NEW HAVEN PUBLIC SCHOOLS

Operations Memorandum

To: New Haven Board of Education Finance and Operations Committee

From: Frank Fanelli, Director of Project Management

Date: 11/13/2023

Re: Award of Contract 21908 to A. Prete Construction for the remodel the southwest entry of Edgewood School the area to be remodeled consists of the nurses' suite entrance on the lower level including an accessible ramp and landing from the exterior door.

Answer all questions and have a representative ready to present the details of each question during the Finance & Operations meeting or this proposal may not be advanced for consideration by the full Board of Education.

Company Information			
Vendor Name:	A. Prete Construction		
Doing Business as: (DBA)			
Vendor Address:	156 Fulton Terrace, New Haven CT 06512		
Vendor Contact Name:	Nicole Corriveau		
Vendor Contact Email:	ncorriveau@aprete.com		
Is the contractor a minority or women owned small business?	No		
Agreement/Contract Information			
New or Renewal Agreement/Contract?	Contract		
Effective Dates: (mm/dd/yy) Multi-yrs. require Board of Aldermen approval	From 11/27/2023	To 06/30/2024	
Total Amount: If Multi-yr. include yr. to yr. breakdown	$92,000.00		
Funding Source Name: Acct. #:	2023-2024 Capital Projects 3C24-2461-58101		
Contract #: (Local or State)	21908		

NEW HAVEN PUBLIC SCHOOLS

Key Questions:

1. What specific service will the contractor provide:

Construction for the remodel the southwest entry of Edgewood School the area to be remodeled consists of the nurses' suite entrance on the lower level including an accessible ramp and landing from the exterior door

2. How was the contractor selected? *Attach appropriate supporting documents

☐ **Quotes**

☒ **Sealed Bid # 21908**

☐ **Sole Source # _____**

☐ **RFP# _____**

☐ **State Contract #**

☐ **Exempt Professional**

- ☐ Accountant
- ☐ Actuary
- ☐ Appraiser
- ☐ Architect
- ☐ Artist
- ☐ Dentist
- ☐ Engineer
- ☐ Expert Professional Consultant
- ☐ Land Surveyor
- ☐ Lawyer
- ☐ Physician/Medical Doctor

3. If the vendor was selected through Solicitation (Bid/RFQ/RFP) process; answer the following:

a. Please explain how the vendor was chosen? *Attach Vendor Proposal

Sealed bid

b. Who were the members of the selection committee? *(Minimum 3 members required)*

N/A – Sealed bid defaults to lowest bidder

4. If this is a renewal with a current vendor, has the vendor has met all obligations under the existing agreement/contract?
N/A - new
5. If this agreement/contract is a Renewal, has the cost increase? If yes, by how much? *Attach Renewal Letters
N/A - new
6. If this new agreement/contract, has cost for service increased from previous years? If yes, by how much?
This is a service to which there is no fiscal comparison as this is large scale project to which varies per project.
7. Is this a service that existing staff could provide? Why or why not?
This is a specialized service that will be provided by firm who has the knowledge and experience to perform solicited tasks.

NEW HAVEN PUBLIC SCHOOLS

Agreement/Contract Processing Checklist

To ensure timely processing of the submitted Agreement/Contract it is imperative to collect and provide all of the required documentation noted below and provide with submission to board.

Forms/Documents are available in: Drive G:\F&O Agenda Minutes\Agreement_Contract_Checklist\2022-2023

1. Has this vendor performed service(s) in prior fiscal years?	
If Yes,	Vendor # 13130
If No or New,	Vendor must provide completed W9
2. A quotes or proposal submitting regarding the agreement/contract.	
If RFP	Attach Vendor Submitted
Other	Copy of State Contract, Quotes, etc.
3. Certificates of Liability Insurance (COI) are required for ALL agreements/contracts, read the following and select the applicable Rider. **It is the submitters responsibility to request the COI from the vendor and attach with submission; the COI from the Vendor must match rider specifications outlined.** **Failure to obtain or incorrect COIs will be returned for revision and will delay its processing.**	
Rider 300	Professional Services – Onsite Umbrella; w/ Auto; w/ Workers Compensation
Rider 305	Professional Services – Onsite Umbrella; No Auto; No Workers Compensation
Rider 310	Professional Services – Onsite Umbrella; w/ Auto; No Workers Compensation
Rider 315	Professional Services – Onsite Umbrella; w/ Youth under 21
Rider 320	Professional Services – Offsite; No Auto; No Workers Compensation
Rider 325	Professional Services – Offsite; No Auto; No Workers Compensation; w/ Youth under 21
Rider 330	Professional Services – Offsite Attorney; No Auto; No Workers Compensation
Rider 335	Professional Services – Onsite; Physician/Dentist; No Auto
Rider 340	Professional Services – Onsite Physician/Dentist w/ Youth under 21
Rider 345	Professional Services – Onsite Temp Nurses
Rider 350	Professional Services – Cyber – Onsite
Rider 355	Professional Services – Cyber – Offsite
4. The City of New Haven requires the information requested in the Disclosure Affidavit before any City agency, department, or city official seeking agreement/contract shall obtain them, notarized.	
Emailed Disclosures are acceptable.	

City of New Haven
Bureau of Purchases
200 Orange Street, Room 301
New Haven, CT 06510
Tel: 203-946-8201 Fax: 203-946-8206

Honorable Justin Elicker
Mayor

Malinda Figueroa
Purchasing Agent

The City of New Haven ("City") is accepting sealed Bids for the following:

INVITATION TO BID

Project Summary

Contract Name:	Edgewood ADA Ramp - Rebid								
Solicitation #:	21908			City Project #:	N/A				
Projection Description:	remodel a portion of the Edgewood Magnet School, New Haven, CT.								
Department:	BOE-Facilities								
Solicitation/Advertise Date:	October 22, 2023								
Intend to Bid Due Date	November 14, 2023								
Bid Due Date:	November 15, 2023			Bid Opening Time:	3:00	PM			
Pre-Bid Meeting Date:	NA			Pre-Bid Meeting Time:					
Pre-Bid Meeting Location:	NA								
Solicitation Type:		Construction	X	Service		SCD* - Construction		SCD* - Service	
Contract Term:		Construction	(See Specification)		Service	1	year	x	Renewals Option(s) (at the sole discretion of the CONH)
Material Markup Allowed	X	NO		Yes	If Yes enter percent markup on your Statement of Qualifications form				
System for Award Management (Federal Requirement)		YES	x	NO	If marked yes, to bid and get paid you must already have a Unique Entity ID. See Statement of Qualification Form				
Insurance Requirements:		Refer to Rider	**100**		(This Rider is attached)				
MBE/WBE Utilization Form:	**Required if your base Bid Submission is $150,000 or greater**								
Local Preference:	X		YES			NO			
Bid Bond:	Yes				Percentage Amount:	5	**%**		
Labor, Material and Performance Bond:	Yes								
Wage Rates:		Livable Wage $19.95 FY 23/24	X	Prevailing Wage State			Davis Bacon Federal		

Responses must be submitted in the form and manner specified in this request.

Specifications

The City of New Haven Public Schools (NHPS) is soliciting proposals from qualified General Contracting firms with significant experience to provide the NHPS with Services to GC and remodel a portion of the Edgewood Magnet School, New Haven, CT. The NHPS expects to select and contract with one company to provide the services listed in the scope of work below.

Pricing to include:

- All labor and materials
- Travel Charges
- Mileage Charges
- Disposal Charges
- 5 Year Warranty on all labor and installations
- Permits
- Misc. Fees

Additionally, all licensing and insurance requirements listed in this RFP must be met. It is the goal of the NHPS to enter into an agreement with a vendor that will provide services efficiently, will accurately bill, and will provide high-quality, flexible customer service to the NHPS. The Vendor will be expected to maintain expert knowledge of this service to ensure the NHPS is receiving the highest quality service at the most affordable rates while maintaining quality and secure technology (See attached Construction Plans). Awarded Bidder will be responsible for holding the price (Lump Sum) through the entire duration of the project.

I. Qualifications

Eligible vendors will be those individuals, businesses, and firms that meet the following qualifications:

1. Proposer must have demonstrated experience and expertise in Connecticut in the past (5) years regarding the types of or similar services as those outlined in the introduction.
2. Proposers must have a proven track record in providing these types of services for similarly sized municipal governments, preferably in Connecticut.
3. Proposer must be familiar with, qualified, and properly licensed in the State of Connecticut to perform its obligation under this proposal in compliance with all applicable Federal and State of Connecticut laws and regulations, statutes, and policies.

II. Expectations

- Vendor is expected to provide industry standard or higher quality services while maintaining a focus on providing a cost-effective service to the NHPS.
- The vendor is expected to provide the highest quality customer service to the NHPS, not limited to, but particularly in the areas of reliability and billing.

- The selected Company shall work with and cooperate with the Director of Project Management. Rendering services in pursuant to this RFP shall be directed to the City of New Haven Finance Department.

III. Scope of Services

This project consists of Architectural, Interior Design, Mechanical, and Electrical for a renovation of the southwest entry in Edgewood Magnet School in New Haven, CT. The area being renovated consists of approximately 750 sq. ft. of an existing nurse's suite entrance on the lower level. The renovation will provide a new interior accessible ramp and landing from the exterior door. The scope of the work shall include demolition and new construction. Demolition includes interior partitions, flooring, millwork, lighting, and electrical. New

construction will include interior partitions, exterior door hardware, ceiling, finishes, millwork, Electrical, Mechanical rework, and patching of exterior paving where needed.

In order to accommodate the clearances for the new ramps, the existing wall & door to the nurse's office will be relocated, which includes the ceiling and nurse's millwork & sink to be remodeled. The existing flooring within the project scope will be refinished. The new landing will extend into the small closet off the corridor and will retrofit the existing door. New hardware will be provided for the exterior storefront door to accommodate accessibility control & egress.

IV. MEP Scope

Plumbing:

- Remove existing sink and faucet, maintain existing hot and cold water and waste and vent piping for the new sink.
- Install new sink in location of removed sink, connect to existing hot and cold water, waste, and vent piping, and provide new P-Trap and angle stops.

Mechanical:

- Remove and relocate existing control valve, Fin Tube radiation. Clean the existing cover and reinstall. Cap existing supply and return piping for future connection.
- Remove and relocate the control valve and hydronic, and clean and reinstall the existing enclosure.
- Remove and relocate existing return grille, cap ductwork, insulate, and clean for future installation.
- Remove and relocate the existing thermostat, timer switch, and wall sensor and retain it for future installation.
- Install existing radiation approx. 3.5" AFF. Coordinate with new ramp elevation in the field. Extend piping connection as required.
- Install existing cabinet unit heater approx. 1.5" AFF. Coordinate with new ramp elevation in the field, and extend piping connections as required.
- Rebalance existing return diffuser to 235 CFM.

Electrical:

- Existing CUH to be removed and relocated. Disconnect power and make safe for reuse.
- Existing light switch, timer switch clock, and sensor to be removed and relocated. Reuse existing wiring.
- Relocated existing CUH, extend or cut back existing feeder as required and reconnect

to CUH.

- Provide add alternative pricing for electrical connection to motorized door, coordinate all electrical requirements with Architect and provide power and control wiring as required and interconnect push plates and electric strike.
- 20A, 120V circuit from existing panel board within mechanical room (B015). Provide new 20A, 1P circuit breaker and ¾"C, 2#12, #12G feeder. (Approx. feeder length 75 ft.)
- Relocated light switch, timer switch clock and sensor extend or cut back all wiring as required and reconnect onto new wall location.

V. General Note: refer to plans and specifications for more details. Drawings will include the following:

T1.00 COVER SHEET
T1.01 DRAWING LIST, NOTES AND ABBREVIATIONS
T1.02 SPECIFICATIONS
D1.01 LOWE LEVEL DEMOLITION PLANS
A1.01 LOWER LEVEL FLOOR PLAN
A6.00 INTERIOR DETAILS & ELEVATIONS
M1.01 MECHANICAL FIRST FLOOR PLAN
M2.01 MECHANICAL NOTES, LEGENDS, DETAILS, SCHEDULES, & SPECIFICATIONS
E1.01 ELECTRICAL FIRST FLOOR PLANSE2.01 ELECTRICAL FIRST FLOOR PLANS

Edgewood Accessibility Improvements: Phase 1

737 Edgewood Avenue
New Haven, CT 06515

IES

INNOVATIVE ENGINEERING SERVICES, LLC
33 N Plains Industrial Road
Wallignford, CT 06492

SVIGALS + PARTNERS

84 Orange Street + New Haven, Connecticut
203.786.5110 + www.svigals.com

CONSTRUCTION DOCUMENTS

SVIGALS PROJECT NUMBER: 23013-02

ISSUE DATE : MAY 24, 2023

ABBREVIATIONS

ABBREVIATION	TERM
@	AT
AB	ANCHOR BOLT
ABV	ABOVE
ACT	ACOUSTICAL CEILING TILE
ADJ	ADJACENT
ADMIN	ADMINISTRATION
AFF	ABOVE FINISHED FLOOR
AHU	AIR HANDLING UNIT
ALT	ALTERNATE
ALUM	ALUMINUM
APPROX	APPROXIMATE
ARCH	ARCHITECT(URAL)
BD	BOARD
BF	BOTH FACES
BIT	BITUMINOUS
BLDG	BUILDING
BLK	BLOCK
BLKG	BLOCKING
BM	BEAM
BOT	BOTTOM
BRK	BRICK
BS	BOTH SIDES
BSMT	BASEMENT
BUR	BUILT-UP ROOFING
C, [	CHANNEL
C-C	CENTER TO CENTER
CAB	CABINET
CB	CATCH BASIN
CEM	CEMENT
CF	CURTAIN FABRIC
CFL	COUNTER FLASHING
CFT	CERAMIC FLOOR TILE
CI	CAST IRON
CJ	CONTROL JOINT
CJT	CONSTRUCTION JOINT
CL	CENTERLINE
CLG	CEILING
CLK	CAULK
CLL	CONTRACT LIMIT LINE
CLOS	CLOSET
CLR	CLEAR
CLRM	CLASSROOM
CMU	CONCRETE MASONRY UNIT
CNJT	CONTROL JOINT
CO	CONVENIENCE OUTLET
COL	COLUMN
COMB	COMBINATION
CONC	CONCRETE
CONST	CONSTRUCTION
CONT	CONTINUOUS
CORR	CORRIDOR
CP	CLAY PIPE
CPG	COPING
CPT	CARPET
CRS, C	COURSE
CT	CERAMIC TILE
CTB	CERAMIC TILE BASE
CTR	CENTER
CTSK	COUNTERSINK

ABBREVIATION	TERM
CUH	CABINET UNIT HEATER
CWT	CERAMIC WALL TILE
DBL	DOUBLE
DIA	DIAMETER
DIAG	DIAGONAL
DIFF	DIFFUSER
DIM, DIMS	DIMENSION(S)
DN	DOWN
DO	DITTO
DP	DAMPROOFING
DR	DOOR
DRN	DRAIN
DTL	DETAIL
DWG, DWGS	DRAWING(S)
E	EAST
EA	EACH
EC	EXPOSED CONSTRUCTION
EF	EXHAUST FAN
ELEC	ELECTRICAL/ELECTRIC
ELEV, EL	ELEVATION
EMERG	EMERGENCY
EQ, =	EQUAL
EQUIP	EQUIPMENT
EST	ESTIMATE(D)
EW	EXTERIOR WALL
EWC	ELECTRIC WATER COOLER
EXH	EXHAUST
EXP	EXPANSION
EXT	EXTERIOR
EXTG	EXISTING
FBRK	FACE BRICK
FD	FLOOR DRAIN
FE	FIRE EXTINGUISHER
FEC	FIRE EXTINGUISHER CABINET
FF	FINISH FLOOR
FIN	FINISH
FIN GRD	FINISH GRADE
FIXT	FIXTURE
FL	FLUSH
FLG	FLASHING
FLR	FLOOR
FNDN	FOUNDATION
FP	FIREPROOF
FPL	FIREPLACE
FT	FOOT (FEET)
FTG	FOOTING
FUT	FUTURE
GA	GAUGE
GALV	GALVANIZED
GFB	GROUND FACE BLOCK
GL	GLASS, GLAZING
GRD	GRADE
GWB, GYP.	GYPSUM DRY WALL
H	HIGH
HC	HANDICAP(PED)
HD	HAND
HDRM	HEADROOM
HDW	HARDWARE
HGT	HEIGHT
HM	HOLLOW METAL

ABBREVIATION	TERM
HOR	HORIZONTAL
HTG	HEATING
HVAC	HEATING/VENTILATION/AIR CONDITIONING
HWD, HDWD	HARDWOOD
ID	INSIDE DIAMETER
IN	INCH
INCL	INCLUDING
INCR	INCREASE
INSUL	INSULATION
INT	INTERIOR
INTERM	INTERMEDIATE
INV	INVERT
JC	JANITOR CLOSET
JNT/JT	JOINT
KD	KNOCK DOWN
KO	KNOCK OUT
KS	KNEE SPACE
L	ANGLE
L	LENGTH
LAM	LAMINATE
LAV	LAVATORY
LB	POUND
LBL	LABEL
LH	LEFT HAND
LIN	LINEAR
LMS, LIMS	LIMESTONE
LTG	LIGHTING
LTG. STND	LIGHTING STAND
LW	LIGHT WEIGHT
M	METER
MAS	MASONRY
MATL	MATERIAL
MAX	MAXIMUM
MBL	MARBLE
MECH	MECHANICAL
MFG, MANUF	MANUFACTURER
MH	MANHOLE
MIN	MINIMUM
MISC	MISCELLANEOUS
MO	MASONRY OPENING
MTD	MOUNTED
MTL	METAL
MWK	MILLWORK
N	NORTH
NEG	NEGATIVE
NIC	NOT IN CONTRACT
NO, #	NUMBER
NOM	NOMINAL
NTS	NOT TO SCALE
OA	OVERALL
OC, O/C	ON CENTER
OD	OUTSIDE DIAMETER

ABBREVIATION	TERM
OFF	OFFICE
OH	OVERHEAD
OH, OPH	OPPOSITE HAND
OPG	OPENING
OPP	OPPOSITE
ORD	OVERFLOW ROOF DRAIN
ORL	OVERFLOW RAIN LEADER
PC	PRECAST
PERF	PERFORATE(D)
PF	PANEL FABRIC
PL	PLATE
PL	PROPERTY LINE
PLAM, PL	PLASTIC LAMINATE
PLAS	PLASTER
PNL	PANEL
PNT	POINT
POL	POLISHED
POS	POSITIVE
PROJ	PROJEC(TION)
PSF	POUNDS PER SQ FT
PSI	POUNDS PER SQ INCH
PT	PAINT
PTD	PAINTED
PTN	PARTITION
PVMT	PAVEMENT
PVR	PAVER
PWD, PLYWD	PLYWOOD
QT	QUARRY TILE
QUTB	QUARRY TILE BASE
R	RISER
RAD, R	RADIUS
RADN	RADIATOR, RADIATION
RB	RUBBER BASE
RD	ROOF DRAIN
REF	REFERENCE
REQD	REQUIRED
REV	REVERSE
RF	RUBBER FLOORING
RFG	ROOFING
RH	RIGHT HAND
RH	REVERSE HAND
RM	ROOM
RO	ROUGH OPENING
ROW	RIGHT OF WAY
RS	ROLLER SHADE
RWB	RESILIENT WALL BASE
S	SOUTH
SC	SOLID CORE
SCHED	SCHEDULE
SCS	SEALED CONCRETE SURFACE
SD	STORM DRAIN
SEC	SECTION
SERV	SERVICE
SF	SQUARE FOOT
SHTHG	SHEATHING
SIM	SIMILAR
SLDG	SLIDING
SPEC	SPECIFICATION
SPL	SPRINKLER

ABBREVIATION	TERM
SQ	SQUARE
SS, ST STL	STAINLESS STEEL
SSM	SOLID SURFACE MATERIAL
STD	STANDARD
STL	STEEL
STRUCT	STRUCTURAL
SUSP	SUSPENDED
SYM	SYMMETRICAL
SYS	SYSTEM
T	THERMOSTAT
T&B	TOP & BOTTOM
T&G	TONGUE & GROOVE
T/BLK	TOP OF BLOCK
T/CONC	TOP OF CONCRETE
T/CURB	TOP OF CURB
T/DECK, TOD	TOP OF DECK
T/FTG	TOP OF FOOTING
T/SLAB	TOP OF SLAB
T/STL	TOP OF STEEL
T/WALL	TOP OF WALL
TB	TACKBOARD
TBD	TO BE DETERMINED
TD	TRENCH DRAIN
TEL	TELEPHONE
TEMP	TEMPERATURE
THK	THICK
THRES	THRESHOLD
TR	TREAD
TYP	TYPICAL
TZ	TERRAZZO
TZB	TERRAZZO BASE
TZT	TERRAZZO TILE
UC	UNDER COUNTER
UL	UNDERWRITERS LABORATORIES
UNFIN	UNIFINISHED
UNO	UNLESS NOTED OTHERWISE
UOD	UNDERSIDE OF DECK
VB	VAPOR BARRIER
VCT	VINYL COMPOSITE TILE
VERT	VERTICAL
VET	VINYL ENHANCED TILE
VNR	VENEER
VTR	VENT THROUGH ROOF
VWC	VINYL WALL COVERING
W	WEST
W/	WITH
W/O	WITHOUT
WB	WOOD BASE
WD	WOOD
WF	WALL FABRIC
WI	WIDTH
WIN, WNDW	WINDOW
WP	WATERPROOFING
WSCT	WAINSCOT
WT, WGT	WEIGHT
WTR	WATER
WWF	WELDED WIRE FABRIC

GRAPHIC LEGEND

BUILDING ELEVATION

INTERIOR ELEVATION

COLUMN GRID LINES

ELEVATION POINT

KEYNOTE / DEMOLITION KEYNOTE

BUILDING SECTION

MILLWORK TAG

DETAIL

REVISION

LAB EQUIPMENT TAG

ROOM NUMBER

DOOR NUMBER

EXTERIOR WALL TYPE

WINDOW TAG

ROOM FINISH TAG

CEILING TAG

SIGNAGE TAG

INTERIOR WALL TYPE

STOREFRONT TAG

FINISH ACCENT TAG

PROJECT LIMIT LINE

NEW WALL

EXISTING WALL

DEMOLISH

GENERAL NOTES

1. ALL WORK SHALL IN BE CONFORMANCE WITH ALL APPLICABLE STATE AND LOCAL CODES, ORDINANCES AND STATUTES.
2. VERIFY ALL DIMENSIONS IN FIELD, REPORT DISCREPANCIES TO ARCHITECT.
3. DIMENSIONS FLAGGED WITH AND ASTERISK (*) INDICATE A CRITICAL MEASUREMENT, WHICH MUST BE VERIFIED BY CONTRACTOR AND ARCHITECT
4. DIMENSIONING:
   A. DIMENSIONS ARE TO FACE OF FINISH.
   B. DIMENSIONS TO EXISTING WALLS ARE TO FACE OF FINISH.
   C. WALLS ADJACENT TO EXISTING FINISH SHOULD ALIGN UNLESS NOTED OTHERWISE.
   D. REFER TO ENLARGED PLANS FOR DIMENSIONAL INFORMATION OF THAT AREA WHEN GIVEN.
   E. ALL DIMENSIONS NOTED "HOLD" ARE CRITICAL. INFORM THE ARCHITECT IF A HOLD DIMENSION CANNOT BE SATISFIED DUE TO FIELD CONSTRAINTS.
5. APPLY FIRE STOPPING AT ALL EXISTING AND NEW FLOOR PENETRATIONS, INCLUDING EXISTING CORRIDOR CHASE FLOOR OPENINGS.
6. CONTRACTOR RESPONSIBLE FOR PATCHING AND REPAIRING ALL SURFACES PRIOR TO INSTALLATION OF ALL NEW FINISHES AS REQUIRED; UNLESS NOTED OTHERWISE, ALL SURFACES TO ALIGN.
7. ANY EXISTING TO REMAIN FLOORING OR BASE IS TO BE PROTECTED DURING THE CONSTRUCTION, AND THOROUGHLY CLEANED AND WAXED AFTER PROJECT COMPLETION.
8. THE ENTIRE BUILDING WILL REMAIN OCCUPIED DURING CONSTRUCTION. CONSTRUCTION MANAGER IS TO PROVIDE CONSTRUCTION BARRIERS AND ASSOCIATED SIGNAGE FOR THE SEPARATION OF CONSTRUCTION ZONES FROM OCCUPIED FLOORS OF THE BUILDING.
9. ANY REQUIRED PHASING OF EXISTING SPACES TO BE COORDINATED BY CONSTRUCTION MANAGER WITH CLIENT AND BUILDING FACILITIES.
10. ALL NEW PARTITION TYPES REQUIRE A MINIMUM 24" SEPARATION BETWEEN CENTERLINES OF OUTLET BOXES OR RECEPTACLES SET INTO OPPOSITE SIDES OF SINGLE STUD WALLS. CONDUITS CONNECTING SUCH BOXES SHALL BE FLEXIBLE AND SHALL PROVIDE 6" SLACK PER 24" OF RUN.

DRAWING LIST

APPLICABLE CODES:

2022 CONNECTICUT STATE BUILDING CODE (CSBC):
2021 INTERNATIONAL BUILDING CODE (IBC)
2021 INTERNATIONAL EXISTING BUILDING CODE (IEBC)
2021 INTERNATIONAL MECHANICAL CODE (IMC)
2021 INTERNATIONAL PLUMBING CODE (IPC)
2021 INTERNATIONAL ENERGY CONSERVATION CODE (IECC)
2020 NFPA 70, NATIONAL ELECTRICAL CODE (NEC)
2017 ICC/ANSI A117.1 ACCESSIBLE AND USABLE BUILDINGS AND FACILITIES

2022 CONNECTICUT STATE FIRE SAFETY CODE (CSFSC):
PART III: NEW CONSTRUCTION, ALTERATIONS, RENOVATIONS, CHANGES OF USE
2021 INTERNATIONAL FIRE CODE (IFC)
PART IV: EXISTING BUILDINGS / OCCUPANCIES
2021 NFPA 101 LIFE SAFETY CODE

2022 CONNECTICUT STATE FIRE PREVENTION CODE:
2021 NFPA 1 FIRE CODE

ALTERATION LEVEL	LEVEL 2
CHANGE OF OCCUPANCY	YES ☐ NO ■
ADDITIONS TO EXISTING BUILDING	YES ☐ NO ■
BUILDING SPRINKLERED:	YES ■ NO ☐

USE, OCCUPANCY & CONSTRUCTION TYPE

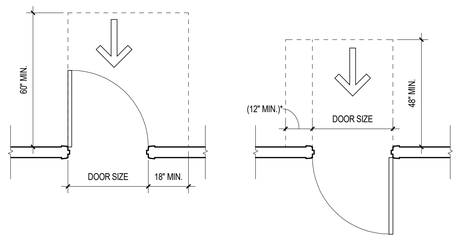
USE GROUP CLASSIFICATION	EDUCATIONAL GROUP (E)
RENOVATION FLOOR AREA	750 SQ. FT
TOTAL EXISTING FLOOR AREA	5,745 SQ. FT
MINIMUM TYPE OF CONSTRUCTION REQUIRED	TYPE IIIB
TYPE OF CONSTRUCTION PROVIDED	TYPE IIIB
TOTAL OCCUPANT LOAD	UNCHANGED
CAPACITY OF EGRESS COMPONENT	
STAIRWAY, RAMPS AND CORRIDORS	UNCHANGED
DOORS	UNCHANGED
PHYSICAL HANDICAPPED ACCESS	YES

OTHER INFORMATION

BUILDING OWNER	CITY OF NEW HAVEN
OCCUPANT OF SPACE FOR CONSTRUCTION	EDGEWOOD SCHOOL
ADDRESS OF PROJECT	NEW HAVEN, CT
SPECIFIC ADDRESS	737 EDGEWOOD AVE

MANEUVERING CLEARANCE AT DOORS

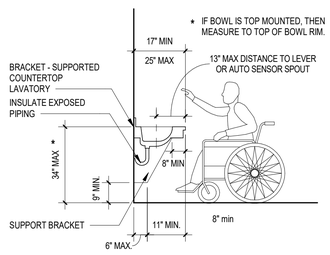
N.T.S.



FRONT APPROACH - PULL SIDE **FRONT APPROACH - PUSH SIDE**

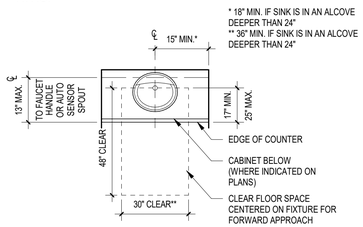
LAVATORY KNEE SPACE

N.T.S.



ACCESSIBLE LAVATORY FLOOR CLEARANCE

N.T.S.



SVIGALS + PARTNERS
84 Orange Street + New Haven, Connecticut
203.786.5110 + www.svigals.com

REVISION LOG:

NO	DESCRIPTION	DATE

PROJECT NAME:

Edgewood Accessibility Improvements: Phase 1

737 Edgewood Avenue
New Haven, CT 06515

PHASE:

CONSTRUCTION DOCUMENTS

DRAWING TITLE:

DRAWING LIST, NOTES AND ABBREVIATIONS

SCALE: AS NOTED
DATE: MAY 24, 2023
JOB NO: 23013-02

SHEET NO:

T1.01

SECTION 01 10 00 – SUMMARY

PART 1 - GENERAL

1.01 **PROJECT/WORK IDENTIFICATION**
A. The name of the project is Edgewood Nurses Entrance and is located at 737 Edgewood Avenue, New Haven, CT.
B. The Work has been identified in the Contract Documents, including any addenda or bulletin, as prepared by SVIGALS + PARTNERS. hereafter known as the Design Professional.

1.02 **OWNER OCCUPANCY**
A. Owner will occupy adjacent premises during entire construction period to conduct its normal operations. Cooperate with Owner in scheduling operations to minimize conflict and to facilitate Owner usage.
B. The Contractor shall schedule and substantially complete the following designated portions of Work for Owners occupancy prior to Substantial Completion of entire Work:
C. Owner will occupy designated areas for the purpose of:
   1. Storage of furnishings and equipment.
   2. Installation of equipment.
D. Upon execution of a Certificate of Substantial Completion for each designated portion of Work prior to Owner occupancy, the Contractor shall allow:
   1. Access for Owner personnel.
   2. Use of parking facilities.
   3. Operation of HVAC.
E. Upon occupancy by the Owner, the Owner will provide the following for occupied areas:
   1. Access for Owner personnel.
   2. Use of parking facilities.
   3. Operation of HVAC.

PART 2 - PRODUCTS - NOT USED

PART 3 - EXECUTION - NOT USED

END OF SECTION

SECTION 01 23 00 - ALTERNATES

PART 1 - GENERAL

1.01 **DESCRIPTION OF REQUIREMENTS**
A. Alternates may or may not change scope and general character of the Work substantially. Requirements of this Section may be related to, but must not be confused with, requirements of Contract Documents related to Unit Prices, Change Orders, Substitutions and similar provisions.
B. Coordinate related work and modify surrounding work as required to complete the Work, including changes under each Alternate, when acceptance is designed in Owner-Contractor Agreement.

1.02 SCHEDULE OF ALTERNATES
A. Alternate No. 01 - Aluminum Exterior Door
   1. Base Bid Item: Drawing number D1.01, Door Demo Note #D3 and Door Hardware Sets.
   2. Alternate Item: Drawing number D1.01, Door Demo Note #D3 and Door Hardware Sets.

PART 2 - PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

SECTION 01 30 00 - ADMINISTRATIVE REQUIREMENTS

PART 1 - GENERAL

1.01 PROJECT COORDINATOR
A. Project Coordinator: Construction Manager
B. During construction, coordinate use of site and facilities through the Project Coordinator.
C. Cooperate with the Project Coordinator in allocation of mobilization areas of site; for field offices and sheds, for access, traffic, and parking facilities.
D. Comply with Project Coordinator's procedures for intra-project communications; submittals, reports and records, schedules, coordination drawings, and recommendations; and resolution of ambiguities and conflicts.
E. Comply with instructions of the Project Coordinator for use of temporary utilities and construction facilities. Responsibility for providing temporary utilities and construction facilities is identified in Section 01 10 00 - Summary.
F. Coordinate field engineering and layout work under instructions of the Project Coordinator.
G. Make the following types of submittals to Architect through the Project Coordinator:

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 ELECTRONIC DOCUMENT SUBMITTAL SERVICE
A. All documents transmitted for purposes of administration of the contract are to be in electronic (PDF, MS Word, or MS Excel) format, as appropriate to the document, and transmitted via an Internet-based submittal service that receives, logs and stores documents, provides electronic stamping and signatures, and notifies addressees via email.
   1. Besides submittals for review, information, and closeout, this procedure applies to Requests for Interpretation (RFIs), progress documentation, contract modification documents (e.g. supplementary instructions, change proposals, change orders), applications for payment, field reports and meeting minutes, Contractor's correction punchlist, and any other document any participant wishes to make part of the project record.
   2. It is Contractor's responsibility to submit documents in allowable format.
   3. Subcontractors, suppliers, and Architect's consultants will be permitted to use the service at no extra charge.
   4. Users of the service need an email address, internet access, and PDF review software that includes ability to mark up and apply electronic stamps (such as Adobe Acrobat, www.adobe.com, or Bluebeam PDF Revu, www.bluebeam.com), unless such software capability is provided by the service provider.
   5. Paper document transmittals will not be reviewed; emailed electronic documents will not be reviewed.
   6. All other specified submittal and document transmission procedures apply, except that electronic document requirements do not apply to samples or color selection charts.
B. Submittal Service: The selected service is:
   1. Newforma ConstructEx, Procore or equal.
C. Training: One, one-hour, web-based training session will be arranged for all participants, with representatives of Architect and Contractor participating; further training is the responsibility of the user of the service.

3.02 PRECONSTRUCTION MEETING
A. Project Coordinator will schedule a meeting after Notice of Award.
B. Attendance Required:
   1. Owner.
   2. Architect.
   3. Contractor.
C. Agenda:
   1. Execution of Owner-Contractor Agreement.
   2. Submission of executed bonds and insurance certificates, if applicable.
   3. Distribution of Contract Documents.
   4. Submission of list of subcontractors, list of products, schedule of values, and progress schedule.
   5. Designation of personnel representing the parties to Contract and Architect.
   6. Procedures and processing of field decisions, submittals, substitutions, applications for payments, proposal request, Change Orders, and Contract closeout procedures.
   7. Scheduling.
D. Record minutes and distribute copies within two days after meeting to participants, with copies to Architect, Owner, participants, and those affected by decisions made.

3.03 CONSTRUCTION PROGRESS SCHEDULE
A. If preliminary schedule requires revision after review, submit revised schedule within 10 days. Within 20 days after review of preliminary schedule, submit draft of proposed complete schedule for review.
   1. Include written certification that major contractors have reviewed and accepted proposed schedule.
B. Within 10 days after joint review, submit complete schedule.
C. Submit updated schedule with each Application for Payment.

3.04 PROGRESS PHOTOGRAPHS
A. Submit photographs with each application for payment, taken not more than 3 days prior to submission of application for payment.
B. Photography Type: Digital; electronic files.
C. In addition to periodic, recurring views, take photographs of each of the following events:
D. Views:
   1. Provide non-aerial photographs from four cardinal views at each specified time, until date of Substantial Completion.
   2. Consult with Architect for instructions on views required.
   3. Provide correct exposure and focus, high resolution and sharpness, maximum depth of field, and minimum distortion.
E. Digital Photographs: 24 bit color, minimum resolution of 1024 by 768, in JPG format; provide files unaltered by photo editing software.
   1. Delivery Medium: Via email.
   2. File Naming: Include project identification, date and time of view, and view identification.
   3. PDF File: Assemble all photos into printable pages in PDF format, with 2 to 3 photos per page, each photo labeled with file name; one PDF file per submittal.

SECTION 01 30 00 - ADMINISTRATIVE REQUIREMENTS (continued)

3.05 COORDINATION DRAWINGS
A. Provide information required by Project Coordinator for preparation of coordination drawings.
B. Review drawings prior to submission to Architect.

3.06 REQUESTS FOR INTERPRETATION (RFI)
A. Definition: A request seeking one of the following:
   1. An interpretation, amplification, or clarification of some requirement of Contract Documents arising from inability to determine from them the exact material, process, or system to be installed; or when the elements of construction are required to occupy the same space (interference); or when an item of work is described differently at more than one place in Contract Documents.
   2. A resolution to an issue which has arisen due to field conditions and affects design intent.
B. Whenever possible, request clarifications at the next appropriate project progress meeting, with response entered into meeting minutes, rendering unnecessary the issuance of a formal RFI.
C. Preparation: Prepare an RFI immediately upon discovery of a need for interpretation of Contract Documents. Failure to submit a RFI in a timely manner is not a legitimate cause for claiming additional costs or delays in execution of the work.
   1. 1. Prepare a separate RFI for each specific item.
      a. Review, coordinate, and comment on requests originating with subcontractors and/or materials suppliers.
      b. Do not forward requests which solely require internal coordination between subcontractors.
   2. Prepare using software provided by the Electronic Document Submittal Service.
D. Reason for the RFI: Prior to initiation of an RFI, carefully study all Contract Documents to confirm that information sufficient for their interpretation is definitely not included.
E. Content: Include identifiers necessary for tracking the status of each RFI, and information necessary to provide an actionable response.
F. Attachments: Include sketches, coordination drawings, descriptions, photos, submittals, and other information necessary to substantiate the reason for the request.
G. RFI Log: Prepare and maintain a tabular log of RFIs for the duration of the project.

3.07 SUBMITTAL SCHEDULE
A. Submit to Architect for review a schedule for submittals in tabular format prior to start of construction.

3.08 SUBMITTALS FOR REVIEW
A. When the following are specified in individual sections, submit them for review:
   1. Product data.
   2. Shop drawings.
   3. Samples for selection.
   4. Samples for verification.
B. Submit to Architect for review for the limited purpose of checking for compliance with information given and the design concept expressed in Contract Documents.
C. Samples will be reviewed for aesthetic, color, or finish selection.
D. After review, provide copies and distribute in accordance with SUBMITTAL PROCEDURES article below and for record documents purposes described in Section 01 78 00 - Closeout Submittals.

3.09 SUBMITTALS FOR INFORMATION
A. When the following are specified in individual sections, submit them for information:
   1. Design data.
   2. Certificates.
   3. Test reports.
   4. Inspection reports.
   5. Manufacturer's instructions.
   6. Manufacturer's field reports.
   7. Other types indicated.
B. Submit for Architect's knowledge as contract administrator or for Owner.

3.10 SUBMITTALS FOR PROJECT CLOSEOUT
A. When the following are specified in individual sections, submit them at project closeout in compliance with requirements of Section 01 78 00 - Closeout Submittals:

3.11 NUMBER OF COPIES OF SUBMITTALS
A. Electronic Documents: Submit one electronic copy in PDF format; an electronically-marked up file will be returned. Create PDFs at native size and right-side up; illegible files will be rejected.
B. Samples: Submit the number specified in individual specification sections.
   1. Samples will not be returned to Contractor unless specifically so stated.

3.12 SUBMITTAL REVIEW
A. Submittals for Review: Architect will review each submittal, and approve, or take other appropriate action.
B. Submittals for Information: Architect will acknowledge receipt and review. See below for actions to be taken.
C. Architect's actions will be reflected by marking each returned submittal using virtual stamp on electronic submittals.
D. Architect's and consultants' actions on items submitted for review:
   1. Authorizing purchasing, fabrication, delivery, and installation:
      a. "Approved", or language with same legal meaning.
      b. "Approved as Noted, Resubmission not required", or language with same legal meaning.
         • At Contractor's option, submit corrected item, with review notations acknowledged and incorporated.
      c. "Approved as Noted, Resubmit for Record", or language with same legal meaning.
      d. "Revise and Resubmit", or language with same legal meaning.
         • Not Authorizing fabrication, delivery, and installation.
         • Resubmit revised item, with review notations acknowledged and incorporated.
      e. "Rejected", or language with same legal meaning.
         • Not Authorizing fabrication, delivery, and installation
E. Architect's and consultants' actions on items submitted for information:
   1. Items for which no action was taken:
      a. "Received" - to notify the Contractor that the submittal has been received for record only.
   2. Items for which action was taken:
      a. "Reviewed" - no further action is required from Contractor.

END OF SECTION

SECTION 01 33 00 - SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.01 SUBMITTAL PROCEDURES
A. After Architect's review of Submittal, revise and resubmit as required, identifying changes made since previous Submittal. All changes are to be clearly identified by clouding or other means. Only items clearly identified as changed will be reviewed on a resubmittal.
B. Distribute copies of reviewed submittals to concerned persons. Instruct recipients to promptly report any inability to comply with provisions. Yale representative is to be given appropriate time for reviews and comments to ensure compliance.

1.02 SCHEDULE OF WARRANTIES AND GUARANTEES
A. Certain products, components, and systems are required to carry warranties or guarantees that will survive the 12-month period set forth in the Project Conditions. Identify and list those items. Submit list with specimen guarantee or warranty forms noting action, if any required by the manufacturer to validate installation.

1.03 SHOP DRAWINGS
A. Shop Drawings include specially-prepared technical data for this project, including Drawings, diagrams, performance curves, data sheets, schedules, templates, patterns, reports, calculations, instructions, measurements and similar information not in standard printed form for general application to several projects.
B. Provide newly prepared information on reproducible sheets with graphic information at accurate scale (except as otherwise indicated), with name of prepare indicated (firm name). Maximum sheet size shall be 24 in x 36 in. Show dimensions and note those that are based on field measurement. Identify materials and products in the work shown. Indicate compliance with standards and special coordination requirements. Identify details by reference to sheet numbers shown on Drawings and Specifications sections, page numbers and paragraph line numbers. Drawings shall not be traced or otherwise reproduced for use as Shop Drawings.
C. Submit PDF format of newly prepared Shop Drawings and where design calculations are required in PDF format.
D. Indicate on Shop Drawing whether it is a full or partial Submittal.
E. Apply Contractor's stamp, signed or initialed certifying that review, approval, verification of Products required, field dimensions, adjacent construction Work, and coordination of information is in accordance with the requirements of the Work and Contract Documents.
   1. Architect will not review submittals received from Contractor that do not have Contractor's review and approval.
F. For each submittal for review, allow 15 days excluding delivery time to and from the Contractor.
G. Identify variations from Contract Documents and Product or system limitations that may be detrimental to successful performance of the completed Work.

1.04 PRODUCT DATA
A. Product Data includes standard printed information on materials, products and systems; not specially-prepared for this project, other than the designation of selections from among available choices printed therein.
B. Collect required data into one Submittal for each unit of Work or system and clearly mark each copy to show which choices
and options are applicable to the Project. Include manufacturer's standard printed recommendations for application and use, compliance with standards, application of labels and seals, notation of field measurements which have been check, special coordination requirements, instructions for delivery, storage, assembly, installation, adjusting and finishing.
C. Submit electronically in PDF format.

PART 2 - PRODUCTS - NOT USED

PART 3 - EXECUTION - NOT USED

END OF SECTION

SECTION 01 40 00 QUALITY REQUIREMENTS

PART 1 - GENERAL

1.01 DEFINITIONS
A. Capitalized terms in the Specifications are defined terms found in other Contract Documents. Definitions and explanations in this section are generally applicable to terminology used in the Specifications to the extent not stated more explicitly in another provision of the Contract Documents.
B. Directed, Requested, etc. Where not otherwise explained, use of terms such as "directed", "requested", "authorized", "selected", "approved", "required", "accepted" and "permitted" in the Specifications shall mean "directed by Architect/Engineer', 'requested by Architect/Engineer', etc. within the limits of the Architect:1/Engineer's authority under the Contract Documents. No such implied meaning will be interpreted to extend Architect's Engineer's responsibility into Construction Manager's area of construction supervision.
C. Indicated. The term "indicated' is a cross-reference to details, notes or schedules on the Drawings, to other paragraphs or schedules in the Specifications, and to similar means of recording requirements in the Contract Documents. Where terms such as "shown", "noted", "scheduled", and "specified" are used in lieu of 'indicated', ii is for the purpose of helping reader locate cross-references, and no limitation of location is intended except as specifically noted.
D. Furnish, install. Except as otherwise defined in greater detail, "furnish" is used to mean supply and deliver to Project Site, ready for unloading, unpacking, assembly, installation, etc., as applicable in each instance. "Install" is used to describe operations at Project Site including unloading, unpacking, assembly, erection, placing, anchoring, applying, working to dimensioning, finishing, curing, protection, cleaning and similar operations, as applicable In each instance.
E. "Provide" means furnish and install, complete and ready for intended use, as applicable in each instance. All items specified shall be "provided" unless specifically noted otherwise.

1.02 SPECIFICATIONS FORMAT
A. The format of principal portions of these Specifications can be described as follows; although other portions may not fully comply and no particular significance will be attached to such compliance or noncompliance.
B. Section and Division
   1. For convenience, a basic unit of the Specifications text is a 'section', each unit of which is named and numbered. These are organized into related families of sections, and various families of sections are organized into "divisions", which are recognized as the present industry consensus of uniform organization and sequencing of specifications. The section title is not intended to limit meaning or content of the section, or to be fully descriptive of requirements specified therein, nor to be an integral part of text.
   2. Each section of Specifications has been subdivided into 3 (or fewer) "parts" for uniformity and convenience. (PART 1 - GENERAL, PART 2 - PRODUCTS, and PART 3 - EXECUTION). These do not limit the meaning of and are not an integral part of text which specifies requirements.
C. Imperative Language: Except as otherwise indicated, requirements expressed imperatively are to be performed by the Construction Manager. For clarity of reading at certain locations, contrasting subjective language is used to describe responsibilities which must be fulfilled indirectly by the Construction Manager, or, when so noted, by others. These specifications are generally written in imperative and streamlined form. The words 'shall be' shall be Included by Inference where a colon(:) is used within sentences or phrases. Section Numbering: Used to facilitate cross reference In contract documents.
D. Sections: Sections are placed in Project Manual in numeric sequence; however, numbering sequence is not complete, and listing of sections at beginning of Project Manual must be consulted to determine numbers and names of specification sections in the Contract Documents.
E. Page Numbering: Numbered independently for each section; recorded in listing of sections (Index or Table of Contents) in Project Manual. Section number is shown with page number at bottom of each page, to facilitate location of text in Project Manual. In all cases the final page of each section is identified by END OF SECTION.
F. Article and Paragraph Designation: Provided on each page to aid in the rapid comprehension of each section and for the purpose of facilitating subsequent references to specific text, for Addenda, purchasing, subcontracting, modifications, Change Orders, and similar references.
G. Overlapping and Conflicting Requirements: Refer to Architect/Engineer for a decision on apparently equal but different requirements and uncertainties as to which level of quality is more stringent before proceeding with the work.
H. Trades: Except as otherwise indicated, the use of titles such as "carpentry" in Specifications text, implies neither that the Work must be performed by an accredited or unionized tradesman of title corresponding generic name (such as "carpenter"), nor that specified requirements apply exclusively to work by tradesmen of that corresponding generic name.
I. Abbreviations: Actual word abbreviations of a self-explanatory nature have been included in the text. Specific abbreviations have been established principally for lengthy technical terminology and primarily in conjunction with coordination of Specifications requirements with notations on Drawings and in schedules.

1.03 INDUSTRY STANDARDS
A. For products or workmanship specified by association, trade, or Federal standards, comply with requirements of the standard, except when more rigid requirements are specified or are required by Applicable Law.
B. Reference standards (referenced directly In the Contract Documents or Applicable Law) have precedence over non-referenced standards that are recognized in industry for applicability to the Work. Should specified reference standards conflict with Contract Documents, request clarification from Design Professional before proceeding.
C. Non-referenced standards recognized in the construction industry, except as otherwise limited in the Contract Documents, shall have direct applicability to the Work and will be so enforced for performance of the Work.
D. Publication Dates: Except as otherwise indicated, where compliance with an industry standard is required, comply with the latest edition and revisions thereof, if any, in effect as of date of execution of the contract.
E. Copies of Standards: When required by individual Specifications section or where needed for proper performance of the Wort, obtain copy of standard directly from publication sources. Maintain copy at Project Site during Submittals, planning, and progress of the specific: Work, until Substantial Completion.
F. Abbreviations and Names: Acronyms or name abbreviations used in the Specifications or other Contract Documents shall mean the industry recognized name of trade associations, standards generating organization, governing authority or other entity applicable to context of text provision. Refer to "Encyclopedia of Associations", published by Gale Research Company, available in most public libraries.

PART 2 - PRODUCTS

2.01 SAMPLES
A. Acceptable Samples represent a quality level for the Work.
B. Where a Sample is specified in individual Specifications sections to be removed, clear area after Sample has been accepted by Design Professional.

PART 3 - EXECUTION

3.02 DEFECT ASSESSMENT
A. Replace Work or portions of the Work not conforming to specified requirements.
B. If, in the opinion of Svigals + Partners, It is not practical to remove and replace the Work, Svigals + Partners will direct an appropriate remedy or adjust payment.

3.03 TOLERANCES
A. Monitor fabrication and installation tolerance control of products to produce acceptable Work. Do not permit tolerances to accumulate.
B. Comply with manufacturers' tolerances. Should manufacturers' tolerances conflict with Contract Documents, request clarification from Svigals + Partners before proceeding.
C. Adjust products to appropriate dimensions; position before securing products in place.

END OF SECTION

SECTION 01 60 00 - PRODUCT REQUIREMENTS

PART 1 - GENERAL

1.01 SECTION INCLUDES
A. Transportation, handling, storage and protection.
B. Product option requirements.
C. Substitution limitations.
D. Maintenance materials, including extra materials, spare parts, tools, and software.

1.03 SUBMITTALS
A. Proposed Products List: Submit list of major products proposed for use, with name of manufacturer, trade name, and model number of each product.
   1. Submit within 15 days after date of Agreement.
   2. For products specified only by reference standards, list applicable reference standards.
B. Product Data Submittals: Submit manufacturer's standard published data. Mark each copy to identify applicable products, models, options, and other data. Supplement manufacturers' standard data to provide information specific to this Project.
C. Shop Drawing Submittals: Prepared specifically for this Project; indicate utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances.
D. Sample Submittals: Illustrate functional and aesthetic characteristics of the product, with integral parts and attachment devices. Coordinate sample submittals for interfacing work.
   1. For selection from standard finishes, submit samples of the full range of the manufacturer's standard colors, textures, and patterns.

PART 2 PRODUCTS

2.01 NEW PRODUCTS
A. Provide new products unless specifically required or permitted by Contract Documents.
B. Use of products having any of the following characteristics is not permitted:
   1. Made using or containing CFC's or HCFC's.
   2. Containing lead, cadmium, or asbestos.

SECTION 01 60 00 - PRODUCT REQUIREMENTS (continued)

2.02 PRODUCT OPTIONS
A. Products Specified by Reference Standards or by Description Only: Use any product meeting those standards or description.
B. Products Specified by Naming One or More Manufacturers: Use a product of one of the manufacturers named and meeting specifications, no options or substitutions allowed.
C. Products Specified by Naming One or More Manufacturers with a Provision for Substitutions:
   1. Submit a request for substitution for any manufacturer not named.

2.03 MAINTENANCE MATERIALS
A. Furnish extra materials, spare parts, tools, and software of types and in quantities specified in individual specification sections.
B. Deliver to Project site; obtain receipt prior to final payment.

PART 3 EXECUTION

3.01 SUBSTITUTION LIMITATIONS
A. Svigals + Partners will consider requests for substitutions only within 15 days after date of Agreement.
B. Substitutions will not be considered when a product becomes unavailable through no fault of the Contractor.
C. Document each request with complete data substantiating compliance of proposed substitution with Contract Documents.
D. A request for substitution constitutes a representation that the submitter:
   1. Has investigated proposed product and determined that it meets or exceeds the quality level of the specified product.
   2. Agrees to provide the same warranty for the substitution as for the specified product.
   3. Agrees to coordinate installation and make changes to other Work that may be required for the Work to be complete with no additional cost to Owner.
   4. Waives claims for additional costs or time extension that may subsequently become apparent.
   5. Agrees to reimburse Owner and Svigals + Partners for review or redesign services associated with re-approval by authorities.
E. Substitutions will not be considered when they are indicated or implied on shop drawing or product data submittals, without separate written request, or when acceptance will require revision to the Contract Documents.
F. Substitution Submittal Procedure (after contract award):
   1. Submit request for substitution for consideration. Limit each request to one proposed substitution.
   2. Submit shop drawings, product data, and certified test results attesting to the proposed product equivalence. Burden of proof is on proposer.
   3. Svigals + Partners will notify Contractor in writing of decision to accept or reject request.

3.02 TRANSPORTATION AND HANDLING
A. Package products for shipment in manner to prevent damage; for equipment, package to avoid loss of factory calibration.
B. If special precautions are required, attach instructions prominently and legibly on outside of packaging.
C. Coordinate schedule of product delivery to designated prepared areas in order to minimize site storage time and potential damage to stored materials.
D. Transport and handle products in accordance with manufacturer's instructions.
E. Transport materials in covered trucks to prevent contamination of product and littering of surrounding areas.
F. Promptly inspect shipments to ensure that products comply with requirements, quantities are correct, and products are undamaged.
G. Provide equipment and personnel to handle products by methods to prevent soiling, disfigurement, or damage, and to minimize handling.
H. Arrange for the return of packing materials, such as wood pallets, where economically feasible.

3.03 STORAGE AND PROTECTION
A. Store and protect products in accordance with manufacturers' instructions.
B. Store with seals and labels intact and legible.
C. Store sensitive products in weathertight, climate-controlled enclosures in an environment favorable to product.
D. For exterior storage of fabricated products, place on sloped supports above ground.
E. Protect products from damage or deterioration due to construction operations, weather, precipitation, humidity, temperature, sunlight and ultraviolet light, dirt, dust, and other contaminants.
F. Comply with manufacturer's warranty conditions, if any.
G. Do not store products directly on the ground.
H. Cover products subject to deterioration with impervious sheet covering. Provide ventilation to prevent condensation and degradation of products.
I. Store loose granular materials on solid flat surfaces in a well-drained area. Prevent mixing with foreign matter.
J. Prevent contact with material that may cause corrosion, discoloration, or staining.
K. Provide equipment and personnel to store products by methods to prevent soiling, disfigurement, or damage.
L. Arrange storage of products to permit access for inspection. Periodically inspect to verify products are undamaged and are maintained in acceptable condition.

END OF SECTION

SECTION 01 73 29 - CUTTING, PATCHING, AND REMOVALS

PART 1 - GENERAL

1.01 DESCRIPTION OF REQUIREMENTS
A. This Project includes work which is affected by existing conditions. Make adjustments in the Work as required to accommodate existing conditions, as directed by the Architect. Where products are to be installed in existing construction, perform cutting, removal of old products, installation of new products, rebuilding of adjacent construction, and other operations as required.
   1. Architect will issue prompt instructions when unanticipated conditions are encountered.
B. "Cutting and patching" includes cutting into existing construction to provide for the installation or performance of other work and subsequent fitting and patching required to restore surfaces to their original condition.
   1. Cutting and patching is performed for coordination of the work, to uncover work for access or inspection, to obtain samples for testing, to permit alterations to be performed or for other similar purposes.
   2. Cutting and patching performed during the manufacture of products, or during the initial fabrication, erection or installation processes is not considered to be "cutting and patching" under this definition. Drilling of holes to install fasteners and similar operations are also not considered to be "cutting and patching".
C. "Removals" includes disconnecting, physically relocating, or temporarily putting out of service existing items or assemblies which are in good condition, presently operating and otherwise functional at the time this Work is conducted, with the intent of protecting and storing for subsequent reinstallation at or near the original location.
   1. Items or assemblies scheduled under Selective Demolition for storage and future use are not "removals". Comply with specified crating and storage requirements.
   2. Salvageable products of demolition are not regarded as a "removal".

PART 2 PRODUCTS

2.01 PRODUCTS FOR PATCHING AND EXTENDING WORK
A. Except as otherwise indicated, or as directed by the Architect, use materials for cutting and patching that are identical to existing materials. If identical materials are not available, or cannot be used, use materials that match existing adjacent surfaces to the fullest extent possible with regard to visual effect.
   1. Use materials for cutting and patching that will result in equal-or-better performance characteristics.
B. New Materials: As specified in individual Sections.
C. Match existing products and Work for patching and extending Work.
D. Determine type and quality of existing products by inspection and any necessary testing, and workmanship by use of existing as a standard. Presence of a product, finish, or type of work, requires that patching, extending, or matching shall be performed as necessary to make Work complete and consistent with the contiguous construction.

PART 3 EXECUTION

3.01 INSPECTION
A. Before cutting, examine the surfaces to be cut and patched and the conditions under which the work is to be performed. If unsafe or otherwise unsatisfactory conditions are encountered, take corrective action before proceeding with the work.
   1. Investigate and confirm the location of concealed services. Make probe holes prior to substantial cutting

3.02 INSTALLATION
A. Coordinate work to expedite completion sequentially and to accommodate Owner occupancy.
B. Install products as specified in individual Sections.

3.03 TRANSITIONS
A. Where new Work abuts or aligns with existing, make a smooth and even transition. Patched Work shall match existing adjacent work in texture and appearance.
B. When finished surfaces are cut so that a smooth transition with new Work is not possible, terminate existing surface along a straight line at a natural line of division and confer with Architect.

3.04 ADJUSTMENTS
A. Where removal of partitions results in adjacent spaces becoming one, rework floors, walls, and ceilings to a smooth plane without breaks, steps, or bulkheads. Where a change of plane of 1/4 inch or more occurs, request instructions from Architect.

3.05 REPAIR OF DAMAGED SURFACES
A. Patch or replace portions of existing surfaces which are damaged, lifted, discolored, or showing other imperfections.
B. Repair substrate prior to patching finish. Provide smooth and flat substrate.

3.06 FINISHES
A. Finish surfaces as specified in individual Sections to match adjacent surfaces.
B. Finish patches to produce uniform finish and texture over entire area. When finish cannot be matched, refinish entire surface to nearest corners, edges or intersections with contrasting material.

END OF SECTION

SVIGALS + PARTNERS
84 Orange Street + New Haven, Connecticut
203.786.5110 + www.svigals.com

REVISION LOG:

NO	DESCRIPTION	DATE

PROJECT NAME:
Edgewood Accessibility Improvements: Phase 1

737 Edgewood Avenue
New Haven, CT 06515

PHASE:
CONSTRUCTION DOCUMENTS

DRAWING TITLE:
SPECIFICATIONS

SCALE: AS NOTED
DATE: MAY 24, 2023
JOB NO: 23013-02

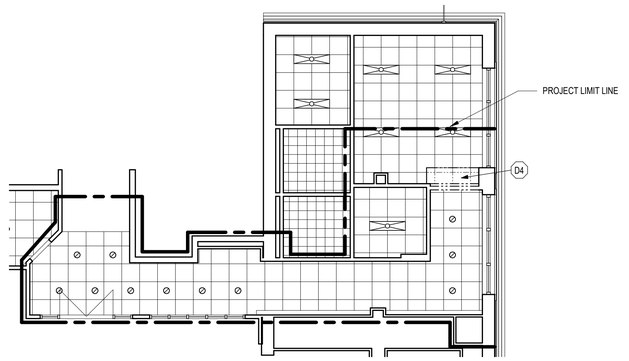
SHEET NO:
T1.02

DEMO PLAN LEGEND

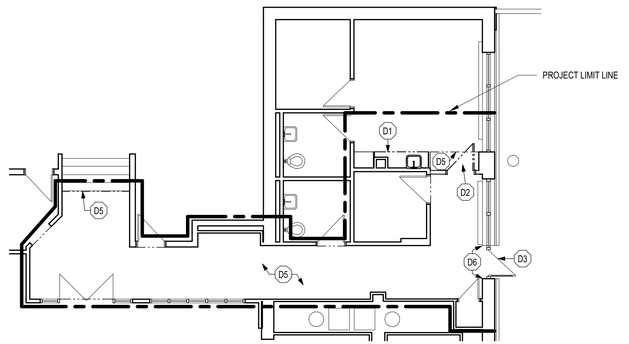
	EXISTING ITEM TO BE REMOVED
	EXISTING WALL TO BE REMOVED
	EXISTING WALL TO REMAIN
	EXISTING DOOR TO REMAIN
	EXISTING DOOR TO BE REMOVED

DEMO KEYNOTES

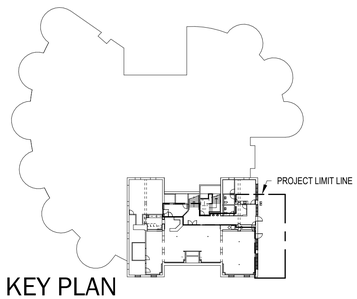
KEYNOTE	DESCRIPTION
D1	REMOVE EXISTING CASEWORK, SINK, & ASSOCIATED HARDWARE. REFER TO MEP DWGS. PREP FOR NEW WORK.
D2	REMOVE DOOR, FRAME, & ASSOCIATED HARDWARE. SALVAGE DOOR & HARDWARE FOR REUSE.
D3	BASE BID: REMOVE EXISTING DOOR HARDWARE. DOOR TO BE PREPPED FOR NEW WORK. ADD ALTERNATE #1: REMOVE DOOR & ASSOCIATED HARDWARE, FRAME TO REMAN. PREP FOR NEW WORK.
D4	DEMOLISH EXISTING ACT CEILING & GRID FOR EXTENTS SHOWN. REF MEP DWGS. COORDINATE W/ NEW WORK
D5	DEMOLISH FINISH FLOORING & UNDERLAYMENT. PREP FOR NEW WORK.
D6	REMOVE & SALVAGE EXISTING STAINLESS CORNER GUARDS FOR REINSTALLMENT.



2 / D1.01 LOWER LEVEL REFLECTED CEILING DEMOLITION PLAN
1/8" = 1'-0"



1 / D1.01 LOWER LEVEL DEMOLITION PLAN
1/8" = 1'-0"



KEY PLAN

SVIGALS + PARTNERS
84 Orange Street + New Haven, Connecticut
203.786.5110 + www.svigals.com

REVISION LOG:

NO	DESCRIPTION	DATE

PROJECT NAME:

Edgewood Accessibility Improvements: Phase 1

737 Edgewood Avenue
New Haven, CT 06515

PHASE:

CONSTRUCTION DOCUMENTS

DRAWING TITLE:

LOWER LEVEL DEMOLITION PLANS

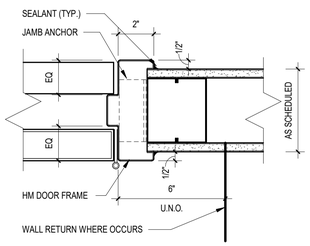
SCALE: AS NOTED
DATE: MAY 24, 2023
JOB NO: 23013-02

SHEET NO:

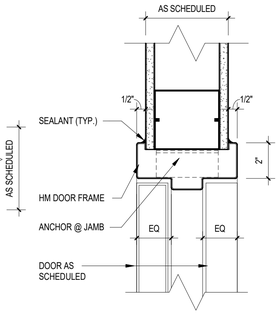
D1.01

DOOR SCHEDULE

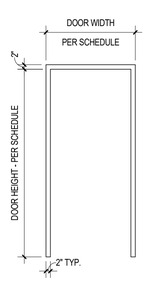
DOOR NO	ROOM NO	ROOM NAME	DOOR MATL	DOOR FIN	DOOR TYPE	DIMENSIONS THICKNESS	DIMENSIONS WIDTH	DIMENSIONS HEIGHT	FRAME MATL	FRAME FIN	FRAME TYPE	JAMB TYPE	HEAD TYPE	SILL TYPE	FIRE RATING	HDW SET	REMARKS
03	003	CORRIDOR	ALUM	-	A1	0'-0"	3'-0"	7'-0"	EXTG	EXTG	EXTG	-	-	1/A6.00			REFER TO DEMO NOTE #D3 & DOOR HARDWARE SETS FOR ALTERNATE
05	005	HEALTH	WD	EXTG	EXTG	0'-1 3/4"	3'-0"	7'-0"	HM	PT	F1	J1	H1				REUSE EXISTING DOOR PANEL



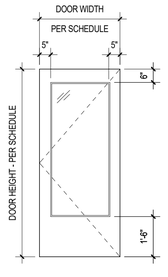
J1 / A1.01 JAMB DETAIL
3" = 1'-0"



H1 / A1.01 HEAD DETAIL
3" = 1'-0"



F1
FRAME TYPES



A1
DOOR TYPES

DOOR SCHEDULE LEGEND

ALUM ALUMINUM
EXTG EXISTING TO REMAIN
HM HOLLOW METAL
PTD PAINTED
ST STAINED
WD WOOD

DOOR GENERAL NOTES

A. COORDINATE ALL HARDWARE WITH PROJECT MANAGEMENT & OWNER FOR REQUIRED KEYING/CORING PRIOR TO PURCHASE.

B. HOLLOW METAL DOOR FRAMES TO BE FULLY WELDED & GROUND SMOOTH. PAINTED TO MATCH EXISTING.

C. ALL ALUMINUM STOREFRONTS AT THE EXTERIOR OF THE BUILDING SHALL BE DESIGNED, REINFORCED AND DETAILED TO RESIST WIND LOADS AND REACTIONS BY SUPPORTING ELEMENTS IN ACCORDANCE WITH THE CONNECTICUT STATE BUILDING CODE.

D. EXTERIOR SILL THRESHOLD HEIGHT TO BE 1/2" MAX, U.N.O

DOOR HARDWARE SETS

Base Bid: Set EW1 - Door 03
Existing Door Panel to remain.

1 Electric Strike	9600/9700-LBM X 2005m3	630	HS 087100
1 Automatic Opener	6000 Series - Mfg as required	689	NO 087100
2 Actuator - RF	533		NO 087100
1 ETR - Balance	Balance of existing hardware to remain		OT
1 Card Reader	By others		

Notes: Modify frame to accept the electric strike,,
Mount Auto operator, wire electric strike to the auto operator
Actuators to be mounted - RF operation, no wiring required.

Operation:
Wall actuator releases electric strike, to allow operation of the auto operator
Door can be operated manually.

Add Alternate #1: Set EW1A - Door 03
New Door Panel

1 Continuous Hinge	CFMXXHD1		PE 087100
1 Exit Device (storeroom)	AD8504 Less Pull	US32D	SA 087100
1 Cylinder	Reuse Existing Cylinder		OT
1 Electric Strike	9600/9700-LBM X 2005m3	630	HS 087100
1 Door Pull	BF 168	US32D	RO 087100
1 Automatic Opener	6021 RF	689	NO 087100
1 Threshold	2005AT MSES25SS		PE 087100
1 Gasketing	by door/frame mfg		
2 Actuator - RF	533		NO 087100
1 ETR-Balance	Balance of existing Hardware to remain		OT
1 Card Reader	By Others		

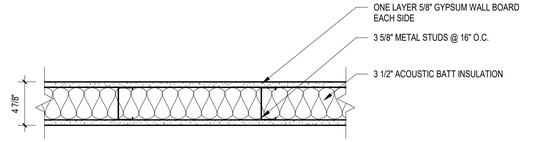
Notes: Modify frame to accept the electric strike,,
Mount Auto operator , wire electric strike to the auto operator
Actuators to be mounted - RF operation, no wiring required.

Operation:
Wall actuator releases electric strike, to allow operation of the auto operator
Door can be operated manually.

1

FIRE RATING:
--

U.L. DESIGN NO.:



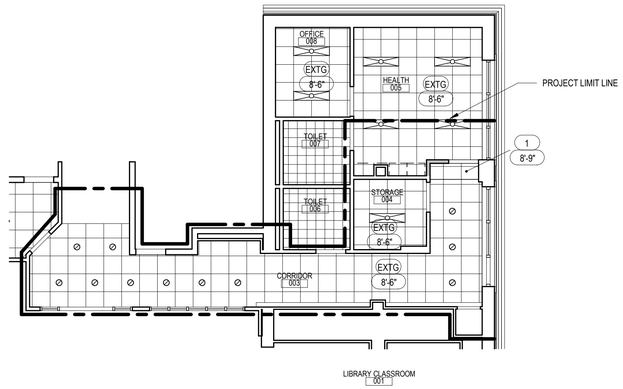
NOTE: WALL HEIGHT TO MATCH ADJACENT EXISTING

WALL TYPES GENERAL NOTES

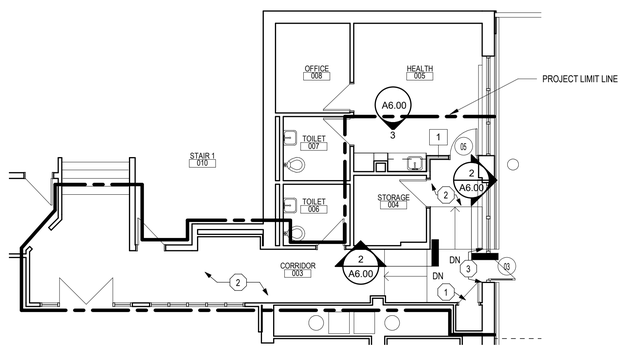
1. WALLS BETWEEN CORRIDORS AND ADJACENT SPACES ARE TO BE FULLY SEALED TO RESIST THE PASSAGE OF SMOKE.
2. WALLS AT CORRIDORS TO HAVE ABUSE RESISTANT GWB

FINISH LEGEND

Name	Finish Material	Manufacturer	Product	Notes	Location
FLOOR					
VCT-1	VCT	ARMSTRONG	STYLE: STANDARD EXCELON IMPERIAL TEXTURE COLOR: MATCH EXISTING FIELD COLOR		CORRIDOR 003 & OUTSIDE ROOM HEALTH 005, REF PLAN
WOM-1	WALK OFF MAT	MATS INC	STYLE: BERBER VINYL BACK COLOR: CHARCOAL		LANDING & RAMPS
BASE					
RB-1	RUBBER WALL BASE	ROPPE	STYLE: COVE - MATCH EXISTING HEIGHT COLOR: MATCH ADJACENT EXISTING		THROUGHOUT PROJECT SCOPE
WALL					
PT-1	PAINT	SHERWIN WILLIAMS	STYLE: EGGSHELL COLOR: MATCH ADJACENT EXISTING		HEALTH 005 SOUTH WALL
PT-2	PAINT	SHERWIN WILLIAMS	STYLE: EGGSHELL COLOR: MATCH ADJACENT EXISTING BOTTOM BAND		CORRIDOR 003
PT-3	PAINT	SHERWIN WILLIAMS	STYLE: EGGSHELL COLOR: MATCH ADJACENT EXISTING TOP BAND		CORRIDOR 003
MILLWORK					
PL-1	PLASTIC LAMINATE	WILSONART	COLOR: MATCH EXISTING		MILLWORK, TYP
SS-1	SOLID SURFACE	WILSONART	COLOR: YUKON RIVERSTONE 9196RS		COUNTER & BACKSPLASH



2 / A1.01 LOWER LEVEL FLOOR RCP
1/8" = 1'-0"



1 / A1.01 LOWER LEVEL FLOOR PLAN
1/8" = 1'-0"

PLAN LEGEND

	NEW STUD WALL
	EXISTING WALL
	EXISTING DOOR TO REMAIN
	NEW DOOR, FRAME & ASSOCIATED HARDWARE

ARCH KEYNOTES

KEYNOTE	DESCRIPTION
1	EXISTING DOOR & FRAME TO REMAIN. CUT BOTTOM OF DOOR PANEL TO SWING CLEAR OF NEW LANDING.
2	EXTENTS OF VCT-1 & PT-2
3	REPLACE SALVAGED CORNER GUARDS.

RCP LEGEND

	ACOUSTICAL CEILING TILE AND GRID
	PAINTED GWB CEILING
	RECESSED LINEAR FIXTURE
	2X4 RECESSED LIGHT FIXTURE
	RECESSED CAN
	HVAC FIXTURES; REFER TO HVAC DRAWINGS

REFERENCE ALL MEP DWGS FOR MORE INFORMATION

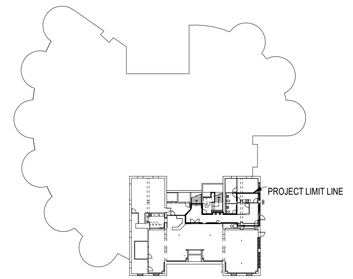
CEILING TYPES

X — CEILING TYPE
Z' - Z" — CEILING HEIGHT A.F.F.

1 TYPE 1 ACOUSTICAL CEILING TILE
MATCH ADJACENT EXISTING TILES & GRID

EXTG TYPE EXTG EXISTING TO REMAIN

REFERENCE SPECIFICATIONS FOR MORE INFORMATION



KEY PLAN

SVIGALS + PARTNERS
84 Orange Street + New Haven, Connecticut
203.786.5110 + www.svigals.com

REVISION LOG:

NO	DESCRIPTION	DATE

PROJECT NAME:
Edgewood Accessibility Improvements: Phase 1

737 Edgewood Avenue
New Haven, CT 06515

PHASE:
CONSTRUCTION DOCUMENTS

DRAWING TITLE:
LOWER LEVEL FLOOR PLAN

SCALE: AS NOTED
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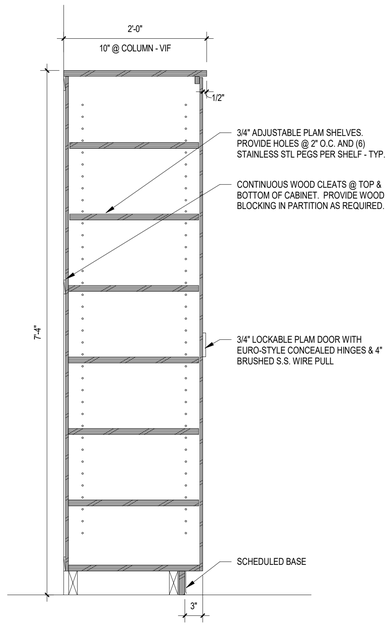
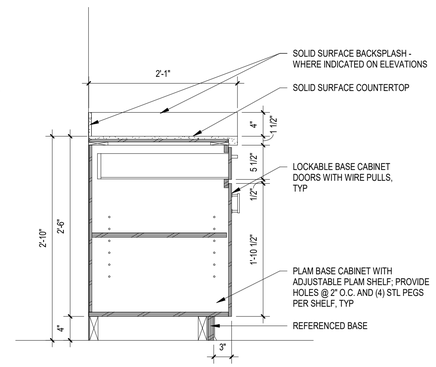
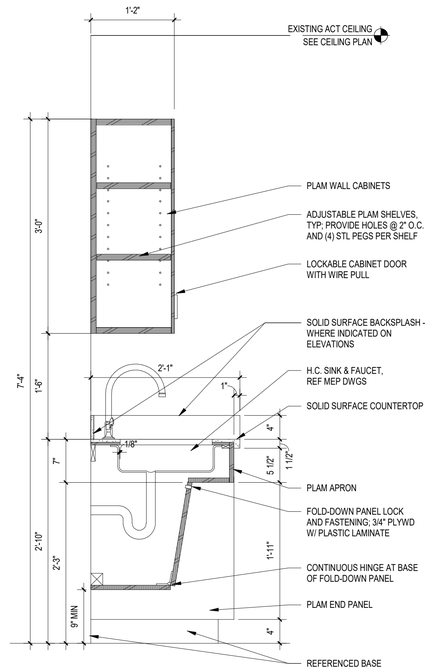


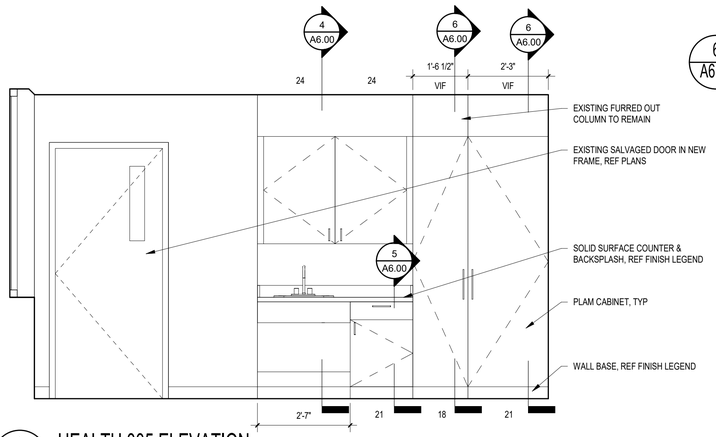
6 A6.00 TYPICAL FULL HEIGHT CABINET
1" = 1'-0"



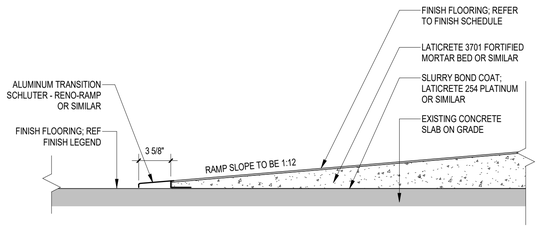
5 A6.00 TYPICAL BASECABINET
1" = 1'-0"



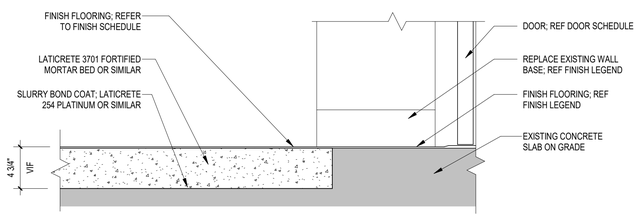
4 A6.00 SINK CABINET
1" = 1'-0"



3 A6.00 HEALTH 005 ELEVATION
1/2" = 1'-0"



2 A6.00 TYPICAL RAMP TO LANDING SECTION DETAIL
1 1/2" = 1'-0"



1 A6.00 LANDING TO DOOR SILL SECTION DETAIL
1 1/2" = 1'-0"

SVIGALS + PARTNERS
84 Orange Street + New Haven, Connecticut
203.786.5110 + www.svigals.com

REVISION LOG:

NO	DESCRIPTION	DATE

PROJECT NAME:

Edgewood Accessibility Improvements: Phase 1

737 Edgewood Avenue
New Haven, CT 06515

PHASE:

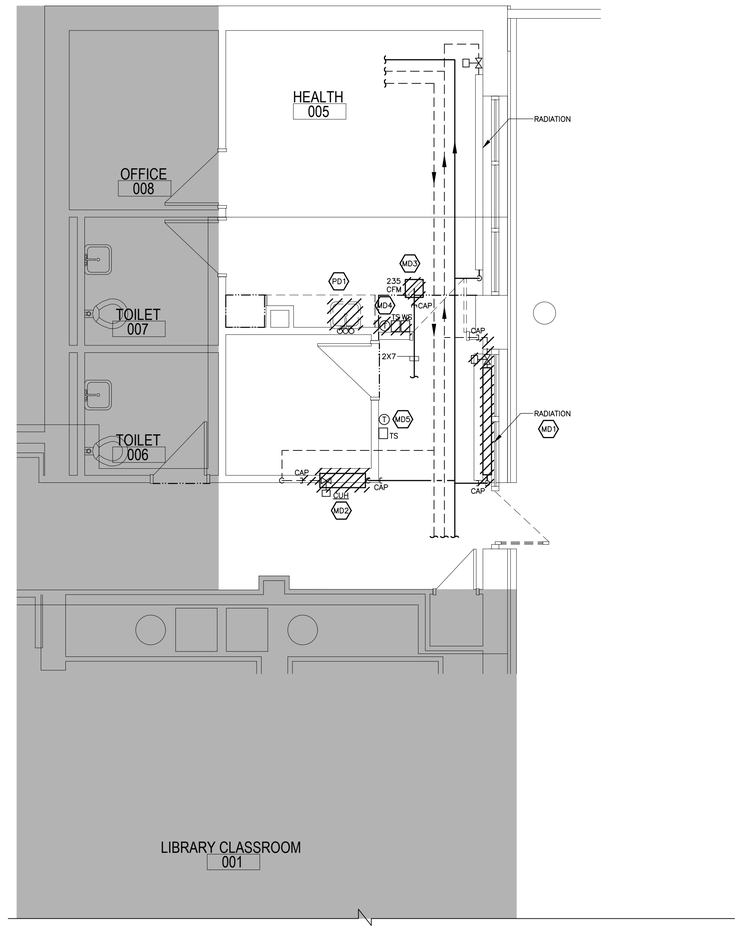
CONSTRUCTION DOCUMENTS

DRAWING TITLE:

INTERIOR DETAILS & ELEVATIONS

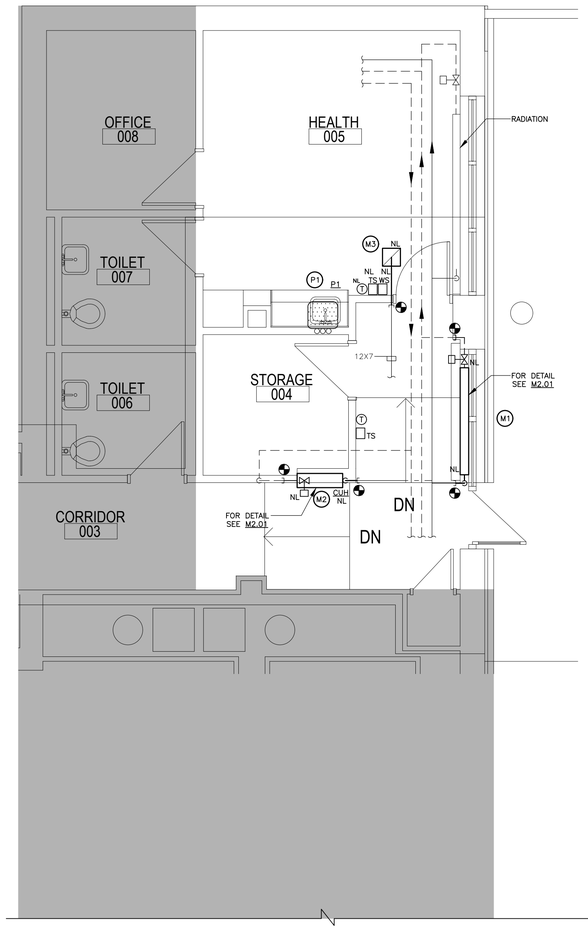
SCALE: AS NOTED
DATE: MAY 24, 2023
JOB NO: 23013-02

SHEET NO:
A6.00



MECHANICAL FIRST FLOOR DEMOLITION PLAN

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



MECHANICAL FIRST FLOOR CONSTRUCTION PLAN

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

MECHANICAL DEMOLITION NOTES

- MD1: REMOVE AND RELOCATE EXISTING AND CONTROL VALVE, FIN TUBE RADIATION. CLEAN EXISTING COVER AND REINSTALL. CAP EXISTING SUPPLY AND RETURN PIPING FOR FUTURE CONNECTIONS.
- MD2: REMOVE AND RELOCATE CONTROL VALVE AND HYDRONIC, CLEAN AND REINSTALL EXISTING ENCLOSURE
- MD3: REMOVE AND RELOCATE EXISTING RETURN GRILLE, CAP DUCTWORK, INSULATE, AND CLEAN FOR FUTURE INSTALLATION.
- MD4: REMOVE AND RELOCATE EXISTING THERMOSTAT, TIMER SWITCH AND WALL SENSOR AND RETAIN FOR FUTURE INSTALL.
- MD5: EXISTING THERMOSTAT, TIMER TO REMAIN

PLUMBING DEMOLITION NOTES

- PD1: REMOVE EXISTING SINK AND FAUCET, MAINTAIN EXISTING HOT AND COLD WATER AND WASTE AND VENT PIPING FOR NEW SINK, SEE NEW WORK PLANS.

PLUMBING FIXTURE SCHEDULE

SYMBOL	FIXTURE TYPE	MANUFACTURER/ MODEL NUMBER	DESCRIPTION	ACCESSORIES AND TRIM	REMARKS
P1	SINK	ELKAY "LUSTERTONE" MODEL # ELUHAD211545	ACCESSIBLE; ASME A112.19.3 23.5"x18.25"x4.5" DEEP, UNDERMOUNT ADA SINK, 18 GAUGE TYPE 304 STAINLESS STEEL, SINGLE BOWL WITH 3-1/2-INCH DRAIN LOCATED BACK OF BOWL.	CHROME PLATED 8-INCH RIGID GOOSENECK FAUCET WITH 4-INCH WRIST BLADE HANDLES, 8" FIXED CENTERS, CHICAGO MODEL # 786-TWGN8AE29VXKAB; 2.2 GPM, ELKAY, LK-18 CHROME GRID STRAINER, UNDERMOUNT BRACKETS.	#1,2,3,4,5

REMARKS:

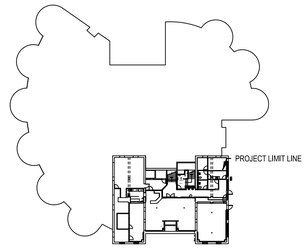
1. FIXTURE SHALL BE ADA ACCESSIBLE AND SHALL MEET ALL OF THE REQUIREMENTS OF ANSI A117.1.
2. PROVIDE FIXTURE WITH ADA PIPE INSULATION ON P-TRAP AND STOPS, TRUEBRO MODEL # 102.
3. PROVIDE ISOLATION VALVE ON WATER SUPPLY.
4. REFER TO ARCHITECTURAL DRAWINGS FOR FIXTURE MOUNTING HEIGHTS.
5. PROVIDE WITH GRID STRAINER, TAIL PIECE, 3/8" COPPER SUPPLIES, LOOSE KEY STOPS, P-TRAP WITH CLEANOUT.

MECHANICAL CONSTRUCTION NOTES

- M1: INSTALL EXISTING RADIATION APPROX. 3.5" AFF. COORDINATE WITH NEW RAMP ELEVATION IN FIELD, EXTEND PIPING CONNECTIONS AS REQUIRED.
- M2: INSTALL EXISTING CABINET UNIT HEATER APPROX. 1.5" AFF. COORDINATE WITH NEW RAMP ELEVATION IN FIELD, EXTEND PIPING CONNECTIONS AS REQUIRED.
- M3: REBALANCE EXISTING RETURN DIFFUSER TO 235 CFM.

PLUMBING CONSTRUCTION NOTES

- P1: INSTALL NEW SINK IN LOCATION OF REMOVED SINK, CONNECT TO EXISTING HOT AND COLD WATER, WASTE AND VENT PIPING, PROVIDE NEW P-TRAP AND ANGLE STOPS.



KEY PLAN

INNOVATIVE ENGINEERING SERVICES, LLC
AN INTEGRATED ENGINEERING + DESIGN FIRM
33 N PLAINS INDUSTRIAL RD
WALLINGFORD, CT 06492
TEL: 203.467.4370
WEB: WWW.IESLLC.BIZ

REVISION LOG:

NO	DESCRIPTION	DATE

PROJECT NAME:

Edgewood Accessibility Improvements: Phase 1

737 Edgewood Avenue
New Haven, CT 06515

PHASE:

CONSTRUCTION DOCUMENTS

DRAWING TITLE:

MECHANICAL FIRST FLOOR PLANS

SCALE: AS NOTED

DATE: 5/23/2023

JOB NO: 23013-02

SHEET NO:

M1.01

MECHANICAL (HVAC) SPECIFICATIONS

GENERAL

SCOPE

THE GENERAL SCOPE OF THE HVAC WORK IS TO REMOVE EXISTING SYSTEMS, MODIFY THE EXISTING SYSTEMS, AND PROVIDE NEW SYSTEMS AS INDICATED ON THESE DOCUMENTS

THE WORK TO BE DONE UNDER THIS DIVISION OF THE SPECIFICATIONS INCLUDE THE FURNISHING OF ALL EQUIPMENT, SUPPLIES, LABOR, SUPERVISION AND ALL MATERIALS NOT SPECIFICALLY MENTIONED BUT NECESSARY OR REQUIRED TO PROVIDE COMPLETE AND FULLY OPERATIONAL HVAC SYSTEMS. IT IS THE INTENTION OF THE SPECIFICATIONS AND DRAWINGS TO CALL FOR FINISHED WORK, TESTED AND READY FOR OPERATION.

IT IS THE INTENT THAT ALL MECHANICAL WORK AND MATERIALS NECESSARY TO COMPLETE THE ENTIRE PROJECT IN ACCORDANCE WITH THE CONTRACT PLANS AND SPECIFICATIONS, WHETHER SPECIFICALLY MENTIONED HERE OR NOT, SHALL BE FURNISHED. ALL WORK AND MATERIALS NECESSARY TO FULFILL THIS INTENT SHALL BE SUPPLIED UNDER THE MECHANICAL SPECIFICATIONS WITHOUT ADDITIONAL COST TO THE OWNER.

DEFINITIONS

'FURNISH' OR 'PROVIDE' – TO FURNISH, ERECT, INSTALL AND CONNECT UP COMPLETE AND READY FOR OPERATION PARTICULAR WORK REFERRED TO, UNLESS SPECIFICALLY INDICATED OR SPECIFIED OTHERWISE.

'WORK' – LABOR, MATERIALS, EQUIPMENT, APPARATUS, CONTROLS, ACCESSORIES AND ALL OTHER ITEMS CUSTOMARILY FURNISHED AND/OR REQUIRED FOR PROPER AND COMPLETE INSTALLATION OF WORK.

'EXPOSED' – NOT INSTALLED UNDERGROUND OR 'CONCEALED' AS DEFINED ABOVE.

'INDICATE' OR 'SHOWN' – AS INDICATED OR SHOWN ON DRAWINGS OR SPECIFIED WITH SPECIFICATIONS.

'PIPING' – PIPE, FITTINGS, FLANGES, VALVES, CONTROLS, HANGERS, TRAPS, DRAINS, INSULATION AND ITEMS CUSTOMARILY OR REQUIRED IN CONNECTION WITH OR RELATING TO SUCH PIPING.

'SUPPLY' – TO PURCHASE, PRODUCE, ACQUIRE AND DELIVER COMPLETE WITH ALL RELATED ITEMS.

'INSTALL' – TO ERECT, MOUNT AND CONNECT UP COMPLETE WITH ALL RELATED ACCESSORIES.

'NOTED' – AS INDICATED ON DRAWINGS AND/OR SPECIFIED.

CODES, RULES, PERMITS AND FEES

THIS CONTRACTOR SHALL GIVE ALL NECESSARY NOTICES, OBTAIN ALL PERMITS AND PAY ALL STATE AND LOCAL TAXES, FEES AND OTHER COSTS IN CONNECTION WITH HIS WORK; FILE ALL NECESSARY PLANS, PREPARE ALL DOCUMENTS AND OBTAIN ALL NECESSARY APPROVALS OF ALL STATE AND LOCAL DEPARTMENTS HAVING JURISDICTION; OBTAIN ALL REQUIRED CERTIFICATES OF INSPECTION FOR HIS WORK AND DELIVERY OF SAME TO THE OWNER BEFORE REQUEST FOR ACCEPTANCE AND FINAL PAYMENT FOR THE WORK.

THIS CONTRACTOR SHALL INCLUDE IN THE WORK, WITHOUT EXTRA COST TO THE OWNER, ANY LABOR, MATERIALS, SERVICES, APPARATUS, DRAWINGS (IN ADDITION TO CONTRACT DRAWINGS AND DOCUMENTS), IN ORDER TO COMPLY WITH ALL APPLICABLE LAWS, ORDINANCES, RULES AND REGULATIONS WHETHER OR NOT SHOWN ON THE DRAWINGS AND/OR SPECIFIED.

THIS CONTRACTOR SHALL PERFORM AND FILE ALL TESTS IN ACCORDANCE WITH THE CURRENT REGULATIONS OF THE STATE AND LOCAL AUTHORITIES. HE SHALL FURNISH AND INSTALL SIGNS REQUIRED BY THE STATE AND LOCAL AUTHORITIES.

ALL MATERIALS FURNISHED AND ALL WORK INSTALLED SHALL COMPLY WITH THE RULES AND RECOMMENDATIONS OF THE NATIONAL BOARD OF FIRE UNDERWRITERS, WITH ALL REQUIREMENTS OF LOCAL UTILITIES COMPANIES, WITH THE RECOMMENDATIONS OF THE FIRE INSURANCE RATING ORGANIZATION HAVING JURISDICTION.

ALL WORK SHALL BE DONE IN STRICT ACCORDANCE WITH THE CURRENT CONNECTICUT STATE BUILDING CODE, INCLUDING THE MOST CURRENTLY ADOPTED CONNECTICUT SUPPLEMENT AND APPLICABLE AMENDMENTS, STATE FIRE SAFETY CODE, NATIONAL BUILDING CODE, (INTERNATIONAL RESIDENTIAL CODE, INTERNATIONAL MECHANICAL CODE,) INTERNATIONAL PLUMBING CODE, N.F.P., A.D.A., UL., NEMA, O.S.H.A. AND WITH ALL REQUIREMENTS OF ALL GOVERNMENTAL DEPARTMENTS HAVING JURISDICTION. REQUIREMENTS OF THE ABOVE SHALL TAKE PRECEDENCE OVER PLANS AND SPECIFICATIONS.

INSURANCE

THE MECHANICAL CONTRACTOR SHALL FURNISH STATUTORY COMPENSATION INSURANCE CERTIFICATES FOR PERSONAL AND PROPERTY DAMAGE DISABILITY/LIABILITY AS REQUIRED BY THE OWNER AND/OR AS HEREINBEFORE DESCRIBED.

GUARANTEE AND SERVICE

THE CONTRACTOR SHALL GUARANTEE ALL MATERIALS AND WORKMANSHIP FOR A PERIOD OF ONE YEAR FROM THE DATE OF ACCEPTANCE OF THE INSTALLATION. IN ADDITION, THE CONTRACTOR SHALL PROVIDE, FREE OF CHARGE, ONE YEAR'S MAINTENANCE GUARANTEE ON MAINTAINED SERVICE AND ADJUSTMENT OF ALL EQUIPMENT IN THIS CONTRACT.

ALL COMPRESSORS TO HAVE (5) FIVE YEAR EXTENDED WARRANTEES.

DRAWINGS AND INTENT

DRAWINGS ARE INTENDED AS WORKING DRAWINGS FOR GENERAL LAYOUT OF THE VARIOUS HVAC SYSTEMS. HOWEVER, LAYOUT OF EQUIPMENT, ACCESSORIES, SPECIALTIES, DUCTWORK, AND PIPING SYSTEMS ARE DIAGRAMMATIC UNLESS SPECIFICALLY DIMENSIONED, AND DO NOT NECESSARILY INDICATE EVERY REQUIRED PIPE, VALVE, FITTINGS, TRAP, ELBOW, TRANSITION, OFFSETS, OR SIMILAR ITEMS REQUIRED FOR A COMPLETE INSTALLATION.

ALL EXISTING CONDITIONS ARE NOT INDICATED ON THE DOCUMENTS AND THOSE SHOWN ARE APPROXIMATIONS. THE CONTRACTOR IS TO VERIFY, IN THE FIELD, ALL EXISTING CONDITIONS.

EXAMINATION OF PREMISES – SPECIAL NOTE: NO CONSIDERATION OR ALLOWANCE WILL BE GRANTED FOR FAILURE TO VISIT SITE, OR ANY ALLEGED MISUNDERSTANDING OF MATERIAL TO BE FURNISHED, OR WORK TO BE DONE; IT BEING THAT TENDER OF PROPOSAL INDICATED WITH ITS AGREEMENT TO ITEMS AND CONDITIONS REFERRED TO HEREIN OR INDICATED ON AFOREMENTIONED DRAWINGS.

MEASUREMENTS

ALL MEASUREMENTS TAKEN AT THE BUILDING SHALL TAKE PRECEDENCE OVER SCALE DIMENSIONS. EVERY PART OF THE PLANS SHALL BE FITTED TO THE ACTUAL CONDITIONS AT THE BUILDING. IF IN CONFLICT WITH SCALE DIMENSIONS, CONTACT ARCHITECT FOR CLARIFICATION.

TEMPORARY SERVICES

THE HVAC CONTRACTOR IS TO COORDINATE WITH THE GENERAL CONTRACTOR, PRIOR TO PERFORMING WORK REQUIRING INTERRUPTION OF EXISTING SERVICES, THE CONTRACTOR SHALL SECURE FROM THE OWNER, APPROVAL OF THE PROPOSED OPERATION.

WORK SHALL BE ARRANGED FOR CONTINUOUS PERFORMANCE WHENEVER POSSIBLE. THE MECHANICAL CONTRACTOR SHALL PROVIDE TEMPORARY SERVICES AND/OR CONNECTIONS WHERE REQUIRED AND/OR SCHEDULE AND PERFORM OVERTIME WORK FOR ANY OPERATION WHICH REQUIRED SHUTDOWN OF THE FACILITIES AT NO ADDITIONAL COST TO THE OWNER.

THE AREA OF CONSTRUCTION AND/OR ADJACENT SPACES MAY BE OCCUPIED DURING THE CONSTRUCTION PERIOD. THE CONTRACTOR IS TO TAKE ALL NECESSARY MEASURES AND PROVIDE ALL MATERIALS TO ENSURE A SAFE ENVIRONMENT FOR THE FACILITY'S OCCUPANTS.

CONTINUITY OF EXISTING SYSTEMS

WHEREVER AN EXISTING SYSTEM IS REMOVED, PARTIALLY REMOVED, OR MODIFIED THE REMAINING SYSTEM IS TO FUNCTION FULLY AS BEFORE.

MAINTAIN CONTINUITY OF THE EXISTING AIR SYSTEMS, HYDRONIC SYSTEMS, AND CONTROL SYSTEMS TO THE AREAS NOT AFFECTED BY THIS ALTERATION.

SCAFFOLDING, RIGGING AND HOISTING

UNLESS OTHERWISE SPECIFIED, CONTRACTOR SHALL FURNISH ALL SCAFFOLDING, RIGGING, HOISTING AND SERVICES NECESSARY FOR ERECTION AND DELIVERY INTO THE PREMISES OF ANY EQUIPMENT AND APPARATUS FURNISHED.

THE CONTRACTOR SHALL REMOVE SAME FROM PREMISES WHEN NO LONGER REQUIRED.

HOUSEKEEPING

THIS CONTRACTOR SHALL BE RESPONSIBLE FOR KEEPING STOCK OF MATERIALS AND EQUIPMENT STORED ON PREMISES, AT LOCATIONS DESIGNATED FOR SUCH USE, IN A NEAT AND ORDERLY MANNER.

THIS CONTRACTOR SHALL AT ALL TIMES, KEEP THE PREMISES FREE FROM ACCUMULATION OF WASTE MATERIAL OR RUBBISH CAUSED BY HIS EMPLOYEES AT WORK. HE SHALL REMOVE HIS RUBBISH AND SURPLUS MATERIALS FROM THE JOB SITE AT THE END OF EACH WORK DAY AND SHALL LEAVE THE PREMISES AND HIS WORK IN A CLEAN AND ORDERLY CONDITION.

ALL MATERIAL SCHEDULED FOR REMOVAL IS TO BE DISPOSED OF IN A MANNER MEETING ALL FEDERAL, STATE, AND LOCAL REGULATIONS.

PROTECTION OF MATERIALS AND EQUIPMENTS

CLOSE PIPE OPENINGS WITH CAPS OR PLUGS DURING INSTALLATION.

PROVIDE TEMPORARY CLOSURES ON OPEN ENDED DUCTS DURING CONSTRUCTION PERIOD.

TIGHTLY COVER AND PROTECT FIXTURES AND EQUIPMENT AGAINST DIRT, WATER AND CHEMICAL OR MECHANICAL INJURY.

AT COMPLETION OF ALL WORK, FIXTURES, EXPOSED MATERIALS AND EQUIPMENT SHALL BE THOROUGHLY CLEANED.

WORK NOT INCLUDED

ALL ELECTRICAL WORK
CUTTING AND PATCHING
LINTELS AND STRUCTURAL FRAMING
ALL CONCRETE WORK
ALL PAINTING

THIS CONTRACTOR SHALL FURNISH THE GENERAL CONTRACTOR WITH THE SIZES AND LOCATIONS OF CHASES AND OPENINGS WHICH OCCUR IN WALLS, PARTITIONS, FLOORS, ROOFS, ETC., REQUIRED FOR THE INSTALLATION OF THE WORK CALLED FOR UNDER THIS CONTRACT. THIS WORK WILL BE DONE BY THE GENERAL CONTRACTOR, EXCEPT CUTTING REQUIRED FOR THE INSTALLATION OF HANGERS.

SHOP DRAWINGS

PRIOR TO DELIVERY TO THE JOB SITE, BUT SUFFICIENTLY IN ADVANCE OF REQUIREMENTS NECESSARY TO ALLOW ENGINEER AMPLE TIME FOR REVIEW, CONTRACTOR SHALL SUBMIT FOR APPROVAL, FIVE (5) COPIES OF EACH SHOP DRAWING.

INDICATE ON EACH SUBMISSION:

1. PROJECT NAME AND LOCATION
2. ARCHITECT AND ENGINEER
3. ITEM IDENTIFICATION
4. APPROVAL STAMP OF PRIME CONTRACTOR

ALL DUCTWORK SHOP DRAWINGS AND COORDINATION DRAWINGS SHALL BE SUBMITTED ON 3/8 IN SCALE DRAWINGS AND SHALL INCLUDE LOCATIONS AND SIZES OF EXISTING EQUIPMENT ALONG WITH NEW WORK. DRAWINGS SHALL INDICATE LOCATIONS OF HANGERS, SUPPORTS, EXPANSION JOINTS, GUIDES, ANCHORS AND ANCHOR LOADS.

COORDINATION DRAWINGS SHALL INDICATE ALL MEP EQUIPMENT, DUCTS AND PIPES AND PERTINENT ARCHITECTURAL ITEMS. MOUNTING HEIGHTS SHALL BE NOTED.

SUBMIT SHOP DRAWINGS FOR THE FOLLOWING:

1. DUCTWORK LAYOUT, SHEET METAL DETAILS/STANDARDS
2. COORDINATION DRAWINGS

SUBMITTALS

PRIOR TO DELIVERY TO THE JOB SITE, BUT SUFFICIENTLY IN ADVANCE OF REQUIREMENTS NECESSARY TO ALLOW ENGINEER AMPLE TIME FOR REVIEW, CONTRACTOR SHALL SUBMIT FOR APPROVAL, FIVE (5) COPIES OF EACH SHOP DRAWING.

INDICATE ON EACH SUBMISSION:

1. PROJECT NAME AND LOCATION
2. ARCHITECT AND ENGINEER
3. ITEM IDENTIFICATION
4. APPROVAL STAMP OF PRIME CONTRACTOR

SUBMIT SUBMITTALS ON THE FOLLOWING:

1. PIPING MATERIALS
2. PIPING SPECIALTIES
3. PIPING INSULATIONS
4. DUCT MATERIALS
5. DUCTWORK SPECIALTIES
6. DUCTWORK INSULATORS
7. AIR OUTLETS (RGD)
8. HEATING EQUIPMENT
9. CONTROLS
10. HYDRONIC SYSTEMS BALANCING REPORTS
11. AIR SYSTEMS BALANCING REPORTS

EQUIPMENT DEVIATION

THE PLANS AND/OR SPECIFICATIONS INDICATE THE NAME, MODEL NUMBER OR TYPE OF EQUIPMENT OR MATERIALS SPECIFIED TO SET THE STANDARD OF THE EQUIPMENT FOR THE PROJECT. THE ENGINEER WILL ENTERTAIN THE USE OF OTHER MANUFACTURER'S EQUIPMENT OF LIKE FUNCTIONS AND EQUAL QUALITY. FINAL ACCEPTANCE OF SUBSTITUTES IS AT THE ENGINEER'S DISCRETION. SHOULD THE BIDDER DESIRE TO USE EQUIPMENT OR MATERIALS OR A MANUFACTURER OTHER THAN THOSE SPECIFIED OR SHOWN, HE SHALL ATTACH A RIDER TO THE BID FORM LISTING THE DEDUCTIONS AND/OR ADDITIONS TO HIS BASE BID, TOGETHER WITH THE MANUFACTURE'S NAME AND MODEL NUMBERS OF THE EQUIPMENT OR MATERIALS HE PROPOSED TO FURNISH AS 'SUBSTITUTES'. IF NO SUBSTITUTE INFORMATION IS FURNISHED, IT WILL BE EXPRESSLY UNDERSTOOD THAT ALL EQUIPMENT AND MATERIALS NAMED WILL BE FURNISHED IN FULL ACCORDANCE WITH THE PLANS AND/OR SPECIFICATIONS.

RECORD DRAWINGS

CONTRACTOR SHALL KEEP ACCURATE RECORD OF ALL DEVIATIONS IN WORK AS ACTUALLY INSTALLED FROM WORK INDICATED PAYING PARTICULAR ATTENTION TO DIMENSIONING OUTSIDE UNDERGROUND UTILITY LINES, THEIR OFFSETS AND VALVES.

AT THE CLOSE–OUT OF THE PROJECT THE CONTRACTOR IS TO DELIVER TO THE OWNER TWO SETS OF "AS–BUILT" DRAWINGS COPIES OF ALL APPROVED SHOP DRAWINGS.

OWNER'S INSTRUCTIONS AND SYSTEM OPERATION

THE CONTRACTOR IS TO INSTRUCT THE OWNER, OR HIS REPRESENTATIVE, ON THE OPERATION AND MAINTENANCE PROCEDURES FOR ALL OF THE INSTALLED SYSTEMS AND EQUIPMENT. IN ADDITION TO THE VERBAL INSTRUCTIONS, THESE INSTRUCTIONS SHALL BE WRITTEN IN LAYMAN'S LANGUAGE AND SHALL BE INSERTED IN VINYL–COVERED THREE–RING LOOSE LEAF BINDER. THIS INFORMATION IN BINDER SHALL BE FIRST SENT TO AND APPROVED BY THE ARCHITECT/ENGINEER BEFORE TURNING OVER TO OWNER.

INSTALLATIONS

SLEEVES

PROVIDE NO. 22 GA. GALVANIZED IRON SLEEVES EXTENDED THROUGH CONSTRUCTION AT ALL PENETRATIONS THROUGH CEILINGS, WALLS AND PARTITIONS.

FOR INSULATED PIPING THE SLEEVE IS TO BE SIZED TO ALLOW INSULATION TO PASS THROUGH SLEEVE, PROVIDE 1/2 INCH SPACE BETWEEN PIPE AND/OR INSULATION AND SLEEVE.

FIRE SEAL ALL SLEEVES IN ACCORDANCE WITH BUILDING CODE AND APPLICABLE SECTIONS OF THE NFPA.

EXPANSION ANCHORS

SUSPEND HANGERS FROM EXPANSION ANCHORS IN SOLID CONCRETE SLABS SIMILAR TO HILTI HDI. PROVIDE HANGER IN PLACE WITH DOUBLE NUTS.

PROVIDE PROTECTION SHIELDS IN INSULATED PIPING. INSTALL HANGERS OVER INSULATION AND SHIELDS.

WHERE OVERHEAD CONSTRUCTION DOES NOT PERMIT FASTENING HANGER RODS IN REQUIRED LOCATIONS, PROVIDE ADDITIONAL STEEL FRAMING AS REQUIRED AND REVIEWED.

HANGERS AND SUPPORTING

PIPE HANGING AND SUPPORTING – PIPING SHALL NOT BE SUPPORTED BY OTHER PIPING, BUT SHALL BE SUPPORTED WITH PIPE HANGERS SUITABLE FOR THE SIZE OF PIPE AND PROPER STRENGTH AND QUALITY AT PROPER INTERVALS SO THAT THE PIPING CANNOT BE MOVED ACCIDENTALLY FROM THE INSTALLED POSITION AS FOLLOWS:

PROVIDE CLEVIS HANGERS	AT CENTER OF CENTER SPACING (UNLESS OTHERWISE NOTED)
1/2 INCH PIPE OR TUBING	6 FEET
3/4 INCH OR 1 INCH PIPE OR TUBING	8 FEET
1–1/4 INCH OR LARGER (HORIZONTAL)	10 FEET
1–1/4 INCH OR LARGER (VERTICAL)	EVERY FLOOR LEVEL

DUCT HANGING AND SUPPORTING – DUCTWORK SHALL NOT BE SUPPORTED BY OTHER DUCTWORK OR PIPING, BUT SHALL BE SUPPORTED WITH HANGERS OF TYPE AND AT SPACING AS PER SMACNA STANDARDS.

VIBRATION AND SEISMIC CONTROL

QUIET OPERATION – ALL WORK SHALL OPERATE UNDER ALL CONDITIONS OF LOAD WITHOUT ANY SOUND OR VIBRATION WHICH IS OBJECTIONABLE IN THE OPINION OF THE ENGINEER. IN CASE OF MOVING MACHINERY, SOUND OR VIBRATION NOTICEABLE OUTSIDE OF ROOM IN WHICH IT IS INSTALLED, OR ANNOYING INSIDE ITS OWN ROOM, WILL BE CONSIDERED OBJECTIONABLE BY THE ENGINEER AND SHALL BE REMEDIED IN APPROVED MANNER BY THE CONTRACTOR AT HIS EXPENSE.

PROVIDE FLEXIBLE PIPE CONNECTIONS AT ALL PIPING CONNECTED TO MOVING EQUIPMENT.

PROVIDE FLEXIBLE DUCT CONNECTIONS AT ALL DUCTWORK CONNECTED TO MOVING EQUIPMENT. FLEXIBLE CONNECTIONS SHALL BE 29 OZ. NEOPRENE COATED FIBERGLASS, 6" WIDE. BURNING PROPERTIES SHALL CONFORM TO NFPA 90A. FASTEN TO DUCTWORK PER MANUFACTURER'S RECOMMENDATIONS. FABRIC SHALL NOT BE STRESSED OTHER THAN BY AIR PRESSURE. ALLOW AT LEAST ONE INCH SLACK TO INSURE THAT NO VIBRATION IS TRANSMITTED.

PROVIDE VIBRATION ISOLATION SPRINGS OR PADS AT MOUNTING AND SUPPORTS FOR ALL EQUIPMENT CAPABLE OF TRANSMITTING VIBRATIONS.

SEISMIC RESTRAINTS

SEISMIC RESTRAINTS DESIGNED AND CONSTRUCTED FOR LATERAL FORCES IN ANY DIRECTION SHALL BE PROVIDED FOR ALL MECHANICAL EQUIPMENT IN ACCORDANCE WITH THE STATE BUILDING CODE.

SEISMIC RESTRAINTS SHALL NOT BE REQUIRED FOR THE FOLLOWING:

1. PIPING IN BOILER AND MECHANICAL ROOMS LESS THAN 1–1/4 INCH INSIDE DIAMETER.
2. ALL OTHER PIPING LESS THAN 2–1/2 INCH INSIDE DIAMETER.
3. RECTANGULAR AIR–HANDLING DUCTS LESS THAN 6 SQUARE FEET IN CROSS–SECTIONAL AREA.
4. ROUND AIR–HANDLING DUCTS LESS THAN 28 INCHES IN DIAMETER.
5. PIPING SUSPENDED BY INDIVIDUAL HANGERS 12 INCHES OR LESS IN LENGTH FROM THE TOP OF THE PIPE TO THE BOTTOM OF THE SUPPORT FOR THE HANGER.
6. DUCTS SUSPENDED BY HANGERS 12 INCHES OR LESS IN LENGTH FROM THE TOP OF THE DUCT TO THE BOTTOM OF THE SUPPORT FOR THE HANGER.

SEISMIC RESTRAINT FOR DUCTWORK; PROVIDE REQUIRED BRACING MATERIAL. DUCTWORK SHALL BE SUPPORTED AND BRACED TO RESIST ALL DIRECTIONAL (TRANSVERSE, LONGITUDINAL AND VERTICAL) FORCES EQUAL TO 10 PERCENT OF THE WEIGHT OF THE DUCT SYSTEM.

IDENTIFICATION

ALL IDENTIFICATION LABELING IS TO COMPLY WITH ASME A13.1

ALL PIPING IS TO BE LABELED WITH INDICATIONS OF SERVICE AND DIRECTION OF FLOW.

ALL DUCTWORK IS TO BE LABELED WITH INDICATIONS OF SERVICE, DIRECTION OF FLOW AND ASSOCIATED SYSTEM DESIGNATION.

ALL EQUIPMENT IS TO HAVE PERMANENT LABELS INDICATING EQUIPMENT DESIGNATION.

PIPING INSTALLATION

SIZES AND APPROXIMATE LOCATION OF PIPING SYSTEMS ARE SHOWN ON THE DRAWINGS. CHECK CAREFULLY WITH THE ARCHITECTURAL DRAWINGS, DRAWINGS SHOWING WORK OF OTHER TRADES, AND EXISTING FIELD CONDITIONS TO MAKE SURE THAT THERE WILL BE NO CONFLICT BETWEEN THESE TRADES AND THE PIPING SYSTEMS. PIPES SHALL BE OFFSET AS REQUIRED TO CLEAR STRUCTURAL MEMBERS AND EXISTING FIELD CONDITIONS.

PIPING TO BE INSTALLED WITH PROPER PITCH TO LOW POINTS. PROVIDE DRAIN VALVES AT ALL LOW POINTS AND AIR VENTS AT ALL HIGH POINTS OF THE PIPING SYSTEM.

INSTALL PIPING TO ALLOW FOR PIPE EXPANSION.

DUCT INSTALLATION

SIZES AND APPROXIMATE LOCATION OF ALL DUCTS ARE SHOWN ON THE DRAWINGS. CHECK CAREFULLY WITH THE ARCHITECTURAL DRAWINGS, DRAWINGS SHOWING WORK OF OTHER TRADES, AND EXISTING FIELD CONDITIONS TO MAKE SURE THAT THERE WILL BE NO CONFLICT BETWEEN THESE TRADES AND THE DUCTS. DUCTS SHALL BE OFFSET AS REQUIRED TO CLEAR STRUCTURAL MEMBERS AND EXISTING FIELD CONDITIONS; IF NECESSARY, THE DIMENSIONS OF THE DUCT MAY BE ALTERED PROVIDED THE CROSS–SECTIONAL AREA IS IN NO CASE REDUCED.

FIELD QUALITY CONTROL

PERFORM THE FOLLOWING FIELD TESTS AND INSPECTIONS ACCORDING TO SMACNA'S "HVAC AIR DUCT LEAKAGE TEST MANUAL" AND PREPARE TEST REPORTS:

DISASSEMBLE, REASSEMBLE AND SEAL SEGMENTS OF SYSTEMS TO ACCOMMODATE LEAKAGE TESTING AND FOR COMPLIANCE WITH TEST REQUIREMENTS.

CONDUCT TESTS AT STATIC PRESSURES EQUAL TO MAXIMUM DESIGN PRESSURE OF SYSTEM OR SECTION BEING TESTED. IF PRESSURE CLASSES ARE NOT INDICATED, TEST ENTIRE SYSTEM AT MAXIMUM SYSTEM DESIGN PRESSURE. DO NOT PRESSURIZE SYSTEMS ABOVE MAXIMUM DESIGN OPERATING PRESSURE. GIVE SEVEN DAYS ADVANCE NOTICE FOR TESTING.

MAXIMUM ALLOWABLE LEAKAGE: COMPLY WITH REQUIREMENTS FOR LEAKAGE CLASS 3 FOR ROUND AND FLAT–OVAL DUCTS, LEAKAGE CLASS 12 FOR RECTANGULAR DUCTS IN PRESSURE CLASSES LOWER THAN AND EQUAL TO 2–INCH WG (500 PA) (BOTH POSITIVE AND NEGATIVE PRESSURES), AND LEAKAGE CLASS 6 FOR PRESSURE CLASSES FROM 2– TO 10– WG (500 TO 2500 PA).

REMAKE LEAKING JOINTS AND RETEST UNTIL LEAKAGE IS EQUAL TO OR LESS THAN MAXIMUM ALLOWABLE.

MATERIALS

DISSIMILAR METALS

WHENEVER DISSIMILAR PIPING MATERIALS ARE CONNECTED THE TWO SHALL BE SEPARATED WITH AN 'INSULATION' CONNECTION (DIELECTRIC) FITTING.

PIPING

HOT WATER HEATING PIPING

TYPE L COPPER TUBING WITH SWEAT FITTINGS WITH 95–5 SOLDER OR STANDARD WEIGHT, SCHEDULE 40, OPEN HEARTH STEEL, NATIONAL OR EQUAL. FITTINGS FOR STEEL PIPE SHALL BE AS FOLLOWS: GENERALLY, BUTT WELDING FITTINGS OVER TWO INCHES SHALL BE USED AND EITHER SOCKET–WELD OR SCREWED FOR TWO INCHES AND UNDER. WELDING FITTINGS SHALL BE STANDARD FORGED STEEL WITH CHAMFERED ENDS. ALL BRANCHES SHALL BE WELDED WITH EITHER WELDOLETE OR TEES, OR MATCH EXISTING MATERIALS.

PIPE INSULATION

THE FOLLOWING PIPING SYSTEMS ARE TO BE INSULATED:

HEATING HOT WATER SUPPLY AND RETURN PIPING

HOT WATER PIPING INSULATION

INSULATE WITH RIGID PREFORMED FIBERGLASS WITH AP–T PLUS JACKET, SCHULLER MICRO–LOK OR EQUAL. INSULATION THICKNESS SHALL BE 1" THICK FOR BELOW 1 ½" OR SMALLER PIPING, 1–1/2" THICK FOR 2" TO 3" PIPING AND 2" THICK FOR PIPING 4" AND LARGER. PROVIDE ZESTON COVERS ON ALL FITTINGS.

VALVES AND SPECIALTIES

BALANCING FITTINGS

PROVIDE "B & G" CIRCUIT SETTER BALANCING FITTINGS ON ALL WATER SYSTEMS WHENEVER REQUIRED FOR BALANCING OF SYSTEMS.

HOT WATER VALVES

BALL TYPE VALVES TO BE JAMESBURY, CLINCHER, OR APOLLO GATE TYPE VALVES TO BE MILWAUKEE #F–2885M (FLANGED) OS&Y TYPE VALVES TO BE IRON BODY, BRONZE MOUNTED OR (SCREWED), BRONZE, RISING STEM. CHECK VALVES TO BE CRANE/JENKINS VALVES.

THERMOMETERS

SHALL BE TRERICE UNIVERSAL ANGLE TYPE #L80732, SOLID LIQUID FILLED, 4 ½" DIAL SIZE. FURNISH WITH SEPARABLE SOCKET WITH 2" EXTENSION NECK.

DUCTWORK

SHEET METAL DUCTWORK

ALL DUCTWORK SHALL BE CONSTRUCTED OF #1 QUALITY SHEETS OF GALVANIZED STEEL FREE OF CRACKS OR BLEMISHES. WHEN PITTSBURGING OR SNAP LOCKING A JOINT, THE GALVANIZED STEEL SHALL NOT BE CHIPPED OFF. ALL PARTS OF THE SHEET METAL DUCT SYSTEM SHALL BE OF THE GAGE, CONSTRUCTION, HANGING METHOD, AND INSTALLED IN STRICT ACCORDANCE WITH THE CURRENT EDITION OF THE SMACNA STANDARDS, INCLUDING DUCT LEAKAGE REQUIREMENTS.

FLEXIBLE DUCTWORK

FLEXIBLE DUCTS TO BE INSULATED TYPE; UL 181, CLASS 1, 2–PLY VINYL FILM SUPPORTED BY HELICALLY WOUND, SPRING–STEEL WIRE WITH FIBROUS–GLASS INSULATION AND POLYETHYLENE VAPOR BARRIER FILM. THE LENGTH OF FLEXIBLE DUCT IS NOT TO EXCEED 12'–0". FLEXIBLE DUCT MAY ONLY BE USED ON THE SUPPLY AIR SIDE OF LOW PRESSURE DUCT SYSTEMS.

DUCT INSULATION

THERMAL INSULATION

COVER ALL CONCEALED UNLINED SUPPLY AIR AND OUTSIDE AIR DUCTWORK WITH FIBERGLASS DUCT WRAP HAVING A MIN. R–6, EQUAL TO JOHNS MANVILLE R–SERIES MICROLITE WITH F.R.G. VAPOR BARRIER. ALL SUPPLY DUCTS, LOCATED IN ATTIC SHALL BE INSULATED TO MINIMUM R–8. COVER ALL EXPOSED UNLINED SUPPLY AIR AND OUTSIDE AIR DUCTWORK WITH RIGID FIBERGLASS BOARD INSULATION HAVING MIN. R–6. PROVIDE ALL TAPE, MASTICS, SEALANTS, MOUNTING PINS, AND ETC. TO INSTALL INSULATION AS RECOMMENDED BY THE MANUFACTURER.

THERMAL INSULATION SCHEDULE

INSULATE DUCTS IN COMPLIANCE WITH THE INTERNATIONAL ENERGY CONSERVATION CODE. COMMERCIAL DUCTWORK SHALL BE INSULATED TO R–6 WHEN IN UNCONDITIONED SPACES AND R–8 WHEN LOCATED OUTSIDE THE BUILDING. COMMERCIAL DUCTWORK IN CONDITIONED SPACES DOES NOT REQUIRE INSULATION. RESIDENTIAL DUCTS OUTSIDE THE BUILDING ENVELOPE SHALL BE INSULATED TO A MINIMUM OF R–8. RESIDENTIAL DUCTWORK INSIDE THE BUILDINGS THERMAL ENVELOPE DOES NOT REQUIRE INSULATION. ALL EXTERIOR DUCTS TO BE INSULATED TO A MINIMUM OR R–8.

DUCT SEALING

SEAL ALL DUCTWORK IN COMPLIANCE WITH THE INTERNATIONAL ENERGY CONSERVATION CODE.

COMMERCIAL DUCTS, SEAL ALL LONGITUDINAL AND TRANSVERSE JOINTS, SEAMS AND CONNECTIONS.

RESIDENTIAL DUCTS, VERIFY DUCT LEAKAGE WITH POST CONSTRUCTION OR ROUGH–IN TEST. RESIDENTIAL DUCT LEAKAGE VERIFICATION NOT REQUIRED IF AIR HANDLER AND ALL DUCTS ARE LOCATED WITHIN "CONDITIONED SPACE."

DUCT ACCESSORIES

VOLUME DAMPERS

SINGLE BLADE OR OPPOSED BLADE MULTI–LOUVER TYPE AS DETAILED IN SMACNA STANDARDS. PROVIDE END BEARING FOR ALL DAMPERS. QUADRANT OR OTHER OPERATOR FOR EXTERNALLY INSULATED DUCT SHALL HAVE STAND–OFF MOUNT SO OPERATION IS CLEAR OF THE INSULATION. PROVIDE VOLUME DAMPER IN DUCTWORK AT ALL RUN–OUT DUCT TO EACH CEILING DIFFUSER, AT ALL BRANCH DUCTS AND WHERE INDICATED.

SMOKE AND/OR FIRE DAMPERS

PROVIDE SMOKE AND/OR FIRE DAMPERS AS REQUIRED, WHETHER INDICATED OR NOT, AT ALL FIRE AND SMOKE RATED PARTITIONS. REVIEW ARCHITECTURAL PLANS FOR DESIGNATIONS. FIRE DAMPERS SHALL BE RUSKIN IBD 2, VERTICAL OR HORIZONTAL, STYLE B OR STYLE C FOR ROUND DUCTS, OR EQUAL. EACH SHALL BE FURNISHED AND INSTALLED IN ACCORDANCE WITH NFPA 90A LATEST EDITION AND BEAR U.L. LABEL AND SHALL CONFORM TO BULLETIN #UL–555. INSTALL IN ALL RATED WALLS AND CEILINGS AS REQUIRED AND/OR INDICATED ON DRAWINGS.

DUCT ACCESS DOORS

PROVIDE ACCESS DOORS, SIZED AND LOCATED FOR MAINTENANCE WORK, UPSTREAM WHERE POSSIBLE, FOR EACH DUCT MOUNTED SMOKE DETECTOR AND EACH FIRE DAMPER OR DEVICE WITHIN THE DUCT THAT REQUIRES SERVICE OR INSPECTION. ACCESS SECTIONS IN INSULATED DUCTS SHALL BE DOUBLE–WALL, INSULATED. REFER TO SMACNA STANDARDS. PROVIDE LOCK TYPE 2 (DOOR LATCH, NOT SASH LOCK).

TESTING AND BALANCING

GENERAL

COMPLETELY TEST AND BALANCE HOT AND CHILLED WATER SYSTEMS AND ALL SUPPLY, RETURN AND EXHAUST AIR SYSTEMS AND PROVE THE CAPACITIES OF THE SYSTEM AND THE SYSTEM COMPONENTS. SUBMIT RESULTS TO ENGINEER FOR APPROVAL

GENERAL PIPE TEST

UNLESS OTHERWISE NOTED, TEST ALL PIPING HYDROSTATICALLY AT NOT LESS THAN 200 PSIG (# PER SQUARE INCH PRESSURE) FOR TWO HOURS AND ALL DEFECTIVE MATERIAL SHALL BE REPLACED. BEFORE MAKING FINAL APPROVAL, THE SUBCONTRACTOR SHOULD PRODUCE A WRITTEN STATEMENT, SIGNED BY A REPRESENTATIVE OF THE OWNER'S UNDERWRITER, THAT THE WORK HAS BEEN COMPLETED AND TESTED IN ACCORDANCE WITH APPROVED SPECIFICATIONS AND PLANS. UNLESS OTHERWISE NOTED, PERFORM PRESSURE TESTS AND OBTAIN APPROVAL OF TEST RESULTS BEFORE STARTING CLEANING OR CONCEALING OF PIPE UNDER INSULATION OR OTHER FINISH. INSULATION REMOVAL AND REINSTALLATION WHICH IS REQUIRED BECAUSE INSULATION WAS INSTALLED PRIOR TO TESTING SHALL BE DONE BE THE CONTRACTOR AT NO EXTRA COST.

TESTS ARE SATISFACTORY ONLY WHEN JOISTS SHOW NO VISIBLE LEAKS AND TEST PRESSURE REMAINS CONSTANT AFTER CONTINUOUS TEST PERIOD. REPAIR LEAKS, AND REMOVE AND REPLACE DEFECTIVE PIPE, FITTINGS AND JOISTS WITH NEW MATERIAL, UNTIL ACCEPTED BY ARCHITECT AND INSPECTING AUTHORITY. WICKING, CAULKING, COMPOUNDING, PEENING, OR OTHER MAKESHIFT TYPE OF REPAIRS ARE NOT PERMITTED. REPEAT TESTS AFTER REPAIRS UNTIL SYSTEMS ARE PROVEN TIGHT.

HOT WATER PIPE TEST

TESTS SHALL BE MAINTAINED AS LONG AS NECESSARY TO COMPLETELY INSPECT PIPING (MINIMUM 4 HOURS).

TEST WATER PIPING BY APPLYING HYDROSTATIC PRESSURE USING PUMP; ENSURE THAT LINES ARE VENTED OF ALL AIR.

FOLLOWING PRECAUTIONS SHALL BE TAKEN DURING PRESSURE TESTS:

1. HOT WATER SYSTEM RELIEF VALVE SHALL BE REMOVED.
2. SYSTEM PRESSURE GAUGES WITH SCALE RANGES LOWER THAN TEST PRESSURE SHALL BE REMOVED OR ISOLATED.
3. WATER CONTROL VALVES SHALL BE REMOVED.

AIR SYSTEMS BALANCING

PROCURE THE SERVICES OF A CERTIFIED BALANCING CO. TO PERFORM THE TESTING AND BALANCING OF THE AIR SYSTEMS.

COMPLETELY TEST AND BALANCE ALL SUPPLY, RETURN AND EXHAUST AIR SYSTEMS AND PROVE THE CAPACITIES OF THE SYSTEM AND THE SYSTEM COMPONENTS. BALANCE THE GRILLES, REGISTERS, DIFFUSERS AND EQUIPMENT TO OBTAIN THE RESULTS INDICATED ON THE DWGS. SUBMIT A BALANCING REPORT INDICATING THE RESULTS TO ENGINEER FOR APPROVAL.

WATER SYSTEMS BALANCING

PROCURE THE SERVICES OF A CERTIFIED BALANCING CO. TO PERFORM THE TESTING AND BALANCING OF THE WATER SYSTEMS.

COMPLETELY TEST AND BALANCE ALL SUPPLY AND RETURN PIPING SYSTEMS. BALANCE FLOWS TO DESIGN/SCHEDULED LISTING FOR EACH PIECE OF EQUIPMENT (PUMP, COIL, TERMINAL UNIT, ETC.). INCLUDE SIZE, CV VALUE OF EACH CONTROL VALVE, AND EQUIPMENT SERVED IN THE FINAL BALANCING REPORT. SUBMIT THE REPORT TO THE ENGINEER FOR APPROVAL.

MECHANICAL LEGEND

SYMBOL	DESCRIPTION
	DIFFUSER/GRILLE – SUPPLY
	GRILLE/REGISTER – RETURN
	GRILLE/REGISTER – EXHAUST
	ROUND DUCT UP
	ROUND DUCT DN
	AIR FLOW DIRECTION INDICATOR – SUPPLY
	AIR FLOW DIRECTION INDICATOR – RETURN
T	THERMOSTAT
HTS	HOT WATER SUPPLY – HEATING
HTR	HOT WATER RETURN – HEATING
	DIRECTION OF FLOW
	PIPE DOWN
	PIPE DROP
	PIPE RISE
	PLUGGED OR CAPPED PIPE
	EXISTING TO BE REMOVED
	CONNECT TO EXISTING

ABBREVIATIONS

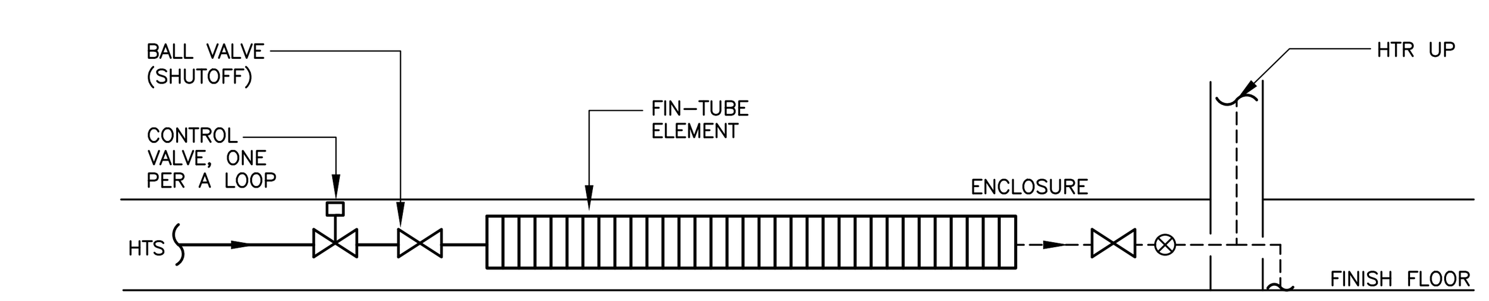
AFF	ABOVE FINISHED FLOOR
AHU	AIR HANDLING UNIT
AMB	AMBIENT
AMP	AMPERE (AMP, AMPS)
BAL	BALANCE
BTU	BRITISH THERMAL UNIT
CAP	CAPACITY
CFM	CUBIC FEET PER MINUTE
CHWS	CHILLED WATER SUPPLY
CHWR	CHILLED WATER RETURN
CLG	COOLING
CU	CONDENSING UNIT
EAT	ENTERING AIR TEMPERATURE
EF	EXHAUST FAN
ESP	EXTERNAL STATIC PRESSURE
ET	EXPANSION TANK
EWT	ENTERING WATER TEMPERATURE
EXH	EXHAUST
°F	DEGREES FAHRENHEIT
FC	FLEXIBLE CONNECTION
FD	FIRE DAMPER
FPM	FEET PER MINUTE
FT	FEET
FTR	FIN TUBE RADIATION
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
H–1	HUMIDIFIER
HWC	HOT WATER COIL
HP	HORSE POWER
HTR	HEATING RETURN (HOT WATER)
HTS	HEATING SUPPLY (HOT WATER)
HTG	HEATING
Hz	FREQUENCY
IN.	INCH
IN. WG	INCHES WATER GAUGE
LAT	LEAVING AIR TEMPERATURE
LBS	POUNDS
LBS/HR	POUNDS PER HOUR
LWT	LEAVING WATER TEMPERATURE
MBH	BTU PER HOUR (THOUSAND)
N.T.S.	NOT TO SCALE
O.A.	OUTSIDE AIR
OED	OPEN END DUCT
P–1	PUMP
PD	PRESSURE DROP
PH	PHASE
PSI	POUNDS PER SQUARE INCH
RDG	REGISTER DIFFUSER GRILLE
RET	RETURN
RH	RELATIVE HUMIDITY
RPM	ROTATIONS PER MINUTE
SP–1	SUMP PUMP
SQ.FT.	SQUARE FEET
SUP	SUPPLY
T&P	TEMPERATURE & PRESSURE RELIEF VALVE
TYP	TYPICAL
UH	UNIT HEATER
UON	UNLESS OTHERWISE NOTED
VD	VOLUME DAMPER
VIF	VERIFY IN FIELD
WB	WET BULB
WP	WORKING PRESSURE
ZC	ZONE CONTROLLER
ZV	ZONE VALVE

MECHANICAL DEMOLITION NOTES

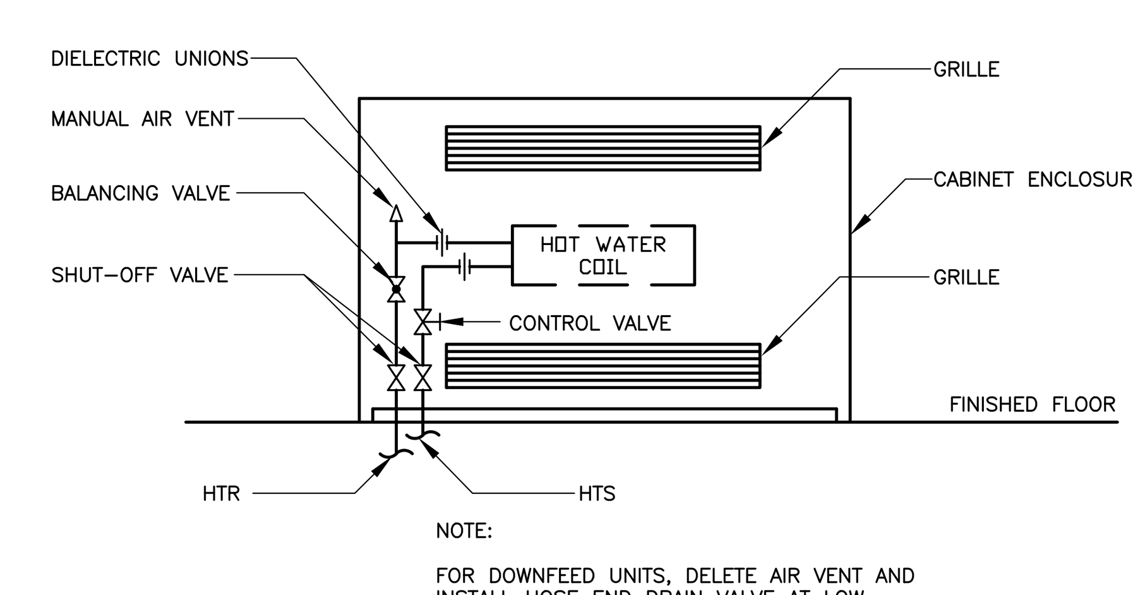
1. THE MECHANICAL CONTRACTOR SHALL REMOVE ALL MECHANICAL EQUIPMENT, ACCESSORIES, CONTROLS AND ASSOCIATED PIPING AS SHOWN OR INDICATED ON THE DRAWINGS.
2. NO EQUIPMENT OR DEVICES THAT HAVE BEEN DISCONNECTED AND OR ABANDONED SHALL REMAIN.
3. THE MECHANICAL CONTRACTOR SHALL VISIT THE SITE AND BECOME FAMILIAR WITH THE EXISTING SYSTEMS AND CONDITIONS IN AREAS OF RENOVATION.
4. ANY SYSTEMS OR EQUIPMENT TO REMAIN ACTIVE DURING RENOVATION SHALL BE KEPT IN OPERATION BY PROVIDING TEMPORARY CONNECTIONS AS REQUIRED UNTIL NEW SYSTEMS ARE INSTALLED AND OPERATIONAL.
5. THE MECHANICAL CONTRACTOR SHALL COORDINATE WITH THE OWNER, CM, AND OR GENERAL CONTRACTOR ANY AND ALL PHASING OF THE MECHANICAL DEMOLITION WORK IN ORDER TO SATISFY THE CONSTRUCTION SCHEDULE AND OWNERS OCCUPANCY REQUIREMENTS.
6. ANY MECHANICAL EQUIPMENT TO BE REMOVED AND REUSED OR TURNED OVER TO THE OWNER, AT OWNERS REQUEST, OR AS INDICATED ON THE DRAWINGS SHALL BE CAREFULLY REMOVED AND STORED TO PREVENT DAMAGE.
7. THE MECHANICAL CONTRACTOR SHALL ALSO REVIEW THE ARCHITECTURAL DEMOLITION DRAWINGS AS PART OF THIS CONTRACT FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
8. ALL SERVICE INTERRUPTIONS SHALL BE COORDINATED AND APPROVED WITH THE OWNER IN ADVANCE PRIOR TO COMMENCEMENT OF ANY WORK.
9. THE MECHANICAL CONTRACTOR SHALL COORDINATE HIS DEMOLITION WORK WITH THAT OF OTHER TRADES IN ORDER TO AVOID CONFLICTS.

MECHANICAL GENERAL NOTES

1. THESE GENERAL NOTES ARE APPLICABLE TO ALL MECHANICAL DRAWINGS.
2. DRAWINGS ARE DIAGRAMMATIC AND SHOW GENERAL INTENT OF WORK. SEE DETAILS, SCHEDULES AND SPECIFICATIONS FOR ADDITIONAL INFORMATION.
3. MECHANICAL CONTRACTOR MUST REVIEW DRAWINGS OF THE OTHER TRADES AS PART OF THIS CONTRACT FOR ADDITIONAL WORK REQUIRED AND OR COORDINATION OF HIS WORK FOR OPERATIONS OR CONNECTIONS TO OTHER SYSTEMS.



FIN TUBE RADIATION DETAIL
N.T.S.



NOTE:

FOR DOWNFEED UNITS, DELETE AIR VENT AND INSTALL HOSE END DRAIN VALVE AT LOW POINT. LOCATE VALVES AT CEILING.

CABINET UNIT HEATER PIPING DETAIL
N.T.S.

INNOVATIVE ENGINEERING SERVICES, LLC
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REVISION LOG:

NO	DESCRIPTION	DATE

PROJECT NAME:

Edgewood Accessibility Improvements: Phase 1

737 Edgewood Avenue
New Haven, CT 06515

PHASE:

CONSTRUCTION DOCUMENTS

DRAWING TITLE:

MECHANICAL NOTES, DETAILS, LEGENDS, SCHEDULES AND SPECIFICATIONS

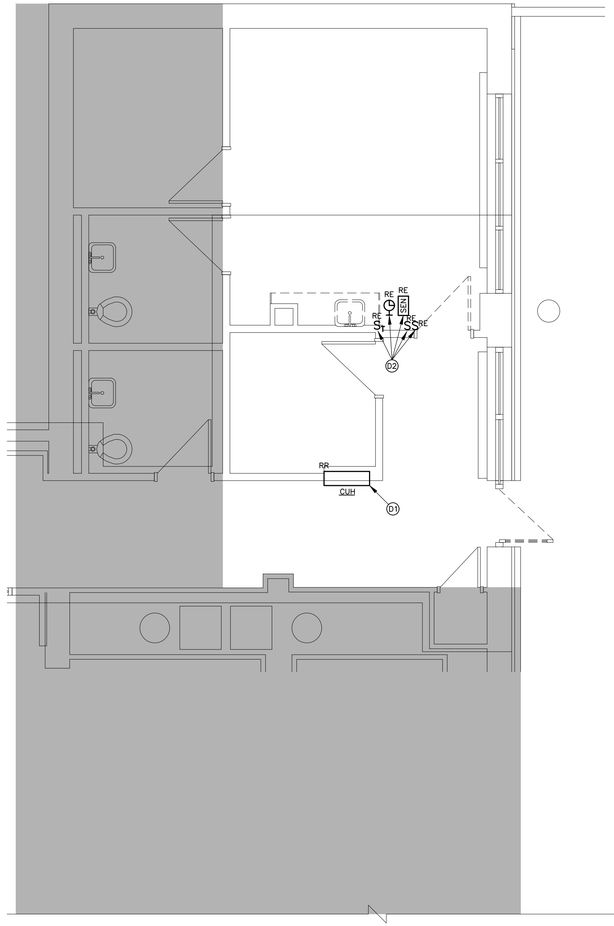
SCALE: AS NOTED

DATE: 5/23/2023

JOB NO: 23013-02

SHEET NO:

M2.01



ELECTRICAL DEMOLITION FIRST FLOOR PLAN
SCALE: 1/4"= 1'-0"

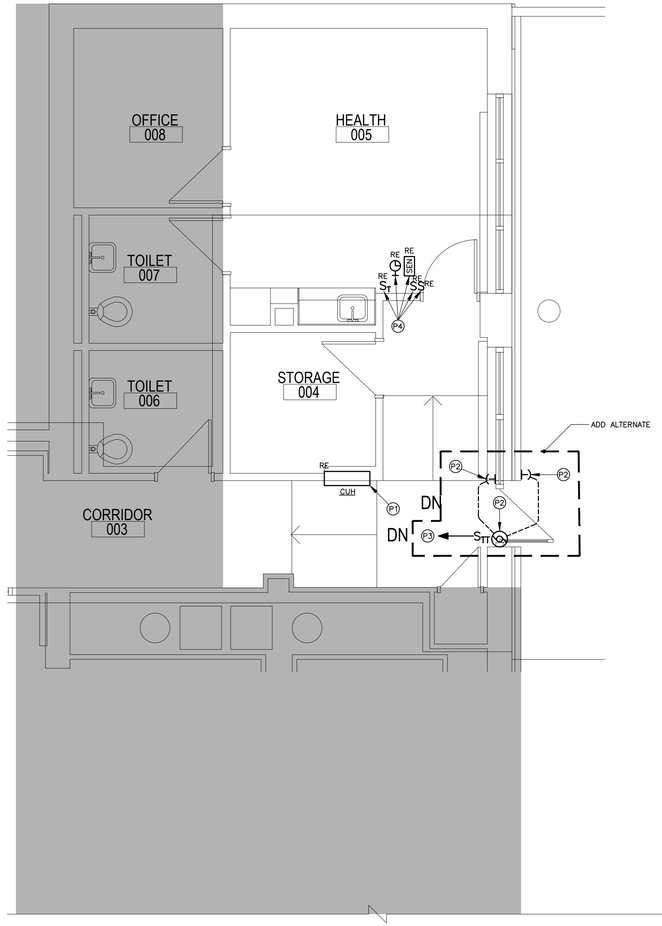
ELECTRICAL DEMOLITION NOTES

(D1) EXISTING CUH TO BE REMOVED AND RELOCATED "RR", DISCONNECT POWER AND MAKE SAFE FOR REUSE.

(D2) EXISTING LIGHT SWITCH, TIMER SWITCH CLOCK AND SENSOR TO BE REMOVED AND RELOCATED "RR", REUSE EXISTING WIRING.

ELECTRICAL DEMOLITION NOTES

1. ALL EXISTING ELECTRICAL EQUIPMENT AND/OR DEVICE SHOWN WITHOUT ("RR", "ER" OR "R") SHALL BE DISCONNECTED AND REMOVED, REMOVE ALL ASSOCIATED BACK BOX, CONDUIT AND WIRING BACK TO SOURCE OR LAST DEVICE
2. "RR" – INDICATES EXISTING ELECTRICAL EQUIPMENT AND/OR DEVICE TO BE REMOVED AND RELOCATED. (EXTEND EXISTING WIRING AS REQUIRED)
3. "ER" – INDICATES EXISTING ELECTRICAL EQUIPMENT AND/OR DEVICE TO REMAIN.
4. "R" – INDICATES EXISTING ELECTRICAL DEVICE TO BE REPLACED WITH NEW DEVICE IN KIND WITHIN EXISTING LOCATION, REUSE BACK BOX AND WIRING, PROVIDE NEW FACE PLATE TO DEVICE.
5. NO EQUIPMENT OR DEVICES THAT HAVE BEEN DISCONNECTED AND OR ABANDONED SHALL REMAIN.
6. THE ELECTRICAL CONTRACTOR SHALL VISIT THE SITE AND BECOME FAMILIAR WITH THE EXISTING SYSTEMS AND CONDITIONS IN AREAS OF RENOVATION.
7. ANY SYSTEMS OR EQUIPMENT TO REMAIN ACTIVE DURING RENOVATION SHALL BE KEPT IN OPERATION BY PROVIDING TEMPORARY CONNECTIONS AS REQUIRED UNTIL NEW SYSTEMS ARE INSTALLED AND OPERATIONAL.
8. THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH THE OWNER, CM, AND OR GENERAL CONTRACTOR ANY AND ALL PHASING OF THE MECHANICAL DEMOLITION WORK IN ORDER TO SATISFY THE CONSTRUCTION SCHEDULE AND OWNERS OCCUPANCY REQUIREMENTS.
9. ANY ELECTRICAL EQUIPMENT TO BE REMOVED AND REUSED OR TURNED OVER TO THE OWNER, AT OWNERS REQUEST, OR AS INDICATED ON THE DRAWINGS SHALL BE CAREFULLY REMOVED AND STORED TO PREVENT DAMAGE.
10. THE ELECTRICAL CONTRACTOR SHALL ALSO REVIEW THE ARCHITECTURAL DEMOLITION DRAWINGS AS PART OF THIS CONTRACT FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
11. ALL SERVICE INTERRUPTIONS SHALL BE COORDINATED AND APPROVED WITH THE OWNER IN ADVANCE PRIOR TO COMMENCEMENT OF ANY WORK.
12. THE ELECTRICAL CONTRACTOR SHALL COORDINATE HIS DEMOLITION WORK WITH THAT OF OTHER TRADES IN ORDER TO AVOID CONFLICTS.



ELECTRICAL FIRST FLOOR PLAN
SCALE: 1/4"= 1'-0"

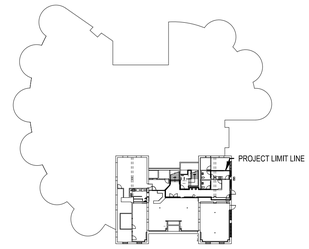
ELECTRICAL POWER NOTES

(P1) RELOCATED EXISTING "RE" CUH, EXTEND OR CUT BACK EXISTING FEEDER AS REQUIRED AND RECONNECT TO CUH.

(P2) PROVIDE ADD ALTERNATE PRICING FOR ELECTRICAL CONNECTION TO MOTORIZED DOOR. COORDINATE ALL ELECTRICAL REQUIREMENTS WITH ARCHITECT AND PROVIDE POWER AND CONTROL WIRING AS REQUIRED AND INTERCONNECT PUSH PLATES AND ELECTRIC STRIKE, LOCATIONS OF PUSH PLATES SHOWN FOR REFERENCE ONLY, EXACT LOCATION TO BE COORDINATED IN FIELD WITH USER.

(P3) 20A, 120V CIRCUIT FROM EXISTING PANELBOARD "PHA" WITHIN MECHANICAL ROOM (B015). PROVIDE NEW 20A, 1P CIRCUIT BREAKER AND 3/4"C, 2#12, #12G FEEDER. (APPROX. FEEDER LENGTH 75 FT)

(P4) RELOCATED "RE" LIGHT SWITCH, TIMER SWITCH CLOCK AND SENSOR EXTEND OR CUT BACK ALL WIRING AS REQUIRED AND RECONNECT ONTO NEW WALL LOCATION.



KEY PLAN

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ELECTRICAL SPECIFICATIONS

PART 1 – GENERAL PROVISIONS FOR ELECTRICAL WORK

REFERENCES

THIS SECTION COVERS THE GENERAL REQUIREMENTS FOR ELECTRICAL WORK; EXAMINE ALL CONTRACT DRAWINGS AND ALL OTHER SECTIONS OF THE SPECIFICATIONS FOR ADDITIONAL WORK RELATED TO THE WORK OF THIS DIVISION.

DEFINITIONS

'PROVIDE' – TO FURNISH, INSTALL AND CONNECT UP COMPLETE AND READY FOR SAFE AND REGULAR OPERATION OF PARTICULAR WORK REFERRED TO UNLESS, SPECIFICALLY OTHERWISE NOTED.

'INSTALL' – TO ERECT, MOUNT AND CONNECT COMPLETE WITH RELATED ACCESSORIES.

'WORK' – LABOR, MATERIALS, EQUIPMENT, APPARATUS, CONTROLS, ACCESSORIES AND OTHER ITEMS REQUIRED FOR PROPER AND COMPLETE INSTALLATION.

'WIRING' – RACEWAY, FITTINGS, WIRE, BOXES, MOUNTING HARDWARE AND RELATED ITEMS.

'CONCEALED' – EMBEDDED IN MASONRY OR OTHER CONSTRUCTION CAVITY, INSTALLED IN FURRED SPACES, WITHIN DOUBLE PARTITIONS OR HUNG CEILINGS.

'SIMILAR' OR 'EQUAL' – EQUAL MATERIALS, WEIGHT, SIZE, DESIGN AND EFFICIENCY OF SPECIFIED PRODUCT.

'CONTRACTOR' – THE ELECTRICAL CONTRACTOR.

'NOTED' – AS INDICATED ON THE DRAWINGS AND/OR SPECIFICATIONS.

SCOPE

THIS WORK SHALL CONSIST OF THE FURNISHINGS OF ALL LABOR, MATERIALS AND SERVICES REQUIRED COMPLETE, READY FOR CORRECT OPERATION FOR ALL ELECTRICAL WORK CALL FOR BY THE ACCOMPANYING DRAWINGS AND SPECIFICATIONS. ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE, STATE AND LOCAL CODES.

THE DATA INDICATED IN THESE DRAWINGS AND SPECIFICATIONS ARE AS EXACT AS COULD BE SECURED. BUT THEIR ABSOLUTE ACCURACY IS NOT GUARANTEED. DO NOT SCALE DRAWINGS. EXACT LOCATIONS, DISTANCES, LEVELS AND OTHER CONDITIONS WILL BE GOVERNED BY THE BUILDING. USE THE DRAWINGS AND SPECIFICATIONS FOR GUIDANCE AND SECURE THE ENGINEER'S APPROVAL OF CHANGES IN LOCATIONS. CIRCUITS, WHERE SHOWN ON AN ELECTRICAL DRAWINGS, ARE SO INDICATED PRIMARILY FOR THE PURPOSE OF INDICATING THE GENERAL CIRCUIT PLAN AND DO NOT NECESSARILY INDICATE THE EXACT LOCATION OF ROUTING OF THE RACEWAYS UNLESS SPECIFICALLY INDICATED. CIRCUITS SHALL BE RUN IN SUIT CONDITIONS CONSIDERING STRUCTURAL FEATURES, OTHER TRADES, CONSTRUCTION METHODS AND GOOD INSTALLATION PRACTICE.

BEFORE SUBMITTING A BID, THE CONTRACTOR SHALL VISIT THE SITE AND BECOME THOROUGHLY FAMILIAR WITH ALL EXISTING CONDITIONS UNDER WHICH THE WORK AND WORK OF OTHER TRADES WILL BE INSTALLED. THIS CONTRACT INCLUDES ALL NECESSARY OFFSETS, TRANSITIONS, MODIFICATIONS AND RELOCATION REQUIRED TO INSTALL ALL NEW EQUIPMENT IN NEW OR EXISTING SPACES. CONTRACTOR SHALL INCLUDE ANY MODIFICATIONS REQUIRED IN EXISTING ELECTRICAL EQUIPMENT FOR INSTALLATION OF NEW ELECTRICAL EQUIPMENT AND NEW EQUIPMENT OF OTHER TRADES. (LIGHTING FIXTURES, DEVICES, CONDUIT WIRING, ETC.) ALL NEW AND EXISTING EQUIPMENT AND SYSTEMS SHALL BE FULLY OPERATIONAL UNDER THIS CONTRACT BEFORE THE PROJECT IS CONSIDERED COMPLETE. THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ANY ASSUMPTIONS THAT ARE MADE, ANY OMISSIONS OR ERRORS MADE AS A RESULT OF FAILURE TO VISIT THE SITE AND BECOME THOROUGHLY FAMILIAR WITH THE EXISTING CONDITIONS AND THE CONTRACT DOCUMENTS OF ALL TRADES.

CODES, REGULATIONS AND STANDARDS

ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE FOLLOWING APPROVED CODES:

STATE DEMOLITION CODE
STATE BUILDING CODE
STATE FIRE SAFETY CODE
LOCAL BUILDING CODE
IBC – INTERNATIONAL BUILDING CODE
NFPA – NATIONAL FIRE PROTECTION CODE
ANSI – AMERICAN NATIONAL STANDARDS INSTITUTE
ASTM – AMERICAN SOCIETY FOR TESTING AND MATERIALS
OSHA – OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
U.L. – UNDERWRITERS LABORATORIES
NFPA 101 – LIFE SAFETY CODE
NFPA 70 – NATIONAL ELECTRICAL CODE
NFPA 72 – NATIONAL FIRE ALARM CODE
EPA – ENVIRONMENTAL PROTECTION AGENCY
IEEE – INSTITUTE OF ELECTRICAL AND ELECTRONIC ENGINEERS
NEMA – NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
IECC – INTERNATIONAL ENERGY CONSERVATION CODE

PERMITS, FEES AND INSPECTIONS

THE CONTRACTOR SHALL GIVE ALL NECESSARY NOTICES, OBTAIN ALL PERMITS, PAY FOR ALL GOVERNMENT, STATE SALES TAXES AND APPLICABLE FEES. THE CONTRACTOR SHALL FILE ALL DRAWINGS, COMPLETE ALL DOCUMENTS AND OBTAIN ALL NECESSARY APPROVALS FROM THE PROPER AUTHORITY OR AGENCY HAVING JURISDICTION. OBTAIN ALL REQUIRED CERTIFICATES OF INSPECTION COVERING WORK. THE CONTRACTOR SHALL SEE THAT ALL REQUIRED INSPECTIONS AND TESTS ARE MADE AND SHALL COOPERATE TO MAKE THESE TESTS AS THOROUGH AND AS READILY MADE AS POSSIBLE.

MATERIALS AND WORKMANSHIP

ALL MATERIALS AND APPARATUS REQUIRED FOR THE WORK, EXCEPT AS OTHERWISE SPECIFIED, SHALL BE NEW AND OF FIRST-CLASS QUALITY. IT SHALL BE FURNISHED, DELIVERED, ERECTED, CONNECTED, FINISHED IN EVERY DETAIL AND SO SELECTED AND ARRANGED AS TO FIT PROPERLY INTO THE BUILDING SPACES. WHERE NO SPECIFIC KIND OR QUALITY MATERIAL IS GIVEN, A FIRST-CLASS STANDARD ARTICLE AS ACCEPTED BY THE ENGINEER SHALL BE FURNISHED.

ALL EQUIPMENT AND MATERIALS SHALL BE SPECIFICATION GRADE AND BEAR THE UNDERWRITER'S LABEL. NO SUBSTITUTE OR ALTERNATE EQUIPMENT, MATERIAL, ETC. WILL BE CONSIDERED FOR THIS PROJECT.

ALL WORK SHALL BE OF A QUALITY CONSISTENT WITH GOOD TRADE PRACTICE AND SHALL BE INSTALLED IN A NEAT, WORKMANLIKE MANNER. THE ENGINEER/OWNER RESERVES THE RIGHT TO REJECT ANY WORK WHICH, IN HIS OPINION, HAS BEEN INSTALLED IN A SUBSTANDARD, DANGEROUS OR IN A UNSERVICEABLE MANNER. THE CONTRACTOR SHALL REPLACE REJECTED WORK IN A SATISFACTORY MANNER AT NO EXTRA COST TO THE OWNER.

GUARANTEES

ALL WORKMANSHIP AND MATERIALS SHALL BE FULLY GUARANTEED FOR A PERIOD OF ONE YEAR AFTER ACCEPTANCE OF THE ENTIRE INSTALLATION COVERED BY THIS CONTRACT. SHOULD ANY DEFECTS OCCUR DURING THE GUARANTEED PERIOD, THE CONTRACTOR SHALL REPAIR AND/OR REPLACE ALL DEFECTIVE EQUIPMENT, MATERIAL AND/OR WORK AT NO EXTRA CHARGE TO THE OWNER.

RECORD DRAWINGS

MAINTAIN, AT THE JOB SITE, A SET OF ELECTRICAL DRAWINGS INDICATING ALL CHANGES IN LOCATION AND CIRCUITING OF THE EQUIPMENT, PANELS, DEVICES, ETC. FROM THE ORIGINAL LAYOUT. CLEARLY MARK IN RED ALL CHANGES ON THE DRAWINGS. AT THE COMPLETION OF THE PROJECT THE CONTRACTOR SHALL TURN OVER THE RECORD DRAWINGS TO THE ENGINEER/OWNER.

EQUIPMENT PROTECTION

PROPERLY AND COMPLETELY PROTECT AGAINST ALL DAMAGE, ALL APPARATUS, EQUIPMENT, ETC., INCLUDED IN THIS CONTRACT. THE CONTRACTOR WILL BE HELD RESPONSIBLE FOR ANY DAMAGE TO FURNISHED APPARATUS, EQUIPMENT, ETC., UNTIL FINAL ACCEPTANCE.

PROPERTY PROTECTION

THE CONTRACTOR SHALL TAKE WHATEVER MEANS NECESSARY AND/OR REQUIRED TO PROTECT OWNER'S PROPERTY WITHIN THE WORKING AREAS FROM DUST, DEBRIS AND OTHER MATTER GENERATED BY THE WORK. NO WORK SHALL COMMENCE IN AREAS WHERE PROTECTION IS REQUIRED UNTIL APPROVAL HAS BEEN GIVEN TO THE CONTRACTOR BY THE OWNER.

MANUFACTURER'S INSTRUCTION

INSTALL ALL EQUIPMENT IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS OR REQUIREMENTS FOR PROPER OPERATION AND MAINTENANCE.

EQUIPMENT PAINTING AND CLEANING

THOROUGHLY CLEAN ALL ELECTRICAL EQUIPMENT DEVICES AND ENCLOSURES UPON COMPLETION OF ALL WORK. REPAINT ANY EQUIPMENT WHOSE FINISH IS DAMAGED OR RUSTED. MATCH MANUFACTURER'S ORIGINAL FINISH.

PENETRATION SEALANT

ALL PENETRATIONS SHALL BE SEALED WITH 3M INTUMESCENT FIRE BARRIER PENETRATION SEALANT, APPLIED PER MANUFACTURER'S AND U.L. GUIDELINES.

CUTTING, PATCHING, REPAIRING AND PAINTING

THE GENERAL CONTRACTOR SHALL PERFORM ALL CUTTING, PATCHING, REPAIRING AND PAINTING FOR ALL ELECTRICAL ITEMS AND EQUIPMENT CALLED FOR UNDER THIS CONTRACT.

FIRE STOPS AND SEALS

PENETRATIONS THROUGH FIRE-RATED WALLS, CEILING OR FLOORS IN WHICH CABLES OR CONDUITS PASS SHALL BE FILLED SOLIDLY BY U.L. APPROVED FIRE-STOP MATERIALS, CLASSIFIED FOR AN HOUR RATING EQUAL TO THE FIRE RATING OF THE WALL, CEILING OR FLOOR. PROVIDE TO 3M BRAND FIRE BARRIER CP25WB CAULK OR APPROVED EQUIVALENT.

SEALING BUSHINGS SHALL BE USED ON CONDUIT AND CABLE ENDS TO EFFECTIVELY PREVENT THE INTRUSION OF WATER, A DAMP OR CORROSIVE ATMOSPHERE, DRAFT OR DUST.

ACCESS PANELS

THE CONTRACTOR SHALL FURNISH AND INSTALL ACCESS PANELS AND DOORS AS REQUIRED FOR ACCESS TO INACCESSIBLE PULLBOXES, JUNCTION BOXES AND OTHER SPECIALTIES.

THE CONTRACTOR SHALL COORDINATE THE LOCATIONS OF ACCESS PANELS AND DOORS WITH THE GENERAL CONTRACTOR AND OTHER TRADES. FINAL LOCATIONS SHALL BE SUBJECT TO THE APPROVAL OF THE ARCHITECT.

PART 2 – PRODUCTS

DESCRIPTION

ALL MATERIALS AND EQUIPMENT PROVIDED UNDER THIS SECTION SHALL BE NEW, FIRST GRADE, BEST OF THEIR RESPECTIVE KINDS AND IN NO WAY SHALL THEY BE LESS THAN THE QUALITY AND INTENT SET FOURTH UNDER THIS SECTION. THEY SHALL MEET THE REQUIREMENTS OF ALL STANDARDS SET UP TO GOVERN THE MANUFACTURER OF ELECTRICAL MATERIALS AND COMPLY WITH ALL APPLICABLE CODES AND STANDARDS.

WIRE

CONDUCTORS SHALL BE U.L. LISTED, 600 VOLTS, 90 DEG. C., SINGLE CONDUCTOR TYPE THWN/THHN. 98% CONDUCTIVITY, ANNEALED UNCOATED COPPER WITH PVC INSULATION COVERED WITH NYLON SHEATH JACKET. TESTED IN ACCORDANCE WITH THE REQUIREMENTS OF UNDERWRITERS LABORATORIES STANDARD 83. WIRE SHALL BE IDENTIFIED BY SURFACE MARKING INDICATING MANUFACTURER'S IDENTIFICATION CONDUCTOR SIZE AND METAL, VOLTAGE RATING, U.L. SYMBOL AND TYPE DESIGNATION. CONDUCTORS SHALL BE STRANDED. MINIMUM SIZE SHALL BE #12 AWG UNLESS OTHERWISE INDICATED. MANUFACTURED BY ROME CABLE, TRIANGLE WIRE & CABLE, GENERAL CABLE OR ESSEX WIRE & CABLE.

ELECTRIC METALLIC TUBING (EMT)

ELECTRICAL METALLIC TUBING SHALL BE GALVANIZED THIN WALL STEEL CONDUIT. MANUFACTURED BY TRIANGLE WIRE AND CABLE, ALLIED TUBE AND CONDUIT, REPUBLIC OR STEELDUCT. THE CONNECTORS AND COUPLINGS SHALL BE HEAVY DUTY, STEEL-ZINC PLATED, SET SCREW TYPE.

FLEXIBLE METALLIC CONDUIT (FMC)

FLEXIBLE METALLIC CONDUIT SHALL BE OF HEAVY GALVANIZED SHEET METAL STRIP IN INTERLOCKED CONSTRUCTION. MANUFACTURED BY TRIANGLE WIRE AND CABLE, AMERICAN FLEXIBLE CONDUIT OR ELECTRIC-FLEX. THE CONNECTORS SHALL BE SQUEEZE TYPE MALLEABLE IRON, CADMIUM PLATED.

LIQUID-TIGHT FLEXIBLE METAL CONDUIT (LFMC)

LIQUID-TIGHT FLEXIBLE CONDUIT SHALL BE CONSTRUCTED OF HEAVY GALVANIZED SHEET METAL STRIP, SPIRALLY-WOUND INTERLOCK CONSTRUCTION WITH AN EXTRUDED POLYVINYL GRAY JACKET. CONDUIT SHALL BE U.L. LABELED AND CONFORMED TO THE APPLICATION AND ENVIRONMENT IN WHICH IT WILL BE USED. ALL CONNECTIONS, COUPLINGS AND FITTINGS SHALL BE OF HIGH QUALITY STEEL-ZINC RATED TYPE SPECIFICALLY DESIGNED FOR THIS PURPOSE. MANUFACTURED BY O/Z GEDNEY OR ELECTRI-FLEX.

METAL CLAD CABLE (MC)

METAL CLAD CABLE SHALL BE INTERLOCKING GALVANIZED STEEL ARMOR CONSTRUCTION. COLOR CODED THERMOPLASTIC/NYLON INSULATION THHN, 90 DEGREE C., 600 VOLTS, COPPER CONDUCTORS AND INTERNAL INSULATED EQUIPMENT COPPER GROUND CONDUCTOR. MARKER TAPE AND CABLE TAPE OVER MINIMUM SIZE #12 AWG UNLESS OTHERWISE INDICATED. MANUFACTURED BY AMERICAN FLEXIBLE CONDUIT, TRIANGLE WIRE AND CABLE, GENERAL CABLE OR STANDARD CABLE.

FITTINGS

CONDUIT BODIES FOR ELECTRICAL METALLIC TUBING (EMT) SHALL BE CAST ALUMINUM-ALUMINUM ENAMEL FINISH WITH SET SCREW HUBS AND ALUMINUM COVER.

INSULATION BUSHINGS SHALL BE HIGH IMPACT THERMOPLASTIC PHENOLIC WITH 150 DEG. C. UL TEMPERATURE RATING.

INSULATED GROUNDING BUSHINGS SHALL BE MALLEABLE IRON ZINC PLATED WITH MOLDED ON PHENOLIC INSULATION AND LAY-IN GROUNDING LUG.

CONDUIT LOCKNUTS SHALL BE HEAVY NUT STOCK STEEL-ZINC PLATED.

OFFSET NIPPLES SHALL BE MALLEABLE IRON ZINC PLATED WITH RIGID CONDUIT THREADING AND 3/4" OFFSET.

CONNECTORS AND COUPLINGS FOR ELECTRICAL METALLIC TUBING (EMT) SHALL BE HEAVY STEEL-ZINC PLATED WITH PRE-SET/PRE-SHAKED SET SCREWS.

CONDUIT STRAPS SHALL BE SNAP-TYPE, DOUBLE RIBBED STEEL-ZINC PLATED.

METAL CLAD CABLE AND FLEXIBLE METALLIC CONDUIT CONNECTORS SHALL BE MALLEABLE IRON-ZINC PLATED, MALE HUB THREADS WITH LOCKNUT.

CONDUIT FITTINGS SHALL BE MANUFACTURED BY O/Z GEDNEY, CROUSE-HINDS OR APPLETON.

SUPPORT FITTINGS

SUPPORT CHANNEL SHALL BE ROLL-FORMED #12 GAUGE STEEL, SOLID BASE OR BOLT HOLE BASE – HOT DIP GALVANIZED FINISH. COMPLETE WITH ANGLE FITTINGS, SPRING NUTS, CONDUIT SUPPORTS, 3/8" OR 1/2" THREADED RODS (SIZE REQUIRED FOR LOAD), ETC.

CABLE TIES

CABLE TIES SHALL BE FABRICATED OF ONE-PIECE HALLAR WITH NO METAL PARTS. MANUFACTURED BY BURNDY, T&B, PANDUIT OR BLACKBURN.

OUTLET BOXES

OUTLET BOXES SHALL BE GALVANIZED STEEL, FLUSH OR SURFACE MOUNTED AND OF PROPER TYPE AND SIZE AS REQUIRED FOR THE PARTICULAR APPLICATION. SIZE AND TYPE DICTATED BY THE NUMBER OF DEVICES, NUMBER OF CONDUCTORS AND WIRING METHOD UTILIZED. BOXES SHALL BE ADEQUATE SIZE FOR THE INSTALLATION OF CONDUCTORS WITHOUT EXCESSIVE BENDING OR CRIMPING OF THE CONDUCTORS AND DAMAGING OF CONDUCTOR INSULATION. MANUFACTURED BY STEEL CITY OR RACO.

OUTLET BOXES SHALL BE SECURED FIRMLY IN PLACE TO THE BUILDING STRUCTURE AND SET TRUE AND SQUARE. PROVIDE SUITABLE MEANS TO SUPPORT OUTLET BOX TO TAKE THE WEIGHT OF THE LIGHTING FIXTURE OR DEVICE. OUTLET BOXED OR BOX EXTENSION RINGS SHALL BE SET FLUSH TO THE FINISHED WALL OR CEILING. BOXES MUST BE ATTACHED THAT THEY WILL NOT 'ROCK', 'SHIFT' OR 'MOVE IN AND OUT' WHEN DEVICES ARE USED. IN NO CASE SHALL BOXES BE INSTALLED BACK-TO-BACK IN A COMMON WALL DIVIDING TWO SPACES.

WHERE MORE THAN ONE OUTLET IS SHOWN OR SPECIFIED TO BE THE SAME ELEVATION OR ONE ABOVE THE OTHER, ALIGN THEM EXACTLY ON CENTER LINES HORIZONTALLY OR VERTICALLY.

CIRCUIT BREAKERS

BRANCH CIRCUIT BREAKERS SHALL MATCH EXISTING TYPE, MANUFACTURER AND AIC RATING.

PHASE SEQUENCE AND BALANCING

MAINTAIN CORRECT PHASE SEQUENCE OF ALL FEEDERS AND CIRCUITS WITH PHASE IDENTIFICATION THROUGHOUT THE ENTIRE SYSTEM. BALANCING ALL FEEDERS AND CIRCUITS TO WITHIN 10 PERCENT.

JUNCTION BOXES, PULLBOXES AND WIREWAYS

JUNCTION BOXES, PULLBOXES AND WIREWAYS SHALL BE OF PROPER TYPE AND SIZES AS REQUIRED. CODE GAUGE, GALVANIZED STEEL WITH KNOCKOUTS AND FLANGES TO RECEIVE THE COVERS. COVERS SHALL BE FLAT, OF THE SAME MATERIAL AS THE BOX AND FASTENED TO THE BOX WITH MACHINE SCREWS. MANUFACTURED BY HOFFMAN, SQUARE 'D', OR LEE PRODUCTS.

PART 3 – EXECUTION

INSTALLATION

ALL WORK, MATERIALS AND MANNER OF INSTALLING SAME SHALL BE IN STRICT ACCORDANCE WITH THE LATEST REQUIREMENTS OF THE NATIONAL ELECTRIC CODE.

ALL CONDUIT AND WIRING SHALL BE INSTALLED CONCEALED UNLESS OTHERWISE NOTED.

WIRING IN UNFINISHED AREAS SHALL BE INSTALLED EXPOSED USING EMT OR RGS CONDUIT.

WIRING IN FINISHED AREAS SHALL BE INSTALLED IN WIREMOLD RACEWAY.

RACEWAYS

RACEWAYS, ENCLOSURES AND BOXES SHALL BE MECHANICALLY JOINED TO FORM A CONTINUOUS ELECTRICAL PATH.

THE CONTRACTOR SHALL PROVIDE APPROVED TYPE PULL BOXES AS REQUIRED.

MINIMUM SIZE CONDUIT SHALL BE 3/4" UNLESS OTHERWISE NOTED.

FURNISH NYLON PULL STRINGS IN ALL EMPTY CONDUIT RUNS.

FURNISH LOCKNUTS AND BUSHINGS FOR ALL CONDUIT TERMINATIONS IN ALL OUTLET BOXES, PANELS, PULL BOXES, CONDUIT STUBS, ETC.

ELECTRICAL METALLIC TUBING (EMT) SHALL BE USED FOR CONCEALED AND EXPOSED WIRING IN DRY LOCATIONS AS FOLLOWS:

1. INTERIOR PANEL FEEDERS
2. INTERIOR LIGHTING, RECEPTACLE AND POWER BRANCH CIRCUIT WIRING

RIGID POLYVINYL CHLORIDE (PVC) SHALL BE USED FOR WIRING IN THE FOLLOWING LOCATIONS:

1. BELOW CONCRETE SLABS
2. EXPOSURE TO MOISTURE

ALL CONDUIT SHALL BE INSTALLED IN PARALLEL AND PERPENDICULAR TO THE BUILDING LINES.

ALL CONDUIT SHALL BE SUPPORTED USING CADMIUM PLATED CONDUIT STRAPS AND HANGERS.

SEPARATE CONDUIT SYSTEMS SHALL BE INSTALLED FOR NORMAL AND EMERGENCY POWER.

WIRING

PROVIDE WIRING TO ALL OUTLETS, EQUIPMENT, APPARATUS AND OTHER SPECIALTIES UNDER THIS DIVISION THAT WHICH FURNISHED OR PROVIDED UNDER OTHER DIVISIONS OR BY THE OWNER.

THE TERM 'WIRING' SHALL BE CONSIDERED TO BE COMPRISED OF THE CONDUIT, CONDUCTORS, CONNECTIONS, ETC.

ALL WIRING ON DRAWINGS IS SIZED FOR TYPE THWN/THHN COPPER CONDUCTORS.

MINIMUM SIZE WIRE SHALL BE #12 UNLESS OTHERWISE INDICATED. ALL WIRING SHALL BE COLOR CODED.

EXERCISE CAUTION IN PULLING CONDUCTORS INTO RACEWAYS SO AS NOT TO DAMAGE THE INSULATION. CABLE PULLING LUBRICANT SHALL BE USED TO ASSIST IN PULLING.

CONDUCTOR WITHIN PANELBOARDS, JUNCTION BOXES, TROUGHS AND OTHER EQUIPMENT WHERE CONCENTRATIONS OF CONDUCTORS ARE ENCLOSED, SHALL BE NEATLY ARRANGED AND TIED WITH CABLE TIES.

CIRCUITS SHALL BE SO CONNECTED TO THE PANELBOARDS THAT THE TOTAL LOAD IS DISTRIBUTED AS NEATLY AS POSSIBLE, EQUALLY BETWEEN EACH LINE AND NEUTRAL. 10% WILL BE CONSIDERED A REASONABLE AND ALLOWABLE UNBALANCE.

BRANCH CIRCUIT WIRING FOR SWITCHES, RECEPTACLES, DEVICES AND LIGHTING IN DRYWALL CONSTRUCTION AND ACCESSIBLE HUNG CEILING SPACE, SHALL BE INSTALLED IN A METAL SHEATHED 'MC', TYPE CABLE. CABLE SHALL BE SUPPORTED FROM STRUCTURE 4" O.C. WITH APPROVED CABLE SUPPORTS. PROVIDE APPROPRIATE GROMMETS FOR HORIZONTAL RUNS IN METAL STUD PARTITIONS. CABLE SHALL NOT LAY ON CEILING STRUCTURE OR TILES. PROVIDE ANTI-SHORT BUSHINGS (RED HEAD) UNDER ARMOR JACKET AT TERMINATIONS.

COMMON NEUTRAL FOR MULTIPLE BRANCH CIRCUITS IS NOT ACCEPTABLE. PROVIDE SEPARATE NEUTRAL FOR EACH NEW BRANCH CIRCUIT.

WIRING IN OUTLET BOXES, JUNCTION BOXES, CABINET PANELBOARDS OR EQUIPMENT SHALL HAVE A MINIMUM OF EIGHT (8") INCHES LENGTH LEADS FOR CONNECTING WIRING DEVICES TO MAKE UP CIRCUIT SPLICES.

INSTALL COPPER GREEN INSULATED GROUNDING CONDUCTOR IN ALL CONDUITS AND RACEWAYS.

SPLICING

SPLICING SHALL BE DONE WITH INSULATED OR NON-INSULATED CONNECTORS OF APPROPRIATE TYPES AND CURRENT-CARRYING CAPACITY. NON-INSUALTED CONNECTORS SHALL BE WRAPPED WITH INSULATING TAPE TO THE THICKNESS OF THE INSULATION OF THE CONDUCTORS BEING SPLICED. ELECTRICAL TAPE SHALL BE 3M OR SUPER 88 SCOTCH VINYL FLAME-RETARDANT , COLD AND WEATHER RESISTANT.

SPLICES FOR CONDUCTORS, SIZES #10 AWG OR SMALLER SHALL BE MADE WITH U.L. LISTED SPRING-TYPE CONNECTORS OR APPROPRIATE CURRENT CARRYING CAPACITY.

SPLICES, TAPS AND TERMINALS FOR CONDUCTORS #8 AWG OR LARGER SHALL BE MADE WITH U.L. LISTED BOLTED PRESSURE CONNECTORS OF BRONZE OR COPPER CONSTRUCTION, OF APPROPRIATE CURRENT CARRYING CAPACITY. EQUAL TO O/Z GEDENY, BURNDY OR BLACKBURN.

CONDUCTOR IDENTIFICATION

CONDUCTORS #8 AWG AND SMALLER SHALL HAVE A COLOR-CODED INSULATION.

CONDUCTORS #6 AWG AND LARGER SHALL BE IDENTIFIED WITH TAPES APPLIED NEAR THE ENDS OF THE CONDUCTORS.

FEEDERS AND BRANCH CIRCUIT CONDUCTORS SHALL BE IDENTIFIED FOR PHASE ROTATION.

	208/120V/3PH
PHASE A	BLACK
PHASE B	RED
PHASE C	BLUE
NEUTRAL	WHITE
GROUND	GREEN

ALL FEEDERS, MAINS AND BRANCH CIRCUIT CONDUCTORS SHALL BE TAGGED AT BOTH ENDS WITH WIRE MARKERS IN ALL PANELS, MOTOR CONTROLS, JUNCTION BOXES, OUTLET BOXES AND DEVICE BOXES.

IDENTIFICATION

ALL PANELS SHALL HAVE UPDATED TYPEWRITTEN CIRCUIT DIRECTORIES IDENTIFYING ALL BRANCH CIRCUITS. PROVIDE ADDITIONAL COPY OF COMPLETE UPDATED PANEL DIRECTORY TO FACILITY ENGINEERING.

USE PLASTIC-COATED WIRE MARKERS OF THE SELF-ADHESIVE. WRAPAROUND TYPE WITH PERMANENT FACTORY-PRINTED NUMBER, LETTERS AND SYMBOLS.

WIRE MARKERS SHALL BE SECURELY ATTACHED AT BOTH ENDS, IDENTIFYING PANEL AND CIRCUIT BREAKER NUMBERS.

ALL CONDUCTORS SHALL BE PERMANENTLY TAGGED AT TIME OF INSTALLATION. LABELS SHALL BE EQUAL TO T&B, PANDUIT OR IDEAL.

GROUNDING

ALL ELECTRICAL WORK SHALL BE GROUNDED AND BONDED IN FULL CONFORMANCE WITH THE LATEST APPROVED EDITION OF THE NATIONAL ELECTRICAL CODE AND LOCAL REQUIREMENTS.

ALL ELECTRICAL EQUIPMENT, ENCLOSURES, SAFETY SWITCHES, METAL ENCLOSURES, ELECTRICAL DEVICE CLOSURES AND ALL OTHER EQUIPMENT SHALL BE MADE TO FORM A CONTINUOUS CONDUCTING, GROUND PATH OF LOW IMPEDANCE FOR GROUND FAULT CIRCUITS AND OPERATION OF THE CIRCUIT PROTECTIVE DEVICES WITHIN EACH CIRCUIT.

PROVIDE GROUNDING CONDUCTOR IN ALL RACEWAYS.

GROUND CONNECTIONS WITH THE GROUNDING CONDUCTORS SHALL BE MADE AT EACH OUTLET BOX, AND OTHER EQUIPMENT COMPONENTS BY MEANS OF A POSITIVELY SECURED GROUNDING CLAMP, SCREW OR CLIP. CONNECTIONS TO PIPES SHALL BE MADE WITH APPROVED BRONZE OR BRASS CLAMPS.

BONDING SHALL BE PROVIDED TO ASSURE ELECTRICAL CONTINUITY AND THE CAPACITY TO SAFELY CONDUCT ANY FAULT CURRENT LIKELY TO BE IMPOSED.

ALL DEVICES (SWITCHES, RECEPTACLES, ETC.), SHALL BE GROUNDED TO CONDUIT SYSTEM WITH SIX (6") INCH SOLID COPPER #12 AWG INSULATED WIRE (GREEN) CONNECTED TO GROUND SCREW IN DEVICE AND FASTENED TO BACKBOX WITH 10-32x3/8" SLOTTED HEXAGON HEAD WASHER FACE GROUND WITH GREEN DYE FINISH.

VOICE/DATA SYSTEM

ALL WORK RELATED TO THE VOICE/DATA SYSTEM SHALL CONFORM TO THE REQUIREMENTS OF TIA/EIA TELECOMMUNICATION BUILDING WIRING STANDARDS AND BICSI TELECOMMUNICATION DISTRIBUTION STANDARDS.

SEISMIC RESTRAINT

SEISMIC LATERAL RESTRAINTS DESIGNED TO RESIST HORIZONTAL MOVEMENT IN ANY DIRECTIONS SHALL BE INSTALLED IN ALL SUSPENDED CONDUITS 2-1/2 INCHES IN DIAMETER OR GREATER. QUANTITY AND LOCATION OF THE LATERAL RESTRAINTS SHALL BE BASED ON THE CONDUIT SYSTEM LAYOUT AND IN GENERAL, SHALL BE INSTALLED AT CONDUIT BENDS, JUNCTION BOXES AND APPROXIMATELY EVERY 20 FEET ALONG CONDUIT RUNS. SEISMIC LATERAL RESTRAINTS ARE NOT REQUIRED FOR ANY PIPING SUSPENDED BY INDIVIDUAL HANGERS 12 INCHES OR LESS IN LENGTH FROM TOP OF PIPING TO THE BOTTOM OF THE SUPPORT FOR THE HANGER.

END OF ELECTRICAL SPECIFICATIONS

ABBREVIATIONS

A	AMPERE
ADA	AMERICANS WITH DISABILITIES ACT
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AWG	AMERICAN WIRE GAUGE
C	CONDUIT
CB	CIRCUIT BREAKER
CLG	MOUNTED IN CEILING
CKT	CIRCUIT
DW	DISHWASHER
DWG	DRAWING
ELEC	ELECTRICAL
E/EM	EMERGENCY POWER CIRCUIT
ER	EXISTING TO REMAIN
FL	FLOOR
G	GROUND FAULT CIRCUIT INTERRUPTER
JB	JUNCTION BOX
LTG	LIGHTING
MTD	MOUNTED
NIC	NOT IN CONTRACT
NTS	NOT TO SCALE
OD	OUTDOOR
P	POLE
ø	PHASE
R	REFRIGERATOR
RE	RELOCATED EXISTING
RR	TO BE REMOVED AND RELOCATED
UON	UNLESS OTHERWISE NOTED
V	VOLT
W	WATT
WP	WEATHERPROOF

ELECTRICAL LEGEND

SYMBOL	DESCRIPTION
S	SINGLE POLE TOGGLE SWITCH
S_T	TIMER SWITCH
	EXISTING PANELBOARD / LOAD CENTER
	CONDUIT AND WIRE
	CONDUIT AND WIRE, SWITCHED
1,LP	HOMERUN TO PANELBOARD, NUMBERS/LETTERS INDICATE CIRCUIT & PANELBOARD TERMINATION UNLESS OTHERWISE INDICATED
J	JUNCTION BOX
	MOTOR
	SAFETY DISCONNECT SWITCH
	FUSIBLE SAFETY DISCONNECT SWITCH
	WALL CLOCK

GENERAL NOTES

1. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL WORK REQUIRED FOR A COMPLETE, FULLY OPERABLE INSTALLATION. ALL WORK TO BE DONE IN ACCORDANCE WITH THE LATEST APPROVED ISSUE OF THE NEC AND APPLICABLE LOCAL CODES.
2. PRIOR TO SUBMISSION OF BIDS GIVE WRITTEN NOTICE TO ARCHITECT AND ENGINEER OF ANY MATERIAL OR APPARATUS THAT IS INADEQUATE, UNSUITABLE FOR THE USE, IN VIOLATION OF LAWS, ORDINANCES, RULES, CODES OR ANY REGULATIONS OF AUTHORITIES HAVING JURISDICTION OR ANY NECESSARY ITEMS OF WORK THAT HAS BEEN OMITTED. CONTRACTOR AFFIRMS THAT ABSENT SUCH NOTICE, ALL SYSTEMS WILL FUNCTION SATISFACTORILY WITHOUT ADDITIONAL EXTRA COMPENSATION.
3. THE ELECTRICAL CONTRACTOR SHALL VISIT THE SITE PRIOR TO SUBMITTING A BID AND ADHERE TO THE CONTENTS OF THE BID DOCUMENTS. ANY DEVIATIONS FROM THE INFORMATION PROVIDED IN THE DOCUMENTS MUST BE LISTED IN WRITING. INNOVATIVE ENGINEERING SERVICES, LLC HAS THE RIGHT TO BE COMPENSATED FOR REVIEW OF VALUE ENGINEERING OR SUBSTITUTED MATERIALS AND EQUIPMENT.
4. ELECTRICAL CONTRACTOR SHALL RESTORE ALL AREAS DISTURBED TO THEIR ORIGINAL CONDITION. ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR ALL CUTTING, PATCHING, PAINTING, CLEAN-UP, ELECTRICAL DEBRIS REMOVAL AND GENERAL COORDINATION OF THE WORK EFFORT AS REQUIRED FOR THE INSTALLATION OF THE ELECTRICAL ITEMS OF WORK.
5. THE DRAWINGS SHOW THE GENERAL LAYOUT AND SOME OF THE DETAIL, BUT THEY DO NOT SHOW EVERY FITTING, BEND, ... ETC. ELECTRICAL CONTRACTOR SHALL PROVIDE ALL SUCH MATERIALS TO MAKE A COMPLETE INSTALLATION.
6. ALL PART NUMBERS ARE PROVIDED FOR THE CONVENIENCE OF THE CONTRACTOR. THEY ARE NOT TO BE CONSIDERED THE COMPLETE SPECIFICATION OF THE PRODUCT. THE PART NUMBER AND DESCRIPTION WILL BE THE COMPLETE SPECIFICATION. IN THE EVENT OF A DISCREPANCY BETWEEN THE TWO, THE MORE STRINGENT, MORE COSTLY FEATURE/PERFORMANCE WILL BE REQUIRED.
7. DO NOT SCALE DRAWINGS; ACTUAL FIELD MEASUREMENTS AND DIMENSIONS TAKE PRECEDENCE IN ALL CASES.
8. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT, AIA DOCUMENT 201, LATEST EDITION.
9. ELECTRICAL CONTRACTOR SHALL INSTALL ALL EQUIPMENT IN ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS AND OR REQUIREMENTS FOR PROPER OPERATION AND MAINTENANCE.
10. ELECTRICAL CONTRACTOR SHALL WARRANT AND GUARANTEE ALL MATERIALS AND WORKMANSHIP FOR A PERIOD OF ONE YEAR FROM THE DATE OF FINAL ACCEPTANCE BY THE OWNER.
11. ALL ELECTRICAL PENETRATIONS TO BE FIREPROOFED TO MAINTAIN INTEGRITY OF FIRE WALLS/FLOORS/CEILINGS.
12. ALL THE WIRE SIZES ARE BASED ON COPPER, ALUMINUM IS NOT TO BE USED UNLESS NOTED OTHERWISE.
13. MINIMUM CONDUCTOR SIZE FOR A FULLY LOADED 20A CIRCUIT, UNLESS OTHERWISE NOTED, SHALL BE #12 FOR ALL BRANCH CIRCUIT RUNS UP TO THE FIRST OUTLET; OVER 60 FEET, #10; OVER 105 FEET, #8; INCREASE CONDUIT SIZE TO SUIT.
14. ALL WIRING METHODS ARE TO BE IN ACCORDANCE WITH THE CURRENT ISSUE OF THE NATIONAL ELECTRICAL CODE, AND APPLICABLE LOCAL CODES. ALL WIRING IS TO BE IN CONDUIT, UNLESS SPECIFICALLY NOTED OTHERWISE. ALL WIRING IS TO BE CONCEALED.
15. ALL WIRING IN AIR PLENUM CEILINGS SHALL BE TEFLON COATED AND RATED FOR USE WITHIN THE PLENUM.
16. NO LOW VOLTAGE WIRING SHALL BE PERMITTED IN THE SAME RACEWAY AS POWER WIRING.
17. PROVIDE DRAG LINES IN ALL EMPTY RACEWAYS.
18. COORDINATE EXACT PLACEMENT OF EQUIPMENT WITH MECHANICAL PLANS, MAKE FIELD ADJUSTMENTS AS REQUIRED TO AVOID CONFLICTS, VERIFY WITH OWNER.
19. REFER TO ARCHITECTURAL AND MECHANICAL DRAWINGS FOR THE EXACT LOCATION AND MOUNTING HEIGHTS OF ALL EQUIPMENT.
20. DISCONNECT SWITCHES AND CIRCUIT BREAKER USED AS SWITCHES SHALL BE INSTALLED IN ACCORDANCE WITH ALL LOCAL CODES AND THE LATEST VERSION OF THE NATIONAL ELECTRICAL CODE "NEC" SECTION 110.26 TABLE 110.26(A)(1) AND SECTION 404.8. ALL DISCONNECT SWITCHES AND CIRCUIT BREAKERS SHALL BE LOCATED SO THAT THEY MAY BE OPERATED FROM A READILY ACCESSIBLE PLACE. THEY SHALL BE INSTALLED SUCH THAT THE CENTER OF THE GRIP OF THE OPERATING HANDLE OF THE SWITCH OR CIRCUIT BREAKER, WHEN IN ITS HIGHEST POSITION, IS NOT MORE THAN 6'-7" ABOVE THE FLOOR OR WORKING PLATFORM WITH 36" CLEAR IN FRONT.

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REVISION LOG:

NO	DESCRIPTION	DATE

PROJECT NAME:

Edgewood Accessibility Improvements: Phase 1

737 Edgewood Avenue
New Haven, CT 06515

PHASE:

CONSTRUCTION DOCUMENTS

DRAWING TITLE:

ELECTRICAL FIRST FLOOR PLANS

SCALE: AS NOTED

DATE: 5/23/2023

JOB NO: 23013-02

SHEET NO:

E2.01