GENERAL NOTES

1. GENERAL:

A. APPLICABLE STRUCTURAL CODE: NORTH CAROLINA BUILDING CODE - 2018 EDITION, IN CONJUNCTION WITH ASCE 7-10 AND LOCAL AMENDMENTS.

B. THE STRUCTURAL CONSTRUCTION DOCUMENTS REPRESENT THE FINISHED STRUCTURE. EXCEPT WHERE NOTED, THEY DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL 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 OF RECORD SHALL NOT BE RESPONSIBLE FOR THE CONTRACTOR'S MEANS, METHODS, TECHNIQUES, SEQUENCES FOR PROCEDURE OF CONSTRUCTION, OR THE SAFETY PRECAUTIONS AND THE PROGRAMS INCIDENT THERETO (NOR SHALL OBSERVATION VISITS TO THE SITE INCLUDE INSPECTION OF THESE ITEMS).

C. WHERE REFERENCE IS MADE TO VARIOUS TEST STANDARDS FOR MATERIALS, SUCH STANDARDS SHALL BE THE REFERENCED EDITION AND/OR ADDENDA. ANY ENGINEERING DESIGN, PROVIDED BY OTHERS AND SUBMITTED FOR REVIEW, SHALL BEAR THE SEAL OF A REGISTERED ENGINEER RECOGNIZED BY THE BUILDING CODE JURISDICTION OF THIS PROJECT.

D. NOTES AND DETAILS ON DRAWINGS SHALL TAKE PRECEDENCE OVER GENERAL STRUCTURAL NOTES AND TYPICAL DETAILS. WHERE NO DETAILS ARE SHOWN, CONSTRUCTION SHALL CONFORM TO SIMILAR WORK ON THE PROJECT, AND/OR AS PROVIDED FOR IN THE CONTRACT DOCUMENTS. WHERE DISCREPENCIES OCCUR BETWEEN PLANS, DETAILS, GENERAL STRUCTURAL NOTES AND SPECIFICATIONS, THE GREATER REQUIREMENTS SHALL GOVERN.

E. THE STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH CIVIL, ARCHITECTURAL, MECHANICAL, PLUMBING, FIRE SPRINKLER, AND ELECTRICAL DRAWINGS. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATION OF ALL REQUIREMENTS INTO THE SHOP DRAWINGS AND CONSTRUCTION.

F. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO FOLLOW ALL APPLICABLE SAFETY CODES AND REGULATIONS DURING ALL PHASES OF CONSTRUCTION.

G. CONNECTIONS OF ALL ITEMS SUPPORTED BY THE STRUCTURE ARE THE RESPONSIBILITY OF THE DISCIPLINES WHO ARE MAKING THESE ATTACHMENTS. THESE ATTACHMENTS SHALL BE DESIGNED TO RESIST ALL GRAVITY, WIND, WIND UPLIFT, THERMAL LOADS, ETC.

H. WHERE A DETAIL, TYPICAL DETAIL, SECTION, TYPICAL SECTION OR A NOTE IS SHOWN FOR ONE CONDITION, IT SHALL APPLY FOR ALL LIKE OR SIMILAR CONDITIONS UNLESS OTHERWISE NOTED.

I. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND ELEVATIONS WITH THE ARCHITECTURAL DRAWINGS & FIELD CONDITIONS. BUILDING DIMENSIONS AND ELEVATIONS, WHERE SHOWN, WERE PROVIDED BY THE ARCHITECT AND IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY AND COORDINATE ALL DIMENSIONS PRIOR TO PROCEEDING WITH THE WORK. ANY DISCREPANCIES SHALL BE RESOLVED THROUGH THE ARCHITECT. ESTABLISH AND VERIFY ALL OPENINGS AND INSERTS FOR ARCHITECTURAL, CIVIL, MECHANICAL, PLUMBING AND ELECTRICAL ITEMS WITH THE APPROPRIATE TRADE DRAWINGS AND SUBCONTRACTORS PRIOR TO CONSTRUCTION.

J. ENGINEER'S REVIEW OF SHOP DRAWINGS, PRODUCT DATA, ETC. DOES NOT RELIEVE THE CONTRACTOR FROM MEETING THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL INFORM THE ENGINEER IN WRITING OF ANY SPECIFIC DEVIATIONS AND OBTAIN ENGINEER'S WRITTEN APPROVAL FOR THE SPECIFIC DEVIATION.

K. UNLESS NOTED, SUBMIT SHOP DRAWINGS OF ALL FABRICATED MATERIALS FOR REVIEW. DESIGN DRAWINGS SHALL NOT BE REPRODUCED FOR USE AS SHOP DRAWINGS. SHOP DRAWINGS WILL NOT BE REVIEWED UNLESS THEY WERE CHECKED, BEAR THE INITIAL OF THE CHECKER AND ARE STAMPED "APPROVED" BY THE GENERAL CONTRACTOR.

L. ALL REQUIRED TESTING REPORTS SHALL BE AVAILABLE AT THE JOB SITE.

M. NO SUPPORT PROVISIONS HAVE BEEN MADE FOR EQUIPMENT OVER 300 POUNDS OR PIPES OVER 4" DIAMETER EXCEPT AS SHOWN. UNLESS NOTED, EQUIPMENT SHALL BE SUPPORTED BY TWO (2) BEAMS OR TRUSSES WHERE EACH SUPPORTS HALF OF THE EQUIPMENT WEIGHT. ANY ADDITIONAL REQUIREMENTS SHOULD BE APPROVED BY THE ENGINEER. EQUIPMENT AND PIPES SHALL BE BRACED LATERALLY BY THE INSTALLER TO RESIST SEISMIC FORCES.

N. EQUIPMENT WEIGHTS SHOWN ON THE STRUCTURAL DRAWINGS ARE MAXIMUM OPERATING WEIGHTS INCLUDING CURBS AND MISCELLANEOUS ITEMS. THE CONTRACTOR SHALL VERIFY AND BRING TO THE ATTENTION OF THE ENGINEER ANY DEVIATIONS.

O. WHERE ROOF DRAINS ARE USED FOR ROOF DRAINAGE, AN EMERGENCY DRAINAGE SYSTEM SHALL BE PROVIDED TO MINIMIZE WATER ACCUMULATION (REF ARCHITECTURAL DRAWINGS).

P. JOHNSTON BURKHOLDER ASSOCIATES, ITS EMPLOYEES, AND REPRESENTATIVES SHALL NOT BE RESPONSIBLE FOR, AND WILL NOT HAVE CONTROL OF, CONSTRUCTION MEANS AND METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES, OR FOR SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH CONSTRUCTION; NOR WILL THEY BE RESPONSIBLE FOR ANY FAILURE BY THE CONTRACTOR TO PERFORM OR COMPLETE CONSTRUCTION IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. JOBSITE VISITS BY JOHNSTON BURKHOLDER ASSOCIATES SHALL NOT CONSTITUTE APPROVAL, AWARENESS, OR LIABILITY FOR ANY HAZARDOUS CONDITIONS.

2. DESIGN CRITERIA:

A. DEAD LOADS
- REF FRAMING PLAN

B. LIVE LOADS
- ROOF = 20 PSF

C. RISK CATEGORY = II

D. SNOW LOADS
1. GROUND SNOW LOAD = 15 PSF
2. FLAT-ROOF SNOW LOAD = 10.5 PSF
3. SNOW EXPOSURE FACTOR, Ce = 1.0
4. THERMAL FACTOR, Ct = 1.0 (MAIN BUILDING)
5. SNOW LOAD IMPORTANCE FACTOR, I = 1.0
6. ALL APPLICABLE EFFECTS DUE TO SNOW DRIFTING

E. WIND LOADS
1. CODE MINIMUM ULTIMATE WIND SPEED = 116 MPH
2. DESIGN ULTIMATE WIND SPEED = 145 MPH
2. WIND LOAD IMPORTANCE FACTOR = 1.0
3. WIND EXPOSURE CATEGORY = C FOR MAIN WIND FORCE-RESISTING SYSTEM
4. WIND EXPOSURE CATEGORY = C FOR COMPONENTS AND CLADDING

F. SEISMIC LOADS
1. SEISMIC IMPORTANCE FACTOR, I = 1.0
2. MAPPED SPECTRAL RESPONSE ACCELERATIONS
- Ss = 0.172
- S1 = 0.083
3. SOIL SITE CLASSIFICATION = D
4. DESIGN SPECTRAL RESPONSE PARAMETERS
- Sds = 0.184
- Sd1 = 0.132
5. SEISMIC DESIGN CATEGORY = B
6. BASIC SEISMIC-FORCE-RESISTING SYSTEM = LIGHT FRAME WOOD WALLS WITH STRUCTURAL WOOD SHEAR PANELS
7. DESIGN BASE SHEAR, V = Cs*W
8. SEISMIC RESPONSE COEFFICIENT, Cs = 0.0283
9. RESPONSE MODIFICATION FACTOR, R = 6.5
10. ANALYSIS PROCEDURE USED: EQUIVALENT LATERAL FORCE ANALYSIS

G. DESIGN LOAD COMBINATIONS (ASD)
1. D
2. D + (Lr OR S OR R)
3. D + (0.6W OR 0.7E)
4. D + 0.75(Lr OR S OR R) + 0.75(0.6W OR 0.7E)
5. 0.6D + 0.6W
6. 0.6D + 0.7E

STRESS INCREASES: INCREASES IN ALLOWABLE STRESSES SPECIFIED IN THE APPROPRIATE MATERIAL CHAPTER OR THE REFERENCED STANDARDS SHALL NOT BE USED WITH THE LOAD COMBINATIONS, EXCEPT THAT A DURATION OF LOAD INCREASE SHALL BE PERMITTED IN ACCORDANCE WITH CHAPTER 23.

3. SHALLOW FOUNDATIONS AND BUILDING PAD:

A. THE FOUNDATION HAS BEEN DESIGNED IN ACCORDANCE WITH THE RECOMMENDATIONS MADE IN THE GEOTECHNICAL REPORT PREPARED BY SUMMIT, A UNIVERSAL ENGINEERING SCIENCES COMPANY, DATED FEBRUARY 21, 2022.

B. CONTINUOUS FOOTINGS AND SPREAD FOOTINGS SHALL BEAR ON SOIL CAPABLE OF SUSTAINING A NET ALLOWABLE BEARING PRESSURE OF 2500 PSF AT A DEPTH OF 12 INCHES.

C. MAXIMUM TOTAL FOUNDATION AND SLAB SETTLEMENT 1" AND DIFFERENTIAL SETTLEMENT 1/2" OVER A DISTANCE OF 50 FEET. MINIMUM SUBGRADE MODULUS 100 PCI. PARAMETERS SHALL BE VERIFIED BY A QUALIFIED GEOTECHNICAL ENGINEER. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO REPORT ADVERSE CONDITIONS.

D. CONTRACTOR TO PREPARE SUBGRADE FOR BUILDING PAD AND PAVING AREAS PER GEOTECHNICAL ENGINEER'S RECOMMENDATIONS. THE SITE SHALL BE PREPARED UNIFORMLY IN ACCORDANCE WITH CIVIL DRAWINGS.

E. WHERE FILL IS REQUIRED IT SHALL BE PLACED IN ACCORDANCE WITH RECOMMENDATIONS AND UNDER THE OBSERVATION OF A QUALIFIED GEOTECHNICAL ENGINEER.

F. ALL EXCAVATIONS AND BUILDING PADS SHALL BE OBSERVED BY A QUALIFIED GEOTECHNICAL ENGINEER TO VERIFY THE DESIGN CRITERIA AND REPORT ADVERSE CONDITIONS. (GEOTECHNICAL ENGINEER TO BE HIRED AND PAID BY THE OWNER) CERTIFICATION OF EXCAVATION SHALL BE PROVIDED TO BUILDING OFFICIAL. IN CASE OF CONFLICT BETWEEN THE GEOTECHNICAL REPORT, SPECIFICATIONS AND DRAWINGS, THE MORE STRINGENT REQUIREMENT SHALL APPLY.

G. FOOTING ELEVATIONS GIVEN ARE FOR PURPOSE OF CONTRACT AND SHALL BE ADJUSTED (LOWERED) AT TIME OF EXCAVATION TO MEET SOIL CONDITIONS. ENGINEER SHOULD BE CONSULTED.

H. GRANULAR BASE BELOW SLAB-ON-GRADE AND SPREAD FOOTINGS SHALL BE PLACED AND COMPACTED IN ACCORDANCE WITH THE RECOMMENDATIONS AND UNDER THE OBSERVATION OF A QUALIFIED GEOTECHNICAL ENGINEER.

I. BACKFILL AGAINST WALLS SHALL BE DEPOSITED EVENLY AGAINST BOTH SIDES OF THE WALLS UNTIL THE LOWER GRADE IS REACHED.

J. THE CONTRACTOR SHALL BRING TO THE ATTENTION OF THE ARCHITECT THE LOCATION OF EXISTING UTILITIES AND PROCEED WITH THE WORK ONLY AFTER WRITTEN APPROVAL FROM THE ARCHITECT.

K. EXCAVATIONS FOR CONTINUOUS FOOTINGS SHALL BE MADE TRUE TO LINE AND GRADE. THE SIDES OF THE FOOTINGS SHALL BE FORMED, EXCEPT WHERE SOIL CONDITIONS ARE SUCH THAT THE SIDES OF THE EXCAVATION STAND FIRM AND SQUARE. EXCAVATIONS SHALL BE MADE TO FIRM, CLEAN BEARING SOIL.

L. EXCAVATIONS FOR FOOTINGS AND FOUNDATIONS, WHICH ARE TO SERVE AS FORMS, SHALL BE THOROUGHLY WET PRIOR TO PLACING CONCRETE.

4. CONCRETE:

A. CONCRETE SHALL CONFORM WITH ACI BUILDING CODE (ACI-318) AND SHALL HAVE A 28-DAY COMPRESSIVE STRENGTH, AND DENSITY, AND WATER/CEMENT IN ACCORDANCE WITH THE FOLLOWING:

LOCATION	STRENGTH, PSI	DENSITY, PCF	MAX W/C RATIO
INTERIOR SLABS	3000	145	0.55
FOUNDATIONS	3000	145	0.55
ALL OTHER CONCRETE (UNO)	3000	145	0.55

NOTE: DESIGN STRENGTH BASED ON 2,500 PSI CONCRETE

B. UNLESS NOTED, CEMENT SHALL CONFORM TO ASTM C150, TYPE I OR II, OR C595, TYPE IL. AGGREGATES SHALL BE NORMAL WEIGHT CONFORMING TO ASTM C33. ADMIXTURES CONTAINING CHLORIDES SHALL NOT BE USED.

C. CONCRETE EXPOSED TO WEATHER (I.E., EXPOSED EXTERIOR SLABS, CONCRETE WALLS, RETAINING WALLS, ETC.) SHALL BE AIR-ENTRAINED IN ACCORDANCE WITH ACI 318.

D. UNLESS NOTED, MAXIMUM SLUMP FOR CONCRETE SHALL BE 4 INCHES (PLUS OR MINUS ONE INCH) AT POINT OF PLACEMENT. WHERE APPROVED BY THE ENGINEER OF RECORD, LARGER SLUMP IS PERMITTED WITH THE ADDITION OF HIGH RANGE WATER REDUCING ADMIXTURE.

E. CONCRETE CURING SHALL COMPLY WITH ACI 308. CURING PROCESS SHALL START IMMEDIATELY FOLLOWING INITIAL SET. CONCRETE SHALL BE MAINTAINED IN MOIST CONDITION FOR AT LEAST 7 DAYS AFTER PLACEMENT UNLESS PROVISIONS OF ACI-318 ARE FOLLOWED.

F. HOT WEATHER CONCRETING: SPECIAL PRECAUTIONS RECOMMENDED BY ACI 305 SHALL BE TAKEN WHEN THE AMBIENT TEMPERATURE IS ABOVE 80 DEGREES FAHRENHEIT OR WHEN MAXIMUM RATE OF EVAPORATION IN THE CONCRETE EXCEEDS 0.2 LB/SF/HR. THIS RATE IS AFFECTED BY AIR TEMPERATURE, RELATIVE HUMIDITY, CONCRETE TEMPERATURE AND WIND VELOCITY. AFTER FINISHING CONCRETE, USE LIGHT FOG SPRAY UNTIL CURING COMPOUND IS USED, OR WET CURING METHOD IS IMPLEMENTED.

G. COLD WEATHER CONCRETING: WHEN, FOR MORE THAN THREE (3) CONSECUTIVE DAYS, THE MEAN DAILY TEMPERATURE DROPS BELOW 40 DEGREES FAHRENHEIT, SPECIAL MATERIALS AND PROCEDURES SHALL BE PROVIDED DURING PLACING AND CURING OF CONCRETE PER ACI 306.

5. REINFORCING STEEL:

A. REINFORCING STEEL SHALL CONFORM TO ASTM A-615, GRADE 60 (U.N.) AND GRADE 40 FOR #3 AND SMALLER BARS. GRADE 60 REINFORCING MAY NOT BE RE-BENT OR FIELD BENT WITHOUT APPROVAL OF THE STRUCTURAL ENGINEER.

B. WELDED WIRE REINFORCING SHALL CONFORM TO ASTM A-1064, MINIMUM LAP SHALL BE 8" U.N.O.

C. REINFORCING THAT IS WELDED SHALL BE WELDABLE TYPE, ASTM A-706.

D. NO TACK WELDING OF REINFORCING IN THE FIELD WILL BE PERMITTED.

E. ALL DETAILING, FABRICATION AND PLACING OR REINFORCING BARS, UNLESS OTHERWISE NOTED, SHALL CONFORM TO ACI 318, "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE" AND THE LATEST ACI "MANUAL OF STANDARD PRACTICE FOR DETAIL REINFORCED CONCRETE STRUCTURES".

F. MINIMUM LAP SPLICE AND TENSION DEVELOPMENT DIMENSION TABLE BASED ON 3000 PSI NORMAL WEIGHT CONCRETE, Fy = 60 KSI, NON-COATED BARS, LAP CLASS B, WITH 3" MIN CLR:

BAR	TOP BAR SPLICE	DEVELOPMENT	BAR	OTHER BAR SPLICE	DEVELOPMENT
#3	21"	16"	#3	16"	12"
#4	23"	18"	#4	18"	14"
#5	28"	22"	#5	22"	17"
#6	34"	26"	#6	26"	20"

WHEN LAPPING TWO DIFFERENT SIZE BARS, USE THE LAP DIMENSION OF THE SMALLER BAR OR THE ANCHORAGE DIMENSION OF THE LARGER BAR. USE WHICHEVER DIMENSION IS LARGER.

G. MINIMUM CONCRETE COVER FOR REINFORCING

CONCRETE REINFORCING SHALL BE PLACED PER THE TOLERANCES OF ACI 117 AND ACI 318

LOCATION	MINIMUM COVER
FOOTINGS, GRADE BEAMS AND SLABS	
CAST AGAINST & PERMANENTLY EXPOSED TO EARTH	3"
SLABS ON GRADE	MID-DEPTH
INTERIOR SLABS AND STAIRS	1"
EXTERIOR SLABS AND STAIRS #5 AND SMALLER	1 1/2"
EXTERIOR SLABS AND STAIRS #6 AND LARGER	2"
WALLS INTERIOR FACE	1"
WALLS INTERIOR FACE #5 AND SMALLER	1 1/2"
WALLS INTERIOR FACE #6 AND LARGER	2"

*VERIFY W/ ENVIRONMENTAL CONDITIONS PER ACI 318, CHAPTER 19.

6. SLABS:

A. MAXIMUM SLUMP WITHOUT A PLASTICIZER AT POINT OF PLACEMENT SHALL BE 5 INCHES. MIX DESIGNS SHALL TAKE CARE TO PROVIDE THE LARGEST POSSIBLE SIZE OF COARSE AGGREGATE WHILE MAINTAINING CONCRETE WORKABILITY. NOMINAL MAXIMUM AGGREGATE SIZE SHALL NOT BE LESS THAN 3/4 INCH NOR MORE THAN 1/3 THE DEPTH OF THE SLAB.

B. FOR INTERIOR SLABS ON GRADE, PROVIDE CONCRETE WITH AN ULTIMATE SHRINKAGE LES THAN 0.05% AT 28 DAYS. LABORATORY TEST RESULTS SHALL BE SUBMITTED INDICATING THAT THE CONCRETE SLAB ON GRADE MIX DESIGN (OR COMPARABLE) MEETS THE ULTIMATE SHRINKAGE REQUIREMENTS. SHRINKAGE VALUES FOR CONCRETE SPECIMENS SHALL BE TESTED PER ASTM C157 AND THE PROCEDURES IN ACI 209R TO PREDICT THE ULTIMATE DRYING SHRINKAGE.

C. CONCRETE SHALL BE MIXED, PLACED, FINISHED AND CURED PER REFERENCED EDITION OF ACI 302.1 FOR THE APPROPRIATE FLOOR CLASS TYPE. CURING COMPOUND SHALL BE COMPATIBLE WITH ARCHITECTURAL FLOOR FINISH. SLABS SHALL BE PLACED ON A FLAT, SMOOTH, FIRM, COMPACTED SUBGRADE.

D. FOR SUBGRADE AND SUBBASE PREPARATION, SEE GEOTECHNICAL REPORT AND SPECIFICATIONS.

E. IMMEDIATELY PRIOR TO POURING EACH SLAB, A QUALIFIED GEOTECHNICAL ENGINEER (TO BE PAID BY OWNER) SHALL INSPECT THE PAD AND PROVIDE A CERTIFICATE STATING THAT THE PAD MEETS THE PROJECT DESIGN REQUIREMENTS. IF WEATHER CONDITIONS CHANGE, RE-CERTIFICATION WILL BE REQUIRED.

F. SLAB-ON-GRADE REINFORCING SHALL BE SUPPORTED ON CHAIRS AT MID-DEPTH OF SLAB WITH SAND PLATES OR PRECAST CONCRETE SUPPORTS (PRECAST CONCRETE SUPPORTS SHOULD BE AT LEAST 4" SQUARE AT THE BASE W/MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI) OF SUFFICIENT HEIGHT TO INSURE THAT REINFORCING IS AT THE PROPER HEIGHT WITH MAXIMUM SPACING OF 3'-0" EACH WAY FOR WELDED WIRE FABRIC. PLACEMENT OF REINFORCING USING THE PULL- UP METHOD IS NOT PERMITTED.

G. VAPOR BARRIER, IF NOT SPECIFIED BY ARCHITECTURAL SPECIFICATION OR SOILS REPORT SHALL CONSIST OF A MINIMUM 15 MIL ASTM E1745 CLASS A MATERIAL LAPPED A MINIMUM OF 6" AND TAPED PER MANUFACTURER RECOMMENDATIONS. THE BARRIER SHALL BE PLACED ON TOP OF A SMOOTH AND COMPACTED SUBGRADE SURFACE. THE FLOOR SLAB SHALL BE PLACED OVER A 4" LAYER OF COMPACTED AGGREGATE BASE COURSE ON TOP OF THE VAPOR BARRIER. ANY DAMAGE TO VAPOR BARRIER SHALL BE REPAIRED PRIOR TO AGGREGATE COURSE PLACEMENT. CARE SHALL BE TAKEN TO KEEP MOISTURE AWAY FROM THE COMPACTED SUBBASE. SUBGRADE MUST BE ALLOWED TO DRY AFTER RAINS PRIOR TO SLAB PLACEMENT. FLOOD CURING IS NOT ALLOWED. SAND IS NOT AN ALTERNATIVE FOR THE SUB-BASE COURSE.

H. UNLESS NOTED, FLOOR CONTRACTION JOINTS FOR SLAB-ON-GRADE SHALL BE SPACED EQUALLY. CONTRACTION JOINTS SPACING SHALL BE REDUCED AT HOT AND/OR DRY CLIMATE. SAW CUT SLAB (1/8" WIDE X SLAB THICKNESS/4 U.N.O.) AS SOON AS THE SURFACE IS FIRM ENOUGH SO THAT IT WILL NOT BE DAMAGED BY THE BLADE. JOINT FILLER SHALL BE PLACED IN CLEAN JOINTS, OVERFILLED AND SHAVED FLUSH. THE OPTIMUM TIME TO CUT THE SLAB WILL BE THE CONTRACTOR'S RESPONSIBILITY. SLABS WITH CRACKS AND/OR SLAB WHICH EXHIBIT "SLAB CURLING" WILL NOT BE ACCEPTED. SLAB REPLACEMENT SHALL BE AT OPTION OF THE OWNER AT CONTRACTOR'S EXPENSE.

I. REF ARCHITECTURAL AND CIVIL DRAWINGS FOR SIDEWALKS, EXTERIOR SLABS, INTERIOR SLABS, SLAB DEPRESSIONS, AND ELEVATIONS.

J. SLAB-ON-GRADE AT CORNERS OF OPENINGS, CUT OUTS AND PENETRATIONS SHALL BE REINFORCED WITH 2-#4 (3'-0" LONG).

K. AT SLAB-ON-GRADE, SEAL COLUMN BOX-OUTS, CONSTRUCTION JOINTS AND CONTRACTION JOINTS TO PREVENT WATER PENETRATION UNDER SLAB DURING & AFTER CONSTRUCTION TO PREVENT SOILS FROM EXPANDING.

L. PIPES, DUCTS, CONDUITS, ETC. SHALL NOT BE PLACED IN SLABS UNLESS APPROVED BY THE STRUCTURAL ENGINEER. (PLACE A MINIMUM 4" BELOW SLAB).

M. THE GENERAL CONTRACTOR, INCLUDING SUB CONTRACTORS AND SUPPLIERS SHALL NOT DRIVE OR PARK HEAVY EQUIPMENT ON THE CONCRETE SLAB. ANY DAMAGE TO SLAB DUE TO HEAVY EQUIPMENT SHALL BE REPLACED AT CONTRACTOR'S EXPENSE.

N. COMBUSTION HEATERS SHALL NOT BE USED DURING CONCRETE PLACEMENT UNLESS PRECAUTIONS ARE TAKEN TO PREVENT EXPOSURE OF THE CONCRETE TO EXHAUST GASES.

O. REF ARCH SPECIFICATIONS FOR ALL FLOOR SLAB FINISHES.

P. PROVIDE NEW TROWEL BLADES FOR CONCRETE FINISHING OF FLOOR SLABS.

7. POST-INSTALLED ANCHORING SYSTEM:

A. UNLESS NOTED, ALL ANCHORS IN CONCRETE SHALL BE CARBON STEEL HILTI KWIK HUS-EZ SCREW ANCHORS PER ICC ESR-3056 OR APPROVED ICC EQUIVALENT.

B. WHERE NOTED ON THE DRAWINGS FOR CONCRETE ANCHORAGE, USE HILTI HIT HY-100 THREADED ROD ADHESIVE ANCHORING SYSTEM (ICC ESR-3574) OR APPROVED ICC EQUIVALENT. UNLESS NOTED, ANCHOR EMBEDMENT SHALL BE AS FOLLOWS: 3/8" DIA. - 3 3/8", 1/2" DIA. - 4 1/2", 5/8" DIA. - 5 5/8", 3/4" DIA. - 6 3/4".

C. UNLESS NOTED, ANCHOR SPACING (AS) AND ANCHOR EDGE DISTANCE (ED) SHALL BE AS PUBLISHED BY THE MOST CURRENT APPROVED HILTI REPORT IN ORDER TO DEVELOP MAXIMUM WORKING LOAD.

D. ALL ANCHORS SHALL BE INSTALLED AS PER MANUFACTURER'S INSTRUCTIONS AND UNDER MANUFACTURER'S SUPERVISION IN ORDER TO DEVELOP THE PUBLISHED WORKING LOADS.

E. MINIMUM CONCRETE COMPRESSIVE STRENGTH REQUIRED AT TIME OF INSTALLATION OF ANY ANCHORS SHALL BE 2500 PSI.

8. WOOD FRAMING:

A. ALL NAILING NOT NOTED SHALL BE PER TYPICAL DETAIL AND COMMON NAIL DIAMETER TABLE BELOW. ALL BOLTING SHALL BE PER STRUCTURAL STEEL SECTION ABOVE. WOOD CONNECTORS SHALL BE AS MANUFACTURED BY SIMPSON STRONG-TIE COMPANY, INC. OR OTHER MANUFACTURER WITH CURRENT AND EQUIVALENT ICC APPROVAL. WHERE "TYPE" OF CONNECTOR IS INDICATED ON THE DRAWINGS, THE CONNECTOR AND ATTACHMENT SHALL BE PER THE MAXIMUM MODEL NUMBER BASED ON THE SIZE OF THE MEMBERS CONNECTED.

B. WOOD FRAMING MEMBERS SHALL NOT BE NOTCHED OR DRILLED WITHOUT PRIOR APPROVAL OF THE STRUCTURAL ENGINEER THROUGH THE ARCHITECT.

NAIL TYPE	REQ'D DIA	REQ'D GA	LENGTH	NAIL TYPE	REQ'D DIA	REQ'D GA	LENGTH
6d	0.113"	11 1/2	2"	12d	0.148"	9	3 1/4"
8d	0.131"	10 1/4	2 1/2"	16d	0.162"	8	3 1/2"
10d	0.148"	9	3"	20d	0.192"	6	4"

C. WOOD STUDS AND TRUSSES SHALL HAVE A MAXIMUM MOISTURE CONTENT OF 19% WHEN DELIVERED TO THE JOB SITE.

D. PRESERVATIVE-TREATED WOOD:

1. ALL SILL PLATES IN CONTACT WITH CONCRETE SHALL BE PRESERVATIVE-TREATED WOOD. WOOD FRAMING MEMBERS ATTACHED DIRECTLY TO THE INTERIOR OF EXTERIOR MASONRY OR CONCRETE WALLS BELOW GRADE SHALL BE PRESERVATIVE-TREATED WOOD.

2. ALL WOOD FRAMING MEMBERS, INCLUDING WOOD SHEATHING THAT ARE IN CONTACT WITH EXTERIOR WALLS AND ARE LESS THAN 8 INCHES FROM FINISHED GRADE SHALL BE PRESERVATIVE-TREATED WOOD.

3. ALL FASTENERS INCLUDING NUTS AND WASHERS IN CONTACT WITH PRESERVATIVE-TREATED WOOD SHALL BE HOT-DIPPED ZINC-COATED GALVANIZED STEEL OR STAINLESS STEEL. THE COATING WEIGHTS FOR ZINC-COATED FASTENERS SHALL BE PER ASTM A153. FASTENERS OTHER THAN NAILS, WOOD SCREWS AND LAG SCREWS ARE PERMITTED TO BE OF MECHANICALLY DEPOSITED ZINC-COATED STEEL WITH COATING WEIGHTS PER ASTM B695, CLASS 55 MINIMUM.

4. ALL FASTENERS INCLUDING NUTS AND WASHERS IN CONTACT WITH PRESERVATIVE-TREATED WOOD SHALL BE HOT-DIPPED ZINC-COATED GALVANIZED STEEL OR STAINLESS STEEL. THE COATING WEIGHTS FOR ZINC-COATED FASTENERS SHALL BE PER ASTM A153. FASTENERS OTHER THAN NAILS, WOOD SCREWS AND LAG SCREWS ARE PERMITTED TO BE OF MECHANICALLY DEPOSITED ZINC-COATED STEEL WITH COATING WEIGHTS PER ASTM B695, CLASS 55 MINIMUM.

E. FRAMING LUMBER SHALL COMPLY WITH THE REFERENCED EDITION OF THE GRADING RULES OF THE WWPA OR THE WCLIB. ALL SAWN LUMBER SHALL BE STAMPED WITH THE GRADE MARK OF AN APPROVED LUMBER GRADING AGENCY AND SHALL HAVE MINIMUM PROPERTIES WHICH MEET OR EXCEED THE FOLLOWING WOOD TYPES:

1. EXTERIOR WALL STUDS: DOUGLAS FIR-LARCH (DF-L) No. 2 OR BETTER, OR SOUTHERN PINE No. 2 OR BETTER.

2. HEADERS: DOUGLAS FIR-LARCH (DF-L) No. 2 OR BETTER, OR SOUTHERN PINE No. 2 OR BETTER.

3. BEARING PLATES AND TOP PLATES: DOUGLAS FIR-LARCH (DF-L) No. 2 OR BETTER, OR SOUTHERN PINE No. 2 OR BETTER.

9. PREFABRICATED WOOD TRUSS FRAMING MEMBERS:

A. FRAMING MEMBERS SHALL BE DESIGNED TO SUPPORT SELF WEIGHT PLUS LIVE LOAD AND SUPERIMPOSED DEAD LOADS STATED IN THE GENERAL STRUCTURAL NOTES OR AS LOCATED ON PLANS. BRIDGING SIZE AND SPACING BY FABRICATOR UNLESS NOTED OTHERWISE. ALL CONNECTORS SHALL HAVE CURRENT ICC APPROVAL. FRAMING MEMBERS SHALL BE AGENCY STAMPED AND CONFORM TO THE REFERENCED BUILDING CODE AND ANSI/TPI 1 "NATIONAL DESIGN STANDARD FOR METAL CONNECTED WOOD TRUSS CONSTRUCTION." CONTRACTOR SHALL SUBMIT SHOP DRAWINGS, ERECTION DRAWINGS AND DESIGN CALCULATIONS SEALED BY A REGISTERED ENGINEER IN THE PROJECT LOCATION STATE FOR REVIEW AND APPROVAL PRIOR TO FABRICATION. SAID SUBMITTAL, IN ADDITION TO LOADS SPECIFIED IN THE G.S.N. AND PLANS, SHALL INCLUDE, BUT NOT BE LIMITED TO, THE FOLLOWING:

1. DEFLECTION/CAMBER: ROOFS WITHOUT PLASTER OR GYPBOARD CEILINGS TOTAL LOAD MAXIMUM = L/180, LIVE LOAD MAXIMUM = L/240. ROOFS WITH PLASTER OR GYPBOARD CEILINGS TOTAL LOAD MAXIMUM = L/240, LIVE LOAD MAXIMUM = L/360. FABRICATOR SHALL DESIGN ROOF MEMBERS FOR PONDING WHERE ROOF SLOPES ARE LESS THAN 1/4" PER FOOT. FRAMING MEMBERS SHALL BE CAMBERED FOR 1.0 TIMES THE DEAD LOAD DEFLECTION. MAXIMUM TOTAL LOAD DEFLECTION OF MEMBERS SHALL BE 1"; FABRICATOR SHALL DESIGN ADJACENT MEMBERS FOR MAXIMUM OF 1/4" DIFFERENTIAL DEFLECTION.

2. TOP CHORD MEMBER WOOD SPECIES SHALL HAVE A SPECIFIC GRAVITY OF 0.42 OR GREATER.

B. VERIFY SIZE, WEIGHT AND LOCATION OF SUPPORTED EQUIPMENT WITH ARCHITECTURAL, MECHANICAL, PLUMBING, ELECTRICAL, SPRINKLER AND THEIR RELATED DRAWINGS. ADDITIONAL FRAMING MEMBERS SHALL BE SUPPLIED AS REQUIRED TO SUPPORT EQUIPMENT.

C. FABRICATOR SHALL HAVE ICC APPROVAL OR BE APPROVED ACCORDING TO THE BUILDING JURISDICTION.

10. SPECIAL INSPECTIONS:

A. SPECIAL INSPECTOR (SI) SHALL BE RETAINED AND PAID BY THE OWNER AND PROVIDE INSPECTIONS DURING CONSTRUCTION ON THE TYPES OF WORK LISTED UNDER SECTION 1704 OF THE IBC AS PER TABLE ON S0.3.

B. THE SPECIAL INSPECTOR SHALL BE A QUALIFIED PERSON WHO SHALL DEMONSTRATE COMPETENCE, TO THE SATISFACTION OF THE BUILDING OFFICIAL, FOR INSPECTION OF THE PARTICULAR TYPE OF CONSTRUCTION OR OPERATION REQUIRING SPECIAL INSPECTION.

C. THE DUTIES OF THE SPECIAL INSPECTOR SHALL INCLUDE, BUT ARE NOT LIMITED TO, VERIFICATION OF CONSTRUCTION QUALITY CONTROL, TESTING, COMPLIANCE WITH THE CONSTRUCTION DOCUMENTS, BUILDING CODE REQUIREMENTS, AND LOCAL BUILDING DEPARTMENT REQUIREMENTS.

D. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE PROPER NOTIFICATION TO THE SPECIAL INSPECTOR AND PROCEED WITH THE CONSTRUCTION ONLY AFTER THE SPECIAL INSPECTOR'S APPROVAL.

E. DUTIES AND RESPONSIBILITIES OF THE SPECIAL INSPECTOR:

1. THE SPECIAL INSPECTOR SHALL OBSERVE THE WORK ASSIGNED FOR CONFORMANCE WITH THE APPROVED DESIGN DRAWINGS AND SPECIFICATIONS. THE INSPECTOR MAY NOT ALTER, MODIFY, ENLARGE OR WAIVE ANY OF THE REQUIREMENTS OF THE DOCUMENTS.

2. SPECIAL INSPECTORS SHALL KEEP RECORDS OF INSPECTIONS. THE SPECIAL INSPECTOR SHALL FURNISH INSPECTION REPORTS TO THE CONSTRUCTION OFFICIAL, AND TO THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE, THE CONTRACTOR AND THE OWNER. REPORTS SHALL INDICATE THAT WORK INSPECTED WAS DONE IN CONFORMANCE TO APPROVED CONSTRUCTION DOCUMENTS. DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR AND THE OWNER FOR CORRECTION, IF THE DISCREPANCIES ARE NOT CORRECTED, THE DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE BUILDING OFFICIAL AND TO THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE AND THE OWNER PRIOR TO THE COMPLETION OF THAT PHASE OF THE WORK.

3. A FINAL REPORT OF INSPECTIONS DOCUMENTING REQUIRED SPECIAL INSPECTIONS AND CORRECTION OF ANY DISCREPANCIES NOTED IN THE INSPECTIONS SHALL BE SUBMITTED PERIODICALLY AT A FREQUENCY AGREED UPON BY THE PERMIT APPLICANT AND THE BUILDING OFFICIAL PRIOR TO THE START OF WORK. WHERE SPECIAL INSPECTION REQUIREMENTS DUPLICATE THE REQUIREMENTS OF SPECIFIED QUALITY ASSURANCE TESTING, DUPLICATE INSPECTIONS SHALL NOT BE REQUIRED.

11. STRUCTURAL ENGINEER OF RECORD (SER) NOTIFICATION OF CONSTRUCTION PROGRESS AND SITE VISIT (WHEN APPLICABLE):

A. CONTRACTOR SHALL NOTIFY ARCHITECT FIVE (5) WORKING DAYS PRIOR TO THE FOLLOWING CONSTRUCTION MILESTONES:

1. SPREAD FOOTING FOUNDATIONS: AFTER FOUNDATION REINFORCING IS PLACED AND BEFORE PLACING CONCRETE AT THE FOUNDATIONS.

2. WOOD WALL CONSTRUCTION: AFTER WALL STUDS ARE ERECTED AND BEFORE INTERIOR SHEATHING IS PLACED.

3. ROOF STRUCTURE: AFTER STRUCTURE IS ERECTED AND BEFORE INSULATION AND ROOFING IS INSTALLED. CONTRACTOR SHALL ARRANGE A PRE-ROOFING MEETING BEFORE ANY ROOFING WORK IS STARTED.

4. PUNCH LIST: AFTER ALL STRUCTURAL ITEMS ARE COMPLETE.

B. FAILURE TO NOTIFY ARCHITECT OF ANY CONSTRUCTION MILESTONE MAY RESULT IN CONTRACTOR HAVING TO REMOVE WORK FOR THE PURPOSE OF REVIEW AT CONTRACTOR'S EXPENSE.

C. PREMATURE NOTIFICATION FOR SITE VISIT WILL RESULT IN AN ADDITIONAL SITE VISIT WITH ALL EXPENSES AND FEES PAID BY THE CONTRACTOR.

12. SIPS PANELS

A. THE STRUCTURAL INSULATED PANEL (SIPS) SUPPLIER SHALL BE CERTIFIED BY THE STRUCTURAL INSULATED PANEL ASSOCIATION (SIPA) PRIOR TO THE START OF PRODUCTION OF PANELS AND SHALL HAVE A MINIMUM OF TWO YEARS OF EXPERIENCE PRODUCING PANELS.

B. SIPS PANELS SHALL COMPLY WITH THE PERFORMANCE AND DESIGN CRITERIA IN THE CONTRACT DOCUMENTS. SIPS SUPPLIER SHALL ENGAGE A QUALIFIED PROFESSIONAL ENGINEER LICENSED IN THE STATE IN WHICH THE PROJECT IS LOCATED TO DESIGN ALL STRUCTURAL COMPONENTS AND CONNECTIONS. SIPS PANELS SHALL WITHSTAND THE EFFECTS OF ALL DESIGN LOADS WITHOUT EXCEEDING THE ALLOWABLE WORKING STRESSES. SIP PANEL DEFLECTIONS SHALL BE LIMITED TO A MAXIMUM DEFLECTION OF L/240 OF THE SPAN.

C. THE SIPS SUPPLIER SHALL PRODUCE A COMPLETE SET OF SEALED SHOP DRAWINGS AND CALCULATIONS FOR REVIEW BY THE EOR. THE SHOP DDRAWINGS SHALL INCLUDE ALL INFORMATION REQUIRED TO PROPERLY INSTALL THE PANELS, AND ANY DETAILS AND ALL DESIGN LOADINGS REQUIRED FOR INTERFACING WITH THE BUILDING FOUNDATION AND SLAB SYSTEM.

D. THE PANELS SHALL BE BRACED DURING INSTALLATION. BRACING TO BE DESIGNED BY THE SIPS SUPPLIER AND SHALL REVIEW THE INSTALLATION PROCEDURES WITH THE GENERAL CONTRACTOR TO ENSURE PROPER INSTALLATION.

E. SIP PANEL MANUFACTURER SHALL BE APPROVED TO PERFORM WORK WITHOUT SPECIAL INSPECTION. AT COMPLETION OF FABRICATION, THE APPROVED FABRICATOR SHALL SUBMIT A CERTIFICATE OF COMPLIANCE TO THE OWNER OR THE OWNER'S AUTHORIZED AGENT FOR SUBMITTAL TO THE BUILDING OFFICIAL AS SPECIFIED IN SECTION 1704.5 STATING THAT THE WORK WAS PERFORMED IN ACCORDANCE WITH THE APPROVED CONSTRUCTION DOCUMENTS.

---

rdc.

11921 Freedom Drive #1110
Reston, Va 20190
t 703.668.0086
rdcollaborative.com

PROFESSIONAL SEAL

Seal 034711
BART J. HALVERSON

Bart Halverson

REVISIONS 02/16/2023

△ ISSUE	DATE
1 OTP SET	02/15/23

JBA JOHNSTON BURKHOLDER ASSOCIATES
consulting structural engineers
930 CENTRAL · KANSAS CITY, MO 64105
816.421.4200 · WWW.JBAENGR.COM
NORTH CAROLINA COA #P-0672 EXPIRES: 06/30/23

JBA PROJECT #: 23023

PROFESSIONAL IN CHARGE
BJH
PROJECT MANAGER
RB
QUALITY CONTROL
SMK
DRAWN BY
JBA

PROJECT NAME

CIRCLE K
STORES, INC.

ANGIER, NC

9706 KENNEBEC CHURCH ROAD,
ANGIER, NC 27501

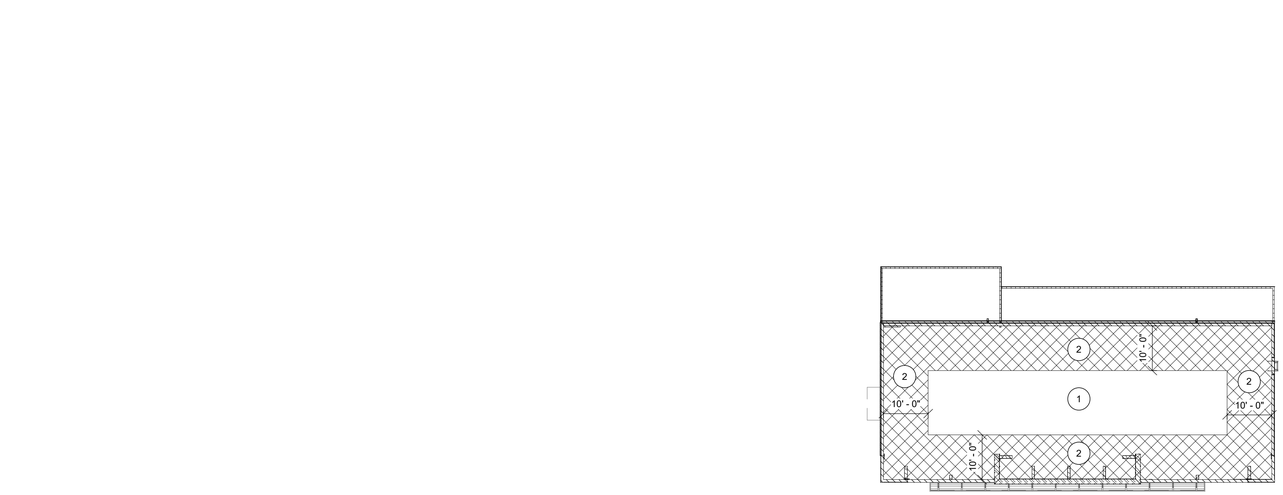
PROTOCYCLE # R1.1 11/21/22

CIRCLE K STORE

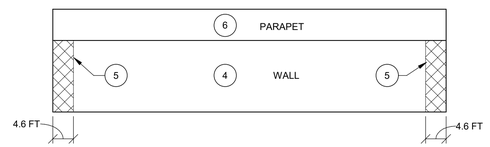
PROJECT NUMBER: 22130

GENERAL NOTES

S0.1



COMPONENET AND CLADDING WIND PRESSURE DIAGRAM - ROOF



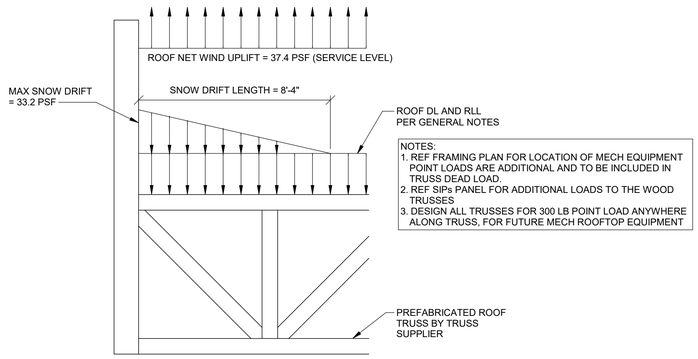
COMPONENT AND CLADDING WIND PRESSURE DIAGRAM - WALLS

	C&C ZONE	EFFECTIVE WIND AREA (SF)	POSITIVE PRESSURE (PSF)	NEGATIVE PRESSURE (PSF)
ROOF	1	10	+11.4	-44.7
		20	+10.7	-41.7
		50	+10.0	-37.8
		100	+10.0	-34.9
	2	10	+11.4	-59.0
		20	+10.7	-55.2
		50	+10.0	-50.2
		100	+10.0	-46.4
	3	10	+11.4	-80.4
		20	+10.7	-72.8
		50	+10.0	-62.8
		100	+10.0	-55.2
WALLS	4	10	+25.7	-27.8
		20	+24.5	-26.7
		50	+23.0	-25.2
		100	+21.9	-24.0
	5	10	+25.7	-34.2
		20	+24.5	-32.0
		50	+23.0	-29.0
		100	+21.9	-26.7
	6	10	+103.1	-54.3
		20	+93.8	-50.7
		50	+81.7	-45.9
		100	+72.4	-42.3

NOTES:
1. THE VALUES PROVIDED HEREIN ARE ALLOWABLE STRESS DESIGN LOADS (ALREADY INCLUDE 0.6 FACTOR) AND ARE INTENDED FOR SERVICEABILITY LIMITS. THESE VALUES DO NOT REFLECT THE ULTIMATE LOADING THAT MAY BE EXPERIENCED BY THE BUILDING.
2. THE ROOFING SYSTEM SHALL BE BASED ON AN EFFECTIVE WIND AREA OF 10 SF.

COMPONENT AND CLADDING WIND PRESSURE SCHEDULE (145 MPH)

COMPONENTS & CLADDING WIND PRESSURES | 1
NTS



TYPICAL WOOD TRUSS LOADING DIAGRAM | 2
3/4" = 1'-0"

ABBREVIATIONS

AB	ANCHOR BOLT
ACI	AMERICAN CONCRETE INSTITUTE
AFF	ABOVE FINISHED FLOOR
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION
AISI	AMERICAN IRON AND STEEL INSTITUTE
ARCH	ARCHITECTURAL
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
AWS	AMERICAN WELDING SOCIETY
BFF	BELOW FINISHED FLOOR
BL	BLOCK LINTEL
BM	BEAM
BO	BOTTOM OF
BOS	BOTTOM OF STEEL
BRG	BEARING
CJ	CONTRACTION JOINT
CL	CENTER LINE
CLR	CLEAR
CMU	CONCRETE MASONRY UNIT
COL	COLUMN
CONC	CONCRETE
COND	CONDENSER UNIT
CONST	CONSTRUCTION
CONT	CONTINUOUS
DBA	DEFORMED BAR ANCHOR
DIA	DIAMETER
EF	EXHAUST FAN
EIFS	EXTERIOR INSULATION AND FINISH SYSTEM
EJ	EXPANSION JOINT
EL	ELEVATION
ELEC	ELECTRICAL
EQ	EQUAL
EW	EACH WAY
FDN	FOUNDATION
FF	FINISHED FLOOR
FS	FAR SIDE
FTG	FOOTING
FV	FIELD VERIFY
GA	GAUGE
GC	GENERAL CONTRACTOR
GYP	GYPSUM BOARD
H	HEIGHT
HORIZ	HORIZONTAL
HSA	HEADED STUD ANCHOR
HSS	HOLLOW STRUCTURAL SHAPE
INFO	INFORMATION
ISO	ISOLATION
JBE	JOIST BEARING ELEVATION
JST	JOIST
JT	JOINT
KSI	KIPS PER SQUARE INCH
L	LENGTH
LB	POUNDS
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LONG	LONGITUDINAL
MAX	MAXIMUM
MECH	MECHANICAL
MFR	MANUFACTURER
MIN	MINIMUM
MISC	MISCELLANOUS
MO	MASONRY OPENING
MTL	METAL
NIC	NOT IN CONTRACT
NO	NUMBER
NS	NEAR SIDE
NTS	NOT TO SCALE
OC	ON CENTER
OD	OUTSIDE DIAMETER
OFOP	OUTSIDE FACE OF PANEL
OH	OPPOSITE HAND
OSL	OUTSTANDING LEG
PAF	POWER ACTUATED FASTENER
PC	PRECAST
PCF	POUNDS PER CUBIC FOOT
PL	PLATE
PLF	POUNDS PER LINEAR FOOT
PLUMB	PLUMBING
PMEJ	PREMOLDED EXPANSION JOINT
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
QTY	QUANITY
RCU	REFRIGERATION CONDENSING UNIT
REF	REFER TO
REINF	REINFORCING
REQD	REQUIRED
REV	REVERSE
RLL	ROOF LIVE LOAD
RO	ROUGH OPENING
ROT	ROTATE
RTU	ROOF TOP UNIT
SCHED	SCHEDULE
SDI	STEEL DECK INSTITUTE
SIM	SIMILAR
SIP	STRUCTURAL INSULATED PANEL
SJI	STEEL JOIST INSTITUTE
SPCS	SPACES
SPECS	SPECIFICATIONS
STRUC	STRUCTURAL
T&B	TOP AND BOTTOM
THK	THICKNESS
TL	TOTAL LOAD
TO	TOP OF
TOC	TOP OF CONCRETE
TOF	TOP OF FOOTING
TOGB	TOP OF GRADE BEAM
TOS	TOP OF STEEL
TOW	TOP OF WALL
TRANS	TRANSVERSE
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
VERT	VERTICAL
W	WIDTH
WP	WORK POINT
WWR	WELDED WIRE REINFORCEMENT

LEGEND

◇ OFOW	OUTSIDE FACE OF WALL - CONCRETE STEM WALL
WFX FX	FOOTING MARK; REF SCHED
	ROOF TOP UNIT (RTU)
	EXHAUST FAN (EF)
•	APPROXIMATE LOCATION OF SHEAR WALL HOLD DOWN. REF SIPS PANEL DRAWINGS FOR HOLD DOWN DETAILS AND EXACT LOCATIONS
◇ OFOP	OUTSIDE FACE OF PANEL - SIP OR INSULATED WALL

rdc.

11921 Freedom Drive #1110
Reston, Va 20190
t 703.668.0086
rdcollaborative.com

PROFESSIONAL SEAL

NORTH CAROLINA PROFESSIONAL Seal 034711 ENGINEER BRIAN J. HALVERSON

REVISIONS 02/16/2023

△	ISSUE	DATE
1	OTP SET	02/15/23

JBA JOHNSTON BURKHOLDER ASSOCIATES
consulting structural engineers
930 CENTRAL · KANSAS CITY, MO 64105
816.421.4200 · WWW.JBAENGR.COM
NORTH CAROLINA COA #P-0672 EXPIRES: 06/30/23
JBA PROJECT #: 23023

PROFESSIONAL IN CHARGE
BJH

PROJECT MANAGER
RB

QUALITY CONTROL
SMK

DRAWN BY
JBA

PROJECT NAME

CIRCLE K STORES, INC.

ANGIER, NC

9706 KENNEBEC CHURCH ROAD, ANGIER, NC 27501

PROTOCYCLE # R1.1 11/21/22

CIRCLE K STORE

PROJECT NUMBER: 22130

DIAGRAMS AND SCHEDULES

S0.2

STRUCTURAL SPECIAL INSPECTIONS (2015 IBC)

SOIL BEARING (2015 IBC 1705.6)		
VERIFICATION AND INSPECTION	**FREQUENCY**	**REFERENCED STANDARD**
1. VERIFY MATERIALS BELOW SHALLOW FOUNDATIONS ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY	PERIODIC	-
2. VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL	PERIODIC	-
3. PERFORM CLASSIFICATION AND TESTING OF COMPACTED FILL MATERIALS	PERIODIC	-
4. VERIFY USE OF PROPER MATERIALS, DENSITIES AND LIFT THICKNESS DURING PLACEMENT AND COMPACTION OF COMPACTED FILL.	CONTINUOUS	-
5. PRIOR TO PLACEMENT OF COMPACTED FILL, OBSERVE SUBGRADE AND VERIFY THAT SITE HAS BEEN PREPARED PROPERLY.	PERIODIC	-

CONCRETE CONSTRUCTION (2015 IBC 1705.3 AND ACI 318-14)		
VERIFICATION AND INSPECTION	**FREQUENCY**	**REFERENCED STANDARD**
1. INSPECTION OF REINFORCING STEEL AND PLACEMENT	PERIODIC	IBC 1908.4; ACI 318: Ch 20, 25.2, 25.3, 26.6.1-26.6.3
2. NOT USED.	-	-
3. INSPECTION OF ANCHORS CAST IN CONCRETE INCLUDING, SIZE, LENGTH, PROJECTION, AND LOCATION.	PERIODIC	ACI 318: 17.8.2
4A. INSPECTION OF ANCHORS POST-INSTALLED IN HARDENED CONCRETE MEMBERS - ADHESIVE ANCHORS INSTALLED IN HORIZONTALLY OR UPWARDLY INCLINED ORIENTATIONS TO RESIST SUSTAINED TENSION LOADS. INSPECTIONS SHALL INCLUDE HOLE SIZE AND DEPTH, CLEANING PROCEDURE, MATERIALS, AND LOCATION.	CONTINUOUS	ACI 318: 17.8.2.4
4B. INSPECTION OF ANCHORS POST-INSTALLED IN HARDENED CONCRETE MEMBERS - MECHANICAL ANCHORS AND ADHESIVE ANCHORS NOT DEFINED IN 3A.INSPECTIONS SHALL INCLUDE HOLE SIZE AND DEPTH, CLEANING PROCEDURE, MATERIALS, AND LOCATION.	PERIODIC	ACI 318: 17.8.2
5. INSPECTION TO VERIFY USE OF REQUIRED DESIGN MIX.	PERIODIC	IBC 1904.1, 1904.2, 1908.2, 1908.3; ACI 318: CH. 19, 26.4.3, 26.4.4
6. INSPECTION PRIOR TO CONCRETE PLACEMENT, AND AT THE TIME FRESH CONCRETE IS SAMPLED TO FABRICATE SPECIMENS, FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF THE CONCRETE. REF TO GENERAL NOTES, CAST-IN-PLACE CONCRETE EXECUTION FOR TESTING REQUIREMENTS.	CONTINUOUS	IBC 1908.10; ASTM C172, ASTM C31; ACI 318: 26.4.5, 26.12
7. INSPECTION OF CONCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES.	CONTINUOUS	IBC:1908.6, 1908.7, 1908.8; ACI 318: 26.4.5
8. INSPECTION FOR MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES.	PERIODIC	IBC:1908.9; ACI 318: 26.4.7-26.4.9
9. NOT USED.	-	-
10. INSPECT ERECTION OF PRECAST (OR SITE CAST) CONCRETE MEMBERS.	PERIODIC	ACI 318: CH. 26.8
11. NOT USED.	-	-
12. INSPECT FORMWORK FOR SHAPE, LOCATION AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED.	PERIODIC	ACI 318: 26.11.1.2(b)

EXCEPTIONS TO CONCRETE SPECIAL INSPECTION:

1. INSPECTION IS NOT REQUIRED FOR PLACEMENT OF SLAB-ON-GRADE CONCRETE. INSPECTION OF SLAB-ON-GRADE REINFORCEMENT IS REQUIRED PRIOR TO PLACEMENT OF CONCRETE.
2. INSPECTION IS NOT REQUIRED FOR FOR PLACEMENT OF FOUNDATION CONCRETE (DESIGN f'c OF 2,500 PSI). INSPECTION OF FOUNDATION REINFORCEMENT IS REQUIRED PRIOR TO PLACEMENT OF CONCRETE.

WOOD LATERAL FORCE RESISTING SYSTEM (2015 IBC 1705.11 AND 1705.12):		
VERIFICATION AND INSPECTION	**FREQUENCY**	**REFERENCED STANDARD**
1. WIND-RESISTING SYSTEM (IBC 1705.11.1) AND SEISMIC RESISTING SYSTEM (IBC 1705.12.2)		
A. VERIFY NAILING, BOLTING, ANCHORING AND OTHER FASTENING OF COMPONENTS WITH IN THE MAIN LATERAL FORCE RESISTING SYSTEM, INCLUDING WOOD SHEAR WALLS, WOOD DIAPHRAGMS, DRAG STRUTS, BRACES AND HOLD-DOWN WHERE NAIL SPACING OF WOOD DIAPHRAGMS AND WOOD SHEAR WALLS IS 4" OR LESS.	PERIODIC	-
B. INSPECTION OF FIELD-GLUING OPERATION OF ELEMENTS OF THE MAIN WIND FORCE-RESISTING SYSTEM WHERE NAIL SPACING OF WOOD DIAPHRAGMS AND WOOD SHEAR WALLS IS 4" OR LESS.	CONTINUOUS	-
2. WIND-RESISTING COMPONENTS (IBC 1705.11.3)		
A. INSPECTION IS REQUIRED FOR THE FASTENING OF THE FOLLOWING SYSTEMS AND COMPONENTS:		
i. ROOF COVERING, ROOF DECK AND ROOF FRAMING CONNECTIONS.	PERIODIC	-
ii. EXTERIOR WALL COVERING AND WALL CONNECTIONS TO ROOF AND FLOOR DIAPHRAGMS AND FRAMING.	PERIODIC	-

rdc.

11921 Freedom Drive #1110
Reston, Va 20190
t 703.668.0086
rdcollaborative.com

PROFESSIONAL SEAL

REVISIONS 02/16/2023

△	ISSUE	DATE
1	OTP SET	02/15/23

JBA JOHNSTON BURKHOLDER ASSOCIATES
consulting structural engineers
930 CENTRAL · KANSAS CITY, MO 64105
816.421.4200 · WWW.JBAENGR.COM
NORTH CAROLINA COA #P-0672 EXPIRES: 06/30/23

JBA PROJECT #: 23023

PROFESSIONAL IN CHARGE
BJH

PROJECT MANAGER
RB

QUALITY CONTROL
SMK

DRAWN BY
JBA

PROJECT NAME

CIRCLE K STORES, INC.

ANGIER, NC

9706 KENNEBEC CHURCH ROAD, ANGIER, NC 27501

PROTOCYCLE # R1.1 11/21/22

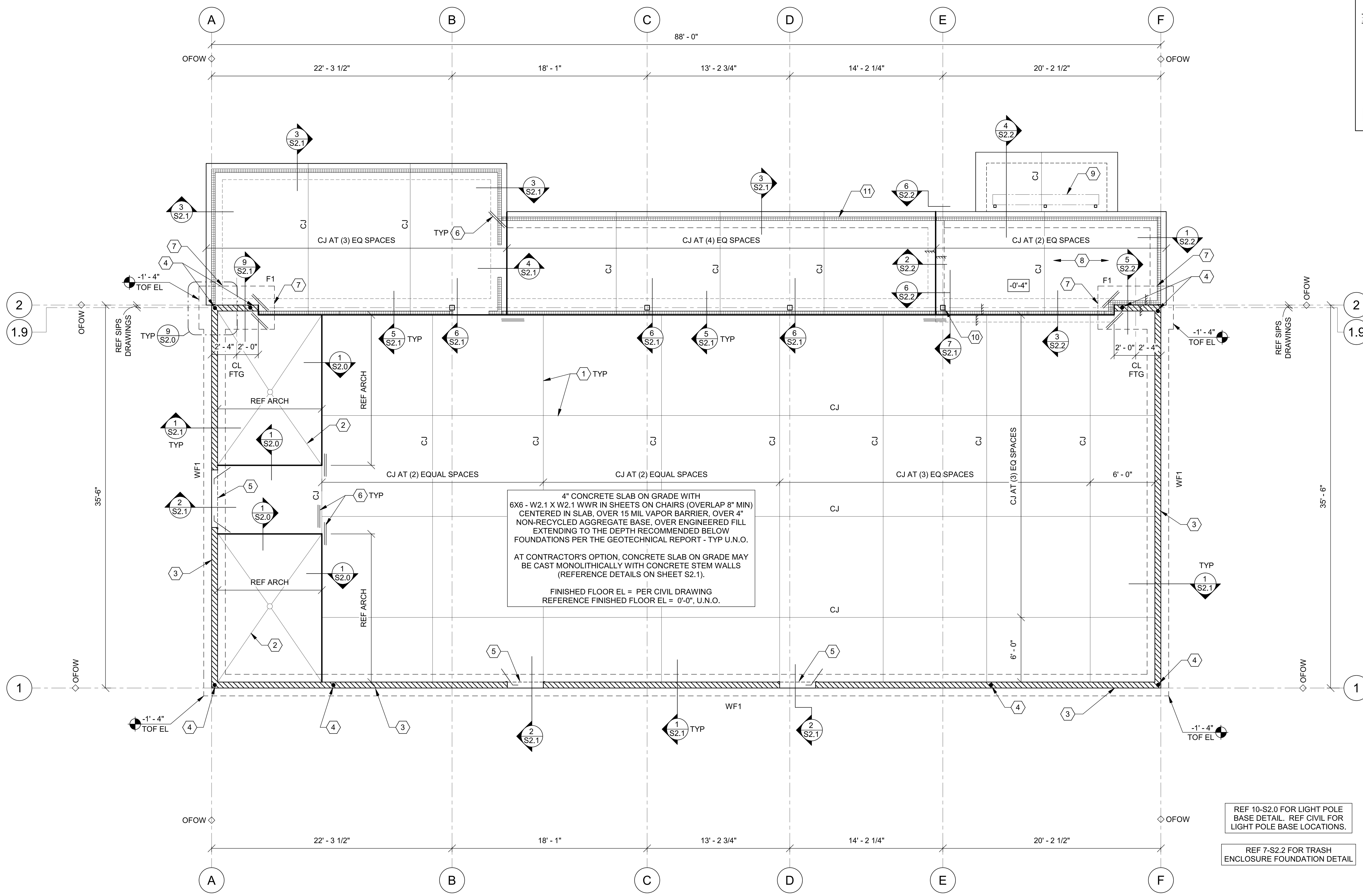
CIRCLE K STORE

PROJECT NUMBER: 22130

TABLE OF SPECIAL INSPECTIONS

S0.3

WALL LEGEND	
[hatch]	STRUCTURAL INSULATED PANELS (SIPS)
[hatch]	PRE-MANUFACTURED COOLER / FREEZER WALLS BY SUPPLIER
•	APPROXIMATE LOCATION OF SHEAR WALL HOLD DOWN. REF SIPS PANEL DRAWINGS FOR HOLD DOWN DETAILS AND EXACT LOCATIONS
X'-X"	FINISH FLOOR ELEVATION



FOUNDATION AND SLAB PLAN | 1
3/16" = 1'-0"

FOUNDATION PLAN NOTES

NUMBER	PLAN NOTE
GENERAL PLAN NOTES	
A.	REF SHEET S0.1, S0.2 AND S0.3 FOR GENERAL NOTES, LEGEND AND SPECIAL INSPECTIONS REQUIREMENTS.
B.	REFER TO SHEET S1.1 AND ARCH DRAWINGS FOR LOCATIONS, DIMENSIONS AND ELEVATIONS OF EXTERIOR SIP WALLS AND INSULATION METAL PANEL WALLS.
C.	ALL ELEVATIONS REFERENCED FROM REFERENCE FINISH FLOOR ELEVATION OF 0'-0".
D.	TOP OF FOOTING ELEVATION SHALL BE ASSUMED TO BE CONSTANT BETWEEN ELEVATIONS SHOWN ON PLAN U.N.O. (FOUNDATION REQUIREMENTS ENSCRIBED ON S0.1 PER GEOTECHNICAL ENGINEER RECOMMENDATIONS SHALL BE FOLLOWED AS GRADING CONDITIONS VARY, REF CIVIL).
E.	FOR TYPICAL REINFORCING BAR BEND DETAILS, REF 4-S2.0.
F.	FOR PIPING RUNNING PARALLEL AND PERPENDICULAR TO THE FOUNDATION REF 6-S2.0 & 7-S2.0.
G.	THE GENERAL CONTRACTOR, INCLUDING SUBCONTRACTORS AND SUPPLIERS, SHALL NOT ALLOW ANY VEHICULAR TRAFFIC ON THE BUILDING PAD AFTER THE PAD CERTIFICATION OR THE CONCRETE SLAB ONCE PLACED. ANY DAMAGE TO THE PAD DUE TO THE VEHICULAR TRAFFIC SHALL BE REPAIRED/REPLACED AT THE EXPENSE OF THE CONTRACTOR.
H.	FOUNDATION CONTRACTOR NEEDS TO CONTACT THE ELECTRICAL CONTRACTOR SO THEY CAN INSTALL THE UFER GROUNDING ELECTRODE BEFORE THE FOUNDATION IS INSPECTED.

FOUNDATION PLAN NOTES

NUMBER	PLAN NOTE
REFERENCED PLAN NOTES	
1	FOR TYPICAL FLOOR CONSTRUCTION JOINT, REF 1-S2.0; FOR TYPICAL FLOOR CONTRACTION JOINT, REF 2-S2.0.
2	COORDINATE SLAB SLOPES AT DRAIN LOCATIONS WITH THE ARCH DRAWINGS.
3	CONCRETE STEM WALL; REF DETAIL 1-S2.1 FOR DETAILS AND FACE OF WALL LOCATION. REF DETAILS 13, 14, AND 15 ON SHEET S2.0 FOR STEM WALL DETAILS.
4	INDICATES SHEAR WALL HOLDDOWN; REF SIPS PANEL DRAWINGS FOR DETAILS AND EXACT LOCATIONS. ALL HOLDDOWN ANCHORS REQUIRING ANCHOR BOLTS SHALL BE EMBEDDED INTO THE CONTINUOUS FOOTING THE SPECIFIED AMOUNT SHOWN IN DETAIL 12-S2.0.
5	REF ARCH FOR ALL WALL OPENING SIZES AND LOCATIONS WITH THE ARCH DRAWINGS. REF 11-S2.0 FOR RE-ENTRANT BARS AT OPENINGS.
6	REF 5-S2.0 FOR SLAB REINFORCEMENT AT RE-ENTRANT CORNERS.
7	DOWEL CONTINUOUS REINFORCEMENT IN GRADE BEAM; DOWEL BOTTOM BARS INTO FOOTING, AND TOP BARS INTO STEM WALL / SLAB TURNDOWN WHERE APPLICABLE.
8	GC TO COORDINATE LOCATION OF RECESSED SLAB WITH FREEZER BOX VENDOR AND ARCH DRAWINGS.
9	EXTERIOR ELECTRICAL EQUIPMENT, COORDINATE LOCATION WITH ELEC DRAWINGS; REF 4-S2.2 FOR LATERAL SUPPORT POST (3 PLACES).
10	FREEZER VENDOR TO DESIGN FREEZER TO RESIST COLUMN REACTIONS PER SIPS PANEL MANUFACTURER. REFER TO SIPS PANEL AND FREEZER DRAWINGS FOR COLUMN BEARING CONDITION AND ADDITIONAL INFORMATION.
11	PRE-MANUFACTURED INSULATED METAL PANEL FREEZER/COOLER WALL PANELS DESIGNED AND ANCHORED TO SUPPORT ALL BUILDING CODE REQUIRED LOADS. REF ARCH FOR SIZES AND LOCATION.

WALL FOOTING SCHEDULE

MARK	WIDTH	THICKNESS	REINF (TRANS)	REINF (LONG)	REINF LOCATION
WF1	2' - 0"	1' - 0"	#5 AT 24" OC	(3) #5	BOT

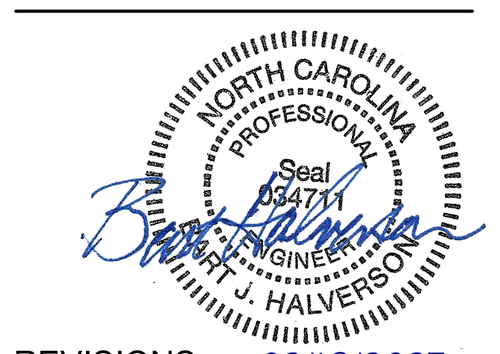
COLUMN FOOTING SCHEDULE

MARK	WIDTH	LENGTH	THICKNESS	REINF (TRANS)	REINF (LONG)	REINF LOCATION
F1	4' - 0"	7' - 0"	1' - 6"	(9) #5	(5) #5	T&B

rdc.

11921 Freedom Drive #1110
Reston, Va 20190
t 703.668.0086
rdcollaborative.com

PROFESSIONAL SEAL



REVISIONS 02/16/2023

△ ISSUE	DATE
1 OTP SET	02/15/23

JBA JOHNSTON BURKHOLDER ASSOCIATES
consulting structural engineers
930 CENTRAL · KANSAS CITY, MO 64105
816.421.4200 · WWW.JBAENGR.COM
NORTH CAROLINA COA #F-0472 EXPIRES 06/30/23
JBA PROJECT #: 23023

PROFESSIONAL IN CHARGE
BJH
PROJECT MANAGER
RB
QUALITY CONTROL
SMK
DRAWN BY
JBA

PROJECT NAME

CIRCLE K STORES, INC.

ANGIER, NC

9706 KENNEBEC CHURCH ROAD, ANGIER, NC 27501

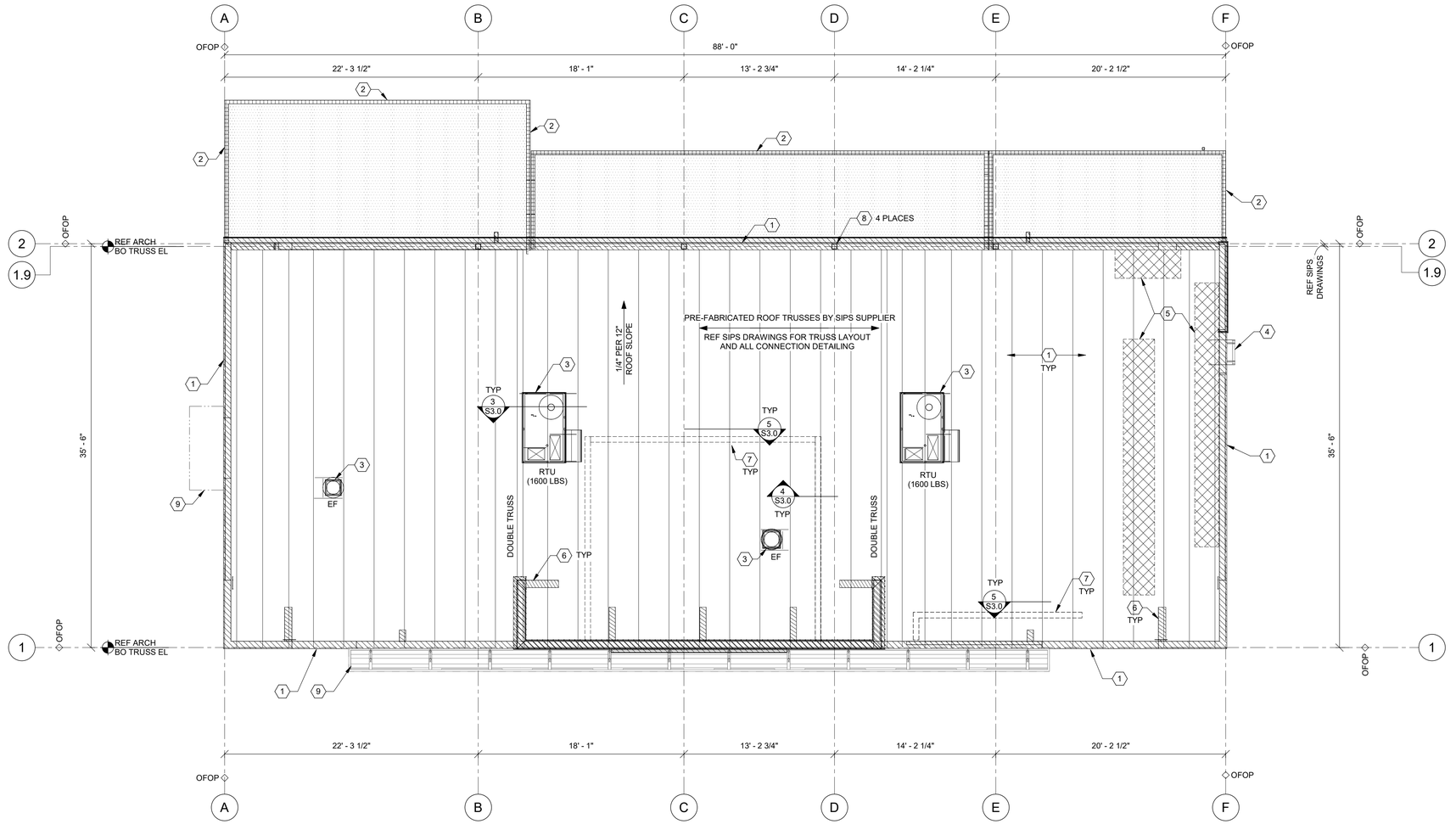
PROTOCYCLE # R1.1 11/21/22

CIRCLE K STORE

PROJECT NUMBER: 22130

FOUNDATION AND SLAB PLAN

S1.0



ROOF FRAMING PLAN | 1

3/16" = 1'-0"

ROOF FRAMING PLAN NOTES	
NUMBER	PLAN NOTE
GENERAL PLAN NOTES	
A.	REF SHEET S0.1, S0.2 AND S0.3 FOR GENERAL NOTES AND SPECIAL INSPECTIONS REQUIREMENTS.
B.	REFER TO ARCH DRAWINGS FOR LOCATIONS, DIMENSIONS AND ELEVATIONS OF EXTERIOR SIP WALLS AND INSULATION METAL PANEL WALLS.
C.	REF ARCH DRAWINGS FOR ADDITIONAL INFORMATION AND DIMENSIONS.
D.	ALL ITEMS SUCH AS MECHANICAL EQUIPMENT, DUCT WORK, PIPES, CEILINGS, FIXTURES, ETC. THAT ARE TO BE SUPPORTED OR HUNG FROM THE WOOD TRUSSES SHALL BE FRAMED WITH AUXILIARY FRAMING TO THE PANEL POINTS OF THE TRUSS. METHODS OF FRAMING THAT INDUCE BENDING TO THE TRUSS CHORD OR WEB MEMBERS WILL NOT BE PERMITTED. COORDINATE BRIDGING LOCATIONS SO AS NOT TO INTERFERE WITH ANY MECHANICAL EQUIPMENT.
E.	APPROXIMATE WEIGHTS OF ROOF TOP EQUIPMENT ARE SHOWN ON PLAN. VERIFY ALL LOADS, LOCATIONS, CURB SIZES AND OPENING SIZES WITH MECHANICAL CONTRACTOR PRIOR TO FABRICATION. ADJUST SPACING OF WOOD TRUSSES AS REQUIRED FOR MECHANICAL OPENINGS. REF TYPICAL RTU SUPPORT DETAIL 3-S3.0 FOR FRAMING.
F.	RTUS AND RCUS MUST BE PLACED ON OR BETWEEN TRUSSES DESIGNED FOR THE ADDITIONAL LOAD AS SHOWN. REF MECHANICAL FOR EXACT LOCATIONS.
G.	PLACEMENT OF SPRINKLER CONTRACTOR'S PIPING AND TRUSS BRIDGING SHALL BE COORDINATED BY THE GENERAL CONTRACTOR. THE CONTRACTOR SHALL MAKE PROVISIONS FOR THE TRUSS SUPPLIER TO ADJUST/RELOCATE BRIDGING OR SPRINKLER CONTRACTOR TO ADJUST PIPING VERTICALLY WHERE CONFLICTS OCCUR. ALL CHANGES REQUIRED OF THE TRUSS BRIDGING SHALL BE DESIGNED BY TRUSS MANUFACTURER.

ROOF FRAMING PLAN NOTES	
NUMBER	PLAN NOTE
REFERENCED PLAN NOTES	
1	SIP PANEL ROOF DESIGNED TO SUPPORT ALL BUILDING CODE REQUIRED LOADS AND DESIGNED AS A DIAPHRAGM TO DISTRIBUTE WIND/SEISMIC LOADS TO SHEAR WALLS. REF 1-S3.0 FOR ADDITIONAL FRAMING AT OPENINGS. REF ARCH FOR TOP OF SIP PANEL ELEVATIONS.
2	PRE-MANUFACTURED INSULATED METAL PANEL FREEZER/COOLER WALL PANELS DESIGNED AND ANCHORED TO SUPPORT ALL BUILDING CODE REQUIRED LOADS. REF ARCH FOR SIZES AND LOCATION.
3	REF 1-S3.0 FOR RTU DUCT OPENING AND ROOF OPENING FRAMES. GC TO VERIFY LOCATION, SIZE AND WEIGHT OF MECHANICAL UNITS. OPERATING WEIGHT SHALL NOT EXCEED THE WEIGHT NOTED ON THE PLAN.
4	EXTERIOR ROOF ACCESS LADDER, REF ARCH FOR LOCATION. SIP PANEL MANUFACTURER TO COORDINATE CONNECTION.
5	DESIGN TRUSSES FOR AN ADDITIONAL 50 PSF STORAGE SHELF LOAD (RLL), TYP AT THIS STYLE HATCH; REF ARCH FOR LOCATIONS AND DETAILS.
6	PARAPET BRACING DESIGNED BY SIPS SUPPLIER.
7	INTERIOR SOFFIT FRAMING, REF ARCH FOR LOCATIONS AND REF APPLICABLE STRUC FRAMING SECTIONS FOR SUPPORT AND ADDITIONAL LOADS TO TRUSSES.
8	COLUMN BEARING CONDITION TO BE COORDINATED WITH SIPS PANEL AND COOLER / FREEZER DRAWINGS; COOLER / FREEZER BOXES TO BE DESIGNED TO TRANSFER COLUMN DOWNWARD AND UPLIFT REACTIONS PER SIPS PANEL VENDOR. REFER TO SIPS PANEL AND FREEZER DRAWINGS FOR COLUMN BEARING CONDITION AND ADDITIONAL INFORMATION.
9	PRE-MANUFACTURED CANOPY BY OTHERS, REF ARCH. SIP PANEL MANUFACTURER COORDINATE, CONNECTION WITH CANOPY MANUFACTURER.

WALL LEGEND
STRUCTURAL INSULATED PANELS (SIPS)
FREEZER / COOLER WALL PANEL
FREEZER / COOLER CEILING PANEL BELOW

ROOF DEAD LOADS		
DEAD LOADS		
MEMBRANE (UNBALASTED)	=	1.0 PSF
SIPS PANEL	=	2.0 PSF
WOOD TRUSSES	=	3.0 PSF
MECH/ELEC/FIRE SPRINK	=	3.0 PSF
MISC	=	4.0 PSF
TOTAL	=	15.0 PSF

rdc.

11921 Freedom Drive #1110
Reston, Va 20190
t 703.668.0086
rdcollaborative.com

PROFESSIONAL SEAL

NORTH CAROLINA PROFESSIONAL Seal 032471 ENGINEER BARRY J. HALVERSON

REVISIONS 02/16/2023

△ ISSUE	DATE
1 OTP SET	02/15/23

JBA JOHNSTON BURKHOLDER ASSOCIATES
consulting structural engineers
930 Central · Kansas City, MO 64105
816.421.4200 · www.jbaengr.com
NORTH CAROLINA COA #P-0672 EXPIRES: 06/30/23

JBA PROJECT #: 23023

PROFESSIONAL IN CHARGE
BJH

PROJECT MANAGER
RB

QUALITY CONTROL
SMK

DRAWN BY
JBA

PROJECT NAME

CIRCLE K STORES, INC.

ANGIER, NC

9706 KENNEBEC CHURCH ROAD, ANGIER, NC 27501

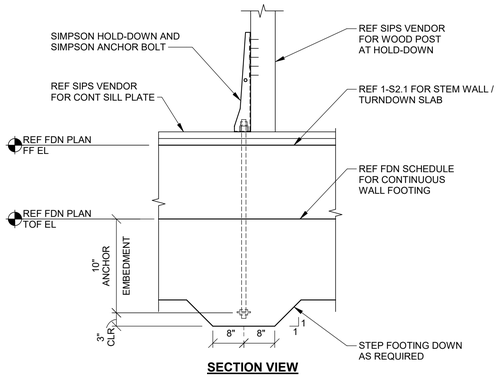
PROTOCYCLE # R1.1 11/21/22

CIRCLE K STORE

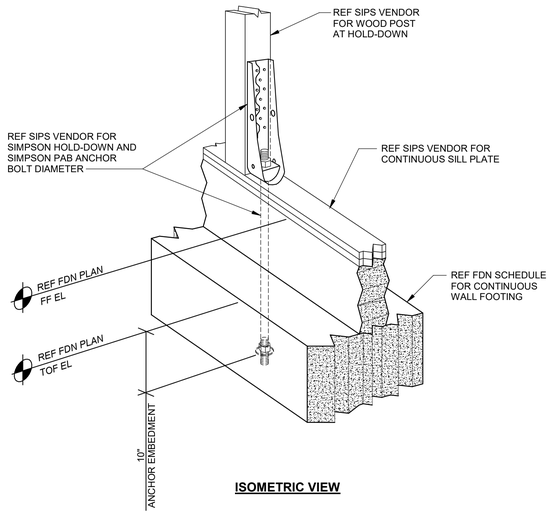
PROJECT NUMBER: 22130

ROOF FRAMING PLAN

S1.1



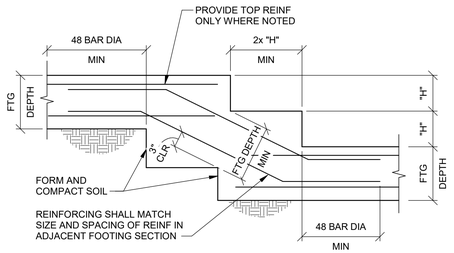
SECTION VIEW



ISOMETRIC VIEW

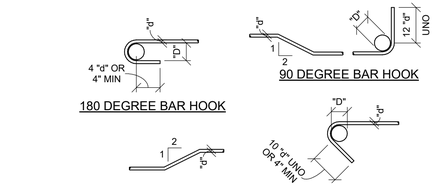
SHEAR WALL HOLD DOWN | 12

3/4" = 1'-0"



DETAIL AT STEPPED FOOTING | 8

3/4" = 1'-0"

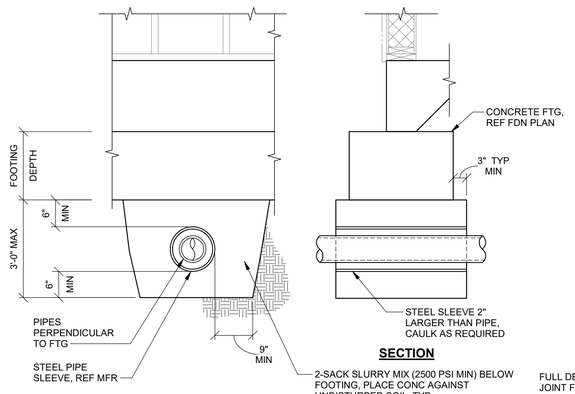


NOTE:
1. PROVIDE THESE HOOKSHROUGHOUT WORK AS INDICATED ON DRAWINGS.

BAR SIZE	"D"
#3 THRU #8	6 "d"
#9 THRU #11	8 "d"
#14 THRU #18	10 "d"

TYPICAL REINFORCING BARS BENDS DETAIL | 4

3/4" = 1'-0"

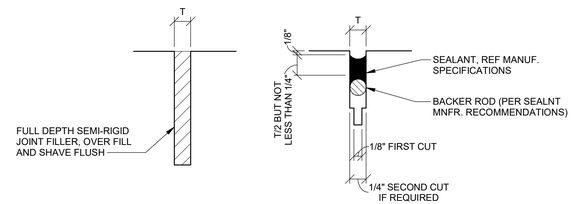


SECTION

NOTE:
1. NO PIPES TO PENETRATE THRU FOOTING.
2. WHERE PIPES DO OCCUR AT FOOTING ELEVATION, STEP FOOTING DOWN SO PIPES PASS THROUGH FOOTING WALL. REF DETAIL 8-S2.0 FOR FTG STEP DETAIL.
3. MAX PIPE DIAMETER SHALL BE 6 INCHES.

UTILITY LINE PERPENDICULAR TO FDN | 7

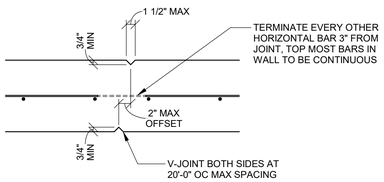
3/4" = 1'-0"



INTERIOR FILLED JOINT — EXTERIOR SEALED JOINT

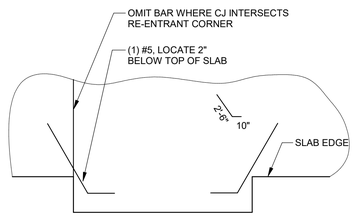
TYPICAL CONCRETE SLAB JOINT DETAIL | 3

3/4" = 1'-0"



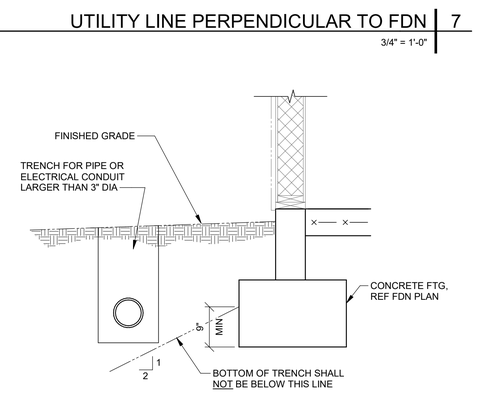
CONCRETE WALL CONTROL JOINT | 15

1" = 1'-0"



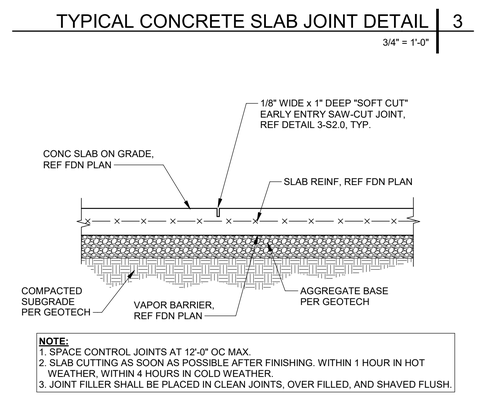
SLAB REINFORCEMENT AT DOOR OPENINGS | 11

3/4" = 1'-0"



UTILITY LINE PARALLEL TO FDN | 6

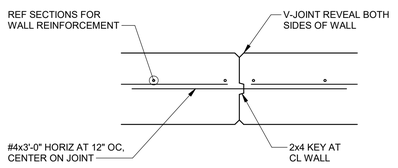
3/4" = 1'-0"



NOTE:
1. SPACE CONTROL JOINTS AT 12'-0" OC MAX.
2. SLAB CUTTING AS SOON AS POSSIBLE AFTER FINISHING. WITHIN 1 HOUR IN HOT WEATHER, WITHIN 4 HOURS IN COLD WEATHER.
3. JOINT FILLER SHALL BE PLACED IN CLEAN JOINTS, OVER FILLED, AND SHAVED FLUSH.

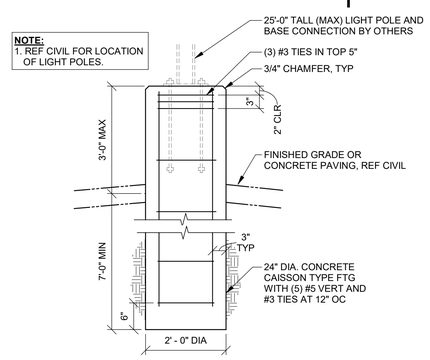
TYPICAL CONTRACTION JOINT | 2

3/4" = 1'-0"



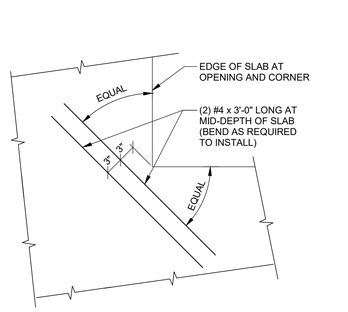
CONCRETE WALL CONSTRUCTION JOINT | 14

1" = 1'-0"



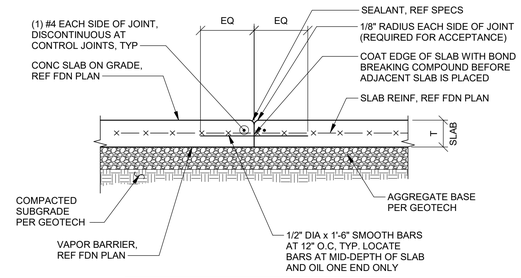
TYP LIGHT POLE FTG | 10

3/4" = 1'-0"



TYPICAL REINFORCEMENT AT SLAB OPENING | 5

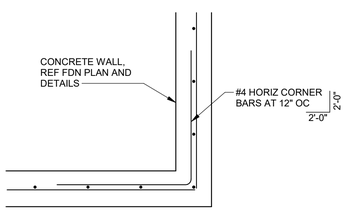
3/4" = 1'-0"



NOTE:
1. SMOOTH BARS SHALL BE INSTALLED HORIZONTALLY.

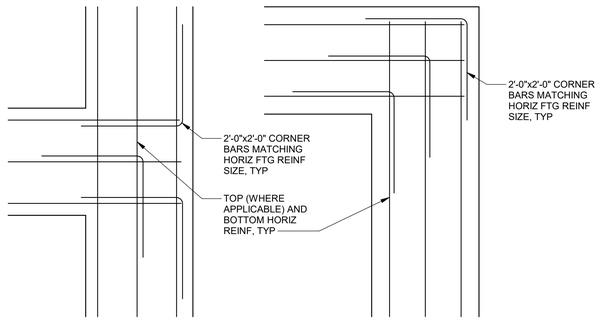
TYPICAL CONSTRUCTION JOINT | 1

3/4" = 1'-0"



CONCRETE WALL CORNER DETAIL | 13

3/4" = 1'-0"



CONCRETE FOOTING CORNER BAR REINFORCEMENT | 9

1" = 1'-0"

rdc.

11921 Freedom Drive #1110
Reston, Va 20190
t 703.668.0086
rdcollaborative.com

PROFESSIONAL SEAL

NORTH CAROLINA PROFESSIONAL Seal 034711 ENGINEER BRIAN J. HALVERSON

REVISIONS 02/16/2023

△	ISSUE	DATE
1	OTP SET	02/15/23

JBA JOHNSTON BURKHOLDER ASSOCIATES
consulting structural engineers
930 CENTRAL · KANSAS CITY, MO 64105
816.421.4200 · WWW.JBAENGR.COM
NORTH CAROLINA COA #P-0672 EXPIRES: 06/30/23
JBA PROJECT #: 23023

PROFESSIONAL IN CHARGE
BJH
PROJECT MANAGER
RB
QUALITY CONTROL
SMK
DRAWN BY
JBA

PROJECT NAME

CIRCLE K STORES, INC.

ANGIER, NC

9706 KENNEBEC CHURCH ROAD, ANGIER, NC 27501

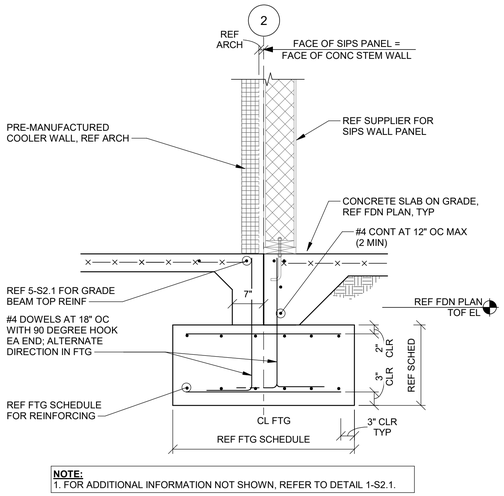
PROTOCYCLE # R1.1 11/21/22

CIRCLE K STORE

PROJECT NUMBER: 22130

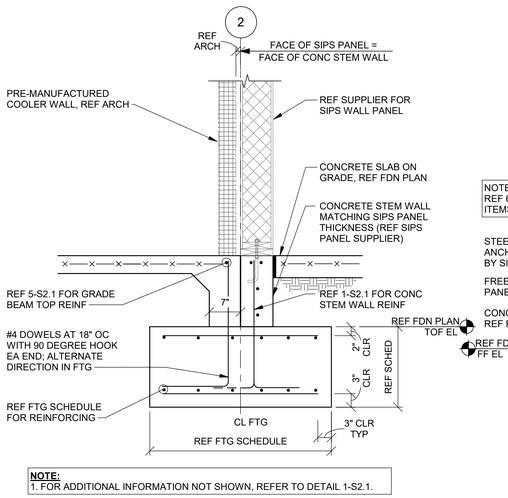
FOUNDATION DETAILS

S2.0



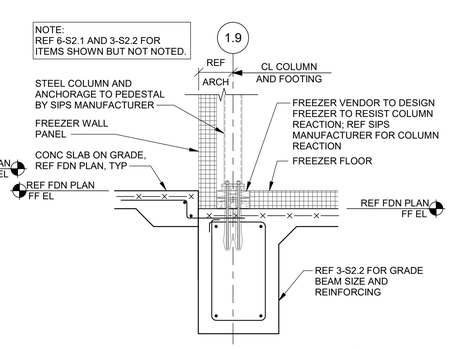
NOTE:
1. FOR ADDITIONAL INFORMATION NOT SHOWN, REFER TO DETAIL 1-S2.1.

CONTRACTOR'S OPTION



NOTE:
1. FOR ADDITIONAL INFORMATION NOT SHOWN, REFER TO DETAIL 1-S2.1.

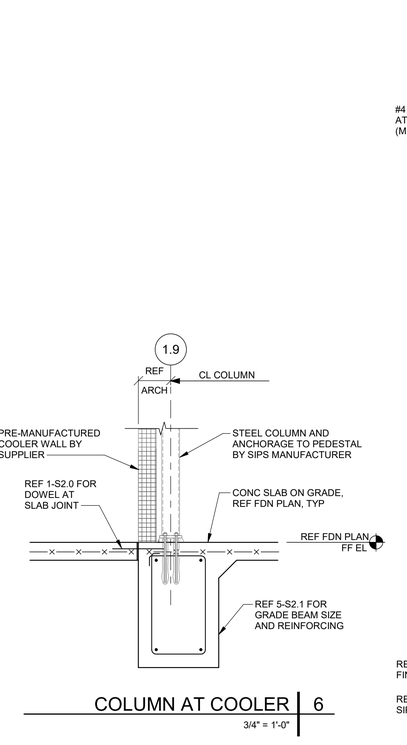
INTERIOR COOLER WALL SECTION | 9
3/4" = 1'-0"



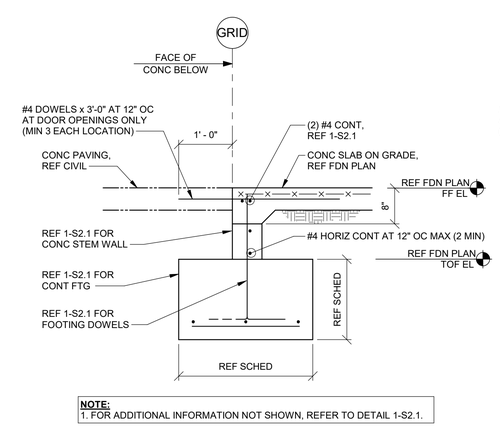
COLUMN AT FREEZER | 7
3/4" = 1'-0"

COLUMN AT COOLER | 6
3/4" = 1'-0"

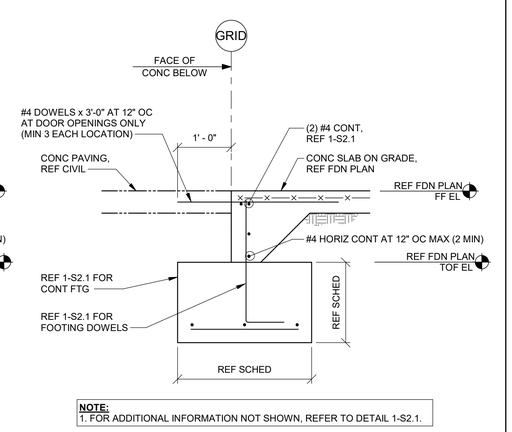
NOT USED | 8
3/4" = 1'-0"



INTERIOR COOLER WALL SECTION | 5
3/4" = 1'-0"



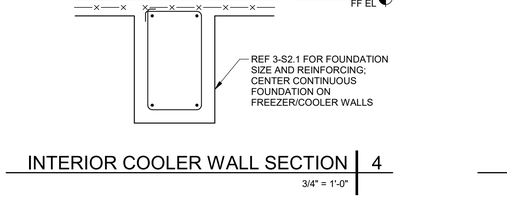
NOTE:
1. FOR ADDITIONAL INFORMATION NOT SHOWN, REFER TO DETAIL 1-S2.1.



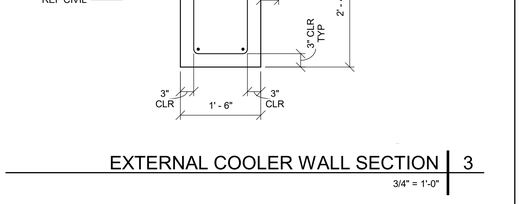
NOTE:
1. FOR ADDITIONAL INFORMATION NOT SHOWN, REFER TO DETAIL 1-S2.1.

CONTRACTOR'S OPTION

CONCRETE SLAB AT OPENING | 2
3/4" = 1'-0"



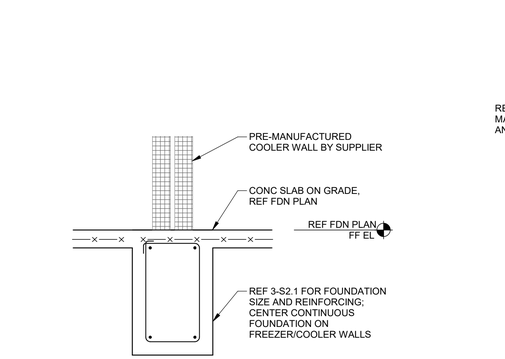
NOTE:
1. BOTTOM OF FOUNDATION SHALL BE PLACED PER GEOTECHNICAL RECOMMENDATIONS. FOR ADDITIONAL INFO, REF GENERAL NOTES ON SHEET S0.1.



NOTE:
1. BOTTOM OF FOUNDATION SHALL BE PLACED PER GEOTECHNICAL RECOMMENDATIONS. FOR ADDITIONAL INFO, REF GENERAL NOTES ON SHEET S0.1.

CONTRACTOR'S OPTION

TYPICAL SIPS PANEL WALL SECTION | 1
3/4" = 1'-0"



EXTERNAL COOLER WALL SECTION | 3
3/4" = 1'-0"

INTERIOR COOLER WALL SECTION | 4
3/4" = 1'-0"

rdc.

11921 Freedom Drive #1110
Reston, Va 20190
t 703.668.0086
rdcollaborative.com

PROFESSIONAL SEAL

NORTH CAROLINA PROFESSIONAL Seal 024711 ENGINEER R.J. HALVERSON

REVISIONS 02/16/2023

△	ISSUE	DATE
1	OTP SET	02/15/23

JBA JOHNSTON BURKHOLDER ASSOCIATES
consulting structural engineers
930 CENTRAL · KANSAS CITY, MO 64105
816.421.4200 · WWW.JBAENGR.COM
NORTH CAROLINA COA #P-0672 EXPIRES: 06/30/23
JBA PROJECT #: 23023

PROFESSIONAL IN CHARGE
BJH
PROJECT MANAGER
RB
QUALITY CONTROL
SMK
DRAWN BY
JBA

PROJECT NAME

CIRCLE K STORES, INC.

ANGIER, NC

9706 KENNEBEC CHURCH ROAD, ANGIER, NC 27501

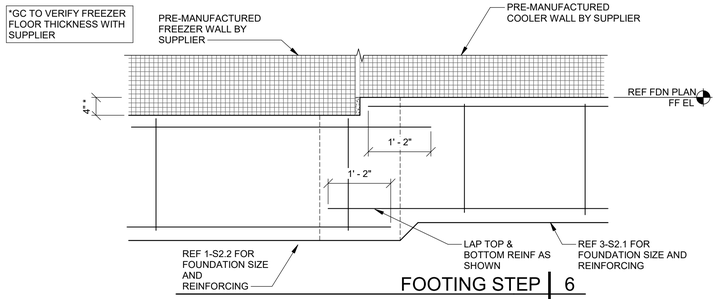
PROTOCYCLE # R1.1 11/21/22

CIRCLE K STORE

PROJECT NUMBER: 22130

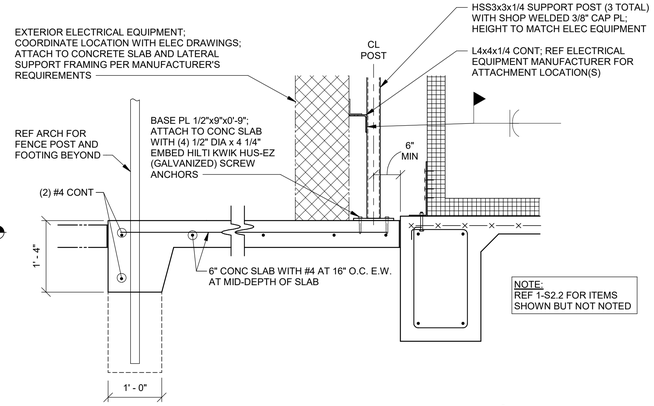
FOUNDATION DETAILS

S2.1



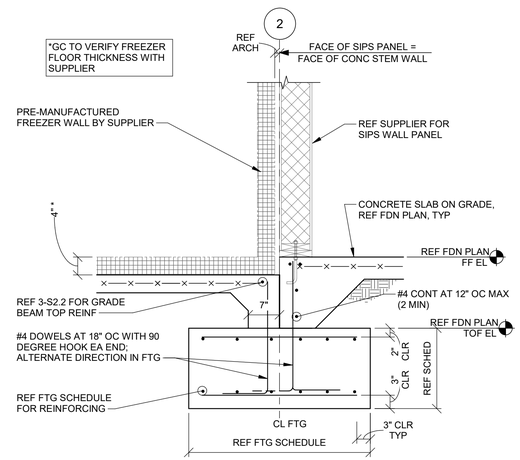
FOOTING STEP | 6

3/4" = 1'-0"



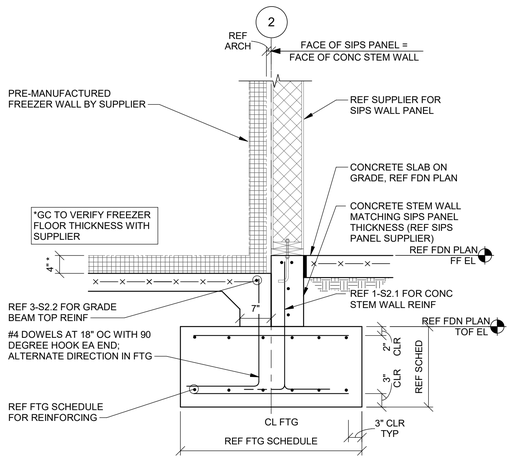
SECTION AT EXTERIOR SLAB | 4

3/4" = 1'-0"



NOTE:
1. FOR ADDITIONAL INFORMATION NOT SHOWN, REFER TO DETAIL 1-S2.1.

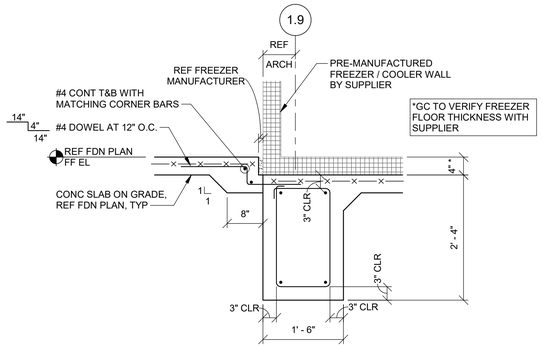
CONTRACTOR'S OPTION



NOTE:
1. FOR ADDITIONAL INFORMATION NOT SHOWN, REFER TO DETAIL 1-S2.1.

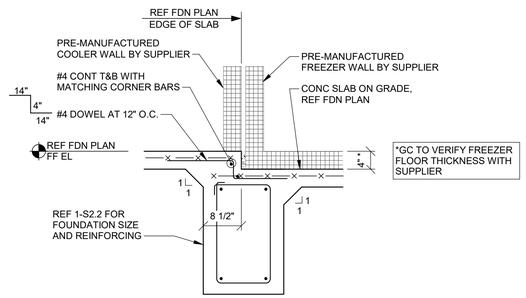
INTERIOR FREEZER WALL SECTION | 5

3/4" = 1'-0"



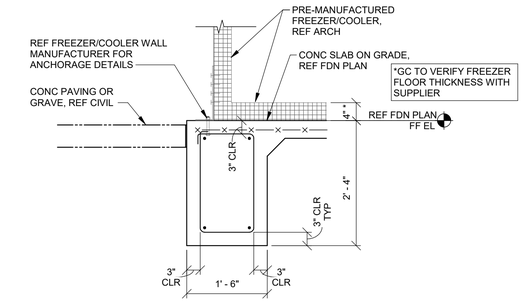
INTERIOR FREEZER WALL SECTION | 3

3/4" = 1'-0"



FREEZER / COOLER WALL SECTION | 2

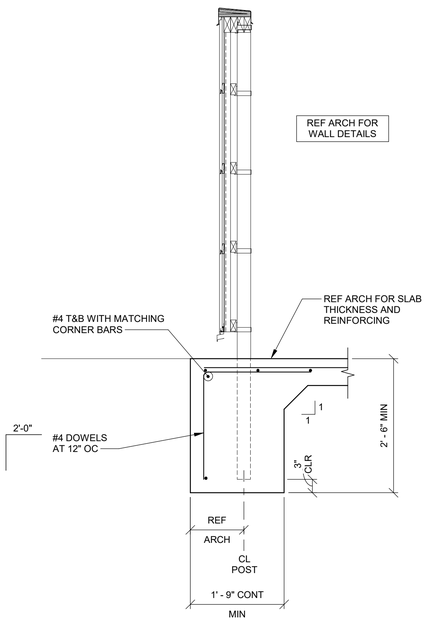
3/4" = 1'-0"



EXTERNAL FREEZER WALL SECTION | 1

3/4" = 1'-0"

GATE BOLLARD
FOUNDATION DETAIL



TRASH ENCLOSURE
FOUNDATION WALL SECTION

TRASH ENCLOSURE FOUNDATION DETAILS | 7

3/4" = 1'-0"

rdc.
11921 Freedom Drive #1110
Reston, Va 20190
t 703.668.0086
rdcollaborative.com

PROFESSIONAL SEAL

NORTH CAROLINA PROFESSIONAL Seal 034711 ENGINEER BRIAN J. HALVERSON

REVISIONS 02/16/2023

△	ISSUE	DATE
1	OTP SET	02/15/23

JBA JOHNSTON BURKHOLDER ASSOCIATES
consulting structural engineers
930 CENTRAL · KANSAS CITY, MO 64105
816.421.4200 · WWW.JBAENGR.COM
NORTH CAROLINA COA #P-0672 EXPIRES: 06/30/23
JBA PROJECT #: 23023

PROFESSIONAL IN CHARGE
BJH
PROJECT MANAGER
RB
QUALITY CONTROL
SMK
DRAWN BY
JBA

PROJECT NAME

CIRCLE K STORES, INC.

ANGIER, NC

9706 KENNEBEC CHURCH ROAD, ANGIER, NC 27501

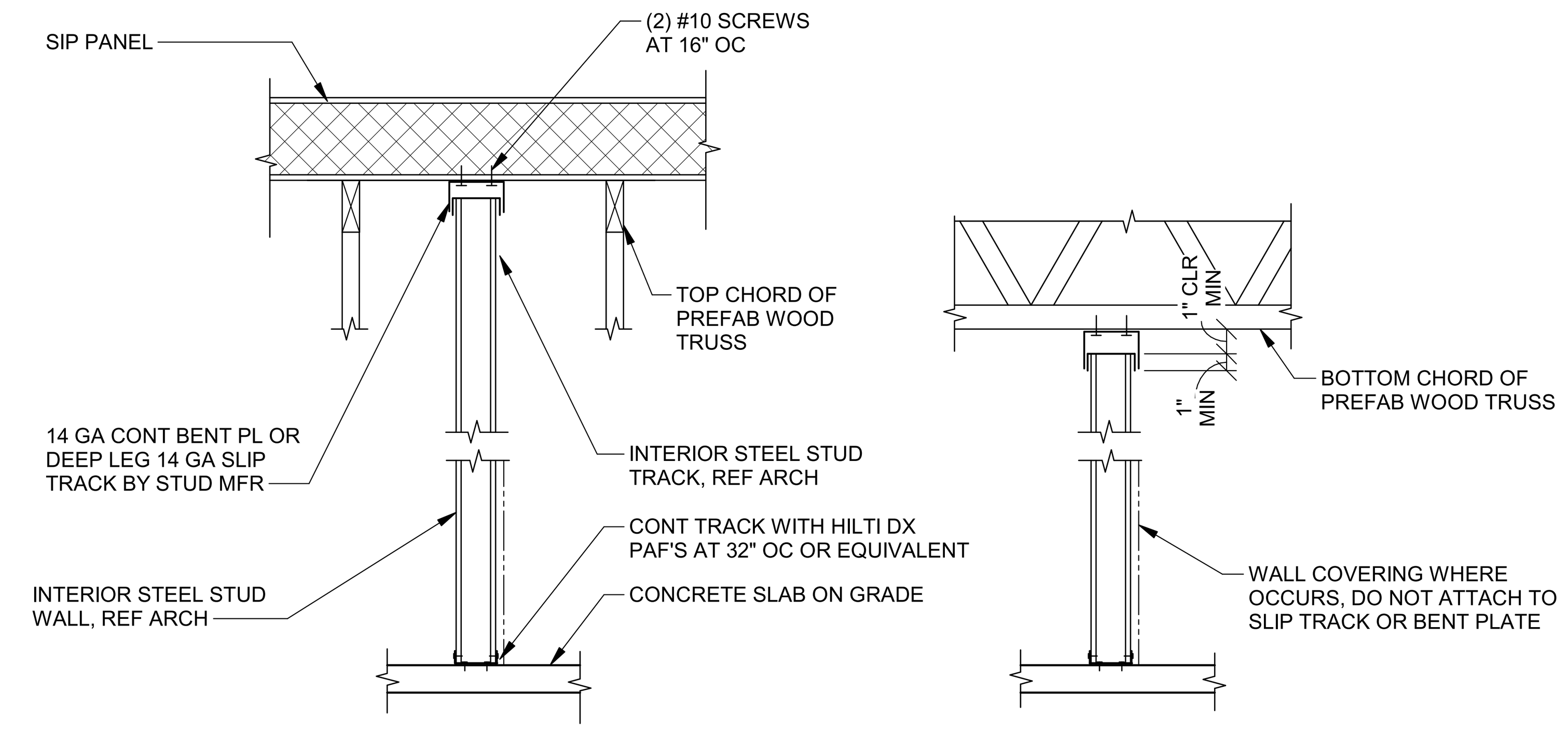
PROTOCYCLE # R1.1 11/21/22

CIRCLE K STORE

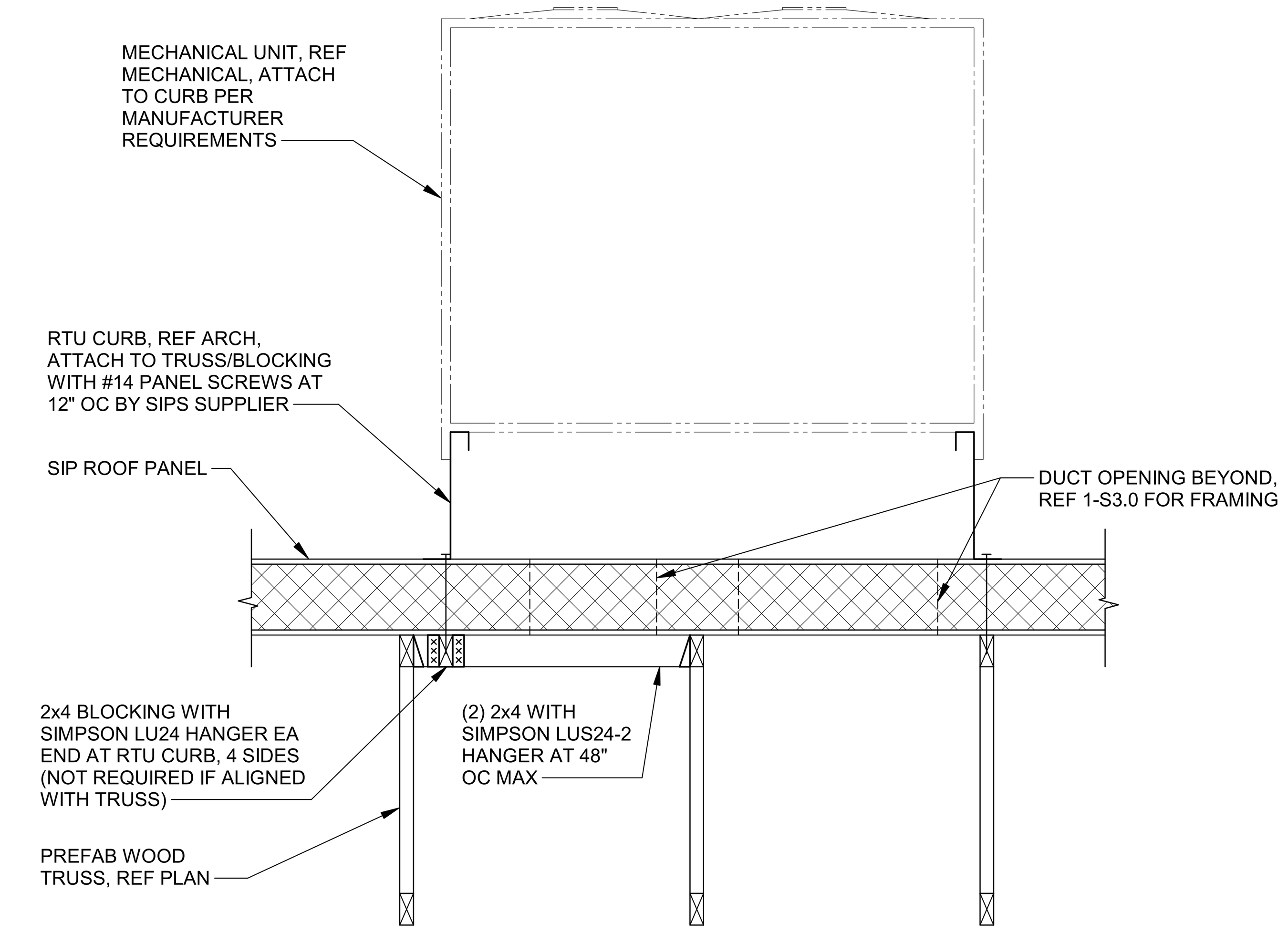
PROJECT NUMBER: 22130

FOUNDATION DETAILS

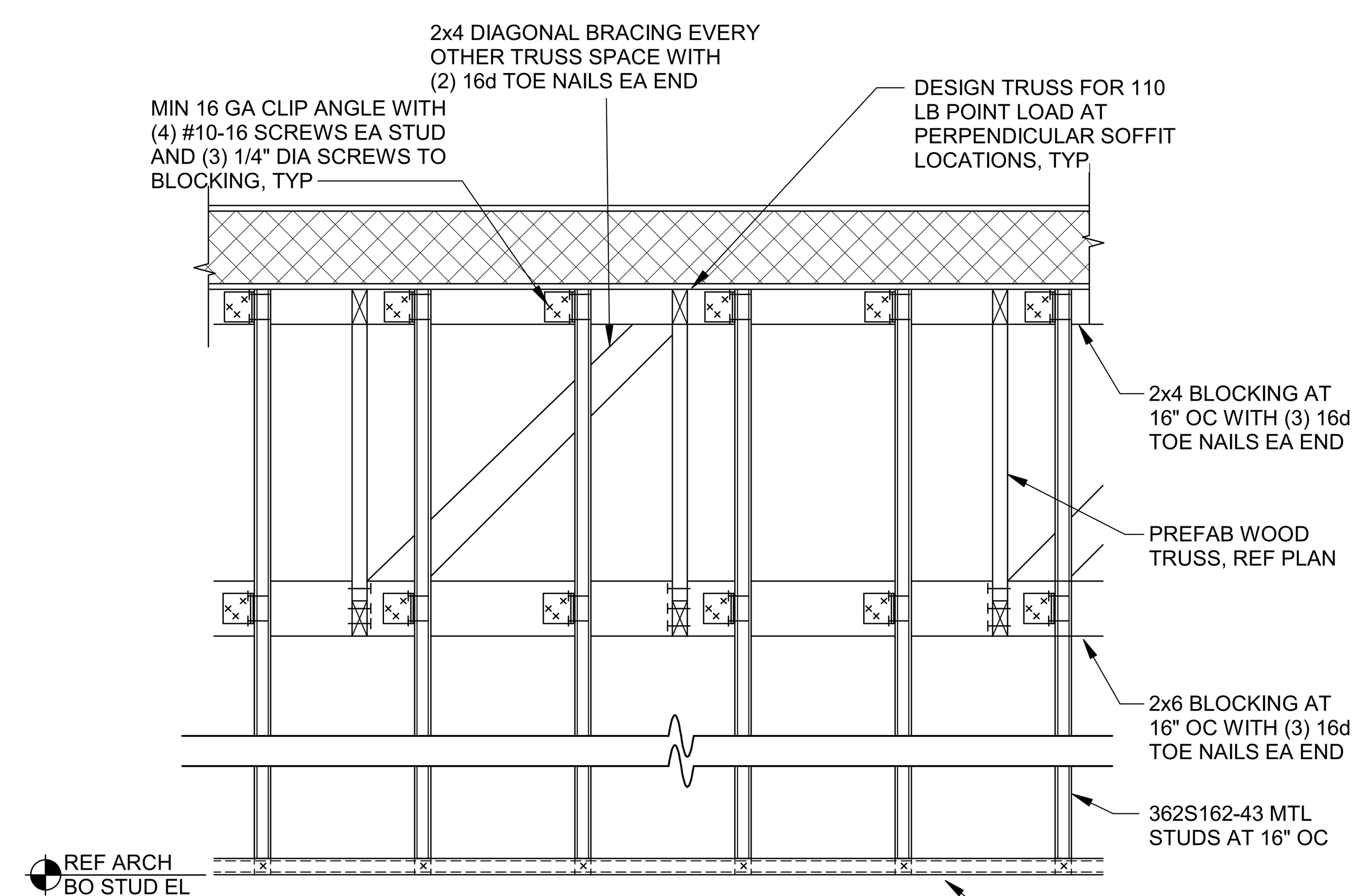
S2.2



TYP NON-BEARING STEEL STUD WALL TO PREFAB WOOD TRUSS | 6
3/4" = 1'-0"



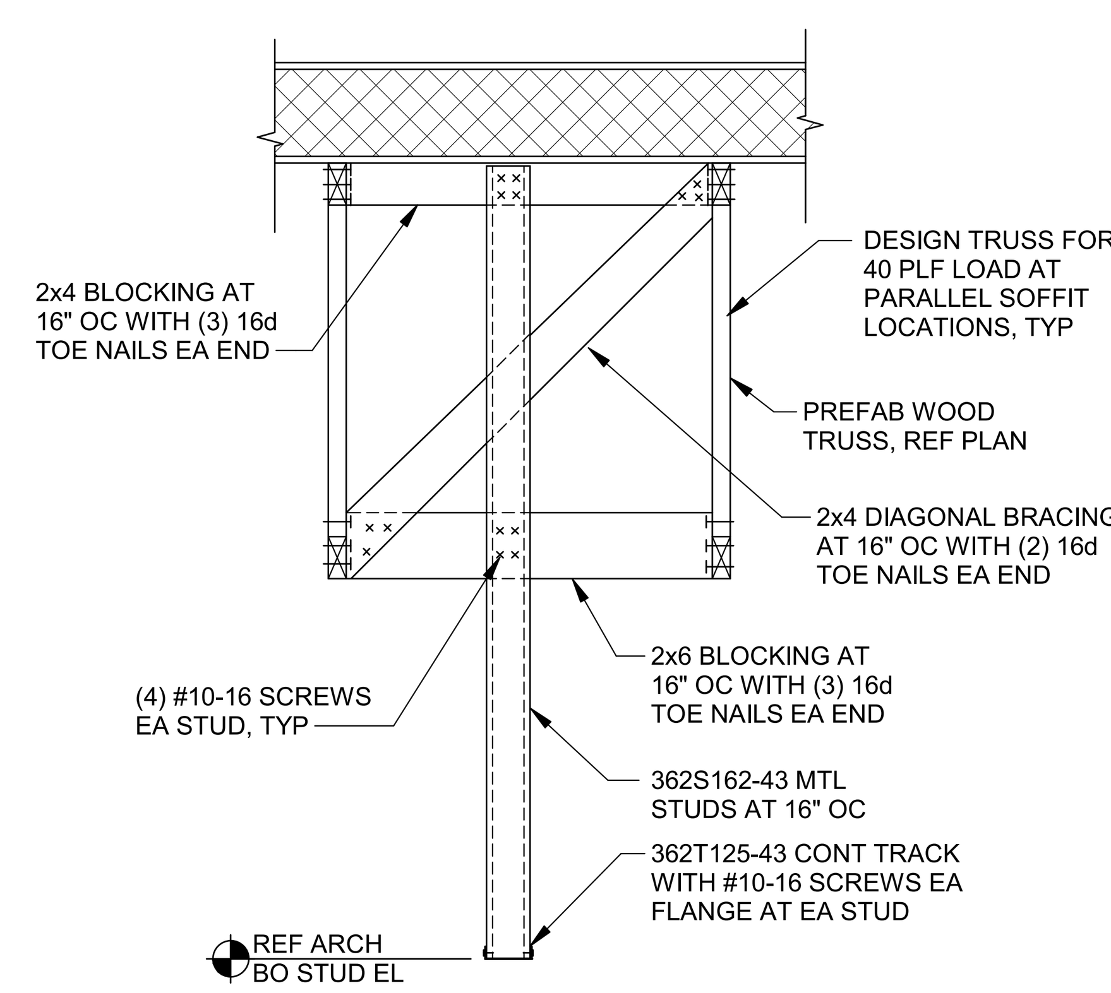
RTU SUPPORT | 3
3/4" = 1'-0"



NOTE:
1. LOCATE SOFFITS PER ARCH DRAWINGS.
2. REF ARCH FOR ADDITIONAL INFORMATION

SOFFIT DETAIL PERPENDICULAR TO TRUSS | 5
3/4" = 1'-0"

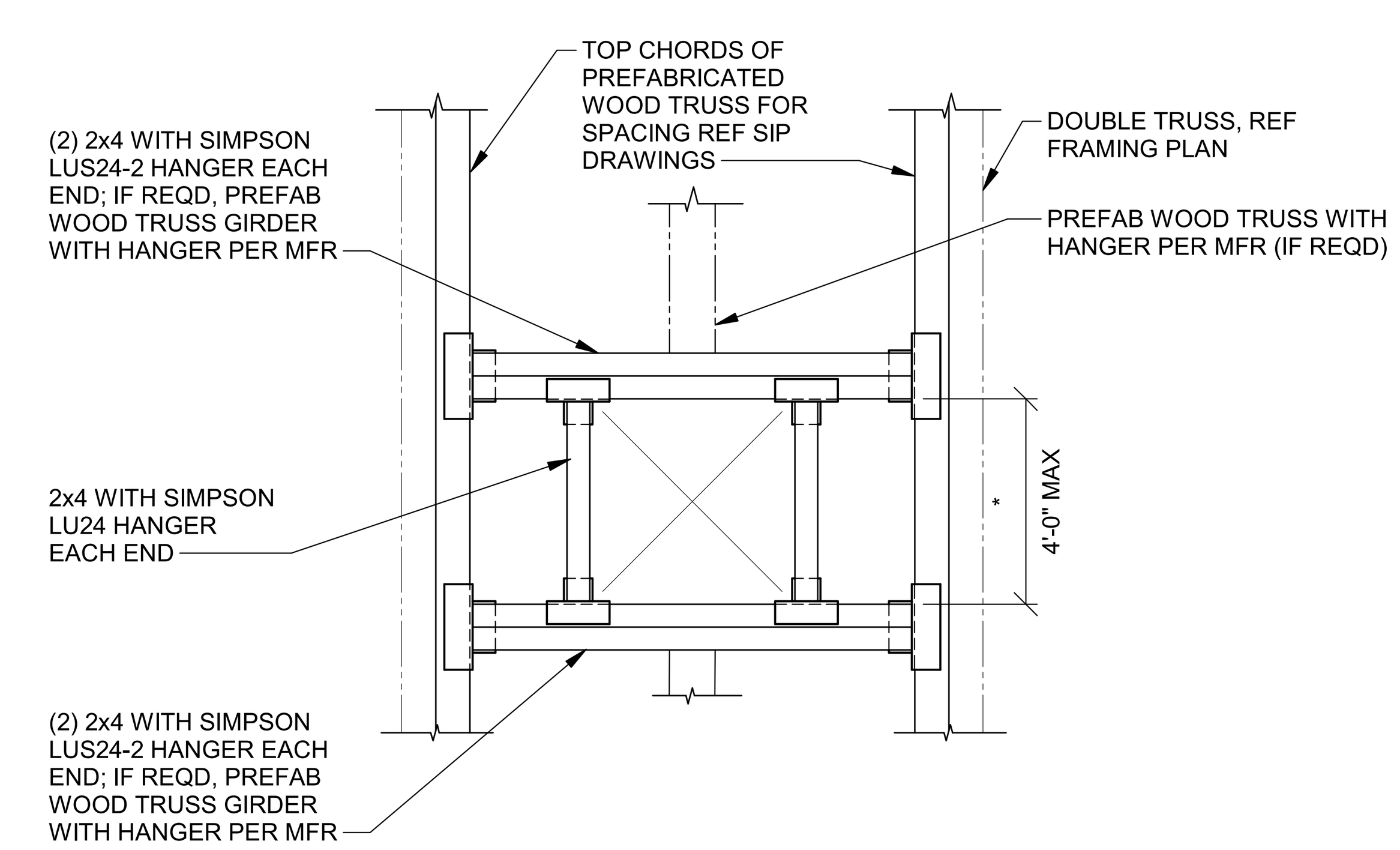
NOT USED | 2
NTS



NOTE:
1. LOCATE SOFFITS PER ARCH DRAWINGS.
2. REF ARCH FOR ADDITIONAL INFORMATION

SOFFIT DETAIL PARALLEL TO TRUSS | 4
3/4" = 1'-0"

NOTES:
1. ATTACH SIP ROOF PANEL AT OPENING WITH #14 PANEL SCREW 12" OC BY SIPS SUPPLIER (4 SIDES).
2. * FOR OPENING DIMENSION, REF MECH AND ARCH DRAWINGS



TYP FRAMING AROUND SMALL ROOF OPNG | 1
NTS

rdc.
11921 Freedom Drive #1110
Reston, Va 20190
t 703.668.0086
rdccollaborative.com

PROFESSIONAL SEAL
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 034211 J. HALVERSON
02/16/2023

REVISIONS

△	ISSUE	DATE
1	OTP SET	02/15/23

JBA JOHNSTON BURKHOLDER ASSOCIATES
consulting structural engineers
930 CENTRAL · KANSAS CITY, MO 64105
816.421.4200 · WWW.JBAENGR.COM
NORTH CAROLINA COA #P-0672 EXPIRES 06/30/23
JBA PROJECT #: 23023

PROFESSIONAL IN CHARGE
BJH
PROJECT MANAGER
RB
QUALITY CONTROL
SMK
DRAWN BY
JBA

PROJECT NAME

CIRCLE K STORES, INC.

ANGIER, NC

9706 KENNEBEC CHURCH ROAD, ANGIER, NC 27501

PROTOCYCLE # R1.1 11/21/22

CIRCLE K STORE

PROJECT NUMBER: 22130

ROOF FRAMING DETAILS

S3.0

1. GENERAL:

- A. APPLICABLE STRUCTURAL CODE: NORTH CAROLINA BUILDING CODE - 2018 EDITION, IN CONJUNCTION WITH ASCE 7-10 AND LOCAL AMENDMENTS.
- B. THE STRUCTURAL CONSTRUCTION DOCUMENTS REPRESENT THE FINISHED STRUCTURE. EXCEPT WHERE NOTED, THEY DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL 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 OF RECORD SHALL NOT BE RESPONSIBLE FOR THE CONTRACTOR'S MEANS, METHODS, TECHNIQUES, SEQUENCES FOR PROCEDURE OF CONSTRUCTION, OR THE SAFETY PRECAUTIONS AND THE PROGRAMS INCIDENT THERETO (NOR SHALL OBSERVATION VISITS TO THE SITE INCLUDE INSPECTION OF THESE ITEMS).
- C. WHERE REFERENCE IS MADE TO VARIOUS TEST STANDARDS FOR MATERIALS, SUCH STANDARDS SHALL BE THE REFERENCED EDITION AND/OR ADDENDA. ANY ENGINEERING DESIGN, PROVIDED BY OTHERS AND SUBMITTED FOR REVIEW, SHALL BEAR THE SEAL OF A REGISTERED ENGINEER RECOGNIZED BY THE BUILDING CODE JURISDICTION OF THIS PROJECT.
- D. NOTES AND DETAILS ON DRAWINGS SHALL TAKE PRECEDENCE OVER GENERAL STRUCTURAL NOTES AND TYPICAL DETAILS. WHERE NO DETAILS ARE SHOWN, CONSTRUCTION SHALL CONFORM TO SIMILAR WORK ON THE PROJECT, AND/OR AS PROVIDED FOR IN THE CONTRACT DOCUMENTS. WHERE DISCREPENCIES OCCUR BETWEEN PLANS, DETAILS, GENERAL STRUCTURAL NOTES AND SPECIFICATIONS, THE GREATER REQUIREMENTS SHALL GOVERN.
- E. THE STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH CIVIL, ARCHITECTURAL, MECHANICAL, PLUMBING, FIRE SPRINKLER, AND ELECTRICAL DRAWINGS. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATION OF ALL REQUIREMENTS INTO THE SHOP DRAWINGS AND CONSTRUCTION.
- F. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO FOLLOW ALL APPLICABLE SAFETY CODES AND REGULATIONS DURING ALL PHASES OF CONSTRUCTION.
- G. CONNECTIONS OF ALL ITEMS SUPPORTED BY THE STRUCTURE ARE THE RESPONSIBILITY OF THE DISCIPLINES WHO ARE MAKING THESE ATTACHMENTS. THESE ATTACHMENTS SHALL BE DESIGNED TO RESIST ALL GRAVITY, WIND, WIND UPLIFT, THERMAL LOADS, ETC.
- H. WHERE A DETAIL, TYPICAL DETAIL, SECTION, TYPICAL SECTION OR A NOTE IS SHOWN FOR ONE CONDITION, IT SHALL APPLY FOR ALL LIKE OR SIMILAR CONDITIONS UNLESS OTHERWISE NOTED.
- I. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND ELEVATIONS WITH THE ARCHITECTURAL DRAWINGS & FIELD CONDITIONS. BUILDING DIMENSIONS AND ELEVATIONS, WHERE SHOWN, WERE PROVIDED BY THE ARCHITECT AND IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY AND COORDINATE ALL DIMENSIONS PRIOR TO PROCEEDING WITH THE WORK. ANY DISCREPANCIES SHALL BE RESOLVED THROUGH THE ARCHITECT. ESTABLISH AND VERIFY ALL OPENINGS AND INSERTS FOR ARCHITECTURAL, CIVIL, MECHANICAL, PLUMBING AND ELECTRICAL ITEMS WITH THE APPROPRIATE TRADE DRAWINGS AND SUBCONTRACTORS PRIOR TO CONSTRUCTION.
- J. ENGINEER'S REVIEW OF SHOP DRAWINGS, PRODUCT DATA, ETC. DOES NOT RELIEVE THE CONTRACTOR FROM MEETING THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL INFORM THE ENGINEER IN WRITING OF ANY SPECIFIC DEVIATIONS AND OBTAIN ENGINEER'S WRITTEN APPROVAL FOR THE SPECIFIC DEVIATION.
- K. UNLESS NOTED, SUBMIT SHOP DRAWINGS OF ALL FABRICATED MATERIALS FOR REVIEW. DESIGN DRAWINGS SHALL NOT BE REPRODUCED FOR USE AS SHOP DRAWINGS. SHOP DRAWINGS WILL NOT BE REVIEWED UNLESS THEY WERE CHECKED, BEAR THE INITIAL OF THE CHECKER AND ARE STAMPED "APPROVED" BY THE GENERAL CONTRACTOR.
- L. ALL REQUIRED TESTING REPORTS SHALL BE AVAILABLE AT THE JOB SITE.
- M. NO SUPPORT PROVISIONS HAVE BEEN MADE FOR EQUIPMENT OVER 300 POUNDS OR PIPES OVER 4" DIAMETER EXCEPT AS SHOWN. UNLESS NOTED, EQUIPMENT SHALL BE SUPPORTED BY TWO (2) BEAMS OR TRUSSES WHERE EACH SUPPORTS HALF OF THE EQUIPMENT WEIGHT. ANY ADDITIONAL REQUIREMENTS SHOULD BE APPROVED BY THE ENGINEER. EQUIPMENT AND PIPES SHALL BE BRACED LATERALLY BY THE INSTALLER TO RESIST SEISMIC FORCES.
- N. EQUIPMENT WEIGHTS SHOWN ON THE STRUCTURAL DRAWINGS ARE MAXIMUM OPERATING WEIGHTS INCLUDING CURBS AND MISCELLANEOUS ITEMS. THE CONTRACTOR SHALL VERIFY AND BRING TO THE ATTENTION OF THE ENGINEER ANY DEVIATIONS.
- O. WHERE ROOF DRAINS ARE USED FOR ROOF DRAINAGE, AN EMERGENCY DRAINAGE SYSTEM SHALL BE PROVIDED TO MINIMIZE WATER ACCUMULATION (REF ARCHITECTURAL DRAWINGS).
- P. JOHNSTON BURKHOLDER ASSOCIATES, ITS EMPLOYEES, AND REPRESENTATIVES SHALL NOT BE RESPONSIBLE FOR, AND WILL NOT HAVE CONTROL OF, CONSTRUCTION MEANS AND METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES, OR FOR SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH CONSTRUCTION; NOR WILL THEY BE RESPONSIBLE FOR ANY FAILURE BY THE CONTRACTOR TO PERFORM OR COMPLETE CONSTRUCTION IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. JOBSITE VISITS BY JOHNSTON BURKHOLDER ASSOCIATES SHALL NOT CONSTITUTE APPROVAL, AWARENESS, OR LIABILITY FOR ANY HAZARDOUS CONDITIONS.

2. DESIGN CRITERIA:

- A. DEAD LOADS
  - ROOF = 15 PSF
- B. LIVE LOADS
  - ROOF = 20 PSF
- C. RISK CATEGORY = II
- D. SNOW LOADS
  1. GROUND SNOW LOAD = 15 PSF
  2. FLAT-ROOF SNOW LOAD = 10.5 PSF
  3. SNOW EXPOSURE FACTOR, Ce = 1.0
  4. THERMAL FACTOR, Ct = 1.0 (MAIN BUILDING)
  5. SNOW LOAD IMPORTANCE FACTOR, I = 1.0
  6. ALL APPLICABLE EFFECTS DUE TO SNOW DRIFTING
- E. WIND LOADS
  1. CODE MINIMUM ULTIMATE WIND SPEED = 116 MPH
  2. DESIGN ULTIMATE WIND SPEED = 145 MPH
  3. WIND LOAD IMPORTANCE FACTOR = 1.0
  4. WIND EXPOSURE CATEGORY = C FOR MAIN WIND FORCE-RESISTING SYSTEM
  5. WIND EXPOSURE CATEGORY = C FOR COMPONENTS AND CLADDING
- F. SEISMIC LOADS
  1. SEISMIC IMPORTANCE FACTOR, I = 1.0
  2. MAPPED SPECTRAL RESPONSE ACCELERATIONS
     - Ss = 0.172
     - S1 = 0.083
  3. SITE CLASS = D
  4. DESIGN SPECTRAL RESPONSE PARAMETERS
     - Sds = 0.184
     - Sd1 = 0.132
  5. SEISMIC DESIGN CATEGORY = B
  6. BASIC SEISMIC-FORCE-RESISTING SYSTEM = LIGHT FRAME WOOD WALLS WITH STRUCTURAL WOOD SHEAR PANELS
  7. DESIGN BASE SHEAR, V = Cs*W
  8. SEISMIC RESPONSE COEFFICIENT, Cs = 0.0283
  9. RESPONSE MODIFICATION FACTOR, R = 6.5
  10. ANALYSIS PROCEDURE USED: EQUIVALENT LATERAL FORCE ANALYSIS
- G. DESIGN LOAD COMBINATIONS (ASD)
  1. D
  2. D + (Lr OR S OR R)
  3. D + (0.6W OR 0.7E)
  4. D + 0.75(Lr OR S OR R) + 0.75(0.6W OR 0.7E)
  5. 0.6D + 0.6W
  6. 0.6D + 0.7E

  STRESS INCREASES: INCREASES IN ALLOWABLE STRESSES SPECIFIED IN THE APPROPRIATE MATERIAL CHAPTER OR THE REFERENCED STANDARDS SHALL NOT BE USED WITH THE LOAD COMBINATIONS, EXCEPT THAT A DURATION OF LOAD INCREASE SHALL BE PERMITTED IN ACCORDANCE WITH CHAPTER 23.

3. SHALLOW FOUNDATIONS AND BUILDING PAD:

- A. THE FOUNDATION HAS BEEN DESIGNED IN ACCORDANCE WITH THE RECOMMENDATIONS MADE IN THE GEOTECHNICAL REPORT PREPARED BY SUMMIT, A UNIVERSAL ENGINEERING SCIENCES COMPANY DATED FEBRUARY 21, 2022.
- B. CONTINUOUS FOOTINGS AND SPREAD FOOTINGS SHALL BEAR ON SOIL CAPABLE OF SUSTAINING A NET ALLOWABLE BEARING PRESSURE OF 2500 PSF AT A DEPTH OF 12 INCHES.
- C. MAXIMUM TOTAL FOUNDATION AND SLAB SETTLEMENT 1" AND DIFFERENTIAL SETTLEMENT 1/2" OVER A DISTANCE OF 50 FEET. MINIMUM SUBGRADE MODULUS 100 PCI. PARAMETERS SHALL BE VERIFIED BY A QUALIFIED GEOTECHNICAL ENGINEER. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO REPORT ADVERSE CONDITIONS.
- D. CONTRACTOR TO PREPARE SUBGRADE FOR BUILDING PAD AND PAVING AREAS PER GEOTECHNICAL ENGINEER'S RECOMMENDATIONS. THE SITE SHALL BE PREPARED UNIFORMLY IN ACCORDANCE WITH CIVIL DRAWINGS.
- E. WHERE FILL IS REQUIRED IT SHALL BE PLACED IN ACCORDANCE WITH RECOMMENDATIONS AND UNDER THE OBSERVATION OF A QUALIFIED GEOTECHNICAL ENGINEER.
- F. ALL EXCAVATIONS AND BUILDING PADS SHALL BE OBSERVED BY A QUALIFIED GEOTECHNICAL ENGINEER TO VERIFY THE DESIGN CRITERIA AND REPORT ADVERSE CONDITIONS. (GEOTECHNICAL ENGINEER TO BE HIRED AND PAID BY THE OWNER) CERTIFICATION OF EXCAVATION SHALL BE PROVIDED TO BUILDING OFFICIAL. IN CASE OF CONFLICT BETWEEN THE GEOTECHNICAL REPORT, SPECIFICATIONS AND DRAWINGS, THE MORE STRINGENT REQUIREMENT SHALL APPLY.
- G. FOOTING ELEVATIONS GIVEN ARE FOR PURPOSE OF CONTRACT AND SHALL BE ADJUSTED (LOWERED) AT TIME OF EXCAVATION TO MEET SOIL CONDITIONS. ENGINEER SHOULD BE CONSULTED.
- H. GRANULAR BASE BELOW SLAB-ON-GRADE AND SPREAD FOOTINGS SHALL BE PLACED AND COMPACTED IN ACCORDANCE WITH THE RECOMMENDATIONS AND UNDER THE OBSERVATION OF A QUALIFIED GEOTECHNICAL ENGINEER.
- I. BACKFILL AGAINST WALLS SHALL BE DEPOSITED EVENLY AGAINST BOTH SIDES OF THE WALLS UNTIL THE LOWER GRADE IS REACHED.
- J. THE CONTRACTOR SHALL BRING TO THE ATTENTION OF THE ARCHITECT THE LOCATION OF EXISTING UTILITIES AND PROCEED WITH THE WORK ONLY AFTER WRITTEN APPROVAL FROM THE ARCHITECT.
- K. EXCAVATIONS FOR CONTINUOUS FOOTINGS SHALL BE MADE TRUE TO LINE AND GRADE. THE SIDES OF THE FOOTINGS SHALL BE FORMED, EXCEPT WHERE SOIL CONDITIONS ARE SUCH THAT THE SIDES OF THE EXCAVATION STAND FIRM AND SQUARE. EXCAVATIONS SHALL BE MADE TO FIRM, CLEAN BEARING SOIL.
- L. EXCAVATIONS FOR FOOTINGS AND FOUNDATIONS, WHICH ARE TO SERVE AS FORMS, SHALL BE THOROUGHLY WET PRIOR TO PLACING CONCRETE.

4. CONCRETE:

- A. CONCRETE SHALL CONFORM WITH ACI BUILDING CODE (ACI-318) AND SHALL HAVE A 28-DAY COMPRESSIVE STRENGTH, AND DENSITY, AND WATER/CEMENT IN ACCORDANCE WITH THE FOLLOWING:

LOCATION	STRENGTH, PSI	DENSITY, PCF	MAX W/C RATIO
INTERIOR SLABS	3000	145	0.55
FOUNDATIONS	3000	145	0.55
ALL OTHER CONCRETE (UNO)	3000	145	0.55

  NOTE: DESIGN STRENGTH BASED ON 2,500 PSI CONCRETE
- B. UNLESS NOTED, CEMENT SHALL CONFORM TO ASTM C150, TYPE I OR II, OR ASTM C595, TYPE IL. AGGREGATES SHALL BE NORMAL WEIGHT CONFORMING TO ASTM C33. ADMIXTURES CONTAINING CHLORIDES SHALL NOT BE USED.
- C. CONCRETE EXPOSED TO WEATHER (I.E., EXPOSED EXTERIOR SLABS, CONCRETE WALLS, RETAINING WALLS, ETC.) SHALL BE AIR-ENTRAINED IN ACCORDANCE WITH ACI 318.
- D. UNLESS NOTED, MAXIMUM SLUMP FOR CONCRETE SHALL BE 4 INCHES (PLUS OR MINUS ONE INCH) AT POINT OF PLACEMENT. WHERE APPROVED BY THE ENGINEER OF RECORD, LARGER SLUMP IS PERMITTED WITH THE ADDITION OF HIGH RANGE WATER REDUCING ADMIXTURE.
- E. CONCRETE CURING SHALL COMPLY WITH ACI 308. CURING PROCESS SHALL START IMMEDIATELY FOLLOWING INITIAL SET. CONCRETE SHALL BE MAINTAINED IN MOIST CONDITION FOR AT LEAST 7 DAYS AFTER PLACEMENT UNLESS PROVISIONS OF ACI-318 ARE FOLLOWED.
- F. HOT WEATHER CONCRETING: SPECIAL PRECAUTIONS RECOMMENDED BY ACI 305 SHALL BE TAKEN WHEN THE AMBIENT TEMPERATURE IS ABOVE 80 DEGREES FAHRENHEIT OR WHEN MAXIMUM RATE OF EVAPORATION IN THE CONCRETE EXCEEDS 0.2 LB/SF/HR. THIS RATE IS AFFECTED BY AIR TEMPERATURE, RELATIVE HUMIDITY, CONCRETE TEMPERATURE AND WIND VELOCITY. AFTER FINISHING CONCRETE, USE LIGHT FOG SPRAY UNTIL CURING COMPOUND IS USED, OR WET CURING METHOD IS IMPLEMENTED.
- G. COLD WEATHER CONCRETING: WHEN, FOR MORE THAN THREE (3) CONSECUTIVE DAYS, THE MEAN DAILY TEMPERATURE DROPS BELOW 40 DEGREES FAHRENHEIT, SPECIAL MATERIALS AND PROCEDURES SHALL BE PROVIDED DURING PLACING AND CURING OF CONCRETE PER ACI 306.

5. REINFORCING STEEL:

- A. REINFORCING STEEL SHALL CONFORM TO ASTM A-615, GRADE 60 (U.N.) AND GRADE 40 FOR #3 AND SMALLER BARS. GRADE 60 REINFORCING MAY NOT BE RE-BENT OR FIELD BENT WITHOUT APPROVAL OF THE STRUCTURAL ENGINEER.
- B. WELDED WIRE REINFORCING SHALL CONFORM TO ASTM A-1064, MINIMUM LAP SHALL BE 8" U.N.O.
- C. REINFORCING THAT IS WELDED SHALL BE WELDABLE TYPE, ASTM A-706.
- D. NO TACK WELDING OF REINFORCING IN THE FIELD WILL BE PERMITTED.
- E. ALL DETAILING, FABRICATION AND PLACING OR REINFORCING BARS, UNLESS OTHERWISE NOTED, SHALL CONFORM TO ACI 318, "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE" AND THE LATEST ACI "MANUAL OF STANDARD PRACTICE FOR DETAIL REINFORCED CONCRETE STRUCTURES".
- F. MINIMUM LAP SPLICE AND TENSION DEVELOPMENT DIMENSION TABLE BASED ON 3000 PSI NORMAL WEIGHT CONCRETE, Fy = 60 KSI, NON-COATED BARS, LAP CLASS B, WITH 3" MIN CLR:

BAR	TOP BAR SPLICE	DEVELOPMENT	BAR	OTHER BAR SPLICE	DEVELOPMENT
#3	21"	16"	#3	16"	12"
#4	23"	18"	#4	18"	14"
#5	28"	22"	#5	22"	17"
#6	34"	26"	#6	26"	20"

  WHEN LAPPING TWO DIFFERENT SIZE BARS, USE THE LAP DIMENSION OF THE SMALLER BAR OR THE ANCHORAGE DIMENSION OF THE LARGER BAR. USE WHICHEVER DIMENSION IS LARGER.
- G. MINIMUM CONCRETE COVER FOR REINFORCING

  CONCRETE REINFORCING SHALL BE PLACED PER THE TOLERANCES OF ACI 117 AND ACI 318

LOCATION	MINIMUM COVER
FOOTINGS, GRADE BEAMS AND SLABS	
CAST AGAINST & PERMANENTLY EXPOSED TO EARTH	3"
SLABS ON GRADE	MID-DEPTH
INTERIOR SLABS AND STAIRS	1"
EXTERIOR SLABS AND STAIRS #5 AND SMALLER	1 1/2"
EXTERIOR SLABS AND STAIRS #6 AND LARGER	2"
WALLS INTERIOR FACE	1"
WALLS INTERIOR FACE #5 AND SMALLER	1 1/2"
WALLS INTERIOR FACE #6 AND LARGER	2"

  *VERIFY W/ ENVIRONMENTAL CONDITIONS PER ACI 318, CHAPTER 19.

6. SLABS:

- A. MAXIMUM SLUMP WITHOUT A PLASTICIZER AT POINT OF PLACEMENT SHALL BE 5 INCHES. MIX DESIGNS SHALL TAKE CARE TO PROVIDE THE LARGEST POSSIBLE SIZE OF COARSE AGGREGATE WHILE MAINTAINING CONCRETE WORKABILITY. NOMINAL MAXIMUM AGGREGATE SIZE SHALL NOT BE LESS THAN 3/4 INCH NOR MORE THAN 1/3 THE DEPTH OF THE SLAB.
- B. FOR INTERIOR SLABS ON GRADE, PROVIDE CONCRETE WITH AN ULTIMATE SHRINKAGE LES THAN 0.05% AT 28 DAYS. LABORATORY TEST RESULTS SHALL BE SUBMITTED INDICATING THAT THE CONCRETE SLAB ON GRADE MIX DESIGN (OR COMPARABLE) MEETS THE ULTIMATE SHRINKAGE REQUIREMENTS. SHRINKAGE VALUES FOR CONCRETE SPECIMENS SHALL BE TESTED PER ASTM C157 AND THE PROCEDURES IN ACI 209R TO PREDICT THE ULTIMATE DRYING SHRINKAGE.
- C. CONCRETE SHALL BE MIXED, PLACED, FINISHED AND CURED PER REFERENCED EDITION OF ACI 302.1 FOR THE APPROPRIATE FLOOR CLASS TYPE. CURING COMPOUND SHALL BE COMPATIBLE WITH ARCHITECTURAL FLOOR FINISH. SLABS SHALL BE PLACED ON A FLAT, SMOOTH, FIRM, COMPACTED SUBGRADE.
- D. FOR SUBGRADE AND SUBBASE PREPARATION, SEE GEOTECHNICAL REPORT AND SPECIFICATIONS.
- E. IMMEDIATELY PRIOR TO POURING EACH SLAB, A QUALIFIED GEOTECHNICAL ENGINEER (TO BE PAID BY OWNER) SHALL INSPECT THE PAD AND PROVIDE A CERTIFICATE STATING THAT THE PAD MEETS THE PROJECT DESIGN REQUIREMENTS. IF WEATHER CONDITIONS CHANGE, RE-CERTIFICATION WILL BE REQUIRED.
- F. SLAB-ON-GRADE REINFORCING SHALL BE SUPPORTED ON CHAIRS AT MID-DEPTH OF SLAB WITH SAND PLATES OR PRECAST CONCRETE SUPPORTS (PRECAST CONCRETE SUPPORTS SHOULD BE AT LEAST 4" SQUARE AT THE BASE W/MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI) OF SUFFICIENT HEIGHT TO INSURE THAT REINFORCING IS AT THE PROPER HEIGHT WITH MAXIMUM SPACING OF 3'-0" EACH WAY FOR WELDED WIRE FABRIC. PLACEMENT OF REINFORCING USING THE PULL- UP METHOD IS NOT PERMITTED.
- G. VAPOR BARRIER, IF NOT SPECIFIED BY ARCHITECTURAL SPECIFICATION OR SOILS REPORT SHALL CONSIST OF A MINIMUM 15 MIL ASTM E1745 CLASS A MATERIAL LAPPED A MINIMUM OF 6" AND TAPED PER MANUFACTURER RECOMMENDATIONS. THE BARRIER SHALL BE PLACED ON TOP OF A SMOOTH AND COMPACTED SUBGRADE SURFACE. THE FLOOR SLAB SHALL BE PLACED OVER A 4" LAYER OF COMPACTED AGGREGATE BASE COURSE ON TOP OF THE VAPOR BARRIER. ANY DAMAGE TO VAPOR BARRIER SHALL BE REPAIRED PRIOR TO AGGREGATE COURSE PLACEMENT. CARE SHALL BE TAKEN TO KEEP MOISTURE AWAY FROM THE COMPACTED SUBBASE. SUBGRADE MUST BE ALLOWED TO DRY AFTER RAINS PRIOR TO SLAB PLACEMENT. FLOOD CURING IS NOT ALLOWED. SAND IS NOT AN ALTERNATIVE FOR THE SUB-BASE COURSE.
- H. UNLESS NOTED, FLOOR CONTRACTION JOINTS FOR SLAB-ON-GRADE SHALL BE SPACED EQUALLY. CONTRACTION JOINTS SPACING SHALL BE REDUCED AT HOT AND/OR DRY CLIMATE. SAW CUT SLAB (1/8" WIDE X SLAB THICKNESS/4 U.N.O.) AS SOON AS THE SURFACE IS FIRM ENOUGH SO THAT IT WILL NOT BE DAMAGED BY THE BLADE. JOINT FILLER SHALL BE PLACED IN CLEAN JOINTS, OVERFILLED AND SHAVED FLUSH. THE OPTIMUM TIME TO CUT THE SLAB WILL BE THE CONTRACTOR'S RESPONSIBILITY. SLABS WITH CRACKS AND/OR SLAB WHICH EXHIBIT "SLAB CURLING" WILL NOT BE ACCEPTED. SLAB REPLACEMENT SHALL BE AT OPTION OF THE OWNER AT CONTRACTOR'S EXPENSE.
- I. REF ARCHITECTURAL AND CIVIL DRAWINGS FOR SIDEWALKS, EXTERIOR SLABS, INTERIOR SLABS, SLAB DEPRESSIONS, AND ELEVATIONS.
- J. SLAB-ON-GRADE AT CORNERS OF OPENINGS, CUT OUTS AND PENETRATIONS SHALL BE REINFORCED WITH 2-#4 (3'-0" LONG).
- K. AT SLAB-ON-GRADE, SEAL COLUMN BOX-OUTS, CONSTRUCTION JOINTS AND CONTRACTION JOINTS TO PREVENT WATER PENETRATION UNDER SLAB DURING & AFTER CONSTRUCTION TO PREVENT SOILS FROM EXPANDING.
- L. PIPES, DUCTS, CONDUITS, ETC. SHALL NOT BE PLACED IN SLABS UNLESS APPROVED BY THE STRUCTURAL ENGINEER. (PLACE A MINIMUM 4" BELOW SLAB).
- M. THE GENERAL CONTRACTOR, INCLUDING SUB CONTRACTORS AND SUPPLIERS SHALL NOT DRIVE OR PARK HEAVY EQUIPMENT ON THE CONCRETE SLAB. ANY DAMAGE TO SLAB DUE TO HEAVY EQUIPMENT SHALL BE REPLACED AT CONTRACTOR'S EXPENSE.
- N. COMBUSTION HEATERS SHALL NOT BE USED DURING CONCRETE PLACEMENT UNLESS PRECAUTIONS ARE TAKEN TO PREVENT EXPOSURE OF THE CONCRETE TO EXHAUST GASES.
- O. REF ARCH SPECIFICATIONS FOR ALL FLOOR SLAB FINISHES.
- P. PROVIDE NEW TROWEL BLADES FOR CONCRETE FINISHING OF FLOOR SLABS.

7. POST-INSTALLED ANCHORING SYSTEM:

- A. UNLESS NOTED, ALL ANCHORS IN CONCRETE SHALL BE CARBON STEEL HILTI KWIK HUS-EZ SCREW ANCHORS PER ICC ESR-3056 OR APPROVED ICC EQUIVALENT.
- B. WHERE NOTED ON THE DRAWINGS FOR CONCRETE ANCHORAGE, USE HILTI HIT HY-100 THREADED ROD ADHESIVE ANCHORING SYSTEM (ICC ESR-3574) OR APPROVED ICC EQUIVALENT. UNLESS NOTED, ANCHOR EMBEDMENT SHALL BE AS FOLLOWS: 3/8" DIA. - 3 3/8", 1/2" DIA. - 4 1/2", 5/8" DIA. - 5 5/8", 3/4" DIA. - 6 3/4".
- C. UNLESS NOTED, ANCHOR SPACING (AS) AND ANCHOR EDGE DISTANCE (ED) SHALL BE AS PUBLISHED BY THE MOST CURRENT APPROVED HILTI REPORT IN ORDER TO DEVELOP MAXIMUM WORKING LOAD.
- D. ALL ANCHORS SHALL BE INSTALLED AS PER MANUFACTURER'S INSTRUCTIONS AND UNDER MANUFACTURER'S SUPERVISION IN ORDER TO DEVELOP THE PUBLISHED WORKING LOADS.
- E. MINIMUM CONCRETE COMPRESSIVE STRENGTH REQUIRED AT TIME OF INSTALLATION OF ANY ANCHORS SHALL BE 2500 PSI.

8. WOOD FRAMING:

- A. ALL NAILING NOT NOTED SHALL BE PER TYPICAL DETAIL AND COMMON NAIL DIAMETER TABLE BELOW. ALL BOLTING SHALL BE PER STRUCTURAL STEEL SECTION ABOVE. WOOD CONNECTORS SHALL BE AS MANUFACTURED BY SIMPSON STRONG-TIE COMPANY, INC. OR OTHER MANUFACTURER WITH CURRENT AND EQUIVALENT ICC APPROVAL. WHERE "TYPE" OF CONNECTOR IS INDICATED ON THE DRAWINGS, THE CONNECTOR AND ATTACHMENT SHALL BE PER THE MAXIMUM MODEL NUMBER BASED ON THE SIZE OF THE MEMBERS CONNECTED.
- B. WOOD FRAMING MEMBERS SHALL NOT BE NOTCHED OR DRILLED WITHOUT PRIOR APPROVAL OF THE STRUCTURAL ENGINEER THROUGH THE ARCHITECT.

NAIL TYPE	REQ'D DIA	REQ'D GA	LENGTH	NAIL TYPE	REQ'D DIA	REQ'D GA	LENGTH
6d	0.113"	11 1/2	2"	12d	0.148"	9	3 1/4"
8d	0.131"	10 1/4	2 1/2"	16d	0.162"	8	3 1/2"
10d	0.148"	9	3"	20d	0.192"	6	4"

- C. WOOD STUDS AND TRUSSES SHALL HAVE A MAXIMUM MOISTURE CONTENT OF 19% WHEN DELIVERED TO THE JOB SITE.
- D. PRESERVATIVE-TREATED WOOD:
  1. ALL SILL PLATES IN CONTACT WITH CONCRETE SHALL BE PRESERVATIVE-TREATED WOOD. WOOD FRAMING MEMBERS ATTACHED DIRECTLY TO THE INTERIOR OF EXTERIOR MASONRY OR CONCRETE WALLS BELOW GRADE SHALL BE PRESERVATIVE-TREATED WOOD.
  2. ALL WOOD FRAMING MEMBERS, INCLUDING WOOD SHEATHING THAT ARE IN CONTACT WITH EXTERIOR WALLS AND ARE LESS THAN 8 INCHES FROM FINISHED GRADE SHALL BE PRESERVATIVE-TREATED WOOD.
  3. ALL FASTENERS INCLUDING NUTS AND WASHERS IN CONTACT WITH PRESERVATIVE-TREATED WOOD SHALL BE HOT-DIPPED ZINC-COATED GALVANIZED STEEL OR STAINLESS STEEL. THE COATING WEIGHTS FOR ZINC-COATED FASTENERS SHALL BE PER ASTM A153. FASTENERS OTHER THAN NAILS, WOOD SCREWS AND LAG SCREWS ARE PERMITTED TO BE OF MECHANICALLY DEPOSITED ZINC-COATED STEEL WITH COATING WEIGHTS PER ASTM B695, CLASS 55 MINIMUM.
  4. ALL FASTENERS INCLUDING NUTS AND WASHERS IN CONTACT WITH PRESERVATIVE-TREATED WOOD SHALL BE HOT-DIPPED ZINC-COATED GALVANIZED STEEL OR STAINLESS STEEL. THE COATING WEIGHTS FOR ZINC-COATED FASTENERS SHALL BE PER ASTM A153. FASTENERS OTHER THAN NAILS, WOOD SCREWS AND LAG SCREWS ARE PERMITTED TO BE OF MECHANICALLY DEPOSITED ZINC-COATED STEEL WITH COATING WEIGHTS PER ASTM B695, CLASS 55 MINIMUM.
- E. FRAMING LUMBER SHALL COMPLY WITH THE REFERENCED EDITION OF THE GRADING RULES OF THE WWPA OR THE WCLIB. ALL SAWN LUMBER SHALL BE STAMPED WITH THE GRADE MARK OF AN APPROVED LUMBER GRADING AGENCY AND SHALL HAVE MINIMUM PROPERTIES WHICH MEET OR EXCEED THE FOLLOWING WOOD TYPES:
  1. EXTERIOR WALL STUDS: DOUGLAS FIR-LARCH (DF-L) No. 2 OR BETTER, OR SOUTHERN PINE No. 2 OR BETTER.
  2. HEADERS: DOUGLAS FIR-LARCH (DF-L) No. 2 OR BETTER, OR SOUTHERN PINE No. 2 OR BETTER.
  3. BEARING PLATES AND TOP PLATES: DOUGLAS FIR-LARCH (DF-L) No. 2 OR BETTER, OR SOUTHERN PINE No. 2 OR BETTER.

9. SPECIAL INSPECTIONS:

- A. SPECIAL INSPECTOR (SI) SHALL BE RETAINED AND PAID BY THE OWNER AND PROVIDE INSPECTIONS DURING CONSTRUCTION ON THE TYPES OF WORK LISTED UNDER SECTION 1704 OF THE IBC AS PER TABLE ON S0.3.
- B. THE SPECIAL INSPECTOR SHALL BE A QUALIFIED PERSON WHO SHALL DEMONSTRATE COMPETENCE, TO THE SATISFACTION OF THE BUILDING OFFICIAL, FOR INSPECTION OF THE PARTICULAR TYPE OF CONSTRUCTION OR OPERATION REQUIRING SPECIAL INSPECTION.
- C. THE DUTIES OF THE SPECIAL INSPECTOR SHALL INCLUDE, BUT ARE NOT LIMITED TO, VERIFICATION OF CONSTRUCTION QUALITY CONTROL, TESTING, COMPLIANCE WITH THE CONSTRUCTION DOCUMENTS, BUILDING CODE REQUIREMENTS, AND LOCAL BUILDING DEPARTMENT REQUIREMENTS.
- D. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE PROPER NOTIFICATION TO THE SPECIAL INSPECTOR AND PROCEED WITH THE CONSTRUCTION ONLY AFTER THE SPECIAL INSPECTOR'S APPROVAL.
- E. DUTIES AND RESPONSIBILITIES OF THE SPECIAL INSPECTOR:
  1. THE SPECIAL INSPECTOR SHALL OBSERVE THE WORK ASSIGNED FOR CONFORMANCE WITH THE APPROVED DESIGN DRAWINGS AND SPECIFICATIONS. THE INSPECTOR MAY NOT ALTER, MODIFY, ENLARGE OR WAIVE ANY OF THE REQUIREMENTS OF THE DOCUMENTS.
  2. SPECIAL INSPECTORS SHALL KEEP RECORDS OF INSPECTIONS. THE SPECIAL INSPECTOR SHALL FURNISH INSPECTION REPORTS TO THE CONSTRUCTION OFFICIAL, AND TO THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE, THE CONTRACTOR AND THE OWNER. REPORTS SHALL INDICATE THAT WORK INSPECTED WAS DONE IN CONFORMANCE TO APPROVED CONSTRUCTION DOCUMENTS. DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR AND THE OWNER FOR CORRECTION, IF THE DISCREPANCIES ARE NOT CORRECTED, THE DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE BUILDING OFFICIAL AND TO THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE AND THE OWNER PRIOR TO THE COMPLETION OF THAT PHASE OF THE WORK.
  3. A FINAL REPORT OF INSPECTIONS DOCUMENTING REQUIRED SPECIAL INSPECTIONS AND CORRECTION OF ANY DISCREPANCIES NOTED IN THE INSPECTIONS SHALL BE SUBMITTED PERIODICALLY AT A FREQUENCY AGREED UPON BY THE PERMIT APPLICANT AND THE BUILDING OFFICIAL PRIOR TO THE START OF WORK. WHERE SPECIAL INSPECTION REQUIREMENTS DUPLICATE THE REQUIREMENTS OF SPECIFIED QUALITY ASSURANCE TESTING, DUPLICATE INSPECTIONS SHALL NOT BE REQUIRED.

10. STRUCTURAL ENGINEER OF RECORD (SER) NOTIFICATION OF CONSTRUCTION PROGRESS AND SITE VISIT (WHEN APPLICABLE):

- A. CONTRACTOR SHALL NOTIFY ARCHITECT FIVE (5) WORKING DAYS PRIOR TO THE FOLLOWING CONSTRUCTION MILESTONES:
  1. SPREAD FOOTING FOUNDATIONS: AFTER FOUNDATION REINFORCING IS PLACED AND BEFORE PLACING CONCRETE AT THE FOUNDATIONS.
  2. WOOD WALL CONSTRUCTION: AFTER WALL STUDS ARE ERECTED AND BEFORE INTERIOR SHEATHING IS PLACED.
  3. ROOF STRUCTURE: AFTER STRUCTURE IS ERECTED AND BEFORE INSULATION AND ROOFING IS INSTALLED. CONTRACTOR SHALL ARRANGE A PRE-ROOFING MEETING BEFORE ANY ROOFING WORK IS STARTED.
  4. PUNCH LIST: AFTER ALL STRUCTURAL ITEMS ARE COMPLETE.
- B. FAILURE TO NOTIFY ARCHITECT OF ANY CONSTRUCTION MILESTONE MAY RESULT IN CONTRACTOR HAVING TO REMOVE WORK FOR THE PURPOSE OF REVIEW AT CONTRACTOR'S EXPENSE.
- C. PREMATURE NOTIFICATION FOR SITE VISIT WILL RESULT IN AN ADDITIONAL SITE VISIT WITH ALL EXPENSES AND FEES PAID BY THE CONTRACTOR.

11. SIPS PANELS

- A. THE STRUCTURAL INSULATED PANEL (SIPS) SUPPLIER SHALL BE CERTIFIED BY THE STRUCTURAL INSULATED PANEL ASSOCIATION (SIPA) PRIOR TO THE START OF PRODUCTION OF PANELS AND SHALL HAVE A MINIMUM OF TWO YEARS OF EXPERIENCE PRODUCING PANELS.
- B. SIPS PANELS SHALL COMPLY WITH THE PERFORMANCE AND DESIGN CRITERIA IN THE CONTRACT DOCUMENTS. SIPS SUPPLIER SHALL ENGAGE A QUALIFIED PROFESSIONAL ENGINEER LICENSED IN THE STATE IN WHICH THE PROJECT IS LOCATED TO DESIGN ALL STRUCTURAL COMPONENTS AND CONNECTIONS. SIPS PANELS SHALL WITHSTAND THE EFFECTS OF ALL DESIGN LOADS WITHOUT EXCEEDING THE ALLOWABLE WORKING STRESSES. SIP PANEL DEFLECTIONS SHALL BE LIMITED TO A MAXIMUM DEFLECTION OF L/240 OF THE SPAN.
- C. THE SIPS SUPPLIER SHALL PRODUCE A COMPLETE SET OF SEALED SHOP DRAWINGS AND CALCULATIONS FOR REVIEW BY THE EOR. THE SHOP DDRAWINGS SHALL INCLUDE ALL INFORMATION REQUIRED TO PROPERLY INSTALL THE PANELS, AND ANY DETAILS AND ALL DESIGN LOADINGS REQUIRED FOR INTERFACING WITH THE BUILDING FOUNDATION AND SLAB SYSTEM.
- D. THE PANELS SHALL BE BRACED DURING INSTALLATION. BRACING TO BE DESIGNED BY THE SIPS SUPPLIER AND SHALL REVIEW THE INSTALLATION PROCEDURES WITH THE GENERAL CONTRACTOR TO ENSURE PROPER INSTALLATION.
- E. SIP PANEL MANUFACTURER SHALL BE APPROVED TO PERFORM WORK WITHOUT SPECIAL INSPECTION. AT COMPLETION OF FABRICATION, THE APPROVED FABRICATOR SHALL SUBMIT A CERTIFICATE OF COMPLIANCE TO THE OWNER OR THE OWNER'S AUTHORIZED AGENT FOR SUBMITTAL TO THE BUILDING OFFICIAL AS SPECIFIED IN SECTION 1704.5 STATING THAT THE WORK WAS PERFORMED IN ACCORDANCE WITH THE APPROVED CONSTRUCTION DOCUMENTS.

---

rdc.

11921 Freedom Drive #1110
Reston, Va 20190
t 703.668.0086
rdcollaborative.com

PROFESSIONAL SEAL

Seal 034711
BART J. HALVERSON

REVISION 02/16/2023

△ ISSUE	DATE
OTP SET	02/15/23

JBA JOHNSTON BURKHOLDER ASSOCIATES
consulting structural engineers
930 CENTRAL · KANSAS CITY, MO 64105
816.421.4200 · WWW.JBAENGR.COM
NORTH CAROLINA COA #P-0672 EXPIRES: 06/30/23
JBA PROJECT #: 23023

PROFESSIONAL IN CHARGE
BJH
PROJECT MANAGER
RB
QUALITY CONTROL
SMK
DRAWN BY
JBA

PROJECT NAME

CIRCLE K
STORES, INC.
DET CARWASH

9706 KENNEBEC CHURCH ROAD,
ANGIER, NC 27501

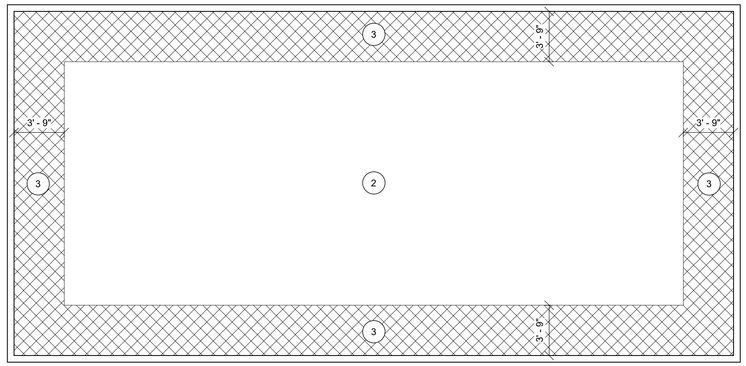
PROTOCYCLE # R3.2 12/19/22

CIRCLE K STORES, INC.

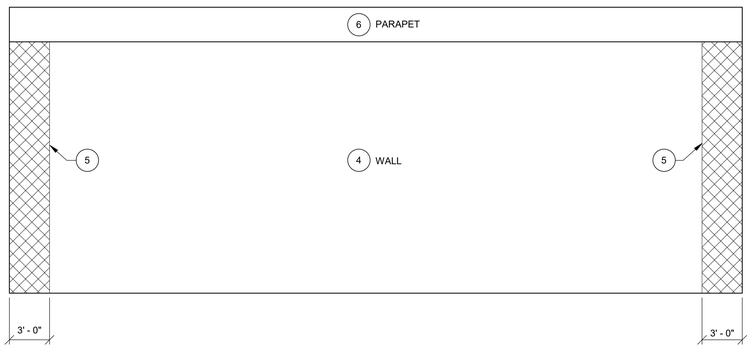
PROJECT NUMBER: 22130

GENERAL NOTES

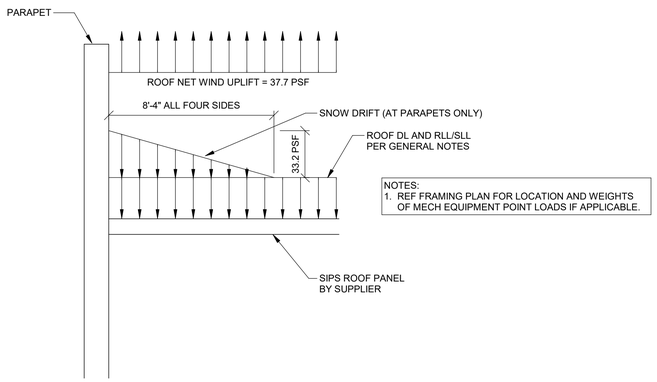
S0.1-CW



COMPONENT AND CLADDING WIND PRESSURE DIAGRAM - ROOF



COMPONENT AND CLADDING WIND PRESSURE DIAGRAM - WALLS



	C&C ZONE	EFFECTIVE WIND AREA (SF)	POSITIVE PRESSURE (PSF)	NEGATIVE PRESSURE (PSF)
ROOF	1	10	NOT USED	
		20	NOT USED	
		50	NOT USED	
		100	NOT USED	
	2	10	+25.8	-59.3
		20	+24.7	-55.5
		50	+23.2	-50.5
		100	+22.0	-46.7
	3	10	+25.8	-59.3
		20	+24.7	-55.5
		50	+23.2	-50.5
		100	+22.0	-46.7
WALLS	4	10	+25.8	-28.0
		20	+24.7	-26.8
		50	+23.2	-25.3
		100	+22.0	-24.2
	5	10	+25.8	-34.5
		20	+24.7	-32.2
		50	+23.2	-29.1
		100	+22.0	-26.8
	6	10	+80.4	-54.3
		20	+75.2	-50.7
		50	+68.3	-45.9
		100	+63.1	-42.3

NOTES:
1. THE VALUES PROVIDED HEREIN ARE ALLOWABLE STRESS DESIGN LOADS (ALREADY INCLUDE 0.6 FACTOR) AND ARE INTENDED FOR SERVICEABILITY LIMITS. THESE VALUES DO NOT REFLECT THE ULTIMATE LOADING THAT MAY BE EXPERIENCED BY THE BUILDING.
2. THE ROOFING SYSTEM SHALL BE BASED ON AN EFFECTIVE WIND AREA OF 10 SF.

COMPONENT AND CLADDING WIND PRESSURE SCHEDULE (145 MPH)

ROOF LOADING DIAGRAM | 2
3/4" = 1'-0"

COMPONENTS & CLADDING WIND PRESSURES | 1
3/16" = 1'-0"

ABBREVIATIONS

AB	ANCHOR BOLT
ACI	AMERICAN CONCRETE INSTITUTE
AFF	ABOVE FINISHED FLOOR
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION
AISI	AMERICAN IRON AND STEEL INSTITUTE
ARCH	ARCHITECTURAL
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
AWS	AMERICAN WELDING SOCIETY
BFF	BELOW FINISHED FLOOR
BL	BLOCK LINTEL
BM	BEAM
BO	BOTTOM OF
BOS	BOTTOM OF STEEL
BRG	BEARING
CJ	CONTRACTION JOINT
CL	CENTER LINE
CLR	CLEAR
CMU	CONCRETE MASONRY UNIT
COL	COLUMN
CONC	CONCRETE
COND	CONDENSER UNIT
CONST	CONSTRUCTION
CONT	CONTINUOUS
DBA	DEFORMED BAR ANCHOR
DIA	DIAMETER
EF	EXHAUST FAN
EIFS	EXTERIOR INSULATION AND FINISH SYSTEM
EJ	EXPANSION JOINT
EL	ELEVATION
ELEC	ELECTRICAL
EQ	EQUAL
EW	EACH WAY
FDN	FOUNDATION
FF	FINISHED FLOOR
FS	FAR SIDE
FTG	FOOTING
FV	FIELD VERIFY
GA	GAUGE
GC	GENERAL CONTRACTOR
GYP	GYPSUM BOARD
H	HEIGHT
HORIZ	HORIZONTAL
HSA	HEADED STUD ANCHOR
HSS	HOLLOW STRUCTURAL SHAPE
INFO	INFORMATION
ISO	ISOLATION
JBE	JOIST BEARING ELEVATION
JST	JOIST
JT	JOINT
KSI	KIPS PER SQUARE INCH
L	LENGTH
LB	POUNDS
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LONG	LONGITUDINAL
MAX	MAXIMUM
MECH	MECHANICAL
MFR	MANUFACTURER
MIN	MINIMUM
MISC	MISCELLANOUS
MO	MASONRY OPENING
MTL	METAL
NIC	NOT IN CONTRACT
NO	NUMBER
NS	NEAR SIDE
NTS	NOT TO SCALE
OC	ON CENTER
OD	OUTSIDE DIAMETER
OFOP	OUTSIDE FACE OF PANEL
OH	OPPOSITE HAND
OSL	OUTSTANDING LEG
PAF	POWER ACTUATED FASTENER
PC	PRECAST
PCF	POUNDS PER CUBIC FOOT
PL	PLATE
PLF	POUNDS PER LINEAR FOOT
PLUMB	PLUMBING
PMEJ	PREMOLDED EXPANSION JOINT
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
QTY	QUANITY
RCU	REFRIGERATION CONDENSING UNIT
REF	REFER TO
REINF	REINFORCING
REQD	REQUIRED
REV	REVERSE
RLL	ROOF LIVE LOAD
RO	ROUGH OPENING
ROT	ROTATE
RTU	ROOF TOP UNIT
SCHED	SCHEDULE
SDI	STEEL DECK INSTITUTE
SIM	SIMILAR
SIP	STRUCTURAL INSULATED PANEL
SJI	STEEL JOIST INSTITUTE
SPCS	SPACES
SPECS	SPECIFICATIONS
STRUC	STRUCTURAL
T&B	TOP AND BOTTOM
THK	THICKNESS
TL	TOTAL LOAD
TO	TOP OF
TOC	TOP OF CONCRETE
TOF	TOP OF FOOTING
TOGB	TOP OF GRADE BEAM
TOS	TOP OF STEEL
TOW	TOP OF WALL
TRANS	TRANSVERSE
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
VERT	VERTICAL
W	WIDTH
WP	WORK POINT
WWR	WELDED WIRE REINFORCEMENT

LEGEND

ROOF TOP UNIT (RTU) (IF APPLICABLE)

WFX FOOTING MARK; REF SCHED

● APPROXIMATE LOCATION OF SHEAR WALL HOLD DOWN; REF SIPS PANEL DRAWINGS FOR HOLD DOWN DETAILS AND EXACT LOCATIONS

◇ OFOP OUTSIDE FACE OF PANEL AND CONCRETE STEM WALL

rdc.

11921 Freedom Drive #1110
Reston, Va 20190
t 703.668.0086
rdcollaborative.com

PROFESSIONAL SEAL

NORTH CAROLINA PROFESSIONAL Seal ENGINEER BRANT V. HALVERSON

REVISION 02/16/2023

△ ISSUE	DATE
OTP SET	02/15/23

JBA JOHNSTON BURKHOLDER ASSOCIATES
consulting structural engineers
930 Central · Kansas City, MO 64105
816.421.4200 · www.jbaengr.com
NORTH CAROLINA COA #P-0672 EXPIRES: 06/30/23

JBA PROJECT #: 23023

PROFESSIONAL IN CHARGE
BJH

PROJECT MANAGER
RB

QUALITY CONTROL
SMK

DRAWN BY
JBA

PROJECT NAME

CIRCLE K STORES, INC. DET CARWASH

9706 KENNEBEC CHURCH ROAD, ANGIER, NC 27501

PROTOCYCLE # R3.2 12/19/22

CIRCLE K STORES, INC.

PROJECT NUMBER: 22130

DIAGRAMS AND SCHEDULES

S0.2-CW

STRUCTURAL SPECIAL INSPECTIONS (2015 IBC)

SOIL BEARING (2015 IBC 1705.6)		
VERIFICATION AND INSPECTION	**FREQUENCY**	**REFERENCED STANDARD**
1. VERIFY MATERIALS BELOW SHALLOW FOUNDATIONS ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY	PERIODIC	-
2. VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL	PERIODIC	-
3. PERFORM CLASSIFICATION AND TESTING OF COMPACTED FILL MATERIALS	PERIODIC	-
4. VERIFY USE OF PROPER MATERIALS, DENSITIES AND LIFT THICKNESS DURING PLACEMENT AND COMPACTION OF COMPACTED FILL.	CONTINUOUS	-
5. PRIOR TO PLACEMENT OF COMPACTED FILL, OBSERVE SUBGRADE AND VERIFY THAT SITE HAS BEEN PREPARED PROPERLY.	PERIODIC	-

CONCRETE CONSTRUCTION (2015 IBC 1705.3 AND ACI 318-14)		
VERIFICATION AND INSPECTION	**FREQUENCY**	**REFERENCED STANDARD**
1. INSPECTION OF REINFORCING STEEL AND PLACEMENT	PERIODIC	IBC 1908.4; ACI 318: Ch 20, 25.2, 25.3, 26.6.1-26.6.3
2. NOT USED.	-	-
3. INSPECTION OF ANCHORS CAST IN CONCRETE INCLUDING, SIZE, LENGTH, PROJECTION, AND LOCATION.	PERIODIC	ACI 318: 17.8.2
4A. INSPECTION OF ANCHORS POST-INSTALLED IN HARDENED CONCRETE MEMBERS - ADHESIVE ANCHORS INSTALLED IN HORIZONTALLY OR UPWARDLY INCLINED ORIENTATIONS TO RESIST SUSTAINED TENSION LOADS. INSPECTIONS SHALL INCLUDE HOLE SIZE AND DEPTH, CLEANING PROCEDURE, MATERIALS, AND LOCATION.	CONTINUOUS	ACI 318: 17.8.2.4
4B. INSPECTION OF ANCHORS POST-INSTALLED IN HARDENED CONCRETE MEMBERS - MECHANICAL ANCHORS AND ADHESIVE ANCHORS NOT DEFINED IN 3A.INSPECTIONS SHALL INCLUDE HOLE SIZE AND DEPTH, CLEANING PROCEDURE, MATERIALS, AND LOCATION.	PERIODIC	ACI 318: 17.8.2
5. INSPECTION TO VERIFY USE OF REQUIRED DESIGN MIX.	PERIODIC	IBC 1904.1, 1904.2, 1908.2, 1908.3; ACI 318: CH. 19, 26.4.3, 26.4.4
6. INSPECTION PRIOR TO CONCRETE PLACEMENT, AND AT THE TIME FRESH CONCRETE IS SAMPLED TO FABRICATE SPECIMENS, FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF THE CONCRETE. REF TO GENERAL NOTES, CAST-IN-PLACE CONCRETE EXECUTION FOR TESTING REQUIREMENTS.	CONTINUOUS	IBC 1908.10; ASTM C172, ASTM C31; ACI 318: 26.4.5, 26.12
7. INSPECTION OF CONCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES.	CONTINUOUS	IBC:1908.6, 1908.7, 1908.8; ACI 318: 26.4.5
8. INSPECTION FOR MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES.	PERIODIC	IBC:1908.9; ACI 318: 26.4.7-26.4.9
9. NOT USED.	-	-
10. INSPECT ERECTION OF PRECAST (OR SITE CAST) CONCRETE MEMBERS.	PERIODIC	ACI 318: CH. 26.8
11. NOT USED.	-	-
12. INSPECT FORMWORK FOR SHAPE, LOCATION AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED.	PERIODIC	ACI 318: 26.11.1.2(b)

EXCEPTIONS TO CONCRETE SPECIAL INSPECTION:

1. INSPECTION IS NOT REQUIRED FOR PLACEMENT OF SLAB-ON-GRADE CONCRETE. INSPECTION OF SLAB-ON-GRADE REINFORCEMENT IS REQUIRED PRIOR TO PLACEMENT OF CONCRETE.
2. INSPECTION IS NOT REQUIRED FOR FOR PLACEMENT OF FOUNDATION CONCRETE (DESIGN f'c OF 2,500 PSI). INSPECTION OF FOUNDATION REINFORCEMENT IS REQUIRED PRIOR TO PLACEMENT OF CONCRETE.

WOOD LATERAL FORCE RESISTING SYSTEM (2015 IBC 1705.11 AND 1705.12):		
VERIFICATION AND INSPECTION	**FREQUENCY**	**REFERENCED STANDARD**
1. WIND-RESISTING SYSTEM (IBC 1705.11.1) AND SEISMIC RESISTING SYSTEM (IBC 1705.12.2)		
A. VERIFY NAILING, BOLTING, ANCHORING AND OTHER FASTENING OF COMPONENTS WITH IN THE MAIN LATERAL FORCE RESISTING SYSTEM, INCLUDING WOOD SHEAR WALLS, WOOD DIAPHRAGMS, DRAG STRUTS, BRACES AND HOLD-DOWN WHERE NAIL SPACING OF WOOD DIAPHRAGMS AND WOOD SHEAR WALLS IS 4" OR LESS.	PERIODIC	-
B. INSPECTION OF FIELD-GLUING OPERATION OF ELEMENTS OF THE MAIN WIND FORCE-RESISTING SYSTEM WHERE NAIL SPACING OF WOOD DIAPHRAGMS AND WOOD SHEAR WALLS IS 4" OR LESS.	CONTINUOUS	-
2. WIND-RESISTING COMPONENTS (IBC 1705.11.3)		
A. INSPECTION IS REQUIRED FOR THE FASTENING OF THE FOLLOWING SYSTEMS AND COMPONENTS:		
i. ROOF COVERING, ROOF DECK AND ROOF FRAMING CONNECTIONS.	PERIODIC	-
ii. EXTERIOR WALL COVERING AND WALL CONNECTIONS TO ROOF AND FLOOR DIAPHRAGMS AND FRAMING.	PERIODIC	-

rdc.

11921 Freedom Drive #1110
Reston, Va 20190
t 703.668.0086
rdcollaborative.com

PROFESSIONAL SEAL

NORTH CAROLINA PROFESSIONAL Seal ENGINEER BRENT V. HALVERSON

REVISION 02/16/2023

△ ISSUE	DATE
OTP SET	02/15/23

JBA JOHNSTON BURKHOLDER ASSOCIATES
consulting structural engineers
930 Central · Kansas City, MO 64105
816.421.4200 · www.jbaengr.com
NORTH CAROLINA COA #P-0672 EXPIRES: 06/30/23
JBA PROJECT #: 23023

PROFESSIONAL IN CHARGE
BJH

PROJECT MANAGER
RB

QUALITY CONTROL
SMK

DRAWN BY
JBA

PROJECT NAME

CIRCLE K STORES, INC. DET CARWASH

9706 KENNEBEC CHURCH ROAD, ANGIER, NC 27501

PROTOCYCLE # R3.2 12/19/22

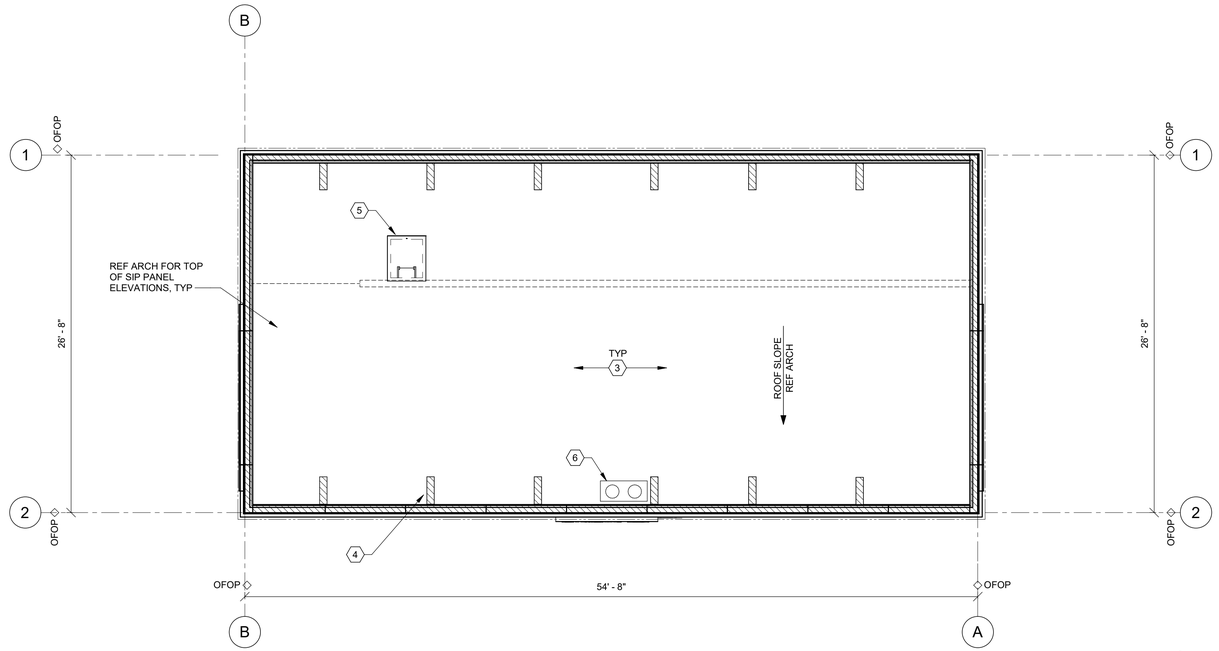
CIRCLE K STORES, INC.

PROJECT NUMBER: 22130

TABLE OF SPECIAL INSPECTIONS

S0.3-CW

ROOF FRAMING PLAN NOTES	
NUMBER	PLAN NOTE
GENERAL PLAN NOTES	
1.	REF SHEET S0.1-CW, S0.2-CW AND S0.3-CW FOR GENERAL NOTES AND SPECIAL INSPECTIONS REQUIREMENTS.
2.	REF ARCH DRAWINGS FOR ADDITIONAL INFORMATION AND DIMENSIONS.
REFERENCED PLAN NOTES	
3	SIP PANEL ROOF DESIGNED TO SUPPORT ALL BUILDING CODE REQUIRED LOADS AND DESIGNED AS A DIAPHRAGM TO DISTRIBUTE WIND/SEISMIC LOADS TO SHEAR WALLS.
4	PARAPET BRACES BY SIPS SUPPLIER.
5	OPENING IN SIPS ROOF PANEL FOR ROOF HATCH. REF ARCH FOR SIZE AND LOCATION AND ADDITIONAL FRAMING REQUIRED.
6	ROOF DRAIN. REF ARCH FOR DETAILS AT ROOF DRAIN AND ADDITIONAL FRAMING REQUIRED.



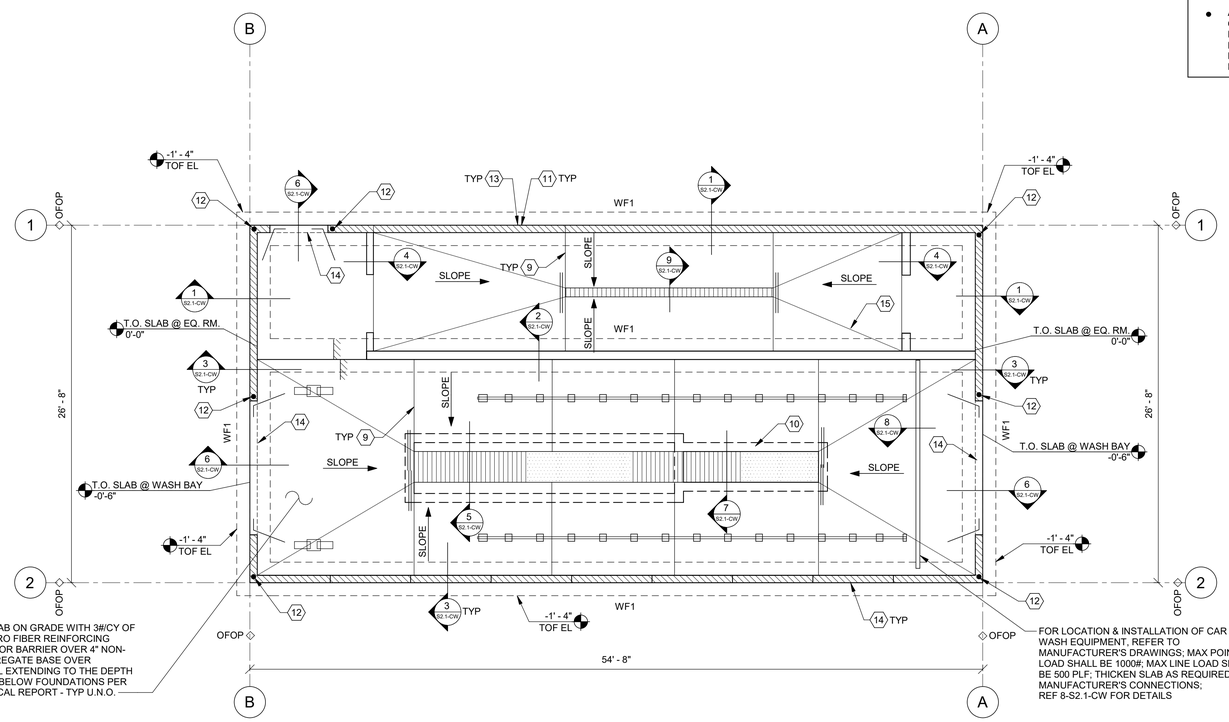
ROOF FRAMING PLAN | 2

3/16" = 1'-0"

WALL FOOTING SCHEDULE					
MARK	WIDTH	THICKNESS	REINF (TRANS)	REINF (LONG)	REINF LOCATION
WF1	2' - 6"	1' - 6"	#5 AT 24"	(3) #5	BOT

FOUNDATION PLAN NOTES	
NUMBER	PLAN NOTE
GENERAL PLAN NOTES	
1.	REF SHEETS S0.1-CW, S0.2-CW, AND S0.3-CW FOR GENERAL NOTES, LEGEND AND SPECIAL INSPECTIONS REQUIREMENTS.
2.	ALL ELEVATIONS REFERENCED FROM FINISH FLOOR ELEVATION OF 0'-0" (AT BLDG SLAB) FOR REFERENCE ONLY.
3.	TOP OF FOOTING ELEVATION SHALL BE ASSUMED TO BE CONSTANT BETWEEN ELEVATIONS SHOWN ON PLAN U.N.O. (FOUNDATION REQUIREMENTS ENSCRIBED ON S0.1-CW PER GEOTECHNICAL ENGINEER RECOMMENDATIONS SHALL BE FOLLOWED AS GRADING CONDITIONS VARY, REF CIVIL).
4.	FOR TYPICAL REINFORCING BAR BEND DETAILS, REF 4-S2.0-CW.
5.	FOR PIPING RUNNING PARALLEL AND PERPENDICULAR TO THE FOUNDATION REF 6-S2.0-CW AND 7-S2.0-CW.
6.	THE GENERAL CONTRACTOR, INCLUDING SUBCONTRACTORS AND SUPPLIERS, SHALL NOT ALLOW ANY VEHICULAR TRAFFIC ON THE BUILDING PAD AFTER THE PAD CERTIFICATION OR THE CONCRETE SLAB ONCE PLACED. ANY DAMAGE TO THE PAD DUE TO THE VEHICULAR TRAFFIC SHALL BE REPAIRED/REPLACED AT THE EXPENSE OF THE CONTRACTOR
7.	NOT USED
8.	FOOTING CONTRACTOR TO CONTACT ELECTRICAL CONTRACTOR SO THAT THE GROUNDING ELECTRODE MAY BE INSTALLED PRIOR TO THE FOOTING INSPECTION.
REFERENCED PLAN NOTES	
9	FOR TYPICAL FLOOR CONSTRUCTION JOINT, REF 1-S2.0; FOR TYPICAL FLOOR CONTRACTION JOINT, REF 2-S2.0.
10	COORDINATE SLAB SLOPES AT DRAIN LOCATIONS WITH THE ARCH DRAWINGS.
11	CONCRETE STEM WALL BELOW, REF DETAIL 1-S2.1-CW FOR DETAILS AND FACE OF WALL LOCATION. REF DETAILS 11-S2.0-CW THRU 13-S2.0-CW FOR CONCRETE STEM WALL DETAILS.
12	INDICATES SHEAR WALL HOLDDOWN; REF SIPS PANEL DRAWINGS FOR DETAILS AND EXACT LOCATIONS. ALL HOLDDOWN ANCHORS REQUIRING ANCHOR BOLTS SHALL BE EMBEDDED INTO THE CONTINUOUS FOOTING THE SPECIFIED AMOUNT SHOWN IN DETAIL 10-S2.1-CW.
13	SIPS WALL PANELS DESIGNED TO SUPPORT ALL BUILDING CODE REQUIRED LOADS AND DESIGNED AS SHEAR WALLS TO RESIST ALL SEISMIC/WIND LOADS
14	VERIFY ALL WALL OPENING SIZES AND LOCATIONS WITH THE ARCH DRAWINGS. REF 10-S2.0-CW FOR RE-ENTRANT CORNER BARS AT DOOR OPENINGS.
15	REF ARCH FOR SLOPE.

WALL LEGEND	
	STRUCTURAL INSULATED PANELS (SIPS)
	2x FRAMED WALL; REF SIPS MANUFACTURER AND ARCH FOR DETAILS
•	APPROXIMATE LOCATION OF SHEAR WALL HOLD DOWN. REF SIP PANEL DRAWINGS FOR HOLD DOWN DETAILS AND EXACT LOCATION



FOUNDATION PLAN | 1

3/16" = 1'-0"

rdc.

11921 Freedom Drive #1110
Reston, Va 20190
t 703.668.0086
rdcollaborative.com

PROFESSIONAL SEAL

NORTH CAROLINA PROFESSIONAL Seal 034771 ENGINEER BRIAN J. HALVERSTADT

REVISION 02/16/2023

△ ISSUE	DATE
OTP SET	02/15/23

JBA JOHNSTON BURKHOLDER ASSOCIATES
consulting structural engineers
930 CENTRAL · KANSAS CITY, MO 64105
816.421.4200 · WWW.JBAENGR.COM
NORTH CAROLINA COA #P-0672 EXPIRES: 06/30/23
JBA PROJECT #: 23023

PROFESSIONAL IN CHARGE
BJH

PROJECT MANAGER
RB

QUALITY CONTROL
SMK

DRAWN BY
JBA

PROJECT NAME

CIRCLE K STORES, INC. DET CARWASH

9706 KENNEBEC CHURCH ROAD, ANGIER, NC 27501

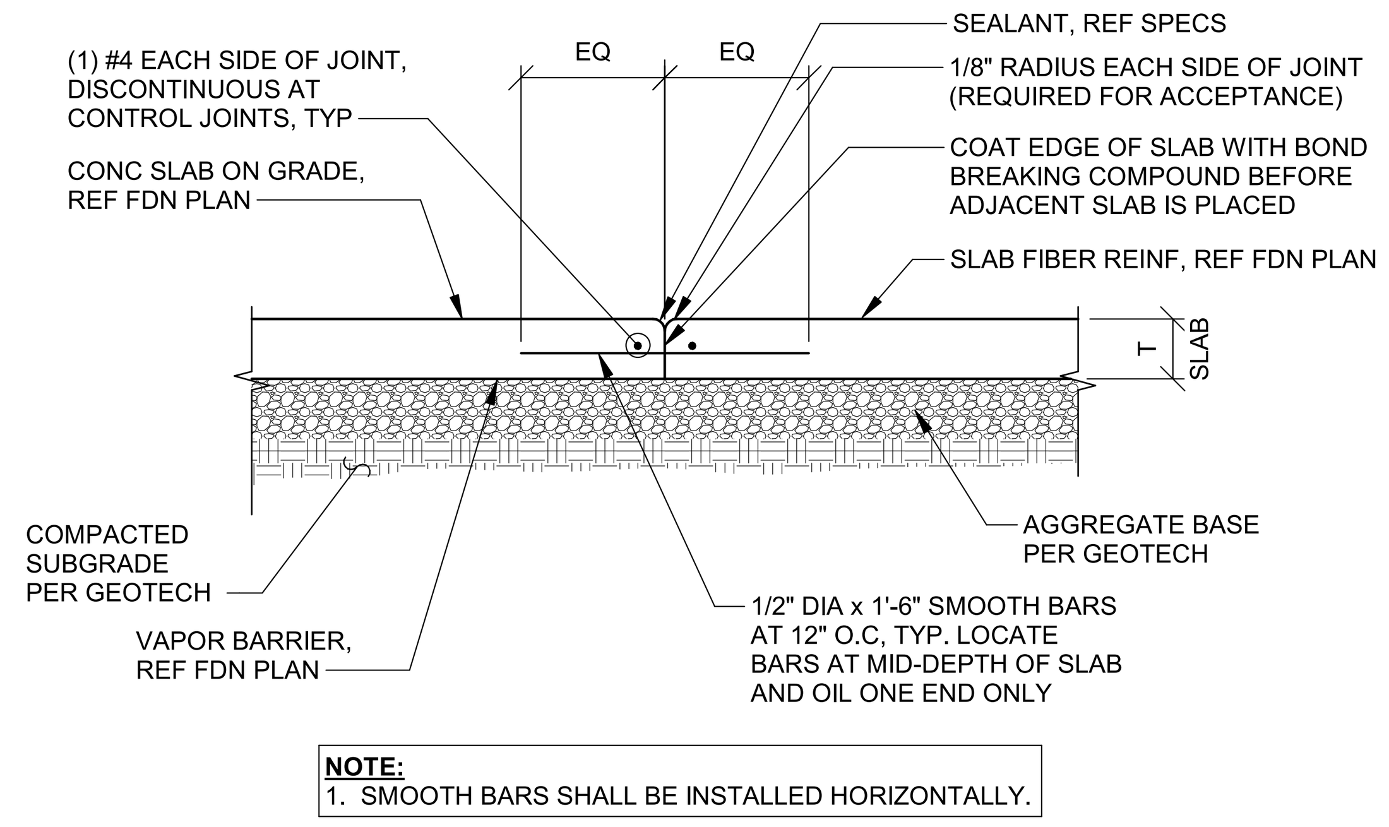
PROTOCYCLE # R3.2 12/19/22

CIRCLE K STORES, INC.

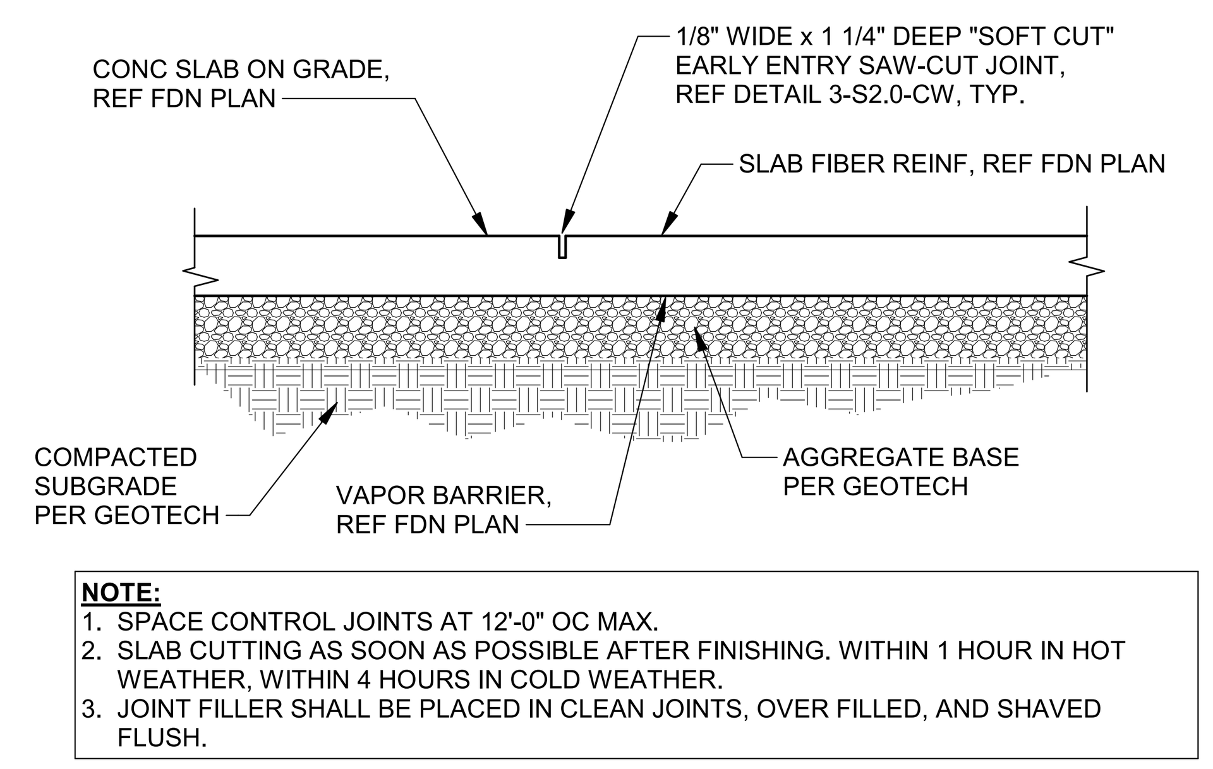
PROJECT NUMBER: 22130

FOUNDATION & FRAMING PLAN

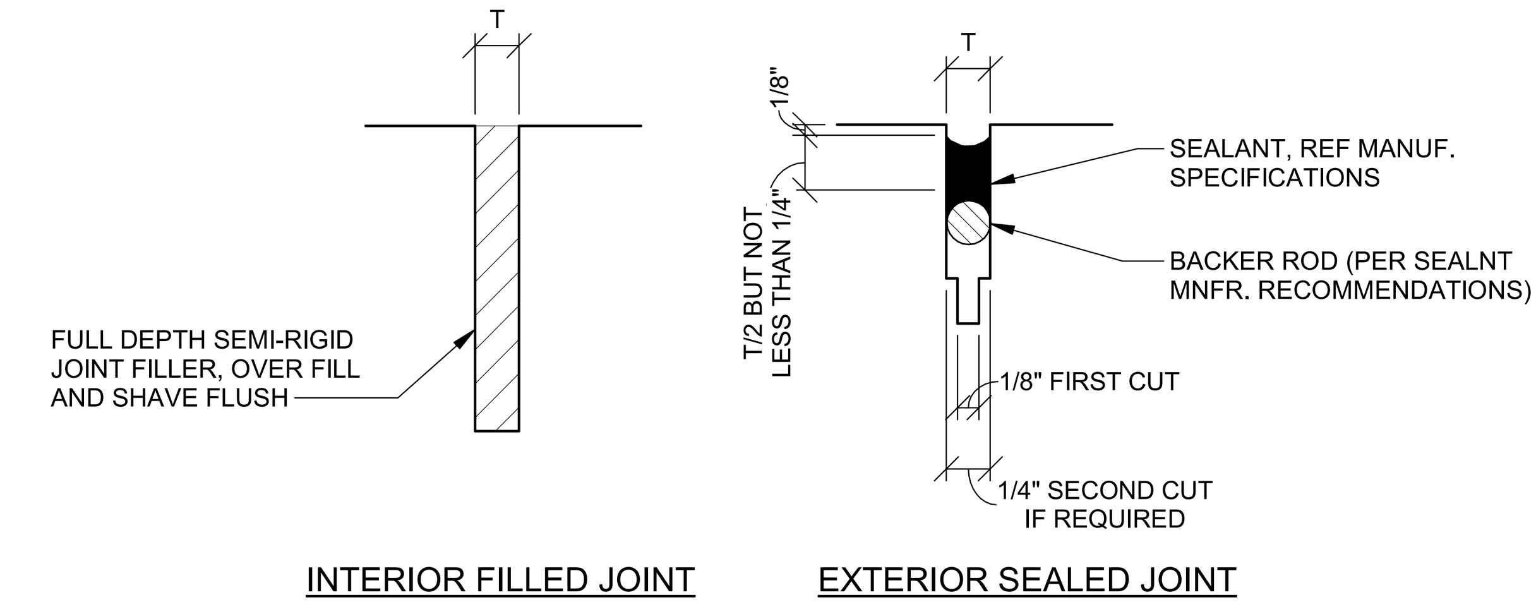
S1.0-CW



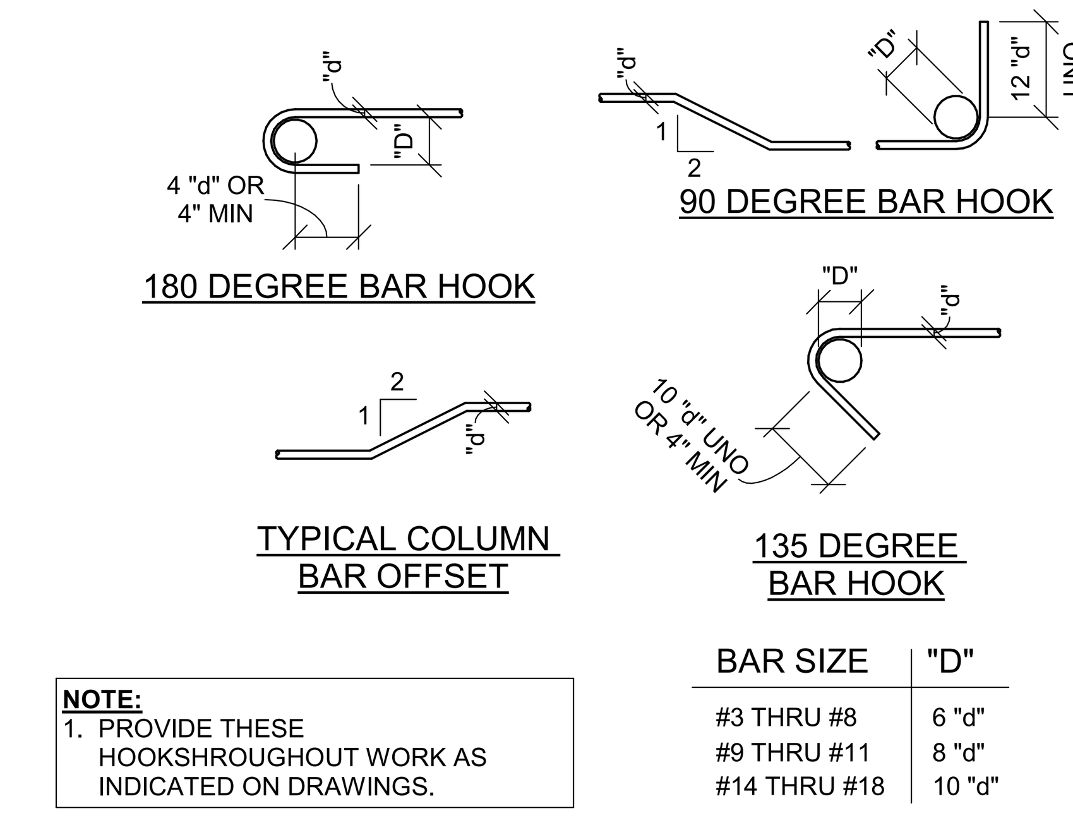
TYPICAL CONSTRUCTION JOINT | 1
3/4" = 1'-0"



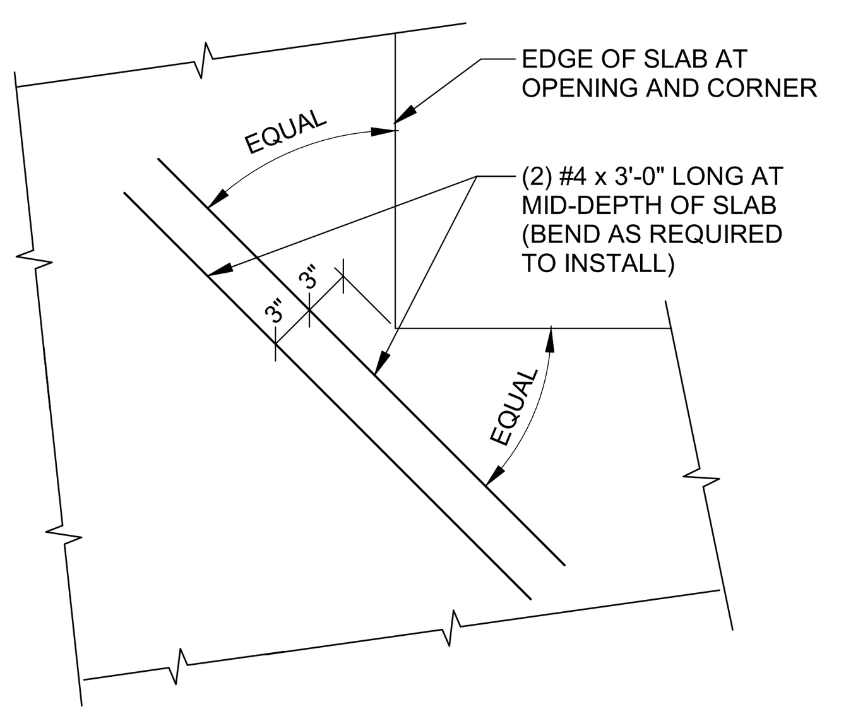
TYPICAL CONTRACTION JOINT | 2
3/4" = 1'-0"



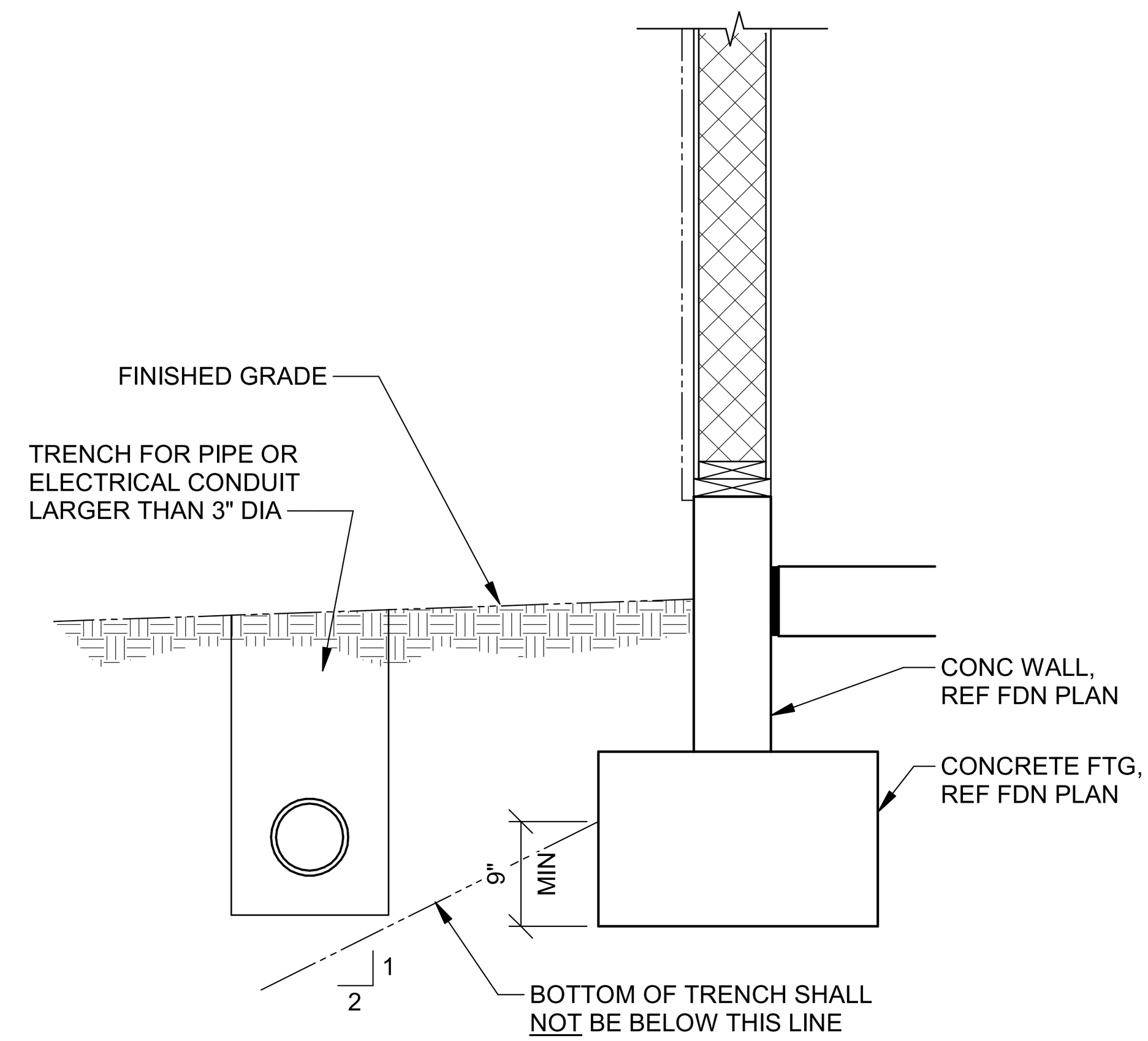
TYPICAL CONCRETE SLAB JOINT DETAIL | 3
3/4" = 1'-0"



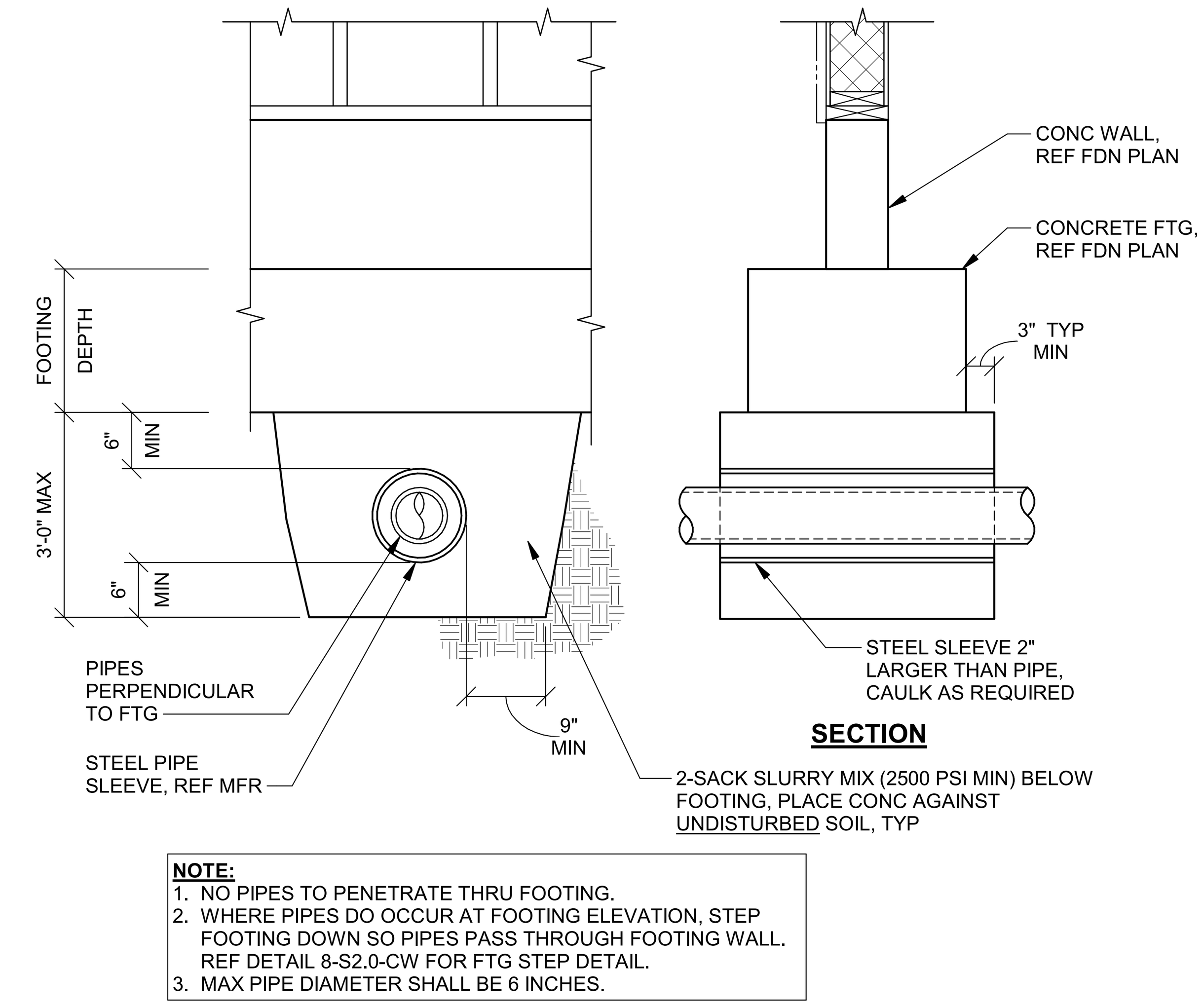
TYPICAL REINFORCING BARS BENDS DETAIL | 4
3/4" = 1'-0"



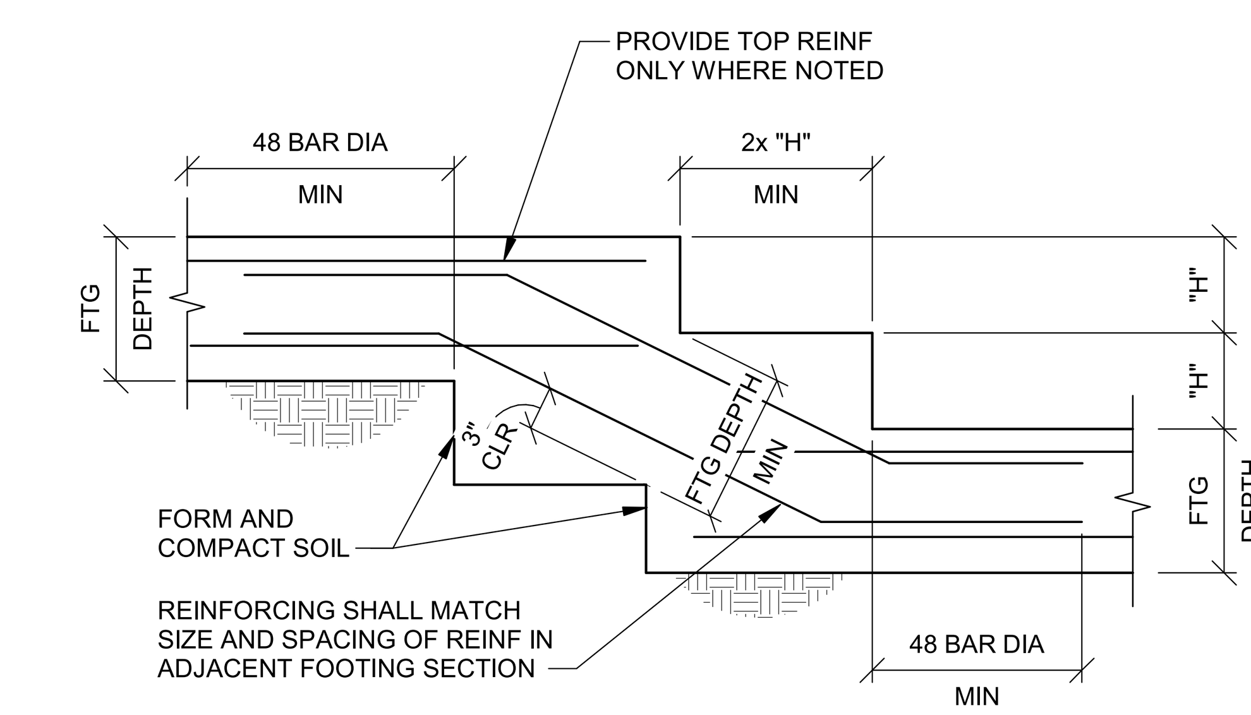
TYPICAL REINFORCEMENT AT SLAB OPENING | 5
3/4" = 1'-0"



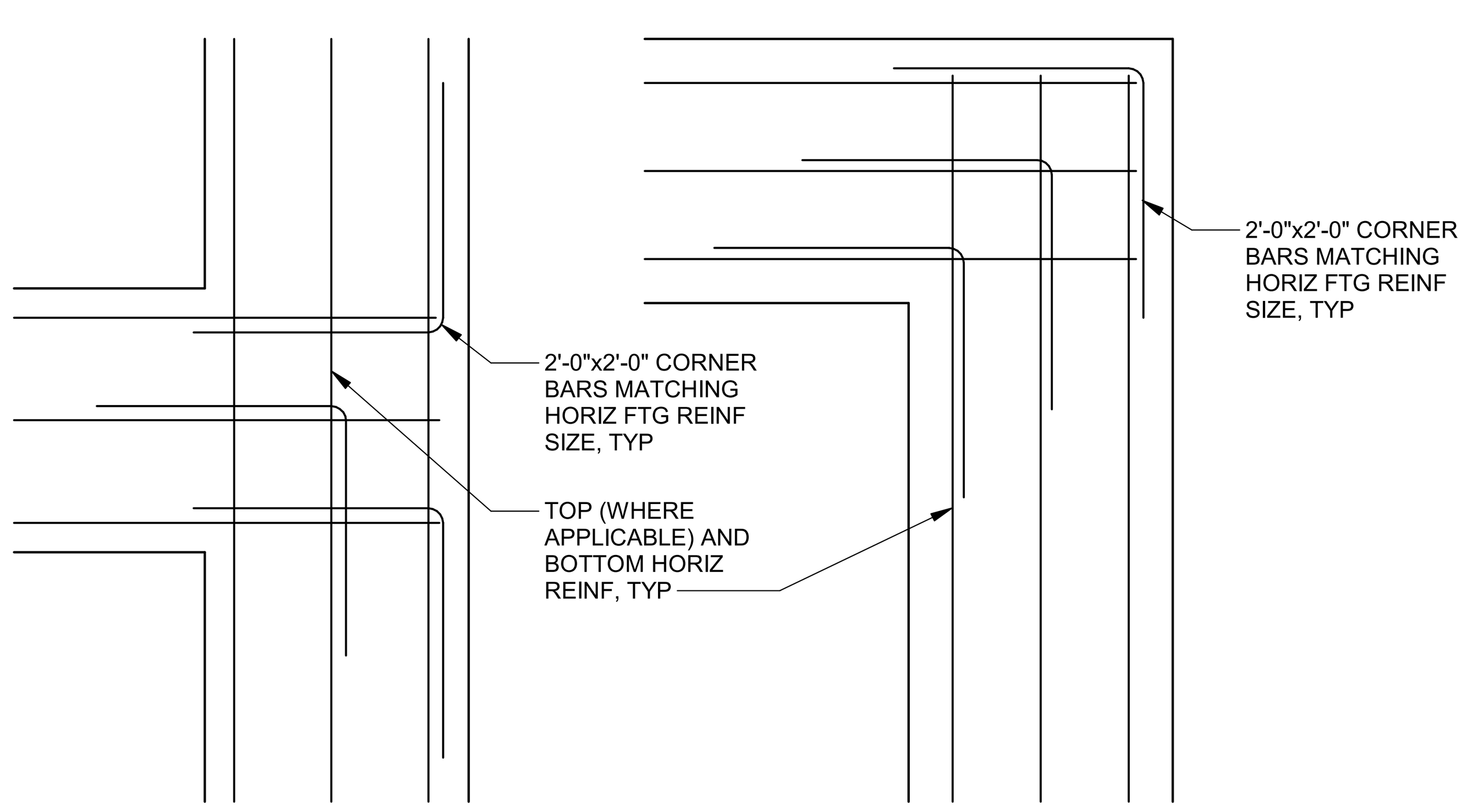
UTILITY LINE PARALLEL TO FDN | 6
3/4" = 1'-0"



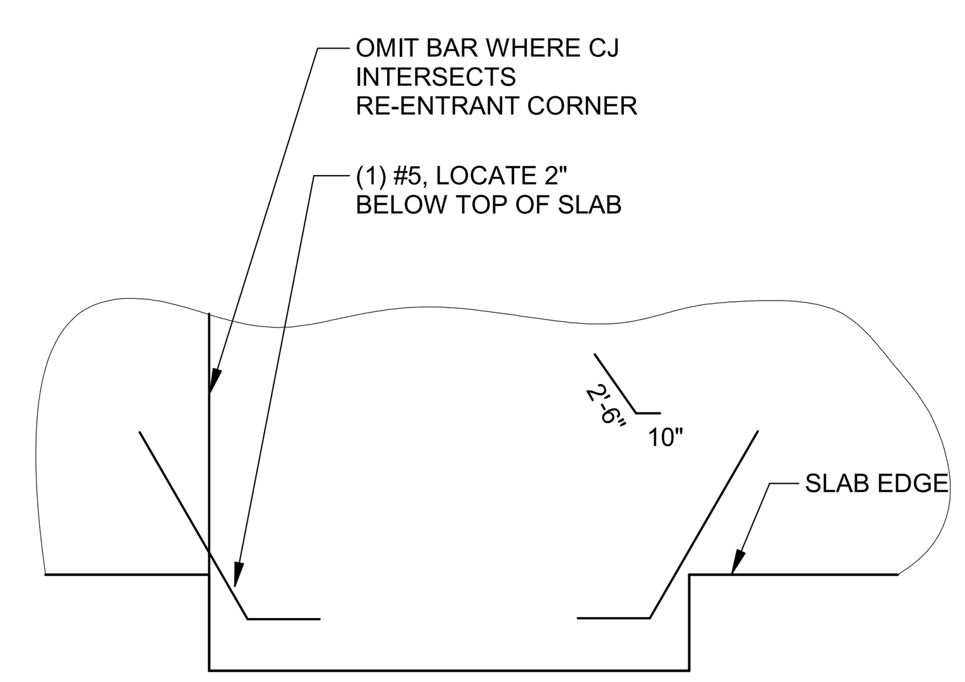
UTILITY LINE PERPENDICULAR TO FDN | 7
3/4" = 1'-0"



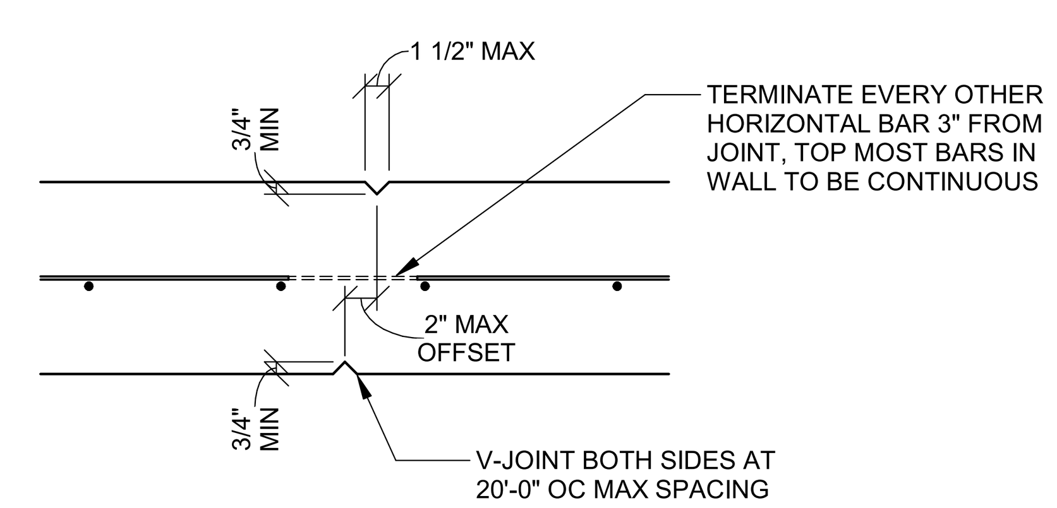
DETAIL AT STEPPED FOOTING | 8
3/4" = 1'-0"



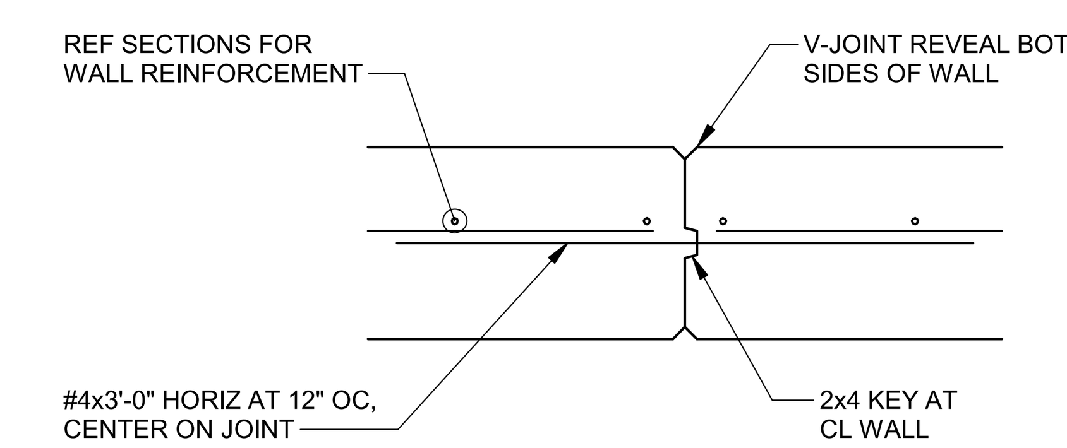
CONCRETE FOOTING CORNER BAR REINFORCEMENT | 9
1" = 1'-0"



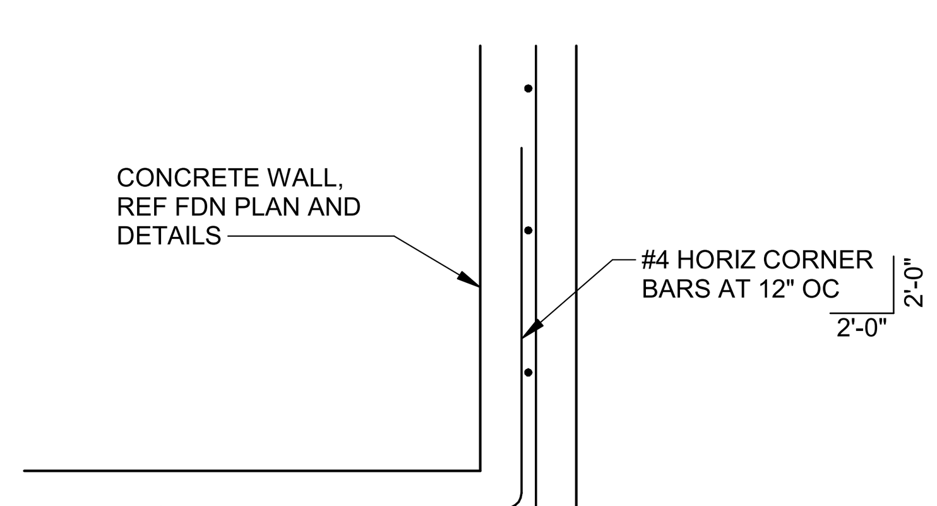
SLAB REINFORCEMENT AT DOOR OPENINGS | 10
3/4" = 1'-0"



CONCRETE WALL CONTROL JOINT | 11
1" = 1'-0"



CONCRETE WALL CONSTRUCTION JOINT | 12
1" = 1'-0"



CONCRETE WALL CORNER DETAIL | 13
3/4" = 1'-0"

rdc.

11921 Freedom Drive #1110
Reston, Va 20190
t 703.668.0086
rdcollaborative.com

PROFESSIONAL SEAL

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 034711 BART J. HALVERSON
020/16/2023

REVISION

ISSUE	DATE
OTP SET	02/15/23

JBA JOHNSTON BURKHOLDER ASSOCIATES
consulting structural engineers
930 CENTRAL · KANSAS CITY, MO 64105
816.421.4200 · WWW.JBAENGR.COM
NORTH CAROLINA COA #P-0672 EXPIRES 06/30/23
JBA PROJECT #: 23023

PROFESSIONAL IN CHARGE
BJH
PROJECT MANAGER
RB
QUALITY CONTROL
SMK
DRAWN BY
JBA

PROJECT NAME

CIRCLE K STORES, INC. DET CARWASH

9706 KENNEBEC CHURCH ROAD, ANGIER, NC 27501

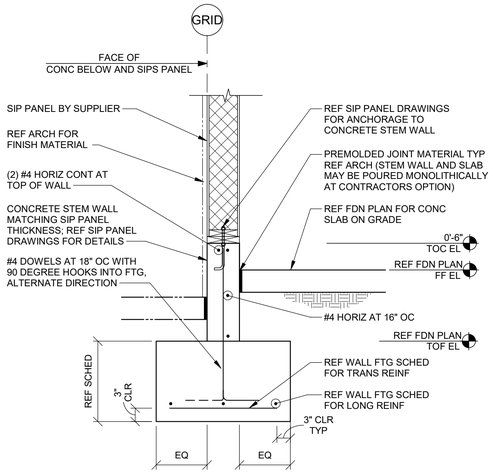
PROTOCYCLE # R3.2 12/19/22

CIRCLE K STORES, INC.

PROJECT NUMBER: 22130

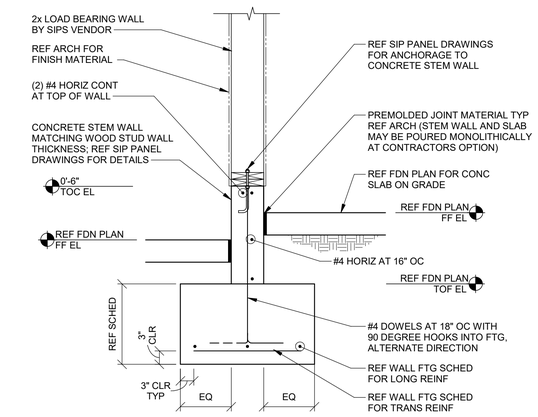
FOUNDATION DETAILS

S2.0-CW



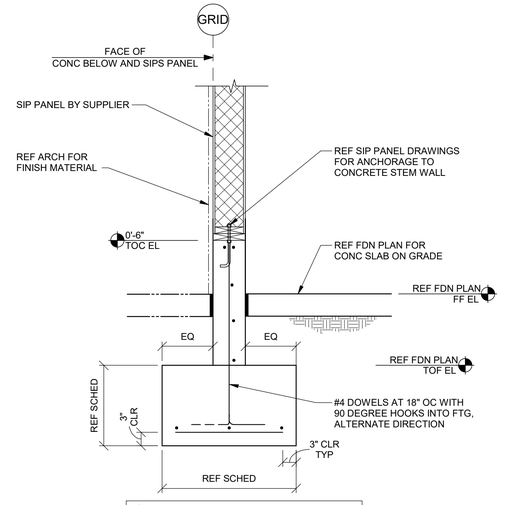
NOTE:
1. BOTTOM OF FOUNDATION SHALL BE PLACED PER GEOTECHNICAL RECOMMENDATIONS. FOR ADDITIONAL INFO, REF GENERAL NOTES ON SHEET S0.1-CW

WALL SECTION AT EQUIPMENT ROOM | 1
3/4" = 1'-0"



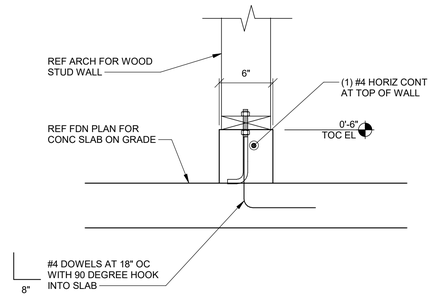
NOTE:
1. BOTTOM OF FOUNDATION SHALL BE PLACED PER GEOTECHNICAL RECOMMENDATIONS. FOR ADDITIONAL INFO, REF GENERAL NOTES ON SHEET S0.1-CW

INTERIOR WALL FOOTING | 2
3/4" = 1'-0"

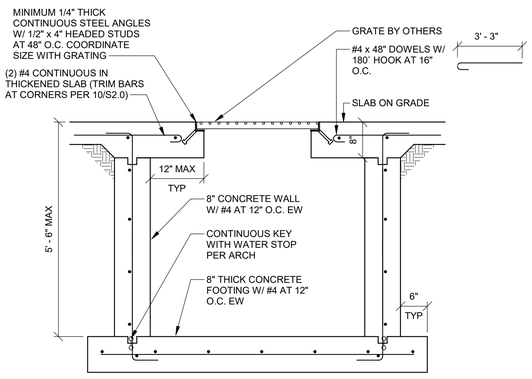


NOTE:
1. FOR ADDITIONAL INFORMATION NOT SHOWN, REFER TO DETAIL 1-S2.1-CW

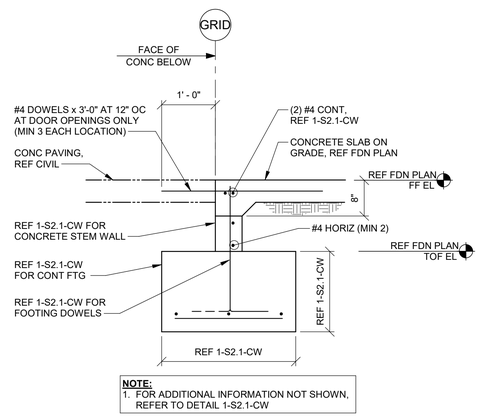
WALL SECTION AT WASH BAY | 3
3/4" = 1'-0"



INTERIOR CURB AT FRAMED WALL | 4
1 1/2" = 1'-0"

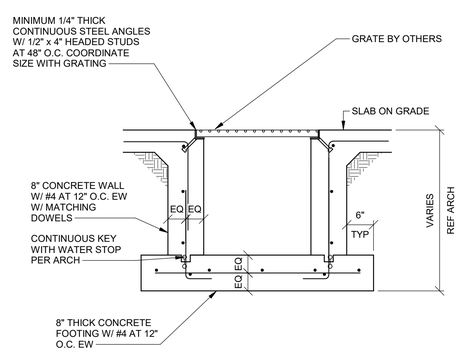


SECTION DETAIL | 5
3/4" = 1'-0"

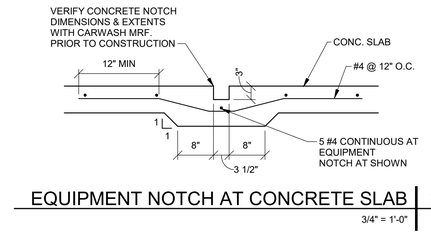


NOTE:
1. FOR ADDITIONAL INFORMATION NOT SHOWN, REFER TO DETAIL 1-S2.1-CW

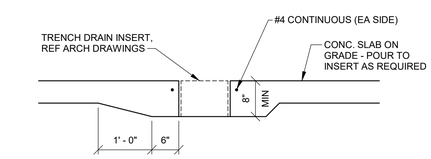
CONCRETE SLAB AT OPENING | 6
3/4" = 1'-0"



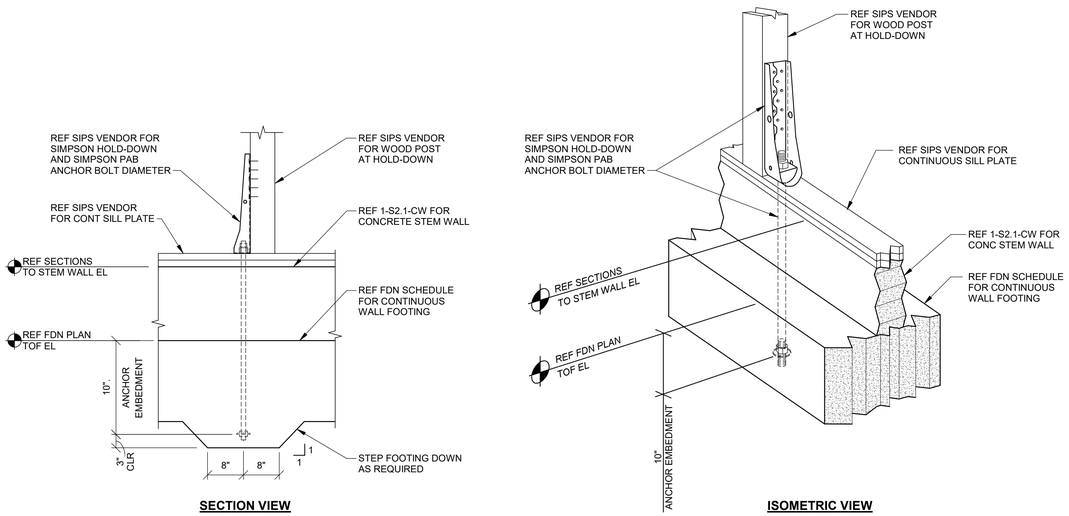
SECTION DETAIL | 7
3/4" = 1'-0"



EQUIPMENT NOTCH AT CONCRETE SLAB | 8
3/4" = 1'-0"



EQUIPMENT NOTCH AT CONCRETE SLAB | 9
3/4" = 1'-0"



SHEAR WALL HOLD-DOWN | 10
3/4" = 1'-0"

rdc.
11921 Freedom Drive #1110
Reston, Va 20190
t 703.668.0086
rdcollaborative.com

PROFESSIONAL SEAL

NORTH CAROLINA PROFESSIONAL Seal 034711 ENGINEER BRIAN J HALVERSON

REVISION 02/16/2023

△ ISSUE	DATE
OTP SET	02/15/23

JBA JOHNSTON BURKHOLDER ASSOCIATES
consulting structural engineers
930 CENTRAL · KANSAS CITY, MO 64105
816.421.4200 · WWW.JBAENGR.COM
NORTH CAROLINA COA #P-0672 EXPIRES: 06/30/23
JBA PROJECT #: 23023

PROFESSIONAL IN CHARGE
BJH
PROJECT MANAGER
RB
QUALITY CONTROL
SMK
DRAWN BY
JBA

PROJECT NAME

CIRCLE K STORES, INC.
DET CARWASH

9706 KENNEBEC CHURCH ROAD,
ANGIER, NC 27501

PROTOCYCLE # R3.2 12/19/22

CIRCLE K STORES, INC.

PROJECT NUMBER: 22130

FOUNDATION DETAILS

S2.1-CW