

FIRE SUPPRESSION DESIGN CRITERIA

STATIC:	60	PSI
RESIDUAL:	19	PSI
WATER FLOW:	605	GPM
DURATION:	90	MINS.
SOURCE OF WATER SUPPLY:	ELEVATED TANK	
SOURCE OF WATER FLOW DATA:	GRANT RICHARD, GEYER FIRE	
DATE OF WATER FLOW TEST:	11/17/2022	
ANTICIPATED WATER DEMAND:	70 (MINIMUM)	PSI
	500	GPM
CLASSIFICATION OF HAZARD(S):	LIGHT HAZARD AND ORDINARY HAZARD GROUP 1	
CLASSIFICATION OF BUILDING	EDUCATIONAL, HIGH SCHOOL	
SPECIFIC TYPES OF SUPPRESSION SYSTEM(S):	AUTOMATIC WET PIPE WITH ELECTRIC FIRE PUMP.	
NFPA STANDARD(S) FOLLOWED IN DESIGN:	NFPA 13 AND 24	

ELECTRIC FIRE PUMP ASSEMBLY SPECIFICATION

ELECTRIC FIRE PUMP ASSEMBLY SHALL BE PROVIDED AS A COMPLETE PACKAGE, PIPED AND WIRED ON A COMMON SKID INCLUDING PUMP HOUSE.

GENERALLY THE ELECTRIC FIRE PUMP ASSEMBLY SHALL BE PROVIDED WITH THE FOLLOWING AS THE DESIGN BASE:

- * FIRE PUMP: AC 4X4X7F SERIES 1580 UL/FM VERTICAL INLINE FIRE PUMP RATED 500 GPM @ 70 PSI, 3550 RPM, 30 HP, ODP MOTOR, 480/3/60 (FINAL DUTY POINT TO BE DETERMINED BY THE INSTALLER, PROVIDE FACTORY CERTIFIED FLOW TEST)
- * ELECTRIC PUMP SHALL BE FURNISHED WITH WALL MOUNTED, ACROSS-THE-LINE CONTROLLER WITH INTEGRAL TRANSFER SWITCH
- * EATON FT90 SOLID STATE SOFT START CONTROLLER W/TRANSFER SWITCH
- * JOCKEY PUMP: AC/LAWARA 1SV JOCKEY PUMP, 5 GPM @ 85 PSI, 3/4 HP, 480/3/60
- * EATON CUTLER XTJP JOCKEY PUMP CONTROLLER, NEMA 2 ENCLOSURE
- * 4" X 2 WAY EXPOSED TEST HEADER WITH VALVES AND PIPING (SHIPPED LOOSE, FIELD INSTALLED)
- * WATTS BACKFLOW PREVENTER WITH VALVES AND PIPING SIZED PER NFPA
- * CITY BY-PASS PIPING WITH VALVES AND PIPING SIZED PER NFPA
- * SUCTION CONTROL VALVE WITH SET LIMIT TO MEET UTILITY COMPANIES DESIRED PRESSURE (~20 PSI, COORDINATE EXACT PRESSURE WITH UTILITY CO.)
- * TAMPER SWITCHES ON ALL OS&Y GATE VALVES, INTEGRATED INTO FACILITY FIRE ALARM SYSTEM PER CODE
- * SUPPLY AND DISCHARGE CONNECTIONS WITH OVERALL VALVES AND PIPING SIZED PER NFPA
- * 4" X 2 WAY EXPOSED FIRE DEPARTMENT CONNECTION
- * GANG TAMPER PANEL – TAMPER SWITCHES AND PUMP HOUSE ALARMS WIRED TO A PROVIDED PANEL IN PUMP HOUSE.
- * ACCESSORIES: GAUGES, AIR AND CASING RELIEF VALVES

PREFABRICATED PUMP HOUSE SPECIFICATION

PUMP HOUSE SHALL BE PREFABRICATED, WITH SEISMIC CALCULATIONS AND KENTUCKY P.E. STAMP. ELECTRICAL WIRING CONFORMING TO NFPA 70 (NEC), CONFORM TO NFPA 20, NFPA 13 AND IS ETL/C-ETL LISTED AS A SYSTEM. WELDING BY ASME CODE SECTION 9 CERTIFIED WELDERS, ELECTRICALLY AND HYDROSTATICALLY TESTED.

GENERALLY, THE PUMP HOUSE SHALL BE PROVIDED WITH THE FOLLOWING AS THE DESIGN BASE:

- * 8FT X 7FT DOUBLE DOOR
- * NEMA 4, 480/3/60 SINGLE POINT LUG PANEL
- * INTEGRAL HEATER(S) WITH THERMOSTATS
- * INTEGRAL EXHAUST FAN, DAMPERS, THERMOSTAT.
- * INTEGRAL LOUVERED POWERED CLOSED/SPRING OPEN
- * FOUR (4) MINIMUM GFCI CONVENIENCE OUTLETS (115/1/60)
- * WEATHERPROOF LIGHT SWITCH
- * WEATHERPROOF LED LIGHT FIXTURES AND BULBS
- * WEATHERPROOF EXTERIOR LIGHT WITH PHOTOCELL
- * WEATHERPROOF COMBINATION EXTERIOR ALARM LIGHT/HORN AND RESET
- * BATTERY POWERED EMERGENCY LIGHT WITH EXIT SIGNS
- * PUMP HOUSE SPRINKLER SYSTEM – NFPA 13 COMPLIANT
- * 4" DIAMETER FLOOR DRAIN PIPED TO SKID EDGE
- * 100 MPH WIND LOAD
- * 40 LB LIVE LOAD
- * WALL PANELS 24-GAUGE GALVANIZED STEEL, FOAM INSULATION AND INTERIOR GYPSUM BOARD - R23
- * ROOF PANELS PRE-FINISHED 24-GAUGE GALVANIZED STEEL STANDING SEAM – R30
- * INTERIOR FINISH – WHITE
- * EXTERIOR FINISH – CUSTOM COLOR TO BE SELECTED BY OWNER
- * PANELS MEET UL-790 AND ASTM E84
- * APPROXIMATE SIZE: 10FT 8" IN WIDE X 20 FT 0 IN LENGTH X 9 FT 9 IN HEIGHT
- * APPROXIMATE WEIGHT: 20,000 LBS

BIDDING CONTRACTOR SHALL PROVIDE THE FOLLOWING:

- * UNLOADING OF PUMP HOUSE
- * FOUNDATION / GROUTING
- * CONNECTION OF SUPPLY, DISCHARGE AND DRAIN PIPING
- * LOCAL PERMITTING, LICENSING AND APPROVALS

GENERAL FIRE PROTECTION NOTES

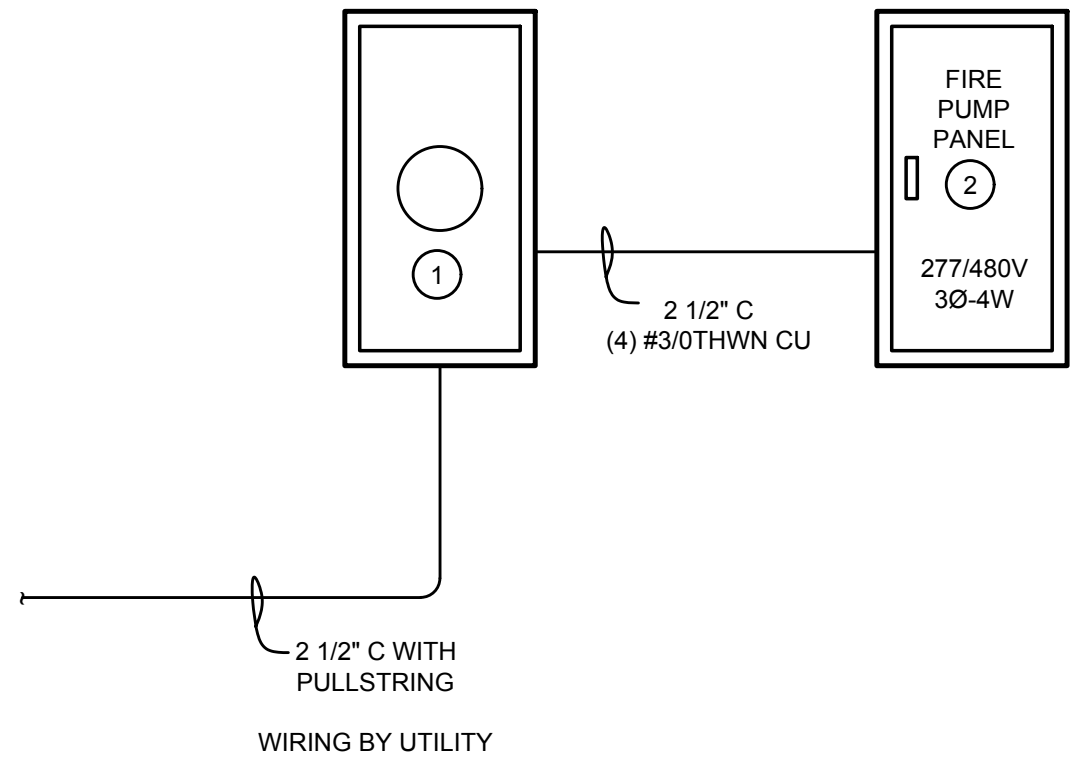
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR REVIEWING ALL THE CONTRACT DOCUMENTS AND VISITING THE PROJECT SITE TO BECOME FAMILIAR WITH THE EXISTING CONDITIONS PRIOR TO BIDDING. ANY DISCREPANCIES OR QUESTIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER NINE (9) DAYS PRIOR TO THE BID DATE.
- ALL WORK SHALL BE IN ACCORDANCE WITH THE STATE BUILDING CODE, NFPA 13: STANDARD FOR THE INSTALLATION OF SPRINKLER SYSTEMS, NFPA 20: STANDARD FOR THE INSTALLATION OF STATIONARY PUMPS FOR FIRE PROTECTION, NFPA 24: STANDARD FOR THE INSTALLATION OF PRIVATE FIRE SERVICE MAINS AND THEIR APPURTENANCES, AND OTHER LOCAL/STATE/ NATIONAL CODES OR STANDARDS THAT APPLY.
- ALL WORK MUST BE PERFORMED BY A LICENSED FIRE PROTECTION CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING: VERIFICATION FLOW TEST (DO NOT USE FLOW TEST INFORMATION PROVIDED WITHIN CONTRACT DOCUMENTS), SYSTEM DESIGN, AND APPROVED SHOP DRAWINGS IN COMPLIANCE WITH THE STATE BUILDING CODE.
- *CONTRACTOR SHALL COORDINATE THE FOLLOWING WITH THE LOCAL FIRE DEPARTMENT:
 - A. TYPE AND LOCATION OF KEY BOXES.
 - B. TYPE AND LOCATION OF FIRE DEPARTMENT CONNECTION(S).
 - C. HOSE THREAD SPECIFICATION FOR FIRE DEPARTMENT CONNECTION(S) AND ANY HYDRANT(S).
 - D. SIGNAGE AT FIRE DEPARTMENT CONNECTION(S).*
- ALL WORK SHALL BE ACCEPTABLE TO THE LOCAL FIRE MARSHAL. THE CONTRACTOR IS RESPONSIBLE FOR CORRECTING ANY WORK TO RECEIVE INSPECTION APPROVAL.
- CONTRACTOR SHALL ACQUIRE ALL APPLICABLE PERMIT(S), COORDINATE ALL INSPECTIONS, AND PAY ALL ASSOCIATED FEES (INCLUDING TAP FEES).
- COORDINATE NEW CONNECTIONS TO UTILITIES WITH THE APPROPRIATE UTILITY COMPANY(S). INSTALL WORK PER UTILITY COMPANY REQUIREMENTS AND OBTAIN NECESSARY UTILITY COMPANY APPROVALS.
- USE EXTREME CAUTION WHEN EXCAVATING. UNDERGROUND UTILITIES ILLUSTRATED ARE APPROXIMATE AND ARE SHOWN TO ALERT CONTRACTOR TO THEIR PRESENCE. CONTRACTOR MUST LOCATE/VERIFY UTILITIES BY HAND TOOL EXCAVATION PRIOR TO MACHINE EXCAVATION.
- PROTECT FIRE PROTECTION PIPING THAT IS INSTALLED UNDERGROUND FROM CORROSION PER NFPA 13 REQUIREMENTS.
- PATCH OR REPAIR ALL PAVEMENT, SIDEWALKS, OTHER HARDSCAPES, LAWNS, OTHER SOFTSCAPES, ETC. DAMAGED IN THE COURSE OF EXTERIOR CONSTRUCTION.
- PROTECT ALL EQUIPMENT AND/OR SYSTEMS (WHICH ARE TO REMAIN) FROM DAMAGE.
- FLASH AND SEAL ALL FLOOR AND WALL PENETRATIONS.
- PATCH ALL WALLS, FLOORS, CEILINGS, ETC. THAT ARE ALTERED BECAUSE OF WORK REQUIRED.
- THESE PLANS ARE SCHEMATIC IN NATURE AND INDICATE THE APPROXIMATE AND GENERAL LOCATION OF PIPING AND/OR EQUIPMENT.
- VERIFY ALL PIPE ROUTINGS BEFORE FABRICATION AND/OR INSTALLATION.
- COVER ALL OPENINGS ON WATER CONVEYANCE ITEMS (SPRINKLERS, PIPING, COMPONENTS, AND/OR EQUIPMENT), WHETHER STORED OR INSTALLED, TO PREVENT ACCUMULATION OF CONSTRUCTION DEBRIS/DUST.
- THE FIRE PROTECTION SYSTEM DESIGN SHALL BE BASED ON THE OCCUPANCY CLASSIFICATION(S) LISTED IN THE FIRE SUPPRESSION DESIGN CRITERIA ON THE DRAWINGS.
- THE SYSTEM TYPE SHALL BE: AUTOMATIC WET PIPE.
- SPRINKLERS IN MECHANICAL ROOMS, ELECTRICAL ROOMS, ELEVATOR MACHINE ROOMS, ELEVATOR SHAFTS, COMMUNICATION ROOMS, NEAR SPACE HEATERS, ETC. SHALL BE RATED FOR HIGH TEMPERATURE.
- TAMPER SWITCHES, FLOW SWITCHES, PRESSURE SWITCHES, CONTROL PANELS, ETC. SHALL BE MONITORED BY THE BUILDING FIRE ALARM SYSTEM. COORDINATE WORK WITH ELECTRICAL CONTRACTOR.
- MINIMUM PIPING MATERIALS SHALL BE AS LISTED BELOW. SADDLE TEE FITTINGS ARE NOT ACCEPTABLE. REFER TO WRITTEN SPECIFICATIONS AND SITE UTILITY DRAWINGS FOR ADDITIONAL REQUIREMENTS.
FIRE MAIN: DUCTILE IRON PIPE AND MECHANICAL FITTINGS OR PER UTILITY COMPANY REQUIREMENTS IF MORE STRINGENT.
FDC MAIN: DUCTILE IRON PIPE AND MECHANICAL FITTINGS OR PER UTILITY COMPANY REQUIREMENTS IF MORE STRINGENT.
WET PIPE SPRINKLER PIPING: CARBON STEEL PIPE IN SCHEDULE AS SPECIFIED.
- SEISMICALLY SUPPORT ALL PIPING PER THE STATE BUILDING CODE AND NFPA REQUIREMENTS.
- KEY BOXES SHALL BE RECESSED KEY BOX WITH HINGED DOOR (KNOX-BOX MODEL 3200 OR EQUAL), MOUNT BOXES 48" TO TOP OF BOX ABOVE FINISHED WALK SURFACE. ARCHITECT SHALL SELECT COLOR AND FINAL MOUNTING LOCATION.

GENERAL PLUMBING NOTES

- ALL WORK SHALL BE IN ACCORDANCE WITH THE STATE BUILDING CODE, STATE PLUMBING CODE, INTERNATIONAL MECHANICAL CODE, AND OTHER LOCAL/STATE/ NATIONAL CODES OR STANDARDS THAT APPLY.
- THE CONTRACTOR SHALL ACQUIRE PLUMBING PERMIT(S), COORDINATE ALL INSPECTIONS, AND PAY ALL ASSOCIATED FEES (INCLUDING TAP FEES).
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR REVIEWING ALL THE CONTRACT DOCUMENTS AND VISITING THE PROJECT SITE TO BECOME FAMILIAR WITH THE EXISTING CONDITIONS PRIOR TO BIDDING. ANY DISCREPANCIES OR QUESTIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER NINE (9) DAYS PRIOR TO THE BID DATE.
- THESE PLANS ARE SCHEMATIC IN NATURE AND INDICATE THE APPROXIMATE AND GENERAL LOCATION OF PLUMBING, PIPING, AND/OR EQUIPMENT. COORDINATE INSTALLATION OF WORK WITH OTHER DRAWINGS AND TRADES. PRECISELY LOCATE ALL PLUMBING FIXTURE LAYOUTS AND HEIGHTS PER ARCHITECTURAL DRAWINGS IN LIEU OF PLUMBING DRAWINGS. DO NOT SCALE FROM THE PLUMBING DRAWINGS.
- COORDINATE NEW CONNECTIONS TO UTILITIES WITH THE APPROPRIATE UTILITY COMPANY(S). INSTALL WORK PER UTILITY COMPANY REQUIREMENTS AND OBTAIN NECESSARY UTILITY COMPANY APPROVALS.
- BE AWARE THAT SEVERAL UTILITIES ARE LOCATED IN THE GROUND BELOW THE PROJECT CONSTRUCTION LIMITS. EXERCISE CAUTION WHEN EXCAVATING. UTILIZE HAND TOOLS TO LOCATE EXISTING UTILITIES PRIOR TO MACHINE EXCAVATION.
- VERIFY ALL INVERT ELEVATIONS AND DIMENSIONS BEFORE FABRICATION AND/OR INSTALLATION. DISCOVER ALL POINT OF CONNECTIONS AND ESTABLISH ELEVATIONS AND PITCH PRIOR TO BEGINNING ANY INSTALLATION.
- PROTECT ALL EQUIPMENT AND/OR SYSTEMS (WHICH ARE TO REMAIN) FROM DAMAGE.
- FLASH AND SEAL ALL ROOF, FLOOR, AND WALL PENETRATIONS.
- PATCH ALL WALLS, FLOORS, CEILINGS, PAVEMENTS, GRADES, ETC. THAT ARE ALTERED BECAUSE OF WORK REQUIRED.
- COVER ALL OPENINGS ON WATER CONVEYANCE ITEMS (PIPING, COMPONENTS, AND/OR EQUIPMENT), WHETHER STORED OR INSTALLED, TO PREVENT ACCUMULATION OF CONSTRUCTION DEBRIS.
- INSTALL DIELECTRIC CONNECTIONS AT ALL DISSIMILAR MATERIAL PIPING JOINTS AND AT SLAB FOR UNDERGROUND PIPE ENTRANCES.
- MINIMUM PIPING MATERIALS SHALL BE AS LISTED BELOW. REFER TO WRITTEN SPECIFICATIONS AND SITE UTILITY DRAWINGS FOR ADDITIONAL REQUIREMENTS.
WATER OUTDOOR: DUCTILE IRON PIPE AND MECHANICAL FITTINGS OR TYPE L RIGID COPPER WITH SOLDERED OR PRESS JOINT FITTINGS.
WATER INDOOR: TYPE L RIGID COPPER PIPE WITH SOLDERED FITTINGS OR TYPE L RIGID COPPER WITH PRESS JOINT FITTINGS.
- IN ABSENCE OF WRITTEN SPECIFICATIONS, INSULATE PIPING AS FOLLOWS:
COLD WATER PIPING:
A. 3/4" THICK (MIN.) PREFORMED MINERAL-FIBER WITH ASJ JACKET AND PVC COVERED PREMOLDED FITTINGS.
- SEISMICALLY SUPPORT ALL EQUIPMENT, PIPE, PLUMBING, ETC. PER THE STATE BUILDING CODE AND SEISMIC DESIGN CATEGORY DEFINED IN IBC AND ASCE 7. CONTRACTOR SHALL PROVIDE CERTIFIED, ENGINEERED DRAWINGS FOR INSTALLATION.

ELECTRICAL CONSTRUCTION TAG NOTES

# (APPLIES TO THIS DRAWING ONLY)	
1	FURNISH AND INSTALL 480 VOLT, 200 AMP METER BASE TO BE INSTALLED ON EXTERIOR OF FIRE PUMP BUILDING FOR INTERCONNECTION WITH INTERIOR PANELBOARD BY OTHERS.
2	INTERIOR PANELBOARD FURNISHED WITH FIRE PUMP ASSEMBLY.



ELECTRICAL RISER DIAGRAM

NO SCALE

ELECTRICAL FEEDER SCHEDULE (CU)

FEEDER CODE	CONDUIT/WIRE DESCRIPTION	TEMP RATING	FEEDER CODE	CONDUIT/WIRE DESCRIPTION	TEMP RATING	FEEDER CODE	CONDUIT/WIRE DESCRIPTION	TEMP RATING
*20-2W-G	1/2"C-3#12	*60°C	200-3W	2-1/2"C-3#3/0	75°C	800-4W	(2) SETS EA OF 4"C-4#600MCM	75°C
*20-3W-G	1/2"C-4#12		200-4W	2-1/2"C-4#3/0		800-3W-G	(2) SETS EA OF 4"C-3#600MCM, #1/0 GND	
*20-2W-G	1/2"C-3#10		200-3W-G	2-1/2"C-3#3/0, #6 GND		800-4W-G	(2) SETS EA OF 4"C-4#600MCM, #1/0 GND	
*20-3W-G	1/2"C-4#10		200-4W-G	2-1/2"C-4#3/0, #6 GND		1000-4W	(3) SETS EA OF 3"C-4#400MCM	
*20-4W-G	1/2"C-4#10, #10 GND		225-3W	2-1/2"C-3#4/0		1000-3W-G	(3) SETS EA OF 3"C-3#400MCM, #2/0 GND	
*40-2W-G	1/2"C-2#6, #10 GND		225-4W	2-1/2"C-4#4/0		1000-4W-G	(3) SETS EA OF 3"C-4#400MCM, #2/0 GND	
*40-3W-G	3/4"C-3#6, #10 GND		225-3W-G	2-1/2"C-3#4/0, #4 GND		1200-4W	(3) SETS EA OF 3"C-4#600MCM	
*40-4W-G	3/4"C-4#6, #10 GND		225-4W-G	2-1/2"C-4#4/0, #4 GND		1200-3W-G	(3) SETS EA OF 4"C-4#600MCM, #3/0 GND	
*50-2W-G	3/4"C-2#6, #10 GND		250-4W	3"C-4#250MCM		1200-4W-G	(3) SETS EA OF 4"C-4#600MCM, #3/0 GND	
*50-3W-G	3/4"C-3#6, #10 GND		250-3W-G	3"C-3#250MCM, #4 GND		1600-4W	(4) SETS EA OF 4"C-4#600MCM	
*50-4W-G	3/4"C-4#6, #10 GND		250-4W-G	3"C-4#250MCM, #4 GND		1600-3W-G	(4) SETS EA OF 4"C-4#600MCM, #4/0 GND	
*60-2W-G	3/4"C-2#4, #10 GND		300-3W-G	3"C-3#350MCM, #4 GND		1600-4W-G	(4) SETS EA OF 4"C-4#600MCM, #4/0 GND	
*60-3W-G	3/4"C-3#4, #10 GND		300-4W-G	3"C-4#350MCM, #4 GND		2000-4W	(5) SETS EA OF 4"C-4#600MCM	
*60-4W-G	1"C-4#4, #10 GND		400-3W	4"C-3#600MCM		2000-3W-G	(5) SETS EA OF 4"C-3#600MCM, #250 MCM GND	
*60-2W-G	1"C-2#3, #6 GND		400-3W-G	4"C-3#600MCM, #3 GND		2000-4W-G	(5) SETS EA OF 4"C-4#600MCM, #250 MCM GND	
*60-3W-G	1-1/4"C-3#3, #6 GND		400-4W	4"C-4#600MCM		2500-4W	(6) SETS EA OF 4"C-4#600MCM	
*60-4W-G	1-1/4"C-4#3, #6 GND		400-4W-G	4"C-4#600MCM, #3 GND		2500-3W-G	(6) SETS EA OF 4"C-3#600MCM, #350 MCM GND	
*100-3W	1-1/2"C-3#1		500-3W-G	(2) SETS EA OF 3"C-3#250MCM, #2 GND		2500-4W-G	(6) SETS EA OF 4"C-4#600MCM, #350 MCM GND	
*100-4W	1-1/2"C-4#1		500-4W	(2) SETS EA OF 3"C-4#250MCM		3000-4W	(8) SETS EA OF 4"C-4#600MCM	
*100-3W-G	1-1/2"C-3#1, #6 GND		500-4W-G	(2) SETS EA OF 3"C-4#250MCM, #2 GND		3000-3W-G	(8) SETS EA OF 4"C-3#600MCM, #400 MCM GND	
*100-4W-G	1-1/2"C-4#1, #6 GND		600-3W-G	(2) SETS EA OF 3-1/2"C-3#350MCM, #1 GND		3000-4W-G	(8) SETS EA OF 4"C-4#600MCM, #400 MCM GND	
125-3W-G	1-1/2"C-3#1, #6 GND	75°C	600-4W	(2) SETS EA OF 3-1/2"C-4#350MCM		4000-4W	(10) SETS EA OF 4"C-4#600MCM	
125-4W-G	1-1/2"C-4#1, #6 GND		600-4W-G	(2) SETS EA OF 3-1/2"C-4#350MCM, #1 GND		4000-3W-G	(10) SETS EA OF 4"C-3#600MCM, #500 MCM GND	
150-3W-G	1-1/2"C-3#1/0, #6 GND		700-4W	(2) SETS EA OF 4"C-4#500MCM		4000-4W-G	(10) SETS EA OF 4"C-4#600MCM, #500 MCM GND	
150-4W-G	1-1/2"C-4#1/0, #6 GND		700-3W-G	(2) SETS EA OF 4"C-3#500MCM, #1 GND				
175-3W-G	2"C-3#2/0, #6 GND		700-4W-G	(2) SETS EA OF 4"C-4#500MCM, #1 GND				
175-4W-G	2"C-4#2/0, #6 GND		800-3W	(2) SETS EA OF 4"C-3#600MCM				

* EQUIPMENT PROVISIONS FOR ELECTRICAL CONNECTIONS - TEMPERATURE LIMITATIONS SHALL COMPLY WITH NEC ARTICLE 110.14 FOR CIRCUITS RATED 100A OR LESS. WIRE SIZES ARE BASED ON TYPE "THIN" COPPER CONDUCTORS, WITH NOT MORE THAN THREE CURRENT CARRYING CONDUCTORS IN RACEWAY - DERATE PER TABLE 310.15 AS APPLICABLE.
CONTRACTOR SHALL DERATE WIRING AS REQUIRED WHEN MORE THAN FOUR (4) CURRENT CARRYING CONDUCTORS ARE INSTALLED IN SINGLE RACEWAY PER NEC TABLE 310.15(B)(3)(a).



HCCHS
UTILITY LOCATIONS FOR NEW FIRE PUMP
HOPKINS COUNTY, KENTUCKY

SITE UTILITY LEAD SHEET

PROJECT NO.:	22663	DATE:	03/17/2023	DRAWING U0.1
DRAWN BY:	DG/MRM	CHECKED BY:	LO/MRM	
REV.	DESCRIPTION	BY	DATE	
△				
△				
△				



SITE LEGEND	
PP	POWER POLE/UTILITY POLE
GUY	POLE GUY
LP	LIGHT POLE
OHE	OVERHEAD ELECTRIC LINE
OHT	OVERHEAD TELEPHONE LINE
OHC	OVERHEAD CABLE LINE
UGE	UNDERGROUND ELECTRIC LINE
UGT	UNDERGROUND TELEPHONE LINE
UGC	UNDERGROUND CABLE LINE
CO	CLEANOUT
FH	FIRE HYDRANT
SS	EXISTING SANITARY SEWER LINE
MH	SANITARY SEWER MANHOLE
STMH	STORM SEWER MANHOLE
TMH	TELEPHONE MANHOLE
TB	TELEPHONE BOX
FO	FIBER OPTICS
CB	CATCH BASIN
RCP	REINFORCED CONCRETE PIPE
PVC	POLY VINYL CHLORIDE PIPE
VCP	VITRIFIED CLAY PIPE
CMP	CORRUGATED METAL PIPE
GV	GAS VALVE
GM	GAS METER/POST
WV	WATER VALVE
WM	WATER METER
G	GAS LINE
W	WATER LINE

UTILITY CONTACTS

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MECHANICAL CONSTRUCTION TAG NOTES	
#	(APPLIES TO THIS DRAWING ONLY)
1	PROVIDE AND INSTALL NEW DOMESTIC WATER BACKFLOW PREVENTER WITH REDUCED PRESSURE ZONE IN MECHANICAL ROOM (WATTS SERIES LF857 MODEL LF957-QT LEAD FREE 4" REDUCED PRESSURE ZONE ASSEMBLY WITH QUARTER TURN BALL VALVES AND BRONZE STRAINER ASSEMBLY.
2	NEW 4" D.I. DOMESTIC WATER LINE.
3	NEW 2" COPPER DOMESTIC WATER LINE.
4	2" COPPER DOMESTIC WATER LINE UNDER SEPARATE CONTRACT. COORDINATE WITH CONTRACTOR UNDER SEPARATE CONTRACT FOR FINAL CONNECTION LOCATION.
5	PROVIDE AND INSTALL PREFABRICATED FIRE PUMP AND PUMP HOUSE ASSEMBLY AND ALL ASSOCIATED APPURTENANCES FOR A COMPLETE SYSTEM. PROVIDE CONCRETE FOOTING, 18" WIDE MINIMUM AND DEPTH AS REQUIRED PER LOCAL CODE. PROVIDE 10"x8" RECTANGULAR TUBING WITH BOLT DOWN CLIPS AS REQUIRED BY PUMP HOUSE MANUFACTURER. AFTER SKID BASE IS SET AND ANCHORED, THE BASE SHALL BE FILLED WITH CONCRETE, SLOPING TO THE FLOOR DRAIN. AFTER THE CONCRETE HAS SET, FILL THE PUMP BASE WITH NON-SHRINKABLE GROUT.
6	ALTERNATE BID #1: COMPLETELY REMOVE WATER METER PIT AND PIPE NEW DOMESTIC WATER THROUGH FOR FINAL CONNECTION JUST OUTSIDE OF BUILDING.

GENERAL SITE UTILITY NOTES	
1	THE CONTRACTOR SHALL BE RESPONSIBLE FOR REVIEWING ALL THE CONTRACT DOCUMENTS AND VISITING THE PROJECT SITE TO BECOME FAMILIAR WITH THE EXISTING CONDITIONS PRIOR TO BIDDING. ANY DISCREPANCIES OR QUESTIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER NINE (9) DAYS PRIOR TO THE BID DATE.
2	ALL WORK SHALL BE IN ACCORDANCE WITH THE STATE BUILDING CODE, STATE PLUMBING CODE, INTERNATIONAL MECHANICAL CODE, NATIONAL ELECTRICAL CODE, OSHA SAFETY REGULATIONS, UTILITY COMPANY STANDARDS/REQUIREMENTS, AND OTHER LOCAL/STATE/NATIONAL CODES OR STANDARDS THAT APPLY.
3	THE CONTRACTOR SHALL ACQUIRE ALL NECESSARY PERMIT(S), COORDINATE ALL INSPECTIONS, AND PAY ALL ASSOCIATED FEES (INCLUDING "TAP" FEES) FOR GAS, WATER, SEWER, ELECTRICAL, ETC.
4	THESE PLANS ARE SCHEMATIC IN NATURE AND INDICATE THE APPROXIMATE AND GENERAL LOCATION OF PLUMBING, PIPING, ELECTRICAL, EQUIPMENT, ETC. COORDINATE INSTALLATION OF WORK WITH OTHER DRAWINGS AND TRADES. FURNISH AND INSTALL COMPLETE AND FUNCTIONAL SYSTEMS REGARDLESS OF WHETHER OR NOT ALL ELEMENTS ARE SPECIFICALLY CALLED OUT.
5	COORDINATE NEW CONNECTIONS TO UTILITIES WITH THE APPROPRIATE UTILITY COMPANY(S). INSTALL WORK PER UTILITY COMPANY REQUIREMENTS AND OBTAIN NECESSARY UTILITY COMPANY APPROVALS.
6	BE AWARE THAT SEVERAL UTILITIES ARE LOCATED IN THE GROUND BELOW THE PROJECT CONSTRUCTION LIMITS. EXERCISE CAUTION WHEN EXCAVATING. UTILIZE HAND TOOLS TO LOCATE EXISTING UTILITIES PRIOR TO MACHINE EXCAVATION.
7	VERIFY ALL DIMENSIONS BEFORE FABRICATION.
8	COVER ALL OPENINGS ON WATER CONVEYANCE ITEMS (PIPING, COMPONENTS, AND/OR EQUIPMENT), WHETHER STORED OR INSTALLED, TO PREVENT ACCUMULATION OF CONSTRUCTION DEBRIS.
9	THE CONTRACTOR SHALL PATCH AND REPAIR ALL WALKS, DRIVES, LAWNS, PAVEMENTS, GRADES, ETC. THAT ARE ALTERED OR DAMAGED BECAUSE OF WORK REQUIRED. THE REPAIRS SHALL MATCH EXISTING ITEMS IN THE AREA.
10	THE CONTRACTOR SHALL FIELD VERIFY THE EXISTING MATERIALS OF CONSTRUCTION, ELEVATIONS, AND LOCATIONS OF ALL TIE-IN POINTS BEFORE ORDERING MATERIALS AND INSTALLING ANY UNDERGROUND PIPING OR CONDUITS.
11	VERIFY ALL INVERT ELEVATIONS AND DIMENSIONS BEFORE FABRICATION AND/OR INSTALLATION. DISCOVER ALL POINT OF CONNECTIONS AND ESTABLISH ELEVATIONS AND PITCH PRIOR TO BEGINNING ANY INSTALLATION.
12	MINIMUM PIPING MATERIALS SHALL BE AS LISTED BELOW. REFER TO WRITTEN SPECIFICATIONS AND SITE UTILITY DRAWINGS FOR ADDITIONAL REQUIREMENTS. WATER: DUCTILE IRON PIPE AND MECHANICAL FITTINGS OR TYPE L RIGID COPPER WITH SOLDERED OR PRESS JOINT FITTINGS. FIRE MAIN: DUCTILE IRON PIPE AND MECHANICAL FITTINGS OR PER UTILITY COMPANY REQUIREMENTS IF MORE STRINGENT. FDC MAIN: DUCTILE IRON PIPE AND MECHANICAL FITTINGS OR PER UTILITY COMPANY REQUIREMENTS IF MORE STRINGENT.
13	THE CONTRACTOR SHALL INSTALL WARNING TAPE ABOVE ALL BURIED UTILITY SERVICE LINES. TAPE SHALL BE SPECIFICALLY LABELED FOR SERVICE. ALL NON-METALLIC PIPES SHALL BE INSTALLED WITH TRACER WIRE IN CONTACT WITH THE PIPING.
14	THE CONTRACTOR SHALL COORDINATE THE ELEVATIONS OF THE DIFFERENT UNDERGROUND PIPING AND CONDUIT SYSTEMS TO ENSURE THAT THE ELEVATIONS OF PIPE AND / OR CONDUITS WILL NOT CONFLICT.
15	THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL EXCAVATION AND BACKFILL REQUIRED FOR THE INSTALLATION OF THE WORK. PROVIDE STREET PLATES, BARRICADES, WARNING LIGHTS, SHORING, BRACING, DE-WATERING EQUIPMENT, ETC. AS REQUIRED. CONDUCT EXCAVATION SO THAT WALLS, FOOTINGS AND ADJOINING PROPERTY ARE NOT DISTURBED OR DAMAGED. PROPERLY DISPOSE OF SPOILS OFF-SITE UNLESS OTHERWISE NOTED.
16	DIELECTRIC CONNECTIONS SHALL BE USED AT ALL DISSIMILAR MATERIAL PIPING JOINTS.
17	THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTROLLING ALL WATER RUN-OFF GENERATED AS A RESULT OF THEIR ACTIVITY OR STORM WATER. CONTRACTOR SHALL CONSULT WITH ALL APPLICABLE WATER CONTROL GUIDELINES AS DIRECTED BY THE CONTRACT DOCUMENTS AND/OR AUTHORITIES HAVING JURISDICTION.

ELECTRICAL CONSTRUCTION TAG NOTES	
#	(APPLIES TO THIS DRAWING ONLY)
1	ROUTE (1) 4 INCH CONDUIT WITH PULLSTRING UNDERGROUND FROM PRIMARY COMPARTMENT OF UTILITY TRANSFORMER TO EXISTING POLE LOCATED ON SITE. CONDUIT SHALL BE TURNED UP AT POLE 24 INCHES ABOVE GRADE AND SHALL BE CAPPED FOR UTILITY CONTINUATION. ALL CONDUIT SHALL BE INSTALLED ACCORDING TO UTILITY COMPANY STANDARDS.
2	LOCATION OF UTILITY COMPANY TRANSFORMER TO BE INSTALLED. COORDINATE FINAL LOCATION WITH LOCAL UTILITY PRIOR TO PAD INSTALLATION.
3	ROUTE (1) 2 1/2 INCH CONDUIT WITH PULLSTRING UNDERGROUND FROM SECONDARY COMPARTMENT OF UTILITY TRANSFORMER TO METER BASE TO BE INSTALLED ON THE SIDE OF THE BUILDING FOR INTERCONNECTION WITH UTILITY. ALL WIRING SHALL BE FURNISHED AND INSTALLED BY UTILITY.
4	METER BASE SHALL BE INSTALLED ON EXTERIOR SIDE OF BUILDING FOR INTERCONNECTION WITH INTERIOR WIRING. METER BASE SHALL BE INSTALLED TO ALLOW FOR CONDUIT TO BE INSTALLED BACK-TO-BACK WITH INTERIOR PANEL. REFER TO RISER DIAGRAM FOR FURTHER REQUIREMENTS.

EXCAVATION NOTE

THIS PROJECT IS DESIGNATED AS AN UNCLASSIFIED SOILS SITE. THE CONTRACTOR IS RESPONSIBLE FOR REMOVING ROCK ENCOUNTERED DURING INSTALLATION OF ANY SPECIFIED WORK.

UTILITY NOTE

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL UTILITY COMPANY FEES AND OR CHARGES, ASSOCIATED WITH ESTABLISHING ELECTRICAL SERVICE TO THE BUILDING AND OR SITE. THIS SHALL INCLUDE ALL COSTS AND MATERIAL ASSOCIATED WITH PRIMARY CONDUIT, CABLING, POLES, METERING EQUIPMENT, TAP CABINETS, TERMINATION CABINETS, TRANSFORMERS, DISTRIBUTION EQUIPMENT, ETC. CONTRACTOR SHALL COORDINATE ALL MAIN SERVICE REQUIREMENTS AND LOCATIONS WITH UTILITY COMPANY, PRIOR TO BIDDING. ALL ROUGH-INS (PAD, CONDUIT GROUNDING, LAYOUT, METERING, ETC. SHALL COMPLY WITH UTILITY COMPANY STANDARDS.

PROJECT NORTH SITE UTILITIES SCALE: 1" = 40' - 0"

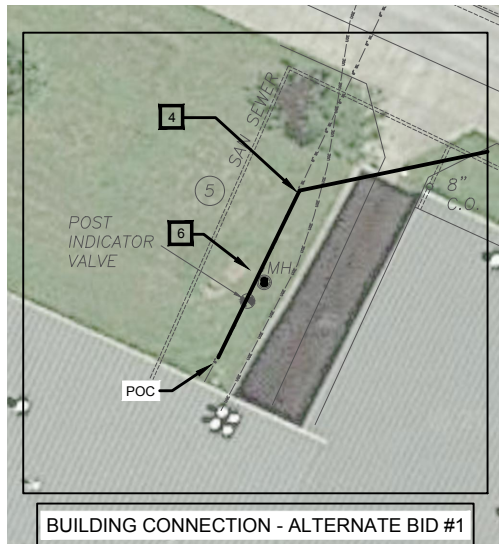
BURIED UTILITIES NOTE

BURIED UTILITIES ARE SHOWN AT THEIR APPROXIMATE LOCATION BASED UPON INFORMATION OBTAINED FROM UTILITY COMPANIES AND FIELD EVIDENCE. OTHER BURIED UTILITIES MIGHT EXIST ON THE SUBJECT SITE WHICH ARE NOT SHOWN ON THIS DRAWING. USE EXTREME CAUTION DURING EXCAVATION PROCEDURES AND CONTACT KENTUCKY 811 @ 811 OR 1-800-752-6007 FOR EXACT LOCATION OF BURIED UTILITIES PRIOR TO EXCAVATION OPERATIONS.

Kentucky 811
Know what's below.
Call before you dig.

Call 811 or 800-752-6007
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PROJECT NORTH SITE UTILITIES SCALE: 1" = 40' - 0"



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HCCHS
UTILITY LOCATIONS FOR NEW FIRE PUMP
HOPKINS COUNTY, KENTUCKY

SITE UTILITIES

PROJECT NO. :	22663	DATE:	03/17/2023
DRAWN BY:	DG/MRM	CHECKED BY:	LO/MRM
REV.	DESCRIPTION	BY	DATE
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THE GENERAL CONTRACTOR AND/OR INSTALLER OF THE BUILDINGS FOUNDATION SHALL COORDINATE FOR OR INSTALL THE FOLLOWING FOUNDATION ELECTRODE SYSTEM.

A CONCRETE ENCASED ELECTRODE SHALL BE PROVIDED AND SHALL CONSIST OF EITHER 2" OF BARE #4 COPPER WIRE CONTINUOUS AND EXTENDING 6" OUTSIDE THE CONCRETE OR AT LEAST 20 FEET OF 1/2 INCH REINFORCING STEEL INSTALLED WITHIN OR NEAR THE BOTTOM OF THE FOOTING OR FOUNDATION AND COVERED BY AT LEAST 2" OF CONCRETE WHICH IS IN DIRECT CONTACT WITH EARTH AND CONNECTED BY AN APPROVED METHOD TO A BARE #4 COPPER WIRE EXTENDING 6" OUTSIDE THE CONCRETE. THE CUMULATIVE LENGTH OF FOOTING STEEL CAN BE ACHIEVED BY NORMAL METHODS OF STEEL TIE WIRES JOINING SHORTER LENGTHS. SEE DETAILS BELOW.



NO SCALE



NO SCALE

NOTES:

1. CONTRACTOR SHALL INCLUDE IN THE CONTRACT ALL UTILITY COMPANY FEES AND OR CHARGES ASSOCIATED WITH ESTABLISHING ELECTRICAL SERVICE TO THE BUILDING AND OR SITE. THIS SHALL INCLUDE ALL COSTS AND MATERIAL ASSOCIATED WITH PRIMARY CONDUIT, CABLEING, POLES, METERING EQUIPMENT, TAP CABINETS, TERMINATION CABINETS, TRANSFORMERS, DISTRIBUTION EQUIPMENT, ETC. CONTRACTOR SHALL CONTACT AND COORDINATE ALL MAIN SERVICE REQUIREMENTS AND LOCATIONS WITH UTILITY CO. PRIOR TO BIDDING.
2. INFORMATION DEPICTED IS FOR GENERAL INFORMATIONAL PURPOSES ONLY AND IS BASED ON A POURED-IN-PLACE PAD CONFIGURATION. A PRE-CAST/FIBERGLASS PAD DESIGN MAY BE SUBSTITUTED AS DIRECTED BY THE UTILITY COMPANY AND SHALL COMPLY WITH STANDARDS ESTABLISHED BY THE AHJ.
3. FINAL LAYOUT CONFIGURATIONS, STUB-OUTS, ROUGH-INS, GROUNDING, AND ALL DIMENSIONAL DATA SHALL COMPLY WITH UTILITY COMPANY STANDARDS.
4. CONCRETE TESTING, 4000 PSI - 4% TO 6% ENTRAINED AIR, 3/4" MAX SIZE AGGREGATE.
5. REINFORCING STEEL, ATSM-A615 GRADE 60, PLACE APPROX. 6" O. C. EACH WAY AND SECURELY TIE TOGETHER.
6. 3" MINIMUM CONCRETE COVER OVER REINFORCING STEEL.
7. WOOD FLOAT FINISH. LEAVE NO DEPRESSIONS.
8. METER SHALL BE MOUNTED ON SUITABLE UNISTRUT SUPPORT ATTACHED TO CONCRETE PAD, PER UTILITY COMPANY STANDARDS.
9. COORDINATE FINAL PLACEMENT TO MAINTAIN CLEARANCES FROM COMBUSTIBLE MATERIALS IN ACCORDANCE WITH NEC 450.27, APPLICABLE FIRE CODES AND UTILITY COMPANY STANDARDS.

KEYED NOTES

- ## GENERAL GROUNDING NOTES

1. CONDUCTOR SIZES SHOWN ARE MINIMUM AND MAY BE LARGER THAN THE MINIMUM SIZES REQUIRED BY NEC.
2. INSTALL GROUNDING CONNECTIONS TO BUILDING STRUCTURE AND WATER PIPES AT LOCATIONS THAT ARE VISIBLE AND ACCESSIBLE FOR INSPECTION, MAINTENANCE, AND TESTING.
3. INSTALL AN INSULATED THROAT GROUNDING BUSHING ON EACH METALLIC SERVICE ENTRANCE CONDUIT. BOND TO GROUND BUS USING CONDUCTOR THAT IS SIZED BASED ON NEC TABLE 250-66 USING THE SERVICE PHASE CONDUCTOR SIZE.
4. INSTALL AN INSULATED THROAT GROUNDING BUSHING ON EACH METALLIC FEEDER CONDUIT. BOND TO GROUND BUS USING CONDUCTOR THAT IS SIZED BASED ON NEC TABLE 250-122 USING THE FEEDER CIRCUIT OVERCURRENT DEVICE SIZE OR THE SEPARATELY DERIVED SYSTEM OVERCURRENT DEVICE SIZE.
5. BOND HOT AND COLD WATER PIPING SYSTEMS.



NO SCALE

- TOP VIEW



NO SCALE



NO SCALE



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UTILITY LOCATIONS FOR NEW FIRE PUMP

HOPKINS COUNTY, KENTUCKY

SITE UTILITY DETAIL SHEET

PROJECT NO.: 22663		DATE: 03/17/2023	
DRAWN BY: DG/MMR		CHECKED BY: LO/MMR	
REV.	DESCRIPTION	BY	DATE
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