GENERAL FOUNDATIONS & SLABS

1. DESIGN IS BASED UPON THE RECOMMENDATIONS IN THE GEOTECHNICAL REPORT PREPARED BY ECS SOUTHEAST, LLP, DATED FEBRUARY 7, 2022. REFER TO THE GEOTECHNICAL REPORT FOR ADDITIONAL REQUIREMENTS RELATED TO GROUND WATER CONDITIONS AND CONTROL, DRAINAGE, SITE PREPARATIONS, EARTHWORK OPERATIONS, AND OTHER FOUNDATION INFORMATION. FOUNDATION DESIGN IS BASED ON A NET ALLOWABLE BEARING PRESSURE OF 3000 PSF AND SHALL BE VERIFIED BY A GEOTECHNICAL ENGINEER LICENSED IN THE STATE OF THE PROJECT PRIOR TO CONSTRUCTION OF ANY FOUNDATION ELEMENTS. CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER & OWNER'S REPRESENTATIVE OF ANY UNEXPECTED CONDITIONS, INSUFFICIENT ALLOWABLE BEARING PRESSURE, OR INTERFERENCES THAT MAY REQUIRE A REVISED FOUNDATION DESIGN.

2. SUBBASE GRADING REQUIREMENTS AND DEFINITIONS
   - BUILDING PAD BASE: THE BUILDING PAD BASE SHALL BE TYPICALLY SLOPING FROM THE CENTERLINE OF THE BUILDING DOWN TO THE PERIMETER.
   - THE STONE BASE SHALL BE 4" THICK FOR SLABS UP TO AND INCLUDING 8" THICK. IT SHALL BE A WELL GRADED STONE BASE, TRIMMABLE AND COMPACTIBLE (NOT SAND), THAT CAN RESIST WEATHER AS WELL AS HEAVY CRANE AND CONSTRUCTION EQUIPMENT LOADS THROUGHOUT THE BUILDING SHELL CONSTRUCTION PERIOD. PROVIDE ASTM D448 SIZE 467 OR 57 WITH AN ADDITIONAL 30% TO 40% OF THE FINE GRADED MATERIAL PASSING A #4 SIEVE DOWN TO ROCK DUST. THIS MATERIAL IS TYPICALLY REFERRED TO AS A "CRUSHER-RUN".
   - AFTER FINAL COMPACTION AND JUST PRIOR TO SLAB CONSTRUCTION, PLACE A "CHOCKER BED" OF FINE GRADED MATERIAL TO REDUCE FRICTION BETWEEN THE SLAB AND BASE MATERIAL. "CHOCKER BED" SHALL BE ½" TO ¾" THICK. PROVIDE A CLEAN, FINE GRADED STONE MATERIAL (NOT SAND) WITH AT LEAST 10% TO 30% PASSING A #100 SIEVE THAT IS FREE OF CLAY, SILT AND ORGANIC MATERIALS. MATERIAL SHALL BE ANGULAR IN NATURE (NOT ROUNDED) SO THAT IT LOCKS TOGETHER WHEN COMPACTED. MATERIAL SHALL HAVE A UNIFORM DISTRIBUTION OF PARTICLES RANGING FROM A #4 TO #200 SIEVE. ASTM D448 UNWASHED #10 WOULD BE AN EXAMPLE OF AN ACCEPTABLE MATERIAL.
   - PLACE THE SUBBASE (STONE BASE & CHOKER BED) FOR FLOOR SLABS TO +0" / -1/2" TOLERANCE SO THAT NO AREA OF FLOOR SLAB IS LESS THAN THE SPECIFIED THICKNESS.

3. THE EXCAVATED SITE SHALL BE INSPECTED AND APPROVED BY A QUALIFIED GEOTECHNICAL ENGINEER PRIOR TO SCARIFYING, PROOF ROLLING AND PLACEMENT OF STRUCTURAL FILL MATERIAL. ALL EXCAVATION SHALL COMPLY WITH APPLICABLE LOCAL, STATE AND FEDERAL SAFETY STANDARDS, INCLUDING OSHA EXCAVATION AND TRENCH STANDARDS. FILLING AND BACKFILLING SHALL BE ACCOMPLISHED UTILIZING A WELL GRADED PROPERLY COMPACTED MATERIAL APPROVED BY THE GEOTECHNICAL ENGINEER.

4. FOUNDATION ELEVATIONS NOTED ON THE DRAWINGS ARE MINIMUM PRESUMED ELEVATIONS ESTABLISHED FROM AVAILABLE SOILS INFORMATION. FOUNDATIONS SHALL BEAR ON UNDISTURBED NATIVE SOIL OR PROPERLY COMPACTED SELECT ENGINEERED FILL OR OTHERWISE APPROVED STRUCTURAL FILL.

5. THE BEARING STRATA AT AND BELOW EACH FOUNDAITON SHALL BE INSPECTED AND TESTED TO VERIFY THE MINIMUM ALLOWABLE BEARING PRESSURE AND APPROVED BY A QUALIFIED GEOTECHNICAL ENGINEER PRIOR TO THE PLACEMENT OF CONCRETE. NOTIFY ENGINEER & OWNER'S REPRESENTATIVE WHEN POOR SOIL, WATER, OBSTRUCTIONS, PIPING, ADJACENT UTILITIES, EXISTING FOOTINGS, OTHER INTERFERENCES, EXCAVATIONS, ETC. ARE ENCOUNTERED THAT COULD NECESSITATE A REVISED FOUNDATION DESIGN. IF ALLOWABLE BEARING PRESSURE CANNOT BE VERIFIED OR UNSOUND CONDITIONS ARE ENCOUNTERED FOR FOUNDATIONS, NOTIFY ENGINEER & OWNER'S REPRESENTATIVES PRIOR TO START OF REWORK OR REPLACEMENT OF UNSOUND MATERIALS.

6. NO FOUNDATION SHALL BEAR DIRECTLY ON ROCK UNO. WHERE ROCK IS LESS THAN 2'-0" FROM THE BOTTOM OF THE FOOTING, UNDERCUT FOOTING A MINIMUM OF 2'-0" BELOW THE BOTTOM OF THE FOOTING AND TWO FEET WIDER THAN THE FOOTING. BACKFILL WITH APPROVED STRUCTURAL FILL.

7. PLACE FILL MATERIAL TO RAISE THE GRADE AS REQUIRED TO CONSTRUCT THE AGGREGATE BASE AND STRUCTURE. THE FILL MATERIAL SHALL BE PLACED WITH A LIFT THICKNESS, COMPACTION AND MOISTURE AS DEFINED BY GEOTECHNICAL ENGINEER.

8. FOR WALLS OR GRADE BEAMS HAVING FILL ON EACH SIDE, PROCEED WITH BACKFILLING OPERATIONS SIMULTANEOUSLY IN UNIFORM LIFTS. DIFFERENTIAL ELEVATION OF TOP OF LIFTS BETWEEN EACH SIDE SHALL NOT EXCEED 12".

9. UNLESS NOTED OTHERWISE, ALL WALLS SHALL BE SUPPORTED, SHORED AND/OR BRACED UNTIL THE STRUCTURE SUPPORTING THE TOP OF THE WALL HAS BEEN PLACED AND APPROPRIATELY CURED.

10. WHERE FOUNDATIONS ABUT OR ARE NEAR EXISTING FOUNDATIONS, CAREFULLY HAND-EXCAVATE AND DETERMINE BOTTOM OF EXISTING FOUNDATION. NEW FOUNDATIONS SHALL NOT UNDERMINE EXISTING FOUNDATIONS AND SHALL NOT BE INSTALLED BELOW ADJACENT EXISTING FOUNDATIONS UNLESS OTHERWISE INSTRUCTED BY THE ENGINEER.

11. CONTRACTOR SHALL PROVIDE NECESSARY SHEETING, SHORING, BRACING, ETC. AS REQUIRED DURING EXCAVATIONS TO PROTECT EXISTING CONSTRUCTION AND PERSONNEL FROM SLIDES OR CAVE-INS AND COMPLY FULLY WITH SAFETY REQUIREMENTS OF OSHA AND OTHER REGULATORY AGENCIES.

12. WHERE FOUNDATION EXCAVATIONS ARE TO REMAIN EXPOSED TO RAINFALL, FROST, ICE OR OTHER ADVERSE CONDITIONS THAT MIGHT HARMFULLY AFFECT THE SUBGRADE, EXCAVATIONS SHALL BE UNDERCUT AND A THREE (3) INCH MUD MAT OF MINIMUM 1500 PSI STRENGTH. CONCRETE SHALL BE PLACED TO PROTECT THE SUBGRADE. IF NECESSARY TO PROTECT SUBGRADE SOILS, CONTRACTOR SHALL PROVIDE DEWATERING EQUIPMENT AND DRAINAGE TO REMOVE EXCESS MOISTURE AND MAINTAIN DRY EXCAVATIONS UNTIL CONCRETE WORK IS COMPLETED.

13. SAWN CONTROL JOINTS IN SLAB-ON-GRADE SHALL BE CUT IN ACCORDANCE WITH ACI 302.1R. JOINTS SHALL BE CUT WITHIN 8 HOURS OF SLAB PLACEMENT. THE LENGTH / WIDTH RATIOS OF SLAB AREAS SHALL NOT EXCEED 1.5. THE MAXIMUM JOINT SPACING SHALL BE AS SPECIFIED, UNLESS SPECIFIED ON DOCUMENTS, CONTRACTOR TO SUBMIT PROPOSED JOINT LAYOUT FOR REVIEW / APPROVAL.

14. CONTROL JOINTS IN ALL FOUNDATION AND RETAINING WALLS SHALL BE PLACED NOT MORE THAN 20 FEET APART AND SHALL HAVE 3/4 INCH V-CHAMFERS ON EACH SIDE.

CONCRETE

1. DESIGN, DETAILING, AND CONSTRUCTION OF REINFORCED CONCRETE SHALL CONFORM TO THE FOLLOWING PUBLICATION UNLESS NOTED OTHERWISE:
   - BUILDING CODE REQUIREMENTS FOR REINFORCED STRUCTURAL CONCRETE (ACI 318)
   - DETAILS AND DETAILING OF CONCRETE REINFORCEMENT (ACI 315)
   - GUIDE FOR CONCRETE FLOOR AND SLAB CONSTRUCTION (ACI-302.1R)
   - GUIDE TO HOT WEATHER CONCRETING (305R)
   - GUIDE TO COLD WEATHER CONCRETING (306R)
   - GUIDE TO MASS CONCRETE (207.1R)
   - SPECIFICATION FOR TOLERANCES FOR CONCRETE CONSTRUCTION AND MATERIALS (117)

2. UNLESS OTHERWISE NOTED, CONCRETE SHALL BE NORMAL WEIGHT AND SHALL DEVELOP 28 DAY COMPRESSIVE STRENGTH AS FOLLOWS:
   - EXTERIOR CONCRETE EXPOSED TO FREEZE / THAW = 4500 PSI, MAX. W/C RATIO 0.45, AIR ENTRAINED
   - ALL OTHER CONCRETE = 4000 PSI

3. REINFORCING BARS SHALL CONFORM TO ASTM A615, GRADE 60, WELDED WIRE REINFORCEMENT SHALL CONFORM TO ASTM A1064. WELDED WIRE REINFORCEMENT SHALL LAP TWO FULL MESHES AND BE SECURELY WIRED AT EACH SIDE AND END. WELDED WIRE REINFORCEMENT SHALL BE FABRICATED FROM SHEETS. ROLLS ARE NOT ALLOWED.

4. DETAILING OF CONCRETE REINFORCEMENT AND ACCESSORIES SHALL BE IN ACCORDANCE WITH ACI DETAILING MANUAL, SP-66, THE CRSI MANUAL OF STANDARD PRACTICE AND ACI 318.

5. WHERE EXCESS WATER IS ADDED TO THE CONCRETE SO THAT ITS PERFORMANCE IS DEGRADED, THE CONTRACTOR IS NOT RELEASED FROM ACHIEVING THE REQUIRED STRENGTH. IF STRENGTH IS NOT ACHIEVED NOTIFY THE ENGINEER OF RECORD.

6. ALL CONCRETE SHALL BE VIBRATED. TO ENSURE PROPER DENSITY AND ELIMINATION OF VOIDS

7. PROVIDE CONCRETE FINISHES IN ACCORDANCE WITH ACI 302.1R ON EXPOSED SURFACES AS FOLLOWS:
   - FLOAT FINISH: BELOW GRADE FOOTINGS, TOPS OF FORMED GRADE BEAMS, FOUNDATION WALLS AND PIT MATS.
   - LIGHT STEEL TROWELED FINISH (ACI 302.1R CLASS 2): FLOORS SCHEDULED TO RECEIVE A COVERED SURFACE (CARPET, CARPET, TILES, OR SIMILAR)
   - NORMAL STEEL TROWELED FINISH OR FLOAT FINISH (ACI 302.1R CLASS 3): FLOORS SCHEDULED TO RECEIVE A BONDED OR UNBONDED TOPPING. VERIFY WITH TOPPING MANUFACTURER PRODUCT DATA PRIOR TO PROCEEDING. FLOAT FINISH FOR TEXTURED SURFACE TYPICALLY ADEQUATE FOR CERAMIC TILES AND HIGH BUILD COATINGS (BONDED TOPPINGS); NORMAL STEEL TROWEL FOR THIN SET MATERIALS AND UNBONDED TOPPINGS.
   - NORMAL STEEL TROWELED FINISH (ACI 302.1R CLASS 4): FLOORS FOR FOOT AND/OR LIGHT VEHICULAR TRAFFIC SCHEDULED TO BE EXPOSED.
   - HARD STEEL TROWELED FINISH WITH MULTIPLE PASSES (ACI 302.1R CLASS 5 OR 6): FLOORS SCHEDULED TO RECEIVE A SHAKE-ON SURFACE HARDENER OR DIAMOND GRINDING
   - BROOM FINISH: INTERIOR FLOORS OR EXTERIOR SLABS OR PADS SCHEDULED TO BE NON-SLIP. VERIFY LIGHT, MEDIUM, OR HEAVY WITH ENGINEER OF RECORD AND OWNER'S REPRESENTATIVE. BROOM PATTERN SHALL BE PERPENDICULAR TO TRAFFIC FLOW.
   - TYNE FINISH: STEEP RAMPS AND/OR EXTERIOR PADS AS INDICATED ON THE DRAWINGS. TYNE PATTERN SHALL BE PERPENDICULAR TO TRAFFIC FLOW

8. CHAMFER ALL EXPOSED CONCRETE CORNERS 3/4 INCH x 45 DEGREE, UNLESS NOTED OTHERWISE.

9. ALL PIPE PENETRATIONS THROUGH SLABS SHALL BE POSITIONED AND SLEEVED IN CONFORMANCE WITH ACI 318.

10. REFER TO CIVIL DRAWINGS FOR SITE CONCRETE.

11. REFER TO DRAWINGS OF OTHER DISCIPLINES AND VENDOR DRAWINGS FOR EMBEDDED ITEMS AND RECESSES NOT SHOWN ON STRUCTURAL DRAWINGS. NOTIFY EOR IF ANY EMBED ITEM OR RECESS REQUIRES MODIFICATION TO ITEMS INDICATED ON THESE DOCUMENTS.

12. FLY ASH CONTENT SHALL NOT EXCEED 25% OF THE TOTAL WEIGHT OF CEMENT PLUS FLY ASH. FLY ASH SHALL BE USED IN INTERIOR SLABS ON GRADE. FOR MASS CONCRETE (CONCRETE OVER 3 FEET THICK), CONTRACTOR / SUPPLIER TO COORDINATE FLY ASH CONTENT WITH ENGINEER FOR TEMPERATURE CONTROL.

13. CONTRACTOR SHALL VERIFY THAT CURING COMPOUNDS AND/OR SEALERS ARE COMPATIBLE WITH ADHESIVE SPECIFIED FOR FLOOR FINISHES OR BE REMOVED PRIOR TO APPLYING FINISH.

14. REINFORCING SHALL NOT BE HEATED OR WELDED.

15. PROVIDE THE FOLLOWING CAST-IN-PLACE CONCRETE COVER FOR REINFORCEMENT, UNLESS NOTED OTHERWISE:
   A. CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH = 3 INCHES
   B. CONCRETE EXPOSED TO EARTH OR WEATHER:
      a. NO. 6 THROUGH NO. 18 REBAR = 2 INCH
      b. NO. 5 REBAR, W31, AND SMALLER = 1-1/2 INCH
   C. CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND
      a. SLABS, WALLS AND JOISTS:
         a. NO. 14 AND NO. 18 REBAR = 1-1/2 INCH
         b. NO. 11 BAR AND SMALLER = 3/4 INCH
      b. BEAMS AND COLUMNS
         a. PRIMARY REINFORCEMENT, TIES, STIRRUPS AND SPIRALS = 1-1/2 INCH

16.

CONCRETE REINFORCEMENT EMBEDMENT LENGTHS

BAR SIZE	3000 PSI				4000 PSI				4500 PSI				5000 PSI			
	CASE 1	CASE 2	CASE 3	CASE 4	CASE 1	CASE 2	CASE 3	CASE 4	CASE 1	CASE 2	CASE 3	CASE 4	CASE 1	CASE 2	CASE 3	CASE 4
	STRAIGHT		HOOKED		STRAIGHT		HOOKED		STRAIGHT		HOOKED		STRAIGHT		HOOKED	
#3	17	26	7	9	15	22	6	8	14	21	6	7	14	20	6	6
#4	23	34	8	11	20	29	7	10	19	27	7	9	18	27	7	9
#5	28	42	10	14	24	37	9	12	24	34	9	12	22	33	8	11
#6	34	50	12	17	29	44	11	15	27	41	10	14	27	39	10	13
#7	49	73	14	20	42	63	12	17	40	60	12	16	38	57	11	15
#8	56	83	16	22	48	72	14	19	46	68	13	18	44	64	12	17
#9	63	94	18	25	54	81	16	22	51	77	15	21	49	73	14	20
#10	70	105	20	28	61	91	18	25	57	86	17	23	55	82	16	22
#11	78	117	22	31	67	101	19	27	64	95	19	26	60	90	17	24

   A. EMBEDMENT LENGTH UNITS ARE INCHES. EMBEDMENT LENGTH VALUES ARE BASED ON ACI 318-19.
   B. THE MINIMUM STRAIGHT EMBEDMENT LENGTH = 12". THE MINIMUM HOOKED EMBEDMENT LENGTH = LARGER OF 8xBAR DIAMETER OR 6".
   C. HOOKS ARE 90-DEGREES.
   D. EMBEDMENT LENGTHS ARE BASED ON NORMAL-WEIGHT CONCRETE, FOR LIGHT-WEIGHT CONCRETE MULTIPLY THE VALUES BY 1.33.
   E. ALL EMBEDMENT LENGTH VALUES ARE BASED ON UNCOATED REBAR.
   F. CASE "1" STRAIGHT VALUES CAN BE USED FOR REBAR BEING EMBEDDED WITH CLEAR SPACING ≥ TWO BAR DIAMETERS AND CLEAR COVER ≥ ONE BAR DIAMETER. FOR ALL OTHER STRAIGHT REBAR EMBEDMENTS USE CASE "2" VALUES.
   G. CASE "3" HOOKED VALUES CAN BE USED FOR REBAR BEING EMBEDDED WITH SIDE COVER ≥ 2 1/2" AND WITH COVER ON BAR EXTENTION BEYOND HOOK ≥ 2". FOR ALL OTHER HOOKED REBAR EMBEDMENTS USE CASE "4" VALUES.
   H. THE CONTRACTOR HAS THE OPTION TO UTILIZE PROVISIONS IN ACI 318 THAT ALLOW FOR REDUCTIONS IN EMBEDMENT LENGTH VALUES BASED ON CONFINEMENT REINFORCING. IF THE CONTRACTOR ELECTS TO UTILIZE ACI 318 REDUCTION VALUES, THEN THEY MUST SUBMIT CALCULATIONS FOR ENGINEER REVIEW.

17.

CONCRETE REINFORCEMENT LAP SPLICE LENGTHS

BAR SIZE	3000 PSI CONCRETE				4000 PSI CONCRETE				4500 PSI CONCRETE				5000 PSI CONCRETE			
	CASE 1		CASE 2		CASE 1		CASE 2		CASE 1		CASE 2		CASE 1		CASE 2	
	TOP	OTHER	TOP	OTHER	TOP	OTHER	TOP	OTHER	TOP	OTHER	TOP	OTHER	TOP	OTHER	TOP	OTHER
#3	28	22	42	33	25	19	37	28	23	18	35	27	22	17	33	25
#4	38	29	56	43	31	25	49	37	31	24	46	35	29	23	44	34
#5	47	36	70	54	41	31	61	47	38	30	57	44	36	28	54	42
#6	56	43	84	65	49	37	73	56	46	35	69	53	44	34	65	50
#7	81	63	122	94	71	54	106	81	67	51	100	77	63	49	95	73
#8	93	72	139	107	81	62	121	93	76	59	114	88	72	56	108	83
#9	105	81	157	121	91	70	136	105	86	66	128	99	81	63	122	94
#10	118	91	177	136	102	79	153	118	96	74	144	111	92	71	137	106
#11	131	101	196	151	114	87	170	131	107	82	160	123	102	78	152	117

   A. LAP SPLICE LENGTH UNITS ARE INCHES. LAP SPLICE LENGTH VALUES ARE BASED ON ACI 318-19.
   B. ALL LAP SPLICES ARE CLASS "B", UNLESS NOTED OTHERWISE. WHEN APPLICABLE, CLASS "A" LAP SPLICES EQUAL THE VALUES ABOVE MULTIPLIED BY 0.77. NOTE THAT THE MINIMUM SPLICE LENGTH = 12".
   C. LAP SPLICES ARE BASED ON NORMAL-WEIGHT CONCRETE, FOR LIGHT-WEIGHT CONCRETE MULTIPLY THE VALUES BY 1.33.
   D. ALL LAP SPLICE VALUES ARE BASED ON UNCOATED REBAR.
   E. CASE "1" VALUES CAN BE USED FOR REBAR BEING SPLICED WITH CLEAR SPACING ≥ TWO BAR DIAMETERS AND CLEAR COVER ≥ ONE BAR DIAMETER. FOR ALL OTHER REBAR SPLICES USE CASE "2" VALUES.
   F. "TOP" BARS ARE ALL HORIZONTAL BARS WITH MORE THAN 12" OF CONCRETE CAST BELOW THE BARS. FOR ALL VERTICAL BARS AND HORIZONTAL BARS WITH LESS THAT 12" OF CONCRETE CAST BELOW THE BARS, USE THE "OTHER" VALUES.
   G. THE CONTRACTOR HAS THE OPTION TO UTILIZE PROVISIONS IN ACI 318 THAT ALLOW FOR REDUCTIONS IN SPLICE LENGTH VALUES BASED ON EXACT CLEAR COVER AND SPACING VALUES AND/OR TRANSVERSE REINFORCEMENT. IF THE CONTRACTOR ELECTS TO UTILIZE ACI 318 REDUCTION VALUES, THEN THEY MUST SUBMIT CALCULATIONS FOR ENGINEER REVIEW.

POST INSTALLED ANCHORS

1. INSTALL ANCHORS PER THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.
2. CORE DRILLED ANCHOR HOLES ARE NOT PERMITTED.
3. PER ACI 318-19 CH. 17 ADHESIVE ANCHORS SHALL BE INSTALLED IN CONCRETE HAVING A MINIMUM AGE OF 21 DAYS AT TIME OF ANCHOR INSTALLATION.
4. POST-INSTALLED ANCHORS SHALL ONLY BE USED WHERE SPECIFIED ON THE DRAWINGS. CONTRACTOR SHALL OBTAIN APPROVAL FROM THE STRUCTURAL ENGINEER OF RECORD PRIOR TO USING POST-INSTALLED ANCHORS FOR MISSING OR MISPLACED CAST-IN-PLACE ANCHORS.
5. INSPECT AND TEST POST-INSTALLED ANCHORS AND DOWELS AS SPECIFIED IN ICC ESR.
6. THE CONTRACTOR SHALL ARRANGE AN ANCHOR MANUFACTURER'S REPRESENTATIVE TO PROVIDE ONSITE INSTALLATION TRAINING FOR ALL OF THE ANCHORING PRODUCTS SPECIFIED. THE STRUCTURAL ENGINEER OF RECORD MUST RECEIVE DOCUMENTED CONFIRMATION THAT ALL PERSONNEL WHO INSTALL ANCHORS ARE TRAINED PRIOR TO THE COMMENCEMENT OF ANCHOR INSTALLATION.
7. ANCHOR CAPACITY IS DEPENDENT UPON SPACING BETWEEN ADJACENT ANCHORS AND PROXIMITY OF ANCHORS TO EDGE OF CONCRETE. INSTALL ANCHORS IN ACCORDANCE WITH SPACING AND EDGE CLEARANCES INDICATED ON THE DRAWINGS.
8. EXISTING REINFORCING BARS IN THE CONCRETE STRUCTURE MAY CONFLICT WITH SPECIFIED ANCHOR LOCATIONS. UNLESS NOTED ON THE DRAWINGS THAT THE BARS CAN BE CUT, THE CONTRACTOR SHALL REVIEW THE EXISTING STRUCTURAL DRAWINGS AND SHALL UNDERTAKE TO LOCATE THE POSITION OF THE REINFORCING BARS THAT MAY INTERFERE WITH THE SPECIFIED LOCATION OF ANCHORS. IF AN INTERFERENCE IS FOUND TO EXIST, PROVIDE INFORMATION REGARDING ACTUAL LOCATION OF EXISTING BARS TO THE ENGINEER OF RECORD SO AN ALTERNATE ANCHOR ARRANGEMENT CAN BE DETERMINED, PERFORM INVESTIGATIVE MEASURES TO DETERMINE EXISTING REINFORCING BAR LOCATIONS AHEAD OF ACTUAL INSTALLATION OF ANCHOR
9. POST-INSTALLED ANCHORS EXPOSED TO WEATHER THAT SUPPORT STRUCTURAL WALLS, FLOORS, COLUMNS OR BEAMS SHALL BE GALVANIZED.
10. POST-INSTALLED ANCHORS THAT SUPPORT A VENEER SHALL BE STAINLESS STEEL.
11. SUBSTITUTION REQUESTS FOR ALTERNATE PRODUCTS MUST BE APPROVED IN WRITING BY THE STRUCTURAL ENGINEER OF RECORD PRIOR TO USE. CONTRACTOR SHALL PROVIDE CALCULATIONS THAT HAVE BEEN SEALED BY ANOTHER LICENSED ENGINEER IN THE STATE OF THE PROJECT DEMONSTRATING THAT THE SUBSTITUTED PRODUCT IS CAPABLE OF MEETING THE PERFORMANCE OF THE SPECIFIED PRODUCT. SUBSTITUTIONS SHALL HAVE AN ICC ESR SHOWING COMPLIANCE WITH THE RELEVANT BUILDING CODE FOR SEISMIC USES, LOAD RESISTANCE, INSTALLATION CATEGORY, AND AVAILABILITY OF COMPREHENSIVE INSTALLATION INSTRUCTIONS. ADHESIVE ANCHOR EVALUATION WILL ALSO CONSIDER CREEP, IN-SERVICE TEMPERATURE, INSTALLATION TEMPERATURE, MOISTURE CONDITION OF CONCRETE, AND DRILLING METHODS.
12. TYPICAL ANCHORS AND SYSTEMS UNLESS NOTED OTHERWISE
    A. MECHANICAL ANCHORS LOCATED IN CONCRETE SHALL BE HILTI KWIK BOLT TZ2 CONFORMING TO ICC ESR-4266 OR APPROVED EQUAL.
    B. ADHESIVE ANCHORS LOCATED IN CONCRETE SHALL BE HILTI HIT-HY 200 WITH HIT-Z RODS CONFORMING TO ICC 3187 OR APPROVED EQUAL.
    C. REINFORCING BARS ANCHORED IN CONCRETE SHALL BE HILTI HIT-HY 200 CONFORMING TO ICC ESR 3187 OR APPROVED EQUAL
    D. MECHANICAL ANCHORS LOCATED IN GROUTED MASONRY SHALL BE HILTI KWIK BOLT TZ2 CONFORMING TO ICC ESR-4561.
    E. ADHESIVE ANCHORS LOCATED IN GROUTED OR UNGROUTED MASONRY SHALL BE HILTI HIT-HY270 CONFORMING TO ICC ESR-4143.
13. REFER TO PLAN NOTES, DETAILS, AND / OR SCHEDULES FOR DIAMETER OF ANCHOR RODS OR SIZE OF REBAR AND EMBEDMENT DEPTH REQUIRED.

SSOE®

CONSULTANTS:

Issued For CONSTRUCTION
04/29/2022
www.ssoe.com

SEAL ON THIS DOCUMENT AUTHORIZED BY:

GEORGIA REGISTERED No. PE033600 PROFESSIONAL ENGINEER WILLIAM B. KUSSROW
04/29/2022

PROJECT INFORMATION:

BROWNFIELD MODIFICATIONS

CLIENT INFORMATION:

ASCEND ELEMENTS
ASCEND ELEMENTS, INC
9172 INDUSTRIAL DR NE
COVINGTON, GA
30014

CLIENT PROJECT NO: XXX-XXXXX-XX

NO.	DATE	SUBJECT
A	04/29/22	FOR CONSTRUCTION - PKG 11C02

REVISION OR ISSUE

SSOE, Inc.
1001 Madison Avenue
Toledo, OH 43604
T. (419) 255-3830

PROJECT NO: 021-01975-00
PROJECT MANAGER: R. FOX
DESIGNED: H.FIRSTER
CHECKED: D. LYKINS

DRAWING TITLE:
STRUCTURAL GENERAL NOTES

DRAWING NO:
S-002

BIM 360://Battery Resources Brownfield Modifications/021019750O_S2O_SSOE.rvt
DATE: 4/29/2022 1:25:11 PM