

STRUCTURAL DESIGN CRITERIA

BUILDING CODE
INTERNATIONAL BUILDING CODE (IBC)

DEAD LOAD

DESIGN DEAD LOAD TABLE
CONSTRUCTION DEAD LOAD
ROOF 15 PSF
SOFFITS/SUBKHEADS 35 PSF
EXTERIOR WALLS 100 PSF
INTERIOR PARTITIONS 8 PSF

EQUIPMENT DEAD LOAD TABLE
EQUIPMENT DEAD LOAD
RHP-1, RHP-2 1,400 LBS
RHP-3 975 LBS
SF-1 400 LBS
CU (TYP.) 200 LBS
KITCHEN HOOD 750 LBS

FLOOR LIVE LOAD

FLOOR LIVE LOAD TABLE
FLOOR USE UNIFORM LIVE LOADING CONCENTRATED LIVE LOADING
RETAIL 100 PSF --

ROOF LIVE LOAD

ROOF LIVE LOAD TABLE
ROOF TYPE UNIFORM LIVE LOADING CONCENTRATED LIVE LOADING
ORDINARY FLAT AND PITCHED ROOF 20 PSF 300 LBS

ROOF SNOW LOAD DATA

GROUND SNOW LOAD, ps = 0 PSF

WIND DESIGN DATA

ULTIMATE DESIGN WIND SPEED, Vult = 139 MPH
NOMINAL DESIGN WIND SPEED, Vnom = 108 MPH
RISK CATEGORY = II
WIND EXPOSURE = B
INTERNAL PRESSURE COEFFICIENT, (GCpi) = 0.18 (ENCLOSED)
COMPONENTS AND CLADDING ULTIMATE WIND PRESSURES = (SEE TABLE BELOW)
EDGE DISTANCE PARAMETER, a = 5.0 FT (SEE FIGURE TO RIGHT OF TABLE)

COMPONENTS & CLADDING ULTIMATE WIND PRESSURES

Table with columns: ELEMENT, ZONE, AREA (SQ. FT.), pnet (PSF) POSITIVE, NEGATIVE. Rows include ROOF and WALL zones with various area and pressure values.

STRUCTURAL DESIGN CRITERIA (CONTINUED)

EARTHQUAKE DESIGN DATA

RISK CATEGORY = II
SEISMIC IMPORTANCE FACTOR, Ie = 1.00
SITE CLASS = E
Ss = 1.762g
Si = 0.607g
SoB = 1.175g
SoI = 0.607g
T = 8 sec
SEISMIC DESIGN CATEGORY = D

SEISMIC FORCE RESISTING SYSTEM
SEISMIC FORCE RESISTING SYSTEM DETAILING SECTION R Omega Cc h- LIMIT
A7. SPECIAL REINFORCED MASONRY SHEAR WALLS 14.4 5 2 3 3 SDC D = 160

RESPONSE MODIFICATION COEFFICIENT, R = 5
ANALYSIS PROCEDURE UTILIZED = EQUIVALENT LATERAL FORCE PROCEDURE (ASCE 7-10 12.8)
SEISMIC RESPONSE COEFFICIENT, Cs = 0.235
SEISMIC BASE SHEAR, V = 82 KIPS

GEOTECHNICAL INFORMATION

PROJECT GEOTECHNICAL REPORT BY SUMMIT ENGINEERING LABORATORY & TESTING, P.C. AND DATED JANUARY 28, 2019.
ALLOWABLE VERTICAL BEARING PRESSURE = 2,000 PSF
ALLOWABLE LATERAL BEARING PRESSURE = 100 PSF/FT BELOW NATURAL GRADE
FOOTING-SOIL COEFFICIENT OF FRICTION = 0.10

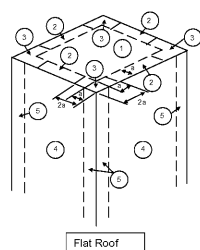
FLOOD DESIGN DATA

FLOOD ZONE = X

SPECIAL LOADS

NOT APPLICABLE

FIGURE: COMPONENTS AND CLADDING WIND PRESSURE ZONES (ASCE 7-10 TABLE 30.7-2)
CHAPTER 30 WIND LOADS - COMPONENTS AND CLADDING



GENERAL REQUIREMENTS

- 1. THE INTENT OF THESE DRAWINGS IS TO SHOW ALL ITEMS NECESSARY TO COMPLETE THE STRUCTURE. FOR ITEMS, METHODS AND/OR MATERIALS NOT SHOWN, THE MINIMUM REQUIREMENTS OF THE 2015 INTERNATIONAL BUILDING CODE SHALL GOVERN, AS AMENDED BY THE STATE AND LOCAL GOVERNING AGENCIES OF THE PROJECT LOCATION.
2. ALL DRAWINGS ARE CONSIDERED TO BE A PART OF THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REVIEW AND COORDINATION OF ALL DRAWINGS AND SPECIFICATIONS PRIOR TO THE START OF CONSTRUCTION. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT PRIOR TO START OF CONSTRUCTION SO THAT A CLARIFICATION CAN BE PROVIDED.
3. ANY WORK PERFORMED IN CONFLICT WITH THE CONTRACT DOCUMENTS OR ANY CODE REQUIREMENTS SHALL BE CORRECTED BY THE CONTRACTOR AT THEIR OWN EXPENSE AND AT NO EXPENSE TO THE OWNER, ARCHITECT OR ENGINEER.
4. DRAWINGS ARE NOT TO BE SCALED. WRITTEN DIMENSIONS SHALL GOVERN CONSTRUCTION. THE CONTRACTOR SHALL VERIFY DIMENSIONS WITH THE ARCHITECTURAL DRAWINGS AND THE SITE CONDITIONS PRIOR TO CONSTRUCTION. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT AND THE ENGINEER SO THAT CLARIFICATION CAN BE PROVIDED.
5. THE STRUCTURAL CONSTRUCTION DOCUMENTS REPRESENT THE FINISHED STRUCTURE. THEY DO NOT INDICATE THE METHOD OR SEQUENCE OF CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR AND PROVIDE ALL MEASURES NECESSARY TO PROTECT THE STRUCTURE DURING CONSTRUCTION. SUCH MEASURES SHALL INCLUDE, BUT NOT BE LIMITED TO, BRACING, SHORING FOR LOADS DUE TO CONSTRUCTION EQUIPMENT, ETC. THE STRUCTURAL ENGINEER SHALL NOT BE RESPONSIBLE FOR THE CONTRACTOR'S MEANS, METHODS, TECHNIQUES AND SEQUENCES FOR PROCEDURE OF CONSTRUCTION, OR THE SAFETY PRECAUTIONS AND THE PROGRAMS INCIDENT THERE TO (NOR SHALL OBSERVATION VISITS TO THE SITE INCLUDE INSPECTION OF THESE ITEMS). THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN AND IMPLEMENTATION OF ALL SCAFFOLDING, BRACING AND SHORING.
6. NOTES AND DETAILS ON DRAWINGS SHALL TAKE PRECEDENCE OVER GENERAL NOTES AND TYPICAL DETAILS. WHERE NO DETAILS ARE SHOWN, CONSTRUCTION SHALL CONFORM TO SIMILAR WORK ON THE PROJECT. WHERE DISCREPANCIES OCCUR BETWEEN PLANS, DETAILS, GENERAL STRUCTURAL NOTES AND SPECIFICATIONS, THE GREATER REQUIREMENTS SHALL GOVERN.
7. ANY DELEGATED ENGINEERING DESIGN TO BE PROVIDED BY OTHERS AND SUBMITTED FOR REVIEW SHALL MEET THE CRITERIA HEREIN, AND SHALL BEAR THE SEAL OF AN ENGINEER REGISTERED IN THE STATE OF THE PROJECT. ALTERNATE PRODUCTS OF SIMILAR STRENGTH, NATURE AND FORM FOR SPECIFIED ITEMS MAY BE SUBMITTED WITH ADEQUATE TECHNICAL DOCUMENTATION TO THE ARCHITECT FOR REVIEW. ALTERNATE MATERIALS THAT ARE SUBMITTED WITHOUT ADEQUATE TECHNICAL DOCUMENTATION OR THAT SIGNIFICANTLY DEVIATE FROM THE DESIGN INTENT OF MATERIALS SPECIFIED MAY BE RETURNED WITHOUT REVIEW.
8. NO STRUCTURAL MEMBER SHALL BE CUT OR NOTCHED OR OTHERWISE REDUCED IN STRENGTH UNLESS APPROVED BY THE STRUCTURAL ENGINEER.
9. DISSIMILAR METALS MUST BE SEPARATED BY A COATING SUCH AS ECK CORROSION COATING OR APPROVED EQUIVALENT OR NEOPRENE GASKET MATERIAL TO PREVENT GALVANIC ACTION.
10. ELECTRONIC DRAWING FILES WILL NOT BE PROVIDED TO THE CONTRACTOR REPRODUCTION OF STRUCTURAL DRAWINGS FOR SHOP DRAWINGS IS NOT PERMITTED.
11. REVIEW OF SUBMITTALS OR SHOP DRAWINGS BY THE DESIGN PROFESSIONAL DOES NOT RELIEVE THE CONTRACTOR OF THE SOLE RESPONSIBILITY TO REVIEW AND CHECK ALL SUBMITTALS AND SHOP DRAWINGS BEFORE SUBMITTING TO THE DESIGN PROFESSIONAL. CONTRACTOR REMAINS SOLELY RESPONSIBLE FOR ERRORS AND OMISSIONS ASSOCIATED WITH THE PREPARATIONS OF SHOP DRAWINGS AS THEY PERTAIN TO MEMBER SIZES, DETAILS, AND DIMENSIONS SPECIFIED IN THE CONTRACT DOCUMENTS.
12. STRUCTURAL DESIGN PROFESSIONAL IS NOT RESPONSIBLE FOR THE DESIGN OF STEEL BRACKETS, HANDRAILS, CURTAIN WALL/WINDOW WALL SYSTEMS, COLD-FORMED METAL FRAMING, OR OTHER SYSTEMS NOT SHOWN IN THE STRUCTURAL DOCUMENTS. SUCH SYSTEMS SHALL BE DESIGNED, FURNISHED, AND INSTALLED AS REQUIRED BY OTHER PORTIONS OF THE CONTRACT DOCUMENTS.
13. STANDARDS REFERENCED HEREIN SHALL BE TAKEN FROM THE BUILDING CODE INDICATED ON THE STRUCTURAL NOTES.

REQUIRED SUBMITTALS table with columns: SECTION, SUBMITTAL TYPE, SUBMITTAL DESCRIPTION. Rows include 01000 CONCRETE, 02000 CONCRETE UNIT MASONRY, 03000 MASONRY, 04 MASONRY, 05 METALS, 052100 STEEL JOIST FRAMING, 053100 STEEL DECKING, 054000 COLD-FORMED METAL FRAMING, 06 WOOD, PLASTICS, COMPOSITES, 061000 ROUGH CARPENTRY.

STRUCTURAL SPECIAL INSPECTIONS

- 1. SPECIAL STRUCTURAL TESTS AND INSPECTIONS SHALL BE PERFORMED ON THIS PROJECT IN ACCORDANCE WITH THE REQUIREMENTS OF CHAPTER 17 OF THE INTERNATIONAL BUILDING CODE (IBC). THE FOLLOWING DOCUMENTS HAVE BEEN PREPARED FOR THIS PROJECT AS A PART OF THESE CONSTRUCTION DOCUMENTS:
a. STATEMENT OF SPECIAL INSPECTIONS
b. SCHEDULE OF SPECIAL INSPECTIONS
c. STATEMENT OF SPECIAL INSPECTIONS REQUIREMENTS FOR WIND RESISTANCE
d. STATEMENT OF SPECIAL INSPECTIONS REQUIREMENTS FOR SEISMIC RESISTANCE
2. SPECIAL STRUCTURAL TESTS AND INSPECTIONS SHALL BE PERFORMED BY AN AGENCY SELECTED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER OF RECORD. THE AGENCY SHALL MEET ALL OF THE REQUIREMENTS FOR APPROVAL INDICATED IN IBC SECTION 1703.1. SPECIAL INSPECTORS SHALL BE QUALIFIED PERSONS WHO SHALL DEMONSTRATE COMPETENCE TO THE SATISFACTION OF THE BUILDING OFFICIAL FOR INSPECTION OF THE PARTICULAR TYPE OF CONSTRUCTION OR OPERATION REQUIRING SPECIAL INSPECTION. THE CONTRACTOR SHALL COORDINATE THE INSPECTION SERVICES IN ACCORDANCE WITH THE PROGRESS OF THE WORK. THE CONTRACTOR SHALL PROVIDE SUFFICIENT NOTICE TO THE INSPECTOR TO ALLOW PROPER SCHEDULING OF PERSONNEL.
3. ALL REPORTS AND SHOP CERTIFICATION OF SPECIAL INSPECTIONS TO BE PERFORMED ON THE PREMISES OF A FABRICATOR'S SHOP SHALL BE SUBMITTED TO THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DISTRIBUTING THESE REPORTS TO THE SPECIAL INSPECTOR, THE ARCHITECT, AND THE ENGINEER OF RECORD IN A TIMELY MANNER.
4. THE COSTS OF THE SPECIAL INSPECTOR'S SERVICES SHALL BE PAID FOR BY THE OWNER. SPECIAL INSPECTIONS REPORTS AND A FINAL REPORT IN ACCORDANCE WITH IBC SECTION 1704.2.4 SHALL BE SUBMITTED TO THE BUILDING OFFICIAL PRIOR TO THE TIME THAT PHASE OF THE WORK IS APPROVED FOR OCCUPANCY.
5. REPORTS SHALL INDICATE THAT THE WORK WAS PERFORMED AND CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. WORK NOT IN CONFORMANCE SHALL BE IDENTIFIED IN THE REPORT AND BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR.
6. A FINAL REPORT OF INSPECTIONS DOCUMENTING REQUIRED SPECIAL INSPECTIONS, INCLUDING ANY DISCREPANCIES NOTED IN THE INSPECTIONS SHALL BE SUBMITTED TO THE BUILDING OFFICIAL, THE ARCHITECT, AND THE ENGINEER OF RECORD PRIOR TO COMPLETION OF THE STRUCTURAL SYSTEMS AT A FREQUENCY NOT TO EXCEED 90 DAYS.

SUBGRADE PREPARATION

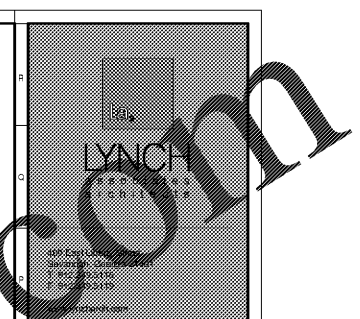
- 1. CONTRACTOR SHALL FOLLOW SITE WORK RECOMMENDATIONS LISTED IN THE PROJECT GEOTECHNICAL REPORT BY SAME, INC. DATED JULY 19, 2018.

FOUNDATIONS

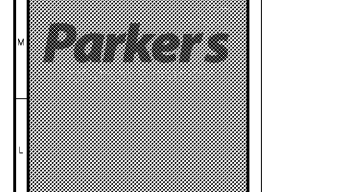
- THE FOUNDATION DESIGN IS BASED UPON THE RECOMMENDATIONS AND DESIGN PARAMETERS INCLUDED IN THE PROJECT GEOTECHNICAL REPORT PREPARED BY SAME, INC. AND DATED JULY 19, 2018.
SOIL PRESSURES TO BE USED FOR FOUNDATION DESIGN:
a. ALL ALLOWABLE PASSIVE PRESSURE = 2000 PSF
b. ALL ALLOWABLE ACTIVE PRESSURE = 200 PSF
3. FOUNDATION SHALL BE PLACED ON COMPACTED SUBGRADE. SEE SUBGRADE PREPARATION NOTES.
4. THE BOTTOM OF ALL EXTERIOR FOUNDATIONS SHALL BE A MINIMUM OF 18 INCHES BELOW FINISHED GRADE UNLESS NOTED OTHERWISE.
5. REMOVE WATER SOFTENED SOILS FROM FOUNDATION EXCAVATIONS PRIOR TO PLACING CONCRETE. FILL REMAINING VOIDS WITH ADDITIONAL CONCRETE.
6. ALL FOUNDATION REINFORCEMENT SHALL BE PROPERLY TIED IN PLACE PRIOR TO PLACEMENT OF CONCRETE. WHERE FINISHED GRADES DIFFER ON OPPOSITE SIDES OF FOUNDATION WALLS, PROVIDE TEMPORARY BRACING TO PREVENT LATERAL MOVEMENT UNTIL ALL ADJACENT FILL, COMPACTION, FLOOR SLABS, AND FRAMING AT NEXT LEVEL HAS BEEN COMPLETED.
8. WHERE GRAVITY PLUMBING LINES OCCUR BELOW TOP OF WALL FOOTING, STEP FOOTING DOWN TO PROVIDE CLEARANCES INDICATED ON DETAIL "WALL FOOTING DETAILS - INTERFERENCE OFFSET AT GRAVITY SEWER" UNLESS OTHERWISE SPECIFIED. COORDINATE WITH PLUMBING DRAWINGS FOR LOCATIONS, SIZES, AND INVERTS.

CAST-IN-PLACE CONCRETE

- 1. ALL CAST-IN-PLACE CONCRETE CONSTRUCTION SHALL COMPLY WITH THE FOLLOWING ACI PUBLICATIONS:
a. ACI 301-10 - GENERAL CONSTRUCTION REQUIREMENTS
b. ACI 117-10 - TOLERANCES FOR CONCRETE CONSTRUCTION
2. CONCRETE SHALL BE NORMAL-WEIGHT CONCRETE (145 PCF) WITH MIXES MEETING THE FOLLOWING CRITERIA:
a. FOUNDATION ELEMENTS & SLAB ON GRADE
• MINIMUM 28-DAY COMPRESSIVE STRENGTH = 3000 PSI
• COARSE AGGREGATE SIZE = #57 STONE
• MAXIMUM WATER-TO-CEMENTITIOUS MATERIALS RATIO = 0.60
• SLUMP LIMIT = 5 INCHES (±1 INCH)
• AIR CONTENT = 4.5% (+/-1.5%)
3. ACCEPTABLE CEMENTITIOUS MATERIALS:
a. PORTLAND CEMENT - ASTM C 150, TYPE II
b. FLY ASH - ASTM C 618
c. SLAG CEMENT - ASTM C 989
d. BLENDED HYDRAULIC CEMENT - ASTM C 596, TYPE IS OR TYPE IP
4. ALL EXPOSED CONCRETE EDGES SHALL HAVE A 3/4-INCH CHAMFER.
5. OPENINGS, POCKETS, ETC., LARGER THAN 6" SHALL NOT BE PLACED IN CONCRETE SLABS, DECKS, WALLS, UNLESS SPECIALLY DETAILED ON THE STRUCTURAL DRAWINGS. THE CONTRACTOR SHALL NOTIFY THE STRUCTURAL ENGINEER WHEN DRAWINGS BY OTHERS SHOW OPENINGS, POCKETS, ETC., LARGER THAN 6" NOT SHOWN ON THE STRUCTURAL DRAWINGS, BUT WHICH ARE LOCATED IN STRUCTURAL MEMBERS. FOR ANY FURTHER RESTRICTIONS ON OPENINGS IN STRUCTURAL ELEMENTS, SEE APPLICABLE SECTIONS BELOW.
6. PIPES LARGER THAN 1 1/2" DIAMETER SHALL NOT BE EMBEDDED IN STRUCTURAL CONCRETE EXCEPT WHEN WHERE SPECIFICALLY APPROVED. NO CONDUITS SHALL BE PLACED IN CONCRETE FILL OVER METAL DECKING.
7. REQUIRED CAST-IN-PLACE CONCRETE SUBMITTALS TO ENGINEER:
a. PRODUCT DATA - SUBMIT TECHNICAL PRODUCT DATA FOR ANY ADMIXTURES OR CONCRETE-RELATED CONSTRUCTION PRODUCTS.
b. DESIGN MIXTURES - THE FOLLOWING ITEMS ARE REQUIRED:
• MIX IDENTIFICATION BY MEANS OF CLASS OR LOCATION WHERE MIX WILL BE USED.
• STRENGTH OF CONCRETE.
• TARGET SLUMP, WATER-TO-CEMENT RATIO, DENSITY, AND AIR CONTENT.
• LIST OF ALL MATERIALS, ADMIXTURES, AND ADDITIVES ALONG WITH THEIR PROPORTIONS.
• NOMINAL MAXIMUM AGGREGATE SIZE AND COMBINED AGGREGATE GRADATION.
• CALCULATIONS AND TEST RESULTS REQUIRED BY ACI 318-14 CHAPTER 26
• TEST RESULTS OF TOTAL CHLORIDE CONTENT.
• INFORMATION ON CONCRETE MATERIALS AS PER ACI 301-14 SECTION 26.4
• TEST RESULTS PER ASTM C 33, INCLUDING THE CLEANNESS VALUE, SAND EQUIVALENT, AND ALKALI-SILICA REACTIVITY (ASR) POTENTIAL AND MITIGATION, IF REQUIRED.
• MILL CERTIFICATE FOR THE CEMENT INDICATING THE SOURCE OF THE CEMENT AND COMPLIANCE WITH THE PROJECT SPECIFICATION.
• MILL ANALYSIS FOR SUPPLEMENTARY CEMENTITIOUS MATERIALS (INCLUDING FLY ASH AND SLAG CEMENT) AND AGGREGATES FROM THE MANUFACTURER.
• CERTIFICATION BY THE MANUFACTURERS THAT THE ADMIXTURES CONFORM TO THE SPECIFIED STANDARDS.
• WHETHER MIX IS APPROPRIATE FOR PUMPING.
• THERMAL CONTROL PLAN INCLUDING HOT WEATHER AND COLD WEATHER PLACEMENT.
c. STEEL REINFORCEMENT SHOP DRAWINGS - PLACING DRAWINGS THAT DETAIL FABRICATION, BENDING, AND PLACEMENT OF REINFORCEMENT.
d. 28-DAY CONCRETE ACCEPTANCE TEST REPORT AS REQUIRED BY ACI 318-14 SECTION 26.13.2

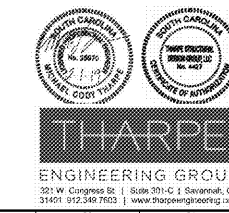


PARKER'S CANE BAY
THE PARKER COMPANIES
17 WEST MIDWINTERHURST
DAYTONA, FL 32117



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Revisions table with columns: No., Date, Description. Below it, 'STRUCTURAL NOTES' and 'S001'.