EARTHWORK

1. SITE PREPARATION FOR THE BUILDING PAD SHALL CONSIST OF THE REMOVAL OF EXISTING PAVEMENT, VEGETATION, ORGANIC MATTER AND ANY ADDITIONAL MATERIAL AS NECESSARY TO PROVIDE THE REQUIRED AMOUNT OF FILL UNDER THE BUILDING.
2. THE SUBGRADE SHALL BE PROOFROLLED WITH A HEAVY, RUBBER-TIRED VEHICLE (STATIC WEIGHT OF AT LEAST 20 TONS AND WITH TIRE PRESSURES OF AT LEAST 90 PSI). THE CONTRACTOR SHALL MAKE AT LEAST TWO COMPLETE PASSES OVER THE AREA WITH THE SECOND PASS PERPENDICULAR TO THE FIRST PASS. AREAS OF THE SUBGRADE THAT ARE OBSERVED TO BE SOFT OR WEAK SHALL BE OVEREXCAVATED AND REPLACED WITH PROPERLY COMPACTED SELECT FILL.
3. SUBGRADE SHALL THEN BE SCARIFIED AND MOISTURE CONDITIONED TO MATCH THE BUILDING PAD PERIMETER TO A SIX (6) INCH DEPTH AND THEN RECOMPACTED TO BETWEEN 95 AND 100 PERCENT OF THE MAXIMUM DRY DENSITY AS DETERMINED BY THE STANDARD PROCTOR DENSITY TEST (ASTM D698). THE MOISTURE CONTENT SHALL BE BETWEEN OPTIMUM AND +3 PERCENT OF THE OPTIMUM MOISTURE CONTENT. PROVIDE A MINIMUM OF FOUR (4) FIELD DENSITY TESTS ON THE SUBGRADE OR ONE (1) FOR EVERY 2,500 SQUARE FEET WHICHEVER IS GREATER.
4. SELECT FILL MATERIAL FOR THE BUILDING PAD SHALL BE AN INORGANIC SANDY CLAY WITH A LIQUID LIMIT BETWEEN 26 AND 40 AND PLASTICITY INDEX BETWEEN 10 AND 20. STRUCTURAL SELECT FILL PAD MATERIAL SHALL BE TESTED FOR ACCEPTABILITY AND A MOISTURE DENSITY CURVE SHALL BE ESTABLISHED.
5. SELECT FILL SHALL BE PLACED IN EIGHT INCH LOOSE LIFTS AND COMPACTED TO BETWEEN 95 AND 100 PERCENT OF THE MAXIMUM DRY DENSITY AS DETERMINED BY THE STANDARD PROCTOR DENSITY TEST (ASTM D698). THE MOISTURE CONTENT SHALL BE BETWEEN OPTIMUM AND +3 PERCENT OF THE OPTIMUM MOISTURE CONTENT FOR SELECT FILL. SELECT FILL MATERIAL SHALL EXTEND TO 5'-0" BEYOND THE BUILDING PERIMETER. PROVIDE A MINIMUM OF FOUR (4) FIELD DENSITY TESTS ON EACH LIFT OF SELECT FILL OR ONE (1) FOR EVERY 2,500 SQUARE FEET WHICHEVER IS GREATER.
6. SELECT FILL MATERIAL SHALL BE TESTED DURING PLACEMENT OF EACH LIFT FOR THE ATTERBERG LIMITS IN ACCORDANCE WITH ASTM D4318-98 METHOD B "STANDARD TEST METHOD FOR LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX OF SOILS" TO VERIFY THAT THE SELECT FILL MATERIAL IS IN ACCORDANCE WITH THE ORIGINALLY APPROVED SELECT FILL MATERIAL. PROVIDE A MINIMUM OF ONE (1) TEST PER LIFT OR ONE (1) FOR EVERY 2,500 SQUARE FEET WHICHEVER IS GREATER WITH A MAXIMUM OF TEN (10) PER LIFT.
7. CONTRACTOR SHALL MAINTAIN A CLEAN EXCAVATION THAT IS FREE OF WATER 100% OF THE TIME. CONTRACTOR SHALL PROVIDE PUMPS AS REQUIRED TO REMOVE ANY WATER AT ALL TIMES.
8. THE SITE SHALL BE GRADED TO PROVIDE POSITIVE DRAINAGE AWAY FROM THE BUILDING PAD DURING BUILDING PAD INSTALLATION AND WHEN THE BUILDING PAD AND BUILDING ARE COMPLETED.
9. PLUMBING AND UTILITY TRENCHES WITHIN THE BUILDING PAD SHALL HAVE PIPING BEDDED ON 6" MINIMUM OF CEMENT STABILIZED SAND WITH 4" MINIMUM ALL AROUND. BACKFILL IN UTILITY TRENCHES SHALL CONSIST OF COMPACTED SELECT FILL. PROVIDE A 1'-0" WIDE BENTONITE CLAY PLUG OR FAT CLAY (PI>50) FOR THE FULL DEPTH AND WIDTH OF THE UTILITY TRENCH TO A MINIMUM OF 1'-0" ABOVE THE BOTTOM OF THE FOUNDATION AT THE EXTERIOR FACE OF BUILDING FOUNDATIONS WHERE UTILITY TRENCHES ENTER THE BUILDING.
10. PROVIDE A MINIMUM TWELVE (12) INCH FAT CLAY CAP (PI>50) FOR A MINIMUM OF 5'-0" AROUND THE PERIMETER OF THE BUILDING. THE CAP SHALL EXTEND AS REQUIRED TO COVER THE LIMITS OF THE BUILDING PAD EXCAVATION AND SELECT FILL BUILDING PAD MATERIALS.

SITE DRAINAGE

1. GRADE THE SITE TO PROVIDE POSITIVE DRAINAGE AWAY FROM ALL BUILDINGS AND SLABS. WATER SHALL NOT BE ALLOWED TO POND ADJACENT TO THE BUILDING FOUNDATIONS OR SLABS.
2. AS A MINIMUM REQUIREMENT, ALL DOWNSPOUTS FROM ROOF DRAINS AND GUTTERS SHALL BE COLLECTED AND PIPED AWAY FROM THE BUILDING. WHEN WATER IS NOT PIPED AWAY FROM THE BUILDING, DOWNSPOUTS SHALL DUMP ONTO A CAST IN PLACE 4" THICK X 3'-0" WIDE CONCRETE SWALE REINFORCED WITH #4 AT 12" ON CENTER EACH WAY AND EXTENDING 10'-0" OUT FROM THE BUILDING. REFER TO ARCHITECTURAL AND CIVIL FOR PAVING AND DRAINGAGE.
3. TREES AND VEGETATION SHALL NOT BE ALLOWED WITHIN A DISTANCE EQUAL TO THREE QUARTERS THEIR ULTIMATE HEIGHT AWAY FROM THE BUILDING.
4. IRRIGATE VEGETATION AND SOILS ADJACENT TO BUILDING (NO MORE THAN 15 MINUTES THREE TIMES A WEEK) ON AN AS NEEDED BASIS TO MAINTAIN UNIFORM SOIL MOISTURE CONDITIONS AROUND THE PERIMETER OF THE BUILDING FOLLOWING CONSTRUCTION.

FOUNDATIONS

1. PREPARED GRADE AREA UNDER ALL BUILDING SLABS AND GRADE BEAMS SHALL BE COVERED WITH A 15 MIL WATER VAPOR RETARDER MEETING THE REQUIREMENTS OF ASTM E 1745 (LATEST EDITION). CLASS A OR BETTER WITH MAXIMUM WATER PERMEANCE OF 0.01 PERMS WHEN TESTED IN ACCORDANCE WITH ASTM E96. THE WATER VAPOR RETARDER SHALL BE INSTALLED, LAPPED AND TAPED WITH MANUFACTURER'S APPROVED PRODUCT IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM E 1643 (LATEST EDITION). PENETRATIONS SHALL SEALED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND REQUIREMENTS.
2. FOUNDATION DETAILING SHOWN ON THE DRAWINGS IS BASED ON A FOUNDATION DESIGN SPECIFIED IN THE SOIL REPORT BY QC LABORATORIES, INC. REPORT NO. 26621803, DATED MAY 21, 2026. THE RECOMMENDATIONS CONTAINED IN THE GEOTECHNICAL REPORT SHALL NOT SUPERSEDE THE REQUIREMENTS SHOWN ON THE DESIGN DRAWINGS OR IN THE SPECIFICATIONS WHEN THE REQUIREMENTS SHOWN ON THE DRAWINGS ARE GREATER THAN THOSE SHOWN IN THE GEOTECHNICAL REPORT. THE CONTRACTOR IS REQUIRED TO SECURE A COPY OF THE GEOTECHNICAL REPORT FROM THE OWNER AND TO HAVE A COPY ON THE JOB SITE AT ALL TIMES FOR HIS USE AND REFERENCE.
3. FOUNDATION DETAILING SHOWN ON THE DRAWINGS IS BASED ON A MINIMUM OFTWO FEET OF SELECT FILL MATERIAL BENEATH THE FLOOR SLAB AND SHALL EXTEND TO 5'-0" BEYOND THE BUILDING PERIMETER.
4. ALL BACKFILL FOR BURIED PIPES AND CONDUIT WITHIN THE BUILDING PAD AND EXTENDING OUT MINIMUM 5'-0" BEYOND THE BUILDING SHALL BE BACKFILLED WITH SELECT FILL BACKFILL. DO NOT USE SAND BACKFILL. A 2'-0" WIDE BENTONITE PLUG SHALL BE PROVIDED IN ALL UTILITY TRENCHES AT THE FACE OF THE BUILDING FOUNDATION. SEE DETAIL 9/S3.01 FOR DETAIL AT PIPE BUILDING ENTRY.
5. CONDUITS SHALL NOT BE PLACED IN THE CONCRETE SLAB. CONDUITS SHALL BE PLACED IN THE SELECT FILL MATERIAL BENEATH THE VAPOR RETARDER. ALL PENETRATIONS OF THE VAPOR RETARDER SHALL BE SEALED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND REQUIREMENTS. CONDUIT TRENCHES WITHIN THE BUILDING PAD SHALL BE LIMITED TO A MAXIMUM WIDTH OF TWO FEET AND BE SPACED NO CLOSER THAN FOUR FEET CENTER TO CENTER. CONDUITS STACKED WITHIN A SINGLE TRENCH SHALL BE SEPARATED VERTICALLY BY TWO TIMES THE DIAMETER OF THE LARGEST CONDUIT OR 12 INCHES MINIMUM. COMPACTED SELECT FILL OR OTHER APPROPRIATE COMPACTED FILL MATERIAL SHALL BE USED BETWEEN STACKED CONDUITS.
6. THE FLOOR SLAB SUBGRADE SHALL BE PROPERLY COMPACTED, PROOF ROLLED AND SHALL BE FREE OF STANDING WATER, MUD AND FROZEN SOILS.
7. SLABS ON GROUND SHALL HAVE CONSTRUCTION JOINTS OR CRACK CONTROL JOINTS (REFER TO TYPICAL DETAILS) AT EACH COLUMN LINE AND IN EACH DIRECTION. ADDITIONAL CRACK CONTROL JOINTS SHALL BE PROVIDED SUCH THAT NO AREA BOUNDED BY CONSTRUCTION AND/OR CRACK CONTROL JOINTS CONTAINS MORE THAN 250 SQUARE FEET AND THE RESULTING ASPECT RATIO OF LONG SIDE TO SHORT SIDE DIMENSIONS OF THE BOUNDED SLAB AREA DOES NOT EXCEED 1.5 TO 1. CRACK CONTROL JOINTS SHALL BE MADE USING A "SOFT-CUT" CONCRETE SAW AS SOON AS THE SLAB WILL SUPPORT THE WEIGHT OF THE SAW AND OPERATOR WITHOUT DISTURBING THE FINAL FINISH. THIS SHOULD BE WITHIN THE FIRST SIX HOURS AFTER PLACEMENT. THE CRACK CONTROL JOINTS SHALL BE CUT A MAXIMUM WIDTH OF 1/8 INCH AND A MINIMUM DEPTH OF 1/3 THE SLAB THICKNESS. REFER TO THE TYPICAL DETAILS AND DRAWINGS FOR INFORMATION ON CONTROL JOINTS, CONSTRUCTION JOINTS, REINFORCING DETAILS, JOINT SEALANT, AND TYPICAL JOINT LAYOUT.
8. WHERE SLABS ARE TO RECEIVE SENSITIVE ARCHITECTURAL FLOOR FINISHES, ALL JOINTS IN THE SLAB CONSTRUCTION SHALL BE PLACED TO ALIGN WITH JOINTS IN THE FLOOR FINISHES.
9. DURING CONSTRUCTION, THE CONTRACTOR SHALL PROVIDE ALL TEMPORARY SHORING OF WALLS WHICH ARE ULTIMATELY SUPPORTED TOP AND BOTTOM. SUCH SHORING SHALL NOT BE REMOVED UNTIL ALL SUPPORTING ELEMENTS ARE IN PLACE, THE COMPACTION OF ALL BACKFILL AGAINST THE WALL HAS BEEN COMPLETED, AND THE CONCRETE IN THE WALLS AND SUPPORTING ELEMENTS HAS ATTAINED THE SPECIFIED 28 DAY COMPRESSIVE STRENGTH (f'c'),
10. EXCAVATIONS FOR SPREAD FOOTING, COMBINED FOOTING, CONTINUOUS FOOTINGS AND/OR MAT FOUNDATIONS SHALL BE CLEANED AND HAND TAMPED TO A UNIFORM SURFACE. FOOTING EXCAVATIONS SHALL HAVE THE SIDE AND BOTTOM TEMPORARILY LINED WITH 6 MIL VAPOR BARRIER IF CONCRETE PLACEMENT DOES NOT OCCUR WITHIN 24 HOURS OF FOOTING EXCAVATION. SEAL SLABS MAY BE REQUIRED BASED ON GROUND WATER CONDITIONS. THE CONTRACTOR IS RESPONSIBLE FOR MEANS, METHODS, AND COST ASSOCIATED WITH ALL SEAL SLABS. REFER TO THE GEOTECHNICAL REPORT FOR GROUND WATER OR POTENTIAL PERCHED WATER CONDITIONS.
11. REINFORCEMENT PLACEMENT SEQUENCE FOR FOOTINGS AND MATS IS NOTED FOR MAJOR REINFORCEMENT BAR LAYERS ONLY. IN SPREAD FOOTINGS OR MATS, THE CONTRACTOR SHALL COORDINATE AND SEQUENCE ALL OTHER BAR PLACEMENTS AS REQUIRED TO CONFORM TO THE CONTRACT DOCUMENTS.
12. FOUNDATION CONDITIONS THAT DIFFER FROM THOSE NOTED IN THE CONTRACT DOCUMENTS OR AS DESCRIBED IN THE GEOTECHNICAL REPORT SHALL BE IMMEDIATELY REPORTED TO THE ARCHITECT, GEOTECHNICAL ENGINEER AND SER BEFORE FURTHER CONSTRUCTION IS ATTEMPTED.
13. CONTRACTOR SHALL NOTIFY THE ARCHITECT AND SER AT LEAST 48 HOURS PRIOR TO PLACEMENT OF CONCRETE IN FOOTINGS.
14. CONTRACTOR SHALL BE PREPARED TO USE TEMPORARY CASING AS REQUIRED TO FINISH THE DRILLED FOOTINGS. CASING SIZE SHALL HAVE AN INTERIOR DIAMETER EQUAL TO THE SPECIFIED SHAFT SIZE SHOWN ON THE PLANS. CONTRACTOR SHALL PROVIDE A UNIT PRICE FOR A DRY DRILLED SHAFT AND FOR A CASED DRILLED SHAFT.
15. THE BUILDING SITE MAY HAVE SOME BURIED EXISTING FOUNDATIONS AND UTILITIES. IF THESE FOUNDATIONS OR UTILITIES ARE ENCOUNTERED DURING DRILLING OPERATIONS, THE SINGLE DRILLED FOOTING SHALL BE REPLACED WITH TWO SYMMETRICALLY PLACED FOOTINGS AND A STRAP BEAM AS SHOWN IN 12/S3.01. THE CONTRACTOR SHALL PROVIDE A UNIT COST FOR EACH OCCURRENCE. SEAL ANY UTILITY LINES DISCOVERED WITH CONCRETE.
16. ALL FOOTINGS SHALL BE CONSOLIDATED WITH A CONCRETE VIBRATOR AS PER THE REQUIREMENTS OF ACI 318 AND ACI 308R, LATEST EDITION.
17. DRILLED FOOTINGS SHALL BE POURED IMMEDIATELY UPON COMPLETION OF EXCAVATION AND CLEANING OF FOOTING BEARING SURFACE. UNDER NO CIRCUMSTANCES SHOULD DRILLED FOOTINGS/PIERS SHOULD NOT REMAIN OPEN OVER NIGHT. ALL SPOILS FROM THE DRILLED FOOTING EXCAVATIONS SHALL BE REMOVED FROM THE BUILDING PAD.
18. IF DRILLED AND UNDERREAMED FOOTINGS CANNOT BE FORMED DUE TO CAVING SOILS, THE ARCHITECT, GEOTECHNICAL ENGINEER AND SER SHALL BE NOTIFIED IMMEDIATELY BEFORE FURTHER CONSTRUCTION IS ATTEMPTED.
19. WHERE A DRILLED FOOTING IS SHOWN ON THE PLAN CLOSER THAN 6'-0 FROM ANOTHER FOOTING, DRILL ONE FOOTING, FILL WITH CONCRETE AND LET CURE 24 HOURS PRIOR TO DRILLING THE ADJACENT FOOTING. (6'-0" DIMENSION IS MEASURED BETWEEN EDGE OF BELL FOOTING NOT CENTER TO CENTER.)
20. TOPS OF DRILLED FOOTINGS SHALL NOT HAVE "MUSHROOMED" OR FLARED TOPS. CONTRACTOR SHALL USE SONUTUBE, SURETOP OR APPROVED EQUAL TO FORM TOP OF PIERS TERMINATED AT GRADE LEVEL. CONCRETE OF FLARED TOP FOOTINGS SHALL BE REMOVED PRIOR TO FORMING AND PLACING OF THE CONCRETE IN PIER CAPS OR GRADE BEAMS. TOPS OF ALL PIERS SHALL BE CLEANED PRIOR TO THE PLACEMENT OF CONCRETE.
21. PROVIDE A TREMIE TO PLACE CONCRETE IN DRILLED FOOTINGS SO THAT CONCRETE DOES NOT FREE FALL OVER 10'-0".
22. PROVIDE PIER SLEDS TO MAINTAIN 3" MINIMUM CLEAR COVER ON FOOTING SHAFT REINFORCING, PIERS SLEDS SHALL BE STAGGERED ALONG THE VERTICAL REINFORCING. DO NOT PLACE SLEDS AT THE SAME LOCATION.

CONCRETE

1. ALL CONCRETE REINFORCING BARS SHALL CONFORM TO ASTM A615, GRADE 60, EXCEPT WHERE NOTED. NO. 10 THROUGH NO. 18 BARS SHALL CONFORM TO ASTM A615, GRADE 75. DEFORMED BAR ANCHORS SHALL CONFORM TO ASTM A496, GR 70. ALL BARS SHALL BE NEW OR RECYCLED DOMESTIC BILLET STEEL OF A DOMESTIC MANUFACTURER.
2. CONCRETE IN THE FOLLOWING AREAS SHALL HAVE SAND AND CRUSHED CARBONATE AGGREGATE CONFORMING TO ASTM C33 FOR NORMAL WEIGHT CONCRETE AND LIGHT WEIGHT AGGREGATES CONFORMING TO ASTM C330, TYPE I PORTLAND CEMENT CONFORMING TO ASTM C150, AND THE FOLLOWING DESIGNATED COMPRESSIVE STRENGTH (f'c) IN 28 DAYS:

CONCRETE USE OR CLASS	MINIMUM 28 DAY COMPRESSIVE STRENGTH (f'c)	MAXIMUM WATER CEMENT RATIO	SLUMP (INCHES)
FOOTINGS	3000 PSI	0.50	5 TO 8
SLABS ON GROUND SEE NOTE 4	4000 PSI	0.45	4 TO 6
ALL OTHER CONCRETE	3000 PSI	0.50	4 TO 6
SLUMP SHALL BE MEASURED FROM SAMPLES TAKEN AT THE POINT OF DISCHARGE UNLESS AGREED TO IN WRITING PRIOR TO CONCRETE PLACEMENT			

NOTE: CONCRETE SUPPLIER SHALL BE AWARE OF CEMENTS THAT CAN CAUSE LATE ETTRINGITE FORMATION IN THE CEMENT PASTE AND BE PREPARED TO SHOW THAT THE CEMENTS USED WILL NOT CAUSE THIS PROBLEM.

3. FLY ASH MAY BE USED AS A POZZOLAN TO REPLACE A PORTION OF THE PORTLAND CEMENT IN A CONCRETE MIXTURE, SUBJECT TO THE APPROVAL OF THE ARCHITECT AND SER. FLY ASH, WHEN USED, SHALL CONFORM TO ASTM C618 TYPE 'C'. CONCRETE MIXTURES CONTAINING FLY ASH SHALL BE PROPORTIONED TO ACCOUNT FOR THE PROPERTIES OF THE SPECIFIC FLY ASH AND TO ACCOUNT FOR THE SPECIFIC PROPERTIES OF THE FLY ASH CONCRETE THUS RESULTING, INCLUDING BUT NOT LIMITED TO WATER CEMENT RATION AND MINIMUM 28 DAY COMPRESSIVE STRENGTH. THE RATIO OF THE AMOUNT BY VOLUME OF FLY ASH TO THE TOTAL AMOUNT BY VOLUME OF CEMENTITIOUS MATERIAL (INCLUDING THE FLY ASH) SHALL NOT EXCEED 25 PERCENT.
4. FLY ASH IS NOT PERMITTED IN SLABS WITHOUT PRIOR WRITTEN APPROVAL FROM THE ARCHITECT AND SER.
5. AIR ENTRAINMENT IS REQUIRED ONLY IN HARD ROCK CONCRETE PERMANENTLY EXPOSED TO WEATHER CONDITIONS. WHERE LIGHTWEIGHT CONCRETE IS SPECIFIED, AIR ENTRAINMENT IS REQUIRED FOR ALL EXPOSURE CONDITIONS. PERCENT AIR ENTRAINMENT LISTED IS PLUS/MINUS 1.5%. DO NOT AIR-ENTRAIN INTERIOR FLOOR SLABS THAT RECEIVE HARD TROWEL FINISH.
6. CONCRETE PROTECTION FOR REINFORCEMENT SHALL BE AS FOLLOWS; SEE SEC. 7.7 ACI 318, LATEST EDITION FOR CONDITIONS NOT NOTED. PROVIDE CHAIR SUPPORTS (AZTEC CASTLE CHAIR, OCM CRADLE CHAIRS, WHC SERIES 'C' OR EQUAL) TO ADEQUATELY SUPPORT BARS FOR PROPER CLEARANCE AS RECOMMENDED BY THE AMERICAN CONCRETE INSTITUTE AND THE CONCRETE REINFORCING STEEL INSTITUTE. SLAB ON GRADE REINFORCEMENT SHALL BE SUPPORTED AT 45-INCH MAXIMUM INTERVALS OR EVERY THIRD BAR. UTILITY OR CONCRETE BRICKS ARE NOT ALLOWED AS REINFORCING SUPPORTS.

MINIMUM CONCRETE COVER REQUIREMENTS	
LOCATION	MINIMUM COVER
FOOTINGS	3 INCHES
GRADE BEAMS	3 INCHES BOTTOM 2 INCHES SIDES — FORMED SURFACE 3 INCHES SIDES — EARTH FORMED 1 — 1/2 INCHES TOP
SLAB ON GROUND	1 INCH TOP

7. NO HORIZONTAL JOINTS WILL BE PERMITTED IN CONCRETE EXCEPT WHERE THEY NORMALLY OCCUR OR WHERE NOTED. NO JOINTS BETWEEN PILASTERS AND GRADE BEAM THAT ARE MEANT TO BE MONOLITHIC. VERTICAL JOINTS SHALL OCCUR AT CENTER SPANS OR AT LOCATIONS APPROVED BY THE STRUCTURAL ENGINEER.
8. CONSTRUCTION JOINTS BETWEEN PIERS AND PIER CAPS OR GRADE BEAMS, FOOTINGS AND WALLS OR COLUMNS, OR WALLS, COLUMNS, BEAMS AND THE FLOOR SYSTEM THEY SHALL SUPPORT SHALL BE PREPARED BY ROUGHENING THE SURFACE CONTACT SURFACE TO A FULL AMPLITUDE ON 1/4" LEAVING THE CONTACT SURFACE CLEAN AND FREE OF ALL LAITANCE.
9. DETAILING OF CONCRETE REINFORCEMENT AND ACCESSORIES SHALL BE IN ACCORDANCE WITH ACI PUBLICATION 315, LATEST EDITION "DETAILS AND DETAILING OF CONCRETE REINFORCEMENT" AND ACI SP -66 "DETAILING MANUAL". PLACING OF REINFORCING BARS SHALL CONFORM TO THE RECOMMENDATIONS OF ACI 315R "MANUAL OF ENGINEERING AND PLACING DRAWINGS FOR REINFORCED CONCRETE STRUCTURES" AND CRSI "MANUAL OF STANDARD PRAITICE". ALL HOOKED BARS SHOWN IN THE DETAILS SHALL HAVE STANDARD HOOKS UNLESS NOTED OTHERWISE.
10. REINFORCING BARS SHALL NOT BE WELDED WITHOUT APPROVAL OF THE STRUCTURAL ENGINEER. REINFORCING STEEL THAT REQUIRES WELDING SHALL CONFORM TO ASTM A706, WITH GRADES AS SHOWN ABOVE.
11. UNLESS BARS ARE SPECIFICALLY SHOWN IN THE BAR BENDING DIAGRAMS ON THE SCHEDULES, PROVIDE BARS AS FOLLOWS:
    - A) PROVIDE STANDARD 90 DEGREE HOOK ON TOP BARS AT CANTILEVER ENDS.
    - B) SPLICE BOTTOM BARS DIRECTLY OVER MEMBER SUPPORTS, UNLESS NOTED OTHERWISE.
    - C) SPLICE TOP AND INTERMEDIATE BARS AT THE CENTER LINE BETWEEN MEMBER SUPPORTS, UNLESS NOTED OTHERWISE.
    - D) SPLICE VERTICAL BARS IN WALLS ONLY AT FLOOR LINES, UNLESS NOTED OTHERWISE. HORIZONTAL BARS SHALL BE SPLICED AS SPECIFIED FOR TOP, BOTTOM, AND INTERMEDIATE BARS OF BEAMS.
    - E) CENTER BARS NOTED AS "AT SUPT'S." OVER MEMBER SUPPORTS, AND CENTER BARS NOTES AS "BTWN. SUPT'S," BETWEEN SUPPORTS.
    - F) PLACE BARS NOTED AS "2ND LAYER" BELOW THE PRIMARY TOP BARS (OR ABOVE THE PRIMARY BOTTOM BARS) AND PROVIDE #11 SPACER BARS PLACED AT INTERVALS OF 4'-0" BETWEEN THE TWO LAYERS OF BARS.
    - G) SPLICE VERTICAL BARS IN COLUMNS ONLY AT FLOOR LINES, UNLESS NOTED OTHERWISE. COLUMN BAR SPLICES SHALL BE AS SHOWN IN THE COLUMN SCHEDULE.
    - H) PROVIDE CORNER BARS FOR EACH HORIZONTAL BAR AT THE INSIDE AND OUTSIDE FACES OF INTERSECTING BEAMS OR WALLS. REFER TO CORNER BAR DETAILS IN THE TYPICAL DETAILS.
    - I) REFER TO THE COLUMN REINFORCING DIAGRAMS FOR ADDITIONAL TIES ABOVE AND BELOW THE FLOOR FRAMING MEMBERS.
12. BARS SHOWN IN THE SCHEDULE TO HOOK AT DISCONTINUOUS ENDS SHALL HAVE THE HOOK PLACED HORIZONTALLY AT EXTERIOR CORNERS.
13. PROVIDE NO. 3 DOWELS X 2'-0" AT 1'-6" ON CENTER, WITH A 90 DEGREE HOOK AT ALL EDGES OF CONCRETE SLABS, UNLESS DETAILED OTHERWISE.
14. PROVIDE FOUNDATION DOWELS TO MATCH MASONRY WALL REINFORCEMENT. DOWELS SHALL EXTEND INTO THE CONCRETE AND CMU PER THE LAP SCHEDULES.
15. ALL CONTINUOUS REINFORCEMENT SHALL LAP 40 BAR DIAMETERS AT SPLICES. PROVIDE (1) NO. 6 x 6'-0" TOP AND BOTTOM (TWO 36" LEGS WITH 90 DEGREE BEND) AT EACH FACE OF GRADE BEAMS AT CORNERS AND INTERSECTIONS, AND AT 18" ON CENTER VERTICALLY AT WALLS.
16. PROVIDE (1) NO. 4 BAR x 4'-0" FOR ELEVATED SLABS AND (2) NO. 5 BARS x 4'-0" FOR SLAB ON GROUND AT ALL RE-ENTRANT CORNERS. PROVIDE (1) NO. 4 BAR x 4'-0" AROUND ALL RECTANGULAR OPENINGS OR COLUMN BLOCK OUTS UNLESS NOTED OTHERWISE. FOR ELEVATED SLABS, PLACE THE DIAGONAL BARS WITH 1 INCH OF CLEARANCE FROM TOP AND THE SIDES OF THE SLAB AT THE CORNERS. FOR SLAB ON GRADE, PLACE THE BARS AT MID DEPTH OR BELOW THE REINFORCING MAT AND 3 INCHES CLEAR FROM THE CORNER.
17. CONDUITS ARE NOT ALLOWED IN SLABS, BEAMS, WALLS OR COLUMNS. ALL CONDUITS SHALL BE SUSPENDED FROM OR ATTACHED TO THE CONCRETE STRUCTURE.
18. PROVIDE SLEEVES, MECHANICAL OPENINGS, CONDUITS, PIPES, RECESSES, DEPRESSIONS, CURBS AND ALL EMBEDDED ITEMS AS SHOWN ON THE ARCHITECTURAL AND MECHANICAL DRAWINGS OR AS REQUIRED BY EQUIPMENT MANUFACTURERS. MINIMUM CONCRETE BETWEEN SLEEVES SHALL BE 6". SHOP DRAWINGS SHALL CLEARLY INDICATE THE INSTALLATION OF THESE ITEMS. ALL EXPOSED CONCRETE EDGES SHALL BE CHAMFERED TO 3/4"x3/4" MINIMUM UNLESS NOTED OTHERWISE. DO NOT PROVIDE CHAMFERS AT INSIDE FACE OF OVERHEAD DOORS OR AT STOREFRONT OPENINGS.
19. BESIDES FOLLOWING ARTICLE 6.3 OF ACI 318 FOR EMBEDDED ITEMS FOLLOWING REQUIREMENTS SHALL BE MET:
    - A) THE MINIMUM CLEAR DISTANCE BETWEEN CONDUITS AND PIPES SHALL BE 6".
    - B) NONE PERMITTED IN COLUMNS WITHOUT PRIOR APPROVAL
20. ALL CONSTRUCTION JOINTS IN BEAMS AND WALLS SHALL BE PROVIDED WITH SHEAR KEYS AS SHOWN IN THE DETAILS.
21. SLEEVES PASSING HORIZONTALLY THROUGH GRADE BEAMS:
    - A) LOCATE AT MIDDLE THIRD OF BEAM SPAN - MINIMUM 6" AWAY FROM AN INTERIOR MEMBER.
    - B) LOCATE AT MIDDLE THIRD OF BEAM DEPTH.
    - C) MAXIMUM DIAMETER OF SLEEVE TO BE ONE THIRD OF BEAM DEPTH OR 8" (WHICHEVER IS LESS).
    - D) SPACING TO BE AT LEAST THREE SLEEVE DIAMETERS OR 6" (WHICHEVER IS GREATER).
    - E) ADD ONE ADDITIONAL SCHEDULED STIRRUP ON EITHER SIDE OF THE SLEEVE. ADD (2) #5 x 5'-0" TOP AND BOTTOM CENTERED AT SLEEVE.
    - F) NO SLEEVES LONGITUDINALLY IN BEAMS. PASS SLEEVES ONLY AT RIGHT ANGLES TO BEAMS.
22. ALL MIXING, TRANSPORTING, PLACING AND CURING OF CONCRETE SHALL BE DONE IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE AMERICAN CONCRETE INSTITUTE, ACI 301, LATEST EDITION.
23. ALL CONCRETE SHALL BE CONSOLIDATED WITH A CONCRETE VIBRATOR AS PER THE REQUIREMENTS OF ACI 318 AND ACI 308R, LATEST EDITION.
24. HOT WEATHER CONCRETING SHALL CONFORM TO ACI305 AND COLD WEATHER CONCRETING SHALL CONFORM TO ACI 306.

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PROJECT NUMBER :

ISSUED FOR CLIENT APPROVAL	DATE
ISSUED FOR BIDDING	05/22/2026
ISSUED FOR PERMIT	05/22/2026
ISSUED FOR CONSTRUCTION	

REVISIONS

MARK	DESCRIPTION	DATE
1	ADDENDUM B	05/22/2026

CJG Engineers
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PRINT DATE

STATE OF TEXAS
BRITT GARDNER
90958
LICENSED
PROFESSIONAL ENGINEER
22 May 2026

DRAWING TITLE
GENERAL NOTES

DRAWN BY	AD	SHEET NO.
CHECKED BY	BG	S0.01
APPROVED BY	BG	1