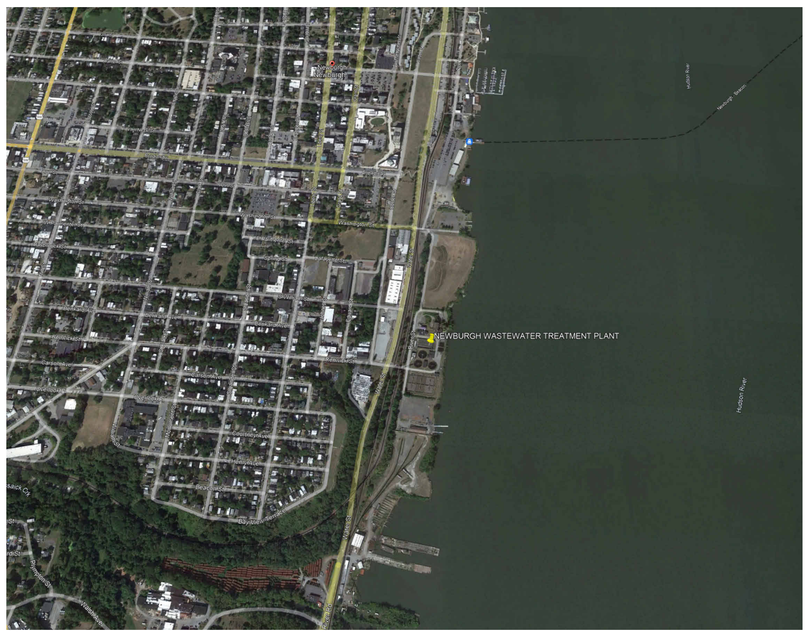
CITY OF NEWBURGH
ORANGE COUNTY, NEW YORK

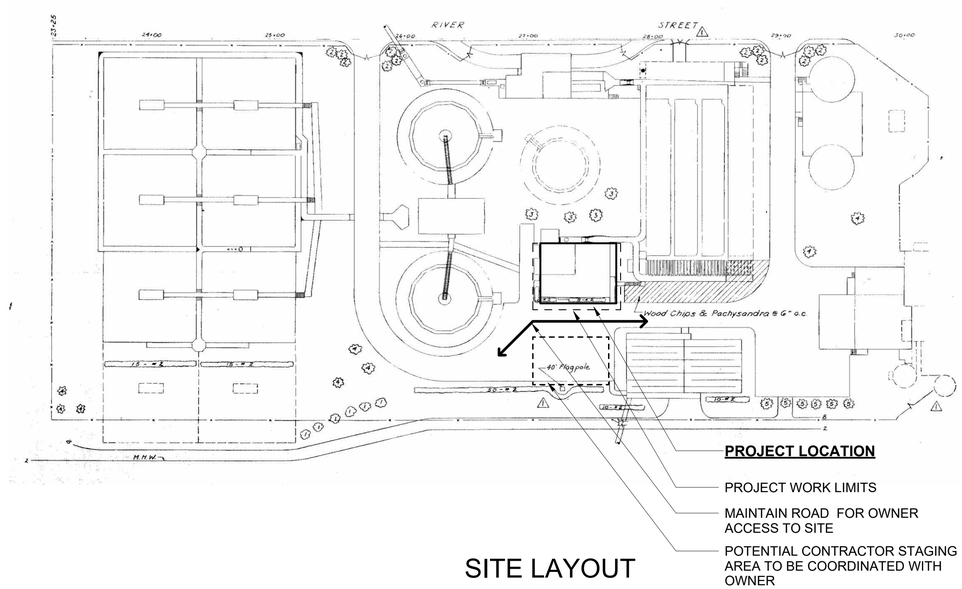
WASTEWATER TREATMENT PLANT (WWTP) ADMIN BUILDING RENOVATION

BID NUMBER - 7.24

SEPTEMBER 2024



PROJECT LOCATION
2 RENWICK STREET
NEWBURGH, NY 12550



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LEGAL ENTITY: ARCADIS OF NEW YORK, INC.

ARCADIS

APPROVED FOR
ARCADIS OF NEW YORK, INC.

REGISTERED ARCHITECT
ERROL ANTONIO DAWKINS
029835
STATE OF NEW YORK

9/6/2024

NOTE:
SCALES SHOWN HEREIN ARE FOR FULL SIZE PLOTS.
CONTRACTOR SHALL BE RESPONSIBLE FOR CONVERTING SCALES ON REDUCED OR ENLARGED PLOTS.

BUILDING CODE CHART: IBC 2018, AS MODIFIED BY THE STATE OF NEW YORK, AND NEW YORK STATE EXISTING BUILDING CODE 2020

	ADMIN BUILDING	
NFPA 820 CLASSIFICATION	NO	
BUILDING (MAIN) OCCUPANCY (CHAPTER 3)	B	
MIXED USE FACILITY	YES	B,H
ROOM SEPARATION RATING	2	B-H
CONSTRUCTION CLASSIFICATION (CHAPTER 5)	II-B	
BUILDING HEIGHT	ALLOWABLE	ACTUAL
	EXSTG.	14.5'
NUMBER OF STORIES	ALLOWABLE	ACTUAL
	EXSTG.	1
ALLOWABLE AREA PER FLOOR	ALLOWABLE	ACTUAL
FLOOR 1	NO CHANGE	NO CHANGE
FIRE SEPARATION DISTANCE RATINGS (TABLE 602):		
	REQUIRED	PROVIDED
DISTANCE LESS THAN 5'	3	3
DISTANCE BETWEEN 5' & 10'	2	2
DISTANCE BETWEEN 10' & 30'	2	2
DISTANCE MORE THAN 30'	0	0
FIRE RESISTANCE RATING REQ'TS FOR BLDG ELEMENTS (TABLE 601):		
	REQUIRED	PROVIDED
PRIMARY STRUCTURAL FRAMING*	0	2
BEARING WALLS - EXTERIOR	0	2
BEARING WALLS - INTERIOR	0	2
NON BEARING WALLS - EXTERIOR	SEE FIRE SEPARATION DISTANCE RATINGS	
NON BEARING WALLS - INTERIOR	0	0
FLOOR CONSTRUCTION	0	2
ROOF CONSTRUCTION	0	2
INTERIOR FINISHES (TABLE 803.5) :		
VERTICAL EXITS AND EXIT PASSAGEWAYS	A	A
EXIT ACCESS CORRIDORS & OTHER EXIT WAYS	A	A
ROOMS AND ENCLOSED SPACES	B	B
FIRE PROTECTION SYSTEMS (CHAPTER 9):		
	REQUIRED	PROVIDED
AUTOMATIC SPRINKLER SYSTEMS (SECTION 903)	NO	NO
ALT. AUTOMATIC FIRE-EXTINGUISHING SYSTEMS (SECTION 904)	NO	NO
STANDPIPE SYSTEMS (SECTION 905)	NO	NO
PORTABLE FIRE EXTINGUISHERS (SECTION 906)	YES	YES
FIRE ALARM AND DETECTION SYSTEMS(SECTION 907)	NO	NO
EMERGENCY ALARM SYSTEMS (SECTION 908)	YES	YES
EMERGENCY RESPONDER SAFETY FEATURES (SECTION 914)	NO	NO
MEANS OF EGRESS (CHAPTER 10):		
	REQUIRED/ ALLOWABLE	PROVIDED
OCCUPANT LOAD CHART (TABLE 1004.5) (REFERENCE CODE COMPLIANCE PLAN)	11	
BUSINESS AREAS	150 GROSS	
STORAGE AREAS	300 GROSS	
EGRESS WIDTH PER OCCUPANT LOAD - STAIRWAYS (SECTION 1005.3)	MIN 36"	N/A
EGRESS WIDTH PER OCCUPANT LOAD - OTHER COMPONENTS (SECTION 1005.3)	MIN 36"	MIN 36"
STORIES WITH ONE MEANS OF EGRESS (TABLE 1006.3.2) TABLE 1006.3.3.3(2)	NO	
SPACES WITH ONE MEANS OF EGRESS (TABLE 1006.2.1)	NO	
EXIT ACCESS TRAVEL DISTANCE (REFERENCE CODE COMPLIANCE PLAN)	38'	
CORRIDOR FIRE-RESISTANCE RATING	0	0
ACCESSIBILITY (ANSI/ ADAAG/2020 NYS):		
	REQUIRED	PROVIDED
CONSTRUCTION SITES	YES	YES
ACCESSIBLE ROUTE	YES	YES
ACCESSIBLE ENTRANCE	YES	YES
EQUIPMENT SPACES	NO	NO
PARKING	YES	YES
SIGNAGE	YES	YES

NR - NOT REQUIRED; NA - NOT APPLICABLE; HR = HOUR(S); FT - FEET; BLDG - BUILDING; ALT - ALTERNATE; GSF - GROSS SQUARE FEET; SPKR - SPRINKLER; W - WITH; W/O - WITHOUT; MAX - MAXIMUM; MIN - MINIMUM

NOTES

Roof supports: Fire-resistance ratings of primary structural frame and bearing walls are permitted to be reduced by 1 hour where supporting a roof only.

ENERGY EFFICIENCY: IECC 2020 AS MODIFIED BY THE STATE OF NEW YORK

CLIMATE ZONE (CHAPTER 3)	5	MOIST-(A)
COMPLIANCE PATH (SECTION C401.2)	IECC PRESCRIPTIVE METHOD	
EXEMPTION	NA	
	BUILDING ENVELOPE REQUIREMENTS (TABLE C402.1.3 or ALT C402.1.4)	BUILDING ENVELOPE DESIGN
ROOF ASSEMBLIES:		
INSULATION ENTIRELY ABOVE DECK	R-30ci	EXISTING - NO CHANGE
WALLS BELOW GRADE:		
BELOW-GRADE WALL	R-7.5ci	EXISTING - NO CHANGE
WALLS ABOVE GRADE:		
MASS	R-11.4ci	R-11.4ci
SLAB ON GRADE FLOORS:		
HEATED	R-15 for 36" below +R-5 full slab	R-15 for 36" below +R-5 full slab
FENESTRATION (U-factor)	BUILDING ENVELOPE REQUIREMENTS (TABLE C402.4)	BUILDING ENVELOPE DESIGN
FIXED FENESTRATION	0.38	0.38
OPERABLE FENESTRATION	0.45	0.45
ENTRANCE DOORS	0.77	0.77
SHGC - ALL FRAME TYPES:		
SHGC: PF < 0.25	0.38	0.38
SHGC: 0.25 PF < 0.5	0.46	0.46
SHGC: PF 0.5	0.58	0.58
SKYLIGHTS (3% MAXIMUM): NONE		
AIR LEAKAGE (C402.5)		
WINDOWS	MAX. 0.29 CFM/SF	MAX. 0.29 CFM/SF
WALL ASSEMBLIES (C402.5.1.2.2)	MAX 0.04 CFM/SF at 0.3 INCHES W.G.	MAX 0.04 CFM/SF at 0.3 INCHES W.G.
BUILDING TEST REQUIRED (C402.4.1.2.3)	MAX 0.40 CFM/SF at 0.3 INCHES W.G.	NOT REQUIRED
LOUVER DAMPERS (C402.5.5)	MAX 4.00 CFM/SF at 1.0 INCHES W.G.	NOT REQUIRED
MAX AIR INFILTRATION RATES	TABLE C402.5.2	TABLE C402.5.2
WINDOW, SLIDING DOOR ASSEMBLIES	MAX 0.20 CFM/SF or 0.30 CFM/SF at 6.24 PSF	MAX 0.20 CFM/SF or 0.30 CFM/SF at 6.24 PSF
STOREFRONT GLAZING	MAX 0.06 CFM/SF	MAX 0.06 CFM/SF
COMMERCIAL GLAZED SWINGING ENTRANCE DOORS	MAX 1.00 CFM/SF	MAX 1.00 CFM/SF
REVOLVING DOORS	MAX 1.00 CFM/SF	NOT REQUIRED
ROLLING DOOR	MAX 1.00 CFM/SF	NOT REQUIRED
MAX, AIR LEAKAGE RATE FOR FENESTRATION ASSEMBLIES (TABLE C402.5.2)		
WINDOW, SIDING DOOR ASSEMBLIES		
SWINGING DOOR ASSEMBLIES		

BUILDING CODE NOTES

1. ALTERATION AND RENOVATION WORK SHALL COMPLY WITH THE NEW YORK STATE BUILDING CODES:
1.1 2020 EXISTING BUILDING CODE OF NEW YORK STATE (EBC)
1.2 2020 BUILDING CODE OF NEW YORK STATE (BC)
1.3 2020 FIRE CODE OF NEW YORK STATE (FC)
1.4 2020 MECHANICAL CODE OF NEW YORK STATE (MC)
1.5 2020 PLUMBING CODE OF NEW YORK STATE (PC)
1.6 2020 FUEL GAS CODE OF NEW YORK STATE(FGC)
1.7 2020 ENERGY CONSERVATION CONSTRUCTION CODE OF NEW YORK STATE (ECC)
1.8 2020 NEW YORK STATE ELECTRICAL CODE (NFPA 70-17) (EC)
2. ALTERATION AND RENOVATION WORK SCOPE SHALL COMPLY WITH THE EBC WORK AREA COMPLIANCE METHOD PER SECTION BC301.3.2. WORK SCOPE IS DEFINED AS FOLLOWS:
2.1 REPAIR (EBC CHAPTER 4) - THE RECONSTRUCTION, REPLACEMENT OR RENEWAL OF ANY PART OF AN EXISTING BUILDING FOR THE PURPOSE OF MAINTENANCE OR TO CORRECT DAMAGE.
- SINGLE TEE END COATING
2.2 ALTERATIONS - LEAVE 2 (EBC CHAPTER 7) - THE REMOVAL AND REPLACEMENT OR THE COVERING OF EXISTING MATERIALS, ELEMENTS, EQUIPMENT, OR FIXTURES USING NEW MATERIALS, ELEMENTS, EQUIPMENT, OR FIXTURES THAT SERVE THE SAME PURPOSE.
- ROOF CURBS
- ROOF COATING
2.3 ALTERATIONS - LEVEL 3 (EBC CHAPTER 7, 8 AND 9) - APPLY WHERE THE WORK ARE EXCEEDS PERCENT OF THE BUILDING AREA.
- INTERIOR RENOVATION OF B OCCUPANCY
3. FEMA FIRM 36071C0333E DATED 8/3/2009 DOES DESIGNATE PROPERTY AS A SPECIAL FLOOD HAZARD AREA WITH A 0.2% ANNUAL CHANCE OF FLOOD HAZARD. PER SECTION EBC701.3 FLOOD HAZARD AREAS THE BUILDING SHALL BE PROTECTED. FLOOD PROTECTION SHALL BE PROVIDED BY OWNER IN AN ANCILLARY PROJECT.
4. ACCESSIBILITY IS REQUIRED PER SECTION EBC305.3. ACCESSIBILITY SHALL BE PROVIDED TO RESTROOMS, OFFICES, LAB, AND PANTRY BY ROUTE THRU DOOR NO 101B-01 AND RAMP TO GRADE.
5. AUTOMATIC SPRINKLER SYSTEM IS NOT REQUIRED PER SECTION EBC803.2 OR EBC904.1. BUILDING IS OCCUPIED BY ONE TENANT AND HAS AN OCCUPANT LOAD OF LESS THAN 30 (EBC803.2.2 AND EBC904.1.4). THE B OCCUPANCY IS SEPARATED FROM OTHER OCCUPANCIES BY 2-HOUR FIRE RESISTANCE WALL CONSTRUCTION (EBC803.2.2.1).
6. ENERGY CODE COMPLIANCE SHALL BE IN ACCORDANCE WITH SECTION EBC907.1 MINIM REQUIREMENTS WHICH DOES NOT REQUIRE THE ENTIRE BUILDING OR STRUCTURE TO COMPLY WITH THE ENERGY REQUIREMENTS OF THE ECC.
7. ALL CONTRACTORS SHALL BE REQUIRED TO FILE AND OBTAIN REQUIRED PERMITS TO PERFORM THEIR RESPECTIVE WORK. FEES WILL BE WAIVED.

REQUIRED VERIFICATION AND INSPECTION (2018 IBC 1705)

ITEM DESCRIPTION	IBC REQUIREMENT	CONSTR. DOCUMENTS	INDEPENDENT INSPECTOR	COMMENTS
STEEL CONSTRUCTION	SECTION 1705.2	NOT REQUIRED	NA	
CONCRETE CONSTRUCTION	SECTION 1705.3	REQUIRED		
MASONRY CONSTRUCTION	SECTION 1705.4	NOT REQUIRED	NA	
WOOD CONSTRUCTION	SECTION 1705.5	NOT REQUIRED	NA	
SOILS	SECTION 1705.6	REQUIRED	REQUIRED	
DRIVEN DEEP FOUNDATIONS	SECTION 1705.7	NOT REQUIRED	NA	
CAST-IN-PLACE DEEP FOUNDATIONS	SECTION 1705.8	NOT REQUIRED	NA	
HELICAL PILE FOUNDATIONS	SECTION 1705.9	NOT REQUIRED	NA	
FABRICATED ITEMS	SECTION 1705.10	NOT REQUIRED	NA	
WIND RESISTANCE	SECTION 1705.11	NOT REQUIRED	NA	
SEISMIC RESISTANCE	SECTION 1705.12	NOT REQUIRED	NA	
SPRAYED FIRE-RESISTANT MATERIALS	SECTION 1705.14	NOT REQUIRED	NA	
MASTIC AND INTUMESCENT FIRE-RESISTANT COATINGS	SECTION 1705.15	NOT REQUIRED	NA	
EXTERIOR INSULATION AND FINISH SYSTEMS (EIFS)	SECTION 1705.16	NOT REQUIRED	NA	
FIRE -RESISTANT PENETRATIONS AND JOINTS	SECTION 1705.17	REQUIRED	REQUIRED	
SMOKE CONTROL	SECTION 1705.18	NOT REQUIRED	NA	
NOTES				

FIXTURE COUNT CHART

	USE 1	
BUILDING OCCUPANCY TYPE	B	
BUILDING OCCUPIED OR UNOCCUPIED	YES	
MINIMUM NUMBER OF REQUIRED PLUMBING FIXTURES (2018 Building Code of New York State, TABLE 2902.1):		
MALE OCCUPANT LOAD = 6	REQUIRED	PROVIDED
MALE WATER CLOSETS	1	1
MALE LAVATORIES	1	1
MALE SHOWERS	0	1
FEMALE OCCUPANT LOAD = 6	REQUIRED	PROVIDED
FEMALE WATER CLOSETS	1	1
FEMALE LAVATORIES	1	1
FEMALE SHOWERS	0	1
OTHER	REQUIRED	PROVIDED
DRINKING FOUNTAIN	1	1*
SERVICE SINK	0	0

FIXTURE COUNT NOTES

1. * PANTRY SINK PROVIDED.
2. EXISTING CHEMICAL STORAGE NOT PART OF WORK SCOPE. RESTROOM ACCESS IS PROVIDED WITHIN 500 FEET PER SECTION BC2902.3.3.

ARCADIS

LEGAL ENTITY:
ARCADIS OF NEW YORK, INC.

CONSULTANTS

SEALS

REGISTERED ARCHITECT ERROL ANTONIO DAWKINS 023835 STATE OF NEW YORK

9/6/2024

ORANGE COUNTY, NEW YORK
CITY OF NEWBURGH

WASTEWATER TREATMENT PLANT (WWTP) ADMIN BUILDING RENOVATION

BID NUMBER 7.24
ARCADIS PROJ. NO. 30183827

NO.	DATE	ISSUED FOR	BY

DATE: SEPTEMBER 2024
PROJECT NO.: 30183827
FILE NAME:
DESIGNED BY: ED
DRAWN BY: GF
CHECKED BY: LA

SHEET TITLE

GENERAL

CODE DATA

SCALE: 12" = 1'-0"

G-02

SHEET 2 OF 51

ABBREVIATIONS

ACOUS	ACOUSTICAL
ACT	ACOUSTICAL CEILING TILE
ADMIN	ADMINISTRATION
AFF	ABOVE FINISH FLOOR
ALUM	ALUMINUM
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE
BM	BEAM
BTWN	BETWEEN
BLK	BLOCK
BD	BOARD
BOT	BOTTOM
BO	BOTTOM OF
BRK	BRICK
BC	BRICK COURSES
BLDG	BUILDING
CAB	CABINET
CIP	CAST IN PLACE
CLG	CEILING
CT	CERAMIC TILE
CLO	CLOSET
COL	COLUMN
CONC	CONCRETE
CMU	CONCRETE MASONRY UNIT
CONSTR	CONSTRUCTION
CONT	CONTINUOUS
CJ	CONTROL JOINT
CORR	CORRIDOR
CU	CUBIC
CLR	CLEAR
DEMO	DEMOLITION
DIA	DIAMETER
DIM	DIMENSION
DR	DOOR
DN	DOWN
DWG	DRAWING
DF	DRINKING FOUNTAIN
EA	EACH
E	EAST
EWC	ELECTRIC WATER COOLER
ELEC	ELECTRICAL
EL	ELEVATION
EMBED	EMBEDMENT
ENGR	ENGINEER
EQ	EQUAL
EQUIP	EQUIPMENT
EX	EXISTING
EXP	EXPANSION
EJ	EXPANSION JOINT
EXT	EXTERIOR
FT	FEET
FRP	FIBER REINFORCED PLASTIC
FIN FLR	FINISH FLOOR
FE	FIRE EXTINGUISHER
FIXT	FIXTURE
FLR	FLOOR
FD	FLOOR DRAIN
FDTN	FOUNDATION
GA	GAUGE
GALV	GALVANIZED
GEN	GENERAL
GR	GRADE
GYP	GYPSUM
HDW	HARDWARE
HVAC	HEATING, VENTILATION AND AIR CONDITIONING
HT	HEIGHT
HPT	HIGH POINT
HM	HOLLOW METAL
HORIZ	HORIZONTAL
INFO	INFORMATION
IN	INCH
ID	INSIDE DIMENSION
INSUL	INSULATION
INT	INTERIOR
JC	JANITOR'S CLOSET
JT	JOINT
LAB	LABORATORY
LAV	LAVATORY
LPT	LOW POINT
MFR	MANUFACTURER
MATL	MATERIAL
MAX	MAXIMUM
MECH	MECHANICAL
MTL	METAL
MEZZ	MEZZANINE
MIN	MINIMUM
MISC	MISCELLANEOUS
NEC	NATIONAL ELECTRICAL CODE
NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
N	NORTH
NTS	NOT TO SCALE
NO	NUMBER
OC	ON CENTER
OPNG	OPENING
OPP	OPPOSITE
OD	OUTSIDE DIAMETER
OHCD	OVERHEAD COILING DOOR
PNT	PAINT(ED)
PL	PLATE
PLBG	PLUMBING
PVC	POLYVINYL CHLORIDE
PVF	POLYVINYL FLUORIDE
PCP	PORTLAND CEMENT PLASTER
PSF	POUNDS PER SQUARE FOOT
PT	PRESSURE TREATED
QUAN	QUANTITY
RAD	RADIUS
REF	REFERENCE
REINF	REINFORCING
REQD	REQUIRED
R	RISER
RM	ROOM
RO	ROUGH OPENING
SECT	SECTION
SHT	SHEET
SIM	SIMILAR
S	SOUTH
SPECS	SPECIFICATIONS
SQ	SQUARE
SST	STAINLESS STEEL
STD	STANDARD
STL	STEEL
STOR	STORAGE
STRUCT	STRUCTURAL
SYS	SYSTEM
TEMP	TEMPORARY
THK	THICK(NESS)
TOS	TOP OF SLAB/STEEL
T	TREAD
TYP	TYPICAL
UL	UNDERWRITER'S LABORATORIES
UON	UNLESS OTHERWISE NOTED
VAR	VARIES
VERT	VERTICAL
VT	VINYL TILE
VP	VISION PANEL
WC	WATER CLOSET
WT	WEIGHT
W	WEST
W/	WITH
W/OUT	WITHOUT
WD	WOOD

LEGEND OF SYMBOLS

A	STRUCTURAL COLUMN CENTERLINE WALL CENTERLINE IF NOT COLUMN
#	NUMBER
#	ACCESSORY, LAB FURNITURE & EQUIPMENT KEY
A-0X	BUILDING ELEVATION
1 A-0X	BUILDING SECTION
1 A-0X	WALL SECTION
1 A-0X	DETAIL CUT
℄	CENTERLINE
∅	DIAMETER
###	ROOM NUMBER
##	LOUVER NUMBER SYMBOL
##	DOOR NUMBER SYMBOL
A	WALL PARTITION TYPE
	ELEVATION INDICATION
	EXISTING
	DEMOLISHED
	PROPOSED
	DEMOLISHED AREA (DEMOLITION PLANS ONLY)

LEGEND OF HATCH PATTERNS

	GENERAL FILL
	GRATING
	STEEL
	BRICK
	CMU
	CONCRETE
	GROUT
	TRENCH COVER
	RIGID INSULATION
	WOOD
	WOOD FINISHED
	CHECKERED PLATE
	GRAVEL
	GYPSUM BOARD

GENERAL ARCHITECTURE NOTES

1. THE LEGEND AND ABBREVIATIONS LIST ON THIS SHEET IS A STANDARD GUIDE INTENDED FOR GENERAL USE ON ALL PROJECTS. THEREFORE NOT ALL THE SYMBOLS AND ABBREVIATIONS CONTAINED IN THIS LIST ARE NECESSARILY USED ON THIS PARTICULAR PROJECT AND SHOULD BE USED FOR CLARIFICATION ONLY.
2. ITEMS NOT NOTED ON SHEETS SHALL BE CONSIDERED THE SAME AS NOTED ITEMS WHICH ARE GRAPHICALLY REPRESENTED IN THE SAME MANNER.
3. FOR CONCRETE AND STEEL SIZES AND CONFIGURATIONS SEE 'S' SHEETS.
4. FOR LOCATION OF HVAC EQUIPMENT AND PADS COORDINATE WITH 'H' SHEETS.
5 FOR FLOOR DRAIN LOCATIONS SEE 'P' SHEETS.
6. FOR FINAL GRADING AND BUILDING LOCATION SEE 'C' SHEETS.
7. FOR EXACT LOCATION OF MECHANICAL EQUIPMENT VENTS COORDINATE WITH 'M' SHEETS.
8. COORDINATE WITH ELECTRICAL SHEETS FOR LOCATION AND SIZE OF RECESSED ELECTRICAL DEVICES IN WALLS. SEE ELECTRICAL SHEETS FOR LOCATIONS AND DETAILS.
9. COORDINATE WITH ELECTRICAL SHEETS FOR LIGHT FIXTURE TYPES AND LOCATIONS.
10. * (ASTERISK) MEANS VERIFY DIMENSION WITH MANUFACTURER OF EQUIPMENT SUPPLIED OR IN FIELD. FIELD VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS.

CONSTRUCTION NOTES

1. ALL WORK SHALL BE INSTALLED IN ACCORDANCE WITH THE 2020 BUILDING CODE OF NEW YORK STATE, AND THE 2020 EXISTING BUILDING CODE OF NEW YORK.
2. CONSTRUCTION WORK SHALL BE PERFORMED IN ACCORDANCE WITH STATE AND LOCAL REGULATIONS AND CODE AND OSHA 1926 REGULATIONS.
3. ALL SAW CUTTING AND CORING SHALL BE BY WETTING OF THE AREA UNLESS ADJACENT TO SENSITIVE EQUIPMENT.
4. ALL DUST AND DEBRIS SHALL BE REMOVED FROM WORK AREA ON DAILY BASIS.
5. INSTALL DOOR FRAMES AS SHOWN AND SPECIFIED AS THE WORK PROGRESSES. DO NOT HANG DOORS AND INSTALL FINISH HARDWARE UNTIL ALL WORK BY ALL CONTRACTORS HAS BEEN COMPLETED IN AN AREA AND THERE ARE NO FURTHER CONSTRUCTION ACTIVITIES OR REQUIRED ENTRY BY ANY CONTRACTOR. DOORS AND FINISHED HARDWARE INSTALLED AND SUBSEQUENTLY DAMAGED IN ANY WAY FOR ANY REASON SHALL BE IMMEDIATELY REPLACED BY THE GENERAL CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER. IMMEDIATELY MEANS FROM THE TIME THE DAMAGE IS OBSERVED AND REPORTED TO THE GENERAL CONTRACTOR BY CONSTRUCTION MANAGEMENT TO THE TIME OF REINSTALLATION SHALL NOT BE MORE THAN ONE MONTH.
6. DOOR FRAMES SHALL BE BOXED OUT IN WOOD TO PREVENT CONSTRUCTION DAMAGE.
7. INSTALL TEMPORARY 3/4" PLYWOOD DOORS AND LOCKS. REMOVE WHEN CONSTRUCTION ACCESS AND ACTIVITIES ARE FINISHED IN AN AREA AT THE TIME WHEN DOORS AND FINISH HARDWARE ARE INSTALLED.
8. PAINTING - COORDINATE INSTALLATION OF PAINTING IN ORDER TO PERFORM WORK BEFORE INSTALLATION OF WORK PERFORMED UNDER OTHER TRADES.

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DATE: SEPTEMBER 2024
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FILE NAME:
DESIGNED BY: ED
DRAWN BY: GF
CHECKED BY: LA

SHEET TITLE

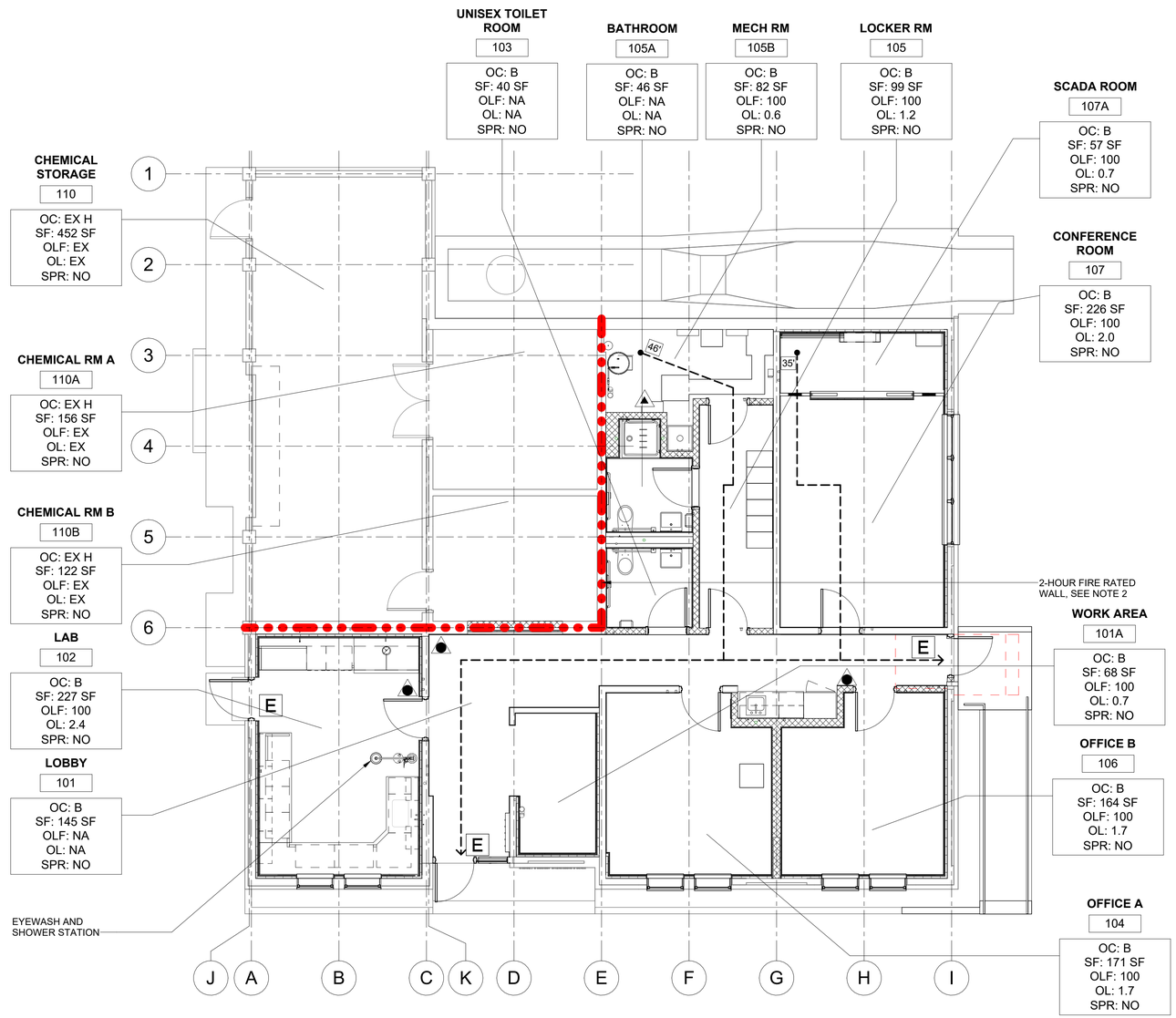
ARCHITECTURAL

ABBREVIATIONS, LEGEND AND NOTES

SCALE: 12" = 1'-0"

A-01

SHEET 3 OF 51



LIFE SAFETY PLAN

SCALE: 3/16" = 1'-0"

0' 4' 8' 12'

TRUE NORTH

PLANT NORTH

CODE NOTES

1. WORK SHALL BE GOVERNED BY THE STATE OF NEW YORK EXISTING BUILDING CODE AND BUILDING CODE.
2. EXISTING WALL PENETRATION SHALL BE RESEALED WITH 2-HOUR FIRE RESISTANCE RATED FIRE SEALANT.
   2.1 EXISTING WALL CONSTRUCTION AT RESTROOMS AND MECHINCAL ROOM : 8" CMU.
   2.2 EXISITNG WALL CONSTRUCTION AT LAB TO CHEMICAL STORAGE AREA AND LAB TO LOBBY.
   2.3 INFILL CONSTRUCTION ATLOBBY WINDOW SHALL BE UL DESIGN U419 - 2-HOUR FIRE RESISTANCE RATED.

LIFE SAFETY SYMBOLS LEGEND:

▲	FIRE EXTINGUISHER, CO2
●	FIRE EXTINGUISHER, MULTI-PURPOSE DRY CHEMICAL
▲ (IN CABINET)	FIRE EXTINGUISHER, CO2 (IN CABINET)
● (IN CABINET)	FIRE EXTINGUISHER, MULTI-PURPOSE DRY CHEMICAL (IN CABINET)
E	EXIT SIGN LOCATION
●--→	DIRECTION OF EGRESS PATH # IS DISTANCE IN FEET TO EXIT FROM SQUARE DOT TO ARROW
	I HR FIRE BARRIER
	2 HR FIRE BARRIER
	3 HR FIRE BARRIER
	4 HR FIRE BARRIER
	30 MIN FIRE PARTITION
	1 HR FIRE PARTITION
	SMOKE BARRIER (1 HR)
	SMOKE PARTITION
	1 HR FIREWALL
	2 HR FIREWALL
	3 HR FIREWALL
	4 HR FIREWALL
SF	SQUARE FEET
OLF	OCCUPANT LOAD FACTOR
OL	OCCUPANT LOAD
SPR	SPRINKLER
OC	OCCUPANT CLASSIFICATION
NA	NOT APPLICABLE
180	DOOR RATING (IN MINUTES)
90	DOOR RATING (IN MINUTES)
60	DOOR RATING (IN MINUTES)
45	DOOR RATING (IN MINUTES)

ARCADIS

LEGAL ENTITY:
ARCADIS OF NEW YORK, INC.

CONSULTANTS

SEALS

REGISTERED ARCHITECT ERROL ANTONIO DAWKINS 023835 STATE OF NEW YORK

9/6/2024

ORANGE COUNTY, NEW YORK

CITY OF NEWBURGH

WASTEWATER TREATMENT PLANT (WWTP) ADMIN BUILDING RENOVATION

BID NUMBER 7.24

ARCADIS PROJ. NO. 30183827

NO.	DATE	ISSUED FOR	BY

DATE: SEPTEMBER 2024

PROJECT NO.: 30183827

FILE NAME:

DESIGNED BY: ED

DRAWN BY: GF

CHECKED BY: LA

SHEET TITLE

ARCHITECTURAL

LIFE SAFETY PLAN AND NOTES

SCALE: As indicated

A-02

SHEET 4 OF 51

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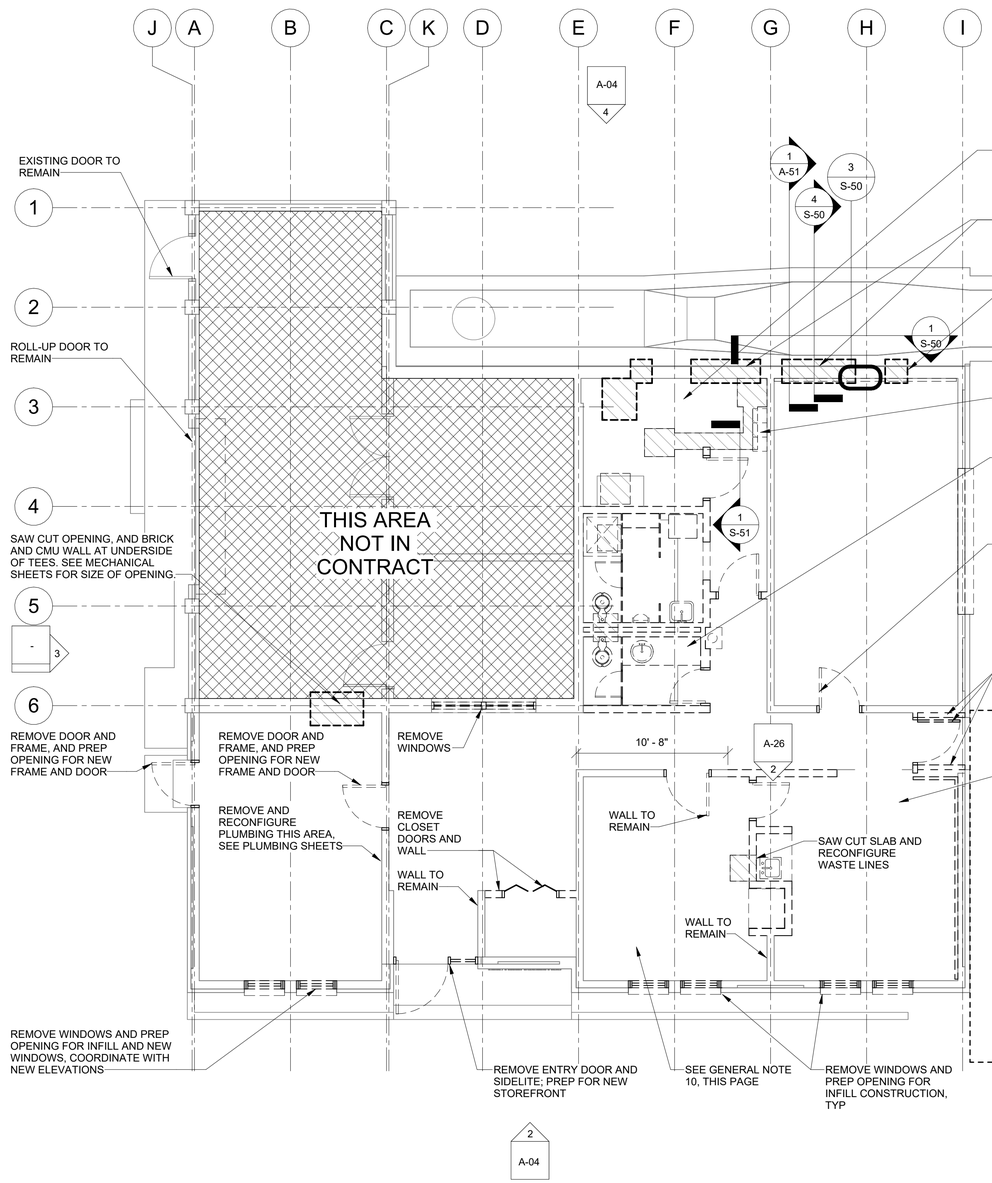
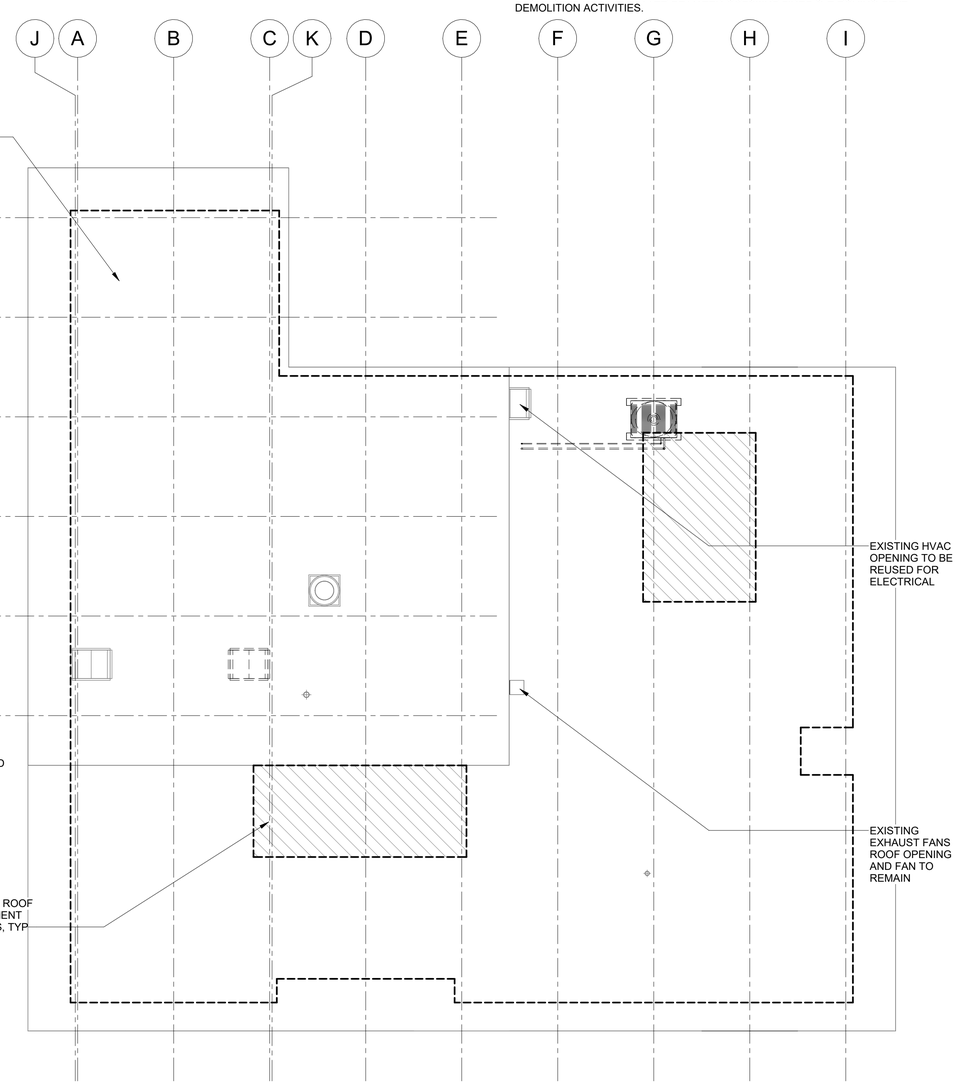
SHEET NOTES

1. WET SAW CUT MASONRY TO BE REMOVED EXCEPT ADJACENT TO WATER AND MOISTURE SENSITIVE EQUIPMENT AND PANELS.
2. CUT ABANDONED CONDUITS AND PIPING IN WALLS OR FLOORS TO REMAIN AND PLUG.
3. REMOVE ALL TOILET FIXTURES AND DISCARD.
4. REMOVE AND TURN OVER HOT WATER HEATER TO OWNER UNLESS OTHERWISE DIRECTED BY OWNER.
5. CONTRACTOR SHALL NOT REMOVE CORE, DRILL OR OTHERWISE PENETRATE ROOFING SINGLE TEES WITHOUT WRITTEN DIRECTIVE FROM ENGINEER.
6. CONTRACTOR MAY REUSE CONDUITS AND BOXES ON EXISTING MASONRY WALLS TO REMAIN WITH NEW FURRED WALLS.
7. CONTRACTOR MAY REUSE CONDUIT IN EXISTING MASONRY WALLS; CONTRACTOR TO RECESS NEW ELECTRICAL BOX IN WALL.
8. CONTRACTOR SHALL REMOVE CEILING WOOD TRIM BETWEEN SINGLE TEES AND CONDUITS.
9. SEE SHEET A-04 FOR ADDITIONAL FLOOR DEMOLITION AND INFILL. REMOVE FLOOR FINISHES THROUGHOUT. PREPARE FLOOR FOR NEW EPOXY COATING EXCEPT RESTROOMS.
10. CONTRACTOR SHALL BE AWARE THAT STAGING AND OR MATERIAL/EQUIPMENT STORAGE IS NOT PERMITTED BETWEEN COLUMNS LINES G-E DURING SLAB DEMOLITION ACTIVITIES.



1 FINISH FLOOR - DEMOLITION

SCALE: 3/16" = 1'-0"



2 ROOF LEVEL - DEMOLITION

SCALE: 3/16" = 1'-0"

TRUE NORTH
PLANT NORTH

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REGISTERED ARCHITECT ERROL ANTONIO DAWKINS 023835 STATE OF NEW YORK

9/6/2024

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WASTEWATER TREATMENT PLANT (WWTP) ADMIN BUILDING RENOVATION

BID NUMBER 7.24

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NO.	DATE	ISSUED FOR	BY

DATE: SEPTEMBER 2024

PROJECT NO.: 30183827

FILE NAME:

DESIGNED BY: ED

DRAWN BY: GF

CHECKED BY: LA

SHEET TITLE

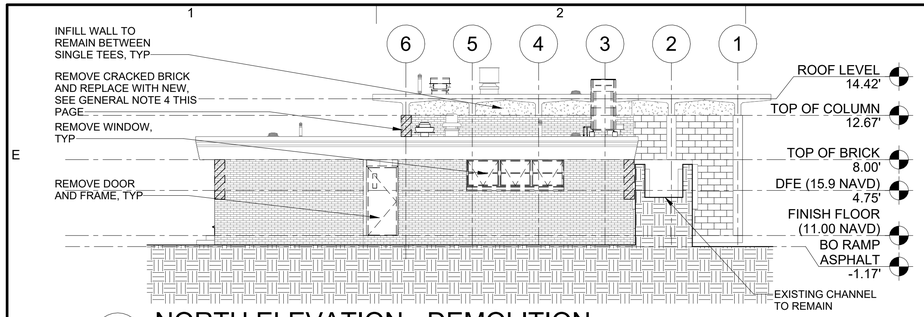
ARCHITECTURAL

DEMOLITION PLANS

SCALE: 3/16" = 1'-0"

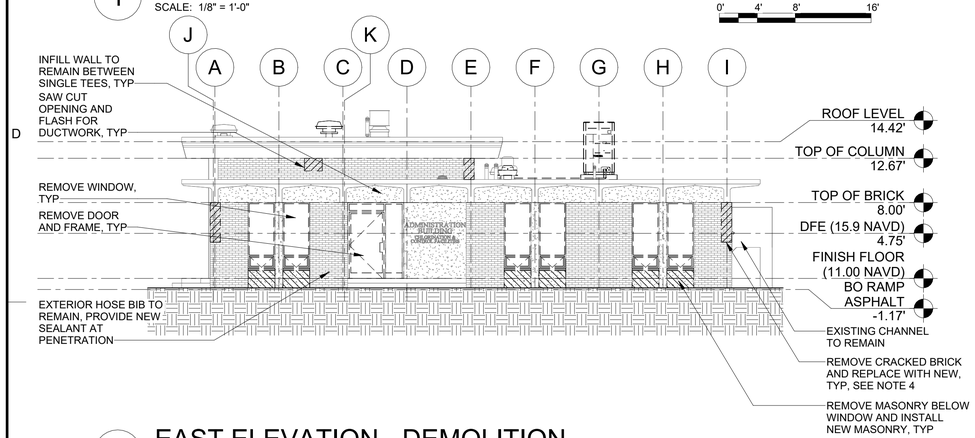
A-03

SHEET 5 OF 51



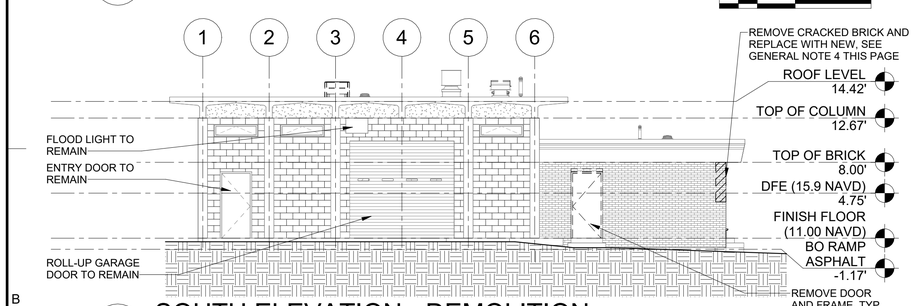
1 NORTH ELEVATION - DEMOLITION

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



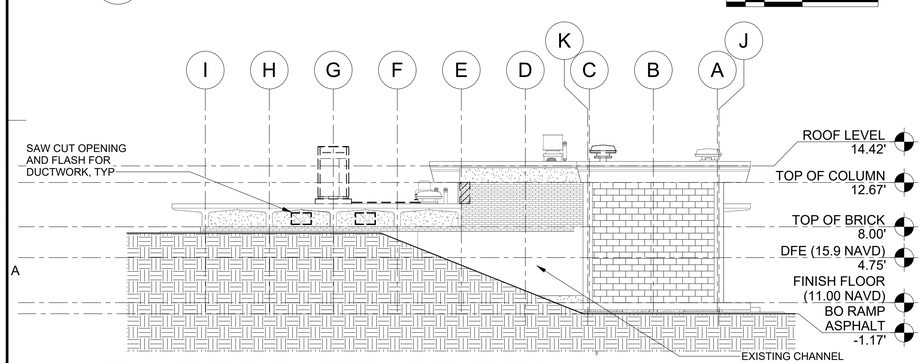
2 EAST ELEVATION - DEMOLITION

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



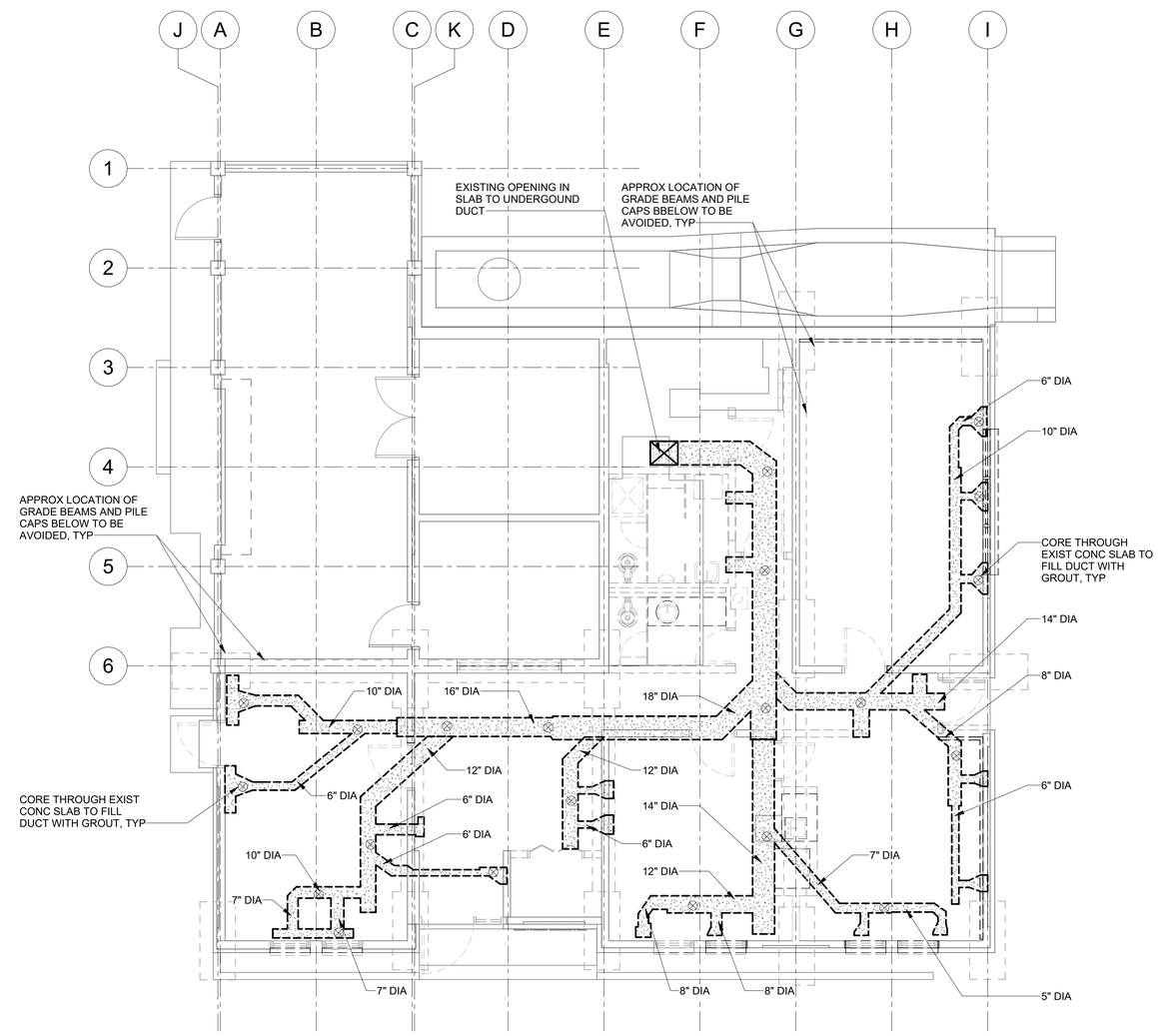
3 SOUTH ELEVATION - DEMOLITION

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



4 WEST ELEVATION - DEMOLITION

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



UNDERGROUND DUCT DEMOLITION LAYOUT

SCALE: 3/16" = 1'-0"

TRUE NORTH
PLANT NORTH

SHEET NOTES

NOTES:
1. PROPOSED CORING LOCATIONS AND QUANTITY OF CORES ARE SHOWN AS APPROXIMATE. CONTRACTOR SHALL FIELD VERIFY EXACT LOCATION OF UNDERGROUND DUCT WORK AND QUANTITY OF CORES REQUIRED TO FILL DUCT WORK WITH GROUT.
2. EXISTING GRADE BEAM AND PILE CAP LOCATIONS ARE SHOWN AS APPROXIMATE. CONTRACTOR SHALL AVOID CORING AT THESE LOCATIONS.
3. CONTRACTOR SHALL SUBMIT FOR REVIEW METHOD FOR FILLING AND MONITORING GROUT PLACEMENT.
4. BRICK REPLACEMENT AREA: 50 SQUARE FEET IN TOTAL.
5. BRICK MORTAR REPOINTING: PROVIDE REPOINTING IS SELECT AREA OF FACADE, ALLOW FOR 300 SF OF BRICK AREA MORTAR REPOINTING.

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9/6/2024

ORANGE COUNTY, NEW YORK
CITY OF NEWBURGH

WASTEWATER TREATMENT PLANT (WWTP) ADMIN BUILDING RENOVATION

BID NUMBER 7.24
ARCADIS PROJ. NO. 30183827

NO.	DATE	ISSUED FOR	BY

DATE: SEPTEMBER 2024
PROJECT NO.: 30183827
FILE NAME:
DESIGNED BY: ED
DRAWN BY: GF
CHECKED BY: LA

SHEET TITLE

ARCHITECTURAL

DEMOLITION ELEVATIONS

SCALE: As indicated

A-04

SHEET 6 OF 51

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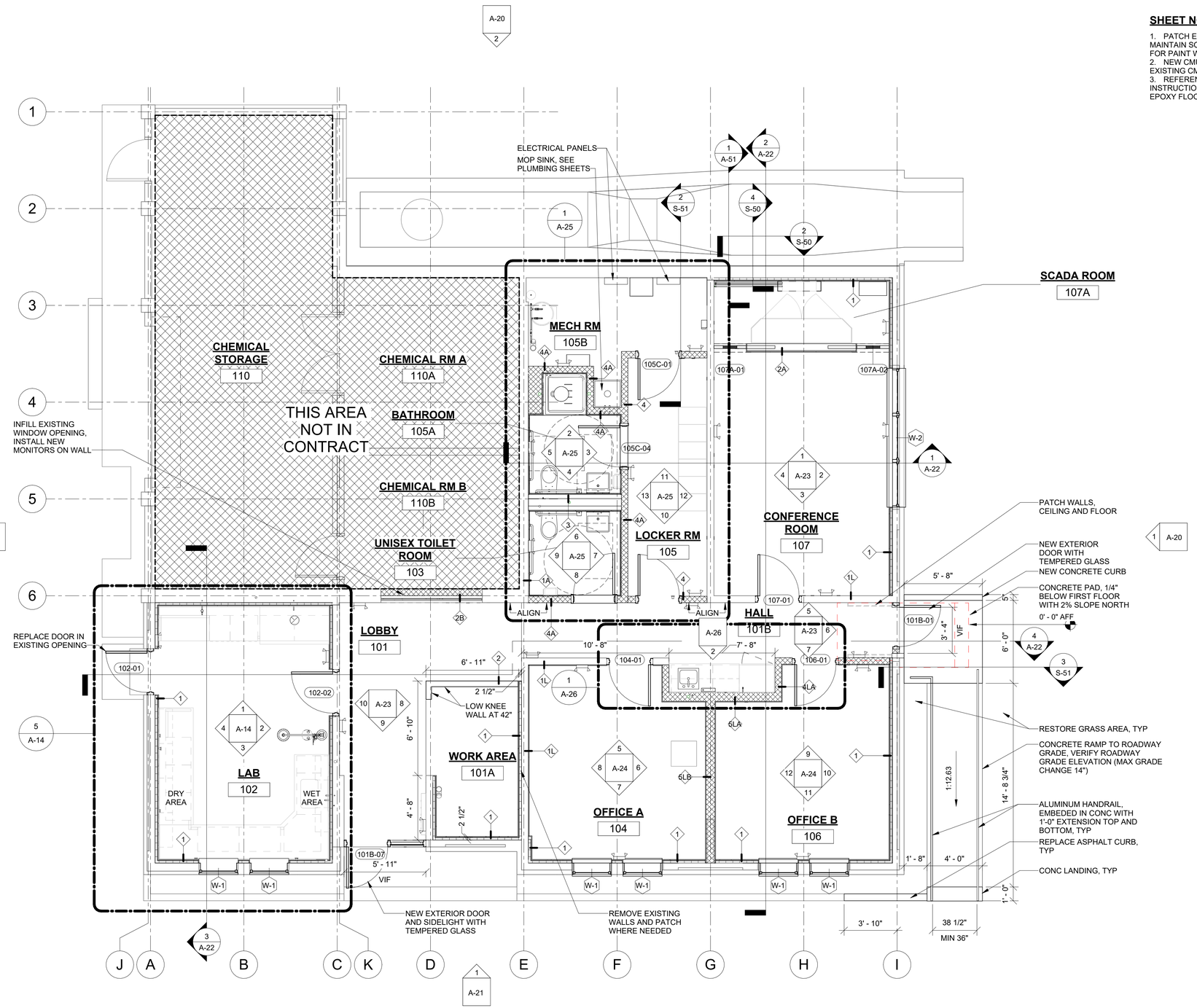
SHEET NOTES

1. PATCH EXISTING CMU WALL TO REMAIN AND MAINTAIN SCORE PATTERN. PREPARE CMU WALL FOR PAINT WHERE EXPOSED.
2. NEW CMU WALLS SHALL BE TOOTH INTO EXISTING CMU WALLS.
3. REFERENCE PAINT MANUFACTURER'S INSTRUCTIONS AND SURFACE PREPARE FOR NEW EPOXY FLOORING.



FIRST FLOOR PLAN

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

0' 2' 4' 8'

TRUE NORTH

PLANT NORTH

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REGISTERED ARCHITECT ERROL ANTONIO DAWKINS 023835 STATE OF NEW YORK

9/6/2024

ORANGE COUNTY, NEW YORK

CITY OF NEWBURGH

WASTEWATER TREATMENT PLANT (WWTP) ADMIN BUILDING RENOVATION

BID NUMBER 7.24

ARCADIS PROJ. NO. 30183827

NO.	DATE	ISSUED FOR	BY

DATE: SEPTEMBER 2024

PROJECT NO.: 30183827

FILE NAME:

DESIGNED BY: ED

DRAWN BY: GF

CHECKED BY: LA

SHEET TITLE

ARCHITECTURAL

FIRST FLOOR PLAN

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

A-10

SHEET 7 OF 51

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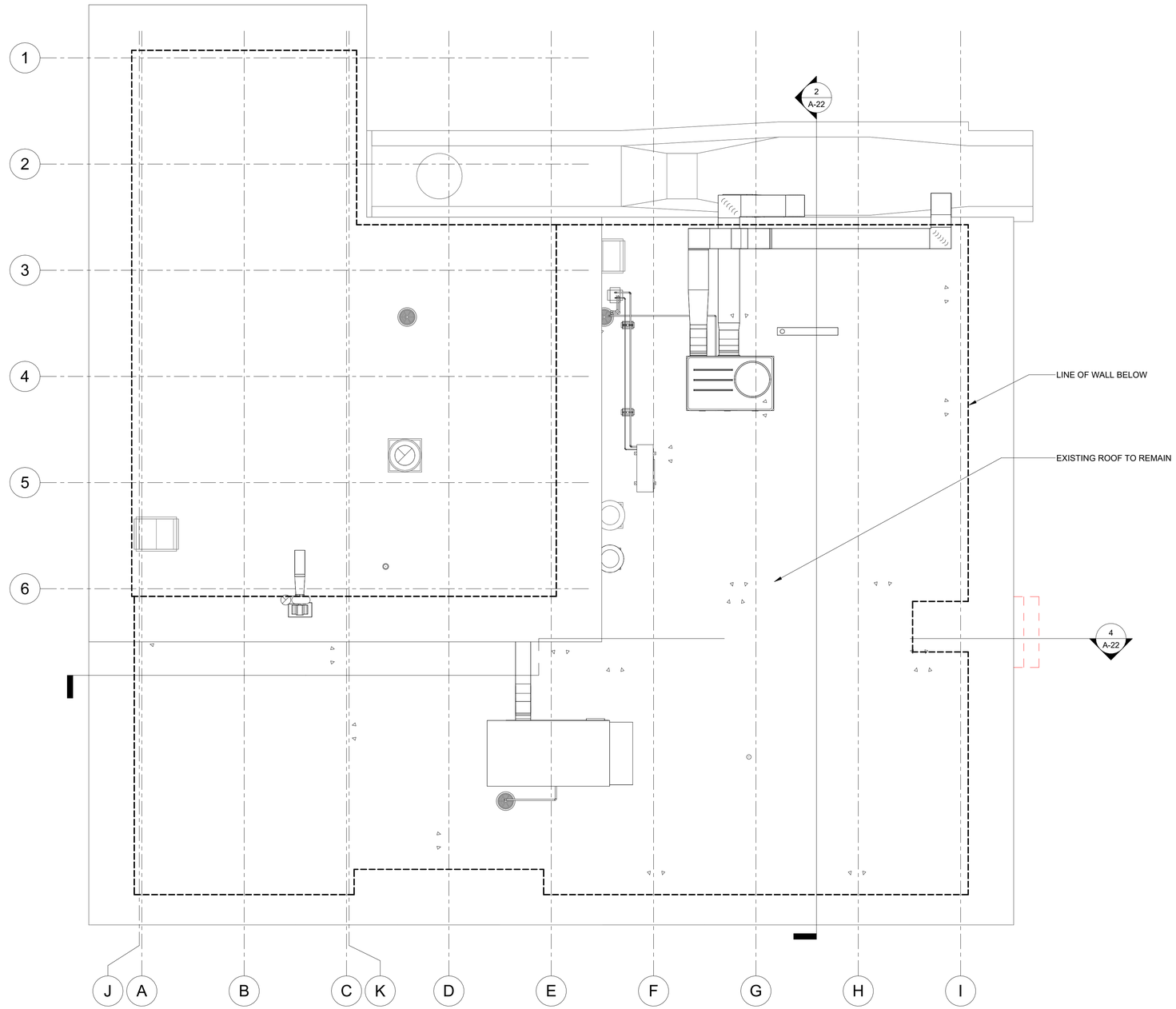
SHEET NOTES

1. ABDC



ROOF PLAN

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

0' 2' 4' 8'

TRUE NORTH

PLANT NORTH

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REGISTERED ARCHITECT
ERROL ANTONIO DAWKINS
023835
STATE OF NEW YORK

9/6/2024

ORANGE COUNTY, NEW YORK

CITY OF NEWBURGH

WASTEWATER TREATMENT PLANT (WWTP) ADMIN BUILDING RENOVATION

BID NUMBER 7.24

ARCADIS PROJ. NO. 30183827

NO.	DATE	ISSUED FOR	BY

DATE: SEPTEMBER 2024

PROJECT NO.: 30183827

FILE NAME:

DESIGNED BY: ED

DRAWN BY: GF

CHECKED BY: LA

SHEET TITLE

ARCHITECTURAL

ROOF PLAN

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

A-11

SHEET 8 OF 51

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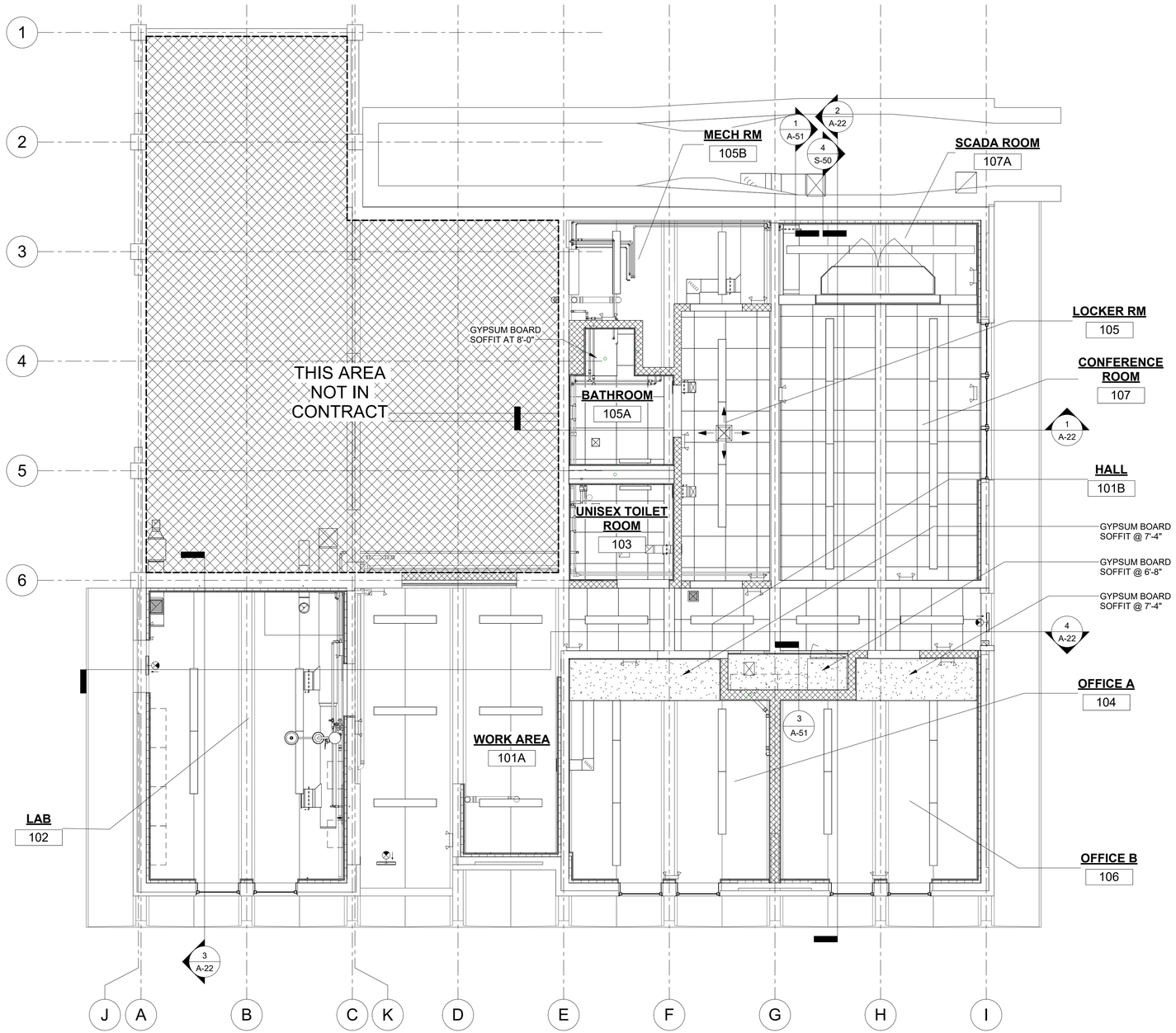

FIRST FLOOR - REFLECTED CEILING PLAN

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

0' 2' 4' 8'

TRUE NORTH

PLANT NORTH

SHEET NOTES

1. CONCRETE JOINT BETWEEN SINGLE TEES SHALL BE SEALED WITH JOINT SEALANT.
2. EXPOSED ELECTRICAL CONDUITS AND ELECTRICAL ACCESSORIES AT CIELING SHALL BE PAINTED. COLOR TO MATCH CEILING AT 8 FEET AND ABOVE.
3. EXPOSED PIPING, SUPPORTS AND ACCESSORIES AT CEILING SHALL BE PAINTED. COLOR TO MATCH CEILING AT 8 FEET AND ABOVE.

CEILING LEGEND

- 2 x 2 ACOUSTICAL TILE CEILING
- 4' LIGHT FIXTURE PENDENT MTD (CLG MTD AT ACT)
- 4' LIGHT FIXTURE WALL MTD
- RETURN AIR
- SUPPLY AIR
- EXIT LIGHT
- GYPSUM BOARD CEILING OR SOFFIT

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9/6/2024

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WASTEWATER TREATMENT PLANT (WWTP) ADMIN BUILDING RENOVATION

BID NUMBER 7.24

ARCADIS PROJ. NO. 30183827

NO.	DATE	ISSUED FOR	BY

DATE: SEPTEMBER 2024

PROJECT NO.: 30183827

FILE NAME:

DESIGNED BY: ED

DRAWN BY: GF

CHECKED BY: LA

SHEET TITLE

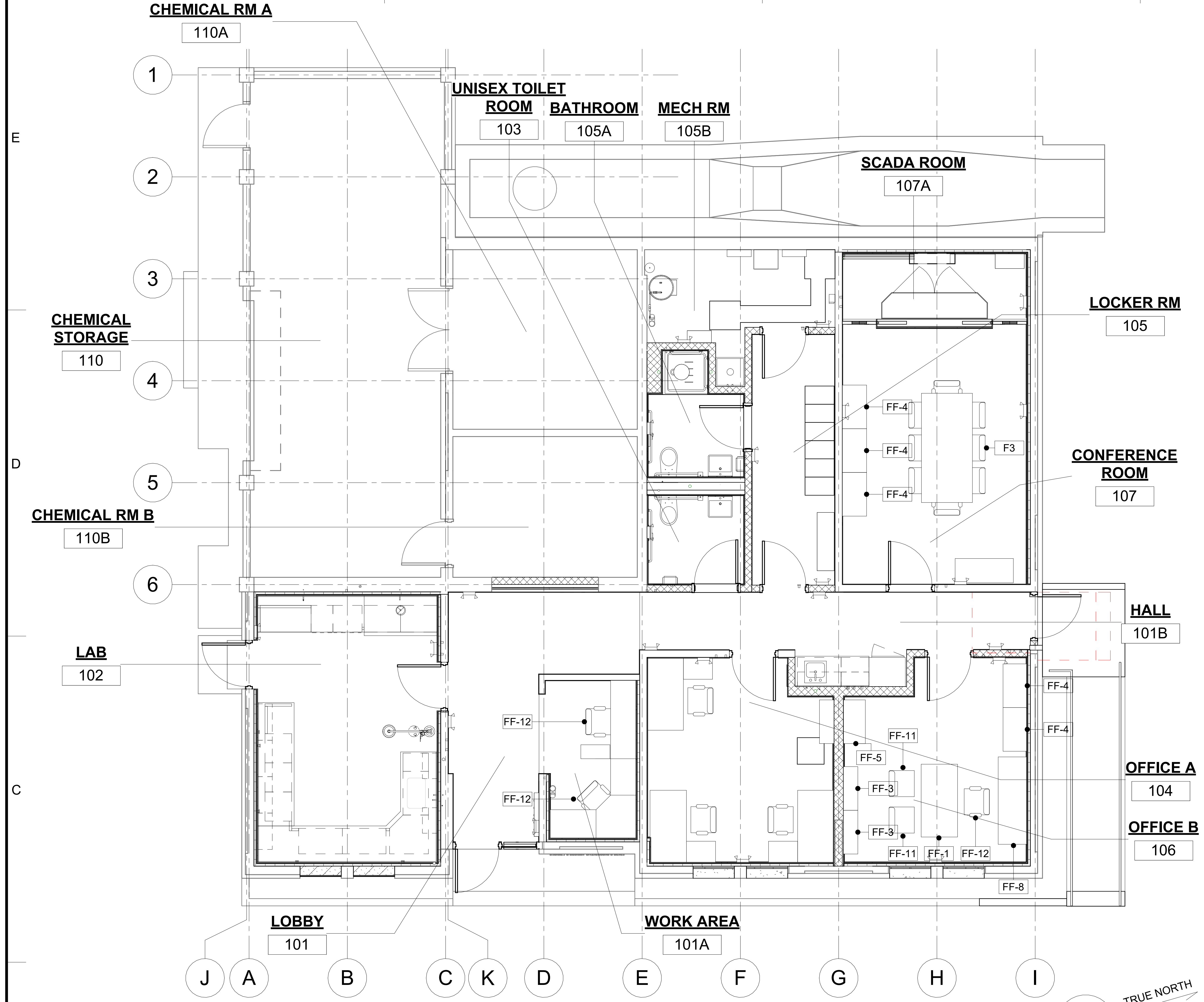
ARCHITECTURAL

REFLECTED CEILING PLAN

SCALE: As indicated

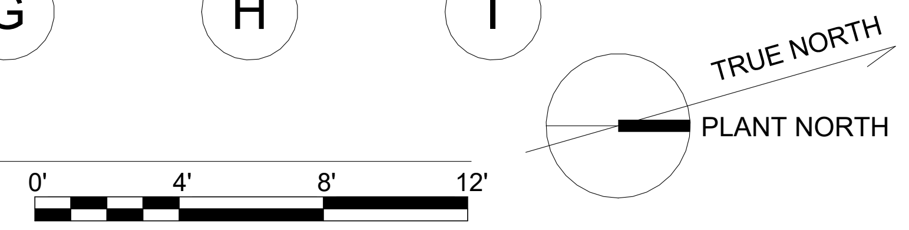
A-12

SHEET 9 OF 51



FIRST FLOOR - FURNITURE PLAN

SCALE: 3/16" = 1'-0"



FURNITURE SCHEDULE

ROOM NAME	ROOM NUMBER	TYPE MARK	FREE STANDNG FURNITURE DESCRIPTION	COMMENTS
WORK AREA	101A	FF-12	Chair-Task Arms: Chair-Task Arms	
WORK AREA	101A	FF-12	Chair-Task Arms: Chair-Task Arms	
OFFICE A	104	FF-1	Desk: 60" x 30"	
OFFICE A	104	FF-1	Desk: 60" x 30"	
OFFICE A	104	FF-1	Desk: 60" x 30"	
OFFICE A	104	FF-2	Cabinet File-Lateral 3 Drawer: 24" x 18" x 36"	
OFFICE A	104	FF-2	Cabinet File-Lateral 3 Drawer: 24" x 18" x 36"	
OFFICE A	104	FF-2	Cabinet File-Lateral 3 Drawer: 24" x 18" x 36"	
OFFICE A	104	FF-3	Shelving: 36" x 12" x 72"	
OFFICE A	104	FF-12	Chair-Task Arms: Chair-Task Arms	
OFFICE A	104	FF-12	Chair-Task Arms: Chair-Task Arms	
OFFICE A	104	FF-12	Chair-Task Arms: Chair-Task Arms	
LOCKER RM	105	FF-9	Newburgh_bench: Newburgh_bench	SEE NOTE 1
OFFICE B	106	FF-1	Desk: 60" x 30"	
OFFICE B	106	FF-3	Shelving: 36" x 12" x 72"	
OFFICE B	106	FF-3	Shelving: 36" x 12" x 72"	
OFFICE B	106	FF-4	Cabinet File-Lateral 3 Drawer: 36" x 20" x 36"	
OFFICE B	106	FF-4	Cabinet File-Lateral 3 Drawer: 36" x 20" x 36"	
OFFICE B	106	FF-5	Cabinet-Storage: 36" x 18" x 72"	
OFFICE B	106	FF-8	Credenza: 72" x 24"	
OFFICE B	106	FF-11	Chair-Task: Chair-Task	
OFFICE B	106	FF-11	Chair-Task: Chair-Task	
OFFICE B	106	FF-12	Chair-Task Arms: Chair-Task Arms	
CONFERENCE ROOM	107	F3	Table-Conference2 w Chairs: 40" x 90"	
CONFERENCE ROOM	107	FF-4	Cabinet File-Lateral 3 Drawer: 36" x 20" x 36"	
CONFERENCE ROOM	107	FF-4	Cabinet File-Lateral 3 Drawer: 36" x 20" x 36"	
CONFERENCE ROOM	107	FF-4	Cabinet File-Lateral 3 Drawer: 36" x 20" x 36"	
CONFERENCE ROOM	107	FF-5	Sideboard: 48" x 20" x 38"	
CONFERENCE ROOM	107	FF-11	Chair-Task: Chair-Task	
CONFERENCE ROOM	107	FF-11	Chair-Task: Chair-Task	
CONFERENCE ROOM	107	FF-11	Chair-Task: Chair-Task	
CONFERENCE ROOM	107	FF-11	Chair-Task: Chair-Task	
CONFERENCE ROOM	107	FF-11	Chair-Task: Chair-Task	
CONFERENCE ROOM	107	FF-11	Chair-Task: Chair-Task	
CONFERENCE ROOM	107	FF-12	Chair-Task Arms: Chair-Task Arms	
CONFERENCE ROOM	107	FF-12	Chair-Task Arms: Chair-Task Arms	
SCADA ROOM	107A	FF-6	Cupboard: Cupboard	

FURNITURE SCHEDULE NOTES

1. FURNITURE ITEMS LISTED IN THE FURNITURE SCHEDULE SHALL BE PURCHASED THROUGH THE NYS OGS GROUP 20915 CONTRACT OR CURRENT CONTINUATION OF THE CONTRACT. REFERENCE SPECIFICATION SECTION 12 50 00 FURNITURE FOR BASIS OF DESIGN OF EACH PIECE OF FURNITURE.

2. BENCH IS NOT PART OF NYS OGS GROUP 20915 CONTRACT AND SHALL BE SUPPLIED BY LOCKER MANUFACTURER.

CASEWORK SCHEDULE

ROOM NAME	ROOM NUMBER	TYPE	CASEWORK DESCRIPTION	MATERIAL	WIDTH	DEPTH	HEIGHT	COMMENTS
HALL	101B	CB-11	Base Cabinet-Single Door & Drawer: 22"	PAINTED METAL	1' - 11"	2' - 0"	2' - 10 1/2"	
HALL	101B	CB-12	Base Cabinet-Double Door Sink Unit: 36"	PAINTED METAL	3' - 0"	2' - 0"	2' - 10 1/2"	
HALL	101B	CB-FB	Counter Top: 24" Depth	SST		2' - 1"	3' - 0"	
HALL	101B	CU-1	Upper Cabinet-Double Door-Wall: 1'-11" x 1'-1"	PAINTED METAL	1' - 11"	1' - 0"	1' - 1"	
HALL	101B	CU-1A	Upper Cabinet-microwave: 1'-11" x 1'-1"	PAINTED METAL	1' - 11"	1' - 0"	1' - 1"	
HALL	101B	CU-4	Upper Cabinet-Double Door-Wall: 36" x 26"	PAINTED METAL	3' - 0"	1' - 0"	2' - 2"	
LAB	102	CB-1	Base Cabinet-Combo01: 2'-0" x 1'-10"	PAINTED METAL	2' - 0"	1' - 10"	2' - 11 1/8"	
LAB	102	CB-2	Base Cabinet-Single Door & Drawer: 2'-0" x 1'-10" H 36"	PAINTED METAL	2' - 0"	1' - 10"	2' - 11 1/8"	
LAB	102	CB-2	Base Cabinet-Single Door & Drawer: 2'-0" x 1'-10" H 36"	PAINTED METAL	2' - 0"	1' - 10"	2' - 11 1/8"	
LAB	102	CB-3	Base Cabinet-Double Door Sink Unit: 36" H 36" CB3	PAINTED METAL	3' - 0"	1' - 9"	2' - 11 1/8"	
LAB	102	CB-4	Base Cabinet-Double Door Sink Unit: 36" H 36" st	PAINTED METAL	3' - 0"	1' - 9"	2' - 11 1/8"	
LAB	102	CB-6	Base Cabinet-Single Door & Drawer: 18" st CB6	PAINTED METAL	1' - 3"	1' - 9"	2' - 11 1/8"	
LAB	102	CB-7	Base Cabinet-Double Door Sink Unit: 36" H 36" st CB7	PAINTED METAL	3' - 0"	1' - 9"	2' - 11 1/8"	
LAB	102	CB-8	Base Cabinet-Single Door & Drawer: 18" st	PAINTED METAL	1' - 6"	1' - 10"	2' - 11 1/8"	
LAB	102	CB-9	Base Cabinet-Single Door & Drawer: 2'-0" x 1'-10" H 36" CB9	PAINTED METAL	2' - 0"	1' - 10"	2' - 11 1/8"	
LAB	102	CB-9	Counter Top: 30" Depth	SST		2' - 6"	3' - 0"	
LAB	102	CB-9	Counter Top: 30" Depth	SST		2' - 6"	3' - 0"	
LAB	102	CB-10	Base Cabinet-Double Door Sink Unit: 30" H 36"	PAINTED METAL	2' - 6"	1' - 10"	2' - 11 1/8"	
LAB	102	CB-10	Base Cabinet-Double Door Sink Unit: 30" H 36"	PAINTED METAL	2' - 6"	1' - 10"	2' - 11 1/8"	
LAB	102	CB-FC	Base Cabinet-Corner Unit: 33"	PAINTED METAL	2' - 8"	2' - 8"	2' - 11 1/8"	
LAB	102	CB-FH	Filler_panel: Filler_panel_horiz	PAINTED METAL	1' - 10"		0' - 2"	
LAB	102	CB-FS	Filler_panel: Filler_panel	PAINTED METAL	0' - 3"		0' - 3 1/2"	
LAB	102	CB-FS	Filler_panel: Filler_panel	PAINTED METAL	1' - 8"		2' - 11 1/8"	
LAB	102	CB-FS	Filler_panel: Filler_panel	PAINTED METAL	0' - 3"		2' - 7 5/8"	
LAB	102	CB-FS	Filler_panel: Filler_panel	PAINTED METAL	3' - 8"		2' - 11 1/8"	
LAB	102	CB-FS	Filler_panel: Filler_panel	PAINTED METAL	1' - 10"		2' - 11 1/8"	
LAB	102	CB-FS	Filler_panel: Filler_panel	PAINTED METAL	1' - 10 5/8"		2' - 11 1/8"	
LAB	102	CB-FS	Filler_panel: Filler_panel	PAINTED METAL	0' - 5 3/4"		2' - 7 5/8"	
LAB	102	CB-FS	Filler_panel: Filler_panel	PAINTED METAL	0' - 8"		2' - 7 5/8"	
LAB	102	CB-FS	Filler_panel: Filler_panel	PAINTED METAL	0' - 8 3/4"		0' - 3 1/2"	
LAB	102	CB-FS	Filler_panel: Filler_panel	PAINTED METAL	0' - 11"		0' - 3 1/2"	
LAB	102	CB-FS	Filler_panel: Filler_panel	PAINTED METAL	0' - 1 3/4"		2' - 7 5/8"	
LAB	102	CB-FS	Filler_panel: Filler_panel	PAINTED METAL	0' - 1 3/4"		0' - 3 1/2"	
LAB	102	CT-2	Counter Top-L Shaped w Sink Hole 2: 30" Depth	SST		2' - 6"	3' - 0"	
LAB	102	CT-E1	Countertop_edge_rf: Countertop_edge_rf	SST	2' - 5 1/4"	2' - 0"	3' - 0"	
LAB	102	CU-2	Upper Cabinet-Double Door-Wall: 24"	PAINTED METAL	1' - 9"	1' - 0"	2' - 6 5/8"	
LAB	102	CU-2	Upper Cabinet-Double Door-Wall: 24"	PAINTED METAL	1' - 9"	1' - 0"	2' - 6 5/8"	
LAB	102	CU-3	Upper Cabinet-Double Door-Wall: 30"	PAINTED METAL	2' - 6"	1' - 0"	2' - 6 5/8"	
LAB	102	CU-3	Upper Cabinet-Double Door-Wall: 30"	PAINTED METAL	2' - 6"	1' - 0"	2' - 6 5/8"	
LAB	102	CU-3	Upper Cabinet-Double Door-Wall: 30"	PAINTED METAL	2' - 6"	1' - 0"	2' - 6 5/8"	
LAB	102	CU-3	Upper Cabinet-Double Door-Wall: 30"	PAINTED METAL	2' - 6"	1' - 0"	2' - 6 5/8"	

CASEWORK SCHEDULE NOTES

1. REFERENCE SPECIFICATION SECTION 12 35 53 LABORATORY CASEWORK FOR CASEWORK DETAILS AND REQUIREMENTS.

2. REFERENCE SPECIFICATION SECTION 11 53 00 LABORATORY EQUIPMENT DETAILS AND REQUIREMENTS.

3. PROVIDE LABORATORY EQUIPMENT LISTED ON SHEET A-14. COORDINATE LOCATION ON PLACEMENT WITH OWNER. COORDINATE UTILITIES WITH H, E, AND P SHEETS.

SPECIALTY EQUIPMENT SCHEDULE

ROOM NAME	ROOM NUMBER	TYPE MARK	DESCRIPTION	COMMENTS
HALL	101B	SE-A	Fridge-UnderCounter: 30" x 24" x 30" 2	
LAB	102	CA-1	Drying Pegboard: 30" x 36"	SEE NOTE 1
LAB	102	CA-2	Hood-CounterBased: 60" x 36"	SEE NOTE 1 AND 2
UNISEX TOILET ROOM	103	SE-B	Grab Bar: Grab Bar	
UNISEX TOILET ROOM	103	SE-C	Sanitary_Mirrors_Roca_LUNA-Mirror: LUNA Mirror	
UNISEX TOILET ROOM	103	SE-D	hewi_paper_towel_dispenser_477_06_60005: Colour - (50_HEWI steel blue)	
UNISEX TOILET ROOM	103	SE-E	Sanitary_Sanitary-Accessories_HEWI_HEWI-Soap-dispenser-900-06-00460: Colour - DX Matt white	
LOCKER RM	105	SE-G	Newburgh - Lockers: 1 Tier 15 x 24 x 72	
LOCKER RM	105	SE-G	Newburgh - Lockers: 1 Tier 15 x 24 x 72	
LOCKER RM	105	SE-G	Newburgh - Lockers: 1 Tier 15 x 24 x 72	
LOCKER RM	105	SE-G	Newburgh - Lockers: 1 Tier 15 x 24 x 72	
LOCKER RM	105	SE-G	Newburgh - Lockers: 1 Tier 15 x 24 x 72	
LOCKER RM	105	SE-G	Newburgh - Lockers: 1 Tier 15 x 24 x 72	
BATHROOM	105A	SE-B	Grab Bar: Grab Bar	
BATHROOM	105A	SE-C	Sanitary_Mirrors_Roca_LUNA-Mirror: LUNA Mirror	
BATHROOM	105A	SE-F	Grab-Bar_Bobrick_B-6806: 18W Standard - thin	
BATHROOM	105A	SE-F	Grab-Bar_Bobrick_B-6806: 18W Standard - thin	
BATHROOM	105A	SE-D	hewi_paper_towel_dispenser_477_06_60005: Colour - (50_HEWI steel blue)	
BATHROOM	105A	SE-E	Sanitary_Sanitary-Accessories_HEWI_HEWI-Soap-dispenser-900-06-00460: Colour - DX Matt white	

SPECIALTY EQUIPMENT SCHEDULE NOTES

1. ITEM SHALL BE SUPPLIED BY LAB CASEWORK SUPPLIER.

2. ITEM SHALL BE COORDINATED WITH ELECTRICAL AND HVAC REQUIREMENTS.

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LEGAL ENTITY:
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CONSULTANTS

SEALS
ERROL ANTONIO DAWKINS
023835
9/6/2024

ORANGE COUNTY, NEW YORK
CITY OF NEWBURGH

WASTEWATER TREATMENT PLANT (WWTP) ADMIN BUILDING RENOVATION

BID NUMBER 7.24
ARCADIS PROJ. NO. 30183827

NO.	DATE	ISSUED FOR	BY

COPYRIGHT: 2014 ARCADIS OF NEW YORK, INC.

DATE: SEPTEMBER 2024
PROJECT NO.: 30183827
FILE NAME:
DESIGNED BY: ED
DRAWN BY: GF
CHECKED BY: LA

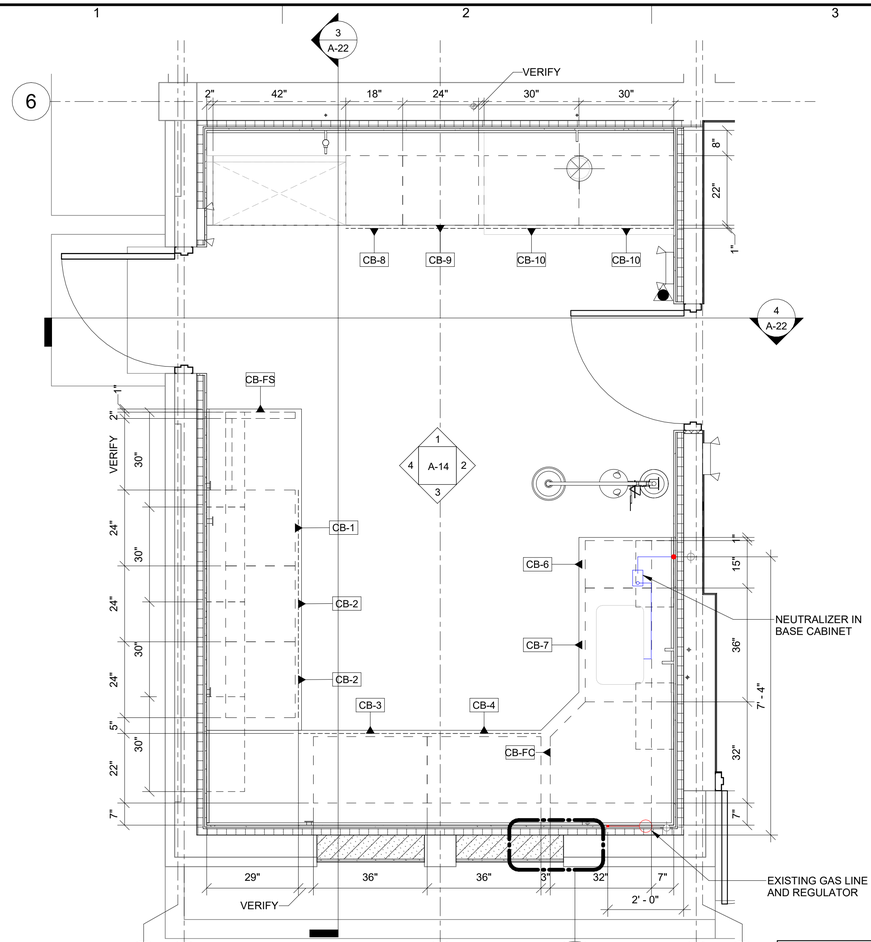
SHEET TITLE
ARCHITECTURAL

FURNITURE PLAN

SCALE: 3/16" = 1'-0"

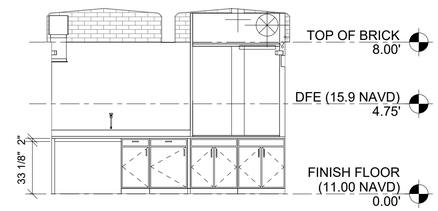
A-13

SHEET 10 OF 51



LAB PLAN

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



1 A-10 LAB

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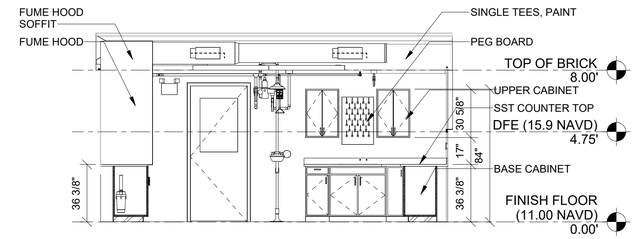
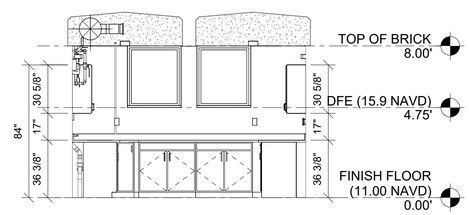


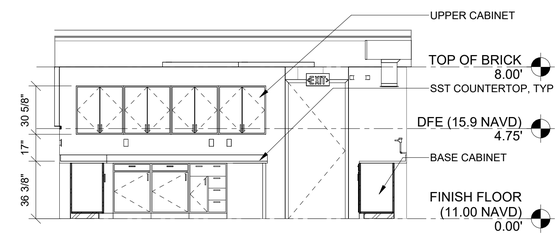
2 A-10 LAB

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



3 A-10 LAB

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



4 A-10 LAB

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

EQUIPMENT SCHEDULE

ITEM NO.	ITEM	DESCRIPTION	PART/UPC #	VENDOR	COMMENT	POWER	AMPERAGE	HEAT	WATER	VACUUM	AIR	SINK
1	Lab Fridge	Accucold Under counter - NIST certified sample preservation	ACR45L	Katom		115 V AC/60 Hz	1 A					
2	Oven	QL Gravity convection oven 1.27 ft3 solids testing	68771	USA Bluebook		115 VAC,50/60 Hz	6.3 A					
3.1	Muffle furnace	Yamato 3.7 liter 110v MLVSS testing	FO200cr	The Lab Depot National Laboratory Sales		AC 115V, 50/60 Hz	14.5A					
4	Hood	5' Fisher American Fume Hood	NLS-403	Fisher American	4' - 0" Wide				Yes	Yes	Yes	Yes
5	pH meter	Hach Benchtop sensION+ required testing	41259	USA bluebook		100-240 V, 47-63 Hz	0.4 A					
6	Lab testing-multi	Hach DR3900	LPV440.99.00012	Hach		110-240 V, 50-60 Hz						
7	Imhoff cone	(2x) DWK Life Science Kimax 1 L required testing	41371	USA Bluebook		Not Powered						
8	drying rack	Glassware drying rack cleaning lab glassware	40785	USA Bluebook		Not Powered						
9	Air flow monitor	Vaneometer hood opertional verification	UX-78900-12	Cole Parmer		Not Powered						
10	Analytical balance	Ohaus Pioneer Analytical Balance PX224 required testing	90153	USA Bluebook		100-240V, 50-60Hz	0.2					
11	settlometer	Corning Pyrex Settlometer direct read required testing	20798	Usa Bluebook		Not Powered						
12	ice maker	Edge star 15 inch wide ice maker sample preservation(portable compositors)	IB250WH	Build.com		AC 115 V, 60 Hz	1.8 A					
13	centrifuge	Raven Laboratory centrifuge process control - solids testing	41415	USA Bluebook		AC 115 V, 60 Hz						

LABORATORY EQUIPMENT SCHEDULE NOTES

1. ITEMS LISTED IN THE LABORATORY EQUIPMENT SCHEDULE SHALL BE PROVIDE BY GENERAL CONTRACTOR WITH USED ON ALLOWANCE, UNLESS OTHERWISE NOTED.

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REGISTERED ARCHITECT ERROL ANTONIO DAWKINS 023835 STATE OF NEW YORK

9/6/2024

ORANGE COUNTY, NEW YORK
CITY OF NEWBURGH

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DATE: SEPTEMBER 2024
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DESIGNED BY: ED
DRAWN BY: GF
CHECKED BY: LA

SHEET TITLE

ARCHITECTURAL

LAB - PLAN, ELEVATION AND EQUIPMENT SCHEDULE

SCALE: As indicated

A-14

SHEET 11 OF 51

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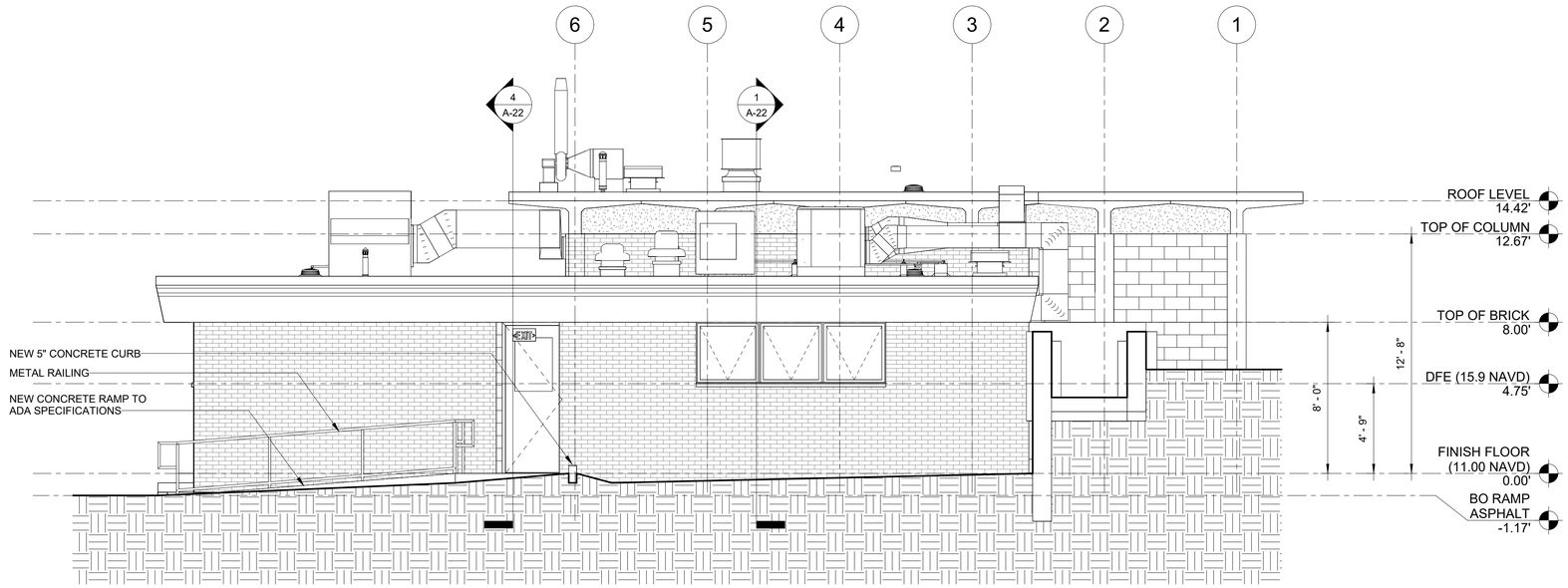
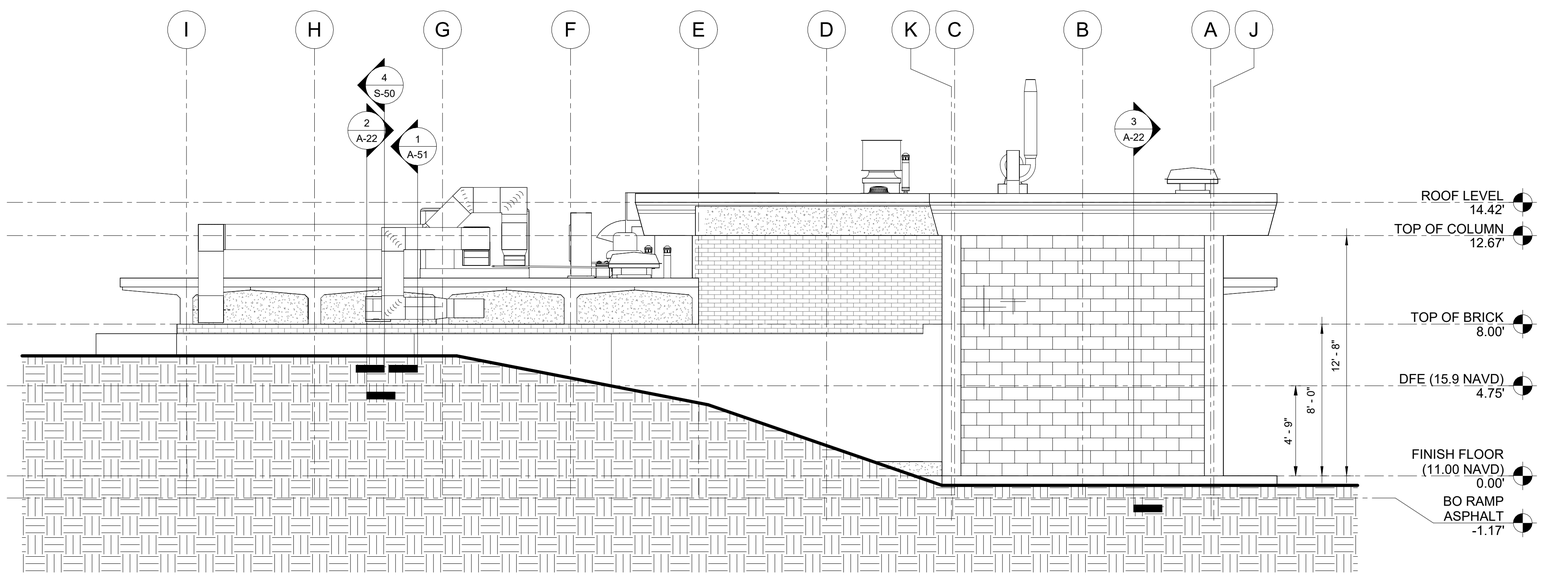


1 A-10 NORTH ELEVATION

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

0' 2' 4' 8'



2 A-10 WEST ELEVATION

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

0' 2' 4' 8'

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CHECKED BY: LA

SHEET TITLE

ARCHITECTURAL

EXTERIOR ELEVATIONS

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

A-20

SHEET 12 OF 51

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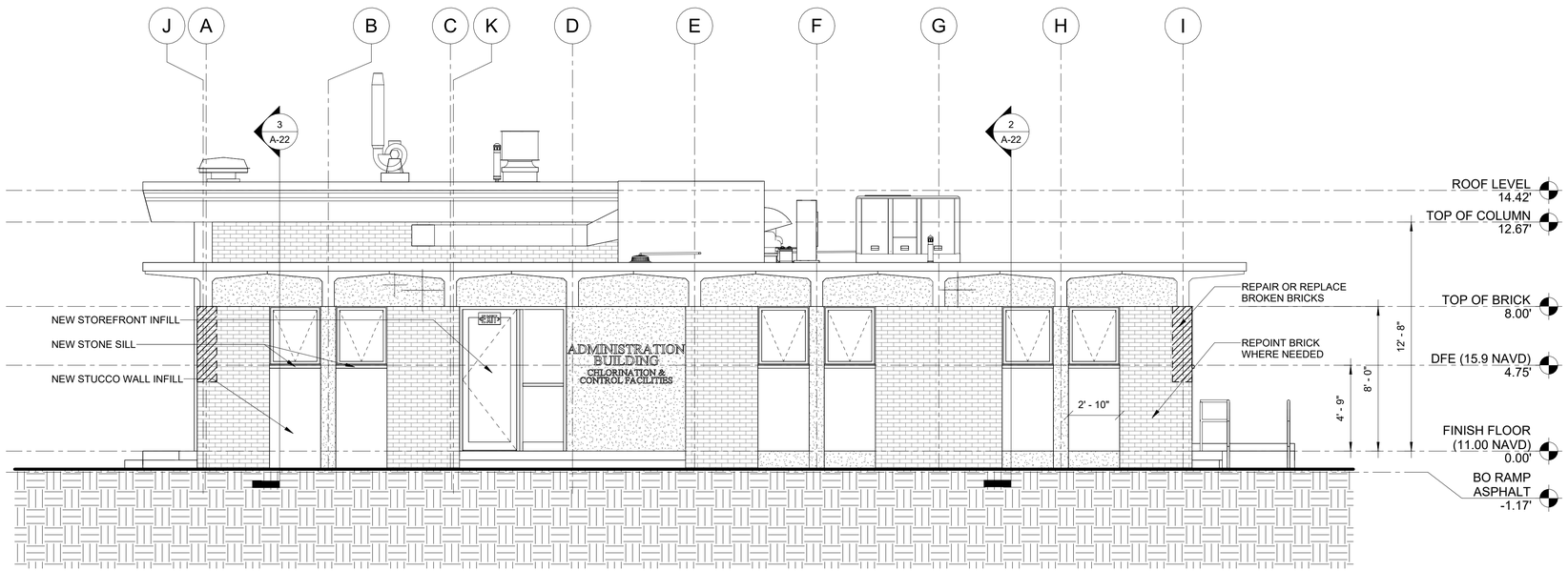
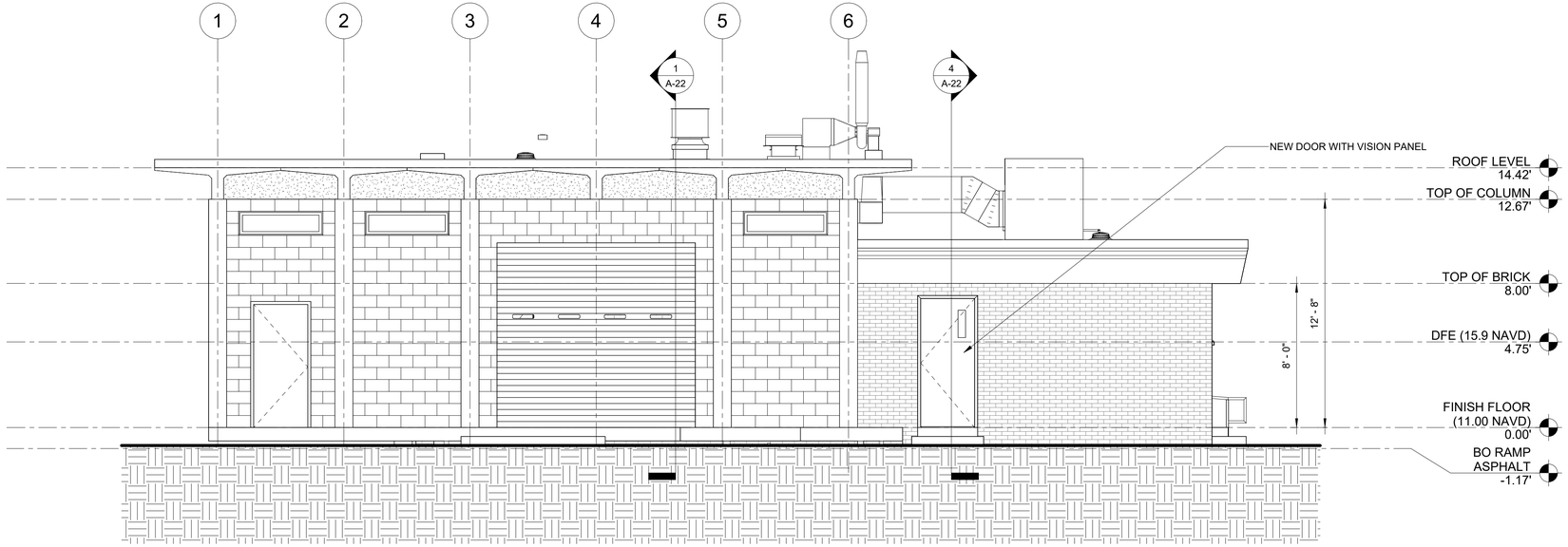


1 / A-10 EAST ELEVATION

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

0' 2' 4' 8'



2 / A-10 SOUTH ELEVATION

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

0' 2' 4' 8'

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SHEET TITLE

ARCHITECTURAL

EXTERIOR ELEVATIONS

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

A-21

SHEET 13 OF 51

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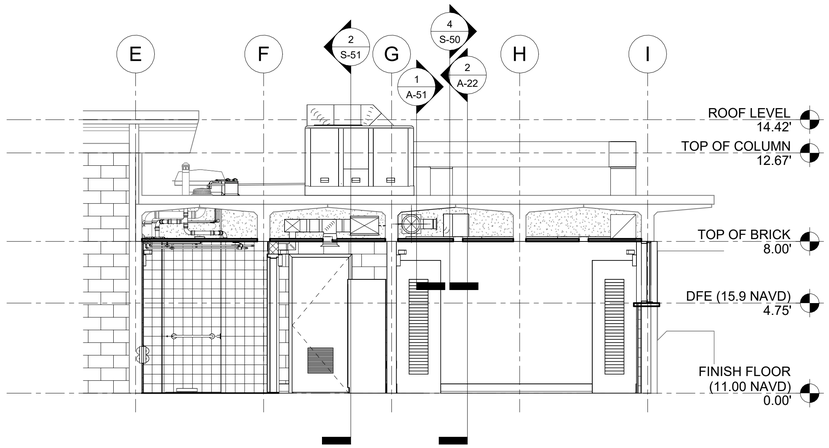
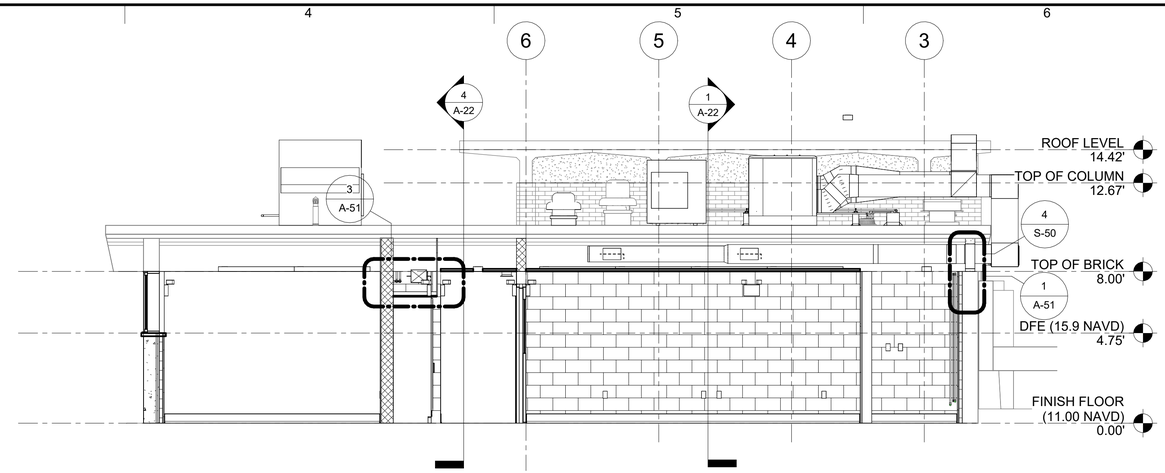


1 A-10 SECTION 1

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



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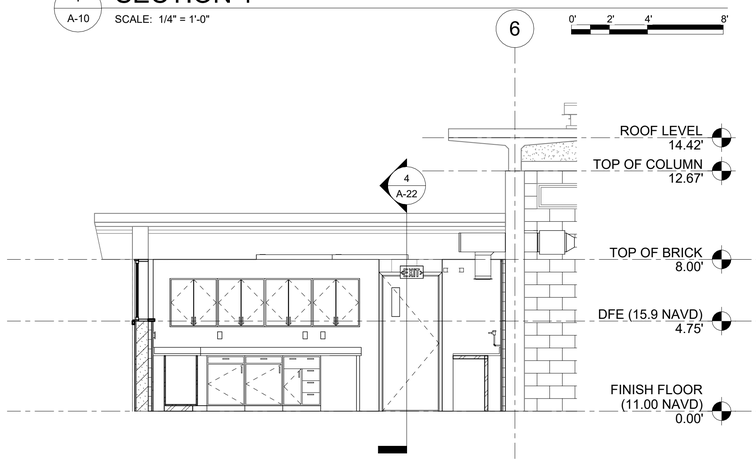

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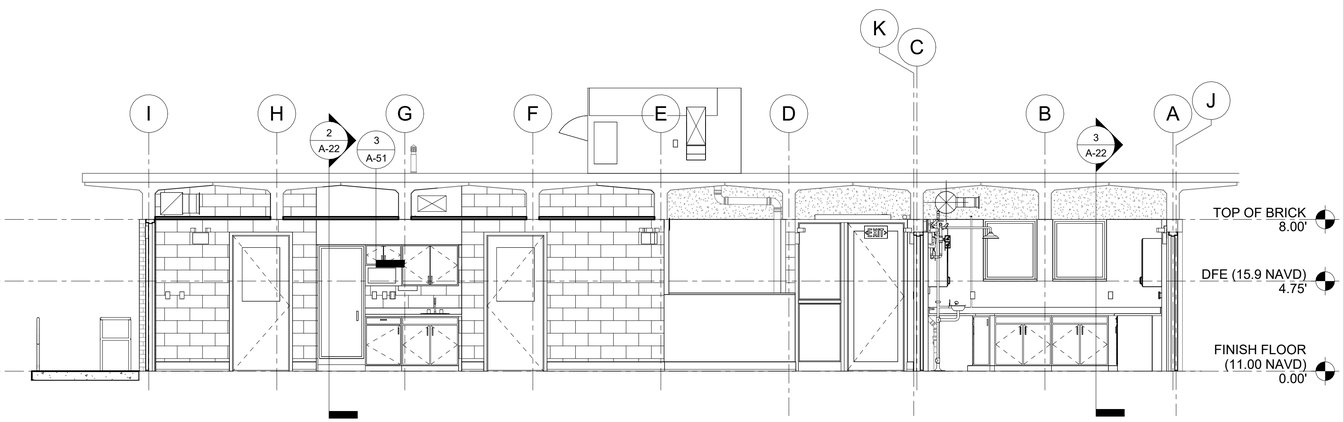
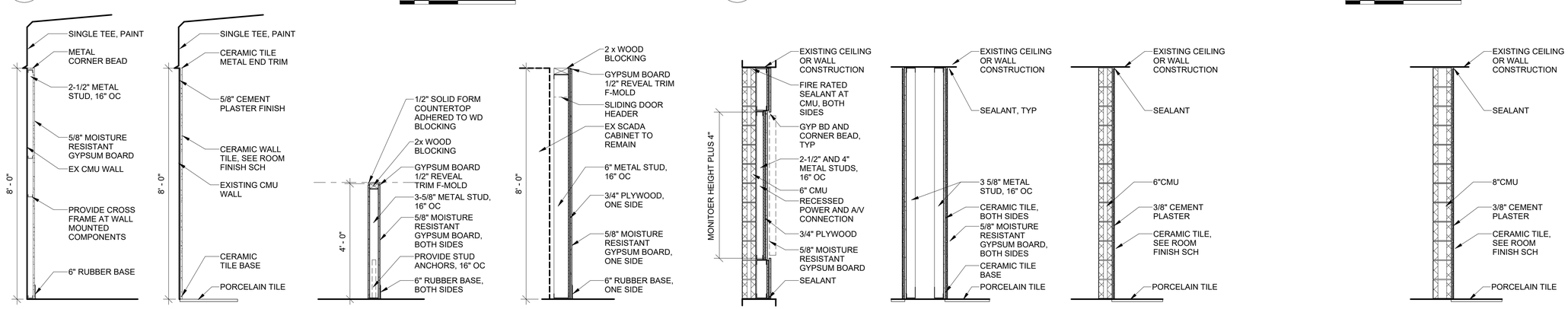


4 A-10 SECTION 4

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



TYPE 1 - FURRED WALL

TYPE 1L - LAMINATED GYP BD

TYPE 1A - EXISTING WALL WITH CEMENT PLASTER & TILE

TYPE 2 - LOW METAL STUD WALL

TYPE 2A - METAL STUD WALL

TYPE 2B - INFILL MASONRY WALL - 2-HOUR FR UL DESIGN U406

TYPE 3 - CHASE METAL STUD WALL

TYPE 4 - 6" CMU WALL

TYPE 4A - CMU WALL - CERAMIC TILE ONE SIDE

TYPE 4B - CMU WALL - CERAMIC TILE BOTH SIDES

TYPE 4LA OR 5LA - CMU WALL - LAMINATED GYP BD ONE SIDE

TYPE 4LB OR 5LB - CMU WALL - LAMINATED GYP BD BOTH SIDES

TYPE 5 - 8" CMU WALL

TYPE 5A - CMU WALL - CERAMIC TILE ONE SIDE

TYPE 5B - CMU WALL - CERAMIC TILE BOTH SIDES

5 PARTITION TYPES

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

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SHEET TITLE

ARCHITECTURAL

BUILDING SECTIONS AND PARTITION TYPES

SCALE: As indicated

A-22

SHEET 14 OF 51

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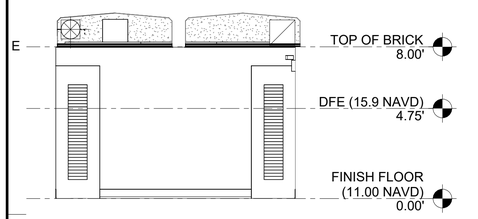

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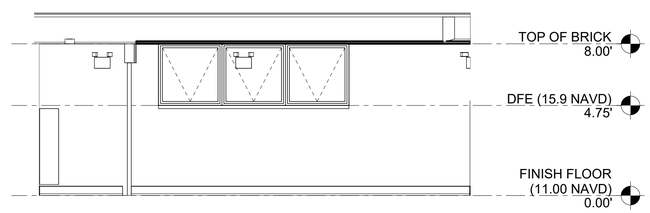

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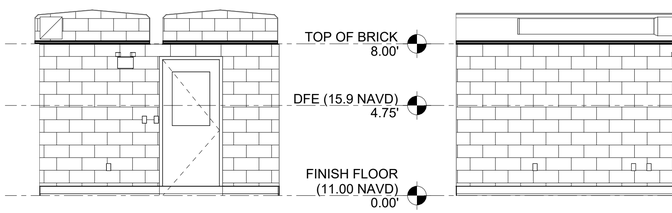

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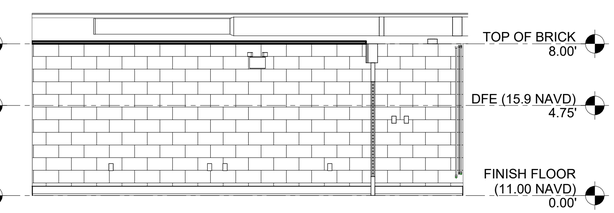

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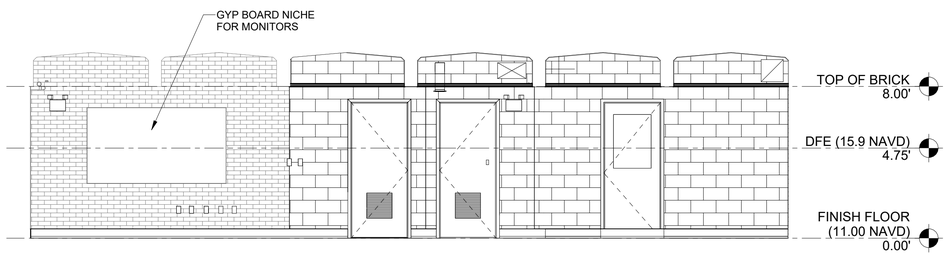

5 A-10 HALL
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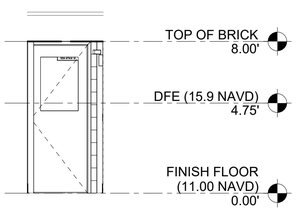

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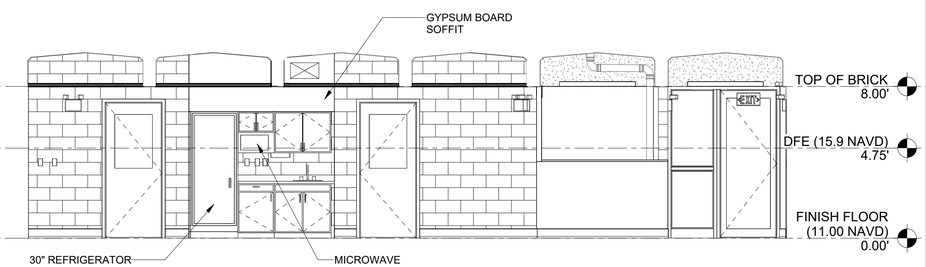

7 A-10 HALL
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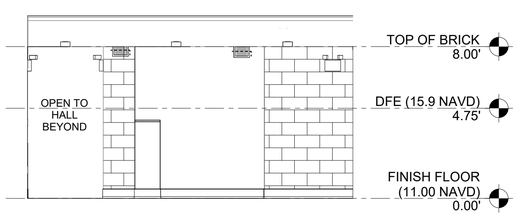

8 A-10 LOBBY
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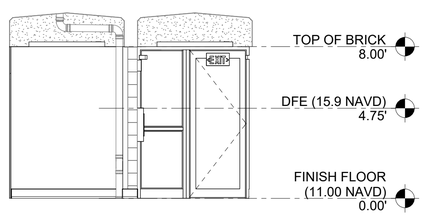

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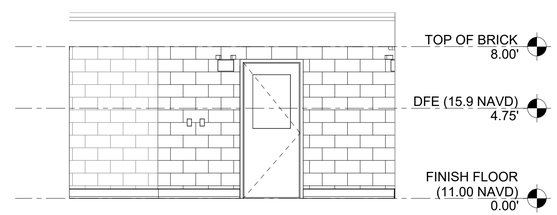

10 A-10 LOBBY
SCALE: 1/4" = 1'-0"

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ARCHITECTURAL

INTERIOR ELEVATIONS

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

A-23

SHEET 15 OF 51

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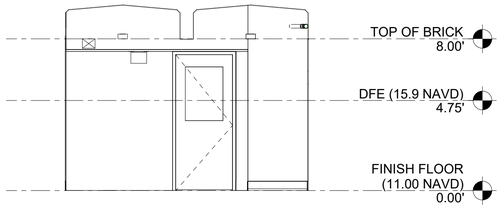
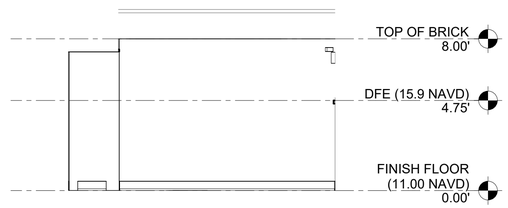


5 A-10 OFFICE A
SCALE: 1/4" = 1'-0"
0' 2' 4' 8'



6 A-10 OFFICE A
SCALE: 1/4" = 1'-0"
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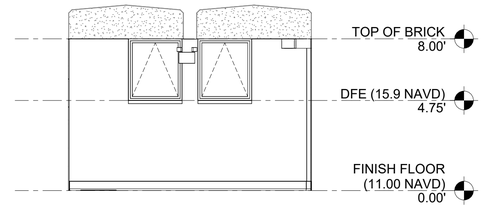
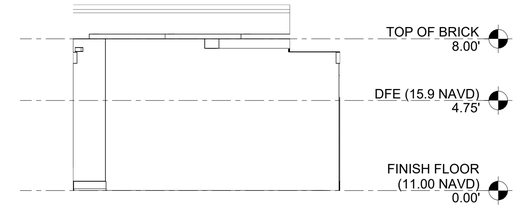


7 A-10 OFFICE A
SCALE: 1/4" = 1'-0"
0' 2' 4' 8'



8 A-10 OFFICE A
SCALE: 1/4" = 1'-0"
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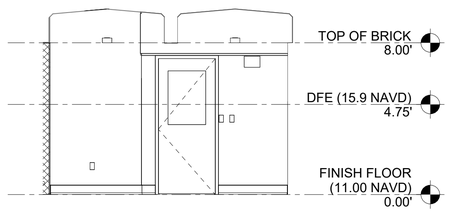
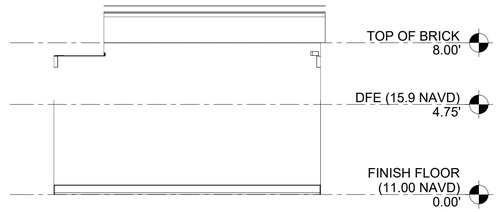


9 A-10 OFFICE B
SCALE: 1/4" = 1'-0"
0' 2' 4' 8'



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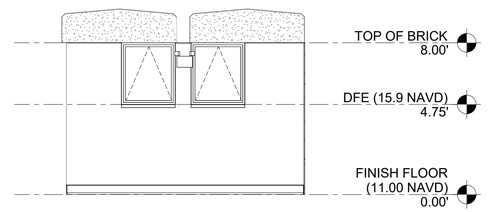
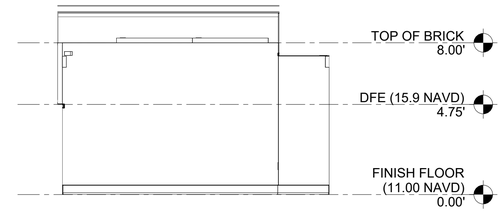
0' 2' 4' 8'



11 A-10 OFFICE B
SCALE: 1/4" = 1'-0"
0' 2' 4' 8'



12 A-10 OFFICE B
SCALE: 1/4" = 1'-0"
0' 2' 4' 8'

Autodesk Docs://AUS-30183827-Newburgh WPCP Admin Bldg Rehab/A-3D-WPCP.rvt

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ARCADIS

LEGAL ENTITY:
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CONSULTANTS

SEALS

REGISTERED ARCHITECT
ERROL ANTONIO DAWKINS
023835
STATE OF NEW YORK

9/6/2024

ORANGE COUNTY, NEW YORK
CITY OF NEWBURGH

WASTEWATER TREATMENT PLANT (WWTP) ADMIN BUILDING RENOVATION

BID NUMBER 7.24
ARCADIS PROJ. NO. 30183827

NO.	DATE	ISSUED FOR	BY

DATE: SEPTEMBER 2024
PROJECT NO.: 30183827
FILE NAME:
DESIGNED BY: ED
DRAWN BY: GF
CHECKED BY: LA

SHEET TITLE

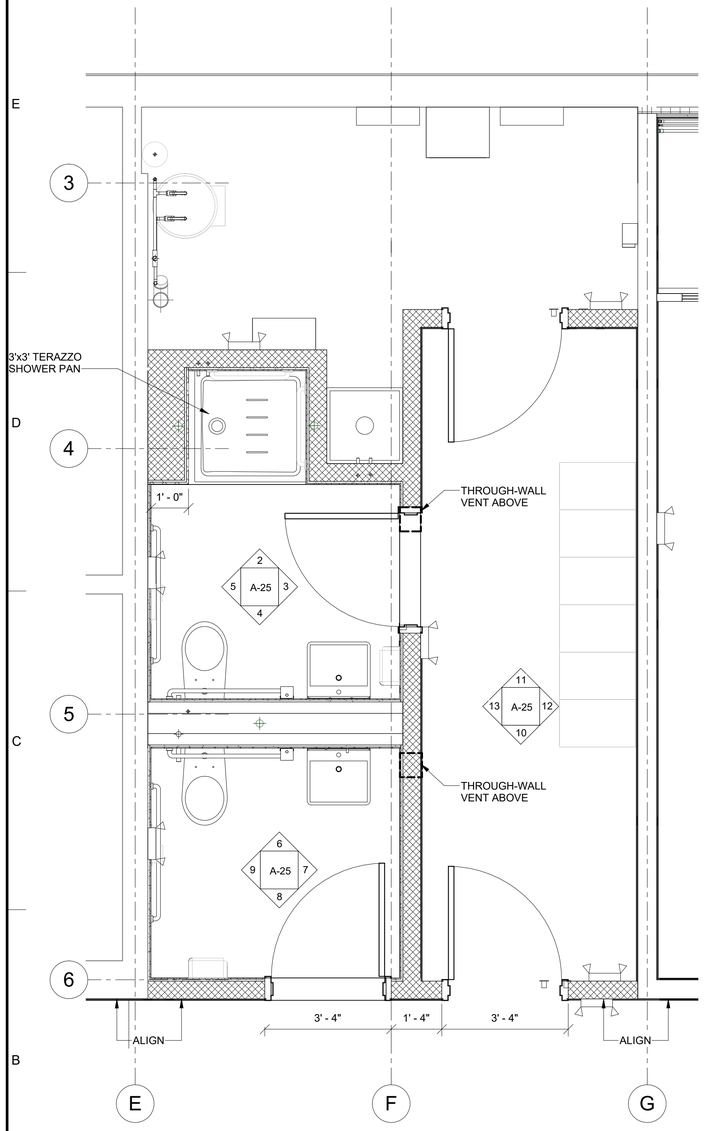
ARCHITECTURAL

INTERIOR ELEVATIONS

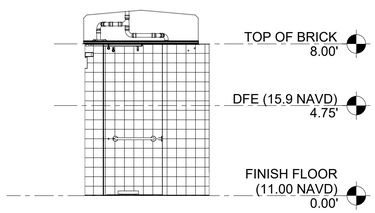
SCALE: 1/4" = 1'-0"

A-24

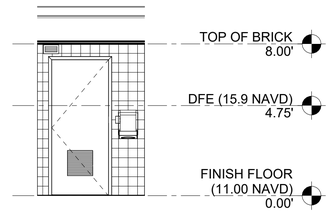
SHEET 16 OF 51



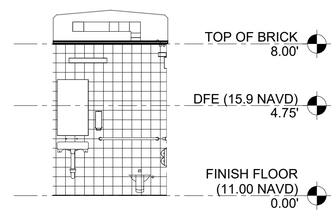
1 A-10 ENLARGED PLAN OF BATHROOMS
SCALE: 1/2" = 1'-0"



2 A-10 UNISEX BATHROOM
SCALE: 1/4" = 1'-0"



3 A-10 UNISEX BATHROOM
SCALE: 1/4" = 1'-0"



4 A-10 UNISEX BATHROOM
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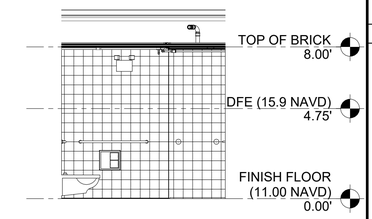
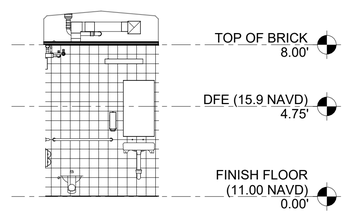
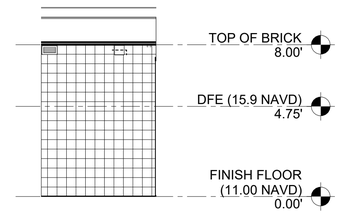


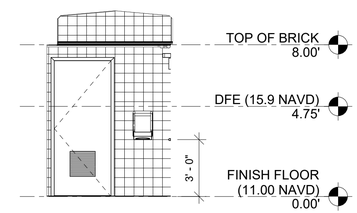
5 A-10 UNISEX BATHROOM
SCALE: 1/4" = 1'-0"



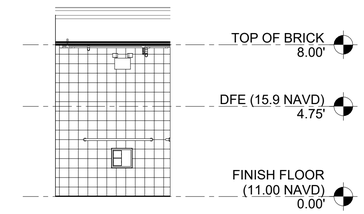
6 A-10 UNISEX TOILET ROOM
SCALE: 1/4" = 1'-0"



7 A-10 UNISEX TOILET ROOM
SCALE: 1/4" = 1'-0"



8 A-10 UNISEX TOILET ROOM
SCALE: 1/4" = 1'-0"



9 A-10 UNISEX TOILET ROOM
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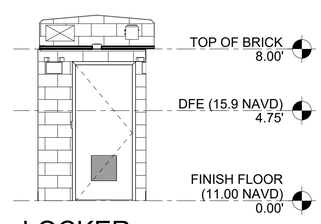
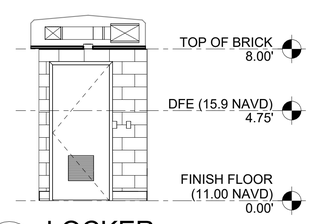
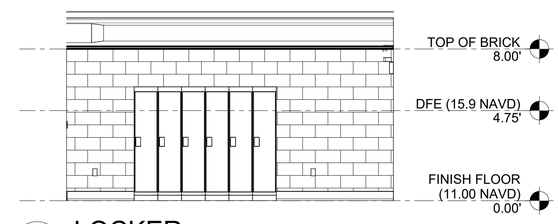


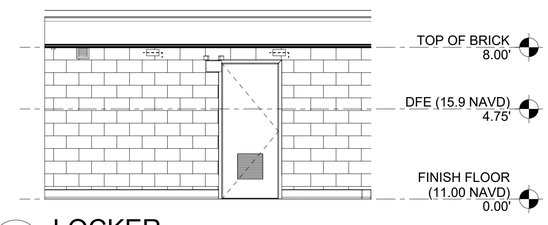
10 A-10 LOCKER
SCALE: 1/4" = 1'-0"



11 A-10 LOCKER
SCALE: 1/4" = 1'-0"



12 A-10 LOCKER
SCALE: 1/4" = 1'-0"



13 A-10 LOCKER
SCALE: 1/4" = 1'-0"

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9/6/2024

ORANGE COUNTY, NEW YORK
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DATE: SEPTEMBER 2024
PROJECT NO.: 30183827
FILE NAME:
DESIGNED BY: ED
DRAWN BY: GF
CHECKED BY: LA

SHEET TITLE
ARCHITECTURAL

INTERIOR ELEVATIONS

SCALE: As indicated

A-25

SHEET 17 OF 51

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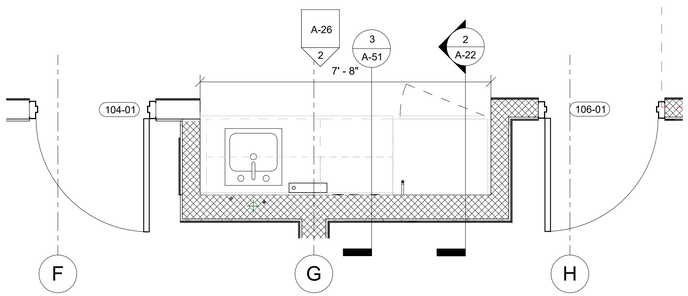
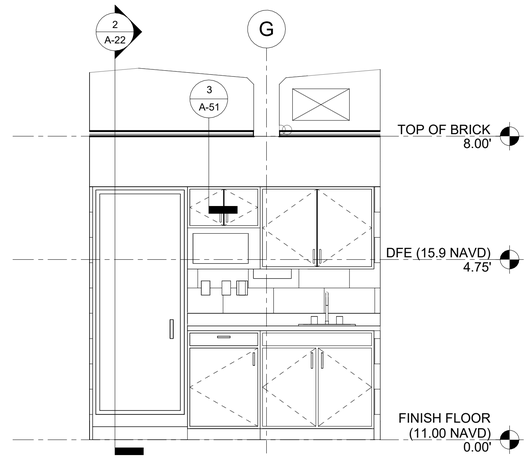


1 A-10 ENLARGED PLAN AT PANTRY

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

0' 2' 4' 8'



2 A-03 INTERIOR ELEVATION AT PANTRY

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

0' 2' 4' 8'

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FILE NAME:

DESIGNED BY: Designer

DRAWN BY: Author

CHECKED BY: Checker

SHEET TITLE

ARCHITECTURAL

PANTRY DETAILS

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

A-26

SHEET 18 OF 51

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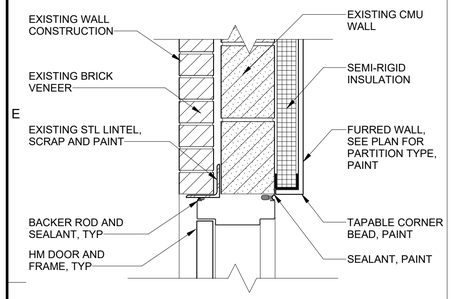
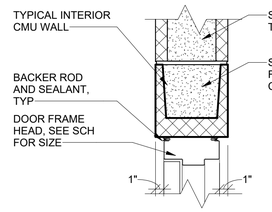
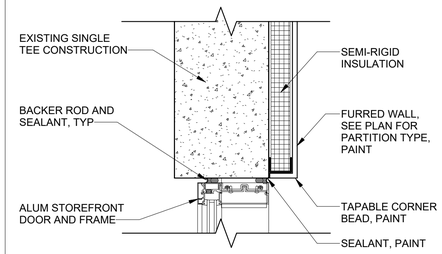


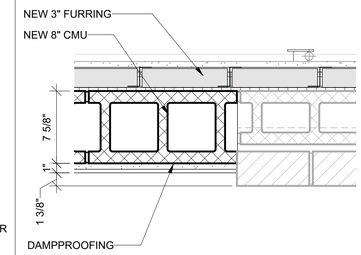
1 HM DOOR HEAD H1
SCALE: 1 1/2" = 1'-0"



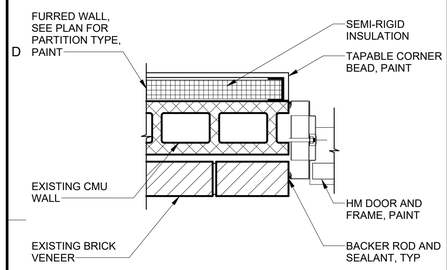
5 HM DOOR HEAD H2
SCALE: 1 1/2" = 1'-0"



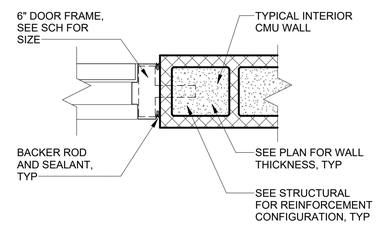
8 STOREFRONT DOOR HEAD H3
SCALE: 1 1/2" = 1'-0"



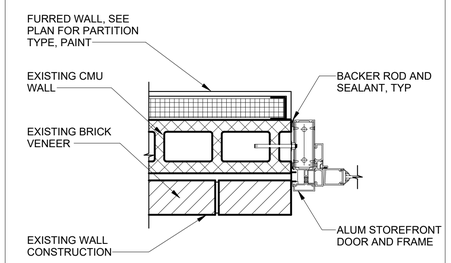
12 A-14 PLAN OF INFILL BELOW WINDOW
SCALE: 1 1/2" = 1'-0"



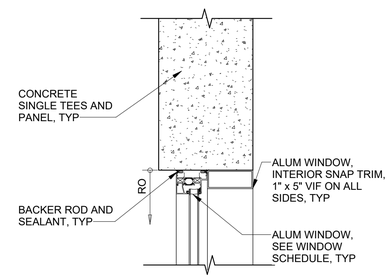
2 HM DOOR JAMB J1
SCALE: 1 1/2" = 1'-0"



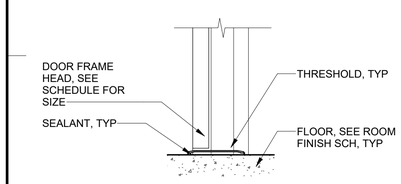
6 HM DOOR JAMB J2
SCALE: 1 1/2" = 1'-0"



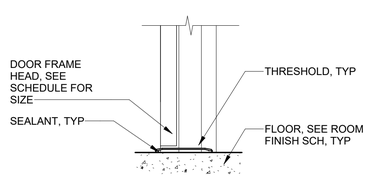
9 STOREFRONT DOOR JAMB J3
SCALE: 1 1/2" = 1'-0"



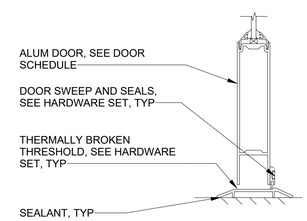
13 WINDOW HEAD H4
SCALE: 1 1/2" = 1'-0"



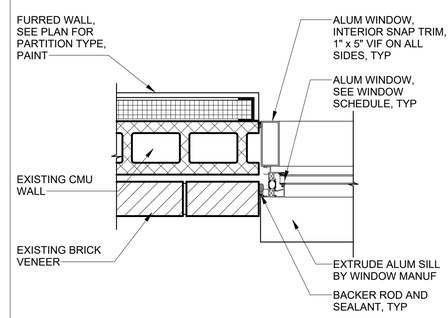
3 HM DOOR SILL S1
SCALE: 1 1/2" = 1'-0"



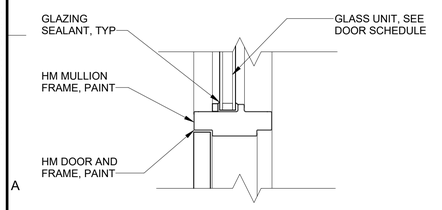
7 HM DOOR SILL S2
SCALE: 1 1/2" = 1'-0"



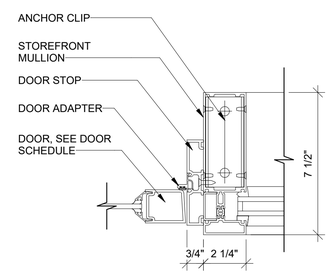
10 STOREFRONT DOOR SILL S3
SCALE: 3" = 1'-0"



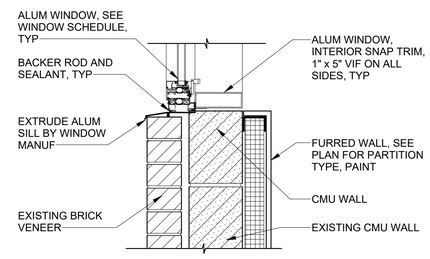
14 WINDOW JAMB J4 AT BRICK
SCALE: 1 1/2" = 1'-0"



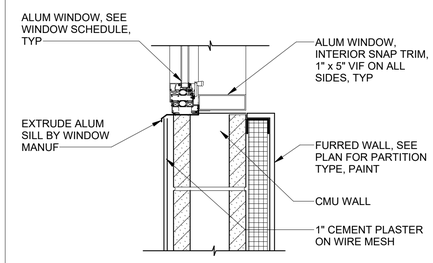
4 HM DOOR MULLION M1
SCALE: 1 1/2" = 1'-0"



11 STOREFRONT DOOR MULLION M3
SCALE: 3" = 1'-0"



15 WINDOW SILL S4 AT CONF RM
SCALE: 1 1/2" = 1'-0"



16 WINDOW SILL S4 AT INFILL MASONRY
SCALE: 1 1/2" = 1'-0"

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ARCHITECTURAL

DETAILS I

SCALE: As indicated

A-50

SHEET 19 OF 51

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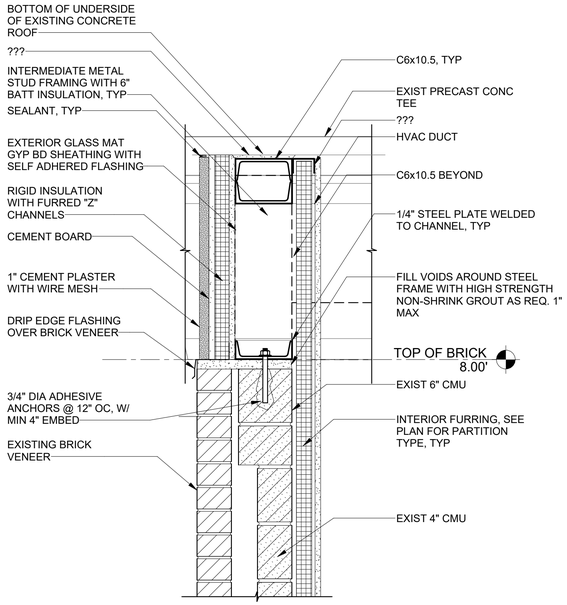
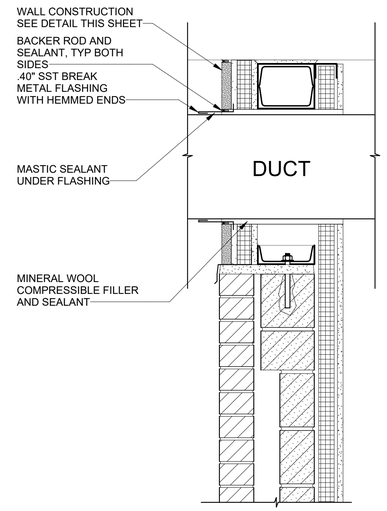


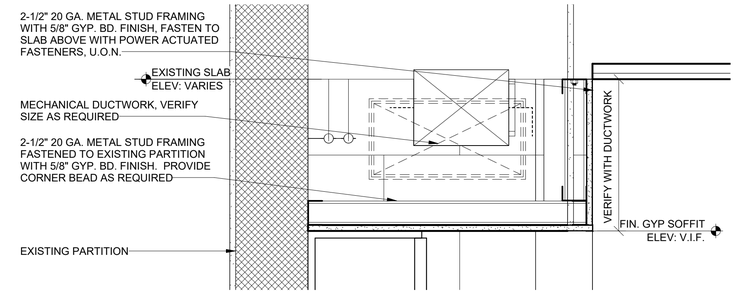
1 A-03 SECTION DETAIL @ PRECAST CONCRETE PANEL

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



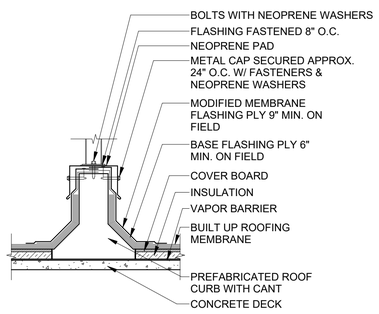
2 DUCT PENETRATION

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



3 A-12 DETAIL @ SOFFIT

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



4 TYP ROOF CURB DETAIL

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

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SHEET TITLE

ARCHITECTURAL

DETAILS II

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

A-51

SHEET 20 OF 51

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ROOM FINISH SCHEDULE

BUILDING NAME	ROOM NO.	ROOM NAME	FLOOR	BASE	WALLS NORTH MATERIAL	WALLS NORTH FINISH	WALLS NORTH COLOR	WALLS SOUTH MATERIAL	WALLS SOUTH FINISH	WALLS SOUTH COLOR	WALLS EAST MATERIAL	WALLS EAST FINISH	WALLS EAST COLOR	WALLS WEST MATERIAL	WALLS WEST FINISH	WALLS WEST COLOR	CEILING MATERIAL	CEILING FINISH	CEILING COLOR	ROM FINISH NOTES
CONTROL BLDG	101	LOBBY	CONC/ECT	RB	CMU	P1	TBD - C1	CMU	P1	TBD - C1	CMU	P1	TBD - C1	CMU	P1	TBD - C1	ACT	P0	WH	
CONTROL BLDG	101A	WORK AREA	CONC/ECT	RB	CMU	P1	TBD - C1	CMU	P1	TBD - C1	GYP BD	P1	TBD - C1	CMU	P1	TBD - C1	ACT	P0	WH	
CONTROL BLDG	101B	HALL	CONC/ECT	RB	CMU	P1	TBD - C1	CMU	P1	TBD - C1	CMU	P1	TBD - C1	CMU	P1	TBD - C1	ACT	P0	WH	
CONTROL BLDG	102	LAB	CONC/ECT	RB	CMU	P1	TBD - C2	GYP BD	P1	TBD - C2	GYP BD	P1	TBD - C2	CMU	P1	TBD - C2	ACT	P0	WH	
CONTROL BLDG	103	UNISEX TOILET ROOM	CONC/ECT	RB	CT/CMU	P0/P1	TBD - C3	CT/CMU	P0/P1	TBD - C3	CT/CMU	P1	TBD - C3	CT/CMU	P0/P1	TBD - C3	ACT	P0	WH	
CONTROL BLDG	104	OFFICE A	CONC/ECT	RB	GYP BD	P1	TBD - C4	GYP BD	P1	TBD - C4	GYP BD	P1	TBD - C4	GYP BD	P1	TBD - C4	ACT	P0	WH	
CONTROL BLDG	105	LOCKER RM	CONC/ECT	RB	CMU	P1	TBD - C3	CMU	P1	TBD - C3	CMU	P1	TBD - C3	CMU	P1	TBD - C3	ACT	P0	WH	
CONTROL BLDG	105A	BATHROOM	CONC/ECT	RB	CT/CMU	P0/P1	TBD - C3	CT/CMU	P0/P1	TBD - C3	CT/CMU	P1	TBD - C3	CT/CMU	P0/P1	TBD - C3	ACT	P0	WH	
CONTROL BLDG	105B	MECH RM	CONC/ECT	NA	CMU	P1	TBD - C5	CMU	P1	TBD - C5	CMU	P1	TBD - C5	CMU	P1	TBD - C5	NA	P1	WH	
CONTROL BLDG	106	OFFICE B	CONC/ECT	RB	GYP BD	P1	TBD - C4	GYP BD	P1	TBD - C4	GYP BD	P1	TBD - C4	GYP BD	P1	TBD - C4	ACT	P0	WH	
CONTROL BLDG	107	CONFERENCE ROOM	CONC/ECT	RB	CMU	P0/P1	TBD - C4	CMU	P1	TBD - C4	CMU/GYP BD	P1	TBD - C4	CMU	P1	TBD - C4	ACT	P0	WH	
CONTROL BLDG	107A	SCADA ROOM	CONC/ECT	RB	CMU	P1	TBD - C4	CMU	P1	TBD - C4	CMU	P1	TBD - C4	GYP BD	P1	TBD - C4	ACT	P0	WH	
CONTROL BLDG	110	CHEMICAL STORAGE	CONC/ECT	ETR	ETR	ETR	EX	ETR	ETR	EX	ETR	ETR	EX	ETR	ETR	EX	ETR	ETR	EX	
CONTROL BLDG	110A	CHEMICAL RM A	CONC/ECT	ETR	ETR	ETR	EX	ETR	ETR	EX	ETR	ETR	EX	ETR	ETR	EX	ETR	ETR	EX	
CONTROL BLDG	110B	CHEMICAL RM B	CONC/ECT	ETR	ETR	ETR	EX	ETR	ETR	EX	ETR	ETR	EX	ETR	ETR	EX	ETR	ETR	EX	

DOOR AND FRAME SCHEDULE

BUILDING NAME	ROOM NO.	ROOM NAME	DOOR NO.	DOOR WIDTH	DOOR HEIGHT	DOOR TYPE	DOOR MATERIAL	DOOR GLAZING	FRAME WIDTH	FRAME HEIGHT	FRAME TYPE	FRAME MATERIAL	FRAME GLAZING	FIRE RATING	DETAILS HEAD	DETAILS JAMB	DETAILS THRESHOLD	DOOR HARDWARE	DOOR AND FRAME NOTES
CONTROL BLDG	101B	HALL	101B-01	3' - 0"	7' - 10"	G	HM	GL-INSUL	3' - 4"	8' - 0"	A	HM	NA	NA	H1	J1	S1	1.c	
CONTROL BLDG	101	LOBBY	101B-07	3' - 0"	7' - 10"	D	ALUM	GL-INSUL	4' - 5 7/8"	8' - 0"	B	ALUM	NA	NA	H3	J3	S3	1.b	
CONTROL BLDG	102	LAB	102-01	3' - 0"	7' - 2"	N	HM	GL-INSUL	3' - 4"	7' - 4"	A	HM	NA	NA	H2	J2	S2	1.c	
CONTROL BLDG	102	LAB	102-02	3' - 0"	7' - 2"	F	HM	NA	3' - 4"	7' - 4"	A	HM	NA	NA	H3 SIM	J3 SIM	S2	1.a	
CONTROL BLDG	104	OFFICE A	104-01	3' - 0"	7' - 2"	F	HM	NA	3' - 4"	7' - 4"	A	HM	NA	NA	H2	J2	S2	1.a	
CONTROL BLDG	105	LOCKER RM	105C-01	3' - 0"	7' - 2"	F	HM	NA	3' - 4"	7' - 4"	A	HM	NA	NA	H2	J2	S2	1.a	
CONTROL BLDG	105	LOCKER RM	105C-02	3' - 0"	7' - 2"	L	HM	NA	3' - 4"	7' - 4"	A	HM	NA	NA	H2	J2	S2	1.a	
CONTROL BLDG	105A	RESTRM	105C-04	3' - 0"	7' - 2"	F	HM	NA	3' - 4"	7' - 4"	A	HM	NA	NA	H2	J2	S2	1.d	
CONTROL BLDG	103	UNISEX RESTRM	105C-05	3' - 0"	7' - 2"	L	HM	NA	3' - 4"	7' - 4"	A	HM	NA	NA	H2	J2	S2	1.d	
CONTROL BLDG	106	OFFICE B	106-01	3' - 0"	7' - 2"	F	HM	NA	3' - 4"	7' - 4"	A	HM	NA	NA	H2	J2	S2	1.a	
CONTROL BLDG	107	CONF RM	107-01	3' - 0"	7' - 2"	F	HM	NA	3' - 4"	7' - 4"	A	HM	NA	NA	H2	J2	S2	1.a	
CONTROL BLDG		SCADA	107A-01	2' - 4"	7' - 0"	LF	HM	NA	2' - 8"	7' - 0"	C	NA	NA	NA	H2	J2	S2	NA	NOTE 1
CONTROL BLDG		SCADA	107A-02	2' - 4"	7' - 0"	LF	HM	NA	2' - 8"	7' - 0"	C	NA	NA	NA	H2	J2	S2	NA	NOTE 1

WINDOW SCHEDULE

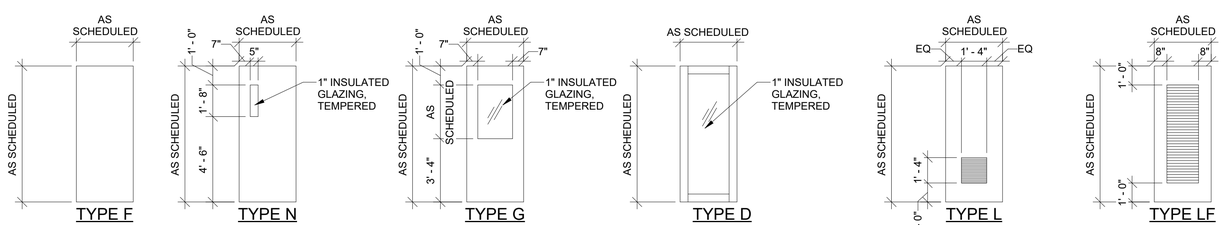
BUILDING NAME	DESCIPTION	WINDOW TYPE	TYPE	MARK	MATL	SIZE WIDTH	SIZE HEIGHT	WINDOW GLASS	SILL	STOOL	DETAILS HEAD	DETAILS JAMB	DETAILS SILL	NOTES
CONTROL BLDG	3-1/4" ALUM WINDOW	PROJECTION OUT	W1	W1-3	ALUM	2' - 10"	3' - 3"	1" INSUL TEMPERED	EXTRUDED ALUM	ALUM	H4	J4	S4	
CONTROL BLDG	3-1/4" ALUM WINDOW	PROJECTION OUT	W1	W1-4	ALUM	2' - 10"	3' - 3"	1" INSUL TEMPERED	EXTRUDED ALUM	ALUM	H4	J4	S4	
CONTROL BLDG	3-1/4" ALUM WINDOW	PROJECTION OUT	W1	W1-5	ALUM	2' - 10"	3' - 3"	1" INSUL TEMPERED	EXTRUDED ALUM	ALUM	H4	J4	S4	
CONTROL BLDG	3-1/4" ALUM WINDOW	PROJECTION OUT	W1	W1-6	ALUM	2' - 10"	3' - 3"	1" INSUL TEMPERED	EXTRUDED ALUM	ALUM	H4	J4	S4	
CONTROL BLDG	3-1/4" ALUM WINDOW	PROJECTION OUT	W1	W1-7	ALUM	2' - 10"	3' - 3"	1" INSUL TEMPERED	EXTRUDED ALUM	ALUM	H4	J4	S4	
CONTROL BLDG	3-1/4" ALUM WINDOW	PROJECTION OUT	W1	W1-8	ALUM	2' - 10"	3' - 3"	1" INSUL TEMPERED	EXTRUDED ALUM	ALUM	H4	J4	S4	
CONTROL BLDG	3-1/4" ALUM WINDOW	OPERABLE	W2	W2-1	ALUM	3' - 4 1/8"	3' - 3"	1" INSUL TEMPERED	EXTRUDED ALUM	ALUM	H4	J4	S4	
CONTROL BLDG	3-1/4" ALUM WINDOW	OPERABLE	W2	W2-2	ALUM	3' - 4 1/8"	3' - 3"	1" INSUL TEMPERED	EXTRUDED ALUM	ALUM	H4	J4	S4	
CONTROL BLDG	3-1/4" ALUM WINDOW	OPERABLE	W2	W2-3	ALUM	3' - 4 1/8"	3' - 3"	1" INSUL TEMPERED	EXTRUDED ALUM	ALUM	H4	J4	S4	

ROOM FINISH SCHEDULE NOTES

1. WORK IN EXISTING TO REMAIN AREAS SHALL BE COORDINATED WITH OWNER. FINISHES DAMAGED SHALL BE REFINISHED TO MATCH EXISTING. PAINT SURFACE WITH PAINT TYPE AND COLOR TO MATCH EXISTING. EXTEND PAINT TO 5' BEYOND AREA OF WORK OR DAMAGE.

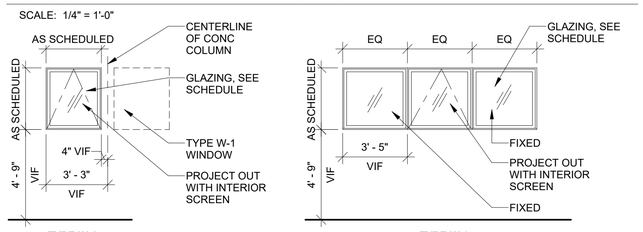
DOOR AND FRAME SCHEDULE NOTES

1. POCKET DOORS SHALL BE PROVIDED WITH THE FOLLOWING HARDWARE TYPES:
   A. RECESSED EDGE PULL
   B. RECESSED FLUSH DOOR PULL (MIN 4" TALL)
   C. HOOKBOLT DEADLOTCH AND LATCH WITH THUMBTURN, ADAM RITE MS+ 1890 SERIES OR EQUAL.



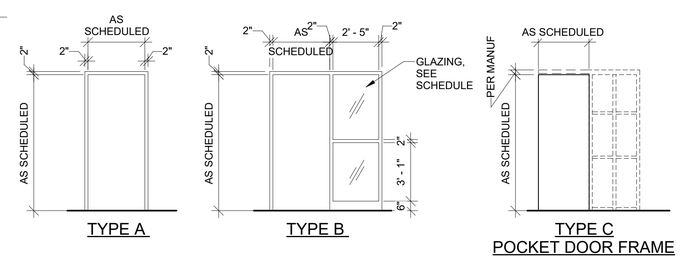
DOOR TYPE ELEVATIONS

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



WINDOW ELEVATIONS

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



FRAME TYPE ELEVATIONS

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

MATERIAL LEGEND:

ACOUSTICAL CONCRETE BLOCK	ACB
ACOUSTICAL CEILING TILE - SUSPENDED	ACT
ALUMINUM	ALUM
BRICK VENEER	BV
CARPETING	C
CONCRETE WITH HARDENER	CH
CAST IN PLACE CONCRETE	CIPC
CORRUGATED METAL PANEL	CMP
CONCRETE MASONRY UNITS	CMU
CONCRETE	CONC
CHEMICAL RESISTANT CONCRETE TOPPING	CRCT
CHEMICAL RESISTANT TILE	CRT
CERAMIC COVE BASE	CCB
CERAMIC TILE	CT
EPOXY CONCRETE TOPPING	ECT
EXPOSED ROOF STRUCTURE	ERS
EXPOSED STEEL STRUCTURE	ESS
EXISTING	EX
FLOOR MAT	FM
GYPSUM WALLBOARD	GPBD
LUXURY VINYL TILE	LVT
MOVABLE PARTITION	MP
RUBBER TILE	RT
RUBBER COVE BASE	RCB
STAINLESS STEEL	SST
VINYL COMPOSITION TILE	VCT

FINISH LEGEND:

AWARDED AFTER CONTRACT	AAC
EMBOSSED	EM
EXISTING	EX
MATCH EXISTING	ME
NO (ADDITIONAL) FINISH, MATERIAL COLOR	NF
NOT PAINTED	NP
PAINTED	PNT
PAINTED - FLAT	PNTF
PAINTED - GLOSS	PNTG
PAINTED - SEMI-GLOSS	PNTSG
STAINED	STN
TEXTURED	TX
TO BE DETERMINED	TBD

COLOR LEGEND:

AWARDED AFTER CONTRACT	AAC
EXISTING	EX
GREY	GR
MATCH EXISTING	ME
NO COLOR	NC
OFF-WHITE	OW
TAN	TAN
TO BE DETERMINED (C# COLOR SELECTIONS	TBD
WHITE	WH

ARCADIS

LEGAL ENTITY:
ARCADIS OF NEW YORK, INC.

CONSULTANTS

SEALS

REGISTERED ARCHITECT ERROL ANTONIO DAWKINS 023835 STATE OF NEW YORK

9/6/2024

ORANGE COUNTY, NEW YORK
CITY OF NEWBURGH

WASTEWATER TREATMENT PLANT (WWTP) ADMIN BUILDING RENOVATION

BID NUMBER 7.24
ARCADIS PROJ. NO. 30183827

NO.	DATE	ISSUED FOR	BY

DATE: SEPTEMBER 2024
PROJECT NO.: 30183827
FILE NAME:
DESIGNED BY: ED
DRAWN BY: GF
CHECKED BY: LA

SHEET TITLE

ARCHITECTURAL

SCHEDULES, DOOR AND WINDOW TYPES, LEGENDS

SCALE: As indicated

A-52

SHEET 21 OF 51

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GENERAL:

1. THE CONTRACT DRAWINGS HAVE BEEN PREPARED FOR THE PURPOSE OF INDICATING TO BIDDERS THE GENERAL TYPE OF CONSTRUCTION OR ALTERATION.
2. ALL DIMENSIONS AND CONDITIONS OF EXISTING STRUCTURES CONTROLLING NEW CONSTRUCTION SHALL BE VERIFIED IN THE FIELD. PREPARE SHOP DRAWINGS BASED ON THE ACTUAL FIELD CONDITIONS.
3. ANY PORTION OF EXISTING WORK WHICH IS REMOVED, DISTURBED OR DAMAGED IN THE COURSE OF INSTALLATION OF NEW WORK SHALL BE RESTORED TO A CONDITION AS GOOD AS THAT EXISTED BEFORE THE COMMENCEMENT OF THE WORK.
4. WHEN EXISTING WORK SUCH AS RAILINGS, CATWALKS ETC. IS REQUIRED TO BE REMOVED SUITABLE SUPPORTS SHALL BE PROVIDED FOR THE REMAINING WORK. THE NEW SUPPORTS SHALL BE SIMILAR TO THE EXISTING. THE CONTRACTOR IS REQUIRED TO SUBMIT SHOP DRAWINGS SHOWING THE DETAILS OF NEW SUPPORTS WHICH SHALL BE SEALED BY A PROFESSIONAL ENGINEER. ANY WORK REMOVED FOR ACCESS SHALL BE REPLACED IN KIND.
5. THESE NOTES ARE GENERAL AND SUPPLEMENTAL TO THE SPECIFICATIONS AND APPLY TO ENTIRE PROJECT UNLESS MODIFIED OR NOTED OTHERWISE IN THE CONTRACT DOCUMENTS.
6. SECTIONS/DETAILS APPLY TO SIMILAR LOCATIONS AND CONDITIONS UNLESS OTHERWISE INDICATED.
7. TYPICAL SECTIONS/DETAILS AS SHOWN ON STRUCTURAL TYPICAL DRAWING SHALL BE USED WHEN REFERRED TO, OR WHEN OTHER SECTIONS/DETAILS ARE NOT SHOWN ON THE DRAWINGS OR WHEN OTHER SECTIONS/DETAILS ARE NOT AVAILABLE.
8. DESIGN IS IN ACCORDANCE WITH AND CONSTRUCTION SHALL COMPLY WITH THE PROVISIONS OF THE 2020 NEW YORK STATE BULDING CODE.
9. EQUIPMENT ANCHOR BOLT SIZES, TYPES, AND PATTERNS SHALL BE AS REQUIRED BY THE APPROVED EQUIPMENT MANUFACTURER. ALL BOLT PATTERNS SHALL BE TEMPLATED TO INSURE ACCURACY OF PLACEMENT.
10. STRUCTURAL DRAWINGS SHALL BE USED IN COORDINATION WITH DRAWINGS OF ALL OTHER DISCIPLINES AND MANUFACTURER'S SHOP DRAWINGS.
11. IF CONFLICT IS FOUND BETWEEN DIFFERENT PORTIONS OF THE CONTRACT DOCUMENTS THE CONTRACTOR SHALL NOTIFY THE OWNER IMMEDIATELY. CONTINUED CONSTRUCTION OF THE AREA IN CONFLICT SHALL BE AT CONTRACTOR'S OWN RISK UNTIL THE CONFLICT IS RESOLVED BY THE OWNER.
12. STRUCTURES HAVE BEEN DESIGNED FOR OPERATIONAL LOADS ON THE COMPLETED STRUCTURE. DURING CONSTRUCTION, THE STRUCTURES SHALL BE PROTECTED BY BRACING AND TEMPORARY SUPPORTS WHEREVER EXCESSIVE CONSTRUCTION LOADS MAY OCCUR. OVERSTRESSING OF ANY STRUCTURAL ELEMENT IS PROHIBITED.
13. CONTRACTOR'S CONSTRUCTION AND/OR ERECTION SEQUENCES SHALL RECOGNIZE AND CONSIDER THE EFFECTS OF THERMAL MOVEMENTS OF STRUCTURAL ELEMENTS DURING THE CONSTRUCTION PERIOD.
14. FOR SIZES AND LOCATIONS OF EQUIPMENT SUPPORTS AND PIPE OPENINGS, SEE OTHER DISCIPLINE DRAWINGS. OPENINGS SIZES LESS THAN 12" ARE NOT SHOWN ON STRUCTURAL DRAWINGS, REFERENCE OTHER DISCIPLINE DRAWINGS FOR LOCATIONS.
15. FOR OPENINGS AND PENETRATIONS:
    THE CONTRACTOR SHALL SUBMIT COMPOSITE DRAWINGS INDICATING ALL FLOOR OPENING AND PENETRATIONS THROUGH STRUCTURAL MEMBERS REQUIRED TO ACCOMMODATE THE HVAC, PLUMBING AND ELECTRICAL WORK. THE CONTRACTOR SHALL FOLLOW THE TYPICAL FRAMING DETAILS AT OPENINGS AND REINFORCEMENT DETAILS AT PENETRATIONS THROUGH STRUCTURAL MEMBERS. ACCORDINGLY, THE CONTRACTOR SHALL SUBMIT SHOP DETAILS TO THE ENGINEER FOR REVIEW.

CONCRETE:

1. CONCRETE SHALL BE AS SPECIFIED IN THE SPECIFICATIONS. THE COMPRESSIVE STRENGTH SHALL NOT BE LESS THAN 4500 PSI WHEN TESTED AT TWENTY-EIGHT (28) DAYS, UNLESS OTHERWISE NOTED. CONCRETE SHALL BE AIR ENTRAINED.
2. STEEL REINFORCEMENT BARS SHALL CONFORM TO ASTM A615, GRADE 60. WELDED WIRE FABRIC (WWF) REINFORCEMENT SHALL CONFORM TO ASTM A185. STEEL STUDS SHALL CONFORM TO ASTM A108.
3. PRIOR TO PLACEMENT OF NEW CONCRETE AGAINST EXISTING CONCRETE STRUCTURE THE EXISTING STRUCTURE SHALL BE CLEANED TO SOUND CONCRETE AND ALL FOREIGN SUBSTANCES REMOVED. APPLY BONDING AGENT TO EXISTING CONCRETE BEFORE PLACING NEW CONCRETE.
4. SHOP DRAWINGS FOR REINFORCING BARS SHALL INCLUDE SPLICE LENGTHS AND LOCATION EMBEDMENT LENGTH AT SUPPORTS AND CONCRETE COVER THICKNESS.
5. REMOVAL OF ALL EXISTING CONCRETE SHALL BE INITIATED BY SAW CUT.
6. ANCHOR BOLTS IN CONCRETE SHALL BE ASTM A36 UNLESS OTHERWISE NOTED.
7. CONCRETE REINFORCING:
   - A. SURFACE CAST AGAINST SUBGRADE: 3"
   - B. TOP SURFACES SURFACES OF SLABS WHERE PVC WATERSTOP IS REQUIRED IN WALLS: 3"
   - C. FORMED SURFACES IN CONTACT WITH WEATHER, SOIL, OR LIQUID: 2"
   - D. BOTTOM SURFACES PF SLABS OVER LIQUID 2'
   - E. SURFACES NOT IN CONTACT NOT WITH WEATHER, SOIL, OR LIQUID: 1 1/2"
8. ROUGHEN SURFACES OF HORIZONTAL JOINTS AT INTERFACE OF CONSTRUCTION JOUNT TO 1/4" MINIMUM AMPLITUDE, WHERE SHOWN ON DRAWINGS AND AT LOCATIONS WHERE NO KEYWAYS ARE DETAILED.
9. CONSTRUCTION JOINTS SHALL BE LOCATED AS SHOWN ON THE DRAWINGS. WHERE NOT SHOWN, CONSTRUCTION JOINTS SHALL BE LOCATED AS REQUIRED BY THE SPECIFICATIONS CONSTRUCTION JOINT TYPES AND LOCATIONS SHALL BE AS APPROVED BY THE ENGINEER.
10. WHERE HORIZONTAL CONSTRUCTION JOINTS, LOCATED ABOVE THE FOUNDATION SLAB EXTEND BEYOND WHERE NEEDED, TERMINATE AT A VERTICAL CONSTRUCTION JOINT AS APPROVED BY THE ENGINEER.
11. EQUIPMENT SUPPORTS, ANCHORAGES, OPENINGS, RECESSES AND REVEALS NOT SHOWN ON THE STRUCTURAL DRAWINGS BUT REQUIRED BY OTHER CONTRACT DOCUMENTS, SHALL BE PROVIDED FOR PRIOR TO PLACING CONCRETE.
12. WHERE DRILLED EPOXY DOWELS ARE PLACED INTO HARDENED CONCRETE, ADJUST THE DOWEL LOCATIONS AS NEEDED TO AVOID DRILLING THROUGH ANY REINFORCING BARS, IF THE DOWEL LOCATION NEEDS TO BE MODIFIED, CONTACT THE ENGINEER BEFORE PROCEEDING.
13. DOWELS, ANCHOR BOLTS, PIPES, AND OTHER EMBEDDED ITEMS SHALL BE HELD SECURELY IN POSITION WHILE CONCRETE IS BEING PLACED.
14. REINFORCING BARS AND ACCESSORIES SHALL NOT BE IN CONTACT WITH ANY METAL PIPE, PIPE FLANGE, METAL CONDUIT OT OTHER METAL PARTS EMBEDDED IN CONCRETE A MINIMUM CLEARANCE OF 2 INCHES SHALL BE PROVIDED.
15. CONTRACTOR SHALL PROVIDE 3/4 INCH CHAMFER USING WOOD CHAMFER STRIPS ON ALL EXPOSED CORNERS OF COLUMNS, BEAMS, EQUIPMENT PADS AND WALLS OR AS REQUIRED TO MATCH EXISTING.
16. LAP SPLICES SHALL BE IN ACCORDANCE WITH THE TABLE SHOWN IN THE STRUCTURAL TYPICAL DETAILS.
17. PROVIDE ADDITIONAL REINFORCEMENT AT OPENINGS AND WALL INTERSECTIONS AS SHOWN ON TYPICAL DETAILS (UON).

STEEL:

1. DETAIL, FABRICATE, AND ERECT STRUCTURAL STEEL IN ACCORDANCE WITH AISC SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS, LATEST EDITION.
2. STRUCTURAL STEEL SHALL CONFORM TO THE REQUIREMENTS OF THE FOLLOWING:
   - a. CHANNELS, ANGLES, M, S-SHAPES: ASTM A36
   - b. PLATE AND BAR: ASTM A36, UNLESS OTHERWISE NOTED
   - c. COLD-FORMED HOLLOW STRUCTURAL SECTIONS: ASTM A500, GRADE B, STRUCTURAL TUBING
   - d. WELDING ELECTRODES: COMPLY WITH AWS REQUIREMENTS
3. ALL CONNECTIONS, UNLESS OTHERWISE NOTED, SHALL BE MADE WITH ASTM A325 OR A490 HIGH STRENGTH BOLTS. BOLT DIAMETER SHALL BE 7/8" UNLESS OTHER SIZES ARE SHOWN OR ARE NECESSARY AND APPROVED. WEB REINFORCEMENT PLATES SHALL BE USED ON BEAMS, GIRDERS AND COLUMNS AS REQUIRED BY AUTHORITY'S STRUCTURAL DESIGN GUIDELINES AND/OR STANDARD DETAILING PRACTICE.
4. PROVIDE TYPICAL STEEL BEAM CONNECTIONS FOR A CAPACITY OF NOT LESS THAN THE TOTAL UNIFORM LOAD CAPACITY TABULATED IN THE AISC TABLES FOR ALLOWABLE LOAD OF BEAMS.
5. DO NOT PAINT STEEL SURFACES WHICH ARE TO BE WELDED OR ENCASED IN CONCRETE.
6. ALL GROOVE AND BUTT WELDS SHALL BE FULL PENETRATION UON.
7. FILLET WELD SIZES SHALL BE MINIMUM SIZE REQUIRED BY AISC CODE FOR PLATE SIZES TO BE CONNECTED BUT NOT LESS THAN 3/16 INCH AND SHALL BE APPLIED TO THE ENTIRE JOINT LENGTH UON.
8. WHENEVER ONE MEMBER IS FASTENED TO ANOTHER WITH FASTENINGS (BOLTS, WELDS, ETC.) SET AT A MINIMUM OF TWO FASTENINGS PER PIECE CONNECTED AND THE FIRST AND LAST FASTENINGS SHALL BE LOCATED NOT TO EXCEED 1/4 SPACE EACH END.
9. SHOP DRAWINGS SHALL INCLUDE ALL SHOP AND ERECTION DETAILS INCLUDING CUTS COPES, CONNECTIONS, HOLES, BOLTS AND WELDS IN THE STRUCTURAL STEEL.
10. COPES, BLOCKS & RE-ENTRANT CUTS SHALL HAVE 1" MINIMUM RADIUS FILLETS.
11. THE ENDS OF BEAMS AND COLUMNS IN BEARING SHALL BE MILLED.
12. ALL STEEL MEMBERS ENCASED IN CONCRETE SHALL HAVE CLIPS OR WIRE MESH WRAPPING IN CONFORMANCE WITH THE SPECIFICATIONS.
13. EXISTING CORRODED STRUCTURAL STEEL AFFECTED BY THE NEW CONSTRUCTION OR AS INDICATED IN THE CONTRACT DRAWINGS SHALL BE REPAIRED OR REPLACED AS DIRECTED BY THE ENGINEER AND PAINTED AS PER SPECIFICATIONS. SUBMIT SHOP DRAWINGS INDICATING THE METHOD AND DETAILS OF REPAIRING OR REPLACING CORRODED STEEL FOR THE ENGINEER'S APPROVAL.
14. EXISTING RIVETS THAT INTERFERE WITH THE NEW CONSTRUCTION SHALL BE REMOVED AND REPLACED WITH THE SAME SIZE HIGH STRENGTH BOLTS.
15. WHERE EXISTING HOLES ARE TO BE USED IN THE INSTALLATION OF NEW WORK, THEIR LOCATIONS AND SPACING SHALL BE FIELD VERIFIED BEFORE FABRICATION OF NEW STEEL WORK. THE EXISTING HOLES SHALL BE REAMED IF NECESSARY TO WITHIN A.I.S.C. GUIDELINES. IF UNUSED HOLES ARE VISIBLE THEY SHALL BE FILLED WITH H.S. BOLTS. WHERE THESE BOLTS IN UNUSED HOLES COULD CAUSE INTERFERENCE PROBLEMS, SUCH HOLES SHALL BE PLUG WELDED AND GROUND SMOOTH.

CONCRETE MASONRY UNITS (CMU) NOTES:

1. DESIGN AND CONSTRUCTION OF ALL MASONRY WORK SHALL CONFORM TO ACI 530 AND 530.1 STANDARDS, "BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES" AND "SPECIFICATIONS FOR MASONRY STRUCTURES".
2. CONCRETE MASONRY UNITS SHALL BE NORMAL WEIGHT HOLLOW LOAD BEARING UNITS CONFORMING TO ASTM C90 " HOLLOW LOAD-BEARING CONCRETE MASONRY UNITS", LATEST EDITION. COMPRESSIVE STRENGTH OF MASONRY SHALL NOT BE LESS THAN 2000 PSI. COLOR AND FINISH AS INDICATED, SUBJECT TO APPROVAL BY OWNER.
3. MORTAR SHALL CONFORM TO ASTM C270 "MORTAR FOR UNIT MASONRY" TYPES.
4. GROUT SHALL CONFORM TO ASTM C476 "GROUT FOR REINFORCED AND NON-REINFORCED MASONRY", WITH A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI IN 28 DAYS. ALL REINFORCED CELLS SHALL BE FILLED SOLID WITH GROUT.
5. ALL MASONRY SHALL BE CONSTRUCTED IN RUNNING BOND.
6. HORIZONTAL JOINT REINFORCING SHALL BE STANDARD WEIGHT LADDER TYPE (2-NO. 9 GAGE SIDE RODS) SPACED VERTICALLY AS INDICATED.
7. DO NOT USE CALCIUM CHLORIDE OR ANY ADDITIVE THAT CONTAINS CALCIUM CHLORIDE IN THE MORTAR OR GROUT.
8. CONTRACTOR IS RESPONSIBLE TO REPAIR ANY BRICK FRACTURE OR MORTAR CRACKS THAT MAY DEVELOP DURING CONSTRUCTION.
9. TEMPORARY BRACE ALL MASONRY WALLS TO PROVIDE STABILITY DURING CONSTRUCTION UNTIL THE DESIGNED STRUCTURE IS COMPLETE AND CAN STABILIZE THE WALL.
10. NO PREMIXED MASONRY CEMENT MORTARS SHALL BE PERMITTED.
11. MAXIMUM HEIGHT OF GROUT POUR SHALL BE 4'-0" UNLESS CLEANOUT OPENINGS ARE PROVIDED AT THE BOTTTOM OF ALL CELLS TO BE FILLED.
12. ALL LINTEL BEAMS SHALL HAVE A MINIMUM END BEARING OF 8" OR 1" PER FOOT OF CLEAR SPAN, WHICHEVER IS LARGER WITH 2000 PSI MINIMUM GROUT FILL.
13. ALL MEMBERS AND SUPPORTS IN DIRECT CONTACT WITH CONCRETE OR MASONRY SHALL BE BACKPAINTED WITH BITUMINOUS PAINT.

EXCAVATION:

1. PROVIDE POSITIVE DRAINAGE FOR ALL TRENCHES DURING CONSTRUCTION. DO NOT ALLOW ANY PONDING WATER DURING CONSTRUCTION.
2. ALL SLABS-ON-GROUND SHALL BEAR ON A BASE COARSE OF CLEAN, COMPACTED CRUSHED
   STONE A MINIMUM OF 6" THICK. THE CRUSHED STONE SHALL BE A 50:50 MIX OF NYSDOT NO. 1 AND NO. 2 CRUSHED STONE.
3. CONTRACTOR TO FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO DEMOLITION AND NOTIFY ARCHHITECT/ENGINEER IMMEDIATELY OF ANY DISCRIPANCIES AND CONFLICTS BETWEEN EXISTING CONSTRUCTION AND IMFORMATION SHOWN ON THE CONTRACT DRAWINGS. ARCHITECT/ENGINEER WILL INSPECT CONDITIONS AND GIVE DIRECTION.
4. DO NOT PERFORM ANY DEMOLITION AND REMOVALS OF EXISTING BUILDING STRUCTURES UNTIL ALL FINISHES ARE REMOVED TO EXPOSE STRUCTURAL FRAMING.
5. IT IS THE CONTRACTOR'S RESPOSIBILITY TO PROVIDE TEMPORARY SHORING AND BRACING AS NECESSARY TO FACILITATE THE WORK SHOWN. SUBMIT FOR REVIEW A TEMPORARY SHORING AND BRACING DESIGN, INCLUDING CALCULATIONS STAMPED BY A STRUCTURAL ENGINEER REGISTERED IN NEW YORK STATE, PLANS AND SECTIONS CLEARLY INDICATING THE SYSTEMS TO BE USED.
6. CONTRACTOR TO COORDINATE DEMOLITION NEW WORK PHASING.
7. REMOVE EXISTING FLOOR SLAB ON GROUND AND EXISTING SUBGRADE WITHIN EXISTING BUILDING TO THE EXTENTS SHOWN.

ARCADIS

LEGAL ENTITY:
ARCADIS OF NEW YORK, INC.

CONSULTANTS

SEALS

STATE OF NEW YORK · PAUL ANTHONY DUNN · 080190 · LICENSED PROFESSIONAL ENGINEER

8/30/2024

ORANGE COUNTY, NEW YORK

CITY OF NEWBURGH

WASTEWATER TREATMENT PLANT (WWTP) ADMIN BUILDING RENOVATION

BID NUMBER 7.24

ARCADIS PROJ. NO. 30183827

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DATE: SEPTEMBER 2024
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DESIGNED BY: JD
DRAWN BY: GF
CHECKED BY: CJ

SHEET TITLE

STRUCTURAL

GENERAL NOTES

SCALE:

S-01

SHEET 22 OF 51

DESIGN CRITERIA

1. DESIGN IS IN ACCORDANCE WITH AND CONSTRUCTION SHALL COMPLY WITH THE PROVISIONS OF THE 2020 NEW YORK STATE BUILDING CODE.
2. LOAD INFORMATION:

LIVE LOADS:	
ADMIN BUILDING FLOOR:	100 PSF
ADMIN BUILDING ROOF:	50 PSF
ROOF SNOW LOAD:	Pg = 30 PSF
GROUND SNOW LOAD:	
FLAT-ROOF SNOW LOAD:	Pf = 20.79 PSF
SNOW LOAD IMPORTANCE FACTOR:	Is = 1.1
THERMAL FACTOR:	
ADMIN BUILDING:	C = 1.0
DRIFT SURCHARGE LOAD(S):	NA
SEISMIC DESIGN DATA:	
SEISMIC IMPORTANCE FACTOR:	1.25
RISK CATEGORY:	III
MAPPED SPECTRAL RESPONSE ACCELERATIONS:	Ss=0.236 S1=0.057
SITE CLASS:	D
SPECTRAL RESPONSE COEFFICIENTS:	Sds=0.252 Sd1=0.092
SEISMIC DESIGN CATEGORY:	B
WIND DESIGN DATA:	
BASIC DESIGN WIND SPEED:	120MPH
RISK CATEGORY:	III
WIND EXPOSURE:	C

ABBREVIATIONS

@	AT	1
A	ARCHITECTURAL	A
AB	ANCHOR BOLT	A
ADDL	ADDITIONAL	A
ALT	ALTERNATE	A
ALUM	ALUMINUM	A
ANCH	ANCHOR	A
APPROX	APPROXIMATE	A
BAL	BALANCE	B
BET	BETWEEN	B
BL	BUILDING LINE	B
BLDG	BUILDING	B
BLK	BLOCK	B
BM	BEAM	B
BOT	BOTTOM	B
BRG	BEARING	B
C	CHANNEL STRUCTURAL SHAPE	C
C/C	CENTER TO CENTER	C
CANT'L	CANTILEVER	C
CJ	CONSTRUCTION JOINT	C
CL	CLEAR	C
CMU	CONCRETE MASONRY UNIT	C
COL	COLUMN	C
COMP	COMPRESSIBLE	C
CONC	CONCRETE	C
CONN	CONNECTION	C
CONST	CONSTRUCTION	C
CONT	CONTINUOUS	C
CSTG	CASTING	C
CTR	CENTER	C
DET	DETAIL	D
DIA	DIAMETER	D
DIAG	DIAGONAL	D
DIM	DIMENSION	D
DL	DEAD LOAD	D
DN	DOWN	D
DO	DITTO	D
DWL	DOWEL	D
EA	EACH	E
EF	EACH FACE	E
EJ	EXPANSION JOINT	E
EL	ELEVATION	E
ELEC	ELECTRICAL	E
EMB	EMBEDMENT	E
ENCL	ENCLOSURE	E
EQ	EQUAL	E
EQUIP	EQUIPMENT	E
ES	EACH SIDE	E
EW T&B	EACH WAY TOP&BOTTOM	E
EXIST	EXISTING	E
EXP	EXPANSION	E
EXT	EXTERIOR	E
FB	FLOOR BEAM	F
FD	FLOOR DRAIN	F
FDN	FOUNDATION	F
FF	FAR FACE	F
FIN	FINISH	F
FL	FLOOR	F
FTG	FOOTING	F
GA	GAUGE	G
GALV	GALVANIZE	G
GB	GRADE BEAM	G
GR	GRADE	G
GRTG	GRATING	G
H	HIGH	H
HORIZ	HORIZONTAL	H
HP	HIGH POINT	H
HT	HEIGHT	H
HS	HIGH STRENGTH	I
HVAC	HEATING, VENTILATING & AIR CONDITIONING	I
ID	INSIDE DIAMETER	I
IF	INSIDE FACE	I
INV	INVERT	I
JT	JOINT	I
KO	KNOCKOUT	K
L	ANGLE (STRUCTURAL SHAPE)	L
LG	LONG	L
LL	LIVE LOAD	L
LLH	LONG LEG HORIZONTAL	L
LLV	LONG LEG VERTICAL	L
LOC	LOCATION	L
LP	LOW POINT	L
LW	LONG WAY	L
MAS	MASONRY	M
MAX	MAXIMUM	M
MECH	MECHANICAL	M
MEZZ	MEZZANINE	M
MFR	MANUFACTURE, MANUFACTURER	M
MH	MANHOLE	M
MID	MIDDLE	M
MIN	MINIMUM	M
MTCH	MATCH/MATCHING	M
N	NORTH	N
NF	NEAR FACE	N
NTS	NOT TO SCALE	N
OC	ON CENTER	O
OD	OUTSIDE DIAMETER	O
OF	OUTSIDE FACE	O
OPNG	OPENING	O
OPP	OPPOSITE	O
PC	PRECAST CONCRETE	P
PCO	PILE CUT OFF	P
PL	PLATE	P
PSF	POUNDS PER SQUARE FOOT	P
PVC	POLYVINYL CHLORIDE	P
R	RISER	R
RAD	RADIUS	R
RD	ROOF DRAIN	R
REINF	REINFORCEMENT	R
REQD	REQUIRED	R
RM	ROOM	R
RO	ROUGH OPENING	R
SECT	SECTION	S
SHT	SHEET	S
SIM	SIMILAR	S
SL	SLAB	S
SP	SPIRAL	S
SPA	SPACING	S
SPEC	SPECIFICATION	S
SQ	SQUARE	S
SST	STAINLESS STEEL	S
STD	STANDARD	S
STIR	STIRRUP	T
STL	STEEL	T
STRUCT	STRUCTURAL	T
SW	SHORT WAY	T
T&B	TOP AND BOTTOM	T
T/ T	TOP OF TREAD	T
THK	THICK	T
TOC	TOP OF CONCRETE	T
TYP	TYPICAL	T
UON	UNLESS OTHERWISE NOTED	U
VERT	VERTICAL	V
W/	WITH	W
WF	WIDE FLANGE STRUCTURAL SHAPE	W
WP	WORKING POINT	W
WP	WORKING POINT	W
WS	WATERSTOP	W

ARCADIS

LEGAL ENTITY:
ARCADIS OF NEW YORK, INC.

CONSULTANTS

SEALS

STATE OF NEW YORK · PAUL ANTHONY DUNN · 080190 · LICENSED PROFESSIONAL ENGINEER

8/30/2024

ORANGE COUNTY, NEW YORK
CITY OF NEWBURGH

WASTEWATER TREATMENT PLANT (WWTP) ADMIN BUILDING RENOVATION

BID NUMBER 7.24
ARCADIS PROJ. NO. 30183827

NO.	DATE	ISSUED FOR	BY

DATE: SEPTEMBER 2024
PROJECT NO.: 30183827
FILE NAME:
DESIGNED BY: JD
DRAWN BY: GF
CHECKED BY: CJ

SHEET TITLE

STRUCTURAL

ABBREVIATIONS

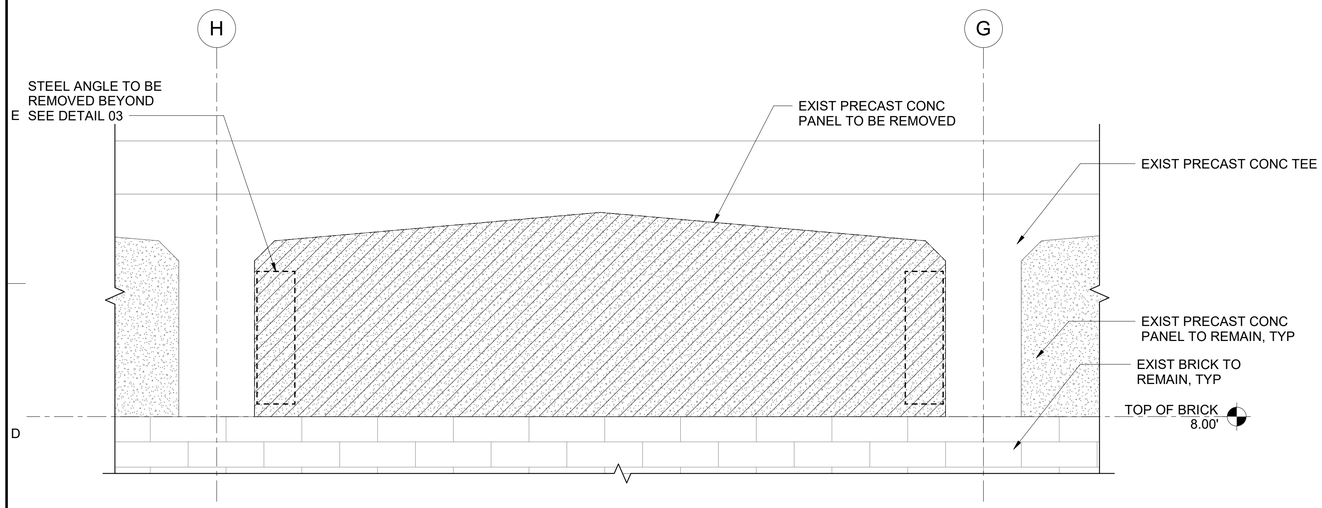
SCALE:

S-02

SHEET 23 OF 51

NOTES:

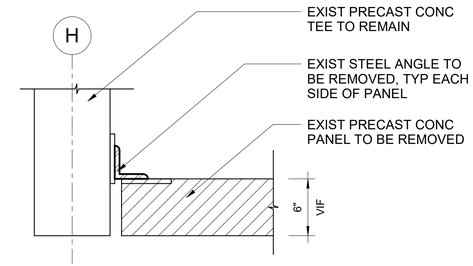
1. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS PRIOR TO FABRICATION.
2. CONTRACTOR SHALL REMOVE EMBEDDED STEEL CLIP ANGLES BY SAWCUTTING ONLY. BURNING/ PLASMA CUTTING SHALL NOT BE PERMITTED.
3. CONTRACTOR SHALL LEAVE 1" AROUND PERIMETER OF STEEL FRAME FOR GROUT INFILL.
4. STEEL CHANNELS SHALL BE MITERED AND FULLY WELDED.
5. CONTRACTOR SHALL VERIFY LOCATIONS OF PRESTRESSED STRAINS IN EXISTING CONCRETE TEE'S PRIOR TO ANCHOR INSTALLATION FOR STEEL FRAME AND HVAC DUCT HANGERS.



1 A-03 PRECAST CONCRETE PANEL DEMOLITION

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

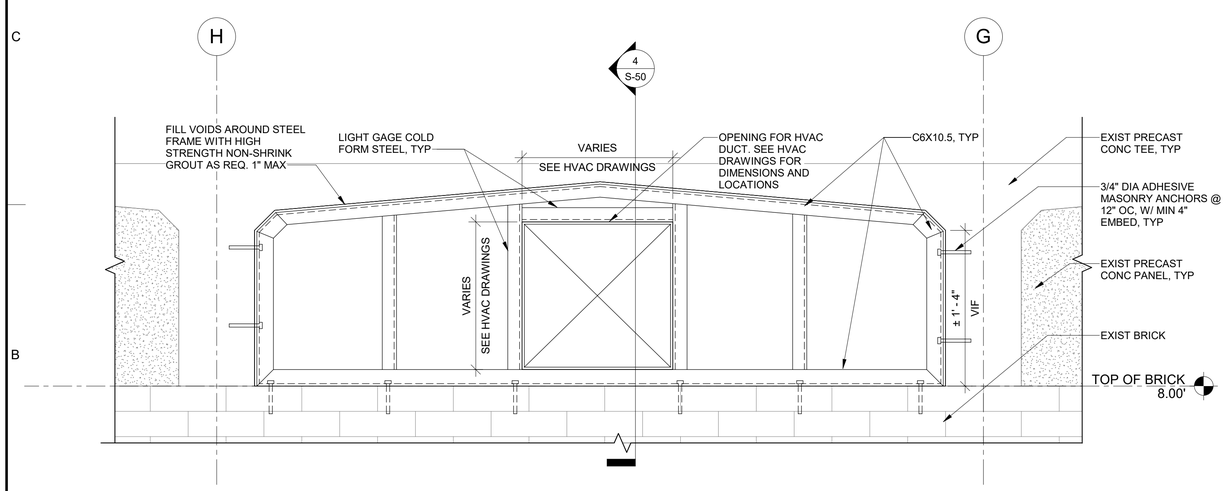
0' 1' 2'



3 A-03 PRECAST CONCRETE PANEL DEMOLITION DETAIL

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

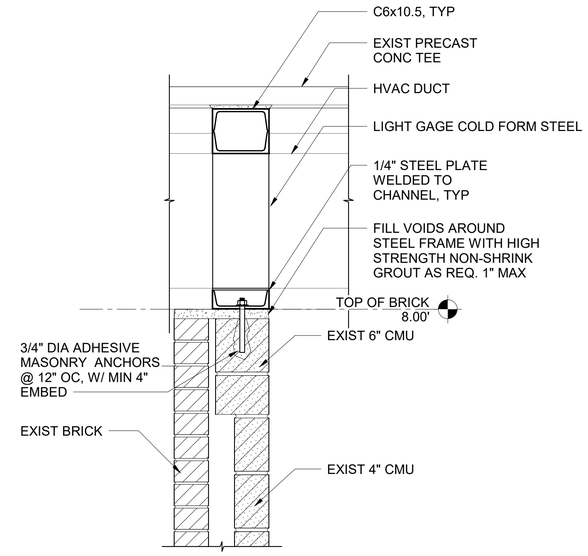
0' 1' 2'



2 A-10 PRECAST CONCRETE PANEL FRAMING

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

0' 1' 2'



4 S-50 PRECAST CONCRETE PANEL FRAMING SECTION

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

0' 1' 2'

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SHEET TITLE

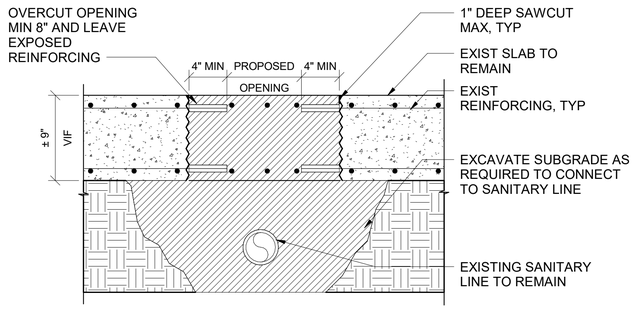
STRUCTURAL

SECTIONS AND DETAILS I

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

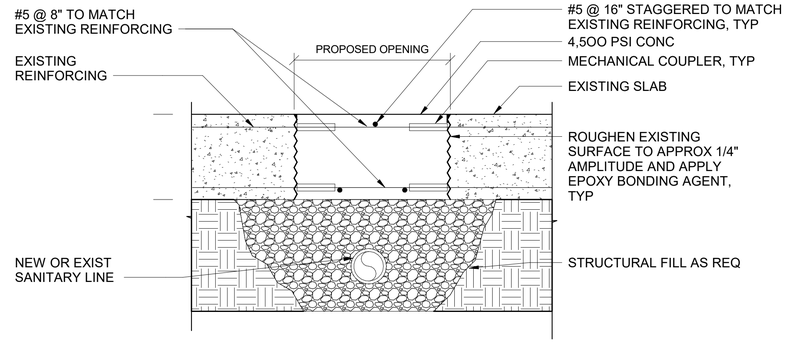
S-50

SHEET 24 OF 51



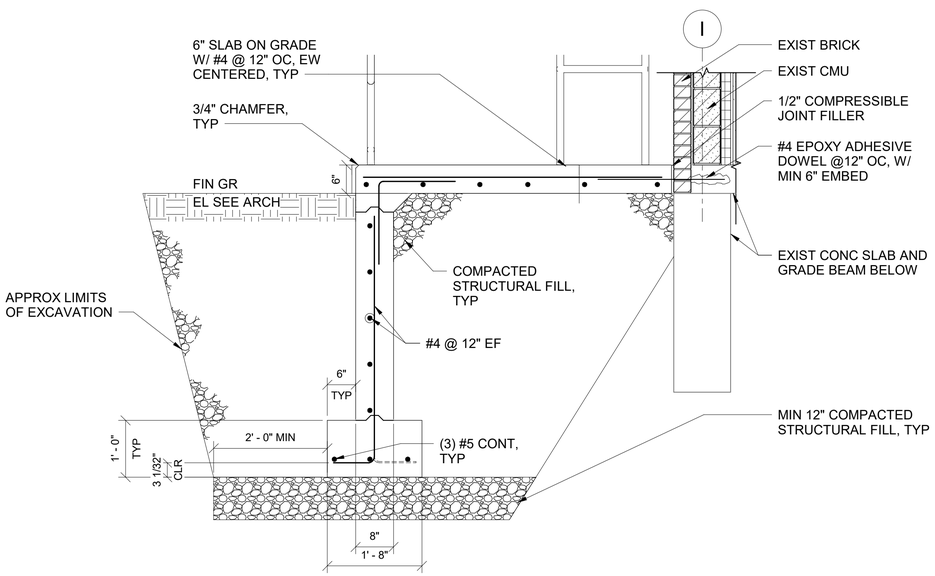
NOTES:
1. CONTRACTOR SHALL MINIMIZE CONCRETE AND REINFORCING STEEL DEMOLITION AS MUCH AS POSSIBLE TO MAINTAIN CAPACITY OF EXISTING SLAB.
2. EXISTING TRANSVERSE REINFORCING SHALL BE CUT A MINIMUM OF 8" FROM THE FACE OF EXISTING CONCRETE.
3. EXPOSED REINFORCING SHALL BE CLEANED USING MECHANICAL METHODS TO REMOVE ANY RUST OR CORROSION.

1 / A-03 **SECTION**
SCALE: 1 1/2" = 1'-0"
0' 1' 2'



NOTES:
1. PROVIDE MECHANICAL REBAR COUPLER AS MANUFACTURED BY DAYTON SUPERIOR OR APPROVED EQUAL.
2. COUPLERS SHALL BE PROVIDED AT ALL LOCATIONS WHERE EXISTING REINFORCING HAS BEEN CUT.

2 / A-10 **SECTION**
SCALE: 1 1/2" = 1'-0"
0' 1' 2'



3 / A-10 **SECTION**
SCALE: 3/4" = 1'-0"
0' 1' 2'

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SHEET TITLE
STRUCTURAL

SECTIONS AND DETAILS II

SCALE: As indicated

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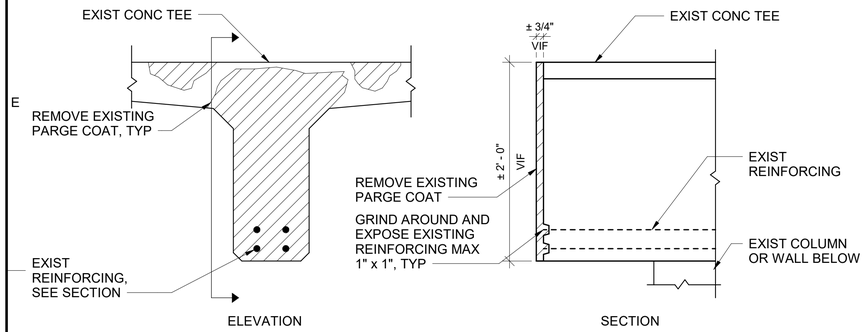
SHEET 24 OF 51

Autodesk Docs://AUS-30183827-Newburgh WPCP Admin Bldg Rehab/A-3D-WPCP.rvt
8/30/2024 4:39:03 PM

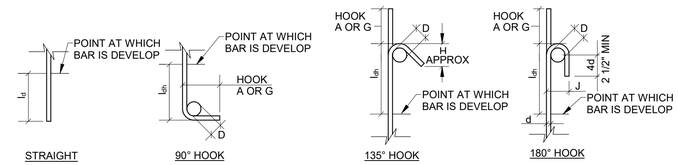


NOTES:

1. REMOVE DETERIORATED CONCRETE. REMOVE MAX. 3/4" OF SURFACE CONCRETE BY HYDROBLASTING OR MECHANICAL MEANS.
2. REMOVE ALL DETERIORATED CONCRETE TO SOUND CONCRETE. CHIP CONCRETE SUBSTRATE TO OBTAIN A SURFACE PROFILE OF 1/8-INCH IN DEPTH WITH A NEW FRACTURED AGGREGATE SURFACE.
3. REPAIR CRACKS PER TYPICAL CONCRETE REPAIR DETAIL TYPE 2 AS DIRECTED BY ENGINEER.
4. DO NOT CUT REINFORCING.
5. CLEAN REINFORCING STEEL TO REMOVE ALL CONTAMINANTS AND RUST. REMOVE CONCRETE TO A DEPTH OF 1-INCH MINIMUM BEHIND REINFORCING BAR AS SHOWN.
6. APPLY SIKA TOP 123 PLUS REPAIR MORTAR OR APPROVED EQUAL ON SURFACE TO RESTORE SURFACE TO ORIGINAL CONDITION.
7. APPLY SIKA ARMATEK-110 EPOCEM OR APPROVED EQUAL TO REINFORCING PRIOR TO REPAIR MORTAR PLACEMENT.
8. SURFACE SHALL BE DAMP BUT FREE OF STANDING WATER.
9. INSTALL CONCRETE REPAIR MATERIALS PER THE MANUFACTURER'S INSTALLATION REQUIREMENTS.

TYPICAL CONCRETE TEE SURFACE REPAIR DETAIL

NOT TO SCALE

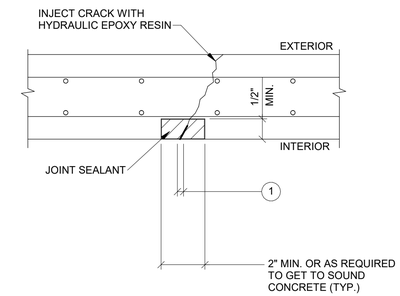


REINFORCEMENT LAP SPLICE, DEVELOPMENT LENGTH AND STANDARD HOOKS											
BAR SIZE	MIN LAP LENGTHS FOR CLASS B		MIN DEVELOPMENT LENGTHS (STRAIGHT BAR) l_d		STD HOOKS l_{dh}	MIN STD. HOOKS FOR PRIMARY REINFORCEMENT					
						90°	135°		180°		INSIDE BEND DIA, D
	TOP*	OTHERS	TOP*	OTHERS		A OR G	A OR G	H	A OR G	J	
#3	24	19	18	14	7	6	4	2 1/2	5	3	2 1/4
#4	32	24	24	18	9	8	4 1/2	3	6	4	3
#5	39	30	30	23	12	10	5 1/2	3 3/4	7	5	3 3/4
#6	46	36	35	27	14	12	8	4 1/2	8	6	4 1/2
#7	67	52	51	40	16	14	9	5 1/2	10	7	5 1/4
#8	77	59	59	45	18	16	10 1/2	6	11	8	6
#9	86	67	66	51	21	19	-	-	15	11 3/4	9 1/2
#10	97	75	74	57	23	22	-	-	17	13 1/4	10 3/4
#11	107	84	82	64	26	24	-	-	19	14 3/4	12

1. REINFORCEMENT LAP SPLICE, DEVELOPEMENT LENGHT AND STANDARD HOOK TABLE ON AMINIMUM CONCRETE COMPRESSIVE STRENGTH OF 4500 PSI AND 60,000 PSI REINFORCEMENT (WITH NO EPOXY COATING).
2. ALL LAPS SPLICES SHALL BE CLASS B SPLICES.
3. * TOP BARS ARE DEFINED AS ALL HORIZONTAL BARS WITH 12 INCHES OR MORE FRESH CONCRETE BENEATH.
4. WHERE SPLICES ARE REQUIRED BETWEEN BARS OF DIFFERENT SIZES, THE LAP LENGTH SHALL BE NO LESS THAN THE DEVELOPMENT LENGTH OF THE LARGER BAR OR THE LAP LENGTH OF THE SMALLER BAR, WHICHEVER GREATER.

REINFORCING SPLICE AND EMBEDMENT LENGTH TABLE (4500 PSI)

NOT TO SCALE



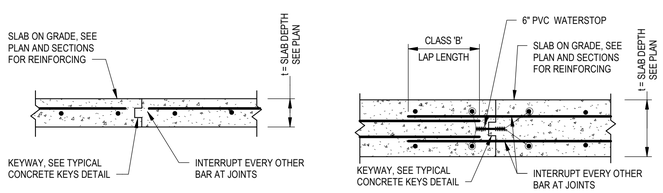
1 FOR CRACKS WIDER THAN 1/8" CUT CONCRETE AS SHOWN AND PATCH.

NON STRUCTURAL CRACK REPAIR - TYPE 2

NOT TO SCALE

TYPICAL CONCRETE REPAIRS

NOT TO SCALE



NOTES:

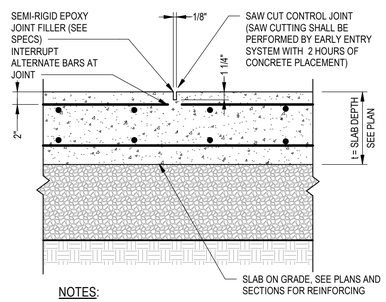
1. COORDINATE CONSTRUCTION JOINT LOCATIONS WITH PLANS AND REINFORCING SUPPLIER.
2. LOCATE CONSTRUCTION JOINTS AT CONTROL JOINT LOCATIONS.
3. SEE SPECIFICATIONS FOR UNDER SLAB MATERIAL REQUIREMENTS.
4. NOT INTENDED FOR USE AT LIQUID CONTAINMENT STRUCTURES.

NOTES:

1. COORDINATE CONSTRUCTION JOINT LOCATIONS WITH PLANS AND REINFORCING SUPPLIER.
2. LOCATE CONSTRUCTION JOINTS AT CONTROL JOINT LOCATIONS.
3. SEE SPECIFICATIONS FOR UNDER SLAB MATERIAL REQUIREMENTS.

TYPICAL SLAB ON GROUND CONSTRUCTION JOINT DETAIL

NOT TO SCALE

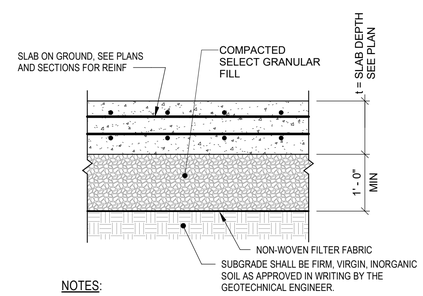


NOTES:

1. PROVIDE CONTROL JOINTS AS SHOWN ON PLAN.
2. NOTED ON PLAN AS CJ.
3. NOT INTENDED FOR USE AT LIQUID CONTAINMENT STRUCTURES.

TYPICAL SLAB ON GROUND CONTROL JOINT DETAIL

NOT TO SCALE



NOTES:

1. SEE PLAN AND RELATED DETAILS FOR SLAB REINF REQUIREMENTS.
2. SEE SPECIFICATIONS FOR UNDERSLAB MATERIAL REQUIREMENTS.
3. NOT INTENDED FOR USE AT LIQUID CONTAINMENT STRUCTURES.

TYPICAL SLAB ON GROUND DETAIL

NOT TO SCALE

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SHEET TITLE

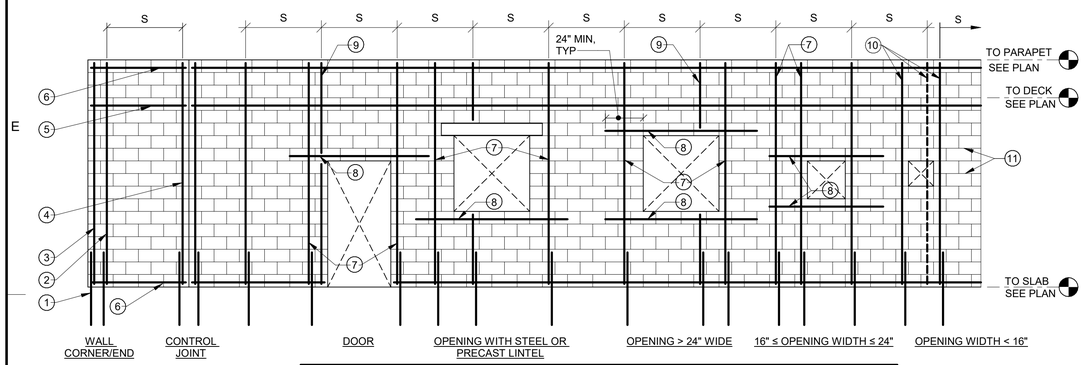
STRUCTURAL

TYPICAL DETAILS I

SCALE: As indicated

S-52

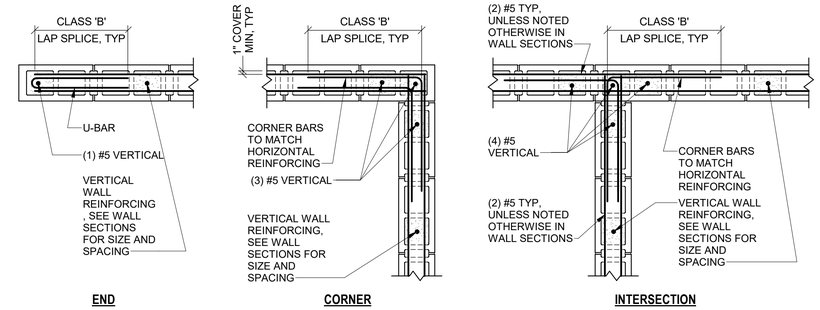
SHEET 26 OF 51



NOTES	
MARK	DESCRIPTION
1	DOWELS TO MATCH SIZE AND SPACING OF WALL REINFORCEMENT.
2	TYPICAL REINFORCEMENT, SEE SECTIONS FOR SIZE AND SPACING, S.
3	PROVIDE REINFORCEMENT AT WALL CORNER AND WITHIN 8" OF END OF WALL.
4	PROVIDE REINFORCEMENT WITHIN 8" OF EACH SIDE OF CONTROL/MOVEMENT JOINT.
5	PROVIDE KNOCKOUT BLOCK BOND BEAM AT STRUCTURALLY CONNECTED ROOF AND FLOOR LEVELS, DISCONTINUE REINFORCING AT CONTROL/MOVEMENT JOINT..
6	PROVIDE KNOCKOUT BLOCK BOND BEAM AT TOP AND BOTTOM OF WALL, DISCONTINUE REINFORCING AT CONTROL/MOVEMENT JOINT.
7	PROVIDE REINFORCEMENT WITHIN 16 INCHES OF EACH SIDE OF OPENING.
8	PROVIDE REINFORCEMENT AT TOP AND BOTTOM OF OPENINGS. USE U-BLOCKS AT TOP OF OPENINGS AND KNOCK-OUT BLOCKS AT BOTTOM OF OPENINGS.
9	TYPICAL REINFORCEMENT INTERRUPTED BY OPENING.
10	PROVIDE REINFORCEMENT WITHIN 4 INCHES OF EACH SIDE OF OPENING IF TYPICAL REINFORCEMENT IS INTERRUPTED BY OPENING. OTHERWISE REINFORCEMENT IS NOT REQUIRED.
11	PROVIDE W1.7 (9 GAGE) JOINT REINFORCEMENT (LADDER TYPE) AT 16 INCHES ON CENTER.

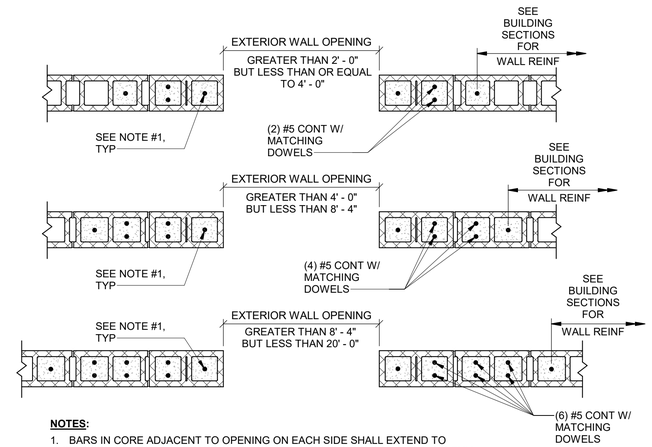
TYPICAL MASONRY SHEAR WALL OPENING REINFORCEMENT LAYOUT

NOT TO SCALE



TYPICAL BOND BEAM DETAILS

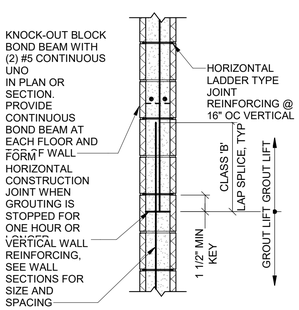
NOT TO SCALE



NOTES:

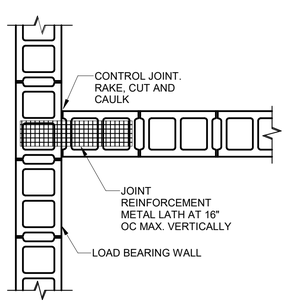
1. BARS IN CORE ADJACENT TO OPENING ON EACH SIDE SHALL EXTEND TO UNDERSIDE OF LINTEL BEARING. ALL OTHER BARS SHOWN SHALL EXTEND FULL HEIGHT OF WALL AND TERMINATE IN BOND BEAM UNLESS SHOWN OTHERWISE IN SECTION.

TYPICAL ADDITIONAL REINFORCING AT CMU OPENINGS



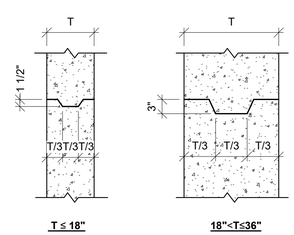
TYPICAL MASONRY WALL VERTICAL DETAIL

NOT TO SCALE



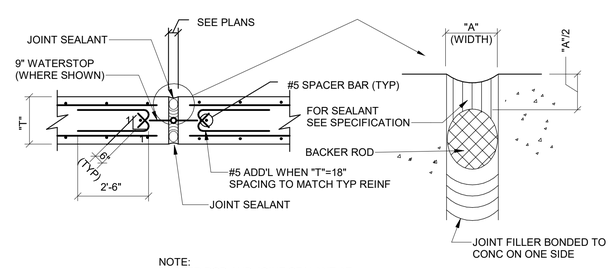
MASONRY INTERSECTION DETAIL - PLAN VIEW

NOT TO SCALE



TYPICAL WALL AND SLAB KEY SCHEDULE

NOT TO SCALE



NOTE:
BACKER ROD AND JOINT SEALANT AT BOTTOM OF SLAB ON GRADE NOT REQUIRED.

TYPICAL EXPANSION JOINT DETAILS AT WALLS AND SLABS

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STATE OF NEW YORK · PAUL ANTHONY DUNN · 080190 · LICENSED PROFESSIONAL ENGINEER

8/30/2024

ORANGE COUNTY, NEW YORK
CITY OF NEWBURGH

WASTEWATER TREATMENT PLANT (WWTP) ADMIN BUILDING RENOVATION

BID NUMBER 7.24
ARCADIS PROJ. NO. 30183827

NO.	DATE	ISSUED FOR	BY

DATE: SEPTEMBER 2024
PROJECT NO.: 30183827
FILE NAME:
DESIGNED BY: JD
DRAWN BY: GF
CHECKED BY: CJ

SHEET TITLE
STRUCTURAL
TYPICAL DETAILS II

SCALE: As indicated

S-53

SHEET 27 OF 51

ABBREVIATIONS

HVAC

ACH	AIR CHANGES PER HOUR
AD	ACCESS DOOR
AFF	ABOVE FINISHED FLOOR
AFR	ABOVE FINISHED ROOF
AL	ALUMINUM
ADJ	ADJUSTABLE
AMB	AMBIENT
APPROX	APPROXIMATE
ATC	AUTOMATIC TEMPERATURE CONTROL
AUTO	AUTOMATIC
BDD	BACKDRAFT DAMPER
BHP	BRAKE HORSE POWER
BLDG	BUILDING
BOD	BOTTOM OF DUCT
BOG	BOTTOM OF GRILLE
BOT EL	BOTTOM ELEVATION
BOU	BOTTOM OF UNIT
BTU/HR	BRITISH THERMAL UNITS PER HOUR
BTUH	BRITISH THERMAL UNITS PER HOUR
BC	BACKWARD CURVED
BAS	BUILDING AUTOMATION SYSTEM
CFM	CUBIC FEET OF AIR PER MINUTE
CHKP	CONCRETE HOUSE KEEPING PAD
COND	CONDENSATE
CONN	CONNECTION
CONT	CONTINUATION
COP	COEFFICIENT OF PERFORMANCE
DIA	DIAMETER
DN	DOWN
DWG	DRAWING
DX	DIRECT EXPANSION
DB	DRY BULB
EFF	EFFICIENCY
EC	ELECTRONICALLY CONMUTATED
E	EXISTING
EA	EACH/ EXHAUST AIR
EAT	ENTERING AIR TEMPERATURE
EF	EXHAUST FAN
EG/EAG	EXHAUST GRILLE
EL	ELEVATION
ER	EXHAUST REGISTER
ESP	EXTERNAL STATIC PRESSURE
EQUIP	EQUIPMENT
EXH	EXHAUST
EXIST	EXISTING
FC	FORWARD CURVED
FPI	FINS PER INCH
FD	FIRE DAMPER
FLR	FLOOR
GBD	GRAVITY BACKDRAFT DAMPER
HP	HORSEPOWER
HVAC	HEATING, VENTILATION & AIR CONDITIONING
HSPF	HEATING SEASONAL PERFORMANCE SECTOR
HGRH	HOT GAS RE-HEAT
KW	KILOWATT
LAT	LEAVING AIR TEMPERATURE
MAX	MAXIMUM
MBH	THOUSAND BTUH
MCA	MINIMUM CIRCUIT AMPACITY
MD	MOTORIZED DAMPER
MERV	MINIMUM EFFICIENCY REPORTING VALUE
MER	MECHANICAL EQUIPMENT ROOM
MECH	MECHANICAL
MIN	MINIMUM
MFR	MANUFACTURER
MOP	MAX OVERCURRENT PROTECTION
MTD	MOUNTED
NA	NOT APPLICABLE
NK	NECK
NO	NORMALLY OPEN
NC	NORMALLY CLOSED
NFA	NET FREE AREA
NTS	NOT TO SCALE
OEM	ORIGINAL EQUIPMENT MANUFACTURER
OA	OUTSIDE AIR
OAI	OUTSIDE AIR INTAKE
OPNG	OPENING
PD	PRESSURE DROP
PS-1	PRESSURE SENSOR
RG	RETURN GRILLE
RM	ROOM
RR	RETURN REGISTER
RO	ROOF OPENING
RL	REFRIGERANT LIQUID
RS	REFRIGERANT SUCTION
RFS	RECOMMENDED FUSE SIZE
SCAV	SUPPLY CONSTANT AIR VOLUME
SCH	SCHEDULE
SG	SUPPLY GRILLE
SH	SHOWER HEAD
SEER	SEASONAL ENERGY EFFICIENCY RATIO
SCR	SILICON CONTROLLED RECTIFIER
SR	SUPPLY REGISTER
SS	STAINLESS STEEL
TAB	TESTING, ADJUSTING AND BALANCING
TOD	TOP OF DUCT
TSP	TOTAL STATIC PRESSURE
TYP	TYPICAL
VD	MANUAL VOLUME DAMPER
WC	WATER COLUMN / WATER CLOSET
W/OVRD	WITH OVERRIDE
WB	WET BULB
W/	WITH

EQUIPMENT

ACCU	AIR COOLED CONDENSING UNIT
AC	AIR CONDITIONING UNIT
CUH	CABINET UNIT HEATER
RTU	PACKAGED ROOFTOP AIR HANDLING UNIT
EF	EXHAUST FAN

EF-1 — QUANTITY DESIGNATION; EQUIPMENT DESIGNATION (EXHAUST FAN)

24X24 CDA — LOUVER FACE SIZE; CEILING DIFFUSER TYPE (TYPE A SHOWN)

MISCELLANEOUS SYMBOLS

- T — THERMOSTAT/TEMPERATURE SENSOR
- EXISTING TO DEMOLISH WORK INTERFACE
- EXISTING TO NEW WORK INTERFACE
- TO BE DEMOLISHED

DUCTWORK SYMBOLS

- SUPPLY AIR
- RETURN OR EXHAUST AIR
- 12" X 12" — DUCT, DIRECTION OF FLOW, SIZE
- DUCT SECTION, SUPPLY
- DUCT SECTION, EXHAUST
- DUCT SECTION, RETURN
- DROP (D) CHANGE OF ELEVATION RISE (R),
- FLEXIBLE CONNECTION
- FLEXIBLE DUCT
- MITERED ELBOW W/ TURNING VANES
- DUCT ELBOW DOWN. SUPPLY SHOWN
- DUCT ELBOW UP, SUPPLY SHOWN
- VOLUME DAMPER
- SUPPLY REGISTER OR GRILLE
- EXHAUST REGISTER OR GRILLE
- RETURN REGISTER OR GRILLE
- FOUR WAY BLOW SUPPLY DIFFUSER / REGISTER
- THREE WAY BLOW SUPPLY DIFFUSER / REGISTER
- 1.0 S.F. / 100 CFM — DOOR LOUVER, SIZE
- U — DOOR UNDERCUT
- DUCTWORK WITH INTERNAL INSULATION

- M — MOTORIZED DAMPER (ELECTRIC)
- GBD — GRAVITY BACKDRAFT DAMPER
- FD (#) — FIRE DAMPER W/ ACCESS DOOR; (#) DESIGNATES FIRE WALL RATING
- TWO WAY BLOW SUPPLY DIFFUSER
- ONE WAY BLOW SUPPLY DIFFUSER
- NEW DUCTWORK/EQUIPMENT
- NEW DUCTWORK/EQUIPMENT
- HIDDEN DUCTWORK/EQUIPMENT

DESIGN HEATING AND COOLING CRITERIA

OUTDOOR AMBIENT DESIGN CONDITIONS:
WEATHER STATION: NEW YORK STEWARD, NY, USA; CLIMATE ZONE: 5A
RTU-1; ACCU-1: SUMMER: DB 90.2 °F; WB 72.2 °F (0.4% COOLING); WINTER: DB 3.5 °F (99.6% HEATING);
RTU-2: SUMMER: DB 80.2 °F; WB 75 °F (0.4% DEHUMIDIFICATION); WINTER: DB 0°F
INTERIOR DESIGN CONDITIONS:
SUMMER: DB 75 °F; 50 RH; WINTER: 70 °F

2020 ENERGY CONSERVATION CODE OF NYS COMPLIANCE STATEMENT

TO THE BEST OF MY KNOWLEDGE, BELIEF AND PROFESSIONAL JUDGMENT, THE PLANS AND SPECIFICATIONS UNDER THIS CONTRACT ARE IN COMPLIANCE WITH THE 2020 ENERGY CONSERVATION CODE OF NYS.

SCOPE OF WORK

SPSCOPE OF WORK INCLUDES:
A) INSTALLATION OF A NEW CENTRAL HVAC SYSTEM CONSISTING OF A CONSTANT VOLUME ROOFTOP PACKAGED HEAT PUMP UNIT FOR ADMINISTRATIVE SPACES AND A 100% OUTSIDE AIR ROOFTOP PACKAGED AIR HANDLING UNIT FOR LABORATORY, INCLUDING DUCTWORK, AND RELATED EQUIPMENT, ACCESSORIES AND AUXILIARIES FOR A COMPLETE INSTALLATION.

B) INSTALLATION OF A DX SPLIT SYSTEM FOR COOLING ELECTRICAL AND SCADA ROOMS.

C) INSTALLATION OF TOILET EXHAUST FAN, LABORATORY HOOD AND GENERAL EXHAUST FAN SERVING LABORATORY.

D) INSTALLATION OF WALL CABINET UNIT HEATER IN MAIN ENTRANCE.

E) INSTALLATION OF BUILDING AUTOMATION SYSTEM (BAS), LOCAL CONTROLLERS AND DEVICES FOR INSTALLED HVAC EQUIPMENT PART OF THIS CONTRACT.

CODES, PERMITS AND INSPECTIONS

1. ALL WORK SHALL MEET OR EXCEED THE REQUIREMENTS OF THE 2020 BUILDING CODE AND SUB-CODES OF NEW YORK STATE, AND OTHER AUTHORITIES EXERCISING JURISDICTION OF THE WORK OF THIS PROJECT.
2. ANY PORTION OF WORK WHICH IS NOT SUBJECT TO THE APPROVAL OF AN AUTHORITY HAVING JURISDICTION SHALL BE PROVIDED IN ACCORDANCE WITH NATIONAL FIRE PROTECTION ASSOCIATION (NFPA).
3. THE CONTRACTOR SHALL BE LICENSED IN THE LOCAL JURISDICTION PRIOR TO BIDDING THE PROJECT. CONTRACTOR TO CONTACT CITY/TOWNSHIP TO VERIFY UPDATED LICENSED TO VERIFY THEY ARE UP TO DATE.
4. CONTRACTOR SHALL FILE AND OBTAIN ALL PERMITS REQUIRED FOR THE WORK. REFERENCE NOTE 7 ON SHEET G-02.
5. INSPECTIONS SHALL VERIFY THE INSTALLED HVAC SYSTEM FOR THE CORRECT TYPE AND SIZE, CONTROLS, INSULATION, MINIMUM EFFICIENCY AS REQUIRED BY THE CODE, APPROVED PLANS AND SPECIFICATIONS.
6. MANUFACTURER'S INSTALLATION INSTRUCTIONS SHALL BE AVAILABLE ON THE JOB SITE AT THE TIME OF INSPECTION.
7. UPON NEAR COMPLETION OF WORK, ENGINEER SHALL CONDUCT A FIELD OBSERVATION WALKTHROUGH AND SUBMIT A PUNCHLIST REPORT LISTING ALL FIELD WORK MISSED OR NOT IN COMPLIANCE WITH SCOPE OF WORK. CONTRACTOR IS RESPONSIBLE FOR COMPLETING ALL WORK LISTED IN THE PUNCHLIST REPORT.
8. CONTRACTOR SHALL PROVIDE THE OWNER WITH ALL NECESSARY OPERATION AND MAINTENANCE MANUALS, SHOP DRAWINGS, WIRING DIAGRAMS AND WARRANTY PAPERWORK UPON COMPLETION OF PROJECT.

CONSTRUCTION NOTES

1. ALL INSTALLATION AND WORK SHALL BE PERFORMED IN A NEAT, WORKMAN-LIKE MANNER SO AS NOT TO DAMAGE ANY SURFACES, EQUIPMENT, OR MATERIALS.
2. BEFORE PROCEEDING WITH ANY WORK IN OCCUPIED OR USED AREAS, THE CONTRACTOR SHALL APPLY TO THE OWNER OF BUILDING FACILITY ENGINEERS FOR PERMISSION TO ENTER SUCH AREAS. THE CONTRACTOR IS OBLIGED TO PERFORM HIS WORK ONLY AT THE TIME OR TIMES DESIGNATED BY THE OWNER OR BUILDING FACILITY ENGINEERS. THERE WILL BE NO ADDITIONAL COMPENSATION FOR THE WORK PERFORMED AFTER HOURS OR ON OFF-DAYS WITHOUT PRIOR WRITTEN APPROVAL.
3. THE CONTRACTOR SHALL REPAIR WALLS, CEILING, FLOORS, ETC., THAT ARE REQUIRED TO BE PENETRATED, OR OTHERWISE DISTURBED. THE REPAIRS SHALL BE WITH MATERIALS AND FINISHES TO MATCH EXISTING. FIRE WALL PENETRATIONS SHALL BE SEALED WITH SUITABLE MATERIALS TO PRESERVE FIRE WALL INTEGRITY. THIS WORK SHALL BE PROVIDED UNDER THE GENERAL CONTRACT AND COORDINATED UNDER THE HVAC CONTRACT.
4. THE CONTRACTOR SHALL COORDINATE WITH THE ARCHITECT FOR ANY MISCELLANEOUS FINISH REPAIRS CAUSED BY MECHANICAL WORK.
5. EXISTING ROOF SHALL BE PROTECTED DURING CONSTRUCTION. CONTRACTOR SHALL BE RESPONSIBLE FOR PATCHING AND SEALING ANY WORK ON AND/OR THROUGH THE ROOF.
6. THE CONTRACTOR SHALL LOCATE EQUIPMENT WHICH MUST BE SERVICED, OPERATED OR MAINTAINED IN FULLY ACCESSIBLE POSITIONS. FURNISH ACCESS DOORS AS REQUIRED FOR BETTER ACCESSIBILITY. MINOR DEVIATIONS FROM DRAWINGS MAY BE MADE TO ALLOW FOR ACCESSIBILITY, BUT CHANGES OF MAGNITUDE WHICH INVOLVE EXTRA COSTS SHALL NOT BE MADE WITHOUT WRITTEN APPROVAL.
7. CONTRACTOR SHALL BE RESPONSIBLE FOR THE FAILURE OF ANY DUCTWORK SYSTEM OR EQUIPMENT TO FUNCTION PROPERLY UPON COMPLETION OF HIS WORK UPON SAID SYSTEM OR EQUIPMENT.
8. PATCH EXISTING PENETRATIONS THROUGH WALLS AND FLOORS THAT RESULTED FROM DEMOLITION OF EXISTING DUCTWORK, PIPING AND EQUIPMENT. THIS WORK SHALL BE PROVIDED UNDER THE GENERAL CONTRACT AND COORDINATED UNDER THE HVAC CONTRACT.

GENERAL NOTES

1. NOT ALL ABBREVIATIONS, LINE TYPES, OR SYMBOLS MAY APPEAR ON THESE CONTRACT DOCUMENTS.
2. DRAWINGS SHALL BE CONSIDERED DIAGRAMMATIC AND ARE INTENDED TO CONVEY THE SCOPE OF WORK AND INDICATE THE EQUIPMENT'S GENERAL ARRANGEMENT CAPACITY, SIZE AND APPROXIMATE LOCATION. DRAWINGS SHALL NOT BE SCALED OR MANIPULATED. WHILE THE DRAWINGS ARE GENERALLY TO SCALE AND ARE AS ACCURATE AS THE SCALE WILL PERMIT, DIMENSIONS SHALL BE CONFIRMED IN THE FIELD.
3. THE SITE, LOCATION, AND ROUTING OF SYSTEMS INDICATED TO HAVE NEW CONNECTIONS MADE TO THEM ARE SHOWN AS ACCURATELY AS FIELD CONDITIONS PERMIT ACCORDING TO THE BEST INFORMATION AVAILABLE AT THE TIME OF THE PREPARATION OF THESE PLANS. CONTRACTOR SHALL VISIT THE SITE AND THOROUGHLY EXAMINE THE CONTRACT DRAWINGS. ALL EXISTING CONDITIONS SHALL BE EXAMINED AND THEIR EXACT LOCATIONS VERIFIED. THE CONTRACTOR SHALL REPORT, IN WRITING, TO THE ENGINEER ANY CONDITIONS WHICH MAY PRESENT A CONFLICT AND/OR COORDINATION ISSUE WITH INSTALLATION OF REQUIRED EQUIPMENT. THE ENGINEER WILL ISSUE WRITTEN INSTRUCTIONS IF WARRANTED. NO CONSIDERATION OR ALLOWANCE WILL BE GRANTED FOR FAILURE TO INVESTIGATE CONDITIONS OR MISUNDERSTANDINGS OF THE CONTRACTUAL REQUIREMENTS. IT IS THE INTENT OF THIS CONTRACT THAT THE CONTRACTOR BE RESPONSIBLE TO MAKE ANY AND ALL ADJUSTMENTS IN CONSTRUCTION NECESSARY TO SUIT EXISTING DIMENSIONS OR ELEVATIONS , AT NO CHANGE IN CONTRACT PRICE, UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
4. ANY DISCREPANCIES OR ERRORS IN CONTRACT DOCUMENTS (DRAWINGS AND SPECIFICATIONS) SHALL BE REPORTED TO THE ENGINEER OF RECORD PROMPTLY. NO CHANGES IN THE CONTRACT DOCUMENTS ARE PERMISSIBLE WITHOUT THE CONCENT OF THE ENGINEER OF RECORD.
5. COORDINATE WITH OTHER TRADES TO AVOID INTERFERENCE AMONG MECHANICAL, ELECTRICAL, ARCHITECTURAL AND STRUCTURAL, PLUMBING, ETC. PROVIDE NECESSARY OFFSETS IN PIPING, DUCTWORK AND FITTINGS ETC., REQUIRED TO PROPERLY INSTALL WORK WITHOUT INTERFERENCES.
6. THE MANUFACTURERS AND MODEL NUMBERS LISTED ON THE SCHEDULES AND DETAILS ARE THE BASIS OF DESIGN FOR THIS PROJECT.
7. ELECTRICAL POWER PROVISIONS FOR MECHANICAL EQUIPMENT ARE BASED ON BASIS OF DESIGN EQUIPMENT AS INDICATED IN MECHANICAL SCHEDULES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CHECKING ELECTRICAL RATINGS FROM CERTIFIED SHOP DRAWINGS OF EQUIPMENT AND SHALL COORDINATE WITH ELECTRICAL CONTRACTOR FOR REQUIRED OVERCURRENT PROTECTION REQUIREMENTS.
8. EQUIPMENT SIZES AND LOCATIONS ARE APPROXIMATE. ACTUAL DIMENSIONS TO BE DETERMINED BY EQUIPMENT FURNISHED.
9. FINAL SIZES OF FLOOR OPENINGS, WALL OPENINGS, ROOF OPENINGS, DUCT PLENUMS, DUCT TRANSITIONS AND PIPING CONNECTIONS TO EQUIPMENT SHALL BE DETERMINED BY EQUIPMENT FURNISHED.
10. WHERE PIPES OR DUCTS PENETRATE THROUGH EXISTING FLOORS, WALLS, OR SLABS, CORE DRILL OR SAW CUT PENETRATION. THIS WORK SHALL BE PROVIDED UNDER THE GENERAL CONTRACT AND COORDINATED UNDER THE HVAC CONTRACT.
11. PROVIDE PIPE SLEEVES AND MECHANICAL SEALS FOR ALL PIPING AND CONTAINMENT CONDUIT PENETRATIONS THRU CONCRETE OR MASONRY CONSTRUCTION INCLUDING BUT NOT LIMITED TO WALLS, FLOORS, ROOFS, PADS,UNDERGROUND STRUCTURES EXCEPT WHERE OTHERWISE NOTED.
12. ALL DUCT DIMENSIONS ARE CLEAR DIMENSIONS TO INSIDE OF DUCT. DIMENSIONS TO DUCTS FROM FLOOR OR WALL SHALL BE TO THE OUTSIDE OF DUCT. WHERE INTERNAL INSULATION IS REQUIRED, THE DUCT SIZE SHALL BE INCREASED TO GIVE CLEAR INSIDE DIMENSIONS.
13. VOLUME DAMPERS SHOWN OR DESCRIBED ON THE DRAWINGS ARE IN ADDITION TO OPPOSED BLADE DAMPERS PROVIDED WITH REGISTERS.
14. FIRST FIGURE OF DUCT SIZE INDICATES DIMENSION OF FACE SHOWN OR INDICATED.
15. HEATING AND COOLING SYSTEM DESIGN LOADS FOR THE PURPOSE OF SIZING SYSTEMS AND EQUIPMENT WAS DETERMINED IN ACCORDANCE WITH ANSI/ASHRAE/ACCA STANDARD 183. CALCULATION REPORTS ARE AVAILABLE UPON REQUEST.
16. REFER TO CODE COMPLIANCE DRAWINGS UNDER GENERAL DRAWING CATEGORY FOR ADDITIONAL DESIGN INFORMATION REQUIRED UNDER THIS CONTRACT.

MECHANICAL REQUIREMENTS

1. ALL DUCTWORK SHALL COMPLY WITH ALL REQUIREMENTS OF THE SMACNA – DUCT CONSTRUCTION STANDARDS, METAL & FLEXIBLE, LATEST EDITION. REFER TO SPECIFICATION 23 31 13 FOR CONTINUATION.
2. DUCTS AND PIPING SHALL BE THERMALLY INSULATED AS PER C403.11.1 AND C403.11.3 OF 2020 ENERGY CONSERVATION CODE OF NYS. REFER TO SPECIFICATION SECTIONS 23 07 13 AND 23 07 19 FOR INSULATION TYPE AND THICKNESS.
3. DUCTS AND PIPING FINAL EXACT ROUTING TO BE DETERMINED BY FIELD CONDITIONS. AVOID PIPING ROUTING ABOVE EXISTING ELECTRICAL EQUIPMENT. WHEN ROUTING OF ANY PIPE/DUCT ABOVE ELECTRICAL EQUIPMENT IS UNAVOIDABLE, IT SHALL BE 6 FEET OR MORE ABOVE ELECTRICAL EQUIPMENT BE PROVIDED WITH PROTECTION BY CONTRACTOR TO AVOID DAMAGE TO THE ELECTRICAL EQUIPMENT FROM CONDENSATION, LEAKS, OR BREAKS IN SUCH SYSTEMS.
4. OUTSIDE AIR INTAKE OPENING LOCATIONS AND MINIMUM DISTANCES FROM NEARBY OPENINGS AND STRUCTURES SHALL COMPLY WITH 2020 NYSMC 401.4.
5. EXHAUST AIR DISCHARGE LOCATIONS AND MINIMUM DISTANCES FROM NEARBY OPENINGS AND STRUCTURES SHALL COMPLY WITH 2020 NYSMC 501.3.
6. SMOKE DUCT DETECTORS SHALL BE INSTALLED IN RETURN AIR SYSTEMS WITH A DESIGN CAPACITY OVER 2000 CFM UPSTREAM OF ANY FILTERS, EXHAUST AIR AND OUTDOOR AIR CONNECTIONS AND DECONTAMINATION EQUIPMENT AS PER 2020 NYCMC 606.2.1.
7. DUCTS PENETRATIONS AND AIR TRANSFER OPENINGS IN FIRE- RESISTANCE RATED ASSEMBLIES SHALL MEET REQUIREMENTS FOR SMOKE, FIRE OR COMBINATION DAMPERS RATINGS, LOCATIONS AND ACCESS AS PER 2020 NYSMC 607.
8. APPROVED FLEXIBLE CONNECTIONS SHALL BE PROVIDED AT DUCT AND PIPING CONNECTIONS TO MOTOR OPERATED EQUIPMENT.
9. ALL EQUIPMENT, DUCTWORK AND PIPING SHALL BE SUPPORTED IN AN APPROVED MANNER FROM THE BUILDING STRUCTURE ABOVE BY THE INSTALLATION OF APPROVED HANGERS / SUPPORTS. CONTRACTOR SHALL VERIFY LOCATIONS OF PRESTRESSED STRAINS IN EXISTING CONCRETE TEE'S PRIOR TO ANCHOR INSTALLATION FOR STEEL FRAME AND HVAC DUCT HANGERS. REFER TO SPECIFICATION SECTION 23 05 29 FOR CONTINUATION.
10. DUCT COLLARS AND PIPE ESCUTCHEONS SHALL BE PROVIDED AT ALL EXPOSED PENETRATIONS OF FLOOR, WALLS AND CEILINGS.
11. ALL PIPING, DUCTWORK PENETRATING ALL WALLS, CEILINGS, FLOORS, ROOFS, ETC. SHALL BE FIRE STOPPED. ALL DUCTWORK PENETRATING FIRE RATED WALLS SHALL BE EQUIPPED WITH FIRE DAMPER RATED HIGHER THAN WALL. CONTRACTOR TO PROVIDE ACCESSIBLE DOOR (24"x24" MINIMUM UNLESS NOTED) ADJACENT TO FIRE DAMPER.
12. PROVIDE ACCESS PANELS WHETHER INDICATED OR NOT FOR ACCESS TO CONCEALED VALVES, DAMPERS, OR OTHER EQUIPMENT FURNISHED UNDER THIS CONTRACT WHERE NO OTHER MEANS OF ACCESS IS PROVIDED. PANEL SHALL BE OF TYPE TO MAINTAIN FIRE RATING OF STRUCTURE AND SIZED FOR CLEAR SERVICE ACCESS.
13. ALL EXPOSED HANGER RODS AND MISCELLANEOUS SUPPORTS SHALL BE GALVANIZED STEEL OR PLATED, INCLUDING CRAWLSPACE AND EXTERIOR INSTALLATION, UNLESS NOTED OTHERWISE.
14. INSTALL ALL EQUIPMENT AND MATERIAL IN ACCORDANCE WITH MANUFACTURERS INSTALLATION INSTRUCTIONS AND RECOMMENDATIONS. MAINTAIN CLEARANCES FOR CLEARANCE ACCESS TO MAINTAIN AND SERVICE EQUIPMENT, VALVES AND CONTROL. FURNISH AND INSTALL REQUIRED AUXILIARY ITEMS TO PROVIDE A COMPLETE INSTALLATION. ANY CONFLICTS WITH INSTALLATION AND MANUFACTURER RECOMMENDATIONS SHALL BE REPORTED TO ENGINEER.
15. A PERMANENT FACTORY-APPLIED NAMEPLATE(S) SHALL BE AFFIXED TO APPLIANCES ON WHICH SHALL APPEAR IN LEGIBLE LETTERING, THE MANUFACTURER'S NAME OR TRADEMARK, THE MODEL NUMBER, SERIAL NUMBER AND THE SEAL OR MARK OF THE APPROVED AGENCY. IN ADDITION, LABEL SHALL INCLUDE THE INFORMATION REQUIRED AS PER 2020 NYSMC 301.9.
16. ELECTRICAL WIRING, CONTROLS AND CONNECTIONS TO EQUIPMENT AND APPLIANCES SHALL BE IN ACCORDANCE WITH NFPA 70.
17. MOTOR OPERATED EQUIPMENT SHALL BE ISOLATED FROM THE BUILDING STRUCTURE BY THE INSTALLATION OF APPROVED VIBRATION ISOLATORS.
18. THE CONTRACTOR IS RESPONSIBLE FOR TESTING, ADJUSTING AND BALANCING (TAB) ALL MECHANICAL EQUIPMENT INDICATED IN THE MECHANICAL DRAWINGS. REFER TO SPECIFICATION SECTION 23 05 93 FOR REFERENCE STANDARDS, REQUIRED SUBMITTALS AND GENERAL EXECUTION REQUIREMENTS.
19. THERMOSTATS SHALL BE LOCATED 4' 10" ABOVE FINISHED FLOOR, UNLESS OTHERWISE INDICATED.
20. MECHANICAL CONTRACTOR SHALL PROVIDE CONTROLS FOR ALL NEW HVAC EQUIPMENT AND TIE INTO NEW BUILDING AUTOMATION SYSTEM (BAS) AS SHOWN ON CONSTRUCTION DRAWINGS AND SPECIFICATIONS . THE MECHANICAL CONTRACTOR SHALL CARRY ALL FEES FOR NEW CONTROLS IN THEIR BID. THE MECHANICAL CONTRACTOR SHALL INSTALL ALL CONTROL ACTUATORS, DAMPERS, SENSORS, ETC. MECHANICAL CONTRACTOR SHALL PROVIDE ALL LOW VOLTAGE CONTROL WIRING FOR PROJECT. ALL LOW VOLTAGE WIRING TO BE INSTALLED IN EMT CONDUIT FOR INDOOR INSTALLATION. INSTALL IN RIGID STEEL CONDUIT FOR ANY EXTERIOR CONDUIT. SEE ELECTRICAL SPECIFICATIONS FOR REQUIREMENTS.
21. THERMOSTATS SHALL BE LOCATED 4' 10" ABOVE FINISHED FLOOR, UNLESS OTHERWISE INDICATED.
22. MECHANICAL CONTRACTOR SHALL PROVIDE CONTROLS FOR ALL NEW HVAC EQUIPMENT AND TIE INTO NEW BUILDING AUTOMATION SYSTEM (BAS) AS SHOWN ON CONSTRUCTION DRAWINGS AND SPECIFICATIONS. THE MECHANICAL CONTRACTOR SHALL CARRY ALL FEES FOR NEW CONTROLS IN THEIR BID. THE MECHANICAL CONTRACTOR SHALL INSTALL ALL CONTROL ACTUATORS, DAMPERS, SENSORS, ETC. MECHANICAL CONTRACTOR SHALL PROVIDE ALL LOW VOLTAGE CONTROL WIRING FOR PROJECT. ALL LOW VOLTAGE WIRING TO BE INSTALLED IN EMT CONDUIT FOR INDOOR INSTALLATION. INSTALL IN RIGID STEEL CONDUIT FOR ANY EXTERIOR CONDUIT. SEE ELECTRICAL SPECIFICATIONS FOR REQUIREMENTS.
23. CONDENSATE PIPING SHALL MAINTAIN A HORIZONTAL SLOPE IN THE DIRECTION OF DISCHARGE OF NOT LESS THAN ONE-EIGHTH UNIT VERTICAL IN 12 UNITS HORIZONTAL (1-PERCENT SLOPE) AND SHALL BE CONFIGURED TO PERMIT THE CLEARING OF BLOCKAGES AND PERFORMANCE OF MAINTENANCE WITHOUT REQUIRING THE DRAIN LINE TO BE CUT.
24. CONDENSATE DRAINS SHALL BE TRAPPED AS REQUIRED BY THE EQUIPMENT OR APPLIANCE MANUFACTURER. DUCTLESS MINI-SPLIT EQUIPMENT SHALL BE PROVIDED WITH AN IN-LINE CHECK VALVE LOCATED IN THE DRAIN LINE OR TRAP AS PER 2020 NYSPC 134.2.4
25. ALL CONDENSATE PIPING SHALL BE INSULATED.
26. REFRIGERANT PIPING CROSSING AN OPEN SPACE THAT AFFORDS PASSAGEWAY SHALL BE NOT LESS THAN 7 FEET 3 INCHES (2210 MM) ABOVE THE FLOOR UNLESS THE PIPING IS LOCATED AGAINST THE CEILING OF SUCH SPACE AS PER 2020 NYSMC 1107.2

ARCADIS

LEGAL ENTITY:
ARCADIS OF NEW YORK, INC.

CONSULTANTS

SEALS

STATE OF NEW YORK · ALEJANDRO D'SOLA · 107868 · LICENSED PROFESSIONAL ENGINEER

8/30/2024

ORANGE COUNY, NEW YORK

CITY OF NEWBURGH

WASTEWATER TREATMENT PLANT (WWTP) ADMIN BUILDING RENOVATION

BID NUMBER 7.24

ARCADIS PROJ. NO. 30183827

NO.	DATE	ISSUED FOR	BY

DATE:	SEPTEMBER 2024
PROJECT NO.:	30183827
FILE NAME:	
DESIGNED BY:	A. DSOLA
DRAWN BY:	L. BANGARU
CHECKED BY:	V. VITALE

SHEET TITLE

HVAC

ABBREVIATIONS, LEGEND AND NOTES

SCALE: NOT TO SCALE

H-1

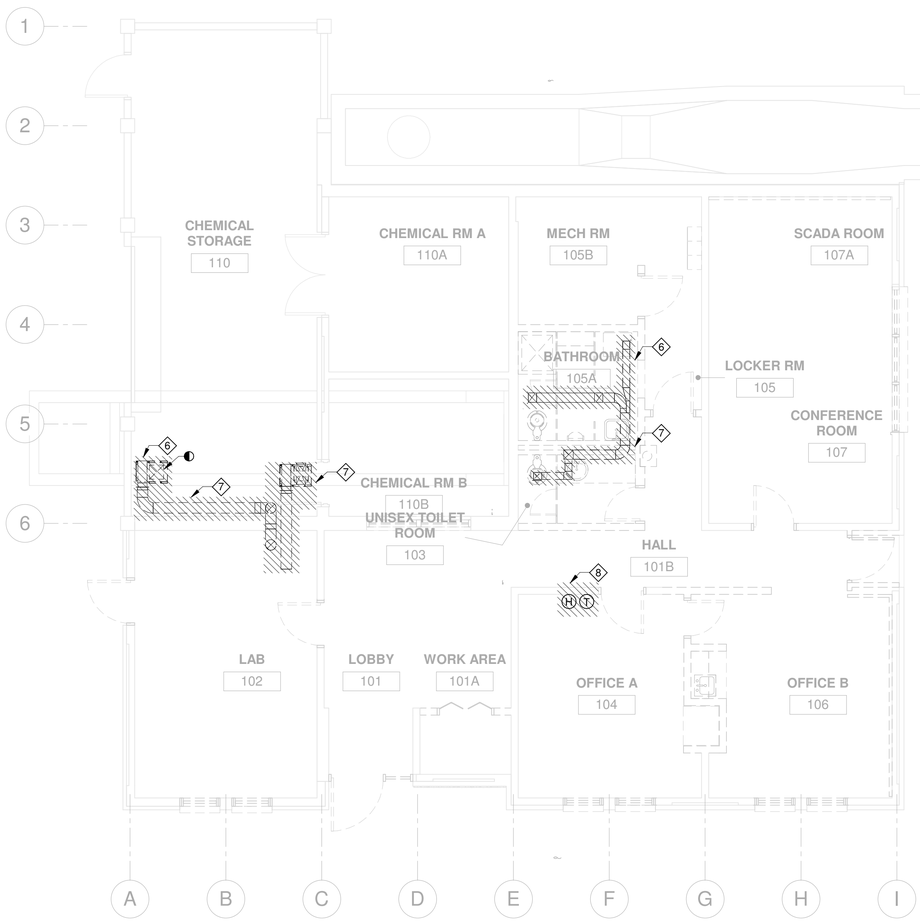
SHEET 28 OF 51

GENERAL DEMOLITION NOTES

1. CONTRACTOR SHALL VISIT THE PREMISES TO DETERMINE EXISTING CONDITIONS AND COMPARE SAME WITH CONTRACT DRAWINGS AND SPECIFICATIONS. CONTRACTOR IS TO ENSURE ALL CONDITIONS HAVE BEEN THOROUGHLY EXAMINED PRIOR TO THE SUBMISSION OF A BID PROPOSAL FOR DEMOLITION. NO ALLOWANCE WILL BE MADE FOR FAILURE TO COMPLY WITH THESE REQUIREMENTS AND A BID PROPOSAL SHALL BE CONSTRUED AS EVIDENCE HE HAS DONE SO.
2. ANY EXISTING EQUIPMENT, DUCTWORK, AC UNITS. ETC. WHICH IS NOT SHOWN TO BE REMOVED BUT INTERFERES WITH THE NEW CONSTRUCTION IS TO BE REMOVED BY CONTRACTOR AT NO ADDITIONAL COST.
3. CONTRACTOR, PRIOR TO THE REMOVAL AND DEMOLITION WORK IS TO INFORM OWNER OF THE ITEMS BEING REMOVED TO DETERMINE IF THE OWNER WOULD LIKE TO TAKE POSSESSION OF IT.
4. SHOULD ANY QUESTION ARISE AS TO WHETHER OR NOT ANY PIPING, EQUIPMENT OR OTHER ITEM SHOULD BE REMOVED, OR REMAIN AS PRESENTLY INSTALLED, THE CONTRACTOR SHALL REQUEST, IN WRITING. CLARIFICATION FROM THE ARCHITECT ENGINEER.
5. ANY DEMOLITION OF EXISTING EQUIPMENT SHALL INCLUDE THE REMOVAL OF THEIR RELATED CONTROLS AND CONTROL WIRING, SUPPORTS, DUCTWORK, PIPING, ALL CORRESPONDING ACCESSORIES AND PARTS AND ELECTRICAL POWER SUPPLY.
6. REMOVAL SHALL INCLUDE TAKING FROM THE PREMISES AND DISPOSAL OF REMOVED ITEMS TO THE LOCATION INDICATED THE OWNER OR BUILDING. UNLESS OTHERWISE NOTED
7. CONTRACTOR SHALL CAP ALL REMAINING DUCTS, AT ALL POINTS OF DISCONNECTION. AIRTIGHT.
8. DEMOLITION AND OTHER WORK WHICH CREATES DIRT AND/OR DISTURBING NOISE MUST BE PERFORMED AT THE TIME AND MANNER DIRECTED BY THE OWNER OR BUILDING FACILITY. THE DELIVERY, HANDLING AND INSTALLING OF MATERIALS, EQUIPMENT AND DEBRIS MUST ARRANGED TO AVOID ANY INCONVENIENCE AND ANNOYANCE TO THE BUILDING AND OPERATION. CLEANING MUST BE CONTROLLED TO PREVENT DIRT AND FROM INFILTRATING INTO ADJACENT AREAS. WELDING OR BURNING MUST BE PERFORMED ONLY DURING TIMES SPECIFICALLY APPROVED BY THE FACILITIES AND MAINTENANCE ENGINEERS
9. ALL RETURN AIR DUCT OPENINGS SHALL BE COVERED WITH TEMPORARY FILTER DURING THE DEMOLITION.

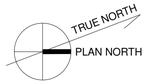
SHEET NOTES

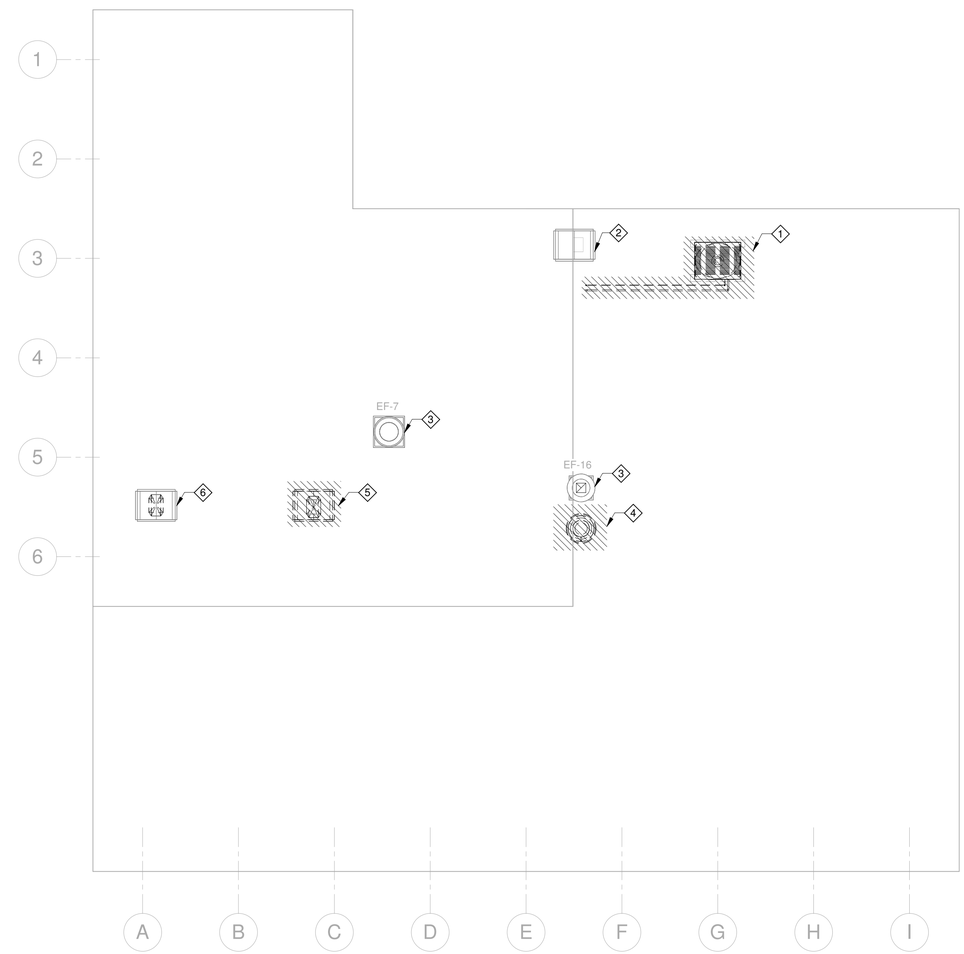
1. REMOVE EXISTING AIR-COOLED CONDENSING UNIT AND ASSOCIATED SUPPORTS, PIPING CONNECTIONS, CONTROLS, AND ELECTRICAL CONNECTIONS. PRIOR TO REMOVAL RECLAIM ALL REFRIGERANT AND PROPERLY DISPOSE OF IT IN ACCORDANCE WITH FEDERAL, STATE, LOCAL, AND EPA REGULATIONS.
2. EXISTING FRESH AIR INTAKE: REFER TO ARCHITECTURAL / ELECTRICAL PLANS.
3. EXISTING EXHAUST FAN TO REMAIN. PROTECT FAN DURING CONSTRUCTION.
4. REMOVE EXISTING ROOFTOP FAN AND ASSOCIATED CONDUIT, POWER WIRING, AND CONTROL. TEMPORARILY CAP EXISTING SUPPORT CURB AND SEAL WEATHERTIGHT UNTIL INSTALLATION OF NEW EXHAUST FAN. SEE NEW WORK FOR CONTINUATION.
5. REMOVE OUTSIDE INTAKE AIR HOOD. CAP EXISTING SUPPORT CURB AND FLASH AND SEAL ROOF WEATHERTIGHT TO MATCH EXISTING. REFER TO DETAIL #7 IN SHEET H-53. ALL ROOFWORK SHALL MAINTAIN EXISTING WARRANTY.
6. EXISTING EXHAUST AIR HOOD ON ROOF TO REMAIN. SEE NEW WORK FOR CONTINUATION.
7. REMOVE EXISTING DUCTWORK, FANS, ASSOCIATED SUPPORTS, CONDUIT, POWER WIRING, AND CONTROLS ENTIRELY.
8. REMOVE EXISTING HVAC SYSTEM'S CONTROL DEVICES, ASSOCIATED CONDUITS, CONTROL WIRING THROUGHOUT THE FACILITY. CONTRACTOR TO VERIFY IN THE FIELD.



FIRST FLOOR PLAN

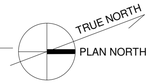
SCALE: 3/16" = 1'-0"





ROOF LEVEL

SCALE: 3/16" = 1'-0"



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8/30/2024

ORANGE COUNY, NEW YORK

CITY OF NEWBURGH

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BID NUMBER 7.24

ARCADIS PROJ. NO. 30183827

NO.	DATE	ISSUED FOR	BY

DATE: SEPTEMBER 2024
PROJECT NO.: 30183827
FILE NAME:
DESIGNED BY: A. DSOLA
DRAWN BY: L. BANGARU
CHECKED BY: V. VITALE

SHEET TITLE

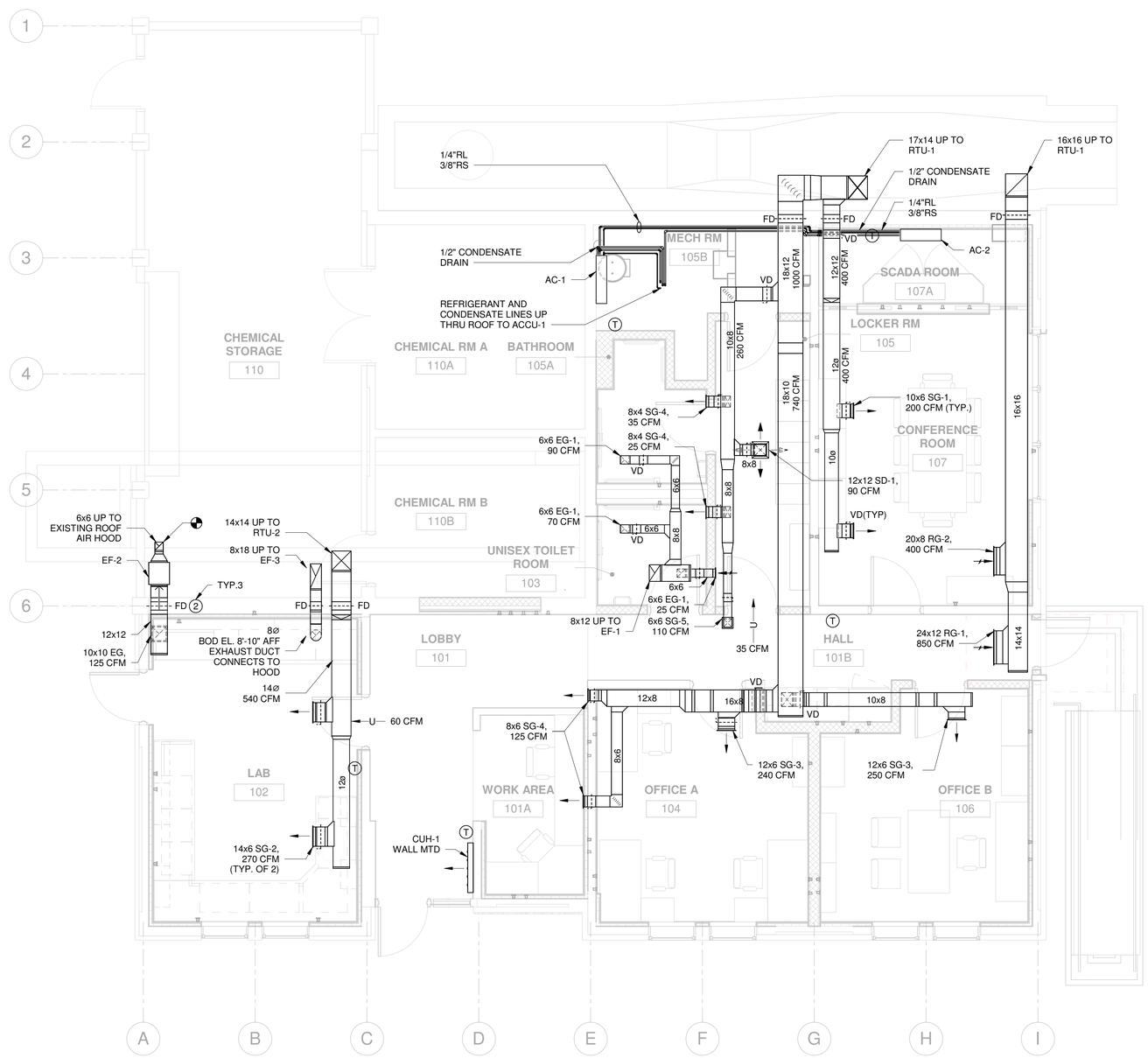
HVAC

DEMOLITION PLANS

SCALE: 3/16" = 1'-0"

H-2

SHEET 29 OF 51



FIRST FLOOR PLAN

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

0' 2' 4' 8'

TRUE NORTH

PLAN NORTH

Autodesk Docs://AUS-30183827-Newburgh WPCP Admin Bldg Rehab/H-3D-WPCP_R22.rvt

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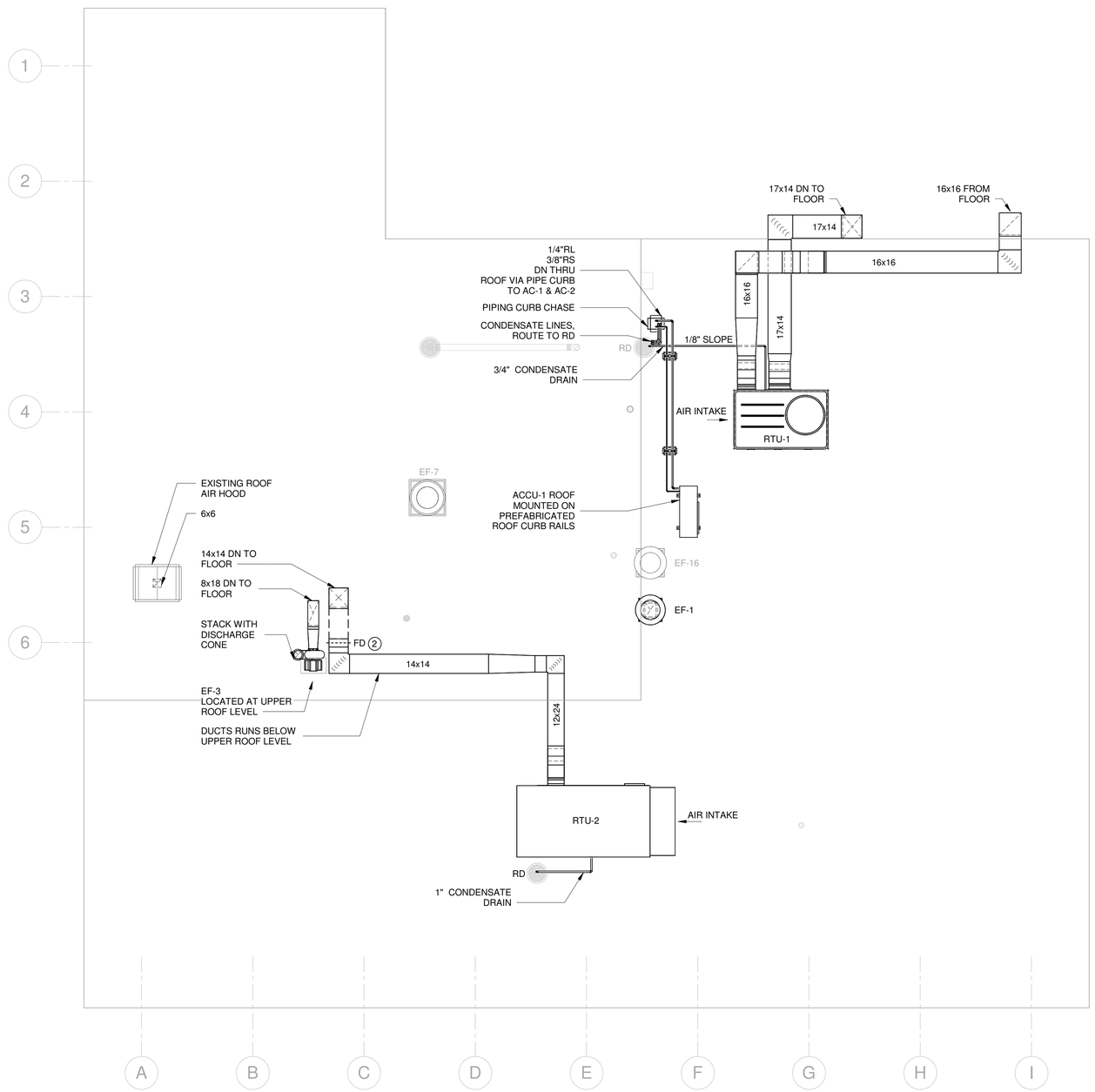
HVAC

FIRST FLOOR PLAN

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

H-10

SHEET 30 OF 51



ROOF PLAN

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

0' 2' 4' 8'

TRUE NORTH

PLAN NORTH

Autodesk Docs://AUS-30183827-Newburgh WPCP Admin Bldg Rehab/H-3D-WPCP_R22.rvt

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SHEET TITLE

HVAC

ROOF PLAN

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

H-11

SHEET 31 OF 51

DIFFUSER, GRILLE AND REGISTER SCHEDULE

MARK NO.	LOCATION	TYPE	SIZE (IN) (WXH)	AIR FLOW (CFM)	DEFLECTION PATTERN	MFR	MODEL	NOTES
EG-1	RESTROM 105A	LOUVERED RETURN	6X6	70	0°	ANEMOSTAT	35	1, 2
EG-1	UNISEX 103, LOCKER RM 105	LOUVERED RETURN	6X6	50	0°	ANEMOSTAT	35	1, 2
RG-1	HALL 101B	LOUVERED RETURN	24X12	760	0°	ANEMOSTAT	35	1, 2
RG-2	CONF RM 107	LOUVERED RETURN	20X8	400	0°	ANEMOSTAT	35	1, 2
SD-1	LOCKER RM 105	ARCHIT DIFFUSER	12X12	90	-	ANEMOSTAT	Z	1, 2
SG-1	CONF RM 107	DOUBLE DEFLECTION GRILLE	10X6	200	0°	ANEMOSTAT	20	1, 2
SG-2	LAB 102	DOUBLE DEFLECTION GRILLE	14X6	270	22.5°	ANEMOSTAT	20	1, 2
SG-3	OFFICE A 104	DOUBLE DEFLECTION GRILLE	12X6	240	22.5°	ANEMOSTAT	20	1, 2
SG-3	OFFICE B 106	DOUBLE DEFLECTION GRILLE	12X6	250	22.5°	ANEMOSTAT	20	1, 2
SG-4	UNISEX 103	DOUBLE DEFLECTION GRILLE	8X4	25	0°	ANEMOSTAT	20	1, 2
SG-4	RESTRM 105A	DOUBLE DEFLECTION GRILLE	8X4	35	0°	ANEMOSTAT	20	1, 2
SG-6	LOBBY 101	DOUBLE DEFLECTION GRILLE	8X6	125	0°	ANEMOSTAT	20	1, 2
SG-6	WORK AREA 101A	DOUBLE DEFLECTION GRILLE	8X6	125	45°	ANEMOSTAT	20	1, 2
SG-5	HALL 101B	DOUBLE DEFLECTION GRILLE	6X6	110	45°	ANEMOSTAT	20	1, 2

NOTES:
1. INSTALL PER MFR INSTRUCTIONS
2. SPECIFICATION SECTION 23 31 13

ELECTRIC CABINET UNIT HEATER SCHEDULE

MARK NO.	LOCATION	TYPE	HEAT CAPACITY (MBH)	ELECTRICAL DATA			FAN CFM	TEMP RISE (°F)	THROW (FT)	MOUNTING HEIGHT (AFF)	WEIGHT (LB)	MFR	MODEL	NOTES
				AMPS	KW	V/PH/HZ								
CUH-1	VESTIBULE	FAN-FORCED WALL HEATER, SURFACE MOUNTED	5.1	7.2	1.5	208/1/60	160	30	13'7"	8" MIN	20	STEELPRO	AWFA1508C24	1-6

NOTES:
1. INSTALL PER MFR INSTRUCTIONS.
2. REFER TO SPECIFICATION SECTION 23 82 39.43
3. MANUAL RESET THERMAL SAFETY CUTOUT
4. BUILT-IN DISCONNECT, AUTOMATIC FAN DELAY.
5. SURFACE MOUNTED.
6. CORDINATE FINAL COLOR SELECTION WITH ARCHITECT.
7. BACNET THERMOSTAT.

FAN SCHEDULE

MARK NO.	LOCATION	SERVICE	TYPE	DRIVE TYPE	AIRFLOW (CFM)	ESP (IN WG)	FAN SPEED (RPM)	MOTOR DATA				WEIGHT (LB)	MFR	MODEL	NOTES
								HP	BHP	RPM	V/PH/HZ				
EF-1	ROOF	TOILET/LOCKER ROOMS EXHAUST	CENTRIFUGAL - DOWNBLAST	DIRECT	185	0.5	1346	1/4	0.07	1725	115/60/1	43	GREENHECK	G-097-VG	1-6
EF-2	CHEMICAL STORAGE ROOM	LAB 102	IN-LINE	DIRECT	125	0.75	1563	1/4	0.11	1725	115/60/1	62	GREENHECK	SQ-97-VG	1-2, 6-9,13
EF-3	UPPER ROOF	LAB 102 HOOD EXHAUST	CENTRIFUGAL	DIRECT	475	1.00	1705	1/2	0.37	1725	208/60/3	5.96	PLASTEC VENTILATION	P20ST4P033	6, 10-12,13

NOTES:
1. MOTOR - VARI-GREEN EC MOTOR WITH DIAL ONLY CONTROL - DIAL FOR BALANCING.
2. SWITCH, NEMA-1, TOGGLE; JUNCTION BOX MOUNTED & WIRED.
3. BAROMETRIC DAMPER, GRAVITY OPERATED, NOT COATED
4. BIRDSCREEN: STAINLESS STEEL.
5. STANDARD CURB CAP SIZE - 19 SQUARE.
6. FLOW RATES INDICATED HEREIN CORRESPOND TO SYSTEM'S TERMINAL AIR FLOWS AGREGATES INDICATED IN SHEET H-51. FINAL UNIT SELECTION SHALL ACCOUNT FOR FOR SYSTEM DUCT LEAKAGE AND SYSTEM BALANCED ACCORDINGLY TO MEET DESIGN SPACE AIR FLOWS.
7. COATED WITH INDUSTRIAL EPOXY, LIGHT GRAY (EXCEPT WHEEL); COMPOSITE WHEEL MATERIAL
8. INLET/OUTLET COMPANION FLANGE
9. BAROMETRIC DAMPER, INLINE, GRAVITY OPERATED
10. ROOF MOUNTED ON OEM POLYPROPYLENE WEATHER HOOD / PEDESTAL.
11. PROVIDE OEM DISCHARGE STACK, NOZZLE, BACK DRAFT DAMPER AND COUPLINGS FOR COMPLETE INSTALLATION OF FAN ASSEMBLY.
12. PROVIDE OEM FACTORY MOUNTED VFD AND CONTROLS.
13. PROVIDE VIBRATOR ISOLATORS AS RECOMMMENDED BY MANUFACTURER

REFRIGERANT CONCENTRATION LIMIT (RCL) CALCULATIONS

REFRIGERANT: R-410A
REFRIGERANT CONCENTRATION LIMIT RCL (LB/MCF)= 26
(NYSMC 1103.1, TABLE 1103.1; ANSI/ASHRAE STANDARD 34-2016)

REF. SYSTEMS WITH MORE THAN 6.6 POUNDS (3.0 KG) OF REFRIGERANT)

SYSTEM	PRE-CHARGED (LBS)	FIELD CHARGE (LBS, EST.)	TOTAL CHARGE (LBS, EST.)	MIN. ALLOWED ROOM VOLUME (CF). NOTE 1
ACCU-1	6.8	0	6.8	262

NOTE 1: TOTAL SYSTEM REFRIGERANT GHARGE (LBS) / RCL (LBS/MCF) X 1000
(NON-INSTITUTIONAL OCCUPANCY)

NYSMC 1104.4.1 NONCOMMUNICATING SPACES:
VOLUME OF THE SMALLEST, ENCLOSED OCCUPIED SPACE BY SYSTEM

SYSTEM ROOM	AREA (SF)	CEILING HEIGHT (FT)	ROOM VOLUME (CF)	COMPLIES?
ACCU-1 SCADA Room	57	8	456	YES

DUCTLESS SPLIT HEAT PUMP SYSTEM SCHEDULE

INDOOR UNIT	OUTDOOR UNIT	INDOOR UNIT LOCATION	OUTDOOR UNIT LOCATION	REFRIGERANT TYPE	REFRIGERANT CHARGE (LBS)	COOLING PERFORMANCE					HEATING PERFORMANCE		INDOOR SECTION							OUTDOOR SECTION							NOTES
						NOMINAL COOLING CAPACITY (MBH)	TOTAL COOLING CAPACITY (MBH)	SENSIBLE COOLING CAPACITY (MBH)	COOLING EAT DB/WB (°F)	COOLING EFF SEER	NOMINAL HEATING CAPACITY (MBH)	HEATING COP @ 47°F (HSPF)	PEAK AIR FLOW (CFM)	TYPE	ELECTRICAL DATA		WEIGHT (LBS)	MFGR	MODEL	V/PH	ELECTRICAL DATA			WEIGHT (LBS)	MFR	MODEL	
															MCA	MOP					MCA	RFS	MOCP				
AC-1	ACCU-1	SCADA 107A	ROOF	R-410A	6.8	12.0	9.2	7.5	75.6/60.9	20.0	13.0	9.8	417	FLOOR-STANDING TYPE (EXPOSED)	NA	NA	33	TRANE/MITSUBISHI	NTXFKS12A112AA	208/230/1	22.1	25	25	137	TRANE/MITSUBISHI	NTXMMX24A132AA	1-8
AC-2		ELEC. ROOM 105B	ROOF	R-410A		12.0	9.2	8.3	75.6/60.9	20.0	14.4	9.8	448	WALL MOUNTED	NA	NA	26	TRANE/MITSUBISHI	MSZ-EF12NAB-U1								1-8

NOTES:
1. DISCONNECT PROVIDED UNDER ELECTRICAL WORK.
2. INDOOR UNIT IS POWERED FROM OUTDOOR UNIT.
3. WIRELESS REMOTE CONTROLLERS. PROVIDE CONTROL INTERFACE FOR BAS CONNECTION.
4. DRAIN PAN SENSOR SS610, WIRED TO SHUTDOWN UNIT FOR HIGH CONDENSATE.
5. NOMINAL HEATING CAPACITIES ARE BASED ON INDOOR COIL EAT OF 70°F (DB), OUTDOOR OF 43°F (WB).
6. NOMINAL COOLING CAPACITIES ARE BASED ON INDOOR COIL EAT OF 80/67°F (DB/WB), OUTDOOR OF 95°F (DB).
7. INSTALL OUTDOOR UNIT OVER ROOF RAILS FOR SUPPORT. REFER TO DETAIL 1 IN SHEET H-54.
8. CONDENSATE PUMP BLUE DIAMOND (ADV) MINI CONDENSATE PUMP W/ RESERVOIR & SENSOR 208/230V.

PACKAGED ROOFTOP AIR HANDLING UNIT SCHEDULE

MARK NO.	LOCATION	SERVICE	COOLING DATA							HEATING DATA (HEAT PUMP)					HEATING DATA (OTHER)				SUPPLY FAN DATA								CONDENSER		FILTERS		COMPRESSOR		POWER					EER , [SEER]	WEIGHT (LB)	DIMENSIONS (H/W/L) (FT)	MFR	MODEL	NOTES
			REFRIGERANT TYPE	NOMINAL TONNAGE	TOTAL/ SENSIBLE NET CAPACITIES (MBH)	COIL ROW/FPI	EAT DB/WB (°F)	LAT DB/WB (°F)	AMBIENT DB/WB (°F)	OUTPUT (MBH)	AMBIENT (°F)	EAT (°F)	LAT (°F)	COP @ 47° F (HSPF)	TYPE	CAPACITY	HEAT OUTPUT (MBH)	TEMP. RISE (°F)	DRIVE TYPE	TOTAL AIRFLOW (CFM)	OUTSIDE AIRFLOW (CFM)	ESP (IN WG)	QTY	HP PER MOTOR	BHP PER MOTOR	MOTOR SPEED (RPM)	FAN TYPE	FAN DIA QTY.	THICKNESS (IN)	MERV RATING	QTY	TYPE	FLA (AMPS)	MCA (AMPS)	MOP (AMPS)	MFS (AMPS)	V/PH/HZ						
RTU-1	ROOF	OFFICE SPACE	R-410A	4	44.75 / 35.14	3/16	74.7 / 62	52.63 / 51.28	90.2 / 72.2	19.99	3.5	60.2	72.4	8.2	ELECTRIC	12 KW	40.98	25.67	FC CENTRIFUGAL / VARIABLE DIRECT	1470	230	0.80	1	1	0.60	1016	PROPELLER / DIRECT	1	2	13	1	SCROLL	-	30.0	30.0	-	460/3/60	12.3, [14.3]	818	3.41/3.69/5.82	TRANE	WSC048H4REA	1-7, 14
RTU-2	ROOF	LAB	R-410A	3	42.7 / 16.8	4/12	79.4/75	55 / 52	79.4/75	-	-	-			ELECTRIC	15 KW	51.2	87	BC CENTRIFUGAL / VARIABLE DIRECT	545	545	0.7	1	1	0.11	1888	PROPELLER / DIRECT	1	2 / 4	8 & 14	1	SCROLL	21.4	26.7	-	30.0	460/3/60	13.6 [15.7]	1428	4.58/4.33/9.91	TRANE	OABD036F4	1-5, 7, 8-14

NOTES:
1. DISCONNECT PROVIDED UNDER ELECTRICAL WORK. NO THROUGH-THE-BASE PROVISIONS. PROVIDE UNPOWERED CONVENIENCE OUTLET.
2. PROVIDE HORIZONTAL DISCHARGE ROOF VIBRATION ISOLATION CURB.
3. CONDENSER COIL PROTECTION WITH HAIL GUARD.
4. PROVIDE UNIT WITH HINGED ACCESS DOORS FOR FILTER/ EVAPORATOR, SUPPLY FAN/HEAT AND THE COMPRESSOR/ CONTROL ACCESS.
5. BLACK EPOXY PRE-COATED /CORROSION INHIBITING COATING EXTERIOR, INTERIOR & CONDENSER COILS OPTION.
6. PROVIDE RAIN HOOD/MANUAL OUTSIDE DAMPER 0-50% ADJ.
7. PROVIDE BACNET COMMUNICATION INTERFACE, SYSTEM MONITORING CONTROLS AND ROOM SENSOR W/ TEMP.ADJ. W/OVRD. REFER TO CONTROLS DRAWING.
8. HOT GAS RE-HEAT: MODULATING
9. DIGITAL SCROLL COMPRESSOR
10. CONDENSER: AIR COOLED VARIABLE SPEED HEADPRESSURE LOW AMBIENT CONTROL.
11. ELECTRIC HEAT: SCR MODULATING
12. 2-POSITION OUTDOOR DAMPER - CLASS 1A
13. REFER TO SPECIFICATION SECTION 237413 FOR ADDITIONAL REQUIREMENTS.
14. FLOW RATES INDICATED HEREIN CORRESPOND TO SYSTEM'S TERMINAL AIR FLOWS AGREGATES INDICATED IN SHEET H-51. FINAL UNIT SELECTION SHALL ACCOUNT FOR FOR SYSTEM DUCT LEAKAGE AND SYSTEM BALANCED ACCORDINGLY TO MEET DESIGN SPACE AIR FLOWS.

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HVAC
SCHEDULES I

SCALE: NOT TO SCALE

H-50

SHEET 32 OF 51

VENTILATION SCHEDULE

NEW YORK STATE MECHANICAL CODE 2020, SECTION 403

Ventilation Zone Name / Space Name	TABLE 403.3.1.1 OCCUPANCY CLASSIFICATION	DEFAULT OCCUPANT DENSITY #/1000 FT2	People Outdoor Air Rate CFM/person (Rp)	Area Outdoor Air Rate CFM/sqft (Ra)	EXHAUST AIRFLOW RATE CFM/SQFT [CFM/WC] (CFM/SH)	Air Distribution Effectiveness (Ez)	Supply Air (Provided) CFM	Min Exhaust Air CFM	Space Floor Area Sqft (Az)	# OCCUPANTS (Pz, Default)	# OCCUPANTS (Pz, design)	Breathing Zone Outdoor Air CFM (Vbz)	Space Outdoor Air (Voz)	Primary Outdoor Air Fraction (Zp)	Space Ventilation Efficiency (Evz)	Outdoor Air Intake Flow Rate Min. (Vot)
RTU-1 & EF-1 (403.3.1.1.2.3 Mul. Zone Recirc. Systems); System Diversity (D) = 1; Constant Volume																
LOCKER ROOM 105	EDUCATION - LOCKER/DRESSING ROOMS	0	0.00	0.00	0.25	1.00	90	25	99.0	0.0	0.0	0	0	**0.00**	**1.000**	
RESTROOM 105A	PUBLIC SPACES - TOILET ROOMS	0	0.00	0.00	[70]+(20)	1.00	35	90	46.0	0.0	0.0	0	0	**0.00**	**1.000**	
UNISEX 103	PUBLIC SPACES - TOILET ROOMS	0	0.00	0.00	[70]	1.00	25	70	40.0	0.0	0.0	0	0	**0.00**	**1.000**	
HALL 101B	CORRIDORS	0	0.00	0.06	-	0.80	110		130.7	0.0	0.0	8	10	**0.09**	**1.000**	
OFFICE A 104	OFFICES - OFFICE SPACES	5	5.00	0.06	-	0.80	240		172.0	0.9	3.0	25	32	**0.13**	**1.000**	
OFFICE B 106	OFFICES - OFFICE SPACES	5	5.00	0.06	-	0.80	250		165.0	0.8	3.0	25	31	**0.12**	**1.000**	
WORK AREA 101A	OFFICES - OFFICE SPACES	5	5.00	0.06	-	0.80	125		68.0	0.3	2.0	14	18	**0.14**	**1.000**	
CONFERENCE ROOM 107	OFFICES - CONFERENCE ROOMS	50	5.00	0.06	-	0.80	400		226.0	11.3	11.4	71	88	**0.22**	**0.929**	
LOBBY 101	OFFICES - MAIN ENTRY LOBBIES	10	5.00	0.06	-	0.80	125		145.0	1.5	2.0	19	23	**0.19**	**0.963**	
					SYSTEM TOTALS (RTU-1 & EF-1)		**1400**	**185**	**1092**		**21**	**161**	**202**	**0.22**	**0.929**	**174**
RTU-2 - CAV SYSTEM & EF-3, 4 (403.3.1.1.2.2 100-Percent Outdoor Air Systems), Constant Volume																
LAB 102	EDUCATION - SCIENCE LABORATORIES	25	10.00	0.18	1.00	0.8	540	242	242.0	6.1	6.1	105	131	-	-	**131**

SUMMARY:

RTU-1 & EF-1:

403.3.1.1.2.3.2 - System Ventilation Efficiency Ev @ Zp Max Zone **0.930** **(TABLE 403.3.1.1.2.3.2)**

403.3.1.1.2.3.3 - Uncorrected Outdoor Air Intake Flow Rate (Vou) **161 CFM**

403.3.1.1.2.3.4 - Outdoor Air Intake Flow Rate: Vot = Vou/Ev **174 CFM**

Outdoor Air Intake Flow Rate Provided **245 CFM**

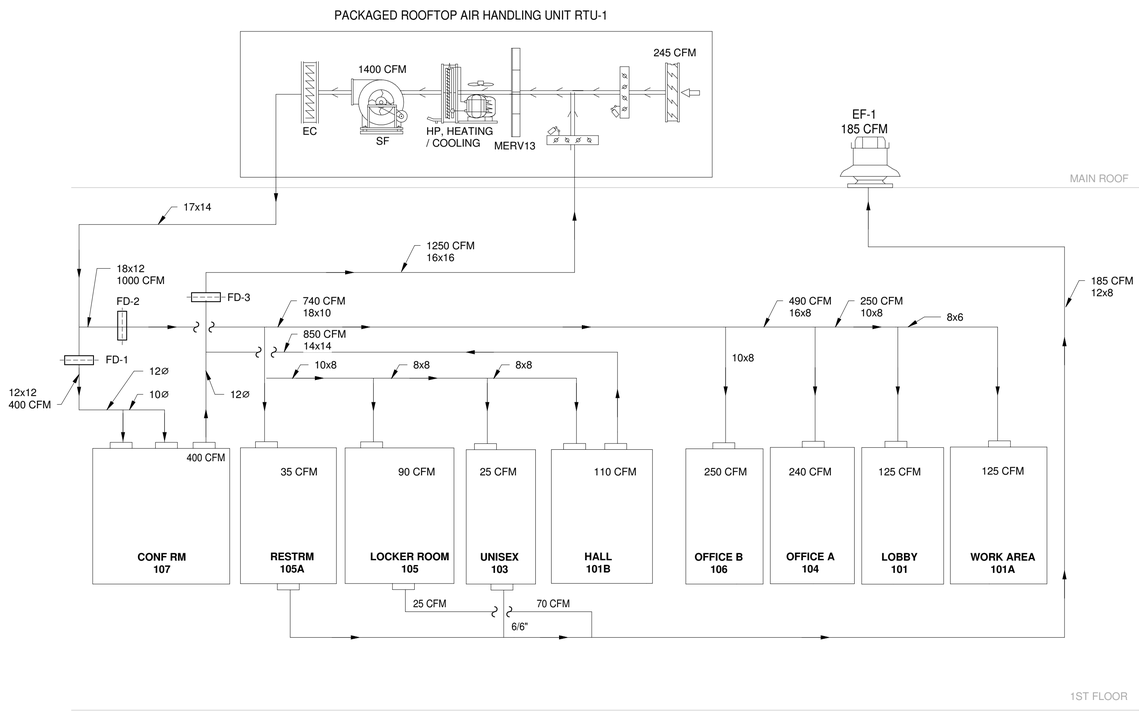
Exhaust Air Rate Provided **185 CFM**

RTU-2 & EF-2, 3:

403.3.1.1.2.2 100-Percent Outdoor Air Systems (Vot) **131 CFM**

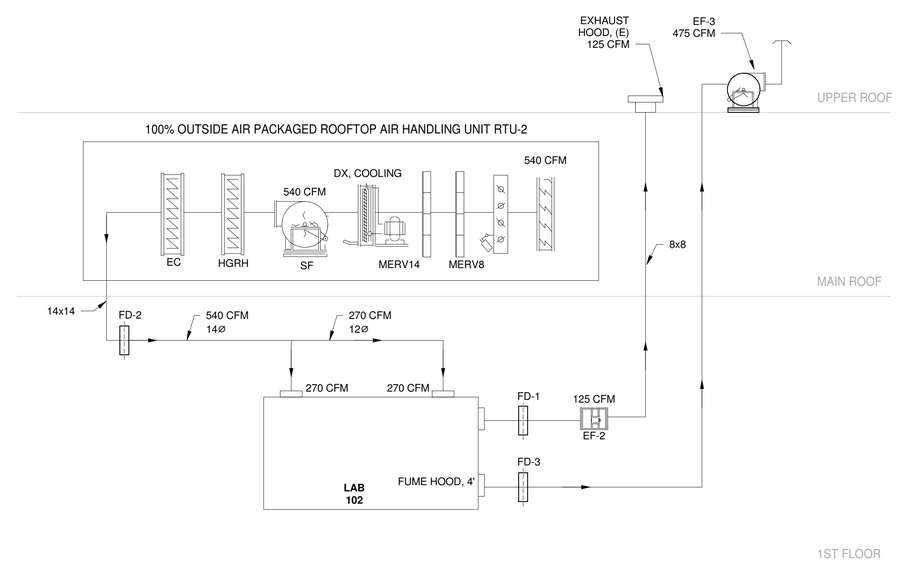
Outdoor Air Intake Flow Rate provided **540 CFM**

Exhaust Air Rate Provided **600 CFM**



1 H-51 AIR RISER DIAGRAM - RTU-1 / EF-1

SCALE: NTS



2 H-51 AIR RISER DIAGRAM - RTU-2 / EF-2, EF-3

SCALE: NOT TO SCALE

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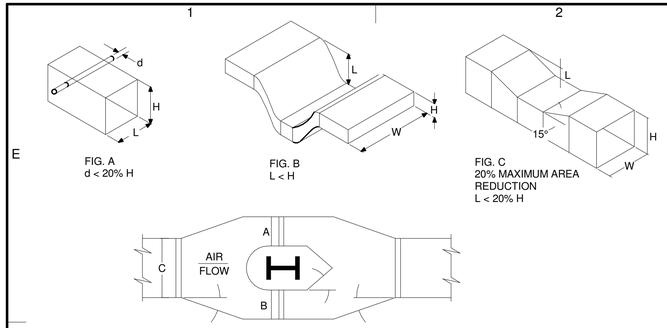
AIR RISER DIAGRAMS / VENTILATION SCHEDULE

SCALE: NOT TO SCALE

H-51

SHEET 33 OF 51

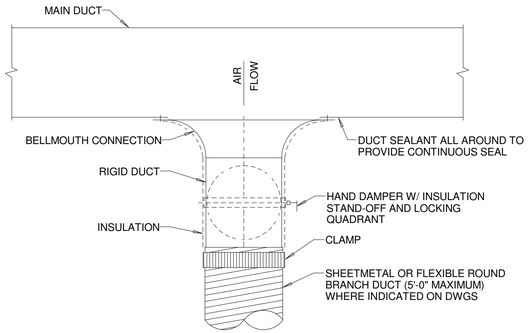


A + B = 1.25C (MIN.)
AT CONSTANT DEPTH.

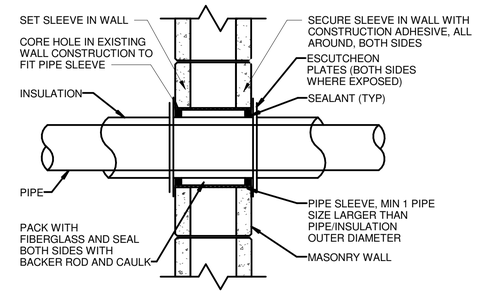
(USED WHEN OBSTRUCTION EXCEEDS 20% OF SECTION AREA AND OFFSETS AROUND ARE NOT POSSIBLE)

PROVIDE ONE OF THE ABOVE WHERE OBSTRUCTIONS OCCUR.

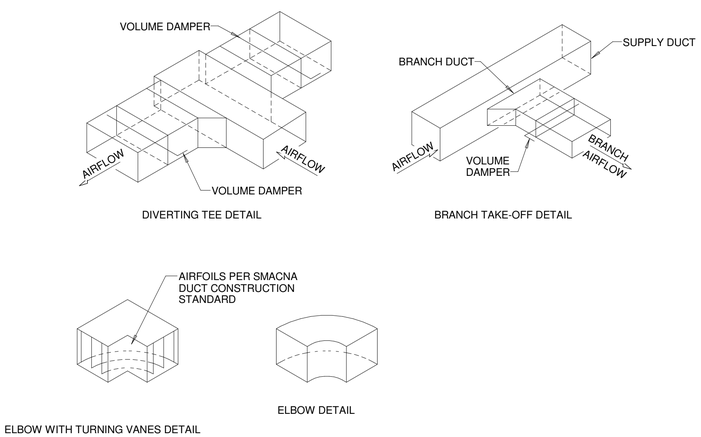
1 H-52 DUCT OBSTRUCTIONS
SCALE: NOT TO SCALE



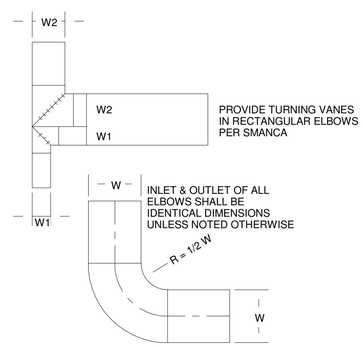
2 H-52 BELLMOUTH BRANCH DUCT TAKE-OFF
SCALE: NOT TO SCALE



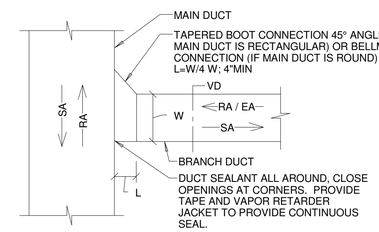
3 H-52 PIPE SLEEVE THRU INTERIOR MASONRY WALL
SCALE: NOT TO SCALE



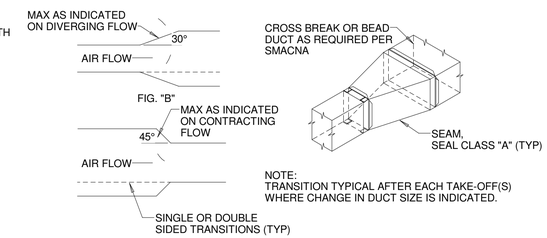
4 H-52 TYPICAL DUCTWORK
SCALE: NOT TO SCALE



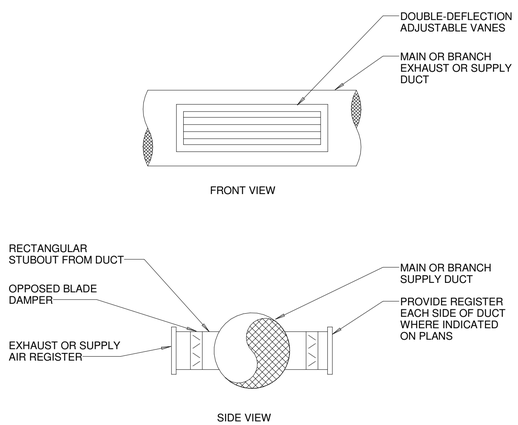
5 H-52 DUCT ASSEMBLY RESTRICTIONS
SCALE: NOT TO SCALE



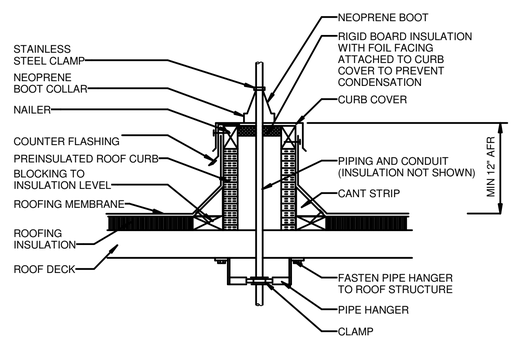
6 H-52 DUCT BRANCH TAKE-OFF
SCALE: NOT TO SCALE



7 H-52 DUCT TRANSITION
SCALE: NOT TO SCALE



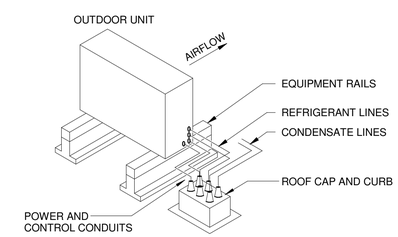
8 H-52 EXPOSED ROUND DUCT WITH REGISTER DETAIL
SCALE: NOT TO SCALE



NOTES:

1. PATE TYPE CURB ASSEMBLY PROVIDED BY MECHANICAL CONTRACTOR. INSTALLATION BY GENERAL/ROOFING CONTRACTOR.
2. FASTEN CURB TO ROOF PER MANUFACTURER'S REQUIREMENTS.

9 H-52 PIPING THRU FLAT ROOF - NEOPRENE BOOT TYPE
SCALE: NOT TO SCALE



10 H-52 SPLIT SYSTEM OUTDOOR UNIT
SCALE: NOT TO SCALE

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8/30/2024

ORANGE COUNY, NEW YORK
CITY OF NEWBURGH

WASTEWATER
TREATMENT PLANT
(WWTP) ADMIN
BUILDING
RENOVATION

BID NUMBER 7.24
ARCADIS PROJ. NO. 30183827

NO.	DATE	ISSUED FOR	BY

DATE: SEPTEMBER 2024
PROJECT NO.: 30183827
FILE NAME:
DESIGNED BY: A. DSOLA
DRAWN BY: L. BANGARU
CHECKED BY: V. VITALE

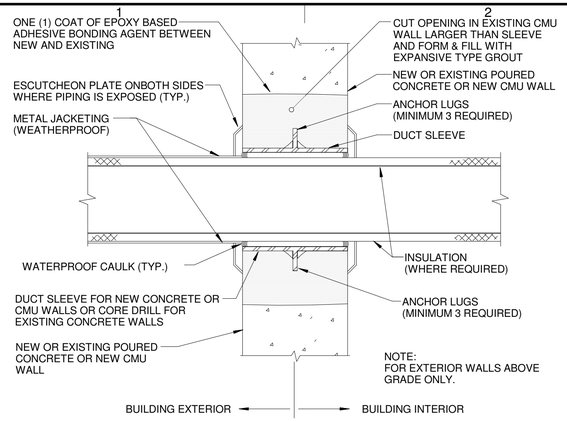
SHEET TITLE
HVAC
DETAILS 1

SCALE: NOT TO SCALE

H-52

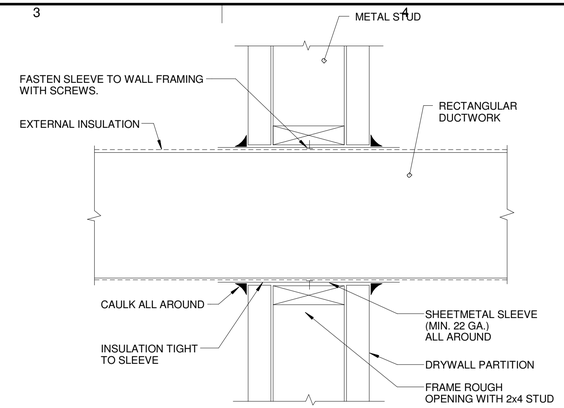
SHEET 34 OF 51

Autodesk Docs://AUS-30183827-Newburgh WPCP Admin Bldg Rehab/H-3D-WPCP_R22.rvt
8/29/2024 7:27:20 PM



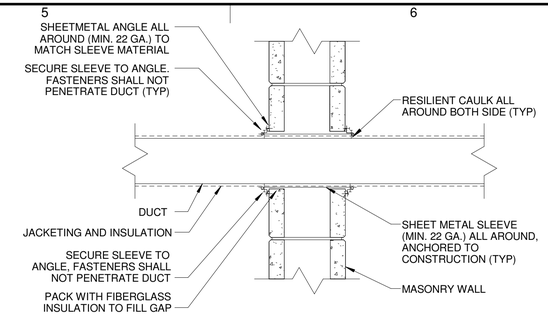
1 DUCT PENETRATION EXTERIOR WALL ABOVE GRADE

H-53 SCALE: NOT TO SCALE



2 DUCT PENETRATION GYP BOARD WALL (CONCEALED)

H-53 SCALE: NOT TO SCALE

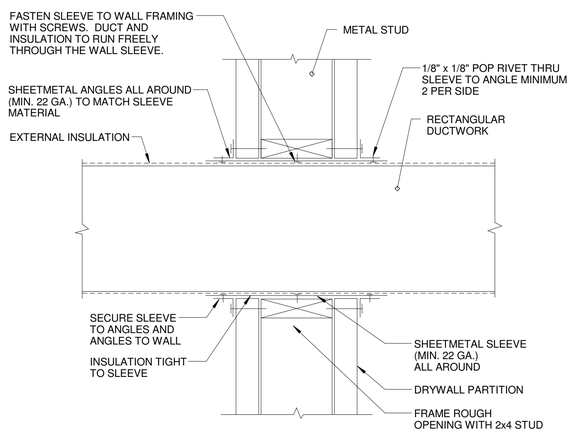


NOTES:

1. CENTER DUCT IN OPENING AND KEEP SPACE CLEAR OF ANY FOREIGN MATERIAL.
2. PROVIDE AT ALL DUCT PENETRATIONS THROUGH FULL HEIGHT WALLS UNLESS NOTED OTHERWISE

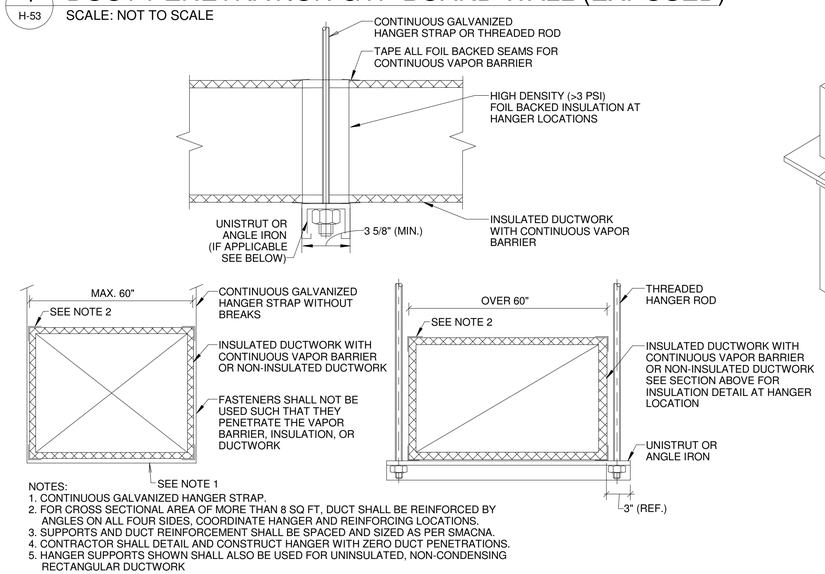
3 DUCT SLEEVE THRU MASONARY WALL

H-53 SCALE: NOT TO SCALE



4 DUCT PENETRATION GYP BOARD WALL (EXPOSED)

H-53 SCALE: NOT TO SCALE



NOTES:

1. CONTINUOUS GALVANIZED HANGER STRAP.
2. FOR CROSS SECTIONAL AREA OF MORE THAN 8 SQ FT, DUCT SHALL BE REINFORCED BY ANGLES ON ALL FOUR SIDES, COORDINATE HANGER AND REINFORCING LOCATIONS.
3. SUPPORTS AND DUCT REINFORCEMENT SHALL BE SPACED AND SIZED AS PER SMACNA.
4. CONTRACTOR SHALL DETAIL AND CONSTRUCT HANGER WITH ZERO DUCT PENETRATIONS.
5. HANGER SUPPORTS SHOWN SHALL ALSO BE USED FOR UNINSULATED, NON-CONDENSING RECTANGULAR DUCTWORK

5 RECTANGULAR DUCT HANGER SUPPORT

H-53 SCALE: NOT TO SCALE

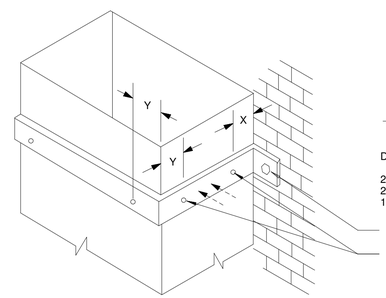


FIG. A

SHOWS SUPPLEMENTAL FASTENER LOCATIONS

FIG. A -SUGGESTED SIZING

DUCT SIZE	BAND
18"x12"	1 1/2"x16 GA
24"x20"	1"x1/8"

TABLE 4-4

DUCT GAGE	ALLOWABLE LOAD PER FASTENER *
28, 26	25 lb
24, 22, 20	35 lb
18, 16	50 lb

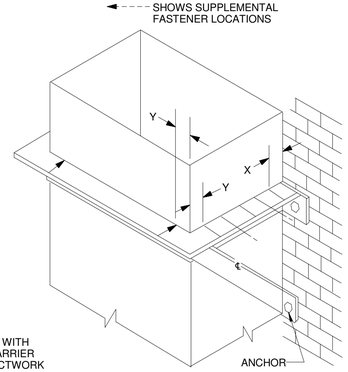
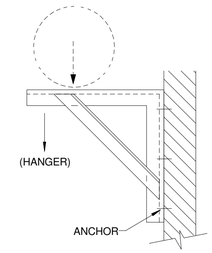


FIG. B



SEE KNEE BRACKET TABLES IN THE ROUND INDUSTRIAL STDS.

FIG. B -SUGGESTED SIZING

DUCT SIZE	ANGLE
30" x 12"	1" x 1" x 1/8"
36" x 18"	1" x 1" x 1/8"
42" x 24"	1 1/4" x 1 1/4" x 1/8"
48" x 30"	1 1/4" x 1 1/4" x 1/8"

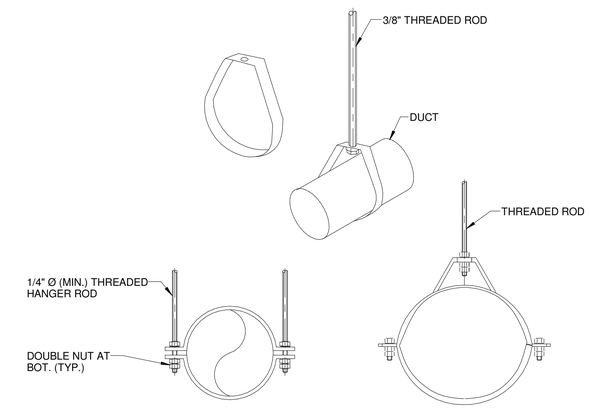
NOTES:

1. BRACKETS ARE SIZED FOR 12 FEET OF DUCT, MAXIMUM.
2. LOCATE DUCTS AGAINST WALL OR MAXIMUM OF 2" AWAY FROM WALL.
3. EACH WALL ANCHOR SHALL SATISFY THE FOLLOWING CRITERIA UNLESS OTHER ANALYSIS IS MADE:

   A. TENSILE LOAD = 3/8 x DUCT WEIGHT; SAFETY FACTOR 4.
   B. SHEAR LOAD x 1/2 x DUCT WEIGHT; SAFETY FACTOR 4.

6 WALL SUPPORTED DUCTWORK DETAIL

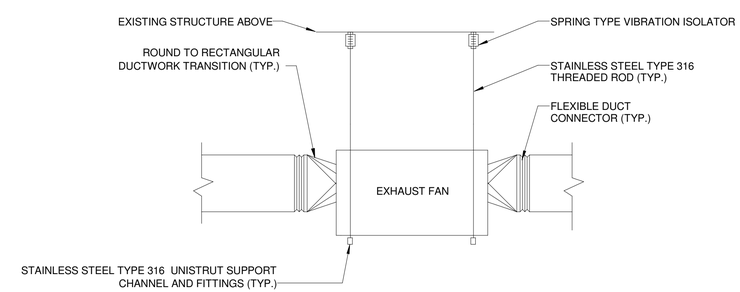
H-53 SCALE: NOT TO SCALE



CONTRACTOR SHALL VERIFY LOCATIONS OF PRESTRESSED STRAINS IN EXISTING CONCRETE TEE'S PRIOR TO ANCHOR INSTALLATION FOR STEEL FRAME AND HVAC DUCT HANGERS

7 UNINSULATED ROUND DUCT HANGER SUPPORT

H-53 SCALE: NOT TO SCALE



8 SUSPENDED INLINE EXHAUST AIR FAN

H-53 SCALE: NOT TO SCALE

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8/30/2024

ORANGE COUNY, NEW YORK

CITY OF NEWBURGH

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DESIGNED BY: A. DSOLA

DRAWN BY: L. BANGARU

CHECKED BY: V. VITALE

SHEET TITLE

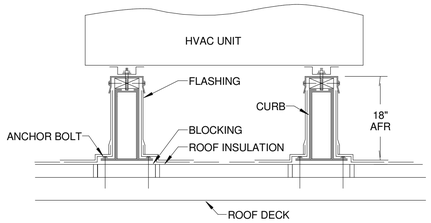
HVAC

DETAILS 2

SCALE: NOT TO SCALE

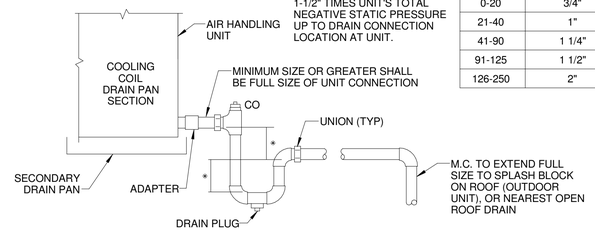
H-53

SHEET 35 OF 51



1. ANCHOR SECURELY PER MANUFACTURERS INSTALLATION GUIDE.
2. VERIFY SPACING WITH MANUFACTURERS INSTALLATION INSTRUCTIONS.
3. RE-FLASH AND PATCH ROOF WATER TIGHT.

1 ROOFTOP HVAC UNIT SUPPORT
H-54 SCALE: NOT TO SCALE

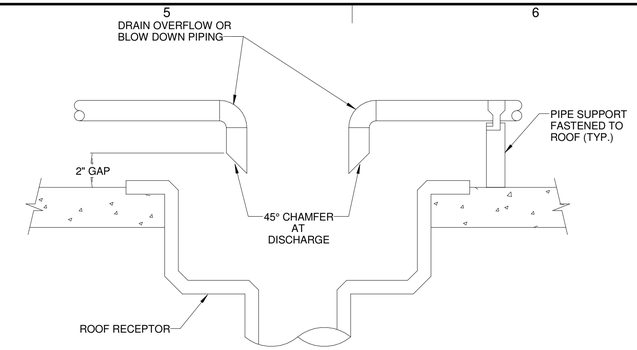


NOTE:
*MINIMUM SHALL BE EQUAL TO 1-1/2" TIMES UNIT'S TOTAL NEGATIVE STATIC PRESSURE UP TO DRAIN CONNECTION LOCATION AT UNIT.

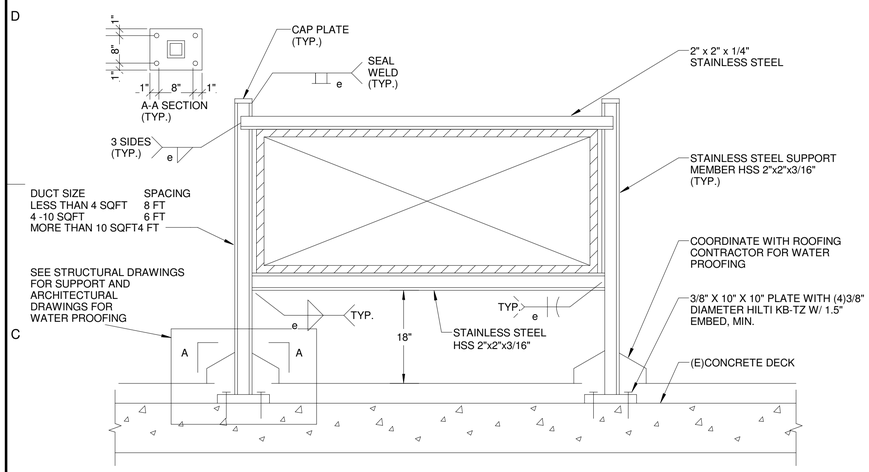
TONS	DRAIN SIZE
0-20	3/4"
21-40	1"
41-90	1 1/4"
91-125	1 1/2"
126-250	2"

NOTES:
1. ALL INTERIOR CONDENSATE DRAIN PIPING SHALL BE INSULATED .

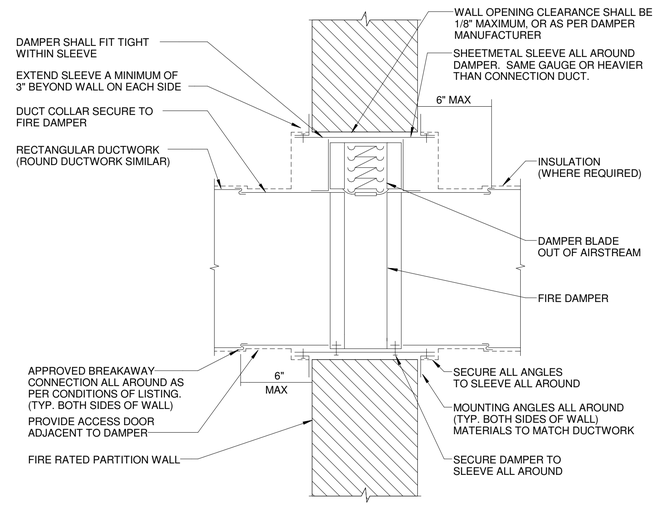
2 CONDENSATE DRAIN TRAP
H-54 SCALE: NOT TO SCALE



3 ROOF RECEPTOR
H-54 SCALE: NOT TO SCALE

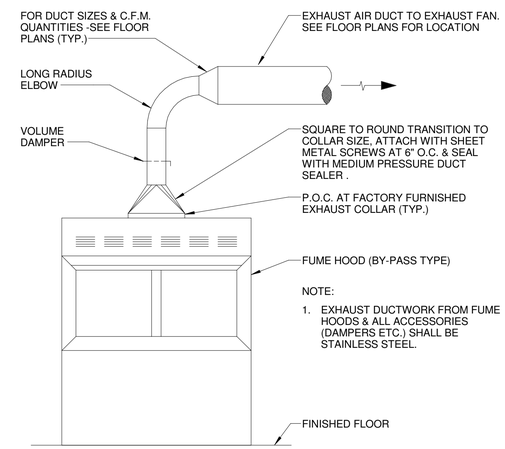


4 HEAVY DUTY SUPPORT AT ROOF FOR RECTANGULAR DUCTWORK (SECURED TO ROOF)
H-54 SCALE: NOT TO SCALE



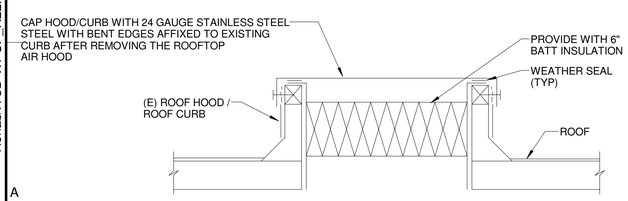
NOTES:
1. GENERAL ARRANGEMENT SHOWN. INSTALL ALL FIRE DAMPERS IN STRICT ACCORDANCE WITH ALL CONDITIONS OF THEIR LISTING, THE MANUFACTURERS' INSTALLATION INSTRUCTIONS AND AUTHORITIES HAVING JURISDICTION. SEE SPECIFICATIONS.
2. WHERE FIRE DAMPER IS TO BE MOUNTED WITHIN EXISTING WALL OR FLOOR, CUT OPENING AS REQUIRED TO MAINTAIN CLEARANCES STIPULATED BY THE MANUFACTURER BETWEEN WALL AND SLEEVE.
3. ACCESS DOORS SHALL BE AS LARGE AS POSSIBLE, UP TO 18"x12" MAXIMUM. LOCATE ON MOST ACCESSIBLE SIDE OF DAMPER.
4. GAUGE OF SHEETMETAL SLEEVE, MOUNTING ANGLES, METHOD OF ATTACHMENT, ETC. AS PER CONDITIONS OF LISTING AND AS DIRECTED BY FIRE DAMPER MANUFACTURER.

5 FIRE DAMPER WALL INSTALLATION
H-54 SCALE: NOT TO SCALE



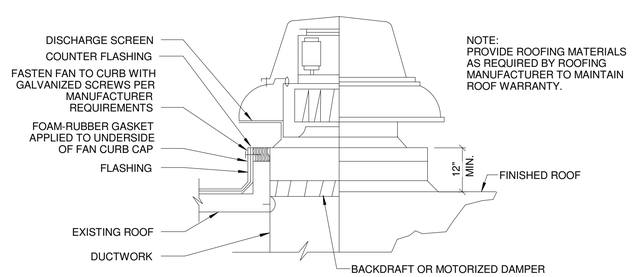
NOTE:
1. EXHAUST DUCTWORK FROM FUME HOODS & ALL ACCESSORIES (DAMPERS ETC.) SHALL BE STAINLESS STEEL.

6 SINGLE DUCT FUME HOOD CONNECTION
H-54 SCALE: NOT TO SCALE



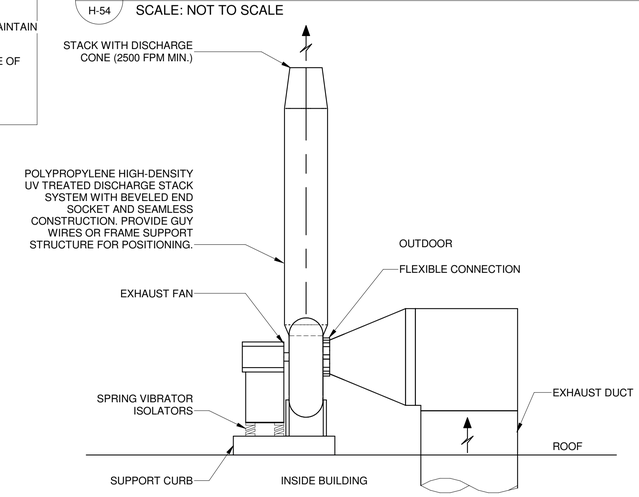
NOTE:
REFER TO ROOF PLAN FOR DEMOLISHED EQUIPMENT LOCATIONS.

7 EXISTING CURB CAP DETAIL
H-54 SCALE: NOT TO SCALE



NOTE:
PROVIDE ROOFING MATERIALS AS REQUIRED BY ROOFING MANUFACTURER TO MAINTAIN ROOF WARRANTY.

8 DOWNBLAST EXHAUST FAN AND DUCT INSTALLATION
H-54 SCALE: NOT TO SCALE



9 HOOD EXHAUST FAN & STACK
H-54 SCALE: NOT TO SCALE

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DESIGNED BY: A. DSOLA
DRAWN BY: L. BANGARU
CHECKED BY: V. VITALE

SHEET TITLE

HVAC

DETAILS 3

SCALE: NOT TO SCALE

H-54

SHEET 36 OF 51

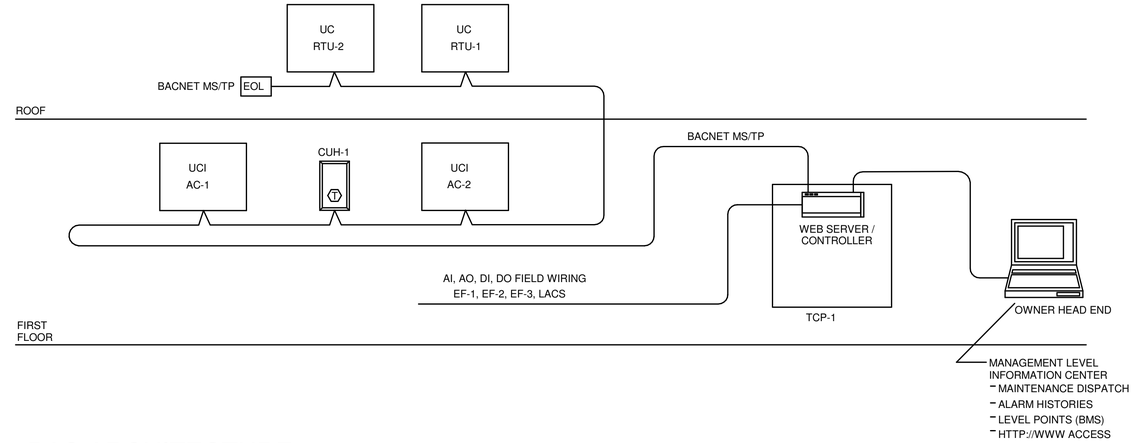
CONTROL ABBREVIATIONS AND SYMBOLS

ADJ	ADJUSTABLE
AI	ANALOG INPUT
AO	ANALOG OUTPUT
AUX	AUXILARY
AV	ANALOG VALUE
BAS	BUILDING AUTOMATION SYSTEM
CP	CONTROL PANEL
DI	DIGITAL INPUT
DO	DIGITAL OUTPUT
DV	DIGITAL VALUE
EOL	END OF LINE
HMI	HUMAN MACHINE INTERFACE
LACS	LABORATORY AIRFLOW CONTROL SYSTEM
OEM	ORIGINAL EQUIPMENT MANUFACTURER
SCR	SILICON CONTROLLED RECTIFIER
TCP	DIRECT DIGITAL CONTROL PANEL
UC	UNIT CONTROLLER (OEM)
UCI	UNIT CONTROLLER INTERFACE

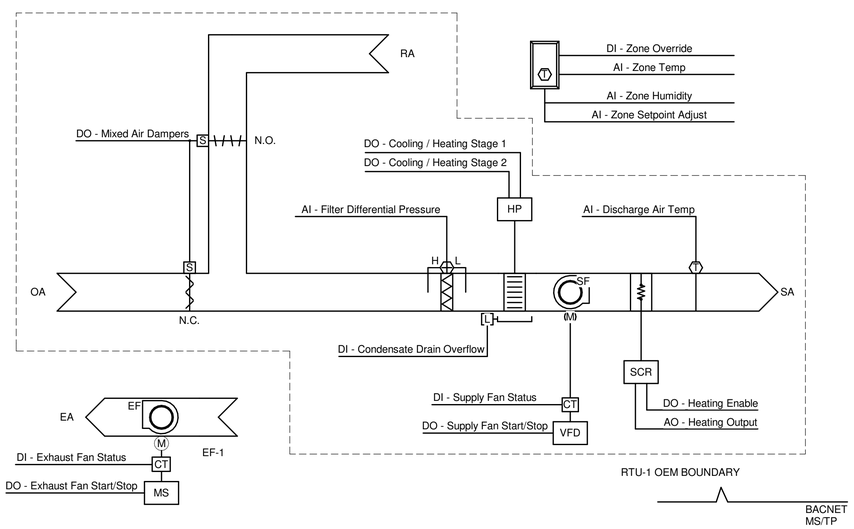
CT — CURRENT TRANSMITTER
M — MOTOR/ACTUATOR
SENSOR/TRANSMITTER
SENSOR WITH CONTACT/RELAY
H L — AIR DIFFERENTIAL PRESSURE SENSOR/TRANMITTER
DAMPER
FILTER
T — ZONE/ROOM THERMOSTAT
FAN
MS — MOTOR STARTER
VFD — VARIABLE FREQUENCY DRIVE
HP — HEAT PUMP
DX REFRIGERANT COIL
ELECTRIC COIL
HGRH — HOT GAS RE-HEAT

GENERAL BUILDING CONTROL NOTES

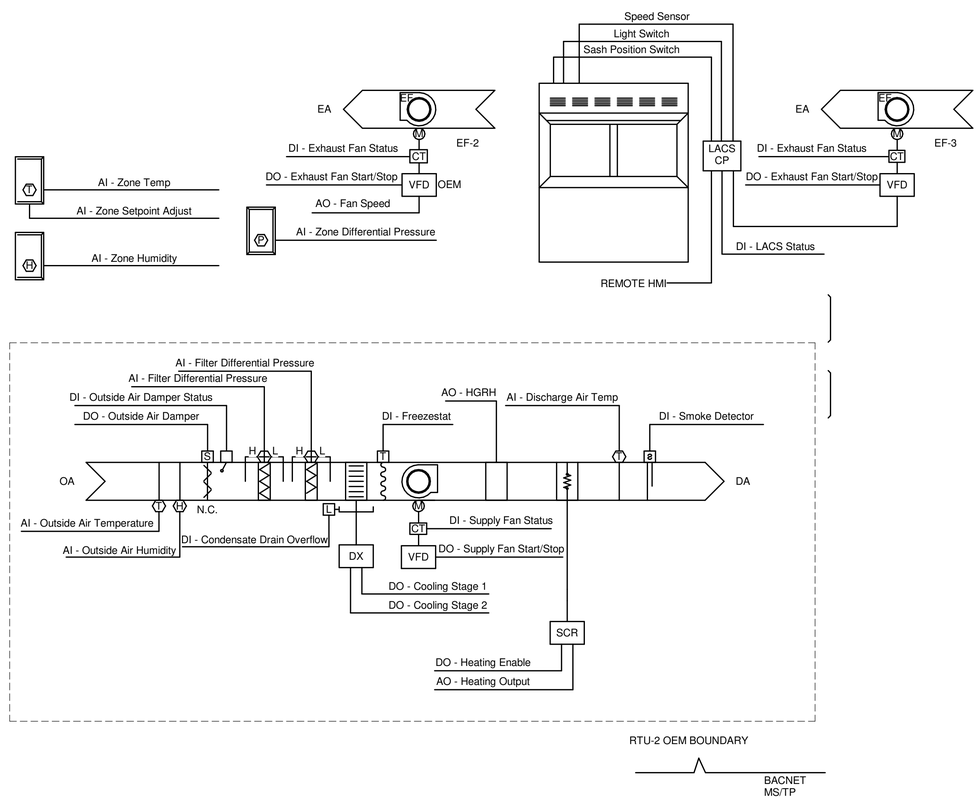
1. BMS SHALL BE FULLY COMPLIANT WITH HTML5 GRAPHICAL USER INTERFACE FOR OPERATOR AND USER ACCESS, OPERATION, AND TROUBLESHOOTING. ALL GRAPHICS, ALARMS, AND PERFORMANCE TRENDS SHALL BE ACCESSIBLE THROUGH A WEB BROWSER
2. THE CONTROL SYSTEMS SERVING THIS BUILDING SHALL BE BASED ON DISTRIBUTED SYSTEMS, CONTROL PANELS, MONITORING PANELS AND HMIs ASSOCIATED WITH MECHANICAL SYSTEM PLATFORMS AS DESCRIBED ON THESE CONTROL DRAWINGS AND IN THE PROJECT SPECIFICATIONS. THE CONTRACTOR IS RESPONSIBLE FOR INTEGRATING ALL MONITORING AND CONTROL POINTS TO PROVIDE AND COMMISSION COMPLETE AND FUNCTIONAL SYSTEMS. THIS MAY INCLUDE POINTS AND/OR SEQUENCING NOT EXPLICITLY SHOWN IN THE ABOVE REFERENCED DOCUMENTS.
3. ALL OEM EQUIPMENT SHALL HAVE SEPARATE UNIT MOUNTED CONTROLS WITH A BACNET/MSTP BASED DDC UNIT CONTROLLER (UC) THAT COMMUNICATES WITH THE HEAD END. MONITORING POINTS AND ADJUSTABLE CONTROL POINTS SHALL BE DISPLAYED AT THE HEAD END.
4. SYSTEM SHALL ALLOW FOR ADDITIONAL HMI'S VIA PORTABLE LAPTOP(S) CONNECTED TO CAT6 COMMUNICATION TERMINALS.
5. ALL EQUIPMENT NOT INDICATED SHALL OPERATE PER A STAND ALONE CONTROLLER OR LOCALLY THRU A THERMOSTAT / SWITCH.
6. THE SEQUENCE OF OPERATION LISTED ON THESE PLANS IS FULLY ADJUSTABLE. EACH SEQUENCE SHALL BE PROGRAMMED FOR A DISCRETE DAILY SCHEDULE (7 DAYS PER WEEK) WITH A UPS PROVIDING 10 HOURS (MINIMUM) OF SAVED MEMORY DURING THE EVENT OF A LOSS OF POWER.
7. THE HVAC SYSTEM SHALL CALCULATE THE OPTIMAL START TIMES BY TRENDING TEMPERATURE AND WEATHER DATA TO MINIMIZE WARM-UP/COOL DOWN PERIODS DURING SCHEDULED SWITCHES FROM UNOCCUPIED TO OCCUPIED MODES.
8. ALL ISOLATION DAMPERS ARE TO BE CLASS I WITH A MAXIMUM AIR LEAKAGE RATE OF 4 CFM/SQ. FT. OF DAMPER AREA AT 1.0 INCH WATER GAUGE.



1 H-55 **BAS ARCHITECTURE**
SCALE: NTS



2 H-55 **RTU-1 / EF-1 - CONTROLS SCHEMATIC**
SCALE: NTS



3 H-55 **RTU-2 / EF-2, EF-3, LACS - CONTROLS SCHEMATIC**
SCALE: NOT TO SCALE

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ORANGE COUNY, NEW YORK
CITY OF NEWBURGH

WASTEWATER TREATMENT PLANT (WWTP) ADMIN BUILDING RENOVATION

BID NUMBER 7.24
ARCADIS PROJ. NO. 30183827

NO.	DATE	ISSUED FOR	BY

DATE: SEPTEMBER 2024
PROJECT NO.: 30183827
FILE NAME:
DESIGNED BY: A. DSOLA
DRAWN BY: L. BANGARU
CHECKED BY: V. VITALE

SHEET TITLE
HVAC
CONTROL DIAGRAM

SCALE: NOT TO SCALE

H-55

SHEET 37 OF 51

SYMBOLS

SYMBOL	DESCRIPTION
	MAIN PIPING (TYPE OF SERVICE AS SPECIFIED OR NOTED)
	BELOW SLAB MAIN PIPING (TYPE OF SERVICE AS SPECIFIED OR NOTED)
	EXISTING PIPING TO BE DEMOLISHED
	BRANCH PIPING (TYPE OF SERVICE AS SPECIFIED OR NOTED)
	PIPE RISE, UNLESS OTHERWISE NOTED
	PIPE DROP, UNLESS OTHERWISE NOTED
	BRANCH - TOP OR BOTTOM CONNECTION
	RISE OR DROP IN RUN OF PIPE
	BRANCH CONNECTION - SIDE
	CAP ON END OF PIPE
	VALVE IN VERTICAL
	CLEANOUT PLUG
	CONCENTRIC REDUCER
	GATE VALVE (OS&Y)
	CHECK VALVE
	BACKWATER VALVE
	BALL VALVE
	WATER METER - 2" & SMALLER
	REDUCED PRESSURE ZONE BACKFLOW PREVENTER (BFP-RPZ)
	FLOOR DRAIN (FD)
	FLOOR CLEANOUT (FCO)
	EMERGENCY EYEWASH & SHOWER (EES)
	CONNECT TO EXISTING
	PRESSURE REGULATING VALVE (PRV)
	HOSE BIBB (HB)
	NON-FREEZE WALL HYDRANT (NFWH)
	HOSE STATION (HS)
	THERMOSTATIC MIXING VALVE (TMV)
	TEPID WATER MIXING VALVE (TWMV)
	VACUUM BREAKER

ABBREVIATIONS

ABBREVIATION	DESCRIPTION
AFF	ABOVE FINISHED FLOOR
AN	ACID NEUTRALIZER
ARCH	ARCHITECTURAL
AVB	AUTOMATIC VACUUM BREAKER
BFP - DCDA	BACKFLOW PREVENTER - DOUBLE CHECK DETECTOR ASSEMBLY
BFP - RPZ	BACKFLOW PREVENTER - REDUCED PRESSURE ZONE ASSEMBLY
BOP	BOTTOM OF PIPE
CL	CENTERLINE
CLG	CEILING
CO	CLEANOUT
CONN	CONNECT/CONNECTION
CONT	CONTINUATION
CW	COLD WATER
DIA	DIAMETER
DN	DOWN (PENETRATES FLOOR SLAB)
DR	DRAIN
EL	ELEVATION
EES	EMERGENCY EYEWASH AND SHOWER
EWH	ELECTRIC WATER HEATER
EXIST	EXISTING
FCO	FLOOR CLEANOUT
FD	FLOOR DRAIN
FIN FL	FINISHED FLOOR
GAL	GALLONS
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
HB	HOSE BIBB
HW	HOT WATER
HP	HIGH POINT
HS	HOSE STATION
IE	INVERT ELEVATION
LAV	LAVATORY
MAX	MAXIMUM
MS	MOP SINK
NPW	NON-POTABLE WATER
NFWH	NON-FREEZE WALL HYDRANT
NTS	NOT TO SCALE
SPD	SUMP PUMP DISCHARGE
PRV	PRESSURE REGULATING VALVE
PH	POST HYDRANT
PW	POTABLE WATER
S	SOIL
SAN	SANITARY
SD	SECONDARY STORM DRAIN
SH	SHOWER
SK	SINK
ST	STORM DRAIN
TMV	THERMOSTATIC MIXING VALVE
TPV	TRAP PRIMER VALVE
TW	TEPID WATER
TWMV	TEPID WATER MIXING VALVE
TYP	TYPICAL
UG	UNDERGROUND
UP	UP (PENETRATES FLOOR SLAB)
V	VENT
VB	VACUUM BREAKER
W	WASTE
WC	WATER CLOSET
WCO	WALL CLEAN OUT
WHA	WATER HAMMER ARRESTER
W/	WITH

GENERAL NOTES

1. THE SYMBOLS AND ABBREVIATIONS LIST ON THIS SHEET IS A COMPREHENSIVE STANDARD GUIDE INTENDED FOR GENERAL USE ON ALL PROJECTS. THEREFORE NOT ALL THE SYMBOLS AND ABBREVIATIONS CONTAINED IN THIS LIST ARE NECESSARILY USED ON THIS PARTICULAR PROJECT AND SHOULD BE USED FOR CLARIFICATION ONLY.
2. ALL FLOOR DRAINS ARE AT LOW POINTS OF FLOORS AND SHALL BE INSTALLED FLUSH WITH THE FINISHED FLOOR.
3. ALL FLOOR DRAINS FOR EQUIPMENT SHALL BE FIELD COORDINATED AND LOCATED ADJACENT TO THE EQUIPMENT PADS IN THE APPROXIMATE LOCATIONS SHOWN ON THE DRAWINGS.
4. ALL BRANCH PIPING TO EQUIPMENT OR FIXTURES SHALL BE PROVIDED WITH SHUT-OFF VALVES, WHETHER SHOWN, OR NOT SHOWN ON DRAWINGS.
5. ALL PIPING SHALL BE CONCEALED WITHIN WALLS, PIPE SPACES AND HUNG CEILINGS EXCEPT IN MECHANICAL SPACES OR WHERE NOTED.
6. CHANGES IN DIRECTION IN DRAINAGE PIPING SHALL BE MADE BY THE USE OF 45 DEGREE ELLS, LONG SWEEPS, 90 DEGREE WYES W/CO'S OR BY A COMBINATION OF EQUIVALENT FITTINGS. THERE SHALL BE NO DOUBLE WYES IN THE HORIZONTAL PLANE.
7. SANITARY TEES AND QUARTER BENDS MAY BE USED IN DRAINAGE LINES ONLY WHERE DIRECTION OF FLOW IS FROM HORIZONTAL TO THE VERTICAL.
8. ALL VENT RISERS RUN STRAIGHT THROUGH ROOF SHALL HAVE AN APPROVED EXPANSION JOINT SYSTEM INSTALLED BELOW ROOF.
9. ALL CONTROL WIRING SHALL BE 120 VOLTS UNLESS OTHERWISE SPECIFIED. TRANSFORMERS SHALL BE PROVIDED WHERE REQUIRED.
10. ALL EQUIPMENT AND CONTROL MECHANISMS SHALL BE PIPED THROUGH UNION C0NNECTIONS.
11. ALL WYE TYPE STRAINERS SHALL HAVE A 3-INCH LONG THREADED NIPPLE, THREADED END BALL VALVE AND PLUG ON BLOWDOWN SIDE.
12. ALL DRAINAGE PIPING TO SLOPE AT A MIN. OF 1/8" PER FT UNLESS OTHERWISE NOTED
13. AN ACCESSIBLE CLEANOUT SHALL BE PROVIDED AT THE BASE OF EACH SOIL STACK, WASTE STACK AND ROOF LEADER
14. ALL HORIZONTAL STORM DRAINAGE PIPING, HOT, COLD AND TEPID WATER PIPING SHALL BE INSULATED.
15. TRAPS SHALL BE PROVIDED AT ALL FLOOR DRAINS EXCEPT WHERE NOTED.
16. VENT LINES SERVING FLOOR DRAIN HEADERS SHALL BE TAKEN OFF ABOVE THE CENTERLINE OF THE SOIL PIPE, AND THE VENT PIPE SHALL RISE AT AN ANGLE NOT MORE THAN 45°
17. ALL EXPOSED PIPING, FITTINGS AND VALVES IN FINISHED WASHROOMS SHALL BE CHROME PLATED
18. STORAGE TEMPERATURE OF DOMESTIC HOT WATER SHALL BE 140°F
19. ALL FLOOR DRAIN P-TRAPS SHALL BE PROVIDED WITH 1/2" TRAP PRIMER CONN. RUN 1/2" COPPER TUBING FROM TRAP PRIMER VALVE TO ALL FLOOR DRAINS (EXCEPT WHERE NOTED). FIELD ROUTE PIPING IN & BELOW SLAB AS REQ'D. CONTRACTOR SHALL PROVIDE ALL PIPE, FITTING, SUPPORTS AND APPURTENANCES TO COMPLETE THE WORK
20. VENT LINES SERVING FLOOR DRAIN HEADERS SHALL BE TAKEN OFF ABOVE THE CENTERLINE OF THE SOIL PIPE AND THE VENT PIPE SHALL RISE AT AN ANGLE NOT MORE THAN 45°
21. HOT AND TEPID WATER PIPING SHALL BE ELECTRICALLY HEAT TRACED TO MAINTAIN REQUIRED SPECIFIED WATER TEMPERATURE.
22. ALL VENT PIPES SHALL TRANSITION TO 4" PRIOR TO PENETRATING THE ROOF. TRANSITION COUPLINGS SHALL BE NO LESS THAN 12" FROM INSIDE THE BUILDING'S THERMAL ENVELOPE.
23. PROVIDE PIPE SLEEVES W/ MECHANICAL LINK SEALS FOR ALL FLOOR, ROOF AND WALL PENETRATIONS.
24. REFER TO CODE COMPLIANCE CATEGORY ON ARCHITECTURAL DRAWINGS FOR ADDITIONAL DESIGN INFORMATION REQUIRED UNDER THIS CONTRACT.
25. CONTRACTOR SHALL FILE AND OBTAIN ALL PERMITS REQUIRED FOR THE WORK. REFER TO NOTE 7 ON SHEET G-02.

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LEGAL ENTITY:
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CONSULTANTS

SEALS

STATE OF NEW YORK · FRANK ALMEIDA ANDRADE · 096728 · LICENSED PROFESSIONAL ENGINEER

8/30/2024

ORANGE COUNTY, NEW YORK
CITY OF NEWBURGH

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DATE: SEPTEMBER 2024
PROJECT NO.: 30183827
FILE NAME:
DESIGNED BY: S. SLIM
DRAWN BY: S. BURTE
CHECKED BY: F. ANDRADE

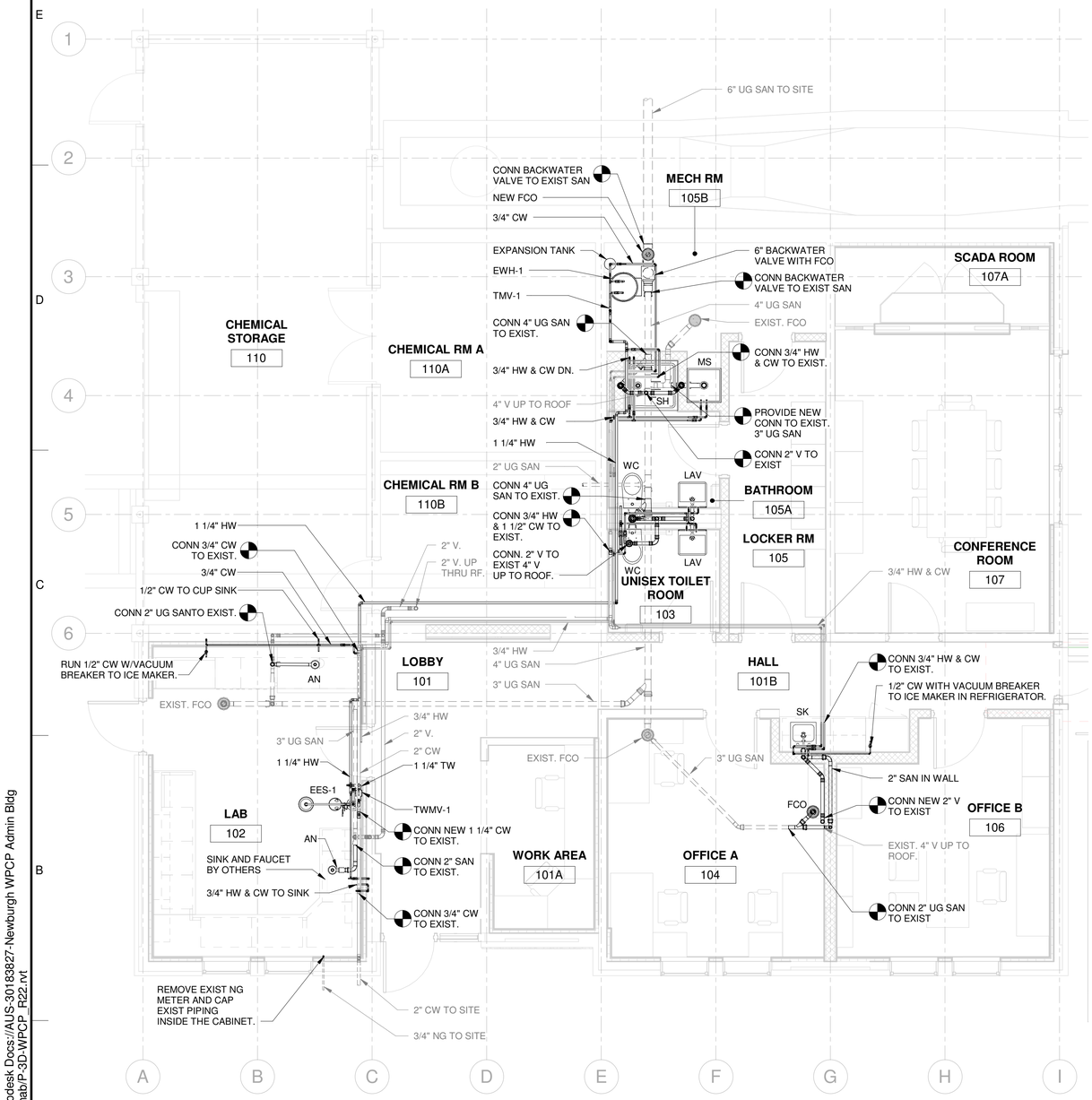
SHEET TITLE
PLUMBING

NOTES AND ABBREVIATIONS

SCALE: 12" = 1'-0"

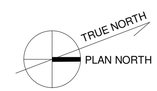
P-01

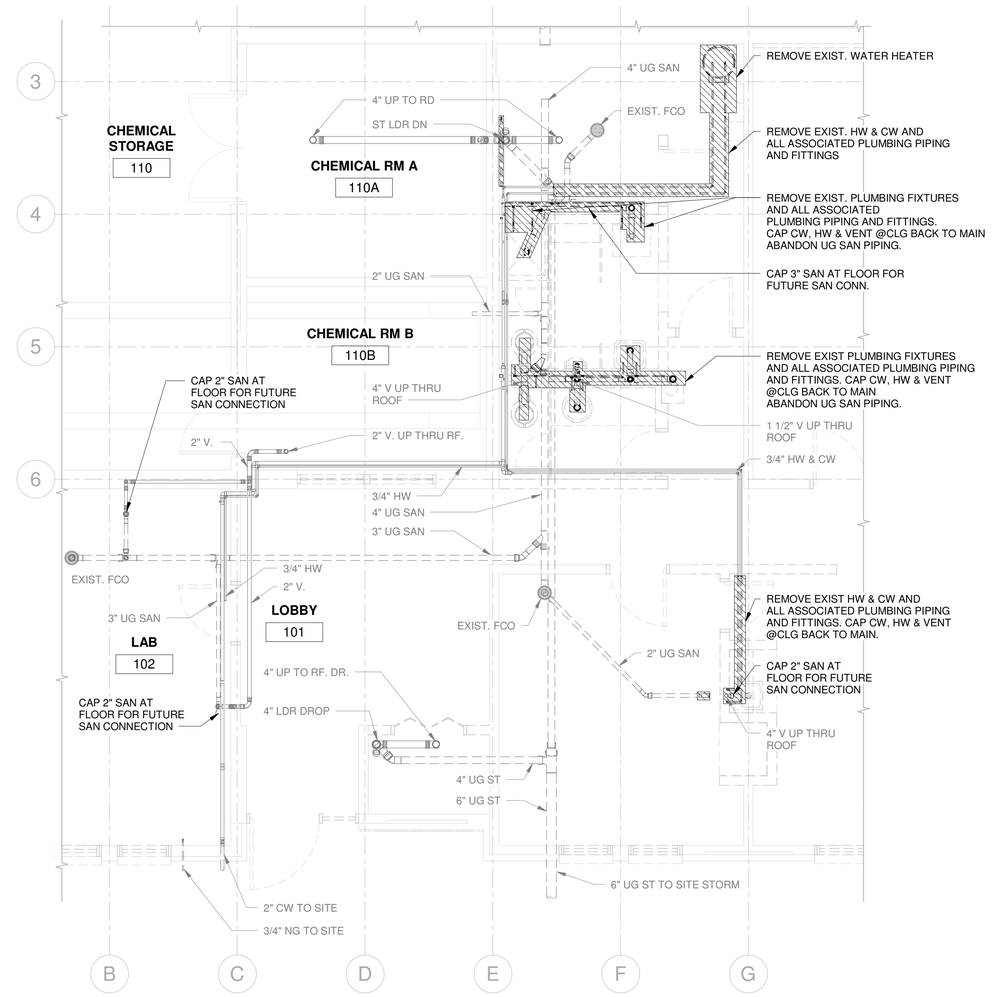
SHEET 38 OF 51



FIRST FLOOR PLAN

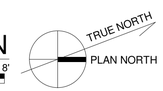
SCALE: 1/4" = 1'-0"





FIRST FLOOR DEMO PART PLAN

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



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PLUMBING

FIRST FLOOR PLAN

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

P-10

SHEET 39 OF 51

Autodesk Docs://AUS-30183827-Newburgh WPCP Admin Bldg Rehab/P-3D-WPCP_R22.rvt

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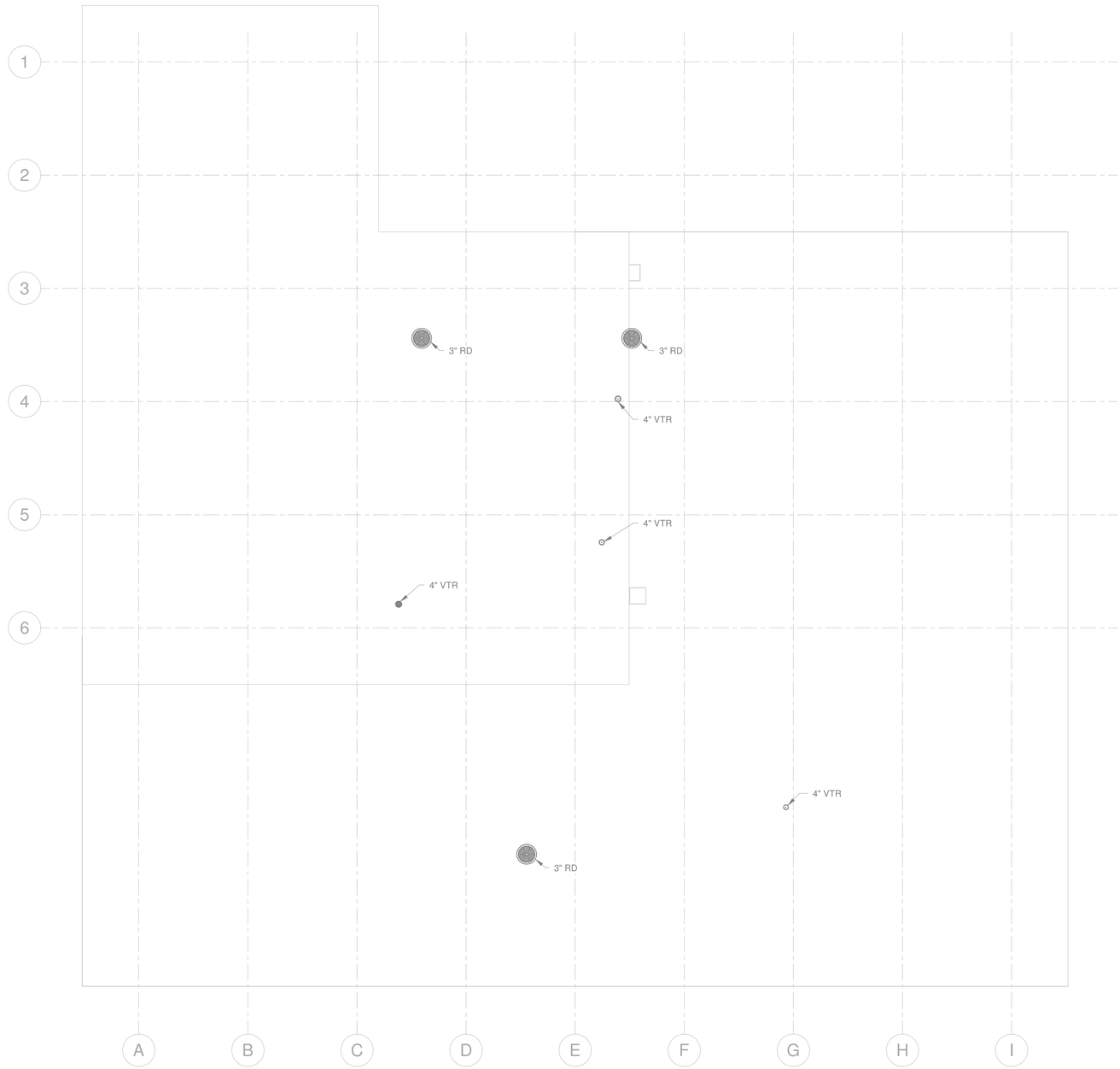

ROOF LEVEL

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

0' 2' 4' 8'

TRUE NORTH

PLAN NORTH

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PLUMBING

ROOF PLAN

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

P-11

SHEET 40 OF 51

Autodesk Docs://AUS-30183827-Newburgh WPCP Admin Bldg Rehab/P-3D-WPCP_R22.rvt

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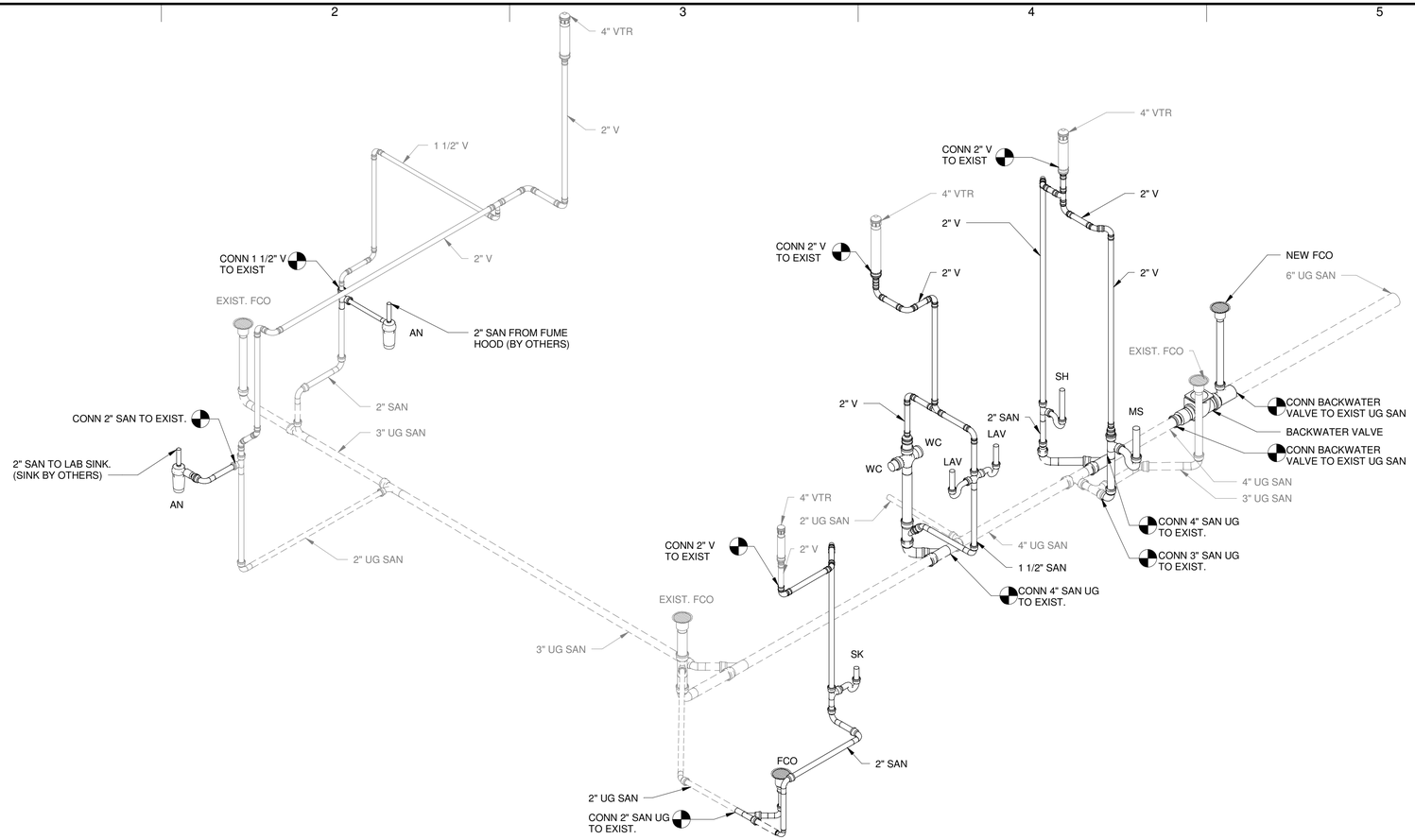
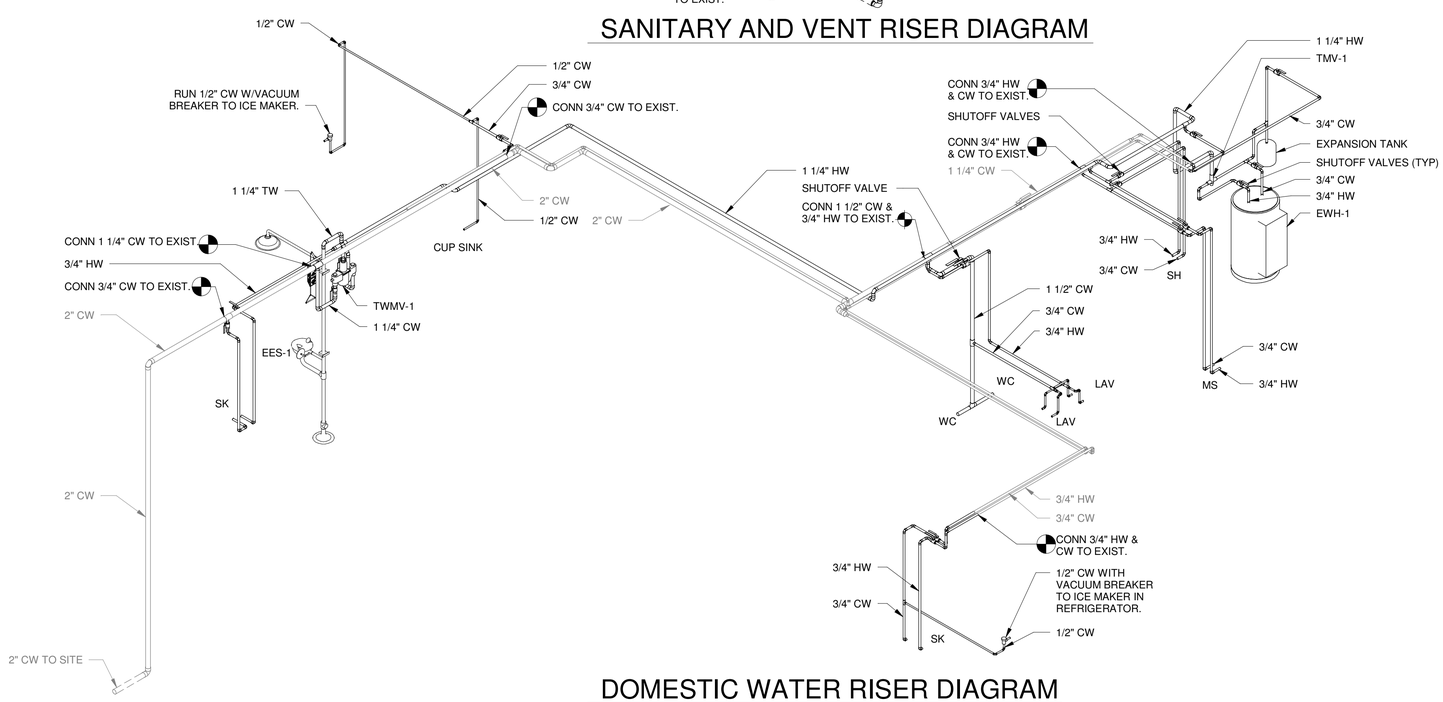


SANITARY AND VENT RISER DIAGRAM



DOMESTIC WATER RISER DIAGRAM

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SHEET TITLE

PLUMBING

RISER DIAGRAM

SCALE:

P-30

SHEET 41 OF 51

Autodesk Docs://AUS-30183827-Newburgh WPCP Admin Bldg Rehab/P-3D-WPCP_R22.rvt

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PLUMBING FIXTURE SCHEDULE

FIXTURE NO	DESCRIPTION	SERVICES						REMARKS
		TRAP	S/W	VENT	CW	HW	TW	
LAV	LAVATORY	2"	2"	1 1/2"	3/4"	3/4"	-	
WC	WATER CLOSET	-	4"	2"	1-1/4"	-	-	
SK	PANTRY SINK	2"	2"	2"	3/4"	3/4"	-	
MS	MOP SINK	2"	2"	2"	3/4"	3/4"	-	
SH	SHOWER	2"	2"	2"	3/4"	3/4"	-	
EES	EMERGENCY EYEWASH SHOWER	-	-	-	-	-	1 1/4"	
AN	ACID NEUTRALIZER	-	1 1/2"	-	-	-	-	

WATER HEATER SCHEDULE

TYPE	LOCATION	SERVICE	STYLE	CAPACITY	INPUT		PERFORMANCE			ELECTRICAL		WATER CONN NPT		REMARKS
				NOMINAL STORAGE (GAL)	HEATING ELEMENT (KW)	SUPPLY GAS MBH/IN (WG)	RECOVERY RATE @100 °F RISE (GPH)	TEMP RISE (°F)/FLOW (GPM)	OUTLET TEMPERATURE (°F)	VOLTAGE	PHASE	CW	HW	
EWH-1	MECHANICAL ROOM	DOMESTIC HOT WATER	ELECTRIC TANK	119	24	-	98.4	-	140	480	3	1 1/4"	1 1/4"	1,2

NOTES:
1. PROVIDE 100 MICRON Y-STRAINER ON COLD WATER INLET.
2. PROVIDE THERMOSTATIC MIXING VALVE ASSE APPROVED.

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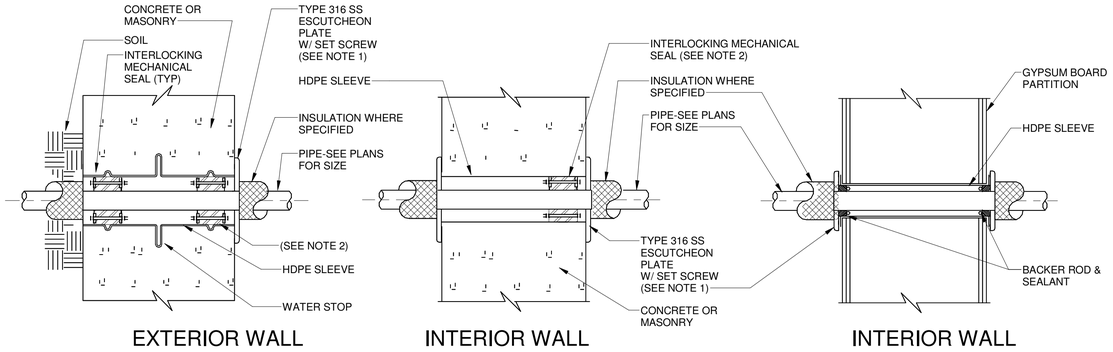
PLUMBING

SCHEDULES

SCALE: 12" = 1'-0"

P-50

SHEET 42 OF 51

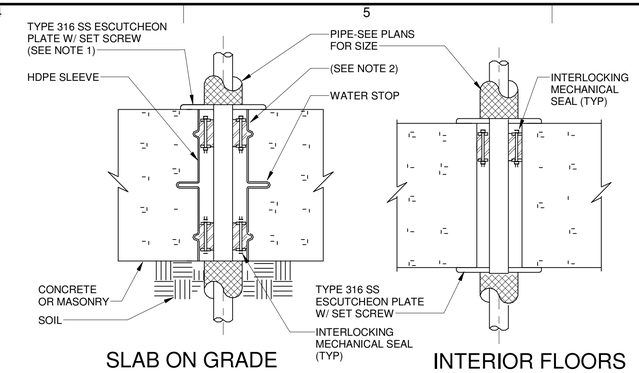


NOTES:

1. WHERE PIPE IS IN CONTACT WITH SOIL, ELIMINATE ESCUTCHEON PLATE.
2. FOR ONE HOUR FIRE RATED PENETRATION PROVIDE ONE FIRE RATED MECHANICAL SEAL. FOR TWO HOUR FIRE RATED PENETRATION PROVIDE TWO FIRE RATED MECHANICAL SEALS.

PIPE SLEEVES THRU WALL DETAIL

SCALE: NTS

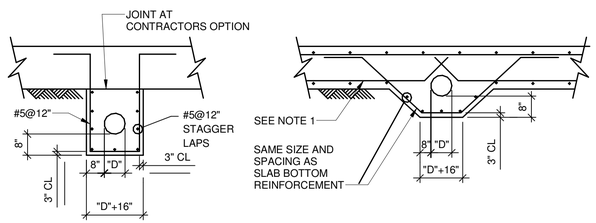


NOTES:

1. WHERE PIPE IS IN CONTACT WITH SOIL, ELIMINATE ESCUTCHEON PLATE.
2. FOR ONE HOUR FIRE RATED PENETRATION PROVIDE ONE FIRE RATED MECHANICAL SEAL. FOR TWO HOUR FIRE RATED PENETRATION PROVIDE TWO FIRE RATED MECHANICAL SEALS.
3. WHERE PIPES PASS THRU EXISTING CONSTRUCTION, CORE DRILL OPENING AND INSTALL MECHANICAL SEALS WITHOUT THE USE OF SLEEVES.

PIPE SLEEVES THRU FLOOR DETAIL

SCALE: NTS



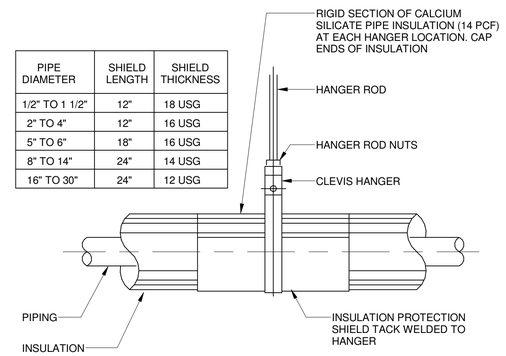
NOTES:

1. BOTTOM REINFORCEMENT TO BE CONTINUOUS WHERE POSSIBLE.
2. FOR PIPE SIZE "D" AND ELEVATION, SEE PLUMBING DRAWINGS.
3. ALL PIPES LOCATED BENEATH BASE SLABS SHALL BE ENCASED IN CONCRETE UNLESS OTHERWISE NOTED.

PIPE ENCASEMENT DETAIL

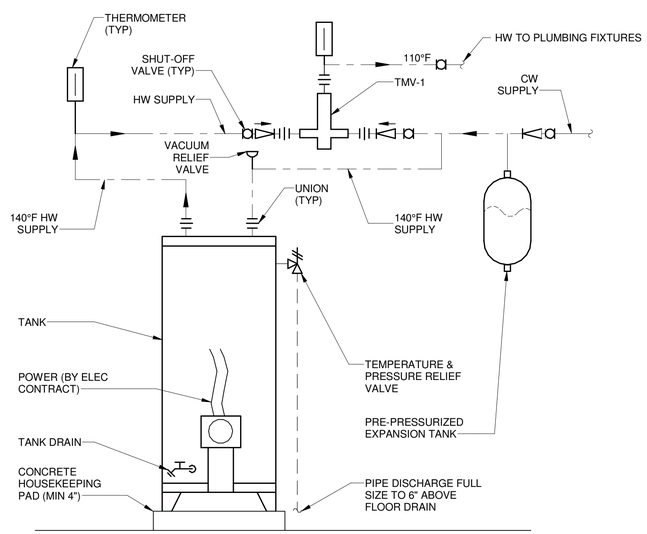
SCALE: NTS

PIPE DIAMETER	SHIELD LENGTH	SHIELD THICKNESS
1/2" TO 1 1/2"	12"	18 USG
2" TO 4"	12"	16 USG
5" TO 6"	18"	16 USG
8" TO 14"	24"	14 USG
16" TO 30"	24"	12 USG



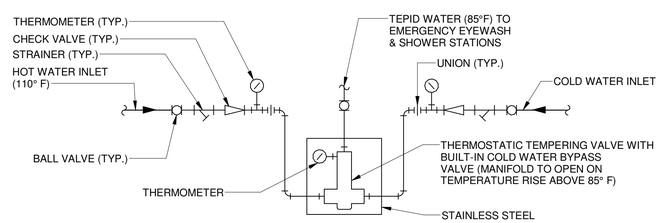
TYPICAL HANGER ARRANGEMENT OF INSULATED PIPE DETAIL

SCALE: NTS



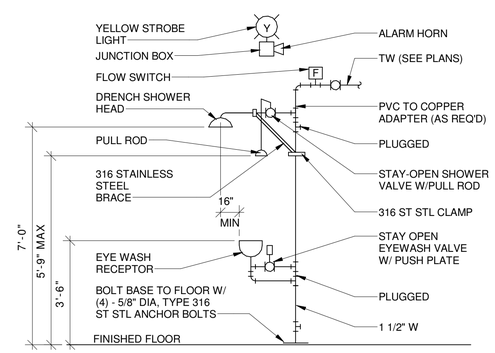
ELECTRIC WATER HEATER (EWH-1) DETAIL

SCALE: NTS



TEPID WATER MIXING VALVE (TWMV-1) DETAIL

SCALE: NTS



INTERIOR EMERGENCY EYEWASH AND SHOWER (EES-1) DETAIL

SCALE: NTS

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PLUMBING

DETAILS

SCALE: NTS

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SHEET 43 OF 51

ELECTRICAL SYMBOLS

- M — MOTOR STARTER/CONTROLLER (NON-COMBINATION – COMBINATION – MANUAL) RV DENOTES REDUCED VOLTAGE
- RV
- LOCAL CONTROL PANEL WITH CONTROLLERS FURNISHED BY EQUIPMENT VENDOR.
- I–2 GF/SS/WP — DUPLEX CONVENIENCE RECEPTACLE, 2 POLE, 3 WIRE, 120 VOLTS A.C. 20 AMP RECEPTACLE DESIGNATIONS WITH NEMA 5–20R, FIRST NUMBER DENOTES PANEL, SECOND NUMBER DENOTES CIRCUIT NUMBER. GF–DENOTES GROUND FAULT TYPE. SS–DENOTES SURGE SUPPRESSION TYPE. WP–DENOTES WEATHER PROOF COVER IN USE TYPE
- SINGLE CONVENIENCE RECEPTACLE, 2 POLE, 3 WIRE. REFER TO DRAWINGS FOR AMPERE AND VOLTAGE RATING.
- POWER RECEPTACLE, 3 PHASE, 4 WIRE, 480V A.C. WITH DISCONNECT SWITCH. REFER TO DRAWINGS FOR AMPERE RATING.
- POWER RECEPTACLE, 2 POLE, 3 WIRE 250 VOLTS A.C. REFER TO DRAWINGS FOR AMPERE RATINGS
- RJ45 DATA OUTLET
- S S S — POWER ON–OFF SNAP SWITCH, 1PH, 120V AC, 20A
- S^a — SINGLE POLE SWITCH – LOWER CASE LETTER DENOTES SWITCHING.
- S_2 — TWO POLE SWITCH
- S_3 — THREE–WAY SWITCH
- S_4 — FOUR–WAY SWITCH
- S_M — SINGLE POLE MANUAL STARTER
- MS — TWO OR THREE POLE MANUAL STARTER, 20A
- LETTERS AND NUMERALS INDICATE PANEL AND CIRCUIT NUMBER (LP1–2). CROSS LINES INDICATE NUMBER OF CONDUCTORS. HALF HASH MARKS INDICATES NEUTRAL. NUMBER DENOTES WIRE SIZE WHEN NOT #12 AWG. CONTINUE CONDUIT AND WIRE RUN FROM BOX TO DEVICE IN ROOM OR AREA AS NOTED BY BRANCH CIRCUIT NUMBER #10 AWG WIRING SHALL BE USED FOR RUNS BETWEEN PANEL AND FIRST LIGHTING FIXTURE OR RECEPTACLE EXCEEDING 50 FT, UNLESS OTHERWISE NOTED ON DRAWING.
- LP1–2 J 10
- INDICATES GROUND CONDUCTOR
- C12 — INDICATES HOMERUN AND CONDUIT TAG; REFER TO ONE LINE AND INTERCONNECTION DIAGRAM
- PUSHBUTTON STATION
- PUSHBUTTON STATION WITH LOCK–OUT FEATURE
- SELECTOR SWITCH
- INDICATING LIGHT
- CS — CONTROL STATION
- H O A — HAND–OFF–AUTOMATIC SELECTOR SWITCH CONTROL STATION
- L O R — LOCAL–OFF–REMOTE SELECTOR SWITCH CONTROL STATION
- DEVICE LOCATED IN FIELD AT OR NEAR MOTOR
- DEVICE LOCATED IN CONTROL PANEL
- VCS — CONTROL STATION FURNISHED BY EQUIPMENT VENDOR
- A AS — AMMETER – AMMETER SWITCH
- V VS — VOLTMETER – VOLTMETER SWITCH
- MF — METERING FUNCTIONS
- F 60/40 — LINE SWITCH DISCONNECT – UNFUSED OR FUSED F DENOTES FUSING, ONLY WHERE INDICATED. FIRST NUMBER DENOTES SWITCH AMP RATING. SECOND NUMBER DENOTES FUSE SIZE WHEN PROVIDED.
- VFD — VARIABLE FREQUENCY DRIVE
- J OR JB — JUNCTION BOX; SIZE AS REQUIRED BY N.E.C.
- T OR TB — TERMINAL BOX; SIZE AS REQUIRED BY N.E.C. AND TO ACCOMODATE ALL TERMINATIONS ON TERMINAL BLOCKS. TERMINATIONS TO INCLUDE SPARE WIRING.
- MMD — MULTI FUNCTIONAL METERING DEVICE
- SPD — SURGE PROTECTION DEVICE
- LA G — LIGHTNING ARRESTOR

- PB — PULL BOX; SIZE AS REQUIRED BY N.E.C.
- K1 — LOCK FOR RESPECTIVE KEY INTERLOCK WITH KEY CAPTIVE IN LOCK
- OT — OVERTEMPERATURE DEVICE
- RTD — RESISTIVE TEMPERATURE DEVICE
- SH — MOTOR SPACE HEATER
- M 5 — ELECTRIC MOTOR (NUMBER INDICATES HORSEPOWER).
- PROVIDE CHANNEL SUPPORT. FOR 120 VOLT BRANCH CIRCUIT MOTORS, NUMERALS DENOTES DISTRIBUTION OR LIGHTING PANEL AND BRANCH CIRCUIT NUMBER.
- MV — MOTORIZED VALVE WITH CONTROLLER
- MD — MOTORIZED DAMPER WITH CONTROLLER
- GROUND TEST POINT
- GROUND ROD
- GROUND GRID CABLE CONNECTION
- G — GROUND
- #4/0 GROUND CABLE BURIED 2'–6" BELOW GRADE
- PFD — FUSE–PFD DENOTES PULL FUSE DISCONNECT TYPE
- PC — PHOTOCELL
- 1–3 — LED LIGHTING FIXTURE – CEILING OR PENDANT MOUNTED. SEE LIGHTING FIXTURE SCHEDULE FOR TYPE. FIRST NUMERAL DENOTES LIGHTING PANEL (LP1), SECOND NUMBER DENOTES BRANCH CIRCUIT NUMBER.
- 1–3 — LED LIGHTING FIXTURE WITH BATTERY PACK – CEILING OR PENDANT MOUNTED. SEE LIGHTING FIXTURE SCHEDULE FOR TYPE. FIRST NUMERAL DENOTES LIGHTING PANEL (LP1), SECOND NUMBER DENOTES BRANCH CIRCUIT NUMBER.
- CEILING OR PENDANT MOUNTED LIGHTING FIXTURE. SEE LIGHTING FIXTURE SCHEDULE FOR TYPE.
- CEILING OR PENDANT MOUNTED LIGHTING FIXTURE WITH QUARTZ BACKUP. SEE LIGHTING FIXTURE SCHEDULE FOR TYPE.
- WALL MOUNTED LIGHTING FIXTURE. SEE LIGHTING FIXTURE SCHEDULE FOR TYPE.
- POLE OR STANCHION MOUNTED LIGHTING FIXTURE. SEE LIGHTING FIXTURE SCHEDULE FOR TYPE.
- TWO (2) POLE OR STANCHION MOUNTED LIGHTING FIXTURES
- GF — POLE MOUNTED FIXTURE WITH GF RECEPTACLE
- EM — 2 LAMP SELF CONTAINED DC EMERGENCY LIGHTING UNIT. SEE LIGHTING FIXTURE SCHEDULE FOR DESCRIPTION. LETTER DENOTES FIXTURE TYPE. CONNECT TO ROOM LIGHTING CIRCUIT AHEAD OF SWITCH.
- EXIT SIGN, BATTERY BACKUP TYPE. CONNECT TO ROOM LIGHTING CIRCUIT AHEAD OF SWITCH
- D 150 10'–0"AFF — FIXTURE DESIGNATION SYMBOL. SEE LIGHTING FIXTURE SCHEDULE FOR DESCRIPTION AND TYPE. ALL FIXTURES SHOWN IN A ROOM WITH THIS SYMBOL SHALL BE OF TYPE INDICATED BY LETTER; NUMBER IN SYMBOL INDICATES LAMP WATTAGE AND NUMBER OF LAMPS WHERE MORE THAN ONE (UNLESS OTHERWISE NOTED). NUMBER BELOW SYMBOL INDICATES MOUNTING HEIGHT ABOVE FINISHED FLOOR OR AS NOTED.
- CT — CURRENT TRANSFORMER
- POTENTIAL TRANSFORMER
- 1–24 — UNIT HEATER–NUMERAL DENOTES LIGHTING PANEL AND BRANCH CIRCUIT NUMBER
- T — THERMOSTAT

- 100/30 2P — (FRAME SIZE)/(TRIP SIZE); THERMAL–MAGNETIC BREAKER; 2P DENOTES 2 POLE
- 7 MCP — (CONTINUOUS RATING) (MOTOR CIRCUIT PROTECTOR); AC COMBINATION FULL VOLTAGE NON–REVERSING STARTER WITH MAGNETIC BREAKER
- TRANSFORMER– TYPE AND SIZE AS NOTED ON THE THE DRAWINGS AND IN SPECIFICATIONS
- INDICATES NEW EQUIPMENT/CONDUIT
- INDICATES EXISTING EQUIPMENT/CONDUIT
- INDICATES CONCEALED OR UNDERGROUND EQUIPMENT/CONDUIT
- SSC — INDICATES AUTOMATIC TRANSFER SWITCH WITH SOLID STATE CONTROLS AND ACCESSORIES
- SOLID STATE TRIP 800/800 (600P) — (FRAME SIZE)/(SENSOR RATING); DENOTE PLUG RATING; DRAWOUT POWER CIRCUIT BREAKER WITH RMS TYPE SOLID STATE TRIP

INSTRUMENTS

- PS 123 — INSTRUMENT DEVICE: LETTERS IDENTIFY DEVICE FUNCTION, NUMBERS WHERE INDICATED DENOTE LOOP NUMBER
- PS — PRESSURE SWITCH (PSH DENOTES PRESSURE SWITCH HIGH AND PSL DENOTES PRESSURE LOW)
- FS — FLOW SWITCH (FSH DENOTES FLOW SWITCH HIGH AND FSL DENOTES FLOW SWITCH LOW)
- ZS — LIMIT SWITCH
- PIT — PRESSURE TRANSMITTER (I DENOTES INDICATING TYPE)
- A — PUSH TO TEST INDICATING LIGHT LETTER "A" DENOTES AMBER COLOR LETTER "R" DENOTES RED COLOR AND "G" DENOTES GREEN COLOR
- SL — STROBE LIGHT
- AIT — ANALYSIS TRANSMITTER (AE DENOTES ANALYSIS ELEMENT)
- TIT — TEMPERATURE TRANSMITTER (TE DENOTES TEMPERATURE ELEMENT)
- TS — TEMPERATURE SWITCH (TSH DENOTES TEMPERATURE SWITCH HIGH AND TSL DENOTES TEMPERATURE SWITCH LOW)
- LS — LEVEL SWITCH (LSH DENOTES LEVEL SWITCH HIGH AND LSL DENOTES LEVEL SWITCH LOW)
- MV — MOTORIZED VALVE
- SV — SOLENOID VALVE
- LIT — LEVEL TRANSMITTER (LE DENOTES LEVEL ELEMENT)
- FIT — FLOW TRANSMITTER (FE DENOTES FLOW ELEMENT)

MISCELLANEOUS SPECIAL SYSTEMS

- ACP — ALARM CONTROL PANEL
- FACP — FIRE ALARM CONTROL PANEL
- F — FIRE ALARM SYSTEM STROBE LIGHT/HORN COMBINATION
- F — FIRE ALARM SYSTEM MANUAL PULL STATION
- D SD — SMOKE DETECTOR D = DUCT TYPE (BY HVAC CONTRACTOR)
- A SD — SMOKE DETECTOR A= AREA TYPE
- FD — FLAME DETECTOR
- XXX HD — HEAT DETECTOR XXX = RATING (135 OR 200)
- XX — SPEAKER HORN H = HORN, PS = PAGING SPEAKER, C = CEILING MOUNTED SPEAKER
- A/V — AUDIO VISUAL DEVICE
- A/V–S — AUDIO VISUAL STATION
- R — ALARM BEACON
- DUPLEX ETHERNET JACKET
- TELEPHONE JACKET
- EPC — EMERGENCY PULL CORD
- END OF LINE RESISTOR

ABBREVIATIONS

AC	ALTERNATING CURRENT
ACSR	ALUMINIUM CONDUCTOR STEEL–REINFORCED CABLE
ARPF	ASH RECYCLING AND PROCESSING FACILITY
AFF	ABOVE FINISH FLOOR
AFG	ABOVE FINISHED GRADE
ATC	AUTOMATIC TEMPERATURE CONTROL PANEL
ATS	AUTOMATIC TRANSFER SWITCH
AWG	AMERICAN WIRE GAUGE
BKR	BREAKER
C	CONDUIT
CBV	CABLE BY VENDOR, INSTALLED BY CONTRACTOR
CKT	CIRCUIT
CNT	CONTROL
CP	CONTROL PANEL
CPT	CONTROL POWER TRANSFORMER
CT	CURRENT TRANSFORMER
DP	DISTRIBUTION PANEL
EC	EMPTY CONDUIT
EGC	EQUIPMENT GROUND CONDUCTOR
EF	EXHAUST FAN
EL	ELEVATION
EXP	EXPLOSION PROOF
EXIST	EXISTING
FDR	FEEDER
FVNR	FULL VOLTAGE NON–REVERSING
G OR GND	GROUND
GF	GROUND FAULT
H/O/A	HAND–OFF–AUTOMATIC
HMCS	HVAC MONITORING CONTROL SYSTEM
JB	JUNCTION BOX
LCP	LOCAL CONTROL PANEL
LP	LIGHTING PANELBOARD
LTG	LIGHTING
M	MOTOR
MCC	MOTOR CONTROL CENTER
MCM	ONE THOUSAND CIRCULAR MILS
MMD	MICROPROCESSOR–BASED METERING DEVICE
MTS	MANUAL TRANSFER SWITCH
NA	NON–AUTOMATIC
NCTC	NORMALLY CLOSED, TIMED TO CLOSE
NCTO	NORMALLY CLOSED, TIMED TO OPEN
NOTC	NORMALLY OPEN, TIMED TO CLOSED
NOTO	NORMALLY OPEN, TIMED TO OPEN
NTS	NOT TO SCALE
OL'S	MOTOR OVERLOAD HEATERS
OT	OVER TEMPERATURE
PB	PULL BOX
PNL	PANEL
PP	POWER PANEL
PT	POTENTIAL TRANSFORMER
PWR	POWER
R1	RELAY #1
RECEP	RECEPTACLE
RVNR	REDUCED VOLTAGE NON–REVERSING
(S) (SH)	SHIELDED CABLE
SE	SERVICE ENTRANCE
SP	SPARE
SS	SELECTOR SWITCH
SWBD	SWITCHBOARD
SWGR	SWITCHGEAR
TEMP	TEMPERATURE
TEW	THERMOCOUPLE EXTENSION WIRE
UON	UNLESS OTHERWISE NOTED
V	VOLT
VFD	VARIABLE FREQUENCY DRIVE
WP	WEATHERPROOF
WT	WINDING TEMPERATURE RELAY
XFMR	TRANSFORMER
NEC	NATIONAL ELECTRIC CODE
(TYP)	TYPICAL
ø	PHASE
#	NUMBER

ANSI DEVICE RELAY AND FUNCTION DESIGNATIONS

27

25	–	AUTO SYNCHRONIZER	N	–	DENOTES NEUTRAL
25C	–	SYNC CHECK WITH DEAD BUS FEATURE	V	–	GENERATOR
			59	–	OVER VOLTAGE
26Q	–	LIQUID TEMPERATURE	63PG	–	PRESSURE GAUGE
27	–	UNDER VOLTAGE WITH TIME DELAY	63PR	–	PRESSURE RELIEF
			67	–	AC DIRECTIONAL OVER CURRENT
30	–	ANNUNICATOR RELAY			
32	–	DIRECTIONAL POWER	81	–	FREQUENCY
U	–	UNDER	u	–	UNDER
R	–	REVERSE	o	–	OVER
33	–	POSITION SWITCH	83	–	AUTOMATIC TRANSFER
40	–	LOSS OF EXCITATION	86	–	LOCKOUT HAND RESET
43	–	MANUAL SWITCH	87	–	PHASE DIFFERENTIAL
46	–	PHASE–BALANCE CURRENT	T	–	DENOTES TRANSFORMER
47	–	PHASE–SEQUENCE VOLTAGE	B	–	DENOTES BUS
49	–	THERMAL	G	–	DENOTES GENERATOR
T	–	DENOTES TRANSFORMER HOT SPOT	71Q	–	LIQUID LEVEL GAGE
M	–	DENOTES MOTOR			
50,51	–	INSTANTANEOUS OVERCURRENT AND TIME DELAY OVERCURRENT			
G	–	DENOTES GROUND			

GENERAL NOTES

1. THE SYMBOLS AND ABBREVIATIONS LIST ON THIS SHEET IS A COMPREHENSIVE STANDARD GUIDE INTENDED FOR GENERAL USE ON ALL PROJECTS. THEREFORE NOT ALL THE SYMBOLS AND ABBREVIATIONS CONTAINED IN THIS LIST ARE NECESSARILY USED ON THIS PARTICULAR PROJECT AND SHOULD BE USED FOR CLARIFICATION ONLY.
2. ALL MATERIALS AND EQUIPMENT SHALL CONFORM TO THE AREA CLASSIFICATION REQUIREMENTS SPECIFIED IN SECTION 26 05 05. INDOOR AREA DESIGNATIONS FOR WET, CORROSIVE AND CLASSIFIED LOCATIONS ARE INDICATED ON THE DRAWINGS.
3. ALL WORK AT THE PROJECT SITE SHALL BE IN ACCORDANCE WITH JOB CONDITIONS SPECIFIED IN DIV 26.
4. PROVIDE JUNCTION BOX FOR ANY DEVICE WITH PIG TAIL SUCH AS SOLENOID VALVES, LIMIT SWITCHES, SMOKE DETECTORS AND ETC. FOR PROPER ELECTRICAL CONNECTION. PROVIDE ALL HARDWARE FOR MOUNTING OF JUNCTION BOX.
5. PROVIDE INDEPENDENT SUPPORT FOR DISCONNECT SWITCHES, CONTROL STATIONS, BOXES, PANELS, ETC. WHERE NO WALLS OR OTHER STRUCTURAL SURFACE EXISTS.
6. EQUIPMENT SIZES AND LOCATIONS ARE APPROXIMATE. ACTUAL DIMENSIONS TO BE DETERMINED BY EQUIPMENT FURNISHED.
6. CONTRACTOR SHALL FILE AND OBTAIN ALL PERMITS REQUIRED FOR WORK. SEE NOTE #7 ON SHEET G–02.

ARCADIS
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ARCADIS OF NEW YORK, INC.

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SEALS
STATE OF NEW YORK · GREGORY JAMES MOORE · 094341 · LICENSED PROFESSIONAL ENGINEER
9/6/2024

ORANGE COUNTY, NEW YORK
CITY OF NEWBURGH

WASTEWATER TREATMENT PLANT (WWTP) ADMIN BUILDING RENOVATION

BID NUMBER 7.24
ARCADIS PROJ. NO. 30183827

NO.	DATE	ISSUED FOR	BY

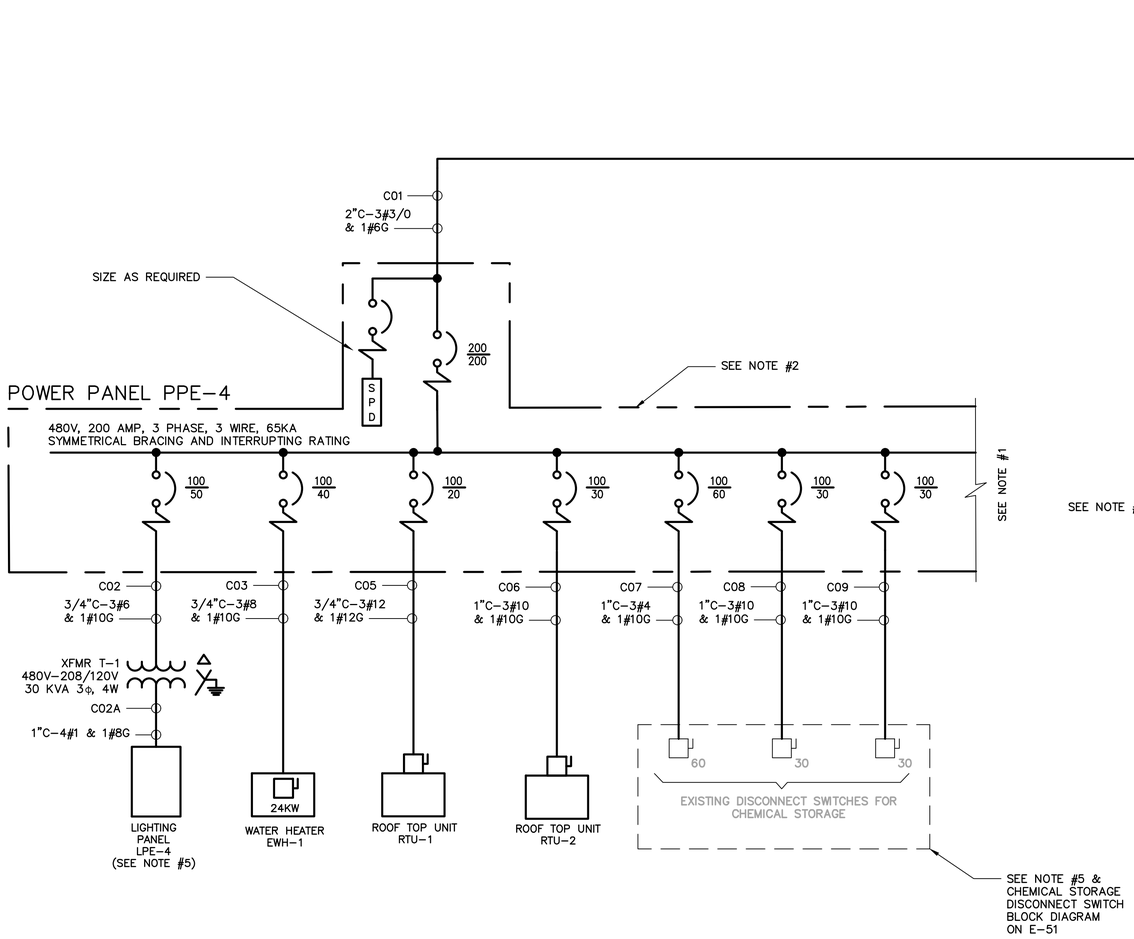
DATE: SEPTEMBER 2024
PROJECT NO.: 30183827
FILE NAME: E–01
DESIGNED BY: S. CURTIS
DRAWN BY: A. IYER
CHECKED BY: G. MOORE

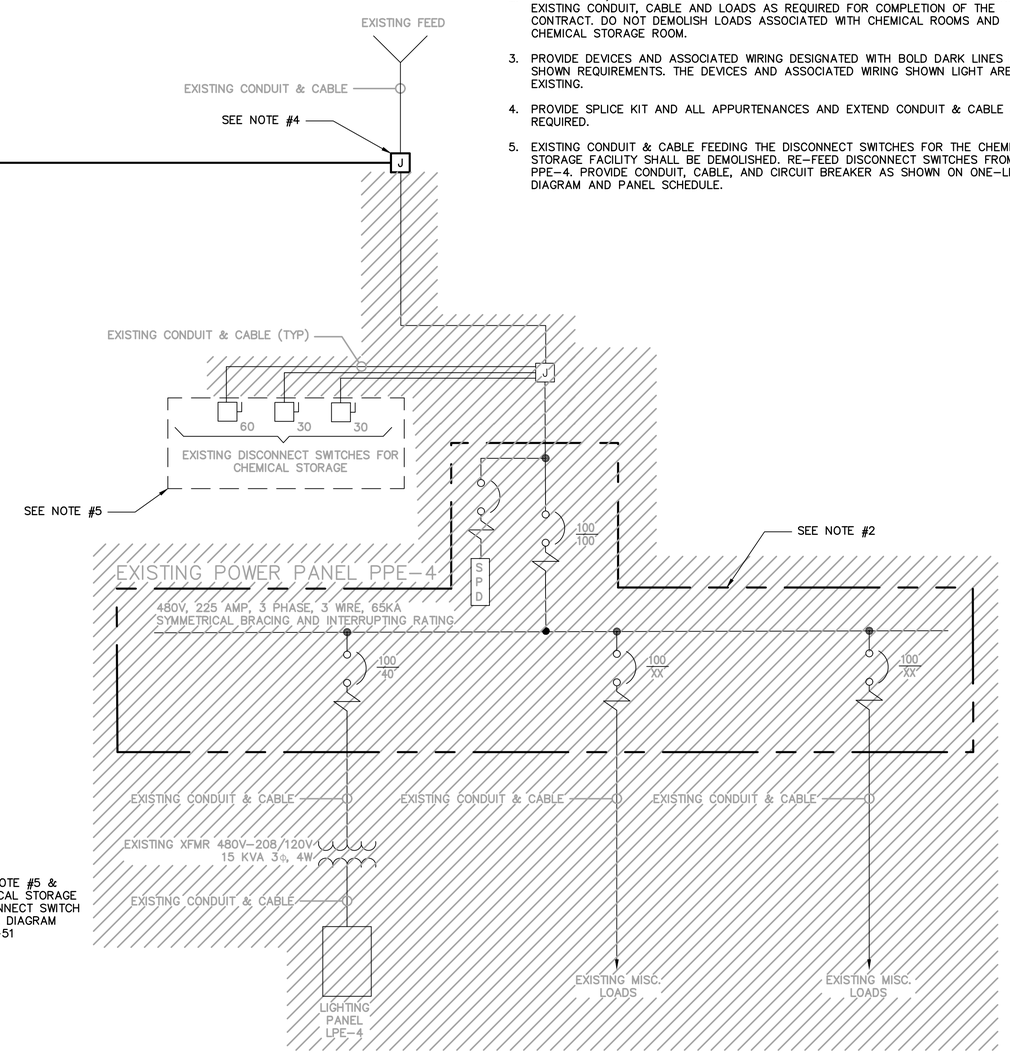
SHEET TITLE
ELECTRICAL
SYMBOLS, LEGENDS AND ABBREVIATIONS

SCALE: NONE

E–01
SHEET 44 OF 51

NOTES:
1. FOR CLARITY, SPARE BREAKERS AND FUTURE PROVISIONS ARE NOT SHOWN. REFER TO PANEL SCHEDULES.
2. FOR CLARITY, NOT ALL EXISTING BREAKERS AND LOADS ARE SHOWN. FIELD CONFIRM EXISTING CONDUIT, CABLE AND LOADS AS REQUIRED FOR COMPLETION OF THE CONTRACT. DO NOT DEMOLISH LOADS ASSOCIATED WITH CHEMICAL ROOMS AND CHEMICAL STORAGE ROOM.
3. PROVIDE DEVICES AND ASSOCIATED WIRING DESIGNATED WITH BOLD DARK LINES PER THE SHOWN REQUIREMENTS. THE DEVICES AND ASSOCIATED WIRING SHOWN LIGHT ARE EXISTING.
4. PROVIDE SPLICE KIT AND ALL APPURTENANCES AND EXTEND CONDUIT & CABLE AS REQUIRED.
5. EXISTING CONDUIT & CABLE FEEDING THE DISCONNECT SWITCHES FOR THE CHEMICAL STORAGE FACILITY SHALL BE DEMOLISHED. RE-FEED DISCONNECT SWITCHES FROM PPE-4. PROVIDE CONDUIT, CABLE, AND CIRCUIT BREAKER AS SHOWN ON ONE-LINE DIAGRAM AND PANEL SCHEDULE.





ONE LINE DIAGRAM

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BID NUMBER 7.24
ARCADIS PROJ. NO. 30183827

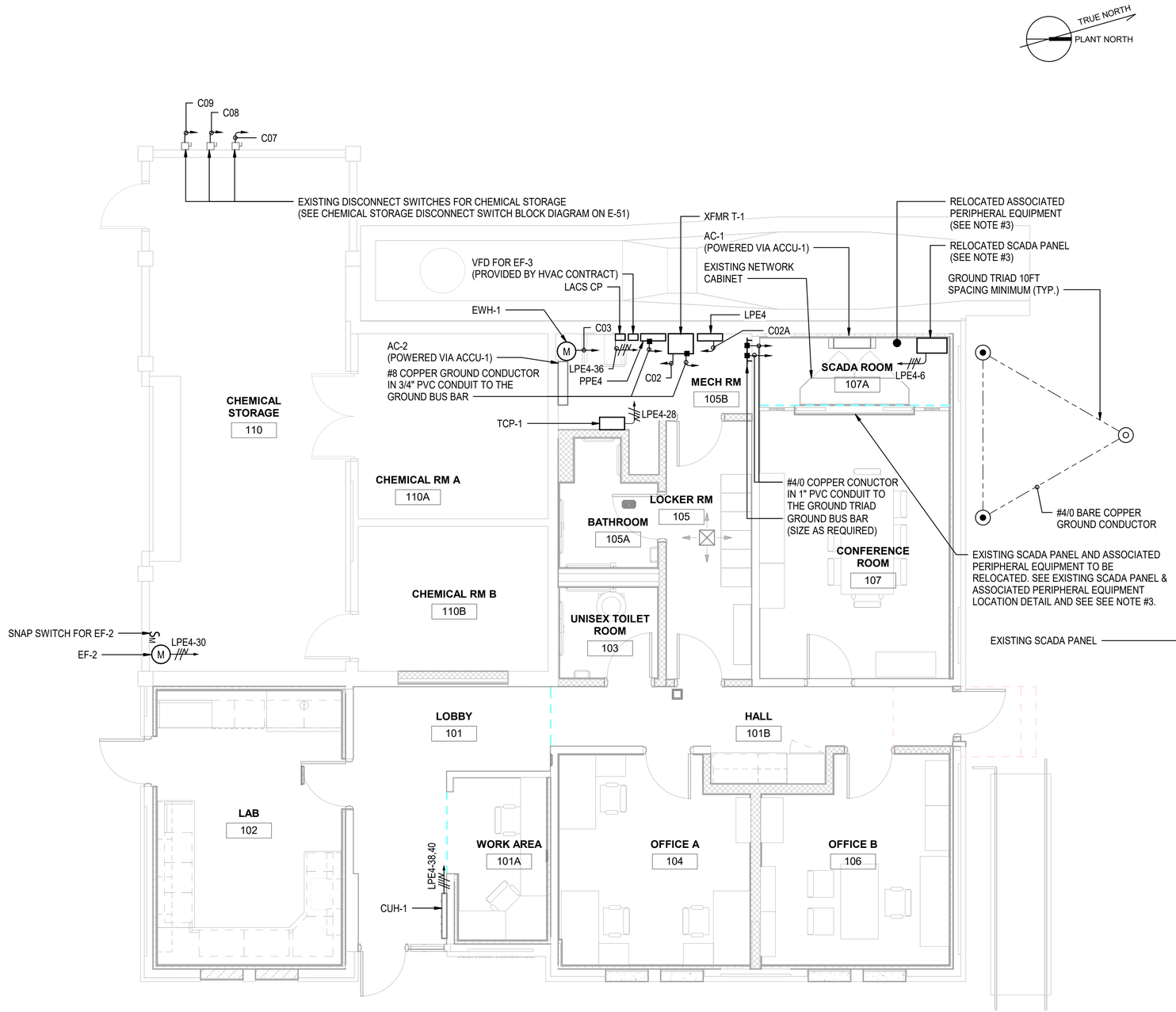
NO.	DATE	ISSUED FOR	BY

DATE: SEPTEMBER 2024
PROJECT NO.: 30183827
FILE NAME: E-02
DESIGNED BY: S. CURTIS
DRAWN BY: A. IYER
CHECKED BY: G. MOORE

SHEET TITLE
ELECTRICAL
ONE LINE DIAGRAM

SCALE: NONE

E-02
SHEET 45 OF 51



FIRST FLOOR POWER PLAN

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

NOTES:

1. ALL ROOMS ARE DUSTY LOCATION. ALL EQUIPMENT, MATERIALS, INCIDENTALS ETC SHALL CONFORM TO THE REQUIREMENTS OF THE LOCATIONS DESIGNATION.
2. FOR CLARITY, CONDUIT ROUTING IS NOT SHOWN. ONLY MAIN HOMERUNS ARE SHOWN. REFER TO ONE LINE AND BLOCK DIAGRAM FOR CONDUIT AND WIRE REQUIREMENTS. PROVIDE PULL BOXES AS REQUIRED PER NEC. CONTRACTOR SHALL FIELD COORDINATE CONDUIT INSTALLATION
3. RELOCATE SCADA PANEL AND ASSOCIATED PERIPHERAL EQUIPMENT AND EXTEND/REROUTE CONDUITS AND CABLES AS REQUIRED (CONTRACTOR SHALL FIELD TRACE ORIGIN OF EXISTING SIGNALS TO EXISTING CONTROL PANEL PRIOR TO RELOCATION). COORDINATE SIGNALS AND EQUIPMENT RELOCATION WITH OWNER.

EXISTING SCADA PANEL & ASSOCIATED PERIPHERAL EQUIPMENT LOCATION DETAIL

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WASTEWATER TREATMENT PLANT (WWTP) ADMIN BUILDING RENOVATION

BID NUMBER 7.24
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NO.	DATE	ISSUED FOR	BY

DATE: SEPTEMBER 2024
PROJECT NO.: 30183827
FILE NAME:
DESIGNED BY: S. CURTIS
DRAWN BY: A. IYER
CHECKED BY: G. MOORE

SHEET TITLE
ELECTRICAL
FIRST FLOOR POWER PLAN

SCALE: As indicated

E-10

SHEET 46 OF 51

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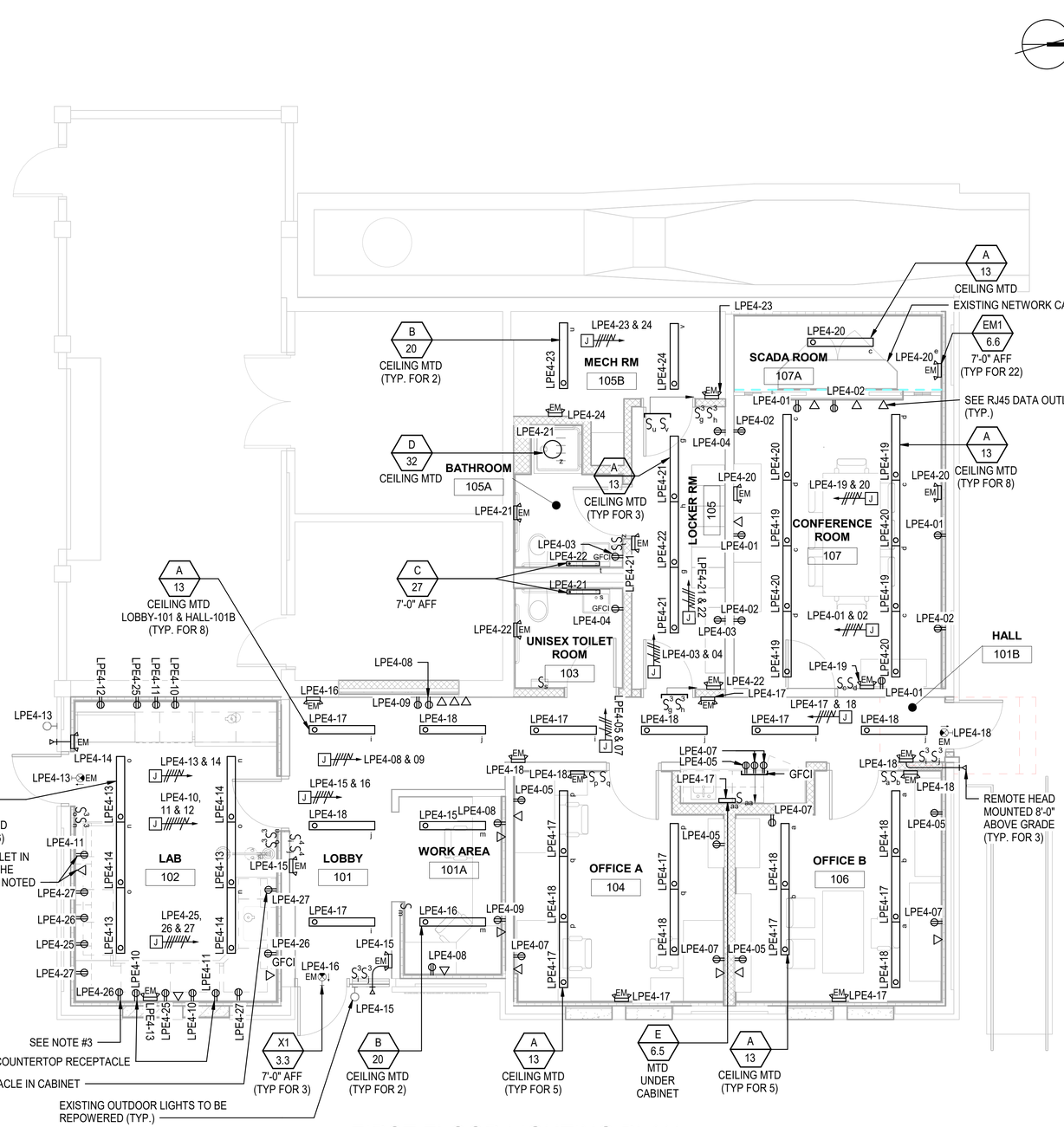
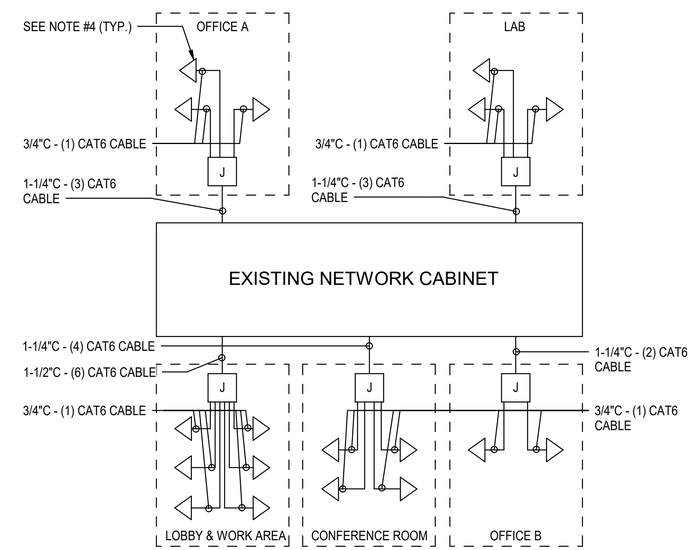


FIRST FLOOR LIGHTING PLAN

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

NOTES:

1. ALL ROOMS ARE DUSTY LOCATION. ALL EQUIPMENT, MATERIALS, INCIDENTALS ETC SHALL CONFORM TO THE REQUIREMENTS OF THE LOCATIONS DESIGNATION.
2. FOR CLARITY, CONDUIT ROUTING IS NOT SHOWN. ONLY MAIN HOMERUNS ARE SHOWN. REFER TO ONE LINE AND BLOCK DIAGRAM FOR CONDUIT AND WIRE REQUIREMENTS. PROVIDE PULL BOXES AS REQUIRED PER NEC. CONTRACTOR SHALL FIELD COORDINATE CONDUIT INSTALLATION
3. DUPLEX RECEPTACLES IN LAB AREA SHALL BE COMBINATION DUPLEX WITH USB-C PORTS. RECEPTACLES SHALL BE MANUFACTURED BY LEVITON OR EQUAL
4. PROVIDE RJ45 DATA OUTLET SUITABLE FOR CAT6 CABLE . THE RJ45 DATA OUTLET SHALL BE MANUFACTURED BY LEVITON OR EQUAL.



RJ45 DATA OUTLET CONNECTION DETAIL

NOT TO SCALE

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ARCADIS PROJ. NO. 30183827

NO.	DATE	ISSUED FOR	BY

DATE:	SEPTEMBER 2024
PROJECT NO.:	30183827
FILE NAME:	
DESIGNED BY:	S. CURTIS
DRAWN BY:	A. IYER
CHECKED BY:	G. MOORE

SHEET TITLE

ELECTRICAL

FIRST FLOOR LIGHTING PLAN

SCALE: As indicated

E-11

SHEET 47 OF 51

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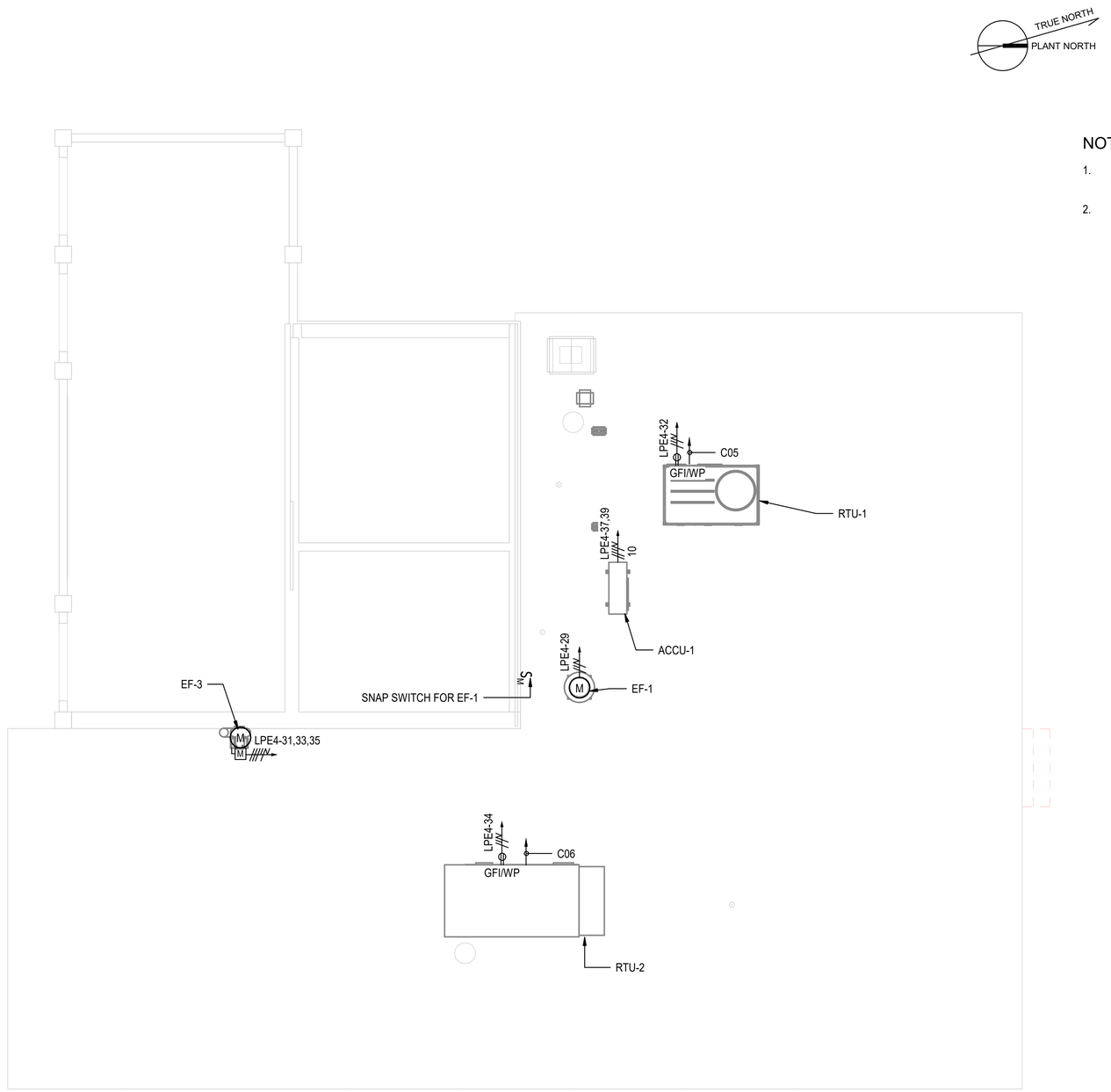

ROOF POWER PLAN

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

NOTES:

1. THE ROOF AREA IS A WET LOCATION. ALL EQUIPMENT, MATERIALS, INCIDENTALS ETC SHALL CONFORM TO THE REQUIREMENTS OF THE LOCATIONS DESIGNATION.
2. FOR CLARITY, CONDUIT ROUTING IS NOT SHOWN. ONLY MAIN HOMERUNS ARE SHOWN. REFER TO ONE LINE AND BLOCK DIAGRAM FOR CONDUIT AND WIRE REQUIREMENTS. PROVIDE PULL BOXES AS REQUIRED PER NEC. CONTRACTOR SHALL FIELD COORDINATE CONDUIT INSTALLATION

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9/6/2024

ORANGE COUNTY, NEW YORK
CITY OF NEWBURGH

WASTEWATER TREATMENT PLANT (WWTP) ADMIN BUILDING RENOVATION

BID NUMBER 7.24
ARCADIS PROJ. NO. 30183827

NO.	DATE	ISSUED FOR	BY

DATE: SEPTEMBER 2024
PROJECT NO.: 30183827
FILE NAME:
DESIGNED BY: S. CURTIS
DRAWN BY: A. IYER
CHECKED BY: G. MOORE

SHEET TITLE

ELECTRICAL

ROOF POWER PLAN

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

E-12

SHEET 48 OF 51

CKT NO.	TRIP AMPS	DESCRIPTION OF LOAD	LOAD KVA	KVA PER PHASE A	KVA PER PHASE B	KVA PER PHASE C	LOAD KVA	DESCRIPTION OF LOAD	TRIP AMPS	CKT NO.
1	40	EWH-1	8.00	12.0			4.00	RTU-1	20	2
3			8.00		12.0		4.00			4
5			8.00			12.0	4.00			6
7	30	RTU-2	5.00	5.0			0.00	SPARE	20	8
9			5.00		5.0		0.00			10
11			5.00			5.0	0.00			12
13	60	CHEMICAL STORAGE XFMR	0.00	10.0			10.00	LPE4 VIA XFMR T-1	50	14
15			0.00		10.0		10.00			16
17			0.00			10.0	10.00			18
19	30	CHEMICAL STORAGE GATE VALVE	0.00	0.0			0.00	SPARE	20	20
21			0.00		0.0		0.00			22
23			0.00			0.0	0.00			24
25	30	CHEMICAL STORAGE MISC. FEED	0.00	0.0			0.00	SPARE	20	26
27			0.00		0.0		0.00			28
29			0.00			0.0	0.00			30
LIGHTING PANEL: PPE-4 LOCATION: MECH RM 105B		TOTAL KVA		27.0	27.0	27.0	SERVICE CHARACTERISTICS: 480/277 VOLT - 3 PHASE - 3 WIRE - 60 HZ PROVIDE 200AF/200AT MAIN BREAKER & SOLID NEUTRAL 65KA SC RATING & GROUND BUS			
		GRAND CONNECTED TOTAL KVA			81.0					

PPE-4
PANELBOARD SCHEDULE

CKT NO.	TRIP AMPS	DESCRIPTION OF LOAD	LOAD KVA	KVA PER PHASE A	KVA PER PHASE B	KVA PER PHASE C	LOAD KVA	DESCRIPTION OF LOAD	TRIP AMPS	CKT NO.
1	20	CONF. RM 107 - RECEPTACLE	0.72	1.4			0.72	CONF. RM 107 - RECEPTACLE	20	2
3	20	LOCKER RM 105 & BATHROOM 105A - RECEPTACLE	0.36		0.7		0.36	LOCKER RM 105 & UNISEX TOILET ROOM 103 - RECEPTACLE	20	4
5	20	OFFICE A 104, OFFICE B 106 & HALL 101B - RECEPTACLE	0.90			1.9	1.00	SCADA PANEL	20	6
7	20	OFFICE A 104, OFFICE B 106 & HALL 101B - RECEPTACLE	1.08	1.6			0.54	LOBBY 101 & WORK AREA 101A - RECEPTACLE	20	8
9	20	LOBBY 101 & WORK AREA 101A - RECEPTACLE	0.36		0.9		0.54	LAB 102 - RECEPTACLE	20	10
11	20	LAB 102 - RECEPTACLE	0.54			0.7	0.18	LAB 102 REFRIGERATOR - RECEPTACLE	20	12
13	20	LAB 102 - LIGHTING	0.06	0.1			0.06	LAB 102 - LIGHTING	20	14
15	20	LOBBY 101 & WORK AREA 101A - LIGHTING	0.04		0.1		0.06	LOBBY 101 & WORK AREA 101A - LIGHTING	20	16
17	20	OFFICE A 104, OFFICE B 106 & HALL 101B- LIGHTING	0.16			0.3	0.16	OFFICE A 104, OFFICE B 106 & HALL 101B- LIGHTING	20	18
19	20	CONF. RM 107 & SCADA RM 107A - LIGHTING	0.12	0.2			0.10	CONF. RM 107 & SCADA RM 107A - LIGHTING	20	20
21	20	LOCKER RM 105, BATHROOM 105A & UNISEX TOILET ROOM 103 - LIGHTING	0.08		0.1		0.04	LOCKER RM 105, BATHROOM 105A & UNISEX TOILET ROOM 103 - LIGHTING	20	22
23	20	MECH RM 105B - LIGHTING	0.04			0.1	0.03	JAN CL 105C & MECH RM 105B - LIGHTING	20	24
25	20	LAB 102 - RECEPTACLE	0.54	1.1			0.54	LAB 102 - RECEPTACLE	20	26
27	20	LAB 102 - RECEPTACLE	0.72		1.2		0.50	DIRECT DIGITAL CONTROL PANEL TCP-1	20	28
29	15	EXHAUST FAN - EF-1	0.10			0.2	0.10	EXHAUST FAN - EF-2	15	30
31	20	EXHAUST FAN - EF-3	0.17	0.3			0.18	RTU-1 RECEPTACLE	20	32
33			0.17		0.4		0.18	RTU-2 RECEPTACLE	20	34
35			0.17			0.7	0.50	LACS CP	20	36
37	30	AC-1 & AC-2 VIA ACCU-1	2.28	3.0			0.75	CUH-1	30	38
39			2.28		3.0		0.75			40
41	20	SPARE	0.00			0.0	0.00	SPARE	20	42
43	20	SPARE	0.00	0.0			0.00	SPARE	20	44
45	20	SPARE	0.00		0.0		0.00	SPARE	20	46
47	20	SPARE	0.00			0.0	0.00	SPARE	20	48
49	20	SPARE	0.00	0.0			0.00	SPARE	20	50
51	20	SPARE	0.00		0.0		0.00	SPARE	20	52
53	20	SPARE	0.00			0.0	0.00	SPARE	20	54
55	20	SPARE	0.00	0.0			0.00	SPARE	20	56
57	20	SPARE	0.00		0.0		0.00	SPARE	20	58
59	20	SPARE	0.00			0.0	0.00	SPARE	20	60
LIGHTING PANEL: LPE-4 LOCATION: MECH RM 105B				7.9	6.4	3.9	SERVICE CHARACTERISTICS: 208/120 VOLT - 3 PHASE - 4 WIRE - 60 HZ PROVIDE 100AF/100AT MAIN BREAKER & SOLID NEUTRAL 22KA SC RATING & GROUND BUS			
					18.2					

LPE-4
PANELBOARD SCHEDULE

ARCADIS
LEGAL ENTITY:
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CONSULTANTS

SEALS

STATE OF NEW YORK · GREGORY JAMES MOORE · 094341 · LICENSED PROFESSIONAL ENGINEER

9/6/2024

ORANGE COUNTY, NEW YORK
CITY OF NEWBURGH

WASTEWATER TREATMENT PLANT (WWTP) ADMIN BUILDING RENOVATION

BID NUMBER 7.24
ARCADIS PROJ. NO. 30183827

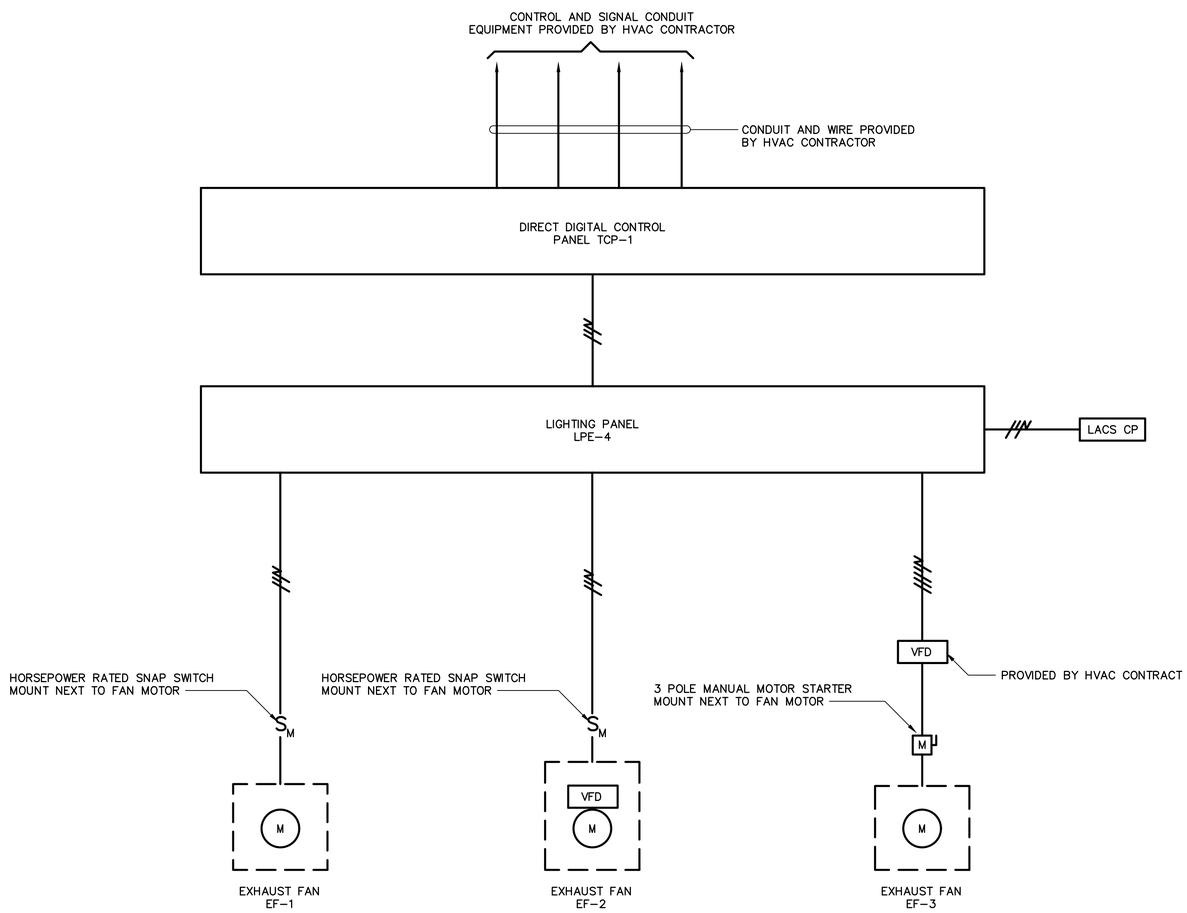
NO.	DATE	ISSUED FOR	BY

DATE: SEPTEMBER 2024
PROJECT NO.: 30183827
FILE NAME: E-50
DESIGNED BY: S. CURTIS
DRAWN BY: A. IYER
CHECKED BY: G. MOORE

SHEET TITLE
ELECTRICAL
PANEL SCHEDULE

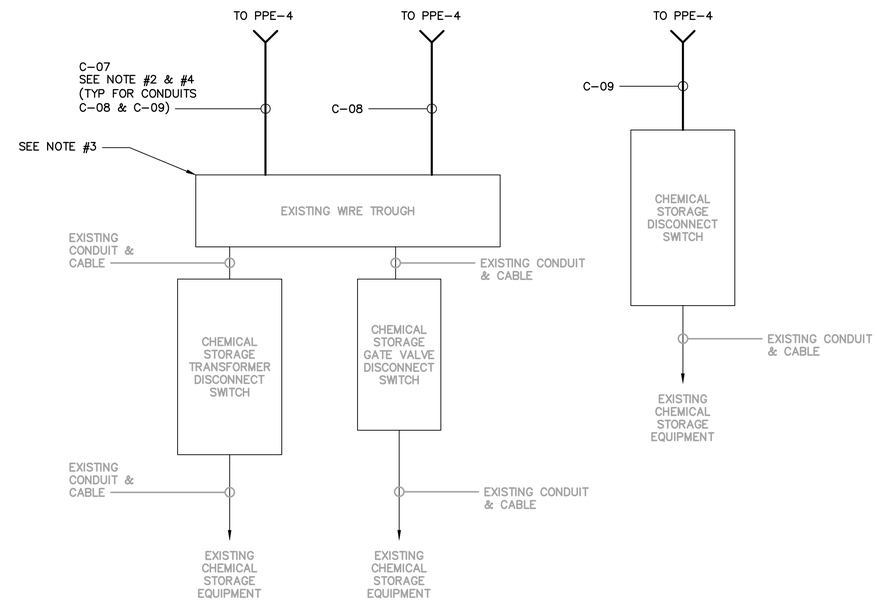
SCALE: NONE

E-50
SHEET 49 OF 51



EXHAUST FAN BLOCK DIAGRAM

N.T.S



NOTE:
1) EXISTING DISCONNECT SWITCHES AND WIRE TROUGH SHOWN ARE MOUNTED TO EXTERIOR WALL.
2) FOR CONDUIT & CABLE REQUIREMENTS, SEE ONE-LINE DIAGRAM ON SHEET E-02
3) ROUTE NEW CABLE THROUGH EXISTING CABLE TROUGH AND CONDUIT TO DISCONNECT SWITCHES
4) ROUTE CONDUITS FROM DISCONNECT SWITCHES ON EXTERIOR WALL TO PPE-4 LOCATED IN MECH RM 105B. CORE DRILL THROUGH WALL AS REQUIRED

CHEMICAL STORAGE DISCONNECT SWITCH BLOCK DIAGRAM

N.T.S

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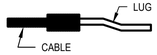
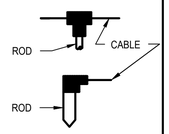
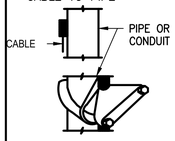
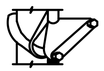
NO.	DATE	ISSUED FOR	BY

DATE: SEPTEMBER 2024
PROJECT NO.: 30183827
FILE NAME: E-51
DESIGNED BY: G. MOORE
DRAWN BY: A. IYER
CHECKED BY: G. MOORE

SHEET TITLE
ELECTRICAL
BLOCK DIAGRAM

SCALE: NONE

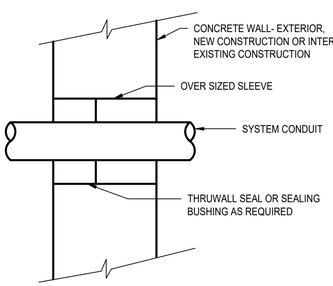
E-51
SHEET 50 OF 51

TYPE OF CONNECTION	BOLTED OR COMPRESSION		WELDED
	BURNDY CAT#	T&B CAT#	CADWELL CAT#
CABLE TO LUG 	YA	54000 SERIES	LA
CABLE TO ROD 	-	53000 SERIES	GT
	GAR	-	GR
CABLE TO CABLE 	GX	53000 SERIES	TV OR TA
CABLE TO PIPE 	-	-	HA OR VS
	GAR OR GD	3900 SERIES	-
CABLE TO FLAT SURFACE 	GB	-	HA OR HS
BRAID TO PIPE 	GG	-	-

GROUNDING CONNECTIONS

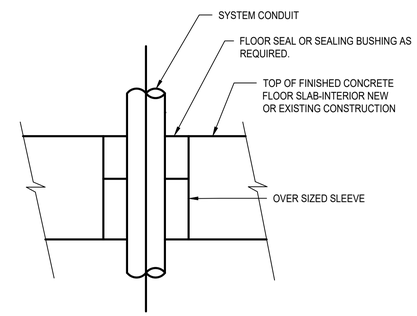
TAG	NOMINAL WATTS	NOMINAL LUMEN	COLOR TEMP.	DISTRIBUTION	VOLTAGE	DESCRIPTION	MANUFACTURER
A	13	400	4000K	N/A	120-277	4-FEET LINEAR LED LIGHT FIXTURE, ONE-PIECE EXTRUDED ALUMINUM HOUSING W/ CO-EXTRUDED LENS AND FILMS, SUITABLE FOR WET LOCATIONS, UL 1598 & UL8750 LISTED.	MARK ARCHITECTURAL SLOT 4 PENDANT OR APPROVED EQUAL
B	20	600	4000K	N/A	120-277	4-FEET LINEAR LED LIGHT FIXTURE, ONE-PIECE EXTRUDED ALUMINUM HOUSING W/ CO-EXTRUDED LENS AND FILMS, SUITABLE FOR WET LOCATIONS, UL 1598 & UL8750 LISTED.	MARK ARCHITECTURAL SLOT 4 PENDANT OR APPROVED EQUAL
C	27	3000	4000K	N/A	120-277	2-FEET LINEAR LED LIGHT FIXTURE WITH ACRYLIC DIFFUSER AND BRUSHED NICKEL HOUSING SUITABLE FOR WET LOCATIONS.	LITHONIA FMVCSLS VANITY LED OR APPROVED EQUAL
D	32	1800	2700K	N/A	120-277	ROUND SHAPED FIXTURE WITH MATTE WHITE ACRYLIC DIFFUSER AND A ROBUST ALUMINUM HOUSING EQUIPPED WITH PROTECTIVE GASKETING. SUITABLE FOR WET LOCATIONS.	LITHONIA LIGHTING VERSI LITE FMML OR APPROVED EQUAL
EM1	6.6	640	N/A	SPOT	120-277	EMERGENCY LIGHT FIXTURE WITH DUAL LAMPS, SUITABLE FOR WET LOCATION, IMPACT-RESISTANT, SCRATCH RESISTANT, CORROSION PROOF AND UNIVERSAL MOUNTING, PROVIDE LITHIUM IRON PHOSPHATE BATTERY OR CADMIUM BATTERY BACKUP FOR 90 MIN. OPERATION AND SELF DIAGNOSTIC TESTING. PROVIDE REMOTE HEAD LIGHT FIXTURE AS INDICATED ON DRAWINGS.	LITHONIA LIGHTING ELM4L OR APPROVED EQUAL
X1	3.1	N/A	N/A	N/A	120-277	LED EXIT SIGN, FULLY ASSEMBLED SINGLE FACE WITH RED LETTER AND WHITE FINISH, SUITABLE FOR DAMP LOCATIONS. IMPACT-RESISTANT, SCRATCH RESISTAND AND CORROSION PROOF THERMOPLASTIC HOUSING WITH NICKEL-CADMIUM BATTERY PROVIDING 90 MINS BACKUP.	LITHONIA LIGHTING LQM OR APPROVED EQUAL

LIGHTING FIXTURE SCHEDULE



WALL CORING DETAIL

N.T.S



THRU FLOOR CONDUIT DETAIL

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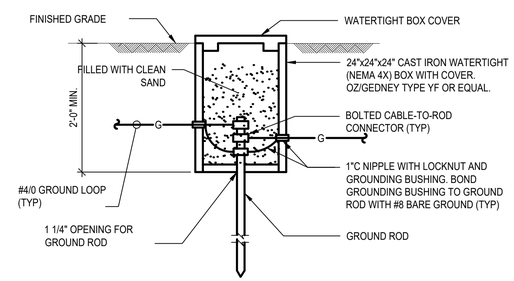

EXTERIOR GROUND CONNECTION AND TEST WELL DETAIL

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ARCADIS PROJ. NO. 30183827

NO.	DATE	ISSUED FOR	BY

DATE: SEPTEMBER 2024
PROJECT NO.: 30183827
FILE NAME: E-52
DESIGNED BY: S. CURTIS
DRAWN BY: A. IYER
CHECKED BY: G. MOORE

SHEET TITLE

ELECTRICAL

MISCELLANEOUS DETAILS

SCALE: NONE

E-52

SHEET 51 OF 51