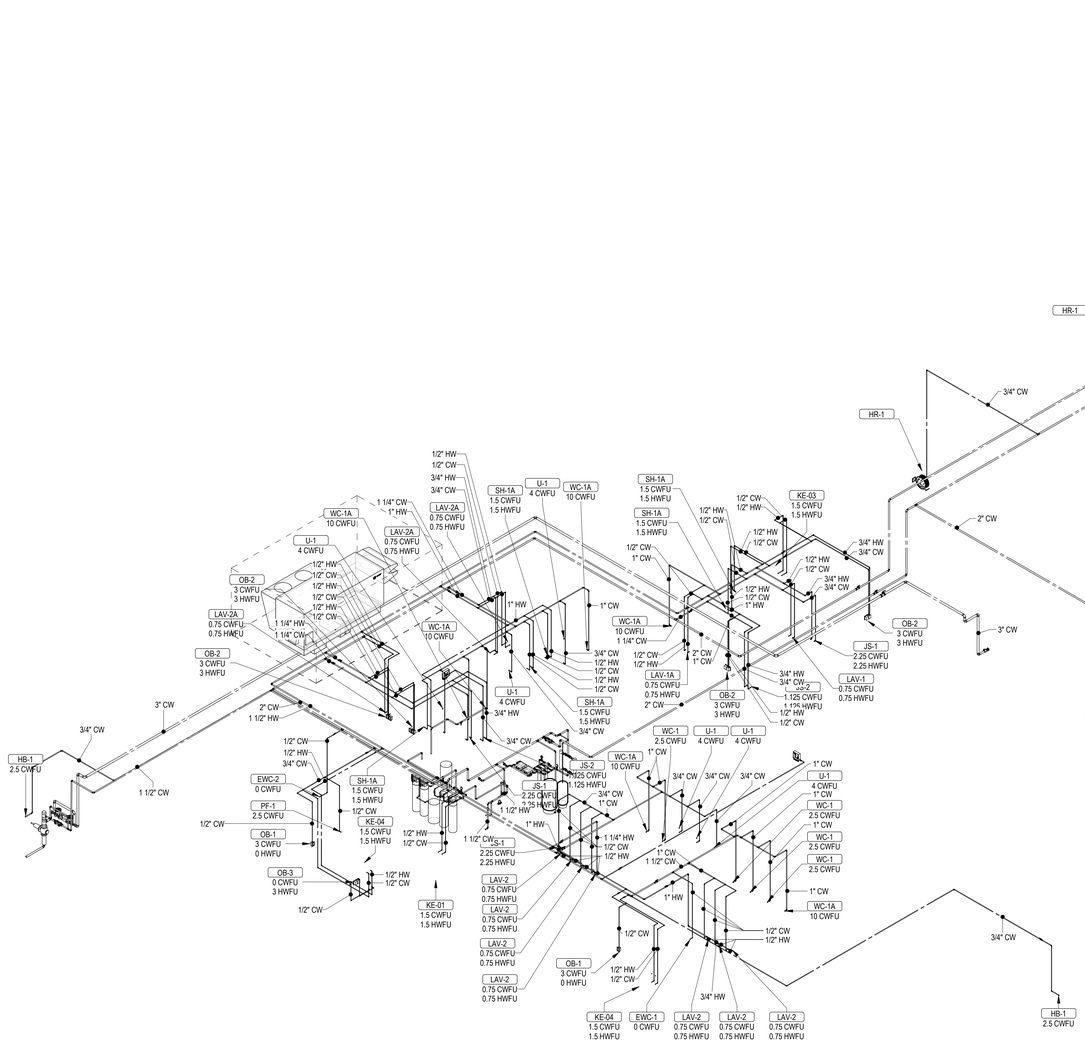

1 P502 DOMESTIC WATER RISER DIAGRAM
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EXETER TOWNSHIP
EMERGENCY SERVICES FACILITY
70 GIBRALTAR ROAD
READING PA 19606

PROJECT NUMBER: 25-049

SUBMISSION:
BID SET

ORIGINAL ISSUE DATE:
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DOMESTIC WATER RISER DIAGRAM

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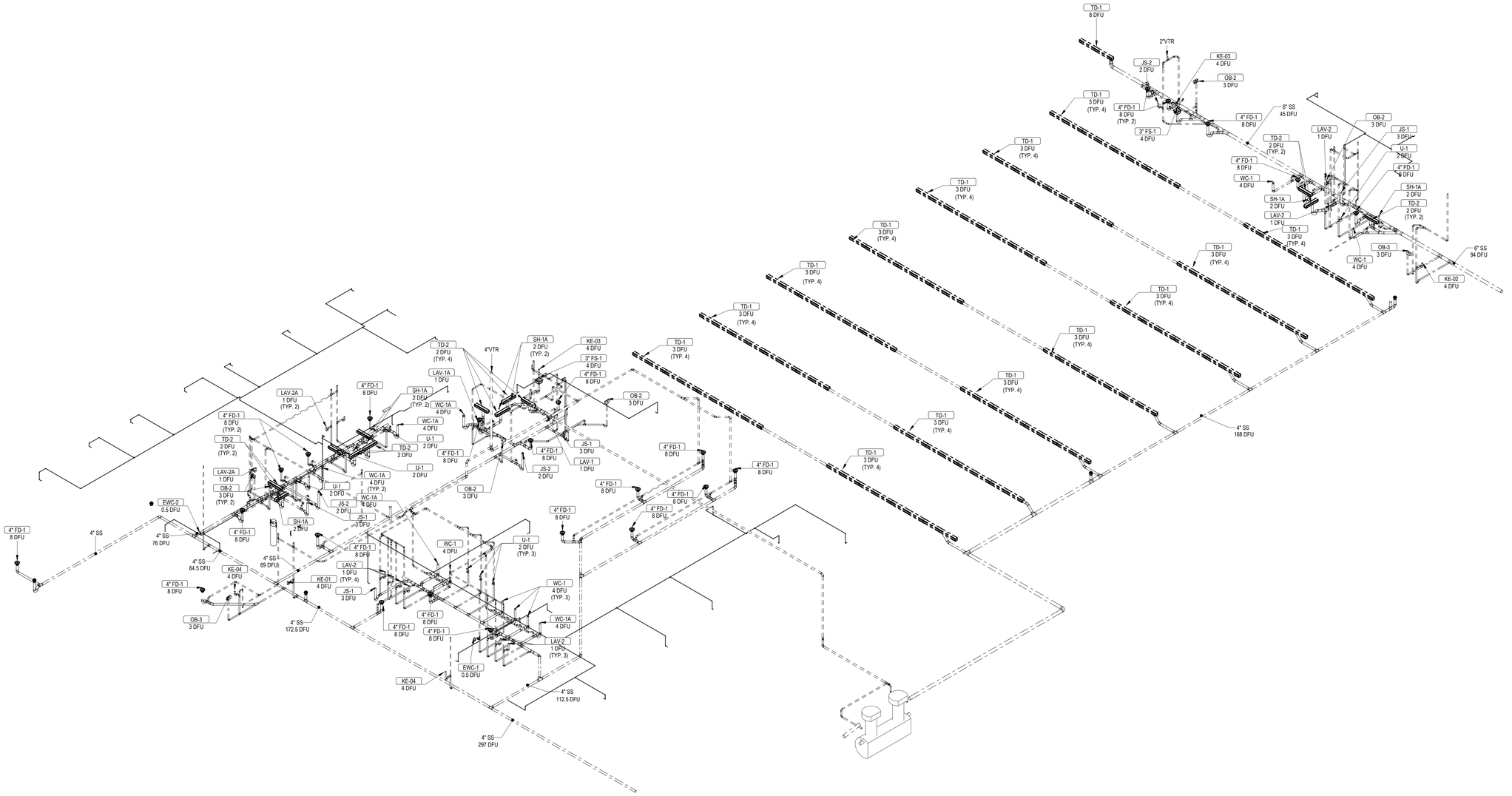

1 P503 WASTE & VENT RISER DIAGRAM
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SANITARY / VENT RISER DIAGRAM

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P503

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Plumbing Fixture Schedule

Identity	Description	Manufacturer	Model	Qty	Product Type	Installation Type	ADA	Material Description	Finish	Faucet / Valve		Domestic Connections			Product Specification	Notes
										Manufacturer M/N	Type	Cold Water	Hot Water	Piping Size(s)		
EWC-1	Water Cooler	Elkay	EMABFTL8WSLK	1	Electric Water Cooler - Dual Height	Wall Hung	Yes	Galvanized Steel	Light Gray Granite			Yes	No	1/2"	ezH2O® Bottle Filling Station with Mechanically Activated Bi-Level ADA Cooler Non-Filtered Refrigerated Light Gray.	
EWC-2	Bottle Filler	Elkay	LZWSSM	1	Bottle Filling Station	Wall Hung	No	Galvanized Steel	Stainless Steel			Yes	No	1/2"	Stainless. Features shall include Antimicrobial*, Filtered, Green Ticker™, Hands Free, Laminar Flow, Real Drain, Visual Filter Monitor. Electronic Bottle Filler Sensor activation. Product shall be Wall Mount (On Wall), for Indoor applications, serving 1 station(s). Unit shall be certified to UL 399 and CAN/CSA C22.2 No. 120.	
FD-1	Floor Drain	Watts	FD-100-A	24	Round Strainer			Cast Iron							Epoxy Coated Cast Iron Floor Drain With Anchor Flange, Reversible Clamping Collar With Primary & Secondary Weepholes, Adjustable Round Heel Proof Nickel Bronze Strainer, And No Hub Outlet.	
FS-1	Floor Sink	Watts	FS-730	2	12" Square X 6" Deep			Cast Iron							12" Square X 6" Deep Sanitary Floor Sink With White Porcelain Enamel Coated Interior, Loose Set Porcelain Enamel Coated Cast Iron Grate, Polypropylene Dome Bottom Strainer, And No Hub Outlet.	
GB-1	Gas Connection	Burnaby Manufacturing LTD	G0-102-DBL-SS	2	Gas Connection	Wall Mount	No					Yes	No	1/2"	Recessed Stainless Steel Gas Plug with (2) 1/2" Hose Connections. 125,000 BTU NG Each Side. 1/2" Inlet Connection.	
GB-2	Gas Connection	Burnaby Manufacturing LTD	VGP-GO-102-CDN	1	Gas Connection	Set in Concrete	No					Yes	No	1/2"	Recessed Stainless Steel Gas Plug with (1) 1/2" Hose Connections. 125,000 BTU NG. 1/2" Inlet Connection.	
HB-1	Hose Bibb	Zurn	Z1320XL-EZ	3	Wall Hydrant	Wall Mount	No					Yes	No	3/4"	Encased, EcolotroITM, lead-free, non-freeze automatic draining wall hydrant for flush installation.Hydrant features integral backflow preventer with anti-siphon technology,copper casing, all-bronze interior components with 1/2 turn long-life ceramic disc cartridge,combination 3/4" [19] female solder and 3/4" [19] male pipe thread inlet connection, and 3/4" [19] male hose connection. Hydrant furnished with type 304 stainless steel housing with locking hinged cover stamped "WATER" and includes operating key. Hydrant housing fits within one standard modular masonry course.Recommended wall opening: 3-3/16" [81] X 8-1/2" [216].	
HR-1	Hose Reel	Reelcraft	D830-75 OLP	8	Dual Pedestal Hose Reels	Wall Mount									Base Mounted Dual Pedestal with heat treated aluminum casting, two sealed ball bearings for smooth rotation of the main shaft, guide arm with 4 different adjustable positions, with Low-Pressure 3/4 in. x 75 ft PVC hose included. 3/4" Connection.	
JS-1	Sink	Fiat	MSB-2424	4	Janitor	Floor Set	No	Molded Stone		Chicago Faucets / 897-Cp	Manual	Yes	Yes	3/4"	Service Basin With Cap On Two Sides, With Chrome Plated 3" Drain And Cast Iron Trap. Faucet Shall Include Pail Hook And Atmospheric Vacuum Breaker Spout. Furnish 5'-0" Length Of 5-Ply Garden Hose And Fittings.	
JS-2	Sink	ADVANCE TABCO	FS-FM-2721-F	3	Laundry Tub	Floor Set	No	Stainless Steel	Stainless Steel	Included		Yes	Yes	1/2"	Advance Tabco Heavy Duty Floor Mounted Stainless Steel Service Sink FS-FM-2721-F w/ K-159 Gooseneck Faucet, 8" centerset, 3-1/2" gooseneck spout, 24" x 18" x 12" deep bowl, 8-1/2" backsplash, stainless steel tubular legs with flanged feet, and 3-1/2" rear basket drain.	
KE-01	Commercial Sink	Elkay	ELUHAD121255PD	1	1-Compartment	Undermount	Yes	Stainless Steel	Luminous Satin	Kohler K-28358		Yes	Yes	1/2"	Single-Compartment Kitchen Style Sink and Pulldown Faucet	
KE-02	Commercial Sink	Elkay	ELUHAD281655PD	1	1-Compartment	Undermount	Yes	Stainless Steel	Lustrous Satin	Kohler K-28358		Yes	Yes	1/2"	Single-Compartment Kitchen Style Sink and Pulldown Faucet	
KE-03	Commercial Sink	Elkay	RNSF83544	2	3-Compartment	Undermount	No	Stainless Steel	Stainless Steel	Elkay LK940GN05T4H		Yes	Yes	1/2"	3-Compartment Stainless Steel Sink with Wall-Mounted Faucet	
KE-04	Commercial Sink	Elkay	ECTRU35179TC	2	1-Compartment	Undermount	Yes	Stainless Steel	Polished Satin	Kohler K-28358		Yes	Yes	1/2"	Single-Compartment Kitchen Style Sink and Pulldown Faucet	
LAV-1	Lavatory	Elkay	WCLWO1923OSDC	1	Wall Hung	Wall Hung	No	Stainless Steel	Lustrous Satin	Chicago Faucets / 3511-E2805AB	Manual	Yes	Yes	1/2"	Lavatory With Backsplash, Faucet Holes On 4" Centers. Deck-Mounted Faucet With Manual Operation, Vandal Resistant Spray, External Asse 1070 Compliant Thermostatic Mixing Valve, Grid Drain, Loose Key Angle Stops And Supplies. Insulate Water And Waste With Insulation Kit.	
LAV-1A	Lavatory	Elkay	WCLWO1923OSDC	1	Wall Hung ADA	Wall Hung	Yes	Stainless Steel	Lustrous Satin	Chicago Faucets / 3511-E2805AB	Manual	Yes	Yes	1/2"	Lavatory With Backsplash, Faucet Holes On 4" Centers. Deck-Mounted Faucet With Manual Operation, Vandal Resistant Spray, External Asse 1070 Compliant Thermostatic Mixing Valve, Grid Drain, Loose Key Angle Stops And Supplies. Insulate Water And Waste With Insulation Kit.	
LAV-2	Lavatory	Kohler	K-37626	9	Counter Mount	Undermount	No	White Vitreous China	White	Chicago Faucets / 3511-E2805AB	Manual	Yes	Yes	1/2"	Undermount Vitreous China Lavatory With Overflow. Single-Hole Deck-Mounted Faucet With Manual Operation, Vandal-Resistant 0.5 GPM Spray, Integral Temperature Control Mixer, And Flexible Hot And Cold Water Supplies.	
LAV-2A	Lavatory	Kohler	K-37626	3	Counter Mount ADA	Undermount	Yes	White Vitreous China	White	Chicago Faucets / 3511-E2805AB	Manual	Yes	Yes	1/2"	Undermount Vitreous China Lavatory With Overflow. Single-Hole Deck-Mounted Faucet With Manual Operation, Vandal-Resistant 0.5 GPM Spray, Integral Temperature Control Mixer, And Flexible Hot And Cold Water Supplies.	
OB-1	Outlet Box	IPS Corporation	MIB1HAAB	4	Ice Maker	Recessed		Steel	White			Yes	No	1/2"	Recessed, White Powder-Coated Ice Maker Outlet Box With A Brass Quarter Turn Hammer Arrester Valve. Unit Shall Be Guy Gray™ Product Code Checked Below As Manufactured By IPS Corporation. The Brass Quarter Turn Valves Shall Comply With NSF61, NSF/ANSI 372, And ASME A112.18.1/CSA B125.1 And Shall Feature White Handle And Check-Mark Logo For Easy Lead-Free Identification.Hammer Arrester Shall Comply With ASSE 1010.	
OB-2	Outlet Box	IPS Corporation	MWB13	6	Washing Machine	Recessed		Steel	White			Yes	Yes	1/2"	Center Drain White Powder Coated Metal Washing Machine Outlet Box. Unit Shall Be Guy Gray Product Code As Manufactured By IPS Corporation. Ctr. Turn Valve With 1/2" Sweat/MIP, PEX, Wirsbo, Or CPVC Connection. 2" Slipnut Drain Kit Included. Valves Comply With ASME A112.18.1.	
OB-3	Outlet Box	IPS Corporation	DW1200HA	2	Dishwasher	Recessed		Hi-Impact Resin	White			No	Yes	1/2"	Recessed, White Powder-Coated Dishwasher Outlet Box, w/ Lead Free Ctr. Turn Arrester Valve with 3/8" Compression Outlet Available For Sweat.	
OB-4	Outlet Box	IPS Corporation	MIB1HAAB	1	Coffee Maker	Recessed		ABS Plastic	White			No	Yes	1/2"	Recessed, White Powder-Coated Coffee Maker Outlet Box With A Brass Quarter Turn Hammer Arrester Valve. Unit Shall Be Guy Gray™ Product Code Checked Below As Manufactured By IPS Corporation.	
PF-1	Pot Filler	Kohler	K-35745-CP	1	Single-Hole-Wall-Mounted Pot and Kettle Filler	Wall Mount	No					Yes	No	1/2"	Kohler Wall-Mounted Pot Filler K-35745-CP with articulating 360° rotating spout, single lever handle with main shutoff, ceramic disc valves, 7" spout reach, 5.2 GPM maximum flow rate, and polished chrome finish.	
SH-1A	Shower Stall - ADA	By Others	By Others	7	Shower Fixtures	Floor Set	Yes			Symmons / C-96-500-B30-V		Yes	Yes	1/2"	The Individual Shower Stall Is Specified In Another Division. See this schedule for Shower Drains. Shower System With Asse 1016 Compliant Type "T/P" Thermostatic/Pressure Balancing Combination Valve With Adjustable Stop Screw To Limit Handle Turn. Concealed 3-Port Diverter Valve With Lever Handle With Arm And Flange, Integral Stops, And In-Line Vacuum Breaker. Hand Shower System With Standard Hand Shower, 60" Flexible Metal Hose, And 48" Slide Bar For Hand Shower Mounting. Provide Manufacturer'S Flow Rate Restrictor On Showerhead.	
TD-1	Trench Drain	Watts	Dead Level D	57	Wide Reveal Trench Drain System	Set in Concrete		Polypropylene							6"(152) wide x 48"(1219) long (standard) UV stabilized glass-filled polypropylene frame, UV stabilized talc-filled polypropylene channels with integral 4"(102) No Hub bottom outlet(s). System shall be frame-anchored, with DI grating to suit DIN Class E load rating with Frame Guards. Installed length (number of sections) varies per architectural plans	
TD-2	Shower Linear Drain	Oatey	PLD36-N	13	QuickDrain ProLine Drain	Set in Concrete		Stainless Steel							18 Gauge 316L Stainless Steel Linear Shower Drain with "Lines" grate. Fully sloped trough to prevent standing water and solids from being deposited in the trough. 2" I.D. Schedule 10 stainless steel downspout waste outlet. Drain cover sold separately.	
U-1	Urinal	American Standard	Washbrook	7	Wall Hung	Wall Hung	No	White Vitreous China	White	Sloan / REGAL 186-0.5	Manual	Yes	No	3/4"	Wall Hung Urinal With Washout Action, Top Spud, Size 18" With Integral Extended Shields Supported By Through Going Bolts And C.P. Nuts. Manual Flushometer 0.5GPF	
WC-1	Water Closet	Kohler	K3505	6	Pressure Assist Water Closet	Floor Set	No	White Vitreous China	White	Sloan / Flushmate III	Manual	Yes	No	1/2"	Elongated Floor Mounted Pressure Assist Tank Type Water Closet, With Kohler Stronghold K-4731-GC Commercial elongated toilet seat with integrated handle and Quiet-Close™ check hinge. Provide A 1/4" Brass Ball Valve At Wall Connection.	
WC-1A	Water Closet	Kohler	K3493	6	Pressure Assist Water Closet	Floor Set	Yes	White Vitreous China	White	Sloan / Flushmate III	Manual	Yes	No	1/2"	ADA Height Elongated Floor Mounted Pressure Assist Tank Type Water Closet, With Kohler Stronghold K-4731-GC Commercial elongated toilet seat with integrated handle and Quiet-Close™ check hinge. Provide A 1/4" Brass Ball Valve At Wall Connection.	

Thermal Expansion Tank Schedule

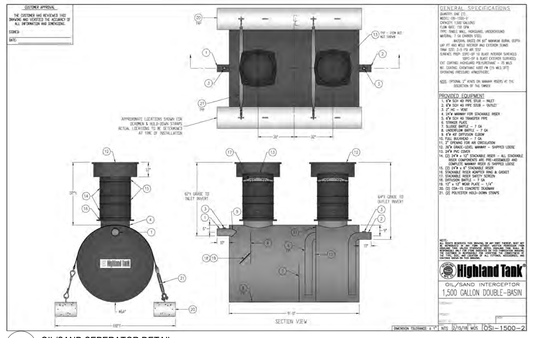
Identity	Location Name	Location No.	Manufacturer	Model	Product Type	System Fluid	Water Supply Temp.	ASME	Tank Fill Pressure	Tank Fill Temp.	Tank Acceptance Factor	Tank Acceptance Volume	Tank Capacity	Product Weight	Operating Weight	Notes
DET-1	MECHANICAL	124	Bell & Gossett	PT-12	Diaphram	Dom. Water	40 °F	Yes	38 psi	40 °F	73%	3.2 gal	4.4 gal	9 lb	128 lb	
DET-2	COMPRESSOR	201	Bell & Gossett	PT-12	Diaphram	Dom. Water	40 °F	Yes	38 psi	40 °F	73%	3.2 gal	4.4 gal	9 lb	128 lb	
PT-1	MECHANICAL	124	Amtrol	ST-70VC	Fixed Diaphram	Dom. Water	40 °F	Yes	0 psi	40 °F	32%	10.9 gal	34.0 gal	99 lb	190 lb	
UT-40	MECHANICAL	124	Amtrol	ST-210VC	Fixed Diaphram	Dom. Water	40 °F	Yes	0 psi	40 °F	39%	35.1 gal	90.0 gal	319 lb	612 lb	

Air Compressor Schedule

Identity	Location Name	Location No.	Manufacturer	Model	HP	Capacity (CFM @ 90 psi)	Max Pressure	Tank Capacity	Electrical	Weight (lbs)	Notes
AC-1	COMPRESSOR	201	Ingersoll Rand	2340L5	5	14.3	175	60 gal	460-3-60	433	

Domestic Circulator Pump Schedule

Identity	Location Name	Location No.	Manufacturer	Model	Product Type	Connections Suction	Connections Discharge	Motor Power	Motor RPM	Electrical FLA	Electrical Voltage	Electrical Phase	Notes
DCP-1	MECHANICAL	124	Taco	008IQSF6-IFC	Inline	3/4"	3/4"	19 W	3250	0.84 A	120 V	1	
DCP-2	COMPRESSOR	201	Taco	008IQSF6-IFC	Inline	3/4"	3/4"	19 W	3250	0.7 A	120 V	1	



6 / P601 OIL/SAND SEPERATOR DETAIL
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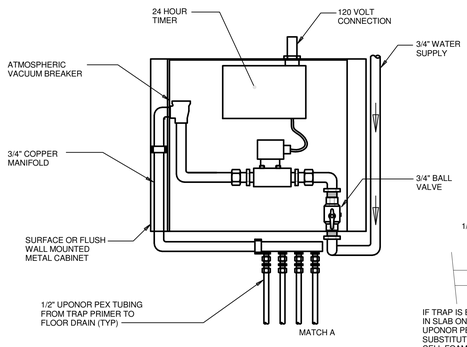
Gas-Fired Water Heater Schedule

Identity	Location Name	Location No.	Manufacturer	Model	Product Type	Temp. Rise	Recovery Capacity	Storage Capacity	MAWP	ASME	Gas Burner Type	Gas Burner Input Rating	Gas Burner Output Rating	Gas Burner Efficiency	Electrical Voltage	Electrical Phase	Breaker Size	Product Weight	Operating Weight	Notes
GWH-1	MECHANICAL	124	Rheem	GHE100SS-250(A)	Gas Tank	100F	291gph	100gal	160 PSI	Y	NG	250MBH	240MBH	96%	110	1	7.5A	775lbs	-	
GWH-2	COMPRESSOR	201	Rheem	GHE80SS-130 (A)	Gas Tank	100F	153gph	80gal	160 PSI	Y	NG	130MBH	120MBH	96%	110	1	7.5A	775lbs	-	

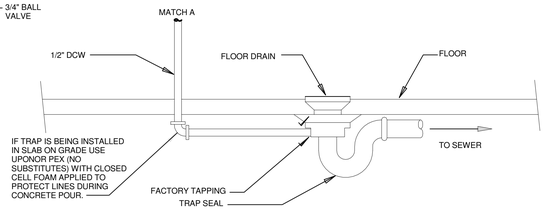


TRAP PRIMING MANIFOLD SCHEDULE

TAG	SYSTEM	LOCATION	VOLTAGE	PHASE	MANUFACTURER	MODEL	REMARKS
TP-1	ELECTRONIC TRAP PRIMING MANIFOLD	LAUNDRY 125	120 V	1	PPP INC.	PTS-10	
TP-2	ELECTRONIC TRAP PRIMING MANIFOLD	CORRIDOR 106	120 V	1	PPP INC.	PTS-10	
TP-3	ELECTRONIC TRAP PRIMING MANIFOLD	EMS OFFICE I 152	120 V	1	PPP INC.	PTS-6	

NOTES:

1. UNIT SHALL BE MOUNTED 1' AFF FOR EVERY 20' OF DEVELOPED LENGTH OF THE LONGEST RUN OF TRAP PRIMER PIPING SERVED BY THE UNIT



10 / P601 DETAIL - ELECTRONIC TRAP PRIMER
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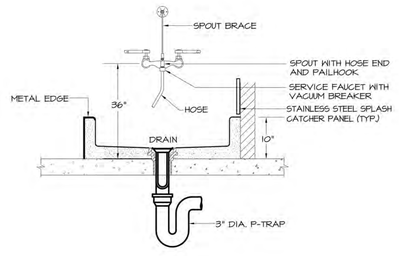

9 / P601 DETAIL - JANITOR SINK
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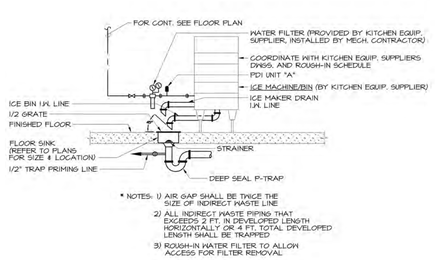

8 / P601 DETAIL - ICE MACHINE
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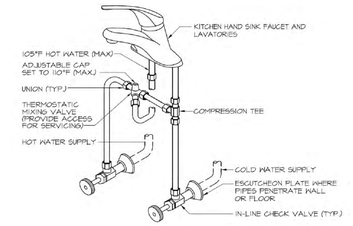

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EXETER TOWNSHIP
EMERGENCY SERVICES FACILITY
70 GIBRALTAR ROAD
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PLUMBING SCHEDULES & DETAILS

SHEET NUMBER:
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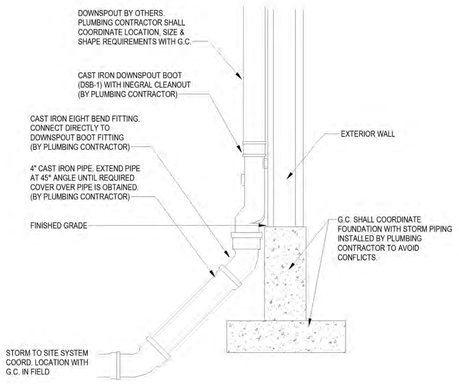
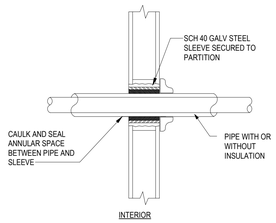


NOTES:

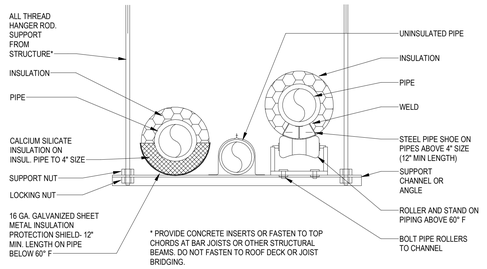
1. PLUMBING CONTRACTOR TO PROVIDE DOWNSPOUT CONNECTION, CLEANOUT AND ALL PIPING WITHIN 5' OF BUILDING WALL WITH FINAL CONNECTION TO SITE STORM SYSTEM AT EACH DOWNSPOUT LOCATION. REFER TO ARCHITECTURAL DRAWINGS FOR LOCATION A ND SIZE OF DOWNSPOUTS TO GRADE.
2. VERIFY DOWNSPOUT DIMENSIONS AND COORDINATE ALL WORK WITH THE G.C. PRIOR TO ORDER OF DOWNSPOUT BOOT ADAPTOR.

1 P602 RAINWATER LEADER NOZZLE OUTLET DETAIL
NOT TO SCALE



NOTES:
1. TYPICAL FOR NON-INSULATED PIPE AND CONDUIT.
2. ALL CAULKING AND SEALANT SHALL BE FIRE RATED (SEE SPECIFICATIONS).
3. WHERE PIPING IS EXPOSED AT FINISHED WALL, FLUSH MOUNT SLEEVE AND PROVIDE AN ESCUTCHEON PLATE.

2 P602 PIPE PENETRATION THRU INTERIOR WALLS
NOT TO SCALE



3 P602 TRAPEZE PIPE HANGER DETAIL
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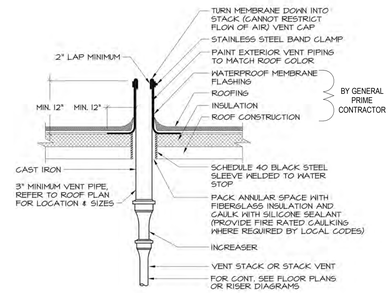

6 P602 DETAIL - PLUMBING VENT THRU ROOF
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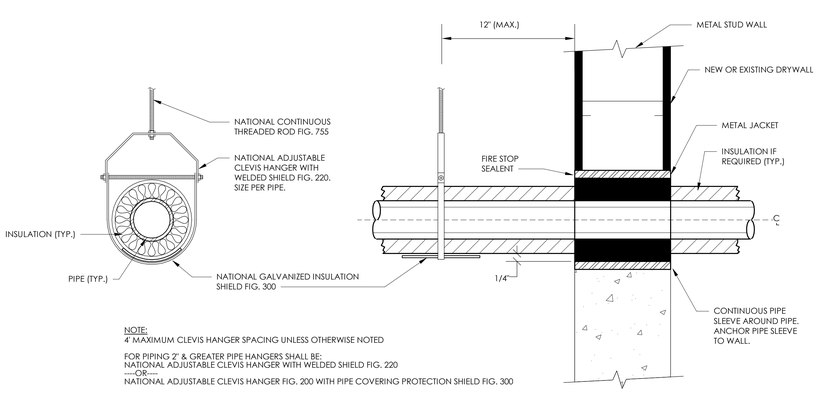
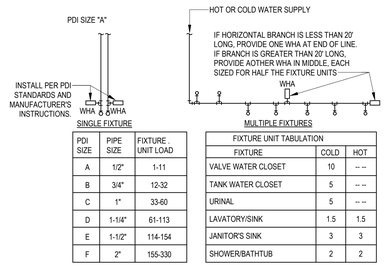


NOTE:
4' MAXIMUM CLEVIS HANGER SPACING UNLESS OTHERWISE NOTED

FOR PIPING 2" & GREATER PIPE HANGERS SHALL BE:
NATIONAL ADJUSTABLE CLEVIS HANGER WITH WELDED SHIELD FIG. 220
----OR----
NATIONAL ADJUSTABLE CLEVIS HANGER FIG. 200 WITH PIPE COVERING PROTECTION SHIELD FIG. 300

SUSPENDED PIPE SHALL BE ATTACHED TO WOOD OR STEEL STRUCTURAL MEMBERS. SUSPENDED PIPE SHALL NOT HAND OR BE ATTACHED TO FLOOR OR ROOF DECK.

4 P602 DETAIL - TYPICAL WALL PENETRATION & HANGER
NOT TO SCALE



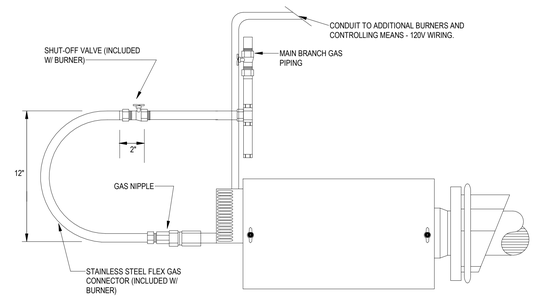
PDI SIZE	PIPE SIZE	FIXTURE UNIT LOAD
A	1/2"	1-11
B	3/4"	12-32
C	1"	33-60
D	1-1/4"	61-113
E	1-1/2"	114-154
F	2"	155-330

FIXTURE UNIT TABULATION

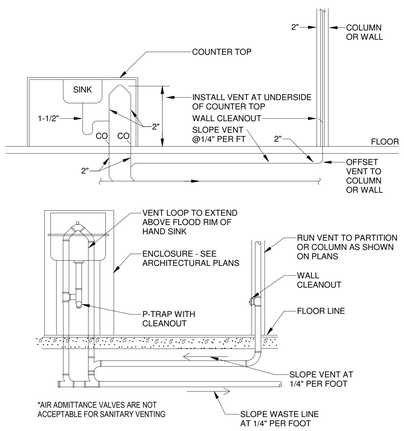
FIXTURE	COLD	HOT
VALVE WATER CLOSET	10	-- --
TANK WATER CLOSET	5	-- --
URINAL	5	-- --
LAVATORY/SINK	1.5	1.5
JANITOR'S SINK	3	3
SHOWER/BATHTUB	2	2

WATER HAMMER ARRESTERS BY SIOUX CHIEF, PRECISION PLUMBING PRODUCTS, WATTS OR APPROVED EQUIVALENT WITH PISTON AND O-RING CONSTRUCTION. HAVING PDI #WH-201, ASSE #1010 AND ANSI #A112.26.1M CERTIFICATION. INSTALL IN LINE WITH OR VERTICAL POSITION, BUT NEVER UPSIDE DOWN. SIZE THE UNITS PER THE TABLES SHOWN ABOVE.

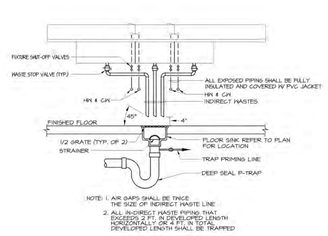
5 P602 DETAIL - WATER HAMMER ARRESTOR
NOT TO SCALE



7 P602 INFRARED DETAIL 6
NOT TO SCALE



8 P602 DETAIL - ISLAND VENT PIPING
NOT TO SCALE



9 P602 TYPICAL 3-COMPARTMENT SINK DETAIL
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EXETER TOWNSHIP
EMERGENCY SERVICES FACILITY
70 GIBRALTAR ROAD
READING PA 19606

PROJECT NUMBER: 25-049

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POTABLE WATER SYSTEM

CITY WATER TREATMENT SYSTEM — FLOW SCHEMATIC WITH BAS MONITORING & ALARM POINTS

EXETER FIRE DEPARTMENT · APPARATUS BAY WATER TREATMENT ROOM

SOURCE: CITY WATER SERVICE · DESIGN FLOW: 50 GPM PEAK · RO FEED: 9.5 GPM CONT.

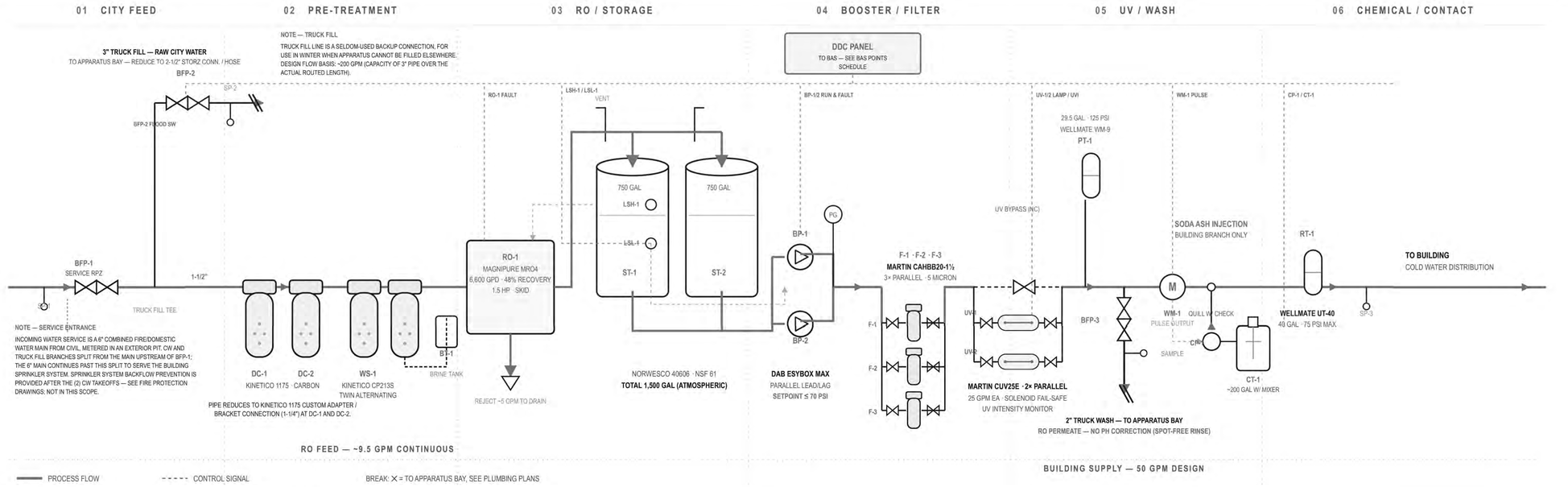

DIAGRAM KEYNOTES

DEDC · SD

01 BOOSTER PUMP AND DOWNSTREAM TREATMENT SIZING BASED ON TOTAL SYSTEM DEMAND OF 50 GPM. SIMULTANEOUS TRUCK WASH + PEAK BUILDING DEMAND SHALL NOT EXCEED 50 GPM COMBINED.

02 TRUCK FILL LINE CONNECTS UPSTREAM OF ALL TREATMENT, SERVED BY UNTREATED CITY WATER. PROVIDE RPZ BACKFLOW PREVENTER AT TRUCK FILL CONNECTION.

03 TRUCK WASH LINE CONNECTS DOWNSTREAM OF UV, UPSTREAM OF SODA ASH INJECTION. WASH WATER IS RO PERMEATE W/O PH CORRECTION (INTENTIONAL, SPOT-FREE RINSE). PROVIDE BFP AT CONNECTION. DO NOT RELOCATE SODA ASH UPSTREAM OF THIS BRANCH.

04 SODA ASH METERING PUMP SHALL BE FLOW-PACED FROM THE PULSE-OUTPUT WATER METER DOWNSTREAM OF THE TRUCK WASH TEE. INJECTION VIA CENTERLINE QUILL W/ INTEGRAL CHECK VALVE; WETTED PARTS PVC OR KYNAR.

05 BOOSTER DISCHARGE PRESSURE SETPOINT SHALL NOT EXCEED 70 PSI. CONTACT TANK RT-1 RATED 75 PSI MAX OPERATING PRESSURE.

06 RO REJECT DISCHARGES TO SANITARY AT APPROXIMATELY 5 GPM DURING SKID OPERATION.

EQUIPMENT SCHEDULE

TAG	EQUIPMENT	MFR / MODEL	QTY	DATA
BFP-1	SERVICE BACKFLOW PREVENTER	WATTS LF909-LF, 3" RPZ	1	≈210 GPM (200 TRUCK FILL + 9.5 RO). NSF 61/372, ASSE 1013, 175 PSI. CW/TRUCK FILL BRANCH ONLY — NOT SPRINKLER MAIN
BFP-2	TRUCK FILL BFP	WATTS LF909-LF-FS, 3" RPZ	1	FLOOD-SENSOR VERSION REC. (INFREQUENT USE). NSF 61/372, ASSE 1013, 175 PSI
DC-1,2	DECHLORINATOR	KINETICO 1175	2	CARBON, NON-ELECTRIC, 13"×56"
WS-1	WATER SOFTENER	KINETICO CP213S	1	TWIN ALTERNATING, 2.5 CU FT/TANK, 13"×54"
BT-1	BRINE TANK	KINETICO 24×40	1	500 LB SALT, HDPE
RO-1	RO SKID	MAGNIPURE MRO4	1	6,600 GPD, 48% RECOVERY, 1.5 HP, 26×26×57
ST-1,2	STORAGE TANK	NORWESCO 40606	2	750 GAL EA, POLY, 48"×103", 16" VENTED MANWAY
BP-1,2	BOOSTER PUMP	DAB ESYBOX MAX (CONFIRM 60/120M)	2	PARALLEL LEAD/LAG, VFD, SETPOINT ≤70 PSI
F-1..3	CARTRIDGE FILTER	MARTIN CAHBB20-1½	3	PARALLEL, 5 MICRON, 1-1/2", 50 GPM MAX EA
UV-1,2	UV STERILIZER	MARTIN CUV25E	2	PARALLEL, 25 GPM EA, 1-1/2" FNPT, 304 SS
PT-1	PRESSURE TANK	WELLMATE WM-9	1	29.5 GAL, 125 PSI, 1" MNPT
BFP-3	TRUCK WASH BFP	WATTS LF909-LF, 2" RPZ	1	2" BRANCH, NSF 61/372, ASSE 1013
WM-1	WATER METER	BY WATER TREATMENT CONTRACTOR, PULSE OUTPUT	1	PACES CP-1
CP-1	METERING PUMP	BY WATER TREATMENT CONTRACTOR, FLOW-PACED	1	PVC/KYNAR QUILL W/ CHECK VALVE
CT-1	SOLUTION TANK	BY WATER TREATMENT CONTRACTOR; ~100 GAL W/MIXER	1	26" DIA × 43" H, SODA ASH
RT-1	CONTACT TANK	WELLMATE UT-40	1	40 GAL, 75 PSI MAX, 16"×57.25"
SP-1..3	SAMPLING PORT	TBD, SMOOTH-NOSE TAP	3	SEE FLOW SEQUENCE

BAS POINTS SCHEDULE

POINT	SOURCE	SIGNAL TYPE
STORAGE TANK HIGH LEVEL ALARM	ST-1/ST-2 (LSH-1)	DRY CONTACT
STORAGE TANK LOW LEVEL ALARM	ST-1/ST-2 (LSL-1)	DRY CONTACT
RO SKID FAULT / LOW FEED PRESSURE	RO-1	DRY CONTACT
BOOSTER PUMP RUN STATUS (BP-1)	BP-1	DRY CONTACT
BOOSTER PUMP RUN STATUS (BP-2)	BP-2	DRY CONTACT
BOOSTER PUMP FAULT (BP-1)	BP-1	DRY CONTACT
BOOSTER PUMP FAULT (BP-2)	BP-2	DRY CONTACT
UV LAMP FAULT (UV-1)	UV-1	DRY CONTACT
UV LAMP FAULT (UV-2)	UV-2	DRY CONTACT
UV LOW INTENSITY ALARM (UV-1)	UV-1	DRY CONTACT
UV LOW INTENSITY ALARM (UV-2)	UV-2	DRY CONTACT
UV FAIL-SAFE SOLENOID VALVE POSITION	UV-1/UV-2 ASSEMBLY	DRY CONTACT
SODA ASH TANK LOW LEVEL ALARM	CT-1	DRY CONTACT
SODA ASH PUMP RUN STATUS	CP-1	DRY CONTACT
SODA ASH PUMP FAULT	CP-1	DRY CONTACT
BUILDING METER FLOW PULSE	WM-1	PULSE
TRUCK FILL BFP FLOOD SENSOR ALARM	BFP-2	DRY CONTACT

BAS GENERAL NOTE — BAS IS NEW CONSTRUCTION; NO EQUIPMENT ASSUMED TO HAVE NATIVE BACNET OR COMMUNICATING CONTROLLER OUTPUT. ALL POINTS SHOWN ARE HARDWIRED DRY CONTACTS OR PULSE SIGNALS TERMINATED AT A LOCAL DDC PANEL IN THE TREATMENT ROOM, BY DIVISION 23 CONTROLS CONTRACTOR. WATER TREATMENT CONTRACTOR TO PROVIDE RELAY/CONTACT OUTPUTS AT EACH SOURCE DEVICE; CT-1 LEVEL SWITCH AND CP-1 RUN/FAULT CONTACTS ARE ADDED SCOPE ITEMS, NOT STANDARD EQUIPMENT FEATURES — CONFIRM AVAILABILITY WITH WATER TREATMENT CONTRACTOR PRIOR TO BID.

GENERAL NOTES

01 WATER TREATMENT EQUIPMENT SELECTION AND SIZING BY WATER TREATMENT PROVIDER BASED ON LOCAL WATER QUALITY KNOWLEDGE. NO SITE-SPECIFIC WATER ANALYSIS WAS AVAILABLE AT TIME OF DESIGN. PROVIDER SHALL CONFIRM ALL EQUIPMENT SELECTIONS AGAINST A CURRENT WATER ANALYSIS PRIOR TO SUBMITTAL.

02 SYSTEM DESIGN FLOW IS 50 GPM TOTAL. RO FEED SIDE OPERATES AT APPROXIMATELY 9.5 GPM CONTINUOUS, INDEPENDENT OF BUILDING PEAK DEMAND.

03 RO SKID PRODUCTION CAPACITY IS 6,600 GPD AT 48% RECOVERY. COORDINATE REJECT DRAIN SIZE AND ROUTING WITH PLUMBING DRAWINGS.

04 RO SKID SHALL FILL ATMOSPHERIC STORAGE TANKS VIA FLOAT-OPERATED LEVEL CONTROLS INTERLOCKED WITH THE RO FEED SOLENOID. PROVIDE HIGH/LOW LEVEL ALARMS AT STORAGE TANKS. LOW LEVEL SHALL DISABLE BOOSTER PUMPS TO PROTECT AGAINST DRY RUN.

05 ALL PIPING FROM CITY WATER INLET THROUGH THE END OF THE TREATMENT TRAIN SHALL BE CPVC. NO COPPER OR COPPER ALLOY COMPONENTS PERMITTED UPSTREAM OF THE SODA ASH INJECTION POINT; WATER IN THIS SECTION IS AGGRESSIVE RO PERMEATE.

06 PROVIDE SMOOTH-NOSE SAMPLING PORTS AT: CITY WATER INLET (DOWNSTREAM OF SERVICE BFP), TRUCK FILL LINE (DOWNSTREAM OF BFP), AND BUILDING SUPPLY (DOWNSTREAM OF CONTACT TANK).

07 UV UNITS SHALL BE PROVIDED WITH LAMP FAILURE ALARM, UV INTENSITY MONITOR, AND NORMALLY CLOSED SOLENOID FAIL-SAFE VALVE. PROVIDE ISOLATION VALVES AT EACH UV UNIT FOR LAMP SERVICE WITHOUT SYSTEM SHUTDOWN.

08 PROVIDE UNIONS OR FLANGED CONNECTIONS AND ISOLATION VALVES AT EACH PIECE OF TREATMENT EQUIPMENT TO PERMIT REMOVAL AND REPLACEMENT WITHOUT DRAINING THE SYSTEM.

09 PRESSURE TANK PRECHARGE SHALL BE SET PER BOOSTER PUMP MANUFACTURER'S REQUIREMENTS RELATIVE TO PUMP RESTART PRESSURE.

10 MAINTAIN MANUFACTURER-REQUIRED CLEARANCES AT ALL EQUIPMENT. STORAGE TANKS ARE 103 INCHES TALL; VERIFY CEILING CLEARANCE FOR MANWAY ACCESS AND VENT PIPING PRIOR TO ROUGH-IN.

11 PROVIDE HOUSEKEEPING PADS FOR STORAGE TANKS, RO SKID, BOOSTER PUMPS, AND CONTACT TANK.

12 LSH-1 (HIGH LEVEL FLOAT) AND LSL-1 (LOW LEVEL FLOAT) ARE MOUNTED IN THE ST-1/ST-2 COMMON HEADER. LSH-1 SIGNALS THE RO FEED SOLENOID TO STOP FILLING AT HIGH LEVEL; LSL-1 DISABLES THE BOOSTER PUMPS ON LOW LEVEL TO PREVENT DRY RUNNING.

1 / P603 WATER TREATMENT SYSTEM
NOT TO SCALE

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EXETER TOWNSHIP
EMERGENCY SERVICES FACILITY
70 GIBRALTAR ROAD
READING PA 19606

PROJECT NUMBER: 25-049

SUBMISSION:
BID SET

ORIGINAL ISSUE DATE:
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PLUMBING SCHEDULES & DETAILS

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General Plan Symbols

Plan Revision Number

Detail Number on Sheet
Sheet Number Where Detail is Placed

Keynote Symbol

Continuation Symbol

Point Where New Connects To Existing

Room
1 — Room Name / Number

Area Being Demolished

Area Not In Contract

Fire Protection Symbols

- 2" — Nominal Pipe Size
- Above Ground Piping
- Below Ground Piping
- 1/8" / 12" SLOPE — Pipe Slope (When Applicable)
- (E) — Existing Pipe To Remain
- Pipe To Be Demolished
- FP-W — Wet Fire Sprinkler
- FP-D — Dry Fire Sprinkler
- FP-PA — Preaction Fire Sprinkler
- F/W — Fire & Water Service
- FP-O — Fire Sprinkler (Other)
- Upright Sprinkler
- Pendent Sprinkler
- Recessed Sprinkler
- Concealed Head
- D — Upright Sprinkler
- Sidewall Sprinkler
- Extended Coverage Sprinkler
- Standpipe Valve
- 48"x18" S/A — Obstruction From Ductwork 48" and Greater
- Check Valve
- Alarm Check Valve
- Tamper Detection Valve
- Dry Pipe Valve
- Indicating Butterfly Valve
- Post Indicator Valve
- Valve Norrising Stem
- OS&Y Valve
- Preaction Valve
- Deluge Valve
- Thrust Block
- Pipe Anchor
- Freestanding Siamese Fire Department Connection
- Siamese Fire Department Connection
- Single Fire Department Connection
- Riser Assembly
- Double Check (OS&Y)
- Double Check (Butterfly with Tamper)
- Reduced Pressure Zone
- X — Equipment Identity

ABBREVIATIONS

Ø	ROUND	LVR	LOUVER
ABV	ABOVE	MAX	MAXIMUM
AD	AREA DRAIN	MD	MOTORIZED DAMPER
ADD	ADDENDUM	MECH	MECHANICAL
AFF	ABOVE FINISHED FLOOR	MFR	MANUFACTURER
ALT	ALTERNATE	MIN	MINIMUM
AP	ACCESS PANEL	MISC	MISCELLANEOUS
ARCH	ARCHITECT/ARCHITECTURAL	MTR	MOTOR
BFF	BELOW FINISHED FLOOR	NC	NORMALLY CLOSED
BLW	BELOW	NIC	NOT IN CONTRACT
CAP	CAPACITY	NO	NUMBER
CB	CATCH BASIN	NO	NORMALLY OPEN
CLG	CEILING	NTS	NOT TO SCALE
CO	CLEAN OUT	PD	PRESSURE DROP
CW	COLD WATER	PIV	POST INDICATOR VALVE
D	DEGREE	PRESS	PRESSURE
DIA	DIAMETER	PRV	PRESSURE REDUCING VALVE
DN	DOWN	PSI	POUNDS PER SQUARE INCH
EA	EACH	PSIG	POUNDS PER SQUARE INCH GAUGE
ELEC	ELECTRICAL	PWR	POWER
EQUIP	EQUIPMENT	REC	RECESSED
E/A	EXHAUST AIR	RED	REDUCER
F	DEGREES FAHRENHEIT	RM	ROOM
FD	FLOOR DRAIN	RPM	REVOLUTIONS PER MINUTE
FDC	FIRE DEPARTMENT CONNECTION	SF	SQUARE FOOT
FL	FLOOR	SAN	SANITARY
FO	FUEL OIL	SF	SQUARE FOOT
FOV	FUEL OIL VENT	SD	SMOKE DAMPER
FOR	FUEL OIL RETURN	SM	SURFACE MOUNT
FOS	FUEL OIL SUPPLY	SP	STANDPIPE
FPM	FEET PER MINUTE	SP	STATIC PRESSURE
FT	FOOT/FEET	T	THERMOSTAT
GAL	GALLON	TD	TEMPERATURE DROP
GF	GAS-FIRED	TEMP	TEMPERATURE
GC	GENERAL CONTRACTOR	TYP	TYPICAL
GPM	GALLONS PER MINUTE	UG	UNDERGROUND
HB	HOSE BIB	V	VENT
HP	HORSE POWER	VENT	VENTILATION
HTR	HEATER	W	WASTE
HYD	HYDRANT	WH	WALL HYDRANT
ID	INDIRECT		
IN	INCH		
INV	INVERT		
LB	POUND		

EQUIPMENT ABBREVIATIONS

AC	AIR CONDITIONING UNIT	ET	EXPANSION TANK
ACCU	AIR COOLING CONDENSING UNIT	EWH	ELECTRIC WATER HEATER
AHU	AIR HANDLING UNIT	FCU	FAN COIL UNIT
AS	AIR SEPARATOR	FP	FIRE PUMP
B	BOILER	GI	GREASE INTERCEPTOR
CH	CHILLER	GRV	GRAVITY ROOF VENTILATOR
CT	COOLING TOWER	HWP	HEATING WATER PUMP
CUH	CABINET UNIT HEATER	HRU	HEAT RECOVERY UNIT
CHWP	CHILLED WATER PUMP	PRV	POWER ROOF VENTILATOR
DBP	DOMESTIC WATER BOOSTER PUMP	RE	RETURN/EXHAUST FAN
DC	DUCT MOUNTED COIL	RTU	ROOFTOP UNIT
DCP	DOMESTIC WATER CIRCULATING PUMP	SP	SUMP PUMP
EF	EXHAUST FAN	UH	UNIT HEATER
EDC	ELECTRIC DUCT COIL	WH	WATER HEATER

* NOTE *

ALL OF GENERAL NOTES ON THIS SHEET ARE TO BE APPLIED TO ALL OTHER DRAWINGS IN THIS SET.THE SYMBOLS AND ABBREVIATIONS SHOWN ON THIS SHEET MAY OR MAY NOT BE USED IN THIS SET OF DRAWINGS.

Fire Protection General Notes

A. PROVIDE A COMPLETE WET TYPE FIRE PROTECTION SYSTEM AS REQUIRED TO ACCOMMODATE THE FLOOR PLAN AND CEILING TYPES INCLUDING MAINS, BRANCHES, HEADS, VALVES, AND ACCESSORIES AS REQUIRED. THE SYSTEM SHALL BE INSTALLED ACCORDING TO MANUFACTURER'S SPECIFICATIONS AND RECOMMENDATIONS OF THE STATE BUILDING CODE, LOCAL FIRE DEPARTMENT, AND ALL FEDERAL, STATE, AND LOCAL AUTHORITIES, NFPA, AND FACTORY MUTUAL.

B. THE SPRINKLER SYSTEM SHALL BE DESIGNED BASED UPON ACTUAL WATER FLOW TEST DATA OBTAINED AT OR NEAR THE JOB SITE.

C. REFER TO REFLECTED CEILING PLANS FOR ADDITIONAL INFORMATION REGARDING SPRINKLER HEAD LOCATION AND PIPE, UNLESS NOTED OTHERWISE.

D. DIVISION 21 CONTRACTOR SHALL COORDINATE WITH THE ELECTRICAL CONTRACTOR FOR PROPER INSTALLATION OF THE FIRE PROTECTION SYSTEMS ALARM DEVICES INVOLVED WITH FIRE SPRINKLER SYSTEM.

E. ALL SPRINKLER SYSTEM PIPING SHALL BE CONCEALED ABOVE THE SUSPENDED CEILING SYSTEM, UNLESS NOTED OTHERWISE. WRITTEN AUTHORIZATION SHALL BE OBTAINED FROM THE ARCHITECT PRIOR TO EXPOSING ANY PIPING IN ANY ROOM WHICH HAS A SUSPENDED CEILING.

F. THIS CONTRACTOR SHALL PROVIDE ALL ADDITIONAL SPRINKLER HEADS AS REQUIRED TO ENSURE AN APPROVED FIRE PROTECTION SYSTEM AT NO ADDITIONAL COST TO THE OWNER.

G. AUXILIARY DRAINS SHALL BE EXPOSED WITH 1" DRAIN VALVES. WHEN 5 OR MORE GALLONS ARE TRAPPED, THIS CONTRACTOR SHALL PROVIDE FIXED PIPING TO AN ADEQUATELY SIZED RECEPTOR WHICH IS CAPABLE OF ACCEPTING THE FULL FLOW OF THE DRAIN. WHEN LESS THAN 5 GALLONS ARE TRAPPED, A HOSE BIB SHALL BE PROVIDED AT THE DRAIN VALVE.

H. AUXILIARY DRAINS SHALL NOT BE LOCATED ABOVE PLASTER OR GYPSUM BOARD CEILING SYSTEMS. ONLY BY A SPECIFIC WRITTEN INSTRUCTION FROM THE ENGINEER WILL A VARIANCE BE PROVIDED.

I. AN INSPECTOR'S TEST CONNECTION SHALL BE PROVIDED FOR EACH FIRE SPRINKLER ZONE. THIS CONTRACTOR SHALL PROVIDE FIXED PIPING FROM THE TEST CONNECTION TO AN ADEQUATELY SIZED RECEPTOR WHICH IS CAPABLE OF ACCEPTING THE FULL FLOW OF THE TEST. EXTERIOR DISCHARGE OF THE TEST CONNECTION SHALL BE PERMITTED ONLY BY SPECIFIC WRITTEN INSTRUCTION FROM THE ENGINEER.

J. SHOW ALL ROOM NUMBERS ON SHOP DRAWING PLANS.

K. FLOW TEST DATA FROM 01/08/26 INDICATES THE THE FOLLOWING: STATIC PRESSURE: 90 PSI. RESIDUAL PRESSURE: 87 PSI AT 1,405 GPM. FLOW WAS MEASURED AT HYDRANT FH HEX-141, LOCATED AT THE WESTERN CORNER OF EXETER MEDICAL CENTER. THE FLOW TEST DATA DOES NOT ACCOUNT FOR LOSSES DUE TO ELEVATION CHANGE OR PIPE FRICTION FROM THE WATER MAIN TO THE BUILDING. SEE CIVIL PLANS FOR HYDRANT LOCATIONS. THE CONTRACTOR SHALL PERFORM A FIRE FLOW TEST IN ACCORDANCE WITH NFPA 291 TO VERIFY THE FLOW TEST DATA GIVEN ABOVE. THE DATA GIVEN ABOVE SHALL BE THE BASIS OF DESIGN UNLESS THE AVAILABLE PRESSURE OR FLOW HAS DECREASED. NOTIFY OWNER'S REPRESENTATIVE IF FLOW TEST DATA DIFFERS FROM THE DATA ABOVE. A FIRE PROTECTION ENGINEER OR AN ENGINEER EXPERIENCED IN WATER FLOW TESTING SHALL PERFORM OR WITNESS THE REQUIRED FLOW TESTING AND SIGN THE REPORT PRIOR TO THE FIRST SPRINKLER SYSTEM SUBMITTAL.

L. ROUTE SPRINKLER PIPING SUCH THAT IT DOES NOT RUN ABOVE ELECTRICAL PANELS, SWITCHGEAR, OR SIMILAR EQUIPMENT. SPRINKLER MAINS SHALL NOT RUN THROUGH ELECTRICAL OR COMMUNICATION ROOMS. SPRINKLER HEADS IN THESE ROOMS SHALL BE SERVED BY A DEDICATED BRANCH LINE FOR EACH ROOM.

M. THIS DRAWING INDICATES A GENERAL PIPING ARRANGEMENT AND SUGGESTED SIZING ONLY. THIS CONTRACTOR SHALL DETERMINE THE ACTUAL PIPE SIZING REQUIRED AND COORDINATE WORK WITH ALL OTHER TRADES TO AVOID CONFLICTS.

N. THIS CONTRACTOR SHALL PREPARE HYDRAULIC CALCULATIONS BASED UPON THE CONFIGURATION OF THE ACTUAL SYSTEM DESIGN AS SHOWN ON THIS CONTRACTOR'S SHOP DRAWINGS.

Fire Protection Sheet Index

F000	FIRE PROTECTION TITLE SHEET
F111	FIRST FLOOR FIRE PROTECTION PLAN
F112	MEZZANINE & APP BAY FIRE PROTECTION PLAN

SEISMIC & WIND REQUIREMENTS FOR MECHANICAL / PLUMBING SYSTEMS IBC / ASCE-7

THIS FIRE STATION IS ASSIGNED TO SEISMIC DESIGN CATEGORY C AND IS OCCUPANCY / RISK CATEGORY IV AS DEFINED BY CHAPTER 1 OF ASCE-7. ALL HVAC, PLUMBING & FIRE PROTECTION SYSTEMS AND EQUIPMENT ARE REQUIRED FOR THE CONTINUED OPERATION OF THE FIRE STATION AFTER AN EARTHQUAKE AND SHALL BE ASSIGNED A COMPONENT IMPORTANCE FACTOR OF 1.5 IN ACCORDANCE WITH CHAPTER 13 OF ASCE 7.

A. PER SECTION 301.15 OF THE INTERNATIONAL MECHANICAL CODE, MECHANICAL EQUIPMENT, APPLIANCES AND SUPPORTS (INCLUDING ROOF CURBS & ROOF RAILS) EXPOSED TO WIND SHALL BE DESIGNED AND INSTALLED TO RESIST THE WIND PRESSURES DETERMINED IN ACCORDANCE WITH THE INTERNATIONAL BUILDING CODE. WHERE SEISMIC RESTRAINT IS REQUIRED, THE MORE DEMANDING FORCE OF WIND AND SEISMIC MUST BE USED. SEE SEISMIC INFORMATION CONTAINED IN THE STRUCTURAL DRAWINGS FOR SITE SPECIFIC INFORMATION ON SEISMIC DESIGN CATEGORY.

B. USE APPLICABLE TABLE BELOW TO DETERMINE SEISMIC RESTRAINT REQUIREMENTS FOR EACH MECHANICAL COMPONENT.

C. FOR ALL COMPONENTS REQUIRING SEISMIC AND/OR WIND RESTRAINT, THE MECHANICAL / PLUMBING CONTRACTOR SHALL SUBMIT SHOP DRAWINGS AND CALCULATIONS PREPARED IN ACCORDANCE WITH THE IBC AND ASCE 7 BEARING THE SEAL OF A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF PENNSYLVANIA WHO IS QUALIFIED TO DESIGN SEISMIC RESTRAINT SYSTEMS. SHOP DRAWINGS SHALL INCLUDE SEPARATE DETAILS AND CALCULATIONS FOR EACH SEPARATE SYSTEM, DEVICE, OR ELEMENT. THE APPROVAL OF SEISMIC BRACING SHOP DRAWINGS SHALL BE REQUIRED PRIOR TO THE INSTALLATION OF ANY BUILDING SYSTEMS OR COMPONENTS.

D. WHERE SEISMIC RESTRAINT IS REQUIRED, HOUSEKEEPING PADS NEEDED FOR THE INSTALLATION OF EQUIPMENT UNDER THIS CONTRACT MUST BE DESIGNED BY THE SEISMIC ENGINEER. DO NOT POUR ANY HOUSEKEEPING PADS PRIOR TO THE RECEIPT OF THE SEISMIC SUBMITTAL.

E. SEISMIC RESTRAINTS FOR PIPING AND DUCTWORK MUST BE SHOWN ON LAYOUT DRAWINGS SHOWING SPECIFIC RESTRAINT LOCATIONS ALONG WITH ACCOMPANYING DETAILS AND CALCULATIONS.

COMPONENT IDENTIFICATION		SEISMIC RESTRAINT REQUIREMENT	NOTES
ROOF MOUNTED		RESTRAIN ALL - SEISMIC & WIND	-
FLOOR MOUNTED		RESTRAIN ALL	-
WALL MOUNTED		RESTRAIN ALL	-
COMPONENT SUPPORTS		RESTRAIN ALL	-
SUSPENDED EQUIPMENT	INLINE W/ DUCT	RESTRAIN IF >75 LBS PROVIDE FLEX. CONN.	3
	NOT INLINE W/ DUCT/PIPE	RESTRAIN ALL	-
SUSPENDED DUCTILE PIPING (STEEL, ALUMINUM, COPPER, ETC.)		>2"	4
SUSPENDED NON DUCTILE PIPING (CAST IRON, PLASTIC, CERAMIC)		RESTRAIN ALL	4
SUSPENDED PIPE ON TRAPEZE		RESTRAIN IF ANY PIPE ON TRAPEZE > 2" RESTRAIN IF TOTAL WEIGHT OF PIPES ON TRAPEZE > 10 LBS/FT	4
DUCTWORK		6 SQ.FT. AND LARGER	5
MULTIPLE DUCTS ON TRAPEZE		RESTRAIN IF TOTAL WEIGHT OF DUCTS ON TRAPEZE > 10 LBS/FT	4
COMPONENT CERTIFICATION (SEE NOTE 6)		REQUIRED	6

NOTES:
1. EQUIPMENT 20 LBS. OR LESS IS EXEMPT IF FLEXIBLE CONNECTIONS ARE PROVIDED BETWEEN THE COMPONENT AND ASSOCIATED DUCTWORK, PIPING, AND CONDUIT.
2. RESTRAINTS ARE NOT REQUIRED IF THE COMPONENT WEIGHS 400 LBS. OR LESS, IS MOUNTED AT 4 FT. OR LESS ABOVE A FLOOR, AND HAS FLEXIBLE CONNECTIONS BETWEEN THE COMPONENT AND ASSOCIATED DUCTWORK, PIPING, AND CONDUIT.
3. FLEXIBLE CONNECTIONS REQUIRED FOR PIPE CONNECTIONS ONLY.
4. RESTRAINT IS NOT REQUIRED IF THE PIPING / DUCTWORK IS SUPPORTED BY HANGERS AND EACH HANGER IN THE PIPING RUN IS 12 IN. OR LESS IN LENGTH FROM THE TOP OF THE PIPE TO THE SUPPORTING STRUCTURE. WHERE PIPES ARE SUPPORTED ON A TRAPEZE, THE TRAPEZE SHALL BE SUPPORTED BY HANGERS HAVING A LENGTH OF 12 IN. OR LESS. WHERE ROD HANGERS ARE USED, T HEY SHALL BE EQUIPPED WITH SWIVELS. EYE NUTS OR OTHER DEVICES TO PREVENT BENDING IN THE ROD.
5. ALL DUCTWORK, REGARDLESS OF SIZE, DESIGNED TO CARRY TOXIC, HIGHLY TOXIC, OR EXPLOSIVE GASES OR USED FOR SMOKE CONTROL MUST BE RESTRAINED.
6. COMPONENT CERTIFICATION MUST BE SUPPLIED BY THE EQUIPMENT MANUFACTURER AT TIME OF SUBMITTAL FOR REVIEW BY ENGINEER OF RECORD.

(DESIGN: 0.20 / 1,125 SQFT)
9 SPRINKLERS AT 1,170 SQFT TOTAL
43.6 PSI 509 GPM

Sprinkler (K-11.2): 7 psi
Branch (2-in): 8.5 psi
Mains (4-in): 8.3 psi
Riser (4-in): 8.4 psi
Elevation: 9.1 psi
Undergound (6-in): 2.3 psi

System
NFPA 13 Edition: 2019
Configuration: Tree
System Type: Wet
Hazard: Ordinary 2
Density: 0.20 gpm/sqft
C-Factor: 120
Inside Hose: 100 gpm
Outside Hose: 150 gpm
K-Factor: 11.2
Minimum Pressure: 7 psi

Layout
Width of Area: 100-ft
Sprinkler Spacing (feet): 10 x 13
Sprinkler Coverage: 130 sqft
Sprinklers per Branch: 10 sprinklers
Main Located After: 4 sprinklers
Ceiling Height: 20-ft
Sprinkler Height: 20-ft
Branch Height: 21-ft
Source Height: 0-ft

Remote Area
Original Remote Area: 1,500 sqft
QR Reduction: Yes
Slope Increase: No
Dry / Double Interlock: No
High-Temp Increase: No
Adjusted Remote Area: 1,125 sqft
Sprinklers Calculated: 9 at 130 sqft
Actual Remote Area: 1,170 sqft
Flow Overrage: +126%

Schematic

Riser
Valve Size: 4-in
Valve Type: Butterfly
Monitoring: Waterflow
Backflow Size: 6-in
Backflow Loss: 6 psi

Mains
Diameter: 4-in
Length to Riser: 300-ft
Schedule: Schedule 10

Riser Nipple
Diameter: 2.5-in
Height: 1-ft
Schedule: Schedule 40

Underground
Diameter: 6-in
Length: 500-ft
C-Factor: 140

Branch Pipe
Style: Return-Bend
Sizing: No Override
Largest Diameter: 2-in
Schedule: Schedule 40
Return-Bend: 1-in

WATER SUPPLY ANALYSIS

Test 1 (626)

SITE INFORMATION

Address	Location	Date	Time	Performed By
Exeter Fire Co	Western corner of Exeter Medical	01/08/2026	HH:MM	PA American Water

HYDRANTS

STATIC & RESIDUAL HYDRANT
Static (psi): 90
Residual (psi): 87
Location: Exeter Township Hydrant 3456789
Elevation (ft): (Example: 522 ft)

FLOW HYDRANT 1
Flow Override (gpm): 1405
If provided, this flow overrides pitot-based calculation.
Pitot (psi): 88
Number of Outlets: 1
Outlet Diameter (in): 2.5
Outlet Coefficient: 0.9
Location
Flow: 1405 gpm

FLOW HYDRANT 2 (OPTIONAL)
Flow Override (gpm)
If provided, this flow overrides pitot-based calculation.
Pitot (psi): 0
Number of Outlets: 0
Outlet Diameter (in): 2.5
Outlet Coefficient: 0.7
Location
Flow: 0 gpm

FIRE FLOW (GLOBAL)
Expected Flow at 20 psi
7698 gpm

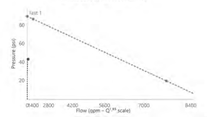
SYSTEM DEMAND (GLOBAL)

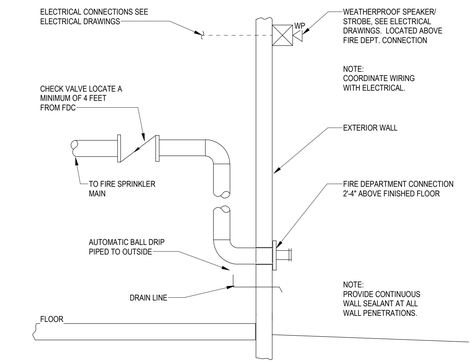
Demand P	Demand Q	Hose	Margin
43.6 psi	509 gpm	250 gpm	45.9 psi 51.3 %

WATER SUPPLY ANALYSIS (ALL TESTS)

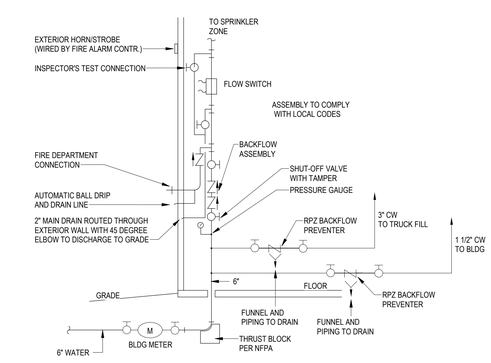
TEST 1
Site: Address: Exeter Fire Co • Location: Western corner of Exeter Medical Center • Date: 2026-01-08 • By: PA American Water
Static Pressure: 90.0 psi
Residual Pressure: 87.0 psi
Total Flow: 1405 gpm
Expected Flow at 20 psi: 7698 gpm
System Demand: 43.6 psi 509 gpm
Hose Allowance: 250 gpm
Margin: 45.9 psi 51.3 %

WATER SUPPLY CURVE (OVERLAY)

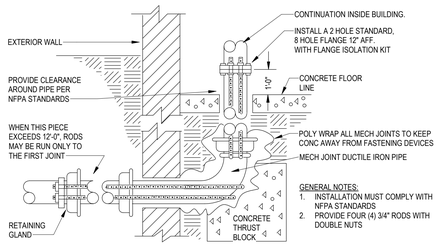




1 F000 FIRE DEPARTMENT CONNECTION DETAIL
NOT TO SCALE

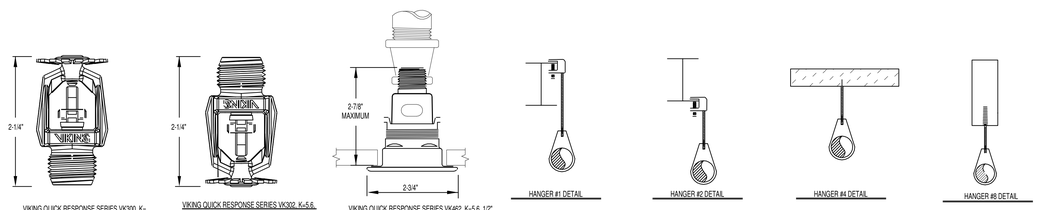


2 F000 FIRE PROTECTION RISER ASSEMBLY DETAIL
NOT TO SCALE



NOTE: ACCEPTABLE ALTERNATIVE TO MECHANICAL JOINTS AND FITTINGS FOR LEAD-IN PIPING IS STAINLESS STEEL, SINGLE PIECE 90 DEGREE FITTING AS DESCRIBED IN SPECIFICATION.

3 F000 WATER SERVICE LINE EXTENSION DETAIL
NOT TO SCALE



Protection Areas and Maximum Spacing
(Standard Spray Upright/Standard Spray Pendent)

CONSTRUCTION TYPE	LIGHT HAZARD		ORDINARY HAZARD		EXTRA HAZARD		HIGH-PILED HAZARD	
	Protection Area ft²	Spacing (max.) ft	Protection Area ft²	Spacing (max.) ft	Protection Area ft²	Spacing (max.) ft	Protection Area ft²	Spacing (max.) ft
Noncombustible obstructed and unobstructed and combustible unobstructed	225	15	130	15	100	12	100	12
Combustible obstructed	168	15	130	15	100	12	100	12
Note: For hydraulically calculated systems only.								

SPRINKLER NOTES:

1. ALL PIPE TO BE SCHEDULE 40 BLACK STEEL PIPE MEETING OR EXCEEDING ASTM A-135 REQUIREMENTS.

2. ALL SCREW FITTINGS TO BE CAST IRON AND OR MALLEABLE IRON MEETING OR EXCEEDING ANSI B16.4 AND ANSI B16.3.

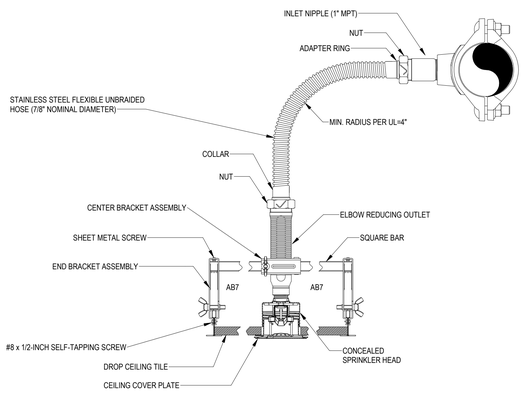
3. ALL GROOVED FITTINGS TO BE MALLEABLE IRON MEETING OR EXCEEDING ASTM A-536 REQUIREMENTS.

4. ALL HANGERS TO MEET OR EXCEED NFPA PAMPHLET REQUIREMENTS.

MAXIMUM DISTANCE BETWEEN HANGERS

NOMINAL PIPE SIZE (in.)	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 STEEL PIPE	N/A	12-0	12-0	12-0	12-0	12-0	12-0	N/A	N/A	N/A	N/A	N/A

4 F000 SPRINKLER & HANGER DETAILS
NOT TO SCALE



NOTE: ALL CONCEALED HEADS TO USE FLEXIBLE HOSE CONNECTIONS

5 F000 CONCEALED SPRINKLER HEAD INSTALLATION DETAIL
NOT TO SCALE

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EXETER TOWNSHIP
EMERGENCY SERVICES FACILITY
70 GIBRALTAR ROAD
READING PA 19606

PROJECT NUMBER: 25-049

SUBMISSION:
BID SET

ORIGINAL ISSUE DATE:
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SHEET REVISION SCHEDULE:
No. DATE

FIRE PROTECTION TITLE SHEET

SHEET NUMBER:
F000

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GENERAL NOTES:

- CAGES ON SPRINKLER HEADS IN THE TOOL ROOM, SCBA ROOM, AND OTHER SINGLE STORY WORKING ROOMS WITH EXPOSED CEILING.
- FDC WILL BE A SIAMESE AND SPECIFIC THREAD THAT THE TOWNSHIP WILL PROVIDE

Hazard Classification - Level 1

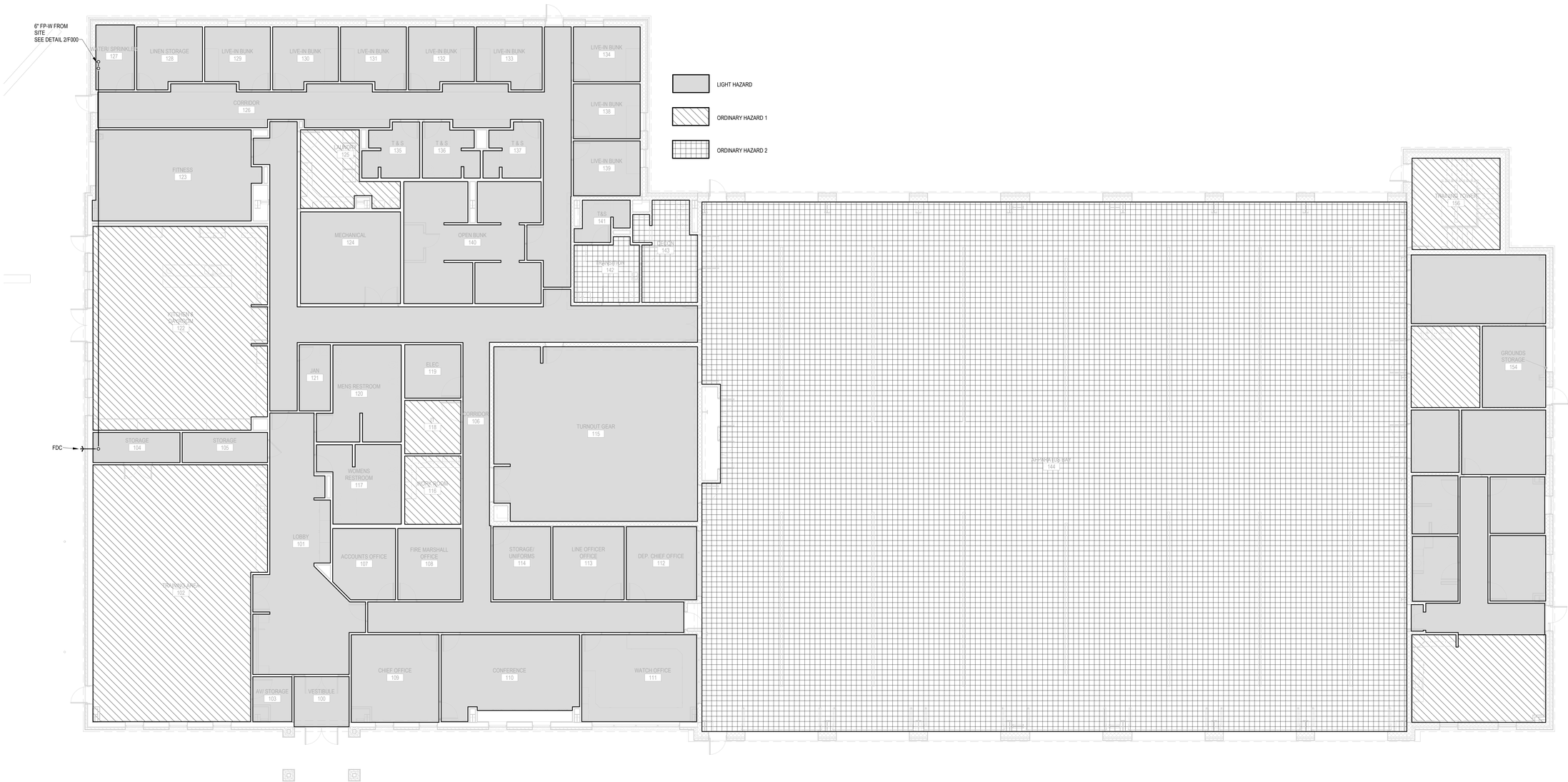
LOCATION NO.	LOCATION NAME	AREA	OCCUPANCY HAZARD CLASSIFICATION SYMBOL
FIRST FLOOR			
100	VESTIBULE	92 SF	LH
101	LOBBY	595 SF	LH
102	TRAINING AREA	1421 SF	OH1
103	AV/ STORAGE	60 SF	LH
104	STORAGE	88 SF	LH
105	STORAGE	86 SF	LH
106	CORRIDOR	1330 SF	LH
107	ACCOUNTS OFFICE	144 SF	LH
108	FIRE MARSHALL OFFICE	150 SF	LH
109	CHIEF OFFICE	256 SF	LH
110	CONFERENCE	358 SF	LH
111	WATCH OFFICE	336 SF	LH
112	DEP. CHIEF OFFICE	171 SF	LH
113	LINE OFFICER OFFICE	173 SF	LH
114	STORAGE/ UNIFORMS	140 SF	LH
115	TURNOUT GEAR	1173 SF	LH
116	WORK ROOM	128 SF	OH1
117	WOMENS RESTROOM	194 SF	LH
118	IT	100 SF	OH1
119	ELEC	100 SF	LH
120	MENS RESTROOM	234 SF	LH
121	JAN	68 SF	LH
122	KITCHEN & DAYROOM	1175 SF	OH1
123	FITNESS	480 SF	LH
124	MECHANICAL	306 SF	LH
125	LAUNDRY	186 SF	OH1
126	CORRIDOR	809 SF	LH
127	WATER/ SPRINKLER	83 SF	LH
128	LINEN STORAGE	133 SF	LH
129	LIVE-IN BUNK	133 SF	LH

Hazard Classification - Level 1

LOCATION NO.	LOCATION NAME	AREA	OCCUPANCY HAZARD CLASSIFICATION SYMBOL
130	LIVE-IN BUNK	133 SF	LH
131	LIVE-IN BUNK	133 SF	LH
132	LIVE-IN BUNK	133 SF	LH
133	LIVE-IN BUNK	133 SF	LH
134	LIVE-IN BUNK	130 SF	LH
135	T & S	93 SF	LH
136	T & S	93 SF	LH
137	T & S	93 SF	LH
138	LIVE-IN BUNK	126 SF	LH
139	LIVE-IN BUNK	125 SF	LH
140	OPEN BUNK	488 SF	LH
141	T&S	61 SF	LH
142	TRANSITION	129 SF	OH2
143	DECON	182 SF	OH2
144	APPARATUS BAY	12388 SF	OH2
145	CORRIDOR	254 SF	LH
146	EMS DAYROOM	390 SF	OH1
147	T & S	94 SF	LH
148	EMS OFFICE II	122 SF	LH
149	T & S	83 SF	LH
150	EMS RECORDS	105 SF	LH
151	EMS SUPPLY STORAGE	99 SF	LH
152	EMS OFFICE I	177 SF	LH
153	SCBA	186 SF	OH1
154	GROUNDS STORAGE	172 SF	LH
155	TOOL ROOM	308 SF	LH
156	TRAINING TOWER	268 SF	OH1
Grand total: 57		27400 SF	

Automatic Sprinkler Design Criteria

Symbol	Occupancy Hazard Classification	Design Density (GPM/SF)	Design Area
R	Residential (Dwelling) Occupancy	0.05	400 SF
LH	Light Hazard Occupancy	0.10	1500 SF
OH1	Ordinary Hazard, Group 1 Occupancy	0.15	1500 SF
OH2	Ordinary Hazard, Group 2 Occupancy	0.20	1500 SF
EH1	Extra Hazard, Group 1 Occupancy	0.30	2500 SF
EH2	Extra Hazard, Group 2 Occupancy	0.40	2500 SF
S	Special Hazard Occupancy		



1 F111 FIRST FLOOR FIRE PROTECTION PLAN
1/8" = 1'-0"

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EXETER TOWNSHIP
EMERGENCY SERVICES FACILITY
70 GIBRALTAR ROAD
READING PA 19606

PROJECT NUMBER: 25-049

SUBMISSION:
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FIRST FLOOR FIRE PROTECTION PLAN

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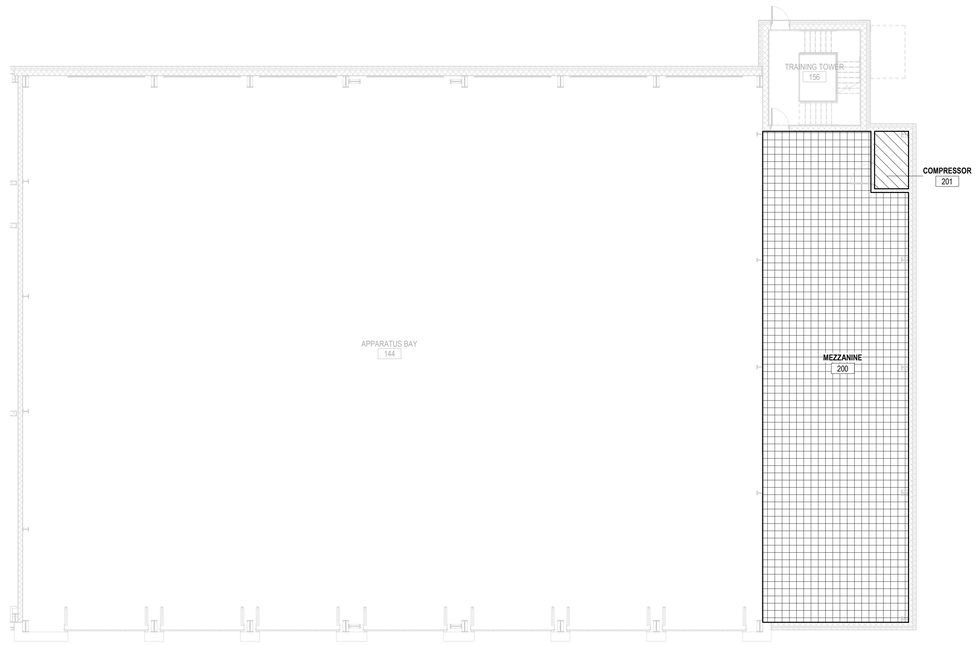

1 / F112 MEZZANINE FIRE PROTECTION PLAN
3/32" = 1'-0"

Automatic Sprinkler Design Criteria			
Symbol	**Occupancy Hazard Classification**	**Design Density (GPM/SF)**	**Design Area**
R	Residential (Dwelling) Occupancy	0.05	400 SF
LH	Light Hazard Occupancy	0.10	1500 SF
OH1	Ordinary Hazard, Group 1 Occupancy	0.15	1500 SF
OH2	Ordinary Hazard, Group 2 Occupancy	0.20	1500 SF
EH1	Extra Hazard, Group 1 Occupancy	0.30	2500 SF
EH2	Extra Hazard, Group 2 Occupancy	0.40	2500 SF
S	Special Hazard Occupancy		

Hazard Classification - Level 2

LOCATION NO.	LOCATION NAME	AREA	OCCUPANCY HAZARD CLASSIFICATION SYMBOL
MEZZANINE			
200	MEZZANINE	2098 SF	OH2
201	COMPRESSOR	59 SF	OH1
Grand total: 2		2157 SF	

LIGHT HAZARD

ORDINARY HAZARD 1

ORDINARY HAZARD 2

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EXETER TOWNSHIP
EMERGENCY SERVICES FACILITY
70 GIBRALTAR ROAD
READING PA 19606

PROJECT NUMBER: 25-049

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MEZZANINE & APP BAY FIRE PROTECTION PLAN

SHEET NUMBER:

F112

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ELECTRICAL SYMBOL LEGEND

ELECTRICAL DEVICES & EQUIPMENT

SYMBOL	DESCRIPTION
	20A, 120V AC, NEMA 5-20R, DUPLEX RECEPTACLE, SINGLE GANG BOX, TILE RING (DEPTH AS REQUIRED), AND COVERPLATE.
	20A, 120V AC, NEMA 5-20R, DOUBLE DUPLEX RECEPTACLE, DOUBLE GANG BOX, TILE RING (DEPTH AS REQUIRED), AND COVERPLATE.
XX-XXR	SPECIAL PURPOSE ELECTRICAL RECEPTACLE. XX-XXR = NEMA CONFIGURATION. MH = 18" A.F.F. AS MEASURED TO CENTER OF DEVICE BOX U.O.N. (COORDINATE WITH MILLWORK).
S	RECESSED JUNCTION BOX. CONDUIT STUBBED UP TO EASILY ACCESSIBLE SPACE ABOVE CEILING.
CLNG	FLOOR/CEILING RECESSED JUNCTION BOX
PB	PULL BOX
XX-XXR WP	ELECTRIC CORD REEL, FED FROM GFCI BRANCH CIRCUIT BREMER, 20A, 250V AC RATED. NEMA 5-20R, YELLOW INDUSTRIAL REEL, UL TYPE 1, 39FT #12/3 SJO CORD, 90° YELLOW FEMALE WATERPROOF SINGLE RECEPTACLE. CORD REEL SHALL BE MODEL #HBL5012DY WITH RECEPTACLE END #HBLS5324 AS MANUFACTURED BY HUBBELL. PROVIDE BALL STOP #HBL0705 AND PIVOT BASE #HUL5420PB AS MANUFACTURED BY HUBBELL. XX-XXR = SPECIAL RECEPTACLE NEMA CONFIGURATION. WP = WEATHERPROOF REEL, UL TYPE 4, WITH IN-USE WEATHERPROOF COVER.
WM	4" WIDE STAINLESS STEEL RACEWAY, 20A-120V DUPLEX RECEPTACLE @ EVERY 24" O.C. RACEWAY SHALL BE #S4000 AS MANUFACTURED BY WIREMOLD LEGRAND. PROVIDE RACEWAY WIRE DIVIDER FOR COMMUNICATIONS INSTALLATIONS WHERE SHOWN ON DRAWINGS.
MM	MULTIMEDIA STATION WITH (4) GANGS FOR (1) 5-20R QUAD RECEPTACLE, ONE GANG FOR (1) COAX "F", (1) HDMI AND ONE GANG FOR (2) RJ-45 ETHERNET CONNECTIONS, AND ONE SPARE BOX. MOUNTING HEIGHT TO BOTTOM OF OUTLETS SHALL BE AS COORDINATED WITH ARCHITECTURAL DRAWINGS.
FB1	CAST-IRON ON-GRADE STYLE FLOORBOX WITH 10 GANGS, PROVIDE (2) HDMI OUTLETS, (4) RJ-45 ETHERNET OUTLETS, AND (3) 5-20R DUPLEX RECEPTACLES. FLRNISH MODEL #EFR05-10G AS MANUFACTURED BY WIREMOLD LEGRANDE. S = (1) DUPLEX RECEPTACLE SHALL BE SWITCHED.
FRPT1	FIRE-RATED POKE-THRU W/ (2) 20A, 120V AC DUPLEX RECEPTACLES. (1) 4-PORT DATA OUTLET & SURFACE COVER. FIRE RATED POKE-THRU SHALL BE MODEL # 84TC26K AS MANUFACTURED BY WIREMOLD LEGRAND.
M	SINGLE-POLE OR TWO-POLE (AS REQUIRED), 250V AC, 1 HP RATED, TOGGLE TYPE MANUAL MOTOR STARTER UNIT WITH MELTING ALLOY TYPE THERMAL OVERLOAD RELAY, APPROPRIATELY SIZED THERMAL UNITS. NEMA TYPE 1 OR 4 (AS REQUIRED) ENCLOSURE, AND HANDLE GUARD/LOCK-OFF. SQUARE D CLASS 2510 FG OR FW TYPES (AS REQUIRED) OR APPROVED EQUAL.
M3Ø	THREE-POLE, 250V AC, 1 OR 2 HP, RATED (AS REQUIRED), TOGGLE TYPE MANUAL MOTOR STARTER UNIT WITH MELTING ALLOY TYPE THERMAL OVERLOAD RELAY, APPROPRIATELY SIZED THERMAL UNITS. NEMA TYPE 1 ENCLOSURE AND HANDLE GUARD/LOCK-OFF. SQUARE D CLASS 2510 K TYPE OR APPROVED EQUAL.
6A NEMA 6AF NEMA	FUSIBLE SWITCH TYPE COMBINATION STARTER UNIT WITH DOOR MOUNTED HOA SWITCH AND RED "MOTOR RUNNING" LED TYPE PILOT LIGHT. PROVIDE AUXILIARY CONTACT.
6A NEMA	NON-FUSIBLE DISCONNECT SWITCH
6A NEMA 6AF NEMA	FUSIBLE DISCONNECT SWITCH
	POWER OR DISTRIBUTION PANEL. HIDDEN LINE REPRESENTS ELECTRICAL CLEARANCE SPACE.
	TRANSFORMER (SIZE AS DENOTED). HIDDEN LINE REPRESENTS ELECTRICAL CLEARANCE SPACE.
XX-1	MOTOR
	BUS DUCT WITH PLUG IN DISCONNECT (FUSED)

DATA, SECURITY, & FIRE ALARM

SYMBOL	DESCRIPTION
	TELEPHONE OUTLET, 4 PORT COVERPLATE, PORTS CABLE
	COMBINATION VOICE/DATA OUTLET, 4 PORT COVERPLATE, CAT-6A CABLE (# = NUMBER OF PORTS AND RUNS)
	WIRELESS ACCESS POINT WITH CAT-6A CABLE
	TELEVISION OUTLET WITH RG-6 COAX CABLE INSTALLED BACK TO IT ROOM WITH 10' SLACK.
ES	ELECTRIC STRIKE. (AS PROVIDED BY ELECTRICAL CONTRACTOR) JUNCTION BOX AT DOOR STRIKE LOCATION.
EH	ELECTRONIC DOOR HOLDER. (AS PROVIDED BY ELECTRICAL CONTRACTOR) JUNCTION BOX AT DOOR HOLDER LOCATION.
HDR	CARD ACCESS READER, CONSISTING OF 4" SQUARE JUNCTION BOX AT 48" A.F.F., 120VOAV LOW VOLTAGE TRANSFORMER.
	SINGLE BUTTON "DOOR RELEASE" DEVICE. E.C. SHALL FURNISH AND INSTALL J-BOX AND 3/4" CONDUIT STUBBED UP ABOVE CEILING AND WIRE INSTALLED FROM DEVICE BOX TO DOOR RELEASE CONTACT.
EL	SINGLE BUTTON "PANIC" DEVICE. E.C. SHALL FURNISH AND INSTALL J-BOX AND 3/4" CONDUIT STUBBED UP ABOVE CEILING AND WIRE INSTALLED FROM DEVICE BOX TO SECURITY SYSTEM HEAD-END EQUIPMENT LOCATION. SECURITY VENDOR TO FURNISH AND INSTALL DEVICES, DEVICE PLATES, TERMINATIONS AND PROGRAMMING.
	SECURITY KEYPAD. E.C. SHALL FURNISH AND INSTALL J-BOX AND 3/4" CONDUIT STUBBED UP ABOVE CEILING AND WIRE INSTALLED FROM DEVICE BOX TO I.T. ROOM WITH 10' SLACK COILED UP IN ROOM.
INT	INTERIOR CAMERA LOCATION. CAT6 CABLE
EXT	EXTERIOR WEATHERPROOF RATED CAMERA LOCATION. CAT6 CABLE
EPO	EMERGENCY POWER OFF BUTTON
SCP	SECURITY CONTROL PANEL
FACP	FIRE ALARM CONTROL PANEL
FAA	FIRE ALARM REMOTE ANNUNCIATOR
S	PHOTOVOLTAIC SYSTEM SMOKE DETECTOR. R = ELEVATOR RECALL
H	RATE OF RISE SYSTEM HEAT DETECTOR
S	PHOTOELECTRIC SYSTEM DUCT SMOKE DETECTOR WITH REMOTE TEST STATION.
CO S	FIRE ALARM SYSTEM CARBON MONOXIDE DETECTOR.
S	FIRE ALARM SYSTEM COMBINATION SMOKE/CO DETECTOR.
	FIRE ALARM WALL MOUNTED STROBE LIGHT.
	FIRE ALARM HORN STROBE.
	FIRE SPEAKER STROBE.
F	FIRE ALARM BELL
F	FIRE ALARM PULLSTATION.
	SPRINKLER FLOW SWITCH
	SPRINKLER VALVE TAMPER SWITCH
FR	FIRE ALARM SHUT-DOWN RELAY
	FIRE ALARM EMERGENCY PHONE

LIGHTING DEVICES & CONTROLS

SYMBOL	DESCRIPTION
$_{S}$	20A, 120-277V AC, SINGLE POLE TOGGLE SWITCH. '3' = THREE WAY TOGGLE SWITCH, '4' = FOUR WAY TOGGLE SWITCH
$_{D}$	24V DC, DIGITAL, TOGGLE, SINGLE BUTTON WALL SWITCH. SWITCH SHALL BE MODEL #DRKN-C1x AS MANUFACTURED BY LEVITON OR EQUAL.
$_{DD}$	24V DC, DIGITAL, DIMMING, DOUBLE BUTTON WALL SWITCH. SWITCH SHALL BE MODEL #DRKN-C2x AS MANUFACTURED BY LEVITON OR EQUAL.
$_{A}$	28V DC, ANALOG, TOGGLE, LOW VOLTAGE, SINGLE BUTTON WALL SWITCH. SWITCH SHALL BE MODEL #PLVSW-1xx AS MANUFACTURED BY LEVITON OR EQUAL.
$_{AD}$	28V DC, ANALOG, DIMMING, LOW VOLTAGE, FOUR BUTTON WALL SWITCH. SWITCH SHALL BE MODEL #PLVSW-4x AS MANUFACTURED BY LEVITON OR EQUAL.
$_{OC1}$	20A, 120-277V AC, SINGLE BUTTON, NIGHT LIGHT, PASSIVE INFRARED SINGLE RELAY ON/OFF OCCUPANCY SENSOR AS MANUFACTURED BY LEVITON MODEL #OSH10-0A OR EQUAL.
$_{OC2}$	20A, 120-277V AC, TWO BUTTON WALL MOUNT, DUAL TECHNOLOGY (PASSIVE INFRARED AND ULTRASONIC), DUAL RELAY OCCUPANCY SENSOR AS MANUFACTURED BY LEVITON MODEL #OSD02-IDx OR EQUAL.
$_{OC3}$	20A, 120-277V AC, SINGLE BUTTON 0-10V DIMMING WALL MOUNT, PASSIVE INFRARED, SINGLE RELAY OCCUPANCY SENSOR AS MANUFACTURED BY LEVITON MODEL #O0D10-IDN OR EQUAL.
$_{D10}$	20A, 120-277VAC, ELECTRO-MECHANICAL, 0-10V DIMMING SWITCH AS MANUFACTURED BY LEVITON MODEL #IP710-0DZ.
$_{CC}$	20A, 120-277VAC, RGBW LED LIGHTING CONTROLLER SWITCH. COLORDIAL PRO AS MANUFACTURED BY COLOR KINETICS OR EQUAL. E.C. SHALL FURNISH AND INSTALL ALL WIRING TO CONTROLLER SWITCH FROM CONTROLLER IN WATCH OFFICE.
OC	2000 SQ. FT. COVERAGE SMART CEILING MOUNTED OCCUPANCY SENSOR, 120-277V AC, DUAL TECHNOLOGY (ULTRASONIC AND PASSIVE INFRARED). SENSOR SHALL BE MODEL #ACSD-DMV AS MANUFACTURED BY LEVITON OR EQUAL.
OC1	1500 SQ. FT. COVERAGE CEILING MOUNTED OCCUPANCY SENSOR AND PHOTOCELL, 24V DC, DUAL TECHNOLOGY (MICROWAVE AND PASSIVE INFRARED). SENSOR SHALL BE MODEL #OSP15-MOW AS MANUFACTURED BY LEVITON OR EQUAL. OCCUPANCY SENSOR SHALL BE FED FROM DIGITAL ROOM CONTROLLER.
OC2	2000 SQ. FT. COVERAGE CEILING MOUNTED OCCUPANCY SENSOR, 24V DC, DUAL TECHNOLOGY (ULTRASONIC AND PASSIVE INFRARED). SENSOR SHALL BE MODEL #OSC20-MVA AS MANUFACTURED BY LEVITON OR EQUAL. OCCUPANCY SENSOR SHALL BE FED FROM DIGITAL ROOM CONTROLLER. OCCUPANCY SENSOR SHALL BE PROVIDED WITH A 2-PORT ANALOG INTERFACE, MODEL #ORDD-C82 AS MANUFACTURED BY LEVITON.
	1200 SQ. FT. COVERAGE WALL MOUNTED OCCUPANCY SENSOR, 24V DC, DUAL TECHNOLOGY (ULTRASONIC AND PASSIVE INFRARED). SENSOR SHALL BE MODEL #DSHY2-MDW AS MANUFACTURED BY LEVITON OR EQUAL. OCCUPANCY SENSOR SHALL BE FED FROM DIGITAL ROOM CONTROLLER. OCCUPANCY SENSOR SHALL BE PROVIDED WITH A 2-PORT ANALOG INTERFACE, MODEL NUMBER #ORDD-C82 AS MANUFACTURED BY LEVITON.
RCD1	20A, 120V-277V AC, 60HZ, ON/OFF/0-10V DIMMING DIGITAL ROOM CONTROLLER. SINGLE RELAY, UL LISTED. AS MANUFACTURED BY LEVITON MODEL #DRCD1-E00 OR EQUAL.
RCSP	20A, 120V-277V AC, 60HZ, ON/OFF/0-10V DIGITAL ROOM CONTROLLER SMART PACK, SINGLE RELAY, UL LISTED, MODEL #DRCD1-E0D AS MANUFACTURED BY LEVITON OR EQUAL.

COMMUNICATION DEVICES

SYMBOL	DESCRIPTION
AS	ALERTING SYSTEM CEILING MOUNTED SPEAKER, 70V 2.5KW
BS	ALERTING SYSTEM CEILING MOUNTED BATHROOM SPEAKER, 1 W
WS	ALERTING SYSTEM WALL MOUNTED SPEAKER, 2W
SS	ALERTING SYSTEM CEILING MOUNTED OMNIDIRECTIONAL SPEAKER, 7.5W
HS	ALERTING SYSTEM WALL MOUNTED EXTERIOR SPEAKER, 7.5W
LED	ALERTING SYSTEM CEILING MOUNTED LED LIGHT/SPEAKER, 2.5W
B	ALERTING SYSTEM CEILING MOUNTED RED LED CLUSTER LIGHT
RB	ALERTING SYSTEM CEILING MOUNTED COLORED LED STROBE LIGHT
MCL	ALERTING SYSTEM CEILING MULTI-COLOR LIGHT
RIB	ALERTING SYSTEM ABOVE CEILING RIB RELAY
APS	ALERTING SYSTEM ALERTING CONTROLLER
I	ALERTING SYSTEM CEILING MOUNTED TROUBLE STROBE
I	ALERTING SYSTEM WALL MOUNTED EMERGENCY ALERT
AD	ALERTING SYSTEM WALL MOUNTED COMMERCIAL ALERTING DISPLAY
$_{VVS}$	WALL MOUNTED VOLUME CONTROL, 10W, 48" MH
$_{VVS}$	WALL MOUNTED VOLUME CONTROL, 36W, 48" MH
$_{VVS}$	WALL MOUNTED 4 BUTTON ALERT SELECTOR, 48" MH
$_{VVS}$	WALL MOUNTED 3 BUTTON ALERT SELECTOR, 48" MH
$_{VVS}$	WALL MOUNTED 2 BUTTON MANUAL ALERT, 48" MH
$_{VVS}$	WALL MOUNTED MEDICAL EMERGENCY BUTTON, 48" MH
$_{VVS}$	WALL MOUNTED RESET BUTTON, 48" MH
$_{VVS}$	WALL MOUNTED STOVE RESET BUTTON, 48" MH
$_{VVS}$	WALL MOUNTED SPEAKER/AUDIO DISCONNECT
$_{VVS}$	WALL MOUNTED STOVE DISCONNECT
DS	FLUSH OR SURFACE MOUNTED APS DOORBELL
	STAINLESS STEEL WEATHER RESISTANT DOOR STATION LOCATION WITH VIDEO CAMERA.
MS	WALL MOUNTED VIDEO DOORBELL MASTER STATION LOCATION.
	WALL MOUNTED SPEAKER

GENERAL

SYMBOL	DESCRIPTION
#	KEYED NOTE (SEE KEYNOTE ON PLAN)
XX-1	MECHANICAL EQUIPMENT TAG
ROOM NAME XX	ROOM TAG
X.#	TYPICAL BRANCH CIRCUITING HOME RUN SYMBOL. GENERALLY: 15A AND 20A BRANCH CIRCUITS CONSISTS OF (2) #12 AWG CU. AND (1) #12 AWG CU. GND. IN 3/4" CONDUIT, UNLESS OTHERWISE NOTED. "X" IDENTIFIES PANELBOARD DESIGNATION, "#" IDENTIFIES PANELBOARD CIRCUIT NUMBER.
	LIGHT AND SOLID SYMBOL INDICATES EXISTING TO REMAIN
	DARK AND SOLID SYMBOL INDICATES NEW WORK
	DARK AND DASHED SYMBOL INDICATES DEMOLISHED.

* NOTE *
ALL OF GENERAL NOTES ON THIS SHEET ARE TO BE APPLIED TO ALL OTHER DRAWINGS IN THIS SET.THE SYMBOLS AND ABBREVIATIONS SHOWN ON THIS SHEET MAY OR MAY NOT BE USED IN THIS SET OF DRAWINGS.

SYMBOL LEGEND NOTES

POWER DEVICES

WALL MOUNTED WIRING DEVICE NOTES:
- MH = 18" A.F.F. AS MEASURED TO CENTER OF DEVICE BOX U.O.N. (COORDINATE WITH MILLWORK).
- GFI = GFCI TYPE
- U = USB-A & USB-C CHARGING PORT TYPE
- WP = IN USE WEATHERPROOF COVER

ELECTRICAL EQUIPMENT NOTES:
- "NEMA 3" IDENTIFIES NEMA ENCLOSURE TYPE. "#A" IDENTIFIES DISCONNECT SWITCH AMPACITY RATING. "#AF", IF PRESENT, IDENTIFIES APPROXIMATE FUSE RATING.
- UNLESS OTHERWISE NOTED, ALL FUSIBLE DISCONNECT SWITCHES SHALL BE COMPLETE WITH APPROPRIATELY SIZED DE. TD, CL, CLASS RK5 FUSES.
- ALL COMBINATION MOTOR STARTERS SHOWN ON OVERHEAD DOOR MOTORS SHALL BE REVERSING TYPE.
- ALL "MM" DEVICES SHOWN INSTALLED IN DRYWALL SHALL BE INSTALLED IN A 4 GANG WALLBOX. PROVIDE 11"x7-1/2" DEEP WALL BOX, TILE RING (DEPTH AS REQUIRED). STUB-UP (1) 1-1/4" CONDUIT FROM WALL BOX UP TO DATA OUTLET MOUNTED ABOVE BOX AT 72" A.F.F. MOUNTING HEIGHT TO BOTTOM OF BOX SHALL BE AS COORDINATED WITH ARCHITECTURAL DRAWINGS. WALLBOX MODEL SHALL BE #EFS84 AS MANUFACTURED BY WIREMOLD LEGRANCE.

TELE/DATA DEVICES

WALL MOUNTED DEVICE NOTES:
- S = SURFACE MOUNTED WITH RACEWAY.
- MH = 18" A.F.F. AS MEASURED TO CENTER OF DEVICE BOX U.O.N. (COORDINATE WITH MILLWORK).

TELE/DATA DEVICE NOTES:
- CABLING AS LISTED, TERMINATED ON DEVICE AND INSTALLED BACK TO IT ROOM.
- ALL DATA DEVICES SHALL CONSIST OF 4" SQUARE BOX, TILE RING (DEPTH AS REQUIRED), 1-1/4" CONDUIT STUBBED UP INTO THE NEAREST EASILY ACCESSIBLE CEILING SPACE.
- UNLESS OTHERWISE NOTED, ALL ETHERNET CABLING SHALL BE CAT-6A.
- E.C. SHALL FURNISH AND INSTALL ALL PATHWAYS, BACK BOXES, CONDUIT, CABLE TRAY, AND PULLSTRINGS.
- LOW-VOLTAGE VENDOR SHALL FURNISH AND INSTALL ALL LOW-VOLTAGE CABLING, JACKS, PATCH PANELS, AND WALLPLATES.
- OWNER SHALL FURNISH SWITCHES AND PATCH CABLES TO E.C. FOR INSTALLATION.

SECURITY DEVICES

SECURITY DEVICE NOTES:
- CABLING AS LISTED, TERMINATED ON DEVICE AND INSTALLED BACK TO SECURITY HEAD END EQUIPMENT.
- E.C. SHALL FURNISH AND INSTALL 1-1/4" CONDUIT STUBBED UP INTO EASILY ACCESSIBLE CEILING SPACE FROM JUNCTION BOX, TRANSFORMERS, TILE RINGS, JUNCTION BOXES, CONDUIT, LINE VOLTAGE WIRE, AND LOW VOLTAGE CABLING.
- SECURITY VENDOR TO FURNISH AND INSTALL DEVICES, DEVICE PLATES, TERMINATIONS AND PERFORM ALL PROGRAMMING.

SECURITY CAMERA NOTES:
- CABLING AS LISTED, TERMINATED ON DEVICE AND INSTALLED BACK TO IT ROOM.
- E.C. SHALL PROVIDE 4" SQUARE DEVICE BOX, TILE RING (DEPTH AS REQUIRED), AND 1" CONDUIT STUBBED UP TO EASILY ACCESSIBLE CEILING SPACE WHEN WALL MOUNTED.
- ALL HEAD-END EQUIPMENT, DEVICES, DEVICE PLATES, TERMINATIONS AND PROGRAMING TO BE FURNISHED AND INSTALLED BY SECURITY VENDOR.
- ALL MOUNTING SHALL BE COORDINATED WITH SECURITY VENDOR AND ARCHITECTURAL DRAWINGS.

FIRE ALARM DEVICES

FIRE ALARM DEVICE NOTES:
- E.C. SHALL PROVIDE 4" SQUARE DEVICE BOX, TILE RING (DEPTH AS REQUIRED).
- E.C. SHALL FURNISH AND INSTALL ALL WIRING, CONDUITS, RELAYS, AND FIRE ALARM PROGRAMMING FOR SMOKE DETECTOR INSTALLATION.
- LF = LOW FREQUENCY

LIGHTING DEVICES

LIGHTING CONTROL DEVICE NOTES:
- WALL-MOUNTED LIGHTING SWITCHES, MH = 48" A.F.F. AS MEASURED TO BOTTOM OF DEVICE BOX U.O.N.
- CABLING BETWEEN DIGITAL ROOM CONTROLLER AND DIGITAL WALL SWITCHES SHALL BE CAT-6A CABLE WITH RJ45 CONNECTORS.
- CABLING BETWEEN OCCUPANCY SENSOR/CONTROLLER AND ANALOG WALL SWITCHES SHALL BE LOW VOLTAGE CLASS 2 WIRING.
- E.C. TO INSTALL PER MANUFACTURERS WRITTEN INSTRUCTIONS.
- ALL COLORS AS SELECTED BY ARCHITECT.
- E.C. SHALL MOUNT DIGITAL ROOM CONTROLLER SECURELY ABOVE DROP CEILING IN ACCESSIBLE SPACE.
- ROOM CONTROLLER'S CONTROLLING LIGHTING FED FROM EMERGENCY CIRCUITS SHALL BE PROVIDED WITH AN EMERGENCY BYPASS CONTROLLER AS MANUFACTURED BY LEVITON MODEL #DPD07-ED0.
- GREENMAX DIGITAL CONFIGURATION APP SHALL BE USED TO PROGRAM THE DIGITAL ROOM CONTROLLERS.

RADIO SYSTEM NOTES

RADIO SYSTEM NOTES:
- E.C. SHALL FURNISH AND INSTALL ALL CONDUIT/CABLE TRAY/PATHWAYS FROM DEVICES TO THE IT ROOM, INCLUDING ALL EXTERIOR WALL MOUNTED CABLE TRAY/CONDUIT PATHWAYS, CABLE ENTRY PORT PANELS, AND ALL SYSTEM GROUNDING.
- LOW-VOLTAGE VENDOR SHALL FURNISH AND INSTALL ALL ASSOCIATED LOW VOLTAGE WIRING.
- RADIO SYSTEM VENDOR SHALL FURNISH AND INSTALL ALL ASSOCIATED DEVICES AND ANTENNA WIRING AND CABLING.

COMMUNICATION DEVICES

WALL MOUNTED BUTTON NOTES:
- S = SURFACE MOUNTED WITH RACEWAY.
- MH = 48" A.F.F. AS MEASURED TO CENTER OF DEVICE BOX U.O.N. (COORDINATE WITH MILLWORK).

ALERTING SYSTEM DEVICE NOTES:
- E.C. SHALL FURNISH AND INSTALL J-BOXES AND 3/4" CONDUIT INSTALLED BACK TO IT ROOM WITH PULLSTRINGS.
- E.C. SHALL INSTALL ALL DEVICES, DEVICE PLATES, CONDUITS, PATHWAYS, PULLSTRINGS AND ALL UNLESS OTHERWISE NOTED.
- APS VENDOR SHALL FURNISH ALL DEVICES, INCLUDING MONITORS, AND COMPLETE ALL HEAD-END SYSTEM TIE-INS AND SYSTEM TESTING.
- LOW VOLTAGE VENDOR SHALL FURNISH AND INSTALL ALL ASSOCIATED LOW VOLTAGE WIRING.
- REFER TO ARCHITECTURAL DRAWINGS SET FOR SYSTEM SPECIFICATIONS.

INTERCOM SYSTEM NOTES:
- E.C. SHALL FURNISH AND INSTALL ALL HEAD-END EQUIPMENT, DEVICE, PROGRAMMING AND TERMINATIONS UNLESS OTHERWISE NOTED.
- E.C. SHALL FURNISH AND INSTALL RECESSED 4" SQ. JUNCTION BOX, 3/4" CONDUIT STUBBED UP TO ACCESSIBLE SPACE ABOVE CEILING, AND CABLING RUN TO HEAD-END EQUIPMENT.

GENERAL DEVICE NOTES

DEVICE KEY:
- XX" = MOUNTING HEIGHT A.F.F.
- S = SURFACE MOUNTED WITH WIREMOLD RACEWAY
- T = TAMPER PROOF
- WP = WEATHERPROOF
- ISO = GASKETED STAINLESS STEEL COVERPLATE

ELECTRICAL ABBREVIATIONS LIST

1P	1 POLE (2P, 3P, 4P, ETC.)	DCP	DOMESTIC WATER CIRCULATING PUMP	HT	HEIGHT	NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
A	AMPERE	DEPT	DEPARTMENT	HTG	HEATING	NFDS	NON-FUSED SAFETY DISCONNECT SWITCH
AC	ABOVE COUNTER OR AIR CONDITIONER	DET	DETAIL	HTR	HEATER	NIC	NOT IN CONTRACT
ACLG	ABOVE CEILING	DIA	DIAMETER	HV	HIGH VOLTAGE	NL	NIGHT LIGHT
ADO	AUTOMATIC DOOR OPENER	DISC	DISCONNECT	HVAC	HEATING, VENTILATING AND AIR CONDITIONING	NO	NORMALLY OPEN
AF	AMP FRAME	DIST	DISTRIBUTION	HWP	HYDRONIC WATER PUMP	NPF	NORMAL POWER FACTOR
AFF	ABOVE FINISHED FLOOR	DN	DOWN	IC	INTERRUPTING CAPACITY	NTS	NOT TO SCALE
AFG	ABOVE FINISHED GRADE	DPR	DAMPER	IG	ISOLATED GROUND	OH	OVERHEAD
AFI	ARC FAULT CIRCUIT INTERRUPTER	DS	SAFETY DISCONNECT SWITCH	IMC	INTERMEDIATE METAL CONDUIT	OL	OVERLOADS
AHU	AIR HANDLING UNIT	DT	DOUBLE THROW	INCAND	INCANDESCENT	PA	PUBLIC ADDRESS
AL	ALUMINUM	DWG	DRAWING	IR	INFRARED	PB	PULL BOX OR PUSHBUTTON
ALT	ALTERNATE	EC	ELECTRICAL CONTRACTOR	IW	INTERLOCK WITH	PE	PNEUMATIC ELECTRIC
AMP	AMPERE	ELEC	ELECTRIC, ELECTRICAL	J-BOX	JUNCTION BOX	PED	PEDESTAL
AMPL	AMPLIFIER	ELEV	ELEVATOR	KV	KILOVOLT	PF	POWER FACTOR
ANNUN	ANNUNCIATOR	EM	EMERGENCY	KVA	KILOVOLT-AMPERE	PH	PHASE
APPROX	APPROXIMATELY	EMS	ENERGY MANAGEMENT SYSTEM	KVAR	KILOVOLT-AMPERE REACTIVE	PIV	POST INDICATING VALVE
AQ-STAT	AQUASTAT	EMT	ELECTRICAL METALLIC TUBING	KW	KILOWATT	PNL	PANEL
ARCH	ARCHITECT, ARCHITECTURAL	EP	ELECTRIC PREMIUM	KWH	KILOWATT HOUR	PP	POWER POLE
AS	AMP SWITCH	E.C.P.	ELECTRICAL PRIME CONTRACTOR	LOC	LOCATE OR LOCATION	PR	PAIR
AT	AMP TRIP	EQUIP	EQUIPMENT	LT	LIGHT	PRI	PRIMARY
ATS	AUTOMATIC TRANSFER SWITCH	EWC	ELECTRIC WATER COOLER	LTG	LIGHTING	PROJ	PROJECTION
AUTO	AUTOMATIC	EXIST	EXISTING	LTNG	LIGHTNING	PRV	POWER ROOF VENTILATOR
AUX	AUXILIARY	EXH	EXHAUST	LV	LOW VOLTAGE	PT	POTENTIAL TRANSFORMER
AV	AUDIO VISUAL	EXP	EXPLOSION PROOF	MAX	MAXIMUM	PVC	POLYVINYL CHLORIDE (CONDUIT)
AWG	AMERICAN WIRE GAUGE	FA	FIRE ALARM	MAG.S	MAGNETIC STARTER	PWR	POWER
BATT	BATTERY	FABP	FIRE ALARM BOOSTER POWER SUPPLY PANEL	MC	MOMENTARY CONTACT	QUAN	QUANTITY
BD	BOARD	FACP	FIRE ALARM CONTROL PANEL	MC	MECHANICAL CONTRACTOR	RCPT	RECEPTACLE
BLDG	BUILDING	FCU	FAN COIL UNIT	MCB	MAIN CIRCUIT BREAKER	RGT	REGISTER
BMS	BUILDING MANAGEMENT SYSTEM	FIXT	FIXTURE	MCC	MOTOR CONTROL CENTER	REQD	REQUIRED
C	CONDUIT	FLR	FLOOR	MDC	MAIN DISTRIBUTION CENTER	RM	ROOM
CAB	CABINET	FLUOR	FLUORESCENT	MDP	MAIN DISTRIBUTION PANEL	RGC	RIGID STEEL CONDUIT
CAT	CATALOG	FU	FUSE	MFR	MANUFACTURER	RTU	ROOF TOP UNIT
CATV	CABLE TELEVISION	FUDS	FUSED SAFETY DISCONNECT SWITCH	MFR'S	MANUFACTURER'S	SC	SURFACE CONDUIT
CB	CIRCUIT BREAKER	GA	GAUGE	MH	MANHOLE	SEC	SECONDARY
CCTV	CLOSED CIRCUIT TELEVISION	GAL	GALLON	MIC	MICROPHONE	SHT	SHEET
CKT	CIRCUIT	GALV	GALVANIZED	MM	MAIN LUGS ONLY	SIM	SIMILAR
CLG	CEILING	GC	GENERAL CONTRACTOR	MISC	MISCELLANEOUS	SJN	SOLID NEUTRAL
COMB	COMBINATION	GEN	GENERATOR	MJO	MAIN JUNCTION BOX	SPEC	SPECIFICATION
COMPR	COMPRESSOR	GFI	GROUND FAULT CIRCUIT INTERRUPTER	MMS	MANUAL MOTOR STARTER	SPKR	SPEAKER
CONN	CONNECTION	GFP	GROUND FAULT PROTECTOR	MOA	MULTIOUTLET ASSEMBLY	SP	SPARE
CONST	CONSTRUCTION	GND	GROUND	MSP	MOTOR STARTER PANELBOARD	SR	SURFACE RACEWAY
CONT	CONTINUATION OR CONTINUOUS	GRS	GALVANIZED RIGID STEEL (CONDUIT)	MSBD	MAIN SWITCHBOARD	SS	STAINLESS STEEL
CONTR	CONTRACTOR	HACR	HEATING AIR CONDITIONING AND REFRIGERATION	MT	MOUNT	SSW	SELECTOR SWITCH
CONV	CONVECTOR	HDA	HANDS-OFF-AUTOMATIC SWITCH	MT.C	EMPTY CONDUIT	SS	STOP/START PUSHBUTTONS
CP	CIRCULATING PUMP	HORIZ	HORIZONTAL	MTS	MANUAL TRANSFER SWITCH	STA	STATION
CRT	CATHODE-RAY TUBE	HP	HORSEPOWER	MTR	MOTOR, MOTORIZED	STD	STANDARD
CT	CURRENT TRANSFORMER	HPF	HIGH POWER FACTOR	N.C.	NORMALLY CLOSED	SURF	SURFACE MOUNTED
CTR	CENTER			NEC	NATIONAL ELECTRICAL CODE	SW	SWITCH
CU	COPPER					SWBD	SWITCHBOARD
						SYM	SYMMETRICAL
						SYS	SYSTEM
						TEL	TELEPHONE
						TERM	TERMINAL
						TL	TWIST LOCK
						TR	TAMPER RESISTANT
						T-STAT	THERMOSTAT
						TTC	TELEPHONE TERMINAL CABINET
						TV	TELEVISION
						TVTC	TELEVISION TERMINAL CABINET
						TYP	TYPICAL
						UC	UNDER COUNTER
						UE	UNDERGROUND ELECTRICAL
						UG	UNDERGROUND
						UH	UNIT HEATER
						UT	UNDERGROUND TELEPHONE
						UTIL	UTILITY
						UV	UNIT VENTILATOR OR ULTRAVIOLET
						V	VOLT
						VA	VOLT-AMPERES
						VDT	VIDEO DISPLAY TERMINAL
						VERT	VERTICAL
						VFD	VARIABLE FREQUENCY DRIVE
						VOL	VOLUME
						W	WATT
						W	WITH
						WG	WIRE GUARD
						WH	WATER HEATER
						W/O	WITHOUT
						WP	WEATHERPROOF
						XFMR	TRANSFORMER
						XFR	TRANSFER
						@	AT
						'	FEET
						"	INCHES
						#	NUMBER
						Ø	PHASE
						Ç	CENTER LINE
						P	PLATE

GENERAL ELECTRICAL NOTES

1. IF THERE IS A DISCREPANCY BETWEEN THE DRAWINGS, SCHEDULES, AND/OR SPECIFICATIONS, THE CONTRACTOR IS REQUIRED TO PROVIDE THE MORE STRINGENT OR HIGHER-COST OPTION UNLESS THEY SEEK CLARIFICATION VIA AN RFI BEFORE PROCEEDING.
2. ALL CONDUCTORS OPERATING AT 50 VOLTS OR GREATER SHALL BE IN RACEWAY. ALL RACEWAY WITHIN THE STRUCTURE ABOVE THE FLOOR SLAB SHALL BE METAL. RACEWAY BELOW THE FLOOR SLAB AND UNDERGROUND RACEWAY OUTSIDE THE STRUCTURE SHALL BE PVC.
3. ALL LOW VOLTAGE CABLES OR CONDUCTORS OPERATING AT LESS THAN 50 VOLTS SHALL BE IN METAL RACEWAY WHERE INSTALLED WITHIN WALLS OR INACCESSIBLE SPACES. LOW VOLTAGE CABLES MAY BE RUN IN CABLE TRAY, WHERE NOTED. LOW VOLTAGE CABLES MAY BE RUN IN CABLE SUPPORT.
4. HOOKS ABOVE AC

KEYNOTES

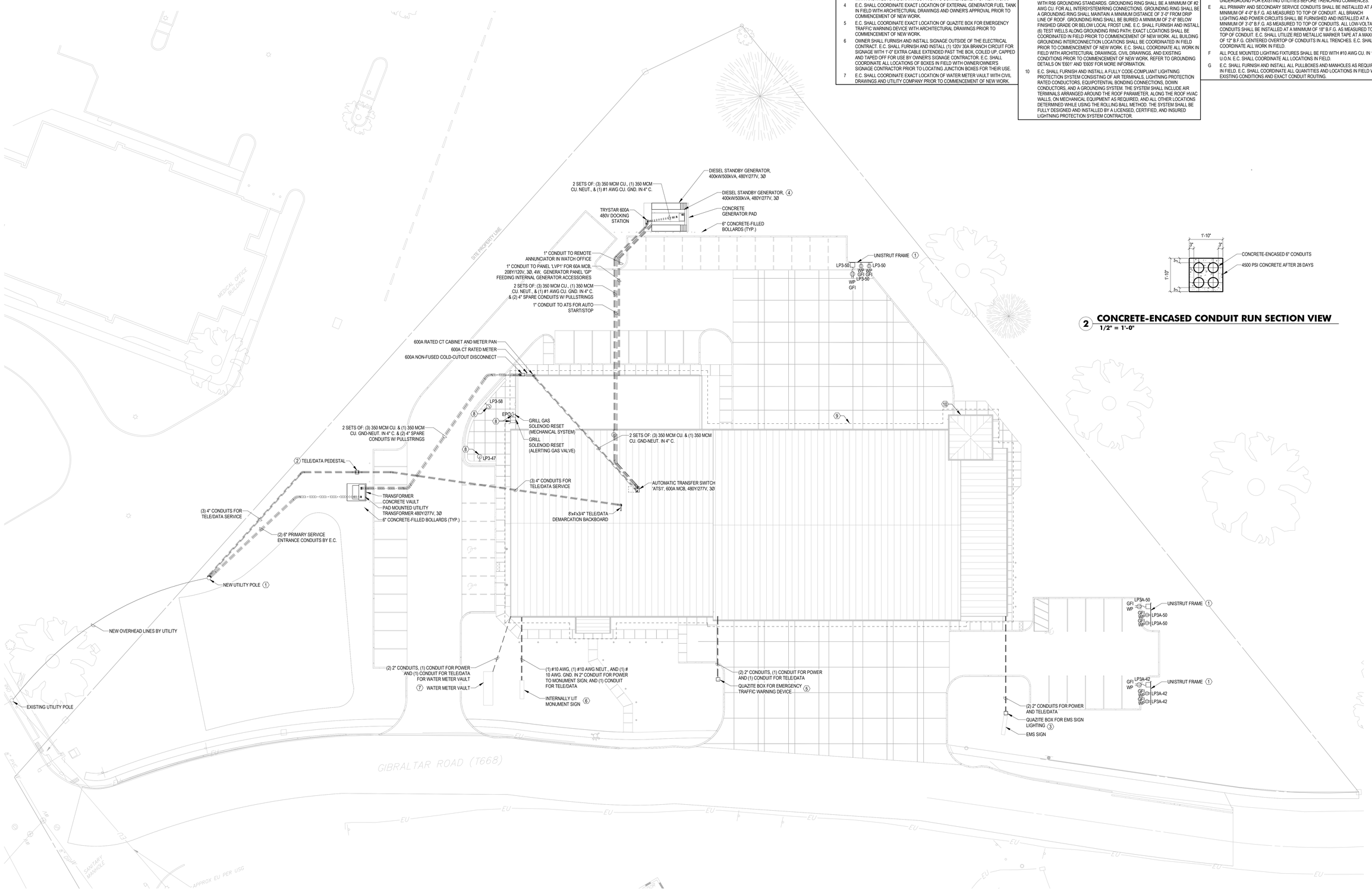
1. E.C. SHALL FURNISH AND INSTALL (1) UTILITY POLE AND ALL U-GUARD AS REQUIRED FOR CONDUIT RUNS. E.C. SHALL COORDINATE EXACT LOCATION OF UTILITY POLE IN FIELD WITH EXISTING CONDITIONS AND UTILITY PRIOR TO COMMENCEMENT OF NEW WORK.
2. E.C. SHALL COORDINATE EXACT LOCATION OF TELE/DATA PEDESTAL IN FIELD WITH EXISTING CONDITIONS AND UTILITY PRIOR TO COMMENCEMENT OF NEW WORK.
3. E.C. SHALL COORDINATE EXACT LOCATION OF QUAZITE BOX AND LIGHT FIXTURES WITH ARCHITECTURAL DRAWINGS PRIOR TO COMMENCEMENT OF NEW WORK.
4. E.C. SHALL COORDINATE EXACT LOCATION OF EXTERNAL GENERATOR FUEL TANK IN FIELD WITH ARCHITECTURAL DRAWINGS AND OWNER'S APPROVAL PRIOR TO COMMENCEMENT OF NEW WORK.
5. E.C. SHALL COORDINATE EXACT LOCATION OF QUAZITE BOX FOR EMERGENCY TRAFFIC WARNING DEVICE WITH ARCHITECTURAL DRAWINGS PRIOR TO COMMENCEMENT OF NEW WORK.
6. OWNER SHALL FURNISH AND INSTALL SIGNAGE OUTSIDE OF THE ELECTRICAL CONTRACT. E.C. SHALL FURNISH AND INSTALL (1) 120V 30A BRANCH CIRCUIT FOR SIGNAGE WITH 1'-0" EXTRA CABLE EXTENDED PAST THE BOX, COILED UP, CAPPED AND TAPED OFF FOR USE BY OWNER'S SIGNAGE CONTRACTOR. E.C. SHALL COORDINATE ALL LOCATIONS OF BOXES IN FIELD WITH OWNER/OWNER'S SIGNAGE CONTRACTOR PRIOR TO LOCATING JUNCTION BOXES FOR THEIR USE.
7. E.C. SHALL COORDINATE EXACT LOCATION OF WATER METER VAULT WITH CIVIL DRAWINGS AND UTILITY COMPANY PRIOR TO COMMENCEMENT OF NEW WORK.

KEYNOTES

8. E.C. SHALL FURNISH AND INSTALL (1) JUNCTION BOX PER GRILL FOR SHUTOFF. E.C. SHALL RUN UG CONDUIT W/ PULLSTRING TO BOTH LOCATIONS OF GRILLS FROM ON/OFF SWITCH. E.C. SHALL LEAVE BOX WITH BLANK COVERPLATE FOR FUTURE USE. E.C. SHALL COORDINATE ALL LOCATIONS IN FIELD WITH MECHANICAL CONTRACTOR AND OWNER'S REPRESENTATIVE PRIOR TO COMMENCEMENT OF NEW WORK. E.C. SHALL FURNISH AND INSTALL ALL ACCESSORIES REQUIRED TO MAKE EXTERIOR GRILL SHUTOFF SYSTEM 100% OPERATIONAL AND TO THE SATISFACTION OF THE OWNER.
9. E.C. SHALL FURNISH AND INSTALL BUILDING GROUNDING RING IN COMPLIANCE WITH R56 GROUNDING STANDARDS. GROUNDING RING SHALL BE A MINIMUM OF #2 AWG CU. FOR ALL INTERSYSTEM/RING CONNECTIONS. GROUNDING RING SHALL BE A GROUNDING RING SHALL MAINTAIN A MINIMUM DISTANCE OF 2'-0" FROM DRIP LINE OF ROOF. GROUNDING RING SHALL BE BURIED A MINIMUM OF 2'-6" BELOW FINISHED GRADE OR BELOW LOCAL FROST LINE. E.C. SHALL FURNISH AND INSTALL (6) TEST WELLS ALONG GROUNDING RING PATH; EXACT LOCATIONS SHALL BE COORDINATED IN FIELD PRIOR TO COMMENCEMENT OF NEW WORK. ALL BUILDING GROUNDING INTERCONNECTION LOCATIONS SHALL BE COORDINATED IN FIELD PRIOR TO COMMENCEMENT OF NEW WORK. E.C. SHALL COORDINATE ALL WORK IN FIELD WITH ARCHITECTURAL DRAWINGS, CIVIL DRAWINGS, AND EXISTING CONDITIONS PRIOR TO COMMENCEMENT OF NEW WORK. REFER TO GROUNDING DETAILS ON 'E601' AND 'E605' FOR MORE INFORMATION.
10. E.C. SHALL FURNISH AND INSTALL A FULLY CODE-COMPLIANT LIGHTNING PROTECTION SYSTEM CONSISTING OF AIR TERMINALS, LIGHTNING PROTECTION RATED CONDUCTORS, EQUIPOTENTIAL BONDING CONNECTIONS, DOWN CONDUCTORS, AND A GROUNDING SYSTEM. THE SYSTEM SHALL INCLUDE AIR TERMINALS ARRANGED AROUND THE ROOF PARAMETER, ALONG THE ROOF HVAC WALLS, ON MECHANICAL EQUIPMENT AS REQUIRED, AND ALL OTHER LOCATIONS DETERMINED WHILE USING THE ROLLING BALL METHOD. THE SYSTEM SHALL BE FULLY DESIGNED AND INSTALLED BY A LICENSED, CERTIFIED, AND INSURED LIGHTNING PROTECTION SYSTEM CONTRACTOR.

GENERAL SITE NOTES

- A ALL ITEMS SHOWN DARK AND SOLID ARE NEW WORK. ALL ITEMS SHOWN LIGHT AND SOLID ARE EXISTING TO REMAIN.
- B ALL ELECTRIC SERVICE WORK SHALL BE COORDINATED IN FIELD WITH ELECTRIC UTILITY COMPANY.
- C ALL TRENCHING SHOWN ON PLANS IS DIAGRAMMATICAL. E.C. SHALL COORDINATE ALL TRENCHING IN FIELD.
- D E.C. SHALL UTILIZE THE SERVIES OF SOFT-DIG OR EQUIVALENT TO SCAN UNDERGROUND FOR EXISTING UTILITIES BEFORE TRENCHING COMMENCES.
- E ALL PRIMARY AND SECONDARY SERVICE CONDUITS SHALL BE INSTALLED AT A MINIMUM OF 4'-0" B.F.G. AS MEASURED TO TOP OF CONDUIT. ALL BRANCH LIGHTING AND POWER CIRCUITS SHALL BE FURNISHED AND INSTALLED AT A MINIMUM OF 3'-0" B.F.G. AS MEASURED TO TOP OF CONDUITS. ALL LOW-VOLTAGE CONDUITS SHALL BE INSTALLED AT A MINIMUM OF 18" B.F.G. AS MEASURED TO TOP OF CONDUIT. E.C. SHALL UTILIZE RED METALLIC MARKER TAPE AT A MAXIMUM OF 12" B.F.G. CENTERED OVERTOP OF CONDUITS IN ALL TRENCHES. E.C. SHALL COORDINATE ALL WORK IN FIELD.
- F ALL POLE MOUNTED LIGHTING FIXTURES SHALL BE FED WITH #10 AWG CU. IN 1" C, U.O.N. E.C. SHALL COORDINATE ALL LOCATIONS IN FIELD.
- G E.C. SHALL FURNISH AND INSTALL ALL PULLBOXES AND MANHOLES AS REQUIRED IN FIELD. E.C. SHALL COORDINATE ALL QUANTITIES AND LOCATIONS IN FIELD WITH EXISTING CONDITIONS AND EXACT CONDUIT ROUTING.



1 ELECTRICAL SITE POWER PLAN
1" = 20'-0"

2 CONCRETE-ENCASED CONDUIT RUN SECTION VIEW
1/2" = 1'-0"

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EXETER TOWNSHIP
EMERGENCY SERVICES FACILITY
70 GIBRALTAR ROAD
READING PA 19606

PROJECT NUMBER: 25-049

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SHEET REVISION SCHEDULE:
No. DATE

ELECTRICAL SITE POWER PLAN

SHEET NUMBER:
E101

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KEYNOTES

1. E.C. SHALL FURNISH AND INSTALL (1) JUNCTION BOX TO EACH BUILDING MOUNTED EXTERIOR INTERNALLY LIT SIGNAGE FED FROM DEDICATED CIRCUIT. E.C. SHALL FURNISH AND INSTALL (1) 1" CONDUIT RUN TO EACH SIGN FOR LOW VOLTAGE CONTROL. E.C. SHALL COORDINATE EXACT INTERCONNECTION TO INTERIOR RGBW CONTROLLERS. E.C. SHALL COORDINATE EXACT SIGNAGE LOCATION AND MOUNTING HEIGHT IN FIELD WITH SIGN VENDOR AND ARCHITECTURAL DRAWINGS PRIOR TO COMMENCEMENT OF NEW WORK.
2. E.C. SHALL FURNISH AND INSTALL RGBW COLOR-CHANGING TAPE LIGHTING ALONG SOFFIT SURROUNDING THE BUILDING. E.C. SHALL ENSURE ALL WIRING FOR LIGHTING IN SOFFITS ARE CONCEALED AND COORDINATE WITH ARCHITECTURAL DRAWINGS AS REQUIRED. E.C. SHALL COORDINATE EXACT INTERCONNECTION TO INTERIOR RGBW CONTROLLERS. E.C. SHALL COORDINATE EXACT RUN LENGTHS IN FIELD PRIOR TO COMMENCEMENT OF NEW WORK.
3. E.C. SHALL COORDINATE EXACT LOCATION OF WEATHERPROOF EXTERIOR SWITCH FOR PATIO LIGHTING WITH OWNER'S REPRESENTATIVE PRIOR TO COMMENCEMENT OF NEW WORK.
4. E.C. SHALL FURNISH AND INSTALL RGBW COLOR-CHANGING UP/DOWN SCONCE LIGHTS. E.C. SHALL COORDINATE EXACT INTERCONNECTION TO INTERIOR RGBW CONTROLLERS. E.C. SHALL COORDINATE EXACT RUN LENGTHS IN FIELD PRIOR TO COMMENCEMENT OF NEW WORK.

GENERAL SITE NOTES

- A. ALL ITEMS SHOWN DARK AND SOLID ARE NEW WORK. ALL ITEMS SHOWN LIGHT AND SOLID ARE EXISTING TO REMAIN.
- B. ALL ELECTRIC SERVICE WORK SHALL BE COORDINATED IN FIELD WITH ELECTRIC UTILITY COMPANY.
- C. ALL TRENCHING SHOWN ON PLANS IS DIAGRAMMATICAL. E.C. SHALL COORDINATE ALL TRENCHING IN FIELD.
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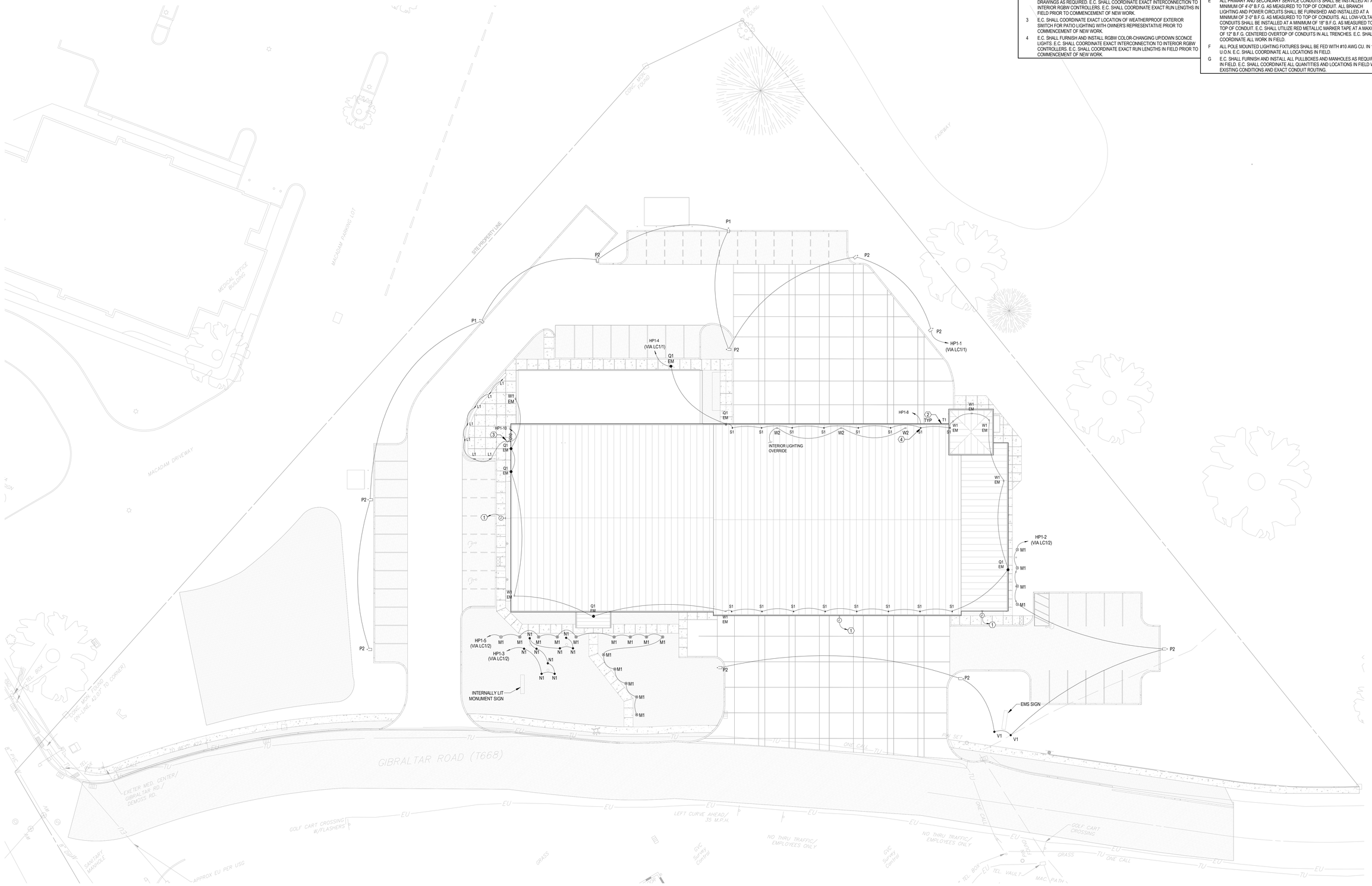
- G. E.C. SHALL FURNISH AND INSTALL ALL PULLBOXES AND MANHOLES AS REQUIRED IN FIELD. E.C. SHALL COORDINATE ALL QUANTITIES AND LOCATIONS IN FIELD WITH EXISTING CONDITIONS AND EXACT CONDUIT ROUTING.



1 ELECTRICAL SITE LIGHTING PLAN
1" = 20'-0"

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