

SITE LOCATION
600 W HURON ST,
ANN ARBOR, MI 48103



LURIE TERRACE FIRE SUPPRESSION DESIGN

ANN ARBOR, MICHIGAN

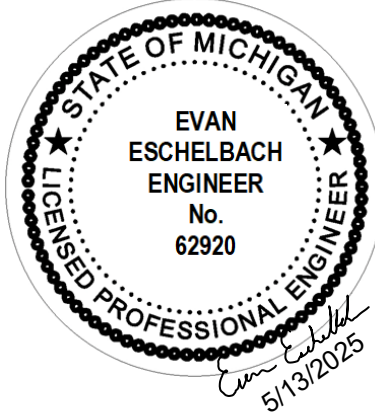


**LURIE TERRACE
FIRE SUPPRESSION
DESIGN**
600 W HURON ST.
ANN ARBOR, MI 48103



201 SOUTH ANN
ARBOR STREET
SALINE, MI
48176

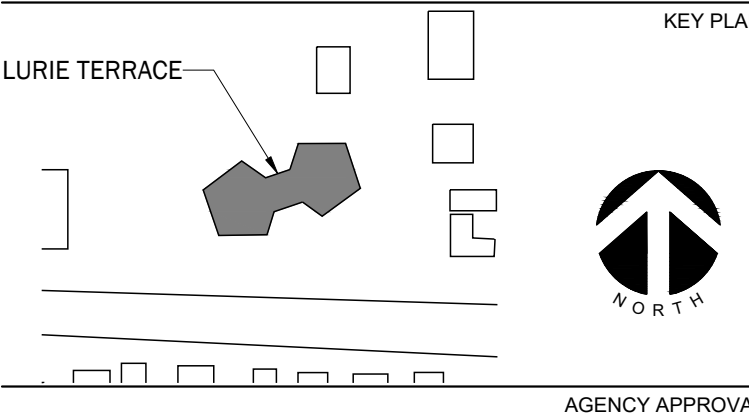
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PROFESSIONAL SEAL

CONSULTANT

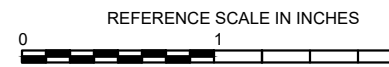
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AGENCY APPROVAL

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REVISIONS

No.	Date	Revision / Issue
A	10/28/2022	OWNER REVIEW
B	12/08/2022	90% REVIEW
C	05/13/2025	ISSUED FOR BID/PERMIT

SHEET INFORMATION

Issue	ISSUED FOR BID/PERMIT
Date	05/13/2025
Job Number	22001235.00
Drawn	J. SATTELBERG
Checked	R. O'QUINN
Approved	E. ESCHELBACH

SHEET TITLE
TITLE SHEET

SCALE

Scale: **NONE**

SHEET NUMBER

T001

DRAWING INDEX

- CURRENT ISSUE
● PREVIOUS ISSUE

DRAWING INDEX

GENERAL

T001	TITLE SHEET
G001	GENERAL INFORMATION, LEGEND, AND ABBREVIATIONS

MECHANICAL AND ELECTRICAL

E101	PARTIAL SINGLE LINE DIAGRAM
E102	PARTIAL BASEMENT/SITE PLAN EAST WING ELECTRICAL
M100	SITE PLAN - EAST WING - NATURAL GAS

FIRE SUPPRESSION

PERFORMANCE BASED DESIGN: DEFERRED SUBMITTAL

G002	FIRE SUPPRESSION SPECIFICATIONS
F101	BASEMENT PLAN - EAST WING - FIRE SUPPRESSION NEW WORK
F102	FIRST FLOOR PLAN - EAST WING - FIRE SUPPRESSION NEW WORK
F103	FIRST FLOOR PLAN - WEST WING - FIRE SUPPRESSION NEW WORK
F104	SECOND THRU SEVENTH FLOOR PLAN - EAST WING - FIRE SUPP. NEW WORK
F105	SECOND THRU EIGHTH FLOOR PLAN - WEST WING - FIRE SUPP. NEW WORK
F106	EIGHTH FLOOR PLAN - EAST WING - FIRE SUPPRESSION NEW WORK
F201	FIRE SUPPRESSION SCHEDULES AND DETAILS
F202	FIRE SUPPRESSION FLOW DIAGRAM

PROJECT DESCRIPTION

THIS PROJECT INVOLVES EXTENDING THE EXISTING FIRE SUPPRESSION SYSTEM TO COVER THE APARTMENTS AND OTHER SPACES IN THE FACILITY. AS WELL AS MODIFICATIONS TO THE EXISTING FIRE SUPPRESSION SYSTEM SERVING BASEMENT AREAS. THE FIRE PUMP SYSTEM WAS INSTALLED AS A SEPARATE PROJECT. THERE WILL NEED TO BE POWER RAN TO FIRE PUMP AS WELL AS START UP AND TESTING. MODIFICATIONS TO INCOMING UTILITY POWER AND A NEW GENERATOR ARE INCLUDED IN THIS PROJECT SCOPE.

SCOPE OF WORK

THE FOLLOWING OUTLINES THE SCOPE OF WORK FOR EACH DISCIPLINE:

FIRE SUPPRESSION SYSTEM PROJECT (DELEGATED DESIGN):

- INSTALL NEW FIRE SUPPRESSION RISER IN STAIRWELL.
- INSTALL NEW FLOW SWITCH, INSPECTOR'S TEST PORT, DRAIN, PRESSURE REDUCING VALVES, PRESSURE RELIEF VALVES, AND OTHER COMPONENTS AT EACH FLOOR'S NEW TAP OFF THE RISER.
- INSTALL NEW FIRE SUPPRESSION PIPING FROM THE EXISTING RISERS IN THE STAIRWELLS AROUND THE PERIMETER OF THE EAST AND WEST WINGS ON FLOORS ONE (1) THROUGH EIGHT (8).
- REPLACE THE EXISTING FIRE SUPPRESSION SYSTEM IN THE BASEMENT.
- INSTALL FIRE SPRINKLERS IN THE CORRIDORS OF EACH OF EIGHT (8) FLOORS, AS WELL AS THE BASEMENT.
- INSTALL FIRE SUPPRESSION PIPING THROUGH TENANT SPACE WALLS, AND SPRINKLERS IN TYPICAL APARTMENT LAYOUTS AS SHOWN. FIRE SUPPRESSION LAYOUT FOR TENANT SPACES IS SHOWN TYPICAL FOR EACH APARTMENT BEDROOM TYPE.
- FLUSH, TEST, AND PROVIDE INSPECTION AND TESTING REPORTS/CERTIFICATES AS REQUIRED PER NOTES AND ALL CODES.

ARCHITECTURAL:

- MODIFICATIONS TO EXISTING CLOSET DOORS FOR FIRE SUPPRESSION THROUGH PENETRATIONS.

FIRE ALARM:

- CONNECT NEW FLOW SWITCHES TO EXISTING FIRE ALARM SYSTEM.
- INSTALL NEW HORNSTROBE IN LOBBY AREA FOR INDICATION OF A WATER FLOW EVENT.
- TEST FIRE ALARM SYSTEM AS REQUIRED.

ELECTRICAL:

- INSTALLATION OF CONDUIT FROM DTE POLE TO BUILDING COMPARTMENT.
- INSTALLATION OF WIRING BETWEEN NEW TRANSFORMER, GENERATOR, AND GENERATOR CONNECTION CABINET TO THE FIRE PUMP CONTROLLER.
- PROVIDE REMOTE ANNUNCIATOR AND ALL CONDUITS, CONNECTIONS, AND WIRING ASSOCIATED WITH THE GENERATOR.
- FEEDING OF NEW AND REFEEDING OF EXISTING TRANSFORMERS.

MECHANICAL:

- INSTALLATION OF ADDITIONAL NATURAL GAS PIPING TO NEW NATURAL GAS GENERATOR.
- MODIFICATIONS TO EXISTING UTILITIES TO ENCOMPASS INCREASED REQUIREMENTS

PROJECT CLOSE OUT DOCUMENTS

CONTRACTOR SHALL PROVIDE A COPY OF THE FOLLOWING CLOSE OUT DOCUMENTS:

- APPROVED ELECTRICAL, MECHANICAL AND FIRE ALARM CERTIFICATES
- AS-BUILTS/FOR RECORD DRAWINGS NOTING DEVIATIONS FROM CONSTRUCTION DOCUMENTS
- ALL O&M MANUALS (ELECTRONIC AND PAPER COPY)
- WARRANTIES/WARRANTY CONTACT LIST WITHIN O&M MANUAL
- COPIES OF APPROVED INSPECTION AND TESTING REPORTS

GENERAL NOTES

- ALL WORK MUST COMPLY WITH THE REQUIREMENTS OF LOCAL CODES AND ORDINANCES. WHERE INSPECTIONS ARE REQUIRED BY AUTHORITIES HAVING JURISDICTION, WORK WILL NOT BE CONSIDERED COMPLETE UNTIL TESTED, INSPECTED, AND ACCEPTED.
- DRAWINGS ARE BASED ON AVAILABLE DOCUMENTS, SITE INSPECTION AND DESIGN EXPERIENCE. DRAWINGS MAY NOT REFLECT A COMPLETE AS BUILT CONDITION. CONTRACTOR TO FIELD VERIFY.
- DRAWINGS DIAGRAMMATICALLY INDICATE THE GENERAL WORK SCOPE BUT DO NOT PROVIDE EXACT SCALE OR LOCATIONS. PROPER INSTALLATION OF ALL SYSTEMS, AFTER COORDINATION WITH OTHER TRADES, IS THE CONTRACTORS RESPONSIBILITY.
- CONTRACTOR SHALL USE BID WALK-THROUGH AND FIELD OBSERVATIONS TO ENHANCE PROJECT UNDERSTANDING BEFORE BIDDING ON PROJECT.
- ALL CONTRACTORS SHALL REVIEW DRAWINGS AND SPECIFICATIONS TO UNDERSTAND THE SCOPE OF WORK FOR THEIR DISCIPLINE.
- NO DEMOLITION SHALL TAKE PLACE WITHOUT APPROVAL FROM THE OWNER'S REPRESENTATIVE.
- ALL UTILITY SHUTDOWNS SHALL BE SCHEDULED WITH OWNER'S REPRESENTATIVE MINIMUM 24 HOURS IN ADVANCE.
- TEMPORARY REMOVAL OF ANY AND ALL EXISTING MISCELLANEOUS ITEMS (I.E. CONDUIT, PIPING, LIGHTING, ETC.) FOR THE PURPOSE OF PERFORMING THIS WORK SHALL BE REINSTALLED BACK TO PRE-CONSTRUCTION CONDITION AS PART OF THIS PROJECT. NO ADDITIONAL FEES WILL BE AWARDED.
- CONTRACTOR SHALL TEMPORARILY SUPPORT ALL DUCTWORK, PIPING, CONDUIT, ETC. DURING THE DEMOLITION AND CONSTRUCTION PHASES.
- CONTRACTOR SHALL PROTECT ALL PIPING, PIPE INSULATION, CONDUITS, FIRE SPRINKLERS, AND OTHER MISCELLANEOUS ITEMS DURING THE DEMOLITION PHASE. ANY DAMAGE RESULTING FROM THE CONTRACTOR'S OPERATIONS MUST BE REPAIRED OR REPLACED WITH EQUAL AND TO THE OWNER'S SATISFACTION AND AT NO ADDITIONAL COST.
- EQUIPMENT INDICATED ON THE CONSTRUCTION DOCUMENTS, TOGETHER WITH ITS BASE AND/OR SUPPORT, DUCTWORK, ROOF OPENINGS, ELECTRICAL SERVICE, REFRIGERANT PIPING, AND HEATING HOT WATER ARE BASED ON THE MAKE AND MODEL INDICATED IN THE EQUIPMENT SCHEDULE. SHOULD AN EQUIVALENT ALTERNATE MAKE OF EQUIPMENT BE SELECTED, EVEN IF APPROVED BY THE OWNER AS EQUAL, COORDINATE AND MAKE THE MODIFICATIONS IN THE WORK WITH NO CHANGE IN THE CONTRACT AMOUNT.
- UNLESS OTHERWISE SHOWN ON CONSTRUCTION DOCUMENTS OR SPECIFIED HEREIN, PRODUCTS USED IN THE WORK SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS AND RECOMMENDATIONS. ANY CHANGES OR MODIFICATIONS PROPOSED WHICH ARE BELIEVED TO IMPROVE THE INSTALLATION SHALL BE APPROVED BY THE OWNER AND/OR ITS REPRESENTATIVE.
- MAINTAIN SECURITY, LIFE SAFETY, FIRE AND SMOKE CONSTRUCTION INTEGRITY, FIRE ESCAPES AND EGRESS PATHS AT ALL TIMES.
- REFER TO CONTRACT DOCUMENTS AND PROJECT SPECIFICATIONS FOR ADDITIONAL SCOPE AND INFORMATION.
- SAFETY STANDARDS DICTATE THAT LIFTING OF EQUIPMENT ON THE ROOF OR IN THE SPACE MUST BE DONE WHEN THERE ARE NO PERSONNEL PRESENT IN THE SPACE.
- CONTRACTOR WILL BE RESPONSIBLE FOR REPAIRING ANY AND ALL DAMAGE CAUSED BY CRANE AND/OR EQUIPMENT USED DURING LIFTING PROCESS AND/OR CAUSED DURING CONSTRUCTION PROCESS.
- CONTRACTOR WILL BE RESPONSIBLE FOR PROVIDING A COMPLETE AND WORKING SYSTEM.
- CONTRACTOR IS RESPONSIBLE FOR FINAL CLEANING OF PROJECT AREA(S).
- PROVIDE ALL REQUIRED ACCESSORIES, INCLUDING MISCELLANEOUS SUPPORT STEEL, REQUIRED FOR PROPER INSTALLATION.
- CONTRACTOR SHALL PROVIDE SUBMITTALS ON ALL EQUIPMENT FOR APPROVAL BEFORE PURCHASING.
- PROTECT BUILDING FROM DUST MIGRATION USING APPROPRIATE SEALED BARRIERS TO SEPARATE AND SEGREGATE CONSTRUCTION AREAS FROM ACTIVE TENANT AREAS INCLUDING SHARED CEILING PLENUMS AND MECHANICAL SYSTEMS.
- ALL PIPING TO BE SUPPORTED IN ACCORDANCE WITH ANSISMS SP-58 (2015 MICHIGAN MECHANICAL CODE, SECTION 305).

SHOP DRAWING FOR REVIEW

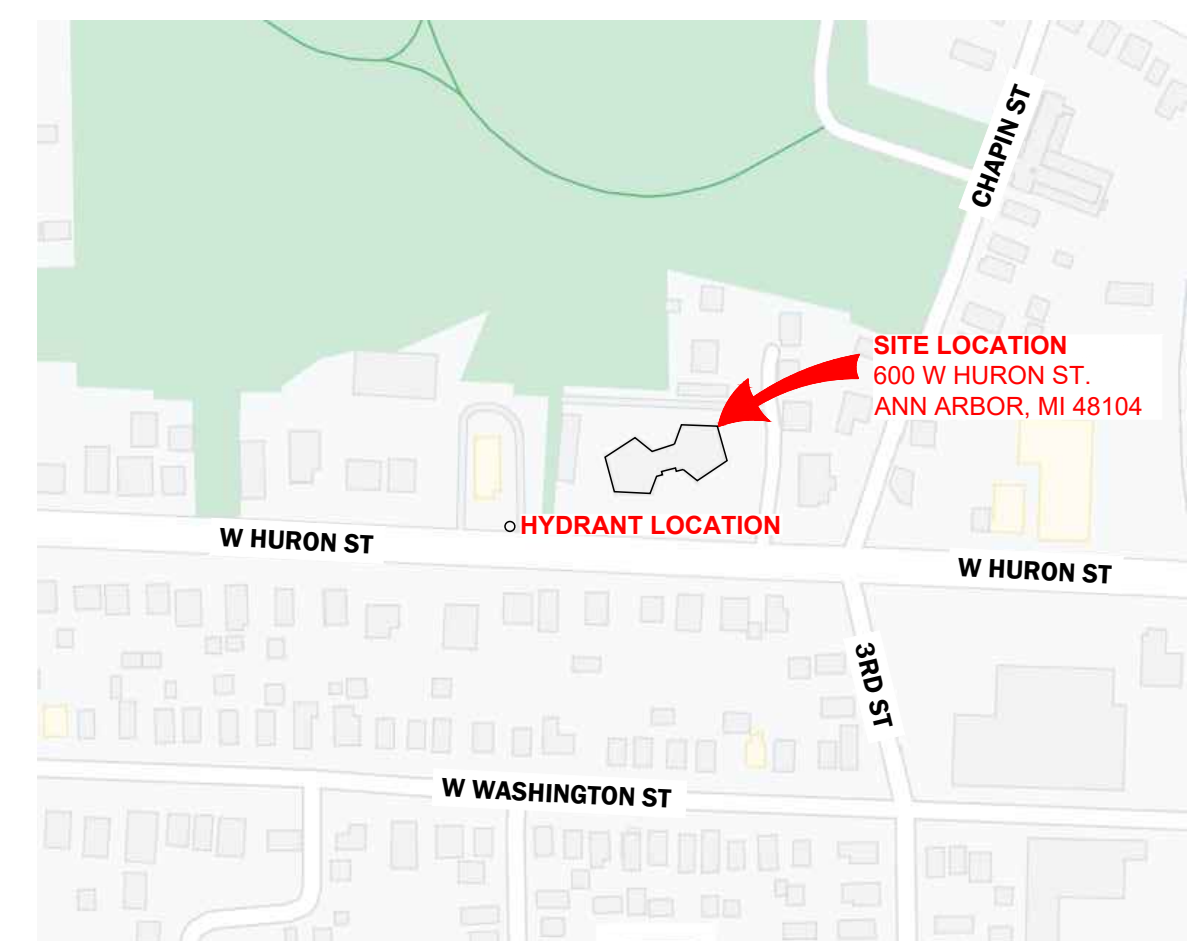
CONTRACTOR SHALL SUBMIT THE FOLLOWING SHOP DRAWINGS FOR REVIEW AND APPROVAL FROM ENGINEER PRIOR TO PURCHASING:

- FIRE SPRINKLER SYSTEM WORKING DRAWINGS AS REQUIRED PER NFPA 13
- PIPING
- VALVES/COMPONENTS
- SPRINKLER HEADS
- ALL ELECTRICAL EQUIPMENT, CONDUIT/WIRE

PROJECT DIRECTORY

OWNER:	ANN ARBOR HOUSING COMMISSION 2000 S INDUSTRIAL ANN ARBOR, MI 48104 PROJECT MANAGER: TOM PIERCE CELL: (734) 646-6016 EMAIL: TPIERCE@A2GOV.ORG
OWNERS REPRESENTATIVE:	DMC REAL ESTATE SERVICES PROJECT MANAGER: DARREN MCKINNON OFFICE: (734) 845-9199 CELL: (734) 804-5044 EMAIL: DMCKINNON@DMC-RES.COM
ENGINEER:	IMEG 201 S. ANN ARBOR ST. SALINE, MI 48176-1303 PROJECT ENGINEER: EVAN P. ESCHELBACH CELL: (734) 316-6571 EMAIL: EVAN.P.ESCHELBACH@IMEGCORP.COM PROJECT DESIGNER: RYAN M. O'QUINN CELL: (734) 857-1852 EMAIL: RYAN.M.OQUINN@IMEGCORP.COM

SITE LOCATION

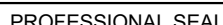


PROJECT LOCATION

NO SCALE



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REFERENCE SCALE IN INCHES

A horizontal reference scale in inches. It features a black and white checkered pattern from 0 to 1 inch, followed by a solid black bar. The scale is marked with '0' at the beginning and '1' at the end of the checkered section.

REVISIONS

SHEET INFORMATION	
Issue	ISSUED FOR BID/PERMIT
Date	05/13/2025
Job Number	22001235.00
Drawn	J. SATTELBERG
Checked	R. O'QUINN
Approved	E. ESCHELBACH

ET TITLE

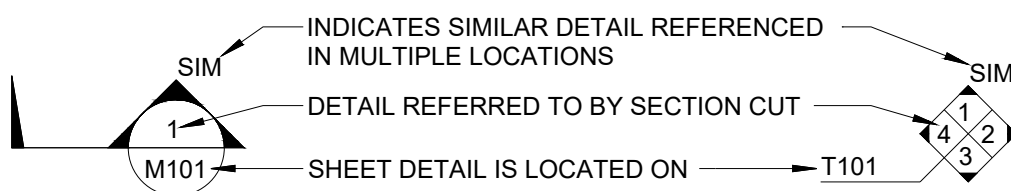
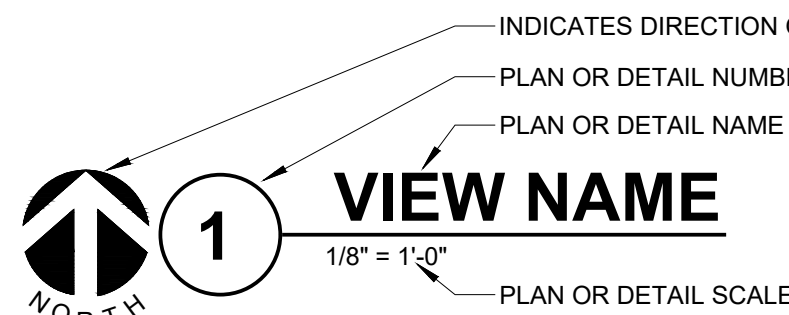
NONE

SHEET NUMBER

G001

 NAME ——— LEVEL NAME
 10' - 0" ——— HEIGHT ABOVE PROJECT 0' - 0"

 INDICATES NOTE USED TO DESCRIBE ADDITIONAL INFORMATION ABOUT WORK REQUIRED, SPECIFIC TO THE SHEET AND/OR DETAIL



LINE TYPE AND TAG KEY:

NEW WORK BY THIS CONTRACTOR (BOLD, WIDE LINE)

NEW

— — — — NEW UNDERFLOOR, UNDERGROUND, OR ABOVE (LONG DASHED PATTERN)

EXISTING TO REMAIN OR WORK BY OTHERS (GREY, NARROW LINE)

EXISTING

— — — — EXISTING UNDERFLOOR, UNDERGROUND, OR ABOVE (LONG DASHED PATTERN)

HALFTONING DOES NOT MODIFY SCOPE.

'TAG' (E) TAGS WITH '(E)' INDICATES THE REFERENCED OBJECT IS EXISTING

TAG-01 UNDERLINED TEXT INDICATES ADDITIONAL INFORMATION CAN BE FOUND ELSEWHERE IN A SCHEDULE, MATERIAL LIST, OR SYMBOL LIST

 INDICATES AN EXISTING SYSTEM'S POINT OF CONNECTION/REMOVAL

CONTRACTOR SHALL COMPLY WITH APPLICABLE CODES AND LOCAL AMENDMENTS.

BUILDING CODE:	MICHIGAN BUILDING CODE/2021
MECHANICAL CODE:	MICHIGAN MECHANICAL CODE/2021
PLUMBING CODE:	MICHIGAN PLUMBING CODE/2021
ELECTRICAL CODE:	NATIONAL ELECTRICAL CODE/2023
FIRE PREVENTION CODE:	NFPA FIRE CODE/2015

APPLICABLE CITY OF ANN ARBOR RULES AND REGULATIONS

THESE NOTES APPLY TO ALL MECHANICAL SHEETS AND TRADES, INCLUDING BUT NOT LIMITED TO, FIRE PROTECTION, PLUMBING, MEDICAL GAS, VENTILATION, PIPING AND TEMPERATURE CONTROL.

1. DRAWINGS SHOWING LOCATIONS OF EQUIPMENT, DUCTWORK, PIPING, ETC. ARE DIAGRAMMATIC AND MAY NOT ALWAYS REFLECT EXACT INSTALLATION CONDITIONS. DRAWINGS SHOWING THE GENERAL ARRANGEMENT OF DUCTWORK, PIPING, EQUIPMENT, ETC., AND THE METHOD OF INSTALLATION ARE REQUIRED FOR COMPLETE CONSTRUCTION AND INSTALLATION. THE DRAWINGS SHALL BE FOLLOWED AS CLOSELY AS ACTUAL BUILDING CONSTRUCTION AND THE WORK OF OTHERS WILL PERMIT.
2. CATALOG AND MODEL NUMBERS SHALL NOT BE CONSIDERED COMPLETE, BUT ARE GIVEN AS AN AID TO THE CONTRACTOR AND TO INDICATE THE QUALITY REQUIRED. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING THE MATERIAL SCHEDULED ON THESE DRAWINGS AND IN THE SPECIFICATIONS BEFORE ORDERING. THE DESCRIPTION OF THE MATERIAL AND SCHEDULED PERFORMANCE TAKES PRECEDENCE OVER THE MODEL NUMBER. THE FIRST MANUFACTURER SCHEDULED IS THE BASIS OF DESIGN.
3. DETERMINATION OF QUANTITIES OF MATERIAL AND EQUIPMENT REQUIRED SHALL BE MADE BY THE CONTRACTOR. DISCREPANCIES BETWEEN THE MATERIAL SCHEDULED, QUANTITY DISCREPANCIES ARISE BETWEEN DRAWINGS, SCHEDULES AND/OR SPECIFICATIONS, THE HIGHER QUALITY/ GREATER NUMBER SHALL GOVERN.
4. DO NOT SCALE DRAWINGS. VERIFY ALL DIMENSIONS AND CLEARANCES FROM ARCHITECTURAL, STRUCTURAL, SUBMITTALS, AND OTHER APPROPRIATE DRAWINGS OR PHYSICAL CONDITIONS. VERIFY ALL DIMENSIONS, INCLUDING THOSE OF OTHER TRADES. COORDINATE ALL WORK WITH ALL OTHER TRADES PRIOR TO INSTALLATION TO PROVIDE CLEARANCES REQUIRED FOR OPERATION, MAINTENANCE, CODE COMPLIANCE, AND TO VERIFY NON-INTERFERENCE WITH OTHER WORK. DO NOT FABRICATE PRIOR TO VERIFICATION OF NECESSARY CLEARANCES FOR ALL TRADES. BRING ANY INTERFERENCES OR CONFLICTS TO THE ATTENTION OF THE ARCHITECT/ENGINEER BEFORE PROCEEDING WITH FABRICATION OR EQUIPMENT ORDERS.
5. REVIEW SPACE REQUIREMENTS OF EQUIPMENT SPECIFIED OR SUBSTITUTED AND MAKE REASONABLE ACCOMMODATIONS IN LAYOUT AND POSITIONING TO PROVIDE PROPER ACCESS.
6. ANY CHANGES REQUIRED TO ELIMINATE CONFLICTS OR THAT RESULT FROM A FAILURE TO ANTICIPATE SHALL BE MADE BY THE CONTRACTOR WITHOUT ADDITIONAL COST OR EXPENSE TO OTHERS.
7. EACH CONTRACTOR IS RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH ELECTRICAL CHANGES REQUIRED FOR EQUIPMENT PROPOSED THAT DIFFERS FROM THE BASIS OF DESIGN.
8. EACH CONTRACTOR IS RESPONSIBLE FOR DAMAGE CAUSED BY THEIR ACTIONS TO WALLS, FLOORS, CEILINGS, AND ROOFS. THE CONTRACTOR WHOSE WORK CAUSES DAMAGE IS RESPONSIBLE FOR PATCHING TO MATCH ORIGINAL CONSTRUCTION, FIRE RATING, AND FINISH.
9. SEAL ALL FLOOR, AND WALL, PENETRATIONS AIRTIGHT WHERE CONDITS, PIPING, AND DUCTS PENETRATE. PENETRATIONS THROUGH EXTERIOR WALLS AND ROOF SHALL BE SEALED AIRTIGHT WITH WATERPROOFING MATERIALS RECOMMENDED BY MANUFACTURER FOR OUTDOOR USE.
10. CALK ALL PIPE AND DUCT PENETRATIONS OF FULL HEIGHT NON-FIRE RATED WALL. PREVENT FLOOR SPILLAGE AND DUCT DISASSEMBLY. THIS IS CRITICAL TO PREVENT NOISE TRANSMISSION FROM ONE ROOM TO ANOTHER AND TO PROVIDE THE DESIRED NC LEVELS WITHIN ROOMS.
11. EQUIPMENT SIZES AND SERVICE CLEARANCE REQUIREMENTS VARY AMONG DIFFERENT MANUFACTURERS. CONSULT APPROVED SHOP DRAWINGS FOR EQUIPMENT SIZES AND SERVICE CLEARANCES. COORDINATE WITH LAYOUT OF EQUIPMENT PADS, PIPING, DUCTWORK, ETC.
12. MAINTAIN A MINIMUM WORKING CLEARANCE OF 3' EQUIPMENT REQUIRING MAINTENANCE, INSPECTION, AND TESTING INCLUDING BUT NOT LIMITED TO PANELS, DISTRIBUTION PANELS, SWITCHBOARDS, MOTOR CONTROL CENTERS, TRANSFORMERS, DISCONNECTS AND STARTERS.
13. MAINTAIN THE DEDICATED ELECTRICAL EQUIPMENT SPACE DEFINED BY THE WIDTH / DEPTH OF ELECTRICAL EQUIPMENT MEASURED FROM THE FLOOR TO A HEIGHT 6' EQUIPMENT OR THE STRUCTURAL CEILING, WHICHEVER IS LOWER. SYSTEMS FOREIGN TO THE ELECTRICAL DISTRIBUTION SYSTEM ARE NOT ALLOWED IN THE DEDICATED ELECTRICAL SPACE.
14. PROVIDE CONCRETE EQUIPMENT PAD FOR ALL FLOOR MOUNTED EQUIPMENT. PAD SHALL EXTEND MINIMUM 6" BEYOND ALL SIDES OF EQUIPMENT EXCEPT WHERE PAD EXTENSION WOULD INTERFERE WITH WORKING SPACE AT EQUIPMENT CONTROL PANELS AND ELECTRICAL PANELS.
15. DO NOT BS PER HANGER AND A MINIMUM SPACING OF 2'-0" ON CENTER WHEN ATTACHING TO METAL ROOF DECKING (LIMITATION NOT REQUIRED WITH CONCRETE ON METAL DECK). THIS 25 LBS. LOAD AND 2'-0" SPACING INCLUDE ADJACENT ELECTRICAL AND ARCHITECTURAL ITEMS HANGING FROM DECK. IF THE HANGER RESTRICTIONS CANNOT BE ACHIEVED, SUPPLEMENTAL FRAMING OFF STEEL FRAMING SHALL BE ADDED. ANCHORS EMBEDDED IN CONCRETE SHALL BE CRACKED CONCRETE APPROVED IN ACCORDANCE WITH SPECIFICATIONS.

1. HANGING OF SYSTEM PIPING SHALL BE PER NFPA 13, SECTION 9.1 & 9.2.
2. BUILDING STRUCTURAL BEAMS SHALL BE ADEQUATE TO SUPPORT THE SYSTEM. SPRINKLER PIPING OR HANGERS SHALL NOT BE USED TO SUPPORT NON-SYSTEM COMPONENTS. THE DISTANCE BETWEEN A HANGER AND THE CENTERLINE OF AN UPRIGHT SPRINKLER SHALL BE LESS THAN 1/4 OF THE SPRINKLER 76 MM.
3. HOLES THROUGH SOLID STRUCTURAL MEMBERS SHALL BE PERMITTED TO SERVE AS HANGERS FOR THE SUPPORT OF SYSTEM PIPING PROVIDED SUCH HOLES ARE PERMITTED BY APPLICABLE BUILDING CODES AND THE SPACING AND SUPPORT PROVISIONS FOR HANGERS OF NFPA 13 ARE SATISFIED.
4. THE MAXIMUM DISTANCE BETWEEN HANGERS SHALL NOT EXCEED THAT SPECIFIED IN TABLE NFPA 13, 9.2.2.1(A), EXCEPT WHERE THE PROVISIONS OF NFPA 13, SECTION 9.2.4 APPLY.

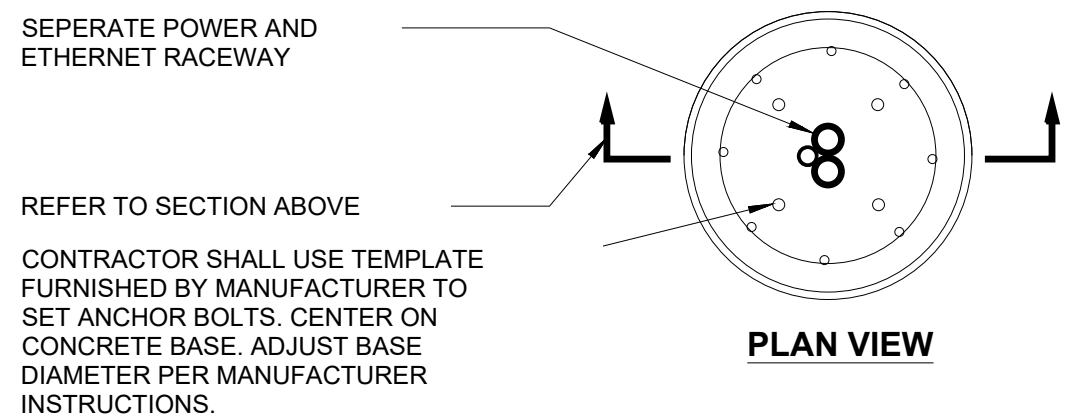
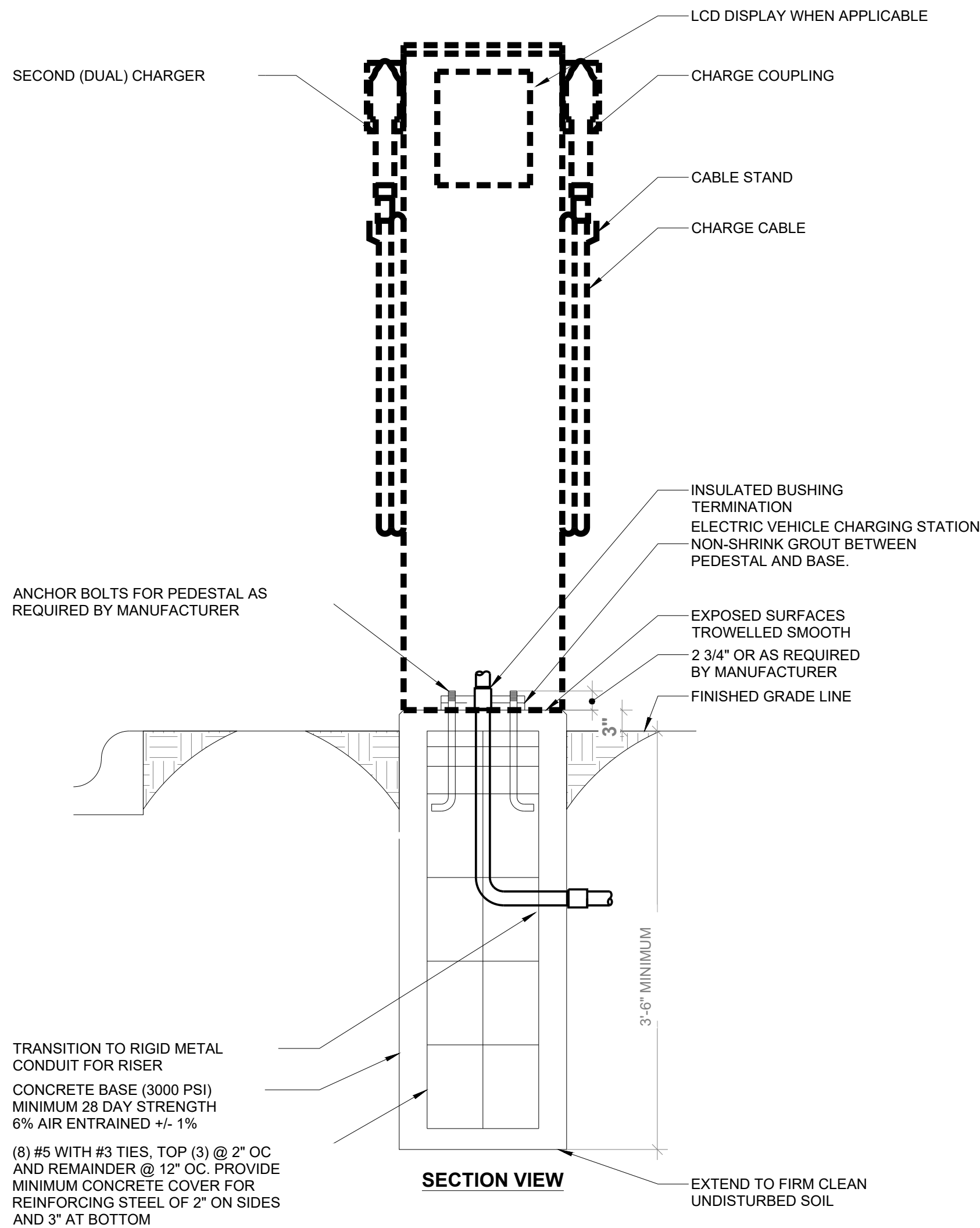
5 THERE SHALL BE NOT LESS THAN ONE HANGER FOR EACH SECTION OF PIPE, EXCEPT
WHERE SPRINKLERS AND MULTIPLE PIPE FITTINGS ARE SPACED LESS THAN 6 FT APART.
HANGERS SHALL BE SPACED UP TO A MAXIMUM OF 12'-0". HANGERS ARE NOT REQUIRED
WHERE BRANCH LINES STARTER LENGTHS ARE LESS THAN 6'-0", UNLESS ON THE END LINE
OF A FEED SYSTEM OR WHERE AN INTERMEDIATE CROSS MAIN HANGER HAS BEEN
OMITTED.

6 THE UNSUPPORTED LENGTH BETWEEN THE END SPRINKLER AND THE LAST HANGER ON
THE LINE SHALL NOT BE GREATER THAN 36" FOR 1" PIPE, 48" FOR 1 1/4" PIPE, AND 60" FOR
1 1/2" OR LARGER PIPE. WHERE THE LIMITS ARE EXCEEDED, THE PIPE SHALL BE EXTENDED
BEYOND THE END SPRINKLER AND SHALL BE SUPPORTED BY AN ADDITIONAL HANGER.

7 THE MAXIMUM ALLOWED HANGER SPACING SHALL BE 12'-0" FOR STEEL PIPE, 8'-0" FOR
SPRINKLER DROP OR SPRIG SHALL NOT EXCEED 24" FOR STEEL PIPE.

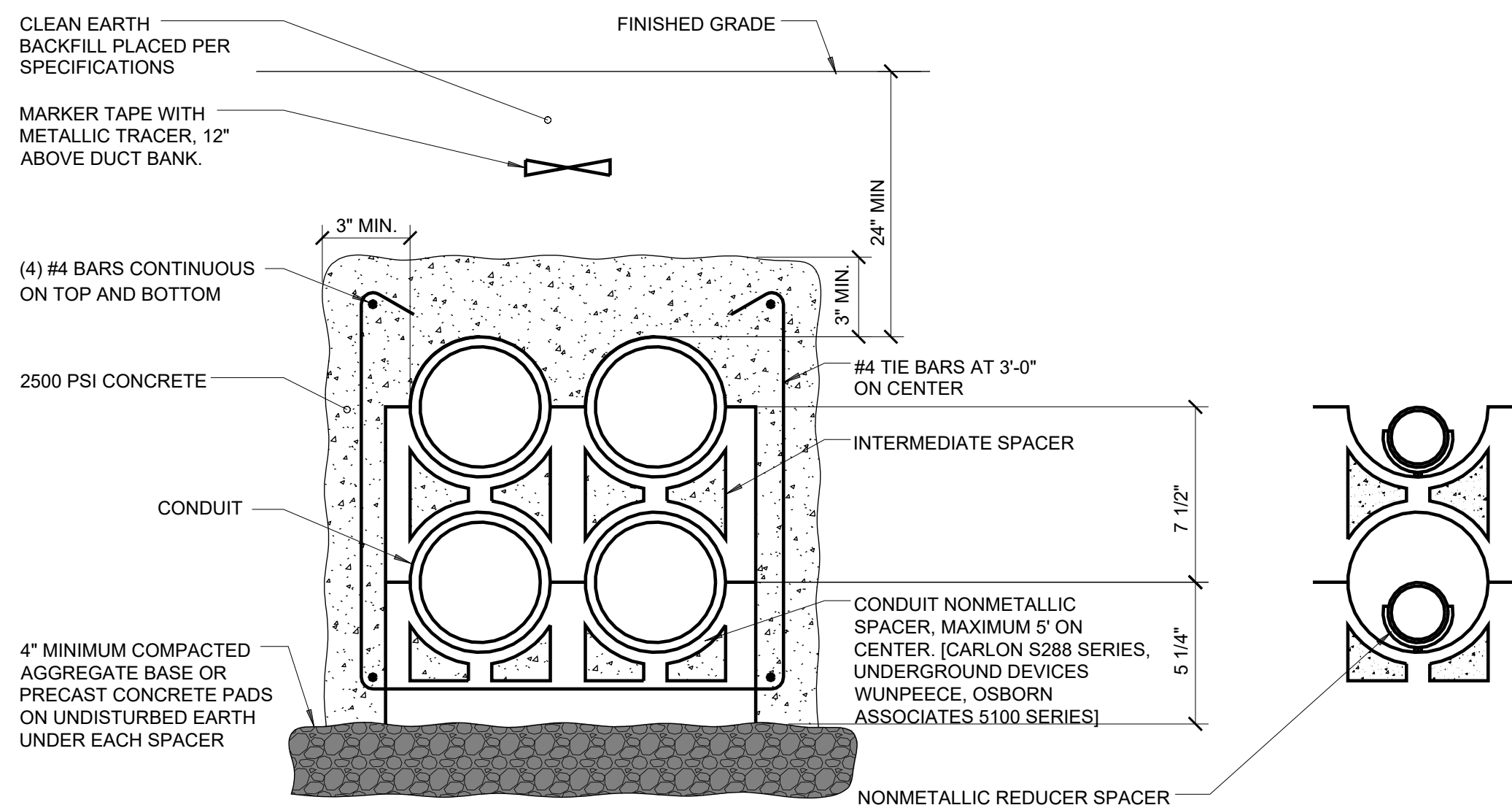
8 LOCATION OF HANGERS ON MAINS SHALL COMPLY WITH NFPA 13, SECTION 9.2.4 FOR STEEL
PIPE CROSS MAINS. A HANGER CAN BE INSTALLED BETWEEN EVERY TWO BRANCH LINES
OR, ALTERNATIVELY, ON EACH BRANCH LINE AS NEAR AS POSSIBLE TO THE CROSS MAIN,
WHILE OMITTING ONE INTERMEDIATE CROSS MAIN HANGER IN EACH BAY. THE OPTION TO
OMIT THE INTERMEDIATE CROSS MAIN HANGER APPLIES TO THE LAST PIPE OF A CROSS
MAIN ON THE MAIN IS EXTENDED TO THE NEXT FRAMING MEMBER AND HANGER IS
INSTALLED AT THAT POINT.

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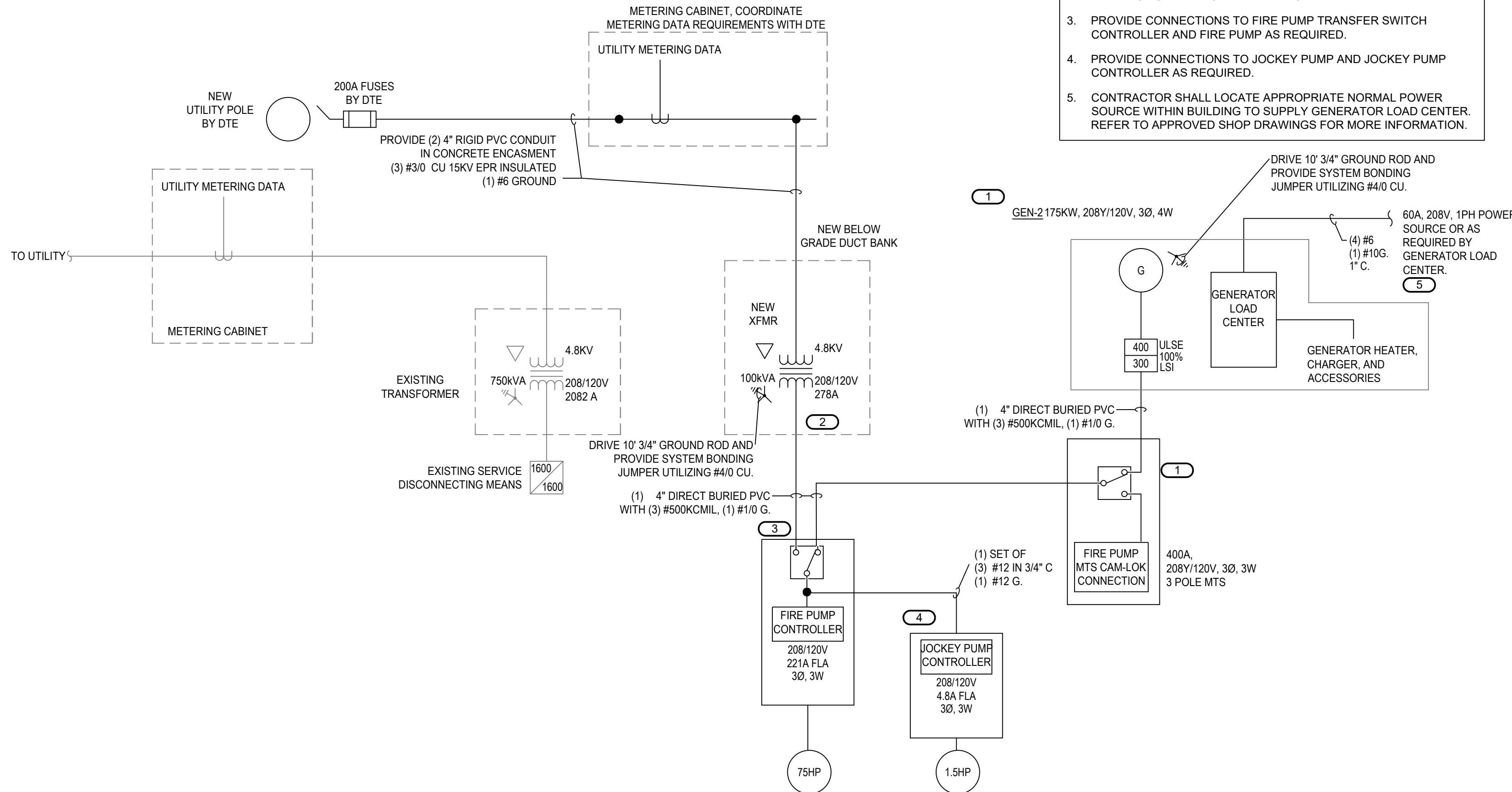


4 FUTURE EV CHARGER DETAIL

NTS

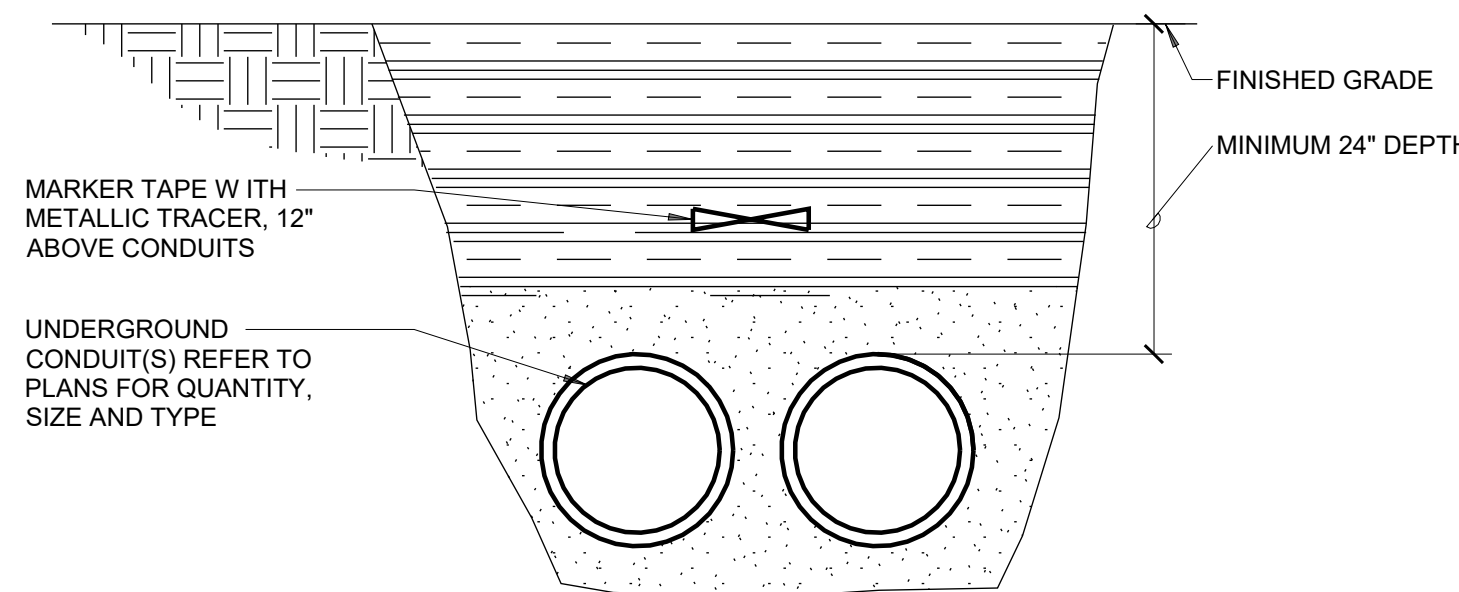


- NOTES:
1. INSTALL 2000 lb TENSILE STRENGTH BRAIDED POLYPROPYLENE PULL CORD IN ALL CONDUITS.
 2. TRENCHING AND BACKFILL PER CIVIL DRAWINGS.
 3. MINIMUM OF 4'-0" CLEAR BETWEEN ADJACENT DUCTBANKS.
 4. DOWEL ENDS OF DUCTBANK TO FOUNDATION OR MANHOLE WITH A MINIMUM OF (4) #4 DOWELS.



3 UNDERGROUND CONDUIT DETAIL

NTS



- NOTES:
1. INSTALL 2000 lb TENSILE STRENGTH PULL ROPE IN ALL EMPTY CONDUITS.
 2. TRENCHING AND BACKFILL PER CIVIL DRAWINGS.

FOR BIDS ONLY

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- DRAWING NOTES:**
- ALL WORK SHALL BE INSTALLED PER CURRENTLY ADOPTED CODE SECTIONS.
 - ELECTRICAL CONTRACTOR SHALL FIELD VERIFY ALL CONDITIONS AND EXECUTE WORK AS REQUIRED TO MAINTAIN CLEARANCES AND INSTALLATION PER CODE.
 - COORDINATE ALL FIRE PUMP AND JOCKEY PUMP WORK WITH FIRE SUPPRESION VENDOR.

- KEYNOTES:** **C X**
1. INSTALL OWNER FURNISHED GENERATOR AND GENERATOR CONNECTION CABINET, REFER TO PRE-PURCHASE SPECIFICATION 263213.
 2. INSTALL OWNER FURNISHED TRANSFORMER PER SPECIFICATION 261216 IN PRE-PURCHASE SPECIFICATIONS FOR DRY TYPE DISTRIBUTION AND POWER TRANSFORMER.
 3. PROVIDE CONNECTIONS TO FIRE PUMP TRANSFER SWITCH CONTROLLER AND FIRE PUMP AS REQUIRED.
 4. PROVIDE CONNECTIONS TO JOCKEY PUMP AND JOCKEY PUMP CONTROLLER AS REQUIRED.
 5. CONTRACTOR SHALL LOCATE APPROPRIATE NORMAL POWER SOURCE WITHIN BUILDING TO SUPPLY GENERATOR LOAD CENTER. REFER TO APPROVED SHOP DRAWINGS FOR MORE INFORMATION.



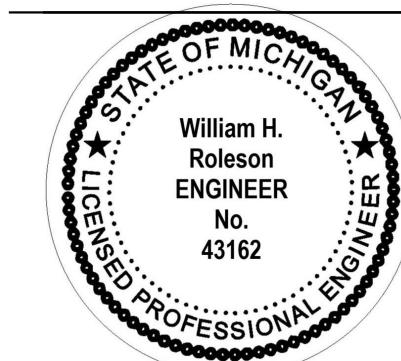
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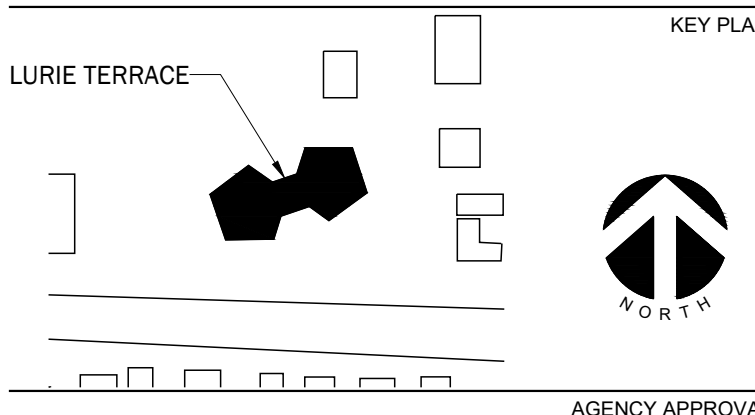
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REFERENCE SCALE IN INCHES

REVISIONS

No.	Date	Revision / Issue
A	12/08/2025	OWNER REVIEW
B	05/13/2025	ISSUED FOR BID/PERMIT

SHEET INFORMATION

Issue	ISSUED FOR BID/PERMIT
Date	05/13/2025
Job Number	22001235.00
Drawn	A. BUSCH
Checked	A. BUSCH
Approved	B. ROLESON

SHEET TITLE

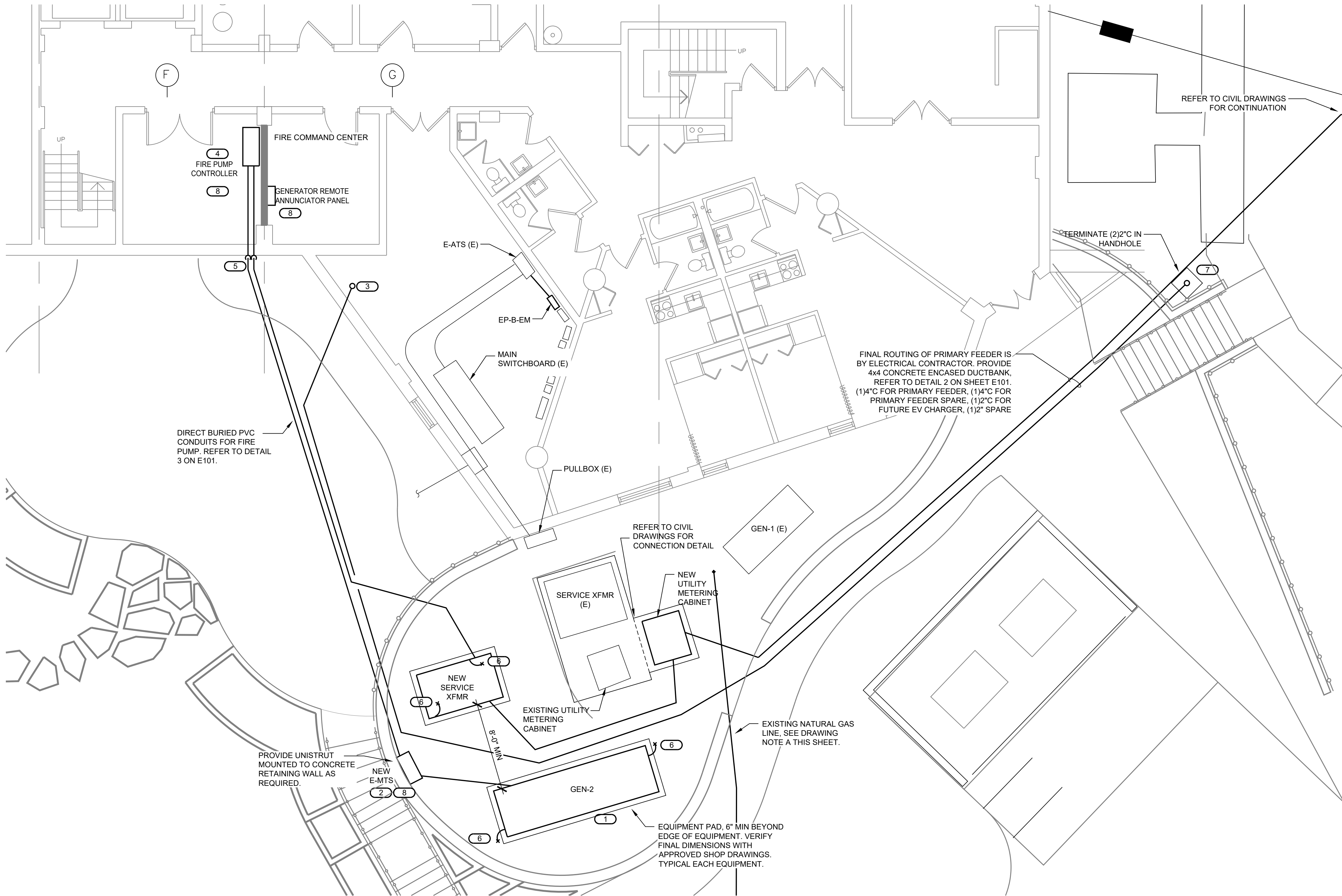
PARTIAL SINGLE LINE DIAGRAM

SCALE

NONE

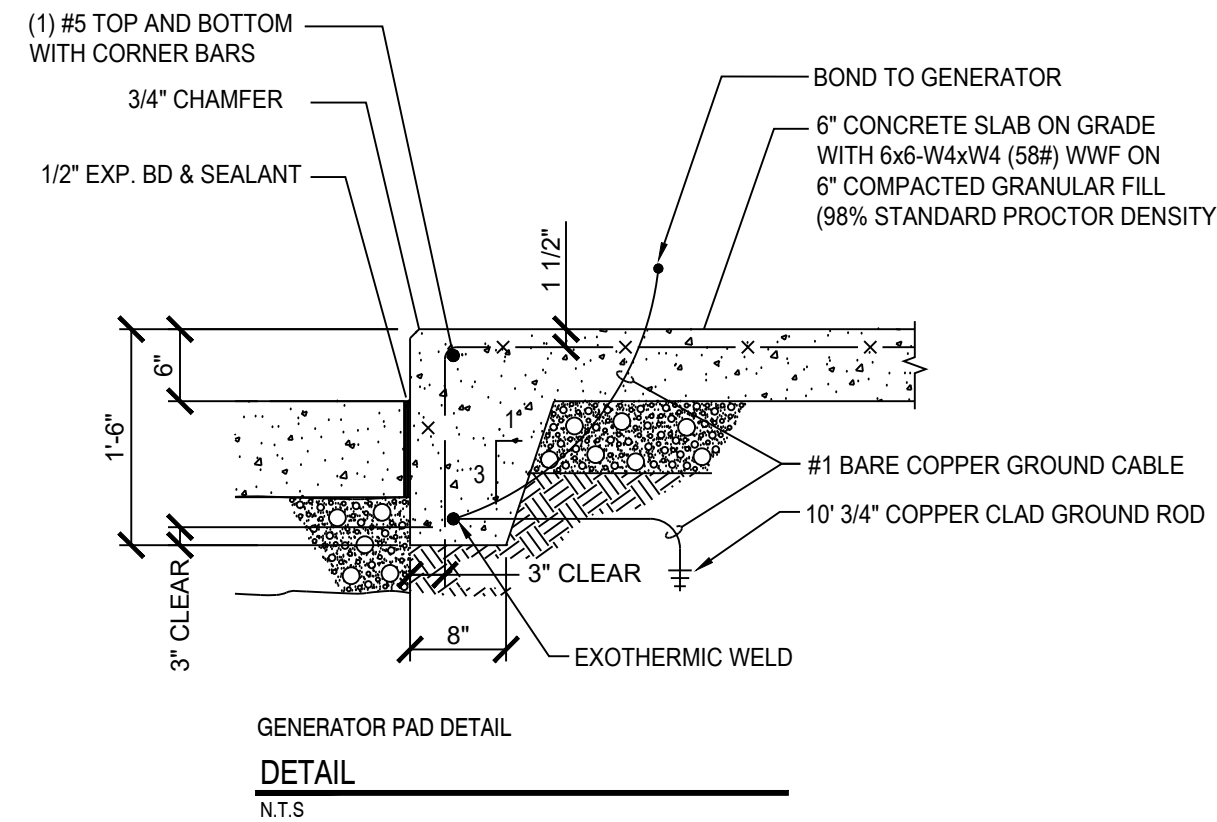
SHEET NUMBER

E101



1 BASMENT PLAN - EAST WING - ELECTRICAL NEW WORK

3/16" = 1'-0" (24"x36" DRAWINGS)



- DRAWING NOTES:**
- A. ELECTRICAL CONTRACTOR SHALL HAVE THE AREA SURVEYED PRIOR TO ANY EXCAVATIONS. EXISTING UNDERGROUND UTILITIES SHOWN ARE NOT ALL INCLUSIVE. ELECTRICAL CONTRACTOR SHALL FIX ANY DAMAGE TO UNDERGROUND UTILITIES INCURRED DURING EXCAVATION TO ORIGINAL CONDITIONS.
 - B. ALL WORK SHALL BE INSTALLED PER CURRENTLY ADOPTED CODE.
 - C. SIZE ALL PULL BOXES PER NEC ARTICLE 314.28.
 - D. (E) = EXISTING TO REMAIN
 - E. DRAWINGS DIAGRAMMATICALLY INDICATE THE GENERAL SCOPE OF WORK, BUT DO NOT PROVIDE EXACT SCALE OR LOCATIONS. PROPER INSTALLATION OF ALL SYSTEMS, AFTER COORDINATION WITH OTHER TRADES, IS THE CONTRACTORS RESPONSIBILITY.
 - F. CONDUIT ROUTING IS SCHEMATIC ONLY. REFER TO CIVIL DRAWINGS FOR ADDITIONAL INFORMATION. FINAL CONDUIT ROUTING BY ELECTRICAL CONTRACTOR.
 - G. ALL MEDIUM VOLTAGE CONDUIT AND CONDUIT UNDER ROADWAY/DRIVEWAY SHALL BE CONCRETE ENCASED (REFER TO DETAIL 2 E101).

- KEYNOTES:** (X)
1. PROVIDE CONCRETE EQUIPMENT PAD PER GENERATOR PAD DETAIL THIS DRAWING. COORDINATE FINAL DIMENSIONS AND CONDUIT STUB UPS WITH APPROVED SHOP DRAWINGS. REFER TO SINGLE LINE DIAGRAM, PURCHASE SPECIFICATIONS, AND APPROVED SHOP DRAWINGS.
 2. INSTALL MANUAL TRANSFER SWITCH WITH TEMPORARY GENERATOR CAM-LOK PROVISIONS. REFER TO SINGLE LINE DIAGRAM.
 3. PROVIDE 2" SPARE CONDUIT STUBBED INTO ELECTRICAL ROOM FOR FUTURE EV CHARGER.
 4. PROVIDE CONNECTION TO FIRE PUMP CONTROLLER.
 5. STUB CONDUITS UP ON EXTERIOR OF BUILDING, PENETRATE WALL AND PROVIDE FIRE SEAL.
 6. PROVIDE 3/4"x10' COPPER CLAD GROUND ROD. BOND TO EQUIPMENT GROUND LUG UTILIZING BARE #4/0 AWG.
 7. PROVIDE QUAZITE HANDHOLE WITH GRAVEL SUB-BASE.
 8. PROVIDE ALL REQUIRED START SIGNAL AND COMMUNICATION WIRING FROM FIRE PUMP CONTROLLER TO MTS, FROM MTS TO GENERATOR, AND TO GENERATOR ANNUNCIATOR PANEL. PROVIDE 1-1/2" PVC BELOW GRADE CONDUIT WITH FIRE PUMP FEEDERS FOR CONTROL WIRING. REFER TO APPROVED SHOP DRAWINGS FOR MORE INFORMATION.



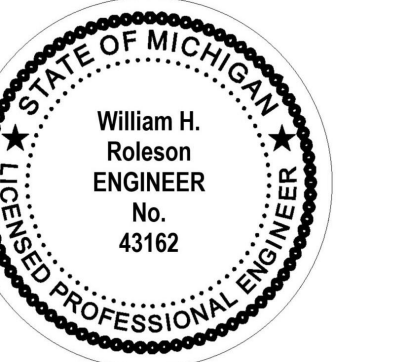
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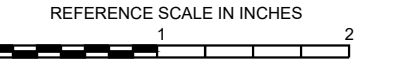
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SHEET INFORMATION

Issue	ISSUED FOR BID/PERMIT
Date	05/13/2025
Job Number	22001235.00
Drawn	A. BUSCH
Checked	A. BUSCH
Approved	B. ROLESON

SHEET TITLE

BASEMENT / SITE PLAN - EAST WING ELECTRICAL

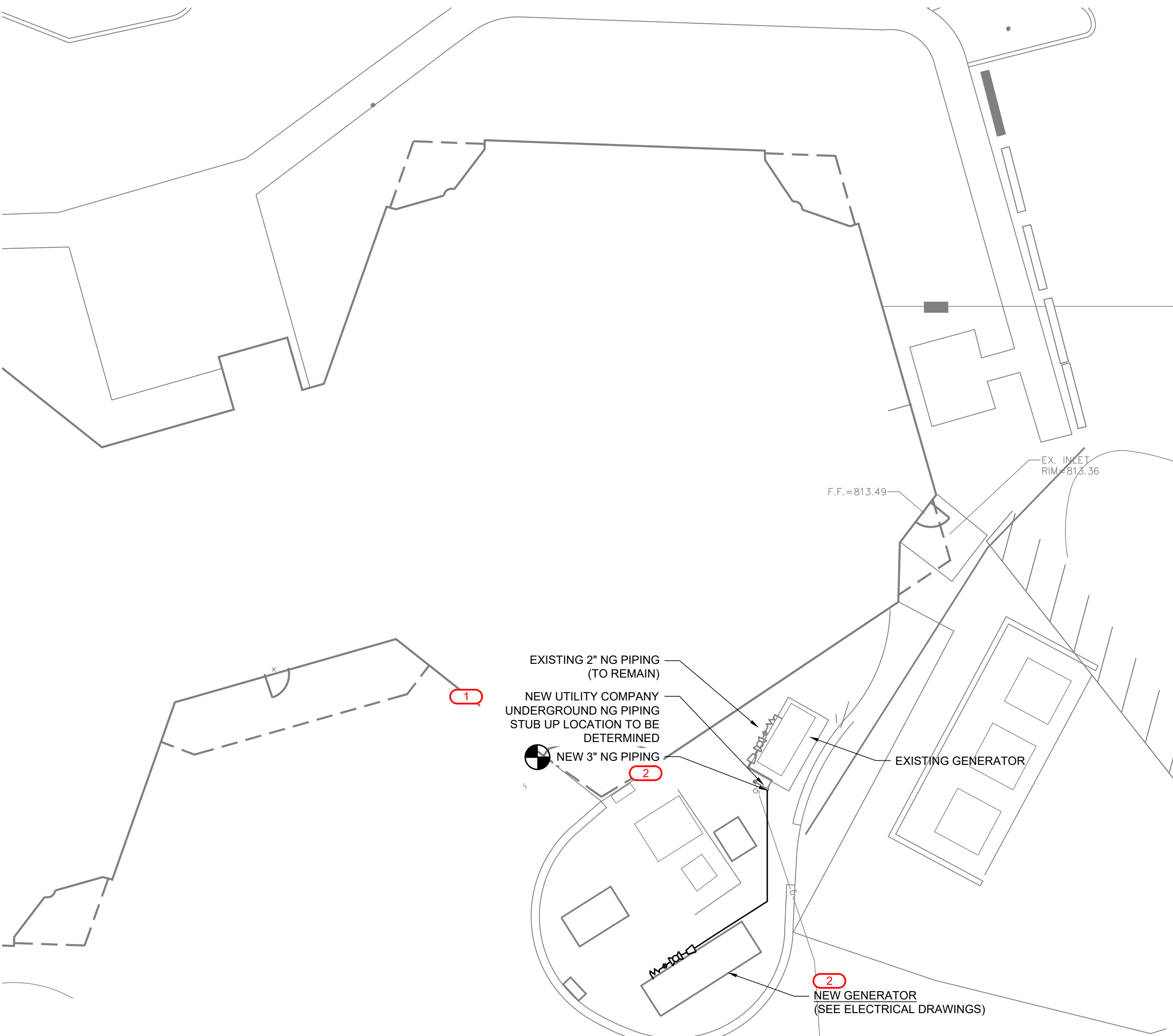
SCALE

3/16" = 1'-0" (24"x36" DRAWINGS)

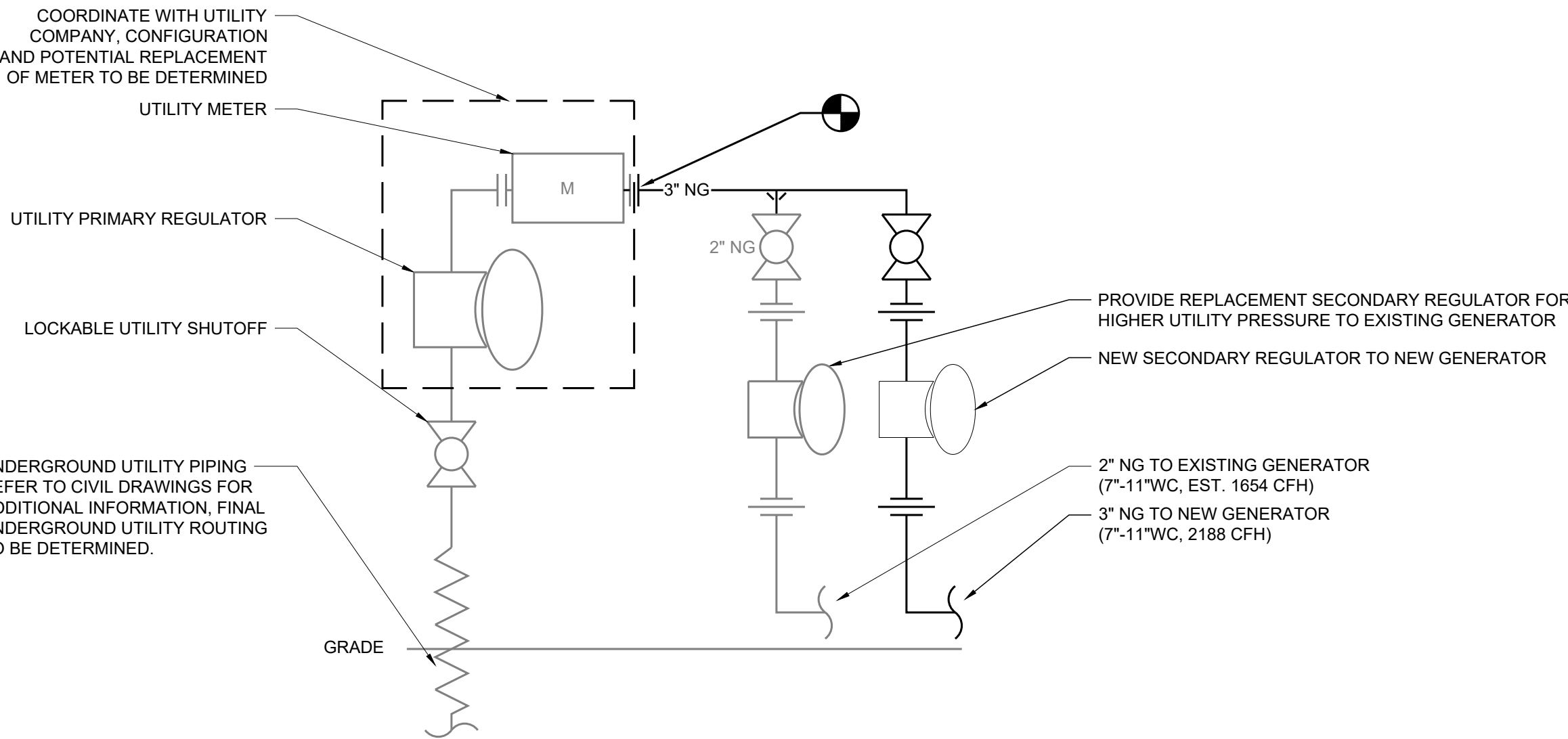
SHEET NUMBER

E102

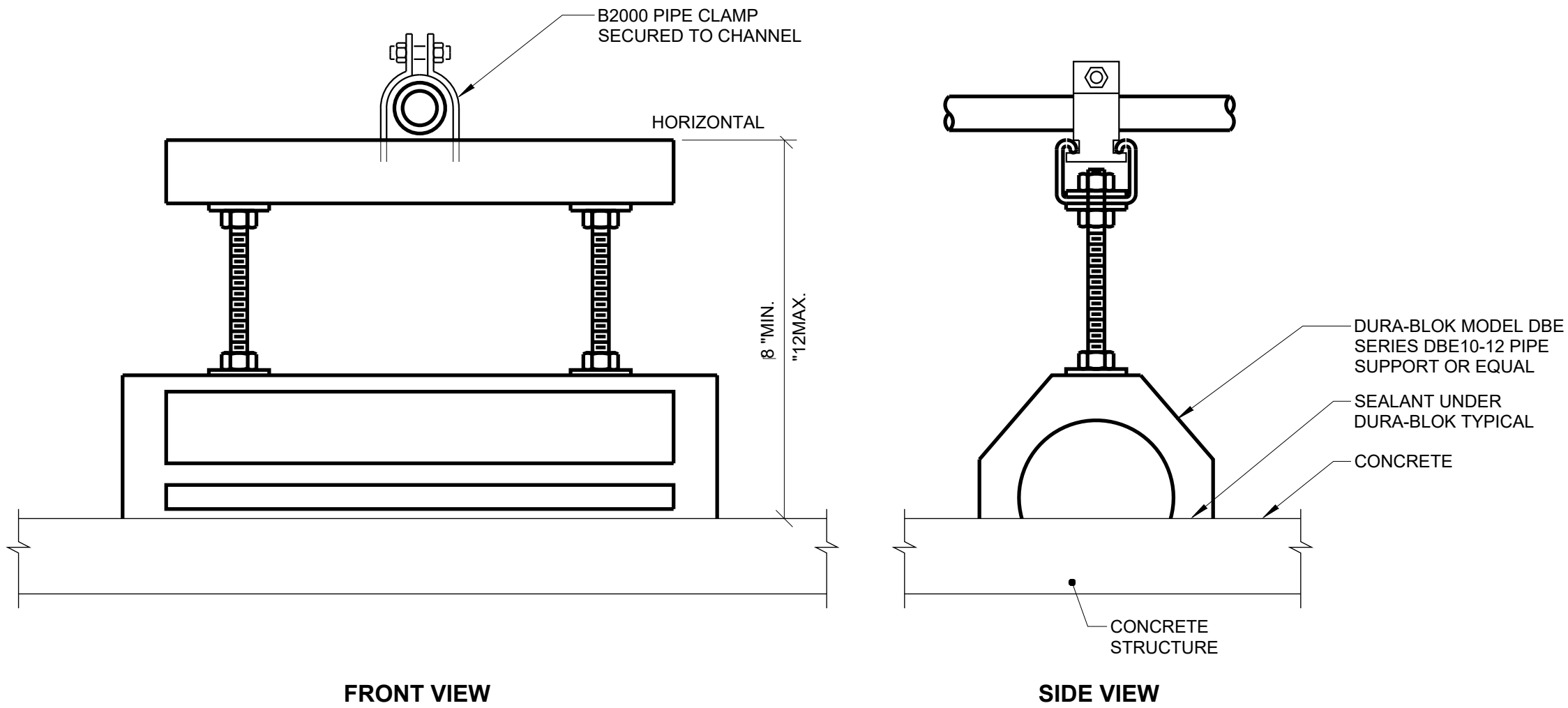
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1 SITE PLAN - EAST WING - NATURAL GAS
3/32" = 1'-0" (24"x36" DRAWINGS)



2 NATURAL GAS SCHEMATIC
NO SCALE



- NOTES:
- PIPE SUPPORT SHALL BE AT 8 FT. MAXIMUM SPACING. PROVIDE PIPE SUPPORT AT EACH SIDE OF 90° TURN.
 - BASIS OF DESIGN: EATON B-LINE DBE SERIES.

3 PIPE SUPPORT DETAIL
NO SCALE

- DRAWING NOTES:**
- SEE GENERAL NOTES, SPECIFICATIONS, AND ADDITIONAL PROJECT INFORMATION ON GENERAL DRAWINGS.
 - NEW WORK SHOWN IN BOLD.
 - DRAWINGS DIAGRAMMATICALLY INDICATE THE GENERAL SCOPE OF WORK, BUT DO NOT PROVIDE EXACT SCALE OR LOCATIONS. PROPER INSTALLATION OF ALL SYSTEMS, AFTER COORDINATION WITH OTHER TRADES, IS THE CONTRACTORS RESPONSIBILITY.

- KEYNOTES:** **X**
- COORDINATE WITH UTILITY AND OWNER REP AS REQUIRED FOR ANY CONCURRENT WORK BY UTILITY FOR REPLACEMENT OF METER/REGULATOR. NEW UNDERGROUND ROUTING OF UTILITY PIPING MAY REQUIRE RELOCATION OF SERVICE CONNECTION.
 - TIE-IN PIPING TO SERVICE CONNECTION, RECONNECT TO EXISTING PIPING TO EXISTING GENERATOR PER NATURAL GAS SCHEMATIC (THIS SHEET), AND EXTEND/CONNECT TO NEW GENERATOR PER MANUFACTURER RECOMMENDATIONS.

- NATURAL GAS SPECIFICATIONS:**
- A. PIPING - 2" AND UNDER:
- PIPE: STANDARD WEIGHT BLACK STEEL, THREADED AND COUPLED, ASTM A53.
 - JOINTS: SCREWED. (NOTE: FOR BELOW GROUND, ALL SIZES TO HAVE WELDED JOINTS.)
 - FITTINGS: BLACK MALLEABLE IRON, BANDED, ASTM A197, ANSI B16.3.
 - UNIONS: BLACK MALLEABLE IRON, ANSI B16.39, GROUND JOINT WITH BRASS SEAT.
- B. PIPING - 2-1/2" AND OVER:
- PIPE: STANDARD WEIGHT BLACK STEEL, BEVELED ENDS, ASTM A53.
 - JOINTS: BUTT WELDED OR FLANGED.
 - FITTINGS: STANDARD WEIGHT SEAMLESS STEEL, BUTT WELD TYPE, ASTM A234, GRADE 1, ANSI B16.9.
 - FLANGES: 150# FORGED STEEL, WELD NECK OR SLIP-ON, ASTM A181, GRADE 1, ANSI B16.5. FLANGE FACE SEAL WELD (BACKWELD) IS REQUIRED FOR SLIP-ON FLANGES.
- C. PREPARATION
- REAM PIPE AND TUBE ENDS, REMOVE BURRS, BEVEL PLAIN END FERROUS PIPE.
 - REMOVE SCALE AND DIRT ON INSIDE AND OUTSIDE BEFORE ASSEMBLY.
 - REMOVE ALL SCALE, RUST, DIRT, OILS, STICKERS AND THOROUGHLY CLEAN EXTERIOR OF ALL BARE METAL.
 - EXPOSED PIPING, HANGERS, AND ACCESSORIES (IN PREPARATION TO BE PAINTED).
 - CONNECT TO ALL EQUIPMENT WITH FLANGES OR UNIONS.
 - AFTER COMPLETION, FILL, CLEAN, AND TREAT SYSTEMS.
- D. TESTING PIPING
- LOW PRESSURE - UP TO 1 PSI (7 KPA): TEST PIPING WITH 20 PSI (140 KPA) AIR PRESSURE. SYSTEM MUST HOLD THIS PRESSURE WITHOUT ADDING AIR FOR TWO HOURS.
 - HIGH PRESSURE - ABOVE 1 PSI (7 KPA): TEST PIPING WITH COMPRESSED AIR AT TWICE THE OPERATING GAS PRESSURE, BUT AT LEAST 20 PSI (140 KPA). SYSTEM MUST HOLD THIS PRESSURE WITHOUT ADDING AIR FOR TWO HOURS.
 - A NON-COMBUSTIBLE ODORANT, SUCH AS OIL OF WINTERGREEN, MAY BE ADDED TO HELP LOCATE LEAKS.
- E. CLEANING PIPING
- PRIOR TO ASSEMBLY OF PIPE AND PIPING COMPONENTS, REMOVE ALL LOOSE DIRT, SCALE, OIL AND OTHER FOREIGN MATTER ON INTERNAL OR EXTERNAL SURFACES BY MEANS CONSISTENT WITH GOOD PIPING PRACTICE SUBJECT TO APPROVAL OF THE ARCHITECT/ENGINEER. BLOW CHIPS AND BURRS OUT OF PIPE BEFORE ASSEMBLY. WIPE CUTTING OIL FROM INTERNAL AND EXTERNAL SURFACES.
 - DURING FABRICATION AND ASSEMBLY, REMOVE SLAG AND WELD SPATTER FROM BOTH INTERNAL AND EXTERNAL JOINTS BY PEENING, CHIPPING AND WIRE BRUSHING TO THE DEGREE CONSISTENT WITH GOOD PIPING PRACTICES.
 - NOTIFY THE ARCHITECT/ENGINEER PRIOR TO STARTING ANY POST ERECTION CLEANING OPERATION IN TIME TO ALLOW WITNESSING THE OPERATION. PROPERLY DISPOSE OF CLEANING AND FLUSHING FLUIDS.
 - PRIOR TO BLOWING OR FLUSHING ERECTED PIPING SYSTEMS, DISCONNECT ALL INSTRUMENTATION AND EQUIPMENT. OPEN WIDE ALL VALVES, CONTROL VALVES, AND BALANCE VALVES, AND VERIFY ALL STRAINER SCREENS ARE IN PLACE.
- F. INSTALLATION
- ROUTE PIPING IN ORDERLY MANNER, STRAIGHT, PLUMB, WITH CONSISTENT PITCH, PARALLEL TO BUILDING STRUCTURE, WITH MINIMUM USE OF OFFSETS AND COUPLINGS. PROVIDE ONLY OFFSETS REQUIRED FOR NEEDED HEADROOM OR CLEARANCE AND NEEDED FLEXIBILITY IN PIPE SYSTEM.
 - INSTALL PIPING TO CONSERVE BUILDING SPACE, AND NOT INTERFERE WITH OTHER WORK.
 - DO NOT INSTALL PIPING OR OTHER EQUIPMENT ABOVE ELECTRICAL SWITCHBOARDS OR PANELBOARDS. THIS INCLUDES A DEDICATED SPACE EXTENDING 25 FEET FROM THE FLOOR TO THE STRUCTURAL CEILING WITH WIDTH AND DEPTH EQUAL TO THE EQUIPMENT.
 - GROUP PIPING WHENEVER PRACTICAL AT COMMON ELEVATIONS.
 - INSTALL PIPING TO ALLOW FOR EXPANSION AND CONTRACTION WITHOUT STRESSING PIPE, JOINTS, OR CONNECTED EQUIPMENT.
 - ARRANGE PIPING AND PIPING CONNECTIONS SO EQUIPMENT MAY BE SERVICED OR TOTALLY REMOVED WITHOUT DISTURBING PIPING BEYOND FINAL CONNECTIONS AND ASSOCIATED SHUTOFF VALVES.
 - INSTALL GAS PIPES WITH BOTTOM OF PIPE AND ECCENTRIC REDUCERS IN A CONTINUOUS LINE.
 - PROVIDE DRIP LEGS AT LOW POINTS AND AT THE BASE OF ALL RISERS IN GAS PIPES. DRIP LEGS SHALL BE FULL LINE SIZE ON PIPES THROUGH 4" AND AT LEAST 4", BUT NOT LESS THAN HALF LINE SIZE OVER 4". DRIP LEGS SHALL BE 12" MINIMUM LENGTH, CAPPED WITH A REDUCER TO A DRAIN VALVE.
 - UNLESS OTHERWISE INDICATED ON THE DRAWINGS, ALL HORIZONTAL PIPES, INCLUDING BRANCHES, SHALL PITCH 1" IN 40 FEET TO LOW POINTS FOR COMPLETE DRAINAGE.
- G. PAINTING EXPOSED PIPE
- PAINT ALL OUTDOOR EXPOSED NATURAL GAS PIPING THE COLOR SELECTED BY OWNER OR ARCHITECT/ENGINEER.
- H. SERVICE CONNECTIONS
- PROVIDE NEW GAS SERVICE COMPLETE WITH GAS METER AND REGULATORS. VERIFY GAS SERVICE PRESSURE WITH THE UTILITY COMPANY.



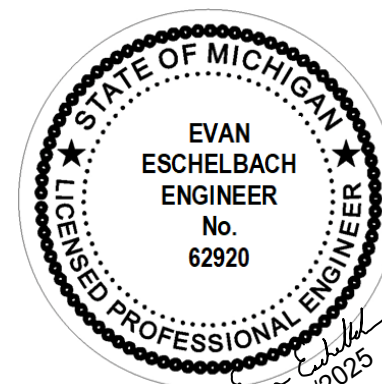
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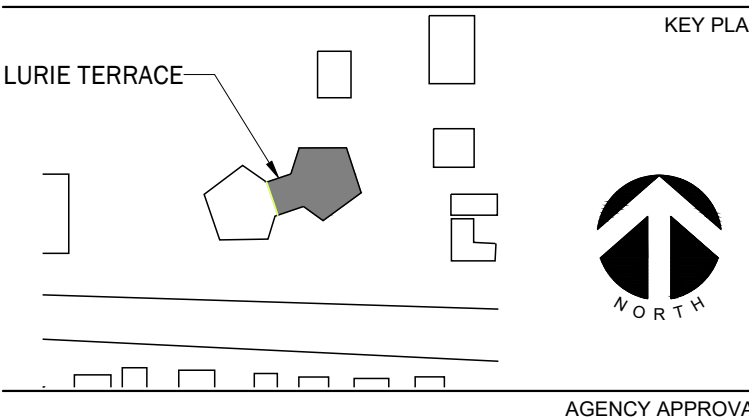
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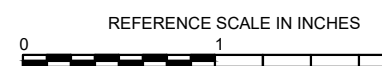
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REVISIONS

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SHEET INFORMATION

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Date	05/13/2025
Job Number	J. SATTELBERG
Drawn	I. PLACE
Checked	R. O'QUINN
Approved	D. NIETHAMMER

PARTIAL SITE PLAN - PIPING DEMOLITION AND NEW WORK

SCALE

SEE DWGS

SHEET NUMBER

M100

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21 13 00 FIRE PROTECTION SYSTEMS

QUALITY ASSURANCE

WELDING MATERIALS AND PROCEDURES: CONFORM TO ASME CODE.

EQUIPMENT AND COMPONENTS: BEAR UL/FM LABEL OR MARKING.

VALVES: BEAR UL/FM LABEL OR MARKING. PROVIDE MANUFACTURER'S NAME AND PRESSURE RATING MARKED ON VALVE BODY. PRESSURE RATING SHALL MATCH SPECIFIED PIPE SYSTEM PRESSURE RATING. REMANUFACTURED VALVES ARE NOT ACCEPTABLE.

SPECIALIST FIRM: COMPANY SPECIALIZING IN SPRINKLER SYSTEMS WITH MINIMUM THREE YEARS EXPERIENCE.

SPRINKLER DESIGN DRAWINGS SUBMITTED BY THE CONTRACTOR SHALL BE DESIGNED, CERTIFIED, AND SHALL INCLUDE THE NICET CERTIFICATION BLOCK OR THE PROFESSIONAL ENGINEER SEAL OF THE FIRE PROTECTION DESIGNER. FIRE PROTECTION DESIGNER SHALL BE NICET LEVEL III OR LEVEL IV CERTIFIED OR BE A LICENSED PROFESSIONAL ENGINEER.

SUBMITTALS
SUBMIT SHOP DRAWINGS INDICATING PIPE MATERIALS, JOINING METHODS, SUPPORTS, FLOOR AND WALL PENETRATION SEALS, SPRINKLERS, EQUIPMENT DATA AND RATINGS, AND HYDRAULIC CALCULATIONS.

SUBMIT DETAILED PIPE AND SPRINKLER LAYOUT AND OTHER CALCULATIONS AND FORMS AS DESCRIBED IN NFPA 13.

SUBMIT DETAILED WORKING DRAWINGS AND OBTAIN REVIEW OF THEM IN THE FOLLOWING ORDER:

- ENGINEER
- AUTHORITY HAVING JURISDICTION

BEGIN CONSTRUCTION AFTER ALL APPROVALS ARE RECEIVED.

WORKING DRAWINGS SHALL INCLUDE PIPING AND SPRINKLER LAYOUT, SPRINKLER TYPES AND RATINGS, SECTIONS AND ELEVATIONS AT CRITICAL POINTS. SHOW COORDINATION WITH LIGHTING, DUCTWORK, AND DIFFUSERS, AND INDICATE BASIC FLOW AND HYDRAULIC DESIGN INFORMATION, INCLUDING MAIN LOCATION AND DATE THAT THE TEST WAS TAKEN.

PROVIDE THE OWNER WITH ONE COPY OF NFPA 25. STANDARD FOR THE INSPECTION TESTING AND MAINTENANCE OF WATER-BASED FIRE PROTECTION SYSTEMS.

EXTRA STOCK
PROVIDE METAL STORAGE CABINET, WRENCHES FOR EACH SPRINKLER TYPE, AND EXTRA SPRINKLERS PER NFPA 13 AND APPLICABLE BUILDING CODE.

DELIVERY, STORAGE, AND HANDLING
STORE VALVES AND SPRINKLERS IN SHIPPING CONTAINERS, WITH LABELS IN PLACE.

PROVIDE TEMPORARY PROTECTIVE COATING ON IRON AND STEEL VALVES.

MAINTAIN TEMPORARY END CAPS AND CLOSURES IN PLACE UNTIL INSTALLATION.

SYSTEM DESCRIPTION

SYSTEM SHALL COVER BUILDING AREAS NOTED.

SYSTEM INTERFACE WITH BUILDING FIRE ALARM SYSTEM INCLUDING ALL REQUIRED WIRING SHALL BE BY OTHERS.

REGULATORY REQUIREMENTS
ALL MATERIAL, EQUIPMENT, AND INSTALLATION SHALL BE APPROVED BY THE AUTHORITIES HAVING JURISDICTION. THE AUTHORITIES HAVING JURISDICTION SHALL HAVE PRECEDENCE OVER THE DRAWINGS AND SPECIFICATIONS IN CASE OF DISCREPANCIES. THE ENTIRE INSTALLATION SHALL COMPLY WITH ALL APPLICABLE CODES.

SYSTEM DESIGN
DESIGN AND INSTALL A COMPLETE, HYDRAULICALLY CALCULATED WET PIPE SPRINKLER SYSTEM FOR THE ENTIRE AREA OF WORK IDENTIFIED ON DRAWINGS. PROVIDE ALL REQUIRED EQUIPMENT AND ACCESSORIES.

SYSTEM SHALL INCLUDE A 5 PSI ALLOWANCE FOR FUTURE DECREASE IN AVAILABLE PRESSURE AND AN ALLOWANCE FOR INSIDE AND OUTSIDE HOSE STREAMS.

PROVIDE MONITOR SWITCHES ON ALL SHUTOFF VALVES.

PROVIDE FLOW SWITCHES, MONITOR SWITCHES, AND PRESSURE GAUGES WHERE REQUIRED BY CODE.

PROVIDE MAIN DRAIN VALVE PIPED TO OUTSIDE THE BUILDING. LOCATE SO DISCHARGE DOES NOT DAMAGE LAWN OR OTHER SURFACES.

OPERATION AND MAINTENANCE DATA
SUBMIT MANUFACTURERS' OPERATION AND MAINTENANCE DATA. INCLUDE WRITTEN MAINTENANCE DATA ON COMPONENTS OF SYSTEM, SERVICING REQUIREMENTS, AND RECORD DRAWINGS.

JOB CONDITIONS
FIRE PROTECTION CONTRACTOR SHALL DETERMINE THE FLOW AND PRESSURE AVAILABLE AT THE SERVICE CONNECTION. THE FIRE PROTECTION CONTRACTOR IS RESPONSIBLE TO VERIFY THIS INFORMATION AND MAKE ALL TESTS REQUIRED. BASE ALL PIPE SIZING AND HYDRAULIC CALCULATIONS ON FLOW TEST DATA NO OLDER THAN 12 MONTHS.

PIPE SIZING SHOWN ON DRAWINGS IS PRELIMINARY FOR COORDINATION PURPOSES ONLY. CONTRACTOR IS RESPONSIBLE FOR FINAL SIZING FROM HYDRAULIC CALCULATIONS.

PIPE AND FITTINGS
STEEL PIPE (INSIDE BUILDING ABOVE GRADE):
1. PIPE: 2" AND UNDER - SCHEDULE 40, BLACK STEEL, ASTM A53. THREADED AND COUPLED OR FLANGED.
2. JOINTS: 2" AND UNDER - SCREWED OR FLANGED.
3. FITTINGS: SCREWED - CAST IRON, 125 LB., BLACK, ANSI/ASME B16.4 OR MALLEABLE IRON, 150 LB., BLACK, ANSI/ASME B16.3. FLANGED CAST IRON, 125 LB., ANSI/ASME B16.1.
5. PAINT (WHERE EXPOSED): LOW-LUSTER, ACRYLIC-ENAMEL FINISH: TWO FINISH COATS OVER A FACTORY-APPLIED PRIMER, OR INDICATED PRIMER AS APPLICABLE.
A. PRIMER (FOR FACTORY-UNPRIMED WORK): WATERBORNE, RUST INHIBITIVE, ACRYLIC PRIMER; TOTAL DRY FILM THICKNESS OF NOT LESS THAN 2.0 MILS. 1) SUPERSPEC HP ACRYLIC METAL PRIMER P04.
B. FINISH COATS: LOW-LUSTER (EGGSHELL), ACRYLIC-LATEX, INTERIOR ENAMEL; TOTAL DRY FILM THICKNESS OF NOT LESS THAN 2.6 MILS. 1) SUPER SPEC LATEX EGGSHELL ENAMEL 274. 2)
C. COLOR: SELECTED BY OWNER.

STEEL PIPE (INSIDE BUILDING ABOVE GRADE):
1. PIPE: 2-1/2" AND OVER - SCHEDULE 10, BLACK STEEL, GROOVED, ASTM A135.
2. JOINTS: MECHANICALLY COUPLED GROOVED.
3. FITTINGS: 500 LB. WOG, BLACK, MALLEABLE IRON, ASTM A47.
4. PLAIN END FITTINGS AND COUPLINGS ARE NOT ACCEPTABLE.
5. PAINT (WHERE EXPOSED): LOW-LUSTER, ACRYLIC-ENAMEL FINISH: TWO FINISH COATS OVER A FACTORY-APPLIED PRIMER, OR INDICATED PRIMER AS APPLICABLE.
A. PRIMER (FOR FACTORY-UNPRIMED WORK): WATERBORNE, RUST INHIBITIVE, ACRYLIC PRIMER; TOTAL DRY FILM THICKNESS OF NOT LESS THAN 2.0 MILS. 1) SUPERSPEC HP ACRYLIC METAL PRIMER P04.
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C. COLOR: SELECTED BY OWNER.

UNIONS AND COUPLINGS
UNIONS: 175 PSI MALLEABLE IRON FOR THREADED FERROUS PIPING.

MECHANICAL GROOVED COUPLINGS: MALLEABLE IRON HOUSING CLAMPS TO ENGAGE AND LOCK, DESIGNED TO PERMIT SOME ANGULAR AND LONGITUDINAL DEFLECTION; "C" SHAPED COMPOSITION SEALING GASKET, STEEL BOLTS, NUTS, AND WASHERS. 175 PSI, ASTM A47. PLAIN END FITTINGS AND COUPLINGS ARE NOT ACCEPTABLE. ROLLED GROOVE COUPLINGS
FOR SCHEDULE 10 PIPE. CUT GROOVE COUPLINGS FOR SCHEDULE 40 PIPE. COUPLINGS SHALL BE ENAMEL COATED FOR WET SYSTEMS AND GALVANIZED FOR DRY PIPE SYSTEMS. ACCEPTABLE MANUFACTURERS: VICTAULIC, ITT, GRINNELL, CENTRAL, ANVIL GRUVLOK, STAR FITTINGS.

COUPLINGS USED IN SEISMIC AREAS SHALL BE "FLEXIBLE" TYPE.

COUPLING GASKETS FOR WET SYSTEMS SHALL BE GRADE "E" EDPM TYPE A. GASKETS FOR DRY PIPE SYSTEMS SHALL BE LISTED FOR DRY PIPE SERVICE, VICTAULIC FLUSHSEAL OR EQUIVALENT.

VALVE CONNECTIONS
PROVIDE ALL CONNECTIONS TO MATCH PIPE JOINTS. VALVES SHALL BE SAME SIZE AS PIPE.

INSTALLATION - PIPING
COORDINATE PIPING AND SPRINKLER LOCATIONS WITH ALL OTHER TRADES. DUCTWORK, DIFFUSERS AND LIGHT FIXTURE LOCATIONS SHALL HAVE PRIORITY OVER SPRINKLER PIPING AND SPRINKLERS. LOCATE PIPING TO MINIMIZE OBSTRUCTION OF OTHER WORK. ROUTE PIPING IN CONCEALED SPACES ABOVE FINISHED CEILING. USE FULL AND DOUBLE LENGTHS OF PIPE WHEREVER POSSIBLE. SLOPE ALL PIPING FOR COMPLETE DRAINAGE. INSTALL AUXILIARY DRAINS FOR ALL TRAPPED PIPING PER NFPA 13.

REAM PIPE AND TUBE ENDS TO FULL INSIDE DIAMETER. REMOVE BURRS. REMOVE SCALE AND FOREIGN MATERIAL, INSIDE AND OUTSIDE, BEFORE ASSEMBLY.

DIE CUT SCREW JOINTS WITH FULL CUT STANDARD TAPER PIPE THREADS. COAT THREADS WITH PIPE JOINT COMPOUND OR WRAP WITH TEFLON TAPE.

REDUCERS ARE GENERALLY NOT SHOWN. WHERE PIPE SIZES CHANGE AT TEE, THE TEE SHALL BE THE SIZE OF THE LARGEST PIPE SHOWN CONNECTING TO IT.

COMPLY WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS.

STEEL PIPING:
IN STEEL PIPING, MAIN SIZED SADDLE BRANCH CONNECTIONS OR DIRECT CONNECTION OF BRANCHES TO MAIN IS PERMITTED IF MAIN IS ONE PIPE SIZE LARGER THAN THE BRANCH FOR UP TO 6" MAINS AND IF MAIN IS TWO PIPE SIZES LARGER THAN BRANCH FOR 8" AND LARGER MAINS. DO NOT PROJECT BRANCH PIPES INTO MAIN PIPES.

WALL/FLOOR PENETRATION:
PROVIDE SLEEVES WHEN PENETRATING FLOORS AND WALLS.

SEAL PIPES PASSING THROUGH EXTERIOR WALLS WITH A WALL SEAL PER SECTION 21 05 29. PROVIDE SCHEDULE 40 GALVANIZED SLEEVE AT LEAST 2 PIPE SIZES LARGER THAN THE PIPE. SLEEVES THROUGH FLOORS SHALL EXTEND MINIMUM 1.5" ABOVE FINISHED FLOOR.

FIRE SEAL ALL PIPE AND SLEEVE PENETRATIONS (BOTH WALL AND FLOOR) TO MAINTAIN FIRE SEPARATION REQUIRED WITHOUT RESTRAINING PIPE.

INSTALLATION REQUIREMENTS IN ELECTRICAL ROOMS:
DO NOT INSTALL PIPING OR OTHER EQUIPMENT ABOVE ELECTRICAL SWITCHBOARDS OR PANELBOARDS. THIS INCLUDES A DEDICATED SPACE EXTENDING 26 FEET FROM THE FLOOR TO THE STRUCTURAL CEILING WITH WIDTH AND DEPTH EQUAL TO THE EQUIPMENT. FIRE PROTECTION EQUIPMENT DEDICATED TO THE ELECTRICAL EQUIPMENT ROOM OR SPACE MAY BE INSTALLED ABOVE EQUIPMENT IF OTHER ALTERNATIVES ARE NOT AVAILABLE.

HANGERS AND SUPPORTS:
PROVIDE HANGERS AND SUPPORTS AS REQUIRED BY NFPA 13 AND UL/FM, WITH THE FOLLOWING EXCEPTIONS:
1. DO NOT USE POWDER DRIVEN DEVICES, EXPLOSIVE DEVICES, WOODEN PLUGS, OR PLASTIC INSERTS.
2. DO NOT INSTALL FASTENERS TO CARRY THE LOAD IN TENSION, UNLESS ABSOLUTELY NECESSARY.

EXPOSED PIPING:
1. INSTALL CHROME PLATED STEEL ESCUTCHEONS WHERE EXPOSED PIPES PENETRATE WALLS OR FLOORS.

INSTALLATION - VALVES
INSTALL GATE VALVES WITH STEMS UPRIGHT OR HORIZONTAL, NOT INVERTED. PROVIDE DRAIN VALVES AT MAIN SHUTOFF VALVES, LOW POINTS OF PIPING AND APPARATUS.

INSTALLATION - EQUIPMENT
LOCATE SPRINKLERS TO CLEAR LIGHTS, DUCTS AND DIFFUSERS. DO NOT RUN SPRINKLER PIPES THROUGH DUCTS. DUCTWORK HAS PRIORITY OVER SPRINKLER PIPES. OFFSET PIPES AS NEEDED.

CENTER SPRINKLERS IN TWO DIRECTIONS IN CEILING TILES AND PROVIDE OFFSETS AS REQUIRED.

DO NOT ALLOW CONCEALED SPRINKLER COVER PLATES TO BE PAINTED. SPRINKLER COVER PLATES ARE TO BE FACTORY PAINTED ONLY. DO NOT FIELD PAINT.

APPLY STRIPPABLE OR PAPER COVERS SO CONCEALED SPRINKLER COVER PLATES DO NOT RECEIVE FIELD PAINT FINISH.

FIRE PROTECTION ABBREVIATION KEY	
ABBR:	DESCRIPTION:
AD	ACCESS DOOR
AFF	ABOVE FINISHED FLOOR
BFP	BACKFLOW PREVENTER
I.E.	INVERT ELEVATION
N.C.	NORMALLY CLOSED
NIC	NOT IN CONTRACT
N.O.	NORMALLY OPEN
SCCR	SHORT CIRCUIT CURRENT RATING
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE

FIRE PROTECTION SYMBOL LIST	
NOT ALL SYMBOLS MAY APPLY.	
SYMBOL:	DESCRIPTION:
—CAF—	COMPRESSED AIR - FIRE PROTECTION
—DFP—	DRAIN
—FP—	FIRE PROTECTION
—W—	SERVICE WATER - POTABLE
—	PIPE CAP
—	PIPE DOWN
—	PIPE UP OR UP/DOWN
—	UNION/FLANGE
—	DIRECTION OF FLOW IN PIPE
—	ROUTE TO DRAIN
—	SHUTOFF VALVE NORMALLY OPEN
—	AUTOMATIC DRAIN VALVE
—	ANGLE VALVE
—	BUTTERFLY VALVE WITH MONITOR SWITCH
—	CHECK VALVE
—	BACKFLOW PREVENTER
—	INSPECTOR TEST AND DRAIN VALVE
—	OS&Y GATE VALVE
—	OS&Y GATE VALVE WITH MONITOR SWITCH
—	FLOW SWITCH
—	PRESSURE GAUGE (FURNISHED WITH BALL VALVE)
—	MONITOR SWITCH
—	AREA BOUNDARY
—	SPRINKLER - WALL MOUNTED
—	SPRINKLER - PENDANT
—	SPRINKLER - CONCEALED PENDANT

FIRE TESTING AND FLUSHING:

- OVERHEAD SYSTEM HYDROSTATIC TEST @ 200 PSI FOR 2 HOURS.
- UNDERGROUND SYSTEM SHALL BE INSTALLED, FLUSHED AND TESTED BY CIVIL CONTRACTOR.
- UNDERGROUND MAINS AND LEAD-IN CONNECTIONS TO SYSTEM RISERS SHALL BE COMPLETELY FLUSHED BEFORE CONNECTION IS MADE TO OVERHEAD SPRINKLER PIPING. WHERE UNDERGROUND PIPING IS FLUSHED AND NOT IMMEDIATELY CONNECTED TO THE OVERHEAD PIPING, THE RISER SHALL BE CAPPED OR OTHERWISE PROTECTED TO PREVENT DEBRIS, DIRT, OR ANIMALS FROM ENTERING INTO THE UNDERGROUND PIPING (WITNESSED BY THE PROJECT INSPECTOR).
- PROVIDE INSPECTION AND HYDROSTATIC TEST CERTIFICATE AND SUBMIT THE CONTRACTOR'S MATERIAL AND TEST CERTIFICATES FOR ABOVE GROUND PIPING.

HANGER NOTES:

- HANGING OF SYSTEM PIPING SHALL BE PER NFPA 13, SECTION 9.1 & 9.2.
- BUILDING STRUCTURAL BEAMS SHALL BE ADEQUATE TO SUPPORT THE SYSTEM. SPRINKLER PIPING OR HANGERS SHALL NOT BE USED TO SUPPORT NON-SYSTEM COMPONENTS. THE DISTANCE BETWEEN A HANGER AND THE CENTERLINE OF AN UPRIGHT SPRINKLER SHALL BE LESS THAN 3 INCHES (76 MM).
- HOLES THROUGH SOLID STRUCTURAL MEMBERS SHALL BE PERMITTED TO SERVE AS HANGERS FOR THE SUPPORT OF SYSTEM PIPING PROVIDED SUCH HOLES ARE PERMITTED BY APPLICABLE BUILDING CODES AND THE SPACING AND SUPPORT PROVISIONS FOR HANGERS OF NFPA 13 ARE SATISFIED.
- THE MAXIMUM DISTANCE BETWEEN HANGERS SHALL NOT EXCEED THAT SPECIFIED IN TABLE NFPA 13, 9.2.2.1(a), EXCEPT WHERE THE PROVISIONS OF NFPA 13, SECTION 9.2.4 APPLY. TABLE 9.2.2.1(a) MAXIMUM DISTANCE BETWEEN HANGERS

	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	3 1/2"	4"	5"	6"	8"
STEEL PIPE EXCEPT THREADED LIGHTWALL	N/A	12'-0"	12'-0"	15'-0"	15'-0"	15'-0"	15'-0"	15'-0"	15'-0"	15'-0"	15'-0"	15'-0"
THREADED LIGHTWALL	N/A	12'-0"	12'-0"	12'-0"	12'-0"	12'-0"	12'-0"	N/A	N/A	N/A	N/A	N/A

- THERE SHALL BE NOT LESS THAN ONE HANGER FOR EACH SECTION OF PIPE, EXCEPT WHERE SPRINKLERS AND MULTIPLE PIPE FITTINGS ARE SPACED LESS THAN 6 FT APART. HANGERS SHALL BE SPACED UP TO A MAXIMUM OF 12'-0". HANGERS ARE NOT REQUIRED WHERE BRANCH LINES STARTER LENGTHS ARE LESS THAN 6'-0", UNLESS ON THE END LINE OF A SIDE FEED SYSTEM OR WHERE AN INTERMEDIATE CROSS MAIN HANGER HAS BEEN OMITTED.
- THE UNSUPPORTED LENGTH BETWEEN THE END SPRINKLER AND THE LAST HANGER ON THE LINE SHALL NOT BE GREATER THAN 36" FOR 1" PIPE, 48" FOR 1 1/4" PIPE, AND 60" FOR 1 1/2" OR LARGER PIPE. WHERE THE LIMITS ARE EXCEEDED, THE PIPE SHALL BE EXTENDED BEYOND THE END SPRINKLER AND SHALL BE SUPPORTED BY AN ADDITIONAL HANGER.
- THE CUMULATIVE HORIZONTAL LENGTH OF AN UNSUPPORTED ARMORER TO A SPRINKLER, SPRINKLER DROP OR SPRIG SHALL NOT EXCEED 24" FOR STEEL PIPE.
- LOCATION OF HANGERS ON MAINS SHALL COMPLY WITH NFPA 13, SECTION 9.2.4 FOR STEEL PIPE CROSS MAINS. A HANGER CAN BE INSTALLED BETWEEN EVERY TWO BRANCH LINES OR, ALTERNATIVELY, ON EACH BRANCH LINE AS NEAR AS POSSIBLE TO THE CROSS MAIN, WHILE OMITTING ONE INTERMEDIATE CROSS MAIN HANGER IN EACH BAY. THE OPTION TO OMIT THE INTERMEDIATE CROSS MAIN HANGER APPLIES TO THE LAST PIECE OF CROSS MAIN ONLY IF THE MAIN IS EXTENDED TO THE NEXT FRAMING MEMBER AND HANGER IS INSTALLED AT THAT POINT.

FIRE PROTECTION GENERAL NOTES:

- THE SYMBOLS AND THE MATERIAL LIST ARE FOR THE CONVENIENCE OF THE CONTRACTOR. CONTRACTOR SHALL VERIFY QUANTITIES AND FURNISH ALL MATERIALS REQUIRED FOR FULLY OPERATIONAL SYSTEMS, WHETHER SPECIFIED OR NOT.
- CATALOG NUMBERS SHALL NOT BE CONSIDERED COMPLETE, BUT ARE GIVEN AS AN AID TO THE CONTRACTOR AND TO INDICATE THE QUALITY REQUIRED. CONTRACTOR IS RESPONSIBLE FOR COMPLETE DESCRIPTION OF MATERIAL ON THESE DRAWINGS AND IN THE SPECIFICATIONS BEFORE ORDERING. THE DESCRIPTION OF THE MATERIAL TAKES PRECEDENCE OVER THE CATALOG NUMBER. THE FIRST MANUFACTURER IS THE BASIS OF DESIGN.
- FIRE PROTECTION PIPE ROUTING IS SHOWN TO INDICATE DESIGN INTENT. FIRE PROTECTION CONTRACTOR SHALL DETERMINE EXACT NUMBER OF SPRINKLERS, PIPE SIZING, AND PIPE ROUTING BASED ON HYDRAULIC CALCULATIONS AND DETAILED WORKING DRAWINGS REQUIRED IN NFPA 13.
- DO NOT SCALE DRAWINGS. VERIFY ALL DIMENSIONS AND CLEARANCES FROM ARCHITECTURAL, STRUCTURAL, SUBMITTALS, AND OTHER APPROPRIATE DRAWINGS OR PHYSICALLY AT SITE. REVIEW ALL DRAWINGS, INCLUDING THOSE OF OTHER TRADES.
- COORDINATE ALL WORK WITH ALL OTHER TRADES PRIOR TO INSTALLATION TO PROVIDE CLEARANCES REQUIRED FOR OPERATION, MAINTENANCE, CODE COMPLIANCE, AND TO VERIFY NON-INTERFERENCE WITH OTHER WORK. DO NOT FABRICATE PRIOR TO VERIFICATION OF NECESSARY CLEARANCES FOR ALL TRADES. BRING ANY INTERFERENCES OR CONFLICTS TO THE ATTENTION OF THE ARCHITECT/ENGINEER BEFORE PROCEEDING WITH FABRICATION OR EQUIPMENT ORDERS.
- ANY CHANGES REQUIRED TO ELIMINATE CONFLICTS OR THAT RESULT FROM A FAILURE TO COORDINATE SHALL BE MADE BY THE CONTRACTOR WITHOUT ADDITIONAL COST OR EXPENSE TO OTHERS.
- CENTER SPRINKLERS IN CEILING TILES IN BOTH DIRECTIONS IN ALL AREAS. IN AREAS WITH 2'X4' CEILING TILES CENTERING USING A 2'X2' CEILING PATTERN IS ACCEPTABLE. SPRINKLER HEADS SHALL BE ALIGNED WITH OTHER SPRINKLER HEADS, LIGHTING, DIFFUSERS, AND ANY OTHER FEATURES IN THE CEILING.
- NEW SPRINKLERS SHALL BE QUICK RESPONSE TYPE, UNLESS OTHERWISE NOTED. CONTRACTOR SHALL NOT MIX STANDARD RESPONSE SPRINKLERS WITH QUICK RESPONSE SPRINKLERS IN UNPARTITIONED SPACES.
- PROVIDE COVERAGE ABOVE AND BELOW ALL DUCTWORK GREATER THAN 48" WIDE.
- PROVIDE COVERAGE ABOVE (IF APPLICABLE) AND BELOW FLOATING CEILINGS.
- PROVIDE RISER ROOM IDENTIFICATION SIGNAGE OUTSIDE THE FIRE RISER ROOM. COORDINATE EXACT SIGN LANGUAGE WITH AHI.
- WHERE FEASIBLE INSTALL PIPES HIGH AS POSSIBLE TO AVOID CONFLICT WITH OTHER DISCIPLINES.
- INSTALL SYSTEM DRAINS AT LOW POCKET AREAS CONTAINING FIVE GALLONS OF WATER OR MORE, PROVIDE WITH ISOLATION VALVE AND THREADED HOSE CONNECTION.
- FOLLOW STRUCTURAL DETAILS WHEN PENETRATING OR PASSING THROUGH STRUCTURAL ELEMENTS. ALTERNATE DESIGNS WILL NEED TO BE APPROVED THROUGH THE STRUCTURAL ENGINEER.
- PROVIDE INTERMEDIATE TEMPERATURE SPRINKLER HEADS WHERE REQUIRED BY NFPA UNLESS OTHERWISE NOTED.
- FINAL SPRINKLER LOCATION, TYPE AND FINISH SHALL BE REVIEWED AND APPROVED BY THE OWNER PRIOR TO ORDERING OR FABRICATING SYSTEM.
- PAINT ALL EXPOSED PIPING TO MATCH BACKGROUND OR AS DIRECTED BY THE OWNER.
- FIRE PROTECTION PIPE ROUTING IS SHOWN FOR GENERAL LAYOUT. DETERMINE EXACT NUMBER OF SPRINKLERS, PIPE SIZING, AND PIPE ROUTING.
- THE FIRE PROTECTION SYSTEM SHALL BE DESIGNED TO MEET OWNER'S INSURANCE COMPANY STANDARDS WHERE APPLICABLE. THE MORE STRINGENT OF THE OWNER'S INSURANCE UNDERWRITER'S DESIGN CRITERIA AND THE NFPA STANDARDS SHALL BE USED.
- ALL BUILDING AREAS SHALL BE FULLY SPRINKLERED INCLUDING CANOPIES, WALKWAYS, OVERHANGS, SOFFITS, AND BUILDING PROJECTIONS. ALL ACCESSIBLE COMBUSTIBLE CONCEALED SPACES SHALL BE FULLY PROTECTED BY THE SPRINKLER SYSTEM.
- EACH RISER ASSEMBLY SHALL INCLUDE CHECK VALVE, BUTTERFLY CONTROL VALVE INDICATING "OPEN" OR "CLOSED" POSITION, TEST INSPECTION VALVE, FLOW SWITCH AND PRESSURE GAUGES.
- MAIN PIPING PASSING BELOW SKYLIGHTS OR CLERESTORIES ARE NOT PERMITTED.
- THE OWNER MUST BE NOTIFIED PRIOR TO EACH AND EVERY DRAINING OR RECHARGING OF THE SPRINKLER SYSTEM.
- THE CONTRACTOR SHALL PREPARE A COORDINATED SET OF SHOP DRAWINGS AND SHALL OBTAIN APPROVAL FROM THE AUTHORITIES HAVING JURISDICTION AND THE LOCAL FIRE DEPARTMENT PRIOR TO ANY INSTALLATION.
- DRAWINGS SHOWING LOCATIONS OF EQUIPMENT, DUCTWORK, PIPING, ETC. ARE DIAGRAMMATIC AND MAY NOT ALWAYS REFLECT EXACT INSTALLATION CONDITIONS. DRAWINGS SHOW THE GENERAL ARRANGEMENT OF DUCTWORK, PIPING, EQUIPMENT, ETC. AND MAY NOT INCLUDE ALL OFFSETS AND FITTINGS REQUIRED FOR COMPLETE INSTALLATION. THE DRAWINGS SHALL BE FOLLOWED AS CLOSELY AS ACTUAL BUILDING CONSTRUCTION AND THE WORK OF OTHERS WILL PERMIT.
- VERIFY ALL DIMENSIONS AND CLEARANCES FROM ARCHITECTURAL, STRUCTURAL, SUBMITTALS, AND OTHER APPROPRIATE DRAWINGS OR PHYSICALLY AT SITE. REVIEW ALL DRAWINGS, INCLUDING THOSE OF OTHER TRADES.
- CONTRACTOR TO PROVIDE FIRE WATCH ANY TIME THE EXISTING FIRE SUPPRESSION SYSTEM IS DEACTIVATED.



LURIE TERRACE
FIRE SUPPRESSION
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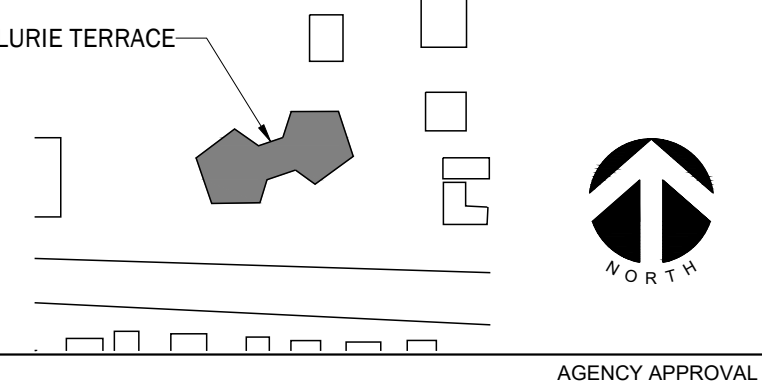
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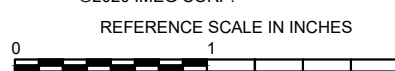
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REVISIONS

No.	Date	Revision / Issue
A	10/28/2022	OWNER REVIEW
B	12/08/2022	90% REVIEW
C	05/13/2025	ISSUED FOR BID/PERMIT

SHEET INFORMATION	
Issue	ISSUED FOR BID/PERMIT
Date	05/13/2025
Job Number	22001235.00
Drawn	J. SATTELBERG
Checked	R. O'QUINN
Approved	E. ESCHELBACH

SHEET TITLE

FIRE SUPPRESSION GENERAL
NOTES AND SPECIFICATIONS

SCALE

NONE

SHEET NUMBER

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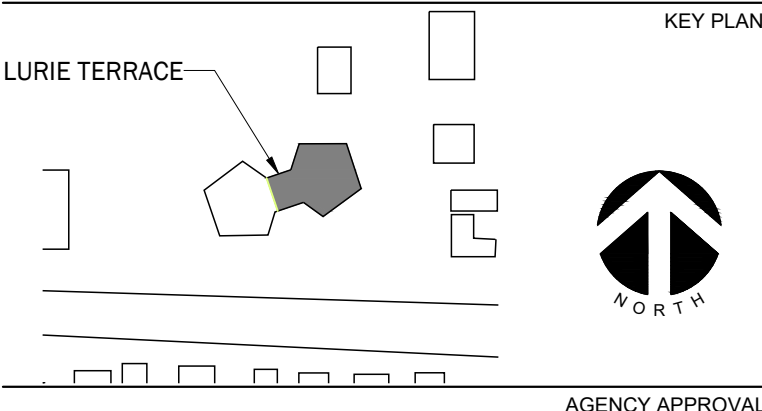
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REFERENCE SCALE IN INCHES
0 1 2

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Date	05/13/2025
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Checked	R. O'QUINN
Approved	E. ESCHELBACH

SHEET TITLE

**BASEMENT PLAN - EAST WING
FIRE SUPPRESSION NEW WORK**

SCALE

3/16" = 1'-0" (24"x36" DRAWINGS)

SHEET NUMBER

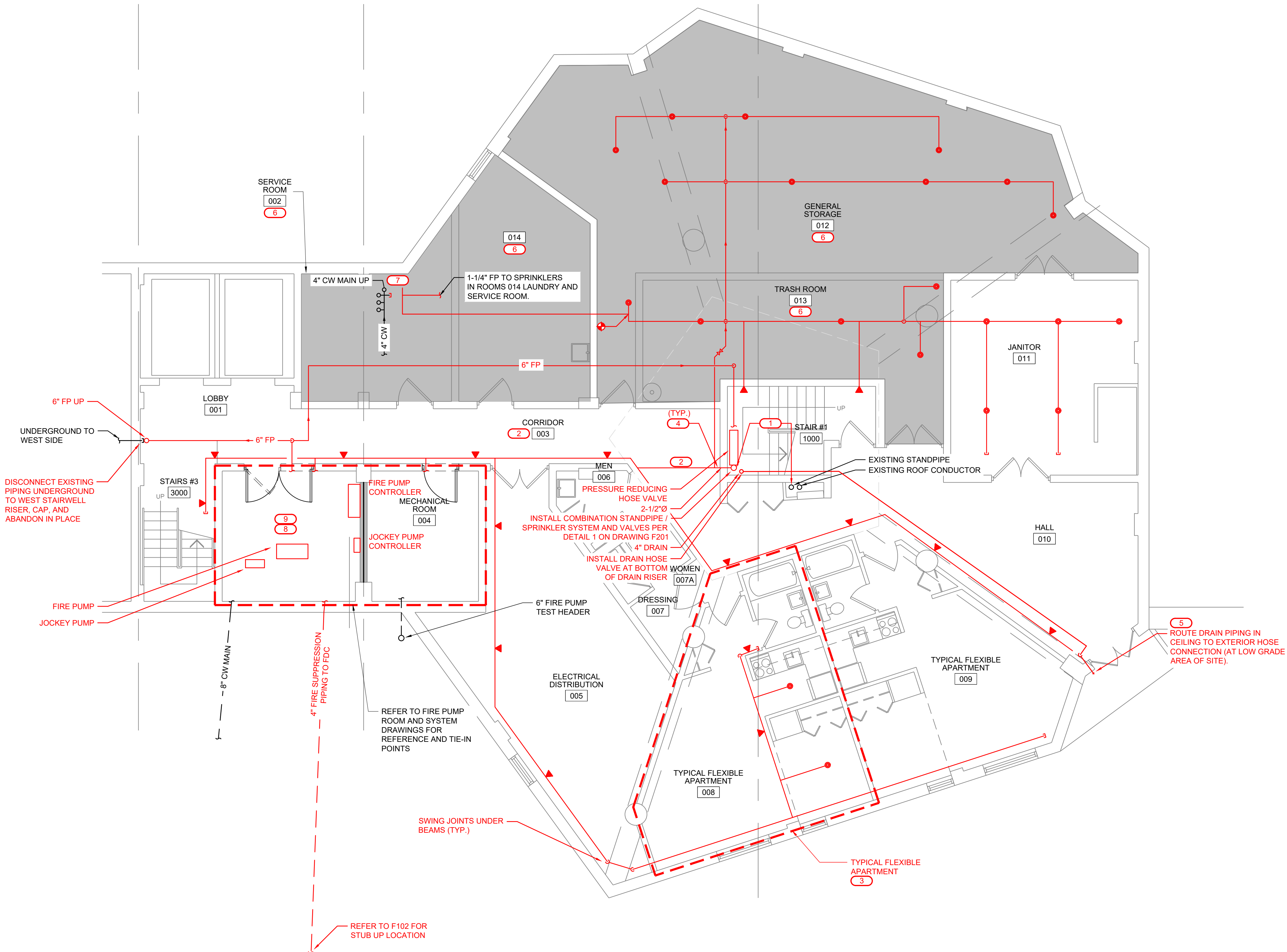
F101

DRAWING NOTES:

- FIRE PROTECTION PIPE ROUTING IS SHOWN TO INDICATE DESIGN INTENT. FIRE PROTECTION CONTRACTOR SHALL PROVIDE DETAILED WORKING DRAWINGS, INCLUDING BUT NOT LIMITED TO: EXACT NUMBER AND LOCATION OF SPRINKLERS, PIPE SIZING AND ROUTING BASED ON HYDRAULIC CALCULATIONS, HANGER LOCATIONS, SEISMIC BRACING CALCULATIONS, ETC. REFER TO NFPA 13 FOR COMPLETE LIST OF REQUIREMENTS. SUBMIT TO A/E AND A/HJ FOR APPROVAL.
- SEE GENERAL NOTES, SPECIFICATIONS, AND ADDITIONAL PROJECT INFORMATION ON GENERAL DRAWINGS.
- NEW WORK SHOWN IN RED.
- DRAWINGS DIAGRAMMATICALLY INDICATE THE GENERAL SCOPE OF WORK, BUT DO NOT PROVIDE EXACT SCALE OR LOCATIONS. PROPER INSTALLATION OF ALL SYSTEMS, AFTER COORDINATION WITH OTHER TRADES, IS THE CONTRACTORS RESPONSIBILITY.
- ELEVATIONS ON DRAWINGS ARE TO BOTTOM OF FIXTURE OR AS OTHERWISE NOTED.
- PAINT ALL EXPOSED PIPING TO MATCH WALLS/CEILINGS OR AS DIRECTED BY OWNER.
- CONTRACTOR IS RESPONSIBLE FOR ALL ARCHITECTURAL REPAIRS ASSOCIATED WITH THIS PROJECT.
- ACTIVATION OF FIRE SUPPRESSION SYSTEM SHALL ALSO ACTIVATE FIRE ALARM SYSTEM/STROBE AND ANNUNCIATOR SYSTEM.
- CONTRACTOR TO PROVIDE FIRE WATCH ANY TIME THE EXISTING FIRE SUPPRESSION SYSTEM IS DEACTIVATED.
- COORDINATE WORK WITH OWNER, ENGINEER, OTHER TRADES, AND FIRE ALARM COMPANY.
- NEW FIRE SUPPRESSION PIPING SHALL BE ROUTED TO AVOID BLOCKING EXISTING ELECTRICAL JUNCTION BOXES.

KEYNOTES: (X)

- FIRE SUPPRESSION STANDPIPE WILL BE RELOCATED TO INSIDE OF STAIRWELL. CONTRACTOR SHALL DEMOLISH EXISTING HOSE, VALVE, CAP, AND ABANDON EXISTING STANDPIPE IN PLACE. INSTALL NEW STANDPIPE AND DRAIN RISER AS SHOWN, ALONG WITH ALL VALVES, AND COMPONENTS. INSTALL FLOW SWITCHES (BY FIRE SUPPRESSION CONTRACTOR) AND WIRE TO PANEL (BY FIRE ALARM CONTRACTOR).
- INSTALL NEW FIRE SUPPRESSION PIPING AND SPRINKLERS IN HALLWAY AS SHOWN. ALTERNATE SPACING FOR SPRINKLERS MAY BE USED PROVIDED THE SPRINKLERS ARE INSTALLED ACCORDING TO NFPA 13 AND THE SPRINKLER LISTING REQUIREMENTS.
- INSTALL FIRE SUPPRESSION SPRINKLERS IN APARTMENTS AS SHOWN ON ALL FLOORS. SEE TYPICAL APARTMENT LAYOUTS FOR DETAILS.
- ALL PENETRATIONS AND SLEEVES FOR ALL DISCIPLINES (INCLUDING FIRE ALARM WIRING) BY FIRE SUPPRESSION CONTRACTOR. FIRE SUPPRESSION CONTRACTOR TO COORDINATE WITH FIRE ALARM CONTRACTOR ON LOCATION AND SIZE OF WALL/FLOOR OPENINGS. FIRE ALARM CONDUIT AND WIRING BY FIRE ALARM CONTRACTOR.
- ROUTE DRAIN PIPING FROM FLOORS ONE THROUGH EIGHT AT BASEMENT CEILING TO EXTERIOR WALL AS SHOWN. REFER TO FIRE SUPPRESSION FLOW DIAGRAM ON DRAWINGS F202 FOR ADDITIONAL INFORMATION.
- EXISTING SPRINKLER AREAS. RE-EVALUATE LAYOUT, AND REPLACE EXISTING PIPING AND SPRINKLER WITH NEW.
- CAP EXISTING FIRE SUPPRESSION TIE-IN TO POTABLE WATER MAIN AND TIE THE NEW MAIN INTO THE EXISTING FIRE SUPPRESSION PIPING IN THE LAUNDRY AND SERVICE ROOM.
- EXISTING FCP TO BE REPLACED. CONTROLS CONTRACTOR TO TIE IN ALL ASSOCIATED CONTROLS INTO BUILDING AUTOMATION SYSTEM.
- REFER TO AS-BUILT DRAWINGS OF FIRE PUMP INSTALLATION PROJECT FOR TIE-IN LOCATIONS FOR PIPING.



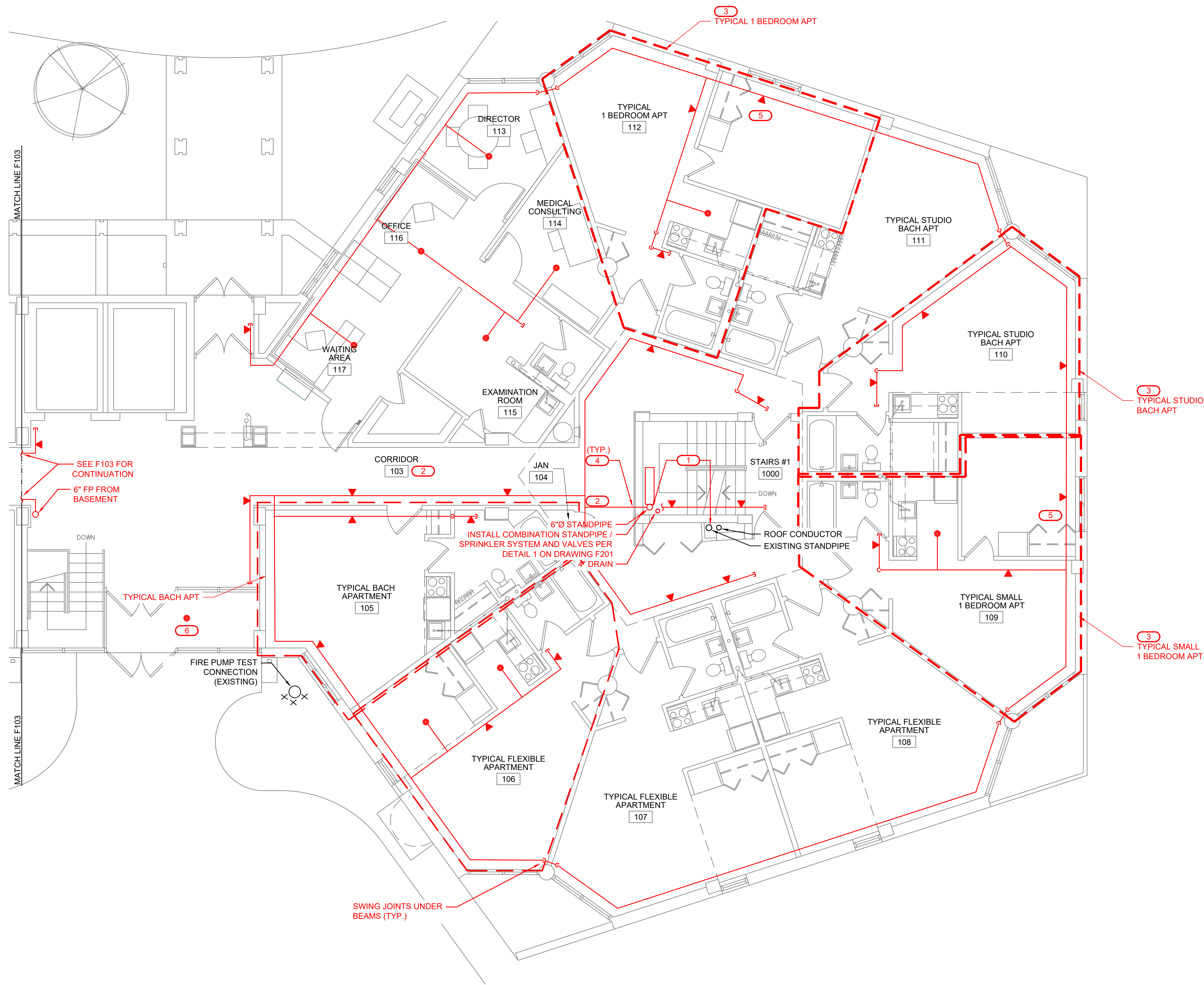
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BASMENT PLAN - EAST WING - FIRE SUPPRESSION NEW WORK

3/16" = 1'-0" (24"x36" DRAWINGS)

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1

FIRST FLOOR PLAN - EAST WING - FIRE SUPRESSION NEW WORK

3/16" = 1'-0" (24"x36" DRAWINGS)

DRAWING NOTES:

1. FIRE PROTECTION PIPE ROUTING IS SHOWN TO INDICATE DESIGN INTENT. FIRE PROTECTION CONTRACTOR SHALL PROVIDE DETAILED WORKING DRAWINGS, INCLUDING BUT NOT LIMITED TO: EXACT NUMBER AND LOCATION OF SPRINKLERS, PIPE SIZING AND ROUTING BASED ON HYDRAULIC CALCULATIONS, HANGER LOCATIONS, SIESMIC BRACING CALCULATIONS, ETC. REFER TO NFPA 13 FOR COMPLETE LIST OF REQUIREMENTS. SUBMIT TO A/E AND AHJ FOR APPROVAL.
2. SEE GENERAL NOTES, SPECIFICATIONS, AND ADDITIONAL PROJECT INFORMATION ON GENERAL DRAWINGS.
3. NEW WORK SHOWN IN RED.
4. DRAWINGS DIAGRAMMATICALLY INDICATE THE GENERAL SCOPE OF WORK, BUT DO NOT PROVIDE EXACT SCALE OR LOCATIONS. PROPER INSTALLATION OF ALL SYSTEMS, AFTER COORDINATION WITH OTHER TRADES, IS THE CONTRACTORS RESPONSIBILITY.
5. ELEVATIONS ON DRAWINGS ARE TO BOTTOM OF FIXTURE OR AS OTHERWISE NOTED.
6. PAINT ALL EXPOSED PIPING TO MATCH WALLS/CEILINGS OR AS DIRECTED BY OWNER.
7. CONTRACTOR IS RESPONSIBLE FOR ALL ARCHITECTURAL REPAIRS ASSOCIATED WITH THIS PROJECT.
8. ACTIVATION OF FIRE SUPPRESSION SYSTEM SHALL ALSO ACTIVATE FIRE ALARM SYSTEM/STROBE AND ANNUNCIATOR SYSTEM.
9. CONTRACTOR TO PROVIDE FIRE WATCH ANY TIME THE EXISTING FIRE SUPPRESSION SYSTEM IS DEACTIVATED.
10. COORDINATE WORK WITH OWNER, ENGINEER, OTHER TRADES, AND FIRE ALARM COMPANY.
11. NEW FIRE SUPPRESSION PIPING SHALL BE ROUTED TO AVOID BLOCKING EXISTING ELECTRICAL JUNCTION BOXES.

KEYNOTES:

1. FIRE SUPPRESSION STANDPIPE WILL BE RELOCATED TO INSIDE OF STAIRWELL. CONTRACTOR SHALL DEMOLISH EXISTING HOSE, VALVE, CAP, AND ABANDON EXISTING STANDPIPE IN PLACE. INSTALL NEW STANDPIPE AND DRAIN RISER AS SHOWN, ALONG WITH ALL VALVES, AND COMPONENTS. INSTALL FLOW SWITCHES (BY FIRE SUPPRESSION CONTRACTOR) AND WIRE TO PANEL (BY FIRE ALARM CONTRACTOR).
2. INSTALL NEW FIRE SUPPRESSION PIPING AND SPRINKLERS IN HALLWAY AS SHOWN. ALTERNATE SPACING FOR SPRINKLERS MAY BE USED PROVIDED THE SPRINKLERS ARE INSTALLED ACCORDING TO NFPA 13 AND THE SPRINKLER LISTING REQUIREMENTS.
3. INSTALL FIRE SUPPRESSION SPRINKLERS IN APARTMENTS AS SHOWN ON ALL FLOORS. SEE TYPICAL APARTMENT LAYOUTS FOR DETAILS.
4. ALL PENETRATIONS AND SLEEVES FOR ALL DISCIPLINES (INCLUDING FIRE ALARM WIRING) BY FIRE SUPPRESSION CONTRACTOR. FIRE SUPPRESSION CONTRACTOR TO COORDINATE WITH FIRE ALARM CONTRACTOR ON LOCATION AND SIZE OF WALL/FLOOR OPENINGS. FIRE ALARM CONDUIT AND WIRING BY FIRE ALARM CONTRACTOR.
5. ROUTE DRAIN PIPING FROM FLOORS ONE THROUGH EIGHT AT BASEMENT CEILING TO EXTERIOR WALL AS SHOWN. REFER TO FIRE SUPPRESSION FLOW DIAGRAM ON DRAWINGS F202 FOR ADDITIONAL INFORMATION.
6. INSTALL DRY TYPE SPRINKLER IN VESTIBULE.



LURIE TERRACE FIRE SUPPRESSION DESIGN

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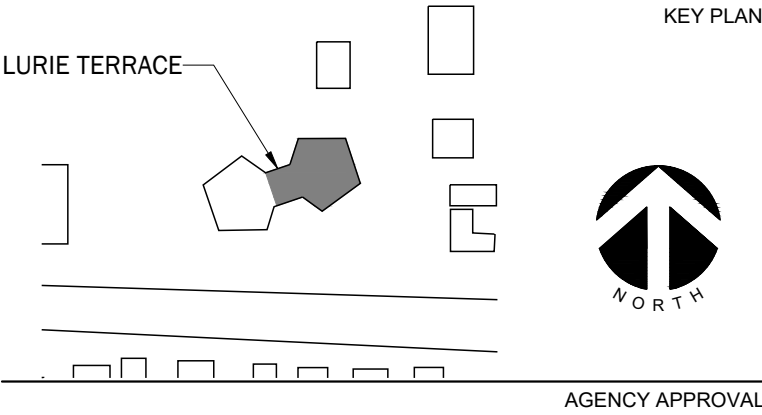
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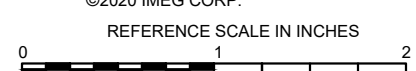
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SHEET INFORMATION

Issue	ISSUED FOR BID/PERMIT
Date	05/13/2025
Job Number	22001235.00
Drawn	J. SATTELBERG
Checked	R. O'QUINN
Approved	E. ESCHELBACH

SHEET TITLE

FIRST FLOOR PLAN - EAST WING FIRE SUPPRESSION NEW WORK

SCALE

3/16" = 1'-0" (24"x36" DRAWINGS)

SHEET NUMBER

F102

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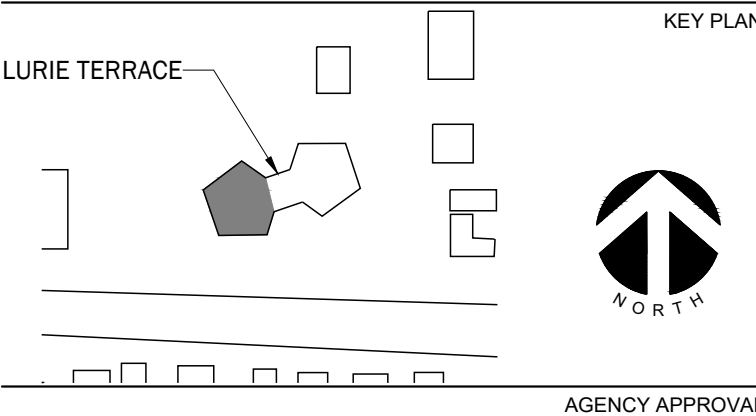


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PROFESSIONAL SEAL

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KEY PLAN



POLICY APPROVAL

DISCLAIMER

REFERENCE SCALE IN INCHES

A horizontal reference scale in inches. It features a black and white checkered pattern from 0 to 1 inch, followed by a solid black bar. The scale is marked with '0' and '1' at the ends.

REVISIONS

No.	Date	Revision / Issue
A	10/28/2022	OWNER REVIEW
B	12/08/2022	90% REVIEW
C	05/13/2025	ISSUED FOR BID/PERMIT

SHEET INFORMATION

Issue	ISSUED FOR BID/PERMIT
Date	05/13/2025
Job Number	22001235.00
Drawn	J. SATTTELBERG
Checked	R. QUINN
Approved	E. ESCHELBACH

SHEET TITLE

FIRST FLOOR PLAN - WEST WING
FIRE SUPPRESSION NEW WORK

SCALE

3/16" = 1'-0" (24"x36" DRAWINGS)

SHEET NUMBER

F103

DRAWING NOTES:

1. FIRE PROTECTION PIPE ROUTING IS SHOWN TO INDICATE DESIGN INTENT. FIRE PROTECTION CONTRACTOR SHALL PROVIDE DETAILED WORKING DRAWINGS, INCLUDING BUT NOT LIMITED TO: EXACT NUMBER AND LOCATION OF SPRINKLERS, PIPE SIZING, INCLUDING BASED ON HYDRAULIC CALCULATIONS, HANGER LOCATIONS, SEISMIC BRACING CALCULATIONS, ETC. REFER TO NFPA 13 FOR COMPLETE LIST OF REQUIREMENTS. SUBMIT TO A/E AND A/HJ FOR APPROVAL.
2. SEE GENERAL NOTES, SPECIFICATIONS, AND ADDITIONAL PROJECT INFORMATION ON GENERAL DRAWINGS.
3. NEW WORK SHOWN IN RED.
4. DRAWINGS DIAGRAMMATICALLY INDICATE THE GENERAL SCOPE OF WORK, BUT DO NOT PROVIDE EXACT SCALE OR LOCATIONS. PROPER INSTALLATION OF ALL SYSTEMS, AFTER COORDINATION WITH OTHER TRADES, IS THE CONTRACTORS RESPONSIBILITY.
5. ELEVATIONS ON DRAWINGS ARE TO BOTTOM OF FIXTURE OR AS OTHERWISE NOTED.
6. PAINT ALL EXPOSED PIPING TO MATCH WALLS/CEILING/INS OR AS DIRECTED BY OWNER.
7. CONTRACTOR IS RESPONSIBLE FOR ALL ARCHITECTURAL REPAIRS ASSOCIATED WITH THIS PROJECT.
8. ACTIVATION OF FIRE SUPPRESSION SYSTEM SHALL ALSO ACTIVATE FIRE ALARM SYSTEM/STROBE AND ANNUNCIATOR SYSTEM.
9. CONTRACTOR TO PROVIDE FIRE WATCH ANY TIME THE EXISTING FIRE SUPPRESSION SYSTEM IS DEACTIVATED.
10. COORDINATE WORK WITH OWNER, ENGINEER, OTHER TRADES, AND FIRE ALARM COMPANY.
11. NEW FIRE SUPPRESSION PIPING SHALL BE ROUTED TO AVOID BLOCKING EXISTING ELECTRICAL JUNCTION BOXES.

KEYNOTES: X

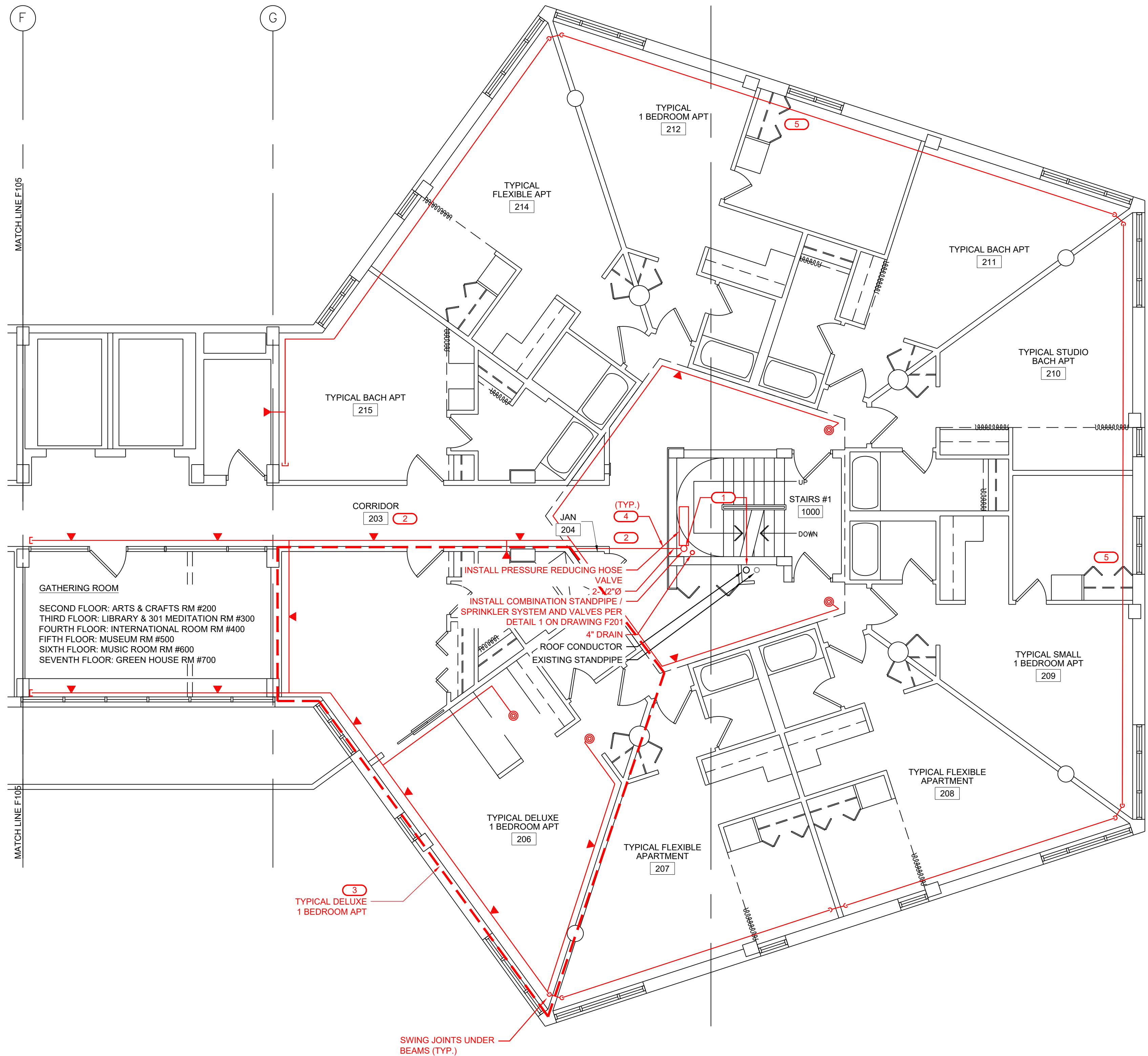
1. FIRE SUPPRESSION STANDPIPE WILL BE RELOCATED TO INSIDE OF STAIRWELL. CONTRACTOR SHALL DEMOLISH EXISTING HOSE, VALVE, CAP, AND ABANDON EXISTING STANDPIPE IN PLACE. INSTALL NEW STAIRWELL AND DRAIN RISER AS SHOWN, ALONG WITH ALL VALVES, AND COMPONENTS. INSTALL FLOW SWITCHES (BY FIRE SUPPRESSION CONTRACTOR) AND WIRE TO PANEL (BY FIRE ALARM CONTRACTOR).
2. INSTALL NEW FIRE SUPPRESSION PIPING AND SPRINKLERS IN HALLWAY AS SHOWN. ALTERNATE SPACING FOR SPRINKLERS MAY BE USED PROVIDED THE SPRINKLERS ARE INSTALLED ACCORDING TO NFPA 13 AND THE SPRINKLER LISTING REQUIREMENTS.
3. INSTALL FIRE SUPPRESSION SPRINKLERS IN APARTMENTS AS SHOWN ON ALL FLOORS. SEE TYPICAL APARTMENT LAYOUTS FOR DETAILS.
4. ALL PENETRATIONS AND SLEEVES FOR ALL DISCIPLINES (INCLUDING FIRE ALARM WIRING) BY FIRE SUPPRESSION CONTRACTOR. FIRE SUPPRESSION CONTRACTOR TO COORDINATE WITH FIRE ALARM CONTRACTOR ON LOCATION AND SIZE OF WALL PENETRATIONS. FIRE ALARM CONDUIT AND WIRING BY FIRE ALARM CONTRACTOR.
5. ROUTE DRAIN PIPING FROM FLOORS ONE THROUGH EIGHT AT BASEMENT CEILING TO EXTERIOR WALL AS SHOWN. REFER TO FIRE SUPPRESSION FLOW DIAGRAM ON DRAWINGS F202 FOR ADDITIONAL INFORMATION.



1 FIRST FLOOR PLAN - WEST WING - FIRE SUPPRESSION NEW WORK
3/16" = 1'-0" (24"x36" DRAWINGS)

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- DRAWING NOTES:**
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 2. SEE GENERAL NOTES, SPECIFICATIONS, AND ADDITIONAL PROJECT INFORMATION ON GENERAL DRAWINGS.
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 5. ELEVATIONS ON DRAWINGS ARE TO BOTTOM OF FIXTURE OR AS OTHERWISE NOTED.
 6. PAINT ALL EXPOSED PIPING TO MATCH WALLS/CEILINGS OR AS DIRECTED BY OWNER.
 7. CONTRACTOR IS RESPONSIBLE FOR ALL ARCHITECTURAL REPAIRS ASSOCIATED WITH THIS PROJECT.
 8. ACTIVATION OF FIRE SUPPRESSION SYSTEM SHALL ALSO ACTIVATE FIRE ALARM SYSTEM/STROBE AND ANNUNCIATOR SYSTEM.
 9. CONTRACTOR TO PROVIDE FIRE WATCH ANY TIME THE EXISTING FIRE SUPPRESSION SYSTEM IS DEACTIVATED.
 10. COORDINATE WORK WITH OWNER, ENGINEER, OTHER TRADES, AND FIRE ALARM COMPANY.
 11. NEW FIRE SUPPRESSION PIPING SHALL BE ROUTED TO AVOID BLOCKING EXISTING ELECTRICAL JUNCTION BOXES.

- KEYNOTES:** (X)
1. FIRE SUPPRESSION STANDPIPE WILL BE RELOCATED TO INSIDE OF STAIRWELL. CONTRACTOR SHALL DEMOLISH EXISTING HOSE, VALVE, CAP, AND ABANDON EXISTING STANDPIPE IN PLACE. INSTALL NEW STANDPIPE AND DRAIN RISER AS SHOWN, ALONG WITH ALL VALVES, AND COMPONENTS. INSTALL FLOW SWITCHES (BY FIRE SUPPRESSION CONTRACTOR) AND WIRE TO PANEL (BY FIRE ALARM CONTRACTOR).
 2. INSTALL NEW FIRE SUPPRESSION PIPING AND SPRINKLERS IN HALLWAY AS SHOWN. ALTERNATE SPACING FOR SPRINKLERS MAY BE USED PROVIDED THE SPRINKLERS ARE INSTALLED ACCORDING TO NFPA 13 AND THE SPRINKLER LISTING REQUIREMENTS.
 3. INSTALL FIRE SUPPRESSION SPRINKLERS IN APARTMENTS AS SHOWN ON ALL FLOORS. SEE TYPICAL APARTMENT LAYOUTS FOR DETAILS.
 4. ALL PENETRATIONS AND SLEEVES FOR ALL DISCIPLINES (INCLUDING FIRE ALARM WIRING) BY FIRE SUPPRESSION CONTRACTOR. FIRE SUPPRESSION CONTRACTOR TO COORDINATE WITH FIRE ALARM CONTRACTOR ON LOCATION AND SIZE OF WALL/FLOOR OPENINGS. FIRE ALARM CONDUIT AND WIRING BY FIRE ALARM CONTRACTOR.
 5. ROUTE DRAIN PIPING FROM FLOORS ONE THROUGH EIGHT AT BASEMENT CEILING TO EXTERIOR WALL AS SHOWN. REFER TO FIRE SUPPRESSION FLOW DIAGRAM ON DRAWINGS F202 FOR ADDITIONAL INFORMATION.



LURIE TERRACE FIRE SUPPRESSION DESIGN

600 W HURON ST.
ANN ARBOR, MI 48103



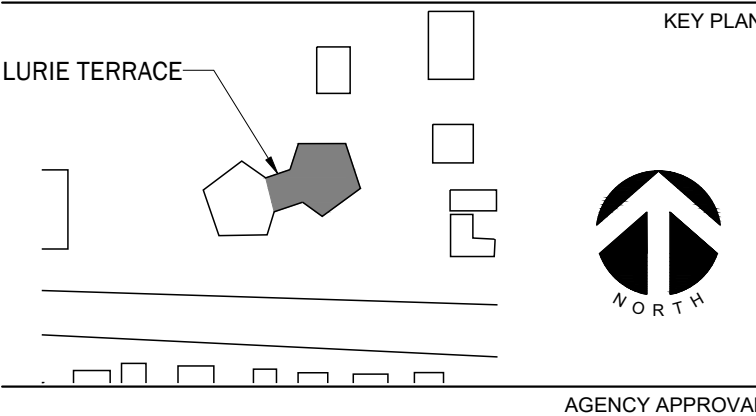
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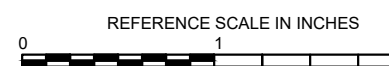
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SHEET INFORMATION

Issue	ISSUED FOR BID/PERMIT
Date	05/13/2025
Job Number	22001235.00
Drawn	J. SATTELBERG
Checked	R. OQUINN
Approved	E. ESCHELBACH

SHEET TITLE

**2ND THRU 7TH FLOOR - EAST WING
FIRE SUPPRESSION NEW WORK**

SCALE

3/16" = 1'-0" (24"x36" DRAWINGS)

SHEET NUMBER

F104

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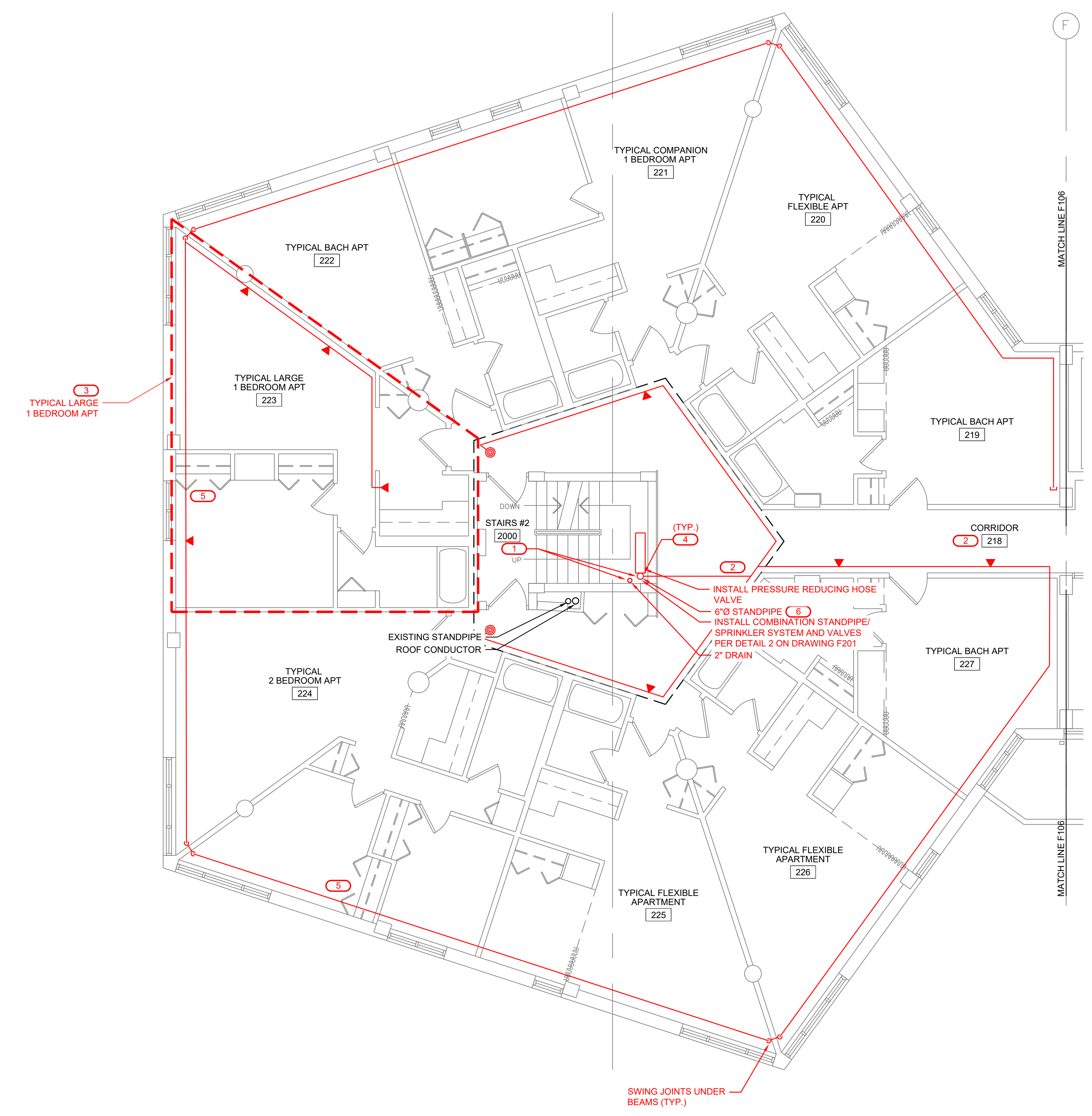


1

SECOND THRU SEVENTH FLOOR PLAN - EAST WING - FIRE SUPPRESSION NEW WORK

3/16" = 1'-0" (24"x36" DRAWINGS)

05/12/2025



- DRAWING NOTES:**
1. FIRE PROTECTION PIPE ROUTING IS SHOWN TO INDICATE DESIGN INTENT. FIRE PROTECTION CONTRACTOR SHALL PROVIDE HYDRAULIC CALCULATIONS, DETAILED WORKING DRAWINGS, INCLUDING BUT NOT LIMITED TO, EXACT NUMBER AND LOCATION OF SPRINKLERS, PIPE SIZING AND ROUTING BASED ON HYDRAULIC CALCULATIONS, HANGER LOCATIONS, SEISMIC BRACING CALCULATIONS, ETC. REFER TO NFPA 13 FOR COMPLETE LIST OF REQUIREMENTS. SUBMIT TO A/E AND AHJ FOR APPROVAL.
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 8. ACTIVATION OF FIRE SUPPRESSION SYSTEM SHALL ALSO ACTIVATE FIRE ALARM SYSTEM/STROBE AND ANNUNCIATOR SYSTEM.
 9. CONTRACTOR TO PROVIDE FIRE WATCH ANY TIME THE EXISTING FIRE SUPPRESSION SYSTEM IS DEACTIVATED.
 10. COORDINATE WORK WITH OWNER, ENGINEER, OTHER TRADES, AND FIRE ALARM COMPANY.
 11. NEW FIRE SUPPRESSION PIPING SHALL BE ROUTED TO AVOID BLOCKING EXISTING ELECTRICAL JUNCTION BOXES.

- KEYNOTES:** (X)
1. FIRE SUPPRESSION STANDPIPE WILL BE RELOCATED TO INSIDE OF STAIRWELL. CONTRACTOR SHALL DEMOLISH EXISTING HOSE, VALVE, CAP, AND ABANDON EXISTING STANDPIPE IN PLACE. INSTALL NEW STANDPIPE AND DRAIN RISER AS SHOWN, ALONG WITH ALL VALVES, AND COMPONENTS. INSTALL FLOW SWITCHES (BY FIRE SUPPRESSION CONTRACTOR) AND WIRE TO PANEL (BY FIRE ALARM CONTRACTOR).
 2. INSTALL NEW FIRE SUPPRESSION PIPING AND SPRINKLERS IN HALLWAY AS SHOWN. ALTERNATE SPACING FOR SPRINKLERS MAY BE USED PROVIDED THE SPRINKLERS ARE INSTALLED ACCORDING TO NFPA 13 AND THE SPRINKLER LISTING REQUIREMENTS.
 3. INSTALL FIRE SUPPRESSION SPRINKLERS IN APARTMENTS AS SHOWN ON ALL FLOORS. SEE TYPICAL APARTMENT LAYOUTS FOR DETAILS.
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 5. ROUTE DRAIN PIPING FROM FLOORS ONE THROUGH EIGHT AT BASEMENT CEILING TO EXTERIOR WALL AS SHOWN. REFER TO FIRE SUPPRESSION FLOW DIAGRAM ON DRAWINGS F202 FOR ADDITIONAL INFORMATION.
 6. INSTALL AIR VENT AND PRESSURE GAUGE AT TOP OF STANDPIPE (EIGHTH FLOOR ONLY). TIE EXISTING ROOF HOSE VALVE PIPING INTO NEW STANDPIPE AND DRAIN RISER.

 **1 SECOND THRU EIGHTH FLOOR PLAN - WEST WING - FIRE SUPPRESSION NEW WORK**
3/16" = 1'-0" (24"x36" DRAWINGS)

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**LURIE TERRACE
FIRE SUPPRESSION
DESIGN**

600 W HURON ST.
ANN ARBOR, MI 48103

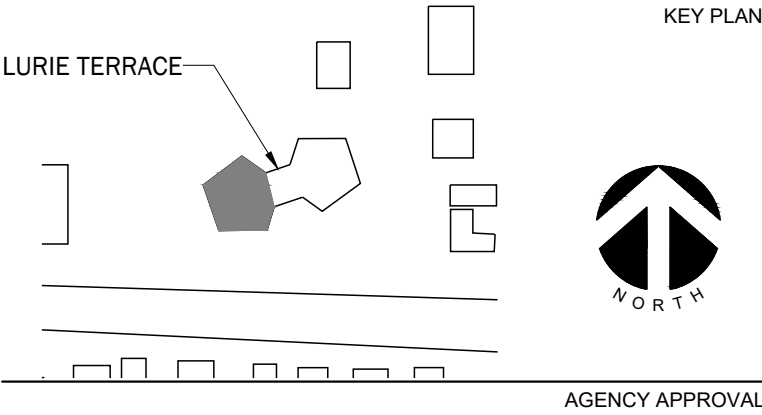


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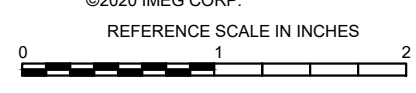
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REVISIONS

No.	Date	Revision / Issue
A	10/28/2022	OWNER REVIEW
B	12/08/2022	90% REVIEW
C	05/13/2025	ISSUED FOR BID/PERMIT

SHEET INFORMATION

Issue	ISSUED FOR BID/PERMIT
Date	05/13/2025
Job Number	22001235.00
Drawn	J. SATTELBERG
Checked	R. OQUINN
Approved	E. ESCHELBACH

SHEET TITLE

**2ND THRU 8TH FLOOR - WEST WING
FIRE SUPPRESSION NEW WORK**

SCALE

3/16" = 1'-0" (24"x36" DRAWINGS)

SHEET NUMBER

F105



LURIE TERRACE
FIRE SUPPRESSION
DESIGN

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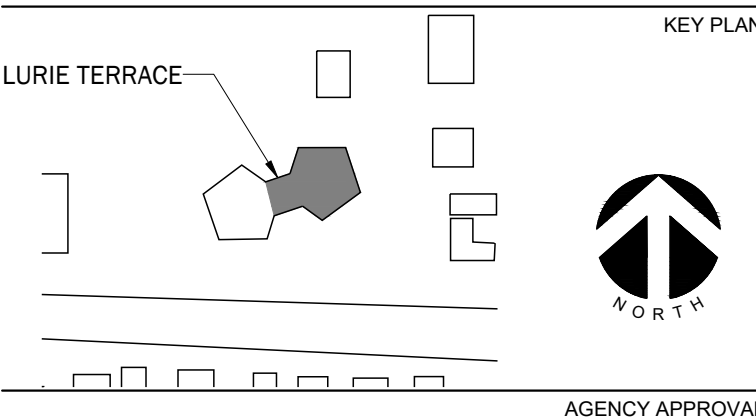
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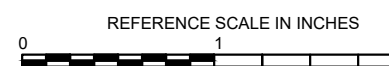
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SHEET INFORMATION

Issue	ISSUED FOR BID/PERMIT
Date	05/13/2025
Job Number	22001235.00
Drawn	J. SATTELBERG
Checked	R. OQUINN
Approved	E. ESCHELBACH

SHEET TITLE
**EIGHTH FLOOR PLAN - EAST WING &
PENTHOUSE FIRE SUP. NEW WORK**

SCALE
SEE DRAWINGS

SHEET NUMBER

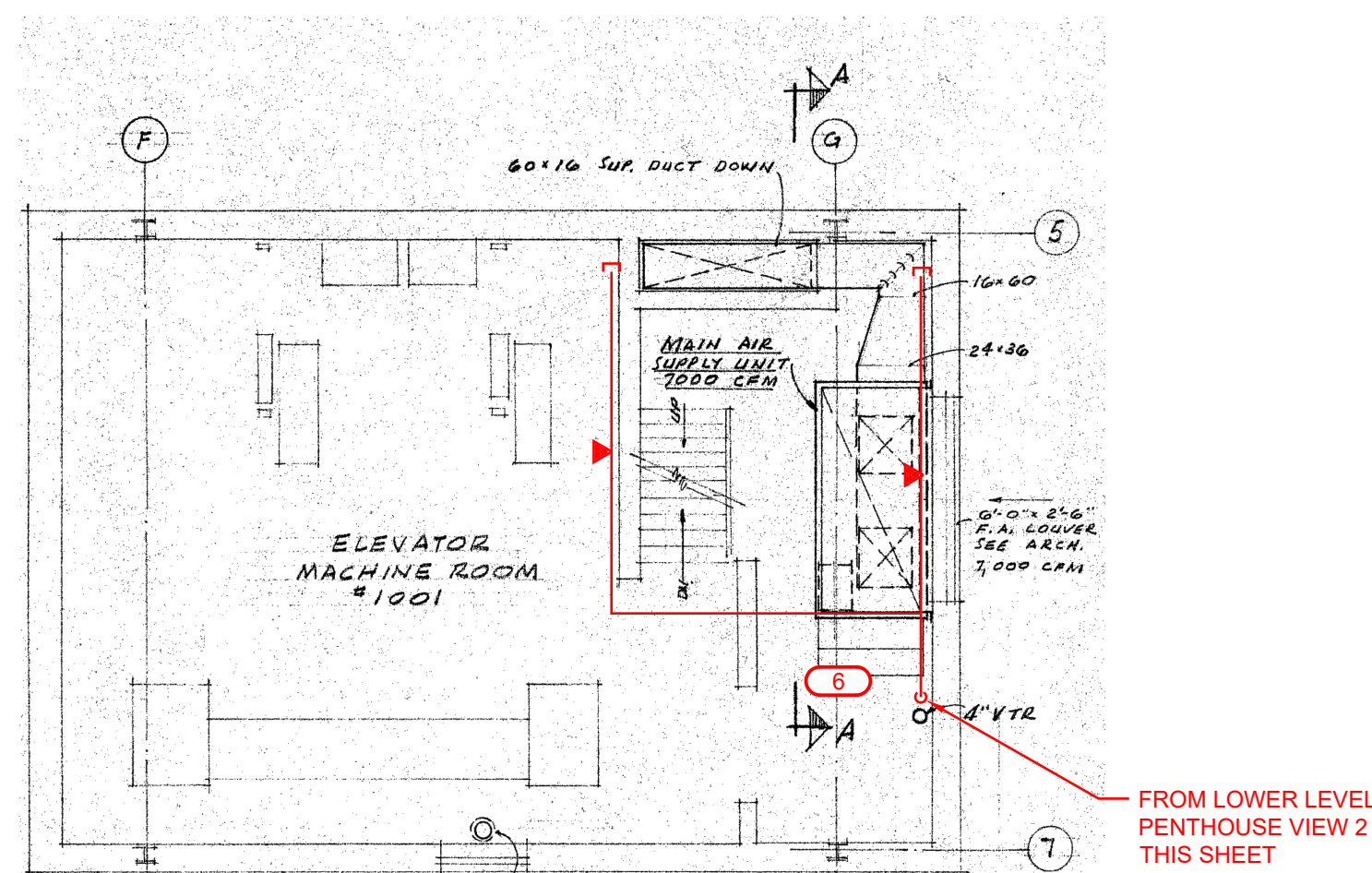
F106

DRAWING NOTES:

1. FIRE PROTECTION PIPE ROUTING IS SHOWN TO INDICATE DESIGN INTENT. FIRE PROTECTION CONTRACTOR SHALL PROVIDE HYDRAULIC CALCULATION, DETAILED WORKING DRAWINGS, INCLUDING BUT NOT LIMITED TO: EXACT NUMBER AND LOCATION OF SPRINKLERS, PIPE SIZING AND ROUTING BASED ON HYDRAULIC CALCULATIONS, HANGER LOCATIONS, SEISMIC BRACING CALCULATIONS, ETC. REFER TO NFPA 13 FOR COMPLETE LIST OF REQUIREMENTS. SUBMIT TO A/E AND AHJ FOR APPROVAL.
2. SEE GENERAL NOTES, SPECIFICATIONS, AND ADDITIONAL PROJECT INFORMATION ON GENERAL DRAWINGS.
3. NEW WORK SHOWN IN RED.
4. DRAWINGS DIAGMATICALLY INDICATE THE GENERAL SCOPE OF WORK, BUT DO NOT PROVIDE EXACT SCALE OR LOCATIONS. PROPER INSTALLATION OF ALL SYSTEMS, AFTER COORDINATION WITH OTHER TRADES, IS THE CONTRACTORS RESPONSIBILITY.
5. ELEVATIONS ON DRAWINGS ARE TO BOTTOM OF FIXTURE OR AS OTHERWISE NOTED.
6. PAINT ALL EXPOSED PIPING TO MATCH WALLS/CEILINGS OR AS DIRECTED BY OWNER.
7. CONTRACTOR IS RESPONSIBLE FOR ALL ARCHITECTURAL REPAIRS ASSOCIATED WITH THIS PROJECT.
8. ACTIVATION OF FIRE SUPPRESSION SYSTEM SHALL ALSO ACTIVATE FIRE ALARM SYSTEM/STROBE AND ANNUNCIATOR SYSTEM.
9. CONTRACTOR TO PROVIDE FIRE WATCH ANY TIME THE EXISTING FIRE SUPPRESSION SYSTEM IS DEACTIVATED.
10. COORDINATE WORK WITH OWNER, ENGINEER, OTHER TRADES, AND FIRE ALARM COMPANY.
11. NEW FIRE SUPPRESSION PIPING SHALL BE ROUTED TO AVOID BLOCKING EXISTING ELECTRICAL JUNCTION BOXES.

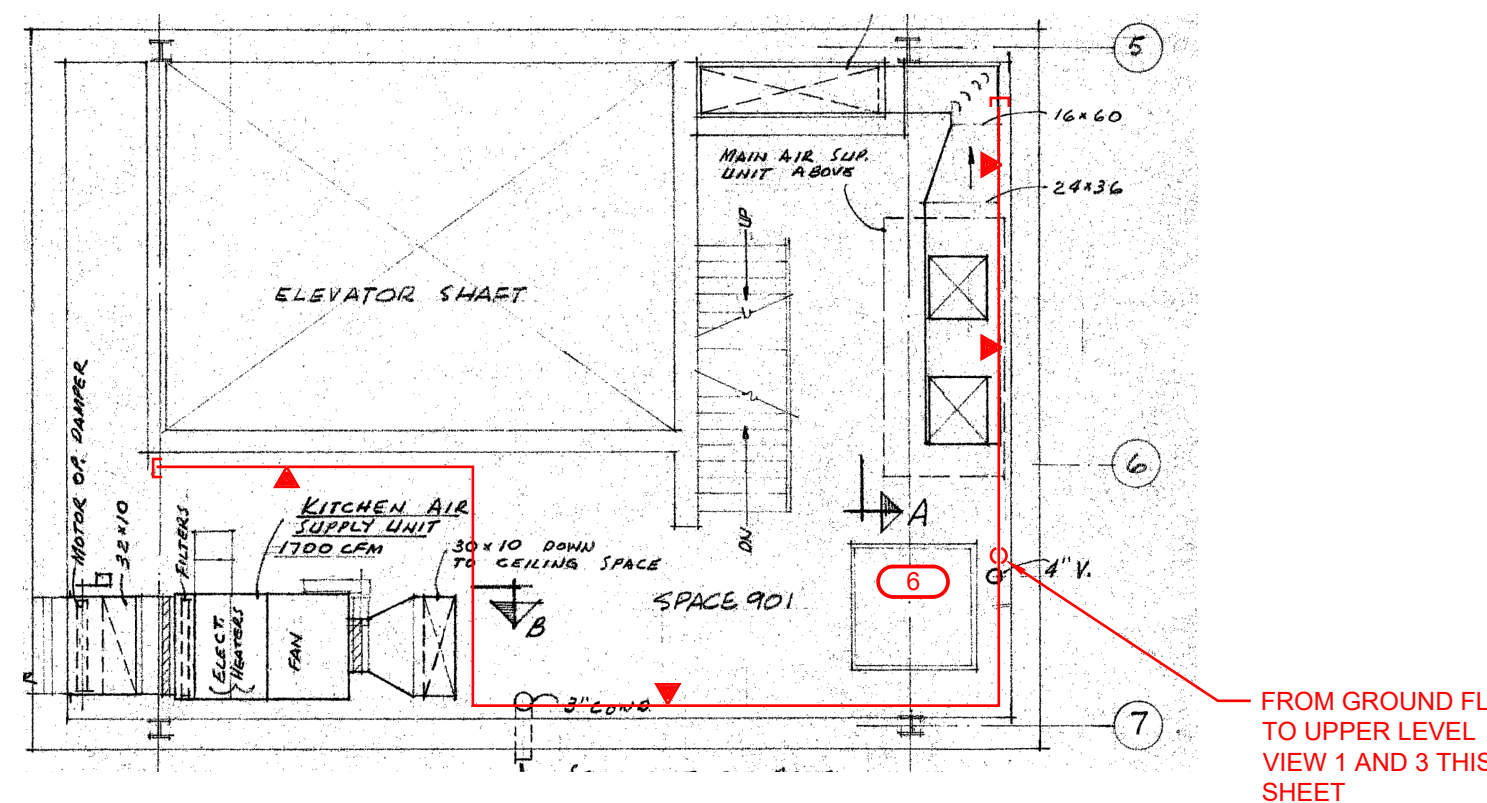
KEYNOTES: (X)

1. FIRES SUPPRESSION STANDPIPE WILL BE RELOCATED TO INSIDE STAIRWELL. CONTRACTOR TO DEMOLISH EXISTING HOSE, VALVE, CAP, AND ABANDON EXISTING STANDPIPE IN PLACE. INSTALL NEW STANDPIPE AND DRAIN RISER AS SHOWN, ALONG WITH ALL VALVES, COMPONENTS. INSTALL FLOW SWITCHES (BY FIRE SUPPRESSION CONTRACTOR) AND WIRE TO PANEL (BY FIRE ALARM CONTRACTOR).
2. INSTALL NEW FIRE SUPPRESSION PIPING AND SPRINKLERS IN HALLWAY AS SHOWN. ALTERNATE SPACING FOR SPRINKLERS MAY BE USED PROVIDED THE SPRINKLERS ARE INSTALLED ACCORDING TO NFPA 13 AND THE SPRINKLER LISTING REQUIREMENTS.
3. ALL PENETRATIONS AND SLEEVES FOR ALL DISCIPLINES (INCLUDING FIRE ALARM WIRING) BY FIRE SUPPRESSION CONTRACTOR. FIRE SUPPRESSION CONTRACTOR TO COORDINATE WITH FIRE ALARM CONTRACTOR ON LOCATION AND SIZE OF WALL AND FLOOR OPENINGS. FIRE ALARM CONDUIT AND WIRING BY FIRE ALARM CONTRACTOR.
4. INSTALL AIR VENT AND PRESSURE GAUGE AT TOP OF STANDPIPE (EIGHTH FLOOR ONLY). TIE EXISTING ROOF HOSE VALVE PIPING INTO NEW STANDPIPE AND DRAIN RISER.
5. INSTALL FIRE SUPPRESSION SPRINKLERS IN PENTHOUSE AREA PENTHOUSE IS HEATED SPACE.



**PENTHOUSE UPPER FLOOR
PLAN - FIRE SUPPRESSION NEW WORK**

3/16" = 1'-0" (24"x36" DRAWINGS)

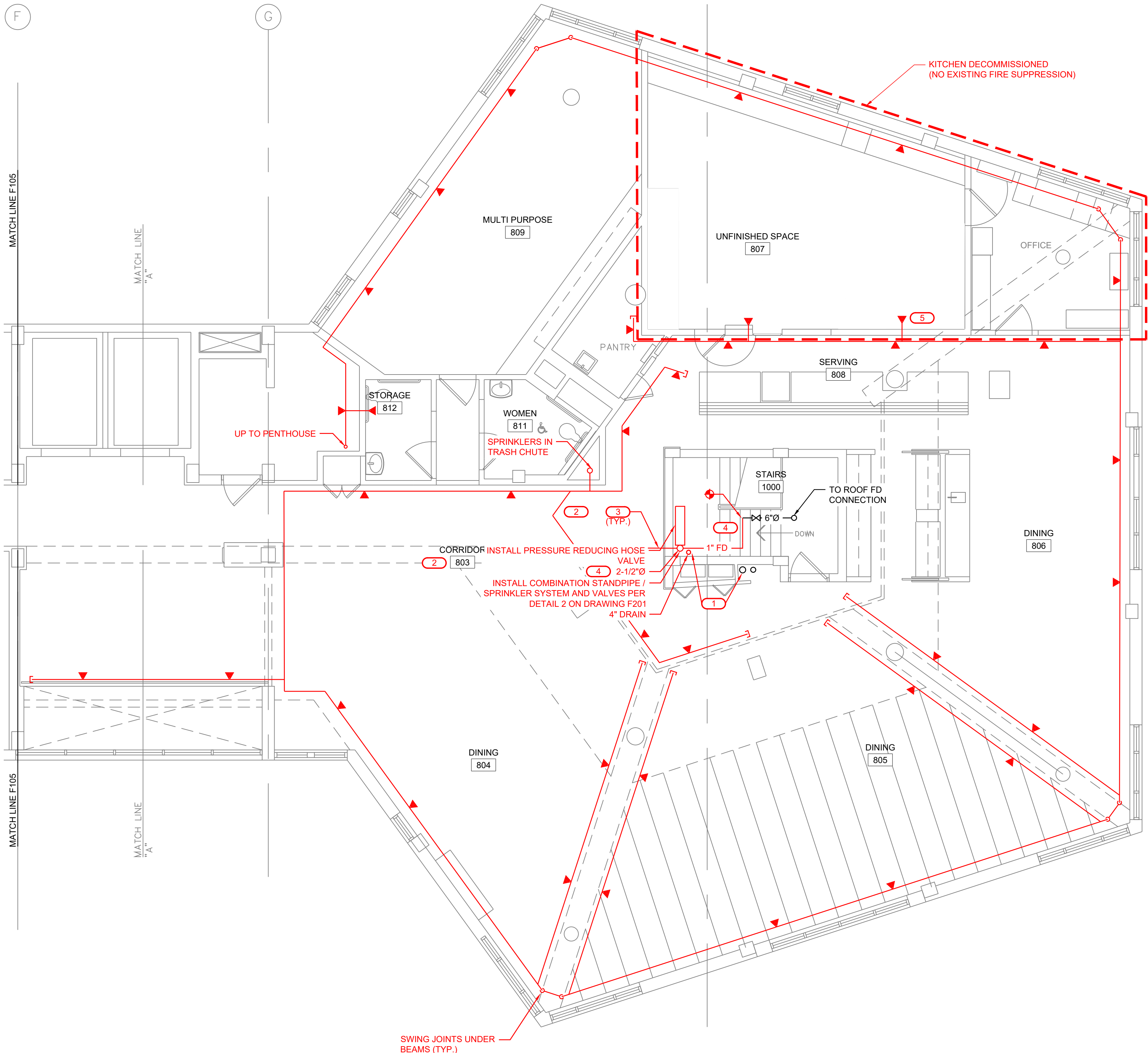


**PENTHOUSE LOWER FLOOR
PLAN - FIRE SUPPRESSION NEW WORK**

3/16" = 1'-0" (24"x36" DRAWINGS)

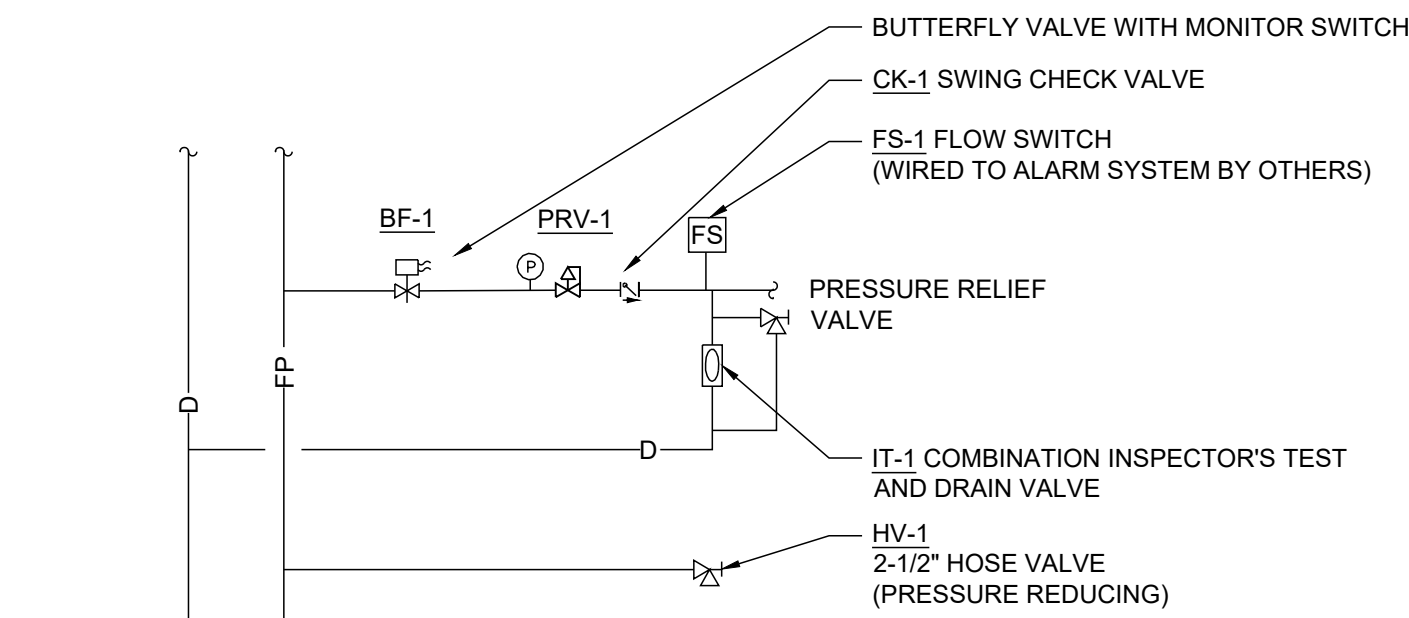
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EIGHTH FLOOR PLAN - EAST WING - FIRE SUPPRESSION NEW WORK

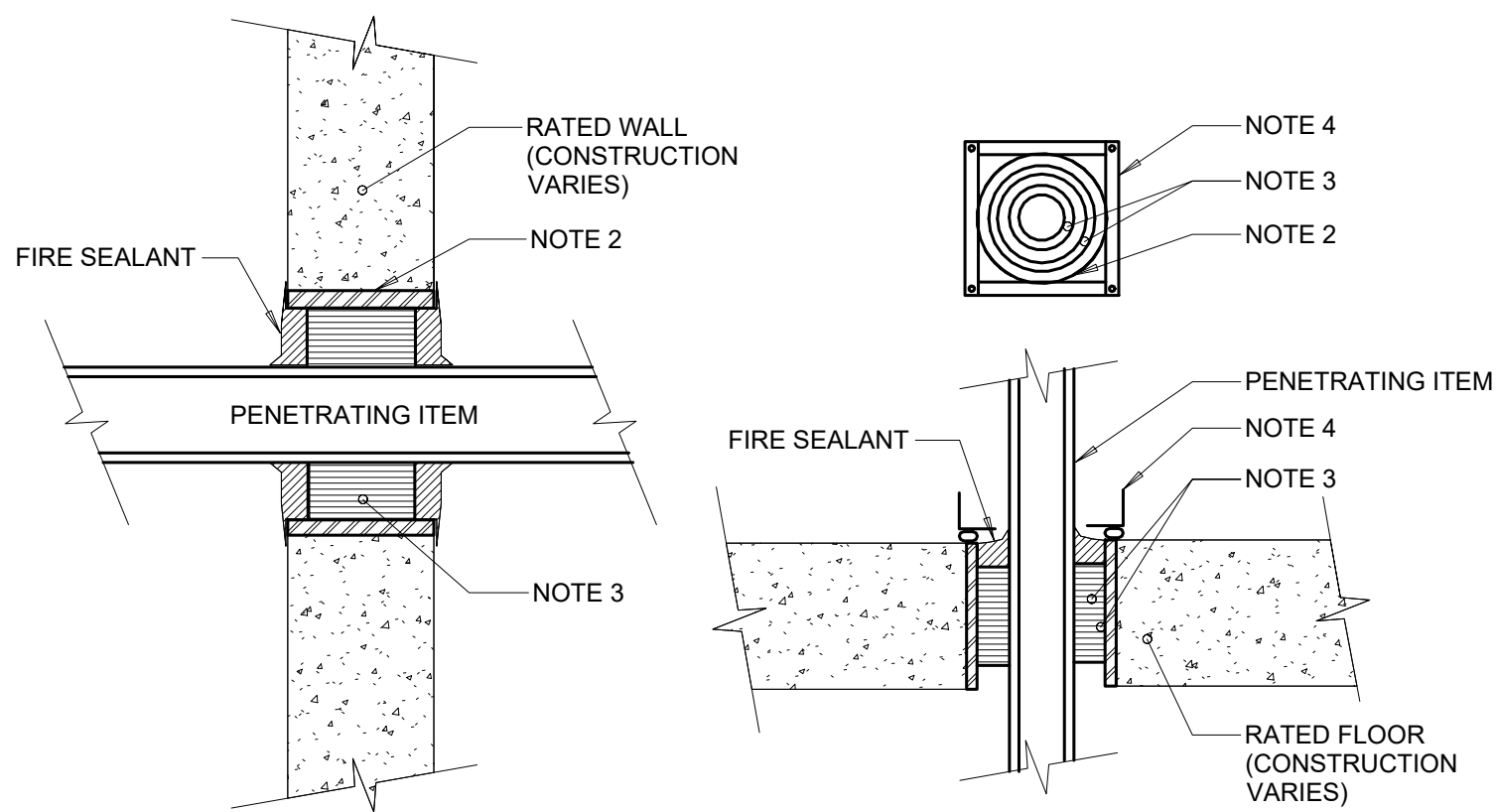
3/16" = 1'-0" (24"x36" DRAWINGS)



COMBINATION STANDPIPE/SPRINKLER SYSTEM VALVE DETAIL

1
NO SCALE

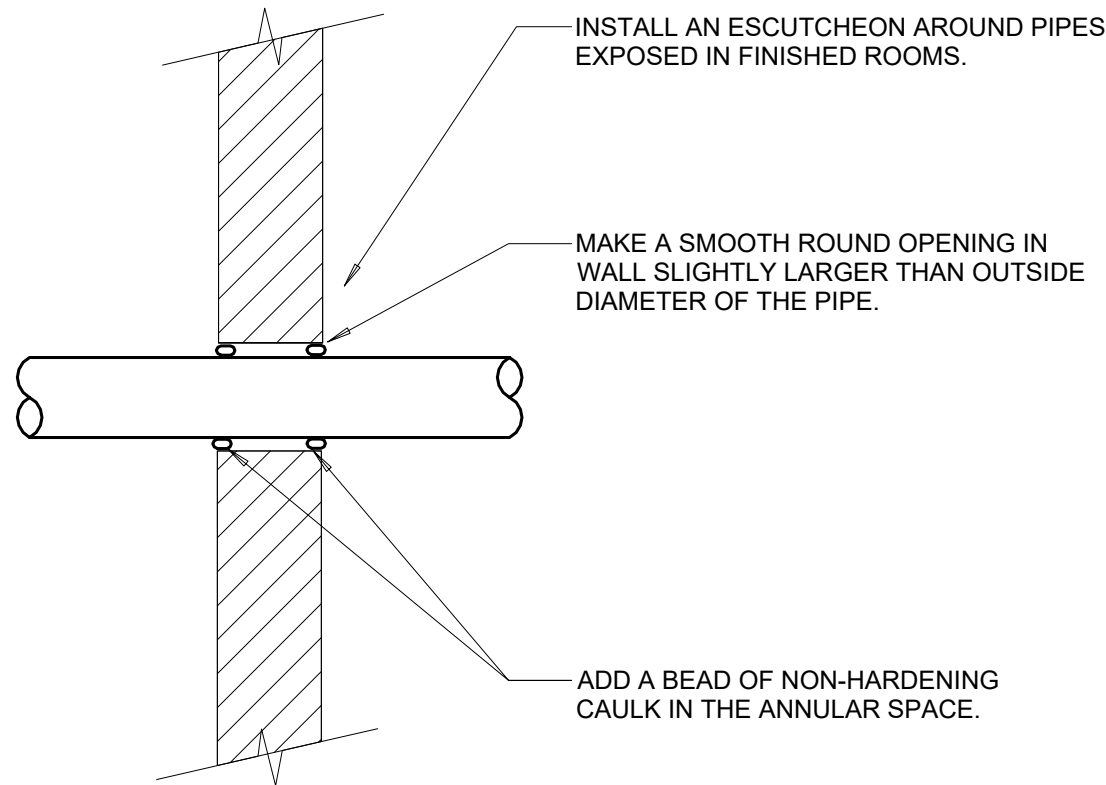
- NOTES:
1. DETAIL APPLIES TO COMBINATION STANDPIPE/SPRINKLER SYSTEMS ON ALL FLOORS.
 2. CONTRACTOR MAY SUBMIT MANIFOLD ASSEMBLY AS ALTERNATE TO SCHEDULED VALVES/COMPONENTS.



FLOOR/WALL PENETRATION - RATED FIRE BARRIER

3
NO SCALE

- NOTES:
1. THIS GENERAL DETAIL APPLIES TO ALL ITEMS PENETRATING FIRE RATED WALLS OR FLOORS. THE INTENT IS TO MAINTAIN THE FIRE RATING AND TO ALLOW LONGITUDINAL MOVEMENT. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.
 2. PIPE SLEEVE IN WALL OR FLOOR, OR SMOOTH CORE DRILL. SMOOTH CORE DRILL. COORDINATE SLEEVE LOCATIONS, AND DEBUR SLEEVE. ALLOW NO GAP AROUND SLEEVE. SLEEVE SIZE SHALL ALLOW ANNULAR SPACE REQUIRED BY THE SELECTED FIRE STOP SYSTEM.
 3. INSTALL BACKING MATERIAL, SUCH AS MINERAL WOOL SAFING, AS REQUIRED FOR FIRE STOP SYSTEM. INSTALL IN ACCORDANCE WITH FIRE STOP SYSTEM APPLICATION LISTING. SECURE TO WALL OR FLOOR TO ALLOW LONGITUDINAL MOVEMENT OF PENETRATING ITEM WITHOUT MOVEMENT OF FIRE BARRIER.
 4. WATERTIGHT WELDED 1"x1" 20 GAUGE MINIMUM GALVANIZED SHEET METAL ANGLE FRAME, BY CONTRACTOR IN EQUIPMENT ROOMS FOR WATER STOP. PLACE A BEAD OF WATERPROOF SEALANT BETWEEN FLOOR AND BOTTOM OF ANGLE FRAME. SECURE TO FLOOR WITH MASONRY ANCHORS IN CORNERS AND ON 12" MAXIMUM CENTERS. MULTIPLE PENETRATING ITEMS MAY BE ENCLOSED IN ONE FRAME.



WALL PENETRATION - NON-FIRE RATED

2
NO SCALE

- NOTES:
1. THIS DETAIL APPLIES TO ALL PIPES. THE INTENTION IS TO SEAL AIRTIGHT AROUND PIPES FOR NOISE TRANSMISSION CONTROL.
 2. FLOOR OPENINGS ARE SIMILAR.
 3. REFER TO SPECIFICATION FOR ADDITIONAL INFORMATION.

FIRE PROTECTION MATERIAL LIST			
NOTES: 1. INSTALL AUTOMATIC AIR VENTS (AAV) AT TOP OF STANDPIPES AND FOR EACH SPRINKLER SYSTEM. 2. CONTRACTOR TO NOTIFY ENGINEER IF SUPPRESSION SYSTEM PRESSURE (STATIC AND PUMP CHURN) IS ABOVE 175 PSI.			
TAG NAME	DESCRIPTION	MANUFACTURER & MODEL	NOTES
AV-1	AUTOMATIC AIR VENT, 175 PSI, CAST IRON BODY, STAINLESS STEEL ORIFICE, LINKAGE, AND FLOAT, CAST IRON VALVE COVER WITH GASKET, THREADED NPT INLET AND OUTLET, 1/2 BALL VALVE AND 1/2" STRAINER, UL/FM.	METRAFLEX MVC-15, POTTER PAV, AGF M7900AAV	NOTE 1
CK-1	SWING CHECK VALVE, 300 PSI WWP, GROOVED/FLANGED TYPE, DUCTILE IRON BODY, STAINLESS STEEL HINGE ASSOCIATED WITH RUBBER FACED CLAPPER, BRASS SEAT RING, ACCESS COVER, 1/2" OR 3/4" TAPPED BOSSES. VALVE LISTED FOR HORIZONTAL OR VERTICAL INSTALLATION, UL/FM. FLANGED TYPE IS ACCEPTABLE PROVIDED VALVE HAS THE FEATURES LISTED ABOVE.	VIKING G-1, TYCO CV-1F	NONE
FS-1	FLOW SWITCH - VANE TYPE, 450 PSI, FLOW SENSITIVITY OF 4-10 GPM, TWO SINGLE POLE DOUBLE THROW SWITCHES, PNEUMATIC RETARD ADJUSTABLE FROM 0-90 SECONDS WITH AUTOMATIC RESET, NEMA 4 INDOOR/OUTDOOR RATED METAL HOUSING, UL/FM.	POTTER VSR, SYSTEM SENSOR WFD	NONE
BF-1	INDICATING BUTTERFLY VALVE, NORMALLY OPEN, 300 PSI WWP, GROOVED TYPE, DUCTILE IRON BODY WITH PROTECTIVE COATING, ELECTROLESS NICKEL OR EPDM COATED DUCTILE IRON DISC, STAINLESS STEEL STEM AND SCREWS, CAST OR DUCTILE IRON HANDWHEEL, EPDM SEAT, INDICATOR FLAG, FACTORY MOUNTED INTEGRAL MONITOR SWITCHES, UL/FM. LUGGED OR WAFER VALVES ARE ACCEPTABLE PROVIDED THEY HAVE THE FEATURES LISTED ABOVE.	NIBCO GD-4765-8N, VICTAULIC SERIES 705, TYCO BFV-300, KENNEDY G300, GLOBE GLR300G, REL-SFG-300	NOTE 2
IT-1	COMBINATION INSPECTOR'S TEST AND DRAIN VALVE, 300 PSI, INTEGRAL SIGHT GLASS, BALL VALVE PLATE INDICATING OFF-TEST-DRAIN POSITIONS, FURNISHED WITH TEST ORIFICE GIVING FLOW EQUIVALENT TO ONE SPRINKLER OF A TYPE HAVING THE SMALLEST ORIFICE INSTALLED ON THE SYSTEM, PRESSURE RELIEF VALVE, UL/FM.	AGF M1011A, RELIABLE MODEL TD, VICTAULIC TESTMASTER, GLOBE UTD W/ MODEL ARV PRV	NONE
HV-1	PRESSURE REGULATING HOSE VALVE, ANGLE TYPE, CAST BRASS BODY AND TRIM, CAP AND CHAIN, RED HAND WHEEL, REDUCER, ADJUSTABLE UP TO 400 PSI INLET PRESSURE, HOSE THREADS TO MATCH LOCAL FIRE DEPARTMENT.	POTTER ROEMER 4033, CROKER 5610, ELKHART UR-25-2.5.	NONE
PRV-1	PRESSURE REDUCING VALVE, 250 PSI MAX INLET PRESSURE, THREADED END CONNECTIONS, EPOXY COATED DUCTILE IRON BODY AND COVER, RUBBER DIAPHRAGM, BRASS PILOT VALVE WITH RUBBER DIAPHRAGM. FACTOR OUTLET SET PRESSURE OF 125 PSI, FIELD OUTLET SET PRESSURE RANGE FROM 80 PSI TO 225 PSI.	TYCO PRV-1, VIKING B-1, VICTAULIC 867-42T	NONE

FIRE SPRINKLER USAGE SCHEDULE

- NOTES:
1. REFER TO FLOOR PLANS.
 2. SPRINKLER SHALL HAVE COLOR CODED BULB THERMAL ELEMENT.
 3. ALL SPRINKLERS SHALL BE UL LISTED.
 4. CONTRACTOR TO VERIFY SPRINKLER REQUIREMENTS BASED ON ACTUAL INSTALLATION, USAGE, AND NFPA 13 REQUIREMENTS.
 5. TAG NAME IS PRIMARILY FOR IDENTIFYING SPRINKLERS IN SUBMITTALS. IT MAY OR MAY NOT BE FOUND ELSEWHERE ON THE DRAWINGS. CONTRACTOR TO SUBMIT ALL SPRINKLER TYPES TO BE USED.
 6. AREAS ARE GENERAL IN NATURE. CONTRACTOR TO MATCH UNSCHEDULED AREAS TO SIMILAR SPACES.
 7. SPRINKLERS SPECIFIED WITHIN FIRE SPRINKLER USAGE SCHEDULE ARE STANDARD COVERAGE TYPE. EXTENDED COVERAGE SPRINKLERS ARE PERMITTED PROVIDED SPRINKLERS MEET THE REQUIREMENTS OF UL.
 8. SPRINKLERS SHALL BE ORDINARY TEMPERATURE RATING UNLESS REQUIRED TO BE INTERMEDIATE OR HIGH TEMPERATURE DUE TO PROXIMITY TO HEAT SOURCE. REFER TO NFPA 13 REQUIREMENTS. CONTRACTOR SHALL REVIEW CONTRACT DRAWINGS IN FULL TO DETERMINE LOCATION OF HEAT SOURCES.

AREA TYPE (NOTE 1 & 6)	AREA HAZARD	SPRINKLER				TEMPERATURE RATING (NOTE 2)	MANUFACTURER	NOTES
		TAG NAME (NOTE 4 & 5)	SPRINKLER TYPE	RESPONSE CATEGORY	FINISH			
LIGHT HAZARD - EXPOSED STRUCTURE (ROOMS WITH NO CEILINGS, ETC.)	SEE PLANS	SPR-2	UPRIGHT	QUICK	ROUGH BRASS	ORDINARY (PER NFPA)	VIKING, RELIABLE, TYCO, VICTAULIC	NOTES 3, 7, 8
LIGHT HAZARD - ROOMS WITH DROP CEILINGS	SEE PLANS	SPR-3	FLUSH CONCEALED	QUICK	WHITE	ORDINARY (PER NFPA)	VIKING, RELIABLE, TYCO, VICTAULIC	NOTES 3, 7, 8
ORDINARY/EXTRA HAZARD - EXPOSED STRUCTURE (ROOMS WITH NO CEILINGS, ETC.)	SEE PLANS	SPR-5	UPRIGHT	STANDARD	ROUGH BRASS	ORDINARY (PER NFPA)	VIKING, RELIABLE, TYCO, VICTAULIC	NOTES 3, 7, 8
RESIDENTIAL UNITS, ADJOINING CORRIDORS	SEE PLANS	SPR-6	RESIDENTIAL FLUSH CONCEALED	RESIDENTIAL	WHITE	ORDINARY (PER NFPA)	VIKING, RELIABLE, TYCO, VICTAULIC	NOTES 3, 7, 8

FIRE PUMP SCHEDULE

- NOTES:
1. FIRE PUMP, JOCKEY PUMP, AND CONTROLLERS ARE EXISTING TO BE INSTALLED UNDER THIS CONTRACT.
 2. MINIMUM PERFORMANCE SHALL MEET FLOW AND PRESSURE REQUIREMENTS DETERMINED BY CONTRACTOR'S HYDRAULIC CALCULATIONS.

TAG NAME	AREA SERVED	PUMP TYPE	RATED GPM	RATED PUMP PRESSURE (PSI)	MINIMUM OPERATING PERFORMANCE				PUMP HEAD AT NO FLOW (PSI) (NOTE 2)	INLET SIZE (IN)	OUTLET SIZE (IN)	IMPELLER SIZE (IN)	ELECTRICAL				PUMP MANUFACTURER	PUMP MODEL	NOTES
					GPM	INLET PRESSURE (PSI)	DISCHARGE PRESSURE (PSI)	HP					RPM	VOLTAGE	PHASES				
FP-1 (EXISTING)	BUILDING - PRIMARY	HORIZONTAL SPLIT CASE	750	100	750.0	68	100	191.6	6"	4"	15.16	75	3560	208 V	3		PENTAIR	4"-1594BF	EXISTING FOR REFERENCE ONLY
JP-1 (EXISTING)	FP-1	VERTICAL MULTISTAGE CENTRIFUGAL	12	---	7.5	---	---	8.25	1 1/4"	1 1/4"	---	1.5	V	208 V	3		WEBTROL	NV2B12FE3T	EXISTING FOR REFERENCE ONLY



LURIE TERRACE FIRE SUPPRESSION DESIGN

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ANN ARBOR, MI 48103



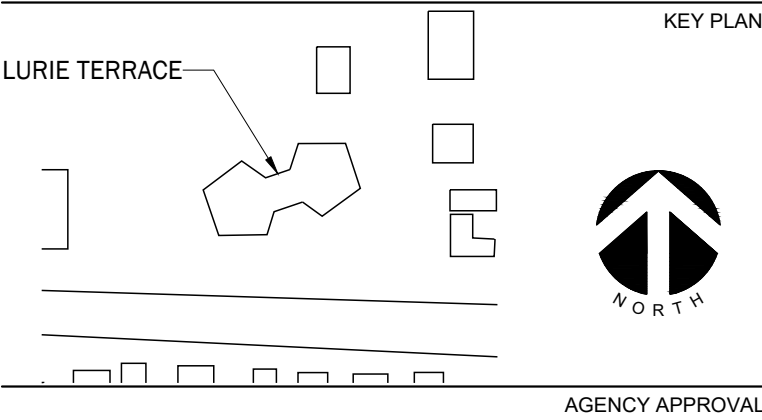
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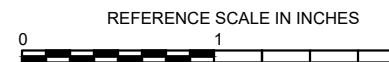
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REVISIONS

No.	Date	Revision / Issue
A	10/28/2022	OWNER REVIEW
B	12/08/2022	90% REVIEW
C	05/13/2025	ISSUED FOR BID/PERMIT

SHEET INFORMATION

Issue	ISSUED FOR BID/PERMIT
Date	05/13/2025
Job Number	22001235.00
Drawn	J. SATTELBERG
Checked	R. O'QUINN
Approved	E. ESCHELBACH

SHEET TITLE

SCHEDULES AND DETAILS

SCALE

NONE

SHEET NUMBER

F201

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FIRE SUPPRESSION
DESIGN

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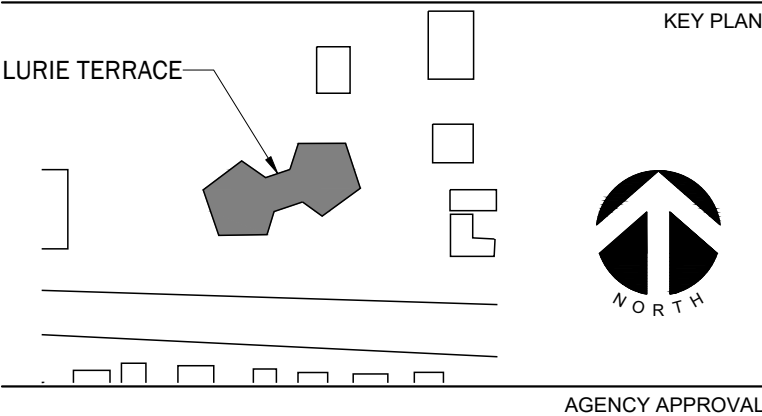
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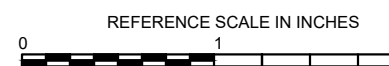
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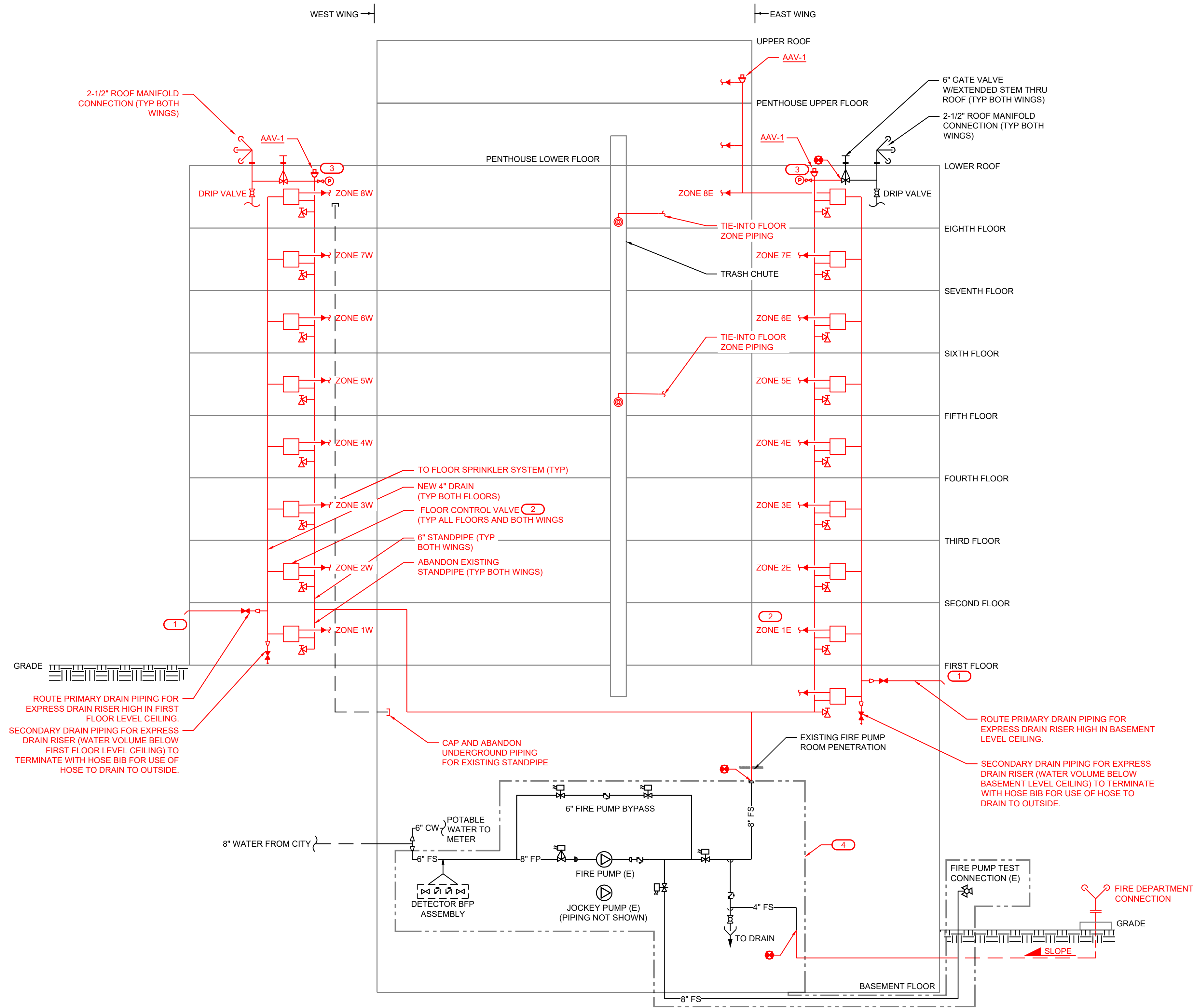
FIRE SUPPRESSION FLOW DIAGRAM
- NEW WORK

SCALE

NONE

SHEET NUMBER

F202



1 FIRE PROTECTION FLOW DIAGRAM - NEW WORK
NO SCALE

KEYNOTES:	(X)
1.	DISCHARGE TO EXTERIOR OF BUILDING AT LOCATION COORDINATED WITH OWNER. SEAL WALL PENETRATION WEATHER TIGHT.
2.	INSTALL NEW 2-1/2" HOSE CONNECTION VALVE, NEW 2-1/2" COMBINATION STANDPIPE/SPRINKLER SYSTEM AND VALVES PER DETAIL 2 ON DRAWING F201, AND DRAIN CONNECTION.
3.	INSTALL AIR VENT AND PRESSURE GAUGE AT TOP OF STANDPIPE.
4.	EQUIPMENT, PIPING, VALVES, AND COMPONENTS, ARE EXISTING AND INSTALLED AS PART OF PREVIOUS PROJECT. REFER TO REFERENCE DRAWINGS FROM OWNER FOR ADDITIONAL INFORMATION. STARTUP AND TEST OF FIRE PUMP SYSTEM TO BE PROVIDED BY OTHERS.

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