Addendum 02
SFISD RJ Wollam Elementary School
& Santa Fe Junior High School
Generator Installation

3815 Montrose Blvd,
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Houston, Texas 77006
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cre8 ARCHITECTS

18 April 2022

This addendum modifies the original Proposal Documents dated March 25, 2022 and forms a part of the Contract Documents. Acknowledge receipt of this Addendum in the space provided on the Proposal Form. Failure to do so may subject Proposer to disqualification.

This Addendum consists of 2 pages and the following attachments:

- Specifications:
  Sections: 26 43 13 SPD for Low-voltage Electrical Power Circuits, Pages 26 43 13-1 through 26 43 13-4

- Drawings:
  30" x 42" drawings: ES-M2.0, ES-E4.1, ES-E5.1, and JH-E5.1

The time and date to receive Proposals is changed by this Addendum

1.0 GENERAL INFORMATION:

01 Deadline for Questions/Clarifications: Thursday, April 21, 2022 at 5:00pm

2.0 CHANGES TO PROCUREMENT AND CONTRACTING REQUIREMENTS:

01 Section 00 11 19 REQUEST FOR COMPETITIVE SEALED PROPOSALS
Paragraph 1.02 A Proposal Submittal and Opening – Change Date and Time as follows:
1. *Date: Thursday, April 28, 2022*
2. *Time: 2:30 PM*

02 Section 00 21 16 INSTRUCTION TO PROPOSERS
Paragraph 4.51 Documents to be Submitted Prior to Proposal – Change Date and Time as follows:

3815 Montrose Blvd,
Suite123
Houston, Texas 77006
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713.526.3198 fax

No later than 5:00 p.m., Tuesday, April 26, 2022.

3.0 CHANGES TO SPECIFICATIONS:

01 Section 26 43 13 – SPD FOR LOW-VOLTAGE ELECTRICAL POWER CIRCUITS:
- a. Add paragraph 1.01.B to provide add alternate price to provide new service entrance rated SPD to main service switchboard.
- b. Add section 2.01 Service Entrance Suppressor (Type A) to outline the product data requirements for the new service entrance rated SPD to be added to the main service switchboard as part of an add alternate price.
- c. Add paragraph 2.02.A.4 to add Southern Tier Technologies as a manufacturer.

3.0 CHANGES TO DRAWINGS:

01 ES-A2.00 OVERALL RJW ES FLOOR PLAN
- a. In Storage room 28 by stage, add ¾" plywood to north and south wall for electrical panel installation.

02 JH-A2.01 FLOOR PLANS – DEMO & NEW, SCHEDULES & DETAILS
- a. 2. Floor Plan NEW – in C106A Electrical room, add ¾" plywood to new wall on north side for electrical panel installation.

03 ES-M2.0 MECHANICAL ENLARGED ROOMS AND DETAILS:
- a. Removed view 3/ES-M2.0 from the project and cooling towers VFD's is existing to remain.
- b. Removed VFD's detail from the project as noted above and tagged note M8 accordingly.

04 ES-E4.1 – ENLARGED ELECTRICAL PLANS
- a. Modified location of new ATS. We are no longer relocating existing VFDs to make room for the new ATS. The VFDs will remain in their existing location.

05 ES-E5.1 ELECTRICAL ONE-LINE DIAGRAM – NEW SCOPE:
- a. Add new service entrance rated SPD at main service switchboard as an add alternate.
- b. Add new SPD to new distribution panel 'EHDP'.

06 JH-E5.1 – ELECTRICAL ONE-LINE DIAGRAM – NEW SCOPE:
- a. Replace existing service entrance TVSS with new service entrance rated SPD at main service switchboard as an add alternate.
- b. Add new SPD to new distribution panel 'EHDP'.

END OF ADDENDUM 02

SECTION 26 43 13 - SPD FOR LOW-VOLTAGE ELECTRICAL POWER CIRCUITS

PART 1 - GENERAL

1.01 SUMMARY

A. Section includes field-mounted SPD for low-voltage (120 to 600 V) power distribution and control equipment.

~~A.~~B. Provide add alternate price to provide new service entrance rated SPD at main service entrance switchboard.

~~B.~~C. Related Requirements:

1. Division 26 Section “Panelboards” for field-installed SPDs.

1.02 DEFINITIONS

A. ATS: Acceptance Testing Specifications.

B. I-nominal: Nominal discharge current.

C. MCOV: Maximum continuous operating voltage.

D. MOV: Metal-oxide varistor; an electronic component with a significant non-ohmic current-voltage characteristic.

E. OCPD: Overcurrent protective device.

F. SCCR: Short-circuit current rating.

G. SVR: Suppressed voltage rating.

H. SPD: Surge Protective Device(s), both singular and plural; also, transient voltage surge suppression.

I. VPR: Voltage protection rating.

1.03 ACTION SUBMITTALS

A. Submit product data and shop drawings in accordance with Division 01 and Division 26 Section “Electrical Shop Drawings and Submittals” for products specified under PART 2 - PRODUCTS.

B. Specification Compliance Certification: Submit a Specification Compliance Certification in accordance with Division 26 Section “Electrical Shop Drawings and Submittals.”

C. Product Data: For each type of product indicated.

1. Include rated capacities, clamp times, physical construction, operating weights, electrical characteristics, furnished specialties, and accessories. Include UL 1449, 3rd Edition Listing documentation verifying:
   a. Short Circuit Current Rating (SCCR).
   b. Voltage Protection Ratings (VPRs) for all modes.
   c. Maximum Continuous Operating Voltage rating (MCOV). The MCOV shall be a tested value per UL 1449 3rd Edition, section 37 .7 .3. MCOV values based solely on the components used in the construction of the SPD will not be accepted.
   d. I-nominal rating (I-n).
   e. Type 1 or Type 2 Device Listing.
   f. kA rating per phase.
   g. kA rating per mode.
2. Copy of UL Category Code VZCA certification, as a minimum, listing the tested values for VPRs, I nominal ratings, MCOVs, type designations, OCPD requirements, model numbers, system voltages, and modes of protection.
3. Copy of test reports from a recognized independent testing laboratory, capable of producing 200kA surge current waveforms, verifying the suppressor components can survive published surge current rating on a per mode basis using the ANSI/IEEE C62.41 impulse waveform C3 (3 x 20 microsecond, 20kV/10kA). Test data on an individual module is not acceptable.
4. Provide written test report showing the SPD can survive a single surge at its rated value without the use of circuit breakers or fuses. Single surge ratings based on the sum of components used in the construction of the SPD will not be acceptable.

D. Warranty: Special warranty specified in this Section.

1.04 INFORMATIONAL SUBMITTALS

A. Qualification Data: For qualified testing agency.

B. Product Certificates: For SPD devices, from manufacturer.

C. Field quality-control reports.

D. Sample Warranty: For manufacturer’s special warranty.

1.05 CLOSEOUT SUBMITTALS

A. Operation and Maintenance Data: For SPD devices to include in emergency, operation, and maintenance manuals.

B. Warranty: Copy of special warranty.

1.06 QUALITY ASSURANCE

A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a testing agency, and marked for intended location and application.

B. Comply with IEEE C62.41.2 and test devices according to IEEE C62.45.

C. Comply with NEMA LS 1.

D. Comply with UL 1449, 3rd Edition.
E. Comply with NFPA 70.

1.07 PROJECT CONDITIONS

A. Service Conditions: Rate SPD devices for continuous operation under the following conditions unless otherwise indicated:
1. Maximum Continuous Operating Voltage: Not less than 115 percent of nominal system operating voltage.
2. Operating Temperature: 30 to 120 deg F.
3. Humidity: 0 to 85 percent, noncondensing.
4. Altitude: Less than 20,000 feet above sea level.

1.08 COORDINATION

A. Coordinate location of field-mounted SPD devices to allow adequate clearances for maintenance.

1.09 WARRANTY

A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of surge suppressors that fail in materials or workmanship within specified warranty period.
1. Warranty Period: Fifteen (15) years from date of Substantial Completion.

PART 2 - PRODUCTS

2.01 SERVICE ENTRANCE SUPPRESSOR (TYPE A)

A. Basis of Design Product: Subject to compliance with requirements, provide products by Current Technology "SL3' Series (ABB Power Protection) or comparable produce by one of the following with prior approval:
1. ACT Communications, Inc.
2. United Power Products; Danaher Power Solutions.
3. Southern Tier Technologies.

B. Surge Protection Devices:
1. Comply with UL 1449 4th Edition, Type 1.
2. Integral disconnect switch.
3. Internal thermal protection that disconnects the SPD before damaging internal suppressor components.
4. Indicator light display for protection status.
5. Surge counter.
6. Selenium cell protection.
7. Form-C Contacts: One normally open and one normally closed, for remote monitoring of protection status, and advanced monitoring with status, surge counter and history log of events.

C. Comply with UL 1283 with a maximum attenuation of 54 dB based on 50 ohm insertion loss test per MIL-STD-220B.

D. Peak Surge Current Rating: The minimum single-pulse surge current withstand rating per mode shall not be less than 200 kA. The peak surge current rating shall NOT be the arithmetic sum of the ratings of the individual MOVs in a given mode. SPD manufacturer shall provide independent third party testing validating unit is capable of surviving a single surge at the specified rating or up to and not to exceed 200,000 kA.

E. Protection modes and UL 1449 VPR for grounded wye circuits with 480Y/277V or 208Y/120V, three-phase, four-wire circuits shall not exceed the following:
1. Line to Neutral: 1200 V for 480Y/277V
2. Line to Ground: 1200 V for 480Y/277V
3. Line to Line: 1800 V for 480Y/277V

F. SCCR: Equal or exceed 200 kA.

G. I nominal Rating: 20 kA and compliance to all UL96A requirements for AC surge protection.

H. Repetitive Surge: SPD shall survive a minimum of 14,000 repetitive category C3 (20kV/10kA) surges with no more than 10-percent deterioration. Calculated repetitive surge values will not be accepted. SPD manufacturer shall provide repetitive surge test report.

I. Temporary Over Voltages: SPD shall be able to withstand a minimum of 100 temporary over voltage events, as defined by: 30A available fault current, 30 cycles of duration, with 10 seconds between events.

~~2.01~~2.02 PANELBOARD SUPPRESSORS (TYPE B)

A. Basis of Design Product: Subject to compliance with requirements, provide products by Current Technology "TG3" Series (ABB Power Protection) or comparable product by one of the following with prior approval:
1. ACT Communications, Inc.
2. United Power Products; Danaher Power Solutions.
3. Liebert Corporation; a division of Emerson Network Power
~~3.~~4. Southern Tier Technologies.

B. Surge Protection Devices:
1. Comply with UL 1449 4th Edition, Type 1.
2. LED indicator lights for power and protection status.

3. Internal thermal protection that disconnects the SPD before damaging internal suppressor components.
4. Arrangement with wire connections to phase buses, neutral bus, and ground bus.
5. Audible alarm, with silencing switch, to indicate when protection has failed.
6. Form-C contacts rated at 5 A and 250-V ac, one normally open and one normally closed, for remote monitoring of protection status. Contacts shall reverse on failure of any surge diversion module or on opening of any current-limiting device. Coordinate with building power monitoring and control system.
7. Four-digit transient-event counter set to totalize transient surges.

C. Peak Surge Current Rating: The minimum single-pulse surge current withstand rating per phase shall not be less than 150 kA. The peak surge current rating shall NOT be the arithmetic sum of the ratings of the individual MOVs in a given mode. Manufacturer shall provide independent third party testing validating unit is capable of surviving a single surge at the specified rating.

D. Comply with UL 1283 with a maximum attenuation of 34 dB based on 50 ohm insertion loss test per MIL-STD-220B.

E. Protection modes and UL 1449 VPR for grounded wye circuits with 480Y/277 V or 208Y/120 V, 3-phase, 4-wire circuits shall not exceed the follows:
1. Line to Neutral: 1200 V for 480Y/277 V and 700 V for 208Y/120 V.
2. Line to Ground: 1200 V for 480Y/277 V and 700 V for 208Y/120 V.
3. Neutral to Ground: 1000 V for 480Y/277 V and 700 V for 208Y/120 V.
4. Line to Line: 2000 V for 480Y/277 V and 1200 V for 208Y/120 V.

F. SCCR: Equal or exceed 200 kA.

G. I nominal Rating: 20 kA

2.022.03 ENCLOSURES

A. Indoor Enclosures: NEMA 250 Type 1.

2.032.04 CONDUCTORS AND CABLES

A. Power Wiring: SPD shall be equipped with mechanical lugs that can accept up to #2 AWG wire. Conductors between SPD and panelboard shall be “High Performance Interconnect” (HPI) cables with Ultra Low impedance characteristics at 10 kHz and above.

PART 3 - EXECUTION

3.01 INSTALLATION

A. Comply with NECA 1.

B. Install an OCPD or disconnect as required to comply with the UL listing of the SPD.

C. Install SPD devices with conductors between suppressor and points of attachment as short and straight as possible, and adjust circuit-breaker positions to achieve shortest and straightest leads. Do not splice and extend SPD leads unless specifically permitted by manufacturer. Do not exceed manufacturer’s recommended lead length. Do not bond neutral and ground. If installed lead length must exceed 10-feet, SPD manufacturer shall provide a low impedance cable that improves the installed performance.

D. Use crimped connectors and splices only. Wire nuts are unacceptable.

3.02 FIELD QUALITY CONTROL

1.A. Verify that electrical wiring installation complies with manufacturer's written installation requirements.

B. Perform tests and inspections.

C. Tests and Inspections:
1. Perform each visual and mechanical inspection and electrical test stated in NETA ATS, "Surge Arresters, Low-Voltage Surge Protection Devices" Section. Certify compliance with test parameters.
2. After installing SPD devices but before electrical circuitry has been energized, test for compliance with requirements.
3. Complete startup checks according to manufacturer's written instructions.

D. SPD will be considered defective if it does not pass tests and inspections.

E. Prepare test and inspection reports.

3.03 SYSTEM TESTING AND STARTUP SERVICE

A. Complete startup checks according to manufacturer’s written instructions.

B. Upon completion of installation, provide the start-up and testing services of a factory-authorized and factory-trained local service representative. The tests shall include:
1. Off-line Testing: Impulse injection to verify the system tolerances as well as verification of proper facility neutral-to-ground bond. Compare field test results to factory benchmark test parameters supplied with each individual unit.
2. On-line Testing: Verify that suppression and filtering paths are operating with 100% protection as well as verification of proper facility neutral-to-ground bond by measuring neutral-to-ground current and voltage and by visual inspection.
3. Voltage measurement from Line-to-Ground (L-G), Line-to-Neutral (L-N), Line-to-Line (L-L), and Neutral-to-Ground (N-G), taken at the time of the testing procedure.

C. Do not perform insulation-resistance tests of the distribution wiring equipment with SPDs installed. Disconnect SPDs before conducting insulation-resistance tests and reconnect them immediately after the testing is over.
D. Do not energize or connect service entrance equipment or panelboards to their sources until SPD devices are installed and connected.

3.04 DOCUMENTATION AND REPORTING

A. Record results of field testing and compare to factory benchmark test parameters supplied with each individual surge protective device. Indicate that the integrity of neutral-to-ground bonds were verified through testing and visual inspection, and that grounding bonds were observed to be in place.
B. Submit to the Engineer copies of the startup test results and the factory benchmark testing results for confirmation of proper suppression filter system function, as required by this section

END OF SECTION 26 43 13

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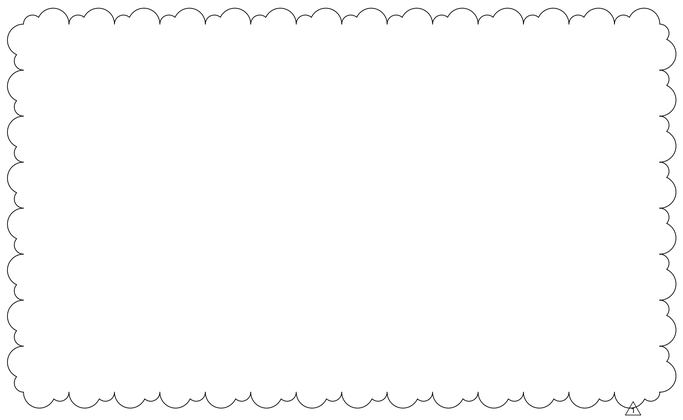
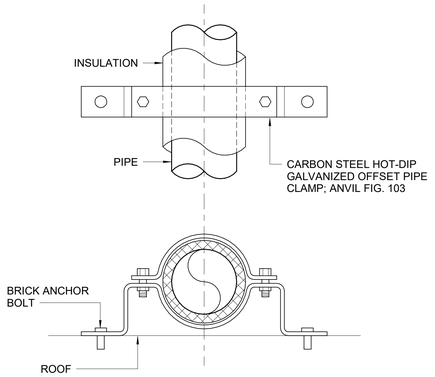
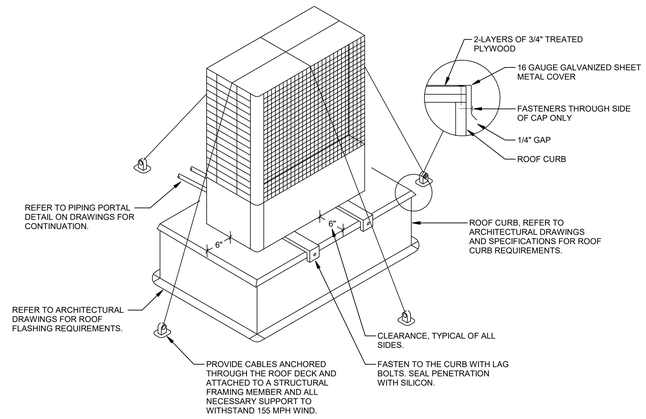




REFRIGERANTS PIPING SUPPORT DETAIL

NTS

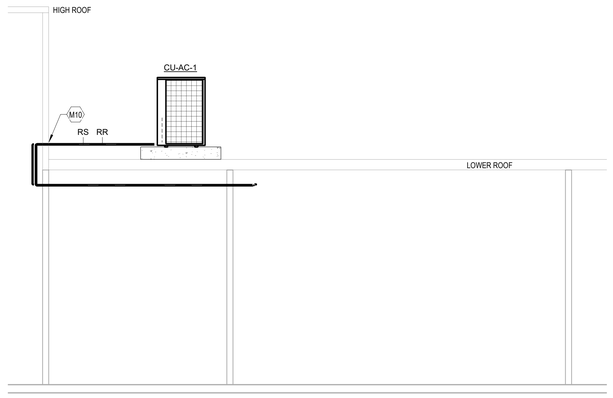


ROOF MOUNTED CONDENSING UNIT DETAIL

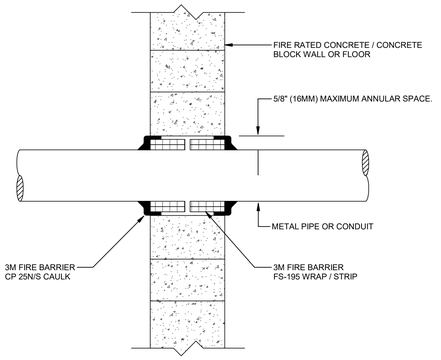
NTS

TAGGED NOTES (##)

M1	PROVIDE MINI-SPLIT SYSTEM AC-1 AT THE LOCATION SHOWN. REFER TO MECHANICAL SCHEDULES FOR SPLIT SYSTEM PERFORMANCE AND REQUIREMENTS.
M2	ROUTE REFRIGERANTS PIPING AND PENETRATE THE EXTERIOR UPPER ROOF WALL. REFER TO MANUFACTURER RECOMMENDATION FOR PIPING SIZES AND INSULATION THICKNESS. REFER TO ARCHITECT SPECIFICATION FOR WALL PENETRATION SEALING REQUIREMENT.
M3	CONDENSER UNIT CU-AC-1 SHALL BE ANCHORED TO ROOF TO WITHSTAND 155 MPH WIND. REFER TO MECHANICAL DETAILS FOR EQUIPMENT ANCHOR DETAIL.
M4	REFRIGERANTS PIPING SHALL BE SUPPORTED USING PIPE SUPPORTS. REFER TO MECHANICAL DETAILS FOR PIPING SUPPORTS AND ARCHITECT FOR SUPPORT SPECIFICATIONS.
M5	PROVIDE THERMOSTAT AT THE LOCATION SHOWN.
M6	DON'T INSTALL ANY PIPING ABOVE ELECTRICAL PANELS, TRANSFORMERS AND WHERE CONDUIT RUNS AGAINST WALL. REFER TO ELECTRICAL PLANS FOR LOCATIONS.
M7	PROVIDE CONDENSER UNIT CU-AC-1 AT THE LOCATION SHOWN. REFER TO MECHANICAL SCHEDULES FOR SPLIT SYSTEM PERFORMANCE AND REQUIREMENTS.
M9	ROUTE CONDENSATE PIPING TO CONDENSATE WALL BOX AND REFER TO PLUMBING DRAWINGS FOR CONTINUATION.
M10	NEW PENETRATION AT THE EXTERIOR WALL FOR THE REFRIGERANTS PIPING.



4 MECHANICAL SECTION #1
1/4" = 1'-0"



NOTES:

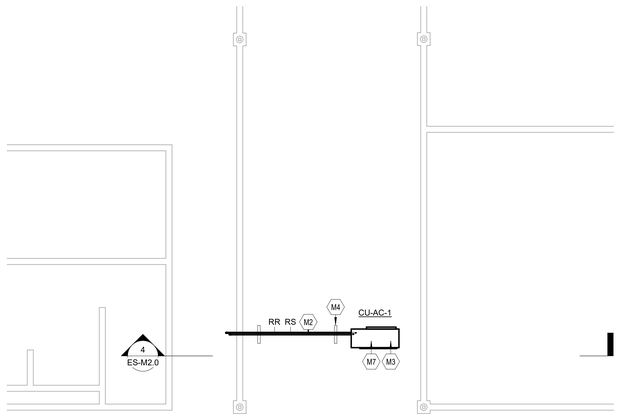
1. THE MAXIMUM ANNULAR SPACE AROUND THE METAL PIPE OR CONDUIT IS 5/8" (16mm). (IF THE ANNULAR SPACE EXCEEDS 5/8" PATCH THE WALL AND PENETRATE WALL AT ANOTHER LOCATION).

2. WRAP THE 3M MODEL# FS-195 WRAP/STRIP AROUND THE PIPE/CONDUIT, FOIL SIDE OUT, TO FILL THE SPACE BETWEEN THE PIPE/CONDUIT AND THE WALL OPENING. THE 3M MODEL# FS-195 WRAP/STRIP SHOULD BE TIGHTLY SECURED WITH ALUMINUM FOIL TAPE OR STEEL TIE WIRE AND PUSHED INTO THE OPENING UNTIL THE TOP EDGE OF THE WRAP IS FLUSH WITH THE WALL SURFACE. THE IDENTICAL INSTALLATION SHOULD BE INSTALLED ON THE OTHER SIDE OF THE WALL.

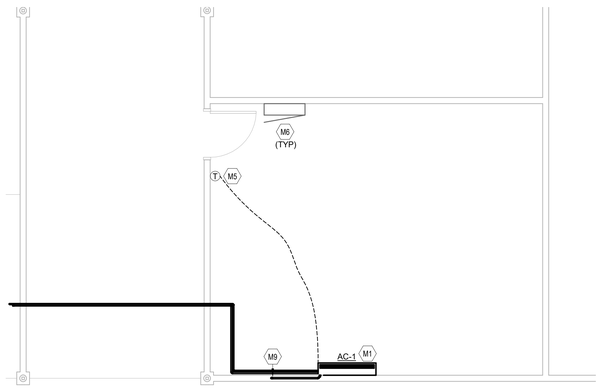
3. USE 3M MODEL# CP 25N/S(NO SAG) CAULK TO FILL THE AREA BETWEEN THE FS-195 WRAP/STRIP AND THE EDGES OF THE OPENING AND ANY VOIDS IN THE 3M MODEL# FS-195 WRAP/STRIP. A FILM OF CP 25 CAULK SHOULD COAT ALL EXPOSED EDGES OF THE FS-195 WRAP/STRIP AND COMPLETELY SEAL THE AREA BETWEEN THE FS-195 WRAP/STRIP, THE PIPE/CONDUIT AND THE WALL SURFACE.

PENETRATION FIRESTOP FOR METAL PIPE / CONDUIT THROUGH A CONCRETE OR MASONRY WALL

NTS



2 MECHANICAL ENLARGED ROOF PLAN
1/4" = 1'-0"



1 MECHANICAL ENLARGED SYSTEMS ROOM - IDF
1/4" = 1'-0"

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Roy J. Wollam Elementary School and Santa Fe Junior High School - Generator Installation

3400 AVE. S, SANTA FE, TX 77510

SANTA FE INDEPENDENT SCHOOL DISTRICT

04/18/2022

Revision Schedule

NO.	ISSUE	DATE
1	Addendum #2	04/18/2022

Sheet Information	
Date	March 25, 2022
Job Number	22-002
Drawn	HS
Checked	GJG
Approved	GJG

CMTA
CONSULTING ENGINEERS
TBPE #F-8627
2201 TIMBERLOCH PL. SUITE 110
THE WOODLANDS, TX 77380
T: 281 419.9899

Title

MECHANICAL ENLARGED ROOMS AND DETAILS

Sheet

ES-M2.0

Construction Documents

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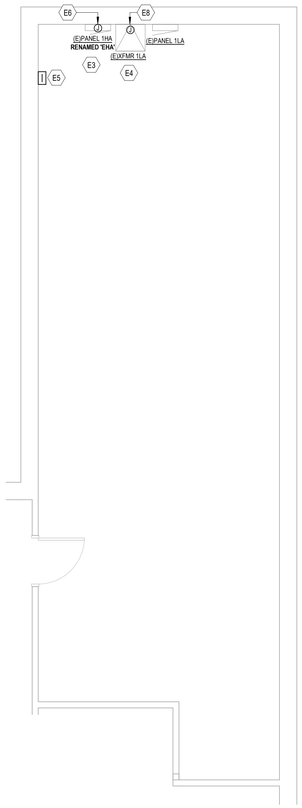
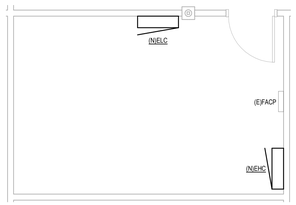
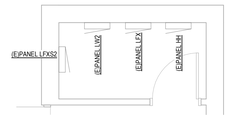


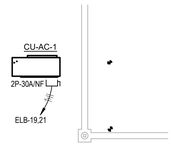
11 ENLARGED SYSTEMS ROOM - MDF
1/4" = 1'-0"



10 ENLARGED ELECTRICAL ROOM - E HALL
1/4" = 1'-0"

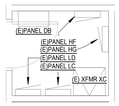


9 ELECTRICAL ENLARGED ROOF PLAN
1/4" = 1'-0"



8 ENLARGED ELECTRICAL ROOM - GYM
1/4" = 1'-0"

7 ENLARGED ELECTRICAL ROOM - ADMIN
1/4" = 1'-0"



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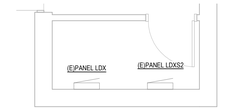

5 ENLARGED SYSTEMS ROOM - IDF
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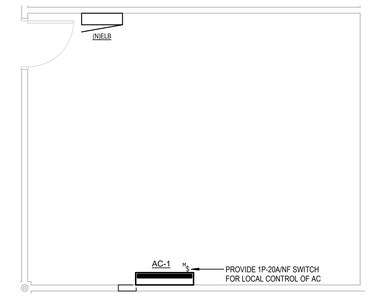

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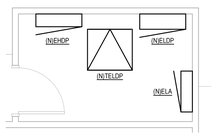

3 ENLARGED ELECTRICAL ROOM - D HALL
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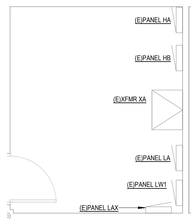

2 ENLARGED ELECTRICAL ROOM - CAFETERIA STORAGE
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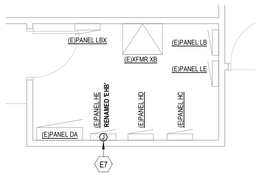
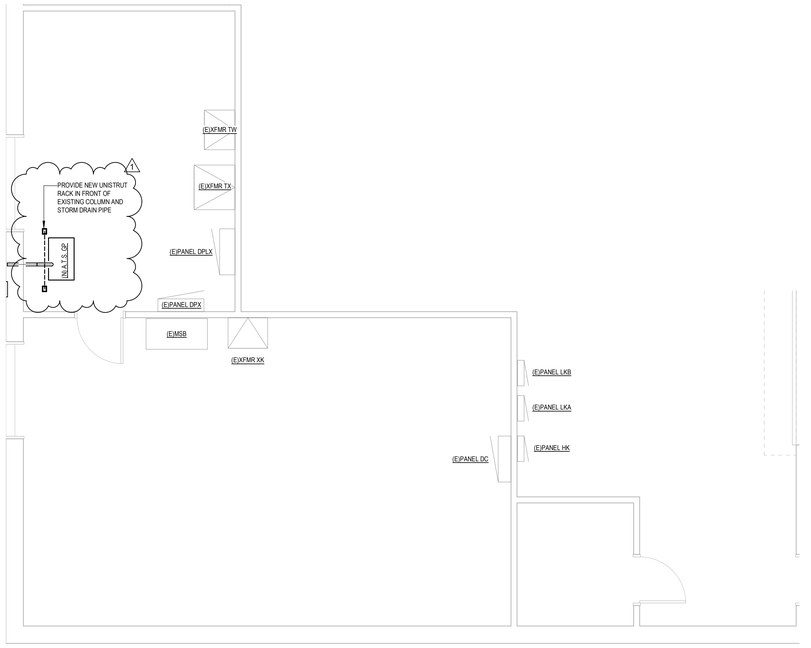


1 ENLARGED ELECTRICAL ROOMS - MAIN/KITCHEN
1/4" = 1'-0"



GENERAL NOTES (POWER):

A. REFER TO THE ARCHITECT'S REFLECTED CEILING PLANS, ELEVATIONS, AND CASEWORK DETAILS FOR EXACT LOCATIONS OF ALL WALL AND CEILING MOUNTED ELECTRICAL DEVICES.

B. CONTRACTOR SHALL FOLLOW BRANCH CIRCUITING LAY-OUT, AS INDICATED ON THE FLOOR PLANS, WITH A MAXIMUM OF THREE (3) BRANCH CIRCUITS PER HOMERUN. EACH BRANCH CIRCUIT SHALL BE PROVIDED WITH A DEDICATED NEUTRAL CONDUCTOR. DEDICATED NEUTRAL CONDUCTORS SHALL BE CONSIDERED CURRENT CARRYING.

C. IF ADDITIONAL CONDUCTORS ARE RUN IN THE SAME CONDUIT WITH THOSE INDICATED, CONTRACTOR SHALL DERATE ALL CURRENT CARRYING CONDUCTORS PER NEC 310.15(B)(3), AND UPSIZE CONDUIT AS REQUIRED PER NEC 300.17 AND ANNEX C.

D. MULTIWIRE BRANCH CIRCUITS AS DEFINED IN NEC 100 / 210.4 (CIRCUITS SHARING A COMMON NEUTRAL CONDUCTOR) SHALL NOT BE PERMITTED.

E. IDENTIFY THE PANEL AND CIRCUIT NUMBER FOR ALL RECEPTACLES, SWITCHES, ETC. IN AREA OF CONSTRUCTION. PROVIDE CLEAR ADHESIVE LABELS WITH BLACK LETTERING ON OUTSIDE OF COVER PLATE. MARK INSIDES OF ALL DEVICE BOXES WITH PANEL AND CIRCUIT NUMBER.

F. RECEPTACLES THAT ARE CONTROLLED BY AN AUTOMATIC MEANS SUCH AS OCCUPANCY SENSOR OR ENERGY MANAGEMENT SYSTEM SHALL BE MARKED IN ACCORDANCE WITH NEC 406.3(E).

G. LOCATIONS OF ELECTRICAL CONNECTIONS AND LOCAL DISCONNECTS SHALL BE COORDINATED WITH MECHANICAL AND PLUMBING CONTRACTORS TO ENSURE ACCESS AND WORKING CLEARANCE IS MAINTAINED PER NEC. NOTIFY OTHER TRADES OF REQUIRED CLEARANCE AREAS TO AVOID ROUTING OF OTHER SYSTEMS IN THESE AREAS. DO NOT INSTALL ELECTRICAL EQUIPMENT OVER EQUIPMENT NAMEPLATES OR ACCESS PANELS OR THROUGH ACCESS/MAINTENANCE CLEARANCES OF EQUIPMENT BY OTHER TRADES.

TAGGED NOTES		##
E3	EXISTING PANEL '1HA' SHALL BE RE-FED FROM NEW EMERGENCY DISTRIBUTION PANEL 'EHDP'. RE-NAME PANEL '1HA' TO PANEL 'EHA'.	
E4	EXISTING TRANSFORMER '1LA' SHALL BE RE-FED FROM EXISTING DISTRIBUTION PANEL 'DPX'.	
E5	NEW 480V/3P/60A ENCLOSED CIRCUIT BREAKER TO SERVE XFMR '1LA'.	
E6	INTERCEPT EXISTING MAIN FEEDER TO EXISTING PANEL '1HA'. FEEDER SHALL BE EXTENDED TO NEW PANEL 'EHDP'. REFER TO ONE-LINE DIAGRAM ON SHEET ES-5.1 FOR MORE INFORMATION. EXISTING PANEL '1HA' SHALL BE RENAMED 'EHA'.	
E7	INTERCEPT EXISTING MAIN FEEDER TO EXISTING PANEL 'HE'. FEEDER SHALL BE EXTENDED TO NEW PANEL 'EHDP'. REFER TO ONE-LINE DIAGRAM ON SHEET ES-5.1 FOR MORE INFORMATION. EXISTING PANEL 'HE' SHALL BE RENAMED 'EHB'.	
E8	INTERCEPT EXISTING PRIMARY FEEDER TO EXISTING TRANSFORMER '1LA'. FEEDER SHALL BE EXTENDED TO EXISTING PANEL 'DPX'. REFER TO ONE-LINE DIAGRAM ON SHEET ES-5.1 FOR MORE INFORMATION.	

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SANTA FE INDEPENDENT SCHOOL DISTRICT

04/18/2022

Revision Schedule

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1	Addendum #2	04/18/2022

Sheet Information	
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ENLARGED ELECTRICAL PLANS

Sheet

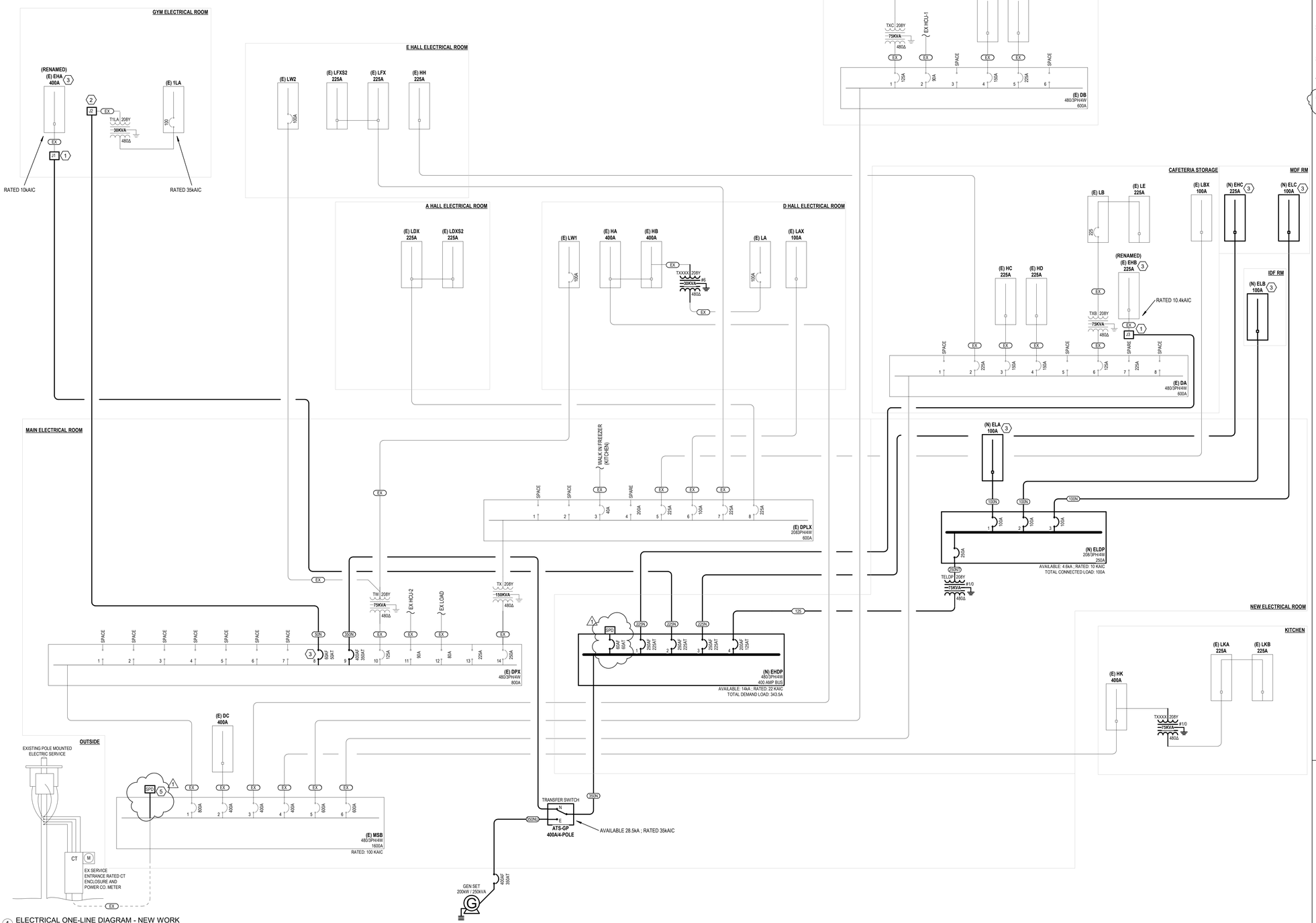
ES-E4.1

Construction Documents

COPPER FEEDER SCHEDULE

TAG	OCPD SETTING	PHASE CONDUCTORS	NEUTRAL	EQUIP. GROUND	CONDUIT SIZE	REMARKS
-	-	-	-	-	-	-
50N	50A	3#6	1#6 N	1#10 G	1" C	
100N	100A	3#1	1#1 N	1#8 G	1-1/2" C	
125	125A	3#1/0		1#6 G	1-1/2" C	
225N	225A	3#4/0	1#4/0 N	1#4 G	2-1/2" C	
250NT	250A	3#250KCM	1#250KCM N	1#2 G	2-1/2" C	NOTE 6
350N	350A	3#500KCM	1#500KCM N	1#3 G	3" C	
350NU	350A	3#500KCM	1#500KCM N	1#3 G	4" C	NOTE 3
DEMO	-	-		-	-	-
EX	-	-		-	-	-

1. NOT USED
2. NOT USED
3. SIZED FOR SCHEDULE 40 PVC CONDUIT, DIRECT BURIED. IF CONCRETE ENCASED, CONDUCTOR SIZE WILL NEED TO BE INCREASED FOR DERATING.
4. NOT USED
5. NOT USED
6. SIZED FOR SECONDARY FEEDER OF GENERAL PURPOSE TRANSFORMER.
7. NOT USED



1 ELECTRICAL ONE-LINE DIAGRAM - NEW WORK
1/8" = 1'-0"

GENERAL NOTES (RISER):

A. PROVIDE ENGRAVED LAMACOID LABELS FOR ALL POWER DISTRIBUTION EQUIPMENT FURNISHED OR MODIFIED IN THIS PROJECT, LABELS PER DETAILS AND SPECIFICATIONS.

B. SERVICE EQUIPMENT SHALL BE MARKED WITH THE MAXIMUM AVAILABLE FAULT-CURRENT AT THE EQUIPMENT AND THE DATE THE CALCULATION WAS PERFORMED. APPLY A TYPE-WRITTEN ADHESIVE LABEL WITH WHITE BACKGROUND, 1/2" HIGH BLACK LETTERING.

C. CONTRACTOR SHALL INSTALL SEPARATE CONDUITS, PULL BOXES, ETC. FOR EACH EMERGENCY POWER BRANCH & NORMAL POWER PER NEC FOR COMPLETE SEPARATION OF POWER SERVICES.

D. ALL CIRCUIT BREAKERS AND/OR DISCONNECTS SERVING THE PRIMARY SIDE OF A TRANSFORMER WHICH ARE NOT WITHIN LINE OF SIGHT OF THE TRANSFORMER SHALL BE PROVIDED WITH PERMANENTLY INSTALLED MEANS TO LOCK THE BREAKER IN THE OFF POSITION. SUCH TRANSFORMERS SHALL HAVE THE ROOM NAME AND NUMBER OF THE PRIMARY DISCONNECTING MEANS ENGRAVED ON THE EQUIPMENT NAMEPLATE.

E. CONTRACTOR SHALL PERFORM COORDINATION/FAULT CURRENT STUDY AND ARC FLASH HAZARD ANALYSIS AND SUBMIT STUDY RESULTS CONCURRENTLY WITH ELECTRICAL DISTRIBUTION EQUIPMENT SUBMITTALS. REFER TO SPECIFICATION SECTION 260573 FOR POWER SYSTEM STUDY REQUIREMENTS.

F. CONTRACTOR SHALL SET TRIP SETTINGS ON ALL ADJUSTABLE CIRCUIT BREAKERS ACCORDING TO RECOMMENDATIONS DETERMINED IN OCPD STUDIES, UNLESS DIRECTED OTHERWISE BY THE ENGINEER.

TAGGED NOTES: (##)

1. NEW JUNCTION BOX INSTALLED ON WALL OF ELECTRICAL ROOM (SEE SHEET ES-5.01). EXTEND CONDUIT AND FEEDER FROM JUNCTION BOX OVERHEAD TO NEW EMERGENCY DISTRIBUTION PANEL 'EHDP' AS INDICATED.
2. NEW JUNCTION BOX INSTALLED ON WALL OF ELECTRICAL ROOM (SEE SHEET ES-5.01). EXTEND CONDUIT AND FEEDER FROM JUNCTION BOX OVERHEAD TO EXISTING NORMAL POWER DISTRIBUTION PANEL 'DPX' AS INDICATED.
3. LAND RELOCATED CIRCUITS TO THIS PANEL FROM EXISTING PANEL AS INDICATED ON THE PANEL SCHEDULES.
4. INDICATES NEW CIRCUIT BREAKER. NEW CIRCUIT BREAKER SHALL BE INSTALLED ON EXISTING PANEL AS INDICATED.
5. AS AN ADD-ALTERNATE, PROVIDE NEW SERVICE ENTRANCE SURGE PROTECTIVE DEVICE TO SWITCHBOARD PER SPECIFICATIONS. (A)

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Revision Schedule

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Title

ELECTRICAL ONE-LINE DIAGRAM - NEW SCOPE

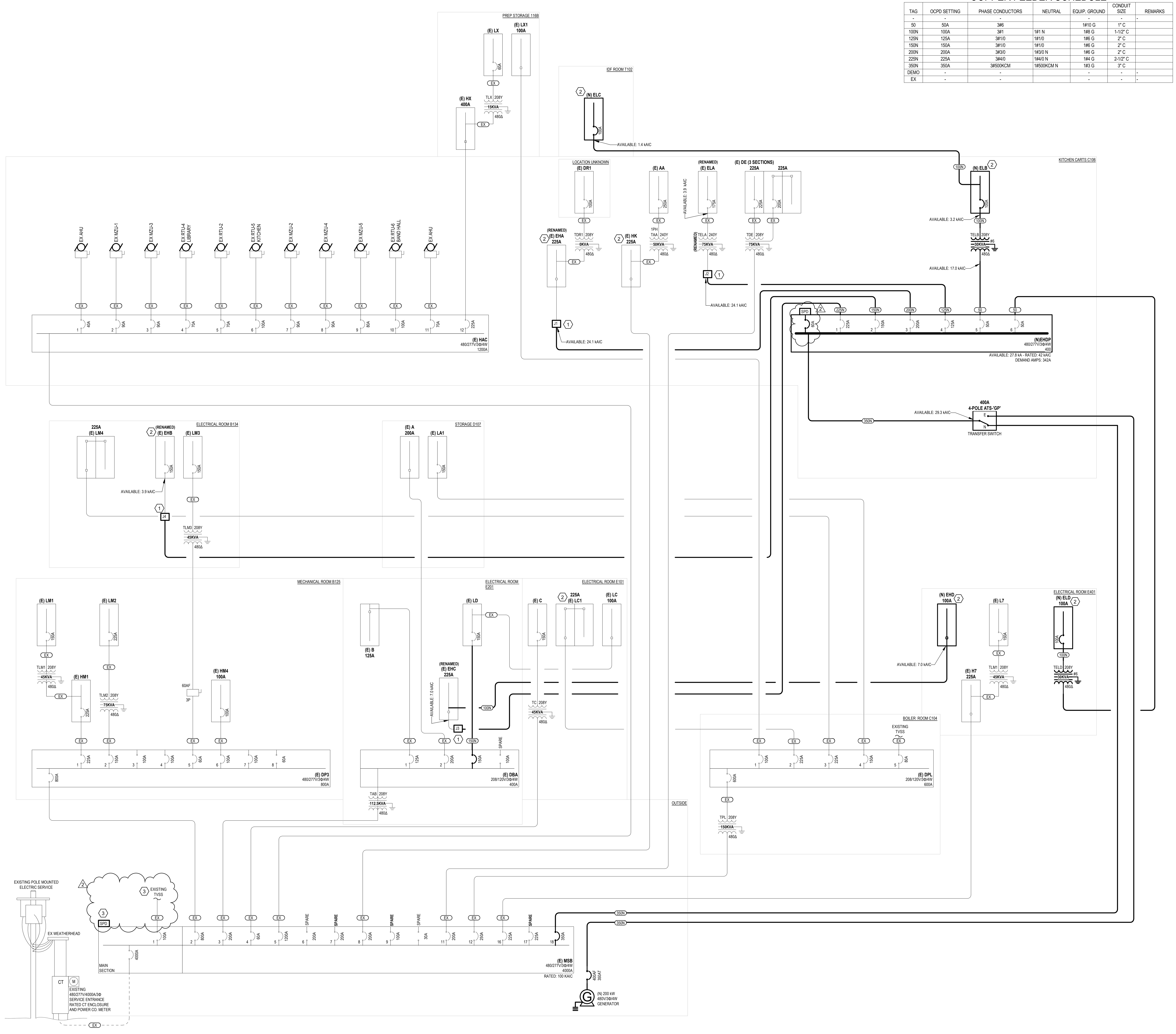
Sheet

ES-E5.1

Construction Documents

COPPER FEEDER SCHEDULE

TAG	OCPD SETTING	PHASE CONDUCTORS	NEUTRAL	EQUIP. GROUND	CONDUIT SIZE	REMARKS
-	-	-		-	-	-
50	50A	3#6		1#10 G	1" C	
100N	100A	3#1	1#1 N	1#8 G	1-1/2" C	
125N	125A	3#1/0	1#1/0	1#6 G	2" C	
150N	150A	3#1/0	1#1/0	1#6 G	2" C	
200N	200A	3#3/0	1#3/0 N	1#6 G	2" C	
225N	225A	3#4/0	1#4/0 N	1#4 G	2-1/2" C	
350N	350A	3#500KCM	1#500KCM N	1#3 G	3" C	
DEMO	-	-		-	-	-
EX	-	-		-	-	-



1 ELECTRICAL ONE-LINE DIAGRAM - NEW
NOT TO SCALE

GENERAL NOTES (RISER):

A. PROVIDE ENGRAVED LAMACOID LABELS FOR ALL POWER DISTRIBUTION EQUIPMENT FURNISHED OR MODIFIED IN THIS PROJECT, LABELS PER DETAILS AND SPECIFICATIONS.

B. SERVICE EQUIPMENT SHALL BE MARKED WITH THE MAXIMUM AVAILABLE FAULT-CURRENT AT THE EQUIPMENT AND THE DATE THE CALCULATION WAS PERFORMED. APPLY A TYPE-WRITTEN ADHESIVE LABEL WITH WHITE BACKGROUND, 1/2" HIGH BLACK LETTERING.

C. CONTRACTOR SHALL INSTALL SEPARATE CONDUITS, PULL BOXES, ETC. FOR EACH EMERGENCY POWER BRANCH & NORMAL POWER PER NEC FOR COMPLETE SEPARATION OF POWER SERVICES.

D. ALL CIRCUIT BREAKERS AND/OR DISCONNECTS SERVING THE PRIMARY SIDE OF A TRANSFORMER WHICH ARE NOT WITHIN LINE OF SIGHT OF THE TRANSFORMER SHALL BE PROVIDED WITH PERMANENTLY INSTALLED MEANS TO LOCK THE BREAKER IN THE OFF POSITION. SUCH TRANSFORMERS SHALL HAVE THE ROOM NAME AND NUMBER OF THE PRIMARY DISCONNECTING MEANS ENGRAVED ON THE EQUIPMENT NAMEPLATE.

E. CONTRACTOR SHALL PERFORM COORDINATION/FAULT CURRENT STUDY AND ARC FLASH HAZARD ANALYSIS AND SUBMIT STUDY RESULTS CONCURRENTLY WITH ELECTRICAL DISTRIBUTION EQUIPMENT SUBMITTALS. REFER TO SPECIFICATION SECTION 260573 FOR POWER SYSTEM STUDY REQURIEMENTS.

F. CONTRACTOR SHALL SET TRIP SETTINGS ON ALL ADJUSTABLE CIRCUIT BREAKERS ACCORDING TO RECOMMENDATIONS DETERMINED IN OCPD STUDIES, UNLESS DIRECTED OTHERWISE BY THE ENGINEER.

TAGGED NOTES:

1. NEW JUNCTION BOX INSTALLED ON WALL OF ELECTRICAL ROOM (SEE SHEET JH-5.0). EXTEND CONDUIT AND FEEDER FROM JUNCTION BOX OVERHEAD TO NEW EMERGENCY DISTRIBUTION PANEL 'EHDP' AS INDICATED.
2. LAND RELOCATED CIRCUITS TO THIS PANEL FROM EXISTING PANEL AS INDICATED ON THE PANEL SCHEDULES.
3. AS AN ADD-ALTERNATE, REPLACE EXISTING TVSS WITH NEW SERVICE ENTRANCE RATED SPD PER SPECIFICATIONS.

2

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ELECTRICAL ONE-LINE DIAGRAM - NEW SCOPE

Sheet

JH-E5.1

Construction Documents