

GENERAL CONDITIONS:

- THE FOLLOWING NOTES SHALL APPLY TO ALL STRUCTURAL DRAWINGS.
- ALL DESIGN AND CONSTRUCTION SHALL BE BASED ON AND IN ACCORDANCE WITH THE 2015 VIRGINIA UNIFORM STATEWIDE BUILDING CODE.
- THE GENERAL CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND SITE CONDITIONS AND NOTIFY THE ARCHITECT PRIOR TO FABRICATION AND CONSTRUCTION. FOR DIMENSIONS NOT SHOWN ON THE STRUCTURAL DRAWINGS, SEE THE ARCHITECTURAL DRAWINGS.
- IF MATERIAL QUANTITIES, STRENGTHS OR SIZES INDICATED BY THE DRAWINGS OR SPECIFICATIONS ARE NOT IN AGREEMENT WITH THESE NOTES, THE BETTER QUALITY AND/OR QUANTITY, STRENGTH OR NOTED SHALL BE PROVIDED.
- IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE ERECTION PROCEDURE AND SEQUENCE TO ENSURE THE SAFETY OF THE STRUCTURE AND ITS COMPONENT PARTS DURING ERECTION. THIS INCLUDES, BUT IS NOT LIMITED TO, THE ADDITION OF TEMPORARY WHATEVER BRACING, GUYS, TIE-DOWNS OR SHORING MAY BE NECESSARY. SUCH MATERIAL SHALL BE REMOVED AND SHALL REMAIN THE PROPERTY OF THE CONTRACTOR AFTER THE COMPLETION OF THE PROJECT.
- IT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR FOR INITIATING, MAINTAINING AND SUPERVISING ALL SAFETY PROCEDURES. THE STRUCTURAL ENGINEER OF RECORD IS NOT RESPONSIBLE FOR MEANS AND METHODS OF CONSTRUCTION OR FOR RELATED SAFETY PROCEDURES.
- THE STRUCTURAL DRAWINGS ARE ONE DISCIPLINE OF THE CONTRACT DOCUMENTS AND DO NOT BY THEMSELVES CONTAIN ALL THE INFORMATION REQUIRED TO PROPERLY COMPLETE THE PROJECT STRUCTURE. THE GENERAL CONTRACTOR SHALL REFER TO THE ARCHITECTURAL, MECHANICAL, ELECTRICAL AND PLUMBING DRAWINGS AND COORDINATE THE INFORMATION INDICATED IN THESE CONSTRUCTION DOCUMENTS WITH THE STRUCTURAL DRAWINGS TO PROPERLY CONSTRUCT THE PROJECT.
- ALL DETAILS, SECTIONS AND NOTES INDICATED ON THE CONSTRUCTION DOCUMENTS ARE INTENDED TO BE TYPICAL AND SHALL APPLY TO SIMILAR SITUATIONS ELSEWHERE UNLESS OTHERWISE SHOWN.
- SPECIALTY ENGINEERED PRODUCTS
 - THE GENERAL CONTRACTOR IS RESPONSIBLE TO COORDINATE THE PROPER SUBMISSION OF SHOP DRAWINGS FOR SPECIALTY ENGINEERED PRODUCTS WHICH SHALL BE SIGNED AND SEALED BY A LICENSED PROFESSIONAL ENGINEER IN THE STATE WHERE THE PROJECT IS LOCATED. CONTRACTOR'S RESPONSIBILITY TO ASSURE THAT THE SPECIALTY ENGINEERED SHOP DRAWINGS ARE SUBMITTED IN A TIMELY MANNER SO AS TO ALLOW REVIEWS AND RESUBMISSIONS AS REQUIRED. ALL SPECIALTY ENGINEERED PRODUCTS SHALL BE DESIGNED FOR THE APPROPRIATE GRAVITY LOADS AND WIND LOADS INCLUDING UPLIFT AND LATERAL LOADS. INTERIOR SPECIALTY PRODUCTS SHALL BE DESIGNED FOR LATERAL LOADS TO ASSURE STABILITY. SPECIALTY ENGINEERED PRODUCTS SHALL BE, BUT ARE NOT LIMITED TO, THE FOLLOWING:
 - LADDERS
 - HANDRAILS
 - CLADDING SYSTEMS
 - MISCELLANEOUS STEEL
- DESIGN LOADS:
 - DESIGN ROOF DEAD LOAD:
 - 25 PSF
 - DESIGN ROOF LIVE LOAD:
 - 30 PSF
 - DESIGN LIVE LOAD FOR FLOOR:
 - 100 PSF
 - DESIGN WIND LOAD:
 - ULTIMATE DESIGN WIND SPEED (3 SECOND GUST), $V_{ult} = 115$ MPH. NOMINAL DESIGN WIND SPEED (3 SECOND GUST), $V_{asd} = 90$ MPH.
 - RISK CATEGORY: II
 - WIND EXPOSURE CATEGORY: C
 - COMPONENTS AND CLADDING WIND PRESSURE: SEE WIND LOAD SCHEDULE THIS SHEET.
 - INTERNAL PRESSURE COEFFICIENTS +/- 0.18
 - WIND-BORNE DEBRIS REGION (WITHIN HURRICANE-PRONE REGIONS)
 - WITHIN 1 MILE OF THE COASTAL MEAN HIGH WATER LINE WHERE WIND IS 130 MPH OR GREATER; OR
 - IN AREAS WHERE WIND IS 140 MPH OR GREATER.
- SEISMIC DESIGN DATA:
 - $S_s = 0.126g$ $S_1 = 0.052g$
 - SITE CLASS D
 - $F_o = 1.0$ $F_v = 2.4$
 - $S_{M1} = 0.201g$ $S_{M2} = 0.126g$
 - $S_{D1} = 0.134g$ $S_{D2} = 0.084g$
 - RISK CATEGORY II
 - SEISMIC IMPORTANCE FACTOR = 1.0
 - SEISMIC DESIGN CATEGORY B
- DESIGN SNOW LOAD:
 - GROUND SNOW LOAD, $P_g = 30$ PSF
 - EXPOSURE FACTOR, $C_e = 1.0$
 - THERMAL FACTOR, $C_t = 1.0$
 - SNOW IMPORTANCE FACTOR, $I_s = 1.0$
 - FLAT ROOF SNOW LOAD, $P_f = 21$ PSF
- SHOP DRAWINGS:
 - THE CONTRACTOR SHALL SUBMIT, AS REQUIRED, PRINTS OF SHOP DRAWINGS FOR ALL FABRICATED MATERIALS TO ARCHITECT FOR REVIEW. REPRODUCTION OF CONTRACT DRAWINGS FOR SHOP DRAWINGS WILL NOT BE PERMITTED.
 - REVIEW OF SHOP DRAWINGS BY THE ARCHITECT/ENGINEER DOES NOT RELIEVE THE CONTRACTOR OF THE SOLE RESPONSIBILITY FOR ERRORS AND OMISSIONS ASSOCIATED WITH THE PREPARATION OF THOSE SHOP DRAWINGS.
 - SHOP DRAWINGS REQUIRING SPECIAL ENGINEERING DESIGN BY THE FABRICATOR INCLUDING THE CURTAIN WALL GLAZING SYSTEM SHALL BE APPROVED BY A PROFESSIONAL ENGINEER OF RECORD IN THE STATE OF THE PROJECT'S LOCATION. SUBMITTING FOR REVIEW BY THE ARCHITECT/ENGINEER THESE DRAWINGS SHALL BE AVAILABLE AT THE JOB SITE DURING ALL OBSERVATIONS.
- THE FOLLOWING SHOP DRAWINGS SHALL BE SUBMITTED:
 - CONCRETE MIX DESIGN
 - CONCRETE REINFORCING STEEL AND WELDED WIRE FABRIC
 - STRUCTURAL STEEL
 - CONCRETE MASONRY UNIT SUBMITTALS AND OTHER ACCESSORIES

FOUNDATION:

- FOUNDATION DESIGN IS BASED ON AN ASSUMED ALLOWABLE SOIL BEARING PRESSURE OF 1500 PSF TO BE CONFIRMED BY A LICENSED GEOTECHNICAL ENGINEER.
- THE SITE SHALL BE PREPARED UNIFORM IN ACCORDANCE WITH CIVIL DRAWINGS, SPECIFICATIONS, SOILS REPORT AND THE ALLOWABLE BEARING PRESSURE.
- ALL EXCAVATIONS AND BUILDING PADS SHALL BE INSPECTED BY A QUALIFIED GEOTECHNICAL ENGINEER TO VERIFY THE DESIGN ASSUMPTIONS AND REPORT ADVERSE CONDITIONS.
- WHERE FILL IS REQUIRED, IT SHALL BE PLACED IN ACCORDANCE WITH INSTRUCTIONS OF A QUALIFIED GEOTECHNICAL ENGINEER TO MAINTAIN DESIGN BEARING PRESSURE.
- FOOTING ELEVATIONS GIVEN ARE FOR THE PURPOSE OF DESIGN. SOIL BELOW FOOTING NOT MEETING DESIGN BEARING PRESSURE SHALL BE EXCAVATED TO A DEPTH OF VERIFIABLE DESIGN PRESSURE AND BACKFILLED PER SOIL REPORT RECOMMENDATIONS TO LEVEL OF FOUNDATION BEARING. THIS SHALL BE APPROVED BY A QUALIFIED GEOTECHNICAL ENGINEER.
- ALL EXCAVATION SHALL BE KEPT DRY. EXCAVATE TO DEPTHS AND DIMENSIONS INDICATED. TAKE EVERY PRECAUTION TO GUARD AGAINST ANY MOVEMENT OR SETTLEMENT OF ADJACENT STRUCTURES, UTILITIES, PIPING, ETC.
- PROVIDE ANY BRACING OR SHORING NECESSARY TO AVOID SETTLEMENT OR DISPLACEMENT OF EXISTING FOUNDATION OR STRUCTURES.
- BACKFILL AGAINST WALLS SHALL BE PLACED EVENLY EACH SIDE UNLESS SHORING IS PROVIDED BY THE CONTRACTOR. SHORING SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND SHALL REMAIN IN PLACE UNTIL STRUCTURAL ELEMENT BRACING THE WALL ARE IN PLACE AND HAVE REACHED FULL DESIGN STRENGTH.

CONCRETE:

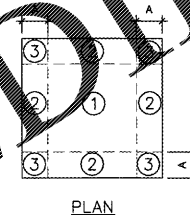
- CONCRETE MEMBERS TO HAVE THE FOLLOWING MINIMUM COMPRESSIVE STRENGTHS AT 28 DAYS:
 - FOUNDATIONS 3000 PSI
 - SLAB-ON-GRADE 3000 PSI
 ALL OTHER CONCRETE TO BE 3000 PSI UNLESS NOTED OTHERWISE.
 - ALL CONCRETE SHALL BE READY MIX AND MEET THE FOLLOWING REQUIREMENTS:
 - CONCRETE SLUMP SHALL BE 4 INCHES PLUS OR MINUS 1".
 - CONCRETE SHALL HAVE 2 TO 4 PERCENT AIR ENTRAINMENT.
 - ALL CONCRETE TO HAVE MAXIMUM WATER/CEMENT RATIO OF 0.54.
 - CONCRETE MIX SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF ACI 301 CHAPTER 3, METHOD 1 OR METHOD 3. CONTRACTOR SHALL SUBMIT BACKUP DATA PER CHAPTER 5 SECTION 5.3 OF ACI 318 LATEST EDITION.
 - ALL REINFORCING STEEL SHALL BE NEW DOMESTIC DEFORMED BILLET STEEL CONFORMING TO ASTM A-615 GRADE 60. SUBMIT ALL REINFORCING STEEL SUBMIT ALL SHOP DRAWINGS FOR APPROVAL PRIOR TO ANY FABRICATION.
 - CONCRETE COVER FOR REINFORCING STEEL SHALL BE AS REQUIRED BY ACI SPECIFICATIONS.
 - WELDED WIRE FABRIC SHALL CONFORM WITH ASTM A 185. WELDED WIRE FABRIC SHALL BE LAPPED AT LEAST 12 INCHES UNLESS NOTED OTHERWISE.
 - LAP ALL BARS MINIMUM 48 DIAMETERS UNLESS OTHERWISE NOTED ON DRAWINGS.
 - PROVIDE ACI STANDARD HOOKS UNLESS NOTED OTHERWISE ON DRAWINGS.
 - ALL CONCRETE WORK SHALL CONFORM TO ACI 318 LATEST EDITION AND "THE BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE STRUCTURES", AND ACI 301 "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDING STRUCTURES".
 - ALL CONCRETE DETAILS SHALL CONFORM TO ACI 315 LATEST EDITION "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES" UNLESS NOTED OTHERWISE ON THE DRAWINGS.
 - CONTRACTOR SHALL REFER TO ARCHITECTURAL AND MECHANICAL DRAWINGS FOR LOCATIONS AND SIZES OF SLEEVES, OPENINGS, EMBEDDED ITEMS, SLAB RECESSES, SLOPES, ECT. THESE ITEMS SHALL BE COORDINATED WITH OTHER TRADES AND INSTALLED PRIOR TO CONCRETE PLACEMENT.
 - CONTRACTOR SHALL VERIFY ANCHOR BOLT SIZES AND LOCATIONS PRIOR TO CONCRETE PLACEMENT.
 - BAR LENGTHS PROVIDED ON DRAWINGS DO NOT INCLUDE HOOK LENGTH. HOOKS SHALL BE PROVIDED AT TOP BARS AT BEAM JOINTS AND SLAB EDGES.
 - CONTRACTOR SHALL PROVIDE CHAIRS, BOLSTERS, SPACERS, ECT. AS REQUIRED TO SECURELY SUPPORT REINFORCEMENT. SUPPORT ITEMS ON EXPOSED CONCRETE SHALL BE PLASTIC SUPPORTS. REINFORCEMENT, TIPPED OR STAINLESS STEEL IN HIGHLY CORROSIVE ENVIRONMENTS, SUPPORT ITEM SHALL BE PLASTIC.
 - THE CONTRACTOR SHALL SEAL ALL HAIRLINE CRACKING IN CONCRETE SLAB ON GRADE WITH A CRACK SUPPRESSION KIT SUCH AS LATICRETE OR APPROVED EQUAL.
 - COPY OF THE "FIELD REFERENCE MANUAL" ACI SP-15 LATEST EDITION SHALL BE KEPT BY THE CONTRACTOR ON SITE.
- ONE COPY OF ALL THE CONCRETE TEST RESULTS SHALL BE SUBMITTED BY THE TESTING AGENCY DIRECTLY TO THE ENGINEER OF RECORD.

STRUCTURAL STEEL:

- CONFORM TO AISC MANUAL OF STEEL CONSTRUCTION, 13TH EDITION.
- MATERIALS:
 - ASTM A 500, GRADE B, F_y=46 KSI FOR STRUCTURAL TUBING.
 - ASTM A 501, F_y=36 KSI FOR PIPES.
 - ASTM A 325, TYPE 1, FOR HIGH STRENGTH BOLTS.
 - ASTM A 307, GRADE A, ANCHOR BOLTS.
 - ASTM A 36, F_y=36 KSI FOR PLATES, BARS, RODS, AND ANGLES.
 - ASTM A 563, HEAVY HEX NUTS.
 - ASTM A 436, HARDENED STEEL WASHERS.
- STRUCTURAL STEEL SHALL RECEIVE ONE SHOP COAT OF RUST INHIBITIVE PRIMER UNLESS THE STEEL IS TO RECEIVE SPRAY ON CEMENTITIOUS FIREPROOFING. SEE ARCHITECTURAL DRAWINGS. ALL EXPOSED STEEL SHALL BE HOT DIPPED GALVANIZED OR COATED WITH CORROSION INHIBITED PAINT.

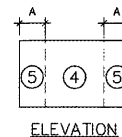
ROOF WIND UPLIFT PRESSURES (PSF)				
EFFECTIVE WIND AREA	V _{asd} =90 MPH, EXP. C, I = 1.0 RISK CATEGORY II, C _{pi} = +/- 0.18			
	10	20	50	100
ROOF ZONES				
(1)	+7.6/-18.8	+7.2/-18.3	+6.6/-17.7	+6.1/-17.2
(2)	+7.6/-31.5	+7.2/-28.1	+6.6/-23.7	+6.1/-20.4
(3)	+7.6/-47.5	+7.2/-39.3	+6.6/-31.5	+6.1/-20.4

1. EDGE DISTANCE A = 12.0 FEET



COMPONENT AND CLADDING WIND PRESSURES				
EFFECTIVE WIND AREA	V _{asd} =90 MPH, EXP. C, I = 1.0 RISK CATEGORY II, C _{pi} = +/- 0.18			
	10	20	50	100
WALL ZONES				
(4)	+18.8/-20.4	+17.9/-19.5	+16.8/-18.4	+16.0/-17.5
(5)	+18.8/-25.2	+17.9/-23.5	+16.8/-21.3	+16.0/-19.5

1. EDGE DISTANCE A = 12.0 FEET



HAROLD G. HIGGENBOTHAM, P.E.
REGISTERED PROFESSIONAL ENGINEER
3222 CARRINGTON SUITE F
ORLANDO, FLORIDA 32805
PHONE 407.286.1787
FAX 407.286.2281

ENGINEER'S SEAL:



Digitally signed
by Harold G
Higgenbotham
Date:
2020.03.04
07:45:46 -05'00'

HAROLD G. HIGGENBOTHAM, P.E.
VIRGINIA LIC. NO. 042954

REVISIONS

NO. DATE REVISIONS

1 3-10-20 PERMIT COMMENTS

FOOD LION
2110 Executive Drive, Solomons, VA 20145
Telephone: 703.533.8250
foodlion.com
Food Lion is a HEBE/ARCA company.

FOOD LION
REMODEL
STORE #1208
13490 DUMFRIES RD
MANASSAS, VA 20112

PROJECT NO: 2019.0917
DATE: 02-13-20

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STRUCTURAL NOTES

CHECKED: HIGH DRAWN: RED