



Structural

2022 CAPITAL IMPROVEMENT PROJECT - PHASE 1

BUS GARAGE

HIGHLAND CENTRAL SCHOOL DISTRICT

PROJECT TITLE

GENERAL NOTES:

- 1. ALL STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH THE ARCHITECTURAL, MECHANICAL, ELECTRICAL, HVAC, AND PLUMBING DRAWINGS AND SPECIFICATIONS.
2. THE CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS, DIMENSIONS, ELEVATIONS, ETC. IN THE FIELD AND NOTIFY THE OWNER'S REPRESENTATIVE OF ANY DISCREPANCIES PRIOR TO THE START OF CONSTRUCTION OR SHOP DRAWINGS.
3. THE DRAWINGS ARE INTENDED TO REQUIRE AND TO INCLUDE ALL LABOR, MATERIAL AND EQUIPMENT PROPER FOR THE WORK TO BE PERFORMED.
4. ALL WORK SHALL COMPLY WITH ALL LOCAL, STATE AND NATIONAL CODES AND REQUIREMENTS. THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND SAFETY PROCEDURES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE ACTS OR OMISSIONS OF THE CONTRACTOR, SUBCONTRACTORS OR THEIR AGENTS OR EMPLOYEES OR ANY OTHER PERSONS PERFORMING ANY OF THE WORK.
5. OBSERVE ALL OSHA AND OTHER APPLICABLE SAFETY REQUIREMENTS INCLUDING THE USE OF SAFETY CLASSES, HARD HATS, AND PROTECTIVE EQUIPMENT WHEN WORKING OVERHEAD. THE CONTRACTOR SHALL ASSUME RESPONSIBILITY FOR CONSTRUCTION SAFETY AT ALL TIMES.
6. COORDINATE WORK OF ALL DISCIPLINES (STRUCT., ARCH., MECH., ELEC., ETC.) WITH EXISTING CONDITIONS, SPECIAL REQUIREMENTS, CONSTRUCTION SCHEDULE AND OTHER CONTRACTORS PERFORMING WORK AT THE SITE.
7. ALL TEMPORARY SHORING SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL DESIGN AND PROVIDE ANY TEMPORARY SHORING, BRACING, ETC., AS NEEDED FOR THE WORK SO AS NOT TO ENDANGER THE STRUCTURAL INTEGRITY OF ANY EXISTING FEATURE.
8. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO REPAIR ANY DAMAGE DONE TO EXISTING FEATURES AS A RESULT OF THIS WORK. DAMAGED ITEMS SHALL BE REPLACED IN KIND AND AT NO ADDITIONAL COST TO THE OWNER.
9. DO NOT SCALE DRAWINGS. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND LAYOUT PRIOR TO CONSTRUCTION. ALL DIMENSIONS ON STRUCTURAL DRAWINGS SHALL BE CHECKED AGAINST ARCHITECTURAL, MECHANICAL, ELECTRICAL, PLUMBING, AND CIVIL DRAWINGS AND ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER'S REPRESENTATIVE IMMEDIATELY. SEE THE ARCHITECTURAL DRAWINGS FOR ALL DIMENSIONS NOT SHOWN ON THE STRUCTURAL DRAWINGS. REFER TO MECHANICAL, ELECTRICAL, AND ARCHITECTURAL DRAWINGS FOR OPENINGS NOT SHOWN ON STRUCTURAL DRAWINGS. CHANGES AFFECTING THE LAYOUT SHOWN MUST BE SPECIFIC AND CLEARLY CONVEYED TO THE OWNER'S REPRESENTATIVE IN WRITTEN FORM AS A CHANGE FOR INCLUSION INTO THESE PLANS.
10. SHOP DRAWINGS: REPRODUCTION OF DESIGN DRAWINGS SHALL NOT BE PERMITTED FOR SHOP DRAWING SUBMISSIONS. THE GENERAL CONTRACTOR/CONSTRUCTION MANAGER SHALL REVIEW AND PROVIDE REVIEW STAMP ON SHOP DRAWING SUBMISSIONS PRIOR TO SUBMITTAL TO ARCHITECT/ENGINEER INDICATING UNDERSTANDING AND ACCEPTANCE OF SUBMITTAL AND CONFIRMING CONFORMANCE TO ALL APPLICABLE REQUIREMENTS.
11. IT IS SOLELY THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE ERECTION PROCEDURE AND SEQUENCE TO INSURE THE SAFETY OF THE BUILDING AND ITS COMPONENT PARTS DURING ERECTION. THIS INCLUDES, BUT IS NOT LIMITED TO, THE ADDITION OF WHATEVER TEMPORARY BRACING, GUYS OR TIE-DOWNS MAY BE NECESSARY.
12. EQUIPMENT FRAMING LOADS, OPENINGS AND STRUCTURE IN ANY WAY RELATED TO HVAC, PLUMBING, PROCESS OR ELECTRICAL REQUIREMENTS ARE SHOWN FOR BIDDING PURPOSES ONLY. CONTRACTOR SHALL OBTAIN APPROVAL OF THE PERTINENT TRADES BEFORE PROCEEDING WITH SUCH PORTION OF THE WORK. EXCESS COST RELATED TO VARIATION IN THESE REQUIREMENTS SHALL BE BORNE BY THE APPROPRIATE CONTRACTOR.

FOUNDATION NOTES

- 1. NO GEOTECHNICAL REPORT HAS BEEN COMPLETED AT THE TIME OF DESIGN. AN ASSUMED BEARING PRESSURE OF 2,000 PSF WAS USED TO COMPLETE THE FOUNDATION DESIGN. A HIGH WATER TABLE IS KNOWN IN THE AREA AND WAS ASSUMED TO BE AT AN ELEVATION OF 2 FEET BELOW THE TOP OF SLAB ON GRADE DURING THE FOUNDATION DESIGN. A GEOTECHNICAL INVESTIGATION AND REPORT SHALL BE ISSUED PRIOR TO BIDDING DOCUMENTS TO CONFIRM THESE ASSUMPTIONS.
2. THE VEHICLE LIFT FOUNDATION DESIGN AND LAYOUT SHOWN IS FOR A BASIS OF DESIGN USING THE STERIL-KONI DIAMOND LIFT WITH 17' TRAVEL DISTANCE. COORDINATE WITH THE MANUFACTURER AND FINAL LIFT SELECTION WILL BE REQUIRED PRIOR TO ISSUING CONSTRUCTION DOCUMENTS.
3. A GEOTECHNICAL ENGINEER SHALL OBSERVE THE OPEN EXCAVATION TO DETERMINE THAT THE SOIL TYPE AND CONDITIONS ARE CONSISTENT WITH DESIGN CRITERIA OF THE SOIL. IF THE SOIL PROPERTIES ARE FOUND TO BE DIFFERENT FROM THIS CRITERIA THE OWNER'S REPRESENTATIVE SHALL BE PROMPTLY NOTIFIED SO THAT THE FOUNDATION DESIGN MAY BE REVIEWED.
4. NO FOUNDATION CONCRETE SHALL BE INSTALLED UNTIL ALL FOUNDATION WORK HAS BEEN COORDINATED WITH UNDERGROUND UTILITIES. FOOTINGS SHALL BE LOWERED WHERE REQUIRED TO AVOID UTILITIES. WHERE FOOTINGS ARE REQUIRED TO BE LOWERED MORE THAN 1 FOOT, NOTIFY THE ENGINEER OF RECORD.
5. TO MINIMIZE HEAVING, THE LAST 4 INCHES OF EXCAVATION FOR ALL FOOTINGS SHALL BE MADE IMMEDIATELY PRIOR TO PLACEMENT OF FOOTINGS.
6. WHERE ROCK OUTCROPPINGS ARE ENCOUNTERED IN ANY FOOTING EXCAVATION, UNDERCUT TO A DEPTH OF NOT LESS THAN 6 INCHES BELOW ELEVATION OF BOTTOM OF FOOTING AND BACKFILL WITH THOROUGHLY COMPACTED #10 FINES.
7. UNLESS OTHERWISE SHOWN, THE CENTERLINES OF ALL PIERS AND COLUMN FOOTINGS SHALL BE LOCATED ON COLUMN CENTERLINES.

STATEMENT OF SPECIAL INSPECTIONS

Table with columns: LOCATION, OWNER, DESIGN PROFESSIONAL IN CHARGE, HIGHLAND, NY, HIGHLAND CENTRAL SCHOOL DISTRICT, Patrick J. Williams, PE, SE

This statement of Special Inspections is submitted as a condition for permit issuance in accordance with the Special Inspection and Structural Testing requirements of the applicable building code. It includes a schedule of Special Inspection services applicable to this project as well as the name of the Special Inspection coordinator and the identity of other approved agencies to be retained for conducting these inspections and tests. This Statement of Special Inspections encompasses the following disciplines: STRUCTURAL. The Special Inspection Coordinator shall keep records of all inspections and shall furnish inspection reports to the Building Official and the Registered Design Professional in Responsible Charge (RD). Discovered discrepancies shall be brought to the immediate attention of the contractor for correction. If such discrepancies are not corrected, the discrepancies shall be brought to the attention of the Building Official and the RD. The Special Inspection program does not relieve the contractor of his or her responsibility for quality assurance.

Interim reports shall be submitted to the Building Official and the RD, monthly. A Final Report of Special Inspections documenting completion of all required Special Inspections, testing, and correction of any discrepancies noted in the inspections shall be submitted by the special inspection coordinator prior to issuance of a Certificate of Use and Occupancy.

Job site safety and means and methods of construction are solely the responsibility of the contractor.

In accordance with the applicable building code, the Observations and Inspections listed in the Schedule of Special Inspections are required.

SCHEDULE OF INSPECTION AND TESTING AGENCIES

Table with columns: SPECIAL INSPECTION AGENCIES, FIRM, ADDRESS, TELEPHONE No., Special Inspection Coordinator: TBD, TBD, (###) ###-####, Inspector: TBD, TBD, (###) ###-####

Note: The inspectors and testing agencies shall be engaged by the Owner or the Owner's Agent in accordance with the applicable building code, and not by the Contractor or Subcontractor whose work is to be inspected or tested. An approved agency shall be objective, competent and independent from the contractor responsible for the work being inspected. The agency shall also disclose to the building official and the registered design professional in responsible charge possible conflicts of interest so that objectivity can be confirmed.

STATEMENT OF CONTRACTORS RESPONSIBILITY

In accordance with the applicable building code, each contractor responsible for the construction of a main wind or seismic force-resisting system, designated seismic system or a wind or seismic force-resisting component listed in the statement of special inspections above shall submit a written statement of responsibility to the building official and the owner or the owner's authorized agent prior to the commencement of work on the system or component. The contractor's statement of responsibility shall contain acknowledgment of awareness of the special requirements contained in the statement of special inspections.

QUALIFICATIONS OF INSPECTORS AND TESTING TECHNICIANS

The qualifications of all personnel performing Special Inspection and testing activities are subject to the approval of the Building Official. The credentials of all inspectors and testing technicians shall be provided.

Key for Minimum Qualifications of Inspection Agents:

When the Registered Design Professional in Responsible Charge deems it appropriate that the individual performing a stipulated test of inspection have a specific certification or license as indicated below, such designation shall appear below the Agency Number on the Schedule.

Table with columns: PE/SE, PE/GE, BT, ACI-CFTI, ACI-CCSI, ACI-LIT, ACI-STI, AWS-CWI, AWS/MSC-SSI, ICC-SMSI, ICC-SWSI, ICC-SFSI, ICC-PCSI, ICC-RC3I, NATIONAL INSTITUTE FOR CERTIFICATION IN ENGINEERING TECHNOLOGIES (NICET), NICET-CT, NICET-ST, NICET-GET

CONCRETE NOTES

- 1. COMPLY WITH THE FOLLOWING CODES AND STANDARDS:
A. ACI 301 "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS."
B. ACI 305, ACI 308, ACI 318, "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE."
C. ACI DETAILING MANUAL ACI SP-46-04.
D. ACI 347 "RECOMMENDED PRACTICE FOR CONCRETE FORM WORK."
E. CONCRETE REINFORCING STEEL INSTITUTE (CRSI) "MANUAL OF STANDARD PRACTICE."
F. ACI 304 "RECOMMENDED PRACTICE FOR MEASURING, MIXING, TRANSPORTING AND PLACING CONCRETE."
2. MATERIALS:
A. REINFORCING BARS - ASTM A615, GRADE 60, DEFORMED
B. WELDED WIRE FABRIC (WWF) - ASTM A185, FLAT SHEETS.
C. PORTLAND CEMENT-ASTM C150, TYPE II.
D. AGGREGATES-ASTM C33.
E. AIR ENTRAINING ADMIXTURE-ASTM C260, CERTIFIED BY MANUFACTURER TO BE COMPATIBLE WITH OTHER REQUIRED ADMIXTURES.
F. PROHIBITED ADMIXTURES-CALCIUM CHLORIDE THYOCYANATES OR ADMIXTURES CONTAINING MORE THAN 0.1% CHLORIDE.
3. CONTINUOUS REINFORCING IN WALLS AND SLABS MAY BE SPLICED, AS REQUIRED, PROVIDING BARS ARE OF THE LONGEST PRACTICABLE LENGTH AND SPLICES ARE SHOWN ON REINFORCING SHOP DRAWINGS, WHEREVER POSSIBLE, SPLICES SHALL BE STAGGERED. FIELD CUTTING OF REINFORCEMENT WILL NOT BE PERMITTED.
4. UNLESS OTHERWISE SHOWN, BARS AT WALL AND CONTINUOUS FOOTING CORNERS AND INTERSECTIONS SHALL BE DETAILED AS SHOWN ON FIGURE 15 OF ACI SP-46-04. CORNER BARS SHALL BE DETAILED AS SHOWN FOR OUTSIDE LOADED ONLY CORNERS. INTERSECTIONS SHALL BE DETAILED WITHOUT DIAGONAL BARS. ALL END HOOKS SHALL BE STANDARD 90 DEGREE END HOOKS AND CORNER BARS SHALL BE 48 BAR DIAMETERS X 48 BAR DIAMETERS MINIMUM UNLESS NOTED OTHERWISE.
5. PROVIDE DOWELS TO MATCH REINFORCEMENT SIZE AND SPACING INDICATED FOR ALL STRUCTURAL ELEMENTS, UNLESS OTHERWISE INDICATED. DOWELS MUST BE PLACED AND SECURED PRIOR TO CONCRETE PLACEMENT ("WET STICKING" REINFORCING NOT PERMITTED).
6. IN SLAB-ON-GRADE, PROVIDE 2" X 4" X 4" DIAGONAL BARS IN THE MIDDLE OF THE SLAB AT EACH CORNER OF OPENINGS OVER 1' 0" SQUARE AND AT RE-ENTRANT CORNERS.
7. SEE ARCHITECTURAL AND MECHANICAL DRAWINGS FOR LOCATIONS OF OPENINGS AND SLEEVES IN CONCRETE WALLS AND SUPPORTED FLOORS. SPREAD REINFORCEMENT AT OPENINGS AND SLEEVES UNLESS OTHERWISE SHOWN. DO NOT CUT REINFORCEMENT. SEE TYPICAL REINFORCEMENT DETAILS FOR OPENINGS IN SLABS AND WALLS FOR ADDITIONAL REQUIREMENTS.
8. PLACING OF REINFORCEMENT: PROVIDE CHAIRS, BOLSTERS, ADDITIONAL REINFORCEMENT, AND ACCESSORIES NECESSARY TO SUPPORT REINFORCEMENT AT POSITION SHOWN ON DRAWINGS. SUPPORT OF REINFORCEMENT ON FORM TIES, WOOD, BRICK, BRICKBAT OR OTHER UNACCEPTABLE MATERIAL, WILL NOT BE PERMITTED.
9. THE CONTRACTOR SHALL REVIEW ALL DRAWINGS FOR SIZE AND LOCATION OF ALL EMBEDDED ITEMS, SLEEVES, SLAB DEPRESSIONS, OPENINGS, ETC. REQUIRED BY OTHER TRADES. RECONCILE THEIR EXACT SIZES AND LOCATIONS BEFORE PROCEEDING WITH THE WORK. ALL ITEMS SHALL BE FURNISHED AND INSTALLED PRIOR TO PLACEMENT OF CONCRETE. SECURE THE APPROVAL OF THE OWNER'S REPRESENTATIVE PRIOR TO PLACING OPENINGS NOT SHOWN ON THE STRUCTURAL DRAWINGS.
10. IN SLAB-ON-GRADE, PROVIDE 2" X 4" X 4" DIAGONAL BARS IN THE MIDDLE OF THE SLAB AT EACH CORNER OF OPENINGS OVER 1' 0" SQUARE AND AT RE-ENTRANT CORNERS.
11. PROVIDE CONTROL JOINTS IN CAST-IN-PLACE CONCRETE SLAB-ON-GRADE AT 12 FEET O.C. MAX. LOCATE CONTROL JOINTS TO FORM APPROXIMATE SQUARE PANELS WITH THE LENGTH OF ONE SIDE NOT EXCEEDING THE ADJACENT SIDE BY A FACTOR OF 1.5. CONTROL JOINTS MAY BE CONSTRUCTION JOINTS, CONSTRUCTION JOINTS, OR EXPANSION JOINTS.
12. CONCRETE WALLS SHALL BE TEMPORARILY BRACED AGAINST EARLY PRESSURE AND OTHER FORCES UNTIL FLOOR SLABS ARE IN PLACE AND HAVE ATTAINED FULL STRENGTH.
13. PROVIDE WATERSTOPS IN ALL CONSTRUCTION JOINTS AT OR BELOW GRADE.
14. PROVIDE WATERSTOPS IN EXPANSION JOINTS AND CONSTRUCTION JOINTS OF LIQUID CONTAINING STRUCTURES AND WHERE REQUIRED TO PREVENT INFILTRATION OF GROUND WATER.
15. WHERE CONSTRUCTION JOINTS ARE REQUIRED BUT ARE NOT INDICATED ON THE DRAWINGS, THEY SHALL BE LOCATED AT THE MID-SPAN OF BEAMS, SLABS AND WALLS AND SHALL BE SUBJECT TO REVIEW BY THE OWNER'S REPRESENTATIVE, UNLESS NOTED OTHERWISE OR SHOWN ON THE DRAWINGS. AT CONCRETE SLAB-ON-STEEL DECK, SUPPORT BEAMS AND GIRDER, CONSTRUCTION JOINTS SHALL BE PLACED AT MID-SPAN OF DECK, AND MID-WAY BETWEEN GIRDERS. CHAMFER EDGES OF PERMANENTLY EXPOSED CONCRETE SURFACES 3/4-INCH, UNO.
17. SLABS AND BEAMS OR JOISTS SHALL BE CAST MONOLITHICALLY UNLESS OTHERWISE INDICATED.
18. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING WHEN IT IS SAFE TO REMOVE FORMS AND/OR SHORING. FORMS AND SHORING MUST NOT BE REMOVED UNTIL THE CONCRETE IS STRONG ENOUGH TO CARRY ITS OWN WEIGHT AND ANY ANTICIPATED SUPERIMPOSED LOADS, WHEN FORMS ARE STRIPPED THERE MUST BE NO EXCESSIVE DEFLECTION, DISTORTION, DISCOLORATION, AND NO EVIDENCE OF DAMAGE TO THE CONCRETE.

RENOVATION AND EXISTING STRUCTURE NOTES:

- 1. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, ELEVATIONS, ETC., NECESSARY FOR THE PROPER CONSTRUCTION AND ALIGNMENT OF THE NEW PORTIONS OF THE STRUCTURE TO THE EXISTING STRUCTURE. THE CONTRACTOR SHALL VERIFY ALL MEASUREMENTS NECESSARY FOR PROPER FABRICATION AND ERECTION OF ALL STRUCTURAL MEMBERS. THE CONTRACTOR SHALL SUPPORT, BRACE AND SECURE EXISTING STRUCTURES AS REQUIRED. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE SAFETY OF EXISTING STRUCTURES DURING CONSTRUCTION.
2. BEFORE PROCEEDING WITH ANY WORK WITHIN OR ADJACENT TO THE EXISTING STRUCTURE, THE CONTRACTOR SHALL BECOME FAMILIAR WITH EXISTING CONDITIONS, DURING THE PROCESS OF CONSTRUCTION, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN THE INTEGRITY OF THE EXISTING STRUCTURE WHERE THE EXISTING STRUCTURE IS MODIFIED TO ACCOMMODATE NEW CONSTRUCTION AND TO PROTECT FROM DAMAGE THOSE PORTIONS OF THE EXISTING STRUCTURE, WHICH ARE TO REMAIN.
3. ALL EXISTING STRUCTURE ELEMENTS (SLABS, BEAMS, WALLS, COLUMNS, FOUNDATIONS, ...) SHALL REMAIN INTACT UNLESS SPECIFICALLY NOTED TO BE REMOVED BY THE DEMOLITION DOCUMENTS OR OTHERWISE NOTED ON THE STRUCTURAL DRAWINGS.
4. INFORMATION PROVIDED ON THESE DRAWINGS RELATED TO EXISTING CONDITIONS IS BASED ON AVAILABLE DESIGN DOCUMENTS. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY AND AWAIT DIRECTION FROM THE OWNER'S REPRESENTATIVE IF ANY DISCREPANCY BETWEEN THE CONTRACT DOCUMENTS AND THE EXISTING CONDITIONS IS DISCOVERED.
5. CORE DRILLS REQUIRED BY MECHANICAL OR ELECTRICAL TRADES BUT NOT SHOWN ON THE STRUCTURAL DRAWINGS SHALL BE DOCUMENTED SHOWING EXACT DIMENSIONS AND LOCATIONS. THE DRAWING SHALL BE SUBMITTED TO THE OWNER'S REPRESENTATIVE FOR APPROVAL PRIOR TO PROCEEDING WITH THE DRILLING OPERATION.
6. EXISTING CONCRETE SURFACE PREPARATION: INTENTIONALLY ROUGHEN EXISTING CONCRETE SURFACES TO AN AMPLITUDE OF 3/4" WHERE NEW CONCRETE IS BEING PLACED AGAINST THE EXISTING CONCRETE AND CONNECTED BY DRILLING AND EPOXY GROUTING.

SPECIAL INSPECTION NOTES:

- 1. SPECIAL INSPECTIONS WILL BE PERFORMED IN ACCORDANCE WITH THE STATEMENT OF SPECIAL INSPECTIONS.
2. OWNER, OR ARCHITECT/STRUCTURAL ENGINEER OF RECORD ACTING AS THE OWNER'S AGENT, SHALL DIRECTLY EMPLOY AND PAY FOR SERVICES OF THE SPECIAL INSPECTORS TO PERFORM REQUIRED SPECIAL INSPECTIONS.

STRUCTURAL DESIGN CRITERIA

Table with columns: BUILDING DATA, LOCATION, BUILDING OCCUPANCY RISK CATEGORY, APPLICABLE BUILDING CODE, DESIGN CRITERIA, HIGHLAND, NY 12558, II, 2020 BUILDING CODE OF NEW YORK STATE (IBC 2018)

GEOTECHNICAL INFORMATION:

Table with columns: ASSUMED ALLOWABLE BEARING PRESSURE, 2,000 PSF

FLOOR LIVE LOADS:

Table with columns: GARAGE LL1, 100 PSF

SLAB-ON-GRADE SCHEDULE

Table with columns: MARK, TYPE, THICKNESS, SLAB REINFORCING, REMARKS, S0G1, GARAGE SLAB, 8", #4 BARS @ 12" OC, EW, T&B, ADDITIONAL REINF REQ'D IN SLAB, SEE PLAN AND TYP DETAILS

REINFORCED CONCRETE COVER SCHEDULE

Table with columns: STRUCTURAL ELEMENT, MIN COVER (IN), CAST AGAINST EARTH, 3", EXPOSED TO EARTH OR WEATHER, #5 BARS AND SMALLER, WWF, 1-1/2", #6 BARS AND LARGER, 2", NOT EXPOSED TO EARTH OR WEATHER, #11 BARS AND SMALLER, WWF, 3/4", #14 BARS AND LARGER, 1-1/2", BEAMS AND COLUMNS, 1-1/2"

CONCRETE REINF SPLICE & DEVELOPMENT LENGTHS SCHEDULE

Table with columns: BAR SIZE, LAP SPLICE LENGTHS (IN), DEVELOPMENT LENGTHS (IN), CLASS, A, B, A, B, COMP, TENSION, COMP, HOOKED, #3, #4, #5, #6, #7, #8, #9, #10, #11

- NOTES:
1. TOP BARS ARE HORIZONTAL BARS, PLACED SO THAT MORE THAN 12 INCHES OF FRESH CONCRETE IS PLACED BELOW THE BAR.
2. ALL LAP SPLICES SHALL BE CLASS "B" UNLESS OTHERWISE NOTED.
3. LENGTHS IN THE TABLE ARE FOR UNCOATED OR ZINC-COATED (GALVANIZED) BARS.
4. CLEAR SPACING OF BARS BEING DEVELOPED OR SPLICED NOT LESS THAN 2DB AND CLEAR COVER NOT LESS THAN DB.
5. VALUES IN TABLE ARE FOR NORMAL WEIGHT CONCRETE.
6. SPACING REQUIREMENTS AND END ANCHORAGE SHALL BE SPACED PER THE REQUIREMENTS OF ACI-318.

CONCRETE STRENGTH AND MATERIAL SCHEDULE

Table with columns: STRUCTURAL ELEMENT, MIN COMPRESSIVE STRENGTH AT 28 DAYS (PSI), MAX WATER/CEMENT RATIO, AIR CONTENT (%), LIFT FOUNDATIONS, SLAB-ON-GRADE, 4,500, 0.45, 6 +/- 1.5

NOTES:

- 1. PREPARE DESIGN MIXES FOR EACH TYPE AND STRENGTH OF CONCRETE BY EITHER LABORATORY TRIAL BATCH OR FIELD EXPERIENCE METHODS AS SPECIFIED IN ACI 318.
2. CONCRETE SHALL BE READY MIXED PER ASTM C94. JOBSITE MIXING SHALL NOT BE PERMITTED.
3. MAXIMUM NOMINAL AGGREGATE SIZE IS 3/4".
4. SEE REINFORCED CONCRETE NOTES ON S401 FOR ADDITIONAL REQUIREMENTS.
5. ENSURE ENTRAPPED AIR IN SLAB CONCRETE TO BE BLOWN FINISHED DOES NOT EXCEED 3%.
6. DO NOT HARD-TROWEL SLABS THAT ARE TO BE AIR-ENTRAINED. COORDINATE SLAB FINISH WITH ARCHITECTURAL AND/OR OWNER REQUIREMENTS. CARE SHALL BE TAKEN FOR FINISHING SLABS WITH AIR-ENTRAINMENT.
7. CONCRETE PIT WALLS AND MAT FOUNDATION SHALL UTILIZE A CRYSTALLINE WATERPROOFING ADDITIVE (KYPX, OR EQAL).

STRUCTURAL ABBREVIATION LEGEND

Table with columns: STRUCTURAL ABBREVIATION LEGEND, STRUCTURAL ABBREVIATION LEGEND, AB, ANCHOR BOLT, IF, INSIDE FACE, ABV, ABOVE, INFO, INFORMATION, ACI, AMERICAN CONCRETE INSTITUTE, INSUL, INSULATION, ADDL, ADDITIONAL, INTM, INTERMEDIATE, ADH, ADHESIVE, JT, JOINT, AFF, ABOVE FINISH FLOOR, K, KIP (1000 POUNDS), AHR, ANCHOR, KLF, KIPS PER LINEAR FOOT, ASC, AMERICAN INSTITUTE OF STEEL CONSTRUCTION, KSI, KIPS PER SQUARE INCH, ALT, ALTERNATE, LB/LF, POUNDS PER LINEAR FOOT, APPROX, APPROXIMATELY, LL, LIVE LOAD, ARCH, ARCHITECT/ARCHITECTURAL, LLH, LONG LEG HORIZONTAL, ASTM, AMERICAN SOCIETY FOR TESTING AND MATERIALS, LLV, LONG LEG VERTICAL, AWS, AMERICAN WELDING SOCIETY, LOC, LOCATION(S), B/, BOTTOM OF, LCP, LOW POINT, BD, BOARD, LVL, LEVEL, BW, LIGHTWEIGHT, BFE, BASE FLOOD ELEVATION, LW, MANUFACTURER, BLCK, BLOCKING, MATL, MATERIAL, BM, BEAMS, MAX, MAXIMUM, BN, BOUNDARY HAULING, MECH, MECHANICAL, BO, BOTTOM OF, MEZZ, MEZZANINE, BOT, BOTTOM, MIN, MINIMUM, BRG, BRACING, MSC, MISCELLANEOUS, BTWN, BETWEEN, MTL, METAL, C/C, CENTER TO CENTER, [N], NEW, CMF, COLD FORMED METAL FRAMING, NSR, NEAR SIDE, CIP, CAST-IN-PLACE, NTS, NOT TO SCALE, CJ, CONTROL JOINT, OC, ON CENTER, C/P, COMPLETE JOINT PENETRATION, OD, OUTSIDE DIAMETER/DIMENSION, CLR, CLEARANCE, OFF, OUTSIDE FACE, CMU, CONCRETE MASONRY UNIT, OPNG, OPENING(S), CNJ, CONSTRUCTION JOINT, OPP, OPPOSITE, COL, COLUMN, P, PIER (SEE SCHEDULE), CONC, CONCRETE, PCC, PRECAST CONCRETE, CONN, CONNECTION, PCF, POUNDS PER CUBIC FOOT, CONST, CONSTRUCTION, PEMB, PRE-ENGINEERED METAL BUILDING, CONT, CONTINUOUS, PER, PERFORATED, COORD, COORDINATE, PERIM, PERIMETER, CIR, CENTER(ERED)(TRAL), PL, PLATE, CTR, CENTER(ERED)(TRAL), PLF, POUNDS PER LINEAR FOOT, DEMO, DEMOLITION, PREFAB, PREFABRICATED, DEMO, DEMOLITION, PREFIN, PREFINISHED, DFE, DESIGN FLOOD ELEVATION, PSF, POUNDS PER SQUARE FOOT, DIA, DIAMETER, PSI, POUNDS PER SQUARE INCH, DIAG, DIAGONAL, PT, POST TENSION(FD)(ING), DIM, DIMENSION, QTY, QUANTITY, DIV, DIVIDE(DED)(DER)(SION), R, RADIUS(RADI), DL, DEAD LOAD, RC, REINFORCED CONCRETE, DN, DOWN, REIN, REINFORCING, REINFORCEMENT, REQ(D), REQUIRE(D), DWF(S), DRAWING(S), REV, REVISE(ED)(ION), DWL, DOWEL(REBAR), RTU, ROOF TOP UNITS, (E), EXISTING, SCHED, SCHEDULE, EA, EACH, SDI, STEEL DECK INSTITUTE, EF, EACH FACE, SHT, SHEET, EJ, EXPANSION JOINT, SHGT, SHEATHING, ELEV, ELEVATION, SIM, SIMILAR, EMBED, EMBEDMENT, SL, SNOW LOAD, EOD, EDGE OF DECK, SOG, SLAB ON GRADE, EOS, EDGE OF SLAB, SPA, SPACE OR SPACING, EQ, EQUAL, SQ, SQUARE, EW, EACH WAY, SQ(FT), SQUARE FOOT/FEET, EXIST, EXISTING, STD, STANDARD, EXP, EXPAN(D)(SION), STIFF, STIFFENER, EXT, EXTERIOR, STL, STEEL, FD, FLOOR DRAIN, STRUCT, STRUCTURE(EI)(AL), FFE, FINISHED FLOOR ELEVATION, T&B, TOP&BOTTOM, FIN, FINISHED, T/7, TOP OF, FNDN, FOUNDATION, TBE, TOP OF BEAM ELEVATION, FP, FIREPROOF(ING), TDE, TOP OF DECK ELEVATION, FRMG, FRAMING, TEMP, TEMPORARY, FS, FAR SIDE, TFE, TOP OF FOOTING ELEVATION, FS, FOOTING STEP, THRD, THREAD(ED), FTG, FOOTING, TJE, TOP OF JOIST ELEVATION, GA, GAUGE, TLE, TOP OF LEDGE ELEVATION, GALV, GALVANIZED, TIME, TOP OF MASONRY ELEVATION, GC, GENERAL CONTRACTOR/CONSTRUCTION MANAGER, TO, TOP OF, HD, HEAVY DUTY, TOS, TOP OF STEEL, HK, HOOK, TPG, TOPPING, HORIZ, HORIZONTAL, TRTD, TREATED, HP, HIGH POINT, TSE, TOP OF SLAB ELEVATION, HS, HIGH STRENGTH, TWE, TOP OF WALL ELEVATION, HSS, HOLLOW STRUCTURAL SECTION(STRUC SHAPE), TYP, TYPICAL, HT, HEIGHT, UNO, UNLESS NOTED OTHERWISE, VERT, VERTICAL, VIF, VERIFY IN FIELD, W/, WITH, W/O, WITHOUT, WF, WIDE FLANGE, WGT, WEIGHT, WP, WORK POINT, WR, STRUCTURAL TEE(STRUCT SHAPE), WWR, WELDED WIRE REINFORCEMENT

Table with columns: DATE, DESCRIPTION, DATE, DESCRIPTION, DATE, DESCRIPTION, DATE, DESCRIPTION

Checked By: SGA, Date: 02-08-03 04:5:02:01, CSArch Proj #: 197-2201-0, Issued for Bid: 01/18/03

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CONSTRUCTION DOCUMENTS