

BUILDING CODE: 2021 ARKANSAS FIRE PREVENTION CODE (BASED ON 2021 IBC)	
RISK CATEGORY (2021 IBC TABLE 1604.5): IV	
GRAVITY LOADS (REFERENCE: 2021 IBC & ASCE 7-16):	
DEAD LOADS:	SELF WEIGHT OF MATERIALS
FLOOR LIVE LOADS:	150 PSF
LATERAL LOADS (REFERENCE: 2021 IBC & ASCE 7-16):	
SEISMIC:	
SEISMIC IMPORTANCE FACTOR	Ie = 1.50
MAPPED SPECTRAL RESPONSE ACCELERATIONS	Ss = 0.38
	S1 = 0.15
SITE CLASS	E
DESIGN SPECTRAL RESPONSE ACCELERATIONS	SDS = 0.515
	SD1 = 0.412
SEISMIC DESIGN CATEGORY	D
NON-STRUCTURAL COMPONENT IMPORTANCE FACTOR	Ip = 1.50

STRUCTURAL DESIGN APPROACH:

A. GENERAL REQUIREMENTS

1. FIELD VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS, INCLUDING SIZES AND LAYOUT OF EXISTING STRUCTURAL MEMBERS. NOTIFY ENGINEER IF THE EXISTING CONDITIONS AND DIMENSIONS ARE DIFFERENT FROM THOSE INDICATED OR SHOWN ON THE CONTRACT DRAWINGS. INCORPORATE NECESSARY CHANGES INTO THE CONTRACT DOCUMENTS.
2. SCHEDULE AND COORDINATE WORK TO PREVENT DAMAGE TO THE BUILDING OUTSIDE THE LIMITS OF THE CONTRACT. REPAIR AT NO ADDITIONAL COST TO THE OWNER ANY DAMAGE CAUSED BY THE CONSTRUCTION.
3. STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH DRAWINGS RELATING TO OTHER TRADES. CHECK AND COORDINATE DIMENSIONS, CLEARANCES, OPENINGS, PIPE, SLEEVES, CURBS, ETC. WITH THE WORK OF OTHER TRADES.
4. ENSURE THAT ALL CONSTRUCTION LOADS DO NOT EXCEED THE DESIGN LIVE LOADS INDICATED ON THE STRUCTURAL DRAWINGS.
5. INSTALL PIPING, CONDUIT, ETC. WITHIN THE EXISTING STRUCTURE AND UNDER THE EXISTING FLOOR SLAB/STRUCTURE AS SHOWN ON THE CONTRACT DOCUMENTS. UNLESS SHOWN OTHERWISE, ESTABLISH THE METHOD OF INSTALLATION AND REPAIR AND REPLACEMENT OF THE FLOOR STRUCTURE INCLUDING THE SLAB ON GRADE.
6. FIELD VERIFY SIZES AND LAYOUT OF EXISTING STRUCTURAL MEMBERS NOTED ON THE STRUCTURAL DRAWINGS. NOTIFY ARCHITECT/ENGINEER IF SIZES OR LAYOUT DIFFERS. INCORPORATE NECESSARY CHANGES INTO THE CONTRACT DOCUMENTS.
7. STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH DRAWINGS RELATING TO OTHER TRADES. CHECK AND COORDINATE DIMENSIONS, CLEARANCES, OPENINGS, PIPE, SLEEVES, CURBS, ETC. WITH THE WORK OF OTHER TRADES.
8. WORK NOT INDICATED ON A PART OF THE DRAWING BUT REASONABLY IMPLIED TO BE SIMILAR TO THAT SHOWN AT CORRESPONDING PLACES SHALL BE REPEATED.
9. DETAILS DESIGNATED AS "TYPICAL" APPLY TO ALL AREAS WHERE THE CONDITIONS ARE SIMILAR TO THOSE DESCRIBED IN THE DETAIL.
10. THESE DRAWINGS WERE DEVELOPED USING EQUIPMENT SUPPLIER'S DRAWINGS AS NOTED BELOW. DESIGN OF EQUIPMENT AND UNISTRUT SUPPORT AND ATTACHMENT IS BY OTHERS.
 - a. SIEMENS - PROJECT #261402

B. SPECIAL INSPECTIONS:

1. QUALIFIED INSPECTORS SHALL CONDUCT SPECIAL INSPECTIONS AND TESTS AND FURNISH REPORTS AS SPECIFIED IN SECTION 014533 AND IN ACCORDANCE WITH CHAPTER 17, INTERNATIONAL BUILDING CODE.
2. THE CONTRACTOR SHALL COORDINATE THE SPECIAL INSPECTIONS AND TESTING SERVICES WITH THE PROGRESS OF THE WORK, PROVIDE THE APPROPRIATE DOCUMENTATION AND PERFORM OTHER TASKS AS SPECIFIED IN SECTION 014533.
3. CONSTRUCTION THAT REQUIRES CONTINUOUS INSPECTION PER SECTION 014533 CAN NOT PROGRESS WITHOUT INSPECTORS PRESENT.
4. THE CONTRACTOR IS RESPONSIBLE FOR ALL OTHER INSPECTIONS OR TESTS IN THE SPECIFICATIONS, NOT LISTED IN THE SCHEDULE OF SPECIAL INSPECTION SERVICES IN SECTION 014533.
5. THE CONTRACTOR IS RESPONSIBLE FOR THE COST OF REPAIR, REINSCRIPTION AND RETESTING FOR ITEMS THAT DO NOT PASS THE INSPECTIONS OR TESTS.
6. SPECIAL INSPECTION SERVICES DO NOT RELIEVE THE CONTRACTOR OF RESPONSIBILITY FOR COMPLIANCE WITH OTHER CONSTRUCTION DOCUMENT REQUIREMENTS OR REGULATORY REQUIREMENTS.
7. THE CONTRACTOR IS RESPONSIBLE FOR THE COST OF DEMOLITION, RECONSTRUCTION, INSPECTION AND TESTING OF ANY WORK COMPLETED WITHOUT INSPECTION AND TESTING AS SPECIFIED IN SECTION 014533.

C. SHOP DRAWINGS:

1. SUBMIT SHOP DRAWINGS FOR REVIEW BY THE ARCHITECT/ENGINEER FOR THE FOLLOWING ITEMS. REFER TO PROJECT SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS:
 - a. CONCRETE REINFORCING STEEL
2. SUBMIT OTHER SHOP DRAWINGS FOR REVIEW BY ARCHITECT/ENGINEER AS REQUIRED BY PROJECT SPECIFICATIONS.
3. ALL SHOP DRAWINGS SHALL BE REVIEWED AND ESTAMPED BY THE ARCHITECT/ENGINEER. THE GENERAL CONTRACTOR / CONSTRUCTION MANAGER PRIOR TO SUBMITTAL. INCOMPLETE SHOP DRAWINGS AND SHOP DRAWINGS THAT HAVE NOT BEEN REVIEWED BY THE CONTRACTOR WILL BE RETURNED WITHOUT REVIEW BY THE ARCHITECT/ENGINEER.
4. VERIFY AND COORDINATE ALL DIMENSIONS SHOWN ON STRUCTURAL DRAWINGS WITH ARCHITECTURAL DRAWINGS. IN CASE OF CONFLICTS, THE ARCHITECT/ENGINEER IS TO BE NOTIFIED AND WILL PROVIDE THE CORRECT DIMENSIONS FOR WHICH SHALL BE INCORPORATED INTO THE SHOP DRAWINGS AT NO EXTRA COST.

1. FOUNDATION DESIGN IS BASED ON AN ASSUMED ALLOWABLE SOIL PRESSURE OF 2000 PSF.
 - a. THE ABOVE ASSUMPTIONS SHALL BE VERIFIED BY A SOILS INVESTIGATION.
 - b. THIS SOILS INVESTIGATION SHALL BE DONE BY A GEOTECHNICAL ENGINEER HIRED AND PAID BY CONTRACTOR AND APPROVED BY ARCHITECT/ENGINEER.
2. THE REPORT OF THE CONSULTANT SHALL BE FORWARDED TO ARCHITECT/ENGINEER BEFORE THE START OF THE FOUNDATION WORK.
3. TAKE ADEQUATE MEASURES TO ALLOW FOR WORKING SURFACE DURING CONSTRUCTION OF FOUNDATIONS, SUCH AS GRAVEL BED OF ADEQUATE DEPTH, ETC.
4. PROVIDE EARTH RETENTION SYSTEMS AND TEMPORARY BRACING OR SHORING (INCLUDING UNDERPINNING) AS REQUIRED TO SUPPORT EXCAVATIONS AND TO PROTECT EXISTING STRUCTURES DURING CONSTRUCTION. TRENCHING AND EXCAVATIONS SHALL MEET ALL OSHA REQUIREMENTS.
5. PROTECT ALL UTILITY LINES, ETC. ENCOUNTERED DURING EXCAVATION AND BACKFILLING.
- E. **CONCRETE AND REINFORCING STEEL:**
 1. THE DESIGN OF THE CONCRETE STRUCTURE IS BASED ON ACI318-19 BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE.
 2. CAST IN PLACE CONCRETE SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH (f'_c) OF 3500 PSI.
 3. SEE SPECIFICATION SECTION 033000 FOR ADDITIONAL MIX DESIGN REQUIREMENTS.
 4. ALL DEFORMED REINFORCING STEEL SHALL BE A615 GRADE 60 STEEL, U.N.O.
 5. ALL CONCRETE WORK SHALL CONFORM TO THE LATEST ACI CODE AND ACI DETAILING MANUAL.
 6. MINIMUM CONCRETE COVER FOR REINFORCING STEEL SHALL BE:

CONCRETE CAST AGAINST EARTH:	3"
SLABS, WALLS, AND JOISTS:	1 1/2"
 7. ALL CONCRETE CONSTRUCTION AND MATERIALS SHALL BE PLACED ACCORDING TO ACI 117 TOLERANCES.
 8. ALL CONCRETE REINFORCING STEEL SHALL BE SPLICED USING TENSION SPLICES:
 - a. UNLESS NOTED OTHERWISE, LAP SPICE ALL CONCRETE REINFORCING STEEL:

BARS #6 AND SMALLER	48 BAR DIAMETERS
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 - b. ONLY APPROVED MECHANICAL SPICE SYSTEMS SHALL BE USED TO PROVIDE TENSION SPLICES. MECHANICAL SPLICES SHALL DEVELOP 125% OF THE YIELD STRENGTH OF THE BAR.
 9. ALL REINFORCING STEEL SHALL BE SECURELY HELD IN PLACE WHILE PLACING CONCRETE. ADDITIONAL BARS OR STIRRUPS SHALL BE PROVIDED AS REQUIRED TO FURNISH SUPPORT FOR ALL REINFORCING STEEL.
 10. PROVIDE SUPPORT FOR ALL CONCRETE REINFORCING (INCLUDING SLABS ON GRADE) AS REQUIRED TO MAINTAIN CLEAR COVER DIMENSIONS. SPACING SHALL NOT EXCEED 3'-0".
 11. HORIZONTAL CONSTRUCTION JOINTS SHALL NOT BE PERMITTED UNLESS SPECIFICALLY DETAILED ON THE STRUCTURAL DRAWINGS. HORIZONTAL OR NEAR HORIZONTAL JOINTS SHALL BE PREPARED BY ROUGHENING THE SURFACE IN AN APPROVED MANNER SO THAT THE AGGREGATE IS EXPOSED UNIFORMLY, LEAVING NO LAITANCE, LOOSENED PARTICLES, OR DAMAGED CONCRETE.
 12. PIPES OR CONDUITS PLACED IN FOUNDATIONS AND SLABS SHALL NOT BE SPACED CLOSER THAN 3 DIAMETERS ON CENTERS. PIPES AND CONDUITS PLACED IN SLABS SHALL NOT HAVE AN OUTSIDE DIAMETER LARGER THAN 1/3 OF SLAB THICKNESS. ALUMINUM CONDUITS SHALL NOT BE PLACED IN CONCRETE.
 13. REINFORCING BARS SHALL NOT BE WELDED.
 14. VERIFY DIMENSIONS AND LOCATIONS OF ALL OPENINGS, PIPE SLEEVE CURBS, ETC., AS REQUIRED BY OTHER TRADES BEFORE CONCRETE IS PLACED.
 15. AGGREGATE FOR CONCRETE SHALL NOT CONTAIN LIGNITE, STEEL, OR OTHER MATERIALS THAT MAY BE DETRIMENTAL TO THE CONCRETE. ALKALI-SILICA REACTIVE (ASR) AGGREGATES ARE NOT ALLOWED.
 16. MAXIMUM TOLERANCE FOR SLAB EDGES IS 1/2" +/- EXCEPT WHERE TIGHTER TOLERANCE IS REQUIRED FOR ARCHITECTURAL REASONS.
 17. CONCRETE SHALL BE PLACED AND CURED IN ACCORDANCE WITH THE SPECIFICATIONS, WHEN THE AIR TEMPERATURE IS OVER 85 DEGREES FOLLOW THE RECOMMENDATIONS OF ACI 308R. WHEN THE AIR TEMPERATURE IS BELOW 40 DEGREES FOLLOW THE RECOMMENDATIONS OF ACI 308R.
- F. **POST-INSTALLED ANCHORS IN CONCRETE:**
 1. POST-INSTALLED ANCHORS (ADHESIVE) SHALL ONLY BE USED WHERE SPECIFIED ON THE CONSTRUCTION DOCUMENTS. THE CONTRACTOR SHALL OBTAIN APPROVAL FROM THE ENGINEER-OF-RECORD PRIOR TO INSTALLING POST-INSTALLED ANCHORS IN PLACE OF MISSING OR MISPLACED CAST-IN-PLACE ANCHORS OR DOWELS. POST-INSTALLED ANCHORS SHALL BE BUILDING CODE COMPLIANT, INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS AND INSPECTED PER THE APPLICABLE ICC-ES OR IAPMO UES EVALUATION REPORT. SEE SPECIFICATIONS SECTION 033000 FOR ADDITIONAL INFORMATION.



project

CHI St. Vincent
Little Rock Infirm
Imaging Suite R

Design Phase

CONSTRUCTION DOCUMENTS

evisions

No.	Date	Description
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notes

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Sheet Title

FOUNDATION, SLAB PLAN, AND DETAIL

Sheet Number

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