



Architectural Services

130 Regional Park Drive
Kingsport, TN 37660
Phn (423) 349-7760
Fax (423) 349-7413
www.grcinc.com

ADDENDUM ONE

Project: **Sullivan County Schools East High School S.T.E.M. Classroom Renovations**

Address: **4180 Weaver Pike, Bluff City, TN**

October 26, 2023

This Addendum is part of the Contract Documents for the above referenced project and modifies the original drawings and/or specifications, dated **October 4, 2023**, as noted below. The bidder shall acknowledge receipt of this Addendum in the place provided in the Bid Form. The published bid date and time shall remain the same.

GENERAL:

1. See attached Pre-Bid Meeting sign in sheet.
2. State Fire Marshal Approval has been received for this project.

CLARIFICATION:

1. The existing roof is a Garland product currently under warranty. Contact Matt Emery 615-496-1464 memery@garlandind.com. New roofing work is to maintain the current warranty.

DRAWINGS:

1. **DRAWING G-00** – Revised Drawing Index
2. **DRAWING G-01** – Revised Code Data
3. **DRAWING A-10** – Revised to include Alternate #1 (LVT Flooring) and Alternate #2 (Wall Painting).
4. **DRAWING MP-1.0** – Duct detector clarification. See note 5 for integration with existing building control system.
5. **DRAWING MP-1.1** – See inclusion of penetration firestopping.
6. **DRAWING E-01** – Drawing provided with Engineers Seal, no other revision.
7. **DRAWING E-11** – Drawing provided with Engineers Seal, no other revision.
8. **DRAWING E-12** – See inclusion of Fire Alarm Notes
9. **DRAWING E-21** – Drawing provided with Engineers Seal, no other revision.

SPECIFICATIONS:

1. **Bid Form** – The Bid Form has been revised to include Alternate #1 and #2. The Revised Bid form is to be used.
2. **SECTION 088000 GLAZING** – Item 2.7 Safety and Security Window Film – The Basis of Design is to be the SCL SR PS8 (Clear) product as Manufactured by LLumar.

Cain Rash West Architects

Richard Lutz

OFFICE OF THE SULLIVAN COUNTY PURCHASING AGENT
 3411 HIGHWAY 126-SUITE 201
 BLOUNTVILLE, TN 37617-0569

KRISTINIA DAVIS
 PURCHASING AGENT

PHONE 423-323-6400
 FAX 423-323-7249
 kris.davis@sullivancountytn.gov

PRE-BID ATTENDANCE RECORD

DATE: 10/19/23 TIME: 2:00

PROJECT DESCRIPTION: Sullivan East High School STEM Classroom Renovation

LOCATION OF PROJECT: Sullivan East High School

*NOTE: MANDATORY PRE-BID MEETING REQUIRES REPRESENTATION OF COMPANY AGENT, VERIFIED BY REGISTRATION, TO AFFORD AN OPPORTUNITY FOR COMPANY TO OFFER A PRICED PROPOSAL.

Purchasing Dept? Michelle Ramsey

YOUR NAME	COMPANY / AGENCY	PHONE NUMBER	EMAIL ADDRESS
RODNEY CONTRIFF	PRESTON CONST. CO	423-435-9831 RODNEY & PEARSON CONSTRUCTION COMPANY, CO	CHARLES.HUBBARD@sullivan-tn.gov
CHARLES HUBBARD	SCOE	423-354-1151	Sullivan TN .gov
DINEEN WEST	CRW ARCHITECTS	423 349-7760	dineen@grcinc.com

Sullivan East High School STEM
Classroom Renovation
Bluff City, Tennessee

B I D F O R M 0 0 4 1 1 3 Rev. 10/27/2023

TO: OWNER: Sullivan County Tennessee
 ADDRESS: 3411 Highway 126
 Blountville, TN 37617

BID TRANSMITTED IN CARE OF: Michelle Ramey, Chief Deputy Purchasing Agent
 Sullivan County Courthouse
 3411 Highway 126
 Blountville, TN 37617

FROM: BIDDER: _____

ADDRESS: _____

CITY/STATE/ZIP: _____

TELEPHONE: _____

TN. LICENSE NO: _____

LICENSE EXPIRATION DATE: _____

THE ABOVE STATED BIDDER IS:

- _____ AN INDIVIDUAL
- _____ A CORPORATION
- _____ A PARTNERSHIP
- _____ A JOINT VENTURE CONSISTING OF:

AND IS LICENSED TO DO BUSINESS IN THE STATE OF TENNESSEE,
FOR THE WORK SPECIFIED.

GENTLEMEN:

1. Having examined the plans and specifications, having visited the site of the proposed work, and being completely familiar with the local conditions affecting the cost of the work, and having carefully examined the construction bidding documents with addenda prepared by Cain Rash West Architects and entitled "SULLIVAN EAST HIGH SCHOOL STEM CLASSROOM RENOVATION",

2. I, (We) propose to execute the portion of the work identified as "**Sullivan East High School STEM Classroom Renovation**" for the stipulated sum of: (sums shall be in written and numerical form)

Lump Sum Base Bid _____

_____ DOLLARS

(\$ _____).

Proposed Project Duration _____ (_____) Days

Base Bid shall include an Owner's Contingency of 5% which shall be listed as a line item on the Schedule of Values. Liquidated Damages shall be \$200 per day after September 30, 2024 if not substantially Complete. Note: Owner is aware of material availability issues – if all reasonable efforts to obtain materials have been made and documented and are not available to complete the project on time, the contractor will not be penalized.

3. I, (We) propose to execute the portion of the work identified as "**Sullivan East High School S.T.E.M. Classroom Alternate Number 1 LVT Flooring**" for the stipulated sum of: (sums shall be in written and numerical form)

Lump Sum Alternate #1 _____

_____ DOLLARS

(\$ _____).

Proposed Additional Duration _____ (_____) Days

4. I, (We) propose to execute the portion of the work identified as "**Sullivan East High School S.T.E.M. Classroom Alternate Number 2 Wall Painting**" for the stipulated sum of: (sums shall be in written and numerical form)

Lump Sum Alternate #1 _____

_____ DOLLARS

(\$ _____).

Proposed Additional Duration _____ (_____) Days

5. The undersigned agrees to complete all of the work described by the "Contract Documents" and have the space fully ready for occupancy, including any Alternates.
6. The undersigned agrees to commence work under this contract within three working days of receipt of Notice to Proceed.
7. The undersigned agrees that this bid shall be good and may not be withdrawn for a period of (30) thirty calendar days after the scheduled closing time for receiving bids.
8. The undersigned, upon receipt of written notice of the acceptance of this bid, agrees to deliver, to the owner or his agent, the architect, the required performance bond, labor and material payment bond and certificate of insurance in accordance with the specifications and instructions to bidders.
9. The undersigned hereby acknowledges receipt of:

ADDENDUM NO.	DATE
_____	_____
_____	_____
_____	_____
_____	_____

10. Include the list of proposed major subcontractors with this bid form:

MECHANICAL _____	LICENSE NO. _____
PLUMBING _____	LICENSE NO. _____
ELECTRICAL _____	LICENSE NO. _____
MASONRY _____	LICENSE NO. _____
SPRINKLER _____	LICENSE NO. _____

This proposal is respectfully submitted

By: _____

Title: _____

Firm name: _____

Business address: _____

(Seal if this bid is submitted by a Corporation)

This Bid Form consists of three (3) pages.

END OF BID FORM

S.T.E.M. Classroom Renovations for:

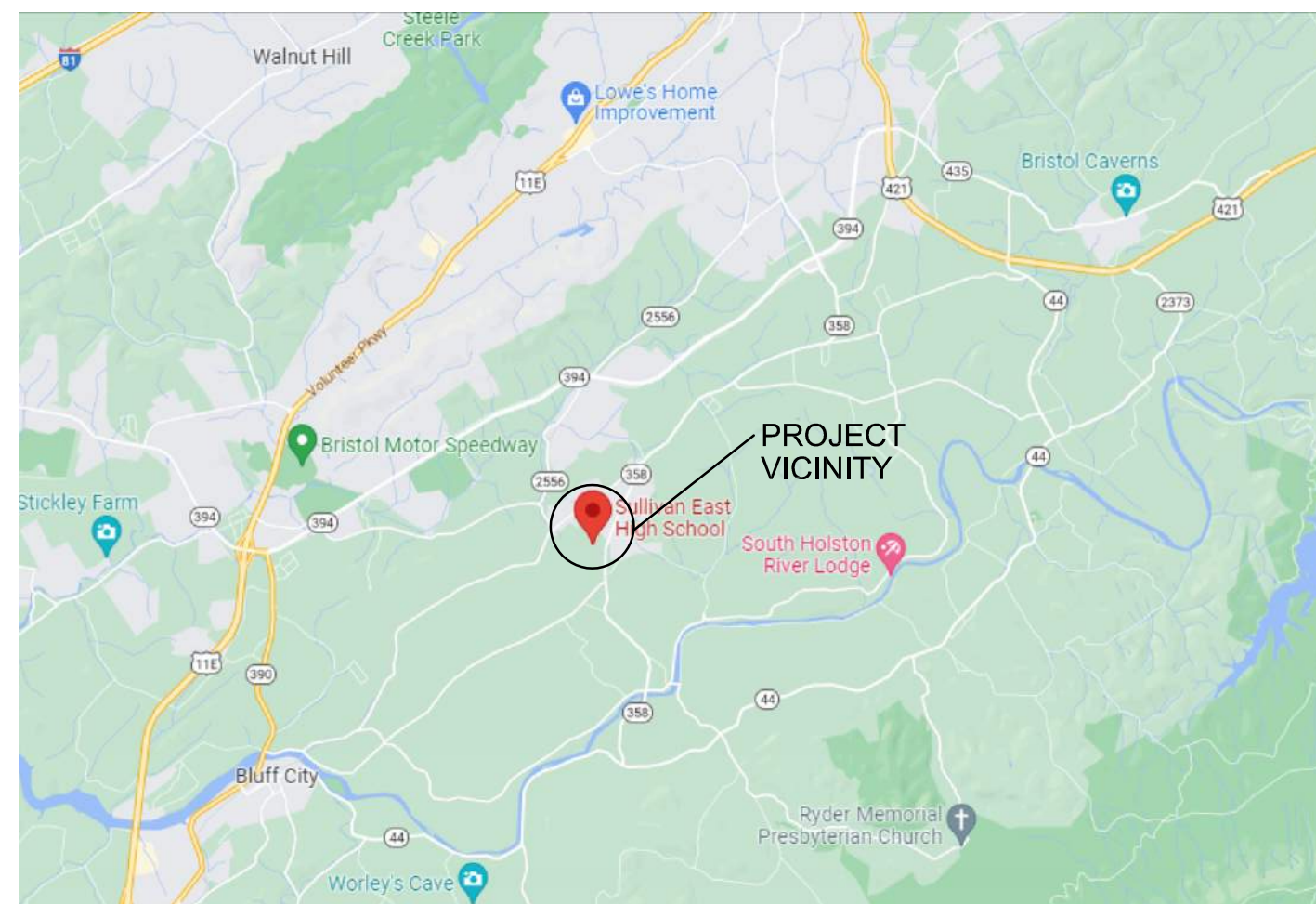
Sullivan County East High School

4180 Weaver Pike, Bluff City, Sullivan County, Tennessee 37618

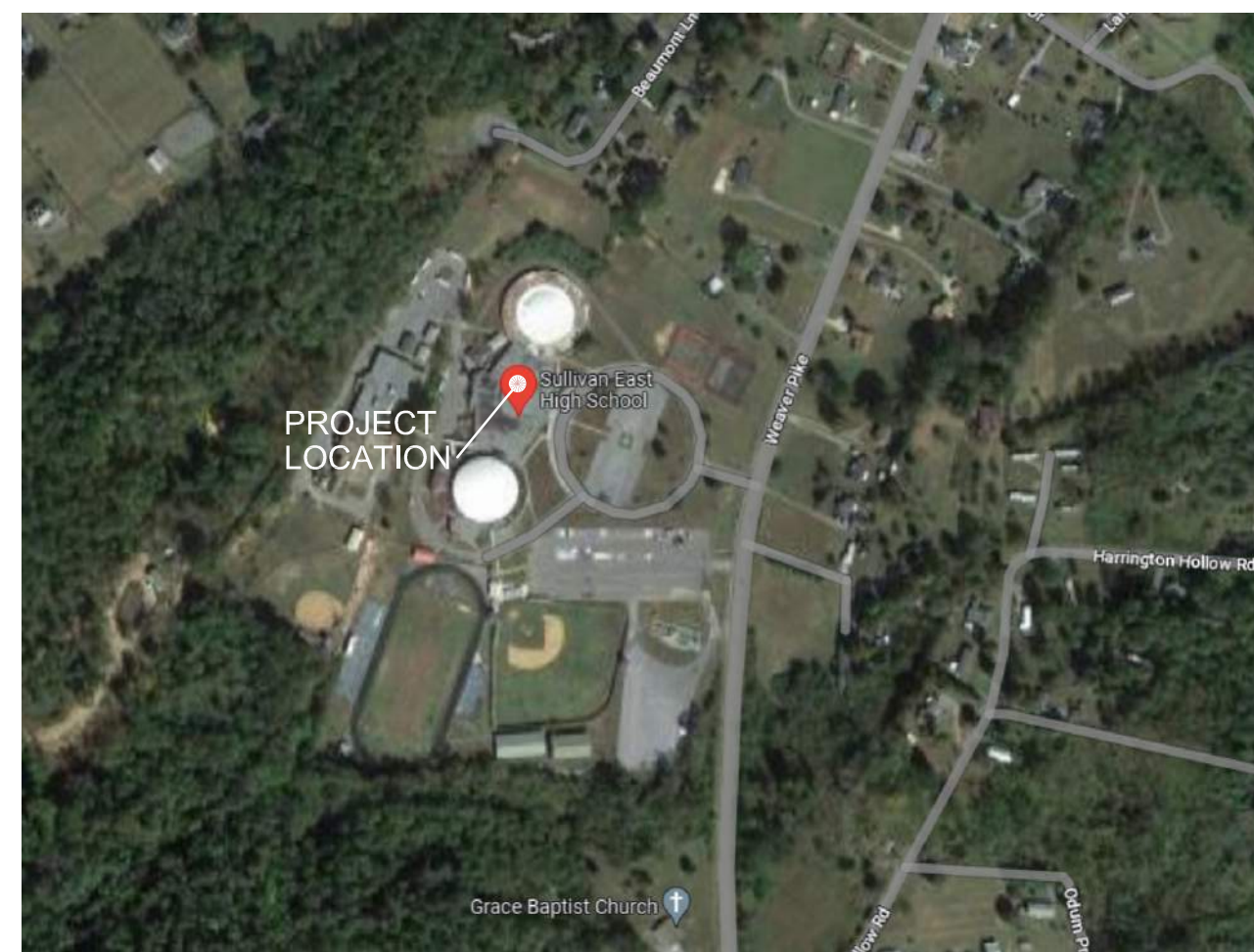


OCTOBER 4, 2023
CRW Project # 202336
Issued for BID

VICINITY MAP

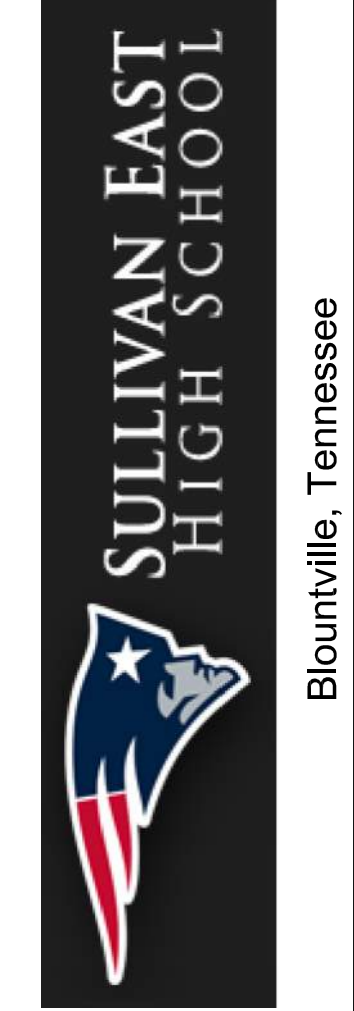


LOCATION MAP



DRAWING INDEX

GENERAL		
G-00	COVER SHEET	REVISED 10/20/2023
G-01	GENERAL INFORMATION SHEET	REVISED 10/20/2023
SITE / CIVIL		
NOT USED		
STRUCTURAL		
S-11	ROOFTOP HVAC UNIT SUPPORT PLAN	
ARCHITECTURAL		
A-01	DEMOLITION PLAN	
A-10	PARTIAL FLOOR PLAN	
A-20	INTERIOR ELEVATIONS	
INTERIORS		
I-10	REFLECTED CEILING PLAN	
MECHANICAL/PLUMBING		
MP-1.0	SCHEDULE & SPECIFICATIONS	REVISED 10/20/2023
MP-1.1	HVAC & PLUMBING FLOOR PLANS	REVISED 10/20/2023
FIRE PROTECTION		
NOT USED		
ELECTRICAL		
E-01	ELECTRICAL SCHEDULES, LEGEND AND DETAILS	REVISED 10/20/2023
E-11	LIGHTING PLAN	REVISED 10/20/2023
E-12	POWER & COMMUNICATIONS PLAN	REVISED 10/20/2023
E-21	PANEL BOARD SCHEDULE, FEEDER DIAGRAM & SPECIFICATIONS	REVISED 10/20/2023



**Cain
Rash
West**

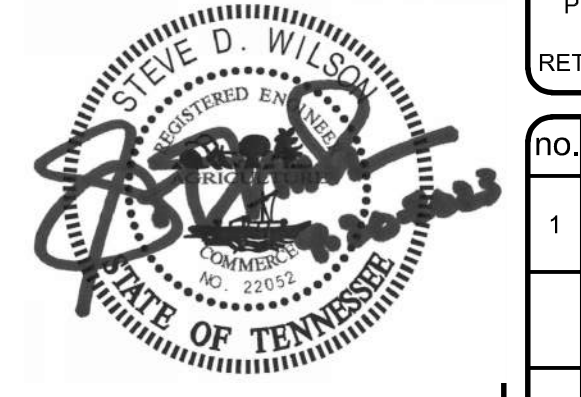
Architects

130 Regional Park Dr.
Kingsport, TN 37660
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Fax (423) 349-7413
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THIS DRAWING AS PREPARED BY CainRashWest Architects SHALL BE USED FOR THE SPECIFIC IDENTIFIED PROJECT ONLY. THIS DRAWING IS THE PROPERTY OF CainRashWest Architects AND SHALL BE RETURNED PER THEIR REQUEST

STRUCTURAL

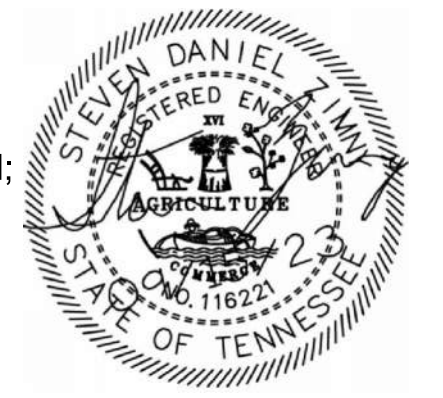
**SPODEN & WILSON
CONSULTING ENGINEERS**
430 CLAY STREET
KINGSPORT, TENNESSEE 37660
Phone: (423) 245-1181 Fax: (423) 245-0852
email: sweng@spodenwilson.com



no.	date	rev. description
1	00-00-20	REVISION DESCRIPTION TEXT

MECHANICAL / PLUMBING

BCE
BEDINGER
CONSULTING
ENGINEERS
5641 Merchants Center Blvd.
STE A104
Knoxville, TN 37912
Ph: 865-5975
www.bce1946.com



ELECTRICAL

VEE **VREELAND ENGINEERS INC.**
CONSULTING ELECTRICAL ENGINEERS
3107 SUTHERLAND AVENUE
P.O. BOX 10648
KNOXVILLE, TENNESSEE 37939-0648
PHONE 865/637-4451 FAX 865/637-1558



issued	20 SEPT. 2023
checked	NAME
drawn	RDL
project no.	202336

ARCHITECT / CIVIL

**Cain
Rash
West** **Architectural
Services**
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Kingsport, TN 37660
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COVER SHEET

G-00

ABBREVIATIONS

ABV. ABOVE	ACT ACUSTICAL TILE	ADA AMERICANS WITH DISABILITIES ACT	A.F.F. ABOVE FINISHED FLOOR	ALUM. ALUMINUM	@ AT OR AT THE RATE OF	APPROX. APPROXIMATELY	BLDG. BUILDING LINE	BLKG. BLOCKING	BOTT. BOTTOM	BRG. BEARING	C.B. CATCH BASIN	C CENTERLINE	CJ CONTROL JOINT	CLG. CEILING	CMU CONCRETE MASONRY UNIT	C.O. CLEAN OUT	CONC. CONCRETE	CONT. CONTINUOUS	COORD. COORDINATE	CORR. CORRIDOR	CTR. CENTER	DTL. DETAIL	D.F. DRINKING FOUNTAIN	DIA. Ø DIAMETER	DWG. DRAWING	D.W. DISH WASHER	(E) EXISTING	EA. EACH	E.I.F.S. EXTERIOR INSULATION AND FINISH SYSTEM	EJ EXPANSION JOINT	EL. ELEVATION	ELEC. ELECTRICAL	EQ. EQUAL	EXIST. EXISTING	EXP. EXPANSION	EXT. EXTERIOR	F.D. FLOOR DRAIN	FDTN. FOUNDATION	F.E. FIRE EXTINGUISHER	F.F. FINISHED FACE	FIN. FINISHED	FLR. FLOOR	FOF FACE OF FINISH	FTG. FOOTING	F.V. FIELD VERIFY	GA. GAUGE	GALV. GALVANIZED, HOT DIPPED	G.H.M. GALVANIZED HOLLOW METAL	GYP. BD. GYPSUM BOARD	H.B. HOSE BIBB	H.C. HANDICAPPED	HDWE. HARDWARE	H.M. HOLLOW METAL	HSV HOMOGENEOUS SHEET VINYL	HT. HEIGHT	INSUL. INSULATING, INSULATION	JT. JOINT	LAV. LAVATORY	MANUF. MANUFACTURER	MATL. MATERIAL	MAX. MAXIMUM	MECH. MECHANICAL	MDF MEDIUM DENSITY FIBERBOARD	MFD MULTI-FUNCTION DEVICE	M.H. MAN HOLE	MIN. MINIMUM, OR MINUTES	MIRR. MIRROR IMAGE OF TYPICAL DETAIL	M.O. MASONRY OPENING	M.R. MOISTURE RESISTANT	MTL. METAL	N.I.C. NOT IN CONTRACT	NOM. NOMINAL	O.C. ON CENTER	OCC. OCCUPANTS	PH. PHASE	PKG. PACKAGE	PLATE PLATE	POLY POLYETHYLENE	PR. PAIR	PSI POUNDS PER SQUARE INCH	P.T. PRESSURE TREATED	PT. PAINT, OR PAINTED	R RADIUS, RISER	RD ROOF DRAIN	RDL ROOF DRAIN LEADER	REQD REQUIRED	R.O. ROUGH OPENING	Ø SQUARE	SCHED. SCHEDULE	SIM. SIMILAR	SQ. SQUARE	STD. STANDARD	STL. STEEL	STRUCT. STRUCTURE, OR STRUCTURAL	SUSP. SUSPENDED	TK. THICK	TLT. TOILET	T.O. TOP OF	T.O.F. TOP OF FOOTING	T.O.S. TOP OF STEEL	TYP. TYPICAL	U.L. UNDERWRITER'S LABORATORIES, INC.	W. WIDE	W/ WITH	WD. WOOD	WDW. WINDOW	W.H. WATER HEATER	WOW WORKSTATION ON WHEELS	WWF WELDED WIRE FABRIC
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LEGEND

	EXISTING WALL CONSTRUCTION TO REMAIN
	EXISTING CONSTRUCTION TO BE REMOVED
	CONCRETE MASONRY (NEW, VIEWED IN PLAN & SECTION)
	METAL STUD AND GYPSUM BOARD WALL (NEW)
	METAL STUD AND GYPSUM BOARD WALL (PARTIAL HEIGHT WALL WITH CAP) (NEW)
	BRICK
	GYPSUM BOARD CEILING (IN PLAN)
	CASEWORK (IN PLAN VIEW)
	GLASS OR MIRROR (ELEVATION)
	BATT INSULATION
	VAPOR BARRIER
	CONCRETE (SECTION)
	CRUSHED STONE
	EARTH
	DENOTES 2-HR RATED FREE STANDING FIRE WALL
	DENOTES 2-HR RATED FIRE SEPARATION WALL / SMOKE BARRIER
	DENOTES 1-HR RATED FIRE BARRIER
	DENOTES NON-RATED SMOKE PARTITION

SYMBOLS

SECTION

SCALE: 3/4" = 1'-0"

	SECTION IDENTIFICATION
	DRAWING WHERE SECTION IS SHOWN
	ELEVATION IDENTIFICATION
	DRAWING WHERE ELEVATION IS SHOWN
	DETAIL IDENTIFICATION
	DRAWING WHERE DETAIL IS SHOWN
	WALL TYPE IDENTIFICATION
	WINDOW TYPE IDENTIFICATION
	DOOR MARK NUMBER (CORRESPONDS WITH ROOM NUMBER)
	INDICATES QUANTITY OF DOORS PER SPACE/ROOM (A, B, C, ETC.)
	ROOM/SPACE IDENTIFICATION
	ROOM NUMBER
	REVISION NUMBER

ITEMS NOT IN CONTRACT

COMPUTERS	TELEVISIONS	TABLES
ROOM SIGNAGE	MICROWAVES	FLING CABINETS
WINDOW TREATMENTS	EQUIPMENT	REFRIGERATORS
SHelves (NOT SHADED)	CUBICLE WALLS	DISHWASHERS
FREEZERS	LOCKERS	COAT RACKS
OVERHEAD PROJECTOR	EXAM TABLES	PAPER TOWEL DISPENSERS
PHLEBOTOMY CHAIRS		SOAP DISPENSERS
ANY ITEMS LABELED "NIC" OR "BY OWNER"		SCALES

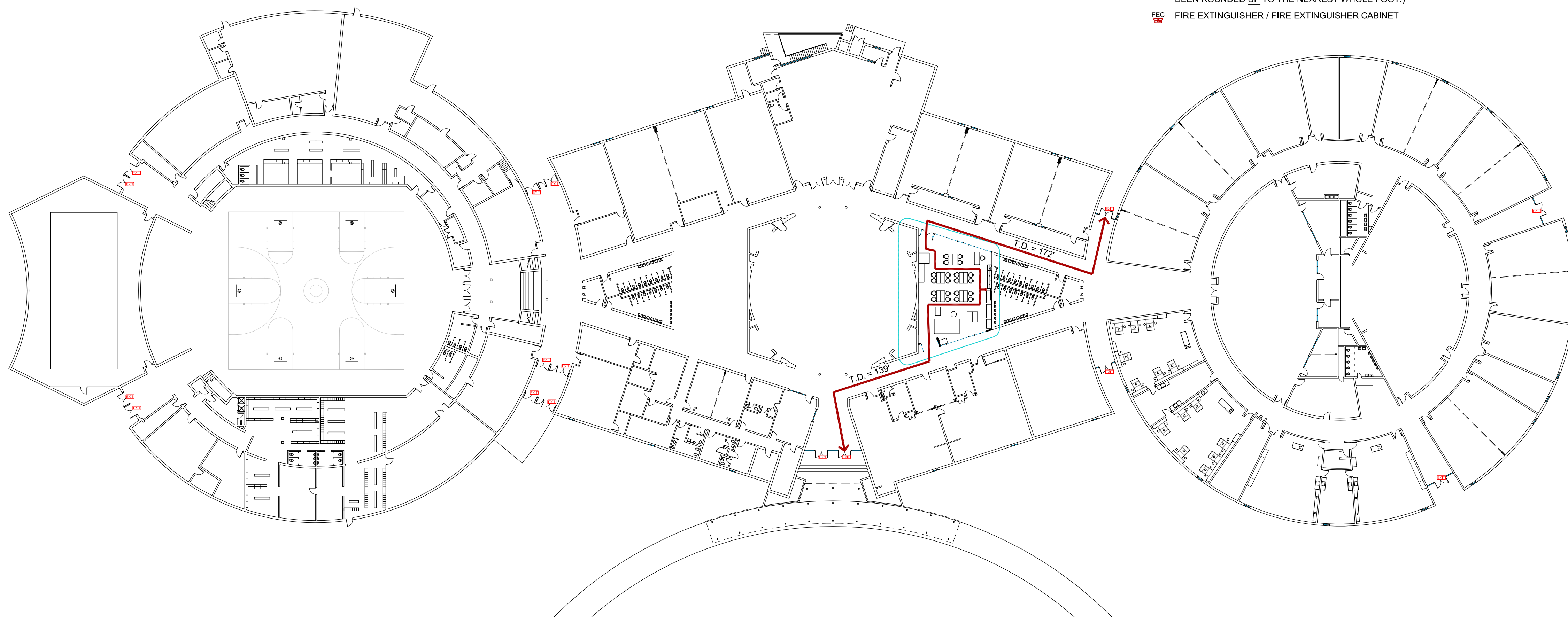
THESE ITEMS MAY BE SHOWN FOR REFERENCE AND COORDINATION PURPOSES ONLY.

BID ALTERNATES

ALTERNATE #1
XXXXXXXXXXXXXX

LEGEND

	EXISTING CONSTRUCTION TO REMAIN
	NEW WALL CONSTRUCTION
	DENOTES AREA OF WORK
	DENOTES 1-HR RATED FIRE BARRIER
	TRAVEL DISTANCE TO EXIT (NOTE: TRAVEL DISTANCES INDICATED ON PLAN HAVE BEEN ROUNDED UP TO THE NEAREST WHOLE FOOT.)
	FIRE EXTINGUISHER / FIRE EXTINGUISHER CABINET



LIFE SAFETY PLAN

GENERAL NOTES

- CONTRACTOR SHALL CONFINE HIS OPERATIONS TO THE IMMEDIATE VICINITY OF THE WORK SITE AS DIRECTED BY THE OWNER.
- CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE VERIFICATION OF ACTUAL CONDITIONS SURROUNDING THE PROJECT, INCLUDING THE AS-BUILT LOCATIONS AND CONDITIONS OF EXISTING UTILITIES AND THE BUILDING STRUCTURE.
- CONTRACTOR SHALL COORDINATE THE LOCATIONS FOR THE STORAGE OF EQUIPMENT AND BUILDING MATERIALS WITH THE BUILDING OWNER. CONTRACTOR SHALL NOT BLOCK OR IMPEDE ACCESS TO THE BUILDING BY EXISTING TENANTS, CUSTOMERS OR EMERGENCY VEHICLES.
- CONTRACTOR SHALL COORDINATE ANY REQUIRED SHUT-DOWN OF UTILITIES WITH THE LOCAL BODIES HAVING JURISDICTION. CONTRACTOR SHALL VERIFY THE LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO PERFORMING ANY EXCAVATION OPERATIONS. ANY DAMAGE TO EXISTING UNDERGROUND UTILITIES, INADVERTENT OR OTHERWISE, RESULTING FROM CONSTRUCTION OPERATIONS, SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR AT NO ADDITIONAL EXPENSE TO THE OWNER.
- UNLESS OTHERWISE NOTED, INTERIOR STUD WALLS SHALL BE CONSTRUCTED WITH 20 GA., 3/8" STEEL STUDS AT 16" ON CENTER WITH ONE (1) LAYER OF 5/8" THICK, TYPE "X", GYPSUM BOARD ON EACH FACE. (TOTAL WALL THICKNESS = 4.78") PROVIDE VERTICAL CONTROL JOINT AT ONE SIDE OF DOOR HEADS (TYPICAL). SET TRACK IN ACUSTICAL SEALANT FOR SOUND CONTROL. (TYPICAL ALL WALLS.)
- PLAN DIMENSIONS DENOTE FINISHED FACE OF WALL TO FINISHED FACE OF WALL UNLESS OTHERWISE NOTED. (TYPICAL FOR EXISTING WALLS.)
- ALL PARTITIONS SHALL BE CONTINUOUS FROM TOP OF FLOOR SLAB TO MIN. 6" ABOVE FIN. CEILING UNLESS OTHERWISE NOTED OR DETAILED. PROVIDE FIBERGLASS SOUND ATTENUATION BLANKETS IN ALL WALLS. (TYPICAL FULL HEIGHT OF WALL) (SEE WALL TYPES.)
- PROVIDE ALL WALL BLOCKING AS REQUIRED FOR PARTURES, CASEWORK, COMMUNICATIONS EQUIPMENT, ETC. ALL WOOD BLOCKING SHALL BE FIRE TREATED LUMBER. (CONTRACTOR MAY PROVIDE 20 GA. STEEL STUDS, IN LIEU OF WOOD BLOCKING, IN METAL STUD WALL CONSTRUCTION.) CONTRACTOR TO REVIEW LOCATIONS OF ALL WOOD BLOCKING WITH THE OWNER.
- CONTRACTOR SHALL PROVIDE TEMPORARY CONSTRUCTION WALLS AND CLOSURES AS REQUIRED TO PREVENT THE SPREAD AND INFILTRATION OF DUST AND DEBRIS TO OTHER OCCUPIED AREAS OF THE BUILDING.
- ALL DEBRIS SHALL BE REMOVED FROM THE PROJECT SITE BY THE CONTRACTOR AND DISPOSED OF IN ACCORDANCE WITH ALL APPLICABLE LOCAL, STATE AND FEDERAL REQUIREMENTS. DEBRIS SHALL BE REMOVED FROM THE SITE DAILY.
- THE CONTRACTOR SHALL ACCESS THE BUILDING ONLY FROM LOCATIONS APPROVED BY THE OWNER'S REPRESENTATIVE. CONSTRUCTION OPERATIONS SHALL NOT IMPEDE THE NORMAL FLOW OF TRAFFIC AT OTHER ENTRYWAYS.
- CONTRACTOR SHALL NOTIFY BUILDING OWNER, AND ALL TENANTS, OF ANY REQUIRED UTILITY SHUT-DOWN NOT LESS THAN 48 HOURS IN ADVANCE OF THE SCHEDULED INTERRUPTION OF UTILITY SERVICES.
- DURING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF THE BUILDING AND ITS CONTENTS FROM THE ELEMENTS AND FROM UNAUTHORIZED ENTRY. CONTRACTOR SHALL PROVIDE TEMPORARY CLOSURES AND BARRICADES AS REQUIRED TO MAINTAIN A SECURE ENVIRONMENT.
- CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE VERIFICATION OF ALL DIMENSIONS, LOCATIONS, SIZES, ETC. OF ALL BUILDING COMPONENTS, STRUCTURAL MEMBERS, EQUIPMENT, AND ACCESSORIES TO REMAIN.
- CONTRACTOR SHALL NOT IMPEDE TRAFFIC FLOW IN ROADWAYS OR PARKING AREAS. COMPLETE ACCESS TO THE BUILDING BY EMERGENCY VEHICLES SHALL BE MAINTAINED AT ALL TIMES DURING DEMOLITION AND CONSTRUCTION OPERATIONS.
- DOORS CONSTRUCTED AGAINST AN ADJACENT WALL SHALL BE PLACED 3" FROM THE OUTSIDE OF THE FRAME TO THE ADJACENT WALL (TYPICAL FOR STUD WALLS). DOORS IN MASONRY WALLS SHALL BE 8" (ONE BLOCK COURSE) FROM ADJACENT WALL. DOORS SHOWN IN THE CENTER OF A WALL SHALL BE CENTERED WITHIN THAT SPACE UNLESS OTHERWISE NOTED.
- CONTRACTOR IS RESPONSIBLE FOR PATCHING AND FINISHING ALL EXISTING WALLS THAT ARE DAMAGED DURING DEMOLITION OPERATIONS OR THROUGH THE INSTALLATION OF NEW ITEMS AND APPURTENANCES TO A UNIFORM APPEARANCE TO ADJACENT FINISHES.
- THIS DRAWING SET UTILIZES COLOR FOR CLARITY AND IS BEST INTERPRETED WHEN VIEWED OR PRINTED IN COLOR.
- THIS DRAWING SET IS INTENDED TO BE PRINTED AT 24"x36" SHEET SIZE. DO NOT SCALE DRAWINGS FROM ANY OTHER SIZE PRINT.

CODE DATA

SCOPE OF WORK SUMMARY

THIS PROJECT CONSISTS OF THE CREATION OF A NEW CLASSROOM WITHIN AN OPEN COMMONS AREA OF THE EXISTING SCHOOL, AND DOES NOT EFFECT EGRESS FROM THE BUILDING. THIS PROJECT DOES NOT INCLUDE ANY SITE WORK.

APPLICABLE CODES

- NFPA 101 LIFE SAFETY CODE (2012 EDITION)
- ICC INTERNATIONAL BUILDING CODE (2012 EDITION) (EXCLUDING CHAPTER 11 AND SECTION 3411)
- ICC INTERNATIONAL EXISTING BUILDING CODE, 2012 EDITION (SCOPE OF WORK RELATED TO EXISTING BUILDINGS)
- ICC INTERNATIONAL FIRE CODE (2012 EDITION)
- ICC INTERNATIONAL MECHANICAL CODE (2012 EDITION)
- ICC INTERNATIONAL FUEL GAS CODE (2012 EDITION)
- ICC INTERNATIONAL PLUMBING CODE (2012 EDITION)
- ICC INTERNATIONAL ENERGY CONSERVATION CODE (2012 EDITION)
- NATIONAL ELECTRIC CODE (NFPA70) (2017 EDITION)
- ACCESSIBILITY CODE: 2010 ADA STANDARDS FOR ACCESSIBLE DESIGN.

NOTE: IN INSTANCES WHERE THE SPECIFIC REQUIREMENTS OF ICC AND NFPA 101 DIFFER, THE MORE STRINGENT OF THE TWO CODES SHALL APPLY.)

OCCUPANCY

EDUCATIONAL - GROUP E

CONSTRUCTION TYPE

TYPE II-B

GENERAL BUILDING LIMITATIONS

- ALLOWABLE HEIGHT - UNCHANGED - EXISTING BUILDING IS LESS THAN THE PERMITTED 55'
- ALLOWABLE STORIES - UNCHANGED - THE EXISTING BUILDING IS ONE (1) STORY
- ALLOWABLE AREA - UNCHANGED - THE EXISTING BUILDING IS 128,557 SQUARE FEET

OCCUPANT LOAD

THE BUILDING OCCUPANT LOAD IS UNCHANGED

THE PROPOSED CLASSROOM IS 1,611 SF AT 50 SF PER PERSON FOR SHOPS/ OTHER VOCATIONAL ROOMS. THE PROPOSED OCCUPANCY LOAD FOR THIS SPACE IS 32 PEOPLE.

EGRESS

THE BUILDING EGRESS IS UNCHANGED. REQUIRED TRAVEL DISTANCES IS 200' PER TABLE 1017.2 SEE ADJACENT PLAN FOR DISTANCES MAINTAINED UNDER 200'

INTERIOR FINISHES

TABLE 803.9 - INTERIOR FINISHES FOR GROUP B, NON-SPRINKLERED FACILITIES, SHALL BE CLASS "A" MATERIALS AT ALL VERTICAL EXITS AND EXIT PASSAGEWAYS. EXIT ACCESS CORRIDORS SHALL BE CLASS "B" AND OTHER ROOMS OR ENCLOSED SPACES MAY BE CLASS "C" MATERIALS. (CLASS "A" = FLAMESPREAD 0-25, SMOKE 0-450) (CLASS "B" = FLAMESPREAD 25-75, SMOKE 0-450) (CLASS "C" = FLAMESPREAD 76-200, SMOKE 0-450)

804 - INTERIOR FLOOR FINISHES CLASS II INTERIOR FLOOR FINISH - CRITICAL RADIANT FLUX NOT LESS THAN 0.22 W/cm² BUT LESS THAN 0.45 W/cm²

FIRE PROTECTION SYSTEMS

EXISTING FIRE ALARM SYSTEM TO BE MODIFIED AS REQUIRED FOR THE PROPOSED SCOPE OF WORK.

FIRE DEPARTMENT INFORMATION

SULLIVAN EAST VOLUNTEER FIRE DEPARTMENT
MATT KEGLEY - CHIEF
3287 WEAVER PIKE
BRISTOL, TN 37620
NON-EMERGENCY PHONE: 423-878-2787
FAX: 423-217-1043
WEB: HTTP://EASTSULLIVANCOUNTYVFD.COM



S.T.E.M. Classroom Renovations for

Blountville, Tennessee



130 Regional Park Dr.
Kingsport, TN 37660
Phn (423) 349-7760
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no.	date	rev.	description
1	11/20/23		CODE REVISIONS

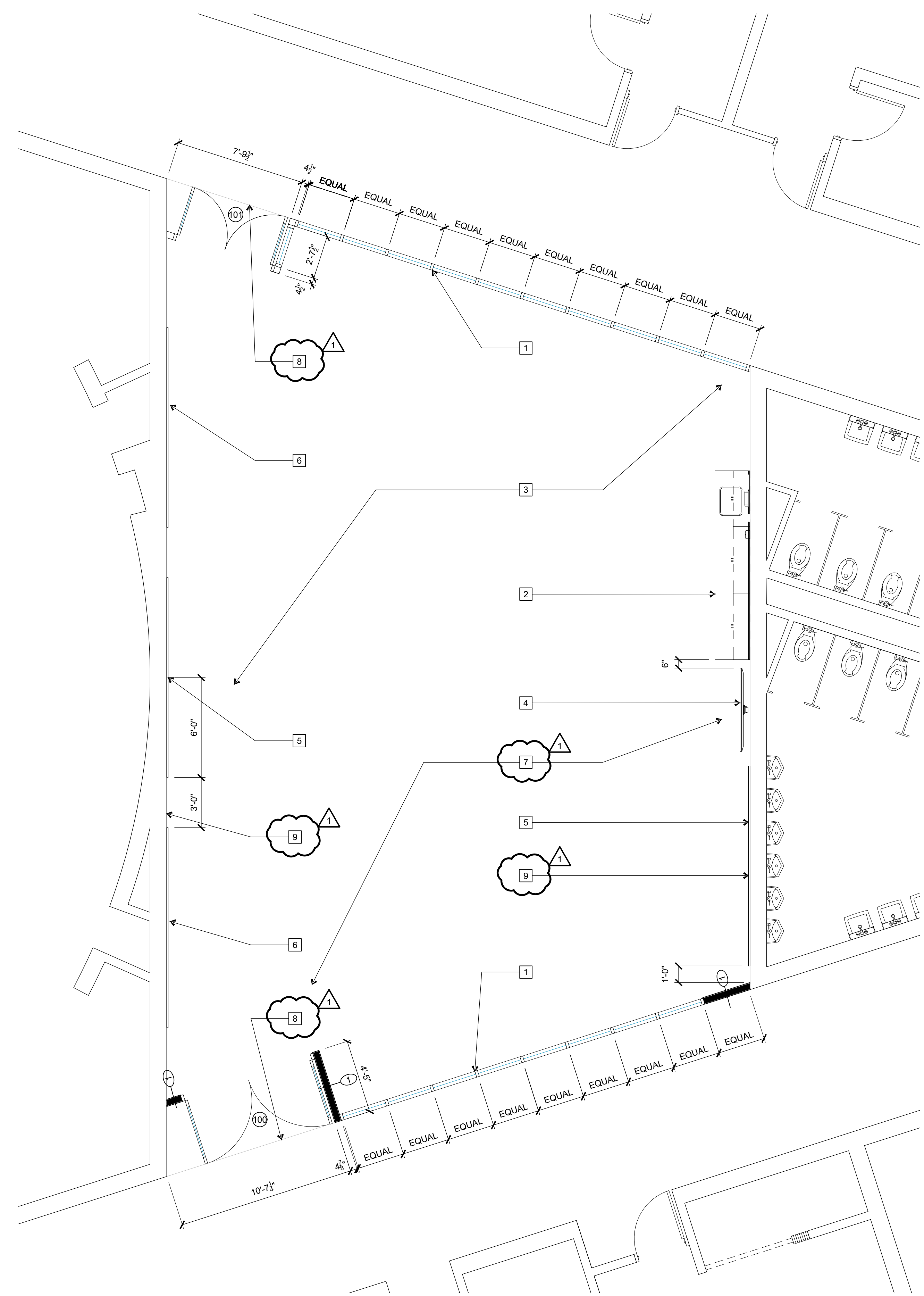


issued	20 SEPT. 2023
checked	NAME
drawn	RDL
project no.	202336

GENERAL INFORMATION

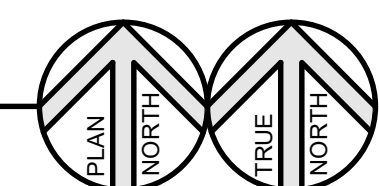
G-01

printed: 10/25/2023 11:24:02 AM file: A-10 FLOOR PLAN.DWG



FLOOR PLAN

SCALE: 1/4" = 1'-0"

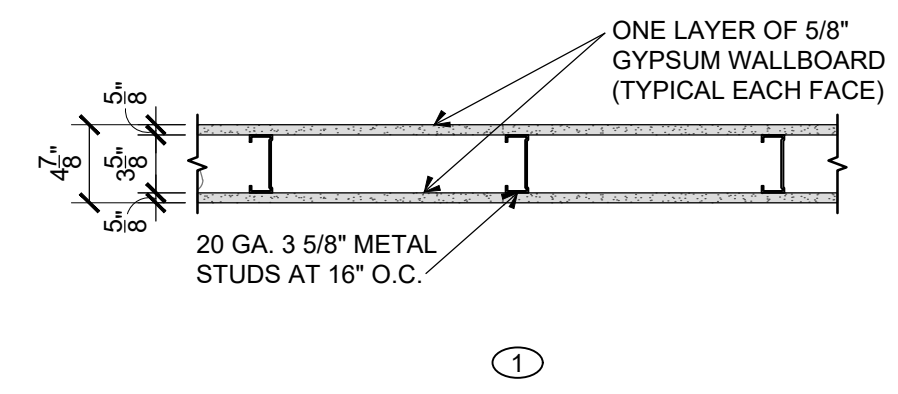


GENERAL PLAN NOTES

1. ALL ROOM SIGNAGE SHALL BE PROVIDED AND INSTALLED BY THE OWNER.
2. PROVIDE ALL WALL BLOCKING AS REQUIRED FOR FIXTURES, CASEWORK, EQUIPMENT, ETC. ALL WOOD BLOCKING SHALL BE FIRE RETARDANT TREATED WOOD. (CONTRACTOR MAY PROVIDE 20 GA. STEEL STUDS, IN LIEU OF WOOD BLOCKING, IN METAL STUD WALL CONSTRUCTION.)
3. ALL ROOM FURNISHINGS AND EQUIPMENT TO BE SUPPLIED BY THE OWNER, EXCEPT FOR CASEWORK WORK INDICATED ON THE PLAN.
4. FOR GENERAL NOTES SEE DRAWING G-01.
5. PATCH EXISTING WALLS AS REQUIRED TO ACHIEVE A UNIFORM APPEARANCE, TYPICAL WALLS SHALL MATCH EXISTING ADJACENT CONSTRUCTION.
6. DIMENSIONS ARE FROM FACE OF STUD OR FACE OF MASONRY, UNLESS OTHERWISE NOTED F.O.F. (FACE OF FINISH)

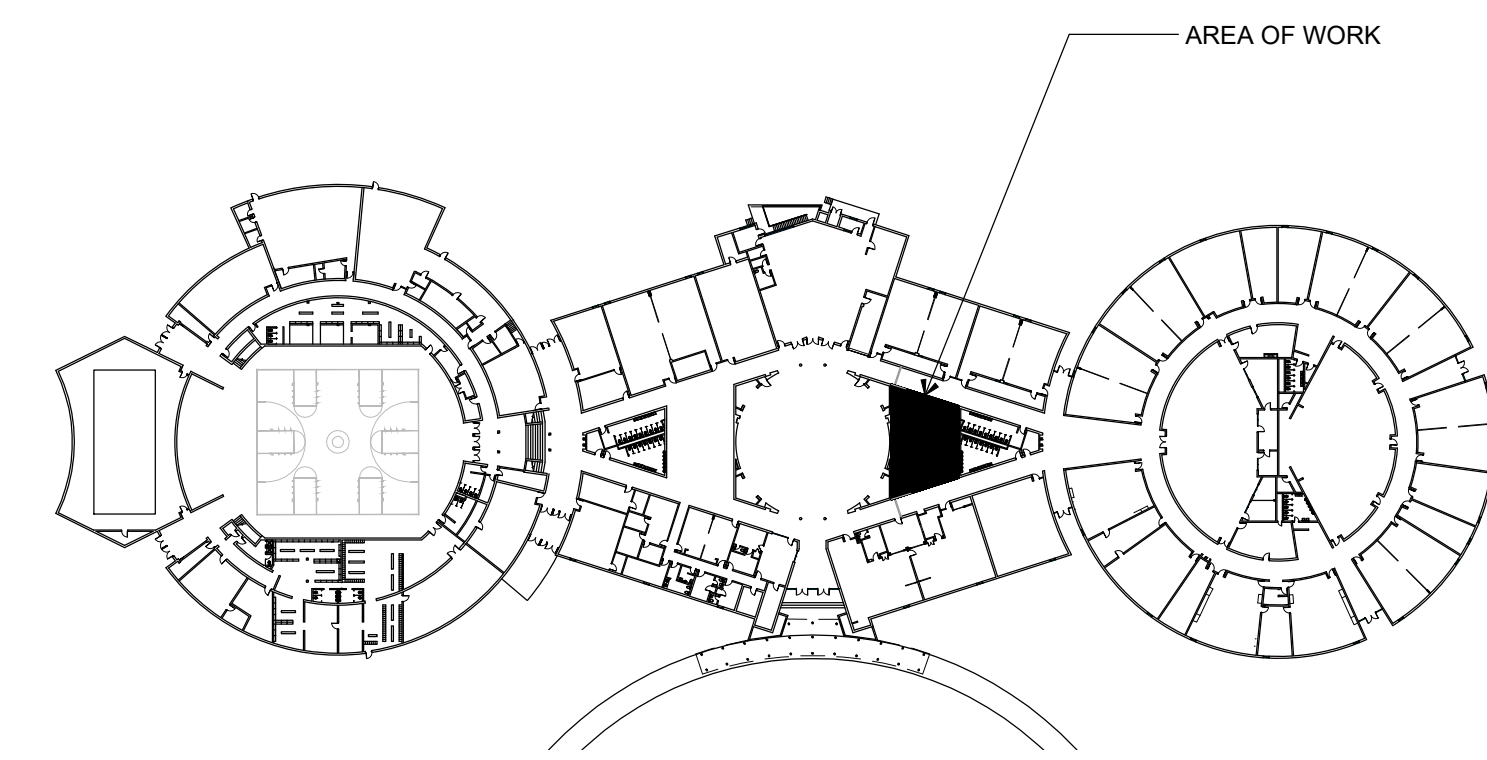
KEY NOTES

1. ALUMINUM STOREFRONT WINDOW AND DOOR SYSTEM.
2. NEW BASE CABINET AND WALL CABINET. SEE DRAWING A-20.
3. EXISTING TERRAZZO FLOOR TO BE CLEANED AND POLISHED.
4. 75" LED MONITOR
5. 12'-0" x 4'-0" WHITE BOARD WITH CHALK TRAY AT BOTTOM AND 1" MAP RAIL WITH CORK INSERT AT TOP MOUNTED 3'-0" ABOVE FINISH FLOOR.
6. 12'-0" x 4'-0" TACK BOARD MOUNTED 3'-0" ABOVE FINISH FLOOR.
7. ALTERNATE #1 - PROVIDE NEW LVT FLOORING IN THE ENTIRE NEW CLASSROOM. FLOORING TO BE INTERFACE, STEADY STRIDE (BASIS OF DESIGN) OR APPROVED EQUAL. COLOR TO BE SELECTED FROM MANUFACTURERS FULL LINE OF COLORS. PROVIDE ALL FLOOR PREP AND ACCESSORIES AS REQUIRED FOR A COMPLETE INSTALLATION.
8. EDGE OF NEW FLOORING. PROVIDE TRANSITION STRIP TO EXISTING FLOORING.
9. ALTERNATE #2 - PAINT EXISTING EAST AND WEST WALLS.



WALL TYPES

SCALE: 1" = 1'-0"



KEY PLAN



S.T.E.M. Classroom Renovations for:

Blountville, Tennessee



130 Regional Park Dr.
Kingsport, TN 37660
Phn (423) 349-7760
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www.grcinc.com

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no.	date	rev. description
1	10-27-23	ADDENDUM #1



issued	20 SEPT. 2023
checked	NAME
drawn	RDL
project no.	202336

FLOOR PLAN

A-10

HVAC SPECIFICATIONS

- FURNISH ALL LABOR, MATERIALS AND EQUIPMENT REQUIRED TO INSTALL A COMPLETE HEATING AND COOLING SYSTEM AS INDICATED AND SPECIFIED ON THE DRAWINGS.
- WORK SHALL COMPLY WITH IMC, NFPA, ALL APPLICABLE LAWS, ORDINANCES & CODES OF THE STATE OF TENNESSEE, LOCAL AUTHORITIES HAVING JURISDICTION AND WITH APPLICABLE RULES & REGULATIONS.
- OBTAIN ALL PERMITS & INSPECTIONS REQUIRED FOR THE COMPLETION OF THE WORK & PAY ALL FEES & COSTS IN CONNECTION THEREWITH.
- THE MECHANICAL DRAWINGS ARE GENERALLY DIAGRAMMATIC AND UNLESS SPECIFICALLY DIMENSIONED, THE LOCATIONS OF DUCTWORK AND EQUIPMENT AND THE ROUTING OF DUCTWORK IS APPROXIMATE ONLY AND SHALL NOT BE SCALED FROM THE MECHANICAL DRAWINGS.
- INSTALL ALL EQUIPMENT IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
- SUBMIT TO THE ARCHITECT FOR APPROVAL, 10 DAYS AFTER RECEIPT OF NOTICE TO PROCEED WITH THE WORK, A COMPLETE LIST OF MATERIALS, EQUIPMENT AND ACCESSORIES PROPOSED FOR USE, INCLUDING COMPLETE DESCRIPTIONS AND SPECIFICATIONS OF ANY PROPOSED SUBSTITUTIONS, MANUFACTURER'S SHOP DRAWINGS, ROUGHING-IN DRAWINGS, AND ANY OTHER INFORMATION REQUIRED FOR THE PROPER INSTALLATION OF THE WORK. SUBMITTALS SHALL BE IN PDF FORMAT (NO PAPER COPIES).
- ALL DUCTWORK SHALL BE GALVANIZED STEEL FABRICATED ACCORDING TO SMACNA DETAILS. DUCTS SHALL BE SIZE INDICATED ON DRAWINGS (NET INSIDE DIMENSIONS), RIGIDLY BRACED, ADEQUATELY SUPPORTED & SECURELY FASTENED IN PLACE.
- FLEXIBLE DUCT FOR INSULATED SYSTEMS SHALL BE THERMAFLEX M-KF, OR EQUAL, PRE-INSULATED DUCT WITH A MINIMUM R-VALUE OF 6.0. FLEXIBLE DUCT FOR NON-INSULATED DUCT SYSTEMS SHALL BE THERMAFLEX S-LD, OR EQUAL. ALL FLEXIBLE DUCT SHALL BE INSTALLED IN STRICT ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. DUCT RUNS SHALL BE AS STRAIGHT AS POSSIBLE AND LIMITED TO MAXIMUM OF 5 FEET IN LENGTH.
- INSULATE ALL SHEET METAL SUPPLY AIR DUCTWORK WITH 2.2" THICK OWENS-CORNING ASW DUCTWRAP. THOROUGHLY TAPE ALL JOINTS AND SEAMS.
- LINE ALL DUCTWORK (IN ADDITION TO DUCTWRAP) WITH 1" THICK OWENS-CORNING FIBERGLASS DUCT LINER WHERE INDICATED ON THE DRAWINGS.
- INSTALL SINGLE WALL TURNING VANES AT RIGHT ANGLES AND SMALL RADIUS TURNS IN DUCTS. MAKE REDUCTIONS IN DUCT SIZE WITH TAPERED TRANSITION PIECES. TRANSITIONS FOR CONNECTIONS TO EQUIPMENT SHALL BE DESIGNED TO SUIT CONDITIONS AND SO THAT AIR FLOW IS NOT RESTRICTED.
- WHEN THE INSTALLATION IS COMPLETE, IT SHALL BE RUN & ADJUSTED BY THE CONTRACTOR. ANY EXCESSIVE NOISE OR VIBRATION SHALL BE CORRECTED.
- SUBMIT WRITTEN AIR BALANCE REPORT TO THE ARCHITECT A MINIMUM OF 10 DAYS PRIOR TO THE FINAL INSPECTION. THE AIR BALANCE CONTRACTOR SHALL BE AABC OR NEBB CERTIFIED.
- THE CONTRACTOR SHALL INSTRUCT THE OWNER IN THE OPERATION OF EQUIPMENT & PROVIDE THE OWNER WITH A COMPLETE SET OF OPERATING INSTRUCTIONS FOR EQUIPMENT INSTALLED UNDER HIS CONTRACT.
- THE WORK SHALL BE GUARANTEED AGAINST ALL DEFECTIVE MATERIALS & EQUIPMENT FOR A PERIOD OF ONE YEAR AFTER ACCEPTANCE. THE CONTRACTOR SHALL MAKE ALL NECESSARY CORRECTIONS WITHOUT COST TO THE OWNER.

PLUMBING SPECIFICATIONS

- FURNISH ALL LABOR, MATERIALS AND EQUIPMENT REQUIRED TO INSTALL A COMPLETE PLUMBING SYSTEM AS INDICATED AND SPECIFIED ON THE DRAWINGS.
- WORK SHALL COMPLY WITH THE INTERNATIONAL PLUMBING CODE AND ALL APPLICABLE LAWS, ORDINANCES & CODES OF THE STATE OF TENNESSEE, LOCAL AUTHORITIES HAVING JURISDICTION AND WITH APPLICABLE RULES & REGULATIONS.
- OBTAIN ALL PERMITS & INSPECTIONS REQUIRED FOR THE COMPLETION OF THE WORK & PAY ALL FEES & COSTS IN CONNECTION THEREWITH.
- THE PLUMBING DRAWINGS ARE GENERALLY DIAGRAMMATIC AND UNLESS SPECIFICALLY DIMENSIONED, THE LOCATIONS OF FIXTURES AND EQUIPMENT AND THE ROUTING OF PIPING IS APPROXIMATE ONLY AND SHALL NOT BE SCALED FROM THE PLUMBING DRAWINGS.
- INSTALL ALL EQUIPMENT AND FIXTURES IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
- INTERIOR SOIL, WASTE, AND VENT PIPING SHALL BE SCHEDULE 40 PVC-DWV ASSEMBLED WITH SOLVENT WELD JOINTS.
- ABOVE GRADE DOMESTIC WATER PIPING SHALL BE HARD DRAWN COPPER, TYPE "L" PIPING ASSEMBLED WITH WROUGHT COPPER SOLDER FITTINGS. CONNECTIONS OF COPPER PIPE TO FERROUS PIPE SHALL BE MADE WITH DIELECTRIC UNIONS OR COUPLINGS.
- DOMESTIC WATER PIPING MAY BE CROSSLINKED POLYETHYLENE PEXA OR PEXB AS MANUFACTURED BY ZURN, REHAU OR UPONOR. FITTINGS SHALL BE AS RECOMMENDED BY THE PEX MANUFACTURER. PIPE SIZES ARE BASED UPON COPPER, INCREASE SIZES AS RECOMMENDED BY THE MANUFACTURER.
- SUBMIT TO THE ARCHITECT FOR APPROVAL, 10 DAYS AFTER RECEIPT OF NOTICE TO PROCEED WITH THE WORK, A COMPLETE LIST OF MATERIALS, EQUIPMENT AND ACCESSORIES PROPOSED FOR USE, INCLUDING COMPLETE DESCRIPTIONS AND SPECIFICATIONS OF ANY PROPOSED SUBSTITUTIONS, MANUFACTURER'S SHOP DRAWINGS, ROUGHING-IN DRAWINGS, AND ANY OTHER INFORMATION REQUIRED FOR THE PROPER INSTALLATION OF THE WORK. SUBMITTALS SHALL BE IN PDF FORMAT (NO PAPER COPIES).
- AFTER THE WATER SYSTEM HAS BEEN TESTED FOR LEAKS AND BEFORE THE SYSTEM HAS BEEN PLACED IN USE, INTRODUCE HTH SOLUTION, CHLORINE GAS, OR OTHER SIMILAR CHLORINATING AGENT IN SUFFICIENT QUANTITY TO PRODUCE A RESIDUAL OF 100 PPM THROUGHOUT THE ENTIRE SYSTEM AND ALLOW TO STAND THUS FILLED FOR 24 HOURS. AFTER THE 24 HOURS PERIOD, FLUSH CLEAN WATER THROUGHOUT THE PIPING SYSTEM UNTIL ALL NOTICEABLE TRACE OF CHLORINE GAS HAS DISAPPEARED. VERIFY PROCEDURES AND TESTING REQUIREMENTS WITH THE PUBLIC HEALTH AGENCY HAVING JURISDICTION.
- THE WORK SHALL BE GUARANTEED AGAINST ALL DEFECTIVE MATERIALS & WORKMANSHIP FOR A PERIOD OF ONE YEAR AFTER ACCEPTANCE. THE CONTRACTOR SHALL MAKE ALL NECESSARY CORRECTIONS WITHOUT COST TO THE OWNER.

ROOFTOP HEAT PUMP (RTU) SCHEDULE

MARK	AIR SYSTEM				COOLING CAPACITY		MIN. EER	HEATING CAPACITY				COP	MCA	MOCp	VOLTS/ PHASE	UNIT WEIGHT (LBS)	NOMINAL TONNAGE	TRANE MODEL
	TOTAL CFM	O.A. CFM	MIN. FAN HP	EXT. STATIC (INCHES W.G.)	SENS (MBH)	TOTAL (MBH)		@ 17°F (MBH)	@ 47°F (MBH)	ELEC. HEAT								
										KW	STEPS							
①	1600	200	1.0	1.0	40.7	49.2	12.4	34.5	52.8	10	1	5.3	28.1	30.0	460/3	1700	4	OAB048
②	2000	200	1.5	1.0	49.8	60.4	11.7	43.7	65.3	15	1	5.1	37.0	40.0	460/3	1700	5	OAB060

NOTES:

- VERIFY VOLTAGE BEFORE ORDERING EQUIPMENT
- COOLING RATINGS FOR 95°F AMBIENT; 67°WB & 80°DB E.A.T. - HEATING RATINGS FOR 70°F E.A.T.
- RTU-2: SUPPLY AND RETURN SMOKE DETECTORS SHALL BE FURNISHED ELECTRICAL CONTRACTOR AND INSTALLED BY MECHANICAL CONTRACTOR. DETECTORS SHALL MEET ALL REQUIREMENTS OF THE INTERNATIONAL MECHANICAL CODE SECTION 606.
- UNITS SHALL BE FURNISHED WITH MICROPROCESSOR CONTROLS, LOW AMBIENT COOLING TO 0°F, MODULATING HOT GAS REHEAT, SCR MODULATING CONTROL FOR ELECTRIC HEAT, ROOF CURB, AND 100% ECONOMIZER WITH BAROMETRIC RELIEF
- PROVIDE WITH WALL-MOUNTED TEMPERATURE AND HUMIDITY SENSOR; INTEGRATE CONTROLS WITH EXISTING CENTRAL CONTROL SYSTEM
- INSTALL 2 TIGHT FITTING LAYERS OF 5/8" CEMENT BOARD WITH JOINTS OVERLAPPING & 2" THICK RIGID THERMAFIBER ACOUSTIC INSULATION INSIDE EACH ROOF CURB
- UNITS SHALL BE FURNISHED WITH ELECTRICAL NON-FUSED DISCONNECT AND POWERED CONVENIENCE OUTLET

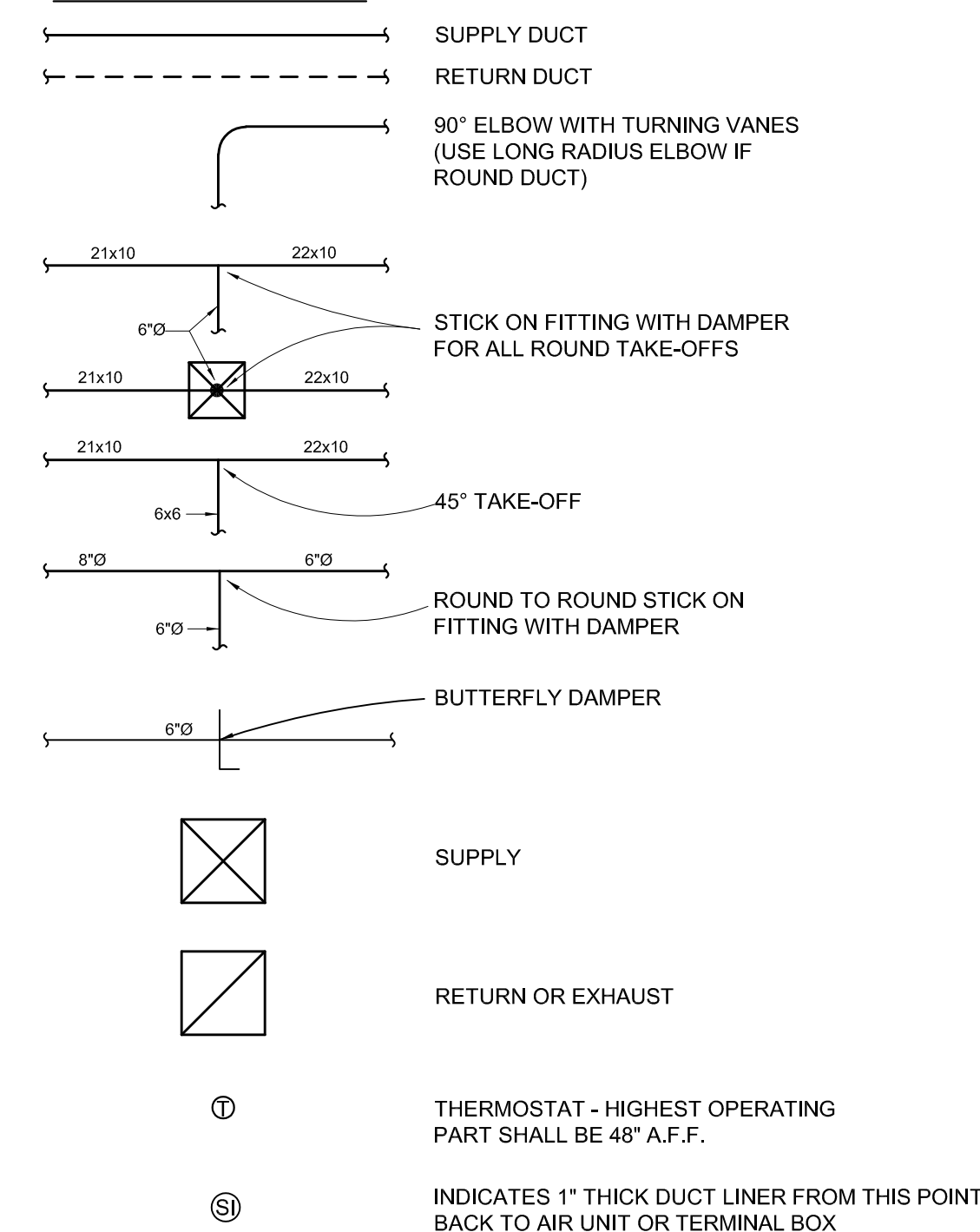
DIFFUSER/GRILLE SCHEDULE

MARK	SERVICE	DESCRIPTION	ACCESSORIES/DETAILS
S1	SUPPLY	PRICE SMD-1 LOUVERED FACE DIFFUSER, SURFACE MOUNTED TYPE, 4-WAY BLOW	OPPOSED BLADE DAMPER, SQUARE TO ROUND ADAPTER, PLASTER FRAME
R1	RETURN	PRICE 80D-TB EGG CRATE RETURN GRILLE, LAY-IN TYPE, 1/2" CUBES	OPPOSED BLADE DAMPER, SQUARE TO ROUND ADAPTER

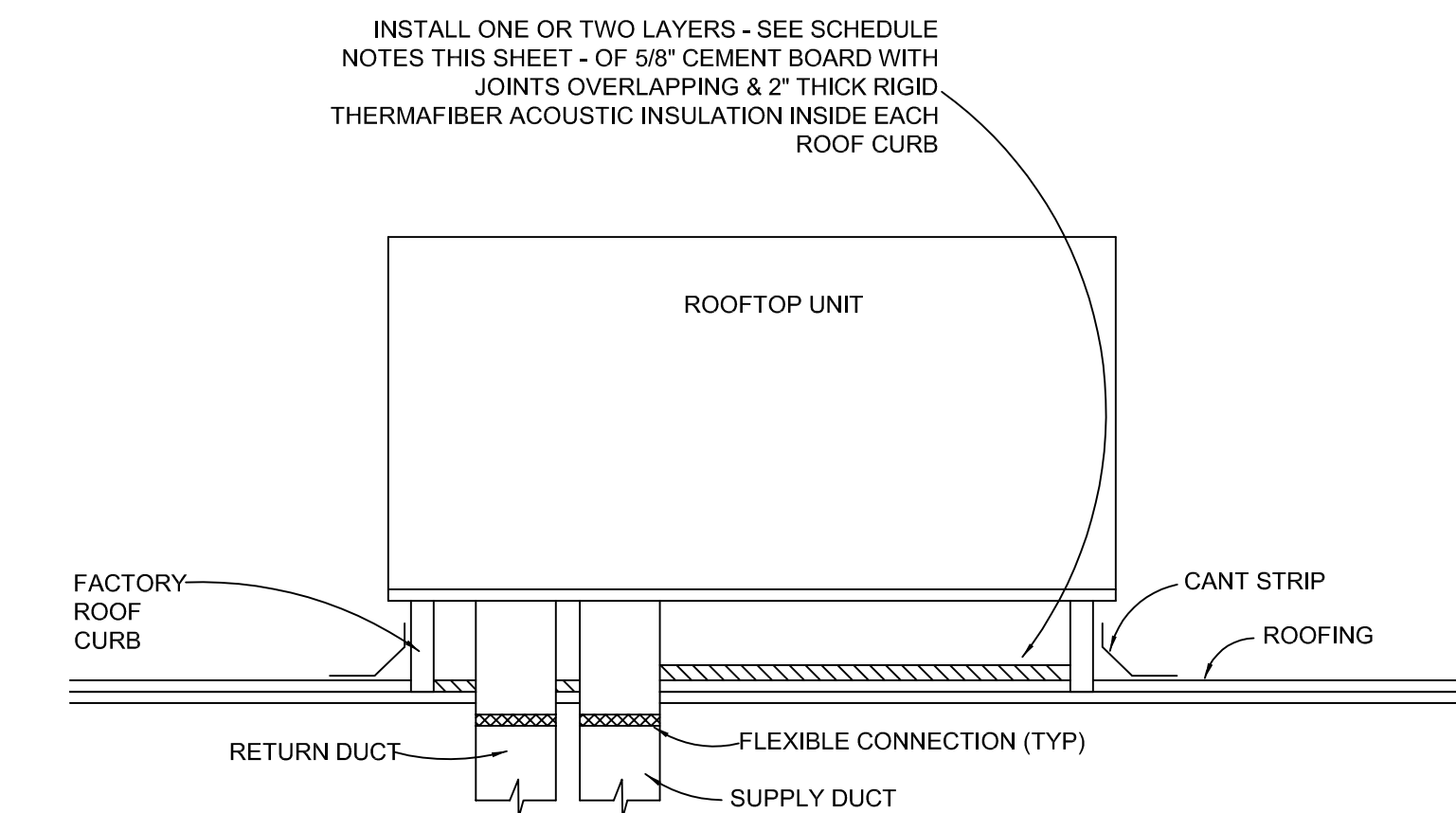
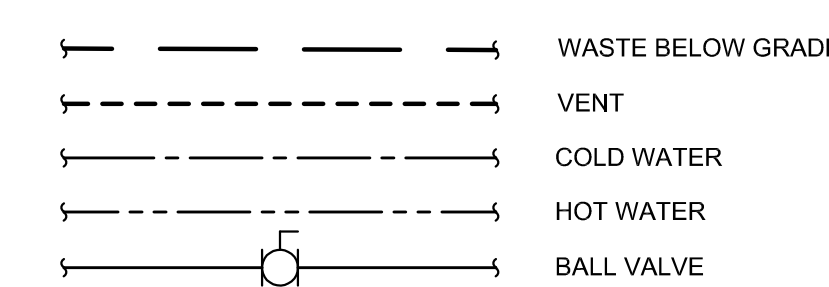
PLUMBING FIXTURE SCHEDULE

ITEM	DESCRIPTION	SPECIFICATION	CW	HW
S - EW	SINK - EYEWASH	ELKAY, LR3319 LUSTERTONE 2 BOWL 18GA STAINLESS STEEL 33" X 19-1/2" X 7-5/8" DROP IN SINK	1/2"	1/2"
	EMERGENCY EYE WASH AND FAUCET	BRADLEY, S19-500W TWO HANDLE CERAMIC VALVE GOOSENECK FAUCET WITH INTEGRAL 5.1 GPM EYEWASH SWING FROM RIGHT SIDE WHICH INCLUDES INTEGRAL STRAINER, SELF DRAINING SPRAYHEAD AND IS ONE STEP ACTIVATION		
	DRAIN	ZURN, Z8741-PC HEAVY DUTY BASKET STRAINER WITH CAST BRASS LOCK AND COUPLING NUT		
	P-TRAP	ZURN, Z8702-PC 1-1/2" CAST BRASS 17 GAUGE P-TRAP WITH CLEANOUT		
	EMERGENCY THERMOSTATIC MIXING VALVE	BRADLEY, S19-2010 ASSE 1071 AND 1017 THERMOSTATIC SAFETY MIXING VALVE AND STANDARD THERMOSTATIC MIXING VALVE WITH CHECK STOPS ON INLET ACCURATE TEMPERATURE CONTROL TO WITHIN +/- 3 DEGREES, BUILT-IN COLD WATER BYPASS ON SAFETY SIDE ASSURING COLD FLOW IF FAILURE OCCURS FROM HOT SUPPLY, POSITIVE		
	SUPPLIES	ZURN, Z8804-XL-8860-20-LRQ-PC 1/2" X 3/8" COMP X COMP LAVATORY SUPPLY KIT WITH ESCUTCHEONS, 1/4 TURN CHROME PLATED STOPS AND 20 INCH BRAIDED STAINLESS STEEL SUPPLY LINES		
	CONTINUOUS WASTE	ZURN, Z8751 1-1/2" 20 GAUGE CONTINUOUS WASTE END OUTLET WITH CAST BRASS TEE		

DUCT LEGEND



PLUMBING LEGEND



ROOFTOP UNIT DETAIL - TYPICAL

NTS

- NOTES:
- THE OPENING IN THE ROOF DECK SHALL BE NO LARGER THAN WHAT IS REQUIRED FOR DUCT PENETRATIONS.
 - COND. DRAIN SHALL BE FULL SIZE WITH WATER SEAL - DRIP ON ROOF.



Cain Rash West
Architects

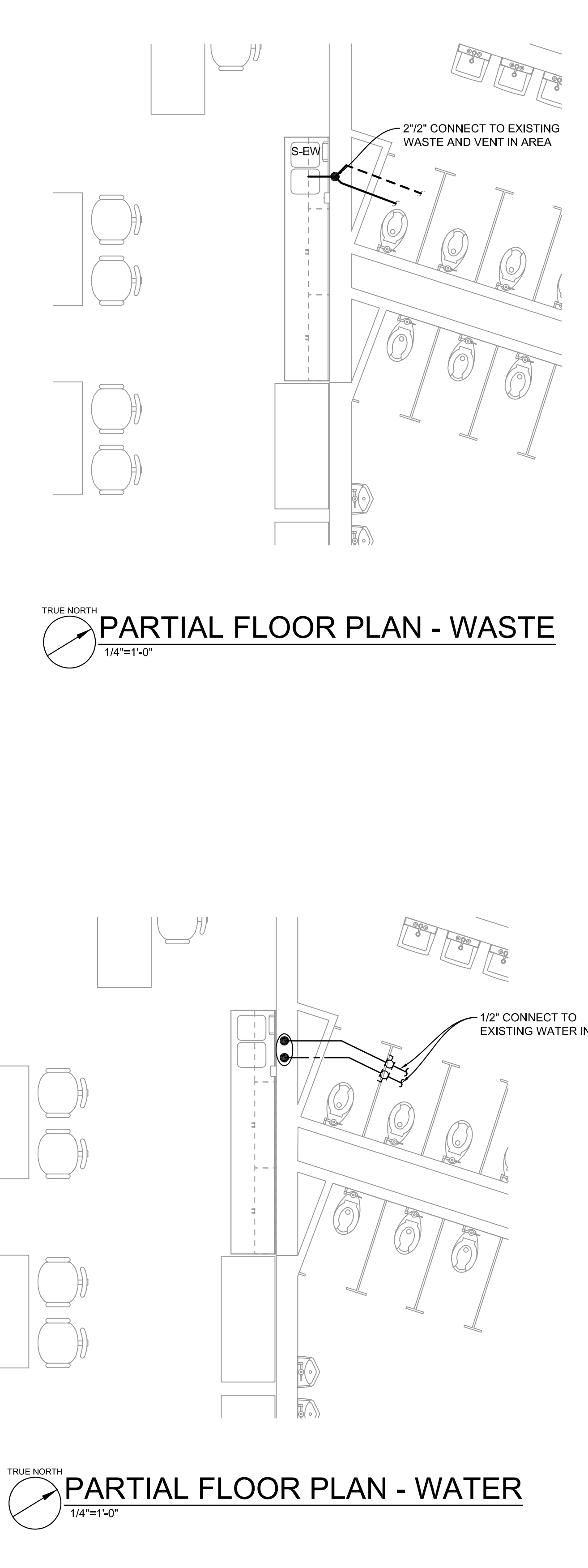
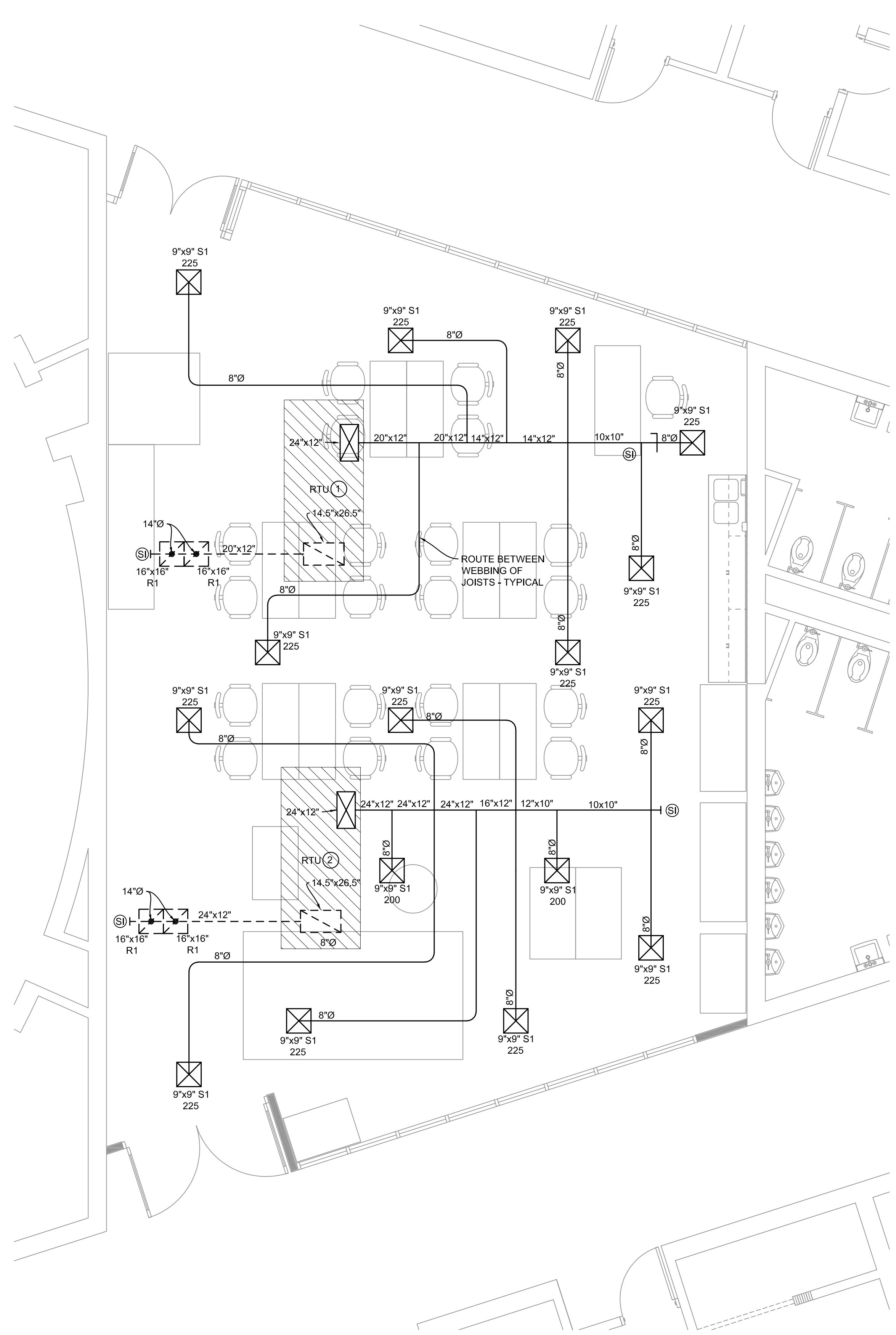
130 Regional Park Dr.
Kingsport, TN 37660
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www.grinc.com

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no.	date	rev. description
2	10/25/23	ADDENDUM #1

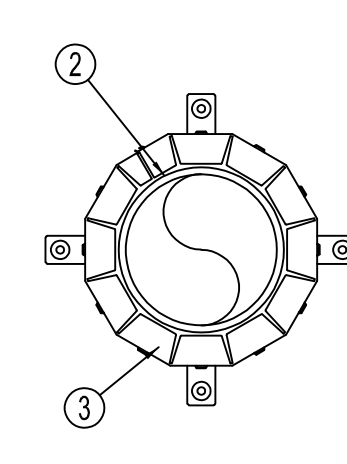
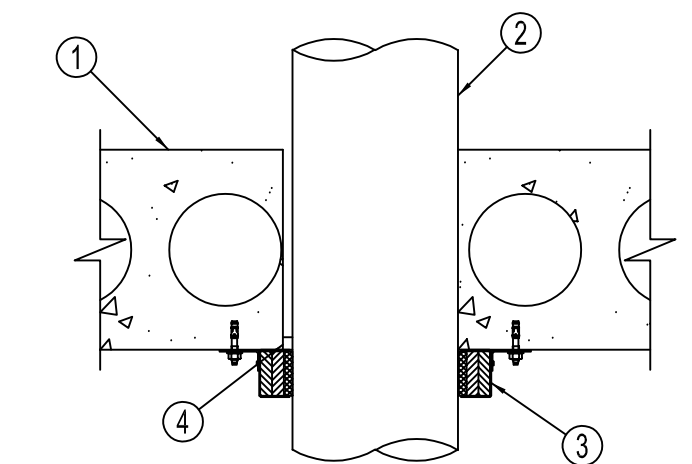


MP-1.0



System No. C-BJ-2021
F Rating — 2 Hr
T Ratings — 0 and 2 Hr (See Item 2)

CLASSIFIED
UL
Classified by
Underwriters Laboratories, Inc.
to UL 1479

SECTION A-A

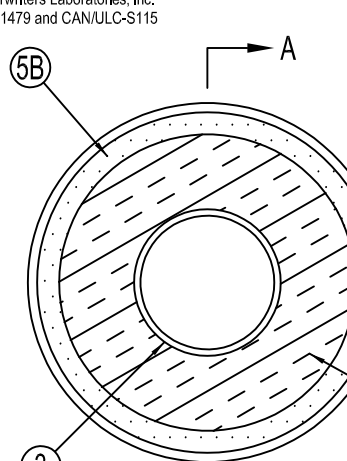
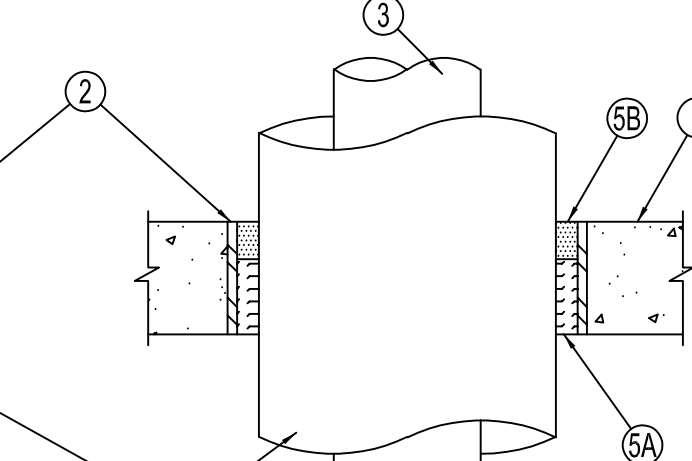
- Floor or Wall Assembly — Min 6 in. (152 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m³) concrete. Floor assembly may also be constructed of any 6 in. (152 mm) thick UL Classified hollow-core Precast Concrete Units*. Wall may also be constructed of any UL Classified Concrete Blocks*. Max diameter of opening is 7 in. (178 mm).
- Through Penetrants — One nonmetallic pipe to be installed concentrically or eccentrically within the firestop system. Annular space between pipe or conduit and edge of opening to be min 0 in. (point contact) and max 1/2 in. (13 mm). Pipe to be rigidly supported on both sides of floor-ceiling assembly. The following types and sizes of nonmetallic pipes may be used:
 - A. Polyvinyl Chloride (PVC) Pipe — Nom 6 in. (152 mm) diam (or smaller) Schedule 40 solid or cellular core PVC pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems.
 - B. Chlorinated Polyvinyl Chloride (CPVC) Pipe — Nom 6 in. (152 mm) diam (or smaller) SDR17 CPVC pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems.
 - C. Acrylonitrile Butadiene Styrene (ABS) Pipe — Nom 6 in. (152 mm) diam (or smaller) Schedule 40 solid or cellular core ABS pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems.
- Fill, Void or Cavity Material — Sealant — Min 1/2 in. (13 mm) thickness of fill material applied within the annulus, flush with bottom surface of floor.
- HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC. — FS-ONE Sealant or FS-ONE MAX Intumescent Sealant
- Firestop Device* — Firestop collar shall be installed in accordance with the accompanying installation instructions. Collar to be installed and latched around the pipe and secured to underside of floor or both sides of wall using the anchors provided with the collar. Minimum 2 anchor hooks for 1-1/2 and 2 in. (38 and 51 mm) diam pipes, 3 anchor hooks for 3 and 4 in. (76 and 102 mm) diam pipes and 4 anchor hooks for 6 in. (152 mm) diam pipes. The anchor hooks are to be secured with 1/4 in. (6 mm) diam by min 1-1/2 in. (38 mm) long steel expansion bolts, in conjunction with steel nuts and min 3/4 in. (19 mm) diam steel washers with one anchor bolt in each anchor hook.
- HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC. — CP 643 501.57N, CP 643 6327N, CP 643 9037N, CP 643 11047N and CP643 16067N, Firestop Collar

* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.

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System No. C-AJ-5098
F Rating — 2 Hr
T Rating — 1 Hr

CLASSIFIED
UL
Classified by
Underwriters Laboratories, Inc.
to UL 1479 and CANUL-515

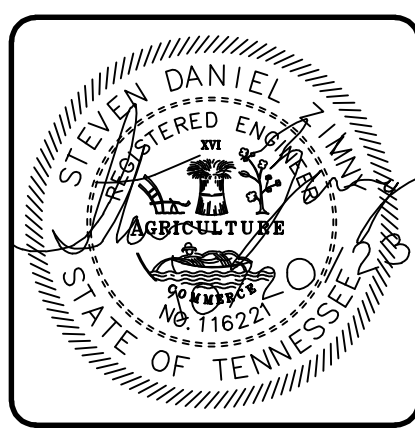
SECTION A-A

- Floor or Wall Assembly — Min 1 1/4 in. (4-1/2 in.) thick reinforced lightweight or normal weight (1600-2400 kg/m³ or 100-150 pcf) concrete floor or min 6 in. thick reinforced lightweight or normal weight concrete wall. Wall may also be constructed of any UL Classified Concrete Blocks*. Max diam of opening is 3/4 in. (19-5/8 in.).
- See Concrete Blocks (CAZT) Category in the Fire Resistance Directory for names of manufacturers.
- Through Penetrants — One metallic pipe or tubing to be installed concentrically within the firestop system. Pipe or tubing to be rigidly supported on both sides of floor or wall assembly. The following types and sizes of metallic pipes or tubing may be used:
 - A. Steel Pipe — Nom 1/2 in. (12.7 mm) diam (or smaller) Schedule 10 (or heavier) steel pipe.
 - B. Copper Pipe — Nom 1/2 in. (12.7 mm) diam (or smaller) Regular (or heavier) copper pipe.
 - C. Copper Tubing — Nom 1/2 in. (12.7 mm) diam (or smaller) Type L (or heavier) copper tubing.
- Pipe Covering — Nom 7/8 in. (22 mm) thick hollow cylindrical heavy density (min 56 kg/m³ or 3.5 pcf) glass fiber units jacketed on the outside with an all-service jacket. Longitudinal joints sealed with metal fasteners or factory-applied, self-sealing top tape. Transverse joints secured with metal fasteners or with butt tape supplied with the product. The annular space between the insulated pipe and the edges of the periphery of the opening shall be 13 mm (1/2 in.).
- See Pipe Equipment Covering — Materials — (BRGU) Category in the Building Materials Directory for names of manufacturers. Any pipe covering material meeting the above specifications and bearing the UL Classification Marking with a Flame Spread Index of 25 or less and a Smoke Developed Index of 50 or less may be used.
- Firestop System — The firestop system shall consist of the following:
 - A. Packing Material — Min 76 mm (3 in.) thickness of min 4 pcf mineral wool batt insulation firmly packed into opening as a permanent form. Packing material to be recessed from top surface of floor or from both surfaces of wall as required to accommodate the required thickness of fill material.
 - B. Fill, Void or Cavity Material — Sealant — Min 38 mm (1-1/2 in.) thickness of fill material applied within the annulus, flush on top surface of floor or with both surfaces of wall. When steel pipe (Item 3A) larger than 102 mm (4 in.) diam and FS-ONE MAX Intumescent Sealant is used, a 13 by 13 mm (1/2 by 1/2 in.) bead of sealant shall be installed around periphery of insulated steel pipe at top surface of floor or at both surfaces of wall.
 - HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC. — FS-ONE Sealant or FS-ONE MAX Intumescent Sealant

* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.

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no.	date	rev.	description
1	10/20/23		STATE REVIEW



issued	15 SEPT 2023
checked	SDZ
drawn	CJA
project no.	202336

FLOOR PLANS -
HVAC, WASTE,
& WATER

MP-1.1

System No. W-L-1054

ANSI/UL1479 (ASTM E814)	CANULC S115
F Rating — 1 and 2 Hr (See Items 1 and 3)	F Rating — 1 and 2 Hr (See Items 1 and 3)
T Rating — OH	FT Rating — OH
L Rating at Ambient — Less Than 1 CFM/sqft	FH Rating — 1 and 2 Hr (See Items 1 and 3)
L Rating at 400°F — Less Than 1 CFM/sqft	FH Rating — OH
	L Rating at Ambient — Less Than 1 CFM/sqft
	L Rating at 400°F — Less Than 1 CFM/sqft

1. Wall Assembly — The 1 or 2 hr fire-rated gypsum wall and stud wall assembly shall be constructed of the materials and in the manner specified in the individual U300 or U400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:

- Steel Studs — Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of 2x4 in (51 by 102 mm) lumber spaced 16 in. (406 mm) OC. Steel studs to be min 2 1/2 in. (64 mm) wide and spaced max 24 in. (610 mm) OC. When steel studs are used and the diam of opening exceeds the width of stud cavity, the opening shall be framed on all sides using lengths of steel stud installed between the vertical studs and screw attached to the steel studs at each end. The framed opening in the wall shall be 4 to 6 in. (102 to 152 mm) wider and 4 to 6 in. (102 to 152 mm) higher than the penetrating item such that, when the penetrating item is installed in the opening, a 2 to 3 in. (51 to 76 mm) clearance is present between the penetrating item and the framing on all four sides.
- Gypsum Board — 5/8 in. (16mm) thick, 4 ft (1220mm) wide with square or tapered edges. The gypsum board type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual U300 or U400 Series Design in the UL Fire Resistance Directory. Max diam of opening is 32 1/4 in. (819 mm) for steel stud walls. Max diam of opening is 14 1/2 in. (368 mm) for wood stud walls. The F and FH Ratings of the firestop system are equal to the fire rating of the wall assembly.
- Through Penetrations — One metallic pipe, conduit or tubing to be installed either concentrically or eccentrically within the firestop system. The annular space shall be min 1/8 in. to max 2 1/4 in. (97 mm). Pipe may be installed with continuous point contact. Pipe, conduit or tubing to be rigidly supported on both sides of wall assembly. The following types and sizes of metallic pipes, conduits or tubing may be used:
 - Steel Pipe — Non-OD (762mm) diam (or smaller) Schedule 10 (or heavier) steel pipe.
 - Iron Pipe — Non-OD (762mm) diam (or smaller) cast or ductile iron pipe.
 - Ceramic — Non-OD (102mm) diam (or smaller) steel electrical metallic tubing or 6 in. (152mm), diam steel conduit.
 - Copper Tubing — Non-OD (152mm) diam (or smaller) Type L (or heavier) copper tubing.
 - Copper Pipe — Non-OD (152mm) diam (or smaller) regular (or heavier) copper pipe.
- Fill Void or Condy Material — Sealant — Min 5/8 in. (16mm) thickness of fill material applied within the annulus. Flush with both surfaces of wall. At the point or continuous contact locations between pipe and wall, a min 1/2 in. (13 mm) diam bead of fill material shall be applied at the pipe wall interface on both surfaces of wall.
- HELI CONSTRUCTION CHEMICALS, DIV OF HELI INC — FS One Sealant or FS ONE MX Intumescent Sealant

* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.

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Wall Opening Protective Materials (CLIV, CLIV7)

1 or 2 Hr Gypsum Wall Assembly (2 Hr Shown)

- Power Cable
- 1/8" thick CP617 or CFS-P PA Firestop Putty Pad
- Wood Stud or Steel Stud (Not Shown)
- UL Listed Non-Metallic Outlet Box (Refer to UL listing) Or UL Listed Metallic Outlet Box (Refer to UL listing)

1 or 2-Hr. Gypsum Wall Assembly (2-Hr. Shown)

- Steel Stud or Wood Stud (Not Shown)
- Power Cable
- Firestop Box Insert
- UL Listed Non-Metallic Outlet Box (Refer to UL Listing) or UL Listed Metallic Outlet Box (Refer to UL Listing)

CP 617 or CFS-P PA Firestop Putty Pads, for use with flush device UL Listed Metallic Outlet Boxes installed with steel mud rings or UL Listed Nonmetallic Outlet Boxes in framed wall assemblies as specified below. When protective material is used on outlet boxes on both sides of the wall as directed, the horizontal separation between outlet boxes on opposite sides of the wall may be less than 24 in, provided that the boxes are not installed back-to-back (unless otherwise indicated). Installation shall comply with the National Electrical Code (NFPA 70). Min 1/8 in. thick (CP 617) or min 0.2 in. (CFS-P PA) thick moldable putty pads are to be installed to completely cover the exterior surfaces of the outlet box (except for the side of the outlet box against the stud) and conduit fittings/connectors and to completely seal against the stud and gypsum board in the wall cavity unless otherwise noted below. When CFS-P PA is used, the putty pads may be installed with the release liner intact on the outside of the pad with the exception of any overlaps, in which case the liner is to be removed from the bottom layer at the overlap location.

HILTI Firestop Box Insert, for use with flush device UL Listed Metallic Outlet Boxes installed with steel mud rings or UL Listed Nonmetallic Outlet Boxes in framed wall assemblies as specified below. When protective material is used on outlet boxes on both sides of the wall as directed, the horizontal separation between outlet boxes on opposite sides of the wall may be less than 24 in, provided that the boxes are not installed back-to-back (unless otherwise indicated). Installation shall comply with the National Electrical Code (NFPA 70).

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System No. C-AJ-1226

ANSI/UL1479 (ASTM E814)	CANULC S115
F Rating — 3 Hr	F Rating — 3 Hr
T Rating — OH	FT Rating — OH
L Rating at Ambient — Less Than 1 CFM/sqft	FH Rating — 3 Hr
L Rating at 400°F — 4 CFM/sqft	FH Rating — OH
	L Rating at Ambient — Less Than 1 CFM/sqft
	L Rating at 400°F — 4 CFM/sqft

1. Floor or Wall Assembly — Min 4 1/2 in. (114mm) thick reinforced light weight or normal weight (100-150pcf or 1600-2000kg/m³) concrete. Wall may also be constructed of any UL Classified Concrete Block*. Max diam of opening is 32 in. (813 mm).

2. Metallic Sleeve — (Optional) Non-OD (813mm) diam (or smaller) Schedule 40 (or heavier) steel sleeve steel sleeve cast or ground into floor or wall assembly, flush with floor or wall surfaces or extending a max of 3 in. (76 mm) above floor or beyond both surfaces of wall.

2A. Sheet Metal Sleeve — (Optional) Max 6 in. (152mm) diam min 20 gpg, galv steel provided with 20 gpg galv steel square flange spkt welded to the sleeve at approx mid height, or flush with bottom of sleeve in floor, and sized to be a min of 2 in. (51 mm) larger than the sleeve diam. The sleeve is to be cast in place and may extend a max of 4 in. (102 mm) below the bottom of the deck and a max of 1 in. (25 mm) above the top surface of the concrete floor.

2B. Sheet Metal Sleeve — (Optional) Max 12 in. (305mm) diam min 20 gpg, galv steel provided with 20 gpg galv steel square flange spkt welded to the sleeve at approx mid height, or flush with bottom of sleeve in floor, and sized to be a min of 2 in. (51 mm) larger than the sleeve diam. The sleeve is to be cast in place and may extend a max of 4 in. (102 mm) below the bottom of the deck and a max of 1 in. (25 mm) above the top surface of the concrete floor.

3. Through Penetrations — One metallic pipe, tube or conduit to be installed either concentrically or eccentrically within the firestop system. The annular space between penetrant and periphery of opening shall be min 0 in. (point contact) to max 1 7/8 in. (48 mm). Penetrant may be installed with continuous point contact. Penetrant to be rigidly supported on both sides of floor or wall assembly. The following types and sizes of metallic penetrants may be used:

- Steel Pipe — Non-OD (762mm) diam (or smaller) Schedule 10 (or heavier) steel pipe.
- Iron Pipe — Non-OD (762mm) diam (or smaller) cast or ductile iron pipe.
- Copper Pipe — Non-OD (152mm) diam (or smaller) Regular (or heavier) copper pipe.
- Copper Tubing — Non-OD (152mm) diam (or smaller) Type L (or heavier) copper tubing.
- Ceramic — Non-OD (152mm) diam (or smaller) steel electrical metallic tubing (EMT).
- Ceramic — Non-OD (102mm) diam (or smaller) steel electrical metallic tubing (EMT).

4. Firestop System — The firestop system shall consist of the following:

- Packing Material — Min 4 in. (102mm) thickness of min 4 pcf (64 kg/m³) mineral wool batt insulation firmly packed into opening as a permanent form. Packing material to be recessed from top surface of floor or sleeve or from both surfaces of wall or sleeve as required to accommodate the required thickness of fill material.
- Fill Void or Condy Material — Sealant — Min 1 1/4 in. (31mm) thickness of fill material applied within the annulus. Flush with top surface of floor or sleeve or with both surfaces of wall or sleeve. At the point or continuous contact locations between penetrant and concrete or sleeve, a min 1/4 in. (6 mm) diam bead of fill material shall be applied at the concrete or sleeve/ pipe penetrant interface on the top surface of floor and on both surfaces of wall.
- HELI CONSTRUCTION CHEMICALS, DIV OF HELI INC — FS One Sealant or FS ONE MX Intumescent Sealant

* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.

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TRANSFORMER GROUNDING SCHEDULE

TRANSFORMER KVA	GROUNDING CONDUCTOR				
	PEG	SBJ	EBJ	GE	CE
15	10	8	8	8	8
30	10	6	6	6	6
45	8	4	4	4	4
75	6	2	2	2	2
112.5	6	1/0	1/0	1/0	1/0
150	4	2/0 (+)	2/0	2/0	2/0
225	3	3/0 (+)	3/0	3/0	3/0
300	2 (+)	3/0 (+)	3/0	3/0	3/0
500	1/0 (+)	3/0 (+)	3/0	3/0	3/0

* INDICATES CONTRACTOR SHALL PROVIDE A CONDUCTOR OF THIS SIZE IN EACH CONDUIT CARRYING PARALLELED PHASE AND NEUTRAL CONDUCTORS.

THREE-PHASE DRY-TYPE TRANSFORMER GROUNDING DETAIL
NO SCALE

LEGEND

- PEG = PRIMARY EQUIPMENT GROUND
- SBJ = SYSTEM BONDING JUMPER
- EBJ = EQUIPMENT BONDING JUMPER
- GE = GROUNDING ELECTRODE CONDUCTOR
- N = NEUTRAL (GROUNDED CIRCUIT CONDUCTOR)

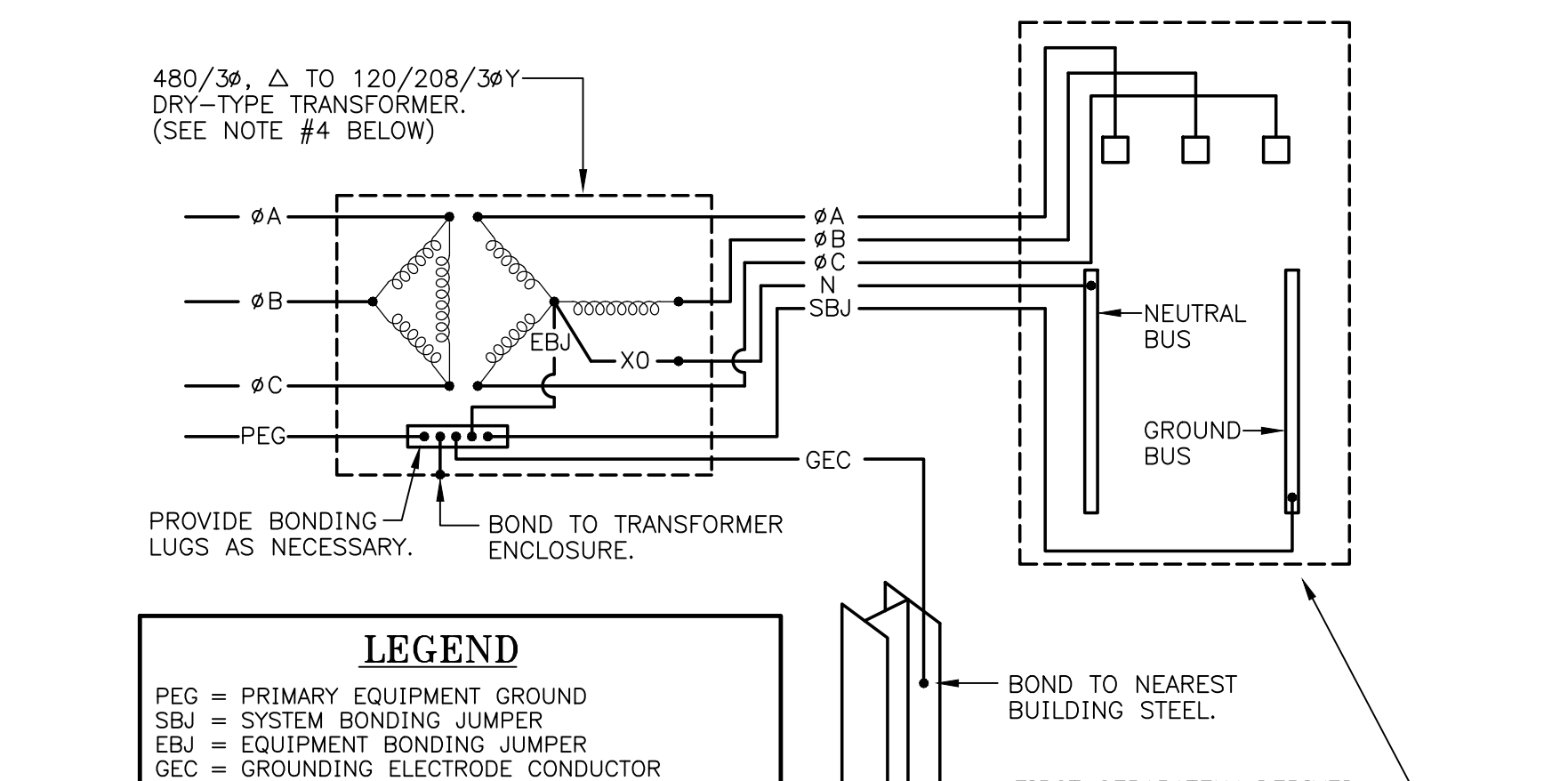
NOTES:

- TAKEN FROM NEC ARTICLE 250, TABLE 250.66.
- NEUTRAL CONDUCTOR SHALL BE 100% OF PHASE CONDUCTORS UNLESS CALLED FOR LARGER ELSEWHERE.
- BONDING OF GROUNDING ELECTRODE CONDUCTOR TO BUILDING STEEL SHALL BE BY CADWELD PROCESS PER SPECIFICATIONS.
- WHERE PRIMARY AND SECONDARY VOLTAGE(S) ARE THE SAME (I.E. 208V-Δ TO 120/208V), PRIMARY EQUIPMENT GROUNDING CONDUCTOR SHALL BE SAME SIZE AS SECONDARY EQUIPMENT GROUNDING CONDUCTOR AS INDICATED IN "SEG" COLUMN OF SCHEDULE.

LIGHTING FIXTURE SCHEDULE

DESIGNATION	ILLUMINATION				MOUNTING			DESCRIPTION: SHIELDING, TYPE MATERIALS, FINISH, MOUNTING	MANUFACTURER'S PRODUCT ITEM		* EQUAL PRODUCT PERMITTED		REMARKS
	WATTS	DELIVERED LUMENS	COLOR TEMPERATURE (°K)	MINIMUM CRI	CEILING		WALL		COMPANY	CATALOG NO.	YES	NO	
					PENDANT STEM LENGTH	RECESSED SURFACE							
A	39	4800	3500	80				2'x4' FLAT PANEL, 1% DIMMING DRIVER	LITHONIA	EPANL-2X4 4800LM-80CRI-35K-MIN1-ZT-MVOLT			
B	31	4000	3500	80				2'x2' FLAT PANEL, 1% DIMMING DRIVER	LITHONIA	EPANL-2X2 4000LM-80CRI-35K-MIN1-ZT-MVOLT			

* UNLESS NOTED, EQUAL PRODUCT TO THAT SPECIFIED WILL BE ACCEPTED. THE DESIGN PROFESSIONAL SHALL HAVE SOLE JUDGEMENT CONCERNING EQUIVALENCY OF SUBSTITUTION.



TRANSFORMER GROUNDING SCHEDULE

TRANSFORMER KVA	GROUNDING CONDUCTOR				
	PEG	SBJ	EBJ	GE	CE
15	10	8	8	8	8
30	10	6	6	6	6
45	8	4	4	4	4
75	6	2	2	2	2
112.5	6	1/0	1/0	1/0	1/0
150	4	2/0 (+)	2/0	2/0	2/0
225	3	3/0 (+)	3/0	3/0	3/0
300	2 (+)	3/0 (+)	3/0	3/0	3/0
500	1/0 (+)	3/0 (+)	3/0	3/0	3/0

* INDICATES CONTRACTOR SHALL PROVIDE A CONDUCTOR OF THIS SIZE IN EACH CONDUIT CARRYING PARALLELED PHASE AND NEUTRAL CONDUCTORS.

LEGEND

- = CONDUIT IN THE FLOOR CONSTRUCTION OR UNDERGROUND SHOWN TURNING UP.
- = CONDUIT IN THE WALL OR CEILING CONSTRUCTION SHOWN TURNING DOWN.
- = JUNCTION BOX, SIZE AND USE AS REQUIRED; COVERPLATE SHALL OVERLAP THE BOX EDGE BY 1/2" WHERE RECESSED IN WALL WITH CONCEALED WIRING.
- ⊞ = FUSED DISCONNECT SWITCH, HEAVY DUTY "HP" RATED, PROVIDE NEMA 3R ENCLOSURE OUTDOORS.
- ⊞ = SURFACE NONMETALLIC RACE WAY BUILT-IN DIVIDER FOR SEPARATION OF POWER AND DATA/VOICE WIRING. PROVIDE DUPLEX RECEPTABLES AND DATA/VOICE OUTLETS WHERE INDICATED ON PLANS. LOCATED 3" ABOVE BACKSPASH AT WORK COUNTERS AND +18" AFF ELSEWHERE UNLESS NOTED OTHERWISE.
- ⊞ = DATA/VOICE OUTLET, PROVIDE 4 11/16" SQUARE BOX WITH SINGLE-GANG DEVICE RING AND BLANK COVERPLATE. EXTEND EMPTY 1" CONDUIT FROM OUTLET BOX TO POINT ABOVE ACCESSIBLE LAY-IN CEILING AND TERMINATE WITH BUSHING. LOCATE OUTLET BOX 3" ABOVE BACKSPASH AT WORK COUNTERS AND +18" AFF ELSEWHERE UNLESS NOTED TO A DIFFERENT HEIGHT ON DRAWINGS. "W" BY DEVICE INDICATES DEVICE TO BE DEDICATED FOR WIRELESS ACCESS POINT USE.
- ⊞ = CEILING RECESSED INTERCOM LOUDSPEAKER.
- ⊞ = FIRE ALARM DUCT SMOKE DETECTOR, FURNISHED BY ELECTRICAL, INSTALLED DUCTWORK BY MECHANICAL, CONNECTED TO FIRE ALARM SYSTEM BY ELECTRICAL. CONNECT TO SHUT DOWN UPON ALARM. FURNISH AND INSTALL "LED" REMOTE STATUS INDICATOR, FIELD VERIFY LOCATION.
- ⊞ = FIRE ALARM COMBINATION SPEAKER/STROBE UNIT, CANDELA AND DBA RATING AS NOTED ON DRAWINGS. "C" INDICATES SPEAKER/STROBE UNIT TO BE CEILING MOUNTED. "WG" BY DEVICE INDICATES CONTRACTOR TO PROVIDE WIRE GUARD.
- ⊞ = OCCUPANCY/VACANCY SENSOR FOR LIGHTING CONTROL, CEILING OR WALL MOUNTED AS INDICATED ON PLANS. MOUNT WALL-MOUNTED SENSOR AT SAME HEIGHT AS WALL SWITCH (+48" ABOVE FINISHED FLOOR). "D" BY SENSOR ON PLANS INDICATES DUAL RELAY TYPE SENSOR ALLOWING INDEPENDENT CONTROL OF TWO SEPARATE LIGHTING LOADS. PROVIDE NEUTRAL CONDUCTOR IN ADDITION TO LINE AND SWITCHED CONDUCTORS.
- ⊞ = POWER PACK ROOM CONTROLLER FOR CEILING MOUNTED OCCUPANCY SENSOR SYSTEM, SEE PLANS AND SPECIFICATIONS FOR ADDITIONAL INFORMATION.
- ⊞ = RETRACTABLE CEILING MOUNTED DROP CORD UNIT WITH 120-VOLT, 20 AMPERE NEMA 5-20R DUPLEX RECEPTABLE PENDANT OUTLET BOX CONNECTION ON END OF CORD. UNIT SHALL BE DANIEL WOODHEAD INDUSTRIAL DUTY CORD REEL WITH MINIMUM 12'-0" OF 12/3 RETRACTABLE CORD, RATED 600 VOLT AC.
- ⊞ = DUPLEX PLUG RECEPTABLE, 120-VOLTS, 20-AMPERES, SHADED SIDES INDICATES OUTLET TO BE FOR WALL MOUNTED TELEVISION, VERIFY EXACT MOUNTING HEIGHT PRIOR TO ROUGH-IN, LOCATE ADJACENT TO TELEVISION OUTLET.
- ⊞ = WALL MOUNTED TELEVISION OUTLET, PROVIDE 4" SQUARE BOX WITH SINGLE-GANG DEVICE RING AND APPROPRIATE COAXIAL TYPE COVER-PLATE, LOCATE ADJACENT TO 120V. OUTLET FOR TELEVISION. EXTEND 3/4" CONDUIT FROM BOX TO POINT ABOVE ACCESSIBLE CEILING AND TERMINATE WITH BUSHING.

LEGEND

SYMBOL DESCRIPTION

- = LED LIGHTING FIXTURE; "B" REFERS TO DESIGNATION IN THE LIGHTING FIXTURE SCHEDULE; "d" REFERS TO SWITCH CONTROL; AND "2" REFERS TO CIRCUIT NUMBER.
- ⊞ = EXIT SIGN WITH BUILT-IN TWIN HEAD EMERGENCY LIGHT, "W" INDICATES WALL MOUNTING, "C" INDICATES CEILING MOUNTING, "S" INDICATES SINGLE FACE, "D" INDICATES DOUBLE FACE, "P" INDICATES PENDANT MOUNTED. PROVIDE DIRECTIONAL ARROWS ON EXIT SIGNS AS INDICATED ON PLANS. UNIT EQUIPPED WITH BATTERY BACK-UP. CONNECT TO UNSWITCHED, "HOT", LIGHTING CIRCUIT.
- ⊞ = WALL SWITCH; SINGLE POLE UNLESS NOTED 3- OR 4-WAY; "P" INDICATES EQUIPPED WITH PILOT LIGHT TO INDICATE WHEN SWITCH IS ON; W/P INDICATES WEATHERPROOF, "K" INDICATES KEY OPERATED SWITCH; +48"/- ABOVE FLOOR EXCEPT IN MASONRY WALLS WHERE HEIGHT SHALL BE ADJUSTED TO HAVE BOX EDGE OCCUR AT A MASONRY JOINT. PROVIDE NEUTRAL CONDUCTOR IN ADDITION TO LINE AND SWITCHED CONDUCTORS.
- ⊞ = DUPLEX PLUG RECEPTABLE, 120-VOLTS; 20-AMPERES; MOUNT 3" ABOVE BACKSPASH AT WORK COUNTERS AND LAVATORIES AND +18" AFF ELSEWHERE UNLESS NOTED TO A DIFFERENT HEIGHT. TAMPER RESISTANT, UNLESS NOT REQUIRED BY CODE.
- ⊞ = DUPLEX PLUG RECEPTABLE, 120-VOLTS, 20-AMPERES, SHADED CENTER INDICATES EQUIPPED WITH BUILT-IN GROUND FAULT CIRCUIT INTERRUPTER, MOUNT 3" ABOVE BACKSPASH AT WORK COUNTERS/LAVATORIES AND +18" AFF ELSEWHERE UNLESS NOTED TO A DIFFERENT HEIGHT. PROVIDE WEATHER RESISTANT DEVICE AND WEATHERPROOF "EXTRA DUTY WHILE IN USE" COVER WHERE LOCATED OUTDOORS. TAMPER RESISTANT, UNLESS NOT REQUIRED BY CODE.
- ⊞ = PANELBOARD, RECESSED OR SURFACE MOUNTED AS INDICATED ON DRAWINGS, TOP 6'-FEET ABOVE FINISHED FLOOR ADJUSTED TO OCCUR AT A MASONRY JOINT, SEE PANELBOARD SCHEDULE FOR EQUIPMENT CONTAINED.
- ⊞ = CONDUIT AND CONDUCTORS EXTENDED TO PANELBOARD A, CIRCUITS 1, 3, AND 5. CROSS LINES INDICATE #12 AWG PHASE AND NEUTRAL CONDUCTORS WHERE MORE THAN TWO. SINGLE CIRCUIT BRANCH CIRCUIT WIRING RUNS SHOWN WITHOUT CROSS LINES SHALL BE PROVIDED WITH 2#12, 1#12G. EACH 20 AMPERE BRANCH CIRCUIT SHALL BE PROVIDED WITH SEPARATE NEUTRAL CONDUCTOR. SHARING OF NEUTRAL CONDUCTORS SHALL NOT BE PERMITTED. PROVIDE EQUIPMENT GROUNDING CONDUCTOR IN EACH CONDUIT RUN.
- ⊞ = SURFACE NONMETALLIC RACE WAY BUILT-IN DIVIDER FOR SEPARATION OF POWER AND DATA/VOICE WIRING. PROVIDE DUPLEX RECEPTABLES AND DATA/VOICE OUTLETS WHERE INDICATED ON PLANS. LOCATED 3" ABOVE BACKSPASH AT WORK COUNTERS AND +18" AFF ELSEWHERE UNLESS NOTED OTHERWISE.
- ⊞ = DATA/VOICE OUTLET, PROVIDE 4 11/16" SQUARE BOX WITH SINGLE-GANG DEVICE RING AND BLANK COVERPLATE. EXTEND EMPTY 1" CONDUIT FROM OUTLET BOX TO POINT ABOVE ACCESSIBLE LAY-IN CEILING AND TERMINATE WITH BUSHING. LOCATE OUTLET BOX 3" ABOVE BACKSPASH AT WORK COUNTERS AND +18" AFF ELSEWHERE UNLESS NOTED TO A DIFFERENT HEIGHT ON DRAWINGS. "W" BY DEVICE INDICATES DEVICE TO BE DEDICATED FOR WIRELESS ACCESS POINT USE.
- ⊞ = CEILING RECESSED INTERCOM LOUDSPEAKER.
- ⊞ = FIRE ALARM DUCT SMOKE DETECTOR, FURNISHED BY ELECTRICAL, INSTALLED DUCTWORK BY MECHANICAL, CONNECTED TO FIRE ALARM SYSTEM BY ELECTRICAL. CONNECT TO SHUT DOWN UPON ALARM. FURNISH AND INSTALL "LED" REMOTE STATUS INDICATOR, FIELD VERIFY LOCATION.
- ⊞ = FIRE ALARM COMBINATION SPEAKER/STROBE UNIT, CANDELA AND DBA RATING AS NOTED ON DRAWINGS. "C" INDICATES SPEAKER/STROBE UNIT TO BE CEILING MOUNTED. "WG" BY DEVICE INDICATES CONTRACTOR TO PROVIDE WIRE GUARD.
- ⊞ = OCCUPANCY/VACANCY SENSOR FOR LIGHTING CONTROL, CEILING OR WALL MOUNTED AS INDICATED ON PLANS. MOUNT WALL-MOUNTED SENSOR AT SAME HEIGHT AS WALL SWITCH (+48" ABOVE FINISHED FLOOR). "D" BY SENSOR ON PLANS INDICATES DUAL RELAY TYPE SENSOR ALLOWING INDEPENDENT CONTROL OF TWO SEPARATE LIGHTING LOADS. PROVIDE NEUTRAL CONDUCTOR IN ADDITION TO LINE AND SWITCHED CONDUCTORS.
- ⊞ = POWER PACK ROOM CONTROLLER FOR CEILING MOUNTED OCCUPANCY SENSOR SYSTEM, SEE PLANS AND SPECIFICATIONS FOR ADDITIONAL INFORMATION.
- ⊞ = RETRACTABLE CEILING MOUNTED DROP CORD UNIT WITH 120-VOLT, 20 AMPERE NEMA 5-20R DUPLEX RECEPTABLE PENDANT OUTLET BOX CONNECTION ON END OF CORD. UNIT SHALL BE DANIEL WOODHEAD INDUSTRIAL DUTY CORD REEL WITH MINIMUM 12'-0" OF 12/3 RETRACTABLE CORD, RATED 600 VOLT AC.
- ⊞ = DUPLEX PLUG RECEPTABLE, 120-VOLTS, 20-AMPERES, SHADED SIDES INDICATES OUTLET TO BE FOR WALL MOUNTED TELEVISION, VERIFY EXACT MOUNTING HEIGHT PRIOR TO ROUGH-IN, LOCATE ADJACENT TO TELEVISION OUTLET.
- ⊞ = WALL MOUNTED TELEVISION OUTLET, PROVIDE 4" SQUARE BOX WITH SINGLE-GANG DEVICE RING AND APPROPRIATE COAXIAL TYPE COVER-PLATE, LOCATE ADJACENT TO 120V. OUTLET FOR TELEVISION. EXTEND 3/4" CONDUIT FROM BOX TO POINT ABOVE ACCESSIBLE CEILING AND TERMINATE WITH BUSHING.

issued 20 SEPT 2023
checked HED
drawn VEI
project no. 202336

SCHEDULES, LEGEND, AND DETAILS

E-01

S.T.E.M. Classroom Renovations for:

SULLIVAN EAST HIGH SCHOOL
Blountville, Tennessee

Cain Rash West Architects

130 Regional Park Dr.
Kingsport, TN 37660
Phn (423) 349-7760
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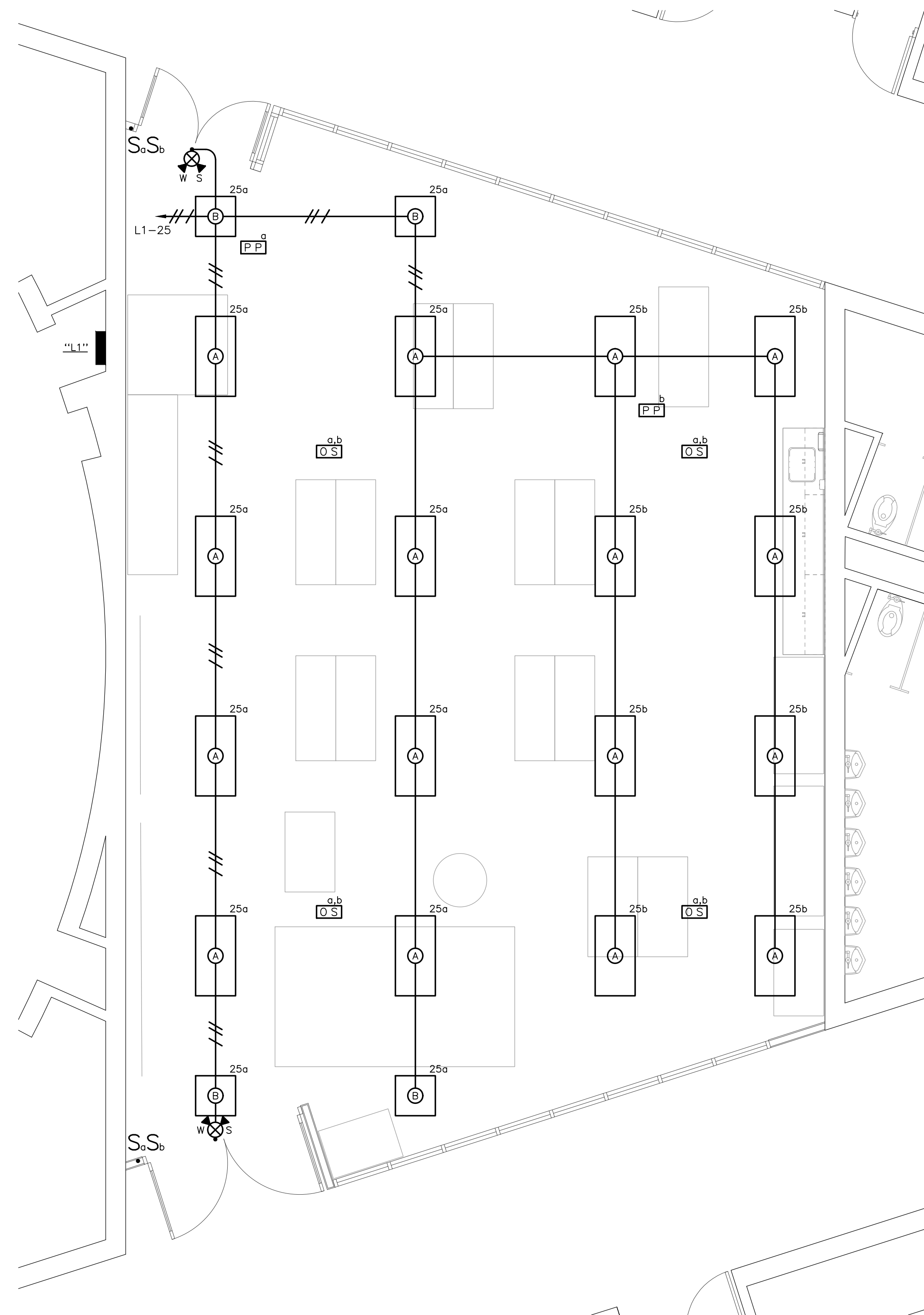
no. date rev. description

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SCHEDULES, LEGEND, AND DETAILS

E-01

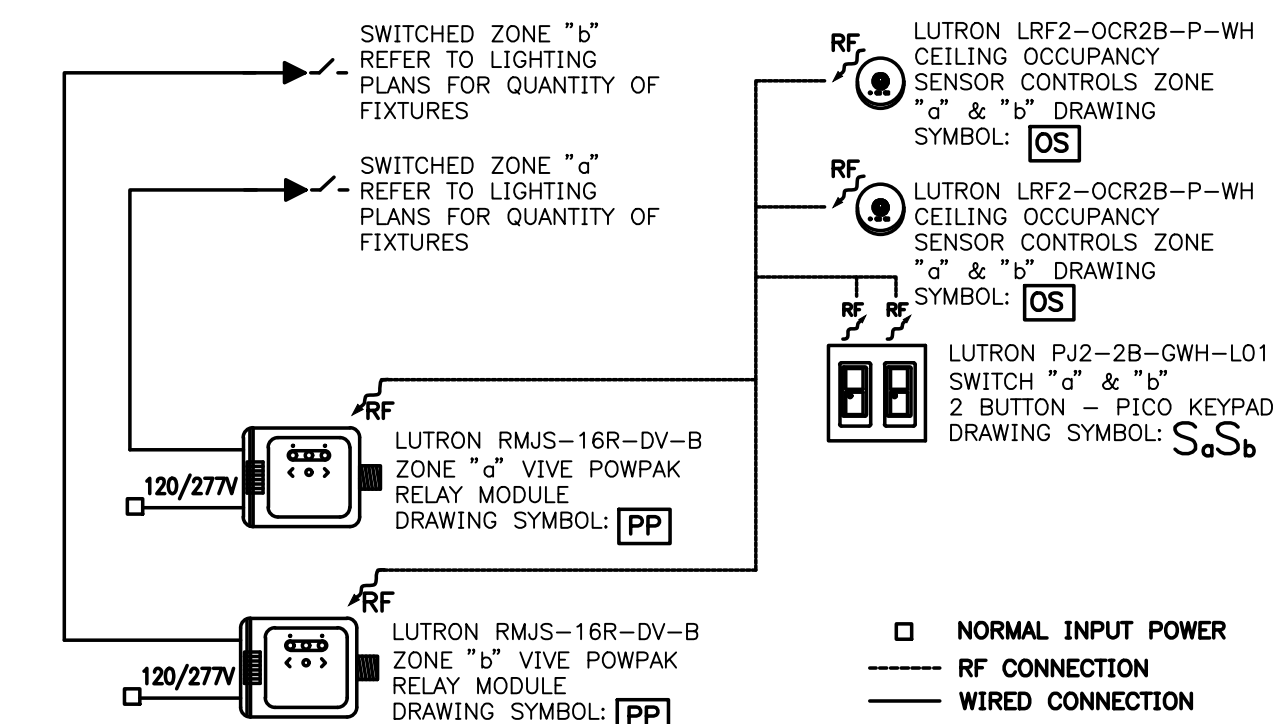
Vreeland Engineers Inc.
3107 Sutherland Ave.
P.O. Box 10648
Knoxville, TN 37939
865-637-4451
1-800-362-9789
vreelandengineers.com



FLOOR PLAN - LIGHTING

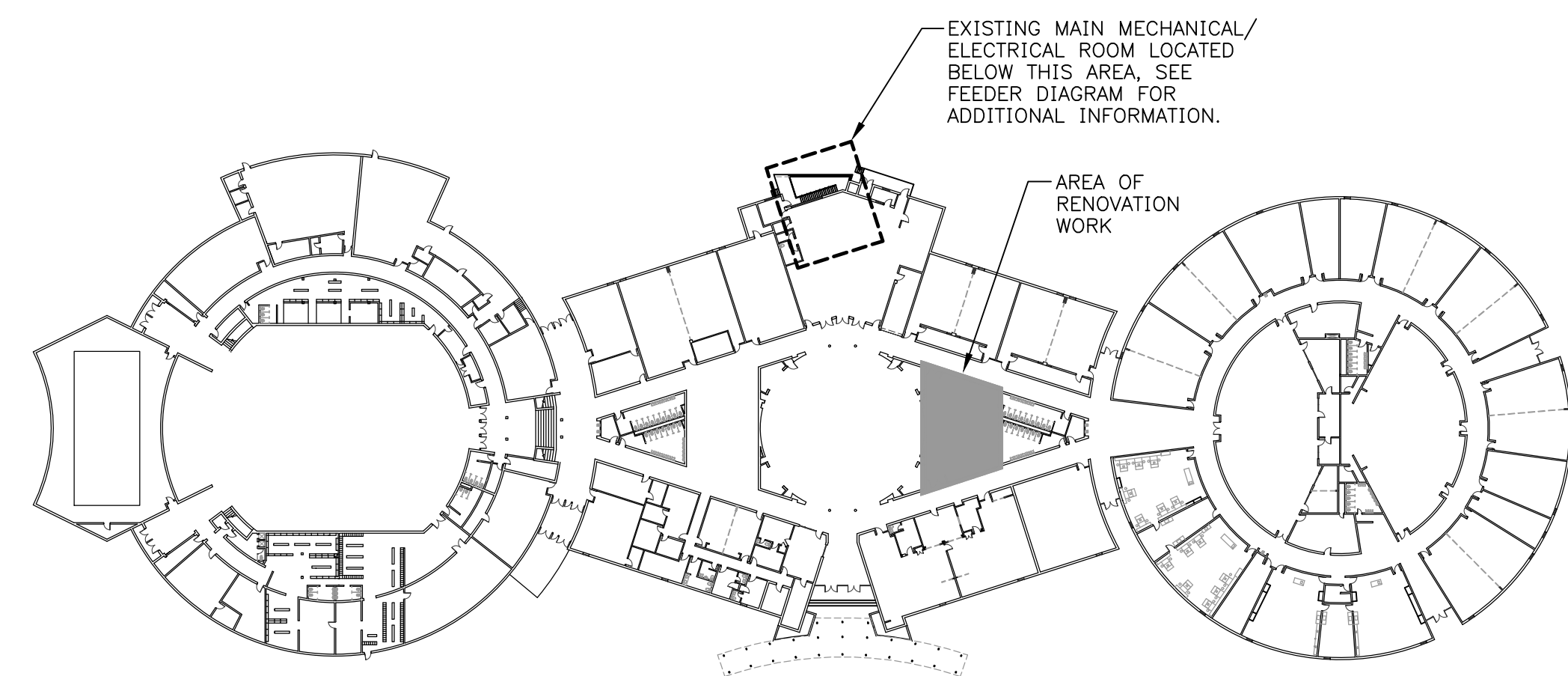
SCALE: 1/4" = 1'-0"
 0' 2' 4' 8'

- LIGHTING NOTES:**
1. REFER TO ARCHITECTURAL REFLECTED CEILING PLAN FOR EXACT LOCATIONS OF ALL LIGHTING FIXTURES.
 2. EXIT SIGNS, BUILT-IN BATTERY PACKS AND EXTERIOR EMERGENCY LIGHTS SHALL BE CONNECTED TO LOCAL UNSWITCHED LIGHTING CIRCUITS AS INDICATED ON DRAWINGS.
 3. REMOVE EXISTING LIGHTING FIXTURES AND ASSOCIATED WIRING IN RENOVATION AREA AND REPLACE WITH NEW LIGHTING FIXTURES AND WIRING INDICATED. REVISE WIRING AS REQUIRED. MAINTAIN SERVICE TO "DOWN STREAM" LIGHTING LOCATED OUTSIDE RENOVATION AREA.




TYPICAL BI-LEVEL SWITCHING LIGHTING CONTROL DETAIL
 NO SCALE

- NOTE:**
1. DETAIL ABOVE DEPICTS "WIRELESS" ARRANGEMENT FOR SENSORS AND SWITCHES. ALTERNATE SYSTEMS UTILIZING LOW VOLTAGE WIRING FROM POWER PACKS TO CEILING SENSORS AND SWITCHES SHALL BE ACCEPTABLE FOR USE PROVIDED THAT FUNCTIONALITY OF SPACE MATCHES WORK INDICATED ON THIS DETAIL AND SHOWN ON DRAWINGS.



KEY PLAN
 NTS

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 P.O. Box 10648
 Knoxville, TN 37939
 865-637-4451
 1-800-362-9789
 vreelandengineers.com

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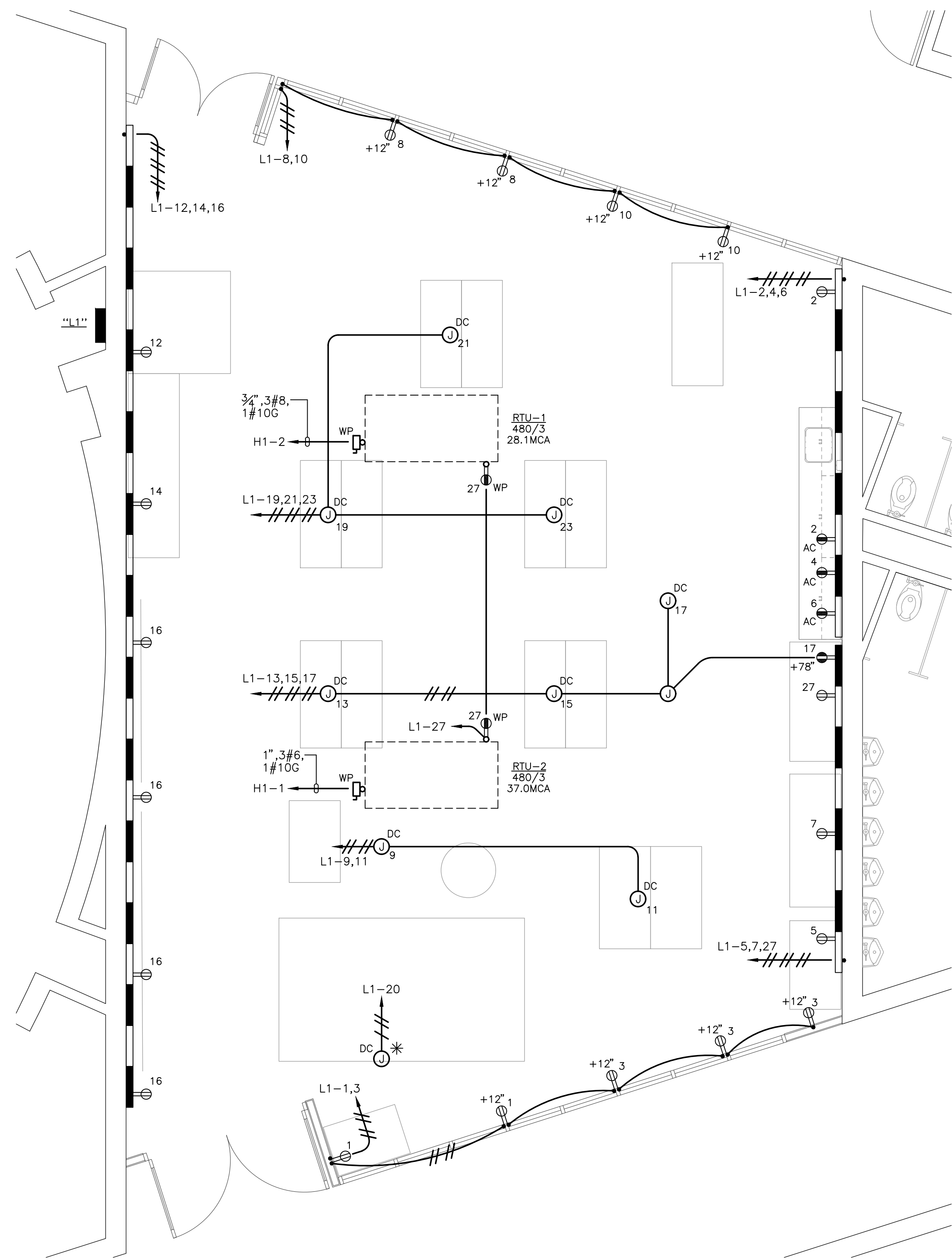
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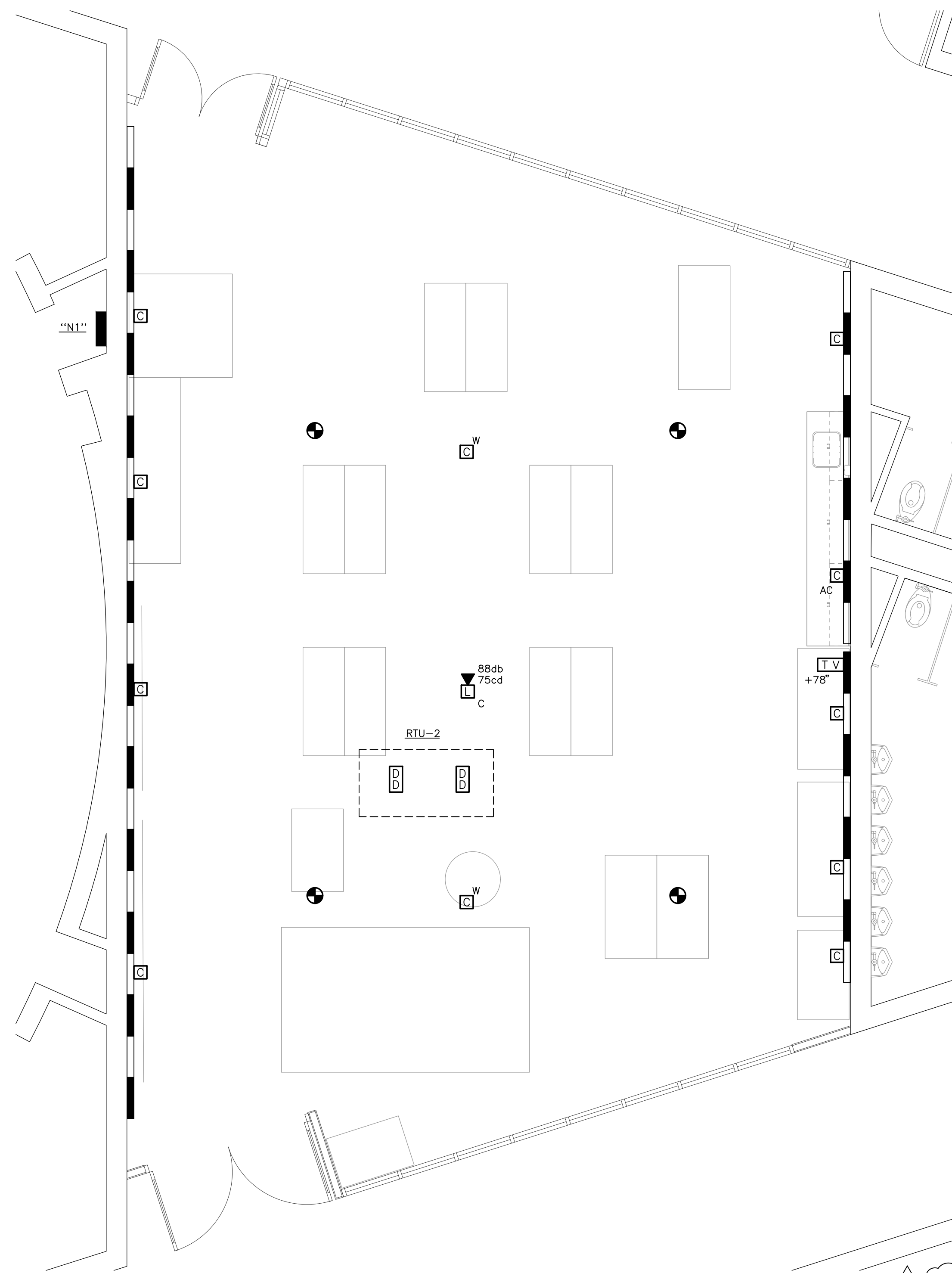
FLOOR PLAN - LIGHTING

E-11



FLOOR PLAN - POWER

SCALE: 1/4" = 1'-0"



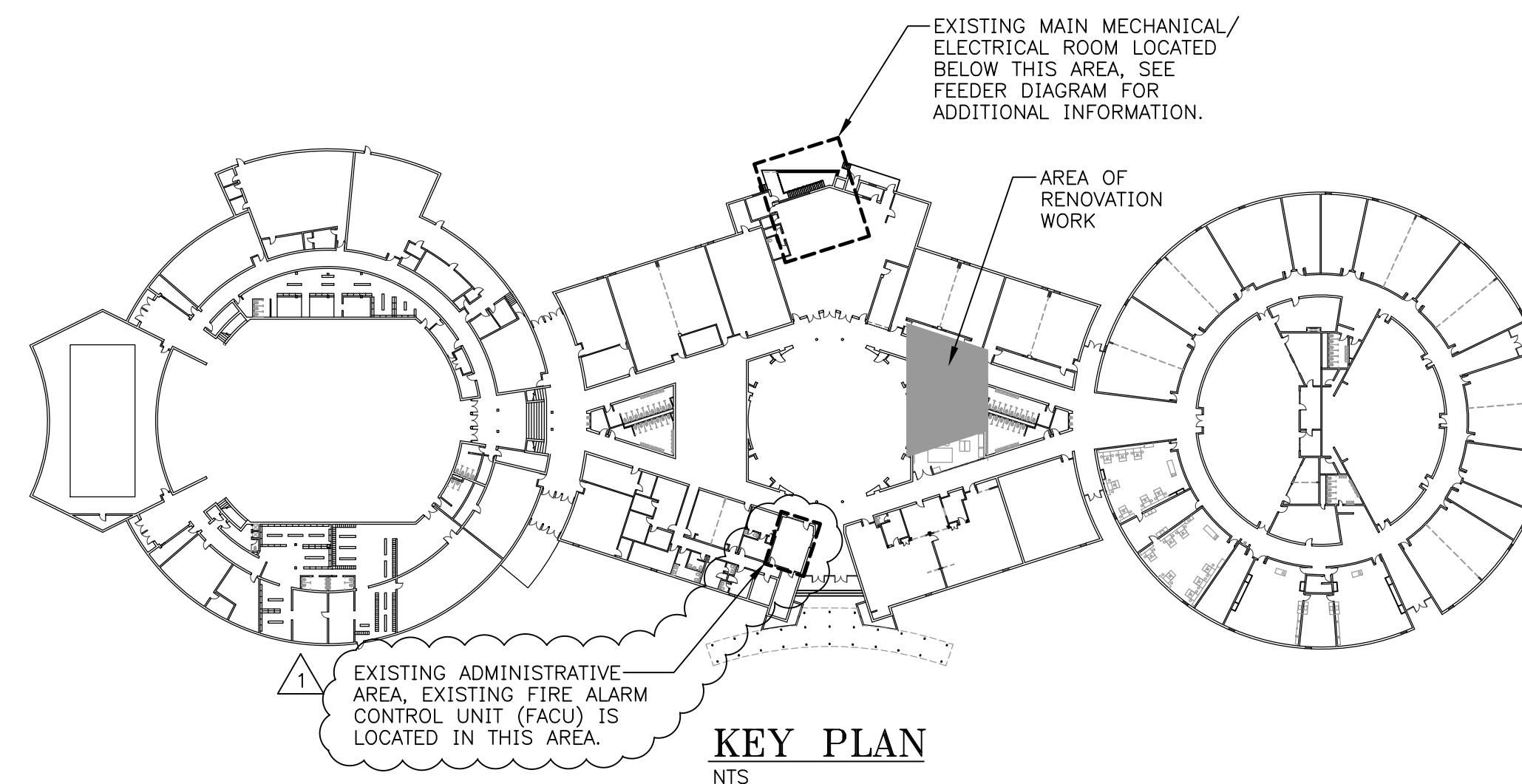
FLOOR PLAN - COMMUNICATIONS

SCALE: 1/4" = 1'-0"



POWER, COMMUNICATIONS, AND HVAC WIRING NOTES:

- RECESSED OUTLET BOXES ON OPPOSITE SIDES OF FIRE RATED PARTITIONS SHALL BE SEPARATED BY A HORIZONTAL DISTANCE OF AT LEAST 24 INCHES.
- PRIOR TO BEGINNING CONDUIT INSTALLATION FOR HVAC/PLUMBING EQUIPMENT ELECTRICAL CONTRACTOR SHALL CONFIRM WITH MECHANICAL/PLUMBING CONTRACTOR THE VOLTAGES FOR ALL HVAC/PLUMBING EQUIPMENT REQUIRING ELECTRICAL SERVICE. ELECTRICAL CONTRACTOR SHALL CALL ANY DISCREPANCIES BETWEEN ELECTRICAL DRAWINGS AND VOLTAGE INFORMATION PROVIDED BY MECHANICAL/PLUMBING CONTRACTOR TO THE ATTENTION OF ENGINEER PRIOR TO PROCEEDING WITH WORK.
- CONFIRM EXACT ROUGH-IN LOCATIONS FOR ALL HVAC/PLUMBING EQUIPMENT WITH MECHANICAL/PLUMBING CONTRACTOR PRIOR TO INSTALLATION OF CONDUIT.
- "AC" BY DEVICE INDICATES DEVICE TO BE MOUNTED ABOVE COUNTER SUCH THAT BOTTOM OF BOX IS 2" ABOVE COUNTER OR COUNTER BACKPLASH, AS APPLICABLE. REFER TO ARCHITECTURAL INTERIOR ELEVATIONS FOR COUNTER DETAILS.
- "*DC" BY J. BOX "DC" INDICATES CONTRACTOR TO PROVIDE A SPECIAL PURPOSE 208-VOLT, 3-PHASE, RECEPTACLE ON DROP CORD FOR HEAT TRANSFER EQUIPMENT. CONFIRM RECEPTACLE CONFIGURATION REQUIRED FOR HEAT TRANSFER EQUIPMENT WITH OWNER PRIOR TO ORDERING MATERIALS.



KEY PLAN
NTS

- FIRE ALARM NOTES:**
- ALL REQUIRED DOCUMENTATION REGARDING THE DESIGN OF FIRE DETECTION, ALARM, AND COMMUNICATIONS SYSTEMS AND THE PROCEDURES FOR MAINTENANCE, INSPECTION, AND TESTING OF FIRE DETECTION, ALARM, AND COMMUNICATIONS SYSTEMS SHALL BE MAINTAINED AT AN APPROVED, SECURED LOCATION FOR THE LIFE OF THE SYSTEM. (IFC 901.6.2.1).
 - FIRE ALARM CONTROL PANEL CIRCUIT DISCONNECTING MEANS SHALL HAVE A RED MARKING, SHALL BE ACCESSIBLE ONLY TO AUTHORIZED PERSONNEL, AND SHALL BE IDENTIFIED AS "FIRE ALARM CIRCUIT". THE LOCATION OF THE CIRCUIT DISCONNECTING MEANS SHALL BE PERMANENTLY IDENTIFIED AT THE FIRE ALARM CONTROL UNIT. (2010 NFPA 72 10.5.5.2.2).



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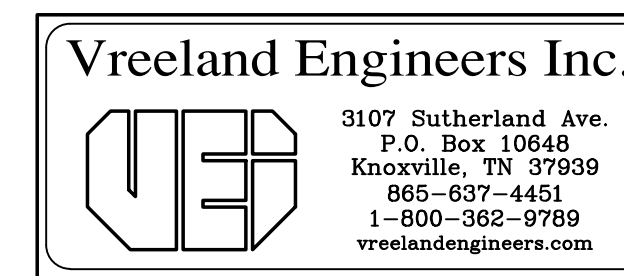
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no.	date	rev. description
1	10/19/23	SFMO COMMENT RESPONSES



issued	20 SEPT 2023
checked	HED
drawn	VEI
project no.	202336

FLOOR PLAN - POWER AND COMMUNICATIONS



ELECTRICAL SPECIFICATIONS

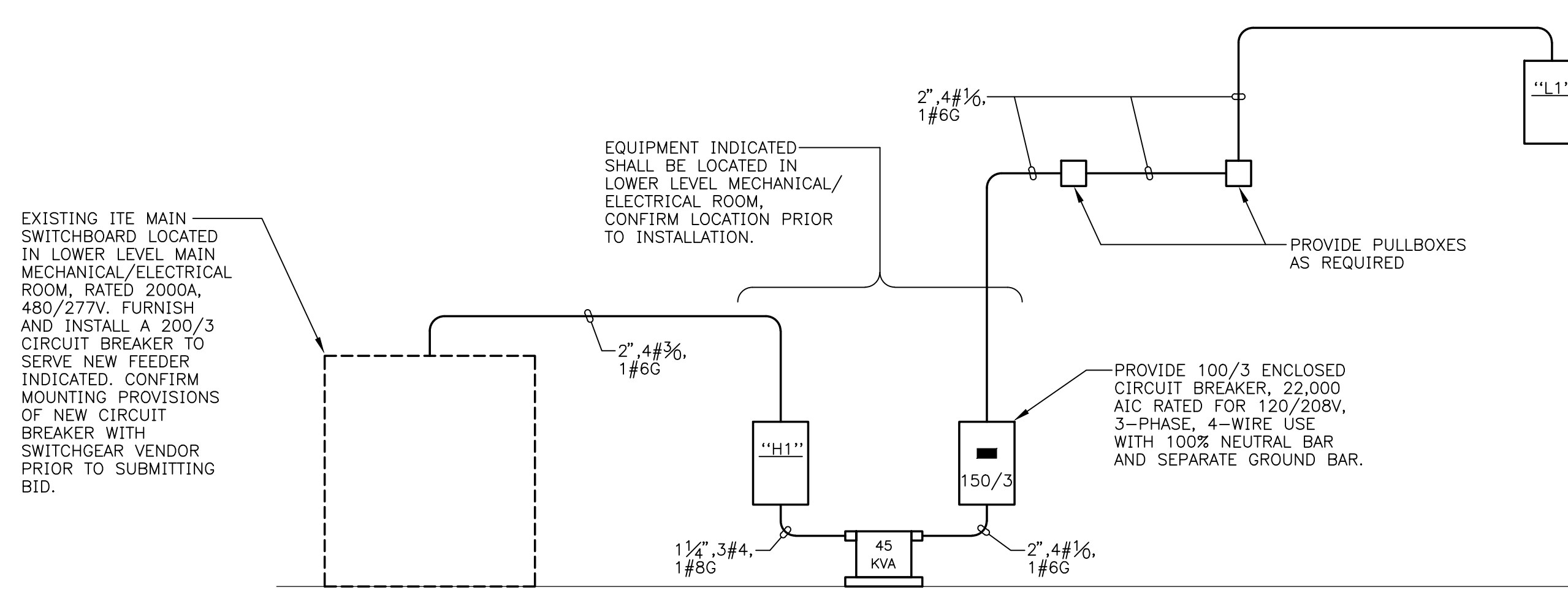
- SCOPE: FURNISH PLANT, LABOR, MATERIAL, SERVICES, AND EQUIPMENT NECESSARY FOR AND REASONABLY INCIDENTAL TO THE INSTALLATION OF ELECTRICAL FACILITIES SHOWN ON THE DRAWINGS AND CALLED FOR HEREINAFTER.
- CODES AND PERMITS: SECURE NECESSARY PERMITS, PAY NECESSARY FEES, CONFORM TO ALL APPLICABLE LOCAL, STATE, AND NATIONAL CODES.
- POWER SERVICE: POWER SERVICE SHALL BE TAKEN FROM THE EXISTING BUILDING POWER DISTRIBUTION SYSTEM AS INDICATED ON DRAWINGS.
- WIRING METHODS: FURNISH AND INSTALL A SYSTEM OF LINE VOLTAGE POWER WIRING FOR RENOVATION AREA AS INDICATED ON DRAWINGS AND AS SET FORTH HEREINAFTER. ALL WIRING SHALL BE RUN CONCEALED TO THE MAXIMUM EXTENT POSSIBLE. UTILIZE ELECTRICAL-METALLIC TUBING (EMT) FOR NEW CONDUIT RUNS THAT ARE CONCEALED ABOVE LAY-IN ACOUSTICAL TILE CEILING AND CONCEALED IN NEW WALL CONSTRUCTION. EXISTING CONDUIT AND BOXES MAY BE UTILIZED WHERE PRACTICABLE TO ACHIEVE NEW BRANCH WIRING ARRANGEMENTS SHOWN ON DRAWINGS. OTHERWISE, PROVIDE ALL NEW CONDUIT AND BOXES AS ILLUSTRATED. PROVIDE TWO COMPARTMENT SURFACE NON-METALLIC RACEWAY SYSTEM WHERE INDICATED ON DRAWINGS, OTHERWISE, ALL NEW WIRING SHALL BE INSTALLED CONCEALED UNLESS SPECIFIC PERMISSION IS GIVEN BY ARCHITECT FOR EXPOSED WIRING. THE EXCEPTION SHALL BE WIRING FOR NEW WATER HEATERS AND RECIRCULATION PUMPS SHALL BE PERMITTED TO BE RUN EXPOSED IN STORAGE AND PREP ROOMS. ALL CONDUCTORS SHALL BE COPPER WITH "THHN/THWN" INSULATION. PROVIDE COLOR CODING OF CONDUCTORS IN ACCORDANCE WITH NATIONAL ELECTRICAL CODE REQUIREMENTS. MINIMUM CONDUCTOR SIZE SHALL BE #12 AWG WITH LARGER SIZES WHERE INDICATED ON DRAWINGS. ALL WIRING (CONCEALED AND EXPOSED) SHALL BE RUN IN A NEAT AND WORKMANLIKE MANNER, PARALLEL OR PERPENDICULAR TO BUILDING STRUCTURAL ELEMENTS. NO DIAGONAL RUNS WILL BE PERMITTED. NEW EXPOSED WIRING RUNS SHALL BE SUBJECT TO APPROVAL OF ROUTING IN ADVANCE OF INSTALLATION BY ARCHITECT.
- PANELBOARDS: FURNISH AND INSTALL NEW BRANCH CIRCUIT PANELBOARDS WHERE INDICATED ON DRAWINGS. NEW PANELBOARDS SHALL BE RATED 120/208-VOLT, 3-PHASE, 4-WIRE, OR 480/277-VOLT, 3-PHASE, 4-WIRE AS INDICATED ON DRAWINGS. NEW PANELBOARDS SHALL BE SIMILAR AND EQUAL TO SQUARE D "NO" OR "NPF" SERIES FOR THE PARTICULAR VOLTAGE REQUIRED FOR EACH RESPECTIVE PANELBOARD. ALL BUSING IN NEW PANELBOARD SHALL BE COPPER. UTILIZE "BOLT-ON" TYPE CIRCUIT BREAKERS IN EACH NEW PANELBOARD. PROVIDE TYPED CIRCUIT DIRECTORY IN EACH PANELBOARD IDENTIFYING TYPE OF LOAD AND LOCATION OF LOAD FOR EACH PANELBOARD. HANDWRITTEN CIRCUIT DIRECTORIES WILL NOT BE PERMISSIBLE.
- DRY TYPE TRANSFORMER: FURNISH AND INSTALL DRY TYPE TRANSFORMER WHERE INDICATED ON DRAWINGS. DRY TYPE TRANSFORMER SHALL UTILIZE ALUMINUM WINDINGS AND SHALL BE RATED 115-DEGREE CELSIUS RISE. REFER TO DRAWINGS FOR KVA AND VOLTAGE RATINGS OF DRY TYPE TRANSFORMER PROVIDED AS PART OF THIS PROJECT.
- WORK AT EXISTING SWITCHBOARD: MAKE MODIFICATIONS TO EXISTING SWITCHBOARD AS ILLUSTRATED ON DRAWINGS. PROVIDE NEW CIRCUIT BREAKER IN EXISTING 480/277-VOLT SWITCHBOARD TO SERVE NEW FEEDER AS INDICATED ON PLANS. PROVIDE NEW ENGRAVED LABEL ON EXISTING SWITCHBOARD IDENTIFYING LOAD SERVED BY NEW CIRCUIT BREAKER.
- SAFETY SWITCHES: FURNISH AND INSTALL HEAVY-DUTY FUSIBLE TYPE SAFETY SWITCHES WHERE ILLUSTRATED ON DRAWINGS. SAFETY SWITCHES SHALL BE HEAVY DUTY, HORSEPOWER RATED, QUICK MAKE, QUICK BREAK WITH ARC SHIELD, WITH ENCLOSED CONSTRUCTION. UTILIZE NEMA 3R ENCLOSURES FOR OUTDOOR SAFETY SWITCHES. WHERE SAFETY SWITCHES ARE REQUIRED TO BE INSTALLED AWAY FROM WALLS, A SUITABLE SUPPORT WILL BE PROVIDED BY ELECTRICAL CONTRACTOR TO ALLOW THE SWITCH TO BE IN A POSITION OF APPROXIMATELY 4' ABOVE FLOOR OR ROOF LEVEL. SWITCHES MAY BE MOUNTED ON EQUIPMENT WHERE SPECIFIC APPROVAL IS PROVIDED BY EQUIPMENT SUPPLIER.
- MANUAL MOTOR STARTERS: FURNISH AND INSTALL MANUAL MOTOR STARTERS FOR FRACTIONAL HORSEPOWER EQUIPMENT AS INDICATED ON DRAWINGS. NEW MOTOR STARTERS SHALL BE SIMILAR AND EQUAL TO SQUARE D COMPANY 2510 SERIES, CATALOG NO. FF-1P OR FF-2P, DEPENDING UPON SINGLE-POLE OR DOUBLE-POLE APPLICATIONS. INSTALL IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
- WIRING DEVICES: FURNISH AND INSTALL NEW DUPLEX PLUG RECEPTACLES, GFCI DUPLEX PLUG RECEPTACLES, WALL SWITCHES, ETC., AS INDICATED ON DRAWINGS. NEW WIRING DEVICES SHALL BE TAMPER RESISTANT WITH MINIMUM RATING OF 20-AMPERES. PROVIDE STAINLESS STEEL COVERPLATES. COLOR OF DEVICES SHALL BE IVORY, WHITE, OR GRAY AS DIRECTED BY ARCHITECT.
- SURFACE NON-METALLIC RACEWAY SYSTEM: FURNISH AND INSTALL SURFACE NON-METALLIC RACEWAY FOR NEW WIRING REQUIRED ON EXISTING WALLS IN THE BUILDING AS ILLUSTRATED ON DRAWINGS. WHERE TWO-COMPARTMENT RACEWAY IS SHOWN, SURFACE NON-METALLIC RACEWAY SHALL HAVE A BUILT-IN DIVIDER FOR SEPARATION OF POWER AND COMMUNICATIONS WIRING. UTILIZE PANDUIT COMPANY T-70 SERIES WITH BUILT-IN DIVIDER OR EQUAL BY WIREMOLD OR HUBBELL IN THESE APPLICATIONS. THESE RACEWAYS SHALL BE 4-3/4" WIDE BY 1-1/4" DEEP. PROVIDE PLUG RECEPTACLES AND PROVISIONS FOR DATA OUTLETS IN RACEWAY AS INDICATED ON DRAWINGS. PROVIDE ALL NECESSARY ACCESSORIES INCLUDING DEVICE FACEPLATES, BOXES, T-CONNECTIONS, SUPPORT BRACKETS, ETC., FOR COMPLETE INSTALLATION. ELSEWHERE, WHERE NEW WIRING IS SHOWN ON EXISTING WALLS, PROVIDE SURFACE NON-METALLIC RACEWAY, SIMILAR AND EQUAL TO PANDUIT LDP SERIES. PROVIDE ALL NECESSARY ACCESSORIES INCLUDING SURFACE MOUNTED BOXES AND COVERS FOR COMPLETE INSTALLATION. INSTALLATION OF TWO-COMPARTMENT RACEWAYS AND SMALLER LDP RACEWAYS SHALL BE PERFORMED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. FURNISH AND INSTALL THE NECESSARY FITTINGS, ACCESSORIES, COUPLINGS, WIRE CLIPS, TRANSITION ELEMENTS, ETC., NECESSARY FOR AND REASONABLY INCIDENTAL TO THE PROPER INSTALLATION OF THE RACEWAY SYSTEM. CONFIRM EXACT ROUTING IN FIELD SO AS TO AVOID EXISTING OBSTRUCTIONS.
- FIRE ALARM SYSTEM: EXPAND THE EXISTING BUILDING FIRE ALARM SYSTEM INTO RENOVATION AREA AS REQUIRED. ALL NEW EQUIPMENT SHALL BE COMPATIBLE WITH THE EXISTING BUILDING FIRE ALARM SYSTEM AND SHALL BE OF THE MAKE/MODEL RECOMMENDED FOR USE BY EXISTING SYSTEM MANUFACTURER. NO SUBSTITUTIONS WILL BE PERMITTED. TEST SYSTEM AT CONCLUSION OF JOB TO INSURE PROPER OPERATION IN ACCORDANCE WITH NFPA 72 AND REQUIREMENTS OF LOCAL AHJ. INCLUDE TEST REPORTS AS PART OF PROJECT CLOSE-OUT DATA.
- INTERCOM SYSTEM EXPANSION: EXPAND EXISTING BUILDING INTERCOM SYSTEM INTO RENOVATION AREA AS INDICATED ON DRAWINGS AND AS CALLED FOR HEREINAFTER. FURNISH AND INSTALL NEW CEILING RECESSED INTERCOM LOUDSPEAKERS, WIRING, AND ALL REQUIRED MODIFICATIONS, RE-PROGRAMMING, ETC. AT EXISTING MAIN OFFICE INTERCOM SYSTEM SO AS TO INCORPORATE NEW DEVICES, EQUIPMENT, WIRING SERVING NEW DEVICES. EQUIPMENT WIRING SERVING NEW DIGITAL ARTS CLASSROOM INTO EXISTING INTERCOM SYSTEM. ALL NEW EQUIPMENT SHALL BE AS RECOMMENDED BY AUTHORIZED VENDOR OF EXISTING INTERCOM SYSTEM. NO SUBSTITUTES WILL BE PERMITTED. EXISTING SYSTEM UTILIZES A NORTEL PHONE SYSTEM. ALL NEW EQUIPMENT SHALL BE COMPATIBLE WITH THIS EXISTING SYSTEM AND INSTALLED BY AUTHORIZED VENDOR OF THIS SYSTEM.
- GROUNDING: FURNISH AND INSTALL GROUNDING IN ACCORDANCE WITH NATIONAL ELECTRICAL CODE. PROVIDE A SEPARATE CODE-SIZED EQUIPMENT GROUNDING CONDUCTOR IN ALL NEW BRANCH CIRCUIT WIRING RUNS. SEPARATE GROUNDING CONDUCTOR IS GENERALLY NOT ILLUSTRATED ON THE DRAWINGS BUT SHALL BE REQUIRED. GROUND EQUIPMENT AND LIGHTING FIXTURES IN ACCORDANCE WITH CODE. GROUND DRT-TYPE TRANSFORMER IN ACCORDANCE WITH CODE. SEE DETAIL ON DRAWINGS.
- SITE VISITATION: VISIT THE SITE SO AS TO HAVE A FULL UNDERSTANDING OF WORK REQUIRED IN THE EXISTING BUILDING. MAKE DUE ALLOWANCE FOR SAME IN BID PRICE. PRIOR TO COMMENCEMENT OF ANY DEMOLITION WORK, CONTRACTOR SHALL CONFIRM THAT INFORMATION SHOWN ON DRAWINGS REGARDING EXISTING ELECTRICAL ARRANGEMENT IS ACCURATE. CALL ANY DISCREPANCIES THAT ARE DISCOVERED TO THE IMMEDIATE ATTENTION OF THE ARCHITECT PRIOR TO PROCEEDING WITH WORK.
- SUBMITTALS: PROVIDE SUBMITTALS FOR REVIEW BY ARCHITECT AND ENGINEER. SUBMITTALS SHALL BE PROVIDED IN ELECTRONIC PDF FILE FORMAT WITH DESCRIPTIVE FILENAMES AND ALL MANUFACTURER'S CUT SHEETS APPROPRIATELY HIGHLIGHTED TO CLEARLY NOTE THE SPECIFIC EQUIPMENT BEING PROPOSED FOR USE ON THIS PROJECT. SUBMITTALS ON THIS PROJECT SHALL INCLUDE WIRING DEVICES, SWITCHGEAR, FIRE ALARM, INTERCOM, AND SURFACE NON-METALLIC RACEWAY SYSTEM.
- GUARANTY: GUARANTEE ALL WORK TO BE FREE FROM DEFECTS IN MATERIAL AND WORKMANSHIP FOR A PERIOD OF ONE YEAR AFTER FINAL ACCEPTANCE OF JOB. MAKE ALL REPAIRS/REPLACEMENT OF DEFECTIVE PARTS/LABOR DURING WARRANTY PERIOD AT NO ADDITIONAL COST TO THE OWNER.

PANEL	SERVES	LOAD (kVA)			BREAKER	TRIP	POLE	LOAD (kVA)			SERVES	CKT. NO.										
		#A	#B	#C				#A	#B	#C												
H1	RTU-2	8.4			60	3	50	6.2			RTU-1	2										
		8.4						6.2				4										
			8.4						6.2			6										
	TRANSFORMER "L1"	15.0			70	3	60				SPACE ONLY	8										
			15.0									10										
												12										
	SPACE ONLY				20	1	20				SPACE ONLY	14										
	SPACE ONLY				20	1	20				SPACE ONLY	16										
	SPACE ONLY				20	1	20				SPACE ONLY	18										
	SPACE ONLY				20	1	20				SPACE ONLY	20										
	SPACE ONLY				20	1	20				SPACE ONLY	22										
	SPACE ONLY				20	1	20				SPACE ONLY	24										
	SUB TOTAL CONNECTED	23.4	23.4	23.4				6.2	6.2	6.2	SUB TOTAL CONNECTED											
SUB TOTAL CONNECTED #A:		29.6			SUB TOTAL CONNECTED #B:			29.6			SUB TOTAL CONNECTED #C:			29.6			TOTAL CONNECTED:			88.8		

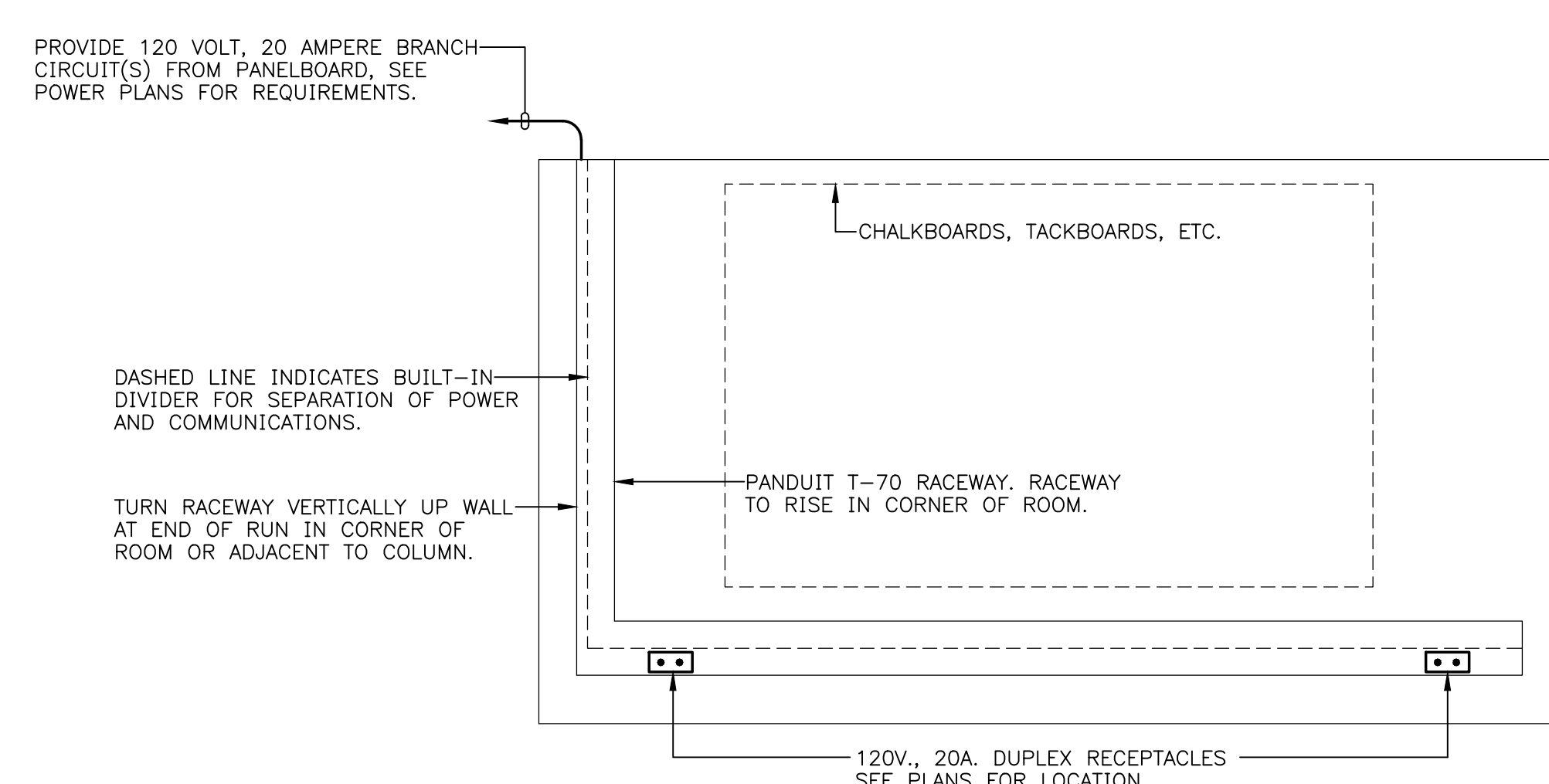
NOTES:
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PANEL	SERVES	LOAD (kVA)			BREAKER	TRIP	POLE	LOAD (kVA)			SERVES	CKT. NO.										
		#A	#B	#C				#A	#B	#C												
L1	RECEPTACLES	0.4			20	1	20	1.0			RECEPTACLES	2										
	RECEPTACLES		0.6		20	1	20	1.0			RECEPTACLES	4										
	SMALL PRESS				1.0	20	1				RECEPTACLES	6										
	PRINTER	1.0			20	1	20	0.4			RECEPTACLES	8										
	COMPUTER		1.0		20	1	20		0.4		RECEPTACLES	10										
	EPSON PRINTER				20	1	20		1.0		RECEPTACLES	12										
	DESK COMPUTER	1.0			20	1	20	1.0			RECEPTACLES	14										
	DESK COMPUTER		1.0		20	1	20		1.0		RECEPTACLES	16										
	DESK COMPUTER				20	1	20				SPARE	18										
	DESK COMPUTER	1.0			20	1	20	1.0			HEAT TRANSFER EQUIP.	20										
	DESK COMPUTER		1.0		20	1			1.0			22										
	DESK COMPUTER				1.0	20	1				1.0		24									
	LIGHTING	1.0			20	1	20					26										
	RTU'S RECEPTACLES		0.5		20	1	20				SPARE	28										
	SPARE				20	1	20				SPARE	30										
	SPARE				20	1	20				SPARE	32										
	SPARE				20	1	20				SPARE	34										
	SPARE				20	1	20				SPARE	36										
	SPARE				20	1	20				SPARE	38										
	SPARE				20	1	20				SPARE	40										
	SPARE				20	1	20				SPARE	42										
	SPACE ONLY				20	1	20				SPACE ONLY	44										
	SPACE ONLY				20	1	20				SPACE ONLY	46										
	SPACE ONLY				20	1	20				SPACE ONLY	48										
	SPACE ONLY				20	1	20				SPACE ONLY	50										
	SPACE ONLY				20	1	20				SPACE ONLY	52										
	SPACE ONLY				20	1	20				SPACE ONLY	54										
	SUB TOTAL CONNECTED	4.4	4.1	4.0				3.4	3.4	3.0	SUB TOTAL CONNECTED											
SUB TOTAL CONNECTED #A:		7.8			SUB TOTAL CONNECTED #B:			7.5			SUB TOTAL CONNECTED #C:			7.0			TOTAL CONNECTED:			22.3		

NOTES:
 1. PROVIDE 6"x20" SINGLE-SECTION PANEL.



FEEDER DIAGRAM
N.T.S.



TYPICAL SURFACE NON-METALLIC RACEWAY DETAIL
N.T.S.

NOTE:
 1. COMMUNICATIONS COMPARTMENT SHOWN SHALL BE EMPTY FOR FUTURE USE.

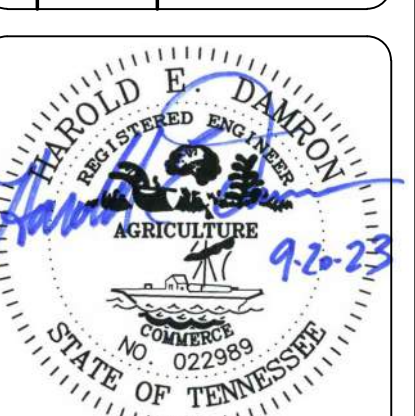
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PANELBOARD SCHEDULES AND FEEDER DIAGRAM