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BLS - TRANSPORTATION FACILITY 2017
501 SE 2ND STREET BEND, OR
GENERAL STRUCTURAL NOTES & SPECIAL INSPECTION TABLES

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SHEET NO. S0.1

PERMIT REVIEW SET

GENERAL STRUCTURAL NOTES

PROJECT DESCRIPTION:
NEW PRE-MANUFACTURED METAL BUILDING FOUNDATION
CONVENTIONAL SPREAD AND STRIP CONCRETE FOUNDATIONS
CONCRETE SLAB-ON-GRADE

GENERAL:
THE STRUCTURAL DRAWINGS ARE A PORTION OF THE CONTRACT DOCUMENTS AND ARE INTENDED TO BE USED IN CONJUNCTION WITH THE ARCHITECTURAL, CIVIL, MECHANICAL, AND ELECTRICAL DRAWINGS...

CODE REQUIREMENTS:
CONFORM TO THE 2014 OREGON STRUCTURAL SPECIALTY CODE (OSSC), BASED UPON THE 2012 INTERNATIONAL BUILDING CODE (IBC)...

TEMPORARY CONDITIONS:
THE STRUCTURE HAS BEEN DESIGNED TO FUNCTION AS A UNIT UPON COMPLETION. THE CONTRACTOR IS RESPONSIBLE FOR FURNISHING ALL TEMPORARY BRACING AND/OR SUPPORT REQUIRED AS A RESULT OF THE CONTRACTOR'S CONSTRUCTION METHODS AND/OR SEQUENCES...

EXISTING CONDITIONS:
ALL EXISTING CONDITIONS, DIMENSIONS, AND ELEVATIONS SHALL BE FIELD VERIFIED. THE CONTRACTOR SHALL NOTIFY THE ARCHITECT OF ANY SIGNIFICANT DISCREPANCIES FROM CONDITIONS SHOWN ON THE DRAWINGS.

DESIGN CRITERIA:
DESIGN WAS BASED ON THE STRENGTH AND DEFLECTION CRITERIA OF THE IBC. IN ADDITION TO THE DEAD LOADS, THE FOLLOWING LOADS AND ALLOWANCES WERE USED FOR DESIGN, WITH LIVE LOADS (L.L.) REDUCED IN ACCORDANCE WITH THE IBC:

DESIGN CRITERIA table with sections: GEOTECHNICAL CRITERIA, SNOW CRITERIA, WIND CRITERIA, SEISMIC CRITERIA

STRUCTURAL OBSERVATION:
THE STRUCTURAL ENGINEER OF RECORD (SER) WILL PERFORM STRUCTURAL OBSERVATIONS BASED ON THE REQUIREMENTS OF THE IBC AT THE STAGES OF CONSTRUCTION LISTED BELOW...

STRUCTURAL OBSERVATIONS table with columns: CONSTRUCTION PHASE, OBSERVATION BY SER, COMMENTS

- A. STRUCTURAL OBSERVATIONS ARE INTENDED TO VERIFY GENERAL CONFORMANCE WITH THE STRUCTURAL DRAWINGS. SPECIAL INSPECTIONS AND TESTING ARE STILL REQUIRED.
B. A FIELD REPORT WILL BE SUBMITTED TO THE BUILDING DEPARTMENT FOLLOWING EACH VISIT.
C. STRUCTURAL OBSERVATION TO OCCUR AFTER THE REINFORCING STEEL HAS BEEN INSTALLED

SPECIAL INSPECTION AND TESTING:
SPECIAL INSPECTION WILL BE PROVIDED BY THE OWNER BASED ON THE REQUIREMENTS OF THE IBC AS SUMMARIZED IN THE SPECIAL INSPECTION AND TESTING PROGRAM ON SHEET S0.2. THE CONTRACTOR SHALL PROVIDE SUFFICIENT NOTICE AND ACCESS FOR THE SPECIAL INSPECTOR TO PERFORM THESE INSPECTIONS.

SUBMITTALS:
SHOP DRAWINGS SHALL BE SUBMITTED TO THE ARCHITECT PRIOR TO THE FABRICATION AND CONSTRUCTION OF ALL STRUCTURAL ITEMS INCLUDING THE FOLLOWING:

SUBMITTALS table with columns: ITEM, SUBMITTAL (A, D), DEFERRED SUBMITTAL (B, D), COMMENTS

- A. IF THE SHOP DRAWINGS DIFFER FROM OR ADD TO THE DESIGN OF THE STRUCTURAL DRAWINGS, THEY SHALL BEAR THE SEAL AND SIGNATURE OF A STRUCTURAL ENGINEER REGISTERED IN THE STATE WHERE THE PROJECT IS LOCATED...
B. DESIGN DRAWINGS, SHOP DRAWINGS, AND CALCULATIONS FOR THE DESIGN AND FABRICATION OF ITEMS THAT ARE DESIGNED BY OTHERS SHALL BEAR THE SEAL AND SIGNATURE OF A STRUCTURAL ENGINEER REGISTERED IN THE STATE WHERE THE PROJECT IS LOCATED...
C. THE CONTRACTOR SHALL COORDINATE THE SEISMIC RESTRAINTS OF MECHANICAL, ELECTRICAL, AND PLUMBING EQUIPMENT, MACHINERY, AND ASSOCIATED PIPING WITH THE STRUCTURE...
D. FIELD ENGINEERED DETAILS DEVELOPED BY THE CONTRACTOR THAT DIFFER FROM, OR ADD TO, THE STRUCTURAL DRAWINGS SHALL BEAR THE SEAL AND SIGNATURE OF A STRUCTURAL ENGINEER REGISTERED IN THE STATE WHERE THE PROJECT IS LOCATED...

- FOUNDATIONS:
1. FOUNDATION SIZES ARE BASED UPON AN ASSUMED MAXIMUM TOTAL LOAD BEARING SOIL PRESSURE = 1500 PSF FOR BEARING ON NATIVE SOILS/COMPACTED FILL...
2. ORGANIC MATTER OR ENGINEERED FILL...
3. ALL FOOTINGS SHALL BE A MINIMUM OF 1'-6" BELOW FINAL GRADES...
4. ALL DISTURBED SOIL SHALL BE REMOVED BY HAND OPERATION FROM FOOTING EXCAVATIONS TO NEAT LINES AND REPLACED WITH ENGINEERED FILL IF NECESSARY...
5. ENGINEERED FILL SHOULD BE COMPACTED IN HORIZONTAL LIFTS NOT EXCEEDING 12 INCHES...
6. BOTTOM OF FOOTINGS SHALL BE STEPPED FROM ELEVATION TO ELEVATION AT 2'-0" HORIZONTAL TO 1'-0" VERTICAL STEPS.

- CONCRETE:
1. ALL CONCRETE WORK SHALL CONFORM TO "ACI 318-BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE" AND CHAPTER 19 OF THE INTERNATIONAL BUILDING CODE...
2. CONCRETE STRENGTHS SHALL BE VERIFIED BY STANDARD 28-DAY CYLINDER TESTS PER ASTM C39, UNLESS NOTED OTHERWISE, AND SHALL BE AS FOLLOWS:

CONCRETE STRENGTHS table with columns: DESCRIPTION, fc (PSI), WATER - CEMENT RATIO BY WEIGHT, ENTRAINED AIR, OTHER

- NOTES:
A. VERIFY WATER/CEMENT RATIO WITH FLOOR COVERING MANUFACTURER FOR CONCRETE FLOORS WITH MOISTURE SENSITIVE FLOOR COVERINGS...
B. CONCRETE MIXES SHALL BE NORMAL WEIGHT AND CONTAIN PORTLAND CEMENT CONFORMING TO ASTM C150 FOR TYPE I, OR TYPE II...
C. AIR ENTRAINING AGENT SHALL CONFORM TO ASTM C260...
D. COLUMNS THAT ARE AN INTEGRAL PART OF A WALL SHALL HAVE CONCRETE STRENGTH AS REQUIRED FOR COLUMNS.

MINIMUM CEMENT CONTENT table with columns: fc (PSI), MINIMUM CEMENT CONTENT PER CUBIC YARD

- NOTES:
A. FLYASH CONFORMING TO ASTM C618 "TYPE F," OR "TYPE C" MAY BE USED TO REPLACE UP TO 20% OF THE CEMENT CONTENT, PROVIDED THAT THE MIX STRENGTH IS SUBSTANTIATED BY TEST DATA.

- 4. THE CONTRACTOR SHALL SUBMIT CONCRETE MIX DESIGNS, ALONG WITH TEST DATA COMPLIANT WITH ACI-318 CHAPTER 5, A MINIMUM OF TWO WEEKS PRIOR TO PLACING CONCRETE.
5. NO WATER MAY BE ADDED TO CONCRETE IN THE FIELD UNLESS IT CONFORMS TO THE APPROVED MIX DESIGN AND IS SPECIFICALLY APPROVED IN WRITING BY THE CONCRETE SUPPLIER.
6. A WATER REDUCING ADMIXTURE CONFORMING TO ASTM C494 USED IN STRICT CONFORMANCE WITH THE MANUFACTURER'S RECOMMENDATIONS SHALL BE INCORPORATED INTO CONCRETE MIX DESIGNS...
7. CONCRETE SHALL BE PLACED IN ONE CONTINUOUS OPERATION WHEREVER PRACTICAL...
8. SLEEVES, OPENING, CONDUITS, AND OTHER EMBEDDED ITEMS NOT SHOWN ON THE STRUCTURAL DRAWINGS SHALL BE APPROVED BY THE STRUCTURAL ENGINEER PRIOR TO PLACING CONCRETE...
9. THE CONTRACTOR SHALL PROVIDE SHOP DRAWINGS FOR THE LAYOUT OF CONSTRUCTION AND CONTROL JOINTS FOR CONCRETE SLABS-ON-GRADE...
10. ALL BOLTS AND/OR ANCHOR RODS EMBEDDED INTO CONCRETE SHALL CONFORM TO ASTM SPECIFICATION F1554 GRADE 36 UNLESS NOTED OTHERWISE...
11. ANCHOR RODS ARE TO BE LOCATED BY MEANS OF TEMPLATE...
12. ANCHOR RODS AND EMBEDDED ITEMS SHALL BE SET IN ACCORDANCE WITH THE AISC CODE OF STANDARD PRACTICE SECTION 7.5...
13. WHERE NEW CONCRETE IS PLACED AGAINST EXISTING CONCRETE, THE EXISTING CONCRETE SURFACE SHALL BE CLEANED AND ROUGHENED TO A MINIMUM 1/4" AMPLITUDE...
14. PROVIDE 3/4" CHAMFERS ON ALL EXPOSED CONCRETE EDGES, UNLESS NOTED OTHERWISE.

- REINFORCING STEEL:
1. REINFORCING STEEL SHALL BE DETAILED, FABRICATED, AND PLACED IN ACCORDANCE TO "ACI 318-BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE" AND "ACI 315-MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES."
2. ALL REINFORCING STEEL SHALL CONFORM TO THE FOLLOWING SPECIFICATIONS AND GRADES UNLESS NOTED OTHERWISE ON THE STRUCTURAL DRAWINGS:
A. SMOOTH WELDED WIRE FABRIC-ASTM A185
B. ALL OTHER REINFORCEMENT-ASTM A615, GRADE 60

- 3. REINFORCING STEEL SHALL BE SECURELY TIED IN-PLACE WITH #16 ANNEALED IRON WIRE BARS IN BEAMS, SLABS, AND FOUNDATIONS SHALL BE SUPPORTED ON WELL-CURED CONCRETE BLOCKS, OR APPROVED METAL CHAIRS, AS SPECIFIED BY THE "CRSI MANUAL OF STANDARD PRACTICE," MSP-1.
4. ALL REINFORCEMENT SHALL BE FREE OF LOOSE MILL AND RUST SCALE, OIL, DIRT, OR COATINGS OF ANY KIND THAT REDUCE THE BOND STRENGTH TO THE CONCRETE.
5. REINFORCEMENT STEEL SHALL NOT BE DISPLACED OR ALTERED FOR THE CONVENIENCE OF OTHER TRADES UNLESS APPROVED BY THE STRUCTURAL ENGINEER OF RECORD.
6. "WET SETTING" OF REINFORCING STEEL, ANCHOR RODS, EMBEDDED PLATES AND INSERTS IS NOT PERMITTED.
7. ALL REINFORCEMENT SHALL BE CONTINUOUS WITH ADEQUATE LAP LENGTHS AT SPLICE LOCATIONS.
8. THE FOLLOWING MINIMUM LAP SPLICE LENGTHS SHALL BE PROVIDED FOR ALL REINFORCING STEEL:

TYPICAL LAP SPLICE SCHEDULE (IN) table with columns: BAR SIZE, 3,000 PSI, 4,000 PSI, 5,000 PSI

- NOTES:
A. FOR CENTER-TO-CENTER SPACING LESS THAN FOUR TIMES THE BAR DIAMETER, MULTIPLY THE ABOVE VALUES BY A FACTOR OF 1.4.
B. TABLE VALUES APPLY FOR CLEAR COVER GREATER THAN OR EQUAL TO 1-1/2". CONTACT ENGINEER OF RECORD IF CONDITIONS VARY.
C. TOP BARS ARE HORIZONTAL BARS WITH MORE THAN 12" OF CONCRETE CAST BELOW THE BAR.
D. VALUES ARE FOR UNCOATED BARS.

MINIMUM CONCRETE COVER (CAST-IN-PLACE) table with columns: USE, COVER

- 9. THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR ALL REINFORCING STEEL:

SPECIAL INSPECTION TABLES

TABLE 2 REQUIRED STRUCTURAL SPECIAL INSPECTIONS table with columns: SYSTEM or MATERIAL, IBC CODE REFERENCE, CODE or STANDARD REFERENCE, FREQUENCY, REMARKS

TABLE 5 REQUIRED TESTING FOR SPECIAL INSPECTIONS table with columns: AT THE TIME FRESH CONCRETE IS SAMPLED..., CONCRETE STRENGTH, CONCRETE SLUMP, CONCRETE AIR CONTENT, CONCRETE TEMPERATURE