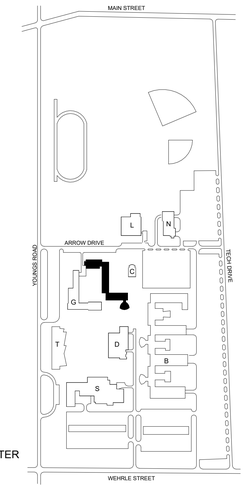
MARK C. POLONCARZ
COUNTY EXECUTIVE
ERIE COUNTY DEPARTMENT OF PUBLIC WORKS
OFFICE OF THE COMMISSIONER
WILLIAM E. GEARY
COMMISSIONER OF PUBLIC WORKS

COUNTY OF ERIE
DEPARTMENT OF PUBLIC WORKS

SUNY ERIE COMMUNITY COLLEGE NORTH CAMPUS
KITTINGER HALL BOILER ROOM UPGRADES (REBID)

6205 MAIN ST., WILLIAMSVILLE, NY 14221



BUILDINGS IN SCOPE:
BUILDING K - KITTINGER HALL

BUILDINGS NOT IN SCOPE:
BUILDING B - BRETSCHGER HALL
BUILDING C - CHILD CARE CENTER
BUILDING D - DRY LIBRARY
BUILDING G - GLEASNER HALL
BUILDING L - BELL GYMNASIUM
BUILDING N - NUNAN
BUILDING S - SPRING STUDEN CENTER
BUILDING T - STEM BUILDING

SITE PLAN
NTS

IBC PROJECT #: **22017**
ECDPW PROJECT # 2025-956-02

ISSUED FOR REBID

ISSUE DATE: **10/26/26**

ENUMERATION OF DRAWINGS

ARCHITECTURAL:

K A100 FIRST FLOOR - BOILER ROOM
K A103 SECOND FLOOR - CLASSROOM
K A600 DOOR SCHEDULE & DETAILS

HAZARDOUS MATERIALS:

K HM101 HAZARDOUS MATERIALS REMOVAL PLAN

STRUCTURAL:

K S101 STRUCTURAL NOTES, PLANS, AND ELEVATIONS
K S501 STRUCTURAL DETAILS

ELECTRICAL:

K E000 GENERAL NOTES & LEGENDS - ELECTRICAL
K E401 ENLARGED BOILER ROOM PLANS
K E500 ONE-LINE DIAGRAM - DEMOLITION
K E501 ONE-LINE DIAGRAM
K E502 DETAILS
K E600 ELECTRICAL SCHEDULES

MECHANICAL:

K H000 GENERAL NOTES & LEGENDS - HVAC
K H401 ENLARGED BOILER ROOM PLANS
K H500 HVAC DETAILS
K H600 HVAC SCHEDULES
K H700 HVAC CONTROLS
K H800 HVAC SCHEMATICS

PLUMBING:

K P000 GENERAL NOTES, LEGENDS, OVERALL PLANS AND SCHEDULES - PLUMBING
K P101 ENLARGED AND PARTIAL ROOF PLANS - PLUMBING DEMOLITION & NEW

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED ARCHITECT OR PROFESSIONAL ENGINEER TO ALTER ANY ITEM ON THIS DOCUMENT IN ANY WAY. ANY LICENSE WHO ALTERS THIS DOCUMENT IS REQUIRED BY LAW TO AFFIX HIS OR HER SEAL AND THE NOTATION "ALTERED BY" FOLLOWED BY HIS OR HER SIGNATURE AND SPECIFIC DESCRIPTION OF THE ALTERATIONS.

COPYRIGHT © 2023
IBC ENGINEERING DPC

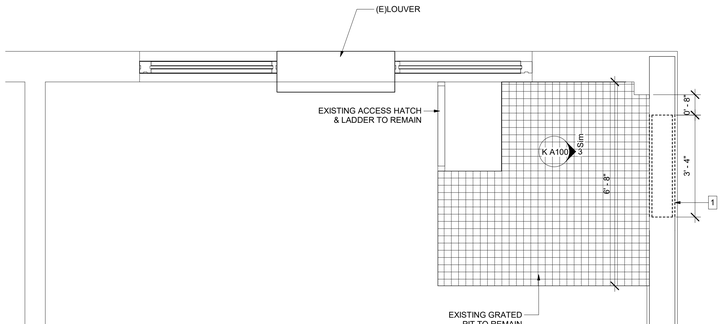
Nussbaumer & Clarke, Inc.
STRUCTURAL
3556 Lake Shore Road,
Suite 500
Buffalo, NY 14219
716.827.8000

WATTS A&E
ABATEMENT DESIGN
95 PERRY STREET
SUITE 300
BUFFALO, NY 14203
716.206.5100

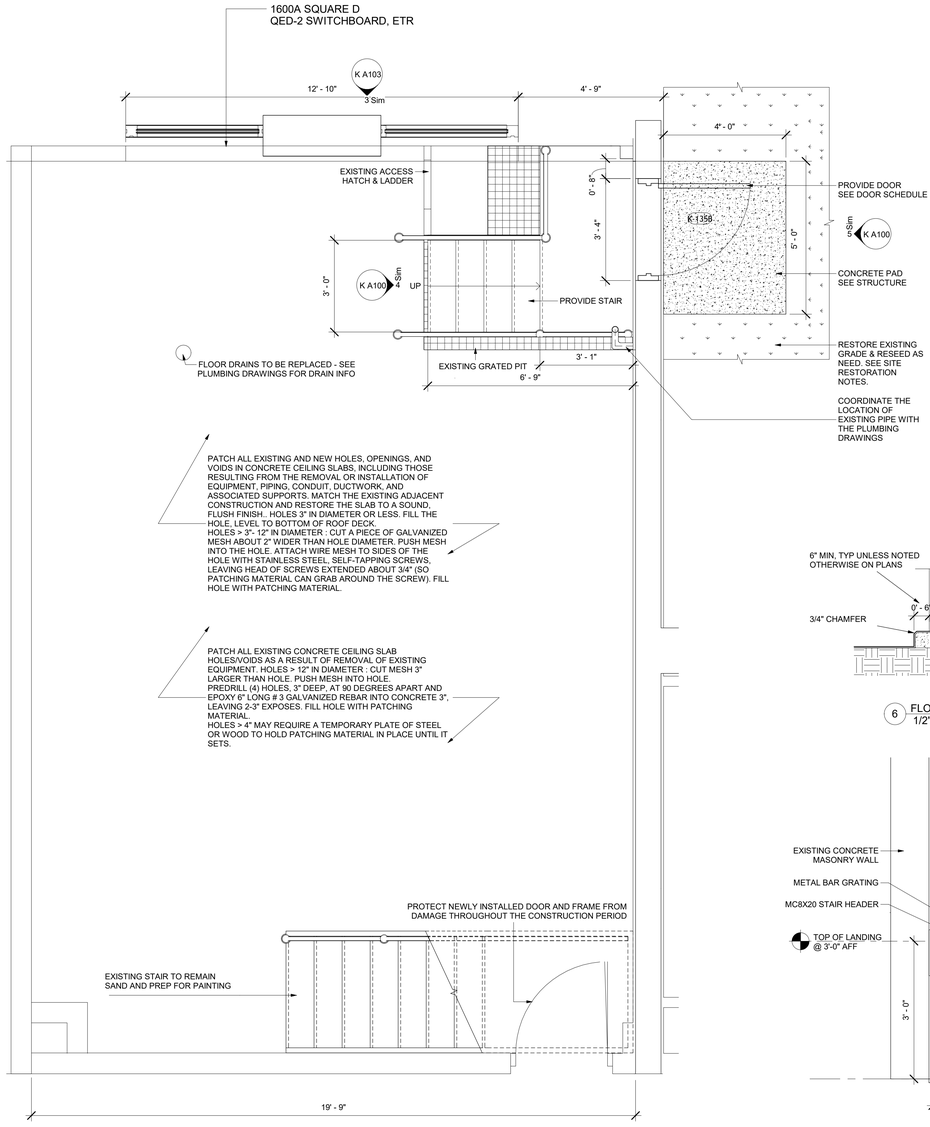
KCB Architecture
ARCHITECTURAL
211 MAIN STREET
SUITE 1
NORTH TONAWANDA, NY 14120
16.216.4165

IBC ENGNINEERING P.C.
MECHANICAL, ELECTRICAL, AND PLUMBING
2495 MAIN STREET, TRI-MAIN
CENTER, SUITE 318
BUFFALO, NY 14214
716.836.2315
3445 WINTON PLACE,
SUITE 219
ROCHESTER, NY 14623
585.292.1590

NOT FOR CONSTRUCTION



1 FIRST FLOOR - BOILER ROOM - DEMOLITION
1/2" = 1'-0"



2 FIRST FLOOR - BOILER ROOM
1/2" = 1'-0"

REMOVAL NOTES:

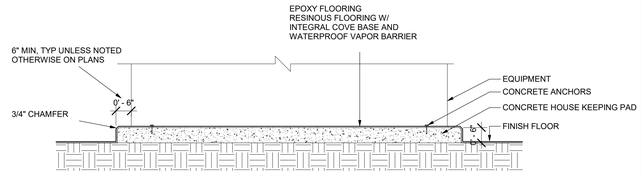
1. REMOVE EXTERIOR WALL TO THE EXTENTS INDICATED FOR INSTALLATION ON NEW DOOR . PROVIDE SHORING FOR 350 LB/LF DURING THE COURSE OF THE WORK.

DRAWING NOTES:

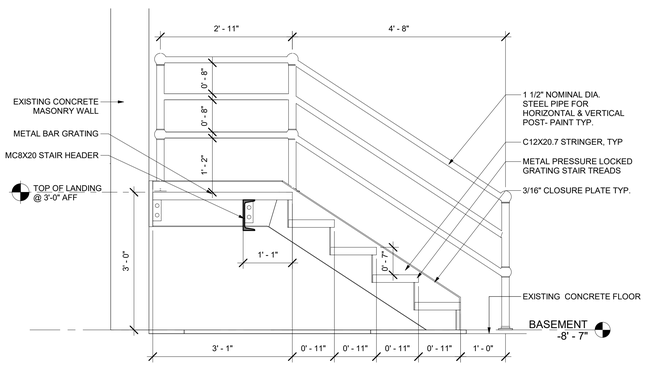
1. ALL DIMENSIONS SHOWN ARE TO STUD/STRUCTURAL FRAME, FROM EXISTING FINISH MATERIAL, U.O.N.
2. IN AREAS WHERE CEILINGS ARE TO BE REMOVED FOR MECHANICAL WORK: THOUGHTFULLY AVOID CEILING MOUNTED FIXTURES TO THE BEST ABILITY. UTILIZE ACCESS DOOR PANELS WHERE PRESENT.

SITE RESTORATION NOTES:

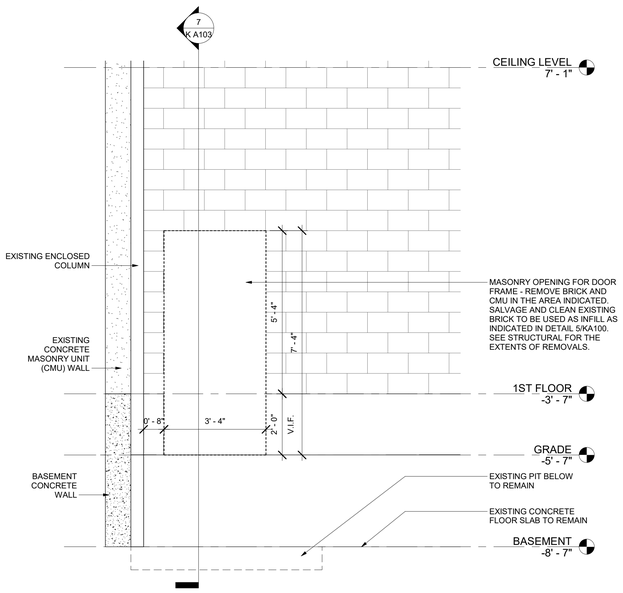
1. THE CONTRACTOR SHALL FURNISH AND INSTALL A PREMIUM, CERTIFIED COOL-SEASON LAWN SEED MIX SPECIFICALLY FORMULATED FOR HIGH-TRAFFIC PUBLIC SCHOOL GROUNDS IN WESTERN NEW YORK. THE SEED BLEND SHALL CONSIST OF 60 PERCENT TURF-TYPE TALL FESCUE (MINIMUM THREE ELITE VARIETIES), 30 PERCENT KENTUCKY BLUEGRASS (*POA PRATENSIS*), AND 10 PERCENT PERENNIAL RYEGRASS (*LOLIUM PERENNE*) BY WEIGHT. ALL SEED MUST BE DELIVERED TO THE SITE IN ORIGINAL, UNOPENED CONTAINERS BEARING THE VENDOR'S CERTIFIED ANALYSIS, SHOWING A MINIMUM 95 PERCENT PURITY, A MINIMUM 85 PERCENT GERMINATION RATE, AND A MAXIMUM OF 0.5 PERCENT WEED SEED, COMPLETELY FREE OF NOXIOUS WEEDS.
2. ALL SEEDING OPERATIONS SHALL BE PERFORMED DURING THE OPTIMAL REGIONAL PLANTING WINDOW BETWEEN AUGUST 15 AND SEPTEMBER 15 OVER STANDARD, OR AS DIRECTED BY THE CAMPUS. PROPERLY GRADED TOPSOIL AROUND THE EXISTING BUILDING PERIMETER. THE CONTRACTOR SHALL PREPARE THE SEEDBED BY LIGHTLY SCARIFYING THE TOPSOIL TO A DEPTH OF 1 INCH TO BREAK UP ANY CRUST, APPLY A SLOW-RELEASE STARTER FERTILIZER HIGH IN PHOSPHORUS, AND MECHANICALLY BROADCAST THE SEED MIX AT A UNIFORM RATE OF 6 TO 8 POUNDS PER 1,000 SQUARE FEET IN TWO INTERSECTING DIRECTIONS. IMMEDIATELY FOLLOWING APPLICATION, THE SEEDBED SHALL BE LIGHTLY RAKED OR ROLLED WITH A LAWN ROLLER TO ENSURE DEFINITIVE SEED-TO-SOIL CONTACT, FOLLOWED BY A STRICT, CONTINUOUS WATERING REGIMEN TO KEEP THE TOP INCH OF SOIL DAMP FOR 21 CALENDAR DAYS UNTIL FINAL GERMINATION IS ACHIEVED.
3. THE CONTRACTOR SHALL PROVIDE A MANDATORY 60-DAY POST-GERMINATION MAINTENANCE PERIOD, DURING WHICH THEY ARE SOLELY RESPONSIBLE FOR WATERING, MOWING, AND EROSION REPAIR — INCLUDING THE IMMEDIATE RESTORATION OF THE REQUIRED 6 PERCENT DRAINAGE GRADE IF WASHOUTS OCCUR— UNTIL FINAL LAWN ACCEPTANCE. FOR WEED MANAGEMENT, THE CONTRACTOR SHALL RELY STRICTLY ON MECHANICAL REMOVAL OR CULTURALLY CROWDING OUT WEEDS VIA HIGH-DENSITY GERMINATION; CHEMICAL HERBICIDES ARE STRICTLY PROHIBITED ON SCHOOL GROUNDS DURING THIS 60-DAY ESTABLISHMENT PHASE TO PREVENT ROOT STUNTING OF THE YOUNG FESCUE AND BLUEGRASS. ANY BROADLEAF WEED INFESTATIONS REMAINING AT THE END OF THE 60 DAYS MUST BE HAND-PULLED OR ADDRESSED USING NEW YORK STATE DEC-APPROVED, SCHOOL-SAFE ORGANIC ALTERNATIVES, ENSURING A MINIMUM OF 95 PERCENT WEED-FREE UNIFORM COVERAGE BEFORE PROJECT SIGN-OFF.



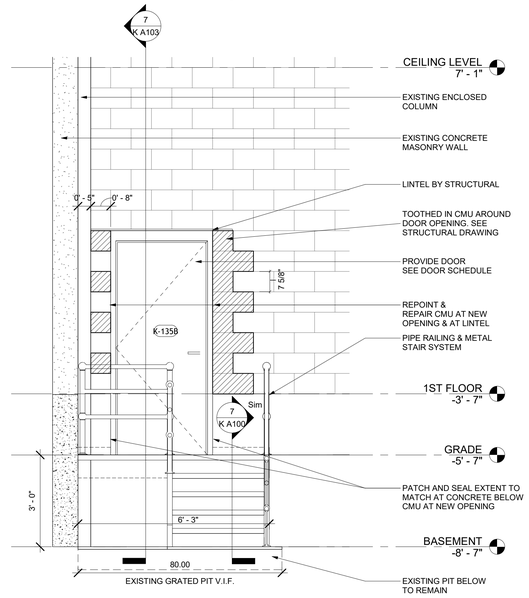
6 FLOORING DETAIL
1/2" = 1'-0"



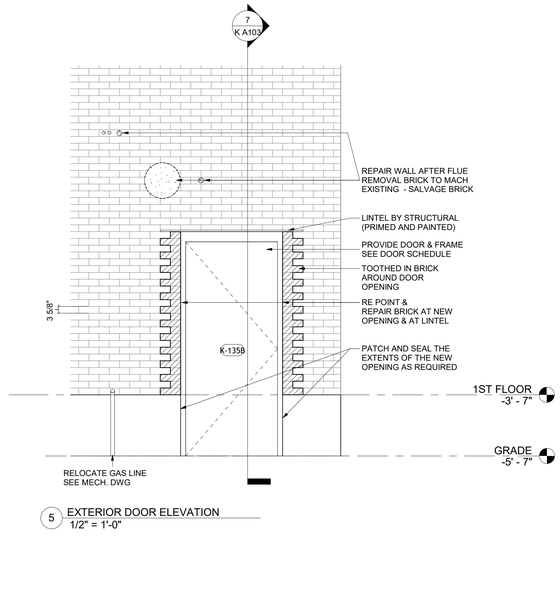
7 STAIR DETAIL
3/4" = 1'-0"



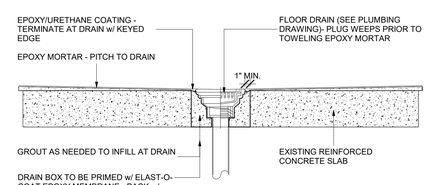
3 BOILER ROOM - DEMO ELEVATION
1/2" = 1'-0"



4 BOILER ROOM - INTERIOR ELEVATION
1/2" = 1'-0"

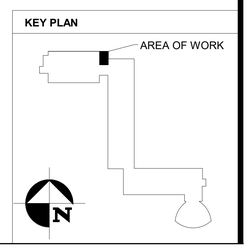


5 EXTERIOR DOOR ELEVATION
1/2" = 1'-0"



8 FLOOR DRAIN DETAIL
1/2" = 1'-0"

KEY PLAN



SUNY ERIE
State University of New York

IBC
Engineering P.C.
ROCHESTER • BUFFALO
MECHANICAL • ELECTRICAL
COMMUNICATIONS
3445 WINTON PLACE, SUITE 219
ROCHESTER, NY 14623
Phone: 585.292.1500
Fax: 585.292.1592
www.ibceng.com

kcb Architecture
211 Main Street, Suite 1
North Tonawanda, New York 14120
Telephone 716.216.4165

SUNY ECC NORTH CAMPUS KITTINGER HALL BOILER ROOM UPGRADES (REBID)

Client
COUNTY OF ERIE

Address
2025-956-02

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED ARCHITECT OR PROFESSIONAL ENGINEER TO ALTER ANY ITEM ON THIS DOCUMENT IN ANY WAY. ANY LICENSE WHO ALTERS THIS DOCUMENT IS REQUIRED BY LAW TO AFFIX HIS OR HER SEAL AND THE NOTATION "ALTERED BY" FOLLOWED BY HIS OR HER SIGNATURE AND SPECIFIC DESCRIPTION OF THE ALTERATIONS.

COPYRIGHT © 2023
IBC ENGINEERING P.C.

ISSUED FOR REBID - 10/26/2026

Revisions

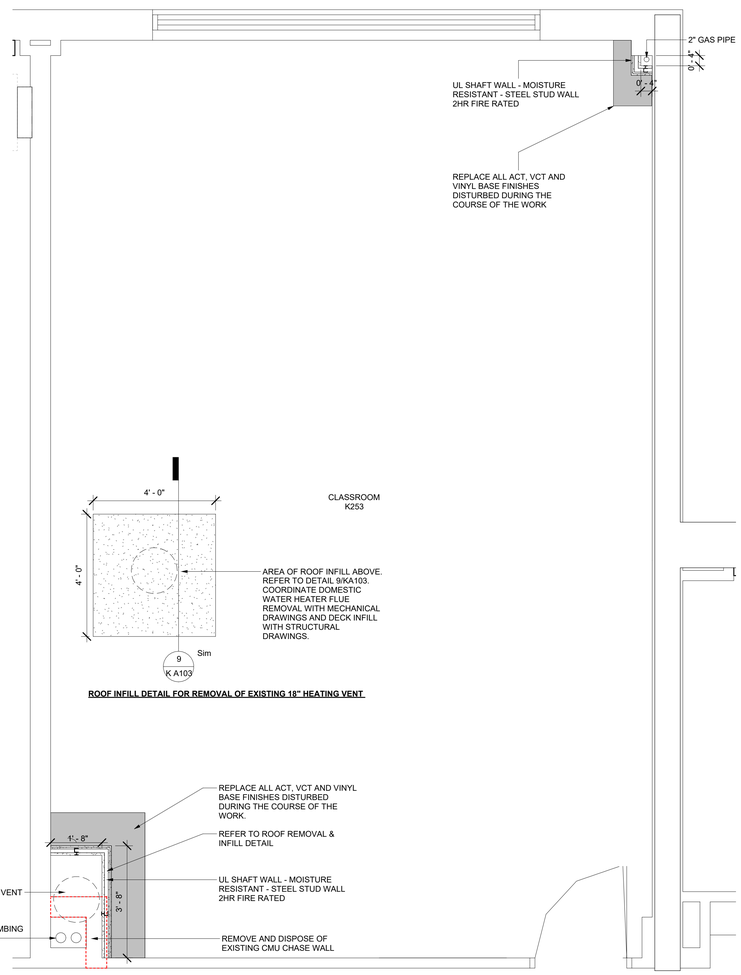
No.	Date	Description

Title
FIRST FLOOR- BOILER ROOM

Project Number
22017

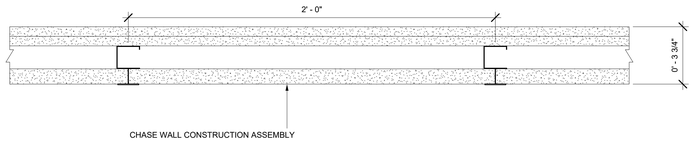
Date
09/08/26

Sheet
K A100



ROOF INFILL DETAIL FOR REMOVAL OF EXISTING 18" HEATING VENT

1 SECOND FLOOR - CLASSROOM
1/2" = 1'-0"



2 WALL ASSEMBLY DETAIL
3" = 1'-0"

NOTES:

1. SIZE OF REPAIR AREA SHOWN IN DETAIL ABOVE IS NOT TO SCALE AND DOES NOT INDICATE SIZE OF REPAIR REQUIRED. REFER TO ROOF PLAN FOR SIZE OF REMOVALS AND INFILL.

2.ROOFING WORK MUST BE COMPLETED BY A TREMCO-CERTIFIED ROOFING CONTRACTOR & INSPECTED BY TREMCO TECHNICAL INSPECTOR (CONTACT MIKE WAHLER, 716-846-4331) TO MAINTAIN EXISTING.

3. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING THE EXISTING ROOF WARRANTY: TREMCO - BUILT UP SBS MODIFIED WARRANTY NO. UNKNOWN, 25-YEAR WARRANTY. INSTALLED 2026

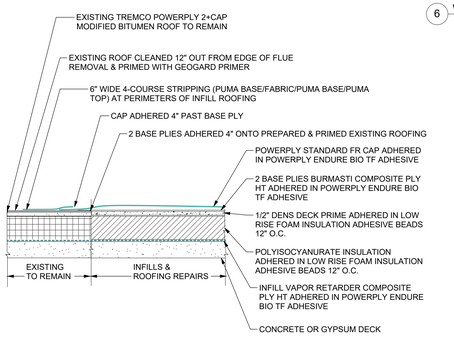
4.TO ENSURE EXISTING WARRANTY IS RETAINED, ONLY TREMCO-CERTIFIED CONTRACTORS MAY INSTALL NEW PENETRATION FLASHING OR TIE-INS ON A TREMCO-WARRANTED ROOFING SYSTEM.

5. INSTALLING CONTRACTOR MUST ENSURE THAT TREMCO'S TECHNICAL INSPECTOR IS PRESENT TO REVIEW ALL NEWLY REINSTITUTED ROOFING AND NEWLY COMPLETED FLASHINGS. WRITTEN ACCEPTANCE FROM TREMCO TECHNICAL INSPECTOR IS REQUIRED TO KEEP EXISTING WARRANTY INTACT.

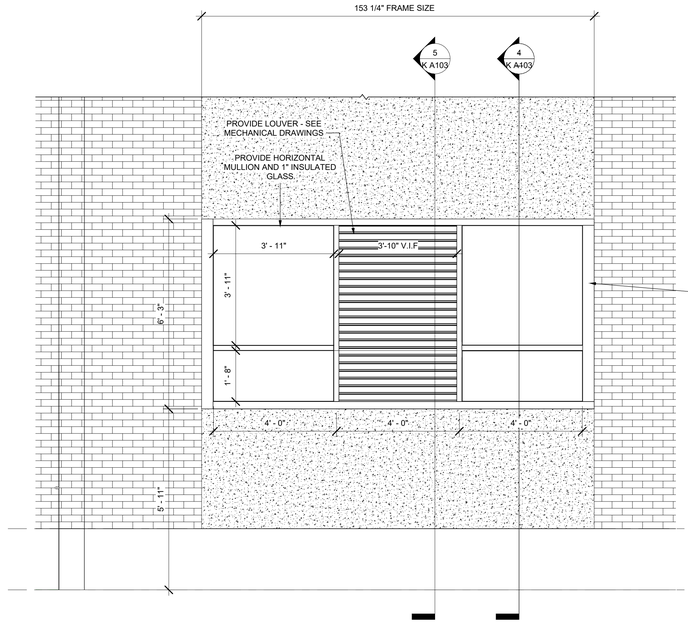
6. CONTRACTOR MUST INSTALL ADDITIONAL BASE PLIES TO ENSURE THAT NEW INFILL ROOFING IS NOT LOWER THAN SURROUNDING ROOFING SECTION AND POND OR COLLECT STANDING WATER WHEN COMPLETED.

7. EXISTING TREMCO-WARRANTED ROOFING MUST BE TEMPORARILY PROTECTED FROM DAMAGE DURING EQUIPMENT OR PENETRATION INSTALLATION. ANY DMAGED ROOFING AREAS WILL BE REPLACED, TO TREMCO WARRANTY STANDARDS, AT THE SOLE EXPENSE OF THE INSTALLING CONTRACTOR.

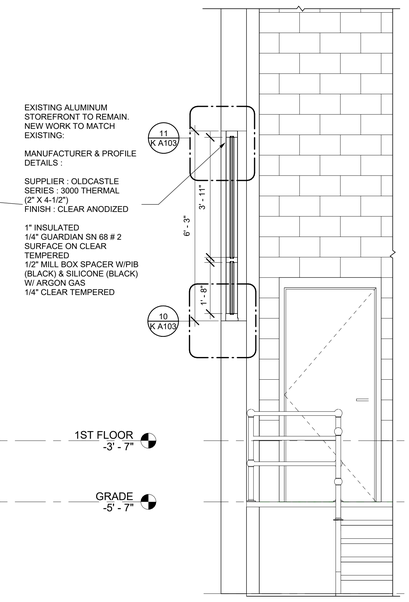
8. ANY TEMPORARY SEALS MUST BE MADE WITH TREMCO GEOGARD SEAM SEALER (POLYURETHANE) WHERE ALPHAGUARD FLUID FLASHINGS WILL BE INSTALLED. ASPHALT MASTIC IS NOT COMPATIBLE WITH ALPHAGUARD FLASHINGS AND IS PROHIBITED.



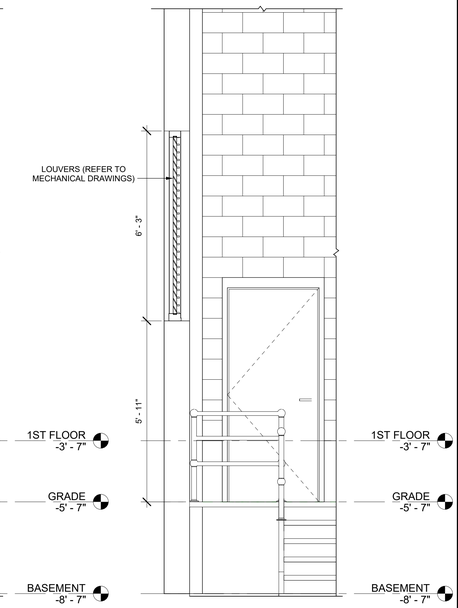
9 ROOF INFILL DETAIL
3" = 1'-0"



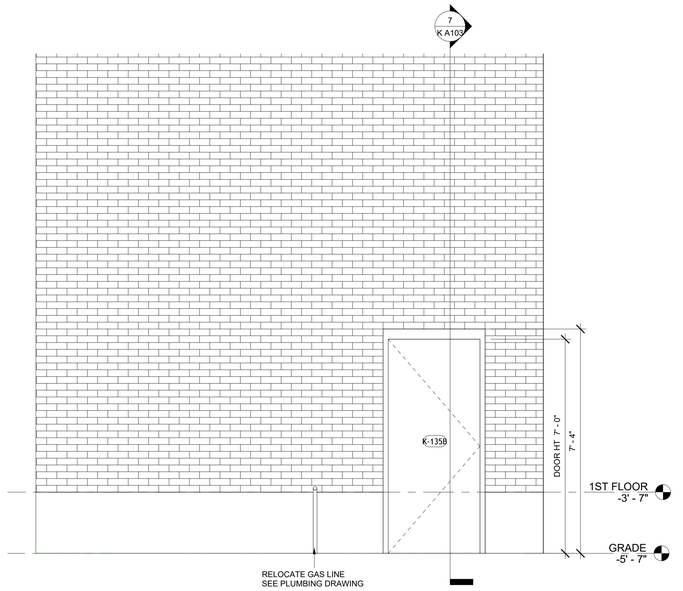
3 NORTH ELEVATION
1/2" = 1'-0"



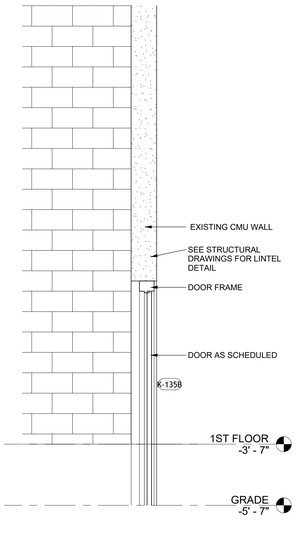
4 WINDOW SECTION - GLASS PANEL
1/2" = 1'-0"



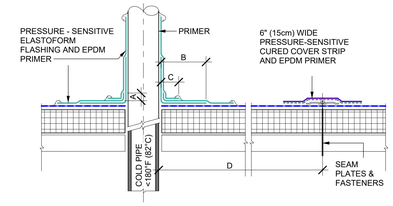
5 WINDOW SECTION - LOUVER
1/2" = 1'-0"



6 WEST ELEVATION
1/2" = 1'-0"



7 DOOR SECTION
1/2" = 1'-0"



NOTES:

1. REMOVE ALL LEAD AND OTHER FLASHING BEFORE INSTALLING PRESSURE-SENSITIVE ELASTOFORM FLASHING.

2. TEMPERATURE OF PIPE MUST NOT EXCEED 180°F (82°C).

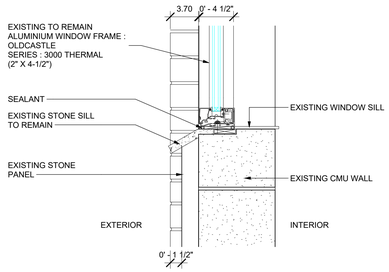
3. HP FASTENERS AND POLYMER SEAM PLATES ARE REQUIRED OVER STEEL DECKS.

4. FOR STRUCTURAL STEEL TUBING GREATER THAN 12" ACROSS USE U-5 DETAILS.

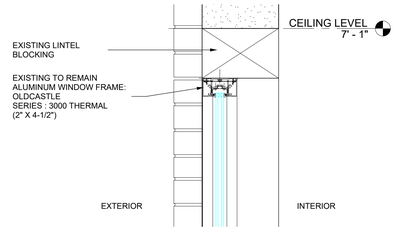
5. THE CONTRACTOR IS RESPONSIBLE TO COORDINATE WITH THE CAMPUS DETAILS ON ANY ROOF PENETRATION TO MAINTAIN THE EXISTING WARRANTY.

DIMENSIONS (in)		(cm)	
A	1/2"	1.5	
B	3"	7.5	
C	1"	2.5	
D	6"	15	TO
	12"	30	
E	12"	30	MAX

8 ROOF DETAIL
3" = 1'-0"

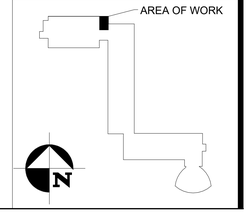


10 WINDOW SILL DETAIL
1 1/2" = 1'-0"



11 WINDOW HEAD DETAIL
1 1/2" = 1'-0"

KEY PLAN



SUNY ERIE
State University of New York

IBC Engineering P.C.
ROCHESTER • BUFFALO
MECHANICAL • ELECTRICAL
COMMUNICATIONS
3445 WINTON PLACE, SUITE 219
ROCHESTER, NY 14623
Phone: 585.292.1590
Fax: 585.292.1592
www.ibceng.com

kcb Architecture
211 Main Street, Suite 1
North Tonawanda, New York 14120
Telephone 716.216.4165

SUNY ECC NORTH CAMPUS KITTINGER HALL BOILER ROOM UPGRADES (REBID)

Client
COUNTY OF ERIE

Address
2025-956-02

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED ARCHITECT OR PROFESSIONAL ENGINEER TO ALTER ANY ITEM ON THIS DOCUMENT IN ANY WAY. ANY LICENSEE WHO ALTERS THIS DOCUMENT IS REQUIRED BY LAW TO AFFIX HIS OR HER SEAL AND THE NOTATION "ALTERED BY" FOLLOWED BY HIS OR HER SIGNATURE AND SPECIFIC DESCRIPTION OF THE ALTERATIONS.

COPYRIGHT © 2023
IBC ENGINEERING P.C.

ISSUED FOR REBID - 10/26/2026

Revisions

No.	Date	Description

Title
SECOND FLOOR- CLASSROOM

Project Number
22017

Date
09/08/26

Sheet
K A103

DOOR SCHEDULE ABBREVIATIONS	
DOOR MATERIALS	HAND TYPE
FG: FIBERGLASS	LH: LEFT HAND LHR: LEFT HAND REVERSE LHRA: LEFT HAND REVERSE ACTION LHRA (PAIR): LEFT HAND REVERSE ACTION (PAIR) RH: RIGHT HAND RHR: RIGHT HAND REVERSE RHRA: RIGHT HAND REVERSE ACTION RHRA (PAIR): RIGHT HAND REVERSE ACTION (PAIR)
FRAME MATERIALS	
FG: FIBER GLASS PF: POWDER FINISH	
DOOR TYPES	KEYSIDE
F: FLUSH	BS: BOTH SIDES HS: HINGE SIDE SS: STOP SIDE
ANCHOR TYPES	COVERPLATE
MS: METAL STUD ANCHOR WELDED-IN MA: MASONRY ANCHOR	HS: HINGE SIDE SS: STOP SIDE

ROOM FINISH SCHEDULE ABBREVIATIONS
FLOOR MATERIALS
EP: EPOXY FLOORING VCT: VINYL COMPOSITION TILE
WALL MATERIALS
PT: PAINT
CEILING MATERIALS
ACT: ACOUSTICAL CEILING TILE
GENERAL
FF: FACTORY FINISH ETR: EXISTING TO REMAIN

DOOR AND FRAME SCHEDULE

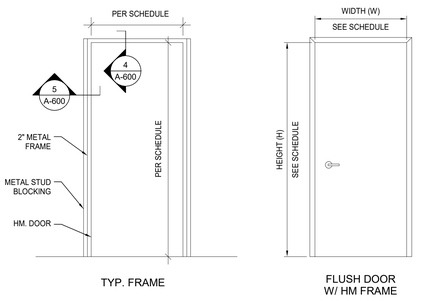
		ROOM NAME & NUMBER			DOOR SIZE					FRAME				DETAILS		DOOR GLASS TYPE	DETENTION	FIRE RATING	UNDERCUT	HARDWARE		REMARKS	DOOR NO.
DOOR NO.	BUILDING NO. & FLR	ROOM NAME & NUMBER	TO/FROM	ROOM NAME & NUMBER	WIDTH	HEIGHT	THICKNESS	TYPE	MATERIAL	FINISH	TYPE	MATERIAL	FINISH	ANCHORS	JAMB THICK.	HEAD	JAMB				SET NO.	HAND		
K-135B	BUILDING K - 1ST FLOOR	BOILER ROOM	ROOM K-135 TO	EXTERIOR	3'-0"	7'-0"	1-3/4"	F	FG	FF	F1	FG	FF	MS	8 3/4"	4	5	-	-	-	3/4"	1	LH		K-135B

ROOM FINISH SCHEDULE

BUILDING NO. & FLR	ROOM NAME & NUMBER	FLOOR	BASE	WALLS. NORTH		EAST		SOUTH		WEST		DOORS		FRAMES		CEILINGS		REMARKS
		MAT.	MAT.	MAT.	FIN.	MAT.	FIN.	MAT.	FIN.	MAT.	FIN.	MAT.	FIN.	MAT.	FIN.	MAT.	FIN.	
BUILDING K - 1ST FLOOR	BOILER ROOM ROOM K-135	EPOXY	EPOXY	ETR	PT	ETR	PT	ETR	PT	ETR	PT	FG	FF	FG	FF	ETR	PT	EXISTING WALL HT - 19' V.I.F. REFER TO NOTE 1 RE: FLOOR FINISH
CLASSROOM - 2ND FLOOR	CLASSROOM ROOM K- 253	VCT	VINYL													ETR & VCT		REFER TO NOTE 2

NOTES:
1. ALL SIDES AND TOP OF HOUSEKEEPING PADS ARE TO HAVE EPOXY FLOOR FINISH. SEE DETAIL 6/KA100.

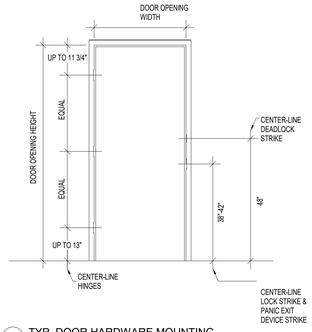
2. NEW CHASE WALLS TO BE PAINTED. VCT FLOORING AND ACT CEILING DISTURBED DURING THE COURSE OF THE WORK ARE TO BE REPAIR TO MATCH EXISTING ADJACENT FINISHES.



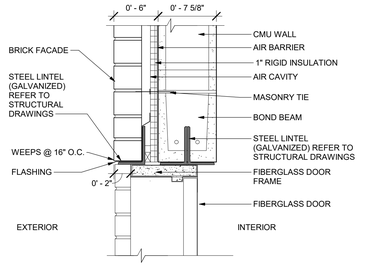
TYP. FRAME

FLUSH DOOR W/ HM FRAME

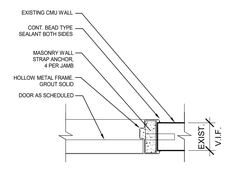
1 DOOR AND FRAME TYPES
1/2" = 1'-0"



2 TYP. DOOR HARDWARE MOUNTING
1/2" = 1'-0"



3 DOOR HEADER DETAIL
1 1/2" = 1'-0"



4 TYPICAL DOOR JAMB DETAIL
1 1/2" = 1'-0"

FRP DOOR & FRAME OPENING IN EXISTING CONCRETE FOUNDATION WALL

1. GENERAL AND COORDINATION
A. **CONTRACT DOCUMENT COORDINATION:** THE STRUCTURAL DRAWINGS GOVERN ALL TEMPORARY SHORING, STRUCTURAL SUPPORT, LINTEL WORK, CUTTING, REINFORCEMENT MODIFICATIONS, SEQUENCING, AND STRUCTURAL CONCRETE REPAIR REQUIRED TO CREATE THE OPENING. THESE NOTES GOVERN TREATMENT OF THE COMPLETED OPENING, HOLLOW METAL FRAME INSTALLATION, THRESHOLD INSTALLATION, AND PERIMETER WEATHER SEALING. REPORT CONFLICTS OR MISSING INFORMATION BEFORE PROCEEDING.
B. **FIELD VERIFICATION:** BEFORE STRUCTURAL CUTTING OR FRAME FABRICATION, VERIFY EXISTING WALL THICKNESS, SILL ELEVATION, AND REQUIRED ROUGH-OPENING DIMENSIONS AGAINST THE APPROVED FRAME SHOP DRAWINGS, DOOR SCHEDULE, THRESHOLD REQUIREMENTS AND STRUCTURAL DRAWINGS. AFTER STRUCTURAL WORK IS COMPLETE, VERIFY THE ACTUAL OPENING DIMENSIONS AND CONCRETE CONDITION BEFORE FRAME INSTALLATION.
C. **PROTECTION AND CLEANUP:** PROTECT ADJACENT CONSTRUCTION. KEEP THE OPENING DRY AND FREE OF DUST, DEBRIS, CUTTING SLURRY, OIL, CURING COMPOUNDS, AND OTHER CONTAMINANTS THAT COULD INTERFERE WITH REPAIR MATERIALS, WATERPROOFING, FOAM, OR SEALANT. REMOVE DEBRIS AND RESTORE ADJACENT FINISHES DISTURBED BY THIS WORK.

2. CUT-FACE PREPARATION AND WATERPROOFING
A. **COMPLETED OPENING CONDITION:** AFTER THE STRUCTURAL CUTTING AND REPAIR WORK IS COMPLETE, REMOVE LOOSE, SPALLED, DELAMINATED, OR UNSOUND CONCRETE FROM THE HEAD, JAMBS, AND SILL. PROVIDE CLEAN, SOUND, STRAIGHT, PLUMB, AND TRUE SURFACES WITHIN THE FRAME MANUFACTURER'S INSTALLATION TOLERANCES.
B. **SURFACE PATCHING:** TREAT EXPOSED OR CUT REINFORCEMENT AND COMPLETE STRUCTURAL REPAIRS AS SHOWN ON THE STRUCTURAL DRAWINGS. PATCH MINOR VOIDS, SPALLS, RECESSES, AND SAW-CUT OVERCUTS NOT OTHERWISE ADDRESSED BY THE STRUCTURAL REPAIR DETAILS WITH A NONSHRINK, POLYMER-MODIFIED CEMENTITIOUS REPAIR MORTAR SUITABLE FOR VERTICAL, OVERHEAD, EXTERIOR, AND FREEZE-THAW EXPOSURE. FINISH REPAIRS FLUSH, SMOOTH, AND TRUE TO RECEIVE THE FRAME, FOAM, FLASHING, AND SEALANT. CURE IN ACCORDANCE WITH THE REPAIR-MATERIAL MANUFACTURER.
C. **CUT-FACE WATERPROOFING:** AFTER REPAIRS HAVE CURED, APPLY A CEMENTITIOUS CRYSTALLINE WATERPROOFING SLURRY (XYPEX CONCENTRATE OR APPROVED EQUAL) TO THE EXPOSED CUT-CONCRETE HEAD, JAMBS, AND SILL FROM THE INTERIOR FACE TO THE EXTERIOR FACE, IN ACCORDANCE WITH THE WATERPROOFING MANUFACTURER'S INSTRUCTIONS. USE MATERIALS COMPATIBLE WITH THE REPAIR MORTAR, FOAM, FLASHING, AND SEALANT, AND KEEP SEALANT BOND SURFACES FREE OF INCOMPATIBLE COATINGS.

3. FRP FRAME, ANCHORS, FOAM, AND SEALANT
A. FRAME SETTING: PROVIDE THE SCHEDULED FRP DOOR FRAME FACTORY PREPARED FOR INSTALLATION IN AN EXISTING CONCRETE WALL. INSTALL IN STRICT ACCORDANCE WITH THE APPROVED SHOP DRAWINGS AND FRP FRAME MANUFACTURER'S WRITTEN INSTALLATION INSTRUCTIONS. SET FRAME PLUMB, LEVEL, SQUARE, RIGID, AT THE CORRECT ELEVATION, AND WITH REQUIRED DOOR CLEARANCES. CENTER ON POSITION FRAME IN THE WALL AS DETAILED. PROVIDE MANUFACTURER-APPROVED, NONCORROSIVE, NONCOMPRESSIBLE SHIMS AT ANCHOR LOCATIONS. TEMPORARILY BRACE AND SPREAD THE FRAME AS REQUIRED TO MAINTAIN ALIGNMENT AND OPENING DIMENSIONS UNTIL ANCHORAGE AND FOAM FILL ARE COMPLETE AND CURED.
B. FRAME ANCHORAGE: MECHANICALLY ANCHOR THE FRP FRAME TO THE EXISTING CONCRETE THROUGH FACTORY-PREPARED FRAME ANCHOR LOCATIONS OR OTHER ANCHORAGE PROVIDED BY THE FRP FRAME MANUFACTURER. USE CORROSION-RESISTANT CONCRETE FASTENERS COMPATIBLE WITH THE FRP FRAME AND EXISTING CONCRETE. DO NOT FIELD-DRILL, NOTCH, OR OTHERWISE MODIFY THE FRP FRAME EXCEPT WHERE SPECIFICALLY PERMITTED BY THE FRAME MANUFACTURER. ANCHOR TYPE, DIAMETER, LENGTH, EMBEDMENT, EDGE DISTANCE, SPACING, HOLE PREPARATION, AND INSTALLATION TORQUE SHALL COMPLY WITH THE APPROVED SHOP DRAWINGS AND FRAME AND FASTENER MANUFACTURERS' WRITTEN REQUIREMENTS. PROVIDE SHIMS AT ANCHOR LOCATIONS SO TIGHTENING FASTENERS DOES NOT DISTORT, CRUSH, OR BOW THE FRAME.
C. LOW-EXPANSION FOAM FILL: AFTER THE FRP FRAME IS MECHANICALLY ANCHORED AND VERIFIED PLUMB, LEVEL, AND SQUARE, FILL THE CONTINUOUS VOID BETWEEN THE BACK OF THE FRP FRAME AND THE CUT CONCRETE OPENING WITH MINIMAL-EXPANSION, LOW-PRESSURE POLYURETHANE FOAM FORMULATED FOR DOOR AND WINDOW INSTALLATIONS, AS ACCEPTED BY THE FRP FRAME MANUFACTURER. APPLY FOAM IN CONTROLLED LIFTS WITH THE FRAME BRACED TO PREVENT BOWING OR DISTORTION. DO NOT OVERFILL. KEEP FOAM CLEAR OF ANCHOR LOCATIONS, HARDWARE PREPARATIONS, DRAINAGE OR WEEP PATHS, AND REQUIRED CLEARANCES. FOAM IS NOT A SUBSTITUTE FOR MECHANICAL ANCHORAGE, FLASHING, OR PERIMETER SEALANT. DO NOT GROUT THE FRP FRAME UNLESS SPECIFICALLY REQUIRED IN WRITING BY THE FRAME MANUFACTURER.
D. FOAM TRIMMING AND PERIMETER SEAL: AFTER THE FOAM CURES, TRIM IT BACK FROM BOTH FACES TO PROVIDE THE REQUIRED JOINT DEPTH FOR BACKER ROD AND SEALANT. DO NOT LEAVE FOAM EXPOSED. SEAL FRP FRAME-TO-CONCRETE JOINTS CONTINUOUSLY AT THE EXTERIOR AND INTERIOR PERIMETERS WITH NONSAG POLYURETHANE SEALANT COMPLYING WITH ASTM C920, TYPE S, GRADE NS, CLASS 35 (SIKAFLEX-1A OR APPROVED EQUAL) AND COMPATIBLE WITH THE FRP FRAME FINISH. PROVIDE CLOSED-CELL BACKER ROD OR BOND-BREAKER TAPE TO CONTROL JOINT DEPTH AND PREVENT THREE-SIDED ADHESION; PRIME IF REQUIRED AND TOOL IN ACCORDANCE WITH THE SEALANT MANUFACTURER.
E. FRAME PROTECTION AND COMPLETION: PROTECT THE FRP FRAME FINISH DURING INSTALLATION. CLEAN EXPOSED FRAME SURFACES USING METHODS AND MATERIALS APPROVED BY THE FRAME MANUFACTURER. REPAIR MINOR SURFACE DAMAGE ONLY WITH MANUFACTURER-APPROVED MATERIALS AND METHODS; REPLACE FRAME COMPONENTS THAT ARE CRACKED, DELAMINATED, GOUGED, OR OTHERWISE DAMAGED BEYOND THE MANUFACTURER'S ACCEPTABLE REPAIR LIMITS. INSTALL MANUFACTURER-PROVIDED CAPS OR PLUGS AT EXPOSED FRAME ANCHOR ACCESS LOCATIONS, WHERE APPLICABLE.

4. SILL, THRESHOLD, AND COMPLETION
A. **SILL PREPARATION AND COORDINATION:** CLEAN AND GRIND THE CONCRETE SILL SMOOTH, SOUND, LEVEL, AND FREE OF STANDING WATER, OIL, DUST, AND LOOSE MATERIAL. VERIFY THE THRESHOLD ELEVATION AND PROFILE WITH THE APPROVED DOOR AND FRAME SHOP DRAWINGS, FINISHED FLOOR, DOOR-BOTTOM CLEARANCE, ACCESSIBILITY REQUIREMENTS, AND THE SEPARATE EXTERIOR LANDING DETAIL.
B. **SILL PAN FLASHING:** PROVIDE CONTINUOUS LIQUID-APPLIED OR SELF-ADHERED SILL PAN FLASHING COMPATIBLE WITH THE CONCRETE, FRAME, THRESHOLD, FOAM, AND SEALANTS. EXTEND UNDER THE FULL THRESHOLD. TURN UP A MINIMUM OF 4 INCHES AT EACH JAMB BEHIND THE FRAME TO FORM END DAMS, AND TERMINATE TO DRAIN WATER TO THE EXTERIOR. SEAL ALL PENETRATIONS.
C. **THRESHOLD BEDDING:** SET THE SCHEDULED ALUMINUM SADDLE THRESHOLD IN A FULL, CONTINUOUS BED OF THE THRESHOLD MANUFACTURER'S RECOMMENDED POLYURETHANE SEALANT OR BEDDING COMPOUND, INCLUDING AT ENDS, TO PREVENT WATER PASSAGE. DO NOT BLOCK DESIGNED DRAINAGE OR WEEP PATHS.
D. **THRESHOLD FASTENERS:** ANCHOR THE THRESHOLD TO CONCRETE WITH 1/4-INCH-DIAMETER, FLAT-HEAD, STAINLESS-STEEL CONCRETE SCREWS AT 12 INCHES ON CENTER MAXIMUM, OR CLOSER IF REQUIRED BY THE THRESHOLD MANUFACTURER. PRE-DRILL AND CLEAN HOLES; FILL EACH HOLE WITH SEALANT AND COAT FASTENER THREADS BEFORE INSTALLATION. SEAL FLASHING PENETRATIONS.
E. **THRESHOLD PERIMETER SEAL:** APPLY CONTINUOUS POLYURETHANE SEALANT AT THE THRESHOLD ENDS AND EXTERIOR EDGE AS REQUIRED BY THE THRESHOLD MANUFACTURER. TOOL TO CLEAN, WATERTIGHT JOINTS WITHOUT BLOCKING DRAINAGE.
6. **FINAL ADJUSTMENT AND LEAK CHECK:** INSTALL AND ADJUST THE DOOR, HARDWARE, GASKETING, AND DOOR BOTTOM FOR UNIFORM CLEARANCES, POSITIVE LATCHING, AND A CONTINUOUS WEATHERSEAL. VERIFY THE FRAME AND THRESHOLD PERIMETERS ARE WATERTIGHT AND CORRECT LEAKS BEFORE FINAL ACCEPTANCE.



CONTRACTOR TO COORDINATE WITH THE MEP CONSULTANT FOR THE REMOVAL OF EXISTING PIPING



REMOVE PLYWOOD COVER PLATES AND PATCH & PAINT CEILING



EXISTING VOID IN CEILING TO BE INFILL



EXISTING FLOOR DRAINS TO BE REPLACED - SEE PLUMBING DRAWINGS FOR DRAIN INFO



TO GENTLY WIRE BRUSH AND CLEAN RUST & DIRT FROM THE FACE BRICK AND PROVIDE BACKER ROD AND GROUT TO A MIN. 1 1/2" TO INFILL AT PIPE



REMOVE EXISTING BRICK CUT ANY PROTRUDING PIPING BACK TO CMU. INFILL WITH SALVAGE BRICK. MORTAR TO MATCH EXISTING.



PATCH ALL OPENING REMOVED BY PIPING TO MATCH EXISTING

SUNY ERIE
State University of New York

IBC Engineering P.C.
ROCHESTER • BUFFALO
MECHANICAL • ELECTRICAL
COMMUNICATIONS
3445 WINTON PLACE, SUITE 219
ROCHESTER, NY 14623
Phone: 585.292.1500
Fax: 585.292.1592
www.ibceng.com

kcb Architecture
211 Main Street, Suite 1
North Tonawanda, New York 14120
Telephone 716.216.4165

SUNY ECC NORTH CAMPUS KITTINGER HALL BOILER ROOM UPGRADES (REBID)

Client
COUNTY OF ERIE

Address
2025-956-02

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED ARCHITECT OR PROFESSIONAL ENGINEER TO ALTER ANY ITEM ON THIS DOCUMENT IN ANY WAY. ANY LICENSE WHO ALTERS THIS DOCUMENT IS REQUIRED BY LAW TO AFFIX HIS OR HER SEAL AND THE NOTATION "ALTERED BY" FOLLOWED BY HIS OR HER SIGNATURE AND SPECIFIC DESCRIPTION OF THE ALTERATIONS.

COPYRIGHT © 2025
IBC ENGINEERING P.C.

ISSUED FOR REBID - 10/26/2026

Revisions

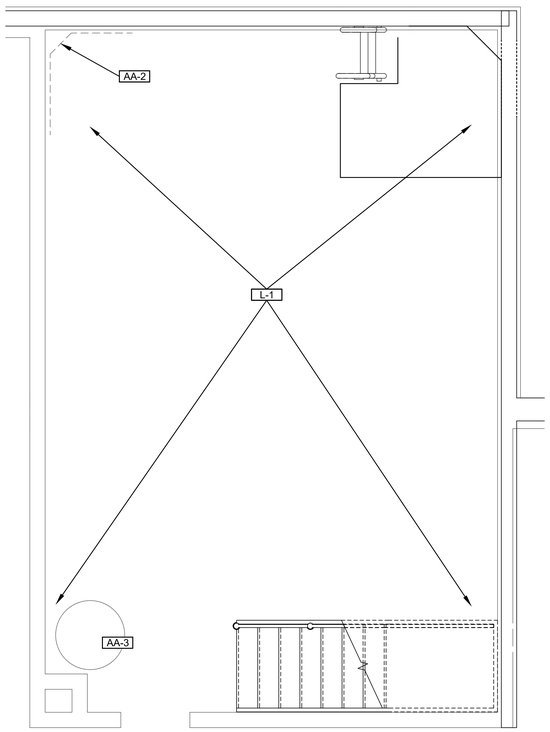
No.	Date	Description

Title
DOOR SCHEDULE & DETAILS

Project Number
22017

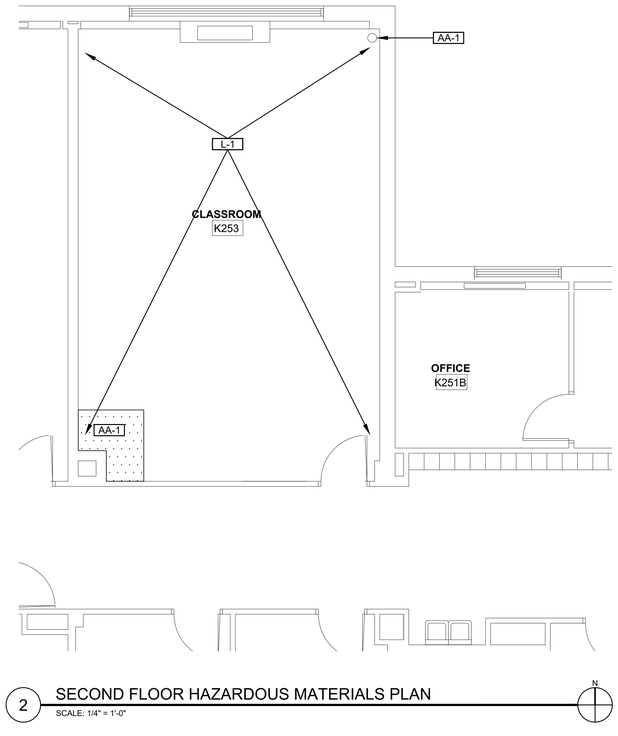
Date
09/08/26

Sheet
K A600



1 FIRST FLOOR HAZARDOUS MATERIALS REMOVAL PLAN

SCALE: 3/8" = 1'-0"



2 SECOND FLOOR HAZARDOUS MATERIALS PLAN

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



3 PHOTO 1

VIEW OF ASBESTOS-CONTAINING PIPE WRAP ON A DOMESTIC PLUMBING LINE IN THE NORTHWEST CORNER OF THE MECHANICAL ROOM.

GENERAL NOTES

A. PERFORM ALL WORK IN STRICT ACCORDANCE WITH ALL APPLICABLE LOCAL, STATE, AND FEDERAL RULES, REGULATIONS, GUIDELINES, AND THE CONTRACT DOCUMENTS.

B. ALL MATERIAL MEASUREMENTS AND LOCATIONS ARE APPROXIMATE AND FOR GENERAL ORIENTATION ONLY. REFER TO SECTIONS 028213 AND 028313 FOR ADDITIONAL REQUIREMENTS.

C. IF A SITE-SPECIFIC VARIANCE (SSV) FROM NYSDOL ICR-56 IS DESIRED FOR THE WORK, THE CONTRACTOR IS RESPONSIBLE FOR ACQUIRING THE SSV. THE SSV PETITION MUST BE SUBMITTED TO ERIE COUNTY AND THEIR REPRESENTATIVE FOR REVIEW AND COORDINATION PRIOR TO SUBMISSION TO NYSDOL ENGINEERING SERVICES. THE PROVISIONS OF ANY SITE-SPECIFIC VARIANCE OBTAINED BY THE CONTRACTOR MAY NOT BE IMPLEMENTED UNTIL APPROVAL IS GIVEN BY ERIE COUNTY OR THEIR REPRESENTATIVE.

D. THE LOCATION OF ANY SITE STORAGE OF MATERIAL, EQUIPMENT, AND WASTE TRAILER/DUMPSTER SHALL BE COORDINATED WITH AND APPROVED BY ERIE COUNTY OR THEIR REPRESENTATIVE.

E. SECURE ALL TOOLS, EQUIPMENT, AND SUPPLIES. ERIE COUNTY OR THEIR REPRESENTATIVE WILL NOT BE RESPONSIBLE FOR LOST OR STOLEN ITEMS.

F. KEEP THE WORK AREAS IN A CLEAN AND SAFE CONDITION. CONTRACTOR SHALL ENSURE THAT UNCERTIFIED PERSONNEL OR UNAUTHORIZED VISITORS DO NOT ENTER ACTIVE WORK AREAS AT ANY TIME.

G. ALL ASBESTOS-CONTAINING MATERIAL SHALL BE PROPERLY PACKAGED PRIOR TO BEING REMOVED FROM THE WORK AREA(S). ASBESTOS WARNING LABELS AND INFORMATION ABOUT THE GENERATOR SHALL BE APPLIED TO THE ASBESTOS WASTE BAGS. ALL ASBESTOS-CONTAINING MATERIALS THAT ARE REMOVED FROM THE WORK AREA(S) SHALL BE ACCOMPANIED BY A WASTE SHIPMENT RECORD. THE COMPLETED WASTE SHIPMENT RECORD MUST BE PROVIDED TO ERIE COUNTY AS PART OF THE CLOSEOUT DOCUMENTATION. ALL ORIGINAL WASTE SHIPMENT RECORDS MUST BE PROVIDED WITHIN 35 DAYS OF THE WASTE LEAVING THE SITE.

H. WEAR ALL PERSONAL PROTECTIVE EQUIPMENT (PPE) AS REQUIRED BY OSHA. A COPY OF THE NEGATIVE EXPOSURE ASSESSMENT SHALL BE MAINTAINED ON SITE IF DIFFERENT PPE IS UTILIZED THAN WHAT IS REQUIRED BY OSHA.

I. PROVIDE ALL LADDERS, SCAFFOLDING, LIFTS, ETC. REQUIRED TO PERFORM WORK.

K. PROTECT ALL FINISHES SCHEDULED TO REMAIN. DAMAGED FINISHES SHALL BE REPLACED AT THE CONTRACTORS EXPENSE.

GENERAL ENVIRONMENTAL REMEDIATION/REMOVAL NOTES

1. REMOVE ALL LAMPS AND FIXTURES SCHEDULED FOR DEMOLITION AS DETAILED WITHIN THE ELECTRICAL AND ARCHITECTURAL DEMOLITION DRAWINGS. ALL FLUORESCENT, HID, AND COMPACT FLUORESCENT LAMPS THROUGHOUT BUILDING SHALL BE PROPERLY MANAGED UNDER THE UNIVERSAL WASTE RULE FOR DISPOSAL/RECYCLING. REFER TO ELECTRICAL AND ARCHITECTURAL DRAWINGS FOR ADDITIONAL INFORMATION.

2. REMOVE AND DISPOSE OF ALL LIGHT BALLASTS FROM THE LIGHT FIXTURES SCHEDULED FOR DEMOLITION. THE CONTRACTOR SHALL INSPECT EVERY BALLAST TO DETERMINE THE PROPER WASTE STREAM FOR EACH BALLAST. CONTRACTOR SHALL KEEP TRACK OF THE TOTAL QUANTITIES OF BALLASTS ASSOCIATED WITH EACH WASTE CATEGORY AND PROVIDE THE INFORMATION TO ERIE COUNTY FOR EPA REPORTING PURPOSES. REFER TO ELECTRICAL, MECHANICAL, AND ARCHITECTURAL DOCUMENTS FOR ADDITIONAL INFORMATION.

   - BALLAST WASTE CATEGORY 1 - ALL MAGNETIC LIGHT BALLASTS WITHOUT A 'NO PCBS' LABEL SHALL BE ASSUMED TO CONTAIN A LIQUID-FILLED CAPACITOR THAT CONTAINS PCBS AND SHALL BE INCINERATED OR DISPOSED OF IN A RCRA FACILITY APPROVED TO HANDLE TSCA WASTE. THE TOTAL QUANTITY OF BALLASTS IN THIS WASTE CATEGORY MUST BE REPORTED TO SUNY SUNY ERIE FOR PCB REPORTING PURPOSES.
   - BALLAST WASTE CATEGORY 2 - ALL MAGNETIC LIGHT BALLASTS WITH A 'NO PCBS' LABEL SHALL BE ASSUMED TO CONTAIN A LIQUID-FILLED CAPACITOR THAT CONTAINS DEHP AND SHALL BE INCINERATED OR DISPOSED OF IN A RCRA FACILITY APPROVED TO HANDLE TSCA WASTE. THIS WASTE STREAM IS DISPOSED OF THE SAME AS WASTE CATEGORY 1, BUT IS NOT REPORTED AS A PCB CONTAINING MATERIAL FOR EPA REPORTING PURPOSES. THE TOTAL QUANTITY OF BALLASTS IN THIS WASTE CATEGORY MUST BE REPORTED TO SUNY ERIE FOR REPORTING PURPOSES.
   - BALLAST WASTE CATEGORY 3 - ALL ELECTRONIC LIGHT BALLASTS ARE TO BE PROPERLY RECYCLED. CONTRACTOR SHALL KEEP TRACK OF THE TOTAL QUANTITY OF BALLASTS WITHIN THIS WASTE CATEGORY AND REPORT TO SUNY ERIE. CONTRACTOR SHALL OBTAIN AND SUBMIT ALL CERTIFICATES OF RECYCLING TO SUNY ERIE. REFER TO ELECTRICAL AND ARCHITECTURAL DRAWINGS FOR ADDITIONAL INFORMATION.

3. PROPERLY REMOVE AND DISPOSE OF ALL OILS, LUBRICANTS, FLUIDS, ETC. ASSOCIATED WITH VARIOUS MECHANICAL EQUIPMENT (PUMPS, COMPRESSORS, MOTORS, ETC.) THAT ARE SCHEDULED FOR REMOVAL AS PART OF THE PROJECT. THE CONTRACTOR SHALL SAMPLE AND ANALYZE ALL FLUIDS FOR PCBS PRIOR TO DISPOSAL/RECYCLING. REFER TO ELECTRICAL, MECHANICAL, AND ARCHITECTURAL DOCUMENTS FOR ADDITIONAL INFORMATION.

4. PROPERLY REMOVE AND DISPOSE OF ALL MERCURY-CONTAINING GAUGES, THERMOSTATS, THERMOMETERS, AND INSTRUMENTS THROUGHOUT THE PROJECT LIMITS. THESE ITEMS SHALL BE HANDLED AND DISPOSED OF UNDER THE UNIVERSAL WASTE RULE (TITLE 40 OF THE CODE OF FEDERAL REGULATIONS (CFR) IN PART 273).

LEAD AWARENESS NOTES

1. COMPLY WITH OSHA 29 CFR 1926.62: LEAD EXPOSURE IN CONSTRUCTION; INTERIM FINAL RULE FOR ALL ACTIVITIES DURING WHICH AN EMPLOYEE MAY BE OCCUPATIONALLY EXPOSED TO LEAD.

2. PRIOR TO THE PREPARATION OF THE CONTRACT DOCUMENTS, TESTING HAS BEEN PERFORMED ON REPRESENTATIVE BUILDING COMPONENTS THAT WILL BE IMPACTED BY THIS PROJECT. IN GENERAL, THE FOLLOWING BUILDING COMPONENTS WERE IDENTIFIED TO BE COVERED WITH LEAD-BASED PAINT/COATING OR LEAD-CONTAINING:

   - YELLOW NATURAL GAS PIPES IN MECHANICAL ROOM 153.
   - GRAY STAIRS STRINGER LEADING INTO MECHANICAL ROOM 153.
   - GRAY STEEL HANDRAIL AT THE STAIRS LEADING INTO MECHANICAL ROOM 153.
   - WHITE PVC MEMBRANE ON THE ROOF ACROSS THE BUILDING (PIGMENT IMBEDDED IN THE ROOF MEMBRANE).
   - RED AND BLACK STRUCTURAL BEAMS THROUGHOUT THE BUILDING.

3. FURNISHING OF THIS INFORMATION IS NOT INTENDED TO RELIEVE THE CONTRACTOR OF ITS RESPONSIBILITIES UNDER OSHA TO DETERMINE THE PRESENCE, LOCATION, AND QUANTITY OF EXISTING LEAD-CONTAINING MATERIALS THAT THEIR EMPLOYEES AND SUBCONTRACTORS MAY BE EXPOSED TO, AND TO WARN THEIR EMPLOYEES OF THE POTENTIAL DANGERS OF THE DISTURBANCE OF LEAD-CONTAINING COATINGS OR MATERIALS.

LEAD REMOVAL NOTE

L-1 REMOVE LEAD-BASED PAINT FROM STRUCTURAL STEEL AS REQUIRED FOR THE WORK. REFER TO STRUCTURAL DRAWINGS FOR MORE PRECISE LOCATIONS AND COORDINATE WORK WITH ASSOCIATED TRADE.

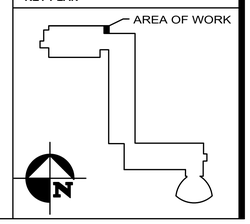
ASBESTOS ABATEMENT NOTES

AA-1 PROPERLY REMOVE AND DISPOSE OF ALL LAYERS OF FLOORING DOWN TO AND FROM CONCRETE SUBSTRATE AS REQUIRED FOR MECHANICAL CHASE INSTALLATION. SEVERAL LAYERS OF FLOORING ARE PRESENT. BOTTOM LAYER OF FLOOR TILE AND ASSOCIATED MASTIC IS ASBESTOS-CONTAINING. LEAVE STRAIGHT LINES AT THE LIMITS OF REQUIRED REMOVAL. CHEMICAL MASTIC REMOVERS SHALL NOT BE USED AS THEY ARE LIKELY TO COMPROMISE ADHERENCE OF ADJACENT FLOORING TO REMAIN.

AA-2 PROPERLY REMOVE AND DISPOSE OF TAPE STYLE PIPE INSULATION WRAP (NON-FRIABLE) ON DOMESTIC PLUMBING LINE.

AA-3 PROPERLY REMOVE AND DISPOSE OF HOLDING TANK. THE MASTIC ADHERING THE FOAM INSULATION TO THE TANK IS ASBESTOS-CONTAINING. COORDINATE WORK WITH ASSOCIATED TRADE.

KEY PLAN



SUNY ERIE
State University of New York

IBC
Engineering P.C.
ROCHESTER BUFFALO
MECHANICAL ELECTRICAL
COMMUNICATIONS
3445 WINTON PLACE, SUITE 219
ROCHESTER, NY 14623
Phone: 585.292.1590
Fax: 585.292.1592
www.ibceng.com

Watts Architects &Engineers
95 Perry Street, Suite 300
Buffalo, NY 14203

SUNY ECC NORTH CAMPUS KITTINGER HALL BOILER ROOM UPGRADES (REBID)

Owner
COUNTY OF ERIE
Owner Project Number
2025-956-02

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED ARCHITECT OR PROFESSIONAL ENGINEER TO ALTER ANY ITEM ON THIS DOCUMENT IN ANY WAY. ANY LICENSEE WHO ALTERS THIS DOCUMENT IS REQUIRED BY LAW TO AFFIX HIS OR HER SEAL AND THE NOTATION "ALTERED BY" FOLLOWED BY HIS OR HER SIGNATURE AND SPECIFIC DESCRIPTION OF THE ALTERATIONS.

COPYRIGHT © 2023
IBC ENGINEERING P.C.

ISSUED FOR REBID - 10/26/2026

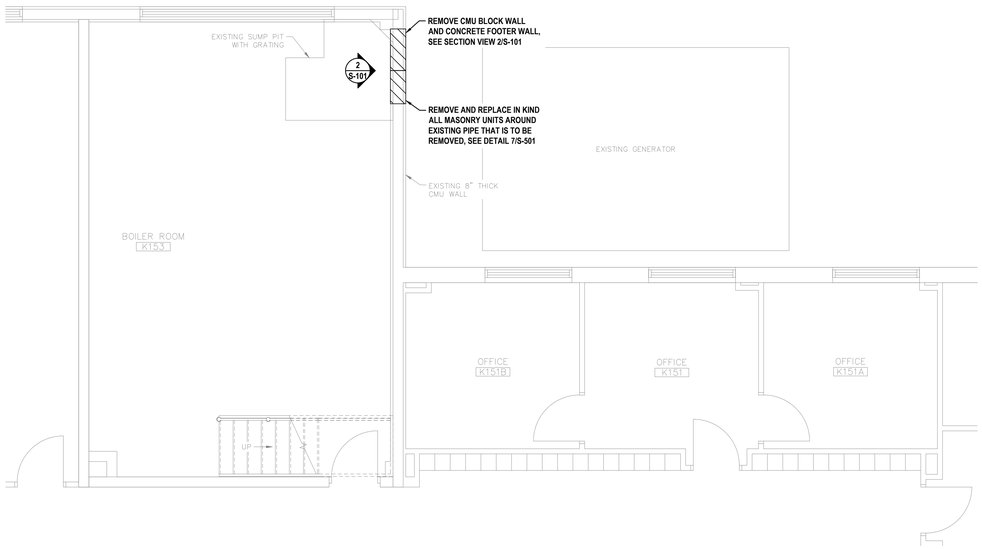
Revisions

No.	Date	Description

Title
HAZARDOUS MATERIALS REMOVAL PLAN

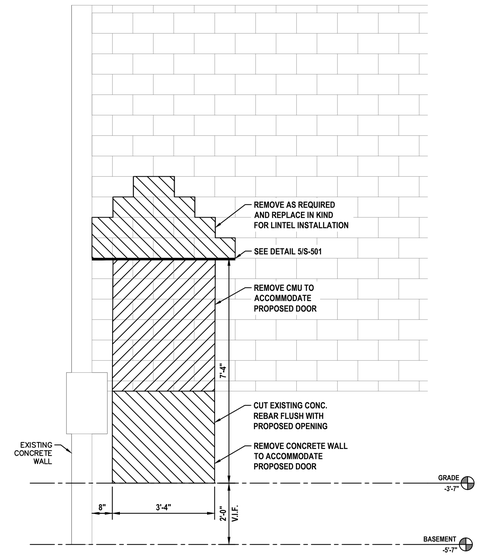
Project Number
22017
Date
9/8/26
Sheet
KHM101

R:\2022\2022-CC-KB-Suny Erie\18 CAD\KB2022M01.rte\Mat | 9/2026 | WCS2 KHC2M06



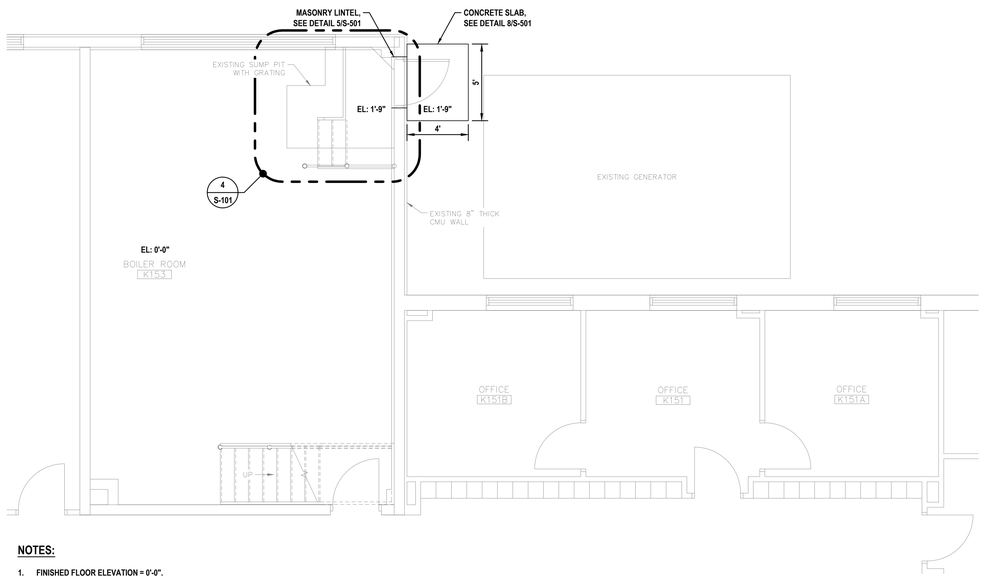
1 STRUCTURAL DEMOLITION PARTIAL PLAN

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



2 DOOR DEMOLITION ELEVATION

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

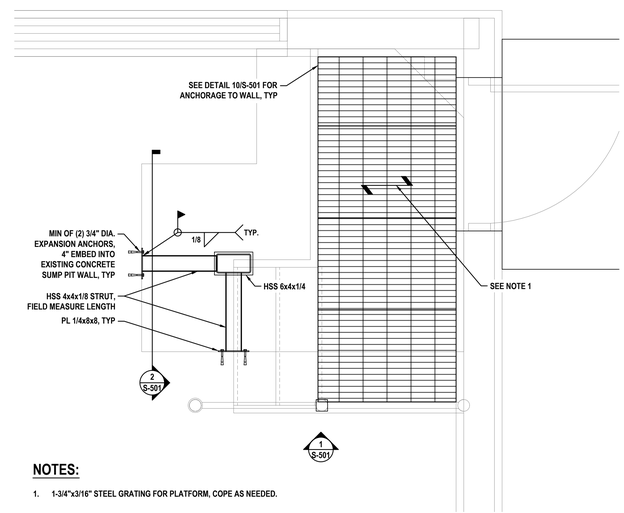


NOTES:

1. FINISHED FLOOR ELEVATION = 0'-0".
2. BOILER ROOM FLOOR = 696.0'

3 STRUCTURAL PARTIAL PLAN

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



NOTES:

1. 1-3/4"x3/16" STEEL GRATING FOR PLATFORM, COPE AS NEEDED.

4 STAIR FRAMING PLAN

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

GENERAL NOTES:

1. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS PRIOR TO PREPARATION OF SHOP DRAWINGS.
2. ALL WORK SHALL CONFORM TO 2025 BCNYS, THE AISC CODE, THE ACI BUILDING CODE (ACI 318), THE AMERICAN WELDING SOCIETY CODE (AWS) AND ALL OTHER APPLICABLE STANDARDS. IN CASES OF CONFLICT, THE MOST STRINGENT SHALL GOVERN.
3. FOR ALL CONSTRUCTION MATERIALS AND METHODS, THE CONTRACTOR IS RESPONSIBLE FOR TEMPORARY BRACING, BRIDGING, OR SHORING AS REQUIRED FOR SAFETY, STABILITY, AND ALIGNMENT OF THE STRUCTURE. BRACING AND SHORING SHALL BE KEPT IN PLACE UNTIL PERMANENT STRUCTURAL SUPPORT IS FULLY EFFECTIVE.
4. REFER TO PROJECT SPECIFICATIONS FOR TESTING, INSPECTION, AND OTHER REQUIREMENTS.

CONCRETE & REINFORCING:

1. CONCRETE SHALL BE NORMAL WEIGHT FOLLOW PROJECT SPECIFICATIONS FOR MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS.
2. ALL BAR REINFORCEMENT SHALL CONFORM TO ASTM 615, GRADE 60. WELDED WIRE FABRIC REINFORCEMENT SHALL CONFORM TO ASTM A1065.
3. ALL WORKMANSHIP AND MATERIAL SHALL CONFORM TO THE "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES" (ACI-315), AND BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE (ACI-318).
4. CONDUITS IN CONCRETE SLABS SHALL BE SPACED SUCH THAT THE CENTER TO CENTER DISTANCE BETWEEN CONDUITS IS A MINIMUM OF THREE TIMES THE OUTSIDE DIAMETER OF THE LARGEST CONDUIT. CONDUITS HAVING OUTSIDE DIAMETER LARGER THAN ONE THIRD OF THE SLAB THICKNESS SHALL NOT BE PERMITTED. CONDUITS THAT CROSS EACH OTHER IN THE SLAB SHALL NOT CONSUME MORE THAN ONE THIRD OF THE SLAB THICKNESS AT THE POINT OF INTERSECTION.
5. ALUMINUM CONDUITS ARE NOT PERMITTED IN CONCRETE ELEMENTS.

CONCRETE MASONRY:

1. ALL WORK SHALL CONFORM TO THE LATEST EDITION OF THE "BUILDING CODE REQUIREMENTS FOR CONCRETE MASONRY STRUCTURES" (ACI-530) AND SPECIFICATIONS (ACI 530.1).
2. CONCRETE MASONRY MATERIALS SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES:
   - A. HOLLOW CONCRETE MASONRY UNITS CONFORMING TO ASTM C90, TYPE I, WITH A MINIMUM NET COMPRESSIVE STRENGTH OF 2800 PSI.
   - B. TYPE S MORTAR FOR REINFORCED MASONRY, IN ACCORDANCE WITH ASTM C270, WITH A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 1800 PSI.
   - C. GROUT FOR REINFORCED MASONRY, IN ACCORDANCE WITH ASTM C476, WITH A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 3000 PSI. GROUT SOLID ALL BOND BEAMS AND CORES WITH VERTICAL REINFORCING.
   - D. THE MASONRY SYSTEM HAS BEEN DESIGNED FOR A MINIMUM 28-DAY COMPRESSIVE STRENGTH (F'm) OF 2000 PSI.
3. PROVIDE REINFORCING BARS CONFORMING TO ASTM A615, GRADE 60. PROVIDE CONTINUOUS 9-GAGE HORIZONTAL JOINT REINFORCING AT 16 INCHES VERTICAL SPACING.
4. BRACE THE TOPS OF ALL WALLS TO THE STRUCTURE FOR LATERAL STABILITY.

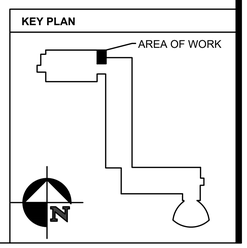
STRUCTURAL STEEL:

1. DETAIL, FABRICATE AND ERECT STRUCTURAL STEEL IN CONFORMANCE WITH THE AISC SPECIFICATIONS AND CODES, LATEST EDITIONS.
2. PERFORM ALL WELDING USING QUALIFIED WELDERS AND IN ACCORDANCE WITH THE AWS "STRUCTURAL WELDING CODE - STEEL", LATEST EDITION.
3. ALL STRUCTURAL STEEL SHALL BE NEW STEEL WHICH CONFORMS TO ASTM WITH THE FOLLOWING MINIMUM FOR YIELD STRESS (Fy):
   - A. "W" SHAPES 50 KSI, ASTM A992
   - B. TUBULAR SHAPES 46 KSI, ASTM A500, GRADE B
   - C. ROUND SHAPES 36 KSI, ASTM A53, GRADE B
   - D. ALL OTHER STEEL 36 KSI, ASTM A36
   - E. HIGH STRENGTH BOLTS ASTM A325 OR A490
   - F. ANCHOR BOLTS 36 KSI OR 55 KSI, ASTM F1554
   - G. WELDING ELECTRODE E70XX
   - H. METAL DECK WELDING ELECTRODE E60XX MIN.
4. FOR CONNECTIONS TO THE EXISTING STRUCTURE, THE CONTRACTOR SHALL MAKE ALL NECESSARY MEASUREMENTS AND COORDINATE DETAILS WITH THE EXISTING CONDITIONS, PRIOR TO PREPARATION OF SHOP DRAWINGS.

STRUCTURAL STEEL CONNECTIONS:

1. ALL CONNECTIONS, UNLESS INDICATED AS BEING FULLY DESIGNED ON THE STRUCTURAL DRAWINGS, SHALL BE DESIGNED AND DETAILED BY A LICENSED STRUCTURAL ENGINEER IN THE STATE WHERE THE PROJECT IS LOCATED. CONNECTION CALCULATIONS SHALL BE SEALED AND SIGNED.
2. THE DESIGN AND DETAILING OF CONNECTIONS SHALL COMPLY WITH ALL APPLICABLE CODES AND SPECIFICATION SECTIONS.
3. LOADS AND REACTIONS INDICATED ON DRAWINGS ARE UNFACTORED (ASD) LOADS. WHERE LOADS ARE NOT CLEARLY INDICATED OR A FURTHER BREAKDOWN OF LOADS IS REQUIRED, CONTRACTOR MAY REQUEST CLARIFICATION DURING BIDDING PERIOD BY WRITTEN RFI.
4. DESIGN CONNECTIONS FOR 110% OF THE LOADS AND REACTIONS INDICATED ON THE DRAWINGS.
5. STEEL FABRICATION AND ERECTION BIDS SHALL INCLUDE ALL CONNECTIONS, WHETHER EXPLICITLY SHOWN OR NOT.
6. CONTRACTOR MAY PROPOSE ALTERNATIVE CONNECTIONS TO THOSE SHOWN. CONTRACTOR SHALL PROVIDE CALCULATIONS FOR ALTERNATIVE CONNECTIONS.
7. SCHEMATIC CONNECTIONS SHALL BE SUBMITTED AND APPROVED PRIOR TO SUBMITTING SHOP DRAWINGS.

KEY PLAN



SUNY ERIE
State University of New York

IBC engineering
ROCHESTER • BUFFALO
MECHANICAL • ELECTRICAL
COMMUNICATIONS
3445 WINTON PLACE, SUITE 219
ROCHESTER, NY 14623
Phone: 585.292.1590
Fax: 585.292.1592
www.ibceng.com

NORTH CAMPUS - BUILDINGS B & K POWER & MECHANICAL UPGRADES (REBID)

Client: SUNY ERIE COMMUNITY COLLEGE

Address: 6205 MAIN ST. WILLIAMSVILLE, NY 14221

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED ARCHITECT OR PROFESSIONAL ENGINEER TO ALTER ANY ITEM ON THIS DOCUMENT IN ANY WAY. ANY LICENSE WHO ALTERS THIS DOCUMENT IS REQUIRED BY LAW TO AFFIX HIS OR HER SEAL AND THE NOTATION "ALTERED BY" FOLLOWED BY HIS OR HER SIGNATURE AND SPECIFIC DESCRIPTION OF THE ALTERATIONS.

COPYRIGHT © 2023
IBC ENGINEERING P.C.

ISSUED FOR REBID - 10/26/2026

Revisions

No.	Date	Description

Title: **STRUCTURAL NOTES, PLANS, AND ELEVATIONS**

Project Number: 22017

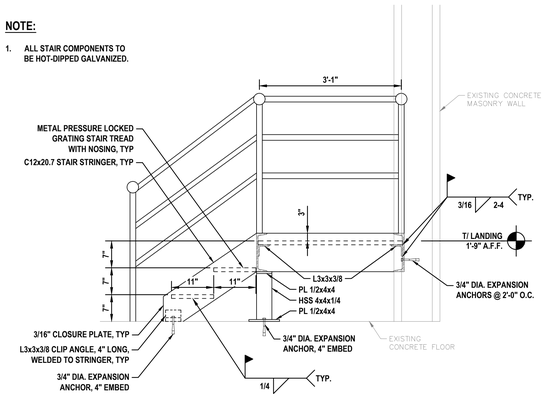
Date: 9/8/26

Sheet: **KS101**

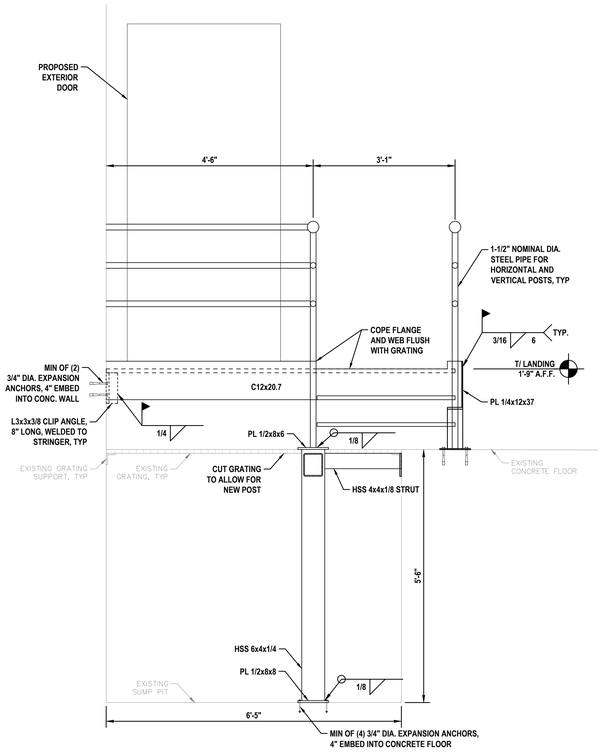
I:\2025\0084 IBC Eng - ECC North Boiler Rm\9. CAD-GIS\AutoCAD\Discipline\S-Structural\S-101.dwg 9/2/2026 ASMSHER

NOTE:

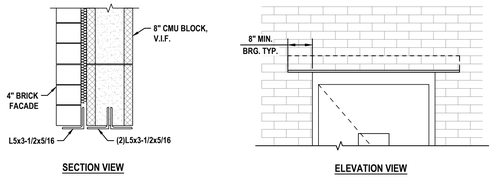
1. ALL STAIR COMPONENTS TO BE HOT-DIPPED GALVANIZED.



1 NORTH FACING STAIR DETAIL
SCALE: NTS



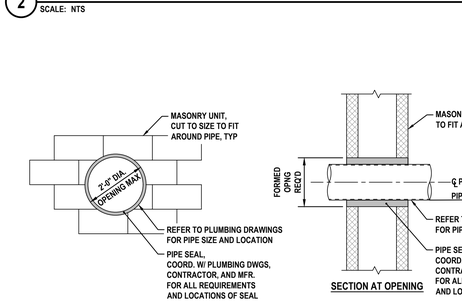
2 EAST FACING STAIR DETAIL
SCALE: NTS



NOTES:

1. LINTELS IN EXTERIOR WALLS SHALL BE HOT-DIPPED GALVANIZED.
2. ANGLES SHALL BE LONG LEG VERTICAL UNLESS NOTED OTHERWISE.
3. BEARING LENGTH AT EACH END SHALL BE 8" MINIMUM.
4. LINTELS IN EXTERIOR WALLS SHALL HAVE A MINIMUM THICKNESS OF 5/16".
5. COORDINATE EXACT SIZE, LOCATION, AND QUANTITY WITH ARCHITECTURAL, MECHANICAL, AND ELECTRICAL DRAWINGS.

5 TYPICAL LINTEL
SCALE: NTS



6 MASONRY PIPE PENETRATION - SINGLE OPENING
SCALE: NTS

8 TYPICAL SLAB ON GRADE
SCALE: NTS

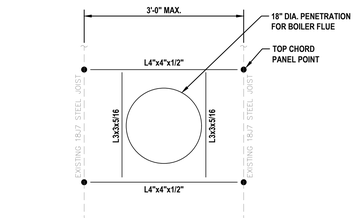
GENERAL NOTES:

1. NOT ALL EQUIPMENT PADS ARE SHOWN ON STRUCTURAL SHEETS. COORDINATE LOCATIONS AND PAD SIZE REQUIREMENTS WITH EQUIPMENT MANUFACTURER, MECHANICAL, ELECTRICAL AND ARCHITECTURAL SHEETS.
2. COORDINATE ALL EQUIPMENT ANCHORAGE WITH EQUIPMENT MANUFACTURER'S REQUIREMENTS.

REBAR AND DOWEL SIZE NOTES:

1. FOR 4" PAD - USE #3 BARS
2. FOR > 4" PAD - USE #4 BARS

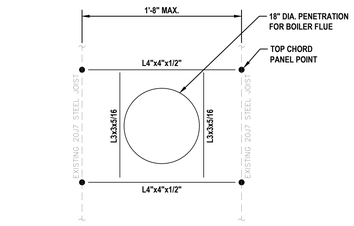
9 TYPICAL INTERIOR HOUSEKEEPING PAD
SCALE: NTS



NOTES:

1. ALL UNEQUAL LEG ANGLES ARE TO BE LONG LEG VERTICAL (LLV).

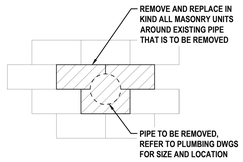
3 TYPICAL REINFORCEMENT AT OPENINGS IN ROOF DECK WITH JOIST FRAMING
SCALE: NTS



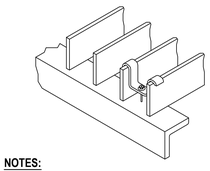
NOTES:

1. ALL UNEQUAL LEG ANGLES ARE TO BE LONG LEG VERTICAL (LLV).

4 TYPICAL REINFORCEMENT AT OPENINGS IN SECOND FLOOR WITH JOIST FRAMING
SCALE: NTS



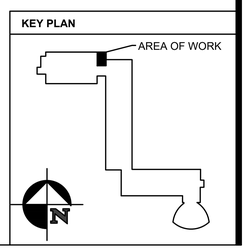
7 PIPE PENETRATION MASONRY INFILL
SCALE: NTS



NOTES:

1. ALL STEEL GRATING TO BE ATTACHED TO SUPPORTING MEMBERS USING GALVANIZED SADDLE CLIPS WITH CORROSION-RESISTANT SELF TAPPING MACHINE SCREWS. STUDS TO BE APPLIED OR HOLES DRILLED FOR BOLTS AT TIME OF GRATING INSTALLATION. MINIMUM 4 CLIPS PER PANEL.

10 TYPICAL GRATING ATTACHMENT
SCALE: NTS



SUNY ERIE
State University of New York
IBC engineering
ROCHESTER • BUFFALO
MECHANICAL • ELECTRICAL
COMMUNICATIONS
3445 WINTON PLACE, SUITE 219
ROCHESTER, NY 14623
Phone: 585.292.1590
Fax: 585.292.1592
www.ibceng.com

NORTH CAMPUS - BUILDINGS B & K
POWER & MECHANICAL UPGRADES
(REBID)

Client: SUNY ERIE COMMUNITY COLLEGE

Address: 6205 MAIN ST. WILLIAMSVILLE, NY 14221

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED ARCHITECT OR PROFESSIONAL ENGINEER TO ALTER ANY ITEM ON THIS DOCUMENT IN ANY WAY. ANY LICENSE WHO ALTERS THIS DOCUMENT IS REQUIRED BY LAW TO AFFIX HIS OR HER SEAL AND THE NOTATION "ALTERED BY" FOLLOWED BY HIS OR HER SIGNATURE AND SPECIFIC DESCRIPTION OF THE ALTERATIONS.

COPYRIGHT © 2023
IBC ENGINEERING P.C.

ISSUED FOR REBID - 10/26/2026

Revisions

No.	Date	Description

Title: **STRUCTURAL DETAILS**

Project Number: 22017

Date: 9/8/26

Sheet: **KS501**

I:\2025\0084 IBC Eng - ECC North Boiler Rm\8. CAD-GIS\AutoCAD\Discipline\S-Structural\S-501.dwg 9/2/2026 ASWISHER

LEGEND

ABBREVIATIONS

ABBREV.	DESCRIPTION
A	AMPERE
AC	ALTERNATING CURRENT
AC	ABOVE COUNTER
AFF	ABOVE FINISHED FLOOR
AG	ABOVE FINISHED GRADE
AFCI	ARC FAULT CIRCUIT INTERRUPTER
AIC	AMPERES INTERRUPTING CAPACITY
AL	ALUMINUM
ASYM	ASYMMETRICAL
ATS	AUTOMATIC TRANSFER SWITCH
AWG	AMERICAN WIRE GAUGE
BR	BRANCH
C	CONDUIT
CAB	CABINET
CATV	CABLE TELEVISION
CB	CIRCUIT BREAKER
CCTV	CLOSED CIRCUIT TELEVISION
CER	COMMUNICATIONS EQUIPMENT ROOM
CKT	CIRCUIT
CLG	CEILING
CONT	CONTACTOR
CP	CONTROL PANEL
CT	CURRENT TRANSFORMER
CU	COPPER
CUH	CABINET UNIT HEATER
DC	DIRECT CURRENT
Δ	DELTA CONNECTED
DISC	DISCONNECT
DF	DRINKING FOUNTAIN
DPST	DOUBLE POLE, SINGLE THROW
DPDT	DOUBLE POLE, DOUBLE THROW
EC	ELECTRICAL CONTRACTOR
EG	EQUIPMENT GROUND
EM	EMERGENCY
EPR	ETHYLENE PROPYLENE RUBBER
EQUIP	EQUIPMENT
ETR	EXISTING TO REMAIN
ERL	EXISTING TO BE RELOCATED
EXIST	EXISTING
(E)	EXISTING
EXP	EXPLOSION PROOF
ELECT	ELECTRIC
EMT	ELECTRIC METALLIC TUBING
EWH	ELECTRIC WALL HEATER
FC	FOOTCANDLE
FCAN	FULL CAPACITY ABOVE NORMAL
FCBN	FULL CAPACITY BELOW NORMAL
FLUOR	FLUORESCENT
FVNR	FULL VOLTAGE, NON-REVERSING
FVR	FULL VOLTAGE, REVERSING
FA	FIRE ALARM
FACP	FIRE ALARM CONTROL PANEL
FLA	FULL LOAD AMPERES
GEN	GENERATOR
GF	GROUND FAULT
GFI	GROUND FAULT CIRCUIT INTERRUPTER
GND	GROUND
GRS	GALVANIZED RIGID STEEL
HOA	HAND-OFF-AUTOMATIC
HP	HORSEPOWER
HPS	HIGH PRESSURE SODIUM
HV	HIGH VOLTAGE
HZ	HERTZ
INCAD	INCANDESCENT
IG	ISOLATED GROUND
IC	INTERCOM
IMC	INTERMEDIATE METAL CONDUIT
JB	JUNCTION BOX
KAIC	THOUSAND AMPERE INTERRUPTING CAPACITY
KV	KILOVOLT
KVA	KILOVOLT-AMPERE
KW	KILOWATT
K	KILO (THOUSAND)
KCM	THOUSAND CIRCULAR MILS
KCMIL	THOUSAND CIRCULAR MILS
L	PILOT LIGHT
LTG	LIGHTING
LV	LOW-VOLTAGE
M	MEGA (MILLION)
MATV	MASTER ANTENNA TELEVISION
MFS	MAIN FUSED SWITCH
MCB	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MH	METAL HALIDE
MLO	MAIN LUGS ONLY
MTS	MANUAL TRANSFER SWITCH
MV	MEDIUM-VOLTAGE
MVA	MEGAVOLT-AMPERE
NEC	NATIONAL ELECTRICAL CODE
NC	NORMALLY CLOSED
NO	NORMALLY OPEN
NL	NIGHT LIGHT (UNSWITCHED)
N	NEUTRAL
NF	NON-FUSED
NIC	NOT IN CONTRACT
NTS	NOT TO SCALE
OL	OVERLOAD
OH	OVERHEAD
PB	PULLBOX
PF	POWER FACTOR
PNL	PANEL
PT	POTENTIAL TRANSFORMER
PVC	POLYVINYL CHLORIDE
Ø	PHASE
P	POLE
PH	PHASE
PL	PILOT LIGHT
PP	POWER PANEL
PWR	POWER
PKGD	PACKAGED
RVNR	REDUCED VOLTAGE, NON-REVERSING
RM	ROOM
RMS	ROOT MEAN SQUARED
SE	SERVICE ENTRANCE
SPD	SURGE PROTECTIVE DEVICE
SS	SURGE SUPPRESSION
SW	SWITCH
SWBD	SWITCHBOARD
SYM	SYMMETRICAL
STR	STARTER
TDR	TIME DELAY RELAY
TYP	TYPICAL
TCP	TEMPERATURE CONTROL PANEL
TSTAT	THERMOSTAT
TV	TELEVISION
UG	UNDERGROUND
UH	UNIT HEATER
UV	UNIT VENTILATOR
V	VOLT
VA	VOLT-AMPERE
VP	VAPORPROOF
W	WATT
WG	WIRE GUARD
WP	WEATHERPROOF
XFMR	TRANSFORMER
XLP	CROSS LINKED POLYETHYLENE
XP	EXPLOSION PROOF
Y	WYE CONNECTED

FIRE ALARM

SYMBOL	DESCRIPTION
S	SMOKE DETECTOR
S D	DUCT MOUNTED SMOKE DETECTOR
DTS	DUCT SMOKE DETECTOR TEST SWITCH
CO	CARBON MONOXIDE DETECTOR
H	HEAT DETECTOR
S T	BEAM SMOKE DETECTOR TRANSMITTER
R S	BEAM SMOKE DETECTOR RECEIVER
S	AIR SAMPLING HEAD
F	MANUAL PULL STATION
F	WALL MOUNTED AUDIBLE/VISUAL NOTIFICATION APPLIANCE (CANDELA OUTPUT SHALL BE 75 UNLESS OTHERWISE ON PLAN ADJACENT TO DEVICE)
F	CEILING MOUNTED AUDIBLE/VISUAL NOTIFICATION APPLIANCE (CANDELA OUTPUT SHALL BE 75 UNLESS OTHERWISE NOTED ON PLAN ADJACENT TO DEVICE)
F	WALL MOUNTED VISUAL NOTIFICATION APPLIANCE (CANDELA OUTPUT SHALL BE 75 UNLESS NOTED OTHERWISE ON PLAN ADJACENT TO DEVICE)
F	CEILING MOUNTED VISUAL NOTIFICATION APPLIANCE (CANDELA OUTPUT SHALL BE 75 UNLESS OTHERWISE NOTED ON PLAN ADJACENT TO DEVICE)
C	CARBON MONOXIDE VISUAL NOTIFICATION APPLIANCE
F	WALL MOUNTED AUDIBLE NOTIFICATION APPLIANCE (SPEAKER)
F	CEILING MOUNTED AUDIBLE NOTIFICATION APPLIANCE (SPEAKER)
	FIRE DEPARTMENT PHONE
DH	ELECTROMAGNETIC DOOR HOLD OPEN
F	CONNECTION TO FIRE PROTECTION SYSTEM FLOW SWITCH. PROVIDE WITH ADDRESSABLE INPUT MODULE.
PS	CONNECTION TO FIRE PROTECTION SYSTEM PRESSURE SWITCH. PROVIDE WITH ADDRESSABLE INPUT MODULE.
TS	CONNECTION TO FIRE PROTECTION SYSTEM TAMPER SWITCH. PROVIDE WITH ADDRESSABLE INPUT MODULE.
SD	CONNECTION TO SMOKE DAMPER. PROVIDE WITH ADDRESSABLE OUTPUT MODULE.
EC	CONNECTION TO ELEVATOR CAPTURE CONTROL. PROVIDE WITH ADDRESSABLE OUTPUT MODULE.
	ELEVATOR BLINKING HAT CONNECTION. PROVIDE WITH ADDRESSABLE OUTPUT MODULE.
SH	CONNECTION TO ROOF MOUNTED SMOKE HATCH OR WALL MOUNTED LOUVER. PROVIDE WITH ADDRESSABLE OUTPUT MODULE.
FSD	FAN SHUTDOWN RELAY
AIM	ADDRESSABLE INPUT MODULE
AOM	ADDRESSABLE OUTPUT MODULE
ZAM	ZONE ADDRESSABLE MODULE
AUX	INDICATES AUXILLIARY CONTACTS ON FIRE ALARM DEVICE
	ADJACENT LABEL INDICATES TYPE OF PANEL: FACP = FIRE ALARM CONTROL PANEL FATC = FIRE ALARM TERMINAL CABINET NAC = NOTIFICATION APPLIANCE CIRCUIT PANEL RAP = REMOTE ANNUNCIATOR PANEL VCCP = VOICE COMMUNICATION CONTROL PANEL

POWER DISTRIBUTION

SYMBOL	DESCRIPTION
	EXISTING PANELBOARD
	BRANCH CIRCUIT PANELBOARD, REFER TO PANELBOARD SCHEDULES
	DISTRIBUTION PANELBOARD, REFER TO PANELBOARD SCHEDULES
T	TRANSFORMER

SCHEMATICS

SYMBOL	DESCRIPTION
	PANELBOARD
	TRANSFORMER
M	CURRENT TRANSFORMER CABINET WITH METER
AT AS	FUSED DISCONNECT SWITCH
AS	DISCONNECT SWITCH
A/ P G	GENERATOR
ATS	AUTOMATIC TRANSFER SWITCH
A/ P	THERMAL MAGNETIC CIRCUIT BREAKER
AT AF SST	SOLID STATE / ELECTRONIC TRIP CIRCUIT BREAKER
A/ P ST	SHUNT-TRIP CIRCUIT BREAKER
AT AF	DRAW OUT CIRCUIT BREAKER
	GROUND
	NORMALLY OPEN PUSHBUTTON SWITCH
	NORMALLY CLOSED PUSHBUTTON SWITCH
	NORMALLY OPEN RELAY CONTACT
	NORMALLY CLOSED RELAY CONTACT
	NORMALLY OPEN SWITCH
	NORMALLY CLOSED SWITCH

LINE STYLES

SYMBOL	DESCRIPTION
	INDICATES NEW DEVICE OR EQUIPMENT
	INDICATES EXISTING DEVICE OR EQUIPMENT
	INDICATES EXISTING DEVICE OR EQUIPMENT TO BE REMOVED
BD	BUS DUCT
CATV	CABLE TELEVISION (OVERHEAD)
CATV	CABLE TELEVISION (UNDERGROUND)
	CABLE TRAY
E	ELECTRIC (OVERHEAD)
E	ELECTRIC (UNDERGROUND)
E/T	ELECTRIC/TELECOMMUNICATIONS (OVERHEAD)
E/T	ELECTRIC/TELECOMMUNICATIONS (UNDERGROUND)
FD	FEEDER DUCT
IG	ISOLATED GROUND
	LADDER RACK
OF	OPTICAL FIBER CABLING (OVERHEAD)
OF	OPTICAL FIBER CABLING (UNDERGROUND)
	PLUGMOLD
	SURFACE RACEWAY
T	TELECOMMUNICATIONS (OVERHEAD)
T	TELECOMMUNICATIONS (UNDERGROUND)

LIGHTING

SYMBOL	DESCRIPTION
$	SINGLE POLE SWITCH
$3	THREE WAY SWITCH
$4	FOUR WAY SWITCH
$OS	WALL MOUNTED OCCUPANCY SENSOR SWITCH
$D	DIMMER SWITCH
$OSD	WALL MOUNTED OCCUPANCY SENSOR SWITCH WITH DIMMER
$K	KEY OPERATED SWITCH
$T	INTERVAL TIMER SWITCH
$PL	SWITCH WITH PILOT LIGHT
$3PL	3-WAY SWITCH WITH PILOT LIGHT
$4PL	4-WAY SWITCH WITH PILOT LIGHT
$LV	LOW VOLTAGE SWITCH
$LO	LOW VOLTAGE WALL MOUNTED OCCUPANCY SENSOR SWITCH
$LD	LOW VOLTAGE DIMMER SWITCH
$LOD	LOW VOLTAGE WALL MOUNTED OCCUPANCY SENSOR SWITCH WITH DIMMER
$LK	LOW VOLTAGE KEY OPERATED SWITCH
a,b	INDICATES MULTI-LEVEL SWITCHING
	2'x4' LUMINAIRE (DESIGNATION REFERS TO LUMINAIRE SCHEDULE)
	2'x2' LUMINAIRE (DESIGNATION REFERS TO LUMINAIRE SCHEDULE)
	1'x4' LUMINAIRE (DESIGNATION REFERS TO LUMINAIRE SCHEDULE)
	STRIP LUMINAIRE (DESIGNATION REFERS TO LUMINAIRE SCHEDULE)
	WALL MOUNTED LUMINAIRE (DESIGNATION REFERS TO LUMINAIRE SCHEDULE)
	WALL SCONCE (DESIGNATION REFERS TO LUMINAIRE SCHEDULE)
	DOWNLIGHT (DESIGNATION REFERS TO LUMINAIRE SCHEDULE)
	RECESSED WALL WASH DOWNLIGHT (DESIGNATION REFERS TO LUMINAIRE SCHEDULE)
	TRACKLIGHT (DESIGNATION REFERS TO LUMINAIRE SCHEDULE)
	SINGLE FACE WALL MOUNTED EXIT SIGN. SOLID WEDGE INDICATES CHEVRON DIRECTION(S). (DESIGNATION REFERS TO LUMINAIRE SCHEDULE)
	DOUBLE FACE WALL MOUNTED EXIT SIGN. SOLID WEDGE INDICATES CHEVRON DIRECTION(S). (DESIGNATION REFERS TO LUMINAIRE SCHEDULE)
	SINGLE FACE CEILING MOUNTED EXIT SIGN. SOLID WEDGE INDICATES CHEVRON DIRECTION(S). (DESIGNATION REFERS TO LUMINAIRE SCHEDULE)
	DOUBLE FACE CEILING MOUNTED EXIT SIGN. SOLID WEDGE INDICATES CHEVRON DIRECTION(S). (DESIGNATION REFERS TO LUMINAIRE SCHEDULE)
	EMERGENCY BATTERY PACK (DESIGNATION REFERS TO LUMINAIRE SCHEDULE)
OS	EXISTING CEILING MOUNTED OCCUPANCY SENSOR
OS-A	CEILING MOUNTED PASSIVE INFRARED OCCUPANCY SENSOR
OS-B	CEILING MOUNTED ULTRASONIC/PASSIVE INFRARED OCCUPANCY SENSOR
OS-C	CEILING MOUNTED ULTRASONIC/PASSIVE INFRARED CORRIDOR OCCUPANCY SENSOR
PC	PHOTOSENSOR
RC	ROOM CONTROLLER
TC	TIME CLOCK / SWITCH
LC	LIGHTING CONTACTOR
PC	PHOTOCELL
ESM	EMERGENCY SWITCHING MODULE
DMX	DMX OUTLET
	LUMINAIRE ON EMERGENCY BRANCH CIRCUIT, REFER TO FLOOR PLAN FOR CIRCUIT INFORMATION

MISCELLANEOUS

SYMBOL	DESCRIPTION
	REFERENCE TO DRAWING NOTE
	REFERENCE TO REMOVAL NOTE
	REFERENCE TO FEEDER SCHEDULE
	DETAIL/PLAN REFERENCE SYMBOL

POWER

SYMBOL	DESCRIPTION
	DUPLEX RECEPTACLE
	DOUBLE DUPLEX RECEPTACLE
	SPLIT WIRED DUPLEX RECEPTACLE
	EMERGENCY POWER DUPLEX RECEPTACLE
	EMERGENCY POWER DOUBLE DUPLEX RECEPTACLE
	RECESSED, SINGLE SERVICE FLOOR BOX
	SPECIAL PURPOSE RECEPTACLE
X	HARD WIRED CONNECTION "X" INDICATES CIRCUIT NUMBER
C/P	COMMUNICATION/POWER POLE
J	JUNCTION BOX
M X	MOTOR CONNECTION "X" DESIGNATION REFERS TO ELECTRIC EQUIPMENT CONTROL SCHEDULE
$M	MANUAL MOTOR STARTER OR MOTOR RATED SWITCH
	NON-FUSED DISCONNECT SWITCH DESIGNATION REFERS TO ELECTRIC EQUIPMENT AND CONTROL SCHEDULE
	FUSED DISCONNECT SWITCH DESIGNATION REFERS TO ELECTRIC EQUIPMENT AND CONTROL SCHEDULE
	MAGNETIC MOTOR STARTER DESIGNATION REFERS TO ELECTRIC EQUIPMENT AND CONTROL SCHEDULE
	COMBINATION MAGNETIC MOTOR STARTER AND DISCONNECT SWITCH DESIGNATION REFERS TO ELECTRIC EQUIPMENT AND CONTROL SCHEDULE
AD	ADJUSTABLE-SPEED DRIVE DESIGNATION REFERS TO THE ADJUSTABLE-SPEED DRIVE SCHEDULE
ECB	ENCLOSED CIRCUIT BREAKER
HD	HAND DRYER
PB	PULLBOX
PL	PLUG LOAD CONTROLLER
PS	POWER SUPPLY
TMGB	TELECOMMUNICATIONS MAIN GROUNDING BUS BAR
TGB	TELECOMMUNICATIONS GROUNDING BUS BAR
	PUSHBUTTON
	EMERGENCY POWER OFF PUSHBUTTON
B	BELL OR BUZZER
CR	CORD REEL
DC	DROP CORD
R	RELAY
T	THERMOSTAT
M	ELECTRIC METER
	CEILING FAN
2 L2 E2	EXAMPLE: INDICATES 20AMP BRANCH CIRCUIT CONNECTION FROM PANELBOARD, CIRCUIT #2 TO LUMINAIRE(S) AND CONTROLS, OR WIRING DEVICE(S). PROVIDE (2)-#12, (1)-#12EG IN RACEWAY FOR BRANCH CIRCUIT HOMERUNS
RA 2a	LOWER CASE LETTER ADJACENT TO LUMINAIRE INDICATES SWITCHING ARRANGEMENT
RB 2a	PREFIX: NO PREFIX = NORMAL BRANCH L = LIFE-SAFETY BRANCH E = STANDBY BRANCH REFER TO BRANCH CIRCUIT NOTES FOR ADDITIONAL INFORMATION

GENERAL ELECTRICAL NOTES:

A. DISCONNECT AND REMOVE ALL EXISTING ELECTRICAL EQUIPMENT, WIRING, AND RACEWAYS IN DASHED LINE STYLE UNLESS NOTED TO REMAIN OR BE RELOCATED. DISCONNECT AND REMOVE ALL EXISTING LIGHT FIXTURES, HVAC EQUIPMENT, STARTERS, WIRING DEVICES, SPECIAL SYSTEMS DEVICES (PUBLIC ADDRESS, FIRE ALARM, TELECOM, SECURITY, NURSE CALL), AND ALL ASSOCIATED BRANCH CIRCUIT WIRING, SPECIAL SYSTEMS WIRING, AND RACEWAYS. WHERE EXISTING DEVICES ARE NOT BEING REUSED, THEY AND THEIR ASSOCIATED WIRING AND RACEWAYS SHALL BE COMPLETELY REMOVED BACK TO SOURCE.

B. DISCONNECT AND REMOVE ALL EMPTY AND ABANDONED RACEWAYS UNLESS NOTED OTHERWISE. CUT FLUSH WITH FLOOR WHERE APPLICABLE AND PLUG WITH GROUT.

C. COORDINATE ALL REMOVAL WORK WITH OTHER TRADES. PROVIDE ALL WIRING AND CONNECTIONS REQUIRED TO MAINTAIN BRANCH CIRCUIT OR SPECIAL SYSTEMS CIRCUIT CONTINUITY TO DEVICES AND EQUIPMENT TO REMAIN WHETHER LOCATED WITHIN OR OUTSIDE OF THE PROJECT BOUNDARY.

D. PARTIAL BRANCH CIRCUIT WIRING DENOTING EXISTING CIRCUITING OR CONTROL IS SHOWN FOR REFERENCE ONLY, AND IS NOT INTENDED TO ILLUSTRATE COMPLETE WIRING SYSTEM. FIELD VERIFY EXISTING WIRING AND CONNECTIONS.

E. ALL DATA, CATV, AND TELEPHONE CABLING SHALL BE REMOVED BACK TO PORT ON TERMINATION EQUIPMENT UNLESS OTHERWISE INDICATED. DO NOT CUT CABLING AND LEAVE COILED UNLESS OTHERWISE CALLED FOR. UPDATE PORT SCHEDULE WITH NEW SPARE PORTS.

F. "ETR" ADJACENT TO A DEVICE, FIXTURE, OR PIECE OF EQUIPMENT INDICATES ITEM SHALL REMAIN. MAINTAIN EXISTING ELECTRICAL CONNECTIONS UNLESS OTHERWISE NOTED.

G. "ERL" ADJACENT TO A DEVICE, FIXTURE, OR PIECE OF EQUIPMENT INDICATES EXISTING ITEM SHALL BE RELOCATED. DISCONNECT AND REMOVE. REINSTALL AT NEW LOCATION AND RECONNECT ITEM AS REQUIRED.

SUNY ERIE
State University of New York

IBC
Engineering P.C.
ROCHESTER • BUFFALO
MECHANICAL • ELECTRICAL
COMMUNICATIONS
3445 WINTON PLACE, SUITE 219
ROCHESTER, NY 14623
Phone: 585.292.1590
Fax: 585.292.1592
www.ibceng.com

SUNY ECC NORTH CAMPUS KITTINGER HALL BOILER ROOM UPGRADES (REBID)

Owner
COUNTY OF ERIE

Owner Project Number
2025-956-02

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED ARCHITECT OR PROFESSIONAL ENGINEER TO ALTER THIS DOCUMENT. IF THIS DOCUMENT IS ALTERED, LICENSEE WHO ALTERS THIS DOCUMENT IS REQUIRED BY LAW TO AFFIX HIS OR HER SEAL AND THE NOTATION "ALTERED BY" FOLLOWED BY HIS OR HER SIGNATURE AND SPECIFIC DESCRIPTION OF THE ALTERATIONS.

COPYRIGHT © 2023
IBC ENGINEERING P.C.

ISSUED FOR REBID - 10/26/2026

Revisions

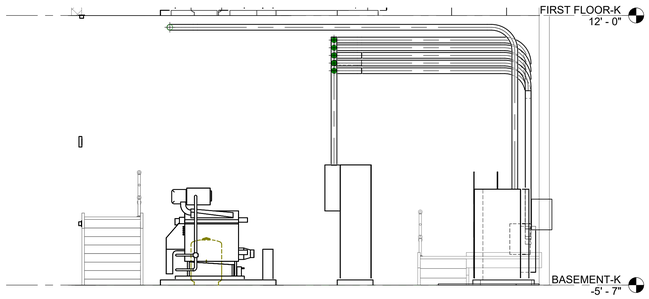
No.	Date	Description

Title
GENERAL NOTES & LEGENDS - ELECTRICAL

Project Number
22017

Date
9/8/26

Sheet
K E000



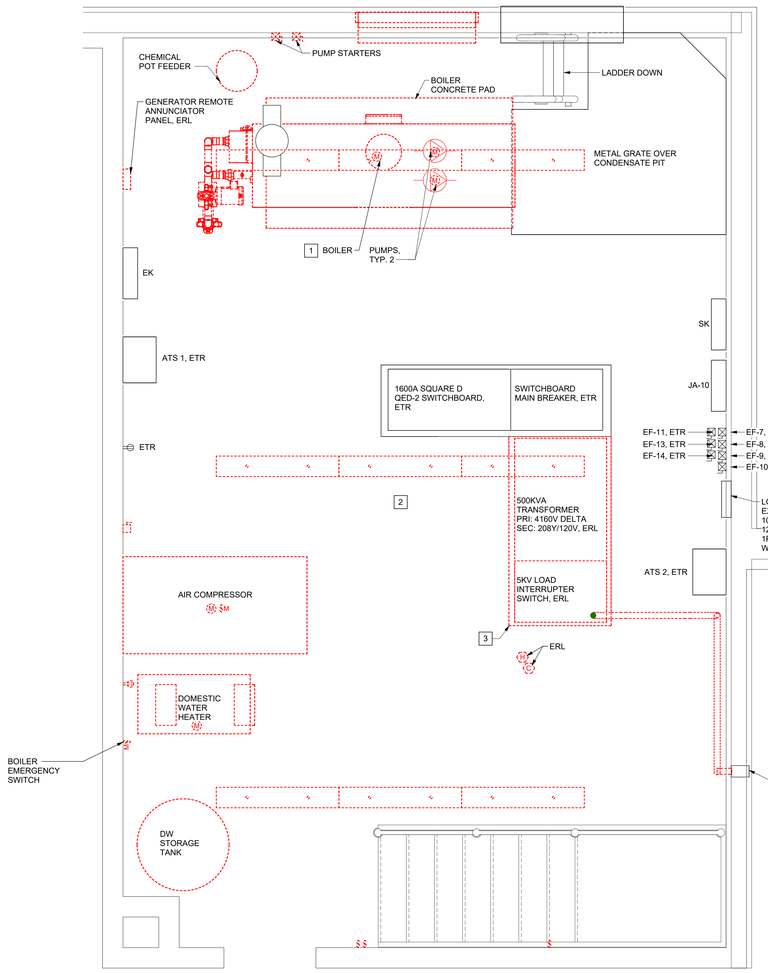
4 IBC-ELECTRICAL_SECTIONPRINTING VIEW
1/4" = 1'-0"

REMOVAL NOTES:

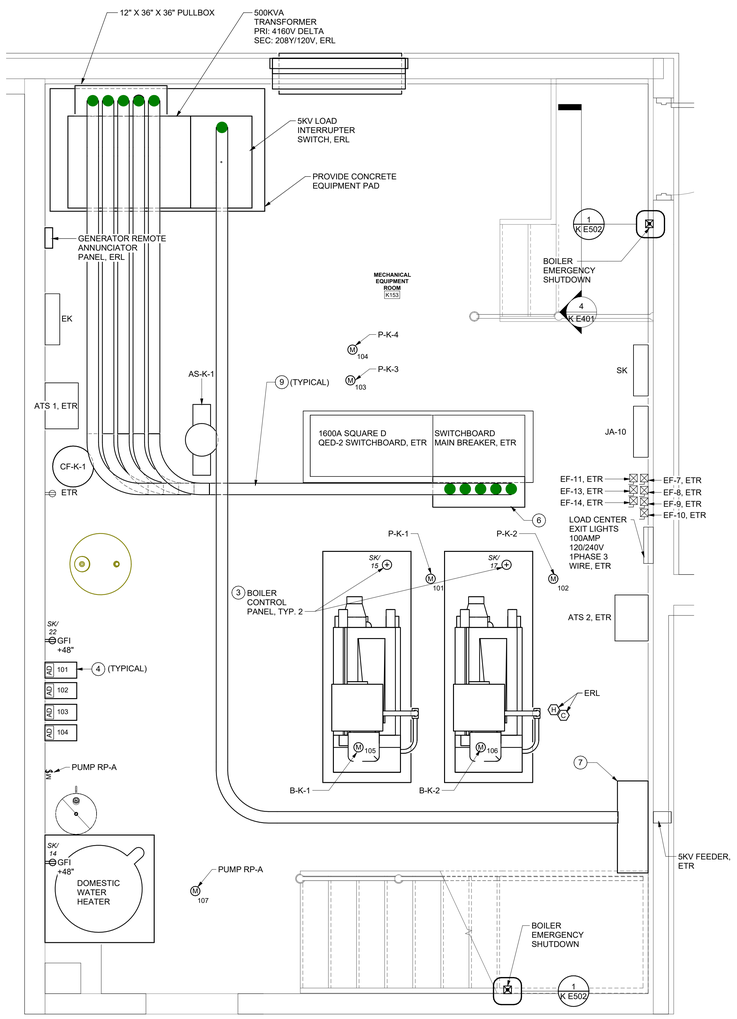
1. DISCONNECT AND REMOVE BOILER AND ASSOCIATED PUMP, ELECTRICAL EQUIPMENT, AND CABLING BACK TO SOURCE.
2. DISCONNECT AND REMOVE EXISTING LUMINAIRES IN THIS AREA. RETAIN CIRCUIT FOR RECONNECTION OF NEW LUMINAIRES.
3. REMOVE EXISTING CONCRETE EQUIPMENT PAD UNDER MEDIUM VOLTAGE TRANSFORMER AND SWITCH.

DRAWING NOTES:

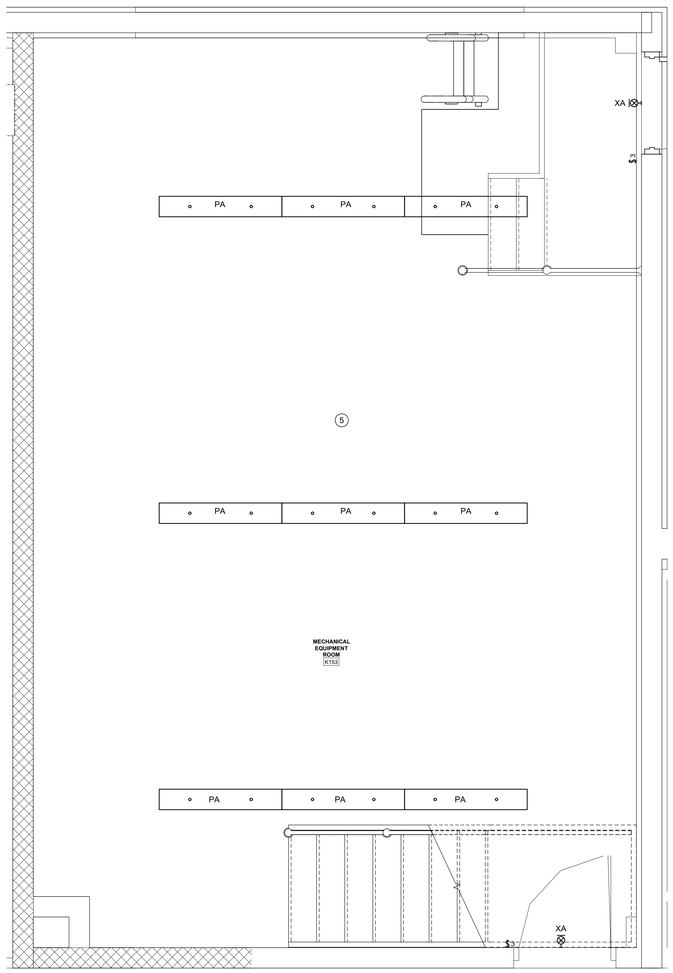
1. PROVIDE DISCONNECT SWITCHES FOR BOILERS B-K-1 AND B-K-2. PROVIDE (2)-#10, + (1)-#10EG IN 3/4" CONDUIT FROM BOILER TO SWITCH.
2. PROVIDE ALL SYSTEM WIRING FOR BOILER EMERGENCY PUSH BUTTON AS REQUIRED.
3. COORDINATE EXACT LOCATION WITH THE PROVIDED BOILER.
4. ADJUSTABLE SPEED DRIVES FOR PUMPS P-1 THRU P-4. COORDINATE EXACT ROUGH IN LOCATION WITH OTHER TRADES.
5. PROVIDE NEW LUMINAIRES AND CONNECT TO EXISTING CIRCUIT. PROVIDE (2)-#12, + (1)-#12EG IN 3/4" CONDUIT FROM NEW LUMINAIRES TO EXISTING CIRCUIT.
6. PROVIDE 12" X 42" X 36" PULLBOX ON REAR OF MDP FOR 208V FEEDER CONNECTIONS.
7. PROVIDE 12" X 36" X 36" PULLBOX WITH MEDIUM VOLTAGE LUGS AND SPLICES.
8. PROVIDE 12" X 36" X 36" PULLBOX ON REAR OF TRANSFORMER FOR 208V FEEDER CONNECTIONS.
9. COORDINATE ROUTING OF NEW FEEDERS WITH HVAC CONTRACTOR PIPING LAYOUT PRIOR TO ROUGH-IN. DOCUMENT FEEDER ROUTING AND HEIGHT ON COORDINATION DRAWINGS.



1 ENLARGED BOILER ROOM - ELECTRICAL DEMOLITION
1/2" = 1'-0"

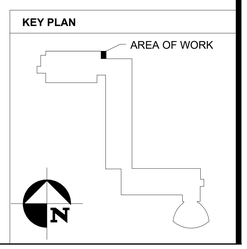


2 ENLARGED BOILER ROOM - POWER & SYSTEMS
1/2" = 1'-0"



3 ENLARGED BOILER ROOM - LIGHTING
1/2" = 1'-0"

KEY PLAN



SUNY ERIE
State University of New York

IBC Engineering P.C.
ROCHESTER • BUFFALO
MECHANICAL • ELECTRICAL
COMMUNICATIONS
3445 WINTON PLACE, SUITE 219
ROCHESTER, NY 14623
Phone: 585.292.1590
Fax: 585.292.1592
www.ibceng.com

SUNY ECC NORTH CAMPUS KITTINGER HALL BOILER ROOM UPGRADES (REBID)

Owner
COUNTY OF ERIE
Owner Project Number
2025-956-02

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED ARCHITECT OR PROFESSIONAL ENGINEER TO ALTER ANY ITEM ON THIS DOCUMENT IN ANY WAY. IF LICENSED HVAC ALTERING DOCUMENT IS REQUIRED BY LAW TO AFFIX HIS OR HER SEAL AND THE NOTATION "ALTERED BY" FOLLOWED BY HIS OR HER SIGNATURE AND SPECIFIC DESCRIPTION OF THE ALTERATIONS.

COPYRIGHT © 2023
IBC ENGINEERING P.C.

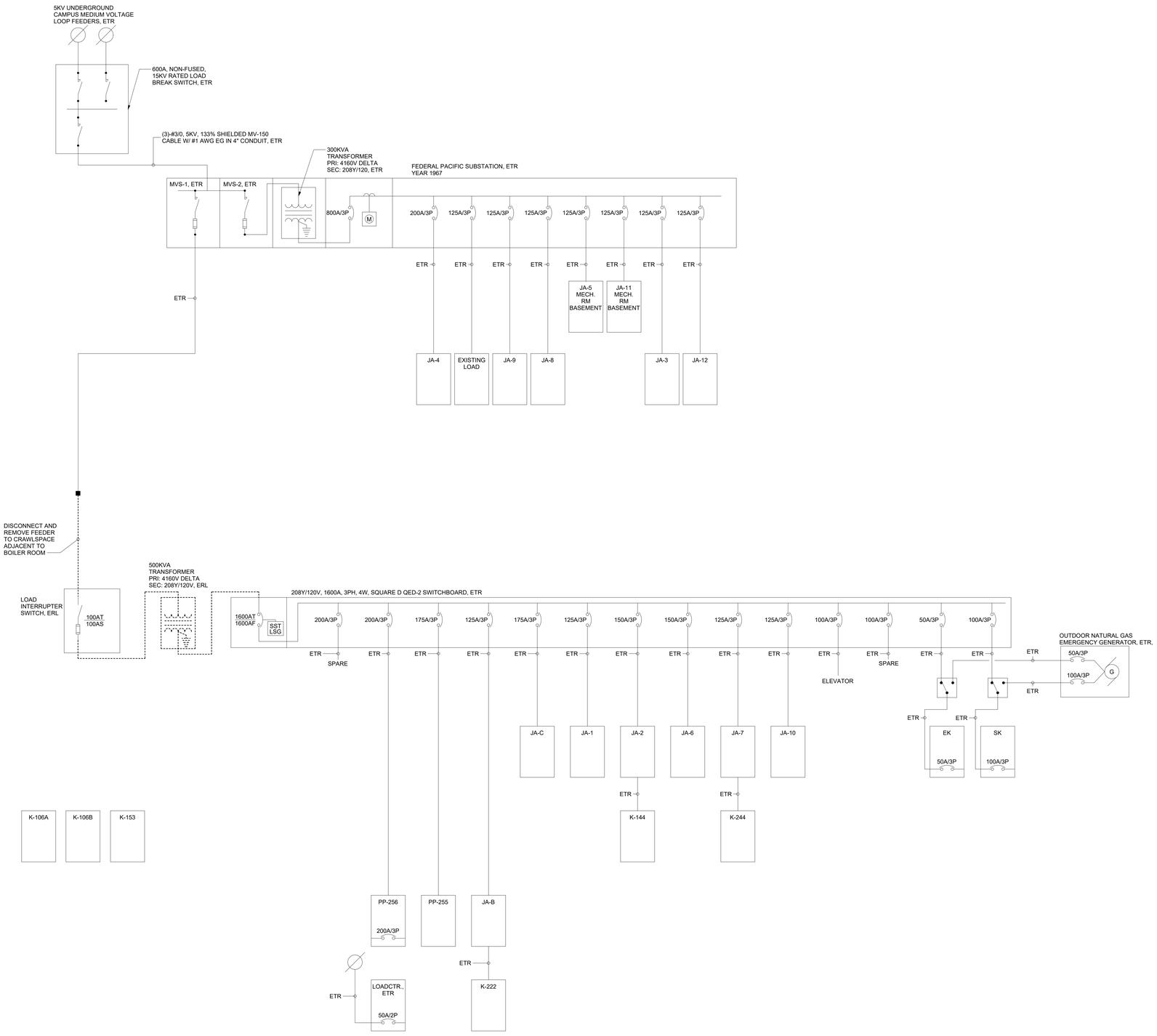
ISSUED FOR REBID - 10/262026

Revisions

No.	Date	Description

Title
ENLARGED BOILER ROOM PLANS

Project Number
22017
Date
9/8/26
Sheet
K E401



1 ONE-LINE-DIAGRAM
NTS

SUNY ERIE
State University of New York

IBC
Engineering P.C.
ROCHESTER • BUFFALO
MECHANICAL • ELECTRICAL
COMMUNICATIONS
3445 WINTON PLACE, SUITE 219
ROCHESTER, NY 14623
Phone: 585.292.1590
Fax: 585.292.1592
www.ibceng.com

SUNY ECC NORTH CAMPUS KITTINGER HALL BOILER ROOM UPGRADES (REBID)

Owner
COUNTY OF ERIE
Owner Project Number
2025-956-02

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED ARCHITECT OR PROFESSIONAL ENGINEER TO ALTER ANY ITEM ON THIS DOCUMENT IN ANY WAY. ANY LICENSE WHO ALTERS THIS DOCUMENT IS REQUIRED BY LAW TO AFFIX HIS OR HER SEAL AND THE NOTATION "ALTERED BY" FOLLOWED BY HIS OR HER SIGNATURE AND SPECIFIC DESCRIPTION OF THE ALTERATIONS.

COPYRIGHT © 2023
IBC ENGINEERING P.C.

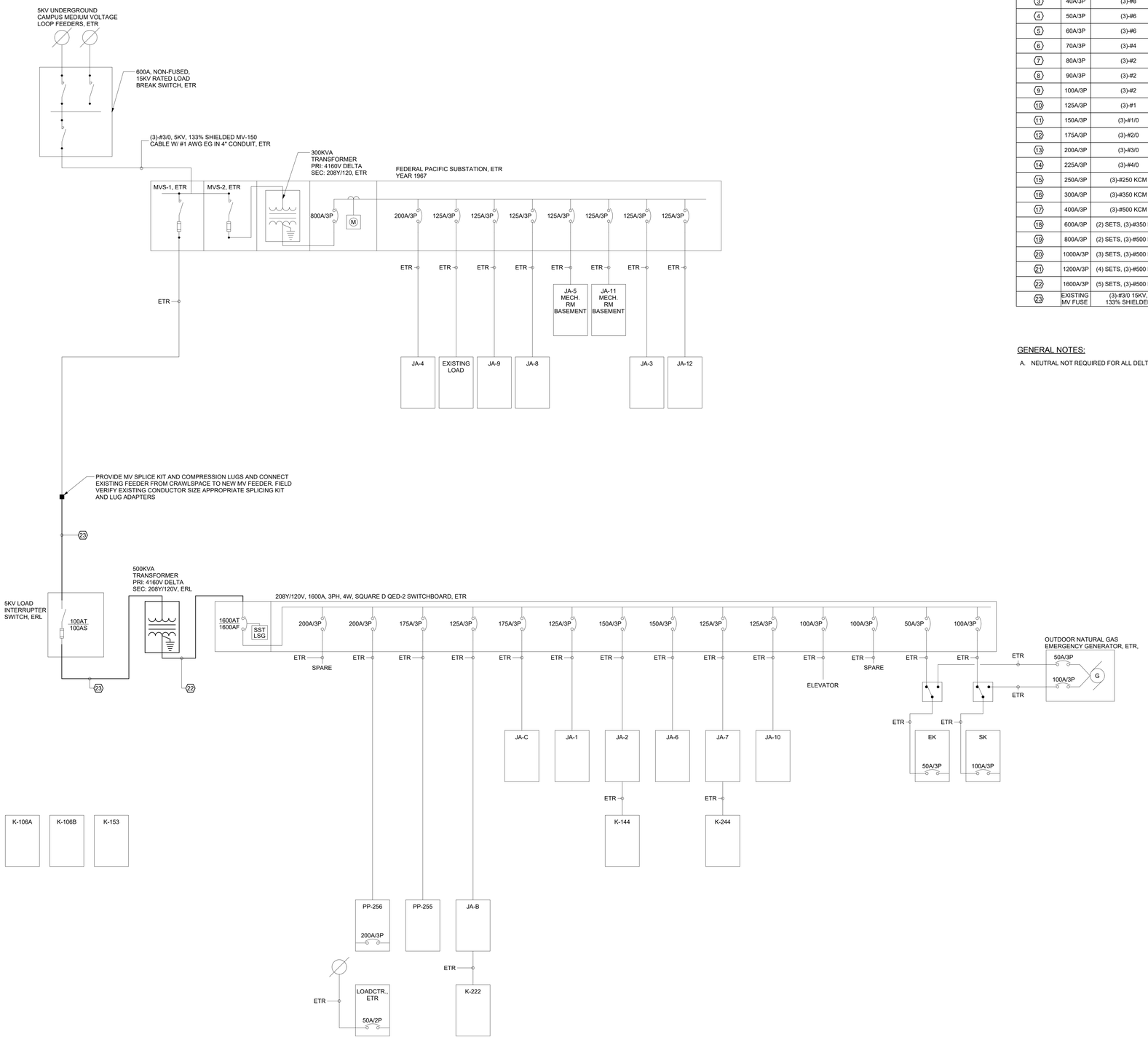
ISSUED FOR REBID - 10/26/2026

Revisions

No.	Date	Description

Title
ONE-LINE DIAGRAM - DEMOLTION

Project Number
22017
Date
9/8/26
Sheet
K E500



1 NEW ONE-LINE
NTS

FEEDER SCHEDULE

DESIGNATION	OCPD	PHASE	NEUTRAL	GROUND	CONDUIT	NOTES
1	20A/3P	(3)-#12	(1)-#12	(1)-#12	1/2"	
2	30A/3P	(3)-#10	(1)-#10	(1)-#10	3/4"	
3	40A/3P	(3)-#8	(1)-#8	(1)-#10	3/4"	
4	50A/3P	(3)-#6	(1)-#6	(1)-#10	1"	
5	60A/3P	(3)-#6	(1)-#6	(1)-#10	1"	
6	70A/3P	(3)-#4	(1)-#4	(1)-#8	1 1/4"	
7	80A/3P	(3)-#2	(1)-#2	(1)-#8	1 1/2"	
8	90A/3P	(3)-#2	(1)-#2	(1)-#8	1 1/2"	
9	100A/3P	(3)-#2	(1)-#2	(1)-#8	1 1/2"	
10	125A/3P	(3)-#1	(1)-#1	(1)-#6	1 1/2"	
11	150A/3P	(3)-#1/0	(1)-#1/0	(1)-#6	1 1/2"	
12	175A/3P	(3)-#2/0	(1)-#2/0	(1)-#6	2"	
13	200A/3P	(3)-#3/0	(1)-#3/0	(1)-#4	2"	
14	225A/3P	(3)-#4/0	(1)-#4/0	(1)-#2	2 1/2"	
15	250A/3P	(3)-#250 KCM	(1)-#250 KCM	(1)-#2	2 1/2"	
16	300A/3P	(3)-#350 KCM	(1)-#350 KCM	(1)-#2	3"	
17	400A/3P	(3)-#500 KCM	(1)-#500 KCM	(1)-#1/0	4"	
18	600A/3P	(2) SETS, (3)-#350 KCM	(2)-#350 KCM	(2)-#1/0	(2) 3"	
19	800A/3P	(2) SETS, (3)-#500 KCM	(2)-#500 KCM	(2)-#1/0	(2) 4"	
20	1000A/3P	(3) SETS, (3)-#500 KCM	(3)-#500 KCM	(3)-#2/0	(3) 4"	
21	1200A/3P	(4) SETS, (3)-#500 KCM	(4)-#500 KCM	(4)-#3/0	(4) 4"	
22	1600A/3P	(5) SETS, (3)-#500 KCM	(5)-#500 KCM	(5)-#4/0	(5) 4"	
23	EXISTING MV FUSE	(3)-#3/0 15KV, 133% SHIELDED		(1)-#1	(1) 4"	

GENERAL NOTES:

A. NEUTRAL NOT REQUIRED FOR ALL DELTA TRANSFORMER CONNECTIONS.

SUNY ERIE
State University of New York

IBC Engineering P.C.
ROCHESTER • BUFFALO
MECHANICAL • ELECTRICAL
COMMUNICATIONS
3445 WINTON PLACE, SUITE 219
ROCHESTER, NY 14623
Phone: 585.292.1590
Fax: 585.292.1592
www.ibceng.com

SUNY ECC NORTH CAMPUS KITTINGER HALL BOILER ROOM UPGRADES (REBID)

Owner
COUNTY OF ERIE
Owner Project Number
2025-956-02

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED ARCHITECT OR PROFESSIONAL ENGINEER TO ALTER ANY ITEM ON THIS DOCUMENT IN ANY WAY. ANY LICENSE WHO ALTERS THIS DOCUMENT IS REQUIRED BY LAW TO AFFIX HIS OR HER SEAL AND THE NOTATION "ALTERED BY" FOLLOWED BY HIS OR HER SIGNATURE AND SPECIFIC DESCRIPTION OF THE ALTERATIONS.

COPYRIGHT © 2023
IBC ENGINEERING P.C.

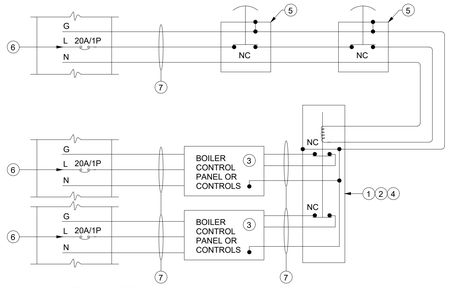
ISSUED FOR REBID - 10/262026

Revisions

No.	Date	Description

Title
ONE-LINE DIAGRAM

Project Number
22017
Date
9/8/26
Sheet
K E501



DETAIL NOTES:

1. PROVIDE NEMA 1, SIZE 00, 3P, 120V, 60 HZ COIL CONTACTOR. USE "SQUARE D" CLASS 8502 TYPE S FULL VOLTAGE CONTACTOR IN NEMA 1 ENCLOSURE OR APPROVED EQUAL. WIRE CONTACTOR CONTACTS TO INTERRUPT CONTROL POWER TO BOILER PANEL.
2. WHERE MORE THAN TWO (2) BOILERS ARE TO BE WIRED, PROVIDE CONTACTS AND WIRING TO ADDITIONAL BOILERS.
3. PROVIDE DISCONNECT SWITCH AT EACH BOILER CONTROL PANEL.
4. INSTALL CONTACTOR CLOSE TO BOILER ROOM PANEL OR WHERE INDICATED ON CONTRACT DOCUMENTS.
5. PROVIDE "EMERGENCY BOILER SHUT-DOWN" PUSH BUTTON SWITCH WITH MAINTAINED NORMALLY CLOSED CONTACT AT EACH BOILER ROOM EXIT. PROVIDE ADDITIONAL SWITCHES AS SHOWN ON THE DRAWINGS.
6. PROVIDE 20A/1P CIRCUIT BREAKER IN BOILER ROOM PANELBOARD.
7. PROVIDE TWO (2) #12, ONE (1) #12 EG, IN 1/2" CONDUIT.

PUSH BUTTON SWITCH STATION DESCRIPTION	SIZE AND MOUNTING	VOLTAGE AND CONFIGURATION	DESIGN MAKE:
LABELING "EMERGENCY BOILER SHUT-DOWN" AND RED PUSH BUTTON	2-GANG SURFACE	NORMALLY CLOSED 120V RATED CONTACTS	EATON CAT. NO. 10250T5B62-S106

1 BOILER EMERGENCY DISCONNECT WIRING DIAGRAM (MULTIPLE BOILER APPLICATION)
NTS

SUNY ERIE
State University of New York

IBC
Engineering P.C.
ROCHESTER • BUFFALO
MECHANICAL • ELECTRICAL
COMMUNICATIONS
3445 WINTON PLACE, SUITE 219
ROCHESTER, NY 14623
Phone: 585.292.1590
Fax: 585.292.1592
www.ibceng.com

SUNY ECC NORTH CAMPUS KITTINGER HALL BOILER ROOM UPGRADES (REBID)

Owner
COUNTY OF ERIE
Owner Project Number
2025-956-02

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED ARCHITECT OR PROFESSIONAL ENGINEER TO ALTER ANY ITEM ON THIS DOCUMENT IN ANY WAY. ANY LICENSE WHO ALTERS THIS DOCUMENT IS REQUIRED BY LAW TO AFFIX HIS OR HER SEAL AND THE NOTATION "ALTERED BY" FOLLOWED BY HIS OR HER SIGNATURE AND SPECIFIC DESCRIPTION OF THE ALTERATIONS.

COPYRIGHT © 2023
IBC ENGINEERING P.C.

ISSUED FOR REBID - 10/26/2026

Revisions

No.	Date	Description

Title
DETAILS

Project Number
22017
Date
9/8/26
Sheet
K E502

Switchboard: MDP

Location: MECH 113 | **Volts:** 120/208 Wye | **A.I.C. Rating:**
Supply From: | **Phases:** 3 | **Mains Type:**
Mounting: | **Wires:** 4 | **Mains Rating:**
Enclosure: | **MCB Rating:**

CKT	Circuit Description	# of Poles	Frame Size	Trip Rating	Load	Remarks
1	JA-10	1	200 A	125 A	0.0	
2	JA-8	1	200 A	125 A	0.0	
3	Spare	1	200 A	200 A	0.0	
4	PP-256	1	200 A	200 A	0.0	
5	PP-255	1	200 A	175 A	0.0	
6	JA-c	1	200 A	175 A	0.0	
7	JA-1	1	200 A	125 A	0.0	
8	JA-7	1	200 A	125 A	0.0	
9	ELEVATOR	1	200 A	100 A	0.0	
10	ATS 2 - SK PANEL	1	200 A	200 A	0.0	
11	JA-2	1	200 A	150 A	0.0	
12	JA-6	1	200 A	150 A	0.0	
13	Spare	1	200 A	20 A	0.0	
14	Spare	1	200 A	20 A	0.0	
				Total Conn. Load:	0.0 kVA	
				Total Amps:	0 A	

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
				Total Conn. Load: 0.0 kVA
				Total Est. Demand: 0.0 kVA
				Total Conn. Current: 0 A
				Total Est. Demand Current: 0 A

Notes:
1. This is an EXISTING Switchboard.

Branch Panel: SK

Location: MECHANICAL EQUIPMENT ROOM 153 | **Volts:** 120/208 Wye | **A.I.C. Rating:**
Supply From: | **Phases:** 3 | **Mains Type:** MCB
Mounting: Surface | **Wires:** 4 | **Mains Rating:** 100 A
Enclosure: NEMA 1, Hinged Cover | **MCB Rating:**

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
1				3.7	3.7								2
3	***CIC PUMP P-K-3***	***40 A***	***3***			3.7	3.7			***3***	***40 A***	***HW CIRC. PUMP P-K-4***	4
5								3.7	3.7				6
7				0.0	0.0								8
9	CRAWL SPACE LIGHTS & RCPTS	20 A	3			0.0	0.0			***3***	***20 A***	***SPARE***	10
11								0.0	0.0				12
13	BATTERY CHARGER RCPTS	20 A	1	0.0	0.2					***1***	***20 A***	***WATER HEATER***	14
15	BOILER 1 CONTROL PANEL	20 A	1			0.5	1.6						***16***
17	BOILER 2 CONTROL PANEL	20 A	1					0.5	1.6	***3***	***20 A***	***BOILER PUMPS P-K-1 AND P-K-2***	18
19	MECH. RM SUMP PUMP	20 A	1	0.0	1.6								***20***
21	***SPARE***	***20 A***	***1***			0.0	0.2			1	***20 A***	***BOILER RM. RECEPTACLE***	***22***
23								0.0	2.8	***2***	***20 A***	***BOILER B-K-1***	***24***
25	SUMP PUMP	20 A	3	0.0	2.8								***26***
27						0.0	2.8			***2***	***20 A***	***BOILER B-K-2***	***28***
29	***SPARE***	***20 A***	***1***					0.0	2.8				***30***
				Total Load:		12.0 kVA		12.5 kVA		15.2 kVA			
				Total Amps:		100 A		105 A		127 A			

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
HVAC	26948 VA	80.00%	21558 VA	
Power	11362 VA	80.00%	9090 VA	**Total Conn. Load:** 39.7 kVA
Receptacle	1360 VA	100.00%	1360 VA	**Total Est. Demand:** 32.0 kVA
				Total Conn. Current: 110 A
				Total Est. Demand Current: 89 A

Notes:
1. This is an EXISTING panelboard. Provide new CIRCUITS for all circuits in BOLD/ITALICS. 2. Utilize spare circuits where only description is BOLD/ITALIC.

Branch Panel: JA-10

Location: MECHANICAL EQUIPMENT ROOM 153 | **Volts:** 120/208 Wye | **A.I.C. Rating:**
Supply From: | **Phases:** 3 | **Mains Type:** MLO
Mounting: Surface | **Wires:** 4 | **Mains Rating:** 225 A
Enclosure: NEMA 1, Hinged Cover | **MCB Rating:**

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
1	Spare	20 A	1	0.0	0.0					1	20 A	Spare	2
3	Spare	20 A	1			0.0	0.0			1	20 A	ROOM 206	4
5	ROOMS 132,134,135	20 A	1					0.0	0.0	1	20 A	ROOMS 130,134,136	6
7	ROOM 126	20 A	1	0.0	0.0					1	20 A	ROOM 137	8
9	ROOM 131	20 A	1			0.0	0.0			1	20 A	Spare	10
11	ROOMS 211-213	20 A	1					0.0	0.0	1	20 A	ROOM 207	12
13	ROOMS 206,208,210	20 A	1	0.0	0.0					1	20 A	ROOMS 230-232	14
15	ROOMS 234,236,238	20 A	1			0.0	0.0			1	20 A	ROOMS 240,242,244	16
17	ROOMS 231,233	20 A	1					0.0	0.0	1	20 A	ROOMS 235,237,239	18
19	UH ROOMS 241,243,245	20 A	1	0.0	0.0					1	20 A	HOODS WEST WING	20
21	Spare	20 A	1			0.0	0.0			1	20 A	Spare	22
23	EF #12 & MOTOR CONTROLS/HW PUMP	20 A	1					0.0	0.0	1	20 A	Spare	24
25					0.0								26
27						0.0				3	20 A	HONEYWALL AIR COMPRESSOR	28
29								0.0					30
31	DRYER RECPT.	20 A	1	0.0									***32***
33	HANDOUT HEAT	20 A	1			0.0							***34***
35	BLUE LIGHT PHONE	20 A	1				0.0						***36***
37	Spare	20 A	1	0.0	0.0								38
39	Spare	20 A	1			0.0	0.0			3	50 A	EXHAUST FANS	40
41	RELAY BOILER 120V	20 A	1					0.0	0.0				42
				Total Load:		0.0 kVA		0.0 kVA		0.0 kVA			
				Total Amps:		0 A		0 A		0 A			

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
				Total Conn. Load: 0.0 kVA
				Total Est. Demand: 0.0 kVA
				Total Conn. Current: 0 A
				Total Est. Demand Current: 0 A

Notes:
1. This is an EXISTING panelboard. Provide new CIRCUITS for all circuits in BOLD/ITALICS. 2. Utilize spare circuits where only description is BOLD/ITALIC.

Branch Panel: EK

Location: MECH 113 | **Volts:** 120/208 Wye | **A.I.C. Rating:**
Supply From: | **Phases:** 3 | **Mains Type:** MCB
Mounting: Surface | **Wires:** 4 | **Mains Rating:** 100 A
Enclosure: NEMA 1, Hinged Cover | **MCB Rating:**

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
1				0.0	0.0					1	20 A	BATTERY CHARGER	2
3	SURGE PROTECTOR	30 A	3			0.0	0.0			1	20 A	BLOCK HEATER	4
5								0.0	0.0	1	20 A	OIL HEATER	6
7	SIEMENS PANEL	20 A	1	0.0	0.0					1	20 A	Spare	8
9	EXIT LIGHTS	20 A	1			0.0	0.0			1	20 A	1ST FLOOR N BATHROOM	10
11	EXIT LIGHTS	20 A	1					0.0	0.0	1	20 A	2ND FLOOR N BATHROOM	12
13	FIRE ALARM	20 A	1	0.0	--					1	--	Space	14
15	Space	--	1			--	--			1	--	Space	16
17	Space	--	1					--	--	1	--	Space	18
				Total Load:		0.0 kVA		0.0 kVA		0.0 kVA			
				Total Amps:		0 A		0 A		0 A			

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
				Total Conn. Load: 0.0 kVA
				Total Est. Demand: 0.0 kVA
				Total Conn. Current: 0 A
				Total Est. Demand Current: 0 A

Notes:
1. This is an EXISTING panelboard. Provide new CIRCUITS for all circuits in BOLD/ITALICS. 2. Utilize spare circuits where only description is BOLD/ITALIC.

LUMINAIRE SCHEDULE

TYPE	DESCRIPTION	Schedule - Ballast	Schedule - Lamps	VOLTAGE	DESIGN MAKE	ACCEPTABLE MANUFACTURER
PA	4' MVOLT VAPOR TIGHT LED STRIP LIGHT SUSPENDED MOUNT WITH POLYCARBONATE HOUSING AND FROSTED LENS	0-10V DIMMING	4946 LUMENS 42W, 80CRI, 4000K	120-277V	LITHONIA LIGHTING CSVT SERIES	LITHONIA LIGHTING
XA	EXIT LUMINAIRE RED LETTERING AND DIE-CAST ALUMINUM HOUSING WITH BLACK FINISH.	LED DRIVER	1W RED LED	UNI	SURE-LITES CX SERIES	APPROVED EQUAL

ELECTRICAL EQUIPMENT AND CONTROL SCHEDULE

ITEM NO.	ITEM NAME	LOCATION	HP	LOAD	VOLTAGE	# OF POLES	SOURCE	CIRCUIT NUMBER	CIRCUIT BREAKER	WIRING FROM SOURCE TO CONTROL UNIT	WIRING FROM SOURCE TO CONTROL UNITWIRING FROM SOURCE TO CONTROL UNITWIRING FROM SOURCE TO CONTROL UNITWIRING FROM SOURCE TO CONTROL UNIT	DISCONNECT SWITCH	FUSE SIZE	MOTOR STARTER/ CONTROLLER NOTES	CONTROLLER LOCATION	NEMA RATING	NOTES
101	P-K-1		1.5	2.38 kVA	208 V	3	SK	16,18,20	20 A	(3)-#12, (1)-#12EG IN 3/4" C	(3)-#12, (1)-#12EG IN 3/4" C			6	MECH K153	1	
101		MECH 113															
102	P-K-2		1.5	2.38 kVA	208 V	3	SK	16,18,20	20 A	(3)-#12, (1)-#12EG IN 3/4" C	(3)-#12, (1)-#12EG IN 3/4" C			6	MECH K153	1	
102		MECH 113															
103	P-K-3		10	11.10 kVA	208 V	3	SK	1,3,5	40 A	(3)-#8, (1)-#10EG IN 3/4" C	(3)-#8, (1)-#10EG IN 3/4" C	ASD		6	MECH K153	1	
103		MECH 113															
104	P-K-4		10	11.10 kVA	208 V	3	SK	2,4,6	40 A	(3)-#8, (1)-#10EG IN 3/4" C	(3)-#8, (1)-#10EG IN 3/4" C	ASD		6	MECH K153	1	
104		MECH 113															
105	B-K-1	MECH 113EQUIPMENT ROOM 153	0	5.68 kVA	208 V	2	SK	24,26	30 A	(2)-#10, (1)-#10EG IN 3/4" C	(2)-#10, (1)-#10EG IN 3/4" C	30A	NF	10	MECH K153	1	1,2
106	B-K-2	MECH 113EQUIPMENT ROOM 153	0	5.68 kVA	208 V	2	SK	28,30	30 A	(2)-#10, (1)-#10EG IN 3/4" C	(2)-#10, (1)-#10EG IN 3/4" C	30A	NF	10	MECH K153	1	1,2
107	RP-A	MECHANICAL EQUIPMENT ROOM K153	0.25	0.70 kVA	120 V	1			20 A	(2)-#12, (1)-#12EG IN 3/4" C	(2)-#12, (1)-#12EG IN 3/4" C			1	MECH K153	1	

MOTOR STARTER/CONTROLLER NOTES:

1. MOTOR RATED SWITCH
2. MANUAL MOTOR STARTER
3. MANUAL MOTOR STARTER WITH RELAY
4. MAGNETIC STARTER
5. COMBINATION MAGNETIC STARTER
6. ADJUSTABLE SPEED DRIVE
7. COMBINATION TWO SPEED MAGNETIC STARTER
8. COMBINATION REDUCED VOLTAGE MAGNETIC STARTER
9. DUPLEX CONTROLLER WITH ALTERNATION CIRCUIT
10. PACKAGED CONTROL UNIT
11. H-O-A SELECTOR SWITCH IN COVER
12. PILOT LIGHT IN COVER
13. REMOTE START-STOP PUSHBUTTONS
14. FIRE ALARM FAN SHUTDOWN
15. LINE-VOLTAGE THERMOSTAT

GENERAL NOTES:

A. ALL DEVICES PROVIDE BY THE DIVISION 26 CONTRACTOR.
B. ITEM NUMBER INDICATES EQUIPMENT NUMBER.
C. ALL CONTROL DEVICES ARE TO BE SURFACE MOUNTED UNLESS OTHERWISE NOTED.
D. PROVIDE OVERLOADS, SIZE AS REQUIRED BY DIVISION 25 CONTRACTOR.
E. "AU" INDICATES CONTROL DEVICE IS LOCATED AT UNIT.
F. "NF" INDICATES NON-FUSED.

NOTES:

1. BOILER CONTROL PANEL PROVIDED BY DIV 23
2. PROVIDE BOILER EMERGENCY PUSH BUTTON SHUT DOWN AND TIE INTO EXISTING FIRE ALARM SYSTEM

SUNY ERIE
State University of New York

IBC
Engineering P.C.
ROCHESTER • BUFFALO
MECHANICAL • ELECTRICAL
COMMUNICATIONS
3445 WINTON PLACE, SUITE 219
ROCHESTER, NY 14623
Phone: 585.292.1590
Fax: 585.292.1592
www.ibceng.com

SUNY ECC NORTH CAMPUS KITTINGER HALL BOILER ROOM UPGRADES (REBID)

Owner
COUNTY OF ERIE

Owner Project Number
2025-956-02

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED ARCHITECT OR PROFESSIONAL ENGINEER TO ALTER ANY ITEM ON THIS DOCUMENT IN ANY WAY. ANY LICENSEE WHO ALTERS THIS DOCUMENT IS REQUIRED BY LAW TO AFFIX HIS OR HER SEAL AND THE NOTATION "ALTERED BY" FOLLOWED BY HIS OR HER SIGNATURE AND SPECIFIC DESCRIPTION OF THE ALTERATIONS.

COPYRIGHT © 2023
IBC ENGINEERING P.C.

ISSUED FOR REBID - 10/26/2026

Revisions

No.	Date	Description

Title
ELECTRICAL SCHEDULES

Project Number
22017

Date
9/8/26

Sheet
K E600

CONTROL/SYMBOLS LEGEND

SYMBOL	DESCRIPTION
BI #	BINARY INPUT (GENERAL)
BO #	BINARY OUTPUT (GENERAL)
AI #	ANALOG INPUT (GENERAL)
AO #	ANALOG OUTPUT (GENERAL)
A	ALARM
S	STATUS
FS	FLOW SWITCH
DP	DIFFERENTIAL PRESSURE
R	RELAY
WFS	WATER FLOW SWITCH
E	ELECTRIC ACTUATOR
PN	PNEUMATIC ACTUATOR
EP	ELECTRIC / PNEUMATIC SWITCH OR RELAY
PE	PNEUMATIC / ELECTRIC SWITCH OR RELAY
CT	CURRENT TRANSDUCER
O/C	OPEN/CLOSE
E/D	ENABLE/DISABLE
TS	TEMPERATURE SENSOR (DUCT OR PIPE)
HS	HUMIDITY SENSOR (DUCT / AHU MOUNTED)
FT	FLOW TRANSMITTER
P	STATIC PRESSURE TRANSMITTER
EPT	ELECTRIC / PNEUMATIC TRANSDUCER
EET	ELECTRONIC / ELECTRIC TRANSDUCER
FZ	FREEZE - STAT
M	MAIN CONTROL AIR (TEMP. CONTROL)
ES	END SWITCH
FM	FLOW METER (HYDRONIC)
CO2	CARBON DIOXIDE TRANSMITTER
O2	OXYGEN SENSOR
COM	NETWORK COMMUNICATIONS INTERFACE
MOD	MODULATING
CAP	CAPACITY FEEDBACK
SC	SPEED CONTROL
DL	DEMAND LIMITING
MB	ASD MANUAL BYPASS
REF	REFRIGERANT DETECTOR
	ELECTRICAL INTERFACE
ASD	ADJUSTABLE SPEED DRIVE
ECM	EC MOTOR
MS	MOTOR STARTER
BDD	BACKDRAFT DAMPER
S	SPACE TEMPERATURE SENSOR
OS	OCCUPANCY SENSOR
H	SPACE HUMIDITY SENSOR
P	SPACE DIFFERENTIAL PRESSURE SENSOR
T	THERMOSTAT
T_x	THERMOSTAT WITH GUARD
C	CARBON DIOXIDE OR DCV SENSOR
DSD	DUCT SMOKE DETECTOR
	PROBE SENSOR (DUCT)
	AVERAGING SENSOR (DUCT)
	FAN OR BASE-MOUNTED PUMP
	INLINE PUMP
X / Y	COIL (X,Y) H,C = HEATING COIL C,C = COOLING COIL D,X = DIRECT EXPANSION COIL G,B = GAS BURNER H,G = HOT GAS REHEAT COIL
	FILTER BANK
	DAMPER (OPPOSED BLADE)
	DAMPER (PARALLEL BLADE)
H	HUMIDIFIER DISPERSION GRID/TUBE
	CONTROL VALVE - 2 WAY
	CONTROL VALVE - 3 WAY
	PIPE WELL

ABBREVIATIONS AND TAGS

SYMBOL	DESCRIPTION
(E)	EXISTING
AD	ACCESS DOOR
AFF	ABOVE FINISHED FLOOR
AFUE	ANNUAL FUEL UTILIZATION EFFICIENCY
APD	AIR PRESSURE DROP
AFF	ABOVE FINISHED FLOOR
ARCH	ARCHITECT
ASD	ADJUSTABLE SPEED DRIVE
AWT	AVERAGE WATER TEMPERATURE
BOD	BOTTOM OF DUCT (ELEVATION)
BHP	BRAKE HORSEPOWER
BTU	BRITISH THERMAL UNIT
BTUH	BTU PER HOUR
CFM	CUBIC FEET PER MINUTE
CL	CENTER LINE
CMS	COMBINATION MOTOR STARTER
COP	COEFFICIENT OF PERFORMANCE
DAT	DISCHARGE AIR TEMPERATURE
DB	DRYBUILB AIR TEMPERATURE
DW	DOUBLE WALL
DIA	DIAMETER
EA	EXHAUST AIR
EAT	ENTERING AIR TEMPERATURE
EER	ENERGY EFFICIENCY RATIO
EC	ELECTRICAL CONTRACTOR
ERL	EXISTING TO BE RELOCATED
ESP	EXTERNAL STATIC PRESSURE
EWT	ENTERING WATER TEMPERATURE
FEI	FAN ENERGY INDEX
FLA	FULL LOAD AMPS
FPM	FEET PER MINUTE
GAL	GALLONS
GC	GENERAL CONTRACTOR
GPM	GALLONS PER MINUTE
HM	HAZARDOUS MATERIAL CONTRACTOR
HP	HORSEPOWER
IEER	INTEGRATED ENERGY EFFICIENCY RATIO
INWC	INCHES WATER COLUMN
KW	KILOWATT
KWH	KILOWATT HOUR
LAT	LEAVING AIR TEMPERATURE
MAN	MANUAL MOTOR STARTER WITH RELAY
MAT	MIXED AIR TEMPERATURE
MBH	1,000 BTUH
MC	MECHANICAL CONTRACTOR
MCA	MINIMUM CIRCUIT AMPACITY
MOP	MAXIMUM OVERCURRENT PROTECTION
NC	NORMALLY CLOSED
NC	NOISE CRITERIA
NO	NORMALLY OPEN
NTS	NOT TO SCALE
OA	OUTSIDE AIR
OAT	OUTSIDE AIR TEMPERATURE
PC	PLUMBING CONTRACTOR
PH	PHASE
PSI	POUNDS PER SQUARE INCH
PSIA	PSI ATMOSPHERIC
PSIG	PSI GAUGE
RA	RETURN AIR
RAT	RETURN AIR TEMPERATURE
REA	RELIEF AIR
RH	RELATIVE HUMIDITY
RPM	REVOLUTIONS PER MINUTE
SA	SUPPLY AIR
SAT	SUPPLY AIR TEMPERATURE
SEER	SEASONAL EER
SMBH	SENSIBLE MBH
TC	TEMPERATURE CONTROL
TCC	TEMPERATURE CONTROL CONTRACTOR
TMBH	TOTAL MBH
TSP	TOTAL STATIC PRESSURE
TYP	TYPICAL
V	VOLTAGE
WB	WETBULB AIR TEMPERATURE
WPD	WATER PRESSURE DROP

PIPING SYSTEMS LEGEND

SYMBOL	DESCRIPTION
	EXISTING PIPING
	NEW PIPING
	REMOVAL / DEMOLISHED PIPING
S	AIR SEPARATOR
AV	AIR VENT - AUTOMATIC
MV	AIR VENT - MANUAL
	BALANCE VALVE
	BALL VALVE
	BUTTERFLY VALVE
	CHECK VALVE
	CONTROL VALVE TWO WAY
	CONTROL VALVE THREE WAY
	CONTROL VALVE TWO WAY (PNEUMATIC)
	CONTROL VALVE THREE WAY (PNEUMATIC)
	GATE VALVE
	GLOBE VALVE
	PRESSURE REDUCING VALVE
	PRESSURE RELIEF VALVE
	ANGLE VALVE
	STRAINER WITH BLOW DOWN
	TRIPLE DUTY VALVE
PS	PRESSURE SWITCH
FS	FLOW SWITCH
TS	TEMPERATURE SWITCH
	PIPE WELL
	PRESSURE GAUGE
	THERMOMETER
TW	THERMOMETER/SENSOR PORT
	PIPE CAP OR PLUG
	PIPE BREAK OR CONTINUATION
	REDUCER
	FLOW DIRECTION ARROW
	FLEXIBLE CONNECTION
	TEE - BOTTOM CONNECTION
	TEE - TOP CONNECTION
	ELBOW - UP, DOWN
	UNION
	SPOOL PIECE
	PIPE GUIDE
	PIPE ANCHOR - INTER.
	PIPE ANCHOR - MAIN
	INLINE PUMP
RPZ	BACKFLOW PREVENTER
	THERMOSTATIC TRAP
	FLOAT AND THERMOSTATIC TRAP
	BUCKET TRAP
	THERMODYNAMIC TRAP

EQUIPMENT ABBREVIATIONS

SYMBOL	DESCRIPTION
ACCU	AIR COOLED CONDENSING UNIT
AHU	AIR HANDLING UNIT
AS	AIR SEPARATOR
ASHP	AIR-SOURCE HEAT PUMP
B	BOILER
BP	BOILER PUMP
BT	BUFFER TANK
CB	CHILLED BEAM
CC	COOLING COIL
CH	CHILLER
CT	COOLING TOWER
CUH	CABINET UNIT HEATER
CONV	CONVECTOR
CV	CONTROL VALVE
DOAS	DEDICATED OUTDOOR AIR SYSTEM
EAV	EXHAUST AIR VALVE
EBB	ELECTRIC BASEBOARD
EDC	ELECTRIC DUCT COIL
EF	EXHAUST FAN
EH	EXHAUST HOOD
ERU	ENERGY RECOVERY UNIT
ERV	ENERGY RECOVER VENTILATOR
ET	EXPANSION TANK
EVAP	EVAPORATOR UNIT
EWH	ELECTRIC WALL HEATER
FAF	FORCED AIR FURNACE
F	FAN
FCU	FAN COIL UNIT
FTR	FIN TUBE RADIATION
GMU	GLYCOL MAKE-UP UNIT
H	HUMIDIFIER
HC	HEATING COIL
HP	HEAT PUMP
HRC	HEAT RECOVERY COIL
HRU	HEAT RECOVERY UNIT
IU	INDUCTION UNIT
KEF	KITCHEN EXHAUST FAN
LV	LOUVER
MAU	MAKE-UP AIR UNIT
P	PUMP
PH	PENTHOUSE
PHC	PREHEAT COIL
RAV	RETURN AIR VALVE
RCP	RADIANT CEILING PANEL
REF	RELIEF FAN
RF	RETURN FAN
RGD	REGISTER, GRILLE, AND DIFFUSER
RH	RELIEF HOOD
RHC	REHEAT COIL
RTH	RADIANT TUBE HEATER
RTU	ROOFTOP UNIT
SAV	SUPPLY AIR VALVE
SF	SUPPLY FAN
SS	SPLIT SYSTEM
TU	TERMINAL UNIT
UH	UNIT HEATER
VAV	VARIABLE VOLUME TERMINAL UNIT
VRF	VARIABLE REFRIGERANT FLOW TERMINAL UNIT
WSHP	WATER SOURCE HEAT PUMP

PIPING ABBREVIATIONS

SYMBOL	DESCRIPTION
—(E)—	EXISTING PIPING
—ATV—	ATMOSPHERIC VENT
—D—	DRAIN
—DCW—	DOMESTIC COLD WATER
—FILL—	FILL LINE
—HWR—	HOT WATER RETURN
—HWS—	HOT WATER SUPPLY
—IW—	INDIRECT WASTE
—MU—	MAKE-UP WATER
—NG—	NATURAL GAS

MISCELLANEOUS

SYMBOL	DESCRIPTION
	REFERENCE TO DRAWING NOTE
	REFERENCE TO REMOVAL NOTE
	CONNECTION TO EXISTING
	REMOVE TO THIS POINT
	DETAIL/PLAN REFERENCE SYMBOL

DUCTWORK LEGEND

SYMBOL	DESCRIPTION
	EXISTING DUCTWORK
	REMOVAL / DEMOLISHED DUCTWORK
	NEW DUCTWORK
	DUCT SECTION - SUPPLY
	DUCT SECTION - RETURN OR EXHAUST
A" B"	WIDTH A" x DEPTH B"
	DUCT TRANSITION
A"ø	ROUND DUCT IN INCHES
A"xB"ø	FLAT OVAL DUCT IN INCHES
A"xB" DW	DOUBLE WALL RECTANGULAR DUCT IN INCHES
A"ø DW	DOUBLE WALL ROUND DUCT IN INCHES
A"xB"ø DW	DOUBLE WALL FLAT OVAL DUCT IN INCHES
	ACOUSTIC / THERMAL LINING (x" L)
	FLEXIBLE DUCTWORK
R	RISE IN DUCT
D	DROP IN DUCT
	RETURN OR EXHAUST REGISTER OR GRILLE
	SUPPLY DIFFUSER WITH FLEX DUCT CONNECTION
	SUPPLY DIFFUSER WITH PLENUM BOX
	SUPPLY DIFFUSER WITH HARD DUCT CONNECTION
L	VOLUME DAMPER
FD	FIRE DAMPER
SD	SMOKE DAMPER
CFD	COMBINATION FIRE / SMOKE DAMPER
FC	FLEXIBLE CONNECTION
AVD	AUTOMATIC AIR DAMPER (OPPOSED BLADE)
AVD	AUTOMATIC AIR DAMPER (PARALLEL BLADE)
	AIRFLOW DIRECTION ARROW
REG GRD DIF CFM	REGISTER, GRILLE, DIFFUSER TAG TU TYPE NECK = NECK SIZE
VAV TU 1 MIN CFM	AIR TERMINAL UNIT TAG TU TYPE SCHEDULED MAXIMUM CFM MIN = MINIMUM CFM

GENERAL HVAC NOTES:

A. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO FIELD VERIFY EXISTING CONDITIONS WITHIN THE BUILDING PRIOR TO COMMENCEMENT OF ALL DEMOLITION AND NEW WORK.

B. DEMOLITION DRAWINGS SHOW IN GENERAL MAJOR EQUIPMENT, PIPING AND DUCTWORK REMOVALS.

C. THE INTENT IS NOT TO IDENTIFY ALL MISCELLANEOUS PIPING, PIPING ACCESSORIES, DUCTWORK ACCESSORIES, SUPPORTS, CONTROLS, CONTROL ACCESSORIES, CONTROL WIRING AND CONDUIT, AND PNEUMATIC CONTROL TUBING AND ACCESSORIES TO BE DISCONNECTED AND REMOVED, BUT IS THE REQUIREMENT UNDER THIS CONTRACT. NO EQUIPMENT, PIPING OR DUCTWORK SHALL BE ABANDONED IN PLACE, UNLESS OTHERWISE NOTED ON THE DRAWINGS.

D. ALL EQUIPMENT INDICATED TO BE TURNED OVER TO THE OWNER SHALL BE DISCONNECTED AND REMOVED FROM THE EXISTING SYSTEMS AND DELIVERED (INCLUDING LOADING AND UNLOADING) TO A STORAGE AREA WITHIN THE BUILDING AS SELECTED BY THE OWNER. IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPAIR ANY EQUIPMENT DAMAGED DURING REMOVAL AND DELIVERY FOR STORAGE. ANY DAMAGE TO EQUIPMENT PRIOR TO DISCONNECTING SHOULD BE REPORTED TO THE OWNER'S REPRESENTATIVE. IF NOT REPORTED, THE CONTRACTOR TAKES FULL RESPONSIBILITY FOR REPAIRS TO THE EQUIPMENT.

E. ALL DUCTWORK, PIPING AND CONDUIT PENETRATIONS THROUGH RATED WALLS OR FLOORS SHALL BE PROVIDED WITH FIRE/SMOKE STOPPING'S PER SPECIFICATION. REFER TO THE CODE ANALYSIS OR LIFE SAFETY DRAWINGS FOR ALL RATED WALL LOCATIONS. ALL FLOORS SHALL BE CONSIDERED RATED.

F. UNLESS SHOWN ON THE ARCHITECTURAL DRAWINGS, IT IS THE RESPONSIBILITY OF THIS CONTRACTOR TO PATCH AND FINISH ALL EXISTING DUCTWORK OR PIPE PENETRATIONS THROUGH FLOORS, ROOFS, INTERIOR WALLS AND EXTERIOR WALLS AFTER DEMOLITION TO MATCH EXISTING INCLUDING EQUAL FIRE RATINGS.

G. IT IS NOT THE INTENT OF THE DRAWINGS TO SHOW ALL AIR VENTS OR DRAINS ON THE PIPING SYSTEMS THROUGHOUT THE BUILDING. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE AIR VENTS AT ALL SYSTEM HIGH POINTS AND AT AREAS WITHIN THE PIPING SYSTEMS THAT COULD ACCUMULATE OR TRAP AIR WHICH WOULD PREVENT PROPER VENTING OR OPERATION OF THE SYSTEMS. DRAINS SHALL BE PROVIDED AT ALL LOW POINTS WITHIN THE PIPING SYSTEM TO FACILITATE DRAINING OF THE SYSTEM COMPLETELY.

H. ALL NEW PENETRATIONS SHALL BE PROVIDED FOR INSTALLATION OF MECHANICAL SYSTEMS INCLUDING, BUT NOT LIMITED TO, EQUIPMENT, DUCTWORK, PIPING, ETC.

I. THIS CONTRACTOR SHALL BE RESPONSIBLE TO REVIEW ALL ABATEMENT SERIES DRAWINGS FOR THEIR SCOPE OF WORK TO RE-INSULATE ALL MECHANICAL SYSTEM AFTER ABATEMENT.

J. ALL CONTROLS CALLED FOR REMOVAL SHALL BE COMPLETE, INCLUDING PNEUMATIC AIR LINE REMOVAL BACK TO MAIN AIR SOURCE. ALL LINES SHALL BE CAPPED AIR TIGHT. PROVIDE AIR TEST AT COMPLETION OF THE WORK. SUBMIT TEST RESULTS AS PART OF CLOSEOUT DOCUMENTATION.

K. ALL ROOM THERMOSTATS AND TEMPERATURE SENSORS CALLED FOR REMOVAL SHALL BE COMPLETE, BACK TO SOURCE. PATCHING AND PAINTING OF WALLS SHALL MATCH EXISTING.

L. PRIOR TO DEMOLITION OF ANY HVAC EQUIPMENT, REMOVE ALL ASSOCIATED CONTROLS. WHICH INCLUDES REMOVAL OF CONTROLLERS, CONTROL WIRING BACK TO SOURCE, DEPROGRAMMING OF ALL CONTROL POINTS AND GRAPHICAL USER INTERFACE ASSOCIATED WITH THESE DEVICES FROM THE SYSTEM. PROVIDE ALL WORK REQUIRED TO MAINTAIN CONTINUITY OF EXISTING COMMUNICATION NETWORKS FOR REMAINING CONTROL DEVICES. COORDINATE ALL CONTROL DISCONNECT WORK WITH FACILITIES.

M. COORDINATE ALL SHUT DOWNS WITH OWNER PRIOR TO CONSTRUCTION.

SUNY ERIE
State University of New York

IBC
Engineering P.C.
ROCHESTER • BUFFALO
MECHANICAL • ELECTRICAL
COMMUNICATIONS
3445 WINTON PLACE, SUITE 219
ROCHESTER, NY 14623
Phone: 585.292.1590
Fax: 585.292.1592
www.ibceng.com

SUNY ECC NORTH CAMPUS KITTINGER HALL BOILER ROOM UPGRADES (REBID)

Owner
COUNTY OF ERIE
Owner Project Number
2025-956-02

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED ARCHITECT OR PROFESSIONAL ENGINEER TO ALTER ANY ITEM ON THIS DOCUMENT IN ANY WAY. ANY LICENSE WHO ALTERS THIS DOCUMENT IS REQUIRED BY LAW TO AFFIX HIS OR HER SEAL AND THE NOTATION "ALTERED BY" FOLLOWED BY HIS OR HER SIGNATURE AND SPECIFIC DESCRIPTION OF THE ALTERATIONS.

COPYRIGHT © 2023
IBC ENGINEERING P.C.

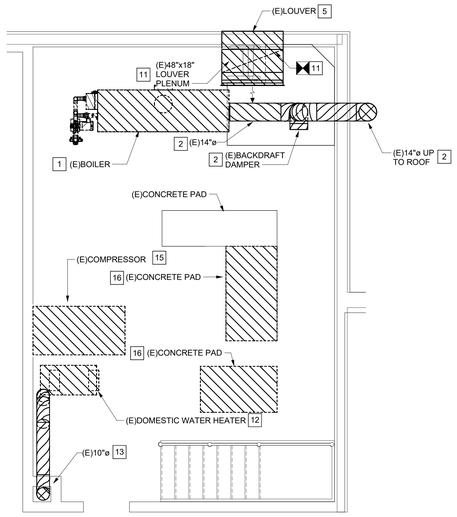
ISSUED FOR REBID - 10/26/2026

Revisions

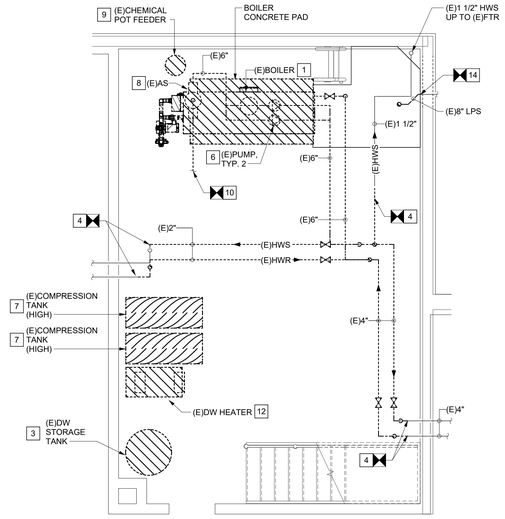
No.	Date	Description

Title
GENERAL NOTES & LEGENDS - HVAC

Project Number
22017
Date
9/8/26
Sheet
K H000



1 ENLARGED BOILER ROOM PLAN - HVAC DUCTWORK DEMOLITION
1/4" = 1'-0"



2 ENLARGED BOILER ROOM PLAN - HVAC PIPNG DEMOLITION
1/4" = 1'-0"



FIGURE 1
3

REMOVAL NOTES:

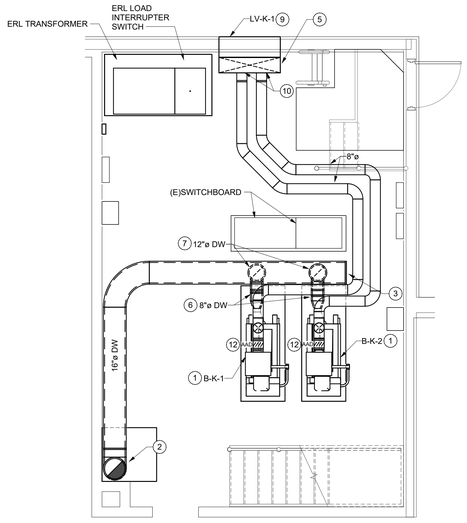
1. DISCONNECT AND REMOVE BOILER AND ASSOCIATED 4" CONCRETE SUPPORT PAD COMPLETE.
2. DISCONNECT AND REMOVE EXHAUST FLUE IN ITS ENTIRETY FROM BOILER TO ROOF DISCHARGE. PATCH WALL TO MATCH EXISTING.
3. REFER TO DRAWING K P101 FOR DOMESTIC WATER STORAGE TANK REMOVAL.
4. DISCONNECT AND REMOVE EXISTING HWS/HWR PIPING TO POINT INDICATED AND PREPARE PIPING FOR RECONNECTION IN NEW WORK PHASE.
5. DISCONNECT AND REMOVE EXISTING LOUVER. TURN OVER TO BUILDING OWNER.
6. DISCONNECT AND REMOVE EXISTING HOT WATER CIRCULATING PUMP, CONTROLS, AND SUPPORTS.
7. DISCONNECT AND REMOVE EXISTING CEILING SUSPENDED COMPRESSION TANK AND SUPPORTS.
8. DISCONNECT AND REMOVE EXISTING AIR SEPARATOR, INSULATION, PIPE FITTINGS, HANGERS AND SUPPORTS DOWN TO BOILER CONNECTION.
9. DISCONNECT AND REMOVE EXISTING CHEMICAL POT FEEDER AND ASSOCIATED PIPING. REFER TO DRAWING K P101.
10. REFER TO DRAWING K P101 FOR CONTINUATION OF DOMESTIC COLD WATER PIPING DEMOLITION.
11. DISCONNECT AND REMOVE LOUVER PLENUM, TWO (2) AUTOMATIC AIR DAMPERS, CONTROLS AND SUPPORTS COMPLETE.
12. REFER TO DRAWING K P101 FOR DOMESTIC WATER HEATER REMOVAL.
13. DISCONNECT AND REMOVE EXISTING DOMESTIC WATER HEATER FLUE, HANGERS, SUPPORTS AND APPURTENANCES UP THROUGH SECOND FLOOR TO ROOF ABOVE IN ITS ENTIRETY. PATCH AND SEAL BOILER ROOM CHASE TO MATCH EXISTING WHERE FLUE REMOVED. REFER TO FIGURE 1 THIS DRAWING FOR EXISTING DISCHARGE.
14. DISCONNECT AND REMOVE EXISTING ABANDONED 8" LOW PRESSURE STEAM LINE, INSULATION AND FITTINGS BACK TO FOUNDATION WALL AND CAP. DISCONNECT AND REMOVE ALL ABANDONED CONDENSATE PIPING. FOR BID PURPOSES ASSUME APPROXIMATELY 10 FT OF 2" CONDENSATE PIPING. ALL PIPING IS LOCATED WITHIN EXISTING SUMP PIT ACCESSIBLE BY LADDER.
15. DISCONNECT AND REMOVE EXISTING PNEUMATIC AIR COMPRESSOR AND 4" CONCRETE SUPPORT PAD COMPLETE.
16. REMOVE EXISTING ABANDONED HOUSEKEEPING PAD COMPLETELY. VERIFY DIMENSIONS IN FIELD.

GENERAL SHEET NOTES:

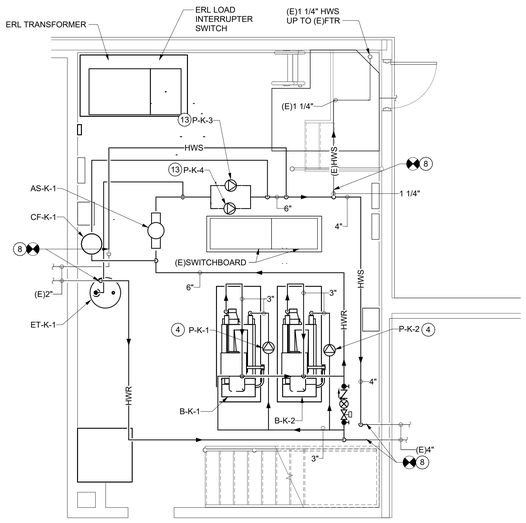
A. REFER TO DETAIL 9 DRAWING K S501 FOR EQUIPMENT HOUSEKEEPING PAD DETAIL.

DRAWING NOTES:

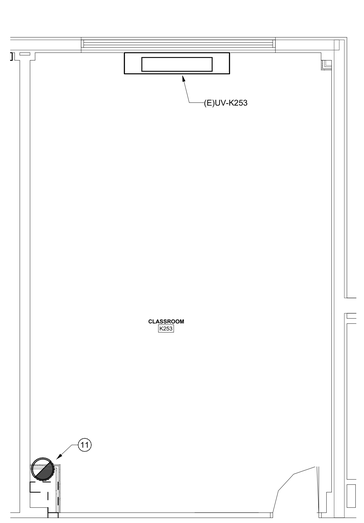
1. PROVIDE BOILERS B-K-1 AND B-K-2 AS INDICATED. PROVIDE 6" CONCRETE HOUSEKEEPING PAD.
2. ROUTE 16"ø ID (18"ø OD) BOILER EXHAUST FLUE UP THROUGH FLOOR ABOVE.
3. 16"ø ID (18"ø OD) BOILER EXHAUST FLUE MUST BE INSTALLED A MINIMUM OF 8" CLEAR OF EXISTING SWITCHBOARD GEAR TO ALLOW FOR NEW PULLBOX INSTALLATION. REFER TO DRAWING K E401 DETAIL 2 DRAWING NOTE 6.
4. PROVIDE BOILER HOT WATER LOOP PUMP P-K-1 AND P-K-2, CONTROLS AND SUPPORTS. SUSPEND FROM STRUCTURE ABOVE.
5. PROVIDE 12" DEEP PLENUM BOX TO MATCH LENGTH AND WIDTH OF INTAKE LOUVER.
6. INSTALL MANUFACTURER FURNISHED FLUE DAMPER IN 8" ø ID FLUE DUCT TO BOILER CONNECTION. DAMPER TO BE BALANCED BY MANUFACTURERS STARTUP PERSONNEL.
7. 12"ø ID (14"ø OD) RISER FROM BOILER CONNECTION TO 16" ø ID (18"ø OD) EXHAUST FLUE MAIN ABOVE.
8. CONNECT NEW HWS/HWR PIPING TO EXISTING AT POINT INDICATED. PROVIDE FITTINGS AS REQUIRED.
9. PROVIDE LOUVER AND INSTALL IN CENTER WINDOW FRAME. REFER TO DRAWING K A103.
10. CONNECT 8" ROUND BOILER INTAKE TO 69"x48"x12" INTAKE PLENUM. PROVIDE BELLMOUTH FITTING INTO PLENUM BOX.
11. 16"Ø ID (18"ø OD) BOILER EXHAUST FLUE UP TO ROOF ABOVE. FLUE TO BE LOCATED ENTIRELY WITHIN NEW CHASE. REFER TO DRAWING KA103 DETAIL 1 FOR INSIDE CLEAR DIMENSIONS OF NEW CHASE.
12. PROVIDE MANUFACTURERS FREEZE PROTECTION DAMPER.
13. PROVIDE BUILDING HOT WATER SUPPLY LOOP PUMP P-K-3 AND P-K-4, CONTROLS AND SUPPORTS. SUSPEND FROM STRUCTURE ABOVE.



4 ENLARGED BOILER ROOM PLAN - HVAC DUCTWORK
1/4" = 1'-0"

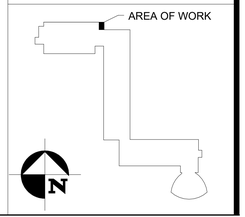


5 ENLARGED BOILER ROOM PLAN - HVAC PIPING
1/4" = 1'-0"



6 SECOND FLOOR PLAN - HVAC
1/4" = 1'-0"

KEY PLAN



SUNY ERIE
State University of New York

IBC
Engineering P.C.
ROCHESTER • BUFFALO
MECHANICAL • ELECTRICAL
COMMUNICATIONS
3445 WINTON PLACE, SUITE 219
ROCHESTER, NY 14623
Phone: 585.292.1590
Fax: 585.292.1592
www.ibceng.com

SUNY ECC NORTH CAMPUS KITTINGER HALL BOILER ROOM UPGRADES (REBID)

Owner
COUNTY OF ERIE
Owner Project Number
2025-956-02

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED ARCHITECT OR PROFESSIONAL ENGINEER TO ALTER ANY ITEM ON THIS DOCUMENT IN ANY WAY. ANY LICENSE WHO ALTERS THIS DOCUMENT IS REQUIRED BY LAW TO AFFIX HIS OR HER SEAL AND THE NOTATION "ALTERED BY" FOLLOWED BY HIS OR HER SIGNATURE AND SPECIFIC DESCRIPTION OF THE ALTERATIONS.

COPYRIGHT © 2023
IBC ENGINEERING P.C.

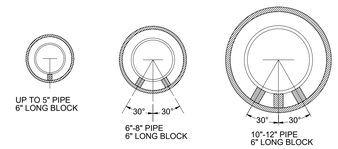
ISSUED FOR REBID - 10/26/2026

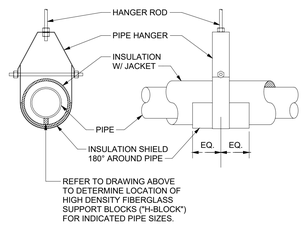
Revisions

No.	Date	Description

Title
ENLARGED BOILER ROOM PLANS

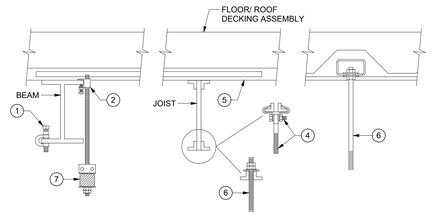
Project Number
22017
Date
9/8/26
Sheet
K H401





NOTES:
1. "H-BLOCK" BY ICA, INC. OR APPROVED EQUAL.

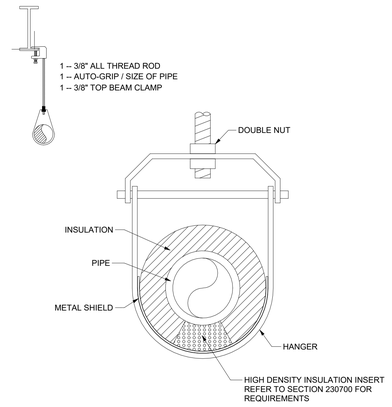
1 INSULATION SHIELD & BLOCKING DETAIL
NTS



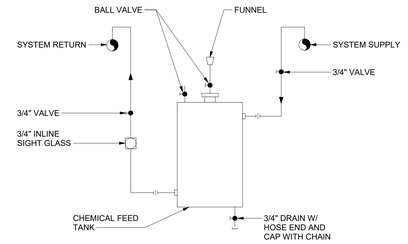
GENERAL NOTES:
A. PROVIDE LINKED EYELETS WITH STUDS AT CONNECTION TO SLOPING STRUCTURE WITH PITCH OF 1 IN 2 OR GREATER. BENDING OF HANGER RODS NOT ALLOWED.

DRAWING NOTES:
1. BOTTOM FLANGED MOUNTED "C" CLAMP WITH SET SCREW, LOCKNUT, AND RETAINING STRAP (FOR USE ON BEAMS ONLY, NOT ALLOWED ON JOISTS).
2. TOP FLANGED MOUNTED "C" CLAMP WITH SET SCREW AND LOCKNUT (FOR USE ON BEAMS ONLY, NOT ALLOWED ON JOISTS).
3. STEEL PLATE WASHER WITH DOUBLE NUT.
4. CONCENTRIC BEAM CLAMP WITH THREADED, WELDED EYEROD. FOR USE WITH JOIST AND BEAMS.
5. CHANNEL SPANNING BETWEEN BEAMS AND/OR JOISTS IN DECKING "CAVITY". SET ON AND SECURE TO BEAMS AND JOISTS.
6. STEEL ALL-THREAD RODS.
7. VIBRATION ISOLATION DEVICE ASSEMBLY FOR FANS, AIR-HANDLING UNITS, FAN COIL UNITS, ETC.

2 HANGERS SUPPORT FASTENING DETAIL
NTS



3 PIPE HANGER DETAIL
NTS



4 WATER TREATMENT FEEDER DETAIL
NTS

WHERE PIPING IS LESS THAN 2", PROVIDE A CHECK VALVE, FLOW BALANCER VALVE AND SHUT-OFF WHERE TRIPLE DUTY VALVE IS SHOWN.

5 INLINE PUMP DETAIL
NTS

6 COMBUSTION AIR DUCT DETAIL
NTS

SUNY ERIE
State University of New York

IBC Engineering P.C.
ROCHESTER • BUFFALO
MECHANICAL • ELECTRICAL
COMMUNICATIONS
3445 WINTON PLACE, SUITE 219
ROCHESTER, NY 14623
Phone: 585.292.1590
Fax: 585.292.1592
www.ibceng.com

SUNY ECC NORTH CAMPUS KITTINGER HALL BOILER ROOM UPGRADES (REBID)

Owner
COUNTY OF ERIE
Owner Project Number
2025-956-02

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED ARCHITECT OR PROFESSIONAL ENGINEER TO ALTER ANY ITEM ON THIS DOCUMENT IN ANY WAY. ANY LICENSE WHO ALTERS THIS DOCUMENT IS REQUIRED BY LAW TO AFFIX HIS OR HER SEAL AND THE NOTATION "ALTERED BY" FOLLOWED BY HIS OR HER SIGNATURE AND SPECIFIC DESCRIPTION OF THE ALTERATIONS.

COPYRIGHT © 2023
IBC ENGINEERING P.C.

ISSUED FOR REBID - 10/26/2026

Revisions

No.	Date	Description

Title
HVAC DETAILS

Project Number
22017
Date
9/8/26
Sheet
K H500

BOILER SCHEDULE - GAS FIRED CONDENSING - KITTINGER HALL

TAG	LOCATION	SERVICE	TYPE	FLUID	INPUT (MBH)	OUTPUT (MBH)	AHRI THERMAL	EWT (°F)	LWT (°F)	TURN DOWN	WPD (FT)	MIN PRESSURE @ REGULATOR (IN)	AIR INLET SIZE (IN)	VENT SIZE (IN)	UNIT ELECTRIC DATA V	PH	MCA	E-POWER	WEIGHT (LBS)	DESIGN EQUIPMENT	REMARKS
B-K-1	BOILER ROOM	HEATING HOT WATER LOOP	CAST IRON	WATER	1,999	1,799		100.0	140.0	10 : 1	0.72	3.0	8	6	230	1	24.7	YES	2,725	ATH KN-20	1, 2
B-K-2	BOILER ROOM	HEATING HOT WATER LOOP	CAST IRON	WATER	1,999	1,799		100.0	140.0	10 : 1	0.72	3.0	8	6	230	1	24.7	YES	2,725	ATH KN-20	1, 2

REMARKS

1. PROVIDE WITH 4" CONCRETE HOUSEKEEPING PAD.
2. BASIS OF DESIGN BOILER HAS A 6" ROUND REDUCER FOR THE FLUE CONNECTION. REMOVE REDUCER TO CONNECT 8" ROUND FLUE VENT TO BOILER.

PUMP SCHEDULE - KITTINGER HALL

TAG	LOCATION	SERVICE	FLOW (GPM)	WPD (FT)	MAX WWP	RPM	BHP	PEI	PUMP TYPE	MOTOR DATA HP	RPM	V	PH	STARTER	DESIGN EQUIPMENT	REMARKS
P-K-1	BOILER ROOM	B-K-1 CIRCULATING LOOP	135.0	15.0	175	1650	0.77	0.56	INLINE	1	1,800	208	3	PKG ECM	BELL & GOSSETT e-90ECM 3AAB	1
P-K-2	BOILER ROOM	B-K-2 CIRCULATING LOOP	135.0	15.0	175	1650	0.77	0.56	INLINE	1	1,800	208	3	PKG ECM	BELL & GOSSETT e-90ECM 3AAB	1
P-K-3	BOILER ROOM	SECONDARY BUILDING HEATING LOOP	275.0	80.0	175	1724	7.44	0.47	INLINE	10	1,800	208	3	ASD BY EC	BELL & GOSSETT e-80 3x3x9.5C	1
P-K-4	BOILER ROOM	SECONDARY BUILDING HEATING LOOP	275.0	80.0	175	1724	7.44	0.47	INLINE	10	1,800	208	3	ASD BY EC	BELL & GOSSETT e-80 3x3x9.5C	1

REMARKS

LOUVER SCHEDULE - KITTINGER HALL

TAG	LOCATION	SERVICE	AIRFLOW (CFM)	APD (IN WC)	FREE AREA (SQFT)	FACE VEL. (FPM)	BIRD SCREEN	SIZE (IN) LENGTH	HEIGHT	DEPTH	DESIGN EQUIPMENT	REMARKS
LV-K-1	BOILER ROOM	COMBUSTION AIR	1,400	0.02	10.4	134.6	YES	48.0	69.0	5.0	GREENHECK EHH-501-48x69	1

REMARKS

1. INSTALL IN EXISTING WINDOW FRAMING. FIELD VERIFY ALL SIZES PRIOR TO RELEASE.

EXPANSION TANK SCHEDULE - KITTINGER HALL

TAG	LOCATION	SERVICE	ACCEPTANCE VOLUME (GAL)	TANK VOLUME (GAL)	DIMENSIONS (IN) DIA	HEIGHT	CONNECTION	DESIGN EQUIPMENT	REMARKS
ET-K-1	BOILER ROOM	HOT WATER SYSTEM	132	132	30	57	3/4	BELL & GOSSETT B500	1

REMARKS

1. PROVIDE WITH 4" CONCRETE HOUSEKEEPING PAD.

AIR SEPARATOR SCHEDULE - KITTINGER HALL

TAG	LOCATION	SERVICE	FLOWRATE (GPM)	P.D. (FT)	CONNECTION SIZE (IN)	DESIGN EQUIPMENT	REMARKS
AS-K-1	BOILER ROOM	HOT WATER SYSTEM	275	2.60	4	BELL & GOSSETT R-4F	1

REMARKS

1. SUPPORT FROM STRUCTURE ABOVE PER APPROVED MANUFACTURER REQUIREMENTS.

SUNY ERIE
State University of New York

IBC
Engineering P.C.
ROCHESTER • BUFFALO
MECHANICAL • ELECTRICAL
COMMUNICATIONS
3445 WINTON PLACE, SUITE 219
ROCHESTER, NY 14623
Phone: 585.292.1590
Fax: 585.292.1592
www.ibceng.com

SUNY ECC NORTH CAMPUS KITTINGER HALL BOILER ROOM UPGRADES (REBID)

Owner
COUNTY OF ERIE
Owner Project Number
2025-956-02

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED ARCHITECT OR PROFESSIONAL ENGINEER TO ALTER ANY ITEM ON THIS DOCUMENT IN ANY WAY. ANY LICENSE WHO ALTERS THIS DOCUMENT IS REQUIRED BY LAW TO AFFIX HIS OR HER SEAL AND THE NOTATION "ALTERED BY" FOLLOWED BY HIS OR HER SIGNATURE AND SPECIFIC DESCRIPTION OF THE ALTERATIONS.

COPYRIGHT © 2023
IBC ENGINEERING P.C.

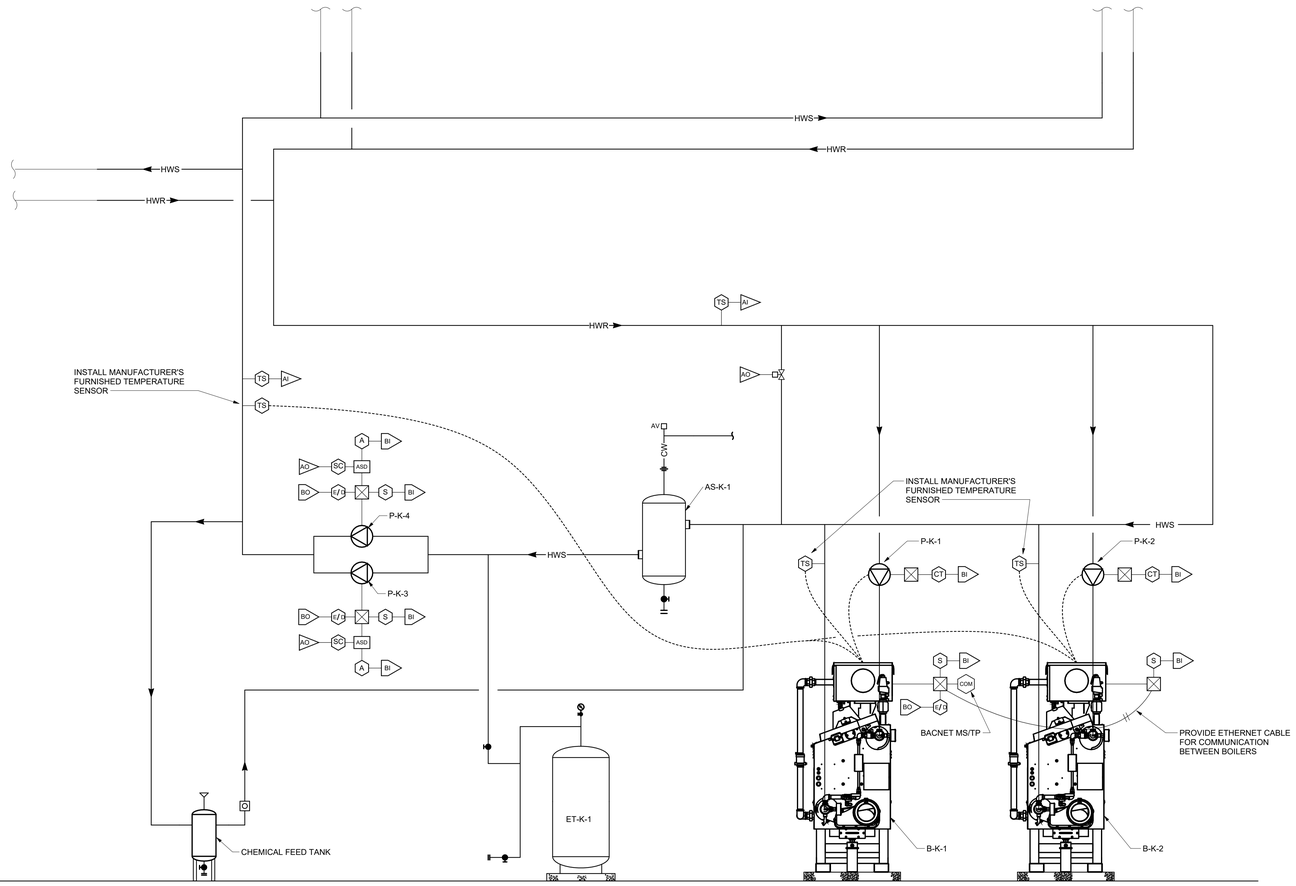
ISSUED FOR REBID - 10/26//2026

Revisions

No.	Date	Description

Title
HVAC SCHEDULES

Project Number
22017
Date
9/8/26
Sheet
K H600



HW HEATING CONTROL POINTS LIST	HARDWARE POINTS				SOFTWARE POINTS				NOTES
POINT NAME	BI	BO	AI	AO	AV	BV	TREND	ALARM DESCRIPTION	
BOILER B-K-1 SUPPLY TEMPERATURE					X				
BOILER B-K-2 SUPPLY TEMPERATURE					X				
BOILER B-K-1 RETURN TEMPERATURE					X				
BOILER B-K-2 RETURN TEMPERATURE					X				
BOILER B-K-1 ENABLE/DISABLE		X							
BOILER B-K-2 ENABLE/DISABLE						X			1
BOILER B-K-1 STATUS	X						X	BOILER FAILURE	
BOILER B-K-2 STATUS	X						X	BOILER FAILURE	
HOT WATER SUPPLY TEMPERATURE - MAIN			X						
HOT WATER RETURN TEMPERATRUE - MAIN			X						
PUMP P-K-1 STATUS	X								
PUMP P-K-2 STATUS	X								
PUMP P-K-3 ENABLE/DISABLE		X							
PUMP P-K-4 ENABLE/DISABLE		X							
PUMP P-K-3 SPEED CONTROL				X					
PUMP P-K-4 SPEED CONTROL				X					
PUMP P-K-3 STATUS	X								
PUMP P-K-4 STATUS	X								
PUMP P-K-3 ASD ALARM	X							PUMP ASD ALARM	
PUMP P-K-4 ASD ALARM	X							PUMP ASD ALARM	

NOTES:
1. BOILER B-K-2 SHALL BE ENABLED/DISABLED VIA ETHERNET COMMUNICATION WITH BOILER B-K-1.

SEQUENCE OF OPERATIONS

A. ON A CALL FOR HEATING PLANT OPERATION, THE SECONDARY PUMP P-K-3 OR P-K-4 SHALL BE ENABLED.

B. ON CONFIRMATION OF SECONDARY PUMP OPERATION, THE BOILER PLANT SHALL BE ENABLED TO CONTROL AND SEQUENCE USING THE RESIDENT BOILER CONTROL PACKAGE.

C. THE BOILER SHALL BE INTEGRATED TO THE BMS TO ALLOW THE FOLLOWING TO OCCUR:
   1. MONITOR THE BOILER SECONDARY HWS SENSOR
   2. PROVIDE THE BOILERS A CALCULATED HWS CONTROL SETPOINT. THIS SHALL BE CALCULATED ON THE BASIS OF OUTDOOR AIR RESET, INITIAL VALUES OF 180 DEGREES AT ZERO OUTDOOR AIR TEMPERATURE, 110 DEGREES AT 65 DEGREES OUTDOOR AIR TEMPERATURE.
   3. MONITOR THE MANUFACTURER HWS / HWR SENSORS AT THE INLET AND OUTLET OF EACH BOILER MODULE
   4. MONITOR THE ALARM STATUS OF EACH BOILER. RECEIPT OF ALARM SHALL PROVIDE NOTIFICATION ON THE OPERATOR WORKSTATION

D. MINIMUM FUNCTIONALITY OF BOILER RESIDENT SEQUENCING
   1. LEAD, LAG, AND PARALLEL MODULATION OF BOILER MODULES FOR CONTROL OF SECONDARY HWS TEMPERATURE (OPTION TO CONTROL FOR HWR TEMPERATURE).
   2. RUNTIME ROTATION OF BOILER MODULES.
   3. FAILURE BACKUP OF BOILER MODULES.
   4. CONTROL OF ASSOCIATED PRIMARY BOILER PUMP P-K-1 OR P-K-2 RESPECTIVELY.
   5. OPEN/CLOSE OF FREEZE PROTECTION DAMPER ON COMBUSTION AIR DUCT INLET TO BOILER.

E. ADDITIONAL SECONDARY PUMP CONTROL REQUIREMENTS.
   1. PUMPS P-K-3 AND P-K-4 ARE FULLY REDUNDANT. SOFTWARE IS TO BE AVAILABLE, BUT DISABLED, TO ALLOW SEQUENCING OF PUMPS.
   2. LEAD / LAG RUNTIME ROTATION BASED ON RUN HOURS. ROTATION TO TAKE PLACE UPON SUBSEQUENT SYSTEM RESTART.
   3. FAILURE BACKUP AND ALARMING.
   4. MAINTAIN EXISTING HOT WATER LOOP DIFFERENTIAL PRESSURE SETPOINT.

F. HOT WATER BYPASS CONTROL.
   1. HOT WATER BYPASS VALVE SHALL NORMALLY BE CLOSED. AS PUMP P-K-3 OR P-K-4 MODULATES FROM 100% SPEED TO MINIMUM SPEED, THE BYPASS VALVE SHALL MODULATE FROM CLOSED TO 100% OPEN.

1 BOILER - HW HEATING SYSTEM FLOW SCHEMATIC
NTS

SUNY ERIE
State University of New York

IBC
Engineering P.C.
ROCHESTER • BUFFALO
MECHANICAL • ELECTRICAL
COMMUNICATIONS
3445 WINTON PLACE, SUITE 219
ROCHESTER, NY 14623
Phone: 585.292.1590
Fax: 585.292.1592
www.ibceng.com

SUNY ECC NORTH CAMPUS KITTINGER HALL BOILER ROOM UPGRADES (REBID)

Owner
COUNTY OF ERIE
Owner Project Number
2025-956-02

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED ARCHITECT OR PROFESSIONAL ENGINEER TO ALTER ANY ITEM ON THIS DOCUMENT IN ANY WAY. ANY LICENSE WHO ALTERS THIS DOCUMENT IS REQUIRED BY LAW TO AFFIX HIS OR HER SEAL AND THE NOTATION "ALTERED BY" FOLLOWED BY HIS OR HER SIGNATURE AND SPECIFIC DESCRIPTION OF THE ALTERATIONS.

COPYRIGHT © 2023
IBC ENGINEERING P.C.

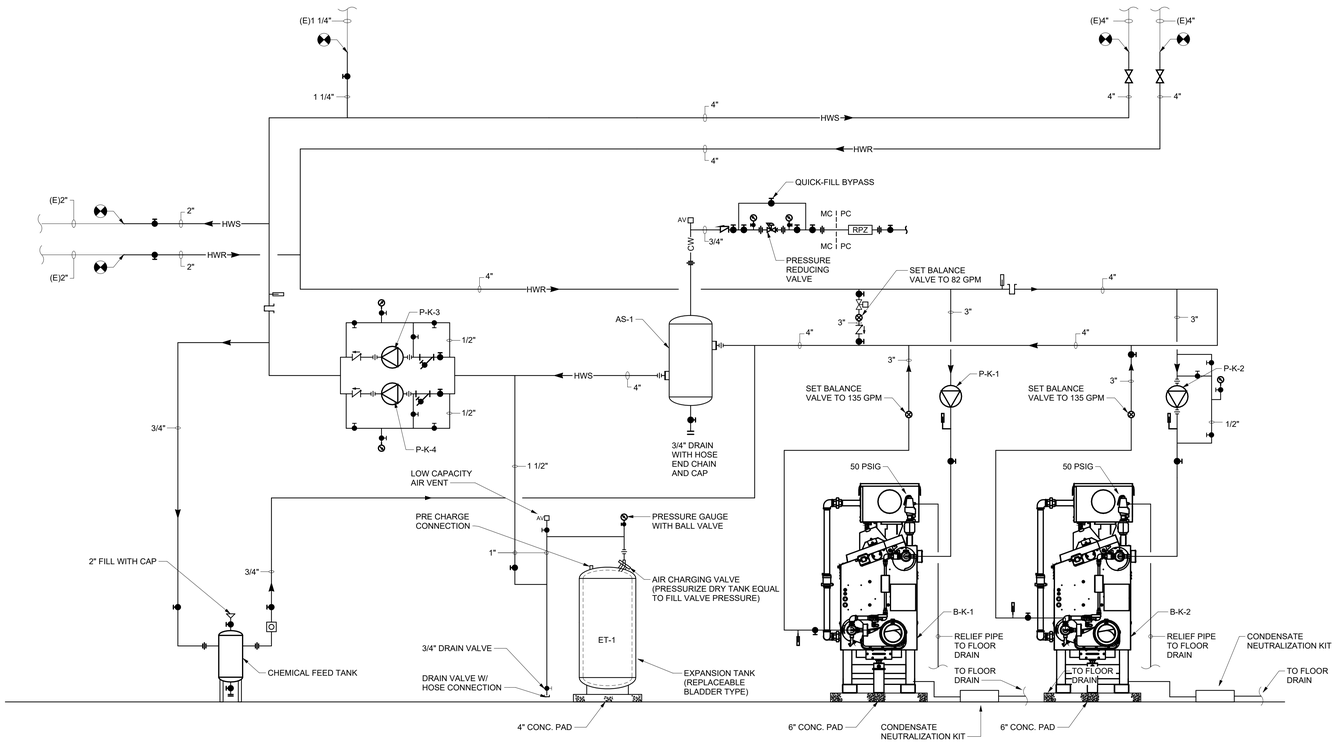
ISSUED FOR REBID - 10/26//2026

Revisions

No.	Date	Description

Title
HVAC CONTROLS

Project Number
22017
Date
9/8/26
Sheet
K H700



SCHEMATIC NOTE: BOILER DRAIN PIPE TO CONDENSATE NEUTRALIZATION KIT AND FLOOR DRAIN TO BE SIZED, AND MADE OF MATERIAL PER APPROVED MANUFACTURER REQUIREMENT

1 BUILDING K - BOILER ROOM - HOT WATER SYSTEM SCHEMATIC
NTS

SUNY ERIE
State University of New York

IBC
Engineering P.C.

ROCHESTER • BUFFALO
MECHANICAL • ELECTRICAL
COMMUNICATIONS
3445 WINTON PLACE, SUITE 219
ROCHESTER, NY 14623
Phone: 585.292.1590
Fax: 585.292.1592
www.ibceng.com

SUNY ECC NORTH CAMPUS KITTINGER HALL BOILER ROOM UPGRADES (REBID)

Owner
COUNTY OF ERIE

Owner Project Number
2025-956-02

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED ARCHITECT OR PROFESSIONAL ENGINEER TO ALTER ANY ITEM ON THIS DOCUMENT IN ANY WAY. ANY LICENSE WHO ALTERS THIS DOCUMENT IS REQUIRED BY LAW TO AFFIX HIS OR HER SEAL AND THE NOTATION "ALTERED BY" FOLLOWED BY HIS OR HER SIGNATURE AND SPECIFIC DESCRIPTION OF THE ALTERATIONS.

COPYRIGHT © 2023
IBC ENGINEERING P.C.

ISSUED FOR REBID - 10/26/2026

Revisions

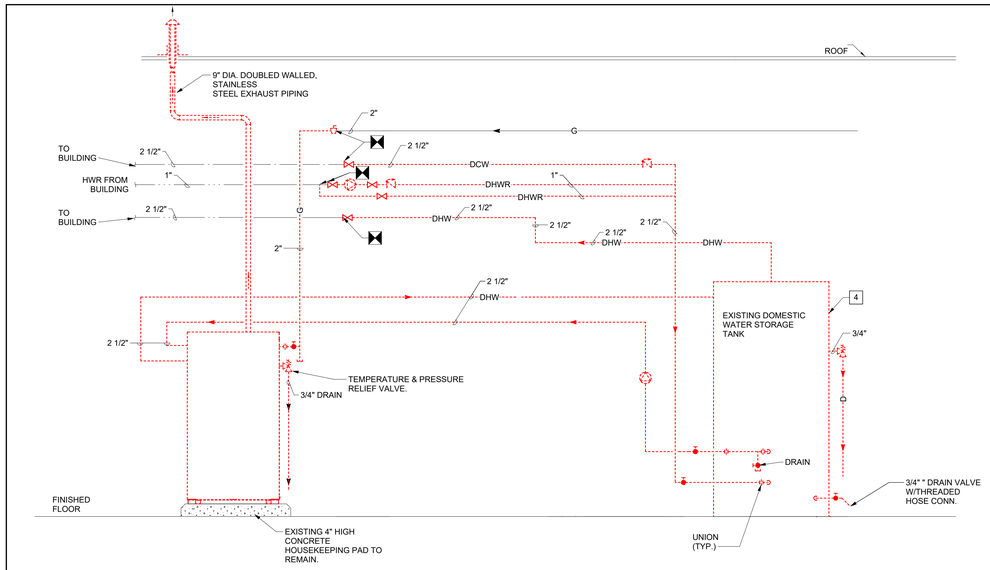
No.	Date	Description

Title
HVAC SCHEMATICS

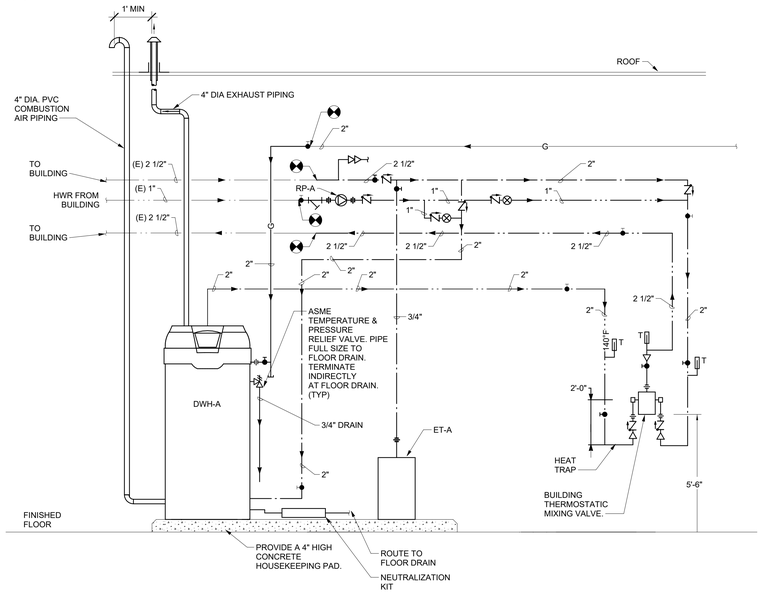
Project Number
22017

Date
9/8/26

Sheet
K H800



1 DOMESTIC WATER HEATER DEMOLITION SCHEMATIC
NTS



2 DOMESTIC WATER HEATER SCHEMATIC
NTS

EXPANSION TANK SCHEDULE

TAG	LOCATION	SERVICE	ACCEPTANCE VOLUME (GAL)	TANK VOLUME (GAL)	DIMENSIONS (IN)		CONNECTION SIZE	DESIGN EQUIPMENT	REMARKS
					DIA	HEIGHT			
ET-A	BOILER ROOM	DOMESTIC HOT WATER	11	34	16	45	3/4"	AMTROL ST-70VC	PROVIDE EXPANSION TANK ON A HOUSEKEEPING PAD.

GAS WATER HEATER SCHEDULE

TAG	LOCATION	SERVICE	TYPE	STORAGE (GALLONS)	BTU INPUT PER HOUR	GPH DELIVERED @ 90 DEG F RISE	GAS PRESSURE		GAS CONNECTION SIZE (NPT)	WATER CONNECTION SIZE (NPT)	FLUE CONNECTION SIZE & QUANTITY	ELECTRICAL		WEIGHT (LBS)	DESIGN EQUIPMENT	REMARKS
							MIN	MAX				VOLTAGE	PHASE			
DWH-01	BOILER ROOM	BUILDING HOT WATER	CONDENSING	119	300,000	384	3.5"	14"	1 1/2"	1 1/2"	4" (2)	120	1	855	A.O. SMITH CYCLONE BTH-300	1

REMARKS

1. PROVIDE WITH TEMPERATURE/PRESSURE RELIEF VALVE, AND CONDENSATE NEUTRALIZATION KIT.

PUMP SCHEDULE

TAG	LOCATION	SERVICE	FLOW (GPM)	WPD (FT)	RPM	EFF. (%)	PUMP TYPE	MOTOR DATA				DESIGN EQUIPMENT	REMARKS
								WATTS	RPM	V	PH		
RP-A	BOILER ROOM	DOMESTIC WATER RECIRCULATOIN	7	45	4292	15.5	ECM	600	4920	208	1	GRUNDFOS MAGNA 3 40-180 GF N	PROVIDE RECIRCULATION PUMP WITH AQUASTAT.

MIXING VALVE SCHEDULE

TAG	LOCATION	SERVICE	MAXIMUM INLET HW SUPPLY TEMP	DESIGN FLOW	CERTIFIED	DESIGN EQUIPMENT
MV-A	BOILER ROOM	DOMESTIC HOT WATER	140 DEG F	37 GPM	ASSE 1017	POWERS LFMM433

ABBREVIATIONS

SYMBOL	DESCRIPTION
(E)	EXISTING
AD	ACCESS DOOR
AFF	ABOVE FINISHED FLOOR
ASD	ADJUSTABLE SPEED DRIVE
BTU	BRITISH THERMAL UNIT
BTUH	BTU PER HOUR
CFH	CUBIC FEET PER HOUR
CFM	CUBIC FEET PER MINUTE
DB	DECIBELS
DIA	DIAMETER
EC	ELECTRICAL CONTRACTOR
ERL	EXISTING TO BE RELOCATED
ETR	EXISTING TO REMAIN
FPC	FIRE PROTECTION CONTRACTOR
GAL	GALLON
GC	GENERAL CONTRACTOR
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
HG	INCHES OF MERCURY
HMC	HAZARDOUS MATERIALS CONTRACTOR
HP	HORSEPOWER
IN WC	INCHES OF WATER COLUMN
INV	INVERT ELEVATION
KW	KILOWATTS
LBS	POUNDS
MBH	1,000 BTUH
MC	MECHAINCAL CONTRACTOR
NC	NORMALLY CLOSED
NO	NORMALLY OPEN
NTS	NOT TO SCALE
PC	PLUMBING CONTRACTOR
PH	PHASE
PSI	POUNDS PER SQUARE INCH
PSIA	PSI ATMOSPHERIC
PSIG	PSI GAUGE
RPM	REVOLUTIONS PER MINUTE
SC	SITE CONTRACTOR
TEMP	TEMPERATURE
TYP	TYPICAL
V	VOLTAGE
VTR	VENT THROUGH ROOF

PIPING ABBREVIATIONS

SYMBOL	DESCRIPTION
A	COMPRESSED AIR
AR	ACID RETURN
AS	ACID SUPPLY
AV	ACID VENT
AW	ACID WASTE
CO2	CARBON DIOXIDE
CR	CHLORINE RETURN
CS	CHLORINE SUPPLY
DCW, C	DOMESTIC COLD WATER
DHW, H	DOMESTIC HOT WATER
140° DHW, 140° H	DOMESTIC HOT WATER (140°)
DHWR, HWR	DOMESTIC HOT WATER RECIRCULATION (120°)
140° DHWR, 140° HWR	DOMESTIC HOT WATER RECIRCULATION (140°)
DI	DEIONIZED WATER
FOF	FUEL OIL FILL
FOR	FUEL OIL RETURN
FOS	FUEL OIL SUPPLY
FOV	FUEL OIL VENT
G	NATURAL GAS
GV	GAS VENT
GW	GREASE WASTE
GWR	GUTTER WATER RETURN
IW	INDIRECT WASTE
LPG	LIQUEFIED PETROLEUM GAS/PROPANE
MA	MEDICAL AIR
N2	NITROGEN
N2O	NITROUS OXIDE
O2	OXYGEN
OW	OIL WASTE
PD	PUMPED DISCHARGE
PHWR	POOL HOT WATER RETURN
PHWS	POOL HOT WATER SUPPLY
PPD	POOL PUMPED DISCHARGE
PW	PURE WATER
PWR	POOL WATER RETURN
PWS	POOL WATER SUPPLY
RO	REVERSE OSMOSIS WATER
SAN	SANITARY
ST	STORM
ST2	SECONDARY STORM
TW	DOMESTIC TEMPERED WATER
V	VENT
VAC	VACUUM
W	WATER MAIN (EXTERIOR)
WAGD	WASTE ANESTHETIC GAS DISPOSAL
WASH	HOOD WASH

LEGEND

SYMBOL	DESCRIPTION
	NEW TO EXISTING CONNECTION
	REMOVE TO THIS POINT
	WORK TO BE REMOVED
	EXISTING PIPING
	DOMESTIC COLD WATER
	DOMESTIC HOT WATER
	DOMESTIC HOT WATER RECIRCULATION
	VENT
	SANITARY
	STORM
XX	REFER TO PIPING ABBREVIATIONS FOR TYPE
	CLEANOUT (CO)
	P-TRAP
	RUNNING TRAP
	ROLL DOWN
	DIRECTION OF FLOW
	ELBOW UP, ELBOW DOWN
	TEE - TOP CONNECTION
	TEE - BOTTOM CONNECTION
	BALL VALVE
	GATE VALVE
	CHECK VALVE
	BALANCE VALVE
	ANGLE VALVE
	PRESS. OR TEMP. RELIEF VALVE
	PLUG VALVE
	PRESSURE REGULATING VALVE
	SOLENOID VALVE
TS	VALVE WITH TAMPER SWITCH
FS	FLOW SWITCH
	3-WAY VALVE
	REGULATOR
	BUTTERFLY VALVE
TS	BUTTERFLY VALVE WITH TAMPER SWITCH
	AQUASTAT
WH	WALL HYDRANT
HB	HOSE BIBB
	STRAINER
SA	SHOCK ABSORBER
	THERMOMETER
	PRESSURE GAUGE
	CAP OR PLUG
	UNION
	BACKFLOW PREVENTER
	FLOOR DRAIN (FD)
	ROOF DRAIN (RD)
	PUMP
X'-X"	ELEVATION, AFF
X	REFERENCE TO DRAWING NOTE
X	REFERENCE TO REMOVAL NOTE
X / XXXX	DETAIL/ENLARGED PLAN REFERENCE SYMBOL — X = DETAIL/PLAN # XXXX = DRAWING #
X / XXXX	SECTION REFERENCE SYMBOL — X = SECTION # XXXX = DRAWING #

GENERAL PLUMBING NOTES:

A. PIPING SHOWN ON THIS DRAWING IS BASED ON LIMITED RECORD DRAWINGS AND CONDITIONS VIEWED DURING FIELD INVESTIGATIONS. THE CONTRACTOR SHALL CONFIRM EXISTING PIPING AND SIZES. NOTIFY THE OWNER'S REPRESENTATIVE AND THE ENGINEER OF SIGNIFICANT DISCREPANCIES PRIOR TO COMMENCEMENT OF WORK.

B. DO NOT SHUT DOWN ANY PLUMBING, NATURAL GAS, OR RELATED SYSTEM WITHOUT BUILDING OWNER'S PRIOR WRITTEN APPROVAL. FOLLOW ALL OWNER REQUIREMENTS AND SHUT DOWN PROCEDURES AS WELL AS ALL REQUIREMENTS OF THIS PROJECT.

C. IF REQUIRED, PROVIDE SHUT DOWNS AND TIE-INS ON OFF HOURS TO AVOID DISRUPTION OF BUILDING SYSTEMS. COORDINATE ALL SHUT DOWN REQUIREMENTS PRIOR TO SUBMITTING BID (INCLUDE ALL WORK REQUIRED DURING OFF HOURS IN BID).

D. DEMOLITION SHALL INCLUDE REMOVAL OF PIPING, HANGERS, RODS, INSULATION, SUPPORTS, FIXTURES, CARRIERS, TRIM, VALVES AND RELATED WORK. DEMOLITION SHALL INCLUDE LEGAL DISPOSAL OF ALL ITEMS REMOVED.

E. REMOVE AND REPLACE EXISTING CEILINGS AS REQUIRED FOR WORK SHOWN. REPLACE ALL DAMAGED CEILINGS. PROVIDE NEW CEILINGS. FIELD VERIFY CEILING TYPES AND EXTENT OF THIS WORK PRIOR TO BID DATE AND INCLUDE IT IN THE BID.

F. PROVIDE ALL WORK IN COMPLIANCE WITH ALL LOCAL, STATE AND FEDERAL CODES. OBTAIN ALL REQUIRED PERMITS.

G. FIELD VERIFY EXACT LOCATION, DEPTH, COMPOSITION AND CONDITION OF ALL PIPING, VALVES AND SYSTEMS AS REQUIRED FOR WORK OF THE CONTRACT.

H. PROVIDE CUTTING, CORING AND PATCHING OF ALL WALLS, SLABS AND DECKS AS REQUIRED FOR WORK SHOWN. COORDINATE ALL WORK WITH OWNER, ARCHITECT, ENGINEER AND GENERAL CONTRACTOR.

I. COORDINATE ALL VENT TERMINATIONS ABOVE ROOF WITH HVAC CONTRACTOR. ALL VENT TERMINATIONS ABOVE ROOF SHALL BE A MINIMUM OF (25'-0" FOR DOH HEALTH CARE PROJECTS; 10'-0" FOR OTHER PROJECTS) AWAY FROM ANY HVAC OUTSIDE AIR INTAKE (ROOFTOP UNIT, LOUVER, ETC.).

J. WHERE PIPING IS LOCATED OVER FOOTINGS AND/OR OTHER UNDERGROUND STRUCTURES, ROLL DOWN AS REQUIRED TO CONNECT TO SYSTEMS NOTED. PROVIDE ALL REQUIRED OFFSETS, FITTINGS AND CONNECTIONS.

K. PITCH ALL SANITARY, WASTE AND STORM PIPING SHOWN ON THESE DRAWINGS AS FOLLOWS: PIPING 3" AND SMALLER, PITCH AT 2 PERCENT (1/4" PER FOOT) MINIMUM, PIPING 4" AND LARGER, PITCH AT 1 PERCENT (1/8" PER FOOT) MINIMUM.

L. PITCH ALL INDIRECT WASTE (IW) PIPING SHOWN ON THESE DRAWINGS AT 1 PERCENT (1/8" PER FOOT) MINIMUM.

M. CONTRACTOR SHALL IMMEDIATELY NOTIFY THE OWNER OR OWNER'S REPRESENTATIVE UPON THE DISCOVERY OF ANY DEAD LEGS OR DEAD ENDS IN THE DOMESTIC HOT WATER PIPING SYSTEM.

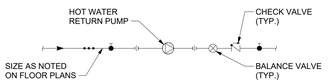
N. ALL PIPING PENETRATIONS THROUGH RATED WALLS OR FLOORS OR CEILINGS SHALL BE PROVIDED WITH FIRE/SMOKE STOPPING'S PER SPECIFICATION. REFER TO THE CODE ANALYSIS DRAWINGS FOR ALL RATED WALL LOCATIONS. ALL FLOORS SHALL BE CONSIDERED RATED.

ASBESTOS AWARNESS NOTE:

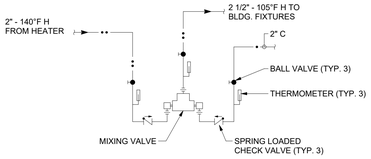
A. REFER TO HM DRAWINGS FOR SCOPE OF ASBESTOS REMOVAL WORK.

LEAD AWARNESS NOTE:

A. REFER TO HM DRAWINGS FOR SCOPE OF LEAD REMOVAL WORK.



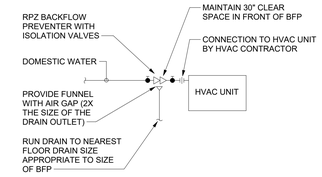
3 HOT WATER RETURN INLINE PUMP DETAIL
NTS



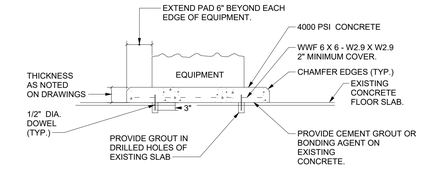
NOTES:

A. PROVIDE UNIONS ON ALL THREE CONNECTIONS TO MIXING VALVE.

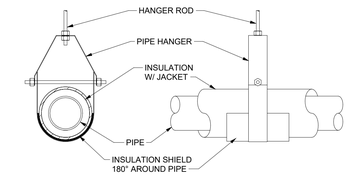
5 MIXING VALVE DETAIL
NTS



7 HVAC MAKE-UP WATER DETAIL
NTS



4 CONCRETE PAD DETAIL
NTS



6 INSULATION SHIELD & BLOCKING DETAIL
NTS

SUNY ERIE
State University of New York

IBC
Engineering P.C.
ROCHESTER • BUFFALO
MECHANICAL • ELECTRICAL
COMMUNICATIONS
3445 WINTON PLACE, SUITE 219
ROCHESTER, NY 14623
Phone: 585.292.1590
Fax: 585.292.1592
www.ibceng.com

SUNY ECC NORTH CAMPUS KITTINGER HALL BOILER ROOM UPGRADES (REBID)

Owner
COUNTY OF ERIE
Owner Project Number
2025-956-02

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED ARCHITECT OR PROFESSIONAL ENGINEER TO ALTER ANY ITEM ON THIS DOCUMENT IN ANY WAY. ANY LICENSE WHO ALTERS THIS DOCUMENT IS REQUIRED BY LAW TO AFFIX HIS OR HER SEAL AND THE NOTATION "ALTERED BY" FOLLOWED BY HIS OR HER SIGNATURE AND SPECIFIC DESCRIPTION OF THE ALTERATIONS.

COPYRIGHT © 2023
IBC ENGINEERING P.C.

ISSUED FOR REBID - 10/26/2026

Revisions

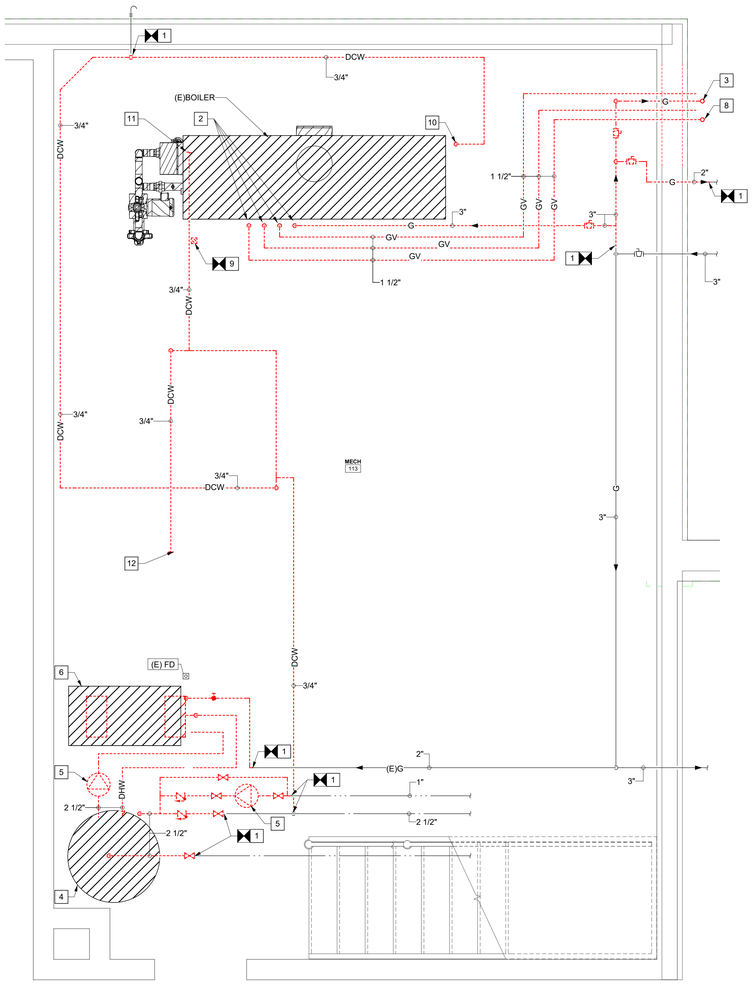
No.	Date	Description

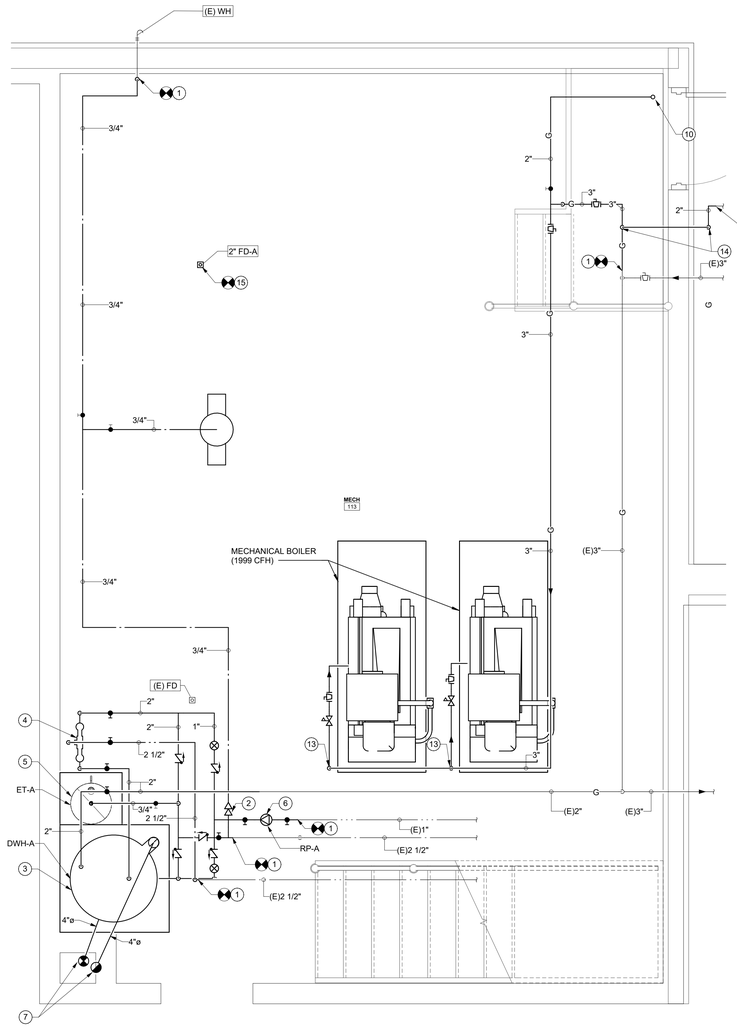
Title
GENERAL NOTES, LEGENDS, OVERALL PLANS AND SCHEDULES- PLUMBING

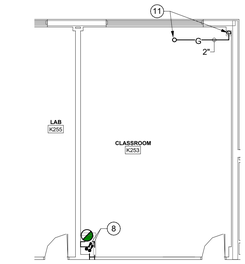
Project Number
22017

Date
9/8/26

Sheet
K P000







3 SECOND FLOOR PLAN - PLUMBING
1/8" = 1'-0"

REMOVAL NOTES:

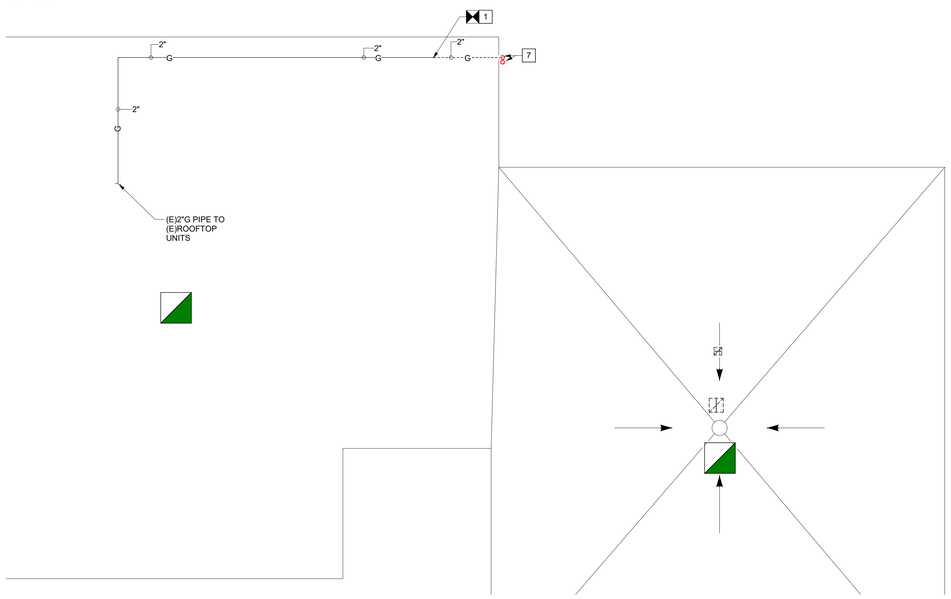
1. DISCONNECT AND REMOVE PIPING BACK TO POINT INDICATED. PREPARE PIPING TO REMAIN FOR RECONNECTION.
2. DISCONNECT AND REMOVE 3" G AND (2) 1 1/2" GAS VENT PIPING TO BOILERS AND ALL ACCESSORIES. BOILERS ARE TO BE REMOVED BY OTHERS.
3. DISCONNECT AND REMOVE 2" GAS PIPING UP TO ROOF.
4. DISCONNECT AND REMOVE HOT WATER STORAGE TANK. DISCONNECT AND REMOVE ALL ASSOCIATED PIPING, AND CONTROLS.
5. DISCONNECT AND REMOVE DOMESTIC HOT WATER RECIRCULATION PUMP. DISCONNECT AND REMOVE ALL ASSOCIATED PIPING, ELECTRICAL AND CONTROLS.
6. DISCONNECT AND REMOVE DOMESTIC WATER HEATER, INCLUDING ALL PIPING AND ACCESSORIES. REMOVE DOMESTIC WATER HEATER SUPPORT.
7. DISCONNECT AND REMOVE 2" G AND 1 1/2" GV PIPING DOWN TO FIRST FLOOR.
8. DISCONNECT AND REMOVE 1 1/2" GAS V UP TO ROOF.
9. DISCONNECT AND REMOVE FD. DISCONNECT AND REMOVE SAN PIPING FROM FLOOR DRAIN AND PREPARE PIPING TO REMAIN FOR RECONNECTION.
10. DISCONNECT AND REMOVE 3/4" C PIPING DOWN TO BOILER HWR LINE.
11. DISCONNECT AND REMOVE 3/4" C PIPING TO AIR SEPARATOR.
12. DISCONNECT AND REMOVE 3/4" C PIPING TO TWO (2) COMPRESSION TANKS ABOVE. REFER TO DRAWING K H401 DETAIL 2 REMOVAL NOTE 7.

DRAWING NOTES:

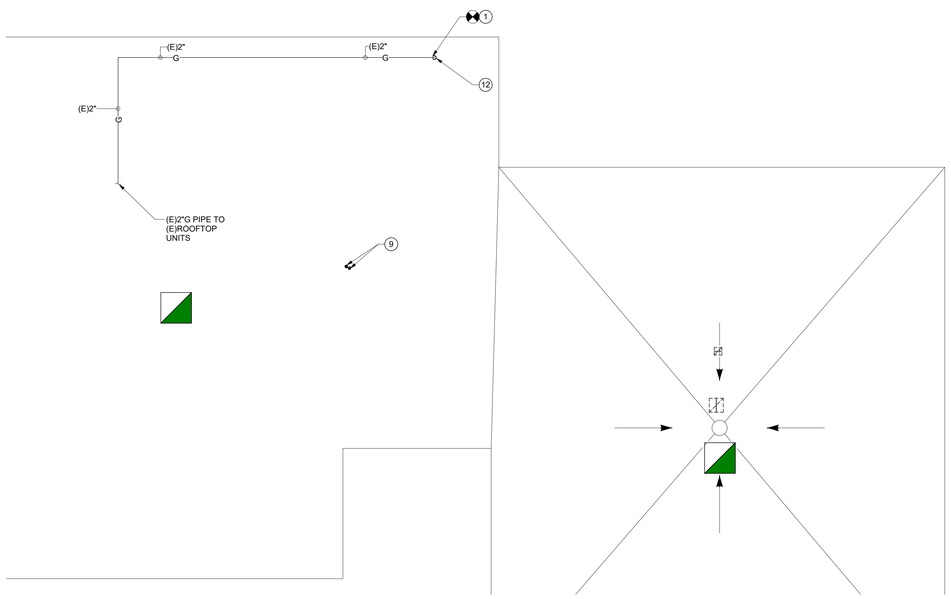
1. CONNECT PIPING TO EXISTING PIPING AT POINTS INDICATED. SIZE AS INDICATED ON PLAN.
2. PROVIDE 3/4" C MAKE-UP WATER PIPING FOR BOILER WITH 3/4" RPZ BACKFLOW PREVENTION DEVICE. PROVIDE AIR-GAP FITTING AND 2" DRAIN LINE PIPED DOWN TO EXISTING FLOOR DRAIN.
3. PROVIDE GAS FIRED DOMESTIC WATER HEATER DWH-A. PROVIDE 2" C, 2" H AND 2" G PIPING DOWN TO DOMESTIC WATER HEATER. PROVIDE 4" INTAKE AND 4" EXHAUST DOWN TO WATER HEATER. PROVIDE NEUTRALIZATION KIT AND ROUTE TO NEAREST FLOOR DRAIN. PROVIDE A NEW HOUSEKEEPING PAD AND INSTALL WATER HEATER ON THE HOUSEKEEPING PAD.
4. PROVIDE THERMOSTATIC MIXING VALVE. PROVIDE 2" H&C PIPING DOWN TO THERMOSTATIC MIXING VALVE. PROVIDE 2 1/2" TEMPERED (105°F) WATER TO BUILDING.
5. PROVIDE EXPANSION TANK ET-A AND 3/4" C PIPING DOWN TO EXPANSION TANK.
6. PROVIDE RECIRCULATION PUMP AND ALL ACCESSORIES.
7. PROVIDE 4" INTAKE AND EXHAUST DUCTWORK UP TO SECOND FLOOR. PROVIDE NEW PENETRATIONS IN EXISTING BOILER ROOM CHASE.
8. PROVIDE 4" INTAKE AND EXHAUST DUCTWORK DOWN TO FIRST FLOOR AND UP TO ROOF.
9. PROVIDE 4" INTAKE AND EXHAUST DOWN TO SECOND FLOOR.
10. PROVIDE 2" G PIPING UP TO SECOND FLOOR.
11. PROVIDE 2" G PIPING UP TO ROOF AND DOWN TO FIRST FLOOR.
12. PROVIDE 2" G PIPING DOWN TO SECOND FLOOR.
13. PROVIDE 3" G PIPING TO BOILERS. THE DIVISION 22 CONTRACTOR SHALL PROVIDE SHUT-OFF VALVE, UNION AND FULL SIZE DIRT LEG. COORDINATE WITH THE DIVISION 23 CONTRACTOR. FINAL CONNECTION BY THE DIVISION 22 CONTRACTOR. PROVIDE DIRT LEG, SHUT OFF VALVE AND GAS REGULATOR.
14. PROVIDE 2" G PIPING DOWN BELOW GRADE.
15. PROVIDE FD. CONNECT SAN PIPING TO EXISTING PIPING.

1 ENLARGED BOILER ROOM PLAN - PLUMBING DEMOLITION
1/2" = 1'-0"

2 ENLARGED BOILER ROOM PLAN - PLUMBING
1/2" = 1'-0"

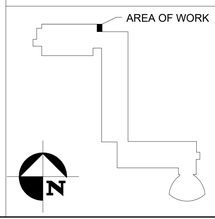


4 PARITAL ROOF PLAN - PLUMBING DEMOLITION
1/8" = 1'-0"



5 PARITAL ROOF PLAN - PLUMBING
1/8" = 1'-0"

KEY PLAN



SUNY ERIE
State University of New York

IBC
Engineering P.C.

ROCHESTER • BUFFALO
MECHANICAL • ELECTRICAL
COMMUNICATIONS
3445 WINTON PLACE, SUITE 219
ROCHESTER, NY 14623
Phone: 585.292.1590
Fax: 585.292.1592
www.ibceng.com

SUNY ECC NORTH CAMPUS KITTINGER HALL BOILER ROOM UPGRADES (REBID)

Owner
COUNTY OF ERIE
Owner Project Number
2025-956-02

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED ARCHITECT OR PROFESSIONAL ENGINEER TO ALTER ANY ITEM ON THIS DOCUMENT IN ANY WAY. ANY LICENSE WHO ALTERS THIS DOCUMENT IS REQUIRED BY LAW TO AFFIX HIS OR HER SEAL AND THE NOTATION "ALTERED BY" FOLLOWED BY HIS OR HER SIGNATURE AND SPECIFIC DESCRIPTION OF THE ALTERATIONS.

COPYRIGHT © 2023
IBC ENGINEERING P.C.

ISSUED FOR REBID - 10/26/2026

Revisions

No.	Date	Description

Title
ENLARGED AND PARTIAL ROOF PLANS - PLUMBING DEMOLITION & NEW

Project Number
22017
Date
9/8/26
Sheet
K P101