# IDEA PUBLIC SCHOOLS SAN ANTONIO MECHANICAL UPGRADES - IDEA CARVER SAN ANTONIO, TEXAS

NORTH



# DATE OF ISSUE OCTOBER 10, 2024

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RFP #30-SAMCU-0524



ANTONIO

### EQUIPMENT

- EQUIPMENT INSPECTION: a. FIELD VERIFY ALL CONDITIONS AND MEASURE DIMENSIONS WITHIN THE BUILDING PRIOR TO ORDERING EQUIPMENT AND/OR PROCEEDING WITH INSTALLATION.
- b. ALL EQUIPMENT SHALL BE FACTORY TESTED, AND CONTRACTOR SHALL VERIFY EQUIPMENT CONDITION PRIOR TO INSTALLATION. CONTRACTOR IS RESPONSIBLE FOR EQUIPMENT DAMAGED DURING MOVING AND INSTALLATION.
- c. EQUIPMENT FOUND DEFECTIVE PRIOR TO FINAL ACCEPTANCE SHALL BE REPLACED AT NO COST TO OWNER.
- 2. EQUIPMENT ACCESS a. MAKE ALL VALVES ACCESSIBLE, INCLUDING MANUAL SHUTOFF VALVES AND AUTOMATIC VALVES. VALVES SHOULD BE CLOSE TO THE UNIT BEING SERVED AND REACHABLE BY A 5'-6" PERSON STANDING ON THE FLOOR NEARBY, WITHOUT NEED FOR A LADDER. WHERE SHUTOFF VALVES SERVE AN ABOVE-CEILING UNIT ACCESSIBLE ONLY BY LADDER. THE SHUTOFF VALVES SHOULD BE CLOSE ENOUGH TO THE UNIT SO THAT MAINTENANCE PERSONNEL CAN SHUT THE VALVES AND ACCESS THE CONTROL PANEL WITHOUT HAVING TO RELOCATE THE LADDER. WHERE PIPING CONFIGURATION MAKES IT IMPOSSIBLE TO LOCATE SHUTOFF VALVES IN THE MANNER DESCRIBED ABOVE, OBTAIN APPROVAL FROM OWNER AND/OR ENGINEER FOR ALTERNATE LOCATION.
- b. FOR EQUIPMENT WHICH MAY REQUIRE PERIODIC SERVICING (SUCH AS AIR HANDLERS & VAVs) AND WHICH IS LOCATED ABOVE A SUSPENDED CEILING, CONTRACTOR IS TO PROVIDE A MARKER ON CEILING GRID WHICH CLEARLY INDICATES WHICH CEILING TILE IS TO BE REMOVED TO MOST CONVENIENTLY ACCESS EQUIPMENT SIDE NEEDING SERVICING. THE MARKER IS TO BE ROUND DOT OF HEAVY DUTY COLORED PAPER, WITH DIRECTION INDICATION, WITH ADHESIVE BACKING. OBTAIN ARCHITECT APPROVAL FOR COLOR, SIZE, AND TYPE PRIOR TO INSTALLATION.
- PROVIDE MANUFACTURER RECOMMENDED AND CODE ENFORCED CLEARANCES AROUND EQUIPMENT. MAINTAIN 36" CLEAR IN FRONT OF EFs CONTROLLER. ELECTRIC HEATERS. ETC.
- d. INSTALL ALL VALVES, CONTROLS, DAMPERS, FANS, ETC. IN ACCESSIBLE LOCATIONS. PROVIDE ADEQUATELY SIZED ACCESS DOORS WHERE REQUIRED.
- 3. EQUIPMENT INSTALLATION:
- a. PROVIDE SPRING HANGER TYPE VIBRATION ISOLATORS TO SUPPORT SUSPENDED AHUS, FANS AND OTHER POWERED VIBRATING EQUIPMENT. PROVIDE FLEXIBLE DUCT CONNECTORS.
- b. AFFIX ID TAGS TO ALL MECHANICAL EQUIPMENT PER SPECIFICATIONS.
- 4. EQUIPMENT INSULATION: a. INSULATE ALL SURFACES OF THAT ARE CAPABLE OF BECOMING COLD AND COLLECTING CONDENSATE. THIS INCLUDES SUPPLY DIFFUSERS AND CONNECTING DUCTWORK / TRANSITION PIECES.
- 5. ELECTRICAL: a. CONTRACTOR IS RESPONSIBLE FOR COORDINATION WITH ELECTRICAL CONTRACTOR REGARDING EQUIPMENT SIZES AND TYPES OF ELECTRICAL INTERFACE EQUIPMENT REQUIRED.
- b. DUE TO VARIATIONS IN EQUIPMENT CHARACTERISTICS BY DIFFERENT EQUIPMENT SUPPLIERS, MECHANICAL EQUIPMENT ULTIMATELY PROVIDED MAY DIFFER IN HORSEPOWER OR AMPERAGE REQUIREMENTS FROM THAT SPECIFIED IN THESE DRAWINGS. COORDINATE WITH GENERAL CONTRACTOR PRIOR TO BIDDING, AND PRIOR TO SUBMITTALS AND ORDERING EQUIPMENT, TO ENSURE THAT EQUIPMENT ELECTRICAL REQUIREMENTS ARE CONVEYED TO ELECTRICAL CONTRACTOR. IT IS SOLELY CONTRACTOR'S RESPONSIBILITY TO ENSURE COMPATIBILITY ISSUES ARE COORDINATED.

### DEMOLITION GENERAL NOTES

- 1. ALL DEMOLITION WORK SHALL BE DONE IN ACCORDANCE WITH ALL APPLICABLE CODES INCLUDING THOSE PUBLISHED BY OSHA.
- 2. PROVIDE ALL DEMOLITION WORK REQUIRED FOR THE REMOVAL OF MECHANICAL EQUIPMENT AND ASSOCIATED DEVICES. PROVIDE A COMPLETE AND OPERABLE SYSTEM UPON COMPLETION OF THE PROJECT.
- 3. ALL EXISTING EQUIPMENT REMOVED DURING CONSTRUCTION. THAT IS NOT TO BE REUSED. SHALL BE REMOVED FROM THE JOB SITE AND PROPERLY RETURNED TO THE OWNER, IF DESIRED BY OWNER.
- CONTRACTOR SHALL NOT DAMAGE STRUCTURAL INTEGRITY OF BUILDING ELEMENTS WITHOUT THE EXPRESSED WRITTEN CONSENT OF THE ENGINEER, CONTRACTOR SHALL GAIN CONSENT OF ENGINEER PRIOR TO COMPROMISING INTEGRITY OF STRUCTURAL BEAMS, IN WORK ASSOCIATED WITH BOTH DEMOLITION AND INSTALLATION.
- 5. OWNER MAY WISH TO KEEP DEMOLISHED EQUIPMENT AND MATERIALS. COORDINATE OWNER, AND DISPOSE OF EQUIPMENT AND MATERIALS THAT OWNER DOES NOT RETAIN.

### **COORDINATION**

- GENERAL: g. CONTRACTOR SHALL REVIEW COMPLETE DOCUMENTS PRIOR TO SUBMITTAL OF PROPOSAL TO GAIN COMPLETE UNDERSTANDING OF PROJECT SCOPE, WORK BY OTHERS, AND MECHANICAL WORK ASSOCIATED WITH OTHER DISCIPLINES.
- b. IT IS NOT THE INTENT OF THESE DOCUMENTS TO DICTATE WHO MUST DO THE WORK. ALL WORK SHOWN IS THE RESPONSIBILITY OF THE (PRIME) CONTRACTOR. COORDINATE MECHANICAL WITH OTHER TRADES SUCH AS PLUMBING, ELECTRICAL AND STRUCTURAL WORK. COORDINATE SCHEDULE OF WORK WITH ALL SUB-CONTRACTORS TO ACHIEVE SMOOTH FLOW OF CONSTRUCTION.
- c. TIME OR MONEY ALLOWANCES WILL NOT BE MADE TO ACCOMMODATE UTILITY CONFLICTS THAT CAN BE REASONABLY RESOLVED BY COORDINATION DURING SHOP DRAWING STAGE.
- d. PROVIDE COORDINATION DRAWINGS OF REFLECTED CEILING PLAN AND SECTION ABOVE CEILING SHOWING WORK OF ALL AFFECTED TRADES. DO NOT PROCEED WITH FABRICATION WORK UNTIL COORDINATION DRAWINGS HAVE BEEN APPROVED BY A/E.
- e. CONTRACTOR SHALL NOT PROCEED WITH ANY WORK INVOLVING A CHANGE IN PROJECT SCOPE OR COST WITHOUT FIRST HAVING OBTAINED ENGINEER'S APPROVAL IN WRITING. UNLESS ENGINEER HAS AGREED TO SUCH CHANGE PRIOR TO IT BEING DONE, AND HAS AGREED THAT AN INCREASE IN COST ASSOCIATED WITH SUCH CHANGE IS WARRANTED; CONTRACTOR WILL NOT BE REIMBURSED FOR SUCH CHANGE.
- f. WORK TO BE DONE UNDER ALLOWANCES BECOMES AN INTEGRAL PART OF THE PROJECT AND RESPONSIBILITY OF CONTRACTOR ONCE ALLOWANCE IS APPROVED.
- 2. SITE: CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL SITE CONDITIONS IN ORDER TO MAKE ANY NECESSARY α. ADJUSTMENTS, PRIOR TO ORDERING MATERIALS OR COMMENCING INSTALLATION. CHANGE ORDERS WILL NOT BE APPROVED FOR DIMENSIONAL VERIFICATIONS REQUIRING MINOR ADJUSTMENTS NEEDED TO COMPLETE INSTALLATION.
- SPATIAL COORDINATION: c. COORDINATE ALL WORK WITH OTHER TRADES; COORDINATE SCHEDULE OF WORK WITH ALL SUB-CONTRACTORS TO ACHIEVE SMOOTH FLOW OF CONSTRUCTION.
- d. SPACES ABOVE CEILING ARE CONGESTED. DESIGN INTENT IS THAT UTILITIES BE INSTALLED TIGHT AGAINST CEILING STRUCTURE TO EXTENT POSSIBLE, WHILE RETAINING ADEQUATE MAINTENANCE ACCESS PER CODES.
- e. IN CASE OF CONFLICTS, ITEMS SHALL BE ARRANGED ACCORDING TO THE FOLLOWING PRIORITIES: LIGHTING, FIRE PROTECTION, HVAC. PROVIDE OFFSETS/RISES/DROPS REQUIRED TO RESOLVE CONFLICTS WITH OTHER UTILITIES, AND TO ACCOMMODATE ALL UTILITIES ABOVE CEILINGS.
- f. IN GENERAL, REROUTE SMALLER DUCTS/PIPES THROUGH JOISTS TO RESOLVE CONFLICTS WITH LARGER. PERFORM REROUTING IN MOST EFFICIENT MANNER POSSIBLE, AND IN ACCORDANCE WITH INDUSTRY STANDARDS.
- PROVIDE COORDINATION DRAWINGS OF REFLECTED CEILING PLAN AND SECTION ABOVE CEILING SHOWING WORK OF ALL AFFECTED TRADES. DO NOT PROCEED WITH FABRICATION WORK UNTIL COORDINATION DRAWINGS HAVE BEEN APPROVED BY A/E.
- h. SEE ELECTRICAL PLANS FOR EXACT LOCATION OF ELECTRICAL PANELS TO AVOID DUCTWORK AND PIPING RUNNING OVER THESE AREAS. COORDINATE WITH ELECTRICAL CONTRACTOR.
- LOCATE AIR DEVICES AS SHOWN. COORDINATE WITH OTHER TRADES TO AVOID CONFLICT AND ADJUST LOCATION IF NEEDED WITHOUT COMPROMISING AIR DEVICES PERFORMANCE.

### **GENERAL NOTES:**

- 1. TEST & BALANCE: a. TEST AND BALANCE CONTRACTOR SHALL BE RETAINED BY THE PRIME CONTRACTOR AND NOT UNDER THE MECHANICAL CONTRACTOR. ALL SUB-CONTRACTORS SHALL COORDINATE ACTIVITIES AND ASSIST TEST AND BALANCE CONTRACTOR AS NEEDED.
- b. TEST & BALANCE TO COORDINATE MINIMUM AND MAXIMUM OUTSIDE AIR DAMPER SETTINGS WITH DDC CONTROLS AND ENGINEER. PROVIDE TIME ALLOTMENT FOR MULTIPLE DAMPER SETTINGS IN SOME CASES.

### ABBREVIATIONS

A	AMPS	ENT.	ENTERING	NO	NORMALLY OPEN
ACCU	AIR COOLED CONDENSING UNIT	EXT.	EXTERNAL OR EXTERIOR	NTS	NOT TO SCALE
ACT	ACTUATOR	FCU	FAN COIL UNIT	OA	OUTSIDE AIR
AFF	ABOVE FINISHED FLOOR	FD	FIRE DAMPER	PH	PHASE
AHU	AIR HANDLING UNIT	FM	FLOW METER	RA	RETURN AIR
В.	BOTTOM	FS	FLOW SWITCH	RAG/RG	RETURN AIR GRILLE
BAS	BUILDING AUTOMATION SYSTEM	FPI	FINS PER INCH	RD	ROOF DRAIN
BOP	BOTTOM OF PIPE	G.	GROUND	RM.	ROOM
BOTT.	BOTTOM	GA.	GAGE	RPZ	REDUCED PRESSURE ZONE
С.	CONDUIT OR COMMON	GALV.	GALVANIZED	SA	SUPPLY AIR
CHR	CHILLED WATER RETURN	GPM	GALLONS PER MINUTE	SD	SUPPLY AIR DIFFUSER
CHS	CHILLED WATER SUPPLY	GRND.	GROUND	SS	STAINLESS STEEL
CHW	CHILLED WATER	НВ	HOSE BIBB	SZ	SINGLE ZONE
CHWP	CHILLED WATER PUMP	HP	HORSEPOWER	TAB	TESTING & BALANCING
CR	CONDENSER WATER RETURN	HS	HUMIDITY SENSOR	T.O.L.	TOP OF LOUVER
CS	CONDENSER WATER SUPPLY	HVAC	HEATING, VENTILATION,	TS	TEMPERATURE SENSOR
CLG.	CEILING OR COOLING		& AIR CONDITIONING	TSTAT	THERMOSTAT
COMB.	COMBINATION	LVG.	LEAVING	UG	UNDERGROUND
CONC.	CONCRETE	MECH	MECHANICAL	UNO	UNLESS OTHERWISE NOTED
COND.	CONDUIT	MOT. STRTR.	MOTOR STARTER	v	VOLTS
СТ	COOLING TOWER	MS	MOTOR STARTER	VAV	VARIABLE AIR VOLUME
CU.	COPPER	MZ	MULTI-ZONE	VFD	VARIABLE FREQUENCY DRIVE
CW	CITY WATER	NC	NORMALLY CLOSED	w	WIRE
DDC	DIRECT DIGITAL CONTROLS				
DMPR.	DAMPER				-
DISC.	DISCONNECT				
EAG/EG	EXHAUST AIR GRILLE				
EMS	ENERGY MANAGEMENT SYSTEM				
		I I		1	

### MECHANICAL SYMBOLS LEGEND

12x12	DUCT SIZE: FIRST FIGURE IS SIDE SHOWN	Ū	THERMOSTAT
(12x12)	BELOW DUCT SIZE: FIRST FIGURE IS SIDE SHOWN	RH	SPACE HUMIDITY SENSOR
	DIRECTION OF FLOW-RETURN	RH	DUCT HUMIDITY SENSOR
	DIRECTION OF FLOW-SUPPLY	Õ	SPACE CARBON DIOXIDE SENSOR
		SP	STATIC PRESSURE SENSOR
FD	FIRE DAMPER	С	DUCT CARBON DIOXIDE SENSOR
	FLEXIBLE DUCT	CHR	CHILLED WATER RETURN
		—— chs ——	CHILLED WATER SUPPLY
$\frac{LO-A}{cfm}$	EXHAUST AIR GRILLE	CD	CONDENSATE PIPING
R <u>G/TG-</u> X cfm	RETURN AIR/TRANSFER AIR GRILLE	{ [	BUTTERFLY VALVE
SD-X cfm	SUPPLY AIR DIFFUSER	—-\K	MANUAL VALVE
Ē	SIDE TAP WITH DAMPER		AUTOMATIC VALVE
	BACKDRAFT DAMPER		CHECK VALVE
AFR	AUTO-FLOW REGULATOR	f	PRESSURE GAUGE & COCK
± ⊤	DRAIN VALVE	TS 1	TEMPERATURE SENSOR
IФI	BALL VALVE	™T	THERMOMETER WELL

### **CODES & ORDINANCES**

- GENERAL: a. UNLESS DRAWINGS OR SPECIFICATIONS HAVE MORE STRINGENT REQUIREMENTS, PERFORM ALL WORK PER APPLICABLE VERSION OF INTERNATIONAL BUILDING CODES, AND LOCAL CODES AND ORDINANCES.
- b. PRIOR TO SUBMITTING PROPOSAL, NOTIFY ENGINEER OF ANY ASPECTS OF DESIGN WHICH ARE THOUGHT TO BE IN NONCOMPLIANCE WITH APPLICABLE CODES.
- 2. PERMITS: a. CONTRACTOR IS RESPONSIBLE FOR ALL PERMITS AND FEES ASSOCIATED WITH PROJECT, INCLUDING FEES FOR INSPECTIONS, APPLICATIONS, AND PROVISION OF NEW SERVICES.
- b. CONTRACTOR WHO WILL ACTUALLY PERFORM WORK MUST APPLY FOR ALL REQUIRED PERMITS.
- APPROVALS AND INSPECTIONS: a. OBTAIN APPROVAL FROM CITY FIRE DEPARTMENT AND BUILDING AND SAFETY DEPARTMENT PRIOR TO INSTALLATION OF ANY FIRE RELATED ITEMS.
- b. COORDINATE PRESSURE TESTS, INSPECTIONS AND APPROVAL FOR ALL SYSTEMS WITH PERMITTING OFFICER, OWNER AND ENGINEER.

### **INSULATION:**

- 1. FIBERGLASS INSULATION MAY NOT BE USED ON ANY COLD PIPING SURFACES; ONLY CLOSED CELL INSULATION IS ACCEPTABLE.
- 2. PROVIDE INSULATION ON ALL SURFACES CAPABLE OF CREATING CONDENSATION.

### DUCTWORK

DUCTWORK GENERAL: a. DRAWINGS ARE DIAGRAMMATIC IN NATURE. FOR CLARITY SAKE, MOST DUCT OFFSETS/RISES/DROPS ARE NOT SHOWN. WHERE DUCTS PENETRATE WALLS, INSTALL THEM PERPENDICULAR TO WALL. RECTANGULAR AND ROUND DUCTWORK SHALL BE GALVANIZED STEEL.

- OTHERWISE.
- TRADES.
- SCHEDULES.
- DUCTWORK INSULATION: NOTED OTHERWISE.
- BRACING.
- DUCT FITTINGS: - 3.

SIZES SHOWN ARE INSIDE CLEAR DIMENSION, UNLESS NOTED

c. VERIFY BOTTOM OF DUCT ELEVATION AND COORDINATE WITH OTHER

d. CONSTRUCT AND LEAKAGE TEST ALL DUCTWORK BASED ON SPECIFICATIONS AND SMACNA REQUIREMENTS. WHICHEVER IS MORE STRINGENT. COORDINATE PRESSURE CLASSES WITH EQUIPMENT

a. WRAP ALL OUTSIDE AIR, SUPPLY AND RETURN DUCTWORK UNLESS

b. INSULATION ON DUCT SHOULD TO BE PROPERLY TAPED AND MASTICS MUST BE APPLIED ON SEAMS AND JOINTS AND AT ENDS ADJACENT TO DUCT FLANGES AND FITTINGS. FOR DUCT SIDES WITH DIMENSIONS LARGER THAN 18 INCHES, APPLY ADDITIONAL PINS AND CLIPS TO HOLD INSULATION TIGHTLY AGAINST SURFACE AT CROSS

a. WHERE RECTANGULAR TEE FITTINGS ARE SHOWN, PROVIDE FITTING WITH ADJUSTABLE DIVIDER SHEET AND TURNING VANES.

b. WHERE RECTANGULAR MAIN AND BRANCH CONNECTIONS ARE SHOWN. PROVIDE EXTRACTOR VANES. NOT APPLICABLE TO DUCTWORK DOWNSTREAM OF VAV BOXES.

c. PROVIDE TURNING VANES IN ALL ELBOWS PER SPECS.

- 1. ALL ELECTRICAL WORK SHALL BE UNDER THE MASTER ELECTRICIAN WHO PULLED THE PERMIT AND ITS JOURNEYMAN ELECTRICIANS.
- 2. PERFORM ALL WORK PER ADOPTED N.E.C. AND APPLICABLE STATE STANDARDS, UNLESS DRAWINGS OR SPECIFICATIONS HAVE MORE STRINGENT REQUIREMENTS.
- 3. UNLESS NOTED OTHERWISE, MINIMUM POWER CIRCUIT IS TO BE #12 THWN WITH #12 GROUND IN 3/4" CONDUIT, WITH THE EXCEPTION THAT ANY CIRCUIT LONGER THAN 100 FEET SHALL BE MINIMUM #10 AWG WITH #10 GROUND WIRE. CIRCUIT LONGER THAN 200 FEET SHALL BE MINIMUM #8 AWG WITH #10 GROUND WIRE MINIMUM.
- 4. ALL EXISTING ID NAMETAGS AND CIRCUIT IDENTIFICATION MUST BE REVISED TO REFLECT CURRENT CONDITIONS FOR ALL EQUIPMENT WHICH IS NEW, REPLACED, OR DEMOLISHED. REMOVE ID NAMETAGS FOR DEMOLISHED EQUIPMENT. REPLACE EXISTING NAMETAGS WITH NEW FOR REPLACED EQUIPMENT, IF REPLACEMENT EQUIPMENT HAS DIFFERENT NAME. PROVIDE NEW NAMETAGS FOR ALL NEW EQUIPMENT. ALL CIRCUIT BREAKER DIRECTORIES FOR PANELS IN WHICH NEW WORK TAKES PLACE ARE TO BE REPLACED WITH NEW DIRECTORIES WHICH LIST EXISTING CIRCUITS AND NEW. ALL UNUSED CIRCUITS ARE TO BE MARKED AS 'SPARE' IN THE DIRECTORIES. DIRECTORIES ARE TO BE COMPUTER GENERATED; NO HAND WRITTEN DIRECTORIES ARE ACCEPTABLE.
- 5. HAND-WRITTEN CIRCUIT BREAKER DIRECTORIES WILL NOT BE ACCEPTED. DIRECTORIES MUST BE COMPUTER GENERATED AND PRINTED TO REFLECT FINAL INSTALLED CONDITIONS.
- 6. MARK ALL J-BOXES WITH INDELIBLE INK, INDICATING POWER CIRCUITRY INFORMATION. LABEL ALL EQUIPMENT ITEMS PER SPECIFICATIONS.
- 7. ALL EXTERIOR RACEWAYS ABOVE GROUND SHALL BE RIGID GALVANIZED.
- 8. UNDER NO CIRCUMSTANCES SHALL MORE THAN THREE CIRCUITS SHARE THE SAME NEUTRAL, AND SUCH CIRCUITS MUST BE SEPARATE PHASE.
- 9. SINCE ELECTRICAL CHARACTERISTIC OF EQUIPMENT (SUCH AS HORSEPOWER, KW, AMPERAGE, VOLTAGE, ETC.) SUBMITTED MAY DIFFER FROM THOSE SPECIFIED IN DRAWINGS, CONTRACTOR IS RESPONSIBLE FOR COORDINATION WITH MECHANICAL AND OTHER CONTRACTORS TO ENSURE COMPATIBILITY BETWEEN ELECTRICAL AND MECHANICAL EQUIPMENT SIZES AND TYPES OF ELECTRICAL INTERFACE EQUIPMENT REQUIRED.
- 10. USE LONG-SWEEPS FOR ALL CHANGES IN DIRECTION ON CONDUIT RUNS.
- 11. ALL INTERIOR RACEWAYS SHALL BE EMT.
- 12. FIELD VERIFY PROJECT SITE EXISTING CONDITIONS AND ELEVATIONS PRIOR TO BEGINNING ANY WORK.
- 13. PHASING AND SEQUENCE OF CONSTRUCTION SHALL BE PER DRAWINGS AND SPECIFICATIONS.
- 14. ALL MATERIALS AND LABOR. WHETHER SPECIFICALLY INDICATED ON PLANS OR NOT, WHICH ARE NECESSARY FOR THE PROPER INSTALLATION AND FUNCTION OF THE SYSTEM SHALL BE FURNISHED BY THIS CONTRACTOR. INCLUDE ALL COSTS OF CHANGES, IF/AS REQUIRED IN BID PROPOSAL.
- 15. ELECTRICAL WIRING SHALL NOT BE SPLICED BELOW GRADE.
- 16. CONTRACTOR IS RESPONSIBLE FOR ALL PERMITS AND FEES ASSOCIATED WITH PROJECT, INCLUDING FEES FOR INSPECTIONS, APPLICATIONS, AND PROVISION OF NEW SERVICES.
- 17. CONTRACTOR WHO WILL ACTUALLY PERFORM WORK MUST APPLY FOR ALL REQUIRED PERMITS.
- 18. NOTIFY ENGINEER OF ANY ASPECTS OF DESIGN WHICH ARE THOUGHT TO BE IN NONCOMPLIANCE WITH APPLICABLE CODES.
- 19. COORDINATE ALL WORK WITH OTHER TRADES: COORDINATE SCHEDULE OF WORK WITH ALL SUB-CONTRACTORS TO ACHIEVE SMOOTH FLOW OF CONSTRUCTION.
- 20. SEAL AROUND ELECTRICAL RACEWAYS AT ALL WALLS AND WALL LOUVER PENETRATIONS WITH FIREPROOF CAULKING. RE: SPECS. PROVIDE FLASHING AROUND PENETRATION, BOTH INSIDE AND OUTSIDE, TO PROVIDE FINISHED LOOK.
- 21. CONTRACTOR SHALL REVIEW COMPLETE DOCUMENTS PRIOR TO SUBMITTAL OF PROPOSAL TO GAIN COMPLETE UNDERSTANDING OF PROJECT SCOPE, WORK BY OTHERS, AND ELECTRICAL WORK ASSOCIATED WITH OTHER DISCIPLINES.
- 22. MAINTAIN MANUFACTURER RECOMMENDED CLEARANCE AROUND ALL EQUIPMENT.
- 23. AFFIX ID TAGS TO ALL DIVISION 26 EQUIPMENT.
- 24. CONTRACTOR IS RESPONSIBLE FOR COORDINATION WITH MECHANICAL AND PLUMBING CONTRACTOR REGARDING EQUIPMENT SIZES AND TYPES OF ELECTRICAL INTERFACE EQUIPMENT REQUIRED.
- 25. FIELD VERIFY ALL CONDITIONS AND MEASURE DIMENSIONS WITHIN THE BUILDING PRIOR TO ORDERING EQUIPMENT AND/OR PROCEEDING WITH INSTALLATION.
- 26. ALL EQUIPMENT SHALL BE FACTORY TESTED, AND CONTRACTOR SHALL VERIFY THEIR CONDITION PRIOR TO INSTALLATION. CONTRACTOR IS RESPONSIBLE FOR EQUIPMENT DAMAGED DURING MOVING AND INSTALLATION.
- 27. EQUIPMENT FOUND DEFECTIVE PRIOR TO FINAL ACCEPTANCE SHALL BE REPLACED AT NO COST TO OWNER.
- 28. SLEEVE ALL EXTERIOR WALL PENETRATIONS.
- 29. PRIOR TO ANY DEMOLITION. CONTRACTOR SHALL CONDUCT A DETAILED INSPECTION OF EXISTING CONDITIONS AND COMPARE AGAINST DEMOLITION DRAWINGS. CONTRACTOR SHALL REQUEST CLARIFICATION AS TO THE REMOVAL OF ANY ELECTRICAL COMPONENTS FOUND IN THE FIELD THAT ARE NOT SPECIFICALLY NOTED TO BE DEMOLISHED.
- 30. THE DESIGN INTENT IS TO REUSE TO EXTENT POSSIBLE EXISTING ELECTRICAL AND SAFETY SYSTEMS INCLUDING CIRCUIT BREAKERS. WIRING AND CONDUITS, SAFETY AND OTHER HARD WIRED INTERLOCKS, ETC. EXISTING SYSTEMS TO BE REUSED SHALL BE PROTECTED FROM DAMAGE DURING CONSTRUCTION. SEE PLANS
- 31. PROVIDE ADDITIONAL SPARE MATERIALS DESCRIBED BELOW. PROVIDE PROTECTIVE COVERING FOR STORAGE & IDENTIFIED WITH LABELS DESCRIBING THE CONTENTS. INCLUDE THE INSTALLATION COST, FITTINGS AND SUPPORTS IN THE BASE BID PROPOSAL: A. 1000 LINEAR FEET - 3/4"-2#10 & #10G

NO: REVISION: BY



PROJECT NO .:

ME1.0



### **CEILING DEMO GENERAL NOTES**

- 1. PRIOR TO DEMOLITION, IN CEILINGS SCHEDULED TO BE REMOVED, PREPARE REFLECTED CEILING PLAN SKETCH SHOWING LOCATIONS OF ALL CEILING COMPONENTS AND DEVICES TO BE RE-USED INCLUDING BUT NOT LIMITED TO: EXISTING LIGHT FIXTURES, SPEAKERS, FIRE ALARM DEVICES, EMERGENCY LIGHTING, ETC. IF ANY OF THE ABOVE ITEMS ARE IN NON-WORKING CONDITION,
- 2. CONTRACTOR TO EVALUATE CEILING GRID PRIOR TO DEMOLITION AND DOCUMENT ALL BROKEN, CRACKED, MISSING TILES, ETC. AND

FOR DEMOLITION AND PROVISION OF NEW EXHAUST FANS, WORK TO BE PERFORMED ON EXISTING EXHAUST FANS, DUCTWORK MODIFICATIONS, AND OTHER ASSOCIATED MEP SYSTEMS (FIRE DAMPERS, ELECTRICAL CONDUITS, ETC.). RE-INSTALL AFTER WORK

- 3 TEMPORARILY DISCONNECT EXISTING EF FOR INSTALLATION OF A NEW EF. RETAIN AND REUSE EXISTING BRANCH CIRCUIT.
- $\langle 4 \rangle$  Approximate location of existing siemens MXL-IQ fire alarm

	LEGEND		
	EXISTING EQUIPMENT TO REMAIN		
	EXISTING EQUIPMENT TO BE DEMOLISHED		
CD R	PIPING TO BE DEMOLISHED		
	CEILING TO BE REMOVED		
6x6	EXISTING DUCTWORK TO REMAIN		
	EXISTING DUCTWORK TO BE DEMOLISHED		

IDEA CARVER ACADEMY KEYPLAN







IDEA CARVER

01 MECHANICAL & ELECTRICAL DEMOLITION FLOOR PLAN (BUILDING C & D) SCALE : 3/32" = 1'-0"

TRUE N O R T H

NO: REVISION: BY: RFP #30-SAMCU-0524 ----- $\mathbf{X}$ CESAR A. GONZALEZ 10.10.2024 **M**  $\geq$ AR  $\bigcirc$  $\square$ S R C **D** \_ 

### **CEILING DEMO GENERAL NOTES**

- 1. PRIOR TO DEMOLITION, IN CEILINGS SCHEDULED TO BE REMOVED, PREPARE REFLECTED CEILING PLAN SKETCH SHOWING LOCATIONS OF ALL CEILING COMPONENTS AND DEVICES TO BE RE-USED INCLUDING BUT NOT LIMITED TO: EXISTING LIGHT FIXTURES, SPEAKERS, FIRE ALARM DEVICES, EMERGENCY LIGHTING, ETC. IF ANY OF THE ABOVE ITEMS ARE IN NON-WORKING CONDITION, SUBMIT A WRITTEN REPORT TO OWNER/ENGINEER.
- 2. CONTRACTOR TO EVALUATE CEILING GRID PRIOR TO DEMOLITION AND DOCUMENT ALL BROKEN, CRACKED, MISSING TILES, ETC. AND PROVIDE REPORT TO OWNER AND ENGINEER.

### **CEILING DEMO KEYNOTES:**

(1) TEMPORARILY REMOVE EXISTING CEILING TILES/GRID, LIGHT FIXTURES, FIRE ALARM DEVICES, SENSORS, ETC. AS NECESSARY FOR DEMOLITION AND PROVISION OF NEW RTU'S AND ASSOCIATED MEP SYSTEMS (DUCTWORK, FIRE DAMPERS, WATER PIPING, ELECTRICAL CONDUITS, ETC.) AND RE-INSTALL AFTER WORK ABOVE CEILING HAS BEEN COMPLETED.

### MECHANICAL KEYED NOTES:

- 1 DEMOLISH EXISTING DUCTWORK, TRANSITIONS, FITTINGS, AND FLEX CONNECTORS AS SHOWN UNDERNEATH THE EXISTING RTU AND WITHIN THE EXISTING CURB OPENING AS NECESARY TO ACCOMMODATE NEW UNIT.
- 2 DEMOLISH ALL EXISTING PIPING ASSOCIATED WITH THE ROOFTOP UNITS. SEE RENOVATION ROOF PLAN. (TYPICAL)
- 3 RETAIN AND REUSE EXISTING DUCTWORK AS SHOWN. SEE RENOVATION PLAN.
- 4 DEMOLISH EXISTING EXHAUST FAN AND CONTROLS IN THIS APPROXIMATE LOCATION. COORDINATE WITH CONTROLS CONTRACTOR PRIOR TO DEMOLITION.
- 5 DEMOLISH EXISTING DUCT MOUNTED BACKDRAFT DAMPER SERVING EXHAUST FAN. EXHAUST FAN TO BE RETAINED AND REUSE AS MEANS OF BUILDING OVERPRESSURIZATION RELIEF. REFER TO RENOVATION PLANS FOR MORE INFORMATION.

### ELECTRICAL KEYED NOTES:

- APPROXIMATE LOCATION OF EXISTING PANELBOARD SERVING EXISTING HVAC EQUIPMENT.
- 2 APPROXIMATE LOCATION OF EXISTING PANELBOARD SERVING EXISTING EF.
- $\overbrace{3}$  TEMPORARILY DISCONNECT EXISTING EF FOR INSTALLATION OF A NEW EF. RETAIN AND REUSE EXISTING BRANCH CIRCUIT.
- $\langle 4 \rangle$  disconnect existing hvac equipment for replacement. See EQUIPMENT CONNECTION SCHEDULE.

	LEGEND		
	EXISTING EQUIPMENT TO REMAIN		
	Existing equipment to be demolished		
CD R	PIPING TO BE DEMOLISHED		
CEILING TO BE REMOVED			
6x6	EXISTING DUCTWORK TO REMAIN		
$\begin{array}{ c c c }\hline \hline & \hline$			
EXISTING SUPPLY DIFFUSER			
EXISTING THERMOSTAT TO           DEMOLISHED			



IDEA CARVER ACADEMY KEYPLAN



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# 01 MECHANICAL & ELECTRICAL DEMOLITION FLOOR PLAN (BUILDING E) SCALE : 1/8" = 1'-0"



### CEILING DEMO GENERAL NOTES

- . PRIOR TO DEMOLITION, IN CEILINGS SCHEDULED TO BE REMOVED, PREPARE REFLECTED CEILING PLAN SKETCH SHOWING LOCATIONS OF ALL CEILING COMPONENTS AND DEVICES TO BE 1 RE-USED INCLUDING BUT NOT LIMITED TO: EXISTING LIGHT FIXTURES, SPEAKERS, FIRE ALARM DEVICES, EMERGENCY LIGHTING, ETC. IF ANY OF THE ABOVE ITEMS ARE IN NON-WORKING CONDITION, SUBMIT A WRITTEN REPORT TO OWNER/ENGINEER.
- 2. CONTRACTOR TO EVALUATE CEILING GRID PRIOR TO DEMOLITION AND DOCUMENT ALL BROKEN, CRACKED, MISSING TILES, ETC. AND PROVIDE REPORT TO OWNER AND ENGINEER.

### **CEILING DEMO KEYNOTES:**

(1) TEMPORARILY REMOVE EXISTING CEILING TILES/GRID, LIGHT FIXTURES, FIRE ALARM DEVICES, SENSORS, ETC. AS NECESSARY FOR DEMOLITION AND PROVISION OF NEW EXHAUST FANS AND ASSOCIATED MEP SYSTEMS (DUCTWORK, FIRE DAMPERS, WATER PIPING, ELECTRICAL CONDUITS, ETC.) AND RE-INSTALL AFTER WORK ABOVE CEILING HAS BEEN COMPLETED.

### MECHANICAL KEYED NOTES:

1 DEMOLISH EXISTING EXHAUST FAN IN THIS APPROXIMATE LOCATION. COORDINATE WITH CONTROLS CONTRACTOR PRIOR TO DEMOLITION.

### ELECTRICAL KEYED NOTES:

- (1) APPROXIMATE LOCATION OF EXISTING PANELBOARD SERVING EXISTING EF.
- $\langle 2 \rangle$  temporarily disconnect existing ef for installation of a New ef. Retain and reuse existing branch circuit.

LEGEND		
	EXISTING EQUIPMENT TO REMAIN	
	EXISTING EQUIPMENT TO BE DEMOLISHED	
	CEILING TO BE REMOVED	
6x6	EXISTING DUCTWORK TO REMAIN	
	EXISTING DUCTWORK TO BE DEMOLISHED	







IDEA CARVER ACADEMY KEYPLAN

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![](_page_6_Figure_0.jpeg)

![](_page_6_Picture_1.jpeg)

01 MECHANICAL & ELECTRICAL DEMOLITION ROOF PLAN (BUILDING C & D) SCALE : 3/32" = 1'-0"

TRUE N O R T H

### **DEMOLITION GENERAL NOTES:**

- 1. ALL DEMOLITION WORK SHALL BE DONE IN ACCORDANCE WITH ALL APPLICABLE CODES, INCLUDING THOSE PUBLISHED BY OSHA.
- 2. PROVIDE ALL DEMOLITION WORK REQUIRED FOR THE REMOVAL OF MECHANICAL EQUIPMENT AND ASSOCIATED DEVICES. PROVIDE A COMPLETE AND OPERABLE SYSTEM UPON COMPLETION OF THE PROJECT.
- 3. ALL EXISTING EQUIPMENT REMOVED DURING CONSTRUCTION, THAT IS NOT TO BE REUSED, SHALL BE REMOVED FROM THE JOB SITE AND PROPERLY RETURNED TO THE OWNER, IF DESIRED BY OWNER.
- 4. CONTRACTOR SHALL NOT DAMAGE STRUCTURAL INTEGRITY OF BUILDING ELEMENTS WITHOUT THE EXPRESSED WRITTEN CONSENT OF THE ENGINEER, CONTRACTOR SHALL GAIN CONSENT OF ENGINEER PRIOR TO COMPROMISING INTEGRITY OF STRUCTURAL BEAMS, IN WORK ASSOCIATED WITH BOTH DEMOLITION AND INSTALLATION.
- 5. OWNER MAY WISH TO KEEP DEMOLISHED EQUIPMENT AND MATERIALS. COORDINATE OWNER, AND DISPOSE OF EQUIPMENT AND MATERIALS THAT OWNER DOES NOT RETAIN.
- 6. COORDINATE CUTTING AND PATCHING OF ARCHITECTURAL ELEMENTS LIKE WALLS, FLOORS, ROOFS WITH OWNER/ENGINEER. PATCH UNUSED ROOF AND WALL PENETRATIONS, AND FINISH TO MATCH EXISTING ARCHITECTURAL ELEMENTS.

### MECHANICAL KEYED NOTES:

- 1 DEMOLISH EXISTING ROOF TOP UNIT (RTU) AND ASSOCIATED CURB, CURB ADAPTER, AND CONTROLS WIRING INCLUDING SENSORS, IN THIS APPROXIMATE LOCATION. REFER TO ELECTRICAL NOTES FOR WORK RELATED TO DISCONNECTS, CONDUITS, WIRING, ETC.
- 2 DEMOLISH EXISTING DUCTWORK, TRANSITIONS, FITTINGS AND FLEX CONNECTORS UNDERNEATH THE EXISTING RTU AND WITHIN THE EXISTING CURB OPENING AS NECESSARY TO ACCOMMODATE NEW UNIT.
- 3 DEMOLISH ALL EXISTING PIPING ASSOCIATED WITH THE ROOFTOP UNITS. SEE RENOVATION ROOF PLAN. (TYPICAL)

### ELECTRICAL KEYED NOTES:

- DISCONNECT EXISTING HVAC EQUIPMENT FOR REPLACEMENT. SEE EQUIPMENT CONNECTION SCHEDULE.
- 2 DISCONNECT EXISTING HVAC DUCT SMOKE DETECTORS, WIRING & CONTROLS. FIRE ALARM SYSTEM WORK SHALL BE DONE BY A FACTORY AUTHORIZED CONTRACTOR OF THE EXISTING SYSTEM.

LEGEND		
	EXISTING EQUIPMENT TO REMAIN	
EXISTING EQUIPMENT TO BE DEMOLISHED		
CD R	PIPING TO BE DEMOLISHED	

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IDEA CARVER 01 MECHANICAL & ELECTRICAL DEMOLITION ROOF PLAN (BUILDING E) SCALE : 1/8" = 1'-0"

![](_page_7_Picture_2.jpeg)

### **DEMOLITION GENERAL NOTES:**

- 1. ALL DEMOLITION WORK SHALL BE DONE IN ACCORDANCE WITH ALL APPLICABLE CODES INCLUDING THOSE PUBLISHED BY OSHA.
- 2. PROVIDE ALL DEMOLITION WORK REQUIRED FOR THE REMOVAL OF MECHANICAL EQUIPMENT AND ASSOCIATED DEVICES. PROVIDE A COMPLETE AND OPERABLE SYSTEM UPON COMPLETION OF THE PROJECT.
- 3. ALL EXISTING EQUIPMENT REMOVED DURING CONSTRUCTION, THAT IS NOT TO BE REUSED, SHALL BE REMOVED FROM THE JOB SITE AND PROPERLY RETURNED TO THE OWNER, IF DESIRED BY OWNER.
- 4. CONTRACTOR SHALL NOT DAMAGE STRUCTURAL INTEGRITY OF BUILDING ELEMENTS WITHOUT THE EXPRESSED WRITTEN CONSENT OF THE ENGINEER, CONTRACTOR SHALL GAIN CONSENT OF ENGINEER PRIOR TO COMPROMISING INTEGRITY OF STRUCTURAL BEAMS, IN WORK ASSOCIATED WITH BOTH DEMOLITION AND INSTALLATION.
- 5. OWNER MAY WISH TO KEEP DEMOLISHED EQUIPMENT AND MATERIALS. COORDINATE OWNER, AND DISPOSE OF EQUIPMENT AND MATERIALS THAT OWNER DOES NOT RETAIN.
- 6. COORDINATE CUTTING AND PATCHING OF ARCHITECTURAL ELEMENTS LIKE WALLS, FLOORS, ROOFS WITH OWNER/ENGINEER. PATCH UNUSED ROOF AND WALL PENETRATIONS, AND FINISH TO MATCH EXISTING ARCHITECTURAL ELEMENTS.

### MECHANICAL KEYED NOTES:

1 DEMOLISH EXISTING EXHAUST FAN AND CONTROLS IN THIS APPROXIMATE LOCATION. COORDINATE WITH CONTROLS CONTRACTOR PRIOR TO DEMOLITION.

### ELECTRICAL KEYED NOTES:

1 temporarily disconnect existing ef for installation of a New ef. Retain and reuse existing branch circuit.

LEGEND		
	EXISTING EQUIPMENT TO REMAIN	
	Existing equipment to be demolished	

![](_page_7_Figure_15.jpeg)

![](_page_7_Picture_17.jpeg)

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![](_page_8_Picture_2.jpeg)

KEYPLAN

- CEILING BACK TO ITS ORIGINAL CONDITION AFTER REPLACEMENT
- INCLUDE EXHAUST FANS, WELDING, SHEET METAL PLENUM, ROOF ENGINEER. IF IT IS DETERMINED AFTER SUCH REPORT THAT THE REPLACEMENT OF EXHAUST FANS IS NOT NECESSARY, THIS LINE

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IDEA CARVER

# 01 MECHANICAL & ELECTRICAL RENOVATION FLOOR PLAN (BUILDING C & D) SCALE : 3/32" = 1'-0"

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### MECHANICAL KEYED NOTES:

1 PROVIDE RETURN AIR DUCT MOUNTED RH AND CO2 SENSORS. COORDINATE WITH CONTROLS CONTRACTOR.

- 2 CONNECT NEW DUCTWORK INTO EXISTING IN THIS APPROXIMATE LOCATION. (TYPICAL)
- 3 DUCTWORK ROUTING SHOWN IS DIAGRAMMATIC IN NATURE. FIELD-VERIFY STRUCTURE AND SPACE AVAILABILITY PRIOR TO SUBMITTING SHOP DRAWINGS. COORDINATE WITH ENGINEER IN CASE OF CONFLICTS. (TYPICAL)
- 4 PROVIDE BAROMETRIC RELIEF DAMPER EQUAL TO GREENHECK MODEL BR-30 VERTICAL MOUNT. UNDER THE EXISTING EXHAUST FAN. INTENT IS TO REUSE THE EXISTING HOUSING AS MEANS TO RELIEF EXCESS AIR PRESSURE FROM THE BUILDING.
- 5 PROVIDE MOTORIZED DAMPER WITH STEP DOWN TRANSFORMER. INTERLOCK DAMPER OPERATIONS WITH ASSOCIATED RTU. REFER TO SEQUENCES OF OPERATION FOR MORE INFORMATION. FIELD VERIFY DUCT SIZES PRIOR TO ORDERING
- 6 PROVIDE NEW EXHAUST FAN AT THIS APPROXIMATE LOCATION. PROVIDE NEW DUCTWORK TRANSITIONS TO EXISTING DUCTWORK AND RECONFIGURE AS SHOWN. REFER TO PROVIDED SCHEDULE AND TAB SPECIFICATIONS FOR MORE INFORMATION.
- 7 TEMPORARILY REMOVE THE CEILING AROUND THE AREA OF WHERE EXISTING EXHAUST FAN IS TO BE REPLACED. RESTORE THE CEILING BACK TO ITS ORIGINAL CONDITION AFTER REPLACEMENT OF EXHAUST FAN.
- 8 CODE AND WORKING CLEARANCE FOR ELECTRICAL PANELS. DO NOT ROUTE DUCT OR PIPING DIRECTLY ABOVE ELECTRICAL EQUIPMENT FOOTPRINT.
- 9 SLEEVE ALL PENETRATIONS PER SPECIFICATIONS. SEAL AROUND PIPING WITH FIRE PROOF CAULKING. PROVIDE ESCUTCHEON PLATES AND FLASHING AROUND PENETRATION BOTH INSIDE AND OUTSIDE TO PROVIDE FINISHED LOOK.
- 10 SUPPLY AND RETURN DUCTWORK UP TO EXISTING ROOF OPENINGS. TRANSITION AS NECESSARY.
- 11 PROVIDE THERMOSTAT AND CO2 SENSORS WHERE INDICATED. INSTALL 48" A.F.F. COORDINATE WITH ARCHITECT AND OWNER TO MEET ADA REQUIREMENTS. PROVIDE CLEAR LOCKING COVER FOR ALL SENSORS.
- 12 BALANCE THE EXISTING DIFFUSERS TO THE SCHEDULED AND SHOWN CFM. COORDINATE WITH TAB CONTRACTOR. (TYPICAL)

### ELECTRICAL KEYED NOTES:

- (1) APPROXIMATE LOCATION OF EXISTING PANELBOARD SERVING NE HVAC EQUIPMENT.
- 2 APPROXIMATE LOCATION OF EXISTING PANELBOARD SERVING EXISTING EF.
- 3 CONNECT NEW EF. RETAIN AND REUSE EXISTING BRANCH CIRCUIT.
- $\overline{4}$  connect motorized damper labeled "MD". Connect to NEAREST 120V NON-GFCI CIRCUIT. VERIFY LOAD PRIOR TO ANY NEW CONNECTION - TYPICAL.

	LEGEND
	EXISTING EQUIPMENT TO REMAIN
	NEW EQUIPMENT TO BE INSTALLED
CD R	PIPING TO BE INSTALLED
CD R	EXISTING PIPING TO REMAIN
6x6	EXISTING DUCTWORK TO REMAIN
6x6	NEW DUCTWORK TO BE INSTALLED
	NEW SUPPLY DIFFUSER
	NEW T-STAT AND CO2 SENSORS TO BE INSTALLED

![](_page_9_Figure_27.jpeg)

KEYPLAN

![](_page_10_Figure_0.jpeg)

![](_page_10_Picture_3.jpeg)

### MECHANICAL KEYED NOTES:

- 1 PROVIDE NEW EXHAUST FAN AT THIS APPROXIMATE LOCATION. PROVIDE NEW DUCTWORK TRANSITIONS TO EXISTING DUCTWORK AND RECONFIGURE AS SHOWN. REFER TO PROVIDED SCHEDULE AND TAB SPECIFICATIONS FOR MORE INFORMATION.
- 2 TEMPORARILY REMOVE THE CEILING AROUND THE AREA OF WHERE EXISTING EXHAUST FAN IS TO BE REPLACED. RESTORE THE CEILING BACK TO ITS ORIGINAL CONDITION AFTER REPLACEMENT OF EXHAUST FAN.
- 3 EXHAUST FANS EF-5, 8, 25B, AND 25C: PROVIDE LINE-ITEM COST THAT INCLUDES THE LABOR AND MATERIAL NEEDED TO REPLACE AND INSTALL NEW EXHAUST FANS AS PER DETAIL SHOWN ON THE CONSTRUCTION DOCUMENTS. THIS COST SHALL INCLUDE EXHAUST FANS, WELDING, SHEET METAL PLENUM, ROOF CURB, INSULATION, ETC. CONTRACTOR IS RESPONSIBLE FOR TESTING THE FUNCTIONALITY OF EXISTING EXHAUST FAN AND CONTROLS AND PROVIDE WRITTEN REPORT TO OWNER AND ENGINEER. IF IT IS DETERMINED AFTER SUCH REPORT THAT THE REPLACEMENT OF EXHAUST FANS IS NOT NECESSARY, THIS LINE ITEMIZED COST SHALL BE CREDITED BACK TO THE OWNER AS APPLICABLE. REFER TO BID FORM.

### ELECTRICAL KEYED NOTES:

- $\langle 2 \rangle$  connect new ef. Retain and reuse existing branch circuit.

	LEGEND
	EXISTING EQUIPMENT TO REMAIN
	NEW EQUIPMENT TO BE INSTALLED
6x6	EXISTING DUCTWORK TO REMAIN
6x6	NEW DUCTWORK TO BE INSTALLED

![](_page_10_Figure_12.jpeg)

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IDEA CARVER ACADEMY KEYPLAN

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01 MECHANICAL & ELECTRICAL RENOVATION ROOF PLAN (BUILDING C & D) SCALE : 3/32" = 1'-0"

TRUE N O R T H

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	LEGEND					
	EXISTING EQUIPMENT TO REMAIN					
	NEW EQUIPMENT TO BE INSTALLED					
CD	PIPING TO BE INSTALLED					
	ROOF PATCHING AREA					

INFORMATION.

AS NECESSARY.

SHEET. (TYPICAL)

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01 MECHANICAL & ELECTRICAL RENOVATION ROOF PLAN (BUILDING E) SCALE : 1/8" = 1'-0"

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# NO: REVISION: BY: MECHANICAL KEYED NOTES: 1 PROVIDE NEW EXHAUST FAN AT THIS APPROXIMATE LOCATION. PROVIDE NEW DUCTWORK TRANSITIONS TO EXISTING DUCTWORK AND TRANSITION AS NECESSARY. REFER TO PROVIDED SCHEDULE AND TAB SPECIFICATIONS FOR MORE INFORMATION. RFP #30-SAMCU-0524 ELECTRICAL KEYED NOTES: \* $\langle 1 \rangle$ connect new ef. retain and reuse existing branch circuit. CESAR A. GONZALEZ 108611 CENEE AG 10.10.2024 ARVER

LEGEND										
	EXISTING EQUIPMENT TO REMAIN									
	NEW EQUIPMENT TO BE INSTALLED									

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### EQUIPMENT CONNECTION SCHEDULE (BASE BID):

				1	/					
DESIGN	NEW HP/KW	NEW MCA	NEW MOCP	EXISTING MOCP	VOLTAGE	EXISTING DISCONNECT	NEW DISCONNECT	60° COPPER EXISTING BRANCH CIRCUIT	60° COPPER NEW BRANCH CIRCUIT	POWER SOURCE
RTU-13	1.5HP	26	30	1) 25	480V/3PHASE	REMOVE EXISTING	30A, 3PNF, 600V, NEMA 3R	REMOVE EXISTING	2) 3/4" - 3#10 & #10G	MB
RTU-17	1.5HP	26	30	1) 25	480V/3PHASE	REMOVE EXISTING	30A, 3PNF, 600V, NEMA 3R	REMOVE EXISTING	2) 3/4" - 3#10 & #10G	МВ

GENERAL NOTES:

A) IF EXISTING HVAC EQUIPMENT CONNECTIONS ARE NOTED TO BE REUSED AND DO NOT REACH NEW HVAC EQUIPMENT CONNECTION POINTS; PROVIDE A NEW JUNCTION BOX ABOVE CEILING AND SPLICE FEEDER. CONTRACTOR SHALL PROVIDE THE ADDITIONAL WIRING AND RACEWAYS AS NOTED ON DRAWINGS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE EXISTING CONDITIONS.

NOTES:

GENERAL NOTES:

1) REMOVE EXISTING CIRCUIT BREAKER AND PROVIDE NEW TO MATCH NEW MOCP. PROVIDE UL LISTED UNIT FROM EXISTING MANUFACTURER (SIEMENS). MATCH EXISTING KAIC. 2) RETAIN AND REUSE EXISTING RACEWAY.

PANELBOARD "MB" (EXISTING): SIEMENS, TYPE P3, 400A, 277/480V, 3ø, 4W.

### EQUIPMENT CONNECTION SCHEDULE (ALTERNATE#1):

DESIGN	NEW HP/KW	NEW MCA	NEW MOCP	EXISTING MOCP	VOLTAGE	EXISTING DISCONNECT	NEW DISCONNECT	60° COPPER EXISTING BRANCH CIRCUIT
RTU-19	1.5HP	26	30	1) 20	480V/3PHASE	REMOVE EXISTING	30A, 3PNF, 600V, NEMA 3R	REMOVE EXISTING
RTU-20	1.5HP	26	30	1) 25	480V/3PHASE	REMOVE EXISTING	30A, 3PNF, 600V, NEMA 3R	REMOVE EXISTING
RTU-22	1.5HP	26	30	1) 20	480V/3PHASE	REMOVE EXISTING	30A, 3PNF, 600V, NEMA 3R	REMOVE EXISTING

A) IF EXISTING HVAC EQUIPMENT CONNECTIONS ARE NOTED TO BE REUSED AND DO NOT REACH NEW HVAC EQUIPMENT CONNECTION POINTS; PROVIDE A NEW JUNCTION BOX ABOVE CEILING AND SPLICE FEEDER. CONTRACTOR SHALL PROVIDE THE ADDITIONAL WIRING AND RACEWAYS AS NOTED ON DRAWINGS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE EXISTING CONDITIONS.

NOTES: 1) REMOVE EXISTING CIRCUIT BREAKER AND PROVIDE NEW TO MATCH NEW MOCP. PROVIDE UL LISTED UNIT FROM EXISTING MANUFACTURER (SIEMENS). MATCH EXISTING KAIC. 2) RETAIN AND REUSE EXISTING RACEWAY.

PANELBOARD "MB" (EXISTING): SIEMENS, TYPE P3, 400A, 277/480V, 3ø, 4W.

### DX ROOF TOP UNIT SCHEDULE (BASE BID)

	NOMINAL		PLY OA ESP	A ESP	MIN	MCA	MOCP			COOLING					TING		MIN. EER2	WEIGHT			
MARK	TONS	CFM	CEM	(INCHES)	HP	A	A	V-PH-H7	COND	TOTAL	SENSIBLE	EAT	LAT	K/W	STG	OUTLETS	/ IEER or	(LBS)	NOTES	MANUFACTURER	MODEL NUMBER
	Tonto	OT M				~		VIII IIZ	COND.	BTUH	BTUH	DB/WB	DB/WB	IX VV	510.	oo tee to	SEER2	(200.)			
RTIL-13	6	1800	425	1	15	26	30	460-3-60	100	68 400	44 200	76 5/66 6	52 8/52 8	15	1	FACTORY INSTALLED	12 1/23 1	767			LCM074U5E
110-15	0	1000	725		1.5	20	50	400-0-00	100	00,400	44,200	10.5/00.0	52.0/52.0	10	1	& UNIT POWERED	12.1/20.1	101	ALL	LENNOX	LONIOTHOSE
RTU-17	6	1800	425	1	1.5	26	30	460-3-60	100	68,400	44.200	76.5/66.6	52.8/52.8	15	1	FACTORY INSTALLED	12.1/23.1	767	ALL	LENNOX	LCM074U5E
										,	,					& UNIT POWERED					

NOTES:

1. PROVIDE COPPER CONDENSATE TRAP, TXV, MODULATING HOT GAS REHEAT WITH LAT CONTROL ON COOLING AND HGRH COIL, AND FREEZE-STAT OPTIONS 2. PROVIDE HOODED/LOUVERED HAIL GUARDS, STAINLESS STEEL OR CORROSION RESISTANT POLYCARBONATE DRAIN PANS, GALVANIZED FILTER FRAMES, MERV 13 FILTERS & HINGED ACCESS DOORS. 3. DO NOT PROVIDE EXHAUST OR RELIEF AIR OPENINGS.

4. PROVIDE FACTORY UNITARY CONTROLLERS AND BACNET INTERFACE. REFER TO EQUIPMENT SPECIFICATIONS AND CONTROLS SEQUENCE OF OPERATIONS FOR MORE INFORMATION. 5. EQUIPMENT MANUFACTURER, MECH. CONTRACTOR AND HVAC CONTROLS CONTRACTOR SHALL COORDINATE THE PROVISION AND INSTALLATION OF SENSORS TO ENSURE THESE ARE ALL PROVIDED PROPERLY ON THE PROJECT.

6. PROVIDE LOW-AMBIENT CONTROLS TO MIN. 40-DEG. F.

7. HEATING KW IN RTU SCHEDULE IS RATED HEATING CAPACITY, NOT NOMINAL KW. FAN HP SHALL BE PER MFR'S RECOMMENDATION. 8. PROVIDE INTEGRAL CIRCUIT BREAKER.

9. PROVIDE VARIABLE SPEED AIR VOLUME TO MODULATE BASED ON ROOM TEMPERATURE. PROVIDE 3 STAGES OF COOLING ON UNITS ABOVE 5 TONS, 2 STAGES OF COOLING ON UNIT 5 TONS AND LESS

10. PROVIDE WALL MOUNTED PROGRAMMABLE TEMPERATURE SENSOR, HUMIDITY SENSOR, AND CO2 BASED DEMAND CONTROLLED VENTILATION.

11. PROVIDE FACTORY-INSTALLED FACTORY-POWERED CONVENIENCE ELECTRICAL OUTLETS ON EXTERIOR OF INDICATED RTUS. SEE MECHANICAL ROOF PLANS FOR LOCATIONS. COORDINATE WITH ELECTRICAL CONTRACTOR. 12. PROVIDE IBC COMPLIANT CURB AND ATTACHMENTS FROM UNIT TO CURB AND CURB TO STRUCTURE. EQUIPMENT OR CURB MANUFACTURER IS RESPONSIBLE FOR PROVIDING ENGINEERED DETAIL ANALYSIS OF: 1) ATTACHMENT OF EQUIPMENT TO CURB OR PAD.

2) CURB TO STRUCTURE.

3) CURB AND ATTACHMENT HARDWARE STRENGTH.

REFER TO STRUCTURAL DRAWINGS FOR ROOF SUBSTRATE DETAILS.

EQUIPMENT OR CURB MANUFACTURER IS ALSO RESPONSIBLE FOR PROVIDING ENGINEERED INSTALLATION DRAWINGS FOR ITEMS 1 AND 2 LISTED ABOVE.

BOTH, THE ENGINEERED ANALYSIS AND THE ENGINEERED INSTALLATION DRAWINGS SHALL BE PERFORMED SPECIFICALLY FOR THIS BUILDING AND PROJECT SITE AND STAMPED AND SEALED BY A TEXAS LICENSED ENGINEER. SUBMITTALS WILL NOT BE APPROVED UNTIL ALL DOCUMENTATION LISTED ABOVE IS PROVIDED ACCURATELY.

13. CONDENSER COILS SHALL BE COPPER TUBE WITH ALUMINUM PIN.

### DX ROOF TOP UNIT SCHEDULE (ALTERNATE #1)

	NOMINAL		04	ESD	MIN	MCA	MOCD				COO	LING		HEA	TING		MIN. EER2	WEICHT			
MARK	TONS	CEM	CEM	(INCHES)	HP			V-PH-H7		TOTAL	SENSIBLE	EAT	LAT	K/M	STC	OUTLETS	/ IEER or		NOTES	MANUFACTURER	MODEL NUMBER
	TONO		OT M				~	VIIIIZ	COND.	BTUH	BTUH	DB/WB	DB/WB	r vv	310.	COTLETO	SEER2	(LDO.)			
RTU-19	4	1350	375	1	1.5	26	30	460-3-60	100	45,800	30,100	76.8/67.2	55.3/55.3	15	1	FACTORY INSTALLED & UNIT POWERED	13.2/19.9	767	ALL	LENNOX	LCM048U5E
RTU-20	6	1800	425	1	1.5	26	30	460-3-60	100	<mark>68,400</mark>	44,200	76.5/66.6	52.8/52.8	15	1	FACTORY INSTALLED & UNIT POWERED	12.1/23.1	767	ALL	LENNOX	LCM074U5E
RTU-22	4	1350	375	1	1.5	26	30	460-3-60	100	45,800	30,100	76.8/67.2	55.3/55.3	15	1	FACTORY INSTALLED & UNIT POWERED	13.2/19.9	767	ALL	LENNOX	LCM048U5E

NOTES:

1. PROVIDE COPPER CONDENSATE TRAP, TXV, MODULATING HOT GAS REHEAT WITH LAT CONTROL ON COOLING AND HGRH COIL, AND FREEZE-STAT OPTIONS. 2. PROVIDE HOODED/LOUVERED HAIL GUARDS, STAINLESS STEEL OR CORROSION RESISTANT POLYCARBONATE DRAIN PANS, GALVANIZED FILTER FRAMES, MERV 13 FILTERS & HINGED ACCESS DOORS. 3. DO NOT PROVIDE EXHAUST OR RELIEF AIR OPENINGS.

4. PROVIDE FACTORY UNITARY CONTROLLERS AND BACNET INTERFACE. REFER TO EQUIPMENT SPECIFICATIONS AND CONTROLS SEQUENCE OF OPERATIONS FOR MORE INFORMATION. 5. EQUIPMENT MANUFACTURER, MECH. CONTRACTOR AND HVAC CONTROLS CONTRACTOR SHALL COORDINATE THE PROVISION AND INSTALLATION OF SENSORS TO ENSURE THESE ARE ALL PROVIDED PROPERLY ON THE PROJECT.

6. PROVIDE LOW-AMBIENT CONTROLS TO MIN. 40-DEG. F.

7. HEATING KW IN RTU SCHEDULE IS RATED HEATING CAPACITY, NOT NOMINAL KW. FAN HP SHALL BE PER MFR'S RECOMMENDATION.

8. PROVIDE INTEGRAL CIRCUIT BREAKER.

9. PROVIDE VARIABLE SPEED AIR VOLUME TO MODULATE BASED ON ROOM TEMPERATURE. PROVIDE 3 STAGES OF COOLING ON UNITS ABOVE 5 TONS, 2 STAGES OF COOLING ON UNIT 5 TONS AND LESS

10. PROVIDE WALL MOUNTED PROGRAMMABLE TEMPERATURE SENSOR, HUMIDITY SENSOR, AND CO2 BASED DEMAND CONTROLLED VENTILATION.

11. PROVIDE FACTORY-INSTALLED FACTORY-POWERED CONVENIENCE ELECTRICAL OUTLETS ON EXTERIOR OF INDICATED RTUS. SEE MECHANICAL ROOF PLANS FOR LOCATIONS. COORDINATE WITH ELECTRICAL CONTRACTOR. 12. PROVIDE IBC COMPLIANT CURB AND ATTACHMENTS FROM UNIT TO CURB AND CURB TO STRUCTURE. EQUIPMENT OR CURB MANUFACTURER IS RESPONSIBLE FOR PROVIDING ENGINEERED DETAIL ANALYSIS OF: 1) ATTACHMENT OF EQUIPMENT TO CURB OR PAD.

2) CURB TO STRUCTURE.

3) CURB AND ATTACHMENT HARDWARE STRENGTH.

REFER TO STRUCTURAL DRAWINGS FOR ROOF SUBSTRATE DETAILS.

EQUIPMENT OR CURB MANUFACTURER IS ALSO RESPONSIBLE FOR PROVIDING ENGINEERED INSTALLATION DRAWINGS FOR ITEMS 1 AND 2 LISTED ABOVE.

BOTH, THE ENGINEERED ANALYSIS AND THE ENGINEERED INSTALLATION DRAWINGS SHALL BE PERFORMED SPECIFICALLY FOR THIS BUILDING AND PROJECT SITE AND STAMPED AND SEALED BY A TEXAS LICENSED ENGINEER. SUBMITTALS WILL NOT BE APPROVED UNTIL ALL DOCUMENTATION LISTED ABOVE IS PROVIDED ACCURATELY.

13. CONDENSER COILS SHALL BE COPPER TUBE WITH ALUMINUM PIN.

### EQUIPMENT CONNECTION SCHEDULE (BASEBID):

				1	/					
DESIGN	NEW HP/KW	NEW MCA	NEW MOCP	EXISTING MOCP	VOLTAGE	EXISTING DISCONNECT	NEW DISCONNECT	60° COPPER EXISTING BRANCH CIRCUIT	60° COPPER NEW BRANCH CIRCUIT	POWER SOURCE
EF-3	35W	0.4	20	20	120V/1PHASE	REMOVE EXISTING	INTEGRAL DISCONNECT	1/2" - 2#12 & #12G	RETAIN EXISTING	LA
EF-4	35W	0.4	20	20	120V/1PHASE	REMOVE EXISTING	INTEGRAL DISCONNECT	1/2" - 2#12 & #12G	RETAIN EXISTING	LA
EF-5	35W	0.4	20	20	120V/1PHASE	REMOVE EXISTING	INTEGRAL DISCONNECT	1/2" - 2#12 & #12G	RETAIN EXISTING	LA
EF-8	35W	0.4	20	20	120V/1PHASE	REMOVE EXISTING	INTEGRAL DISCONNECT	1/2" - 2#12 & #12G	RETAIN EXISTING	LA
EF-16	35W	0.4	20	20	120V/1PHASE	REMOVE EXISTING	INTEGRAL DISCONNECT	1/2" - 2#12 & #12G	RETAIN EXISTING	LB
EF-17	35W	0.4	20	20	120V/1PHASE	REMOVE EXISTING	INTEGRAL DISCONNECT	1/2" - 2#12 & #12G	RETAIN EXISTING	LB
EF-25B	1/4HP	7.2	20	20	120V/1PHASE	REMOVE EXISTING	INTEGRAL DISCONNECT	1/2" - 2#12 & #12G	RETAIN EXISTING	LC
EF-25C	1/4HP	7.2	20	20	120V/1PHASE	REMOVE EXISTING	INTEGRAL DISCONNECT	1/2" – 2#12 & #12G	RETAIN EXISTING	LC

### EQUIPMENT CONNECTION SCHEDULE (ALTERNATE#2):

DESIGN	NEW HP/KW	NEW MCA	NEW MOCP	EXISTING MOCP	VOLTAGE	EXISTING DISCONNECT	NEW DISCONNECT	60° COPPER EXISTING BRANCH CIRCUIT	60° COPPER NEW BRANCH CIRCUIT	POWER SOURCE
EF-1	35W	0.4	20	20	120V/1PHASE	REMOVE EXISTING	INTEGRAL DISCONNECT	1/2" - 2#12 & #12G	RETAIN EXISTING	LA
EF-2	35W	0.4	20	20	120V/1PHASE	REMOVE EXISTING	INTEGRAL DISCONNECT	1/2" – 2#12 & #12G	RETAIN EXISTING	LA

2) 3/4" - 3#10 & #10G OVE EXISTING MB OVE EXISTING 2) 3/4" - 3#10 & #10G MB 2) 3/4" - 3#10 & #10G VE EXISTING MB

60° COPPER

NEW BRANCH CIRCUIT

POWER SOURCE

### **IDEA CARVER - EXHAUST FAN SCHEDULE (BASE BID)**

MARK	SERVING	TYPE	ELECTRICAL V-PH-HZ	DRIVE	CFM	INPUT WATTS	Motor HP	RPM	E.S.P. IN. H20	SOUND IN SONES	WEIGHT (LBS)	CONTROL NOTES	NOTES	MANUFACTURER	MODEL NUMBER
EF-3	TOILET A107	CEILING MOUNTED	115- <mark>1-</mark> 60	DIRECT	100	35	-	808	0.5	2.5	32	А	ALL	GREENHECK	SP-A200
EF-4	STAFF TOILET A108	CEILING MOUNTED	115- <mark>1</mark> -60	DIRECT	100	35	-	808	0.5	2.5	32	A	ALL	GREENHECK	SP-A200
EF-5	RESTROOM 254	ROOF MOUNTED	115- <mark>1-</mark> 60	DIRECT	100	35	-	1140	0.5	4.7	49	А	ALL	GREENHECK	G-097-B
EF-8	RESTROOM 264	ROOF MOUNTED	115-1-60	DIRECT	100	35	-	1140	0.5	4.7	49	А	ALL	GREENHECK	G-097-B
EF-16	BOYS 413	CEILING MOUNTED	115- <mark>1-</mark> 60	DIRECT	100	35	-	808	0.5	2.5	32	А	ALL	GREENHECK	SP-A200
EF-17	RESTROOM 510	IN-LINE	115-1-60	DIRECT	100	35	-	808	0.5	2.5	32	А	ALL	GREENHECK	SP-A200
EF-25B	GIRLS E115	ROOF MOUNTED	115- <mark>1</mark> -60	DIRECT	360	-	1/4	1255	0.55	6.4	39	A	ALL	GREENHECK	G-098-VG
EF-25C	TOILET E113A, JANITORS E113B, & BOYS E114	ROOF MOUNTED	115-1-60	DIRECT	440	-	1/4	1345	<mark>0</mark> .57	7.3	49.0	А	ALL	GREENHECK	G-098-A

NOTES

1. PROVIDE FACTORY MOUNTED DISCONNECT. 2. MANUFACTURER AND MODEL NUMBER LISTED ARE "OR APPROVED EQUAL." REFER TO SPECIFICATIONS.

3. PROVIDE OSHA MOTOR AND BELT GUARD.

4. PROVIDE AUTOMATIC BELT TENSIONER.

5. PROVIDE INSULATED HOUSING FOR SOUND ATTENUATION.

6. PROVIDE ALL ALUMINUM BACKDRAFT DAMPER AND SPRING TYPE VIBRATION ISOLATORS FOR SUSPENDED INLINE TYPE FANS. 7. PROVIDE FIELD INSTALLED FAN SPEED CONTROLLER. COORDINATE INSTALLATION WITH ELECTRICAL CONTRACTOR. CONTROL NOTES:

A. FAN SHALL BE OPERATED BY A WALL SWITCH VIA THE OCCUPANCY SENSOR PROVIDED BY DIV.26. COORDINATE WITH ELECTRICAL

### **IDEA CARVER - EXHAUST FAN SCHEDULE (ALTERNATE #2)**

MARK	SERVING	TYPE	ELECTRICAL V-PH-HZ	DRIVE	CFM	INPUT WATTS	Motor HP	RPM	E.S.P. IN. H20	SOUND IN SONES	WEIGHT (LBS)	CONTROL NOTES	NOTES	MANUFACTURER	MODEL NUMBER
EF-1	TOILET A103	CEILING MOUNTED	115-1-60	DIRECT	100	35	-	808	0.5	2.5	32	A	ALL	GREENHECK	SP-A200
EF-2	TOILET A104	CEILING MOUNTED	115-1-60	DIRECT	100	35	-	808	0.5	2.5	32	A	ALL	GREENHECK	SP-A200

NOTES:

1. PROVIDE FACTORY MOUNTED DISCONNECT.

2. MANUFACTURER AND MODEL NUMBER LISTED ARE "OR APPROVED EQUAL." REFER TO SPECIFICATIONS. 3. PROVIDE OSHA MOTOR AND BELT GUARD.

4. PROVIDE AUTOMATIC BELT TENSIONER.

5. PROVIDE INSULATED HOUSING FOR SOUND ATTENUATION.

6. PROVIDE ALL ALUMINUM BACKDRAFT DAMPER AND SPRING TYPE VIBRATION ISOLATORS FOR SUSPENDED INLINE TYPE FANS. 7. PROVIDE FIELD INSTALLED FAN SPEED CONTROLLER. COORDINATE INSTALLATION WITH ELECTRICAL CONTRACTOR. CONTROL NOTES:

A. FAN SHALL BE OPERATED BY A WALL SWITCH VIA THE OCCUPANCY SENSOR PROVIDED BY DIV.26. COORDINATE WITH ELECTRICAL.

![](_page_14_Picture_81.jpeg)

![](_page_14_Picture_82.jpeg)

![](_page_15_Figure_0.jpeg)

THESE GENERAL NOTES SHALL APPLY UNLESS OTHERWISE SPECIFICALLY NOTED ON PLANS OR DETAILS. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND SHALL COORDINATE ALL	TEMPORARY
STRUCTURAL PLANS AND DETAILS WITH ARCHITECTURAL & MECHANICAL DRAWINGS BEFORE STARTING WORK. THE ENGINEER SHALL BE NOTIFIED OF ANY DISCREPANCIES PRIOR TO	1. CONTRA DEMOLIT
CONSTRUCTION. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR CONTRACTOR MEANS AND METHODS OF CONSTRUCTION OR SITE SAFETY. DESIGN, CONSTRUCTION, WORKMANSHIP AND	PROFES
MATERIALS SHALL COMPLY WITH THE CONTROLLING PROVISIONS OF THE 2021 EDITION OF THE INTERNATIONAL BUILDING CODE (IBC).	2. THE DE SAFETY
DESIGN CRITERIA	
1. BASIS FOR DESIGN AND CODE COMPLIANCE	3. THE ENG
A. GOVERNING BUILDING CODE	COMPLE CONSTR
2. WIND DESIGN BASED ON:	MADE B
A. ASCE 7-16 REQUIREMENTS	DISCUSS
BASIC DESIGN WINDSPEED WIND SPEED	<u>SAFETY</u>
WIND EXPOSURE CATEGORY	1. PERFOR
Kzt1.0	2. CONTRA
	3. THE GE
3. ALL COMPONENTS AND CLADDINGS (E.G. WINDOWS, DOORS, ARCHITECTURAL SIDINGS AND ROOF PANELS); MUST MEET MINIMUM WIND CODE REQUIREMENTS. CONTRACTOR MUST SUBMIT	
TO STRUCTURAL ENGINEER FOR REVIEW. IN ADDITION AS ADOPTED BY THE TEXAS DEPARTMENT OF INSURANCE CLAZED EXTERIOR OPENINGS IN THE LOWER 60 FEET OF THE BUILDING SHALL BE	1 TOD OF
IMPACT RESISTANT MEETING ASTM E 1996 FOR LARGE MISSILES OR PROTECTED WITH AN IMPACT RESISTANT COVERING.	APPLICA
4. SUBMITTAL INFORMATION FOR EXTERIOR COMPONENTS AND CLADDING SHALL INCLUDE A THIRD	2. STRUCT AND/OF
PARTY TESTING REPORT OF THE SUBMITTED ASSEMBLY.	MAY BE
<ol> <li>CONTRACTOR SHALL CONTACT ENGINEER TO COORDINATE AND SCHEDULE REQUIRED PERIODIC INSPECTION OF EXTERIOR COMPONENTS AND CLADDING.</li> </ol>	3. ALL STF (Fy=46
	4. ALL ST
MAZARDUUS MATERIALS ABATEMENT/ MANAGEMENT	
1. THE ENGINEER HAS NO RESPONSIBILITY OR LIABILITY FOR DESIGN, REMOVAL OF, OR TESTING FOR ASBESTOS/LEAD, OR FOR ABATEMENT /MANAGERIAL TREATMENTS, MONITORING, AND LEGAL	HOLES BEARING
DISPOSAL OF MATERIALS. CONTRACTOR SHALL DETERMINE IF ANY HAZARDOUS MATERIAL ABATEMENT/ MANAGEMENT IS REQUIRED AND SHALL INCLUDE COSTS THEREOF IN THE BID.	UNLESS
<b>CONSTRUCTION NOTES ON THE REPAIR WORKS ON EXISTING STRUCTURE</b>	6. REFER T ANCHOF
1. BEFORE PROCEEDING WITH ANY WORK WITHIN THE EXISTING FACILITY. THE CONTRACTOR SHALL	7. ALL BEA
FAMILIARIZE HIMSELF WITH EXISTING STRUCTURAL AND OTHER CONDITIONS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE ALL NECESSARY BRACING. SHORING AND OTHER	
PROCESS OF DEMOLITION AND CONSTRUCTION AND TO PROTECT FROM DAMAGE THOSE PORTIONS OF	CERTIFIE
2. THE CONTRACTOR SHALL FIELD VERIFY THE DIMENSIONS. ELEVATIONS. ETC. NECESSARY FOR THE	9. WELDS S
PROPER CONSTRUCTION AND ALIGNMENT OF THE NEW PORTIONS OF THE WORK TO THE EXISTING WORK. THE CONTRACTOR SHALL MAKE ALL MEASUREMENTS NECESSARY FOR FABRICATION AND	CODE A
ERECTION OF STRUCTURAL MEMBERS. ANY DISCREPANCY SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE ENGINEER.	10. ERECIIC PLUMB
3. WELDING TO AND WITHIN AN EXISTING FACILITY PRESENTS POTENTIAL HAZARDS INCLUDING:	11. ALL CON TESTING
A. FIRE HAZARD - DUE TO THE EXISTING CONSTRUCTION AND BUILDING CONTENTS.	D-1.1. COST T
B. STRUCTURAL LIQUEFACTION – DUE TO WELDING ACROSS THE FULL SECTION OF STRUCTURAL STEEL MEMBERS.	12. THE FA
RECOMMENDATIONS TO PREVENT THESE HAZARDS INCLUDE.	PENEIR
A. FIRE HAZARD - PROTECT EXISTING COMBUSTIBLES PRIOR TO WELDING. KEEP A SEPARATE	PRIME I
B. STRUCTURAL LIQUEFACTION - WELD IN SMALL INCREMENTS. ALLOW WELDS TO HARDEN	14 WELDED
BEFORE CONTINUING TO THE NEXT INCREMENT.	
C. DO NOT LEAVE THE SITE UNTIL SATISFIED THAT NO FIRE HAZARD EXISTS.	15. AFTER
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN AND ERECTION OF ALL SHORING NECESSARY TO SAFEGUARD THE EXISTING STRUCTURE.	CONSIS <sup>®</sup> CLEANE
EXISTING CONDITIONS	16. FIELD W
1. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS. DIMENSIONS SHOWN ON THE PLANS ARE APPROXIMATE CONTRACTOR SHALL ORTAIN ALL FIELD MEASUREMENTS AS	STRUCT
NECESSARY TO COORDINATE NEW CONSTRUCTION TO EXISTING CONDITIONS.	17. A SINGL STRUCT
2. IF EXISTING CONDITIONS DIFFER FROM THE DRAWINGS, INFORM THE ENGINEER AND ADDITIONAL DETAILS OR INTERPRETATION WILL BE PROVIDED. DO NOT PROCEED WITHOUT VERIFICATION.	DRAWIN
3. THE CONTRACTOR SHALL VISIT THE SITE OF THE PROPOSED WORK AND FULLY ACQUAINT	18. THE CO THE AR
IMEMSELVES WITH THE EXISTING CONDITIONS.	
DEMOLITION NOTES	AFTER
AND SURROUNDING BUILDINGS DURING CONSTRUCTION.	<b>FASTENERS</b>
2. GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR TEMPORARY WATERTIGHTNESS OF THE BUILDING DURING DEMOLITION AND RECONSTRUCTION.	1. CAST-IN EMBEDM
3. GENERAL CONTRACTOR SHALL COORDINATE WITH ENGINEER ITEMS THAT ARE UNCLEAR PRIOR TO	ONLY W
ANY DEMOLITION.	2. ALL ANC RECOMM
T. GENERAL CONTRACTOR SHALL DE RESPONSIBLE FOR VISITING THE PROJECT SHE TO DETERMINE DEMOLITION REQUIREMENTS AT THIS PROJECT. CONTRACTOR SHALL INCLUDE IN THEIR BID ALL THE DEMOLITION REQUIREMENTS TO COMPLETE THIS PROJECT	
5. GENERAL CONTRACTOR SHALL LOCATE AND LABEL ALL UTILITIES BEFORE COMMENCEMENT OF	3. SPECIAL THE AP
DEMOLITION & CONSTRUCTION ACTIVITIES. UTILITIES SHALL BE CLEARLY MARKED SO THAT ANY SUBCONTRACTOR VISITING THIS SITE CAN EASILY IDENTIFY UTILITIES. ANY COSTS TO REPAIR	PERFOR
DAMAGES IF UTILITIES ARE NOT PROPERLY IDENTIFIED, ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.	4. EXPANSI ACCORD
6. GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING AND DISPOSING DEBRIS & MATERIAL AWAY FROM SITE ACCORDING TO GOVERNING LOCAL. STATE OR FEDERAL REGULATIONS.	A. KW
7. ANY AREA DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED TO THE OWNER'S SATISFACTION AT	В. КW
THE CONTRACTOR'S EXPENSE. PENETRATIONS	C. ST
1. PENETRATIONS THROUGH EXISTING ELEMENTS SHALL COMPLY WITH THE DRAWINGS AND	D. WE
SPECIFICATIONS.	5. HEAVY D ACCORDA
2. DU NUT UUT JUISTS, BLAMS UK CULUMNS WITHUUT PRIUK APPRUVAL. 3. PENETRATIONS THROUGH LOAD-REARING FLEMENTS SHALL BE TEMPORARILY SUDDED TO DREVENT	SUBSTITU ENGINEER
COLLAPSE, AS SPECIFIED BELOW.	A. HS

# GENERAL STRUCTURAL NOTES

### ARY BRACING, FALSEWORK AND FORMWORK

TRACTOR SHALL PROVIDE ENGINEERED SHORING PLAN PRIOR TO START OF ROOF COLUMN OLITION. SHORING PLAN SHALL BE SIGNED AND SEALED BY A STATE OF TEXAS FESSIONAL ENGINEER.

DESIGN, ENGINEERING, FABRICATION, CONSTRUCTION, ERECTION, REMOVAL AND OVERALL ETY OF ALL TEMPORARY SUPPORTS SUCH AS FALSEWORK, FORMWORK, SHORES AND CING REQUIRED FOR THE EXECUTION OF THE CONTRACT ARE NOT INCLUDED IN THE WINGS AND SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

ENGINEER'S EFFORTS ARE AIMED AT DESIGNING A PROJECT WHICH WILL BE SAFE AFTER FULL PLETION. THE ENGINEER HAS NO EXPERIENCE IN, AND TAKES NO RESPONSIBILITY FOR, STRUCTION MEANS AND METHODS OR JOB SITE SAFETY DURING CONSTRUCTION. SAFETY IS LUSIVELY THE CONTRACTOR'S RESPONSIBILITY. PROCESSING AND/OR APPROVING SUBMITTALS E BY CONTRACTOR WHICH MAY CONTAIN INFORMATION RELATED TO SHORING. CONSTRUCTION HODS OR SAFETY ISSUES. OR PARTICIPATION IN MEETINGS WHERE SUCH ISSUES MIGHT BE CUSSED, MUST NOT BE CONSTRUED AS VOLUNTARY ASSUMPTION BY ENGINEER OF ANY PONSIBILITY FOR THESE SAFETY PROCEDURES.

FORM ALL WORK IN A SAFE AND CONSCIENTIOUS MANNER TO PREVENT INJURIES.

ITRACTOR SHALL MAINTAIN OSHA STANDARDS FOR JOB SAFETY AND WORKER PROTECTION, UDING, BUT NOT LIMITED TO ADEQUATE PROTECTION, BARRICADES, SIGNS, ETC. GENERAL CONTRACTOR IS SOLELY RESPONSIBLE FOR SAFETY. THE ENGINEER EXPRESSLY LUDES ANY RESPONSIBILITY FOR CONTRACTOR SAFETY OR SAFETY OF JOBSITE.

### URAL STEEL

OF BEAM/PLATE (TOB OR TOP) IS USED INTERCHANGEABLY ON PLANS. REFERENCE LICABLE SECTION FOR CLARIFICATION.

- UCTURAL STEEL WIDE FLANGE MEMBERS SHALL CONFORM TO ASTM SPECIFICATION A 572 /OR ASTM A 992 (Fy = 50 KSI) UNLESS OTHERWISE SHOWN OR NOTED. PLATE AND ANGLES ' BE A36 (Fy = 36 KSI).
- STRUCTURAL STEEL TUBING SHALL CONFORM TO ASTM SPECIFICATION A-500, GRADE B =46 KSI). STEEL PIPE SHALL COMPLY WITH ASTM A53 TYPE E OR S (Fy=35 KSI).
- STRUCTURAL STEEL SHALL BE DESIGNED, FABRICATED AND ERECTED IN ACCORDANCE WITH LATEST SPECIFICATIONS OF THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION.
- BOLTS SHALL BE 3/4 DIAMETER ASTM A325. WASHERS SHALL BE PROVIDED AT OVERSIZED ES AND AT SLOTTED CONNECTIONS AT EXPANSION JOINTS. A325 CONNECTIONS SHALL BE RING TYPE CONNECTIONS UNLESS NOTED OTHERWISE. ANCHOR BOLTS MAY BE ASTM A307 ESS NOTED OTHERWISE.
- R TO MANUFACTURER & MECHANICAL PLANS FOR VERIFICATION OF ALL BOLTS, BLOCKING HORS, ETC., FOR THE ANCHORAGE OF THEIR RESPECTIVE ITEMS. BEAMS SHALL BE FULL LENGTH WITHOUT SPLICES UNLESS INDICATED ON PLANS OR
- ROVED BY THE ENGINEER IN WRITING SHOP AND FIELD WELDS SHALL BE MADE BY WELDERS WHO HAVE BEEN QUALIFIED AND
- TIFIED TO MAKE THE REQUIRED WELDS IN ACCORDANCE WITH THE LATEST AMERICAN DING SOCIETY SPECIFICATIONS (A.W.S. D-1.1). S SHALL BE MADE WITH COVERED MILD STEEL ELECTRODES COMPLYING WITH AWS D1 72
- AND SERIES E 70XX. CTION CONNECTORS SHALL BE PROVIDED IN ORDER TO PROPERLY ALIGN AND BE TRUE AND MB WHEN WELDS ARE MADE.
- COMPLETE PENETRATION WELDS, BOTH SHOP AND FIELD, SHALL BE TESTED BY A QUALIFIED TING LABORATORY UTILIZING ULTRA SONIC TESTING PROCEDURES IN ACCORDANCE WITH A.W.S. .1. ANY WELDS FOUND DEFECTIVE SHALL BE REMOVED AND REPLACED AT NO ADDITIONAL T TO THE OWNER. ALL X-RAYED WELDS SHALL BE GROUND SMOOTH.
- FABRICATOR SHALL SUPPLY BACK-UP PLATES AND EXTENSION TABS FOR ALL COMPLETE ETRATION WELDS.
- STEEL MEMBERS, UNLESS NOTED OTHERWISE, SHALL BE HOT DIPPED GALVANIZED. DO NOT 1E ITEMS TO BE EMBEDDED IN CONCRETE OR FIRE PROOFED W/ SPRAY ON MATERIAL IOUT COORDINATION W/ MECHANICAL ENGINEER.
- DED HEADED STUDS (WHS) SHALL BE "NELSON ANCHORS", OR EQUAL, Fs = 60 KSI, IETER AND LENGTH AS SHOWN ON PLANS. STUDS TO BE WELDED& SHOP TESTED IN ORDANCE W/ THE MANUFACTURER'S RECOMMENDATIONS.
- ER ERECTION, PRIME WELDS, ABRASIONS AND SURFACES NOT PRIMED. USE PRIMER SISTENT WITH SHOP COAT. GALVANIZED SURFACES (HOT DIPPED OR COLD) SHALL BE ANED AND PAINTED WITH "ZRC".
- D WELDS AND BOLTED CONNECTIONS SHALL BE VISUALLY INSPECTED BY A QUALIFIED PENDENT INSPECTOR. THE INSPECTOR SHALL PROVIDE A WRITTEN REPORT TO THE UCTURAL ENGINEER.
- INGLE ELECTRONIC FILE (PDF FORMAT) SHOP DRAWINGS SHALL BE PREPARED FOR ALL JCTURAL STEEL COMPONENTS AND SUBMITTED FOR REVIEW BY ENGINEER. ENGINEERING WINGS SHALL NOT BE REPRODUCED AND USED AS SHOP DRAWINGS.
- CONTRACTOR SHALL REVIEW AND ANNOTATE SHOP DRAWINGS BEFORE SUBMITTING THEM TO ARCHITECT/ENGINEER FOR REVIEW. THE CONTRACTOR SHALL ALLOW ARCHITECT/ENGINEER 10 KING DAYS FOR REVIEW OF SHOP DRAWINGS.
- STRUCTURAL ENGINEER SHALL BE NOTIFIED FOR A FRAMING OBSERVATION IMMEDIATELY ER ROOF PANELS ARE INSTALLED AND BEFORE INSTALLATION OF THE CEILING.
- -IN-PLACE AND POST-INSTALLED ANCHORS SHALL BE PER ANCHOR DIAMETER AND EDMENT DEPTH NOTED ON THE DRAWINGS. POST–INSTALLED ANCHORS SHALL BE UTILIZED WHERE SPECIFIED. ALL ANCHORS SHALL BE HOT-DIPPED GALVANIZED PER ASTM A153.
- ANCHORS NOTED BELOW SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S OMMENDATIONS. CONTRACTOR SHALL CONTACT MANUFACTURER'S REPRESENTATIVE FOR THE AL TRAINING AND INSTALLATION OF ANCHORS. AND FOR PRODUCT RELATED QUESTIONS AND LABILITY.
- IAL INSPECTIONS SHALL BE PROVIDED FOR ALL MECHANICAL AND ADHESIVE ANCHORS PER APPLICABLE EVALUATION REPORT NOTED BELOW. SPECIAL INSPECTIONS SHALL BE FORMED BY INDEPENDENT TESTING LABORATORY PERFORMING QA/QC SERVICES ON PROJECT.
- NSION BOLTS (EB) IN CONCRETE/CMU SHALL BE TESTED AND QUALIFIED FOR USE IN ORDANCE WITH ACI 355.2 AND ICC-ES AC193. ACCEPTABLE PRODUCTS:
- KWIK BOLT III (ICC-ES ESR-2302) BY HILTI (CONCRETE)
- KWIK BOLT III (ICC-ES-ESR-1385) BY HILTI (MASONRY)
- STRONG-BOLT 2 (ICC-ES ESR-3037) BY SIMPSON STRONG-TIE (CONCRETE)
- WEDGE-ALL ANCHOR (ICC-ES ESR-1396) BY SIMPSON STRONG-TIE (MASONRY)

Y DUTY SLEEVE ANCHORS IN CONCRETE/CMU SHALL BE TESTED AND QUALIFIED OR USE IN RDANCE WITH ACI 355.2 AND ICC-ES AC193. EXPANSION BOLTS (EB) SHALL NOT BE TITUTED FOR SLEEVE ANCHORS WITHOUT PRIOR WRITTEN APPROVAL BY STRUCTURAL IEER. ACCEPTABLE PRODUCTS:

HSL-3 (ICC-ES ESR-1545) BY HILTI (CONCRETE)

### FASTENERS CONTINUED:

- ACI 355.2 AND ICC-ES AC193. ACCEPTABLE PRODUCTS:
- A. KWIK HUS-EZ (ICC-ES ESR-3027) BY HILTI (CONCRETE)
- B. KWIK HUS-EZ (ICC-ES ESR-3056) BY HILTI (MASONRY)
- C. TITEN HD (ICC-ES ESR-2713) BY SIMPSON STRONG-TIE (CONCRETE)
- D. TAPCON ANCHORS (ICC-ES ESR-1671) (MASONRY)
- E. POWERS WEDGE BOLT (ICC-ES ESR-1678) (MASONRY)
- WITH ACI 355.2 AND ICC-ES AC193. ACCEPTABLE PRODUCTS:
- A. HDA (ICC-ES ESR-1546) BY HILTI (CONCRETE)
- IN ACCORDANCE WITH ACI 355.2 AND ICC-ES AC193. ACCEPTABLE PRODUCTS: A. X-U (ICC-ES ESR-2269) BY HILTI (CONCRETE/MASONRY/STEEL)
- B. POWDER ACTUATED FASTENERS (ICC-ES ESR-2138) BY SIMPSON STRONG TIE
- CONCRETE/MASONRY)
- ACCORDANCE WITH ACI 355.4 AND ICC-ES AC308. ACCEPTABLE PRODUCTS:
- A. HIT-RE 500-V3 (ICC-ES ESR-3814) BY HILTI (CONCRETE)
- B. HIT-HY 270 (ICC-ES ESR-4143) BY HILTI (MASONRY)
- C. SET-XP (ICC-ES ESR-2508) BY SIMPSON STRONG-TIE (CONCRETE)
- D. SET (ICC-ES ESR-1772) BY SIMPSON STRONG-TIE (MASONRY)
- J-BOLTS WITHOUT PRIOR WRITTEN APPROVAL BY STRUCTURAL ENGINEER.
- 11. HEADED ANCHOR RODS SHALL BE FABRICATED FROM ASTM F1554 MATERIAL, FY=36 KSI.
- 12. SUBSTITUTION REQUESTS FOR PRODUCTS LISTED ABOVE SHALL BE SUBMITTED BY THE EVALUATION (ICC-ES OR IAPMO-ES) REPORT.

### **EXTERIOR COMPONENTS & CLADDINGS**

ALL EXTERIOR COMPONENT AND CLADDING SYSTEMS MUST MEET MINIMUM WIND CODE REQUIREMENTS. CONTRACTOR MUST SUBMIT COMPONENT AND CLADDING ASSEMBLY WIND PRESSURE AND IMPACT RESISTANCE TESTING RATINGS AND REQUIRED ATTACHMENT PROCEDURES TO STRUCTURAL ENGINEER FOR REVIEW. ROOF TOP MECHANICAL EQUIPMENT AND THEIR SUPPORT COMPONENTS, AND ANCHORING OF THESE ITEMS TO THE STRUCTURE, SHALL BE DELEGATED DESIGN TO BE PERFORMED BY THE EQUIPMENT'S MANUFACTURER, TO MEET THE WIND PRESSURES CALCULATED PER ASCE 7-16 SECTION 29.4.1, USING THE WIND DESIGN PARAMETERS LISTED ON THE GENERAL STRUCTURAL NOTES DESIGN CRITERIA

- 1. ASSEMBLY SUBMITTALS
- INCOMPLETE SUBMITTALS WILL BE REJECTED.
- B. SHOP DRAWINGS SHALL INCLUDE THE FOLLOWING ITEMS:
- NUMBER, NAME OR DESIGNATION.
- THE PROJECT.
- TEST REPORTS.
- ATTACHMENT SHALL BE PER ASSEMBLY TEST REPORTS.
- 6) ASSEMBLY TEST REPORTS OFTEN PROVIDE OPTIONS FOR MATERIALS AND FASTENING CONTRACTOR IS PROPOSING TO INSTALL ON THE PROJECT.
- INDEPENDENT OF THE TEST REPORTS.
- C. ASSEMBLY TEST REPORTS SHALL INCLUDE THE FOLLOWING ITEMS:
- THIRD-PARTY TESTING AGENCY. 3) TEST REPORTS SHALL BE SEALED BY THE QUALIFIED PROFESSIONAL ENGINEER RESPONSIBLE
- FOR THEIR PREPARATION. 4) TEST REPORTS SHALL BE RECENT TO INCLUDE THE MOST CURRENT SYSTEM
- TEST REPORTS SHALL BE REJECTED.

### SPECIAL INSPECTIONS

SPECIAL INSPECTIONS INDEPENDENT OF THE CONTRACTOR. THE ARCHITECT. OR THE ENGINEER. SHALL BE PROVIDED BY A SPECIAL INSPECTOR EMPLOYED BY THE OWNER ACCORDING TO CHAPTER 17 OF THE IBC 2021. THE SPECIAL INSPECTOR SHALL OBSERVE THE WORK FOR CONFORMANCE WITH THE CONTRACT DOCUMENTS. THE SPECIAL INSPECTOR SHALL SEND WRITTEN REPORTS TO THE OWNER, THE ARCHITECT, THE ENGINEER AND THE CONTRACTOR. THE REPORTS SHALL INDICATE IF WORK INSPECTED WAS DONE IN CONFORMANCE WITH THE CONTRACT DOCUMENTS. ALL DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION. IF THE DISCREPANCIES ARE NOT CORRECTED. THE SPECIAL INSPECTOR SHALL BRING THE DISCREPANCIES TO THE ATTENTION OF THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE PRIOR TO THE COMPLETION OF THAT PHASE OF THE WORK. THE SPECIAL INSPECTOR SHALL SUBMIT A FINAL SIGNED REPORT STATING THAT THE SPECIAL INSPECTION WORK WAS, TO THE BEST OF THEIR KNOWLEDGE, IN OR NOT IN CONFORMANCE WITH THE DRAWINGS, SPECIFICATIONS AND APPLICABLE WORKMANSHIP PROVISIONS OF THE IBC 2021.

CONTINUOUS OR PERIODIC SPECIAL INSPECTION IS REQUIRED FOR THE FOLLOWING WORK:

6. SCREW ANCHORS IN CONCRETE SHALL BE TESTED AND QUALIFIED FOR USE IN ACCORDANCE WITH

UNDERCUT ANCHORS IN CONCRETE SHALL BE TESTED AND QUALIFIED FOR USE IN ACCORDANCE

B. TORQ-CUT (ICC-ES ESR-2705) BY SIMPSON STRONG-TIE (CONCRETE)

8. POWDER ACTUATED FASTENERS IN CONCRETE/CMU SHALL BE TESTED AND QUALIFIED FOR USE

9. ADHESIVE ANCHORS IN CONCRETE/CMU SHALL BE TESTED AND QUALIFIED FOR USE IN

10. J-BOLTS SHALL BE FABRICATED FROM ASTM A36/A307 ROD. BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED. EXPANSION BOLTS/SLEEVE ANCHORS SHALL NOT BE SUBSTITUTED FOR

CONTRACTOR TO THE STRUCTURAL ENGINEER ALONG WITH CALCULATIONS THAT ARE PREPARED & SEALED BY A REGISTERED PROFESSIONAL ENGINEER. THE CALCULATIONS SHALL DEMONSTRATE THAT THE SUBSTITUTED PRODUCT IS CAPABLE OF ACHIEVING THE PERTINENT EQUIVALENT PERFORMANCE VALUES OF THE SPECIFIED PRODUCT USING THE APPROPRIATE DESIGN PROCEDURE AND/OR STANDARDS. SUBSTITUTED ANCHORS SHALL HAVE A VALID CURRENT

13. REFERENCE STRUCTURAL STEEL NOTES FOR BOLTS CONNECTING STRUCTURAL STEEL COMPONENTS.

A. SUBMITTALS SHALL CONSIST OF PROJECT SPECIFIC SHOP DRAWINGS AND ASSEMBLY TEST REPORTS, AS DESCRIBED BELOW. SUBMITTALS SHALL BE COMPLETE, CLEAR AND LEGIBLE;

1) SYSTEM DESCRIPTION INCLUDING MANUFACTURER'S NAME AND SPECIFIC PRODUCT MODEL

2) MANUFACTURER'S PRODUCT DATA/TECHNICAL INFORMATION AND DETAILS. 3) SYSTEM LAYOUT PLANS, ELEVATIONS, CROSS-SECTIONS AND DETAILS AS APPLICABLE TO

4) DESCRIPTION OF SYSTEM'S ASSEMBLY COMPONENTS (E.G. ROOF LAYERS, FRAME MEMBERS, REINFORCEMENT, DOOR TYPE, GLAZING, HARDWARE, ANCHORS AND FASTENING LOCATIONS, SEALANTS, ACCESSORIES). ALL COMPONENTS SHALL MATCH THOSE SPECIFIED ON ASSEMBLY

5) SHOP DRAWINGS SHALL INDICATE THE SYSTEM ATTACHMENT METHOD INCLUDING ANCHOR TYPE AND FASTENER LOCATIONS FOR EACH DIFFERENT TYPE OF SUBSTRATE. SYSTEM

METHODS. SHOP DRAWINGS SHALL BE SPECIFIC TO THE MATERIAL OR METHOD THAT THE 7) CROSS-REFERENCING BETWEEN THE SHOP DRAWINGS AND THE ASSEMBLY TEST REPORTS IS ENCOURAGED, BUT THE SHOP DRAWINGS SHALL BE DETAILED ENOUGH TO STAND

1) PERFORMANCE RATINGS BASED ON EVALUATION OF COMPREHENSIVE TESTING IN ACCORDANCE WITH THE APPLICABLE PERFORMANCE STANDARD(S) LISTED ABOVE. 2) TESTING AND DEVELOPMENT OF REPORTS SHALL BE PERFORMED BY A QUALIFIED

MANUFACTURER'S COMPONENTS AND AVAILABLE FASTENERS AND ACCESSORIES. EXPIRED

5) TEST REPORTS SHALL BE SUBMITTED FOR EACH DIFFERENT TYPE OF ASSEMBLY ON THE PROJECT INCLUDING VARIATIONS OF SYSTEM COMPONENTS AND SUBSTRATES.

<b>REQUIRED VERIFICATION AND INSPECTION</b>	OF ANCHORS	
VERIFICATION AND INSPECTION	CONTINUOUS	PERIOD
CAST-IN-PLACE, POST-INSTALLED, MECHANICAL AND EPOXY SET ANCHORS: AS APPLICABLE, THE INSPECTION PROGRAM SHALL VERIFY THE ANCHOR TYPE, EMBEDMENT, TIGHTENING TORQUE, DIMENSIONS, HOLE DEPTH & DIAMETER AND CLEANOUT, EPOXY MIXING AND PLACEMENT PROCEDURES IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND THE CURRENT ICC-ES EVALUATION REPORT	FREQUENCY OF INSPECTION SH ACCORDANCE CURRENT ICC- EVALUATION R PER THE SPEC INSPECTION REQUIREMENTS ANCHOR SUBS WHICHEVER IS STRINGENT	ALL BE I WITH THE ES EPORT, O DAL OF THE TRATE, MORE

**REQUIRED VERIFICATION AND INSPECTION OF STEEL CONSTRUCTION** 

VERIFICATION AND INSPECTION	CONTINUOUS	PERIODI
MATERIAL VERIFICATION OF HIGH-STRENGTH BOLTS, NUTS AND WASHERS		X
INSPECTION OF HIGH STRENGTH BOLTING		X
INSPECTION OF WELDING:		
COMPLETE AND PARTIAL PENETRATION GROOVE WELDS	х	
MULTIPASS FILLET WELDS	x	
SINGLE-PASS FILLET WELDS		Х
FLOOR AND ROOF DECK WELDS		х
INSPECTION OF STEEL FRAME JOINT DETAILS FOR COMPLIANCE WITH APPROVED CONSTRUCTION DOCUMENTS		x

![](_page_16_Figure_117.jpeg)

![](_page_16_Picture_118.jpeg)

![](_page_16_Picture_119.jpeg)

![](_page_16_Figure_120.jpeg)

![](_page_16_Picture_121.jpeg)

-EXISTING BAR JOIST

![](_page_16_Picture_125.jpeg)

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![](_page_16_Picture_127.jpeg)

![](_page_17_Figure_0.jpeg)

![](_page_17_Figure_1.jpeg)

![](_page_17_Picture_2.jpeg)

CONTRACTOR S	SH A
ALL DIMENSION	IS
CONDITIONS IN	Tŀ
ENGINEER IF C	ON
THOSE SHOWN	10

![](_page_17_Picture_14.jpeg)

![](_page_17_Figure_15.jpeg)

![](_page_17_Picture_16.jpeg)

![](_page_17_Picture_17.jpeg)

![](_page_18_Figure_0.jpeg)

1. REFERENCE S3.1 FOR TYPICAL RENOVATION NOTES

![](_page_18_Figure_3.jpeg)

![](_page_18_Picture_4.jpeg)

STRUCTURAL RENOVATION NOTES

NOTES:

- 1. SCOPE OF WORK:
  - A MODIFY EXISTING ROOF OPENING FRAME AS REQUIRED TO INSTALL NEW FRAME FOR NEW OPENING SIZE.
  - B INSTALL NEW ROOF OPENING FRAME PER DETAIL 6/S3.2.
  - NEW AND EXISTING ROOF OPENINGS.
  - D INSTALL NEW ROOFING INTEGRATED WITH EXISTING ROOF AND ONTO (BY OTHERS).
- 7-#10 TEK SCREW SIDE LAP FASTENERS.
- 3. PRIOR TO INSTALLATION OF MECHANICAL EQUIPMENT, NOTIFY ENGINEER IF EQUIPMENT WEIGHTS OR LOCATIONS VARY FROM THAT SHOWN ON PLAN TO ALLOW VERIFICATION OF STRUCTURAL CAPACITY OF FRAMING MEMBERS.
- 4. REFER TO MECHANICAL AND MANUFACTURER'S DRAWINGS FOR FASTENING OF THE ROOF CURB AND HVAC UNITS TO RTU SUPPORT FRAMES.
- TITLED "CARVER COMPLEX" SHEETS S-1.00 TO S-4.03 DATED 04/31/00 BY ADDITIONAL INFORMATION REQUIRED.
- 6. ALL STRUCTURAL STEEL NOTED ON FRAMING PLAN IS EXISTING UNLESS NOTED OTHERWISE.
- DECK TRANSITION DETAIL.

CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS & EXISTING CONDITIONS IN THE FIELD. CONTACT ENGINEER IF CONDITIONS VARY FROM THOSE SHOWN ON THE DRAWINGS.

Ν ALTERNATES 1 PLAN NORTH

STRUCTURAL RENOVATION FRAMING PLAN 4 1/8" = 1'-0"BASE BID NOTES:

1. REFERENCE S3.1 FOR TYPICAL RENOVATION NOTES

- INSTALL NEW METAL ROOF DECK AS REQUIRED TO CLOSE-OFF AREAS BETWEEN

NEW RTU CURBS AS REQUIRED FOR A COMPLETE WATERPROOF INSTALLATION

2. NEW ROOF DECK SHALL BE 1.5B 22GA GALV DECK BY VULCRAFT OR APPROVED EQUAL. (Ip=0.155 IN<sup>4</sup>/FT; Sp=0.186 IN<sup>3</sup>/FT; In=0.183 IN<sup>4</sup>/FT; Sn=0.192 IN<sup>3</sup>/FT; Fy=33KSI). ATTACH DECK TO SUPPORTS USING 5/8" PUDDLE WELDS ON A 36/7 PATTERN AND

5. EXISTING FRAMING PLANS WERE DEVELOPED BASED ON STRUCTURAL RECORD DRAWINGS CULTER-GALLAWAY SERVICES, INC. CONTRACTOR SHALL REFER TO RECORD DRAWINGS FOR

INSTALLED AT EXISTING ROOF OPENINGS. REFERENCE DETAIL 3/S1.1 FOR EXISTING TO NEW

![](_page_18_Figure_34.jpeg)

![](_page_18_Picture_35.jpeg)

![](_page_19_Figure_0.jpeg)

![](_page_19_Picture_1.jpeg)

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