



STRUCTURAL SLAB OVERALL PLAN
 SCALE: 1/4" = 1'-0"

- NOTES:**
1. ALL CONCRETE SHALL BE CLASS "SI".
 2. ALL REBAR CLEARANCE DIMENSIONS ARE CLEAR COVER (NOT TO THE CENTER OF THE BAR).
 3. SEE SHT. S7 FOR NORTH RAMP BILL OF MATERIALS.

GENERAL NOTES FOR ALL REINFORCED CONCRETE & TUNNEL WORK:

- PART 1. GENERAL**
1. ALL NOTES GIVEN ON THESE DRAWINGS ARE SUPPLEMENT TO THE PROJECT SPECIFICATIONS AND INTENDED NOT TO REPLACE THEM. IN THE EVENT OF A CONFLICT BETWEEN THE NOTES AND THE PROJECT SPECIFICATIONS, CONTRACTOR TO OBTAIN CLARIFICATION IN WRITING.
 2. ALL DESIGN AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE STATE AND LOCAL BUILDING CODES AND ALL OTHER PERTINENT CODES REGULATIONS AND ORDINANCES.
 3. DRAWINGS ARE NOT TO BE USED FOR SHOP DETAILING OR FOR CONSTRUCTION UNLESS SPECIFICALLY STAMPED BY THE STRUCTURAL ENGINEER FOR "DETAILING" OR "FOR CONSTRUCTION". THESE DRAWINGS SHALL NOT BE REPRODUCED FOR THE PURPOSE OF USING THEM AS SHOP DETAIL DRAWINGS. DO NOT SCALE DRAWINGS. USE NUMERICAL DIMENSIONS SHOWN ON THE DRAWINGS.
 4. WALL DIMENSIONS ON STRUCTURAL DRAWINGS SHALL BE COORDINATED BY THE CONTRACTOR WITH CIVIL, ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS. CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR CONFIRMING AND CORRELATING ALL DIMENSIONS ON THE JOB SITE AND BETWEEN INDIVIDUAL DRAWINGS AND TRADES. NOTIFY ENGINEER OF ANY DISCREPANCIES THAT MAY EXIST.
 5. UNLESS OTHERWISE SHOWN OR NOTED, THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING LOCATION AND PLACEMENT OF ANY INSERTS, PIPE SLEEVES, HOLES OR ANCHOR BOLTS THAT ARE REQUIRED BY THE MECHANICAL OR ELECTRICAL EQUIPMENT. SEE MECHANICAL AND ELECTRICAL DRAWINGS FOR APPROVED SHOP DRAWINGS FOR REQUIREMENTS.
 6. UNLESS OTHERWISE NOTED, ALL DETAILS, SECTIONS AND NOTES ON THE DRAWINGS ARE INTENDED TO BE TYPICAL FOR SIMILAR SITUATION ELSEWHERE.
 7. THE CONTRACTOR SHALL FURNISH AND PROVIDE ALL NECESSARY BRACING THAT IS REQUIRED TO PROPERLY CONSTRUCT AND ERECT THE STRUCTURES.
 8. CONTRACTOR SHALL BE RESPONSIBLE FOR ADEQUATELY SHEETING AND SHORING AGAINST EXISTING STRUCTURES AS REQUIRED SO THAT THEY ARE NOT ENDANGERED BY THIS CONSTRUCTION.
 9. PLANS, SECTION AND DETAILS SHALL NOT BE SCALED FOR DETERMINATION OF QUANTITIES, LENGTHS, FIT OR MATERIAL, ETC.
 10. ALL EXISTING CONDITIONS AND ALL RELATED DIMENSIONS INDICATED BY CONTRACT DOCUMENTS SHALL BE FIELD VERIFIED PRIOR TO FABRICATION, ERECTION AND/OR CONSTRUCTION. ANY CONDITION THAT DIFFERS FROM THAT INDICATED BY CONTRACT DOCUMENTS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW PRIOR TO FABRICATION AND/OR CONSTRUCTION.
- PART 2. MATERIALS**
1. REINFORCING STEEL
 - 1.1 ALL REINFORCING STEEL SHALL CONFORM TO ASTM A615-60 (60000 PSI YIELD STRESS) AND SHALL BE USED THROUGHOUT THE JOB, WITH THE EXCEPTION OF STEEL USED IN WELDED CONNECTIONS, WHICH SHALL CONFORM TO ASTM A708-60. ALL WELDED WIRE FABRICS SHALL BE ASTM A185.
- PART 3. TESTING**
1. ALL INSPECTION SHALL BE MADE AS SPECIFIED BELOW.
 - 1.1 ALL CONCRETE TO HAVE COMPRESSIVE STRENGTH OF 5000 PSI.
 - 1.2 ALL WELDS SHALL BE TESTED IN ACCORDANCE WITH AMER CAN WELDING SOCIETY (AWS) STANDARDS.
 2. ALL MATERIAL TESTS SHALL BE MADE AS PER THE SPECIFICATIONS. CONCRETE COMPRESSIVE STRENGTH TESTS SHALL BE MADE FOR ALL CONCRETE STRENGTHS. THE APPROVED TESTING LABORATORY SHALL MAKE ALL TESTING. ALL TEST REPORTS SHALL BE SUBMITTED TO THE DESIGNATED METRA REPRESENTATIVE.
- PART 4. REINFORCED CONCRETE**
1. ALL REINFORCED CONCRETE DESIGN AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE ACI BUILDING CODE 318-05. ALL SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS SHALL BE PER ACI 301 AND APPLICABLE LOCAL BUILDING CODE.
 2. CONCRETE SHALL NOT BE DROPPED THROUGH REINFORCING STEEL (AS IN WALLS) SO AS TO CAUSE SEGREGATION OF THE CONCRETE MIX. IN SUCH CASES, HOPPER OR VERTICAL CHUTES OR TRUNKS SHALL BE USED. CHUTES OR TRUNKS SHALL BE OF VARIABLE LENGTHS SO THAT FREE UNCOMPRESSED FALL OF CONCRETE SHALL NOT EXCEED SIX (6) FEET AND A SUFFICIENT NUMBER SHALL BE USED TO INSURE THE CONCRETE BEING KEPT LEVEL AT ALL TIMES.
 3. THE ARRANGEMENT OF ACCESSORIES SHALL BE IN ACCORDANCE WITH ACI 318 MANUAL OF STANDARD PRACTICE FOR DETAILING OR REINFORCED CONCRETE STRUCTURES.
- PART 5. FOUNDATION**
1. ALL SUBSTRUCTURE WORK SHALL BE PERFORMED ACCORDING TO THE RECOMMENDATIONS PREPARED BY THE GEOTECHNICAL CONSULTANTS.
 2. THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN OF SOIL RETENTION SYSTEM DURING THE CONSTRUCTION.
 3. THE WALLS SHALL BE BACKFILLED USING GRANULAR SOILS AND THE FINAL 3 TO 4 FEET OF BACK FILL SHALL BE SILTY CLAY.
 4. THE FILL MATERIALS SHALL BE PLACED IN LAYERS OF 6 INCHES. EACH LAYER SHALL BE COMPACTED TO A MINIMUM OF 90% COMPACTION BASED ON ASTM D-1557 PRIOR TO PLACEMENT OF SUCCEEDING LAYERS.
 5. FILL ON BOTH SIDES OF THE RETAINING WALLS SHALL BE PLACED SIMULTANEOUSLY IN SUCH A MANNER THAT THE MAXIMUM DIFFERENCE IN FILL LEVELS DOES NOT EXCEED 3'-0" UNTIL THE LOWER SIDE IS AT THE FOUNDATION LEVEL.
 6. ALL FOUNDATION WALLS SHALL BE ADEQUATELY BRACED TO WITHSTAND BACKFILLING EARTH PRESSURE, WIND PRESSURE, AND CONSTRUCTION LOADS UNTIL FINAL GRADES ON BOTH SIDES OF THE WALL ARE REACHED AND ALL PARTS OF THE STRUCTURE ARE INSTALLED AND HAVE REACHED THE DESIGN STRENGTH.
 7. REINFORCING STEEL AND CONCRETE SHALL BE PLACED AS SOON AS POSSIBLE AFTER EXCAVATION FOR FOUNDATION ELEMENTS.
 8. THOROUGHLY CLEAN REINFORCING STEEL IMMEDIATELY PRIOR TO PLACING CONCRETE.
 9. DO NOT CAST CONCRETE ON OR AGAINST SUBGRADE MATERIAL CONTAINING FROST, WATER OR SOIL.
- PART 6. STRUCTURAL STEEL**
1. ALL WELDING SHALL BE IN ACCORDANCE WITH THE AISC SPECIFICATIONS FOR DESIGN FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS, LATEST EDITION AND STANDARD CODE FOR ARC AND GAS WELDING IN BUILDING CONSTRUCTION OF AMERICAN WELDING SOCIETY.
- PART 7. DESIGN SPECIFICATIONS**
1. MANUAL OF STEEL CONSTRUCTION, ALLOWABLE STRESS DESIGN, 9TH EDITION AND A.R.E.M.A.
 2. SEE PROJECT MANUAL FOR COMPLETE LIST OF OTHER APPLICABLE DESIGN STANDARDS.
- PART 8. CONSTRUCTION SAFETY**
1. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COMPLY WITH ALL APPLICABLE VILLAGE, COUNTY, STATE, AND FEDERAL LAWS, INCLUDING THE OCCUPATIONAL SAFETY AND HEALTH ACT (OSHA) AND REGULATIONS ADOPTED PURSUANT THERETO. THE CONTRACTOR SHALL COMPLY WITH ALL METRA AND UPRR SAFETY STANDARDS AND LAWS.
 2. THE CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY TO PROTECT THE STRUCTURE, WORKERS, OR OTHER PERSONS DURING CONSTRUCTION. SUCH MEASURES SHALL INCLUDE, BUT NOT BE LIMITED TO, BRACING, SHORING FOR CONSTRUCTION EQUIPMENT, SHORING FOR THE BUILDING, SHORING FOR EARTH BANKS, FORMS, SCAFFOLDING, PLANKING, SAFETY NETS, SUPPORT AND BRACING FOR CRANES AND GIN POLES, ETC.
 3. AT THE CONTRACTOR'S OWN EXPENSE, PROPERLY QUALIFIED PERSONS SHALL BE ENGAGED TO DETERMINE WHERE AND HOW TEMPORARY PRECAUTIONARY MEASURES SHALL BE USED AND INSPECT THE SAME IN THE FIELD. OBSERVATION VISITS TO THE SITE BY THE FIELD REPRESENTATIVE OF THE ENGINEER SHALL NOT INCLUDE INSPECTION OF THE ABOVE ITEMS.
 4. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES. AS PART OF THEIR RESPONSIBILITY, THE CONTRACTOR SHALL RETAIN THE SERVICES OF A LICENSED STRUCTURAL ENGINEER TO DESIGN AND SUPERVISE ANY SCAFFOLDING FOR WORKMEN AND ALL SHORING OF FORMS AND ELEMENTS OF THE CONSTRUCTION.
- PART 9. TUNNEL CONSTRUCTION NOTES**
1. ALL CONSTRUCTION SAFETY MEASURES OUTLINED IN PART 8 ABOVE SHALL BE COMPLIED WITH.
 2. ALL TEMPORARY SHORING STRUCTURES, REACTION AND THRUST BLOCK, INCLUDING SHEET PILES, BATTER PILES IF REQUIRED, SOIL BORING STEEL FRAME, ETC. REQUIRED FOR THE TUNNEL JACKING SHALL BE DESIGNED BY THE CONTRACTOR'S STRUCTURAL ENGINEER AND SUBJECT TO APPROVAL OF THE ENGINEER. ALL RELATED CALCULATIONS/SKETCHES MUST BE SEALED AND SIGNED BY A STRUCTURAL ENGINEER LICENSED IN THE STATE OF ILLINOIS.
 3. GRADE OF CONCRETE FOR THE CAST IN PLACE CONCRETE TUNNEL FLOOR SHALL BE OF FC = 5000 PSI AT 28 DAYS.
 4. FABRICATION OF REINFORCEMENT AND PLACEMENT OF CONCRETE AS PER ACI CODE, LATEST EDITION.
 5. STEEL SHEET PILES SHALL BE AS PER ASTM A-328, LATEST EDITION.
 6. STRUCTURAL STEEL SHALL CONFORM TO ASTM A-36, LATEST EDITION.
 7. FABRICATION AND ERECTION OF STEEL SHALL BE AS PER AISC SPECIFICATION.
- PART 10. CONSTRUCTION SAFETY**
8. ALL WELDINGS SHALL BE AS PER AWS CODE
 9. MONITOR ALIGNMENT AND LEVEL OF THE RAILROAD TRACK DURING THE CONSTRUCTION. MONITORING SCHEDULE SHALL BE AS DIRECTED BY METRA AND THE UNION PACIFIC RAILROAD.
 10. SHOULD ANY MOVEMENT OCCUR ON THE RAILROAD TRACKS BEYOND THE ACCEPTABLE LIMITS OF METRA/UPRR, CONTRACTOR SHOULD STOP JACKING IMMEDIATELY AND REVISE JACKING PROCEDURES SO THAT NO MOVEMENT OCCURS.
 11. DEWATER THE EXCAVATION AS REQUIRED, TO MAINTAIN A DRY CONDITION.
 12. THE JACKING SHIELD, SHOWN ON THE DRAWING IS SCHEMATIC. CONTRACTOR SHALL SUBMIT THE DETAIL PROCEDURES FOR JACKING FOR REVIEW BY ENGINEER PRIOR TO THE STARTING OF ANY CONSTRUCTION OF TUNNEL.
 13. CONTRACTOR MUST INCLUDE IN HIS BID THE AMOUNT OF BENTONITE SLURRY INJECTED TO COVER A SURFACE AREA OF 3,400 SQ. FT. AND VOIDS IN SOIL CREATED DURING TUNNEL CONSTRUCTION.
 14. ALL SHEET PILES SHALL REMAIN IN PLACE UNLESS OTHERWISE NOTED ON THE DRAWING.

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PROJECT	SHEET TITLE	SCALE	PROJECT NO.	SHEET
PEDESTRIAN UNDERPASS AT METRA STATION WINFELD, ILLINOIS	NORTH RAMP BOTTOM SLAB PLAN & STRUCTURAL BILL OF MATERIALS	NOTED	WF-451	No. S14
			DATE	Of S16
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