ABBREVIATIONS
(NOT ALL USED)

#XX	NUMBER
A.F.F.	ABOVE FINISHED FLOOR
ADD'L	ADDITIONAL
ADJ	ADJACENT
ARCH.	ARCHITECTURAL
B.F.F.	BELOW FINISHED FLOOR
BLDG.	BUILDING
BOT	BOTTOM
BTWN	BETWEEN
CFS	COLD FORM STEEL
CJ	CONTROL/ CONSTRUCTION/ CONTRACTION JOINT
CL	CENTER LINE
CLR.	CLEAR
COL.	COLUMN
CONC.	CONCRETE
CONN.	CONNECTION
CONT.	CONTINUOUS
DBA	DEFORMED BAR ANCHOR
DIA	DIAMETER
DTL	DETAIL
E.F.	EACH FACE
EA.	EACH
ELEV.	ELEVATION
EW	EACH WAY
FF	FINISHED FLOOR
FLR	FLOOR
FS	FAR SIDE
FTG	FOOTING
G.C.	GENERAL CONTRACTOR
GA.	GAUGE
GALV.	GALVANIZED
HORIZ.	HORIZONTAL
JT.	JOINT
K or k	KIP (1,000 LBS)
KCJ	KEYED CONTROL JOINT
KSI	KIPS PER SQUARE INCH
L	ANGLE
LBS	POUNDS
LF	LINEAL FOOT
MANUF.	MANUFACTURER
MATL.	MATERIAL
MAX.	MAXIMUM
MBS	METAL BUILDING SYSTEM
MECH.	MECHANICAL
MIN.	MINIMUM
MISC	MISCELLANEOUS
N.T.S.	NOT TO SCALE
NS	NEAR SIDE
Ø	DIAMETER
O.C.	ON CENTER
OPP	OPPOSITE
PL	PLATE
PLBG	PLUMBING
PSF	POUNDS PER SQ FOOT
PSI	POUNDS PER SQ INCH
REINF.	REINFORCEMENT
REQ'D.	REQUIRED
SECT.	SECTION
SHT.	SHEET
SIM.	SIMILAR
SJ	SAWN JOINT
SPA.	SPACE
STD.	STANDARD
T&B	TOP AND BOTTOM
T.O.F.	TOP OF FOOTING
T.O.S.	TOP OF STEEL or TOP OF SLAB
THRU	THROUGH
TYP.	TYPICAL
U.N.O.	UNLESS NOTED OTHERWISE
VERT. OR V	VERTICAL
W.W.R.	WELDED WIRE REINF.
w/	WITH
WP	WORK POINT
X/S-YYY	SECTION/DETAIL "X" ON SHEET "S-YYY"

STRUCTURAL DESIGN CRITERIA

BUILDING CODE: 2021 ARKANSAS FIRE PREVENTION CODE (BASED ON 2021 IBC)

RISK CATEGORY (2021 IBC TABLE 1604.5): II

GRAVITY LOADS (REFERENCE: 2021 IBC & ASCE 7-16):

DEAD LOADS:	UNIFORM	
ROOF:	20 PSF	
FLOOR LIVE LOADS:	**UNIFORM**	**CONCENTRATED**
OFFICES	50 PSF	2000 LBS
STAIRS AND EXITWAYS	100 PSF	300 LBS
MECHANICAL ROOMS	150 PSF	
(FLOOR LIVE LOADS ARE REDUCED IN ACCORDANCE WITH IBC SECTION 1607.10)		
ROOF LIVE LOADS:	20 PSF (NON-REDUCIBLE)	
RAIN LOADS:		
15 MINUTE DURATION / 100 YR RETURN PERIOD	i15 = 6.74 IN./H	
60 MINUTE DURATION / 100 YR RETURN PERIOD	i60 = 3.60 IN./H	
SNOW LOADS:		
GROUND SNOW LOAD	Pg = 10 PSF	
FLAT ROOF SNOW LOAD	Pf = 8.4 PSF	
SLOPED ROOF SNOW LOAD	Ps = 8.4 PSF	
SNOW LOAD IMPORTANCE FACTOR	Is = 1.00	
SNOW EXPOSURE FACTOR	Ce = 1.2	
THERMAL FACTOR	Ct = 1.0	

LATERAL LOADS (REFERENCE: 2021 IBC & ASCE 7-16):

WIND:	
ULTIMATE WIND SPEED	Vult = 104 MPH
NOMINAL WIND SPEED	Vasd = 81 MPH
TERRAIN EXPOSURE	C
INTERNAL PRESSURE COEFFICIENTS	+/- 0.18
COMPONENTS & CLADDING WIND LOAD	SEE SHEET S-001
SEISMIC:	
SEISMIC IMPORTANCE FACTOR	Ie = 1.0
MAPPED SPECTRAL RESPONSE ACCELERATIONS	Ss = 0.188 S1 = 0.098
SITE CLASS	D
DESIGN SPECTRAL RESPONSE ACCELERATIONS	SDS = 0.200 SD1 = 0.157
SEISMIC DESIGN CATEGORY	C
SEISMIC FORCE RESISTING SYSTEM	LIGHT FRAME (CFS) WALLS SHEATHED WITH WOOD STRUCTURAL PANELS RATED FOR SHEAR RESISTANCE
DESIGN BASE SHEAR	V = 0.031W
SEISMIC RESPONSE COEFFICIENT	Cs = 0.031
RESPONSE MODIFICATION COEFFICIENT	R = 6.5
ANALYSIS PROCEDURE	EQUIVALENT LATERAL FORCE

SYSTEMS AND COMPONENTS REQUIRING SPECIAL INSPECTION: SEE SPECIFICATION SECTION 014533

STRUCTURAL DESIGN APPROACH:

THIS STRUCTURE CONSISTS OF COLD-FORMED METAL TRUSSES BEARING ON EXTERIOR LOAD-BEARING COLD-FORMED STEEL STUD WALLS. LATERAL STABILITY IS PROVIDED BY SHEAR WALLS IN EACH DIRECTION. THE LOAD-BEARING WALLS ARE SUPPORTED ON SHALLOW CONTINUOUS FOOTINGS.

STRUCTURAL GENERAL NOTES

A. CONTRACTOR DELEGATED DESIGN COMPONENTS:
1. THE FOLLOWING ITEMS ARE NOTED AS A DELEGATED DESIGN COMPONENT AND SHALL BE DESIGNED BY THE CONTRACTOR. THE CONTRACTOR SHALL EMPLOY A SPECIALTY STRUCTURAL ENGINEER LICENSED IN THE STATE OF ARKANSAS TO DESIGN THE FOLLOWING ITEMS:
   a. SHORING AND TEMPORARY STRUCTURES
   b. COLD-FORMED STEEL FRAMING
   c. COLD-FORMED STEEL TRUSSES
2. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS AND CALCULATIONS FOR EACH DELEGATED DESIGN COMPONENT. ALL STRUCTURAL DRAWINGS AND CALCULATIONS SHALL BE SIGNED AND SEALED BY THE SPECIALTY STRUCTURAL ENGINEER. THE DRAWINGS SHALL BE REVIEWED AND STAMPED BY THE GENERAL CONTRACTOR AND THE DESIGN ENGINEER PRIOR TO SUBMITTAL. INCOMPLETE SHOP DRAWINGS AND SHOP DRAWINGS THAT HAVE NOT BEEN REVIEWED BY THE CONTRACTOR AND THE SPECIALTY STRUCTURAL ENGINEER WILL BE RETURNED WITHOUT REVIEW BY THE ARCHITECT/ENGINEER.
3. THE CONTRACTOR SHALL COORDINATE THE LOCATIONS OF ALL DELEGATED DESIGN COMPONENTS AND THEIR ACCESSORIES WITH OTHER TRADES TO AVOID CONFLICTS, e.g., JOIST BRIDGING AND FIRE SUPPRESSION SYSTEMS.

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.

STRUCTURAL GENERAL NOTES cont'd

5. THE CONTRACTOR IS RESPONSIBLE FOR THE COST OF REPAIR, REINSPECTION 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. STABILITY DURING CONSTRUCTION, SHORING, & TEMPORARY STRUCTURES:
1. PERMANENT STABILITY OF THE BUILDING AND COMPONENTS IS NOT PROVIDED UNTIL ALL THE STRUCTURAL ELEMENTS ARE INSTALLED AS SHOWN ON THE CONTRACT DRAWINGS.
2. PROVIDE STABILITY TO ALL NON-SELF-SUPPORTING ELEMENTS UNTIL PERMANENT STRUCTURAL SUPPORTS ARE INSTALLED. PROVIDE BRACING, SHORING, AND/OR TEMPORARY STRUCTURES AS REQUIRED IN ORDER TO SATISFY THE CONTRACT REQUIREMENTS. TEMPORARY STRUCTURES SHALL BE DESIGNED AND BUILT BY THE CONTRACTOR. THE DESIGN SHALL BE DONE BY A REGISTERED PROFESSIONAL ENGINEER.
3. PROVIDE ALL BRACING NECESSARY TO STABILIZE THE BUILDING DURING THE ERECTION PROCESS. BRACING SHALL BE DESIGNED AND INSTALLED SUCH THAT IT DOES NOT TWIST OR DISTORT MEMBERS. BRACING SHALL BE DESIGNED FOR LOADS AS REQUIRED BY APPLICABLE CODES. THE DESIGN OF THE BRACING SHALL TAKE INTO ACCOUNT FORCES DUE TO THERMAL EXPANSION AND CONTRACTION OF THE BUILDING FRAME AND BRACES.
4. ANCHOR RODS FOR STEEL COLUMNS ARE NOT DESIGNED TO STABILIZE STRUCTURE BY PROVIDING FIXITY OF THE COLUMN BASE. PROVIDE TEMPORARY BRACING FOR STABILITY DURING THE ERECTION PHASE UNTIL ALL LATERAL LOAD RESISTING ELEMENTS ARE IN PLACE AND WELDING AND/OR BOLTING INSPECTIONS ARE COMPLETE.
5. COMPLY WITH ALL APPLICABLE OSHA SAFETY AND HEALTH REGULATIONS FOR CONSTRUCTION.

D. RENOVATIONS AND ADDITIONS TO EXISTING BUILDINGS:
1. FIELD VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS. NOTIFY ARCHITECT/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. 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.
4. 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.
5. DO NOT OVER CUT OPENINGS IN EXISTING CONCRETE WALLS. SAW TO EDGE OF OPENING WITH A CIRCULAR CONCRETE SAW & REMOVE PORTION LEFT WITH CHAIN SAW TYPE CONCRETE SAW OR SIMILAR.

E. GENERAL REQUIREMENTS:
1. 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.
2. WORK NOT INDICATED ON A PART OF THE DRAWING BUT REASONABLY IMPLIED TO BE SIMILAR TO THAT SHOWN AT CORRESPONDING PLACES SHALL BE REPEATED.
3. DETAILS DESIGNATED AS "TYPICAL" APPLY TO ALL AREAS WHERE THE CONDITIONS ARE SIMILAR TO THOSE DESCRIBED IN THE DETAIL.
4. THE PLANS AND DETAILS IN THE CONTRACT DRAWINGS SHALL NOT BE REVISED WITHOUT PRIOR APPROVAL BY THE ARCHITECT/ENGINEER.
5. ALL DIMENSIONS SHALL TAKE PRECEDENCE OVER SCALE SHOWN ON PLANS, SECTIONS AND DETAILS.
6. PRINCIPAL OPENINGS THROUGH THE FRAMING ARE SHOWN ON THESE DRAWINGS. EXAMINE THE DRAWINGS FOR REQUIRED OPENINGS AND PROVIDE FOR ALL OPENINGS WHETHER SHOWN ON THE STRUCTURAL DRAWINGS OR NOT. VERIFY SIZE AND LOCATION OF ALL OPENINGS WITH ALL SUB-CONTRACTORS. PIPE SLEEVES THROUGH THE DECK WILL NOT REQUIRE ADDITIONAL FRAMING UNLESS THE DIAMETER EXCEEDS 10".
7. SPLICING OF STRUCTURAL MEMBERS WHERE NOT DETAILED IS PROHIBITED WITHOUT PRIOR APPROVAL OF ARCHITECT/ENGINEER. IF APPROVED, ADDITIONAL TESTING AND INSPECTION SHALL BE AS SPECIFIED BY THE ARCHITECT/ENGINEER AND PAID FOR BY THE CONTRACTOR.
8. NO CHANGE IN SIZE OR POSITION OF THE STRUCTURAL ELEMENTS SHALL BE MADE: HOLES, SLOTS, CUTS, ETC., ARE NOT PERMITTED THROUGH ANY MEMBER UNLESS THEY ARE DETAILED ON THE APPROVED SHOP DRAWINGS.
9. ENSURE THAT ALL CONSTRUCTION LOADS DO NOT EXCEED THE DESIGN LIVE LOADS INDICATED ON THE STRUCTURAL DRAWINGS AND THAT THESE LOADS ARE NOT PUT ON THE STRUCTURAL MEMBERS PRIOR TO THE TIME THAT THE CONCRETE REACHES THE FULL DESIGN STRENGTH AND ALL FRAMING MEMBERS AND THEIR CONNECTIONS ARE IN PLACE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THE ADEQUACY OF SLABS ON GRADE FOR SUPPORTING ALL CONSTRUCTION EQUIPMENT, INCLUDING AREAL LIFTS.

F. 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
      1. INDICATE ALL REINFORCING STEEL IN FOUNDATIONS, SLABS ON GRADE
      2. INDICATE ALL HORIZONTAL, VERTICAL, AND TIE REINFORCING
      3. INDICATE TYPE AND LOCATION OF ALL REINFORCING STEEL SPLICES
   b. METAL DECKING
   c. COLD-FORMED STEEL FRAMING
   d. COLD-FORMED STEEL TRUSSES
   e. STRUCTURAL STEEL
2. SUBMIT OTHER SHOP DRAWINGS FOR REVIEW BY ARCHITECT/ENGINEER AS REQUIRED BY PROJECT SPECIFICATIONS.
3. DETAILS FOR SOME SPECIAL CONDITIONS WILL NEED TO BE DEVELOPED BY THE DETAILER DURING THE DETAILING PROCESS. FINAL REVIEW OF THE DETAILS WILL BE AT THE DISCRETION OF THE ENGINEER OF RECORD. NO ADDITIONAL CHARGES FOR MAKING CORRECTIONS, CHANGES, OR ADDITIONS TO THE SHOP DRAWINGS ("RE-DETAILING COST") WILL BE ALLOWED. CONTRACTOR SHALL MAKE PROVISIONS FOR DETAILING CORRECTIONS AND MISCELLANEOUS MATERIAL IN THE BID PRICE. ADJUSTMENTS TO THE CONTRACT WILL ONLY BE MADE FOR CHANGE ORDERS APPROVED PRIOR TO THE COMMENCEMENT OF ANY ACTION ON THE CHANGES.
4. ALL SHOP DRAWINGS SHALL BE REVIEWED AND STAMPED BY 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.
5. VERIFY AND COORDINATE ALL DIMENSIONS AND ELEVATIONS SHOWN ON STRUCTURAL DRAWINGS WITH ARCHITECTURAL DRAWINGS. IN CASE OF CONFLICTS, THE ARCHITECT/ENGINEER IS TO BE NOTIFIED AND WILL PROVIDE THE CORRECT ELEVATIONS AND DIMENSIONS FOR WHICH SHALL BE INCORPORATED INTO THE SHOP DRAWINGS AT NO EXTRA COST.

G. EARTHWORK:
1. FOUNDATION DESIGN IS BASED ON SOIL INVESTIGATION AND REPORT BY GRUBBS, HOSKYN, BARTON, AND WYATT, dba UES (JOB NO.: A24184.00321).
2. FOUNDATION DESIGN IS BASED ON THE FOLLOWING MINIMUM NET ALLOWABLE BEARING PRESSURE:
   a. CONTINUOUS FOOTINGS: 1.25 KSF
   b. INDIVIDUAL PAD FOOTINGS: 1.50 KSF

   ALL FOUNDATION BEARING CONDITIONS SHALL BE VERIFIED AND APPROVED BY THE GEOTECHNICAL ENGINEER PRIOR TO CONSTRUCTION.
4. BOTTOM OF FOUNDATION ELEVATIONS ARE GIVEN FOR BIDDING PURPOSES ONLY. ALL FOUNDATIONS SHALL BE FOUNDED A MINIMUM OF 1.5 FEET BELOW EXISTING GRADE IN THE COMPACT MEDIUM DENSE RED, REDDISH BROWN, GRAY, AND TAN CLAYEY FINE SAND OR STIFF FINE SANDY CLAY FILL. OR COMPACTED FILL.
5. THE SITE SHALL BE STRIPPED A MINIMUM OF 0'-6", PROOF ROLLED, COMPACTED FILL PLACED, AND EXCAVATED AS REQUIRED FOR FOUNDATION. SEE SPECIFICATION DIVISION 31 FOR EARTHWORK REQUIREMENTS.
6. REMOVE 2 FEET OF EXISTING SUB GRADE MATERIAL UNDER THE BUILDING (EXTENDING 5 FEET BEYOND THE BUILDING PERIMETER) AND BACKFILL AS PER SPECIFICATION DIVISION 31, EARTHWORK, USING SPECIFIED BORROW MATERIAL.
7. TAKE ADEQUATE MEASURES TO ALLOW FOR WORKING SURFACE DURING CONSTRUCTION OF FOUNDATIONS AND SLAB-ON-GRADE, SUCH AS GRAVEL BED OF ADEQUATE DEPTH, ETC.
8. 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.
9. WATER ACCUMULATION IS ANTICIPATED IN FOOTING EXCAVATIONS; PROVIDE DRAINAGE OF EXCAVATIONS FROM SURFACE WATER AND SEEPAGE. EXCAVATIONS SHALL BE DRAINED OR PUMPED DRY BEFORE POURING CONCRETE.
10. PROTECT ALL UTILITY LINES, ETC. ENCOUNTERED DURING EXCAVATION AND BACKFILLING.
11. NO BACKFILLING SHALL BE DONE AGAINST FOUNDATION WALLS AND GRADE BEAMS UNTIL CONCRETE HAS ATTAINED ITS FULL DESIGN STRENGTH. //BEFORE BACKFILLING, PROVIDE BRACING FOR WALLS OR GRADE BEAMS SUSTAINING MORE THAN 3'-0" OF EARTH PRESSURE. THIS BRACING SHALL REMAIN IN PLACE UNTIL SLAB ON GRADE AND/OR FLOOR SLAB HAVE BEEN PLACED AND CURED.
12. IN NO CASE SHALL BULLDOZERS OR OTHER HEAVY EQUIPMENT BE PERMITTED CLOSER THAN 8'-0" FROM ANY FOUNDATION WALL.
13. BACKFILL AROUND PIPES, PITS, CONDUITS, ETC. UNDER FLOOR SLABS ON DONNA FILL WITH PEA GRAVEL AND WELL GRADED SAND. PROVIDE A MINIMUM OF 12" COVERAGE ALL SIDES.

H. 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 THE FOLLOWING MINIMUM 28 DAY COMPRESSIVE STRENGTHS (f'c):

COMPONENT	COMPRESSIVE STRENGTH
FOOTINGS	3500 PSI
INTERIOR SLABS ON GRADE	3500 PSI

   SEE SPECIFICATION SECTION 033000 FOR ADDITIONAL MIX DESIGN REQUIREMENTS.
3. ALL DEFORMED REINFORCING STEEL SHALL BE A615 GRADE 60 STEEL, U.N.O.
4. ALL WELDED WIRE REINFORCING STEEL SHALL BE A1064. ALL WELDED WIRE REINFORCEMENT SHALL BE PROVIDED IN SHEETS.
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"
   CONCRETE EXPOSED TO EARTH OR WEATHER:
      #5 BARS AND SMALLER: 1½"
      #6 BARS AND LARGER: 2"
   SLABS: 1"
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 SPLICE ALL CONCRETE REINFORCING STEEL:
      BARS #6 AND SMALLER: 48 BAR DIAMETERS
      BARS #7 AND LARGER: 60 BAR DIAMETERS
      WELDED WIRE REINFORCING: ONE MESH PLUS 2"
   b. ONLY APPROVED MECHANICAL SPLICE SYSTEMS SHALL BE USED TO PROVIDE TENSION SPLICES. MECHANICAL SPLICES SHALL DEVELOP 125% OF THE YIELD STRENGTH OF THE BAR.
9. ALL CONCRETE REINFORCING SHALL BE SPLICED WHERE DETAILED ON THE DRAWINGS. UNLESS NOTED OTHERWISE:
   a. STAGGER ALL TENSION LAP SPLICE LOCATIONS.
10. TERMINATE CONTINUOUS BARS AT NON-CONTINUOUS END WITH STANDARD HOOKS.
11. PROVIDE CORNER BARS IN ALL CONCRETE MEMBERS AT INTERSECTIONS. MATCH SIZE AND SPACING OF HORIZONTAL BARS IN THOSE MEMBERS.
12. 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.
13. PROVIDE SUPPORT FOR ALL CONCRETE REINFORCING (INCLUDING SLABS ON GRADE) AS REQUIRED TO MAINTAIN CLEAR COVER DIMENSIONS. SPACING SHALL NOT EXCEED 3'-0".
14. SUBMIT DRAWINGS SHOWING INTENDED POURING SEQUENCE AND LOCATION OF CONSTRUCTION JOINTS TO THE ARCHITECT/ENGINEER FOR APPROVAL.
15. 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.
16. PIPES OR CONDUITS PLACED IN FOUNDATIONS AND SLABS SHALL NOT BE SPACED CLOSER THAN 3 DIAMETERS ON CENTERS. PIPES AND CONDUITS PLACED IN SLAB SHALL NOT HAVE AN OUTSIDE DIAMETER LARGER THAN 1/3 OF SLAB THICKNESS. ALUMINUM CONDUITS SHALL NOT BE PLACED IN CONCRETE. NO CONDUIT SHALL BE PLACED WITHIN 24" OF COLUMN FACE.
17. LOCATION OF SLOTTED INSERTS, WELD PLATES AND ALL OTHER ITEMS TO BE EMBEDDED IN CONCRETE SHALL BE COORDINATED WITH ARCHITECTURAL AND MECHANICAL DRAWINGS.
18. REINFORCING BARS SHALL NOT BE WELDED.
19. VERIFY DIMENSIONS AND LOCATIONS OF ALL OPENINGS, PIPE SLEEVE CURBS, ETC., AS REQUIRED BY OTHER TRADES BEFORE CONCRETE IS PLACED.
20. 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.
21. MAXIMUM TOLERANCE FOR SLAB EDGES IS 1/2" +/- EXCEPT WHERE TIGHTER TOLERANCE IS REQUIRED FOR ARCHITECTURAL REASONS.
22. CONCRETE SHALL BE PLACED AND CURED IN ACCORDANCE WITH THE SPECIFICATIONS. WHEN THE AIR TEMPERATURE IS OVER 85 DEGREES FOLLOW THE RECOMMENDATIONS OF ACI 305R. WHEN THE AIR TEMPERATURE IS BELOW 40 DEGREES FOLLOW THE RECOMMENDATIONS OF ACI 306R.

I. STRUCTURAL STEEL:
1. THE DESIGN OF STRUCTURAL STEEL IS BASED ON AISC 360-16, SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS.
2. ALL STEEL MEMBERS SHALL CONFORM TO:

SECTION	ASTM STANDARD	YIELD STRENGTH
ANGLES, PLATES, AND BARS	A572	50 KSI
RECTANGULAR AND SQUARE HSS	A500 GRADE C	50 KSI

3. ALL BOLTED CONNECTIONS FOR STRUCTURAL STEEL TO STEEL SHALL BE ASTM F3125, GRADE F1852 "TWIST-OFF" STYLE TENSION CONTROL BOLT ASSEMBLIES (SHOP AND FIELD), UNLESS NOTED OTHERWISE. "H.S. BOLTS" DESIGNATES F1852 BOLT ASSEMBLIES.
4. ALL WELDING ELECTRODES FOR STRUCTURAL AND MISCELLANEOUS STEEL SHALL CONFORM TO AWS A5.1 GRADE E-70 BARE ELECTRODES.
5. COLUMN ANCHOR RODS SHALL CONFORM TO ASTM F1554 GRADE 36. ANCHOR RODS SHALL HAVE A PLATE WASHER PER AISC TABLE 14-2 AND ONE HEAVY HEX NUT AT THE TOP AND ONE HEAVY HEX NUT AT THE BOTTOM TACK WELDED TO THE ROD, UNLESS NOTED OTHERWISE.

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Project
AERO JET ROCKETDYNE
BUILDING A14
TOILET RENOVATION & BREAKROOM ADDITION
EAST CAMDEN, ARKANSAS

Design Phase
CONSTRUCTION DOCUMENTS

Revisions

No.	Date	Description

Stamp
CERTIFICATE OF AUTHORIZATION
CROMWELL ARCHITECTS/ ENGINEERS #5
ARKANSAS ENGINEER

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 23092
BRITTANI MITCHELL
11-13-2024

Notes
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STRUCTURAL DESIGN CRITERIA AND GENERAL NOTES
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