GENERAL NOTES:

1. THE STRUCTURAL DRAWINGS MUST BE USED IN CONJUNCTION WITH THE ARCHITECTURAL, CIVIL, MECHANICAL, PLUMBING, AND ELECTRICAL DRAWINGS, AND THE SPECIFICATIONS. THE CONTRACTOR MUST VERIFY THE REQUIREMENTS OF OTHER TRADES AS TO SLEEVES, CHASES, HANGERS, INSERTS, ANCHORS, HOLES, AND ADDITIONAL ITEMS TO BE PLACED OR SET IN THE STRUCTURAL WORK.

2. THIS STRUCTURE HAS BEEN DESIGNED IN ACCORDANCE WITH THE PROVISIONS OF THE NORTH CAROLINA STATE BUILDING CODE, 2018 EDITION.

3. THE WORK OUTLINED IN THE BUILDING CODE IS SUBJECT TO SPECIAL INSPECTIONS AS DESCRIBED IN THE TECHNICAL SPECIFICATIONS AND BUILDING CODE.

4. THE CONTRACTOR MUST PROVIDE TEMPORARY SHORING AND BRACING REQUIRED TO ERECT AND HOLD THE STRUCTURE IN PROPER ALIGNMENT UNTIL PERMANENT SUPPORTS AND LATERAL BRACING ARE IN PLACE.

5. THE CONTRACTOR MUST FIELD VERIFY THE DIMENSIONS, ELEVATIONS, AND OTHER REQUIREMENTS NECESSARY FOR THE PROPER CONSTRUCTION AND ALIGNMENT OF THE NEW PORTIONS OF THE STRUCTURE TO THE EXISTING. ANY DIMENSIONS SHOWN OF EXISTING STRUCTURES MUST BE CONSIDERED AS APPROXIMATE AND ADEQUATE FOR BIDDING PURPOSES ONLY. THE CONTRACTOR MUST MAKE ALL MEASUREMENTS NECESSARY FOR THE FABRICATION AND ERECTION OF STRUCTURAL MEMBERS. DISCREPANCIES MUST BE BROUGHT TO THE ATTENTION OF THE ARCHITECT AND ENGINEER.

6. DISCREPANCIES BETWEEN DRAWINGS, BETWEEN THE DRAWINGS AND THE SPECIFICATIONS, OR WITHIN THE SPECIFICATIONS, MUST BE BROUGHT TO THE ATTENTION OF THE ARCHITECT AND ENGINEER DURING THE BIDDING PROCESS IN TIME TO PERMIT CLARIFICATION BY ADDENDUM. IF INCONSISTENCIES, DISCREPANCIES OR CONTRADICTIONS IN THE CONTRACT DOCUMENTS ARE DISCOVERED AFTER THE CLOSE OF BIDDING QUESTIONS, THE CONTRACTOR MUST BE DEEMED BY SUBMITTAL OF THEIR BID, TO HAVE BID THE MOST COSTLY AS TO LABOR, MATERIALS, DURATION, SEQUENCE AND METHOD OF CONSTRUCTION TO PROVIDE THE WORK.

7. THESE STRUCTURAL DRAWINGS ARE ISSUED ON THE DATE INDICATED FOR THE PURPOSE DESIGNATED. THESE DRAWINGS MUST NOT BE ISSUED OR RELEASED FOR ANY OTHER PURPOSE WITHOUT THE WRITTEN AUTHORIZATION OFTHE STRUCTURAL ENGINEER OF RECORD.

8. DESIGN CRITERIA:

CLASSIFICATION OF BUILDING
- RISK CATEGORY . . . III

SUPER IMPOSED ROOF DEAD LOADS - UNIFORM:
- STANDING SEAM ROOF FINISH . . . 2 PSF
- 5" FIBERBOARD INSULATION . . . 4 PSF
- ROOF MEMBRANE . . . 1 1/2 PSF
- METAL DECK . . . 3 PSF
- ACOUSTICAL TILE CEILING & SUPPORTS . . . 3 PSF
- SPRINKLERS . . . 3 PSF
- DUCTS, LIGHTS, MISC. MECHANICAL . . . 3 PSF

SUPER IMPOSED FLOOR DEAD LOADS - UNIFORM:
- FLOOR FINISH . . . 2 PSF
- ACOUSTICAL TILE CEILING & SUPPORTS . . . 3 PSF
- SPRINKLERS . . . 3 PSF
- DUCTS, LIGHTS, MISC. MECHANICAL . . . 3 PSF
- COLLATERAL . . . 2 PSF
- METAL DECK . . . 3 PSF

LIVE LOADS - UNIFORM:
- SLAB ON GRADE . . . 100 PSF
- OFFICE . . . 80 PSF
- ROOF . . . 20 PSF
- CLASSROOMS . . . 40 PSF
- OFFICES . . . 50 PSF
- PARTITION ALLOWANCE . . . 15 PSF
- LIGHT STORAGE . . . 125 PSF
- MECHANICAL ROOM . . . 150 PSF
- MECHANICAL MEZZANINE . . . 150 PSF
- ELEVATOR MACHINE ROOM . . . 150 PSF
- CORRIDORS (FIRST FLOOR) . . . 100 PSF
- CORRIDORS (SERVING PUBLIC SPACES) . . . 100 PSF
- CORRIDORS (ABOVE FIRST FLOOR) . . . 80 PSF
- STAIRWAYS . . . 100 PSF

LIVE LOAD REDUCTION OF THE UNIFORMLY DISTRIBUTED FLOOR LIVE LOADS HAS BEEN UTILIZED.

LIVE LOADS - CONCENTRATED:
- FLOORS . . . 1,000#
- ROOFS . . . 300#
- GRATINGS . . . 300#

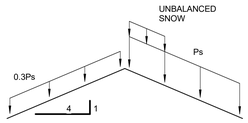
UNLESS OTHERWISE NOTED, CONCENTRATED LOADS ARE APPLIED UNIFORMLY OVER 2'-6" x 2'-6" AREA.

SPECIAL LOADS:
- MAXIMUM CONSTRUCTION LOADS ON STEEL DECK . . . 20 PSF

RAIN LOADS:
- 15 MINUTE RAIN INTENSITY . . . 7.3 IN/HR
- 60 MINUTE RAIN INTENSITY . . . 4 IN/HR

WHERE ROOFS DO NOT SHED WATER BY MEANS OF GABLE ROOFS TO THE PERIMETER OF THE BUILDING ROOFS MUST PROVIDE PRIMARY AND SECONDARY DRAINAGE TO PROVIDE ADEQUATE DRAINAGE THATWILL NOT CAUSE PONDING ON THE ROOF STRUCTURE. ROOF IS ONLY DESIGNED FOR RESPECTIVE DEAD AND LIVE LOADS. RAIN LOADS ARE TO BE DRAINED WITH PROPER DRAINAGE FOR THE ABOVE RAIN INTENSITIES.

SNOW LOADS:
- GROUND SNOW LOAD (Pg) . . . 15 PSF
- IMPORTANCE FACTOR (Is) . . . 1.1
- THERMAL FACTOR (Ct) . . . 1.1
- EXPOSURE FACTOR (Ce) . . . 1.0
- FLAT ROOF LOAD (Pf) . . . 12.7 PSF
- ROOF SLOPE FACTOR (Cs) . . . 0.9
- SLOPED SLOPED ROOF LOAD (Ps) . . . 11.4 PSF
- MINIMUM SNOW LOAD (Pm) . . . 16.5 PSF
- UNBALANCED SNOW LOAD . . . 28 PSF
- UNBALANCED SNOW WIDTH . . . 6 FT
- DRIFT SURCHARGE (Pd) . . . REF TABL



UNBALANCED SNOW AT GABLE ROOF DIAGRAM

SNOW DRIFT SCHEDULE

Pd / # / W / 0 PSF	DRIFT VALUES	
	W	Pd
①	5 FT	19 PSF
②	11 FT	43 PSF
③	4 FT	16 PSF
④	6 FT	24 PSF

NOTE: SNOW DRIFT LOADS ARE IN ADDITION TO FLAT ROOF LOADS.

GENERAL NOTES: (CONT'D)

SEISMIC LOADS:
- SITE CLASSIFICATION . . . D
- SEISMIC DESIGN CATEGORY . . . B
- IMPORTANCE FACTOR (IE) . . . 1.25
- SPECTRAL RESPONSE ACCELERATIONS:
  - S_S . . . 0.116 S_1 . . . 0.059
  - S_{MS} . . . 0.186 S_{M1} . . . 0.141
  - S_{DS} . . . 0.124 S_{D1} . . . 0.094
- ANALYSIS PROCEDURE . . . EQUIVALENT LATERAL FORCE
- LATERAL FORCE RESISTING SYSTEM . . . INTERMEDIATE REINFORCED MASONRY SHEAR WALLS
- RESPONSE MODIFICATION COEFFICIENT (R) . . . 3.5
- SEISMIC RESPONSE COEFFICIENT (Cs) . . . 0.065
- ULTIMATE SEISMIC BASE SHEAR (V) . . . 130 KIPS

LATERAL DESIGN CONTROL
- CONTROLLING LATERAL LOADS . . . SEISMIC

WIND LOADS:
- BASIC WIND SPEED (V) . . . 122 MPH
- NOMINAL DESIGN (VASD) WIND SPEED . . . 94 MPH
- EXPOSURE CATEGORY . . . B
- INTERNAL PRESSURE COEFFICIENT . . . ±0.18
- COMPONENT AND CLADDING PRESSURES:
  - WALLS, ZONE 5 (10 SF) . . . 38 PSF
  - ROOF, ZONE 3 (10 SF) . . . 64 PSF
- ULTIMATE WIND BASE SHEARS (FOR MWFRS):
  - Vx . . . 127 KIPS
  - Vy . . . 85 KIPS

FOUNDATION NOTES:

1. FOUNDATIONS HAVE BEEN DESIGNED IN ACCORDANCE WITH THE RECOMMENDATIONS IN THE SUBSURFACE EXPLORATION AND GEOTECHNICAL ENGINEERING REPORT PREPARED BY BUILDING AND EARTH GEOTECHNICAL ENGINEERS, DATED DECEMBER 11, 2023.

2. FOUNDATIONS HAVE BEEN DESIGNED FOR A NET ALLOWABLE SOIL BEARING PRESSURE OF 3,000 PSF.

3. PRIOR TO PLACING FOUNDATION CONCRETE, ALL FOUNDATION EXCAVATIONS MUST BE INSPECTED BY THE OWNER'S GEOTECHNICAL TESTING AGENCY SPECIAL INSPECTOR TO EXPLORE THE EXTENT OF LOOSE, SOFT, EXPANSIVE, OR OTHERWISE UNSATISFACTORY SOIL MATERIAL AND TO VERIFY DESIGN BEARING PRESSURE. DIRECTION FOR CORRECTIVE ACTION WILL BE PROVIDED BY THE OWNER'S GEOTECHNICAL TESTING AGENCY SPECIAL INSPECTOR WHERE UNSATISFACTORY SOILS ARE PRESENT.

4. NO UNBALANCED BACKFILLING MUST BE DONE AGAINST MASONRY OR CONCRETE WALLS UNLESS WALLS ARE SECURELY BRACED AGAINST OVERTURNING, EITHER BY TEMPORARY CONSTRUCTION BRACING OR BY PERMANENT CONSTRUCTION UNLESS OTHER WISE INDICATED. 1

5. CONTROL GROUNDWATER AND SURFACE RUNOFF THROUGHOUT THE CONSTRUCTION PROCESS. INUNDATION AND LONG TERM EXPOSURE OF BEARING SURFACES WHICH RESULT IN DETERIORATION OF BEARING MUST BE PREVENTED.

6. BACKFILL AT RETAINING WALLS AND BASEMENT WALLS SHALL CONSIST OF CLEAN GRAVEL OR GRAVEL-SAND MIXTURE. FOLLOW ALL GEOTECHNICAL RECOMMENDATIONS FOR BACKFILL 1

CAST-IN-PLACE CONCRETE NOTES:

1. CONCRETE MUST BE IN ACCORDANCE WITH AMERICAN CONCRETE INSTITUTE (ACI) 301 AND 318.

2. CONCRETE MUST BE NORMAL WEIGHT AND MUST OBTAIN 28 DAY COMPRESSIVE STRENGTHS AS FOLLOWS:
   A. SLAB-ON-GRADE ..... 3,500 PSI
   B. SLABS ON METAL DECK..... 3,500 PSI
   C. COLUMNS AND WALLS..... 4,000 PSI
   D. CONCRETE NOT OTHERWISE NOTED..... 3,000 PSI
   E. SITE AND BUILDING RETAINING WALLS.....4,000 PSI
   F. FOUNDATIONS.....3,000 PSI

3. REINFORCING MATERIALS MUST BE AS FOLLOWS:
   A. REINFORCING BARS - ASTM A615, GRADE 60, DEFORMED.
   B. WELDED REINFORCING BARS - ASTM A706, GRADE 60.
   C. WELDED WIRE REINFORCEMENT - ASTM A1064, WELDED STEEL WIRE REINFORCEMENT; PROVIDE SHEET TYPE, ROLL TYPE IS NOT ACCEPTABLE.

4. ALL REINFORCING STEEL AND EMBEDDED ITEMS SUCH AS ANCHOR RODS AND WELD PLATES MUST BE ACCURATELY PLACED AND ADEQUATELY TIED AND SUPPORTED BEFORE CONCRETE IS PLACED TO PREVENT DISPLACEMENT BEYOND PERMITTED TOLERANCES.

5. CONCRETE COVER TO REINFORCING STEEL MUST CONFORM TO THE MINIMUM COVER RECOMMENDATIONS IN ACI 318, UNLESS THE DRAWINGS SHOW GREATER COVER REQUIREMENTS.

6. LAP CONTINUOUS REINFORCING STEEL 57 X BAR DIAMETER, UNLESS OTHERWISE NOTED.

CONCRETE MASONRY NOTES:

1. CONCRETE MASONRY MATERIALS AND CONSTRUCTION MUST CONFORM TO THE AMERICAN CONCRETE INSTITUTE (ACI) 530.

2. CONCRETE MASONRY UNITS MUST CONFORM TO ASTM C90 AND MUST BE MADE WITH LIGHTWEIGHT AGGREGATE. MINIMUM NET AREA COMPRESSIVE STRENGTH OF MASONRY UNITS MUST BE 2,000 PSI AT 28 DAYS.

3. COMPRESSIVE STRENGTH OF MASONRY MUST BE DETERMINED BY THE UNIT STRENGTH METHOD AS SET FORTH IN ACI 530.1. THE NET AREA COMPRESSIVE STRENGTH OF MASONRY, f'm, MUST BE 2,000 PSI AT 28 DAYS.

4. MORTAR MUST BE TYPE 'M' OR 'S' AND MUST COMPLY WITH ASTM C270, PROPORTIONS OR PROPERTIES SPECIFICATION.

5. GROUT MUST COMPLY WITH EITHER THE PROPORTIONS OR PROPERTIES SPECIFICATION OF ASTM C476 AND AS FOLLOWS:
   A. PROPORTIONS SPECIFICATION: THIS MIX CANNOT CONTAIN ADMIXTURES. WATER MUST BE ADDED IN THE FIELD IN ORDER TO ACHIEVE A SLUMP OF 8-11 INCHES WHEN PLACED IN THE CONCRETE MASONRY UNITS. MORTAR, PEA-GRAVEL CONCRETE, OR "CHAT" MIXES ARE NOT ACCEPTABLE SUBSTITUTES FOR THE SPECIFIED GROUT.
   B. PROPERTIES SPECIFICATION: THIS MIX MUST BE PROPORTIONED TO OBTAIN A DOCUMENTED 28 DAY COMPRESSIVE STRENGTH OF 2,000 PSI, WITH AN 8-11 INCH SLUMP WHEN PLACED IN THE CONCRETE MASONRY UNITS.

6. REINFORCING STEEL MUST COMPLY WITH ASTM A615, GRADE 60. SHOP FABRICATE REINFORCING BARS WHICH ARE SHOWN TO BE BENT OR HOOKED.

7. ALL BOND BEAMS, REINFORCED CELLS AND CELLS WITH EXPANSION BOLTS, EMBED PLATES OR OTHER ANCHORS AND ALL CELLS BELOW GRADE MUST BE GROUTED SOLID. GROUT PROCEDURE MUST COMPLY WITH ACI 530.1.

8. ALL CMU WALLS MUST BE REINFORCED CONTINUOUSLY FROM FOUNDATION TO TOP OF WALL. WHERE REINFORCING IS INTERRUPTED, OFFSET AND LAP ADDITIONAL BARS PER THE "TYPICAL OFFSET SPLICE AT MASONRY WALL DETAILS."

9. LAP ALL REINFORCING PER SCHEDULE BELOW, TYPICAL UNLESS OTHERWISE NOTED:

MASONRY LAP SCHEDULE

REINF SIZE	72 x BAR DIAMETER
#4	36"
#5	45"
#6	54"
#7	63"
#8	72"

10. PROVIDE ONE VERTICAL BAR EACH SIDE OF ALL OPENINGS AND CONTROL JOINTS, AND AT CORNERS AND INTERSECTIONS OF ALL MASONRY WALLS, BOTH BEARING AND NON-BEARING WALLS. SHOW CONTROL JOINT LOCATIONS ON THE REINFORCING STEEL SHOP DRAWINGS.

11. ALL NON-BEARING MASONRY WALLS MUST BE REINFORCED WITH #4 VERTICAL BARS AT 40 INCHES ON CENTER, TYPICAL UNLESS OTHERWISE NOTED. ALL NON-BEARING MASONRY WALLS MUST BE BRACED PER "TYPICAL NON-BEARING MASONRY PARTITION DETAILS".

12. PROVIDE REINFORCING STEEL DOWELS OF THE SAME SIZE AND SPACING AS VERTICAL REINFORCING FROM THE SUPPORTING STRUCTURE. DOWELS MUST HAVE STANDARD ACI HOOKS.

13. PROVIDE STANDARD 9 GAGE LADDER TYPE HORIZONTAL JOINT REINFORCING IN CMU WALLS AT 16 INCHES ON CENTER AND IN TWO JOINTS IMMEDIATELY ABOVE AND BELOW ALL OPENINGS, EXTENDING A MINIMUM OF 2 FEET BEYOND THE JAMB ON EACH SIDE OF THE OPENING, EXCEPT AT CONTROL JOINTS.

14. PROVIDE HORIZONTAL BOND BEAMS WITH CONTINUOUS REINFORCING AS SHOWN IN THE SECTIONS AND DETAILS. DISCONTINUE ALL HORIZONTAL REINFORCING AT CONTROL JOINTS EXCEPT FOR THE BOND BEAMS AT JOIST BEARING ELEVATIONS.

15. DO NOT LOCATE CONTROL JOINTS WITHIN TWO FEET OF STEEL BEAM BEARING LOCATIONS.

STRUCTURAL STEEL NOTES:

1. STRUCTURAL STEEL MUST BE IN ACCORDANCE WITH THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) 360.

2. STRUCTURAL STEEL MUST COMPLY WITH THE FOLLOWING SPECIFICATIONS:
   A. STRUCTURAL STEEL SHAPES, PLATES AND BARS UNLESS OTHERWISE NOTED - ASTM A36, Fy = 36 KSI
   B. STRUCTURAL STEEL W-SHAPES - ASTM A992, Fy = 50 KSI
   C. HOLLOW STRUCTURAL SECTIONS (HSS):
      a. SQUARE & RECTANGULAR - ASTM A500, GRADE C, Fy = 50 KSI
      b. ROUND - ASTM A500, GRADE C, Fy = 46 KSI
   D. ANCHOR RODS - ASTM F1554, GRADE [36] [55]
   E. HIGH STRENGTH BOLTS - ASTM A325 (TYPICAL UON)
   F. WASHERS - ASTM F436
   G. NUTS - ASTM A563

3. UNLESS OTHERWISE NOTED, ALL REQUIRED DESIGN STRENGTHS AND REACTIONS INDICATED ARE BASED ON THE "LOADING COMBINATIONS USING STRENGTH DESIGN OR LOAD AND RESISTANCE FACTOR DESIGN" PER SECTION 1605.2 OF THE BUILDING CODE.

4. STRUCTURAL STEEL FRAME IS CONSIDERED AS UNRESTRAINED FOR FIRE PROTECTION PURPOSES.

5. UNLESS OTHERWISE NOTED, BEAM CONNECTIONS MUST BE AISC "SIMPLE SHEAR CONNECTIONS" WITH ASTM A325 BOLTS DESIGNED FOR ONE HALF THE MAXIMUM TOTAL UNIFORM LOAD FOR LATERALLY SUPPORTED BEAMS GIVEN IN TABLE 3-6 OF THE "STEEL CONSTRUCTION MANUAL."

6. UNLESS OTHERWISE NOTED, BEAM CONNECTIONS MUST BE AISC "SIMPLE SHEAR CONNECTIONS" WITH ASTM A325 BOLTS. DESIGN CONNECTIONS FOR THE REACTIONS (LRFD FACTORED LOADING) SHOWN ON THE DRAWINGS AND THE MINIMUM NUMBER OF BOLTS SHOWN BELOW. IF NO REACTION IS SHOWN, DESIGN CONNECTIONS FOR REACTIONS AND THE MINIMUM NUMBER OF BOLTS SHOWN BELOW.

BEAM SIZE	DESIGN REACTION (LRFD)	MIN # OF BOLTS
W8	20 KIPS	2
W10	20 KIPS	2
W12 AND W14	35 KIPS	3
W16	40 KIPS	3
W18	45 KIPS	4
W21	55 KIPS	5
W24	65 KIPS	6

7. HIGH STRENGTH BOLTS MAY BE TIGHTENED TO THE "SNUG TIGHT" CONDITION IN LIEU OF FULL PRETENSIONING.

8. REFER TO THE SPECIFICATIONS FOR REQUIREMENTS OF "DELEGATED DESIGN" CONNECTIONS.

9. FOR STRUCTURAL STEEL CONNECTIONS INDICATED AS "DELEGATED DESIGN", INCLUDE STRUCTURAL CALCULATIONS SIGNED AND SEALED BY THE QUALIFIED PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF NORTH CAROLINA RESPONSIBLE FOR THEIR PREPARATION. IN ADDITION, THE PROFESSIONAL ENGINEER RESPONSIBLE FOR CONNECTION DESIGN MUST REVIEW THE SHOP DRAWINGS PRIOR TO SUBMITTAL TO VERIFY THAT THE CONNECTIONS AS DETAILED ON THE SHOP DRAWINGS COMPLY WITH THE CONNECTION DESIGN REQUIREMENTS OF THE FINAL CALCULATIONS. A REVIEW LETTER, SIGNED AND SEALED BY THE PROFESSIONAL ENGINEER RESPONSIBLE FOR CONNECTION DESIGN MUST BE PROVIDED WITH THE SHOP DRAWINGS AND CALCULATION SUBMITTAL STATING THAT THIS REVIEW AND VERIFICATION HAS BEEN COMPLETED.

10. DELEGATED DESIGN CONNECTIONS ARE AS FOLLOWS:
    A. SHEAR CONNECTIONS
    B. COLLECTOR BEAMS
    C. LINTEL AND WIND GIRTS
    D. MOMENT CONNECTIONS.

11. HIGH STRENGTH BOLTS MUST BE FULLY PRETENSIONED USING LOAD INDICATOR WASHERS OR TENSION CONTROL "TWIST OFF" BOLTS.

12. PROVIDE ANGLE FRAMING AROUND OPENINGS LARGER THAN 6 INCHES AND LESS THAN 24 INCHES IN ANY DIMENSION (INCLUDING ROOF DRAINS) TO SUPPORT STEEL DECK, TYPICAL UNLESS OTHERWISE NOTED OR DETAILED AS FOLLOWS:

JOIST/BEAM SPACING	ANGLE SIZE
TO 5'-0"	L3x3x1/4

13. WELDING MUST BE IN ACCORDANCE WITH AWS D1.1, "STRUCTURAL WELDING CODE - STEEL." WELD ELECTRODES MUST BE E70XX LOW HYDROGEN. UNLESS OTHERWISE NOTED, PROVIDE CONTINUOUS FILLET WELDS WITH MINIMUM SIZE REQUIRED BY TABLE J2.4 AISC 360.

14. COORDINATE ALL MEMBER LOCATIONS, UNIT WEIGHTS, OPENING SIZES, AND CURB DIMENSIONS FOR MECHANICAL EQUIPMENT WITH THE ACTUAL EQUIPMENT FURNISHED.

15. STRUCTURAL STEEL SCHEDULED TO RECEIVE SPRAYED-ON FIREPROOFING MUST NOT BE PRIME PAINTED.

16. HOT-DIP GALVANIZE AFTER FABRICATION THE FOLLOWING:
    A. ANGLES AND PLATES SUPPORTING MASONRY IN EXTERIOR WALLS.
    B. LINTELS AND LINTEL ASSEMBLIES SUPPORTING MASONRY IN EXTERIOR WALLS.
    C. ALL STEEL EXPOSED TO WEATHER IN THE FINAL CONSTRUCTION.
    D. ITEMS IDENTIFIED AS GALVANIZED ON ARCHITECTURAL OR STRUCTURAL DRAWINGS.

17. ALL MEMBERS EXPOSED TO VIEW IN THE FINISHED CONSTRUCTION MUST BE CONSIDERED ARCHITECTURALLY EXPOSED STRUCTURAL STEEL (AESS).

18. STEEL MEMBERS MUST BE SPLICED ONLY WHERE INDICATED. CONTINUOUS MEMBERS MUST BE SPLICED OVER SUPPORTS, UNLESS OTHERWISE NOTED MEMBERS INDICATED AS DIAPHRAGM CHORDS (DC) MUST HAVE FULL PENETRATION BUTT WELD SPLICES, UNLESS OTHERWISE NOTED.

STEEL JOIST NOTES:

1. STEEL JOISTS MUST BE IN ACCORDANCE WITH THE STEEL JOIST INSTITUTE (SJI) STANDARD SPECIFICATIONS.

2. STEEL JOISTS DESIGNATED "SP" ON PLANS ARE SPECIAL JOISTS WHICH MUST BE DESIGNED FOR THE SPECIAL CRITERIA INDICATED.

3. JOIST BRIDGING MUST CONFORM TO SJI SPECIFICATIONS, INCLUDING BRIDGING REQUIRED FOR JOISTS SUBJECTED TO UPLIFT LOADS. PROVIDE CROSS-BRIDGING AT ENDS OF BRIDGING LINES AND CHANGES IN JOIST DEPTHS AND AT ROLLED STEEL SHAPES RUNNING PARALLEL TO JOISTS. BRIDGING SHOWN MUST BE PROVIDED, IN ADDITION TO THE REQUIRED STANDARD BRIDGING. ENDS OF ALL BRIDGING LINES MUST BE ANCHORED TO WALLS OR BEAMS.

4. ROOF JOISTS MUST BE DESIGNED FOR NET UPLIFT LOADS ULTIMATE OF 25 PSF. 1

5. ALL JOISTS MUST BE DESIGNED FOR A CONCENTRATED LOAD OF 300 LBS. HUNG FROM THE JOIST TOP OR BOTTOM CHORD AT ANY POINT ALONG THE SPAN. (BEND LOAD AND ADD LOAD CHECK).

6. PERMANENT SUSPENDED LOADS MUST NOT BE SUPPORTED BY JOIST BRIDGING.

7. SUBMIT SPRINKLER SHOP DRAWINGS INCLUDING LOADS AND LOCATIONS PRIOR TO FABRICATION OF JOISTS.

8. COMPLY WITH OSHA SAFETY STANDARDS FOR THE ERECTION OF STEEL JOISTS.

9. THE CONTRACTOR MUST SUBMIT SHOP DRAWINGS AND CALCULATIONS PREPARED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF NORTH CAROLINA FOR THE DESIGN OF SPECIAL JOISTS OR JOISTS INDICATED TO COMPLY WITH SPECIFIC LOADING REQUIREMENTS.

STEEL DECK NOTES:

1. STEEL DECK MUST BE IN ACCORDANCE WITH THE AMERICAN IRON AND STEEL INSTITUTE (AISI), "NORTH AMERICAN SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS" AND THE STEEL DECK INSTITUTE (SDI), "DESIGN MANUAL FOR COMPOSITE DECKS, FORM DECKS, AND ROOF DECKS."

2. STEEL DECK INSTALLATION MUST COMPLY WITH THE FOLLOWING:
   A. ROOF DECK: 1 1/2" x 22 GAGE TYPE 'B' GALVANIZED. UNLESS OTHERWISE NOTED, ATTACH DECK TO SUPPORTS WITH 5/8 INCH DIAMETER PUDDLE WELDS IN ALL RIBS WHERE END LAPS OCCUR AND AT 16 INCHES ON CENTER ALONG SUPPORTS WITH A 36/7 PATTERN. FASTEN SIDE LAPS WITH #10 SELF-TAPPING HEX HEAD SCREWS AT 1/4 POINTS BETWEEN SUPPORTS. FASTEN EDGEMOST DECK PANEL TO STEEL FRAMING WITH 5/8 INCH DIAMETER PUDDLE WELDS AT SAME SPACING AS SIDELAP FASTENERS.
   B. NON COMPOSITE DECK AT JOIST FLOORS:1 1/2" x 20 GAGE GALVANIZED. UNLESS OTHERWISE NOTED, ATTACH DECK TO SUPPORTS WITH 5/8 INCH DIAMETER PUDDLE WELDS AT 12 INCHES ON CENTER. FASTEN SIDELAPS WITH #10 SELF-TAPPING HEX HEAD SCREWS AT 1/3 POINTS BETWEEN SUPPORTS. FASTEN EDGEMOST DECK PANEL TO STEEL FRAMING WITH 5/8 INCH DIAMETER PUDDLE WELDS AT SAME SPACING AS SIDELAP FASTENERS.

3. STEEL DECK MUST BE INSTALLED PERPENDICULAR TO SUPPORTS AND MUST HAVE A MINIMUM OF THREE CONTINUOUS SPANS. ENDLAPS MUST ONLY OCCUR AT SUPPORTS.

4. WELDING MUST BE IN ACCORDANCE WITH AWS D1.3 "STRUCTURAL WELDING CODE - SHEET STEEL".

5. PERMANENT SUSPENDED LOADS MUST NOT BE SUPPORTED BY STEEL ROOF DECK.

6. SHEAR CONNECTORS FOR COMPOSITE FLOOR SYSTEMS MUST BE 3/4 INCH DIAMETER HEADED STUDS CONFORMING WITH ASTM A108, GRADE 1015 OR 1020. PROVIDE HEADED STUDS AS SHOWN ON PLANS AND DETAILS. NET IN-PLACE LENGTH MUST BE 1 1/2 INCHES ABOVE TOP OF COMPOSITE STEEL DECK .

7. CONDUIT AND PIPING MUST NOT BE PLACED IN ELEVATED SLABS.

SPECIALTY STRUCTURAL ELEMENTS:

1. THE FOLLOWING BUILDING ELEMENTS REQUIRE DELEGATED DESIGN AND ENGINEERING BY A SPECIALTY STRUCTURAL ENGINEER:
   A. METAL STAIRS
   B. CURTAIN WALL AND GLAZING ASSEMBLIES INCLUDING CONNECTIONS TO THE STRUCTURE
   C. COLD-FORMED METAL FRAMING (CFMF)
   D. STRUCTURAL STEEL CONNECTIONS
   E. PRE-FABRICATED CANOPIES AND AWNINGS

   REFERENCE SPECIFICATIONS FOR COMPLETE REQUIREMENTS

2. SUBMIT COMPLETE CALCULATIONS AND SHOP DRAWINGS, SIGNED AND SEALED BY THE PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF NORTH CAROLINA RESPONSIBLE FOR THE DESIGN, INCLUDING DESIGN LOADINGS AND REACTIONS APPLIED TO THE SUPPORTING STRUCTURE. INCLUDE A SUMMARY OF THE CONTROLLING LOAD CASES FOR EACH LOCATION.

3. IN ADDITION TO THEIR OWN DEAD WEIGHT AND THE DEAD LOADS SHOWN OR INDICATED IN THE DRAWINGS, MEMBERS MUST BE DESIGNED TO SUPPORT THE LOADS INDICATED IN THE GENERAL NOTES.

4. CONNECTION DETAILS SHOWN ARE SCHEMATIC ONLY. ALL CONNECTIONS MUST BE DESIGNED AND DETAILED BY THE MANUFACTURER TO SUIT THE SPECIFIED LOADS. CONNECTIONS MUST ACCOUNT FOR THERMAL MOVEMENT, DEFLECTION AND CREEP. DETAIL ALL CONNECTIONS ON SHOP DRAWINGS.

5. THE CONTRACTOR MUST BE RESPONSIBLE FOR THE COORDINATION OF ALL SPECIALTY STRUCTURAL ELEMENTS AND COST ASSOCIATED WITH A CONTRACTOR INITIATED CHANGE IN BUILDING STRUCTURE, INCLUDING CONSTRUCTION COSTS AND RE-ENGINEERING COSTS.

boomerang DESIGN
rethink, repurpose, results

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Shelby, NC 28150
704/406-6000

CHARLOTTE
1230 W. Morehead St., Suite 214
Charlotte, NC 28208
704/731-7000

RALEIGH
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COOPER ACADEMY A & R
PROJECT TITLE

NORTH CAROLINA PROFESSIONAL SEAL 053114 ENGINEER STEPHEN N. SPARKS
02/26/2024

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Corporation No. C-4360

REVISIONS 1

NO.	DATE	DESCRIPTION
1	2/26/2024	ADDENDUM 2

CD
PERMIT SET

2307
BOOMERANG DESIGN PROJECT NUMBER

02.26.2024
DRAWING RELEASE DATE

GENERAL NOTES
SHEET TITLE

S001
SHEET

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