A 4-INCH HIGH CONCRETE PAD UNDERNEATH, EXTENDING A MINIMUM OF 6-INCHES BEYOND UNIT EDGE (EACH DIRECTION), REINFORCED WITH #3 BARS AT 18-INCHES ON-CENTER EACH WAY.

14. ADMIXTURES CONTAINING CALCIUM CHLORIDE SHALL NOT BE USED. CONCRETE SHALL NOT BE IN DIRECT CONTACT WITH ALUMINUM.

15. PROVIDE IN SLABS ON GRADE (2) BARS 4'-0" LONG AT EACH REENTRANT CORNER AND BOTH SIDES OF DOOR OPENING.

16. REFER TO ACI 318 (LATEST EDITION) FOR MINIMUM CONCRETE COVER FOR REINFORCING STEEL.

17. UNLESS OTHERWISE NOTED, REINFORCING LAP SPLICES SHALL BE ACI CLASS B SPLICES USING THE FOLLOWING LAP LENGTHS:

BAR SIZE	3	4	5	6	7	8	9	10	11
LAP IN.)	22	29	36	43	63	72	80	89	98

18. COORDINATE SLAB DEPRESSIONS AND ALL INTERIOR FLOOR SLOPES TO DRAIN LOCATIONS WITH ARCHITECTURAL DRAWINGS.

19. SLAB THICKNESSES (ELEVATED OR ON-GRADE) INDICATED ON THE DRAWINGS ARE MINIMUMS. PROVIDE SUFFICIENT CONCRETE TO ACCOUNT FOR STRUCTURE DEFLECTION AND/OR SUBGRADE FLUCTUATIONS IN ORDER TO OBTAIN SPECIFIED SLAB ELEVATIONS AT THE FLATNESS AND LEVELNESS INDICATED IN THE SPECIFICATION.

20. ANCHOR BOLTS SHALL CONFORM TO ASTM A1554, GRADE 36 HOT DIPPED GALVANIZED UNLESS NOTED OTHERWISE ON PLAN.

21. DRILLED-IN ANCHOR BOLTS OR REBAR DOWELS SHALL BE INSTALLED AS FOLLOWS:

- LOCATE ANCHOR BOLTS OR DOWELS TO AVOID CUTTING EXISTING REBAR.
- DEPTH IS BASED ON A CLEAN HOLE WITH ROUGH SIDES. ROTARY PERCUSSION EQUIPMENT AND COURSE ROCK CUTTING CHISELS ARE RECOMMENDED. DIAMOND CORE BITS SHOULD BE AVOIDED AS EMBEDMENT LENGTHS MAY NEED TO BE INCREASED. HOLE SIZE TO BE PER MANUFACTURER'S RECOMMENDATIONS.
- CLEAN HOLES WITH COMPRESSED AIR OR VACUUM, REMOVE ANY FREE-STANDING WATER AND ALLOW HOLE TO DRY.
- GROUT ANCHOR BOLTS OR DOWELS WITH HILTI HIT HY-200 ADHESIVE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. (HILTI HVA ADHESIVE CAPSULE MAY BE SUBSTITUTED FOR THE HILTI HIT HY-200 ADHESIVE.)

A11 FOUNDATION AND CONCRETE NOTES

1. ALL CONTRACTORS SHALL CONFORM TO SAFETY REQUIREMENTS OF THE OWNER, AIA DOCUMENT A201 (IF APPLICABLE), OSHA SAFETY AND HEALTH STANDARDS, AND OTHER LOCAL AUTHORITIES IN CONNECTION WITH THE PERFORMANCE OF THIS PROJECT.

2. ALL REFERENCED STANDARDS OR PUBLICATIONS SHALL PERTAIN TO THE MOST CURRENT DATA, STANDARD OR PUBLICATION, UNLESS NOTED OTHERWISE.

3. ANY INCONSISTENCIES WITH THE DRAWINGS AND SPECIFICATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO PROCEEDING WITH THE AFFECTED PORTIONS OF THE WORK.

4. STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH THE ARCHITECTURAL, MECHANICAL, PLUMBING, ELECTRICAL AND CIVIL DRAWINGS. ALL DIMENSIONS AND ELEVATIONS SHOWN ON STRUCTURAL DRAWINGS, WITH THE EXCEPTION OF STRUCTURAL MEMBER SIZES, ARE GENERATED BY OTHER DISCIPLINES. ANY DIMENSIONS OR ELEVATIONS OMITTED OR NOT SHOWN ON THE STRUCTURAL DRAWINGS SHOULD BE OBTAINED FROM THE DRAWINGS OF THE OTHER DISCIPLINES. ANY INCONSISTENCIES WITH THE DRAWINGS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO PROCEEDING WITH THE AFFECTED PORTIONS OF THE WORK.

5. IF DIFFERENCES OCCUR WITHIN OR BETWEEN THE DRAWINGS AND SPECIFICATIONS REGARDING MATERIALS, STRENGTHS OR QUANTITIES, THE BETTER, HIGHER STRENGTH, AND GREATER QUANTITY INDICATED, SPECIFIED OR NOTED SHALL BE PROVIDED.

6. THE CONTRACTOR SHALL VISIT THE SITE AT A DESIGNATED TIME APPROVED BY THE OWNER, TO VERIFY EXISTING CONDITIONS, DIMENSIONS, LOCATION OF EXISTING UTILITIES, ETC. THE CONTRACTOR SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES WITHOUT EXCEPTION.

7. THE STRUCTURE HAS BEEN DESIGNED AS A SELF-SUPPORTING SYSTEM ONCE ALL WORK CONTAINED ON THESE DRAWINGS HAS BEEN COMPLETED. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR ERECTION PROCEDURES AND SEQUENCE OF INSTALLATION TO ENSURE SAFETY OF THE BUILDING AND ITS OCCUPANTS DURING CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MEANS AND METHODS AND TEMPORARY SHORING, PRECAUTIONS DURING BUILDING OPERATIONS, PROTECTION OF PUBLIC AND WORKERS, REMOVAL OF WASTE MATERIAL, PROTECTION OF ADJACENT PROPERTY, PROTECTION OF HAZARDOUS OPENINGS, SAFETY PRECAUTIONS, AND SANITARY PROVISIONS OF EMPLOYEES AND SUBCONTRACTORS AS REQUIRED FOR THE DURATION OF THE CONTRACT.

8. WORK SHALL BE DONE IN AN ORDERLY AND PROFESSIONAL MANNER. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR COORDINATING ALL WORK TO BE DONE BY SUBCONTRACTORS, LOCAL AUTHORITIES, STATE AGENCIES AND/OR UTILITY COMPANIES WHICH MAY HAVE JURISDICTION OVER THIS PROJECT.

9. UTILITY EXTENSIONS AND CONNECTIONS SHALL BE IN ACCORDANCE WITH STATE AND LOCAL CODES.

10. CONTRACTOR SHALL REVIEW AND SUBMIT COMPLETE SHOP DRAWINGS FOR ALL SPECIFIED PARTS OF THE WORK. NO PORTION OF THE WORK COVERED BY THESE SHOP DRAWINGS SHALL COMMENCE UNTIL RETURNED APPROVED SHOPS ARE RECEIVED BY THE CONTRACTOR. SHOP SUBMITTAL PACKAGES SHALL INCLUDE, BUT NOT BE LIMITED TO:

   a. SITE: SHORING AND CONSTRUCTION METHODS/SEQUENCING WHERE APPLICABLE.
   b. CONCRETE: MIX DESIGNS, ADMIXTURES, MIX HISTORIES; REBAR ORIGIN STRENGTH/GRADE; REBAR PLACEMENT DRAWINGS.
   c. COLD FORMED METAL FRAMING: COLD-FORMED METAL CUT SHEETS, CONNECTIONS, PLACEMENT DRAWINGS ALONG WITH HEADER/JAMB AT OPENINGS AND FRAMING ELEMENT CALCULATIONS SIGNED BY A PE REGISTERED IN THE PROJEST STATE.
   d. STRUCTURAL STEEL: MISCELLANEOUS STEEL FRAMING COMPONENT SHOP DRAWINGS ALONG WITH STEEL ORIGINAL AND STRENGTH/GRADES AND MUST INCLUDE COMPLETE CONNECTION CALCULATIONS. INCOMPLETE SUBMITTAL PACKAGES WILL BE REJECTED AND RETURNED.

11. THE CONTRACTOR IS RESPONSIBLE FOR REPLACING ANY EXISTING ITEMS DAMAGED BY NEW CONSTRUCTION, AND FOR ANY INCIDENTAL REPAIRS OF EXISTING FINISHED SURFACES DISTURBED BY NEW CONSTRUCTION; SUCH REPAIRS SHALL MATCH EXISTING TO THE OWNER'S SATISFACTION.

12. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING, HANDLING, AND STORAGE OF ITEMS/MATERIALS TO REMAIN THE PROPERTY OF THE OWNER WITH THE OWNER'S REPRESENTATIVE.

13. SPECIAL INSPECTIONS AS REQUIRED BY IBC 2009 SECTION 1704 SHALL BE PERFORMED BY AN INSPECTION AGENCY CONTRACTED BY THE OWNER FOR ALL STEEL, MASONRY (LEVEL 2), CONCRETE AND SOIL ACTIVITIES. SPECIFIC REQUIREMENTS FOR STEEL TESTING ARE OFFERED IN THE STRUCTURAL NOTES SECTION OF S-000.

K16 GENERAL NOTES

1. PROVIDE AND INSTALL MASONRY LINTELS FOR MASONRY WALL OPENINGS UNLESS INDICATED OTHERWISE ON DRAWINGS. PROVIDE MASONRY LINTELS OF SIZE AND REINFORCEMENT AS FOLLOWS:

   A - OPENINGS UP TO 3'-11" (UNLESS NOTED OTHERWISE): PROVIDE 8-INCH HIGH C.M.U. LINTEL W/ (2) #4 BARS IN 6-INCH WIDE UNITS (2) #4 BARS IN 8-INCH WIDE UNITS (3) #4 BARS IN 12-INCH WIDE
   B - OPENINGS 4'-0" TO 8'-0" (UNLESS OTHERWISE NOTED): PROVIDE 16-INCH HIGH C.M.U. LINTEL W/ (2) #6 BARS IN 6-INCH WIDE UNITS (2) #6 BARS IN 8-INCH WIDE UNITS (3) #6 BARS IN 12-INCH WIDE UNITS

2. INSTALL FOR OPENINGS AND PENETRATIONS IN BRICK WALLS UP TO 3'-11" WIDE (UNLESS OTHERWISE NOTED) 4"X3 1/2"X 1/4" STEEL ANGLE LINTEL. FOR OPENINGS AND PENETRATIONS BETWEEN 4'-0" AND 8'-0" WIDE (UNLESS OTHERWISE NOTED) (1) 6"X3 1/2"X 1/4" STEEL ANGLE LINTEL.

3. CONCRETE MASONRY AND BRICK VENEER LINTELS SHALL HAVE 8-INCH (MIN) END BEARING UNLESS OTHERWISE NOTED.

4. CONCRETE MASONRY BLOCK WALLS WITH VERTICAL REINFORCING SHALL HAVE CORES FILLED WITH 3000 PSI CONCRETE. INSTALLATION OF REINFORCEMENT SHALL BE CONTINUOUS AND RUN UNOBSTRUCTED BY BAR JOIST SEAT/BEARING PLATE ARRANGEMENTS.

5. PROVIDE VERTICAL CONTROL, EXPANSION OR CONTRACTION JOINTS SPACED AT 15'-O" ON-CENTER (MAX) AND LOCATE JOINTS AT EACH SIDE OF DOOR OPENINGS WHERE POSSIBLE FOR INTERIOR MASONRY WALLS. CONTROL JOINTS FOR EXTERIOR MASONRY WALLS SHALL BE AS INDICATED IN THIS NOTE OR AS SHOWN ON ARCHITECTURAL EXTERIOR ELEVATIONS.

6. OMIT REBAR/GROUTING IN MASONRY CELLS WHICH SHALL RECEIVE ROOF DRAIN LEADERS, CONDUITS, ETC. REQUIRED REINFORCEMENT SHALL BE INSTALLED IN THE ADJACENT CELL AND SHALL BE GROUTED SOLID.

7. HOLLOW CONCRETE BLOCK UNITS: GRADE N, 1000 PSI, MINIMUM COMPRESSIVE STRENGTH. WALL DESIGN STRENGTH, F'M = 1500 psi.

8. LAY UNITS IN RUNNING BOND - CORNERS SHALL HAVE A STANDARD BOND BY OVERLAPPING UNITS.

9. MORTAR: TYPE S.

10. GROUT: (3000) PSI MINIMUM 28 DAY COMPRESSIVE STRENGTH. ROD GROUT IMMEDIATELY AFTER POURING AND AGAIN APPROX. 5 MINUTES LATER.

11. MAXIMUM GROUT LIFT WITHOUT CLEANOUTS SHALL NOT EXCEED 4'-0" IN BLOCK WALLS.

12. TIE VERTICAL REINFORCING AT EACH END AND AT 8'-0" MAXIMUM VERTICAL SPACING USING SINGLE WIRE AND LOOP TYPE TIES AS MANUFACTURED BY A.A. WIRE PRODUCTS COMPANY OR APPROVED EQUAL.

13. IN ELEVATOR 8-INCH CMU WALLS, PROVIDE VERTICAL REINFORCING IN CENTER OF GROUT, AT CENTER OF WALL, CONTINUOUS FULL HEIGHT OF WALL AS FOLLOWS:

   A. REFER TO SCHEDULE DETAIL F1/SF200 FOR PER LEVEL FOR WALL AND JAMB REBAR REINFORCEMENT.
   B. RE (1) BAR VERTICAL AT CORNERS, INTERSECTIONS, AND EACH SIDE OF EXPANSION OR CONTROL JOINTS MATCHING THE REINFORCEMENT CALLED OUT FOR THAT LEVEL IN ABOVE NOTED SCHEDULE. , WALL ENDS, JAMBS.

14. PROVIDE 16" BOND BEAM AT EACH FLOOR ELEVATION AND AN 8" BOND BEAM AT ROOF LEVEL. PROVIDE (2) #5 CONTINUOUS BARS, TYPICAL. PLACE BOND BEAM REINFORCING CONTINUOUS THROUGH EXPANSION AND CONTROL JOINTS, WRAPPING BARS WITH 1/8-INCH THICK BOND BREAKING TAPE 24-INCHES BOTH SIDES OF JOINT. DO NOT SPLICE BOND BEAM REINFORCING WITHIN 6'-0" OF AN EXPANSION OR CONTROL JOINT.

15. PROVIDE CONTINUOUS WIRE LATHE GROUT BARRIERS AS REQUIRED UNDER FIRST COURSE OF GROUTED (3000 PSI CONC.) CELLS.

16. PROVIDE LADDER TYPE HORIZONTAL REINFORCEMENT PER SCHEDULE DETAIL F1/SF200 AT SPECIFIED SPACING IN SCHEDULE.

17. WET MASONRY WALLS THOROUGHLY FOR (3) CONSECUTIVE DAYS IMMEDIATELY AFTER PLACEMENT IF TEMPERATURES ARE/WILL BE ABOVE 80°F DURING THE DAY.

18. NO EXPANSION BOLTS SHALL BE ALLOWED IN MASONRY WALLS. (CHEMICAL ANCHORS ONLY)

19. MASONRY LAID IN OUTSIDE AIR TEMPERATURES BELOW 40°F SHALL BE PROTECTED IN ACCORDANCE WITH THE PROVISIONS OF THE "IMIAWC RECOMMENDED PRACTICES AND GUIDE SPECIFICATIONS FOR COLD WEATHER MASONRY".

20. MASONRY BLOCK CORES BELOW FINISH FLOOR SHALL BE FILLED SOLID WITH CONCRETE.

C16 MASONRY NOTES

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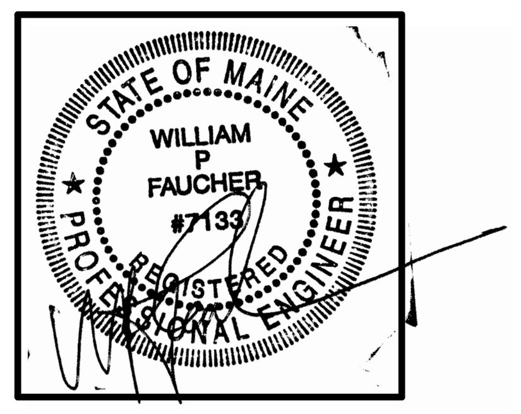

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REVISIONS

#	DATE	DESCRIPTION
-	09.14.17	PERMIT SET

DATE:	09.14.17
PROJECT #	010416
DRAWN BY:	PED
CHECKED BY:	WPF
DRAWING SCALE	AS NOTED

SHEET TITLE

STRUCTURAL - GENERAL INFORMATION-1

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