

CITY OF CLEARWATER MERCADO

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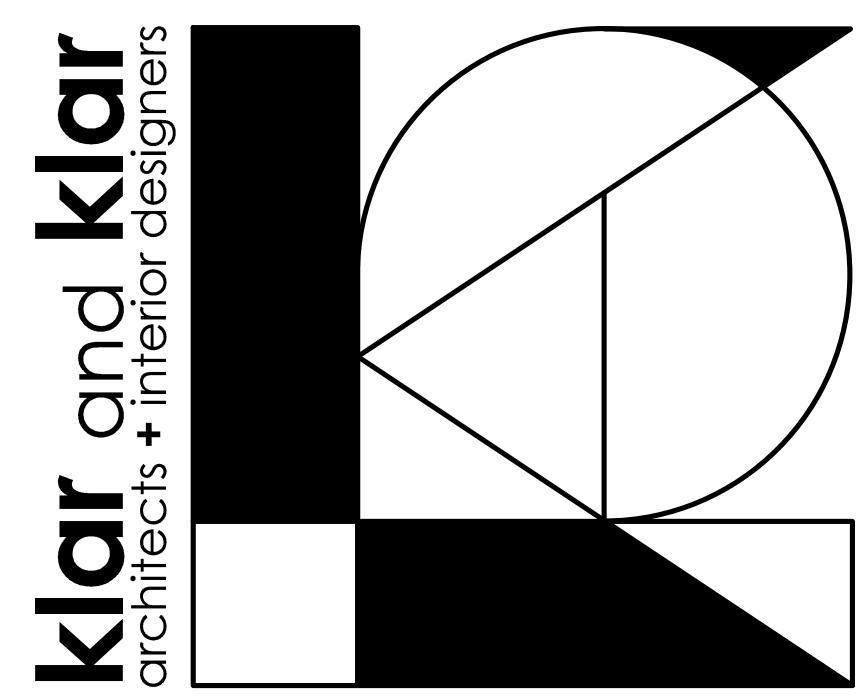
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- 15 SHEETS TOTAL



BID SET 12.11.2020

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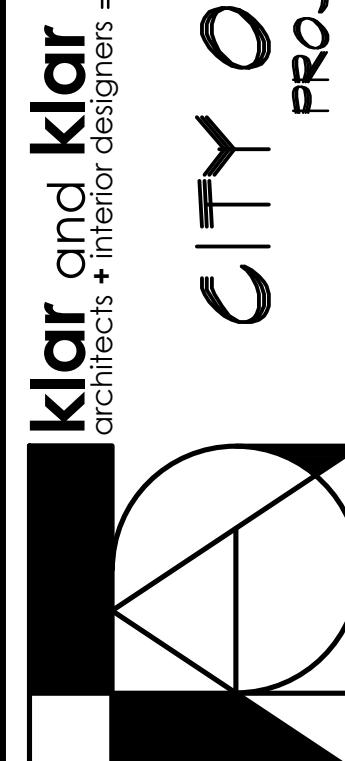
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CITY OF CLEARWATER - GATEWAY PLAZA

PROJECT # 9-0026-EN MERCADO



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AA 0002321

- Preliminary
- Permitting Set
- Construction Set

Date: 12/11/2020

Drawn: TK/16

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INTERIOR COATING SPECIFICATIONS	BENJAMIN MOORE PAINT SPECIFICATIONS					SHERWIN WILLIAMS PAINT SPECIFICATIONS	PPG PAINT SPECIFICATIONS					SHERWIN WILLIAMS PAINT SPECIFICATIONS	PPG PAINT SPECIFICATIONS						
	SURFACE	PRIMER		FINISH			SURFACE	PRIMER		FINISH			SURFACE	PRIMER		FINISH			
		# COATS	PRODUCT	# COATS	PRODUCT			# COATS	PRODUCT	# COATS	PRODUCT			# COATS	PRODUCT	# COATS	PRODUCT		
GYPUM WALL BOARD: EGGHELL	I	ULTRA SPEC 500 WATERBORNE INTERIOR PRIMER SEALER N534		2	ULTRA SPEC 500 WATERBORNE EGGHELL N538	GYPUM WALL BOARD: EGGHELL	I	FROMAR 200 ZERO VOC INTERIOR LATEX PRIMER B20M2600		2	FROMAR 200 ZERO VOC INTERIOR LATEX EGGHELL B20M2651	GYPUM WALL BOARD: EGGHELL	I	PPG SPEEDHIDE INTERIOR LATEX QUICK DRYING PRIMER/SEALER 6-2	2	SPEEDHIDE INTERIOR EGGHELL LATEX 6-411 SERIES			
GYPUM WALL BOARD: SEMI-GLOSS	I	ULTRA SPEC 500 WATERBORNE INTERIOR PRIMER SEALER N534		2	ULTRA SPEC 500 WATERBORNE SEMI-GLOSS N539	GYPUM WALL BOARD: SEMI-GLOSS	I	FROMAR 200 ZERO VOC INTERIOR LATEX PRIMER B20M2600		2	FROMAR 200 ZERO VOC INTERIOR LATEX SEMI-GLOSS B20M2651	GYPUM WALL BOARD: SEMI-GLOSS	I	PPG SPEEDHIDE INTERIOR LATEX QUICK DRYING PRIMER/SEALER 6-2	2	SPEEDHIDE INTERIOR SEMI-GLOSS LATEX 6-510 SERIES			
GYPUM WALL BOARD: GLOSS	I	ULTRA SPEC 500 WATERBORNE INTERIOR PRIMER SEALER N534		2	ULTRA SPEC WATERBORNE GLOSS N540	GYPUM WALL BOARD: GLOSS	I	FROMAR 200 ZERO VOC INTERIOR LATEX PRIMER B20M2600		2	PRO INDUSTRIAL HIGH PERFORMANCE ACRYLIC GLOSS B66M00611	GYPUM WALL BOARD: GLOSS	I	PPG SPEEDHIDE INTERIOR LATEX QUICK DRYING PRIMER/SEALER 6-2	2	SPEEDHIDE GLOSS LATEX ENAMEL 6-0534 SERIES			
WOOD TRIM: PAINTED SEMI-GLOSS	I	FRESH START 100% ACRYLIC PRIMER O46		2	ULTRA SPEC 500 WATERBORNE INTERIOR GLOSS N534	WOOD TRIM: PAINTED SEMI-GLOSS	I	PREMIUM WALL AND WOOD PRIMER, INTERIOR LATEX B20M020111		2	PROCLASSIC WATERBORNE INTERIOR ACRYLIC SEMI-GLOSS ENAMEL B66M0151	WOOD TRIM: PAINTED SEMI-GLOSS	I	SEAL GRIP ACRYLIC ENAMEL UNDERCOATER IT-455	2	SPEEDHIDE INTERIOR SEMI-GLOSS LATEX ENAMEL 6-510 SERIES			
WOOD TRIM:PAINTED GLOSS	I	SURE SEAL PRIMER SEALER O21		2	ADVANCE MODIFIED ALKYD T144	WOOD TRIM:PAINTED GLOSS	I	PREMIUM INTERIOR LATEX WALL & WOOD PRIMER B20M020111		2	PROCLASSIC WATERBORNE INTERIOR ACRYLIC GLOSS B21M00051	WOOD TRIM:PAINTED GLOSS	I	SEAL GRIP ACRYLIC ENAMEL UNDERCOATER IT-455	2	SPEEDHIDE GLOSS LATEX ENAMEL 6-0534 SERIES			
WOOD TRIM: CLEAR VARNISH	N/A	N/A		2	BENWOOD STAYS CLEAR ACRYLIC POLYURETHANE HIGH GLOSS 422	WOOD TRIM: CLEAR VARNISH	I	WOOD CLASSICS WATERBORNE POLYURETHANE VARNISH CLEAR A68FO0010		1	WOOD CLASSICS WATERBORNE POLYURETHANE VARNISH CLEAR A68FO0010	WOOD TRIM: CLEAR VARNISH	I	NOT USED	2	DEFT POLYURETHANE INTERIOR NB ACRYLIC DT014			
CONCRETE BLOCK: SEMI-GLOSS	I	ULTRA SPEED HIGH BUILD BLOCK FILLER 571		2	ULTRA SPEC WATERBORNE SEMI-GLOSS N534	CONCRETE BLOCK: SEMI-GLOSS	I	PREPRITE INTERIOR/EXTERIOR LATEX BLOCK FILLER B25M00025		2	FROMAR 200 ZERO VOC INTERIOR LATEX SEMI-GLOSS B20M2651	CONCRETE BLOCK: SEMI-GLOSS	I	SPEEDHIDE INTERIOR/EXTERIOR MASONRY BLOCK FILLER LATEX 6-7	2	PPG SPEEDHIDE INTERIOR SEMI-GLOSS LATEX ENAMEL 6-510 SERIES			
CONCRETE BLOCK: GLOSS	I	MOORE SUPER CRAFT LATEX BLOCK FILLER 205		2	ULTRA SPEC 500 WATERBORNE INTERIOR GLOSS N540	CONCRETE BLOCK: GLOSS	I	PREPRITE INTERIOR/EXTERIOR LATEX BLOCK FILLER B25M00025		2	PRO INDUSTRIAL HIGH PERFORMANCE ACRYLIC-GLOSS B66M00611	CONCRETE BLOCK: GLOSS	I	SPEEDHIDE INTERIOR/EXTERIOR MASONRY BLOCK FILLER LATEX 6-7	2	PPG SPEEDHIDE INTERIOR 100% ACRYLIC GLOSS 6-0534			
GALVANIZED STEEL/METAL:SEMIGLOSS	I	ULTRA SPEC HP04 ACRYLIC METAL PRIMER		2	ULTRA SPEC HP DTM SEMI-GLOSS HP24	GALVANIZED STEEL/METAL:SEMIGLOSS	I	PRO INDUSTRIAL PRO-CRYL UNIVERSAL ACRYLIC PRIMER B66M00210		2	PRO INDUSTRIAL HIGH PERFORMANCE ACRYLIC SEMI-GLOSS B66M00611	GALVANIZED STEEL/METAL:SEMIGLOSS	I	PITT-TECH ONE PACK INDUSTRIAL PRIMER 40-108 SERIES	2	PITT TECH PLUS DTM SEMI-GLOSS ENAMEL 4216 HP SERIES			
GALVANIZED STEEL/METAL:GLOSS	I	ULTRA SPEC HP04 ACRYLIC METAL PRIMER		2	ULTRA SPEC HP DTM GLOSS HP28	GALVANIZED STEEL/METAL:GLOSS	I	PRO INDUSTRIAL PRO-CRYL UNIVERSAL ACRYLIC PRIMER B66M00210		2	PRO INDUSTRIAL HIGH PERFORMANCE ACRYLIC GLOSS B66M00611	GALVANIZED STEEL/METAL:GLOSS	I	PITT-TECH ONE PACK INDUSTRIAL PRIMER 40-108 SERIES	2	SPEEDHIDE GLOSS LATEX ENAMEL 6-0334 SERIES			
OVERHEAD EXPOSED CONSTRUCTION (DECK, JOISTS, STEEL)	I	ULTRA SPEC HP04 ACRYLIC METAL PRIMER		2	CORONADO DRYFALL N10N112	OVERHEAD EXPOSED CONSTRUCTION (DECK, JOISTS, STEEL)	I	PRO INDUSTRIAL WATERBORNE ACRYLIC DRYFALL FLAT B42M00081		1	PRO INDUSTRIAL WATERBORNE ACRYLIC DRYFALL FLAT B42M00081	OVERHEAD EXPOSED CONSTRUCTION (DECK, JOISTS, STEEL)	I	FLAT DRY FALLOUT COATING SYSTEM 100% ACRYLIC FLASH RUSH RESISTANT DRYFALL	2	WB SUPER TECH FLAT DRYFALL 6-T23X1, 6-T25X1 SERIES			
EXT. COATING SPECIFICATIONS	SURFACE	PRIMER		FINISH		SURFACE	PRIMER		FINISH		SURFACE	PRIMER		FINISH					
		# COATS	PRODUCT	# COATS	PRODUCT		# COATS	PRODUCT	# COATS	PRODUCT		# COATS	PRODUCT	# COATS	PRODUCT				
	GALVANIZED STEEL/METAL:SEMIGLOSS	I	ULTRA SPEC HP04 ACRYLIC METAL PRIMER		2	ULTRA SPEC HP DTM HP24	GALVANIZED STEEL/METAL:SEMIGLOSS	I	PRO INDUSTRIAL PRO-CRYL UNIVERSAL ACRYLIC SEMI-GLOSS B66M00611		2	PRO INDUSTRIAL PRO-CRYL ACRYLIC SEMI-GLOSS B66M00611	GALVANIZED STEEL/METAL:SEMIGLOSS	I	PITT TECH PLUS 4216 HP SEMI-GLOSS DTM ENAMEL	2	PITT TECH PLUS 4216 HP SEMI-GLOSS DTM ENAMEL		
	GALVANIZED STEEL/METAL:GLOSS	I	ULTRA SPEC HP04 ACRYLIC METAL PRIMER		2	ULTRA SPEC HP DTM HP28	GALVANIZED STEEL/METAL:GLOSS	I	PRO INDUSTRIAL PRO-CRYL UNIVERSAL ACRYLIC PRIMER B66M00210		2	PRO INDUSTRIAL HIGH PERFORMANCE ACRYLIC GLOSS B66M00611	GALVANIZED STEEL/METAL:GLOSS	I	PITT TECH ONE PACK GLOSS INDUSTRIAL ENAMEL 40-314	2	PITT TECH ONE PACK GLOSS INDUSTRIAL ENAMEL 40-314		
	WOOD/TRIM/SIDING: SEMI-GLOSS	I	SURE SEAL INTERIOR/EXTERIOR O21		2	ULTRA SPEC EXTERIOR SOFT GLOSS N444	WOOD/TRIM/SIDING: SEMI-GLOSS	I	EXTERIOR LATEX WOOD PRIMER B42M00041		2	SUPERPAINT EXTERIOR LATEX GLOSS AB4M0151	WOOD/TRIM/SIDING: SEMI-GLOSS	I	SEAL GRIP UNIVERSAL ACRYLIC PRIMER IT-421XI	2	PPG SPEEDHIDE SEMI-GLOSS LATEX 6-400XI SERIES		
	WOOD FASCIA: EGGHELL	I	SUPERSPEC 169 LATEX EXTERIOR PRIMER		2	ULTRA SPEC EXTERIOR SATIN FINISH N448	WOOD FASCIA: EGGHELL	I	WOODSCAPES EXTERIOR ACRYLIC STAIN A10M00051		1	WOODSCAPES EXTERIOR ACRYLIC STAIN A10M00051	WOOD FASCIA: EGGHELL	I	SEAL GRIP UNIVERSAL ACRYLIC PRIMER IT-421XI	2	SPEEDHIDE EXTERIOR LATEX SATIN FINISH 6-2045XI SERIES		
	CEMENT FIBER: EGGHELL (JAMES HARDIE PRODUCTS)	I	ULTRA SPEC EXTERIOR PRIMER N558		2	ULTRA SPEC 500 EXTERIOR SATIN FINISH N448	CEMENT FIBER: EGGHELL (JAMES HARDIE PRODUCTS)	I	LOXON CONCRETE & MASONRY PRIMER INTERIOR/EXTERIOR LATEX A24M00200		2	SUPERPAINT EXTERIOR LATEX FLAT SATIN & GLOSS AB4M0151	CEMENT FIBER: EGGHELL (JAMES HARDIE PRODUCTS)	I	PREMACRETE ALKAI RESISTANT PRIMER 4-603XI	2	SPEEDHIDE EXTERIOR SATIN LATEX 6-2045XI SERIES		
	CEMENT FIBER: SEMI-GLOSS (JAMES HARDIE PRODUCTS)	I	ULTRA SPEC EXTERIOR PRIMER N558		2	SUPERSPEC 170 SEMI-GLOSS	CEMENT FIBER: SEMI-GLOSS (JAMES HARDIE PRODUCTS)	I	LOXON CONCRETE & MASONRY PRIMER INTERIOR/EXTERIOR LATEX A24M00200		2	SUPERPAINT EXTERIOR LATEX FLAT SATIN & GLOSS AB4M0151	CEMENT FIBER: SEMI-GLOSS (JAMES HARDIE PRODUCTS)	I	PREMACRETE ALKAI RESISTANT PRIMER 4-603XI	2	SPEEDHIDE EXTERIOR SEMI-GLOSS LATEX 6-400XI SERIES		
	STUCCO: EGGHELL	I	ACRYLIC MASONRY SEALER 0608		2	ULTRA SPEC EXTERIOR SATIN N448	STUCCO: EGGHELL	I	LOXON CONCRETE & MASONRY PRIMER INTERIOR/EXTERIOR LATEX A24M00200		2	SUPERPAINT EXTERIOR LATEX SATIN AB4M0151	STUCCO: EGGHELL	I	PERMACRETE ALKALI RESISTANT PRIMER 4-603XI	2	SPEEDHIDE EXTERIOR SATIN LATEX 6-2045XI SERIES		
	STUCCO: SEMI-GLOSS	I	ACRYLIC MASONRY SEALER 0608		2	ULTRA SPEC EXTERIOR SOFT GLOSS N444	STUCCO: SEMI-GLOSS	I	LOXON CONCRETE & MASONRY PRIMER INTERIOR/EXTERIOR LATEX A24M00200		2	SUPERPAINT EXTERIOR LATEX PAINT GLOSS AB4M0151	STUCCO: SEMI-GLOSS	I	PERMACRETE ALKALI RESISTANT PRIMER 4-603XI	2	SPEEDHIDE EXTERIOR SEMI-GLOSS LATEX 6-400XI SERIES		
	DIMENSION LUMBER SUBSTRATES: FOOT TRAFFIC SURFACES: LUMBER DECKING, STAIRS	I	STIX BONDING PRIMER		2	MOORES FLOOR & PATIO ENAMEL I22	DIMENSION LUMBER SUBSTRATES: FOOT TRAFFIC SURFACES: LUMBER DECKING, STAIRS	I	ARMORSEAL TREAD-FLEX PRIMER ACRYLIC FLOOR COATING B40M00101		2	ARMORSEAL TREAD-PLEX ACRYLIC FLOOR COATING B40M00101	DIMENSION LUMBER SUBSTRATES: FOOT TRAFFIC SURFACES: LUMBER DECKING, STAIRS	I	PITTSBURG PAINTS 3-510 FLOOR, PROCH, DECK SATIN LATEX	2	PITTSBURG PAINTS 3-510 FLOOR, PROCH, DECK SATIN LATEX		

* THE PAINT SPEC SHALL BE BASED UPON ONE OF THESE 3 MANUFACTURER SPECIFICATIONS WITHOUT DEVIATION.

PAINT SPECIFICATIONS

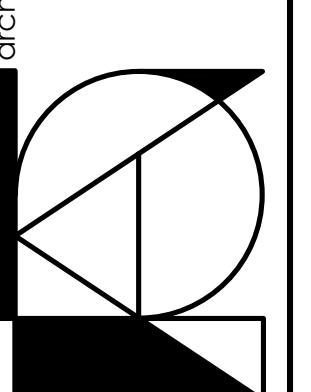
AOI N.T.S.

TENSILE STRUCTURE AND SPECIFICATIONS

	revision	by

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AA 0002321

Preliminary

Permitting Set

Construction Set

Date: 12/11/2020

Drawn: TK/G

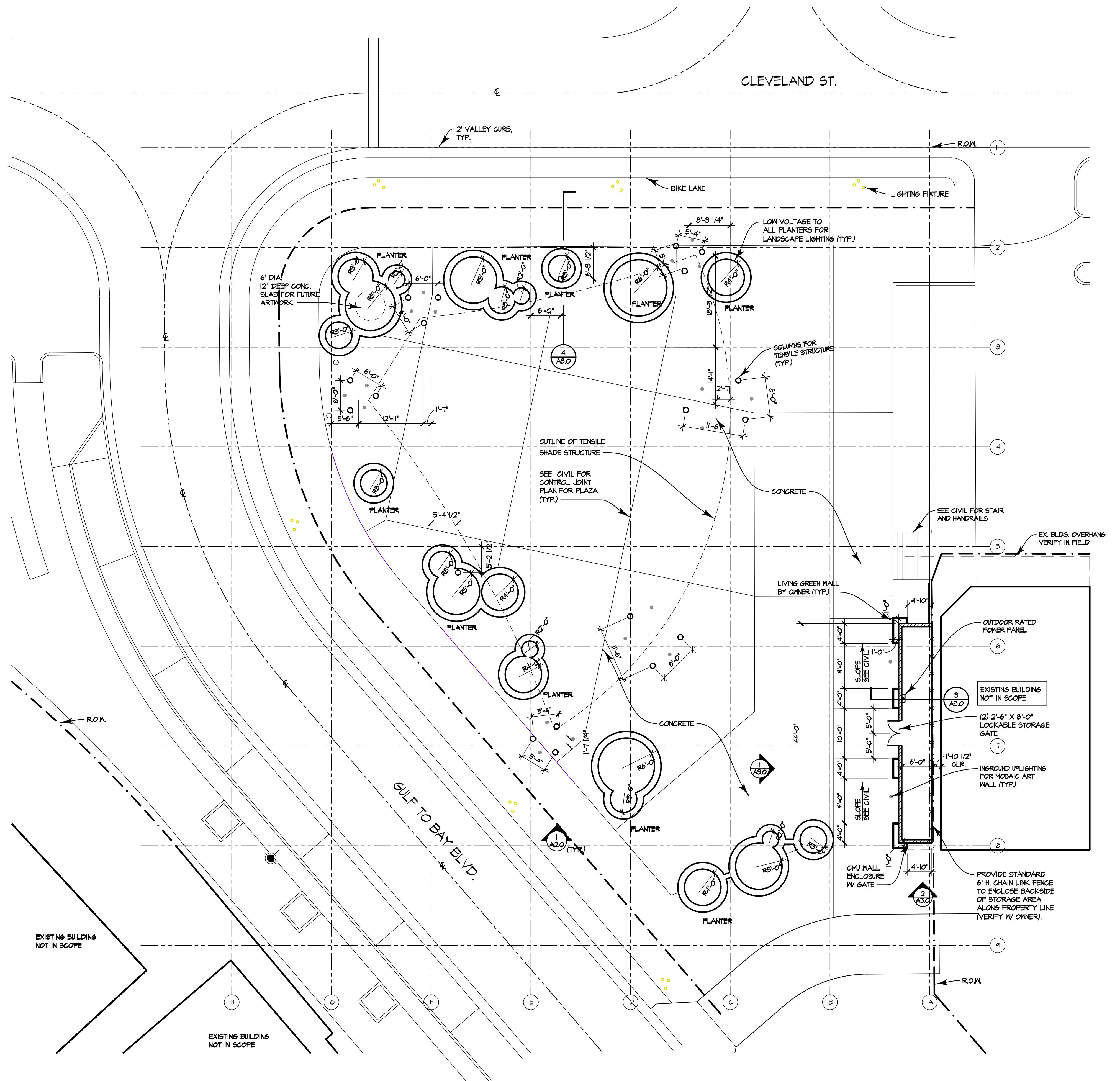
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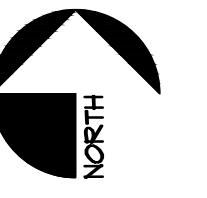
Of:

<p>SECTION 18000 - TENSILE MEMBRANE STRUCTURES 18000-3 SECTION 18000 - TENSILE MEMBRANE STRUCTURES</p> <p>PART I - GENERAL</p> <p>II RELATED DOCUMENTS</p> <p>A DRAWINGS AND GENERAL PROVISIONS OF THE CONTRACT, INCLUDING GENERAL AND SUPPLEMENTARY CONDITIONS AND OTHER DIVISION I SPECIFICATION SECTIONS, APPLY TO THE WORK OF THIS SECTION.</p> <p>I.2 SUMMARY</p> <p>A THIS SECTION INCLUDES AN EXTERIOR ARCHITECTURAL TENSILE MEMBRANE CANOPY STRUCTURE SYSTEM.</p> <p>B THE TENSILE MEMBRANE STRUCTURE CONTRACTOR (HEREAFTER REFERRED TO AS SUBCONTRACTOR) SHALL BE RESPONSIBLE FOR THE DESIGN, FABRICATION, AND INSTALLATION OF THE WORK OF THIS SECTION, SOME OR ALL OF WHICH MAY BE SUBCONTRACTED BY SUBCONTRACTOR TO OTHERS MEETING THE QUALIFICATION REQUIREMENTS OF SECTION 15. THE INTENT OF THIS SPECIFICATION IS TO ESTABLISH IN THE FIRST INSTANCE AN UNDIVIDED, SINGLE-SOURCE RESPONSIBILITY OF THE SUBCONTRACTOR FOR ALL OF THE FOREGOING FUNCTIONS.</p> <p>C SUBCONTRACTOR'S WORK SHALL INCLUDE, BUT NOT NECESSARILY BE LIMITED TO, THE SUPPLY, FABRICATION, SHIPMENT, AND ERECTION OF THE FOLLOWING PRINCIPAL ITEMS:</p> <ul style="list-style-type: none"> THE TENSILE MEMBRANE SYSTEM AND ALL RELATED MATERIALS; CABLES AND END FITTINGS AS REQUIRED; PERIMETER, CATHETRY, AND SECTIONALIZED ALUMINUM CLAMPING SYSTEM; STRUCTURAL STEEL, INCLUDING MASTS, TRUSSES, STRUTS, BEAMS, AND/OR NELDMENTS, AS INDICATED ON THE DRAWINGS AND IN THE GASKETINGS; DRAWINGS AND GASKETINGS; THE ARCHITECTURAL MEMBRANE USED IN THESE STRUCTURES SHALL BE POLYFLUOROPOLYCHLOROETHYLENE (PTEF), SUCH AS TEFLOON COATED MOVEN FIBERGLASS. ALL REFERENCES TO MEMBRANE IN THIS SECTION 18000, WITHOUT EXCEPTION, AND WHETHER SINGULAR, PLURAL, OR CAPITALIZED OR NOT, ARE TO SUCH ARCHITECTURAL MEMBRANE. <p>I.3 REFERENCES</p> <p>A GENERAL, EXCEPT AS OTHERWISE SHOWN OR NOTED, ALL WORK SHALL COMPLY WITH THE REQUIREMENTS OF THE FOLLOWING CODES AND STANDARDS:</p> <ul style="list-style-type: none"> 1. AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) STANDARD CODE OF STANDARD PRACTICE FOR STRUCTURAL STEEL BUILDINGS 2. AISC 360-16, STANDARD TEST METHOD FOR COATED AND LAMINATED FABRICS FOR ARCHITECTURAL USE 3. AISC/ANSI B31.8I SEISMIC PROVISIONS FOR STRUCTURAL STEEL BUILDINGS 4. AMERICAN SOCIETY OF CIVIL ENGINEERS (ASCE) 5. ASCE 16, STRUCTURAL APPLICATIONS OF STEEL CABLES FOR BUILDINGS 6. AMERICAN SOCIETY FOR TEST AND MATERIALS (ASTM) 7. ASTM A303, STANDARD SPECIFICATION FOR ZINC-COATED STEEL STRUCTURAL STRAND 8. ASTM A403, STANDARD SPECIFICATION FOR ZINC-COATED STEEL WIRE ROPE 9. ASTM A498-08, STANDARD TEST METHODS FOR COATED AND LAMINATED FABRICS FOR ARCHITECTURAL USE 10. ASTM E109, STANDARD TEST METHOD FOR SURFACE BURNING CHARACTERISTICS OF BUILDING MATERIALS 11. ASTM E108, STANDARD TEST METHODS FOR FIRE TESTS OF ROOF COVERINGS 12. ASTM E107, STANDARD TEST METHOD FOR BEHAVIOR OF MATERIALS IN A VERTICAL TUBE FURNACE AT 500 DEGREES C 13. ASTM E112, STANDARD TEST METHOD FOR SOUND ABSORPTION AND SOUND ABSORPTION COEFFICIENTS BY THE REVERBERATION ROOM METHOD 14. ASTM E124, STANDARD TEST METHOD FOR SOLAR ENERGY TRANSMITTANCE AND REFLECTIVITY OF SHEET MATERIALS 15. AMERICAN WELDING SOCIETY (AWS) D1.1, STRUCTURAL WELDING CODE 16. AWS D4.1, SYMBOLS FOR HELDING AND NONDESTRUCTIVE TESTING 17. ALUMINIUM ASSOCIATION (AA) SPECIFICATIONS FOR ALUMINUM STRUCTURES 18. NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) 19. NFPA 101, STANDARD METHODS OF FIRE TESTS FOR FLAME PROPAGATION OF TEXTILES AND FILMS 20. SOCIETY FOR PROTECTIVE COATINGS (SPC) 21. STEEL STRUCTURES PAINTING MANUAL, VOLUMES 1 AND 2 <p>I.4 SYSTEM REQUIREMENTS</p> <p>A PROVIDE A STRUCTURAL TENSILE MEMBRANE SYSTEM THAT COMPLIES WITH REQUIREMENTS SPECIFIED HEREIN BY TESTING THE SUBCONTRACTOR'S CORRESPONDING MEMBRANE SYSTEM IN ACCORDANCE WITH THE INDICATED TEST METHODS.</p> <p>B BUILDING CODE CRITERIA: STRUCTURAL SPECIFICATIONS AND WIND LOADING CRITERIA</p> <p>C LIFE SAFETY: ALL TENSILE MEMBRANE STRUCTURES SHALL BE DETAILED TO THAT NO LIFE SAFETY ISSUE IS CREATED IN THE EVENT OF A LOSS OF A PART OF THE MEMBRANE. THE TENSILE MEMBRANE STRUCTURE SHALL NOT RELY ON THE MEMBRANE FOR STRUCTURAL STABILITY.</p> <p>D FIRE PERFORMANCE: RANGE OF CHARACTERISTICS REQUIRED OF MEMBRANES:</p> <ul style="list-style-type: none"> BURNING CHARACTERISTICS (ASTM E84): A. FLAME SPREAD 5 MAX. B. SMOKE GENERATION (TUNNEL TEST) 20 MAX. <p>2. FIRE RESISTANCE OF ROOF COVERINGS (ASTM E108).</p> <p>3. INCOMBUSTIBILITY OF SUBSTRATES (ASTM E88). CLASS A</p> <p>4. FLAME RESISTANCE (NFPA 101) SMALL SCALE UL 44. PASS</p> <p>5. CHAR LENGTH 0.25-INCH MAX.</p> <p>I.5 QUALITY ASSURANCE</p> <p>A SUBCONTRACTOR, QUALIFICATIONS, FABRICATION AND ERECTION OF THE TENSILE MEMBRANE STRUCTURE IS LIMITED TO FIRMS WITH PROVEN EXPERIENCE IN FABRICATION AND CONSTRUCTION OF COMPLEX TENSILE MEMBRANE STRUCTURES, SUCH AS THRU THEIR OWN EXPERIENCE AND/OR THAT OF THEIR QUALIFIED SUBCONTRACTORS. THE FIRM SHALL HAVE AT LEAST FIFTEEN (15) YEARS EXPERIENCE IN THE SUCCESSFUL FABRICATION AND ERECTION OF CUSTOM TENSILE MEMBRANE SYSTEMS.</p> <p>B THE SUBCONTRACTOR SHALL HAVE FABRICATED AND ERECTED AT LEAST FIFTY (50) PITCOATED MOVEN FIBERGLASS TENSILE MEMBRANE STRUCTURES, WITH AT LEAST FIVE (5) STRUCTURES OF SIMILAR SIZE AND COMPLEXITY AS THIS PROJECT.</p> <p>C THE SUBCONTRACTOR SHALL DESIGN, PRODUCE, FABRICATE AND ERECT PITCOATED MOVEN FIBERGLASS TENSILE MEMBRANE AS A TENSILE MEMBRANE STRUCTURE.</p> <p>D THE SUBCONTRACTOR SHALL DEMONSTRATE IT OWNS AND OPERATES A FABRICATION FACILITY OF ADEQUATE CAPACITY AND QUALITY TO FABRICATE AND ERECT THE TENSILE MEMBRANE SYSTEM. THE SUBCONTRACTOR SHALL DEMONSTRATE THAT THIS FABRICATION FACILITY IS ISO-CERTIFIED AND SHALL MEET THE SPECIFIC REQUIREMENTS LISTED IN SECTION 3 OF THIS SPECIFICATION.</p> <p>E THE SUBCONTRACTOR SHALL MAINTAIN AN IN-HOUSE WARRANTY AND SERVICE DEPARTMENT TO ASSIST IN REPAIR AND SERVICE CALLS.</p> <p>F THE SUBCONTRACTOR SHALL SUBMIT A CORPORATE QUALITY CONTROL MANUAL DESCRIBING THE COMPANY'S COMPLETE QUALITY ASSURANCE PROGRAM.</p> <p>G. QUALIFIED SUBCONTRACTOR:</p> <ul style="list-style-type: none"> BIRDAIR, INC. 65 LINDENELL DRIVE, HOBOKEN, NEW JERSEY 07030 USA PHONE (201) 655-2000 FAX (201) 655-2020 WEB SITE: www.birdair.com <p>I.6 SUBMITTALS</p> <p>A GENERAL, NOTWITHSTANDING ANY PROVISIONS OF THESE SPECIFICATIONS THAT MAY APPEAR TO BE TO THE CONTRARY, ANY AND ALL SUBCONTRACTOR SHALL BE SUBJECT TO REVIEW, APPROVAL, AND ADOPTION BY THE PROJECT ENGINEER AS PART OF THE OVERALL PROJECT DESIGN AND ENGINEERING, AND SHALL NOT CREATE A CONTRACTUAL OR OTHER LEGAL DESIGN RELATIONSHIP BETWEEN THE SUBCONTRACTOR AND EITHER THE PROJECT ENGINEER OR THE OWNER.</p> <p>B. SUBMITTALS SHALL INCLUDE:</p> <ul style="list-style-type: none"> 1. THE GENERAL CONTRACTOR SHALL SUBMIT WITH ITS BID THE FOLLOWING MATERIALS FROM THE SUBCONTRACTOR: 2. SCHEDULE INDICATING KEY MILESTONE DATES DURING THE PROJECT. 3. PRE-QUALIFICATION PACKAGE INCLUDING: <ul style="list-style-type: none"> a. COMPANY BACKGROUND AND YEARS OF EXPERIENCE b. LIST OF prior project references c. LEADERSHIP INFORMATION d. FABRICATION FACILITY DOCUMENTATION e. BACKGROUND, INCLUDING PROOF OF OWNERSHIP AND YEARS OF OPERATION f. PHYSICAL ADDRESS g. ISO CERTIFICATIONS FOR DESIGN AND FABRICATION FACILITIES 4. SHOP DRAWINGS: SUBCONTRACTOR SHALL SUBMIT TENSILE MEMBRANE STRUCTURE DRAWINGS DEFINING THE COMPLETED STRUCTURE ANCHORAGE AND CONNECTION DETAILS, INTERFACES WITH BUILDING CONSTRUCTION, AND GENERAL MEMBRANE SEAM ARRANGEMENTS. 5. QUALITY ASSURANCE SUBMITTALS: <ul style="list-style-type: none"> a. TEST REPORTS: PROVIDE TEST REPORTS FROM A QUALIFIED TESTING LABORATORY THAT SHOW COMPLIANCE OF THE SUBCONTRACTOR'S PITCOATED MOVEN FIBERGLASS TENSILE MEMBRANE SYSTEM WITH SPECIFICATION REQUIREMENTS, AS FOLLOWS: b. PHYSICAL TEST DATA OF THE ACTUAL FABRIC ROLL SCOOPS TO BE USED IN THE PROJECT CONFORMING WITH SPECIFICATIONS FOR THE MEMBRANE c. CERTIFICATES: PRODUCT CERTIFICATES SIGNED BY THE SUBCONTRACTOR CERTIFYING MATERIALS COMPLY WITH SPECIFIED CHARACTERISTICS, CRITERIA, AND PHYSICAL REQUIREMENTS. 		<p>F. CLOSEOUT SUBMITTALS</p> <p>1. WARRANTY: PROJECT WARRANTY DOCUMENTS AS DESCRIBED HEREIN.</p> <p>2. RECORD DOCUMENTS: PROJECT RECORD DOCUMENTS FOR INSTALLED MATERIALS IN ACCORDANCE WITH CONDITIONS OF THE CONTRACT AND DIVISION I SPECIFICATION SECTIONS.</p> <p>3. MAINTENANCE MANUAL: SUBMIT TWO (2) COPIES OF A MAINTENANCE MANUAL FOR THE TENSILE MEMBRANE STRUCTURE TO THE OWNER. THE MANUAL SHALL INCLUDE A CHECKLIST FOR INSPECTION, INSTRUCTION FOR EMERGENCY REPAIR AND USE OF EMERGENCY REPAIR MATERIALS, AND WARRANTY. DURING THE SYSTEM ERECTION PERIOD, THE OWNER SHALL PROVIDE MAINTENANCE PERSONNEL TO BE TRAINED IN THE USE OF THE REPAIR MATERIALS.</p> <p>I.7 PRODUCT DELIVERY, HANDLING, AND STORAGE</p> <p>A GENERAL: REFER TO THE CONDITIONS OF THE CONTRACT FOR PRODUCT HANDLING PROVISIONS.</p> <p>B MATERIALS SHALL BE PACKED, LOADED, SHIPPED, UNLOADED, STORED, AND PROTECTED IN A MANNER THAT WILL AVOID ABUSE, DAMAGE, AND DEFACEMENT.</p> <p>I.8 MARRIAGE</p> <p>A GENERAL: REFER TO THE CONDITIONS OF THE CONTRACT FOR PROJECT WARRANTY PROVISIONS.</p> <p>B AFTER FINAL PAYMENT, THE SUBCONTRACTOR SHALL FURNISH THE OWNER WITH A WRITTEN WARRANTY, WHICH SHALL STATE THAT THE TENSILE MEMBRANE SYSTEM HAS BEEN INSTALLED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS AND WILL BE FREE FROM DEFECTS IN MATERIALS AND WORKMANSHIP THAT WILL IMPAIR THEIR NORMAL USE OR SERVICE. THE WARRANTY SHALL START FROM THE DATE OF SUBSTANTIAL COMPLETION OF THE TENSILE MEMBRANE STRUCTURE, WHICH SHALL BE THE FIRST DATE ON WHICH THE ENTIRE TENSILE MEMBRANE SYSTEM IS SUBJECT TO DESIGN PRESTRESS CONDITIONS, AND CONTINUE FOR A PERIOD OF ONE YEAR THEREAFTER.</p> <p>I.9 SUBMITTALS</p> <p>1. RECORD DOCUMENTS: PROJECT RECORD DOCUMENTS FOR INSTALLED MATERIALS IN ACCORDANCE WITH CONDITIONS OF THE CONTRACT AND DIVISION I SPECIFICATION SECTIONS.</p> <p>2. SUBMITTAL PROCEDURES SECTION, SHOP DRAWINGS:</p> <p>A. THE STRUCTURAL STEEL FABRICATOR SHALL SUBMIT SHOP DRAWINGS TO THE SUBCONTRACTOR FOR APPROVAL.</p> <p>B. THE DRAWINGS SHALL SHOW ALL SHOP AND ERECTION DETAILS INCLUDING CUTS, COPIES, CONSTRUCTION, ASSEMBLY, AND FIELD DETAILS, BOLTS, STUDS AND SPACERS, ETC.</p> <p>C. THE DRAWINGS SHALL SHOW ALL HELD, BOTH SHOT AND FIELD, BY THE CURRENTLY RECOMMENDED SYMBOLS OF THE AISC.</p> <p>D. A WELDING PROCEDURE MUST BE SUBMITTED TO THE SUBCONTRACTOR FOR APPROVAL OF HELD, SHOT, AND FIELD.</p> <p>E. SHOP DRAWINGS SHALL BE CAREFULLY CHECKED BEFORE BEING SUBMITTED FOR APPROVAL, AND SHALL BE SUBMITTED IN THE ORDER IN WHICH THEY ARE NEEDED FOR THE EXECUTION OF THE WORK. HELD, IN ADVANCE AND NOT ALL AT ONE TIME. SUBMITTED DRAWINGS SHALL SHOW THE MATERIALS REQUIRED FOR THE WORK, WHETHER OR NOT INDICATED ON THE DRAWINGS.</p> <p>F. THE FABRICATOR SHALL NOT FABRICATE ANY MATERIAL UNTIL AFTER RECEIPT OF APPROVED DRAWINGS.</p> <p>G. THE SUBCONTRACTOR SHALL IMMEDIATELY MAKE ALL CORRECTIONS TO HIS DRAWINGS AS REQUIRED BY THE SUBCONTRACTOR AND SHALL KEEP A SATISFACTORIAL COPY OF ALL CHANGES BY SEPARATELY NUMBERED AND DATED REVISION BLOCKS ON A CONVENIENT PORTION OF EACH DRAWING AFFECTED.</p> <p>H. CERTIFICATION OF MATERIAL CONFORMANCE THAT INCLUDES CHEMICAL AND PHYSICAL PROPERTIES FOR ALL STRUCTURAL ELEMENTS SHALL BE SUBMITTED TO THE SUBCONTRACTOR.</p> <p>I. MATERIALS:</p> <p>1. STRUCTURAL STEEL FOR PLATES AND BARS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A36 OR ASTM A572, GRADE 50, UNLESS NOTED OTHERWISE.</p> <p>2. STRUCTURAL PIPE SHALL CONFORM TO ASTM A33, TYPES E OR S, GRADE B.</p> <p>3. STRUCTURAL TUBING SHALL CONFORM TO ASTM A500 GRADE B.</p> <p>4. STRUCTURAL BOLTS:</p> <ul style="list-style-type: none"> a. HIGH STRENGTH BOLTS, ASTM A252, UNLESS NOTED OTHERWISE. b. COMMON BOLTS AND NUTS, ASTM A571. c. THREADED RODS, ASTM A307, UNLESS NOTED OTHERWISE. <p>5. OTHER MATERIALS: ALL OTHER MATERIALS, NOT SPECIFICALLY DESCRIBED BUT REQUIRED FOR A COMPLETE AND PROPER INSTALLATION OF THE STRUCTURE, SHALL BE PROVIDED BY THE SUBCONTRACTOR, UNLESS FREE FROM RUST, FIRST QUALITY OF THEIR RESPECTIVE KINDS, AND SUBJECT TO THE APPROVAL OF THE SUBCONTRACTOR.</p> <p>E. ACCESSORIES:</p> <p>1. BASE PLATES AND ANCHOR BOLTS:</p> <ul style="list-style-type: none"> a. BASE PLATES SUPPLIED ON CONCRETE, WHETHER SHOT ATTACHED OR SHIPPED LOOSE, SHALL BE FURNISHED AND SET ON SHIMS, LEVELING PLATES OR LEVELING NUTS. GROUTING SHALL BE BY THE CONTRACTOR. b. ANCHOR BOLT LOCATIONS SHALL BE FURNISHED BY THE SUBCONTRACTOR AND USED BY THE GENERAL CONTRACTOR TO SET THE BOLTS. THE GENERAL CONTRACTOR IS TO CHECK CAREFULLY THE SETTING OF THE BOLTS TO THEIR PROPER POSITION PRIOR TO PLACING OF NUTS AND WASHERS. DANAGED THREADS SHALL BE REPAIRED OR BE CUT TO PERMIT FULL TIGHTENING OF NUTS. <p>F. FABRICATION:</p> <p>A. MACHINERY: ALL MEMBERS, WHEN FINISHED, SHALL BE TRUE AND FREE OF TWISTS, BENDS, AND OPEN JOINTS BETWEEN THE COMPONENT PARTS. MEMBERS SHALL BE THOROUGHLY STRAIGHTENED IN THE SHOP BY METHODS THAT WILL NOT INJURE THEM WHEN BEING WORKED ON IN ANY WAY.</p> <ul style="list-style-type: none"> a. HEAVY HAZARD MATERIALS AND HATCH MARKS: WHEN DIRECTED BY THE SUBCONTRACTOR, FOR FIELD ASSEMBLY. b. GRIND ALL EDGES AND CORNERS THAT COULD CONTACT MEMBRANE TO A MINIMUM 1/16 INCH (1.6MM) RADUS. <p>G. BASE PLATES AND ANCHOR BOLTS:</p> <p>A. ALL MEMBERS, WHEN FINISHED, SHALL BE TRUE AND FREE OF TWISTS, BENDS, AND OPEN JOINTS BETWEEN THE COMPONENT PARTS. MEMBERS SHALL BE THOROUGHLY STRAIGHTENED IN THE SHOP BY METHODS THAT WILL NOT INJURE THEM WHEN BEING WORKED ON IN ANY WAY.</p> <ul style="list-style-type: none"> a. HEAVY HAZARD MATERIALS AND HATCH MARKS: WHEN DIRECTED BY THE SUBCONTRACTOR, FOR FIELD ASSEMBLY. b. GRIND ALL EDGES AND CORNERS THAT COULD CONTACT MEMBRANE TO A MINIMUM 1/16 INCH (1.6MM) RADUS. <p>H. CONNECTIONS:</p> <p>A. CONNECTIONS SHALL BE AS INDICATED ON THE DRAWINGS, WHEN DETAILS ARE NOT SHOWN THE CONNECTOR SHALL FURNISH THE CONNECTOR TO THE REQUIREMENTS OF THE AISC.</p> <p>B. ALL CONNECTIONS SHALL BE MADE WITH STANDARD FASTENERS FOR ALL STRUCTURAL STEEL BOLTED CONNECTIONS, UNLESS NOTED OTHERWISE.</p> <p>C. COMBINATION OF BOLTS AND NELDMENTS: INTEGRAL NELDMENTS AND HATCH MARKS SHALL NOT BE ALLOWED.</p> <p>D. OTHER CONNECTIONS:</p> <p>A. DEFINITION: ALL TERMS HEREIN RELATING TO THE HELD, WELDING AND OXYGEN CUTTING SHALL BE CONSTRUED IN ACCORDANCE WITH THE LATEST REVISION OF STANDARD DEFINITIONS OF WELDING TERMS AND METHODS OF THE AMERICAN WELDING SOCIETY.</p> <p>B. OPERATORS: HELD SHALL BE MADE ONLY TO OPERATORS WHO HAVE BEEN PREVIOUSLY QUALIFIED BY TESTS, AS PREScribed IN AWS D1.2 TO PERFORM THE TYPE OF WELD REQUIRED.</p> <p>C. WELDING EQUIPMENT SHALL BE OF SUFFICIENT CAPACITY AND MAINTAINED IN GOOD WORKING CONDITION. CAPACITIES OF THE WELDING EQUIPMENT SHALL BE EQUAL TO THE AMOUNT OF WELDING TO BE PERFORMED.</p> <p>D. NO HELD SHALL BEGIN UNTIL JOIN ELEMENTS ARE CLAMPED IN PROPER ALIGNMENT AND ADJUSTED TO DIMENSIONS SHOWN ON THE DRAWINGS WITH ALLOWANCE FOR ANY HELD SHRINKAGE THAT IS EXPECTED. NO MEMBERS SHALL BE SPLINED WITHOUT PRIOR APPROVAL.</p> <p>E. ALL WELDING SHALL BE DONE IN ACCORDANCE WITH THE REFERENCE SPECIFICATIONS, WITH THE FOLLOWING MODIFICATIONS AND ADJUSTMENTS:</p> <ul style="list-style-type: none"> a. ALL HELD WELDS SHALL BE DONE BY MANUAL SHIELDED METAL-ARC WELDING. b. ALL GROOVE HELDS SHALL HAVE COMPLETE PENETRATION, UNLESS OTHERWISE SPECIFIED ON THE DRAWINGS. c. THE MINIMUM PREHEAT AND INTERPASS TEMPERATURE REQUIREMENTS SHALL BE AS REQUIRED FOR THE DRAWINGS. <p>F. WELDING SEQUENCE: HEAVY SECTIONS AND THOSE HAVING A HIGH DEGREE OF RESTRAINT MAY BE WELDED IN A SEQUENCE WITH THE PROPER PREHEAT AND POST-WELD HEAT TREATMENT SUCH THAT NO PERMANENT DISTORTION OCCURS. BELT A HEADING SECTION FOR APPROVAL FOR THESE TYPES OF CONNECTIONS.</p> <p>G. WELDING SEQUENCE: HEAVY SECTIONS AND THOSE HAVING A HIGH DEGREE OF RESTRAINT MAY BE WELDED IN A SEQUENCE WITH THE PROPER PREHEAT AND POST-WELD HEAT TREATMENT SUCH THAT NO PERMANENT DISTORTION OCCURS. BELT A HEADING SECTION FOR APPROVAL FOR THESE TYPES OF CONNECTIONS.</p> <p>H. ALTERNATIVELY, AN UNGUIDED TORCH MAY BE USED PROVIDED THE CUT IS NOT WITHIN 1/2 INCH OF THE FINISHED DIMENSION AND THE FINAL REMOVAL IS COMPLETED BY CHIPPING OR GRINDING TO PRODUCE A SURFACE QUALITY EQUAL TO THAT OF THE BASE METAL EDGES. THE USE OF OXYGEN-CUT HOLES FOR BOLTED CONNECTIONS OR PIN CONNECTIONS IS PROHIBITED. THE USE OF OXYGEN-CUT HOLES FOR WELDING IS PROHIBITED.</p> <p>I. TOLERANCES: ALL TOLERANCES SHALL BE AS PER THE AWS ECODE 02 FOR THE ASCE 36 STANDARD PRACTICE FOR STEEL BUILDINGS AND SHALL BE INSET IN THE DRAWINGS INDICATING THE ALLOWANCE FOR INSTRUMENTATION AND REPAIRS.</p> <p>J. INTERCABINET COAT: THE INTERCABINET COAT IS THE INTERCABINET PAINT TESTED IN ACCORDANCE WITH THE CURRENT EDITION OF THE AIA-A106.1. THE INTERCABINET COAT SHALL BE APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.</p> <p>K. INTERCABINET COAT: THE INTERCABINET COAT IS THE INTERCABINET PAINT TESTED IN ACCORDANCE WITH THE CURRENT EDITION OF THE AIA-A106.1. THE INTERCABINET COAT SHALL BE APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.</p> <p>L. INTERCABINET COAT: THE INTERCABINET COAT IS THE INTERCABINET PAINT TESTED IN ACCORDANCE WITH THE CURRENT EDITION OF THE AIA-A106.1. THE INTERCABINET COAT SHALL BE APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.</p> <p>M. COLOR: THE COLOR PAINT SHALL BE AS SPECIFIED ON THE DRAWINGS OR SELECTED BY THE SUBCONTRACTOR.</p> <p>N. SURFACE PREPARATION: THE SURFACE PREPARATION SHALL BE NEAR-WHITE BLAST CLEANING SP60-SP10, AFTER ALL FABRICATION OPERATIONS SUCH AS MACHINING AND WELDING SHALL BE MADE TO A MAXIMUM OF EIGHT HOURS ELAPSED TIME SINCE THE LAST SURFACE PREPARATION AND APPLICATION OF THE PRIME COAT.</p> <p>O. PAINT SYSTEM: THREE-COAT EPOXY-POLYURETHANE</p> <p>P. SOURCE QUALITY CONTROL: PRIMARY MATERIALS SHALL BE OBTAINED FROM A SINGLE MANUFACTURER. SECONDARY MATERIALS SHALL BE THOSE RECOMMENDED BY THE PRIMARY MANUFACTURER.</p> <p>Q. SURFACE PREPARATION: CLEAN AND DRY</p> <p>R. PAINT SYSTEM: THREE-COAT EPOXY-POLYURETHANE</p> <p>S. SOURCE QUALITY CONTROL: PRIMARY MATERIALS SHALL BE OBTAINED FROM A SINGLE MANUFACTURER. SECONDARY MATERIALS SHALL BE THOSE RECOMMENDED BY THE PRIMARY MANUFACTURER.</p> <p>T. SURFACE PREPARATION: CLEAN AND DRY</p> <p>U. PAINT SYSTEM: THREE-COAT EPOXY-POLYURETHANE</p> <p>V. SOURCE QUALITY CONTROL: PRIMARY MATERIALS SHALL BE OBTAINED FROM A SINGLE MANUFACTURER. SECONDARY MATERIALS SHALL BE THOSE RECOMMENDED BY THE PRIMARY MANUFACTURER.</p> <p>W. SURFACE PREPARATION: CLEAN AND DRY</p> <p>X. PAINT SYSTEM: THREE-COAT EPOXY-POLYURETHANE</p> <p>Y. SOURCE QUALITY CONTROL: PRIMARY MATERIALS SHALL BE OBTAINED FROM A SINGLE MANUFACTURER. SECONDARY MATERIALS SHALL BE THOSE RECOMMENDED BY THE PRIMARY MANUFACTURER.</p> <p>Z. SURFACE PREPARATION: CLEAN AND DRY</p> <p>A. PAINT SYSTEM: THREE-COAT EPOXY-POLYURETHANE</p> <p>B. SOURCE QUALITY CONTROL: PRIMARY MATERIALS SHALL BE OBTAINED FROM A SINGLE MANUFACTURER. SECONDARY MATERIALS SHALL BE THOSE RECOMMENDED BY THE PRIMARY MANUFACTURER.</p> <p>C. SURFACE PREPARATION: CLEAN AND DRY</p> <p>D. PAINT SYSTEM: THREE-COAT EPOXY-POLYURETHANE</p> <p>E. SOURCE QUALITY CONTROL: PRIMARY MATERIALS SHALL BE OBTAINED FROM A SINGLE MANUFACTURER. SECONDARY MATERIALS SHALL BE THOSE RECOMMENDED BY THE PRIMARY MANUFACTURER.</p> <p>F. SURFACE PREPARATION: CLEAN AND DRY</p> <p>G. PAINT SYSTEM: THREE-COAT EPOXY-POLYURETHANE</p> <p>H. SOURCE QUALITY CONTROL: PRIMARY MATERIALS SHALL BE OBTAINED FROM A SINGLE MANUFACTURER. SECONDARY MATERIALS SHALL BE THOSE RECOMMENDED BY THE PRIMARY MANUFACTURER.</p> <p>I. SURFACE PREPARATION: CLEAN AND DRY</p> <p>J. PAINT SYSTEM: THREE-COAT EPOXY-POLYURETHANE</p> <p>K. SOURCE QUALITY CONTROL: PRIMARY MATERIALS SHALL BE OBTAINED FROM A SINGLE MANUFACTURER. SECONDARY MATERIALS SHALL BE THOSE RECOMMENDED BY THE PRIMARY MANUFACTURER.</p> <p>L. SURFACE PREPARATION: CLEAN AND DRY</p> <p>M. PAINT SYSTEM: THREE-COAT EPOXY-POLYURETHANE</p> <p>N. SOURCE QUALITY CONTROL: PRIMARY MATERIALS SHALL BE OBTAINED FROM A SINGLE MANUFACTURER. SECONDARY MATERIALS SHALL BE THOSE RECOMMENDED BY THE PRIMARY MANUFACTURER.</p> <p>O. SURFACE PREPARATION: CLEAN AND DRY</p> <p>P. PAINT SYSTEM: THREE-COAT EPOXY-POLYURETHANE</p> <p>Q. SOURCE QUALITY CONTROL: PRIMARY MATERIALS SHALL BE OBTAINED FROM A SINGLE MANUFACTURER. SECONDARY MATERIALS SHALL BE THOSE RECOMMENDED BY THE PRIMARY MANUFACTURER.</p> <p>R. SURFACE PREPARATION: CLEAN AND DRY</p> <p>S. PAINT SYSTEM: THREE-COAT EPOXY-POLYURETHANE</p> <p>T. SOURCE QUALITY CONTROL: PRIMARY MATERIALS SHALL BE OBTAINED FROM A SINGLE MANUFACTURER. SECONDARY MATERIALS SHALL BE THOSE RECOMMENDED BY THE PRIMARY MANUFACTURER.</p> <p>U. SURFACE PREPARATION: CLEAN AND DRY</p> <p>V. PAINT SYSTEM: THREE-COAT EPOXY-POLYURETHANE</p> <p>W. SOURCE QUALITY CONTROL: PRIMARY MATERIALS SHALL BE OBTAINED FROM A SINGLE MANUFACTURER. SECONDARY MATERIALS SHALL BE THOSE RECOMMENDED BY THE PRIMARY MANUFACTURER.</p> <p>X. SURFACE PREPARATION: CLEAN AND DRY</p> <p>Y. PAINT SYSTEM: THREE-COAT EPOXY-POLYURETHANE</p> <p>Z. SOURCE QUALITY CONTROL: PRIMARY MATERIALS SHALL BE OBTAINED FROM A SINGLE MANUFACTURER. SECONDARY MATERIALS SHALL BE THOSE RECOMMENDED BY THE PRIMARY MANUFACTURER.</p> <p>A. PAINT SYSTEM: THREE-COAT EPOXY-POLYURETHANE</p> <p>B. SOURCE QUALITY CONTROL: PRIMARY MATERIALS SHALL BE OBTAINED FROM A SINGLE MANUFACTURER. SECONDARY MATERIAL</p>
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ARCHITECTURAL SITE PLAN



SPI 3/32" = 1'-0"

NOTES:

1. COLUMN LOCATIONS MAY CHANGE UPON REVIEW OF FINAL STRUCTURE SHOP DRAWINGS.
2. IF ANY DISCREPANCIES ARE FOUND BETWEEN ARCHITECTURAL AND CIVIL NOTIFY ARCHITECT IMMEDIATELY.

ARCHITECTURAL AND

Preliminary

Preliminary
 Permitting Set

Construction Set

Date: 10/10/2020

|2/1/2020

Drawn: TK/G

Sheet:

“*It is the first time I have seen such a thing. I am very sorry for it.*”

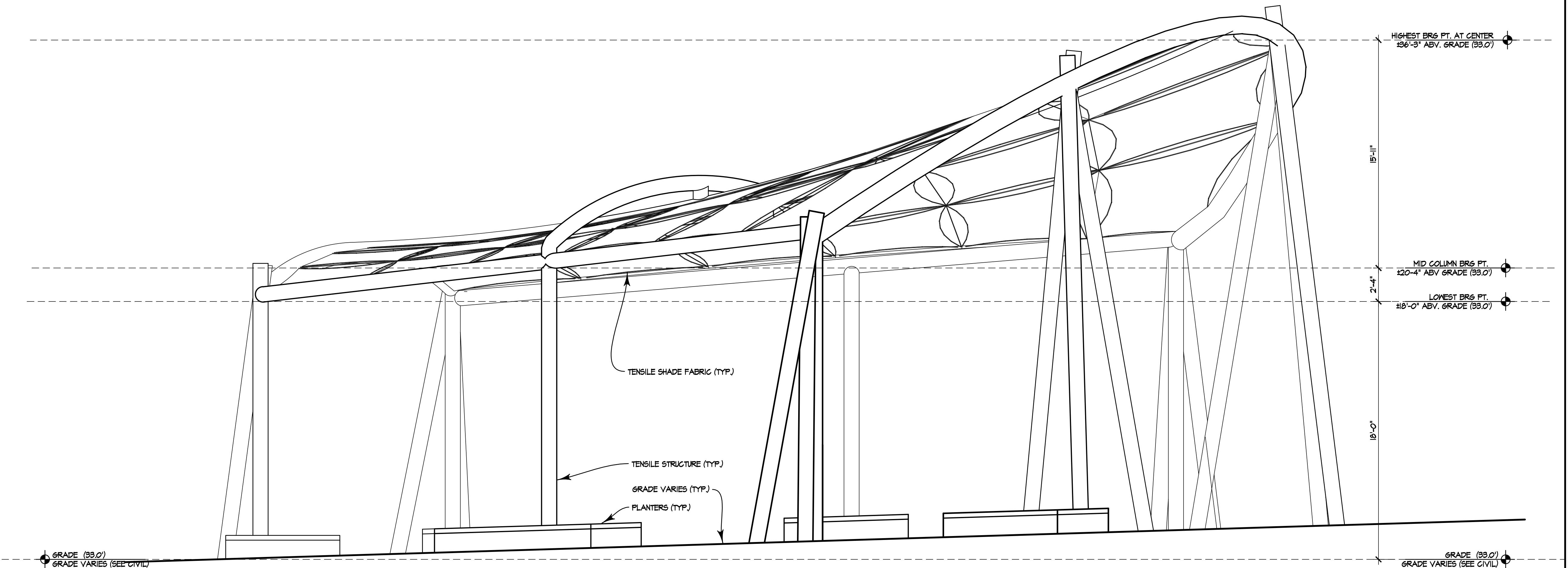
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OVERHEAD STRUCTURE ELEV.

1/4" = 1'-0"

CITY OF CLEARWATER - GATENAY PLAZA

PROJECT # 9-0026-EN MERCADO

The logo for kidi and kidi features a large, bold, black sans-serif font where the letters 'k' and 'd' are joined together. To the right of the text is a graphic illustration of a city skyline. The skyline consists of several abstract shapes: a large circle at the top, a triangle below it, and a rectangle at the base. The entire graphic is set against a white background.

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Robert S. Klar
Steven L. Klar
TIMOTHY G. KNOWLES

AA 0002321

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Construction Set

Date: 12/11/2020

12/11/2020

awn: TK/G

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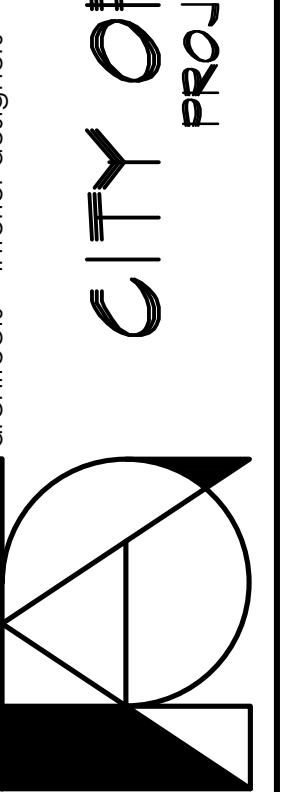
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Of:

CITY OF CLEARWATER- GATEWAY PLAZA
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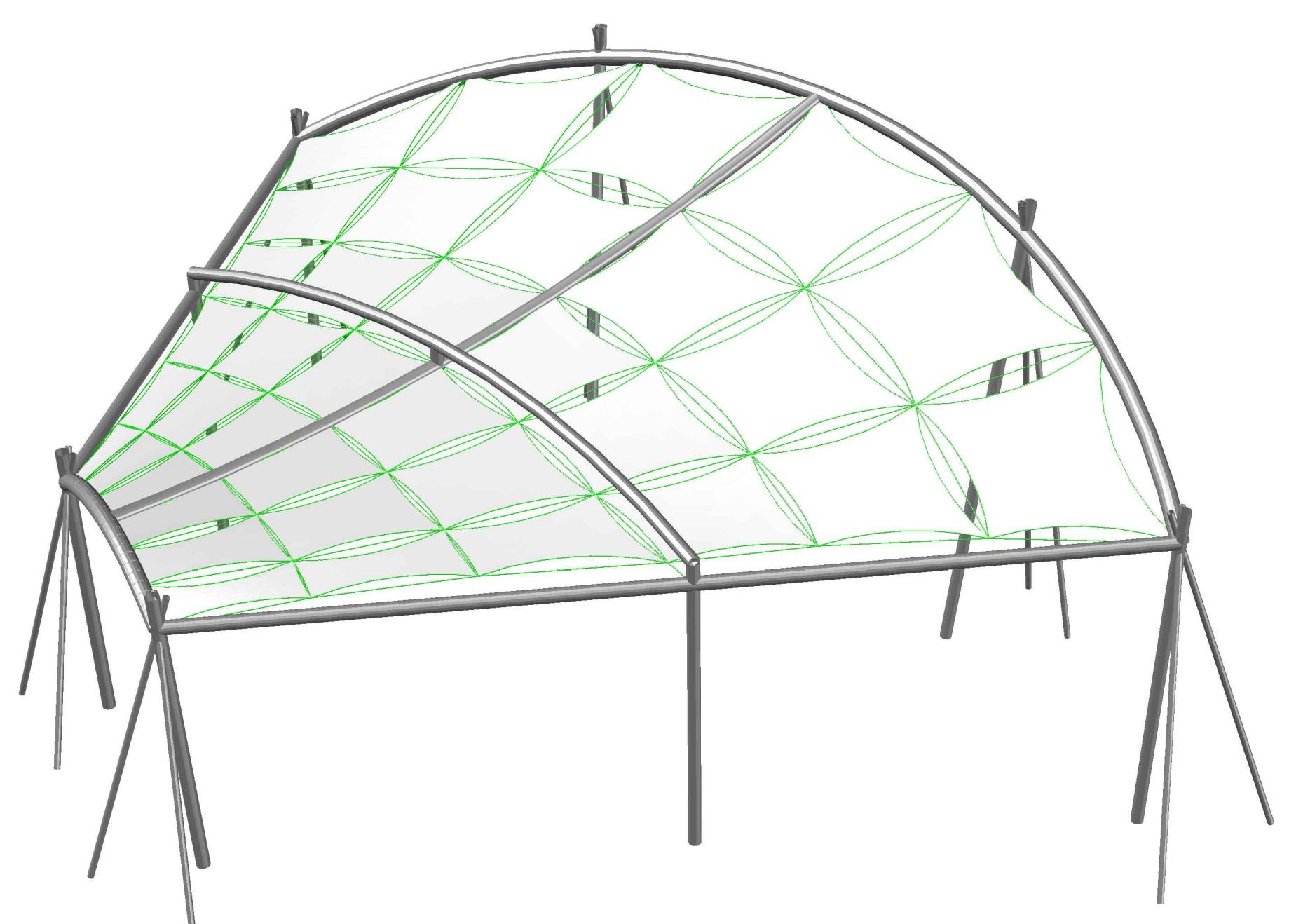
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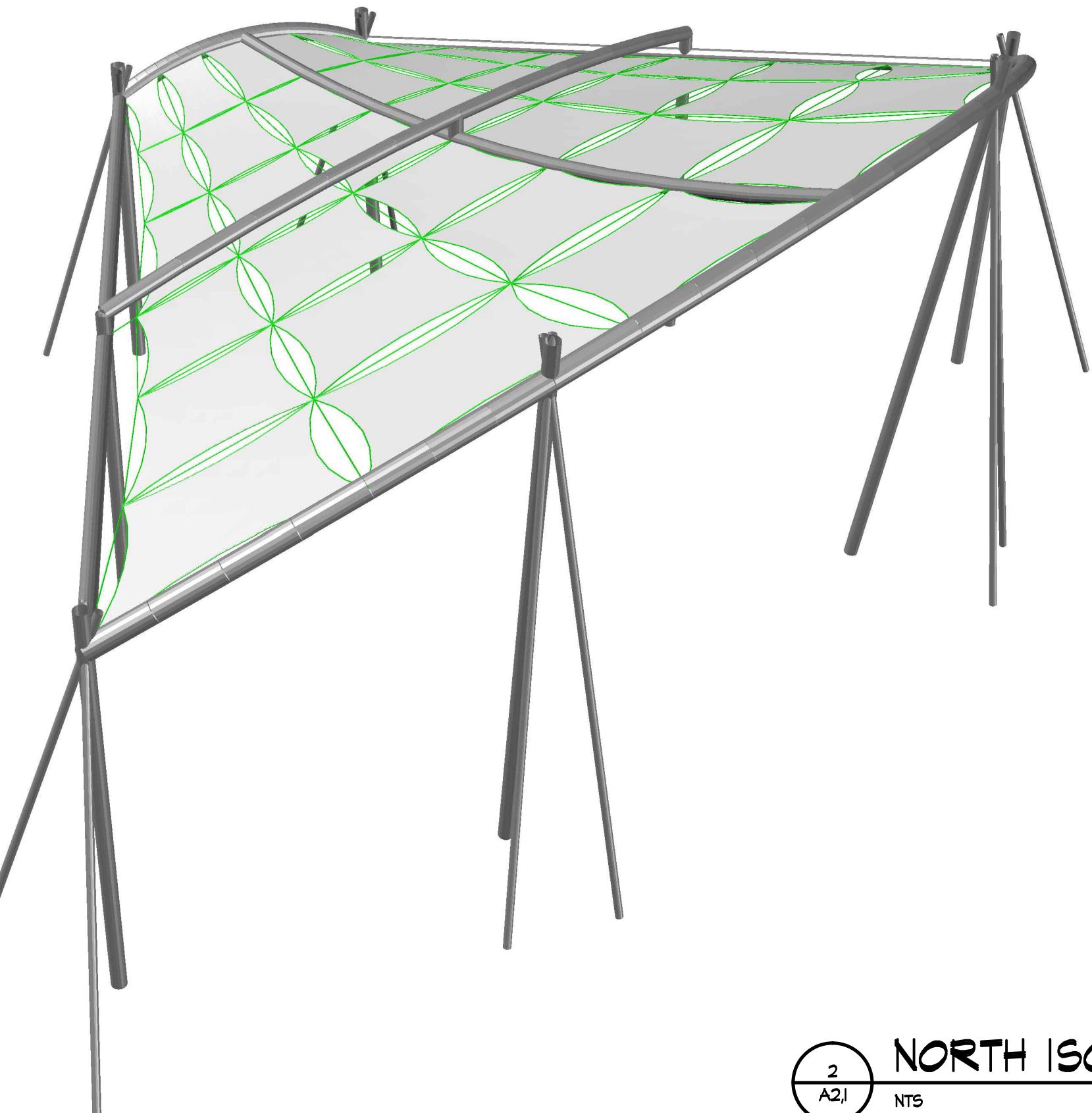
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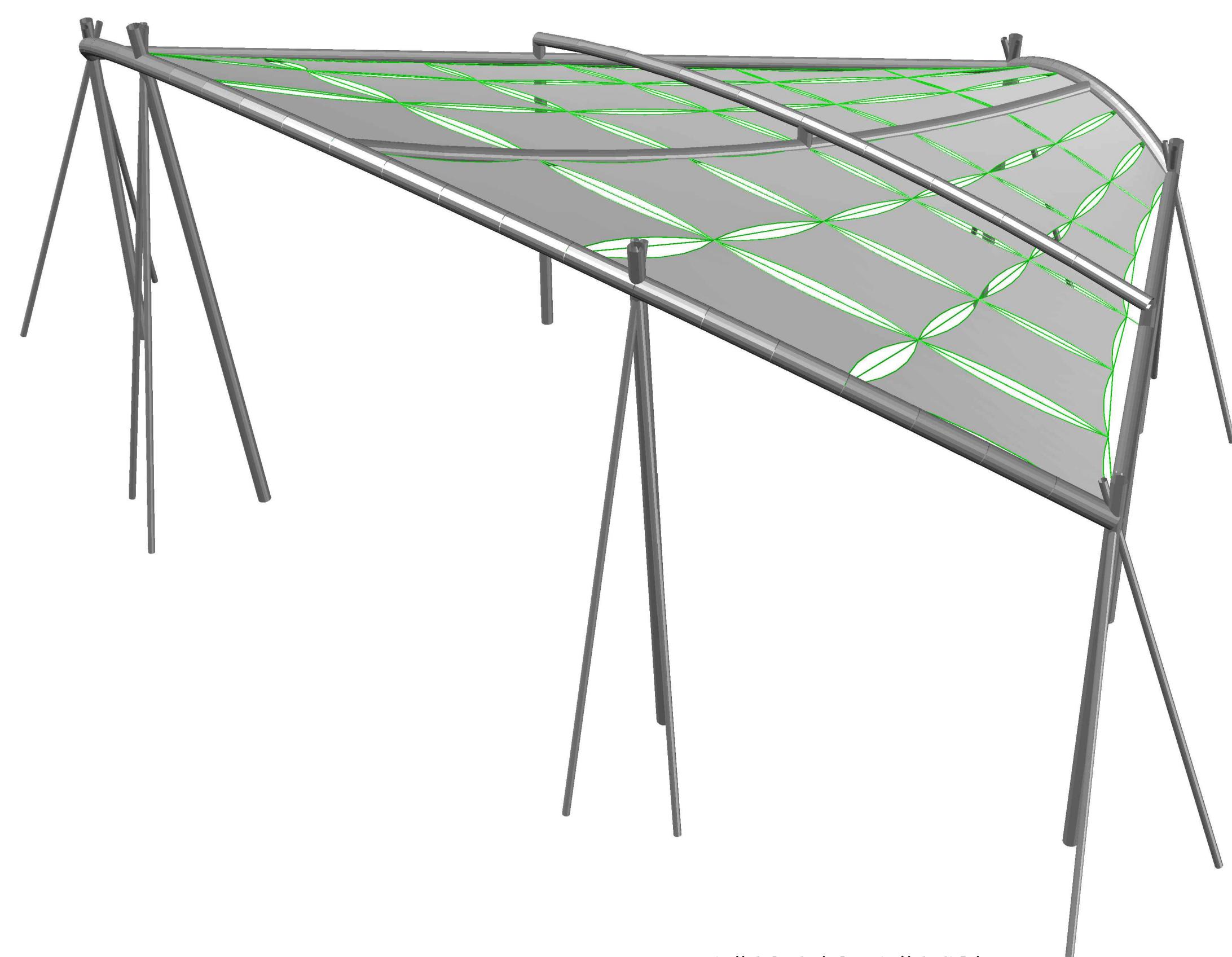
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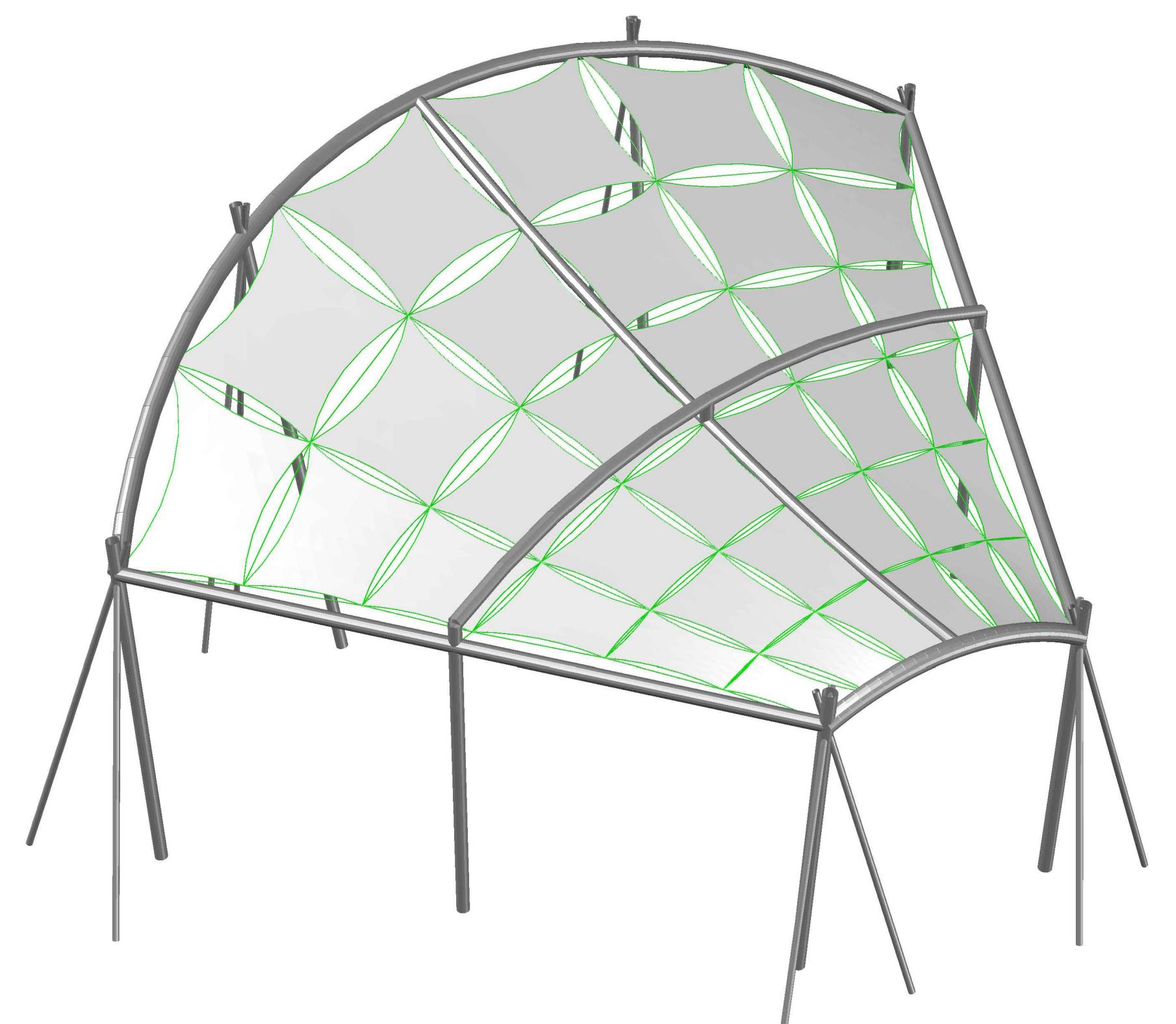
NORTH ISOMETRIC

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A2.1
NTS



WEST ISOMETRIC

2
A2.1
NTS

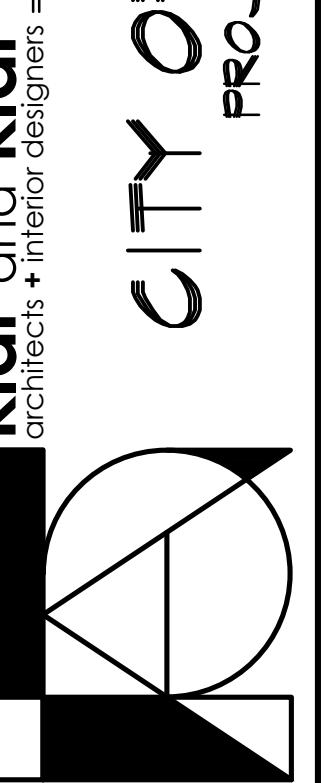


SOUTH ISOMETRIC

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A2.1
NTS

NOTES:
1. AXO'S ARE SHOWN FOR DESIGN INTENT. REFER TO ARCHITECTURAL SITE PLAN FOR LOCATION OF SHADE STRUCTURE.
2. FABRIC SHADES TO BE BID BASED ON (2) COLORS BEING USED.
COLORS TO BE APPROVED BY OWNER/ARCH. (ORANGE AND GREEN)
SAMPLES TO BE PROVIDED FOR FINAL SELECTION PRIOR TO FABRICATION.

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Date: 12/11/2020

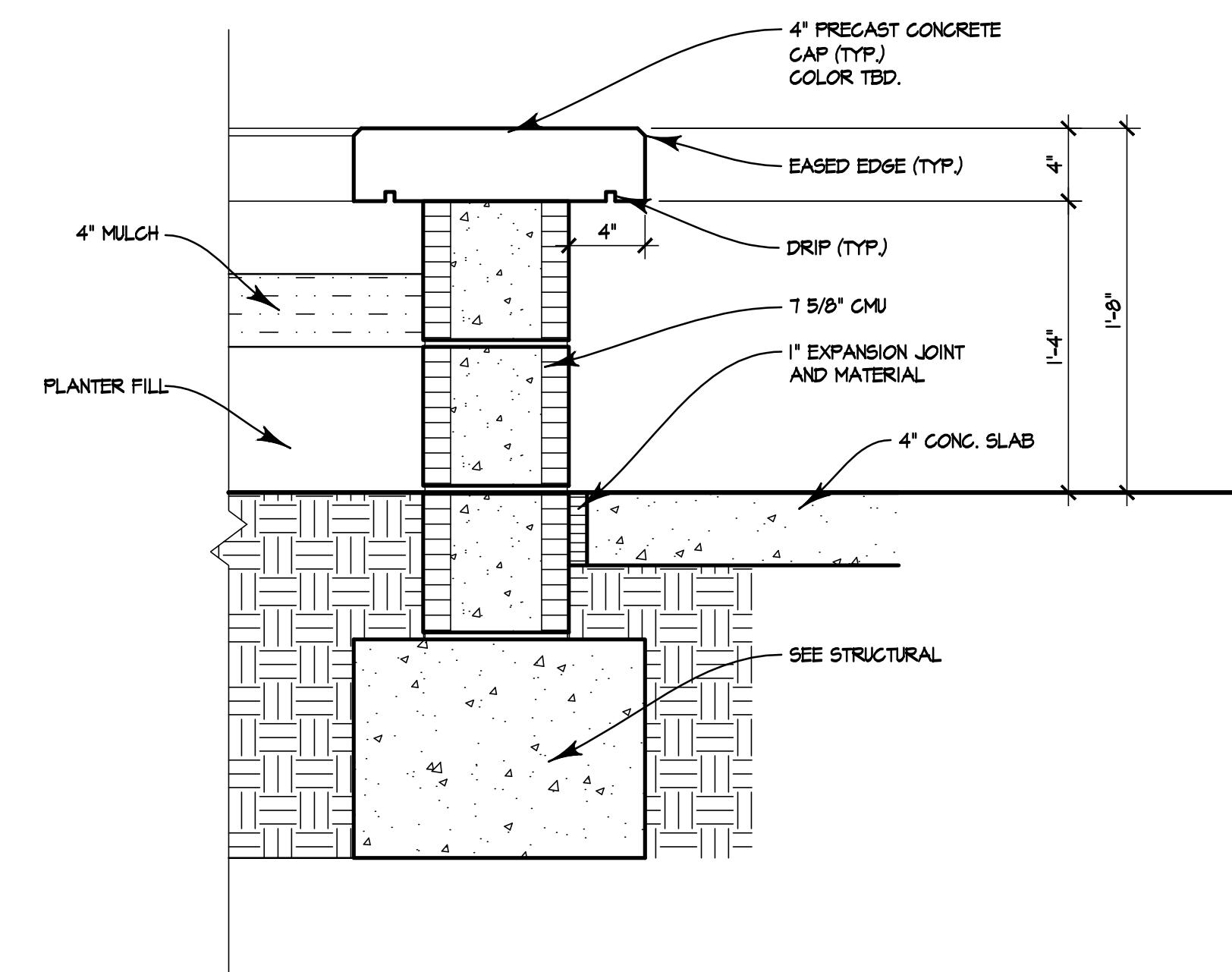
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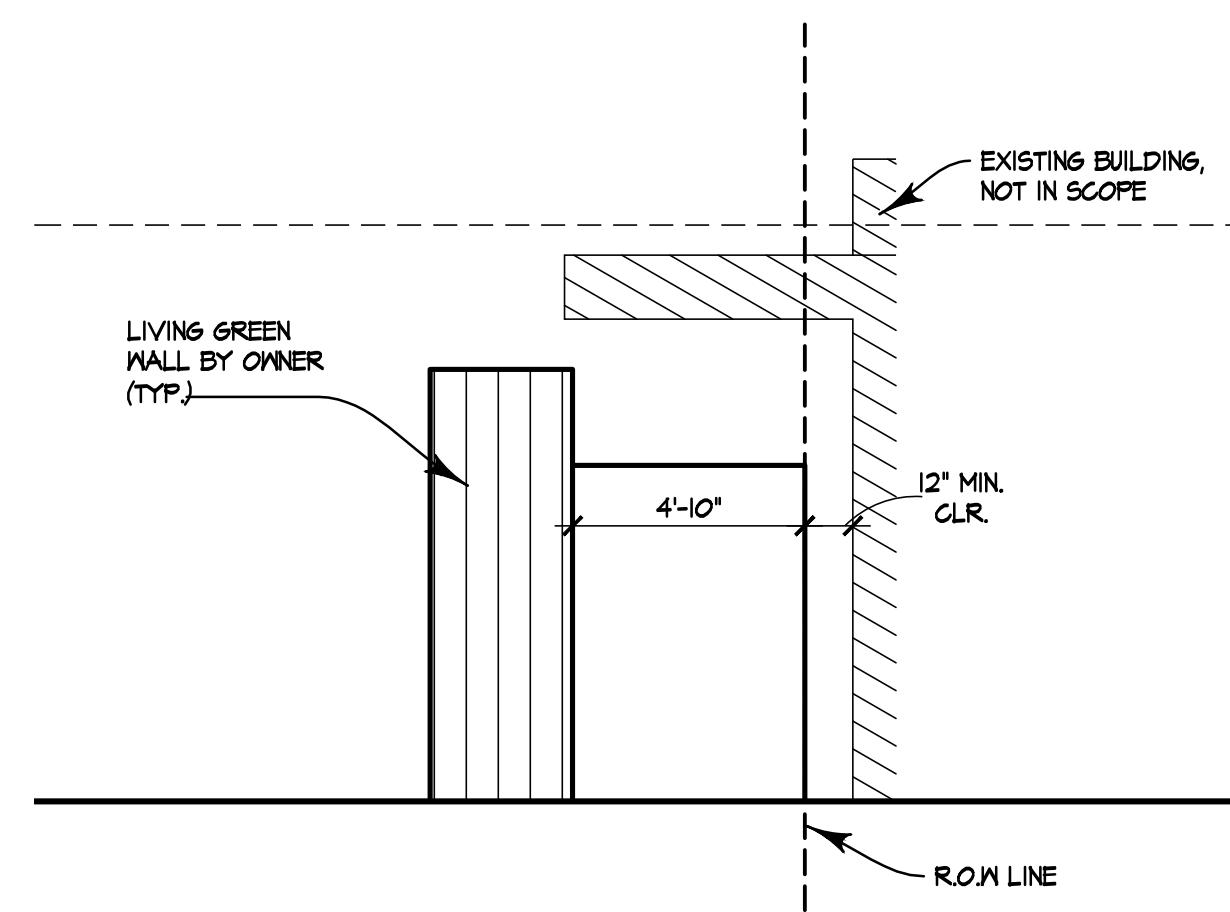
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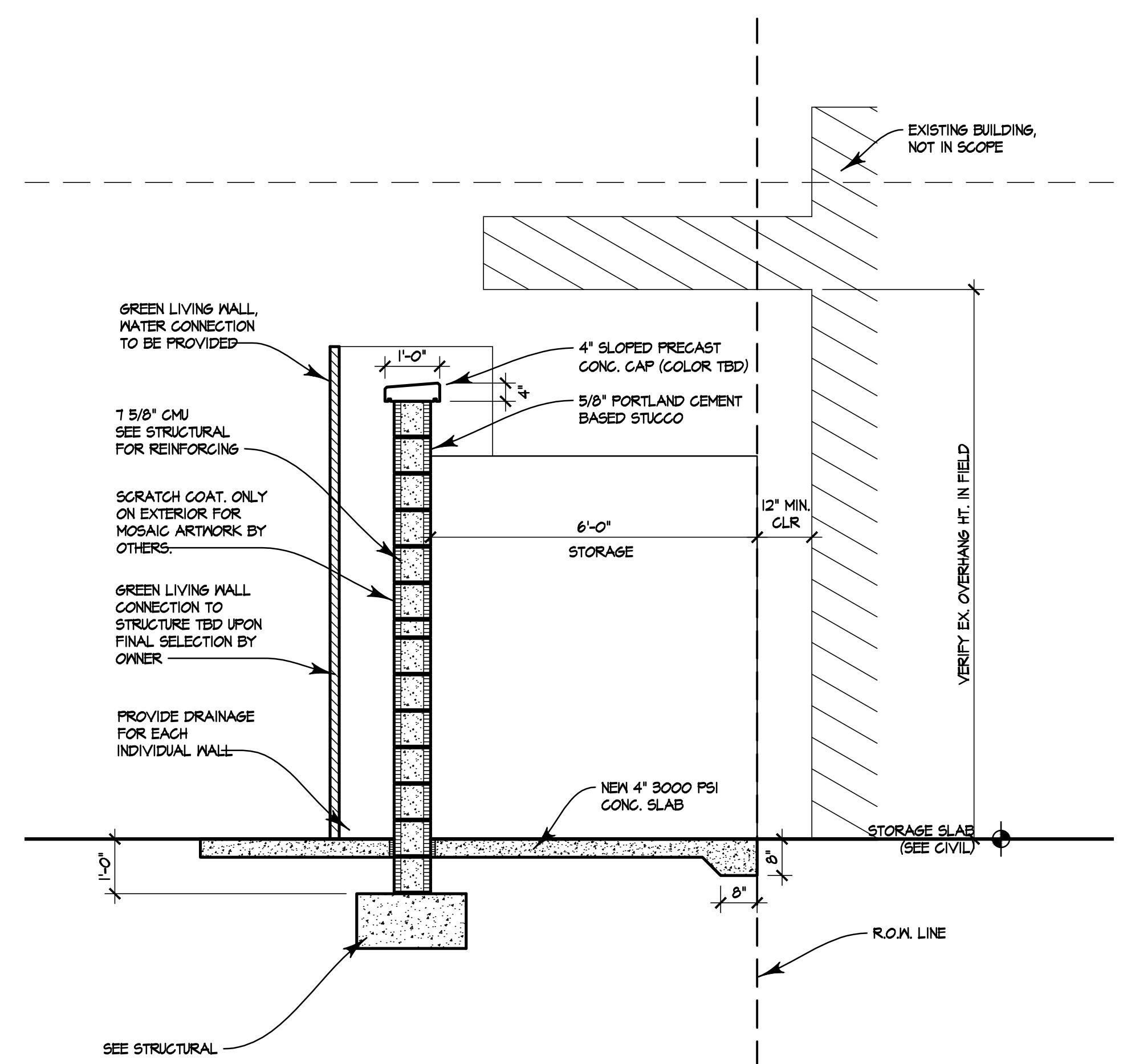
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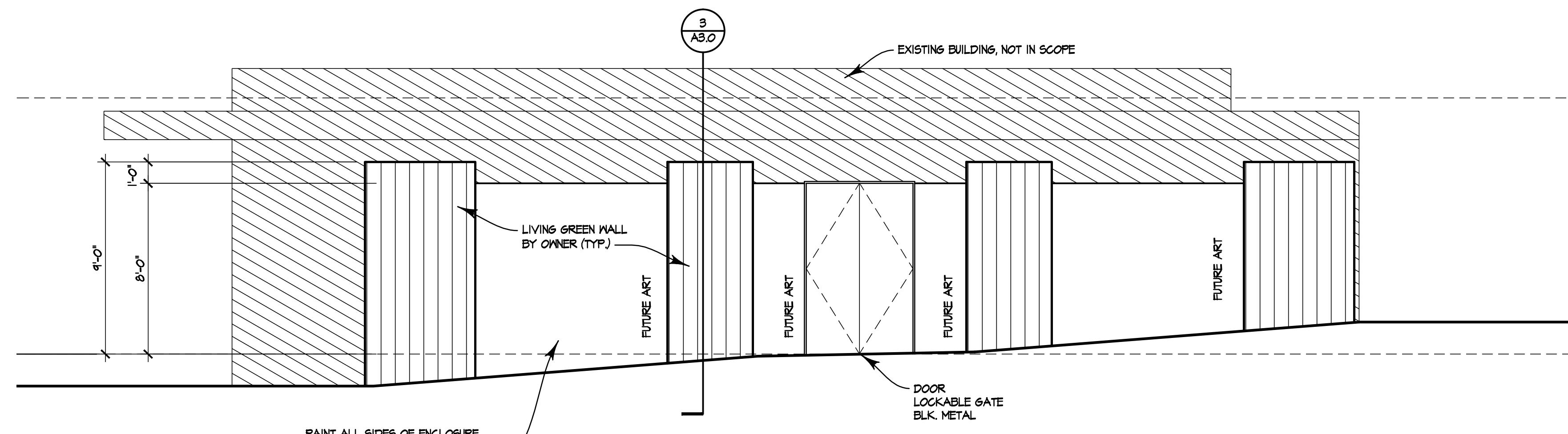
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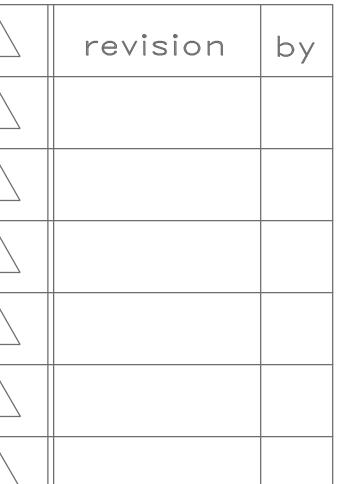
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WALL SECTION

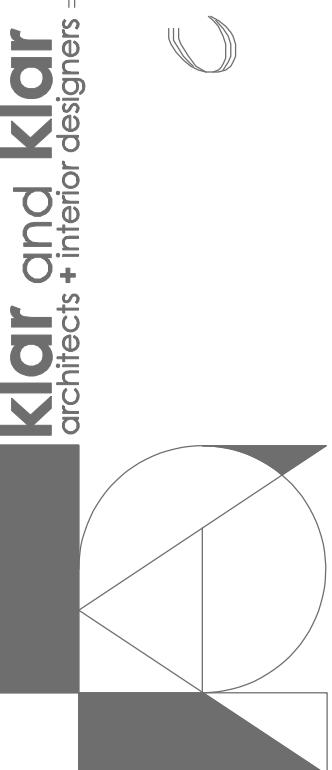


ENCLOSURE ELEVATION - E



Michael P. Spychala P.E.
Fla PE# 31533
Fla COA# 3967

CITY OF CLEARWATER - PLAZA
CORNER OF CLEVELAND ST. AND GULF TO BAY BLVD.



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clearwater, fl 33761
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member firm

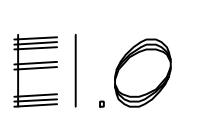
Roberta S. Klar

Steven L. Klar

TIMOTHY G. KNOWLES

Preliminary
 Permitting Set
 Construction Set

Date:
10/02/2020
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Of:

SYMBOL LIST		
SYMBOL	DESCRIPTION	MOUNTING
(A)	LIGHT FIXTURE, CEILING TYPE LETTER INDICATES TYPE	SEE FIXTURE SCHEDULE
[]	FLUORESCENT FIXTURE RECESSED IN CEILING	SEE FIXTURE SCHEDULE
—	FLUORESCENT STRIP FIXTURE	SEE FIXTURE SCHEDULE
—	EXIT FIXTURE, SHADING INDICATES SINGLE OR DOUBLE FACE	SEE FIXTURE SCHEDULE
—	TRACK LIGHTING	SEE FIXTURE SCHEDULE
—	EMERGENCY BATTERY UNIT	SEE FIXTURE SCHEDULE
S	SWITCH, SINGLE POLE-LETTER INDICATES LIGHTS CONTROLLED	48° AFF TO CL OR AS NOTED
S	SWITCH, THREE WAY	48° AFF TO CL OR AS NOTED
S	DIMMER SWITCH	48° AFF TO CL OR AS NOTED
S	SWITCH, DOUBLE POLE	48° AFF TO CL OR AS NOTED
O	SINGLE RECEPTACLE, 125V, 20A	18° AFF TO CL OR AS NOTED
O	SINGLE RECEPTACLE, 125V, 20A (FLUSH FLOOR BOX)	FLUSH WITH FLOOR
O	DUPLEX RECEPTACLE, 125V, 20A	18° AFF TO CL OR AS NOTED
O	DUPLEX RECEPTACLE, 125V, 20A	48° AFF TO CL OR AS NOTED
O	DUPLEX RECEPTACLE, 125V, 20A	18° AFF TO CL OR AS NOTED
GFI	DUPLEX RECEPTACLE, 125V, 20A GROUND FAULT	18° AFF TO CL OR AS NOTED
WP	DUPLEX RECEPTACLE, 125V, 20A WEATHERPROOF	18° AFF TO CL OR AS NOTED
GFI	DUPLEX RECEPTACLE, 125V, 20A GROUND FAULT	48° AFF TO CL OR AS NOTED
F	DUPLAUX RECEPTACLE, 125V, 20A FLUSH FLOOR BOX	FLUSH WITH FLOOR
C	DUPLAUX RECEPTACLE, 125V, 20A FLUSH CEILING BOX	FLUSH WITH FLOOR
—	QUADRUPLEX RECEPTACLE, 125V, 20A	18° AFF TO CL OR AS NOTED
IS	DUPLAUX RECEPTACLE, 125V, 20A WITH ISOLATED GROUND	18° AFF TO CL OR AS NOTED
—	QUADRUPLEX RECEPTACLE, 125V, 20A	48° AFF TO CL OR AS NOTED
—	QUADRUPLEX RECEPTACLE, 125V, 20A (PEDESTAL BOX)	CONDUIT AND ON FLOOR SERVICE FITTING
F	QUADRUPLEX RECEPTACLE, 125V, 20A (FLUSH FLOOR BOX)	FLUSH WITH FLOOR
—	PANELBOARD 120/208V	SEE PANEL SCHEDULE
—	PANELBOARD 277/480V	SEE PANEL SCHEDULE
—	DISCONNECT SWITCH SIZE / FUSE # / POLES	TOP 60° AFF OR AS NOTED
—	COMBINATION MOTOR STARTER DISCONNECT SWITCH	TOP 60° AFF OR AS NOTED
M	MOTOR	AS NOTED
M	MOTOR STARTER SWITCH WITH OVERLOAD RELAYS AS REQUIRED	AS NOTED
—	ELECTRIC DUCT HEATER WITH DISCONNECT SWITCH	AS NOTED
—	DEVICE AS NOTED	AS NOTED
T	TRANSFORMER	AS NOTED
—	OUTLET WITH FLEXIBLE CONDUIT CONNECTION TO EQUIPMENT	AS NOTED OR REQUIRED
—	OUTLET CONNECTION OR PULL BOX	AS NOTED OR REQUIRED
—	DRIVEN GROUND, UNLESS NOTED OTHERWISE	
—	CONDUIT CONCEALED IN CEILING SPACE OR WALL	NUMBER OF WIRES INDICATED AS FOLLOWS
—	CONDUIT IN FLOOR SLAB, CEILING OR WALL CONCEALED	TWO WIRES
—	HOME RUN TO PANEL (HASH MARKS INDICATE NUMBER OF WIRES)	THREE WIRES
—	CONDUIT RUN EXPOSED	FOUR WIRES
(3)	REFER TO LIKE NUMBERED NOTES	
►	TELEPHONE OUTLET	14° AFF OR AS NOTED
►	TELEPHONE OUTLET	54° AFF OR AS NOTED
►	TELEPHONE OUTLET	6° ABOVE COUNTERTOP
—	SOUND SYSTEM SPEAKER	CEILING MOUNTED
—	DUCT TYPE SMOKE DETECTOR	IN HVAC DUCTWORK
—	FAN SHUT DOWN RELAY	AS NOTED
—	DUCT DETECTOR TEST/RESET	48° AFF OR AS NOTED
—	DOOR BUZZER	AS NOTED
—	DOOR BUZZER PUSHBUTTON	AS NOTED

NOTE: ALL MOUNTING HEIGHTS SHOWN ARE TO THE CENTERLINE
OF THE DEVICE UNLESS NOTED OTHERWISE.
NOT ALL SYMBOLS APPEAR ON PLANS.

ABBREVIATIONS:

AFF	- ABOVE FINISHED FLOOR
AHU	- AIR HANDLING UNIT
BFG	- BELOW FINISHED GRADE
C	- CONDUIT
CL	- COLD WHITE
CW	- COOL WHITE
DACP	- DOOR ALARM CONTROL PANEL
DN	- DRAIN
EF	- DRAFT FAN
EG	- EQUIPMENT GROUND
ENCL	- ENCLOSURE
EWC	- ELECTRIC WATER COOLER
EWH	- ELECTRIC WATER HEATER
EX	- EXPLOSION PROOF
FCC	- FAN COIL UNIT
FPH	- FULL HORSE POWER
FLA	- FULL LOAD AMPERS
G	- GROUND
GFI	- GROUND FAULT INTERRUPTER
HID	- HIGH INTENSITY DISCHARGE
HORIZ	- HORIZONTAL
IG	- ISOLATED GROUND
LW	- LIGHT WHITE
HP	- HOT & COLD HEAT PUMP
HVAC	- HEATING, VENTILATING, AIR CONDITIONING
JB	- JUNCTION BOX
IKA	- FIXED ROTARY AMPERES
M	- MAIN BREAKER
MCB	- MAIN CIRCUIT BREAKER
MLO	- MAIN LUGS ONLY
N	- NEUTRAL
NL	- NIGHT LIGHT
OB	- OUTLET BOX
PB	- PULL BOX, PUSHBUTTON
PS	- PAY STATION
RECEPT	- RECEPTACLE
SF	- SUPPLY FAN
SPEC	- SPECIFICATIONS
TL	- TWISTLOCK
TVB	- TELEVISION TERMINAL BOARD
VERT	- VERTICAL
WP	- WATERPROOF
WW	- WARM WHITE
XPMR	- TRANSFORMER

GENERAL SPECIFICATIONS

GENERAL - THE ELECTRICAL DRAWINGS WHICH CONSTITUTE A PART OF THE CONTRACT INDICATE THE GENERAL ARRANGEMENT OF CIRCUITS AND OUTLETS, LOCATION OF SWITCHES, PANEL BOARDS, CONDUIT AND OTHER WORK. THE ELECTRICAL CONTRACTOR SHALL OBTAIN EXACT LOCATIONS FROM THE ARCHITECT PRIOR TO INSTALLATION AND ARRANGE HIS WORK ACCORDINGLY.

THE ELECTRICAL CONTRACTOR SHALL ALSO REVIEW ARCHITECTURAL, STRUCTURAL, AND CIVIL PLANS AND ADJUST HIS WORK TO CONFORM TO ALL CONDITIONS SHOWN THEREON. DISCREPANCIES SHOULD BE REPORTED TO THE ARCHITECT. CONTRACTORS SHALL NOT PRACTICE OR IGNORE ATTENTION TO OTHER CONDITIONS. DECISIONS NOT SPECIFICALLY MENTIONED HEREIN WHICH ARE OBVIOUSLY NECESSARY TO MAKE A COMPLETE WORKING INSTALLATION SHALL BE INCLUDED.

THE ELECTRICAL CONTRACTOR SHALL VISIT THE SITE OF THE WORK, AND FAMILIARIZE HIMSELF WITH ALL CONDITIONS AFFECTING THE WORK AND THE SUBMISSION OF HIS PROPOSAL SHALL PRESUPPOSE HIS KNOWLEDGE OF ALL SUCH CONDITIONS AND PERFORMANCE OF ALL WORK REQUIRED FOR A COMPLETE AND CODE COMPLYING INSTALLATION.

THE ELECTRICAL CONTRACTOR SHALL OBTAIN ALL PERMITS REQUIRED FOR THE COMPLETION OF THE WORK AND SHALL FURNISH TO THE OWNER, UPON COMPLETION, A CERTIFICATE OF FINAL INSPECTION AND APPROVAL FROM THE LOCAL ELECTRICAL INSPECTION DEPARTMENT.

NO WORK SHALL START UNTIL WORKING DRAWINGS AND OTHER REQUIRED DOCUMENTS HAVE BEEN SUBMITTED TO THE DEPARTMENT HAVING AUTHORITY TO ISSUE CERTIFICATES OF APPROVAL AND HAVE BEEN SIGNED AND APPROVED.

ALL WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE BEST PRACTICES OF THE TRADE. ELECTRICAL WORK SHALL BE INSTALLED BY JOURNEYMAN ELECTRICIANS UNDER THE DIRECT SUPERVISION OF A COMPETENT FOREMAN.

IT IS THE INTENT OF THESE PLANS AND SPECIFICATIONS TO RESULT IN A COMPLETE ELECTRICAL INSTALLATION IN ACCORDANCE WITH ALL STATE/LOCAL CODES/ORDINANCES, THE NATIONAL ELECTRICAL CODE AND THE OWNERS MINIMUM REQUIREMENTS. IN THE EVENT ANY PORTION OF THE INSTALLATION SHOWN OR SPECIFIED FAILS TO MEET THESE REQUIREMENTS, IT SHALL BE THE ELECTRICAL CONTRACTOR'S RESPONSIBILITY TO ALTER THE PLANS TO MEET THE REQUIREMENTS OF SAID GOVERNING CODES AND/OR OWNERS MINIMUM REQUIREMENTS, AND TO NOTIFY THE ARCHITECT OF SUCH CHANGES IN THESE PORTION OF THE PLANS AND SPECIFICATIONS, WHERE INSTALLATION, SHOWN OR DESCRIBED EXCEEDS THE REQUIREMENTS OF THE STATE AND LOCAL CODES, THE SPECIFICATIONS AND PLANS SHALL GOVERN.

FURNISH ALL LABOR, MATERIALS, EQUIPMENT AND TOOLS TO PERFORM ELECTRICAL WORK SHOWN, NOTED OR SCHEDULED FOR A COMPLETE AND FINISHED INSTALLATION.

ALL MATERIALS AND EQUIPMENT SHALL BE SPECIFICATION GRADE AND SHALL CARRY A U.L. LABEL.

MATERIALS, PRODUCTS AND EQUIPMENT, INCLUDING ALL COMPONENTS THEREOF, SHALL APPEAR ON THE UNDERWRITERS LABORATORIES LIST OF APPROVED ITEMS AND SHALL MEET REQUIREMENTS OF ASTM, IEEE, IPCE, NEC, NEMA, RLM, CEM AND OTHER RECOGNIZED STANDARDS AND SHALL BE SIZED IN CONFORMITY WITH REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE AND OTHER APPLICABLE CODES, WHICH EVER ARE MORE STRINGENT.

THE WORD "PROVIDE" AS USED HEREIN MEANS TO "FURNISH AND INSTALL" COMPLETE. SUBMIT SHOP DRAWINGS OF ALL MAJOR ELECTRICAL EQUIPMENT AND FIXTURES FOR APPROVAL. REFER TO SPECIFICATION SECTION FOR APPROVAL.

PROVIDE ELECTRICAL SERVICE AS SHOWN ON DRAWINGS. ALL WORK NOT SPECIFICALLY NOTED AS BEING BY THE OWNER SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR. COORDINATE ENTIRE INSTALLATION WITH THE OWNER.

TWO AND THREE POLE C/B'S SHALL NOT CONTAIN THE USE OF "TIE BARS" ACROSS HANDLES.

DOORS COMPLETE WITH A TYPEWRITTEN DIRECTORY CARD OF THE CIRCUITS, SHALL BE FLUSH WITH THE TRIM, EQUIPPED WITH LOCKS, KEYED ALIKE AND THE OWNER FURNISHED WITH TWO (2) KEYS FOR EACH PANEL.

ACCEPTABLE MANUFACTURERS ARE SQUARE "D", GENERAL ELECTRIC, SIEMENS, OR EATON.

SAFETY/DISCONNECT SWITCHES - SAFETY AND DISCONNECT SWITCHES, FUSED OR NON-FUSED, AS CALLED FOR ON DRAWINGS AND AS REQUIRED BY CODE SHALL BE MADE A PART OF THIS WORK. SWITCHES SHALL BE GENERAL DUTY, LOAD AND HORSEPOWER RATED AS MANUFACTURED BY SQUARE "D", GENERAL ELECTRIC OR EQUAL.

TEMPORARY SERVICE FOR CONSTRUCTION POWER SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR. ANY TEMPORARY WIRING, FUSES, ETC., SHALL BE REMOVED UPON COMPLETION. PROVIDE GROUND FAULT PROTECTION AS REQUIRED BY N.E.C. AND LOCAL CODES.

EQUIPMENT IDENTIFICATION OF THE FOLLOWING EQUIPMENT SHALL BE WITH ENGRAVED NAMEPLATES AS TO NAME AND/OR FUNCTION; PANELS, LIGHTING PANELS, DISCONNECT SWITCHES.

LOCATION OF OUTLETS AND EQUIPMENT SHOWN ON THE DRAWINGS IS APPROXIMATE AND THE ARCHITECT SHALL HAVE THE RIGHT TO RELOCATE ANY OUTLETS OR FIXTURES BEFORE THEY ARE INSTALLED WITHOUT ADDITIONAL COST.

CONDUTS AND WIRE - PVC TYPE CONDUIT MAY BE USED UNLESS DESIGNATED AS UNSATISFACTORY FOR THAT AREA OR LOCATION ACCORDING TO THE NATIONAL ELECTRICAL CODE OR UNLESS OTHERWISE INDICATED ON THE DRAWINGS.

CONDUTS SHALL BE CONCEALED IN ALL FINISHED AREAS.

ALL CONDUIT RUN BELOW GRADE OR INSTALLED IN CONCRETE POUR/SLAB SHALL BE SCHEDULE 40 PVC. MINIMUM SIZE CONDUIT FOR EMBEDMENT IN CONCRETE SHALL BE 3/4".

ALL DISTRIBUTION FEEDERS AND SUBFEEDERS SHALL BE COPPER. MAXIMUM WIRE SIZE SHALL BE 500 MCM COPPER, WIRE SIZE SHALL BE #12 AWG FOR LIGHT AND POWER. INSULATION SHALL BE THHN/TWN.

240/120 VOLT SYSTEMS

PHASE A - BLACK
PHASE B - RED
NEUTRAL - WHITE
GROUND - GREEN

COLOR CODE SHALL IDENTIFY THE SAME PHASE THROUGHOUT THE SYSTEM, FROM SERVICE SWITCH OR TRANSFORMER THROUGH ALL BRANCH CIRCUITS.

RIGID GALVANIZED CONDUIT IS PERMITTED FOR ELECTRICAL WIRING UNLESS PROHIBITED BY LOCAL JURISDICTION.

ALL CONDUIT RUNS SHALL BE DESIGNED TO PRESENT A NEAT AND ORDERLY APPEARANCE, RUNNING LINES PARALLEL WITH BUILDING STRUCTURE OR WALL. PULL POINTS SHALL BE PROVIDED WHEN CROSSING BUILDING EXPANSION LINES.

FULL AND JUNCTION BOXES - SMALL JUNCTION BOXES, EXCEPT AS SPECIFICALLY DESIGNED OTHERWISE, SHALL BE THE SAME MATERIAL AS THE CONDUIT SYSTEM IN WHICH IT IS TO BE USED.

ALL UNUSED OR FUTURE SYSTEM BOXES SHALL BE COVERED WITH BLANK COVERS, OR AS INDICATED ON THE DRAWINGS.

LIGHTING FIXTURES AND LAMPS - LIGHTING FIXTURES, INCLUDING LAMPS, SHALL BE FURNISHED AS INDICATED ON ELECTRICAL PLAN. ELECTRICAL CONTRACTOR SHALL INSTALL ALL FIXTURES AND LAMPS.

INFORM THE ARCHITECT IN THE EVENT ANY OUTLETS OCCUR ON THE PLANS WITHOUT A FIXTURE SYMBOL, PRIOR TO LETTING OF THE JOB, SO THAT AN APPENDIX CAN BE ISSUED; OTHERWISE ALL MISSING FIXTURES WILL BE SUPPLIED AT NO ADDITIONAL COST.

SHOP DRAWINGS SHALL BE ISSUED TO ARCHITECT FOR APPROVAL.

WIRING DEVICES - SWITCHES, RECEPTACLES, PLATES, PLUGS, ETC. SHALL BE OF SPECIFICATION QUALITY HEAVY DUTY AS LISTED BELOW OR FROM STANDARD CROSS REFERENCE OR COMPARATIVE CATALOG NUMBER INDEX LISTINGS.

WIRING DEVICES SHALL BE AS FOLLOWS:

SINGLE POLE SWITCHES SHALL BE HUBBEL 1221. TWO POLE SWITCHES SHALL BE 1222.

20 AMPERE, 125V, GROUNDED TYPE THREE WIRE DUPLEX RECEPTACLE SHALL BE HUBBELL 5362.

ALL ELECTRICAL PLATES AND DEVICES TO BE GREY.

SPECIAL WIRING DEVICES WILL BE INDICATED ON THE DRAWINGS.

ACCEPTABLE MANUFACTURERS SHALL BE LEVITON, HUBBELL, GENERAL ELECTRIC AND P&G. SHOP DRAWINGS SHALL BE SUBMITTED TO ARCHITECT FOR APPROVAL.

PANEL BOARDS - PANEL BOARD SHALL BE CABINET ENCLOSED SAFETY "DEAD FRONT" TYPE, WITH SOLDERLESS LUGS, AND WITH BOLT-ON OR PLUG-ON CIRCUIT BREAKER BRANCHES. COPPER OR TIN-PLATED ALUMINUM BUS.

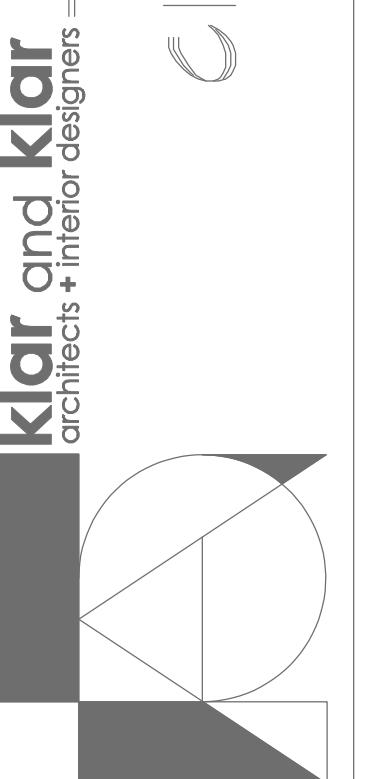
TWO AND THREE POLE C/B'S SHALL NOT CONTAIN THE USE OF "TIE BARS" ACROSS HANDLES.

DOORS COMPLETE WITH A



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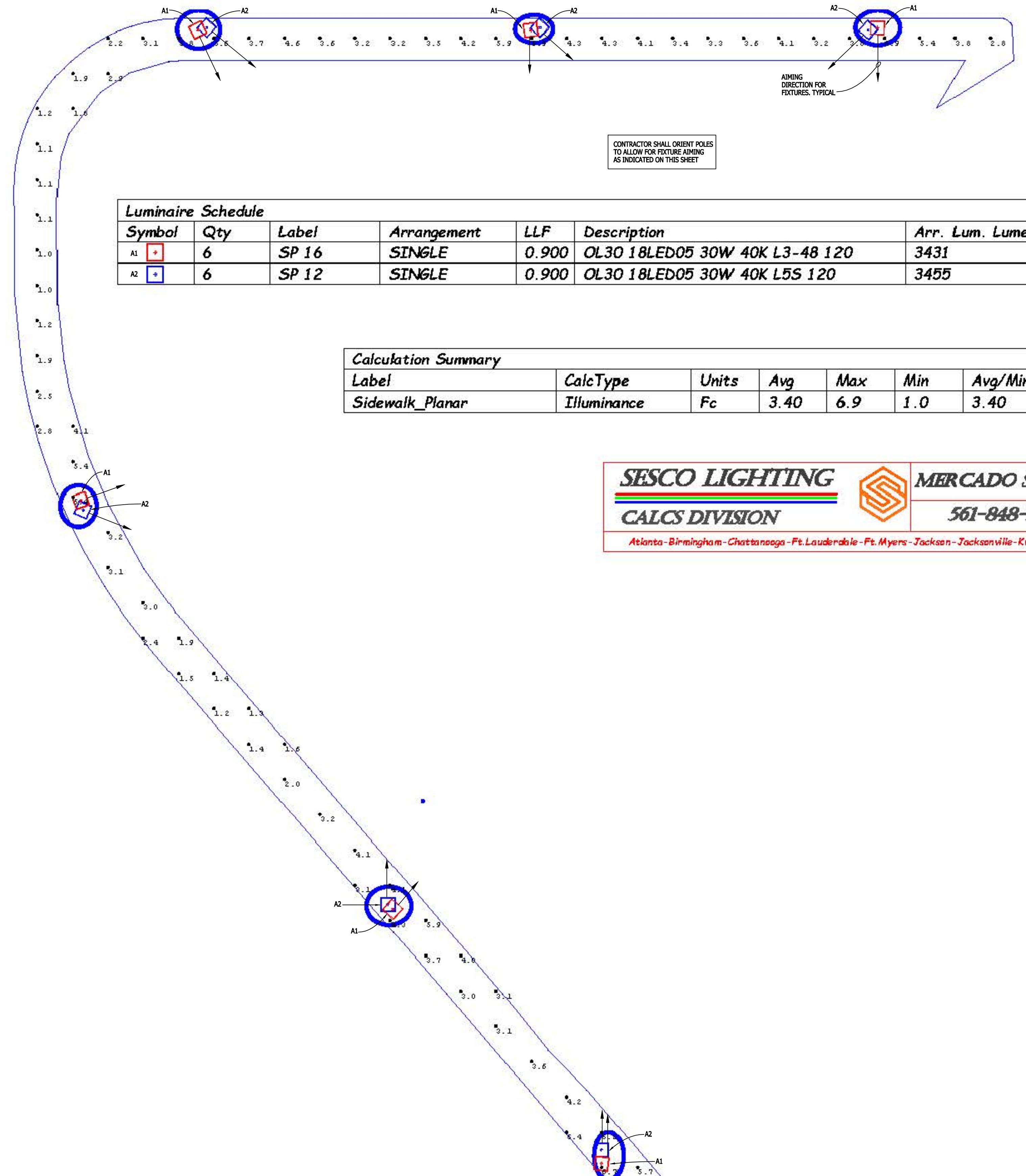
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STRUCTURAL SPECIFICATIONS**MISCELLANEOUS**

- THE STRUCTURAL SYSTEM IS UNSTABLE UNTIL ALL CONNECTIONS HAVE BEEN MADE AND ALL CONCRETE HAS REACHED ITS MINIMUM DESIGN STRENGTH, AS SHOWN IN THE STRUCTURAL DOCUMENTS.
- CONTRACTOR IS RESPONSIBLE FOR MEANS AND METHODS OF CONSTRUCTION TO ENSURE THE SAFETY OF THE BUILDING UNTIL STRUCTURAL SYSTEM IS COMPLETED. THIS INCLUDES, BUT IS NOT LIMITED TO, THE ADDITION OF WHATEVER TEMPORARY BRACING, SHORING, GUYS OR TIE-DOWNS THAT MAY BE NECESSARY. SUCH MATERIAL SHALL BE REMOVED AND SHALL REMAIN THE PROPERTY OF THE CONTRACTOR AFTER COMPLETION OF THE PROJECT.
- CONTRACTOR TO SUPPORT, BRACE AND SECURE EXISTING STRUCTURE AS REQUIRED. CONTRACTOR IS SOLELY RESPONSIBLE FOR THE SAFETY OF THE BUILDING DURING CONSTRUCTION.
- APPLICABLE BUILDING CODE: 8TH EDITION (2017) FLORIDA BUILDING CODE.
- MINIMUM GRAVITY DESIGN LOADS:

AREA	SUPERIMPOSED LIVE LOAD	SUPERIMPOSED DEAD LOAD
CANOPY	SPSF (NON REDUCIBLE)	0 PSF

- WIND DESIGN CRITERIA:
ULTIMATE WIND SPEED: $V_{at} = 135 \text{ MPH}$ (3 SECOND GUST)
EQUIVALENT NOMINAL BASIC WIND SPEED $V_{ab} = 105 \text{ MPH}$ (3 SECOND GUST)
RISK CATEGORY = I
EXPOSURE CATEGORY = B
WIND BORNE DEBRIS REGION
- ALL MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE REFERENCED BUILDING CODE.
- COORDINATE ALL DIMENSIONS AND ELEVATIONS WITH THE ARCHITECTURAL DRAWINGS. DO NOT SCALE DRAWINGS.
- CONTACT ENGINEER WITH ANY QUESTIONS OR DISCREPANCIES FOUND ON DRAWINGS.
- SECTIONS AND DETAILS ARE REFERENCED IN TYPICAL LOCATIONS BUT ALSO APPLY TO ALL OTHER SIMILAR CONDITIONS.
- CONTRACTOR TO VERIFY ALL EXISTING DIMENSIONS, ELEVATIONS, AND CONDITIONS PRIOR TO BEGINNING CONSTRUCTION.
- SUBMIT SHOP DRAWINGS AS REQUIRED HEREIN. ALLOW FOR TWO WEEKS REVIEW TIME AFTER RECEIPT OF SUBMITTALS BY THIS FIRM. ALL SUBMITTALS SHALL BE CHECKED AND SIGNED BY THE GENERAL CONTRACTOR AND SIGNED/SEALED BY THE DELEGATED ENGINEER, WHERE SPECIFIED HEREIN.
- CONTRACTOR SHALL NOT BE RELIEVED FROM RESPONSIBILITY FOR ERRORS OR OMISSIONS IN SHOP DRAWINGS OR MIX DESIGNS BY THE ENGINEER'S REVIEW THEREOF.
- ANY CHANGES TO THE STRUCTURE SHALL HAVE BEEN REVIEWED AND APPROVED IN WRITING BY THE ENGINEER PRIOR TO COMMENCING WORK ON ITEMS AFFECTED.
- CONTRACTOR SHALL NOTIFY THIS OFFICE WHEN THE STRUCTURAL SYSTEM IS SUBSTANTIALLY COMPLETED, AND BEFORE SHEATHING, CEILINGS, OR ROOFING IS INSTALLED.

DELEGATED ENGINEER

- WHERE NOTED HEREIN, A LICENSED PROFESSIONAL (DELEGATED) ENGINEER SHALL BE RETAINED TO DESIGN THE PRODUCT OR ASSEMBLY.
- THE DELEGATED ENGINEER SHALL BE EXPERIENCED IN THE DESIGN OF THE REFERENCED PRODUCT OR ASSEMBLY.
- THE DELEGATED ENGINEER MUST BE PROVIDED WITH A COPY OF THESE DRAWINGS AND SPECIFICATIONS.
- IT IS THE DELEGATED ENGINEER'S RESPONSIBILITY TO REVIEW THE ENGINEER OF RECORD'S WRITTEN ENGINEERING REQUIREMENTS AND AUTHORIZATION FOR THE DELEGATED ENGINEERING DOCUMENT TO DETERMINE THE APPROPRIATE SCOPE OF ENGINEERING.
- THE DELEGATED ENGINEERING DOCUMENT SHALL COMPLY WITH THE WRITTEN ENGINEERING REQUIREMENTS RECEIVED FROM THE ENGINEER OF RECORD. THEY SHALL INCLUDE THE PROJECT IDENTIFICATION AND THE CRITERIA USED AS A BASIS FOR ITS PREPARATION. IF A DELEGATED ENGINEER DETERMINES THERE ARE DETAILS, FEATURES OR UNANTICIPATED PROJECT LIMITS WHICH CONFLICT WITH THE WRITTEN ENGINEERING REQUIREMENTS PROVIDED BY THE ENGINEER OF RECORD, THE DELEGATED ENGINEER SHALL TIMELY CONTACT THE ENGINEER OF RECORD FOR RESOLUTION OF CONFLICTS.
- THE DELEGATED ENGINEER SHALL FORWARD THE DELEGATED ENGINEERING DOCUMENT TO THE ENGINEER OF RECORD FOR REVIEW. ALL FINAL DELEGATED ENGINEERING DOCUMENTS REQUIRE THE IMPRESSED SEAL AND SIGNATURE OF THE DELEGATED ENGINEER AND INCLUDE:
 - DRAWINGS INTRODUCING ENGINEERING INPUT SUCH AS DEFINING THE CONFIGURATION OR STRUCTURAL CAPACITY OF STRUCTURAL COMPONENTS AND/OR THEIR ASSEMBLY INTO STRUCTURAL SYSTEMS.
 - CALCULATIONS.

SITE WORK

- A SUBSURFACE INVESTIGATION HAS BEEN COMPLETED AT THE PROJECT SITE BY DRIGGERS ENGINEERING SERVICES, INC. SOIL BORING LOGS AND SITE PREPARATION PROCEDURES ARE INCLUDED IN THE PROJECT SOILS REPORT, DATED 11/20/2020 GEOTECHNICAL INVESTIGATION, WHICH IS AN INTEGRAL PART OF THESE CONTRACT DOCUMENTS.
- SITE WORK SHALL BE DONE IN STRICT ACCORDANCE WITH THE PROJECT SOILS REPORT.
- CONTRACTOR SHALL REVIEW THE SOILS REPORT AND VERIFY THAT TEST BORINGS HAVE BEEN DONE UNDER ALL BUILDING(S) PRIOR TO BEGINNING EARTHWORK.
- INFORMATION FROM GEOTECHNICAL REPORT:
 - DESIGN SOIL BEARING PRESSURE = 1500 PSF.
- A QUALIFIED TESTING LABORATORY SHALL BE RETAINED TO PERFORM THE FOLLOWING MINIMUM TESTS. REFER TO SOILS REPORT FOR ANY ADDITIONAL TESTING.
 - ONE DENSITY TEST FOR EACH 2,000 SQUARE FEET OF COMPAKTED SUBGRADE AND COMPAKTED FILL.
 - ONE DENSITY TEST AT EACH COLUMN FOOTING.
 - ONE DENSITY TEST PER 50 FEET OF WALL FOOTING.
- ONE COPY OF ALL TEST REPORTS SHALL BE SENT DIRECTLY TO OWNER, ARCHITECT, STRUCTURAL ENGINEER, AND GENERAL CONTRACTOR.
- FOUNDATION WALLS THAT RETAIN EARTH SHALL BE BRAZED AGAINST BACKFILLING PRESSURES UNTIL FLOOR SLABS AT TOP AND BOTTOM ARE IN PLACE.
- THE SIDES OF FOOTINGS MAY BE EARTH-FORMED IF THE EXCAVATION CAN BE KEPT VERTICAL, CLEAN, AND STABLE, OTHERWISE, PLYWOOD FORMS MUST BE USED.
- EXERCISE CARE WHEN COMPACTING NEAR ADJACENT STRUCTURES. FOLLOW THE RECOMMENDATIONS IN THE SOILS REPORT AND DOCUMENT EXISTING CONDITIONS WITH PHOTOGRAPHS PRIOR TO STARTING WORK.
- PRIOR TO CONSTRUCTION, CONTRACTOR SHALL LOCATE ALL EXISTING UNDERGROUND UTILITY LINES, TANKS, ETC. WITHIN THE CONSTRUCTION AREA AND RELOCATE THEM AS DIRECTED BY THE CIVIL ENGINEER.

CAST-IN-PLACE CONCRETE

- ALL CAST-IN-PLACE CONCRETE WORK INCLUDES REINFORCING STEEL AND RELATED WORK SHOWN INCLUDING FORMWORK, SETTING ANCHOR BOLTS, PLATES, FRAMES, DOWELS FOR MASONRY OR OTHER ITEMS EMBEDDED IN CONCRETE.
- APPLICABLE STANDARDS

ACI NUMBER	TITLE
117	STANDARD SPECIFICATIONS FOR TOLERANCES FOR CONCRETE CONSTRUCTION
226	GROUND GRANULATED BLAST-FURNACE SLAG
301	STANDARD SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS
302	GUIDE FOR CONCRETE FLOOR AND SLAB CONSTRUCTION
304	GUIDE FOR MEASURING MIXING, TRANSPORTING AND PLACING CONCRETE
304.2R	PLACING CONCRETE BY PUMPING METHODS.
305R	HOT WEATHER CONCRETING
306R	COLD WEATHER CONCRETING
308	STANDARD PRACTICE FOR CURING CONCRETE
309R	GUIDE FOR CONSOLIDATION OF CONCRETE
315	MANUAL OF STANDARD PRACTICE FOR DETAILING CONCRETE STRUCTURES
318	BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE
347	RECOMMENDED PRACTICE FOR CONCRETE REINFORCING

CRSI NUMBER	TITLE
63	RECOMMENDED PRACTICE FOR PLACING REINFORCING BARS

3. CONCRETE MATERIALS

- PORTLAND CEMENT - ASTM C 150, TYPE I OR TYPE II
- AGGREGATES - NORMAL WEIGHT CONCRETE, COARSE AND FINE, ASTM C33. STRUCTURAL LIGHT WEIGHT ASTM C330.
- AIR-ENTRAINING - NOT PERMITTED
- WATER REDUCING - ASTM C494, TYPE A
- WATER - FRESH, CLEAN AND POTABLE
- NO ACCELERATORS, RETARDERS OR ADMIXTURES CONTAINING CHLORIDES WILL BE PERMITTED
- FLY-ASH - ASTM C618, CLASS F, 20% MAXIMUM OF CEMENTITIOUS MATERIAL BY WEIGHT. DO NOT USE FOR EXPOSED SLABS OR ARCHITECTURAL CONCRETE.
- SUPER PLASTICIZER - ASTM C494, TYPE F OR G, WHERE AUTHORIZED BY THE ENGINEER.
- GROUND GRANULATED BLAST-FURNACE SLAG CEMENT - ASTM C989, 50% MAXIMUM BY WEIGHT.
- MAXIMUM AGGREGATE SIZE - FOOTINGS = #57, OTHERS #67

4. REINFORCING MATERIALS

- DEFORMED BARS - ASTM A615, GRADE 60
- SMOOTH DOWELS - ASTM A615, PLAIN BARS, MINIMUM YIELD STRENGTH OF 60,000 PSI.
- CORROSION RESISTANT UNCOATED STEEL (MFMX-2) - ASTM A615, GRADE 75 AND ASTM A1035 LOW-CARBON (8% MINIMUM) CHROMIUM BY MFNX OR EQUAL.
- WELDED WIRE FABRIC - ASTM A1064, PLAIN WIRE FABRIC IN FLAT SHEETS ONLY.
- ACCESSORIES TO CONFORM TO ACI 315.
- WHERE CONCRETE SURFACES ARE EXPOSED, MAKE THOSE PORTIONS OF ALL ACCESSORIES IN CONTACT WITH THE CONCRETE SURFACE OR WITHIN 1/2 INCH THEREOF, OF PLASTIC OR STAINLESS STEEL.

5. PROVIDE THE FOLLOWING MINIMUM CONCRETE STRENGTHS AT 28 DAYS:

- FOOTINGS -----3000 PSI
- MASONRY WALL BEAMS, TIE COLUMNS-----3000 PSI
- DRILLED SHAFTS, GRADE BEAMS, PILECAPS-----4000PSI

- CONCRETE MUST BE BATCHED, MIXED AND TRANSPORTED IN ACCORDANCE WITH THE SPECIFICATIONS FOR READY-MIX CONCRETE ASTM C94.

7. REQUIRED SLUMP = 4 PLUS OR MINUS ONE INCH.

8. CONCRETE MUST BE PLACED WITHIN 90 MINUTES OF BATCH TIME, WHEN AIR TEMPERATURE IS BETWEEN 85 AND 90 DEGREES F, REDUCE MIXING AND DELIVERY TIME TO 75 MINUTES. WHEN AIR TEMPERATURE IS HIGHER THAN 90 DEGREES F, REDUCE MIXING AND DELIVERY TIME TO 60 MINUTES.

9. DO NOT ADD WATER AT THE JOB SITE WITHOUT APPROVAL OF THE PROJECT SUPERINTENDENT, DO NOT EXCEED THE SLUMP LIMITATION. USE ONLY COLD WATER FROM THE TRUCK TANK. ANY ADDED WATER MUST BE INDICATED ON THE DELIVERY TICKET PLUS THE NAME OF THE PERSON AUTHORIZING. TEST CYLINDERS SHALL BE TAKEN AFTER THE ADDITION OF WATER.

10. LAP SPLICE REINFORCING PER CONCRETE LAP SCHEDULE MINIMUM UNLESS OTHERWISE SHOWN OR NOTED.

11. PROVIDE CORNER BARS AT ALL WALL FOOTING, WALL AND BEAM CORNERS. SIZE AND NUMBER TO MATCH HORIZONTAL BARS.

12. PROVIDE FOUNDATION DOWELS TO MATCH SIZE AND NUMBER OF VERTICAL BARS. EMBED DOWELS TO 3" ABOVE BOTTOM OF FOOTINGS

13. REINFORCEMENT SHALL BE FASTENED AND SECURED TOGETHER TO PREVENT DISPLACEMENT BY CONSTRUCTION LOADS OR THE PLACING OF CONCRETE.

14. REINFORCING BAR COVER

- FOOTINGS 2" (TOP), 3" (SIDES AND BOTTOM)
- GRADE BEAMS 2"
- DRILLED SHAFTS 2"(TOP), 3"(SIDES), 3"(BOTTOM)

15. WHERE BAR LENGTHS ARE GIVEN ON THE DRAWINGS, LENGTH OF HOOK, IF REQUIRED, IS NOT INCLUDED.

16. SELECT PROPORTIONS IN ACCORDANCE WITH ACI 301 TO PROVIDE CONCRETE CAPABLE OF BEING PLACED WITHOUT EXCESSIVE SEGREGATION AND WITH ACCEPTABLE FINISHING PROPERTIES, DURABILITY, SURFACE HARDENERS, APPEARANCE, AND STRENGTH REQUIREMENTS REQUIRED BY THESE SPECIFICATIONS.

17. CHAIR WELDED WIRE FABRIC REINFORCING AT 3"-0" ON CENTER MAXIMUM IN EACH DIRECTION.

18. MAXIMUM WATER TO CEMENT RATIO
 - 4000 PSI, 28-DAY COMPRESSIVE STRENGTH: W/C RATIO, 0.44 MAXIMUM
 - 3000 PSI, 28-DAY COMPRESSIVE STRENGTH: W/C RATIO, 0.55 MAXIMUM

19. DATA TO BE SUBMITTED:

- INTENDED USAGE AND LOCATION FOR EACH TYPE
- MIX DESIGN FOR EACH TYPE
- CEMENT CONTENT IN POUNDS--PER CUBIC YARD
- COARSE AND FINE AGGREGATE IN POUNDS/CUBIC YARD
- WATER CEMENT RATE BY WEIGHT
- CEMENT TYPE AND MANUFACTURER
- SLUMP RANGE
- AIR CONTENT
- ADMIXTURE TYPE AND MANUFACTURER
- PERCENT ADMIXTURE BY WEIGHT
- STRENGTH TEST DATA REQUIRED TO ESTABLISH MIX DESIGN.
- COMPLETE DETAIL AND PLACING SHOP DRAWINGS FOR ALL REINFORCING STEEL INCLUDING ACCESSORIES THAT HAVE BEEN REVIEWED AND STAMPED BY THE GENERAL CONTRACTOR. INCLUDE ALL REQUIRED DIMENSIONS AND ELEVATIONS (IE. TOP OF CONCRETE)

20. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR PROVIDING THE CONSTRUCTION OF FORMWORK, SHORING AND RE-SHORING IN ACCORDANCE WITH ACI 347.

- FORM AND SHORING DESIGN BY A P.E. REGISTERED IN THE STATE OF FLORIDA.

21. SUBMIT FORM WORK AND SHORING DRAWINGS TO LOCAL BUILDING DEPARTMENT WHEN REQUIRED BY FLORIDA THRESHOLD LAW.

22. CONSTRUCTION JOINTS NOT SHOWN ON THE DRAWINGS MUST BE MADE AND LOCATED TO LEAST IMPAIR THE STRENGTH OF THE STRUCTURE.
 - NO HORIZONTAL CONSTRUCTION JOINTS WILL BE PERMITTED IN BEAMS, GIRDERS AND SLABS.
 - LOCATION OF ANY CONSTRUCTION JOINT NOT SHOWN IS SUBJECT TO REVIEW AND ACCEPTANCE BY ENGINEER.

23. INTERNAL VIBRATION, PROPERLY APPLIED IS THE REQUIRED METHOD OF CONSOLIDATING PLASTIC CONCRETE.

24. PROVIDE 3/4" CHAMFER ON ALL EXPOSED CORNERS OF COLUMNS, BEAMS AND WALLS UNLESS OTHERWISE NOTED ON ARCHITECTURAL DRAWINGS.
25. CONTRACTOR SHALL VERIFY LOCATIONS OF ALL OPENINGS, SLEEVES, AND SLAB RECESSES AS REQUIRED BY OTHER TRADES BEFORE CONCRETE IS PLACED. NO SLEEVE, OPENINGS, OR INSERT MAY BE PLACED IN BEAMS, JOISTS, OR COLUMN UNLESS APPROVED BY THE ENGINEER.

26. CONTRACTOR SHALL VERIFY EMBEDDED ITEMS INCLUDING, BUT NOT LIMITED TO, ANCHOR BOLTS, BOLT CLUSTERS, WELD PLATES, ETC., BEFORE PLACING CONCRETE. NOTIFY ENGINEER OF ANY CONFLICTS WITH REBAR.
27. ALL EXPOSED CONCRETE SURFACES TO BE IN ACCORDANCE WITH ACI 301 SECTION 5.3.3(C), INCLUDING SURFACE TOLERANCE CLASS A AS SPECIFIED IN ACI 117.U.N.O.

28. SEE ARCHITECTURAL DRAWINGS FOR REQUIRED CONCRETE FINISHES.
29. SITE SLABS-ON-GRADE SHALL BE 4" MINIMUM THICKNESS, UNLESS NOTED OTHERWISE. SEE CIVIL DRAWINGS FOR THICKNESS, REINFORCING, ELEVATIONS, AND JOINT LOCATIONS.

30. TESTING
 - A QUALIFIED TESTING LAB SHALL BE RETAINED TO PERFORM QUALITY CONTROL WORK AND ON-SITE TESTING.
 - SLUMP TEST - ASTM 143
 - C MOLD AND CURE TEST CYLINDERS (ASTM C-31) AND TEST CYLINDERS FOR STRENGTH (ASTM C39). TAKE THREE CYLINDERS FOR EACH DAY'S POUR OF 100 CUBIC YARDS, OR FRACTION THEREOF. TEST ONE CYLINDER AT 7 DAYS, TWO AT 28 DAYS. TEST CYLINDER SAMPLES SHALL BE TAKEN AT THE POINT OF DISCHARGE WHEN USING A PUMP.
 - ONE COPY OF ALL TEST REPORTS SHALL BE SENT DIRECTLY TO THE OWNER, ENGINEER, ARCHITECT AND GENERAL CONTRACTOR.

31. REPAIR ANY CRACKS OR DEFECTIVE AREAS THAT WILL RESTORE THE AFFECTED SURFACE OR AREAS TO THEIR FULL DESIGN STRENGTH AND APPEARANCE. CONTACT THE STRUCTURAL ENGINEER FOR ADVICE AND EVALUATION.
32. ACCEPTANCE OF THE STRUCTURE WILL BE MADE IN CONFORMANCE WITH ACI 301.
33. ALL CAST-IN-PLACE CONCRETE MUST BE MAINTAINED WITH MINIMAL MOISTURE LOSS AT A RELATIVELY CONSTANT TEMPERATURE FOR A MINIMUM OF 7 DAYS FOLLOWING THE PLACING OF THE CONCRETE BY THE USE OF A WATER SPRAY, WATER SATURATED FABRIC, MOISTURE RETAINING MEMBRANE OR LIQUID CURING COMPOUND.

34. CURE SLABS-ON-GRADE FOR THE FIRST 72 HOURS BY THE USE OF:
 - FOG SPRAYING
 - PONDING
 - SPRINKLING
 - CONTINUOUSLY WET ABSORPTIVE MATS OR FABRIC
 - CONTINUE CURING BY USE OF MOISTURE RETAINING COVER UNTIL CONCRETE HAS OBTAINED ITS SPECIFIED 28 DAY COMPRESSIVE STRENGTH.
 - OR LIQUID CURING COMPOUND AFTER FINISHING PROCESS IS COMPLETED.
 - CONCRETE WET CURE TIME TO BE 7 DAYS MINIMUM AT 50 DEGREES MINIMUM TEMPERATURE.

35. SUBMIT MATERIALS AND METHOD OF CURING FOR REVIEW.
36. DO NOT PERMIT CONCRETE NOT FULLY CURED TO BE EXPOSED TO EXCESSIVE TEMPERATURE CHANGES OR HIGH WINDS.
37. EQUIPMENT MADE OF ALUMINUM OR ALUMINUM ALLOYS, SHALL NOT BE USED FOR PUMP LINES, TREMIES, OR CHUTES OTHER THAN SHORT CHUTES SUCH AS THOSE USED TO CONVEY CONCRETE FROM A TRUCK MIXER.
38. THE CODE PROHIBITS THE USE OF ALUMINUM (CONDUIT, PIPES, ETC) IN STRUCTURAL CONCRETE UNLESS IT IS EFFECTIVELY COATED OR COVERED.

39. PROVIDE HORIZONTAL WALL REINFORCING (9 GA) HOT DIPPED GALVANIZED LADDER TYPE DUR-O-WALL (OR EQUIVALENT) AT 16" O.C. JOINT REINFORCING SHALL CONFORM TO ASTM A-95.
40. PROVIDE HORIZONTAL JOINT REINFORCEMENT AT DOORS AND WINDOWS FOR FIRST AND SECOND BLOCK COURSE ABOVE AND BELOW APERTURES. RUN REINFORCING CONTINUOUS OR EXTEND TWO FEET FROM APERTURE EDGE.

41. WIRE REINFORCEMENT SHALL BE LAPPED AT LEAST 6" AT SPICES AND SHALL CONTAIN AT LEAST ONE CROSS WIRE OF EACH PIECE OF REINFORCEMENT IN THE LAPPED DISTANCE.

42. CLEANOUTS SHALL BE PROVIDED IN THE BOTTOM COURSE OF MASONRY IN EACH GROUT POUR WHEN THE POUR HEIGHT EXCEEDS 5'. CLEANOUTS TO BE SAW-CUT 4" X 4".

43. GROUT POUR HEIGHT SHALL NOT EXCEED 24". PLACE GROUT IN 5' MAX. LIFTS HEIGHTS.

44. CONSOLIDATE GROUT POURS AT THE TIME OF PLACEMENT BY MECHANICAL MEANS AND RECONSOLIDATE AFTER INITIAL WATER LOSS AND SETTLEMENT.

45. ALL MASONRY FOUNDATION STEMWALLS AND RETAINING WALLS SHALL BE FULLY GROUTED.

46. STORE BLOCKS ON PALLETS AND COVER WITH PLASTIC SHEETING.

47. PLACE MASONRY IN RUNNING BOND WITH 3/8" MORTAR JOINTS. PROVIDE COMPLETE COVERAGE FACE SHELL MORTAR BEDDING, HORIZONTAL AND VERTICAL FULLY MORTAR WEBS IN ALL COURSES OF PIERS, COLUMNS, AND PILASTERS AND ADJACENT TO GROUTED CELLS.

DRILL-IN BOLTS, SCREWS AND DOWELS

- ADHESIVE DOWELING RODS/BOLTS SHALL BE CARBON STEEL THREADED ROD CONFORMING TO ISO 898 5.8 WITH A MINIMUM TENSILE STRENGTH OF 72.5 KSI (500MPA) AND A MINIMUM YIELD OF 58 KSI (400MPA). THREADED RODS WITH NUTS AND WASHERS INSTALLED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
- ANCHORING ADHESIVE SHALL BE A TWO-COMPONENT SYSTEM SUPPLIED IN MANUFACTURER'S STANDARD SIDE-BY-SIDE FOIL PACKAGE AND DISPENSED THROUGH A STATIC-MIXING NOZZLE SUPPLIED BY THE MANUFACTURER. ADHESIVE SHALL BE TESTED AND APPROVED TO MEET THE MINIMUM REQUIREMENTS OF ACI 355.4 FOR CRACKED AND UNCRACKED CONCRETE REINFORCEMENT. PROVIDE HILTI HY 200 SAFE SET (ESR 3187) OR RE 500 V3 (ESR 3181) ANCHORS BY HILTI OR EQUAL (E.G. SIMPSON SET-X, ATC ULTRABOND 385CC) FOR CONCRETE APPLICATIONS UNLESS SPECIFIED OTHERWISE IN THE STRUCTURAL DOCUMENT. PROVIDE HILTI HY 270 FOR MASONRY APPLICATIONS (ESR143).
- DRILL-IN REBAR DOWELS SHALL BE SET USING A TWO-PART ADHESIVE AS DESCRIBED ABOVE.
- EXPANSION BOLTS SHALL BE HILTI KB 17 (ESR 1917) OR EQUAL. BOLT SHALL MEET DUCTILITY REQUIREMENTS OF ACI 318 SECTION D1.
- EXPANSION BOLTS SHALL HAVE CARBON STEEL ANCHOR BODY AND NUT AND WASHER SHALL BE ELECTROPLATED ZINC COATING CONFORMING TO ASTM B633 TO A MINIMUM OF 5.0M. THE STAINLESS STEEL ANCHOR BODY, NUT AND WASHER, AND EXPANSION SLEEVE SHALL CONFORM TO TYPE 316 STAINLESS STEEL. EXPANSION ANCHORS SHALL MEET THE MINIMUM REQUIREMENTS OF ACI 355.2 FOR CRACKED AND UNCRACKED CONCRETE. INSTALL IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
- MASONRY SCREWS SHALL BE 1/4" DIAMETER WITH 1-5/8" MINIMUM EMBEDMENT INSTALLED IN DRILLED HOLES USING AN APPROPRIATE BIT DIAMETER.
- SCREWS SHALL HAVE A BODY MADE OF CARBON STEEL AND SHALL BE HEAT TREATED AND SHALL HAVE 80M ZINC COATING IN ACCORDANCE WITH EN ISO 4042. PROVIDE HUS EZ (ESR 3027) SCREWS BY HILTI OR EQUAL.
- HEAVY-DUTY CONCRETE AND MASONRY SCREWS SHALL BE TESTED AND APPROVED TO MEET THE MINIMUM REQUIREMENTS OF ACI 355.2. HILTI KWICK HUS EZ (ESR-3027 FOR CONCRETE, ESR-3056 FOR GROUT FILLED MASONRY), HEAVY DUTY SCREWS BY HILTI OR EQUAL.
- THE CONTRACTOR SHALL ARRANGE FOR AN ANCHOR MANUFACTURER'S REPRESENTATIVE TO PROVIDE ON SITE INSTALLATION TRAINING FOR ALL OF THE ANCHORING PRODUCTS SPECIFIED. MCCARTHY AND ASSOCIATES TO RECEIVE DOCUMENTED CONFIRMATION THAT ALL OF THE CONTRACTOR'S PERSONNEL WHO ARE TO INSTALL ANCHORS ARE TRAINED PRIOR TO THE COMMENCEMENT OF INSTALLATION.

DRILLED SHAFT FOUNDATIONS

- EXPLORATORY TEST BORINGS CONDUCTED BY DRIGGERS ENGINEERING SERVICES, INC. MAY BE REVIEWED BY THE CONTRACTOR. THE DATA INCLUDED THEREIN MAY BE USED BY THE CONTRACTOR FOR HIS GENERAL INFORMATION ONLY. CONTRACTOR'S GEOTECHNICAL ENGINEER SHALL CONDUCT ADDITIONAL INVESTIGATION AS REQUIRED BY PROJECT GEOTECHNICAL REPORT.
- CONTRACTOR TO LOCATE ALL BURIED STRUCTURES AND UTILITIES THAT MAY AFFECT SHAFT INSTALLATION.
- THE CONTRACTOR SHALL FURNISH ALL LABOR, MATERIALS, SERVICES, EQUIPMENT (INCLUDING TEMPORARY CASINGS) AND SHALL INSTALL ALL SHAFTS AT THE LOCATIONS AND DEPTHS SHOWN ON THE DRAWINGS OR AS OTHERWISE DIRECTED BY THE GEOTECHNICAL ENGINEER.
- THE CONTRACTOR SHALL FURNISH AND PLACE ALL REINFORCING STEEL, DOWELS AND ANCHOR BOLTS AS SHOWN ON THE DRAWINGS.
- THE CONTRACTOR SHALL COORDINATE THE INSTALLATION OF DRILLED SHAFTS WITH THE OTHER CONSTRUCTION ACTIVITIES. DRILLED SHAFTS SHALL BE INSTALLED FROM THE FINISHED GRADE ELEVATIONS SHOWN ON THE DRAWINGS.
- DRILLED SHAFTS SHALL BE INSTALLED BY A SPECIALTY CONTRACTOR WITH SUITABLE EQUIPMENT, COMPETENT PERSONNEL AND A REPUTATION OF SATISFACTORILY PERFORMING THE WORK. THE CONTRACTOR SHALL HAVE A MINIMUM OF 5 YEARS SUCCESSFUL EXPERIENCE AND A MINIMUM OF THREE (3) SUCCESSFUL INSTALLATIONS ON PROJECTS OF A SIMILAR SIZE AND SCOPE TO THIS PROJECT. EVIDENCE OF COMPLIANCE WITH THIS SECTION SHALL BE SUBMITTED TO THE ARCHITECT/ENGINEER PRIOR TO ENTERING INTO A CONTRACT FOR THE WORK.
- THE CONTRACTOR IS RESPONSIBLE FOR QUALITY CONTROL, INCLUDING WORKMANSHIP AND MATERIALS FURNISHED BY HIS SUBCONTRACTORS AND SUPPLIERS.
- THE CONTRACTOR SHALL SUBMIT AT LEAST 10 DAYS PRIOR TO DRILLED SHAFT CONSTRUCTION, A DETAILED DESCRIPTION OF EQUIPMENT AND PROCEDURE PLANNED FOR SHAFT CONSTRUCTION.
- CONTRACTOR SHALL MAINTAIN A SHAFT INSTALLATION LOG SHOWING VOLUME OF CONCRETE PLACED PER UNIT DEPTH OF SHAFT. PLOT THEORETICAL SHAFT VOLUME WITH RESPECT TO DEPTH ON SAME CHART/LOG.
- THE OWNER SHALL EMPLOY A QUALIFIED SURVEYOR TO PERFORM ALL SURVEYS, LAYOUTS AND MEASUREMENTS FOR DRILLED SHAFT WORK. THE SURVEYOR SHALL CONDUCT THE LAYOUT WORK FOR EACH DRILLED SHAFT TO THE LINES AND LEVELS REQUIRED AND SHALL MAKE ACTUAL IN-PLACE MEASUREMENTS OF EACH DRILLED SHAFT PLAN LOCATION, SHAFT DIAMETER, BOTTOM AND TOP ELEVATIONS AND DEVIATIONS FROM SPECIFIED TOLERANCES.
- THE SURVEYOR SHALL RECORD AND SUBMIT ALL INFORMATION PERTINENT TO EACH DRILLED SHAFT AND COOPERATE WITH OTHER TESTING AND INSPECTION PERSONNEL TO PROVIDE DATA FOR ALL REQUIRED REPORTS.
- THE CONTRACTOR SHALL COOPERATE WITH ALL TESTING AND INSPECTION PERSONNEL EMPLOYED TO PERFORM FIELD QUALITY CONTROL TESTS AND INSPECTIONS.
- INSPECTION OR TESTING DOES NOT RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITY TO PERFORM THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
- THE GEOTECHNICAL ENGINEER WILL DRILL A PILOT BORING AT SELECTED DRILLED SHAFT LOCATIONS TO AID IN THE SELECTION OF FINAL DRILLED SHAFT DEPTHS. THE PILOT BORING INFORMATION AND DESIGN TIP ELEVATIONS SHALL BE AVAILABLE TO THE CONTRACTOR IN ADVANCE OF EACH RESPECTIVE SHAFT CONSTRUCTION.
- INSTALL REBAR CAGES FULLY TIED AND CONSTRUCTED. USE SHAFT CENTERING DEVICES AND VERTICAL REBAR SUPPORTS TO MAINTAIN SPECIFIED CLEAR COVER.
- DATA ON INDICATED SUBSURFACE CONDITIONS ARE NOT INTENDED AS REPRESENTATIONS OR WARRANTIES OF CONTINUITY OF SUCH CONDITIONS. IT IS EXPRESSLY UNDERSTOOD THAT THE ARCHITECT/ENGINEER WILL NOT BE RESPONSIBLE FOR INTERPRETATIONS OR CONCLUSIONS DRAWN THEREFROM BY THE CONTRACTOR. THE DATA ARE MADE AVAILABLE FOR THE CONVENIENCE OF THE CONTRACTOR.
- ADDITIONAL TEST BORINGS AND OTHER EXPLORATORY OPERATIONS MAY BE MADE BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER. NOTIFY AND OBTAIN APPROVAL FROM OWNER PRIOR TO DRILLING BORINGS.
- PROTECT STRUCTURES, UNDERGROUND UTILITIES AND OTHER CONSTRUCTION FROM DAMAGE CAUSED BY DRILLING OPERATIONS.
- SUMMIT DETAILED PROCEDURES OF THE INSTALLATION METHOD, INCLUDING (WHERE APPLICABLE) TYPE AND NUMBER OF DRILLING RIGS AND EQUIPMENT, CASING SIZE AND LENGTH, CASING REMOVAL METHOD, CONCRETE PLACEMENT AND REINFORCING STEEL SECURING AND PLACEMENT.
- SUMMIT CONCRETE MIX DESIGNS SUITABLE FOR METHOD OF CONCRETE PLACEMENT FOR ENGINEER AND TESTING LABORATORY APPROVAL PRIOR TO SHAFT INSTALLATION.
- SUBMIT SHOP DRAWINGS FOR ALL DRILLED SHAFT AND DOWEL REINFORCING STEEL.
- 28-30 DAY CONCRETE COMPRESSIVE STRENGTH: 4,000 PSI
- PROVIDE MAXIMUM AGGREGATE SIZE OF ONE-THIRD OF MINIMUM CLEAR SPACING BETWEEN INDIVIDUAL REINFORCING BARS OR BUNDLES OF BARS, WITH 1 INCH MAXIMUM.
- WHERE REQUIRED BY MIX DESIGN, USE WATER REDUCING ADMIXTURES IN STRICT COMPLIANCE WITH MANUFACTURER'S DIRECTIONS. ADMIXTURES TO INCREASE CEMENT DISPERSION OR PROVIDE INCREASED WORKABILITY FOR LOW-SLUMP CONCRETE MAY BE USED AT CONTRACTOR'S OPTION. USE ADMIXTURES IN THE AMOUNTS AS RECOMMENDED BY MANUFACTURE FOR CLIMATIC CONDITIONS PREVAILING AT TIME OF PLACING CONCRETE. ADJUST QUANTITIES OF ADMIXTURES AS REQUIRED TO MAINTAIN QUALITY CONTROL.
- PROPORTION CONCRETE TO HAVE A SLUMP THAT IS SUITABLE FOR THE PLACEMENT PROCESS USED. PROVIDE NOT LESS THAN A 7 INCH OR MORE THAN A 10 INCH SLUMP.
- STEEL CASING SHALL CONFORM TO ASTM A-252, GRADE 2 OR A-36.
- READY MIX CONCRETE SHALL COMPLY WITH THE REQUIREMENTS OF ASTM C-94.
- EXCAVATE HOLES FOR DRILLED SHAFTS TO THE REQUIRED TIP ELEVATIONS AS DIRECTED BY THE GEOTECHNICAL ENGINEER. EXCAVATE HOLES FOR CLOSELY SPACED SHAFTS (LESS THAN 20 FEET CLEAR SPACING) AND THOSE OCCURRING IN FRAGILE OR SAND STRATA ONLY AFTER ADJACENT HOLES ARE FILLED WITH CONCRETE AND ALLOWED TO SET A MINIMUM OF 24 HOURS OR LONGER AS REQUIRED FOR CONCRETE TO HARDEN.

DRILL-IN BOLTS, SCREWS AND DOWELS

- CONSIDERATION OF A REDUCED DELAY PERIOD WILL REQUIRE CONTRACTOR SUBMITTAL OF CONCRETE STRENGTH TEST RESULTS TO VERIFY DEVELOPMENT OF A MINIMUM COMPRESSIVE STRENGTH OF 300 PSI AT DESIRED TIME SUBJECT TO APPROVAL BY THE GEOTECHNICAL AND STRUCTURAL ENGINEER.
- REMOVE EXCAVATED MATERIAL AND DISPOSE OF IT OFF-SITE AND IN ACCORDANCE WITH OTHER PROJECT RESTRICTIONS THAT MAY EXIST.
- THE CONTRACTOR MAY USE A TEMPORARY CASING TO STABILIZE THE OVERBURDEN SOILS TO PREVENT CAVING. IF USED, THE CASING SHALL BE INSTALLED SO AS TO AVOID AN ANNULUS BETWEEN THE CASING AND THE OVERBURDEN SOILS. WHERE THE CONTRACTOR MAY BE CONSIDERED VIBRO-DRILLING CASING, IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THAT THE VIBRO-DRILLING ACTIVITIES ARE NOT DETERMINANT OR OBJECTIVE TO NEIGHBORING STRUCTURES OR FACILITIES. THE DRILLED SHAFT CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ANY SUCH DAMAGE AND IS, THEREFORE, ENCOURAGED TO PERFORM APPROPRIATE MONITORING AS DEEMED APPROPRIATE DEPENDING UPON HIS WAYS AND MEANS OF CONSTRUCTION.
- THE CASING SHALL BE SEALED IN A STRATUM OF SOIL THAT WILL NOT CAVE OR ADMIT EXCESSIVE WATER. THE SHAFT EXCAVATION SHALL THEN BE COMPLETED TO THE APPROVED ELEVATION. CARE SHALL BE TAKEN IN THE DRILLING TO AVOID CAVING OR SLOUGHING. THE BOTTOM OF THE HOLE SHALL BE CLEANED WITH A CLEAN OUT BUCKET OR OTHER APPROPRIATE METHOD.
- CASINGS SHALL BE PULLED IN A SINGLE CONTINUOUS SMOOTH OPERATION WITHOUT EXCESSIVE VIBRATION AND WITHOUT SUDEN JERKS OR IMPACT.
- MINERAL OR POLYMER SLURRY MAY ALSO BE UTILIZED FOR STABILIZATION OF THE SOILS FOR SHAFT CONSTRUCTION.
- SHAFTS SHALL BE INSTALLED BY DRILLING AND THEN PLACING CONCRETE IN THE EXCAVATIONS. INSTALLATION SHALL INCLUDE USING CASING AS NEEDED, WITH CONCRETE PLACEMENT BY THE FLUID DISPLACEMENT METHOD, UNLESS OTHERWISE APPROVED BY THE GEOTECHNICAL ENGINEER.
- EACH FINISHED SHAFT SHALL CONSIST OF A CONTINUOUS COLUMN OF CONCRETE EXTENDING FROM THE REQUIRED BOTTOM ELEVATION TO THE REQUIRED TOP ELEVATION HAVING FIRK CONTRAST AGAINST THE VERTICAL AND HORIZONTAL SURFACE OF THE EARTH SURROUNDING IT.
- SHAFT DRILLING AND CONCRETE PLACEMENT SHALL BE SEQUENCED TO PREVENT DAMAGE TO ADJACENT SHAFT OR SHAFT EXCAVATIONS.
- ALL SPOIL AND EXCAVATED MATERIALS SHALL BE KEPT AWAY FROM EACH OPEN SHAFT EXCAVATION TO AVOID CONTAMINATION OF THE EXCAVATION AFTER FINAL CLEAN OUT. ALL MATERIAL SHALL BE DISPOSED OF IN ACCORDANCE WITH APPLICABLE REGULATIONS.
- ALL SLURRY MUD SHALL BE REMOVED FROM THE SITE AND LEGALLY DISPOSED OF BY THE CONTRACTOR.
- THE TOLERANCE ON PLAN LOCATION FOR THE TOP OF THE DRILLED SHAFT SHALL NOT BE MORE THAN 3 INCHES IN ANY DIRECTION.
- PERMISSIBLE TOLERANCE FOR PLUMBNESS SHALL BE 1.5% OF THE LENGTH OR 12.5% OF SHAFT DIAMETER, WHICHEVER IS LESS.
- THE CONTRACTOR SHALL REMOVE EXCESS CONCRETE AT THE TOP OF THE SHAFT BEYOND THE LIMITS OF THE SHAFT DIAMETER. THE SHAFT TOP DIAMETER SHALL BE THE SAME DIAMETER AS THE SHAFT BELOW. SHAFTS EXTENDING ABOVE THE GROUND SURFACE SHALL BE FORMED.
- IF ANY OF THE ABOVE TOLERANCES ARE EXCEEDED, THE ARCHITECT/ENGINEER SHALL IMMEDIATELY BE NOTIFIED TO EVALUATE THE ECCENTRICITY IN THE SHAFT AND RECOMMEND CORRECTIVE MEASURES. THE COST OF RE-ENGINEERING AND CORRECTIVE CONSTRUCTION SHALL BE BORNE BY THE CONTRACTOR.
- THE CONTRACTOR SHALL HAVE IMMEDIATELY AVAILABLE FOR USE ON THE JOB AN AMPLE SUPPLY OF CASING FOR EACH SIZE AND LENGTH THAT WILL BE REQUIRED FOR THE WORK. ADDITIONAL CASING AND CONCRETE TO ENHANCE THE PROGRESS OF THE JOB SUCH DRILLING SHALL HAVE JOINTING SERVICES WHERE REQUIRED OF SUFFICIENT STRENGTH THAT ASSEMBLED SECTION OF CASING MAY BE PULLED COMPLETE AS CONCRETE IS PLACED OR IMMEDIATELY THEREAFTER. PROVIDE CASING OF SUFFICIENT STRENGTH TO WITHSTAND HANDLING STRESSES, CONCRETE PRESSURE AND SURROUNDING EARTH AND/OR FLUID PRESSURES. THE CASING SHALL BE SIZED TO PROVIDE NO LESS THAN THE SPECIFIED SHAFT DIAMETER. IN NO CASE SHALL THE CASING BE ALLOWED TO EXTEND WITHIN THAT PORTION OF THE DRILLED SHAFT COUNTED UPON FOR FRICTIONAL SUPPORT AS SPECIFIED BY THE GEOTECHNICAL ENGINEER.
- UNLESS OTHERWISE APPROVED BY THE ARCHITECT/ENGINEER, ALL TEMPORARY CASING SHALL BE REMOVED FROM SHAFTS AS CONCRETE IS PLACED OR IMMEDIATELY THEREAFTER AND IN SUCH A MANNER AS TO PREVENT SLOUGHING MATERIAL FROM DROPPING TO THE BOTTOMS OF SHAFTS OR FALLING ON TOP OF FRESHLY PLACED CONCRETE.
- THE CONTRACTOR'S SHAFT CLEANING OPERATION WILL BE ADJUSTED SO THAT THE MAXIMUM DEPTH OF SEDIMENTARY DEPOSITS OR ANY OTHER DEBRIS AT ANY PLACE ON THE BASE OF THE SHAFT EXCAVATION SHALL NOT EXCEED 1 INCH. THIS TOLERANCE IS DUE TO THE NEED TO MAXIMIZE END BEARING STRENGTH. SHAFT CLEANLINESS WILL BE DETERMINED BY THE GEOTECHNICAL INSPECTOR AT ANY TIME PRIOR TO CONCRETE PLACEMENT. WHEN SHAFT CLEANLINESS HAS NOT BEEN MAINTAINED AS DETERMINED BY THE REPRESENTATIVE OF THE GEOTECHNICAL ENGINEER, THE CONTRACTOR SHALL REMOVE THE SHAFT REINFORCEMENT AND RE-CLEAN THE SHAFT BOTTOM AS REQUIRED, IF REQUIRED BY THE INSPECTOR, DOWHOLE PUMPING EQUIPMENT FOR REMOVAL OF CUTTINGS SHALL BE IMPLEMENTED AT NO ADDED EXPENSE.
- PRIOR TO PLACING CONCRETE IN ANY SHAFT EXCAVATION, THE CONTRACTOR SHALL ENSURE THAT HEAVILY CONTAMINATED SUSPENSIONS, WHICH COULD IMPAIR THE FREE FLOW OF CONCRETE FROM THE TREMIE PIPE, HAS NOT ACCUMULATED IN THE BOTTOM OF THE SHAFT. SAMPLES OF THE FLUID IN THE SHAFT (MINERAL OR POLYMER SLURRY) MAY BE TAKEN FROM THE SHAFT AT THE DISCRETION OF THE GEOTECHNICAL INSPECTOR USING AN APPROVED SAMPLING TOOL PROVIDED BY THE CONTRACTOR. THE DENSITY OF THE FLUID IN THE SHAFT EXCAVATION PRIOR TO CONCRETING SHALL BE LESS THAN 75 POUNDS PER CUBIC FOOT AND SAND CONTENT LESS THAN OR EQUAL TO 4%. ADJUSTMENTS SHALL BE MADE, IF NECESSARY, TO ACCOMPLISH THIS.
- BEFORE PLACING, CLEAN REINFORCING STEEL AND DOWELS OF LOOSE RUST, SCALE, DIRT, GREASE AND OTHER MATERIAL WHICH COULD DESTROY OR DESTRUCT DOWND.
- FABRICATE AND ERECT REINFORCING CAGES FOR DRILLED SHAFTS AS ONE CONTINUOUS UNIT USING INNER RING REINFORCING GUIDE PLACE REINFORCEMENT CAGE ACCURATELY AND SYMMETRICALLY ABOUT AXIS OF HOLE AND HOLD SECURELY IN POSITION DURING CONCRETE PLACEMENT.
- USE TEMPLATES TO SET ANCHOR BOLTS, LEVELING PLATES AND OTHER ACCESSORIES FURNISHED UNDER WORK OF OTHER SECTIONS. PROVIDE SPACERS (CAPABLE OF SLIDING ON TEMPORARY CASINGS REQUIRED), BLOCKING AND HOLDING DEVICES TO MAINTAIN REQUIRED POSITION DURING CONCRETE PLACEMENT.
- THE CONTRACTOR SHALL PROVIDE SUFFICIENT CENTERING GUIDES AT A SPACING NOT EXCEEDING 10 FEET ON CENTER (THREE (3) PER LOCATION) TO MAINTAIN NO LESS THAN 3 INCH CONCRETE COVER OF REINFORCEMENT. CENTERING GUIDES SUCH AS THOSE MANUFACTURED AND DISTRIBUTED BY FOUNDATION TECHNOLOGIES, INC. OR AN APPROVED EQUAL SHALL BE PROVIDED.
- FILL DRILLED SHAFTS WITH CONCRETE IMMEDIATELY AFTER INSPECTION AND APPROVAL BY THE GEOTECHNICAL ENGINEER OR OTHER AUTHORIZED INSPECTOR. SHAFT CONCRETE SHALL BE PLACED DURING THE SAME DAY THAT THE SHAFT EXCAVATION IS ADVISED BELOW THE TEMPORARY CASING. SHAFTS THAT CANNOT BE CONCRETED ON THE DAY EXCAVATED MAY REQUIRE DEEPENING, ENLARGEMENT IN DIAMETER OR SUCH OTHER MODIFICATION REQUIRED BY THE GEOTECHNICAL ENGINEER AT ADDITIONAL COSTS.
- PLACE CONCRETE CONTINUOUSLY AND IN A SMOOTH FLOW WITHOUT SEGREGATING THE MIXED MATERIALS.
- PLACE CONCRETE BY MEANS OF A TREMIE OR BY PUMPING FROM THE BOTTOM OF THE SHAFT.
- MANTAIN A SUFFICIENT HEAD OF CONCRETE TO PREVENT REDUCTION IN DIAMETER OF DRILLED SHAFT BY EARTH PRESSURE AND TO PREVENT EXTRADUCIVE MATERIAL FROM MIXING WITH FRESH CONCRETE. COORDINATE WITHDRAWAL OF TEMPORARY CASINGS WITH CONCRETE PLACEMENT OPERATIONS TO MAINTAIN A HEAD OF CONCRETE APPROXIMATELY 5 FEET ABOVE CASING BOTTOM. DURING CASING EXTRACTION, UPWARD OR DOWNWARD MOVEMENT OF THE REINFORCING STEEL SHOULD NOT EXCEED 6 INCHES.
- THE DRILLED SHAFTS SHALL BE FILLED WITH CONCRETE BY THE USE OF A TREMIE HAVING A MINIMUM DIAMETER OF 10 INCHES (OR AS APPROVED BY THE GEOTECHNICAL CONSULTANT), SEALED AT THE BOTTOM, EXTENDING FROM ABOVE THE GROUND SURFACE TO THE BOTTOM OF THE DRILLED SHAFT. A TRAVELING TREMIE PLUG OR "GO DEVIL" SHALL BE PERMITTED SUBJECT TO APPROVAL BY THE GEOTECHNICAL ENGINEER. A CLEAN OUT JACKET EQUIPPED WITH A ONE-PIECE PLUG IS ALLOWED TO BE USED TO EXTRACT THE BOTTOM OF THE SHAFT WITH THE REINFORCING TENSION ON THE BOTTOM OF THE SHAFT. THE TUBE SHALL BE FILLED TO THE TOP EXCLUDING ABOVE THE GROUND. SECTIONAL TREMIES SHALL HAVE JOINTS PROPERLY SEALED TO PREVENT WATER OR FLUID LEAKAGE INTO THE TREMIE PIPE. THE FILLED TREMIE SHALL BE PICKED UP APPROXIMATELY 4 INCHES OFF THE BOTTOM OF THE SHAFT TO ALLOW THE WEIGHT OF THE CONCRETE TO DISPLACE THE SEAL AT THE BOTTOM OF THE TREMIE. AT NO TIME IS THE TREMIE TO BE PULLED TO SUCH A HEIGHT AS TO CLEAR THE SURFACE OF THE CONCRETE ALREADY PLACED IN THE SHAFT. ALL CONCRETE SHALL BE POURED THROUGH THE NOW OPEN TUBE. CARE IS TAKEN TO MAINTAIN A SUFFICIENT HEAD OF CONCRETE TO COMPLETE THE SURFACE AND DOWELING MUD AND SPONGE ARE USED TO MAINTAIN A SMOOTH SURFACE AND TO PROVIDE SUFFICIENT PRESSURE SO AS TO PREVENT REDUCTION IN PILE DIAMETER BY EARTH PRESSURE ON THE FRESH CONCRETE. THE CONCRETE IN EACH PILE SHALL BE CARRIED ABOVE CUT OFF ELEVATION AND THEN DIPPED OUT WHILE FRESH TO CUT OFF ELEVATION.
- ALL CONCRETE SHALL BE DEPOSITED THROUGH THE TREMIE SO AS TO PROVIDE A CONTINUOUS FLOW, WITHOUT AGGREGATE SEGREGATION, FROM BOTTOM TO TOP OF FILE. THE PRODUCTION AND DELIVERY OF THE READY-MIXED CONCRETE SHALL BE SUCH THAT NOT MORE THAN 45 MINUTES SHALL ELAPSE BETWEEN THE DEPOSITING OF SUCCESSIVE BATCHES OF CONCRETE TO ENSURE A MONOLITHIC UNIT OF CONCRETE. NO DEVIATION FROM THIS METHOD WILL BE ACCEPTABLE.
- EXCAVATE HOLES FOR DRILLED SHAFTS TO THE REQUIRED TIP ELEVATIONS AS DIRECTED BY THE GEOTECHNICAL ENGINEER. EXCAVATE HOLES FOR CLOSELY SPACED SHAFTS (LESS THAN 20 FEET CLEAR SPACING) AND THOSE OCCURRING IN FRAGILE OR SAND STRATA ONLY AFTER ADJACENT HOLES ARE FILLED WITH CONCRETE AND ALLOWED TO SET A MINIMUM OF 24 HOURS OR LONGER AS REQUIRED FOR CONCRETE TO HARDEN.

THE REINFORCING STEEL CAGE, REDRILL THE SHAFT TO REOPEN THE HOLE AND BEGIN THE CONCRETING OPERATIONS FROM THE BOTTOM OF THE SHAFT.

- SHAFTS REJECTED DUE TO SLUMP LOSS DURING CASING REMOVAL, CAVING OR OTHER SPECIFICATION VIOLATION SHALL BE REPLACED AS DETAILED BY THE PROJECT GEOTECHNICAL AND STRUCTURAL ENGINEER. ALTERNATIVELY, THE CONTRACTOR MAY BE GIVEN THE OPTION TO DEMONSTRATE, AT HIS SOLE EXPENSE, THAT THE SHAFT IS ACCEPTABLE. THE PROPOSED METHOD OF ACCEPTANCE TESTING SHALL BE SUBMITTED TO THE PROJECT STRUCTURAL AND GEOTECHNICAL ENGINEER FOR APPROVAL.
- IF THE OWNER'S AUTHORIZED INSPECTOR HAS REASON TO SUSPECT THAT CONCRETE QUALITY OR STRENGTH MAY FAIL SPECIFICATIONS, HE MAY ORDER THE SHAFT CORED FOR INSPECTION AND/OR TESTING. IF THE CORE RECOVERY AND/OR TEST RESULTS INDICATE NON-COMPLIANCE WITH THE SPECIFICATIONS, THE CONTRACTOR SHALL BEAR THE EXPENSE OF THE INVESTIGATION AND/OR TESTING AND SHALL ALSO, AT NO COST TO THE OWNER, INSTALL REMEDIAL ADDITIONAL CONSTRUCTION AS REQUIRED BY THE ARCHITECT/ENGINEER. SHOULD THE INVESTIGATION AND/OR TESTING INDICATE COMPLIANCE WITH THE SPECIFICATIONS, THE OWNER SHALL BEAR THE COST OF SUCH INVESTIGATION AND/OR TESTING.
- APPROVAL BY THE GEOTECHNICAL ENGINEER IS REQUIRED ON ALL SHAFT INSTALLATION CRITERIA AND HIS DECISION AND JUDGMENT ON SHAFT LENGTH, REJECTION OF SHAFTS, ADDITIONAL SHAFTS REQUIRED AND ALL OTHER SHAFT INSTALLATION AND CAPACITY QUESTIONS SHALL BE FINAL.

PRE-ENGINEERED FABRIC CANOPY STRUCTURAL STEEL NOTES

- ALL STRUCTURAL STEEL SECTIONS AND WELDED MEMBERS SHALL BE IN ACCORDANCE WITH "SPECIFICATION FOR BUILDINGS", ASC 360, 2010.
- DESIGN LOADS SHALL BE IN ACCORDANCE WITH THE STRUCTURAL DRAWINGS.
- THE STEEL COMPONENTS SHALL BE DESIGNED TO MEET THE MOST SEVERE CONDITIONS PRODUCED BY THE LOAD COMBINATIONS INCLUDING DEAD, ROOF LIVE, WIND, AND TENSION LOADS DUE TO CABLE/FABRIC TENSIONING.
- THE CANOPY MANUFACTURER SHALL FURNISH COMPLETE ERECTION DRAWINGS SHOWING ANCHOR BOLT SETTINGS, COLUMN REACTIONS ON FOUNDATION, AND INSTALLATION DETAILS TO CLEARLY INDICATE THE PROPER ASSEMBLY OF ALL PARTS. SUBMITTED DRAWINGS SHALL BE SIGNED/SEALED BY A LICENSED DELEGATED ENGINEER AND REVIEWED AND SIGNED BY THE GENERAL CONTRACTOR.
- FABRIC CANOPY MANUFACTURER SHALL SUBMIT THE FOLLOWING DOCUMENTS. DRAWINGS AND CALCULATIONS SHALL BE SIGNED AND SEALED, BY THE DELEGATED ENGINEER:
 - A)COLUMN FOUNDATION REACTIONS
 - B)FABRICATION AND ERECTION DRAWINGS
 - C)DESIGN CALCULATIONS
 - D)PROVIDE A LETTER CERTIFYING THAT THE STRUCTURE HAS BEEN DESIGNED AND FABRICATED IN ACCORDANCE WITH THE REFERENCED STANDARDS.
- INDIVIDUAL DRILLED SHAFTS SHALL BE LOCATED CENTERED ON STEEL COLUMN BASE PLATE. FABRIC CANOPY MANUFACTURER SHALL PROVIDE AN ANCHOR BOLT SETTING PLAN INDICATING THE LOCATION OF THE BASE PLATE CENTER.

CONCRETE LAP SPLICE SCHEDULE

BAR SIZE	LOCATION	CONCRETE STRENGTH		
		3,000 PSI	4,000 PSI	5,000 PSI
# 4	TOP BARS	31"	32"	29"
	OTHER BARS	29"	25"	22"
# 5	TOP BARS	41"	40"	36"
	OTHER BARS	36"	31"	28"
# 6	TOP BARS	56"	48"	43"
	OTHER BARS	43"	37"	33"
# 7	TOP BARS	81"	70"	63"
	OTHER BARS	63"	54"	45"
# 8	TOP BARS	93"	80"	72"
	OTHER BARS	72"	62"	55"
# 9	TOP BARS	105"	91"	81"
	OTHER BARS	81"	70"	63"
# 10	TOP BARS	118"	102"	91"
	OTHER BARS			

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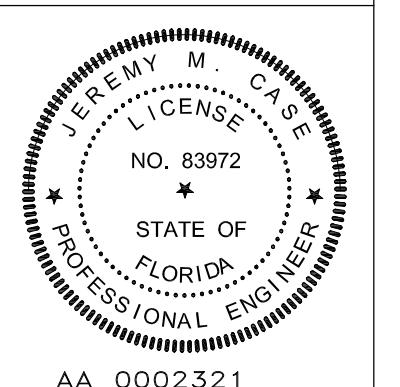
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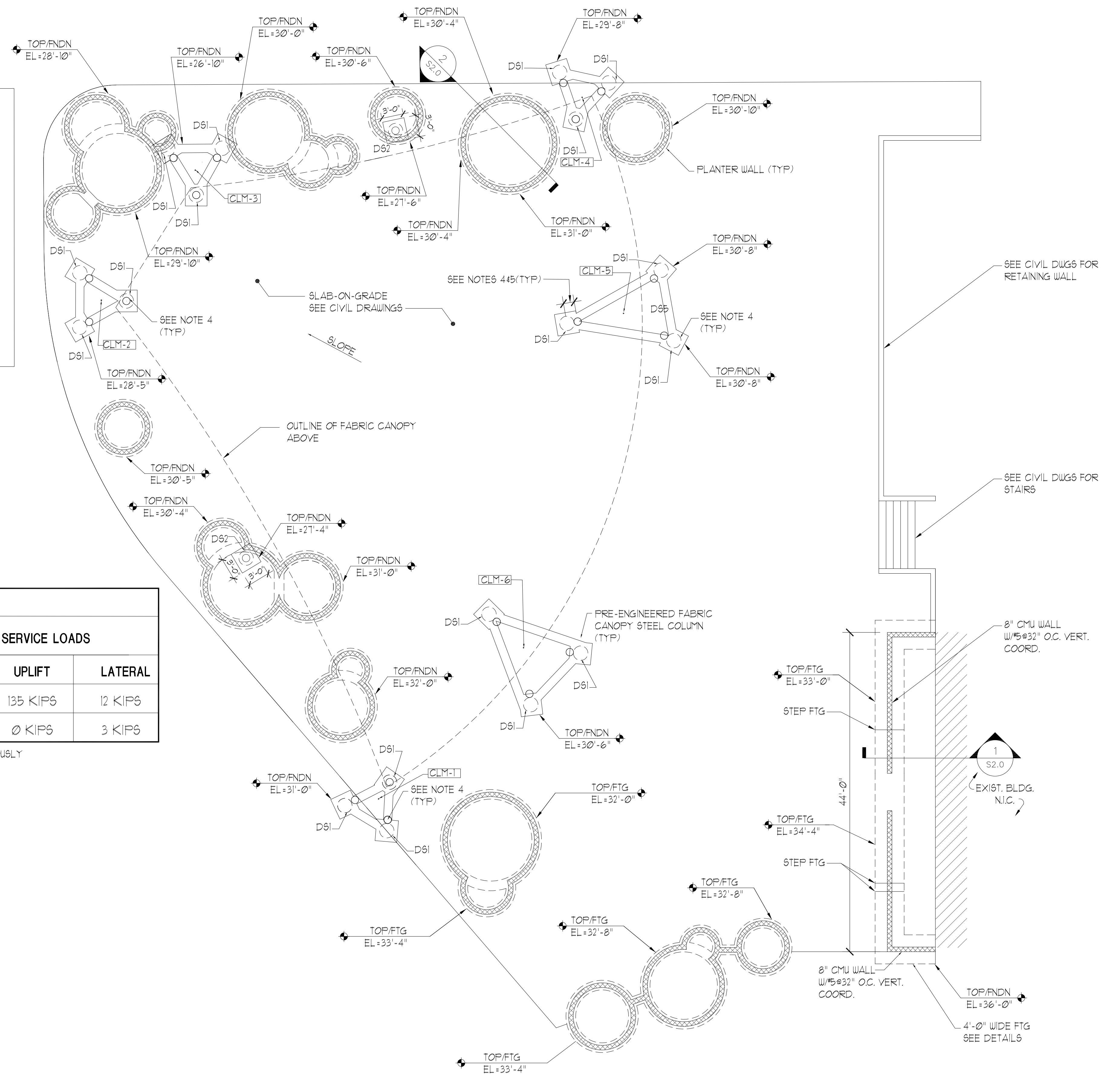
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PLAN NOTES

- CLM-X INDICATES FABRIC CANOPY STEEL COLUMN LOCATION REFERENCE POINT. SEE CIVIL DRAWINGS.
- COORDINATE ALL DIMENSIONS, ELEVATIONS AND DETAILS WITH ARCHITECTURAL AND CIVIL DRAWINGS. NOTIFY ARCHITECT/ENGINEER OF ANY DISCREPANCIES.
- DELEGATED CANOPY ENGINEER SHALL DESIGN ALL CANOPY AND STEEL MEMBERS AND CONNECTIONS.
- STEEL COLUMN LOCATIONS ARE SHOWN AT TOP OF SLAB ELEVATION. GC TO COORDINATE DRILLED SHAFT AND FOUNDATION LOCATIONS W/ CANOPY COLUMN BASE PLATE LOCATIONS ON CANOPY APPROVED SHOP DRAWINGS.
- CANOPY FABRICATOR SHALL SUBMIT SIGNED AND SEALED SHOP DRAWINGS FOR APPROVAL. SHOP DRAWINGS SHALL INDICATE LOCATION OF STEEL COLUMN BASE PLATE WORKING POINT (SEE DETAIL 8/620) WITH RESPECT TO THE COLUMN LOCATION REFERENCE POINT.
- SERVICE LEVEL REACTIONS OF INDIVIDUAL STEEL COLUMNS ARE GIVEN DRILLED SHAFT SCHEDULE
- SEE ARCH FOR COLUMN CONFIGURATION.
- STEP PLANTER FTG AS NEEDED TO MAINTAIN TOP OF FTG 1'-0" MIN BELOW FINISHED GRADE
- ALL ELEVATIONS IN NAVD88 UNO.

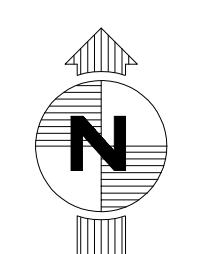
DRILL SHAFT SCHEDULE					
SHAFT MARK	SHAFT SIZE		DESIGN SERVICE LOADS		
	DIA	BOTTOM, SHAFT ELEV. (NAVD)	COMP	UPLIFT	LATERAL
DS1	2'-0"	-5.00	85 KIPS	135 KIPS	12 KIPS
DS2	2'-0"	14.00	16 KIPS	0 KIPS	3 KIPS

NOTE: LATERAL LOAD ACTS IN BOTH ORTHOGONAL DIRECTIONS SIMULTANEOUSLY



FOUNDATION PLAN

SCALE : 1/8" = 1'-0"



Preliminary
 Permitting Set
 Construction Set
 Date: 12/09/2020
 Drawn: TK/G
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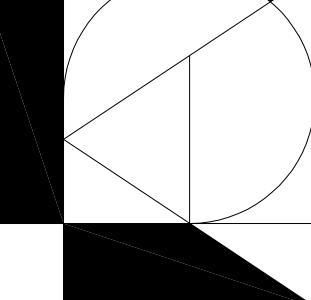
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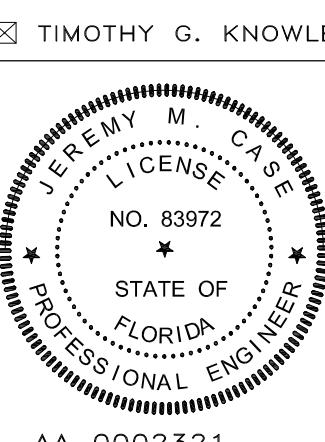
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 Steven L. Klar
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Preliminary
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 Construction Set

Date: 12/01/2020

Drawn: TK/G

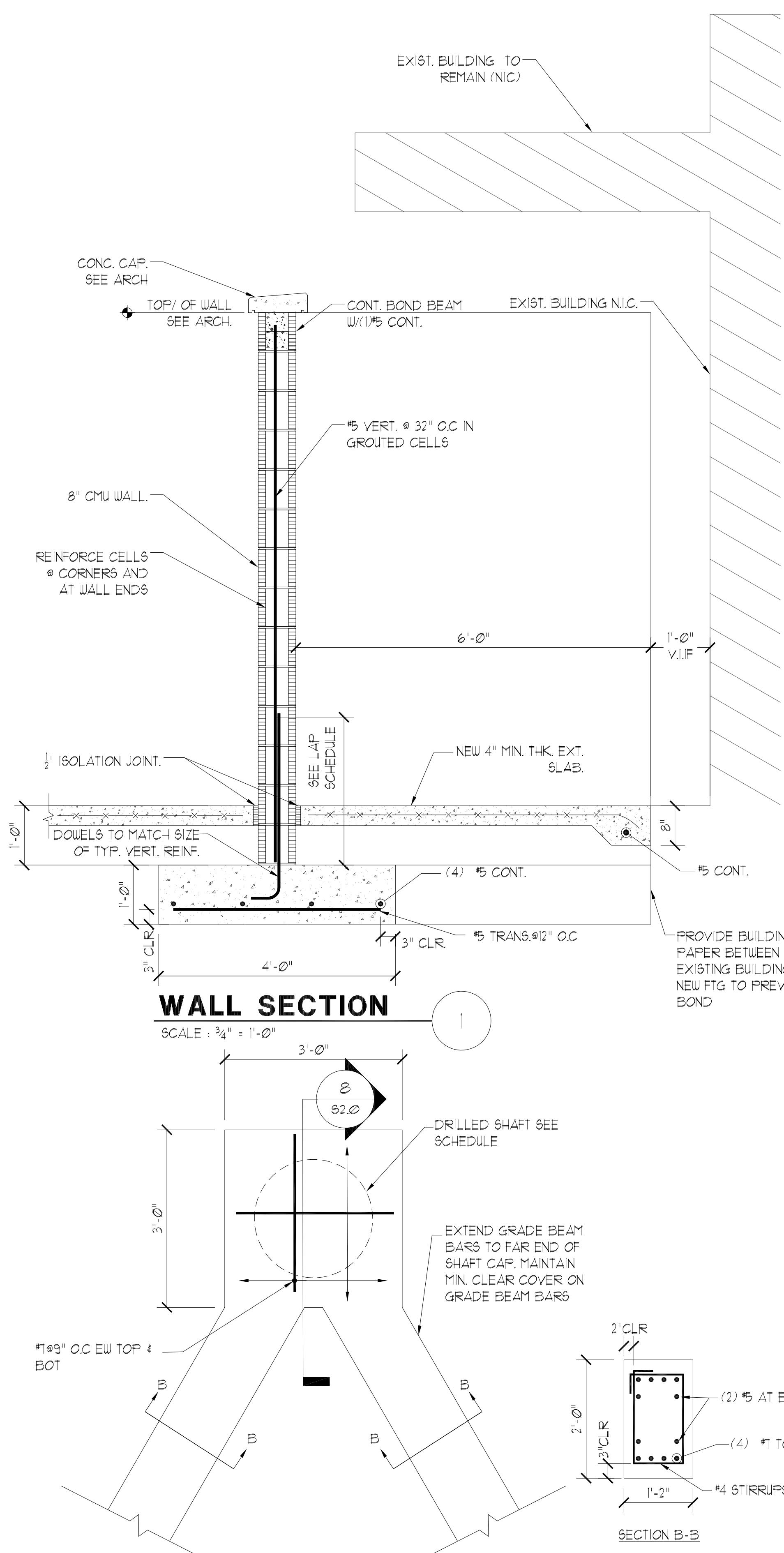
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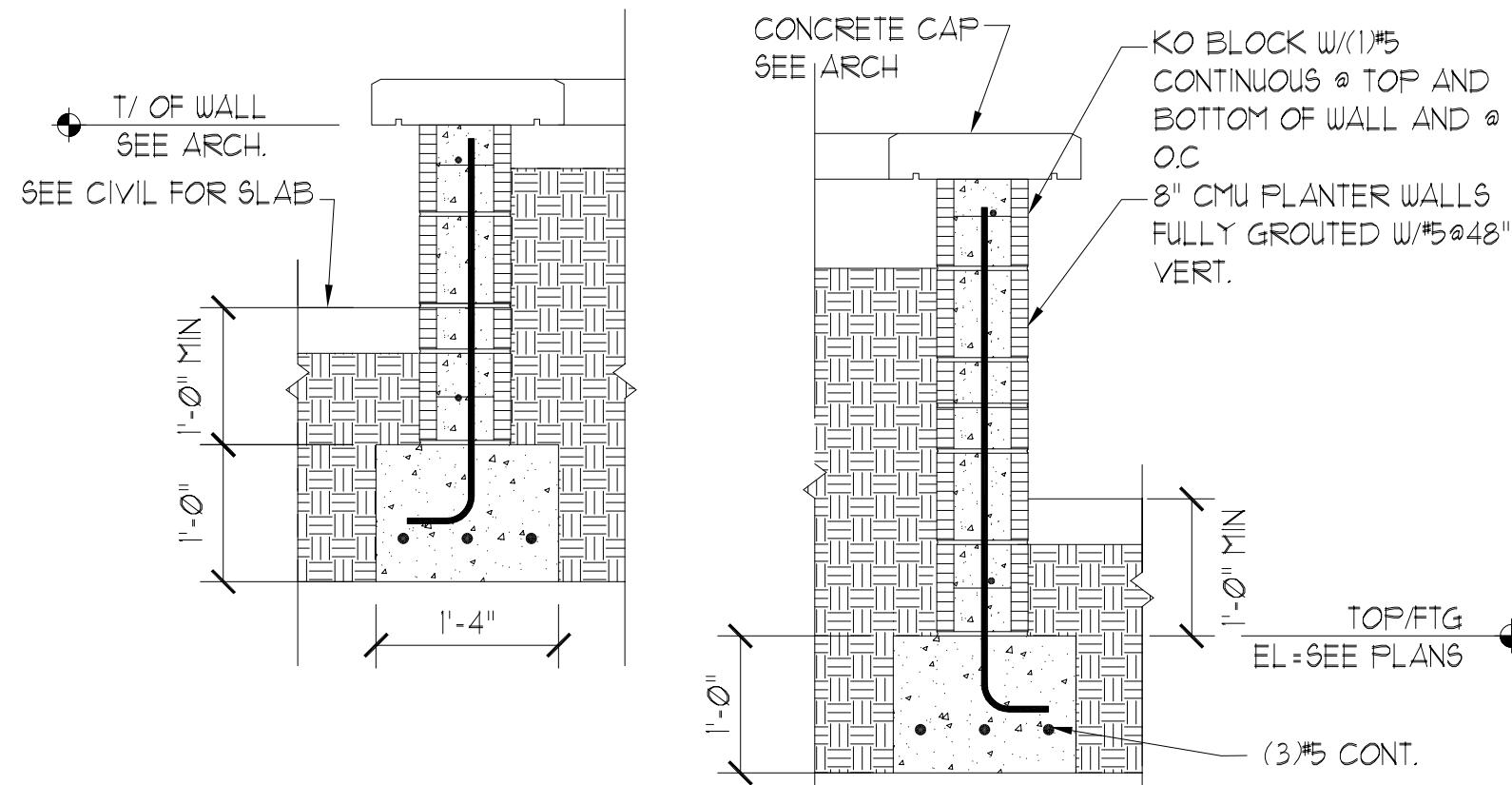
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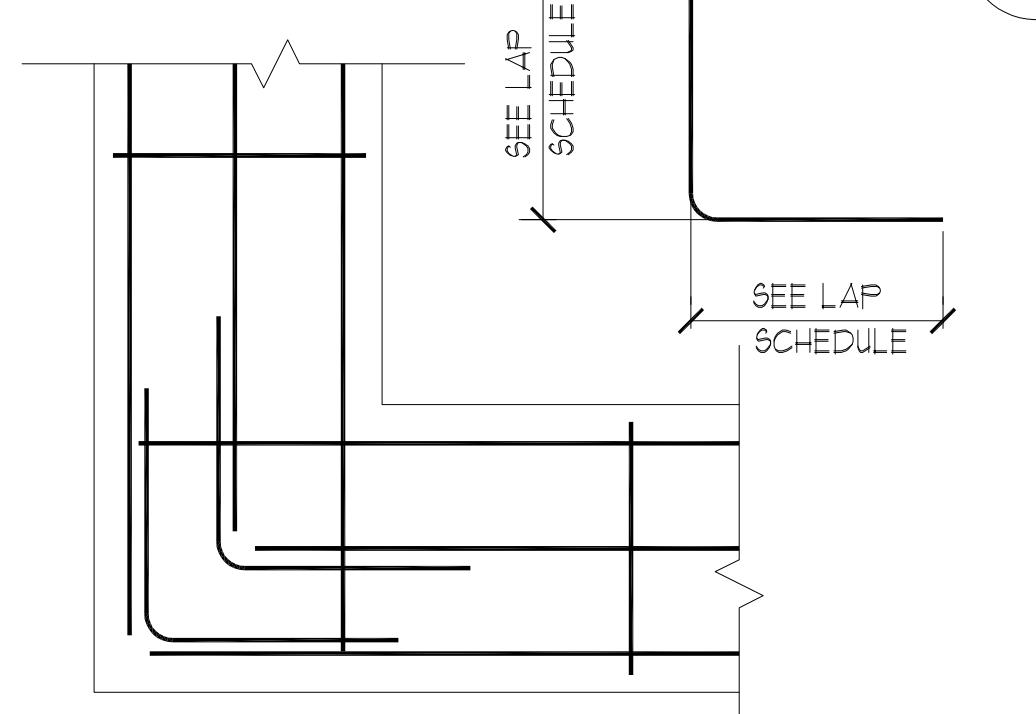
FOUNDATION DETAIL

SCALE : $\frac{3}{4}$ " = 1'-0"



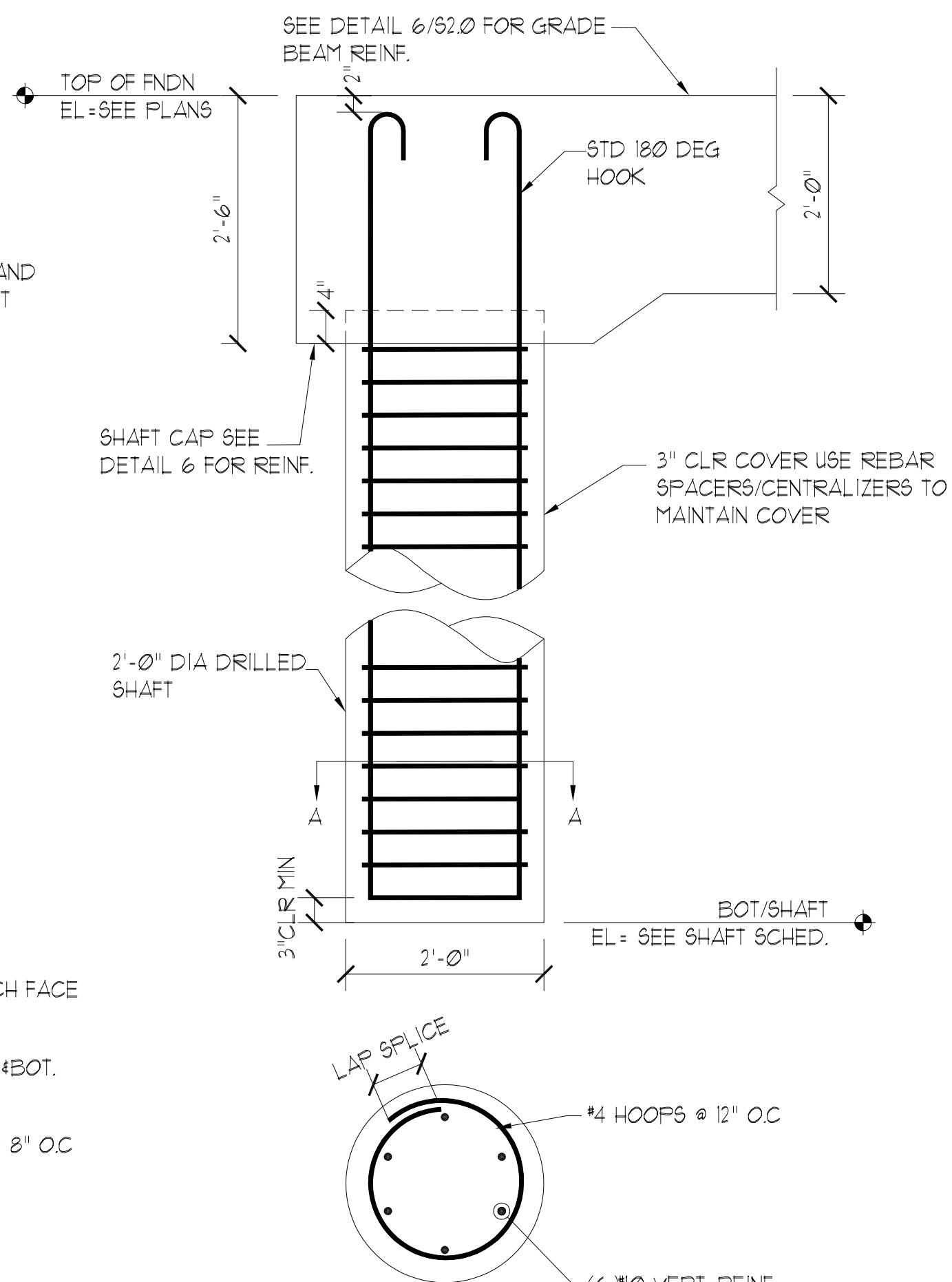
TYPICAL PLANTER SECTION

SCALE : $\frac{3}{4}$ " = 1'-0"



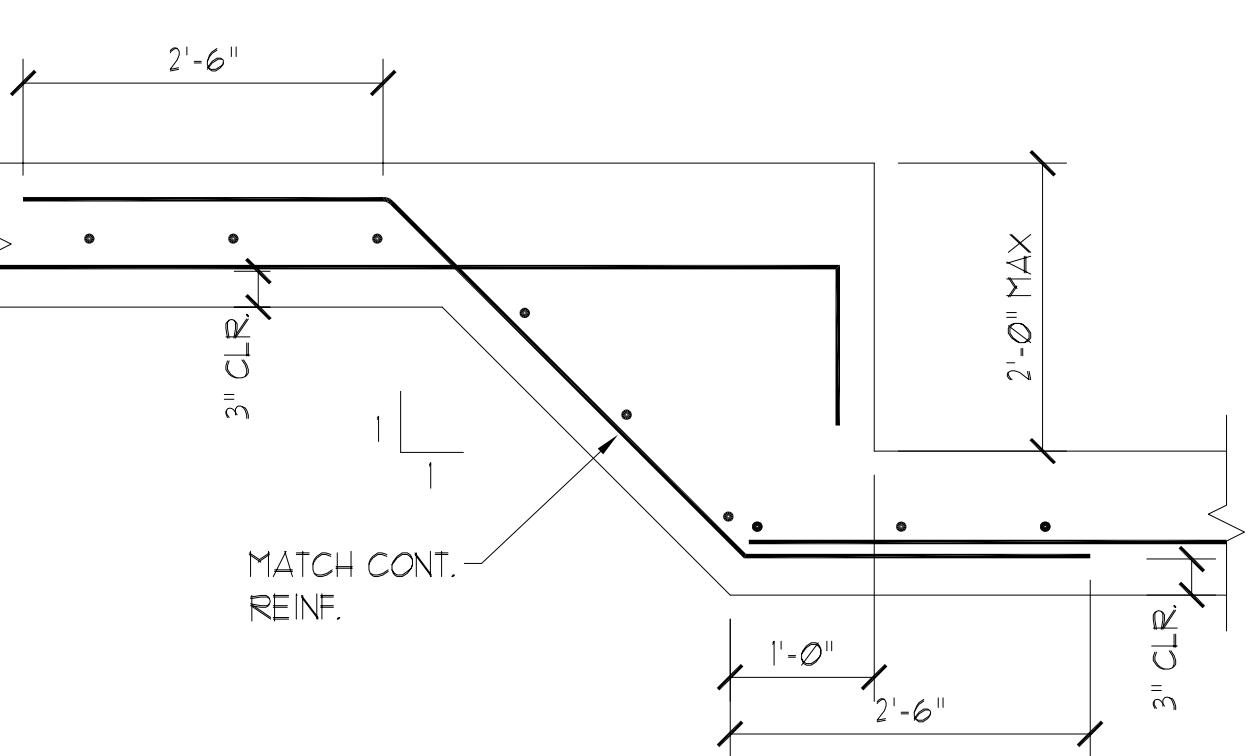
**CORNER BAR DETAIL
AT FOUNDATION**

SCALE: NTS



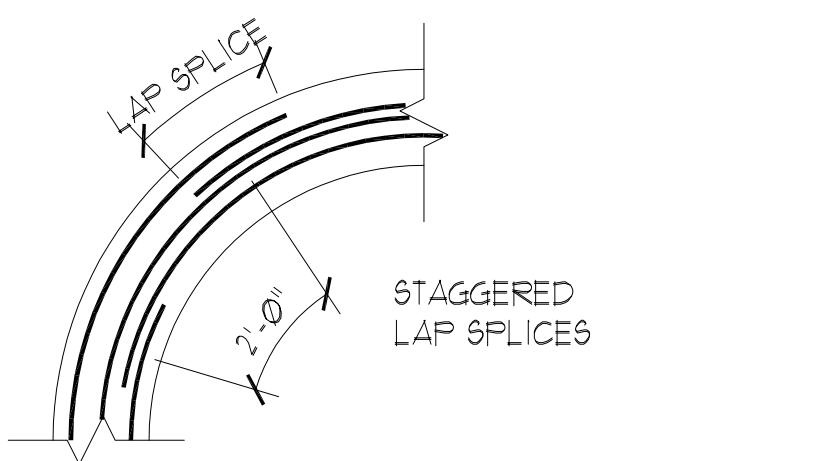
DRILLED SHAFT DETAIL

SCALE : $\frac{3}{4}$ " = 1'-0"



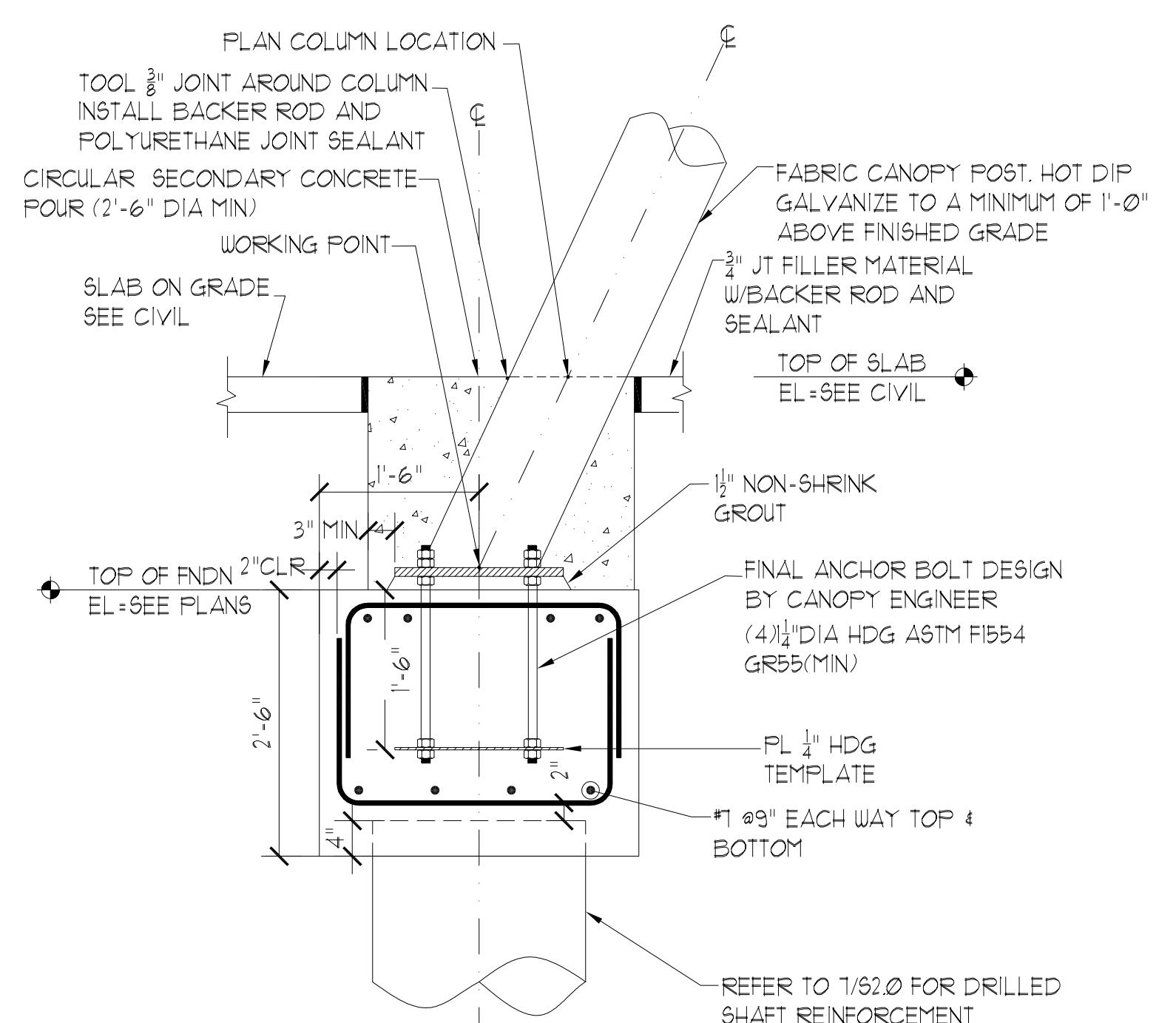
STEPPED FOOTING

SCALE: $\frac{3}{4}$ " = 1'-0"



**BAR DETAIL AT PLANTER
FOUNDATION**

SCALE: NTS



CANOPY ANCHOR DETAIL

SCALE : $\frac{3}{4}$ " = 1'-0"