STRUCTURAL DESIGN CRITERIA (2018 IBC AND ASCE 7-16):

1. GUARD RAILS:..50 PLF, AND/OR 200# CONCENTRATED LOAD APPLIED IN ANY DIRECTION.

STRUCTURAL GENERAL NOTES:

1. DESIGN AND CONSTRUCTION SHALL CONFORM TO THE "INTERNATIONAL BUILDING CODE, 2018 EDITION" AS AMENDED BY THE CITY OF (WICHITA, KS). REFER TO THE SPECIAL STRUCTURAL INSPECTION NOTES FOR ADDITIONAL REQUIREMENTS.

2. CONTRACTOR TO VERIFY ALL DIMENSIONS, ELEVATIONS AND EXISTING CONDITIONS AND REPORT ANY DISCREPANCIES TO THE ARCHITECT PRIOR TO COMMENCING WORK.

3. IF DISCREPANCIES EXIST BETWEEN STRUCTURAL PLANS, ARCHITECTURAL PLANS, OTHER PLANS, OR SPECIFICATIONS, THE CONTRACTOR OR SUBCONTRACTOR SHALL PROVIDE A WRITTEN REQUEST FOR CLARIFICATION FROM THE ARCHITECT AND/OR ENGINEER PRIOR TO PROCEEDING WITH THE WORK.

4. THE STRUCTURE IS DESIGNED TO BE SELF-SUPPORTING AND STABLE AFTER THE BUILDING IS FULLY COMPLETED. IT IS SOLELY THE CONTRACTOR'S RESPONSIBILITY TO EXECUTE AND DETERMINE FINAL ERECTION PROCEDURES, SEQUENCING AND TO ENSURE THE SAFETY OF THE BUILDING AND ITS COMPONENT PARTS DURING ERECTION. THIS INCLUDES WHATEVER SHORING, SHEETING, TEMPORARY BRACING, GUYING OR TIE DOWNS WHICH MIGHT BE NECESSARY.

5. THE STRUCTURE AND FOUNDATIONS ARE NOT DESIGNED FOR FUTURE EXPANSION.

6. FABRICATORS AND SUPPLIERS SHALL CLEARLY NOTE AND HIGHLIGHT CHANGES MADE IN SHOP DRAWINGS, WHICH DO NOT COMPLY WITH THE CONTRACT DOCUMENTS.

7. COLUMNS, BEAMS, JOISTS, OR TRUSSES SHALL NOT BE FIELD CUT OR TRIMMED FOR ANY REASON WITHOUT THE WRITTEN APPROVAL OF THE ARCHITECT/ENGINEER.

8. HOLES, PIPES, SLEEVES, ETC. NOT SHOWN ON THE DRAWINGS MUST BE REVIEWED BY THE ARCHITECT/ENGINEER BEFORE PLACEMENT THROUGH STRUCTURAL MEMBERS.

10. NO AREA OF THE STRUCTURE SHALL BE LOADED WITH CONSTRUCTION MATERIALS OR EQUIPMENT THAT EXCEEDS FINAL DESIGN CRITERIA.

SPECIAL INSPECTIONS:

1. PROVIDE SPECIAL STRUCTURAL INSPECTIONS AND VERIFICATIONS BY A THIRD PARTY MEETING THE REQUIREMENTS OF CHAPTER 17 OF THE BUILDING CODE AND THE BUILDING OFFICIAL.

2. SPECIAL INSPECTORS SHALL BE QUALIFIED AND FURNISH THEIR REPORTS IN A TIMELY MANNER TO THE CONTRACTOR, BUILDING OFFICIALS, ARCHITECT, AND/OR ENGINEER

3. SHOULD INSPECTOR IDENTIFY ANY DISCREPANCY, THEY SHALL NOTIFY CONTRACTOR FIRST, AND THEN ARCH/ENGINEER IMMEDIATELY THEREAFTER IF CORRECTIVE ACTION IS NEEDED.

4. SPECIAL INSPECTIONS AS REQUIRED BY CODE:
A. STEEL: SECTION 1705.2, AND AISC 360. PERIODIC OBSERVATIONS OF CONNECTIONS, WELDERS & FIELD WELDING.
B. CONCRETE: SECTION 1705.3 AND TABLE 1705.3 CONCRETE MATERIAL SAMPLING AND TESTING, REBAR OBSERVATIONS. TAKE SET OF (3) CYLINDERS FOR EVERY 50 C.Y., BUT NOT LESS THAN ONE SET OF SAMPLES PER DAY'S WORK AND PER MIX.
C. SOILS: SECTION 1705.6. FOUNDATION BEARING, EXCAVATION, FILL PLACEMENT.

CONCRETE AND MASONRY REINFORCING STEEL:

1. SUBMIT SHOP DRAWINGS FOR REBAR. ALL REINFORCING BARS SHALL MEET ASTM A615 GRADE 60.

2. ALL MESH SHALL MEET ASTM A-185: LAP A MINIMUM OF 8" OR ONE FULL MESH, WHICHEVER IS GREATER.

3. REINFORCING BAR QUANTITIES SHOWN ARE FOR ESTIMATING PURPOSES ONLY.

4. PROVIDE AN ADDITIONAL ALLOWANCE OF 1% OF THE TOTAL REINFORCING SHOWN ON THE FINAL DRAWINGS TO BE FABRICATED AND ERECTED DURING THE PROGRESS OF THE WORK AT THE DIRECTION OF THE STRUCTURAL ENGINEER. FOR THE ADDITIONAL REINFORCING ALLOWANCE, INCLUDE BOTH THE COST OF THE REINFORCING AND THE LABOR TO PLACE IT.

5. CONCRETE PROTECTION FOR REINFORCEMENT SHALL BE ¾" CLEAR FOR SLABS, 2" CLEAR FOR FORMED SURFACES AND 3" CLEAR FOR FOOTINGS (TYPICAL UNLESS NOTED).

6. CONTRACTOR SHALL VERIFY THAT ALL REINFORCEMENT, SLAB DOWELS, INSERTS, SLEEVES AND EMBEDDED ITEMS ARE PROPERLY LOCATED AND RIGIDLY SECURED PRIOR TO CONCRETE PLACEMENT, "WET STICKING" DOWELS WILL NOT BE ALLOWED.

7. REINFORCEMENT SHALL BE DETAILED IN ACCORDANCE WITH THE LATEST A.C.I. DETAILING MANUAL BY A QUALIFIED AND EXPERIENCED FIRM AND PERSON. PLACE AND SUPPORT REINFORCEMENT WITH ACCESSORIES: MAXIMUM SPACING - 48" CENTERS (PLASTIC-TIPPED LEGS FOR EXPOSED SURFACES). USE 3" SBP SUPPORTS AT ALL FOOTINGS.

8. ALL STRUCTURAL ADHESIVE SHALL BE SIMPSON SET 3G OR HILTI HY-200 R OR EQUIVALENT. ALL STRUCTURAL ADHESIVE SHALL BE INSTALLED PER THE MANUFACTURER'S REQUIREMENTS. SUBSTITUTIONS SHALL BE SUBMITTED FOR REVIEW AND APPROVAL WITH APPROPRIATE ICBO EVALUATION REPORTS.

CAST IN PLACE CONCRETE:

1. SUBMIT PROPOSED MIXED DESIGNS OF EACH TYPE FOR REVIEW.
REQUIRED MINIMUM CONCRETE COMPRESSIVE STRENGTHS AT 28 DAYS:
   a. FOOTING AND GRADE BEAM CONCRETE.....................4000 PSI
   b. SLAB ON GRADE AND STRUC SLAB ABOVE GRADE.....4000 PSI

2. ALL CONCRETE MIX DESIGNS SHALL HAVE WATER TO CEMENT RATIOS LESS THAN 0.52 (0.45 FOR MOISTURE SENSITIVE FLOORING), WITH A MAXIMUM 60/40 FINE TO COARSE AGGREGATE RATIO. CONCRETE MIX DESIGNS THAT DO NOT CONFORM TO THE ABOVE STANDARD AND/OR CONTAIN WATER REDUCING ADMIXTURES SHALL BE SUBMITTED WITH APPROPRIATE TEST DATA PER A.C.I.. ALL CONCRETE SHALL BE IN CONFORMANCE WITH THE A.C.I. 301 STANDARD THAT IS REFERENCED IN THE BUILDING CODE AT THE TIME OF PERMITTING THE PROJECT..

3. EXTERIOR CONCRETE (FLOOR SLABS, WALLS, ETC) SHALL HAVE 6.5% (PLUS/MINUS 1.5%) ENTRAINED AIR.

4. CHAMFER ALL EXPOSED CONCRETE EDGES 3/4" (VERIFY WITH ARCHITECT).

5. NO ALUMINUM SHALL BE EMBEDDED IN ANY CONCRETE.

6. NO CALCIUM CHLORIDE SHALL BE USED IN CONCRETE

7. THE DESIGN, CONSTRUCTION, AND SAFETY OF ALL FORMWORK IS THE RESPONSIBILITY OF THE CONTRACTOR

8. ALL CONCRETE IS REINFORCED UNLESS SPECIFICALLY NOTED AS UNREINFORCED. REINFORCE ALL CONCRETE NOT OTHERWISE SHOWN WITH THE SAME REINFORCING AS SIMILAR SECTIONS OR AREAS.

9. WHERE FRESH CONCRETE IS DEPOSITED AGAINST HARDENED CONCRETE (GREATER THAN 8 HRS OLD), CLEAN EXISTING SURFACE OF LAITANCE AND FOREIGN MATERIAL AND DAMPEN THE EXISTING SURFACE. IF REQUIRED, ROUGHEN EXISTING CONCRETE TO ¼" AMPLITUDE.

10. SLABS ON GRADE SHALL BE 4" THICK MINIMUM ON 4" OF GRANULAR FILL. REINF SLAB WITH 6 X 6-W2.1xW2.1 WWR OR #3 BARS @ 18" OC EA WAY. PLACE REINF IN UPPER 1/3 OF SLAB THICKNESS. AT INTERIOR SLABS, A 10 MIL VAPOR BARRIER SHALL BE PLACED BETWEEN THE CONCRETE AND GRANULAR BASE AND CARE SHOULD BE TAKEN DURING CURING TO PREVENT SLAB CURLING. THIS NOTE SHALL BE TYPICAL UNLESS NOTED OTHERWISE

11. SAW CUT JOINTS OR KEYED CONSTRUCTION JOINTS IN SLABS ON GRADE SHALL BE SPACED TO DIVIDE THE SLAB INTO PANELS NOT TO EXCEED 225 SQUARE FEET. THE LONGER DIMENSION OF EACH PANEL SHALL NOT EXCEED THE SHORTER DIMENSIONS BY MORE THAN 40%. JOINTS SHALL BE LOCATED AT COLUMN CENTERLINES WHERE POSSIBLE. SPACING BETWEEN JOINTS SHALL NOT EXCEED 15 FEET. CONTRACTOR SHALL SUBMIT JOINT LAYOUT TO ARCHITECT FOR APPROVAL. REFER TO TYPICAL DETAILS.

12. REINFORCEMENT SHALL BE CONTINUOUS AND LAPPED 53 BAR DIAMETERS (2' -6" MIN.) EXCEPT AS NOTED AND PROVIDE CORNER BARS OF SAME SIZE AND SPACING.

13. AGGREGATES AND/OR CONCRETE MIXES SHALL BE CERTIFIED TO BE FREE OF AND ELIMINATE DAMAGE OF CONCRETE DUE TO ALKALI-SILICA REACTION OR ALKALI-AGGREGATE REACTIONS WHEN EXPOSED TO SOILS AND/OR AN EXTERIOR ENVIRONMENT.

STRUCTURAL STEEL:

1. STRUCTURAL STEEL SHAPES AND PLATE MATERIAL REQUIREMENTS (TYPICAL UNLESS NOTED OTHERWISE):
   a. WIDE FLANGE SHAPES - ASTM A992 (FY = 50 KSI MIN.)
   b. CHANNELS, ANGLES, AND PLATES: - ASTM A36 (FY = 36 KSI MIN)
   c. ROUND HSS - ASTM A500, GR B (FY = 42 KSI)
   d. RECTANGULAR HSS - ASTM A500, GR B (FY = 46 KSI)
   e. PIPE - ASTM A53, GR B (FY = 35 KSI)
   f. ANCHOR RODS - ASTM F1554 (FY = 36 KSI MIN.),
   g. ADHESIVE ANCHORS - SIMPSON SET-3G, HILTI HIT-HY 200, OR EQUIVALENT

2. STRUCTURAL STEEL SHALL BE NEW AND MEET THE 15TH EDITION A.I.S.C. "SPECIFICATIONS FOR STRUCTURAL STEEL BUILDINGS AND BRIDGES", AND THE "CODE OF STANDARD PRACTICES FOR STEEL BUILDINGS AND BRIDGES", EXCLUDING SECTION 4.4.1.B.

3. THE STRUCTURAL STEEL FABRICATOR SHALL BE AN AISC QUALITY CERTIFIED COMPANY FOR THE CATEGORY OF WORK IN THIS PROJECT OR PROVIDE A QUALITY ASSURANCE PLAN AND SPECIAL INSPECTIONS AS DEFINED IN THE CODE.

4. WELDING SHALL CONFORM TO THE CURRENT AND APPLICABLE AWS STANDARDS AND BE COMPLETED BY AN AWS CERTIFIED WELDER. ALL WELDS SHALL UTILIZE E70xx ELECTRODES. SHOP DRAWINGS SHALL SHOW FIELD WELDS, AS APPROPRIATE.
   a. AWS D1.1 - STRUCTURAL WELDING CODE - STEEL
   b. AWS D1.3 - STRUCTURAL WELDING CODE - SHEET STEEL
   c. AWS D1.6 - STRUCTURAL WELDING CODE - STAINLESS STEEL

5. WELD SIZES SHALL BE INCREASED TO MEET THE REQUIRED EFFECTIVE THROAT WIDTH IF GAPS EXIST AT THE FAYING SURFACE.

6. NO COLUMN OR BEAM SPLICES, UNLESS CLEARLY INDICATED ON THE STRUCTURAL DRAWINGS, WILL BE ALLOWED WITHOUT WRITTEN APPROVAL OF THE STRUCTURAL ENGINEER.

7. SEE ARCHITECTURAL PLANS FOR FIREPROOFING & FINISHING REQUIREMENTS, AND COORDINATE STEEL PRIMING & COATINGS ACCORDINGLY.

8. GROUT WHERE INDICATED ON PLANS AT BASE PLATES SHALL BE NON-METALLIC NON-SHRINK WITH A MINIMUM COMPRESSIVE STRENGTH OF 6000 PSI AT 28 DAYS CONFORMING TO ASTM C1107

9. ALL POST-INSTALLED ANCHORS WHERE NOTED SHALL BE MANUFACTURED BY SIMPSON STRONG-TIE OR HILTI, INC. AND INSTALLED PER MANUFACTURER'S SPECIFICATIONS. SUBSTITUTIONS SHALL BE SUBMITTED FOR REVIEW AND APPROVAL WITH APPROPRIATE IC-ES EVALUATION REPORTS.

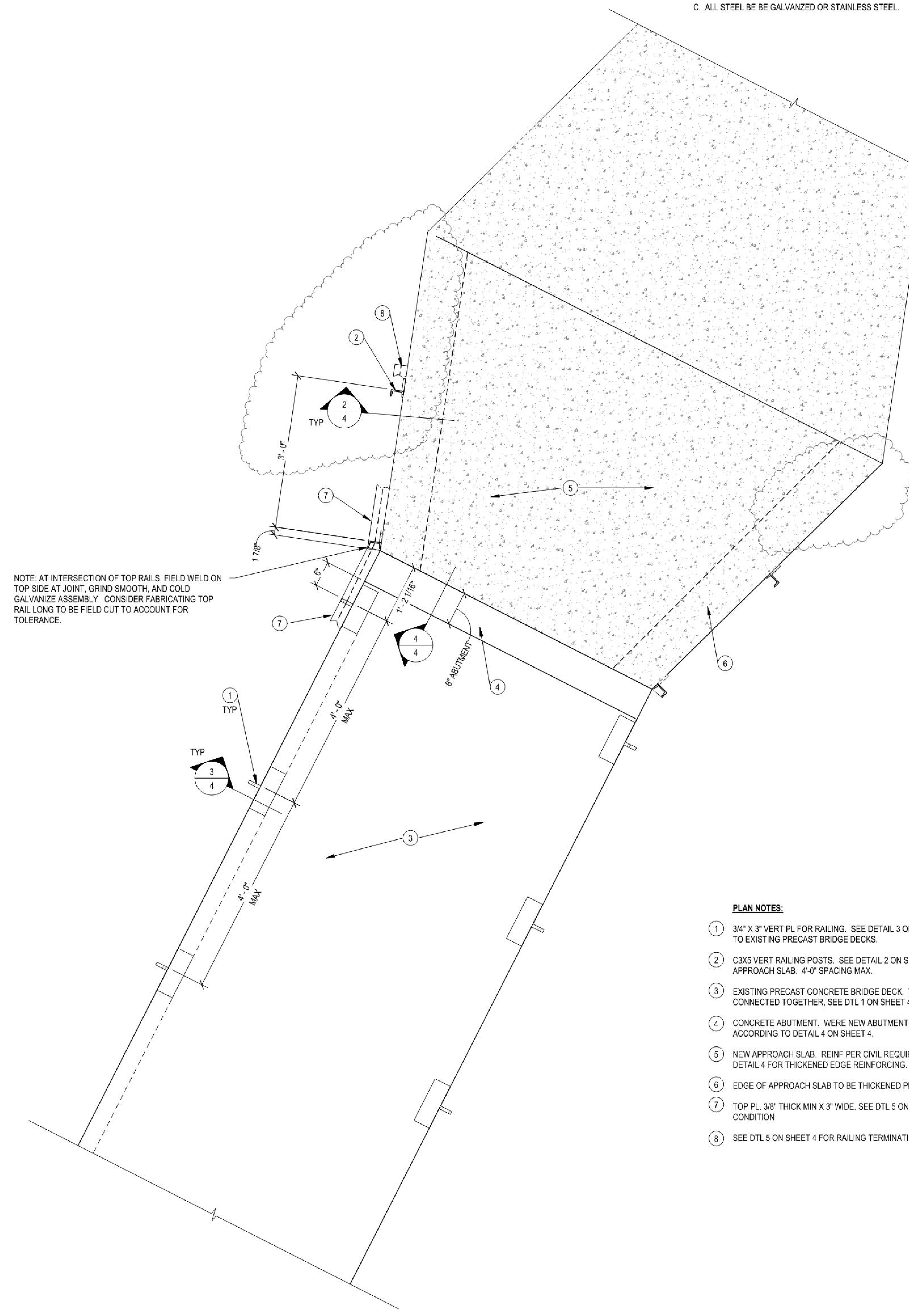
10. ALL STEEL AND ASSOCIATED FASTENERS NOT PROTECTED FROM WEATHER OR WHOLLY WITHIN A CONDITIONED SPACE (INCLUDING ALL MASONRY LINTELS) SHALL BE HOT DIPPED GALVANIZED PER ASTM A123.

SHEET NOTES:

A. REFERENCE STRUCTURAL GENERAL NOTES ON THIS SHEET. REVIEW NOTES & DETAILS FOR APPLICABILITY.

B. SEE ARCHITECTURAL, CIVIL, AND LANDSCAPE DRAWING FOR DETAILS & DIMENSIONS NOT SHOWN.

C. ALL STEEL BE BE GALVANZED OR STAINLESS STEEL.



PLAN NOTES:

1. 3/4" X 3" VERT PL FOR RAILING. SEE DETAIL 3 ON SHEET 4 FOR RAIL ATTACHMENT TO EXISTING PRECAST BRIDGE DECKS.
2. C3X5 VERT RAILING POSTS. SEE DETAIL 2 ON SHEET 4 FOR ANCHORAGE TO APPROACH SLAB. 4'-0" SPACING MAX.
3. EXISTING PRECAST CONCRETE BRIDGE DECK. WHERE TWO DOUBLE TEES ARE CONNECTED TOGETHER, SEE DTL 1 ON SHEET 4.
4. CONCRETE ABUTMENT. WERE NEW ABUTMENTS ARE REQUIRED, CONSTRUCT ACCORDING TO DETAIL 4 ON SHEET 4.
5. NEW APPROACH SLAB. REINF PER CIVIL REQUIREMENTS. SEE DETAIL 2 ON DETAIL 4 FOR THICKENED EDGE REINFORCING.
6. EDGE OF APPROACH SLAB TO BE THICKENED PER DETAIL 2 ON SHEET 4
7. TOP PL. 3/8" THICK MIN X 3" WIDE. SEE DTL 5 ON SHEET 4 FOR RAILING AND TOP CONDITION
8. SEE DTL 5 ON SHEET 4 FOR RAILING TERMINATION DETAIL

1 RAILING PLAN AND APPROACH SLAB
3/4" = 1'-0"

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KS: 7858632

PAUL WESLEY SPEARS LICENSED 19815 01/25/2024 KANSAS PROFESSIONAL ENGINEER
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Revision Schedule

No.	Date	Description
1	01/25/2024	VE Revisions

L.W. CLAPP PARK
CITY OF WICHITA
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WICHITA, KS 67218

Project Number	19305
Issue	PERMIT SET
Date	2023-10-06

STRUCTURAL NOTES AND PLAN

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THE LINE SHOWN ABOVE IS EXACTLY ONE INCH LONG AT THIS SHEET'S ORIGINAL PAGE SIZE
plot to .pdf in color for paper plots, plot black & white whenever possible to save printing costs
THE SQUARES ABOVE ARE COLOR, WITH BLACK AND WHITE LETTERS, IF PRINTED CORRECTLY

File Location: \\standserver1\06_Projects\22273_Confluence_Wichita-Clapp-Park\Arch\23-0712\X-19305 TTLBLK - Standard\X-19305 TTLBLK_2 / SAVE DATE: 7/13/2023 12:18 PM BY: nicole_stand-sei / PLOT DATE: 1/20/2023 2:45 PM BY: Nicole Harrison
File Location: \\STANDSERVER1\06_Projects\22273_Confluence_Wichita-Clapp-Park\23-1024 from arch\X-19305 TTLBLK1 / SAVE DATE: 10/30/2023 8:53 AM BY: tsmith / PLOT DATE: 1/20/2023 2:45 PM BY: Travis Smith