

100% CONSTRUCTION DOCUMENTS

SEPTEMBER 23, 2020

ORIENT ROAD JAIL

FIRE PUMP REPLACEMENT

1201 ORIENT ROAD

TAMPA, FLORIDA 33619

BRIEF SCOPE OF WORK

THE SCOPE OF WORK IS TO REPLACE THE EXISTING DIESEL FIRE PUMP AND ITS ASSOCIATED CONTROLS WITH A NEW ELECTRIC FIRE PUMP AND CONTROLS. HYDRAULIC CALCULATIONS WERE PERFORMED IN ORDER TO PROPERLY SIZE THE NEW FIRE PUMP.

REFER TO FIRE PROTECTION AND ELECTRICAL DRAWINGS FOR FULL SCOPE OF WORK.

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- E-201

ELECTRICAL PARTIAL EXISTING & PROPOSED ONE LINE DIAGRAMS

OWNER:

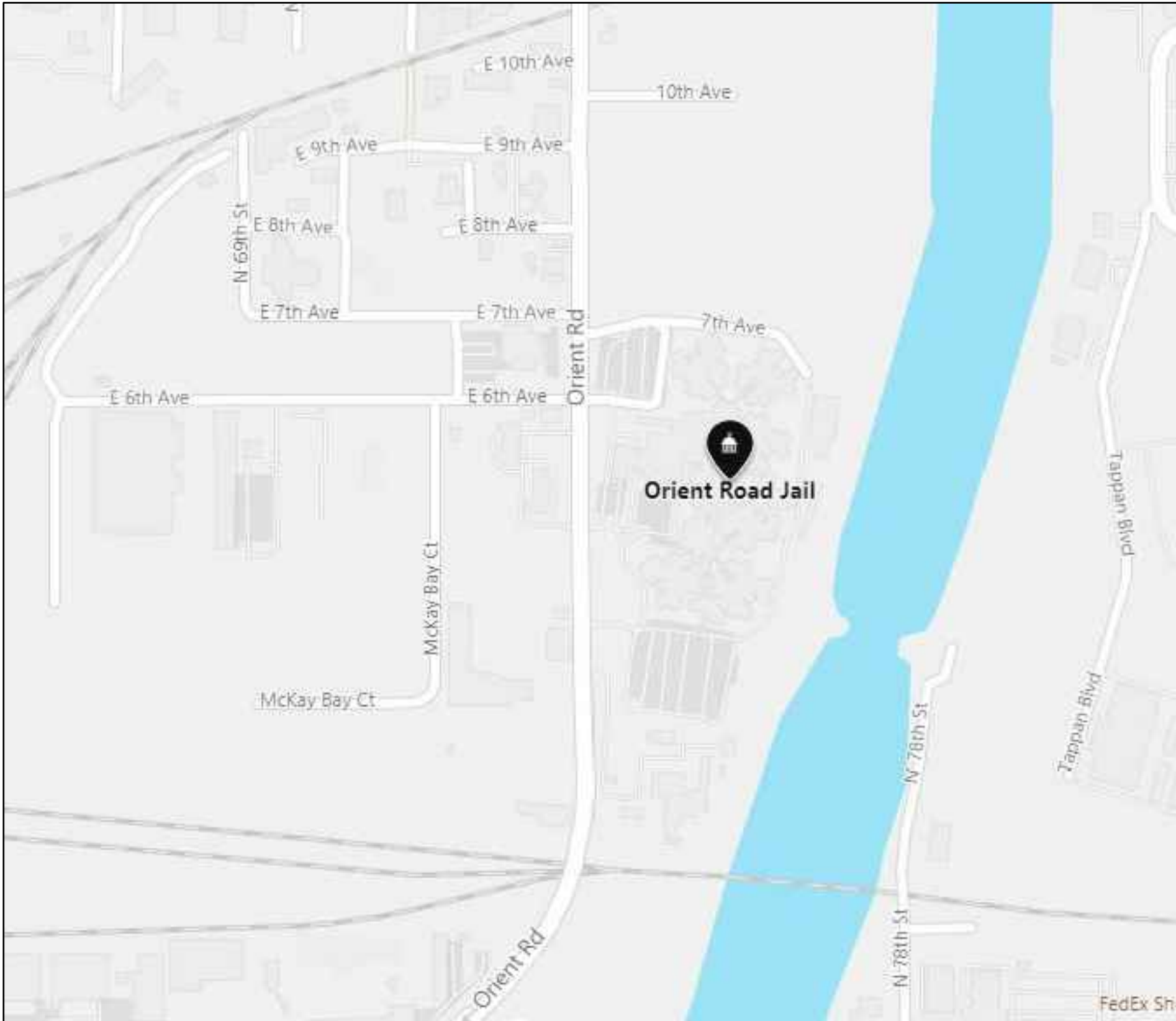
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MECHANICAL ENGINEER:

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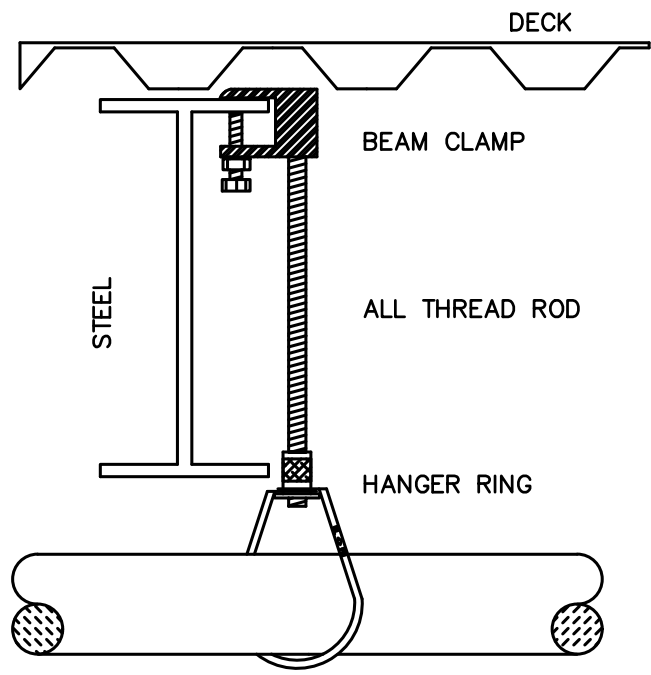
ELECTRICAL ENGINEER:

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REGISTRY 9092
ROBERT A. ROLLEY, PE (PE21600)



LOCATION MAP

HANGERS



HANGER REQUIREMENTS

- ON BRANCH LINES, THERE SHALL BE NOT LESS THAN ONE HANGER FOR EACH LENGTH OF PIPE.
- THE DISTANCE BETWEEN THE HANGER AND CENTERLINE OF AN UPRIGHT SPRINKLER SHALL NOT BE LESS THAN THREE INCHES (3").
- THE UNSUPPORTED LENGTH BETWEEN THE END SPRINKLER AND THE LAST HANGER SHALL BE NOT MORE THAN 36 INCHES FOR 1-INCH PIPE, OR 48 INCHES FRO 1-1/4" PIPE AND 60 INCHES FOR 1-1/2" PIPE AND LARGER. WHEN THESE LIMITS ARE EXCEEDED, THE PIPE SHALL BE EXTENDED BEYOND THE END SPRINKLER AND SUPPORTED BY AN ADDITIONAL HANGER.
- HANGERS ARE NOT REQUIRED ON ONE INCH (1") ARM-OVERS LESS THAN TWENTY-FOUR INCHES (24") LONG.

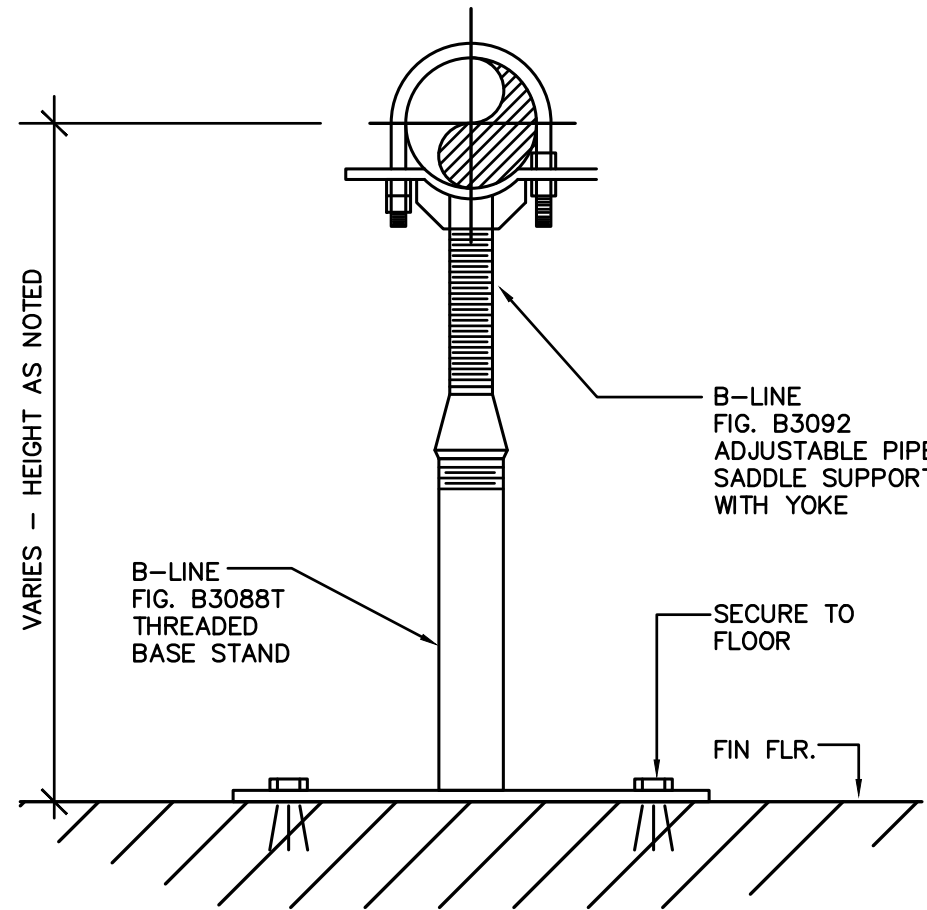
| HANGER SPACING FOR STEEL FIRE SPRINKLER PIPING | | |
|--|----|-----------------|
| PIPE SIZE | | MAXIMUM SPACING |
| 1" | 40 | 12'-0" |
| 1-1/4" | 40 | 12'-0" |
| 1-1/2" | 40 | 15'-0" |
| 2" | 40 | 15'-0" |
| 2-1/2" | 10 | 15'-0" |
| 3" | 10 | 15'-0" |
| 4" | 10 | 15'-0" |

HANGER ASSEMBLY

• INFORMATION PER :
NFPA 13 2013 – CHAPTER 9
PIPE HANGER EQUAL TO ANVIL MFG.
NO. 69 TYPE SWIVEL LOOP RING

CONSULTING ENGINEERING ASSOCIATES, INC. REV: 02-14-05 PD-1406

PIPE SUPPORT/FLOOR MOUNTED



CONSULTING ENGINEERING ASSOCIATES, INC. REV: 02-11-05 PD-0907

FIRE PROTECTION GENERAL NOTES

- THESE FIRE PROTECTION SYSTEM ENGINEERING DOCUMENTS PROVIDE THE ENGINEERING REQUIREMENTS TO BE USED IN THE PREPARATION OF THE FIRE PROTECTION SYSTEM LAYOUT DOCUMENTS AND INDICATE THE NATURE AND SCOPE OF THE WORK.
- THE EXISTING BUILDINGS ARE PROTECTED BY A WET-PIPE SPRINKLER SYSTEM INSTALLED IN ACCORDANCE WITH NFPA 13, NFPA 14, NFPA 20, AND OTHERS APPLICABLE LOCAL AND STATE REQUIREMENTS. NEW FIRE PROTECTION WORK SHALL BE IN ACCORDANCE WITH NFPA 13 2013 EDITION, NFPA 14 2013 EDITION, NFPA 20 2013 EDITION, 2017 FLORIDA FIRE PREVENTION CODE, FLORIDA BUILDING CODE, CHAPTER 9 AND APPLICABLE LOCAL AND STATE REQUIREMENTS ADOPTED AT TIME OF PERMITTING.
- THE EXISTING SPRINKLER SYSTEM WAS DESIGNED PER LIGHT HAZARD OCCUPANCY CLASSIFICATION IN ACCORDANCE WITH NFPA 13. THIS HAZARD CLASSIFICATION WAS USED TO CALCULATE AND PROVE THE EXISTING SYSTEM WITH THE NEW PROPOSED ELECTRIC FIRE PUMP.
- THE EXISTING SUPPORT SYSTEMS IN THE AREA OF WORK HAVE ADEQUATE LOAD CARRYING CAPACITY FOR THE LOAD WHICH WILL BE CONTRIBUTED BY THE NEW PIPING AND ELECTRICAL SYSTEMS. THERE ARE NO NEW STRUCTURAL OPENINGS THAT WILL BE REQUIRED FOR THE INSTALLATION OF NEW WORK.
- THIS EXISTING 1500 GPM DIESEL FIRE PUMP WILL BE REPLACED WITH A NEW 1000 GPM ELECTRIC FIRE PUMP. THE FIRE PROTECTION CONTRACTOR'S SCOPE OF WORK SHALL INCLUDE THE PREPARATION OF THE FIRE PROTECTION SYSTEM LAYOUT DOCUMENTS, AND THE INSTALLATION OF ALL NECESSARY COMPONENTS, SYSTEMS, MATERIALS, ASSEMBLIES, EQUIPMENT AND SUPPORT SYSTEMS REQUIRED FOR A COMPLETE AND FUNCTIONAL SYSTEM.
- THE ACCEPTANCE TESTING OF ALL FIRE PROTECTION SYSTEMS AND COMPONENTS SHALL BE IN ACCORDANCE WITH NFPA 20 AND NFPA 25 2013 EDITION.
- THE EXISTING FIRE SPRINKLER POINT OF SERVICE PER F.S. 633.021(18) IS AT THE DISCHARGE SIDE OF THE EXISTING BACKFLOW PREVENTOR,
- FIRE FLOW TEST:

PROVIDED BY: FLORIDA FIRE SERVICES, INC.
LOCATION: AS SHOWN ON FP-104
DATE: 5/21/2020
HYDRANT No.: #5 MUELLER 1988 BARREL
STATIC: 74 PSI
RESIDUAL: 62 PSI
FLOWING: 1150 GPM
- THERE ARE NO KNOWN CONDITIONS THAT WOULD INDICATE MICROBIAL INDUCED CORROSION IS PRESENT IN THE WATER SYSTEMS OF THIS JURISDICTION AS UNUSUAL PIPE FAILURES HAVE NOT BEEN KNOWN TO OCCUR.
- THE EXISTING BACKFLOW PREVENTER IS A DUAL CONFIGURATION 6 INCH ASSEMBLY PER LOCAL REQUIREMENTS.
- THE QUALITY AND PERFORMANCE SPECIFICATIONS OF ALL YARD AND INTERIOR FIRE PROTECTION COMPONENTS SHALL BE AS FOLLOWS:

A. MAIN PIPING SHALL BE GROOVED SCHEDULE 40 BLACK STEEL WITH GROOVED AND FLANGED FITTINGS. NEW PIPE AND FITTINGS SHALL BE PAINTED RED TO MATCH EXISTING.

B. VALVES:
SWING CHECK VALVE (VIKING MODEL G-1)
BUTTERFLY (NIBCO MODEL GD-4765-8N)
BALL (NIBCO MODEL KT-505-W-8)

B. TEST AND DRAIN VALVE (AGF MODEL 1000)

C. FLOW SWITCH (POTTER MODEL VSR)
- ALL FIRE PROTECTION SYSTEM COMPONENTS SHALL BE UL LISTED FOR INTENDED USE.
- TO THE BEST OF THE ENGINEER'S KNOWLEDGE, THE PLANS AND SPECIFICATIONS COMPLY WITH THE APPLICABLE MINIMUM BUILDING CODES AND THE APPLICABLE FIRE SAFETY STANDARDS AS DETERMINED BY THE LOCAL AUTHORITY IN ACCORDANCE WITH CHAPTER 61G15-32 OF THE FLORIDA ADMINISTRATIVE CODE.
- ALL FIRE PROTECTION WORK SHALL BE IN STRICT ACCORDANCE WITH ALL RELATED NFPA STANDARDS, THE OWNER'S INSURANCE UNDERWRITER, UNDERWRITERS LABORATORY, FACTORY MUTUAL, THE FLORIDA STATE FIRE PREVENTION CODE 2017 AND ALL LOCAL CODES AND AMENDMENTS.
- FINAL INSPECTION AND APPROVAL OF AUTOMATIC SPRINKLER SYSTEM SHALL BE BY THE LOCAL FIRE MARSHAL (AHJ) AND ENGINEER.
- FIRE PROTECTION LAYOUT DRAWINGS AND MATERIAL SUBMITTALS SHALL BE SUBMITTED TO THE ENGINEER AND FIRE MARSHALL AND SHALL BE APPROVED PRIOR TO ANY INSTALLATION.
- THE CONTRACTOR SHALL FOLLOW THE DRAWINGS AND NOTES AS CLOSE AS POSSIBLE. HOWEVER, THE ENGINEER RESERVES THE RIGHT TO CHANGE THE LOCATION(S) OF PIPING, VALVES, ETC. TO ACCOMMODATE EXISTING CONDITIONS WHICH MAY ARISE DURING THE SYSTEM INSTALLATION WITHOUT ADDITIONAL COMPENSATION TO THE CONTRACTOR FOR SUCH CHANGES, PROVIDED SUCH CHANGES ARE REQUESTED PRIOR TO THE INSTALLATION OF THE CONTRACTOR'S WORK. COORDINATE WITH ALL OTHER TRADES.
- THE BIDDER IS REQUIRED, BEFORE SUBMITTING HIS PROPOSAL, TO VISIT THE SITE OF THE PROPOSED WORK AND FAMILIARIZE HIMSELF WITH THE NATURE AND EXTENT OF THE WORK AND ANY EXISTING CONDITIONS THAT MAY IN ANY MANNER AFFECT THE WORK TO BE DONE AND THE EQUIPMENT, MATERIALS AND LABOR REQUIRED. THE BIDDER IS ALSO REQUIRED TO EXAMINE CAREFULLY THE PLANS AND TO INFORM HIMSELF THOROUGHLY REGARDING ANY AND ALL CONDITIONS AND REQUIREMENTS THAT MAY IN ANY MANNER AFFECT THE WORK TO BE PERFORMED UNDER THIS CONTRACT.
- THE CONTRACTOR SHALL INFORM THE OWNER (A MINIMUM OF ONE WEEK IN ADVANCE) OF ANY DISRUPTION OF SERVICES TO THE BUILDING AND SHALL NOT PROCEED TO WORK WITHOUT WRITTEN APPROVAL FROM THE OWNER. THE CONTRACTOR SHALL MAKE REPAIRS TO ANY SERVICES (ABOVE OR BELOW GROUND) DAMAGED BY WORK PERFORMED BY HIM.
- CONTRACTOR SHALL PROVIDE ALL FIRE WATCHES AS REQUIRED FOR THE SPRINKLER RENOVATION WORK.
- COORDINATE ELECTRICAL CHARACTERISTICS AND REQUIREMENTS OF ALL FIRE PROTECTION EQUIPMENT WITH THE ELECTRICAL DRAWINGS AND FURNISH EQUIPMENT WIRED FOR THE VOLTAGE SHOWN HEREIN. PROVIDE STATEMENT INDICATING THIS HAS OCCURRED WITH THE SHOP DRAWINGS SUBMITTALS.

NOTES

- THE NOTES SHOWN ON THIS SHEET APPLY TO GENERAL CONDITIONS OF FIRE PROTECTION WORK REQUIRED FOR THIS PROJECT.
- SPECIFICATIONS, PROJECT MANUALS AND DRAWINGS, REFER TO THIS SHEET FOR APPLICABLE REFERENCES.
- THE DESIGN DRAWINGS OF ALL CATEGORIES AND TRADES (FIRE PROTECTION AND ELECTRICAL) AND ALL SPECIFICATIONS AND SHOP DRAWINGS MUST BE COORDINATED AND BE VIEWED IN CONNECTION AND CONJUNCTION WITH EACH OTHER TO INSURE THE PROPER LOCATION OF ALL DEVICES AND EQUIPMENT. MAKE PARTICULAR NOTE OF LOCATIONS AND DIMENSIONS SHOWN ON THE FIRE PROTECTION FLOOR PLANS AND ELEVATIONS.
- TO THE BEST OF THE ENGINEER'S KNOWLEDGE, THE PLANS AND SPECIFICATIONS COMPLY WITH THE APPLICABLE MINIMUM BUILDING CODES AND THE APPLICABLE FIRE-SAFETY STANDARDS AS DETERMINED BY THE LOCAL AUTHORITY IN ACCORDANCE WITH SECTION 110.8.4.4 OF THE FLORIDA BUILDING CODE AND 633 FLORIDA STATUTES.

CODE CRITERIA

NOTE:
ALL CODES SHALL COMPLY WITH THE FLORIDA STATUES 69A-3.012 AND THE STATE FIRE MARSHALL'S RULE. THIS LIST IS NOT INCLUSIVE OF ALL CODES AND STANDARDS THAT MAY OR MAY NOT APPLY TO THIS PROJECT.

*FLORIDA BUILDING CODE (FBC), SIXTH EDITION (2017) – ALL SECTIONS
*FLORIDA FIRE PREVENTION CODE 2017

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA):

*NFPA-13 (2013) STANDARD FOR THE INSTALLATION OF SPRINKLER SYSTEMS
*NFPA-14 (2013) STANDARD FOR THE INSTALLATION OF STANDPIPE AND HOSE SYSTEMS
*NFPA-20 (2013) STANDARD FOR THE INSTALLATION OF STATIONARY PUMPS FOR FIRE PROTECTION
*NFPA-24 (2013) STANDARD FOR THE INSTALLATION OF PRIVATE FIRE SERVICE MAINS AND THEIR APPURTENANCES
*NFPA-25 (2014) STANDARD FOR THE INSPECTION, TESTING, AND MAINTENANCE OF WATER-BASED FIRE PROTECTION SYSTEMS, EXCEPT THAT QUARTERLY FLOW TESTS SHALL BE REQUIRED FOR THOSE SYSTEMS SUPPLIED BY A MUNICIPAL WATER SUPPLY
*NFPA-70 (2014) NATIONAL ELECTRICAL CODE
*NFPA-72 (2013) NATIONAL FIRE ALARM CODE

DRAWING INDEX

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Plumbing Fire Protection

SEAL :

SIGNATURE DATE
JOHN W. WELLS, III, PE
PE 0049347

PROJECT :
**ORIENT ROAD JAIL
FIRE PUMP REPLACEMENT**

LOCATION :
**1201 ORIENT ROAD
Tampa, FL 33619**

REVISIONS

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SHEET TITLE :
**FIRE PROTECTION
LEGEND, NOTES,
AND DETAILS**

DRAWN BY: BT / ML
DATE: 09/23/2020
COMM. NO. 20024

SHEET NO. :

FP-001



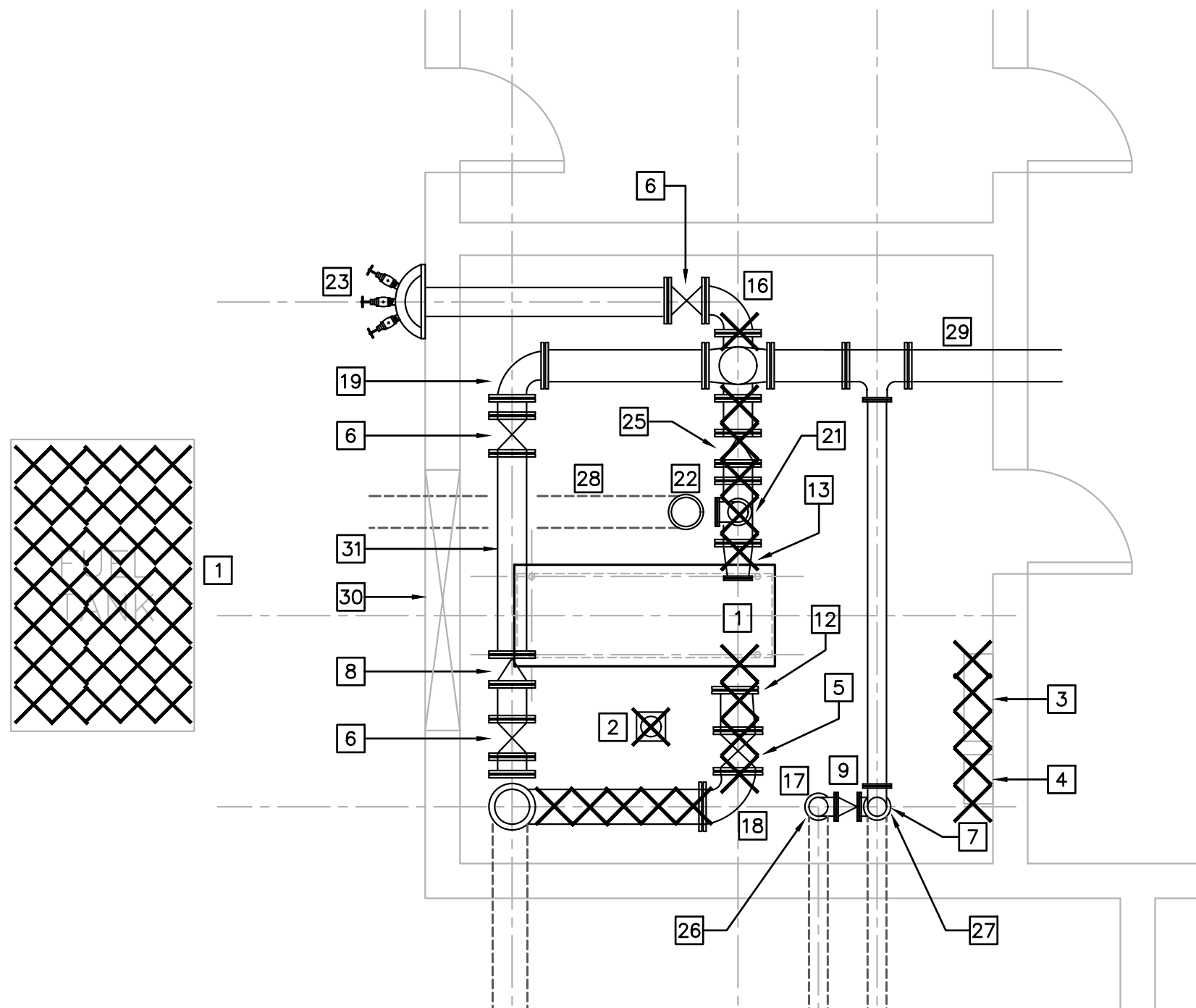
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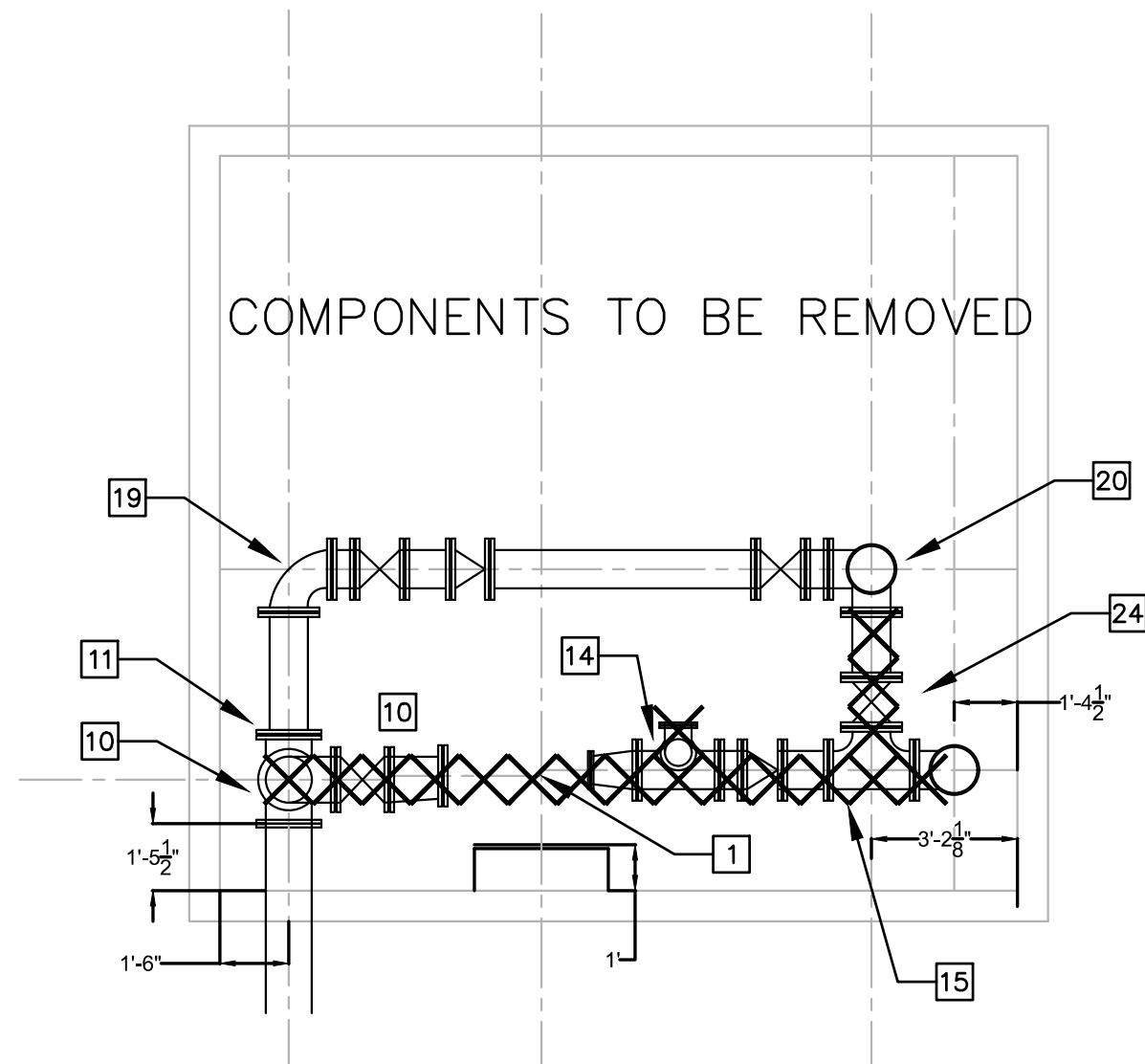
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FIRE PUMP FLOOR PLAN – DEMOLITION
SCALE : 1/4" = 1'-0"



FIRE PUMP SECTION – DEMOLITION
SCALE : 1/4" = 1'-0"

DEMOLITION CODED NOTES:

- 1 EXISTING 1500 DIESEL FIRE PUMP TO BE REMOVED. DISCONNECT AND REMOVE ALL DIESEL EXHAUST COMPONENTS, BATTERIES AND BATTERY CHARGER, EXTERIOR MOUNTED FUEL TANK, AND SENSING LINES. EXISTING FIRE PUMP HOUSEKEEPING PAI TO REMAIN, MODIFY AS REQUIRED FOR THE INSTALLATION OF NEW FIRE PUMP.
- 2 EXISTING JOCKEY PUMP TO BE REMOVED.
- 3 EXISTING FIRE PUMP CONTROLLER TO BE REMOVED.
- 4 EXISTING JOCKEY PUMP CONTROLLER TO BE REMOVED.
- 5 EXISTING 12" FLANGED O.S.&Y. GATE VALVE TO BE REMOVED.
- 6 EXISTING 10" FLANGED O.S.&Y. GATE VALVE TO REMAIN.
- 7 EXISTING 6" GROOVED BUTTERFLY GATE VALVE TO REMAIN.
- 8 EXISTING 10" GROOVED CHECK VALVE TO REMAIN.
- 9 EXISTING 6" GROOVED CHECK VALVE TO REMAIN.
- 10 EXISTING 12" FIRE LINE SUPPLY TO FIRE PUMP AND 12"x10"x12" FLANGED TEE TO REMAIN. REMOVE 12" SUCTION FROM PUMP FLANGE TO 12" FLANGED TEE ABOVE 12" STUB-UP AND PROVIDE BLIND FLANGE ON EXISTING 12" TEE OUTLET FOR BYPASS TO KEEP FIRE SPRINKLER SYSTEM IN OPERATION DURING FIRE PUMP REPLACEMENT PROCESS.
- 11 EXISTING 10"x12" REDUCING FLANGE TO REMAIN.
- 12 EXISTING 12"x10" ECCENTRIC FLANGE REDUCER TO BE REMOVED.
- 13 EXISTING 10"x6" CONCENTRIC FLANGE REDUCER TO BE REMOVED.
- 14 EXISTING 10"x10"x6" FLANGED TEE TO BE REMOVED.
- 15 EXISTING 10" FLANGED TEE TO BE REMOVED.
- 16 EXISTING 10" FLANGED ELBOW TO REMAIN.

- 17 EXISTING 6" GROOVED ELBOW TO REMAIN.
- 18 EXISTING 12" GROOVED ELBOW TO BE REMOVED.
- 19 EXISTING 10" GROOVED ELBOW TO REMAIN.
- 20 EXISTING 10" GROOVED TEE TO REMAIN.
- 21 EXISTING PRESSURE RELIEF VALVE TO BE REMOVED.
- 22 EXISTING 6"x10" WASTE CONE TO BE REMOVED.
- 23 EXISTING PUMP TEST HEADER WITH 6 HOSE VALVES FOR 1500 GPM FLOW RATING TO BE MODIFIED. REMOVE TWO HOSE VALVES AND CAP OUTLETS.
- 24 EXISTING 10" FLANGED O.S.&Y. GATE VALVE TO BE REMOVED.
- 25 EXISTING 10" GROOVED CHECK VALVE TO BE REMOVED.
- 26 EXISTING 6" SUPPLY TO EXISTING REMOTE YARD FDC. EXISTING FDC WILL BE THE STANDPIPE MANUAL SUPPLY PER NFPA 14 2013 6.4.3(1).
- 27 EXISTING 6" SUPPLY TO BUILDING 14 TO REMAIN OPERATIONAL WITH BYPASS SUPPLY.
- 28 ABANDON IN PLACE EXISTING 10" UNDERGROUND MAIN RELIEF DISCHARGE TO EXTERIOR, PROVIDE BLIND FLANGE ON EXISTING 10" STUB-UP.
- 29 EXISTING 10" BUILDING SUPPLY TO REMAIN OPERATIONAL WITH BYPASS SUPPLY.
- 30 EXISTING AIR INTAKE LOUVER. 7'-6" X 7'-6" X 1'-0" LOUVER DIMENSIONS. THE BOTTOM OF THE LOUVER IS ELEVATED 2'-7" AFF. REMOVE LOUVER TEMPORARILY TO FACILITATE THE REMOVAL OF THE EXISTING PUMP AND ASSOCIATED COMPONENTS AND FOR THE INSTALLATION OF NEW ELECTRIC FIRE PUMP. REINSTALL AND RE-SEAL AS REQUIRED ONCE THE NEW PUMP IS INSTALLED.
- 31 EXISTING 10" BYPASS LINE TO REMAIN IN OPERATION UNTIL FINAL PHASE OF FIRE PUMP REPLACEMENT FOR EXISTING SPRINKLER SYSTEM OPERATION.

FOR LOCATION OF FIRE PUMP ROOM IN
BUILDING, REFER TO DRAWING FP-103

PROJECT :
ORIENT ROAD JAIL
FIRE PUMP REPLACEMENT

LOCATION :
1201 ORIENT ROAD
Tampa, FL 33619

REVISIONS

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SHEET TITLE :
FIRE PROTECTION
FIRE PUMP
FLOOR PLAN -
DEMOLITION

DRAWN BY: BT / ML
DATE: 09/23/2020
COMM. NO. 20024

SHEET NO. :

FP-101



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PROJECT :
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REVISIONS

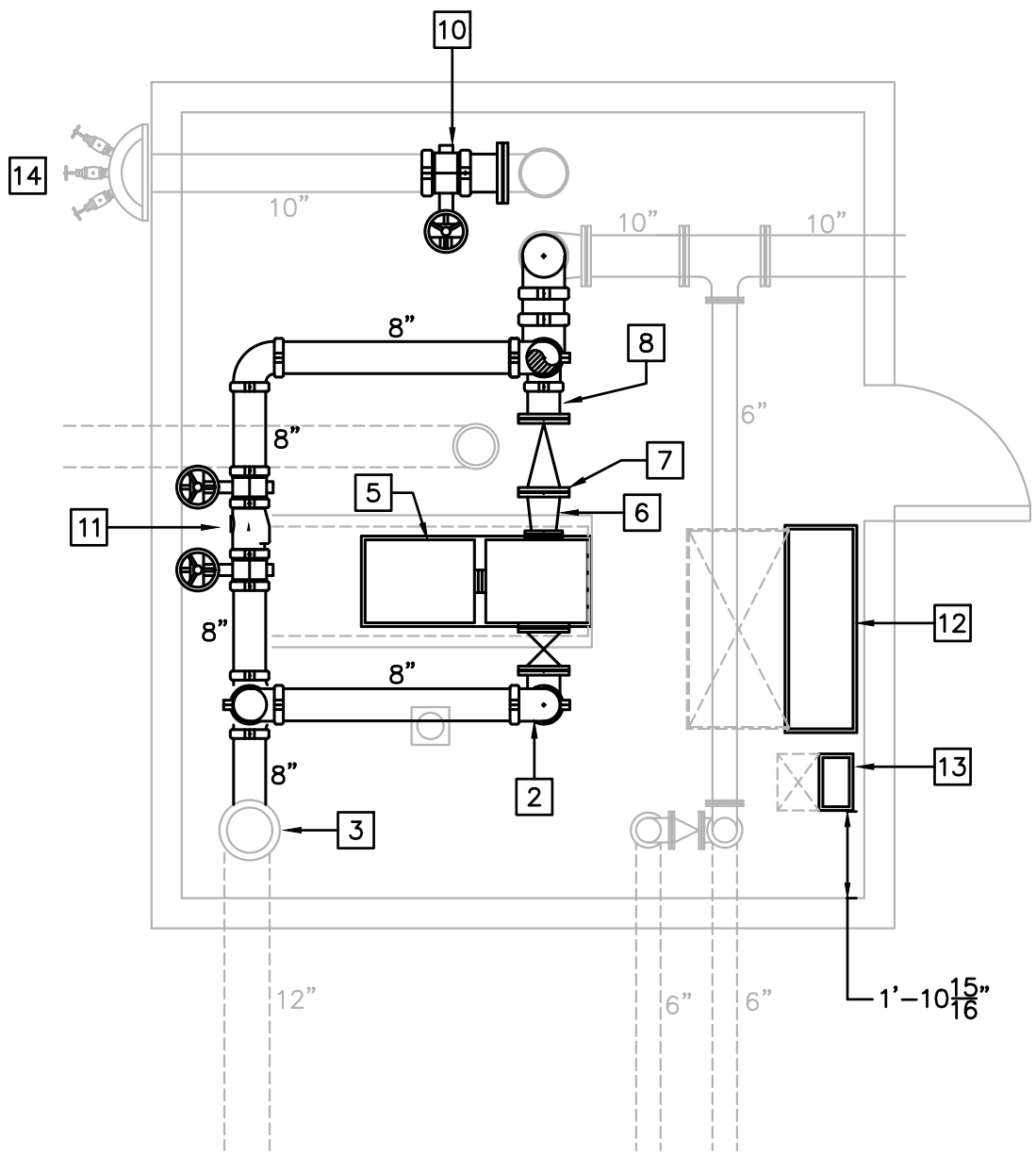
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SHEET TITLE :
FIRE PROTECTION
FIRE PUMP
FLOOR PLAN -
RENOVATION

DRAWN BY: BT / ML
DATE: 09/23/2020
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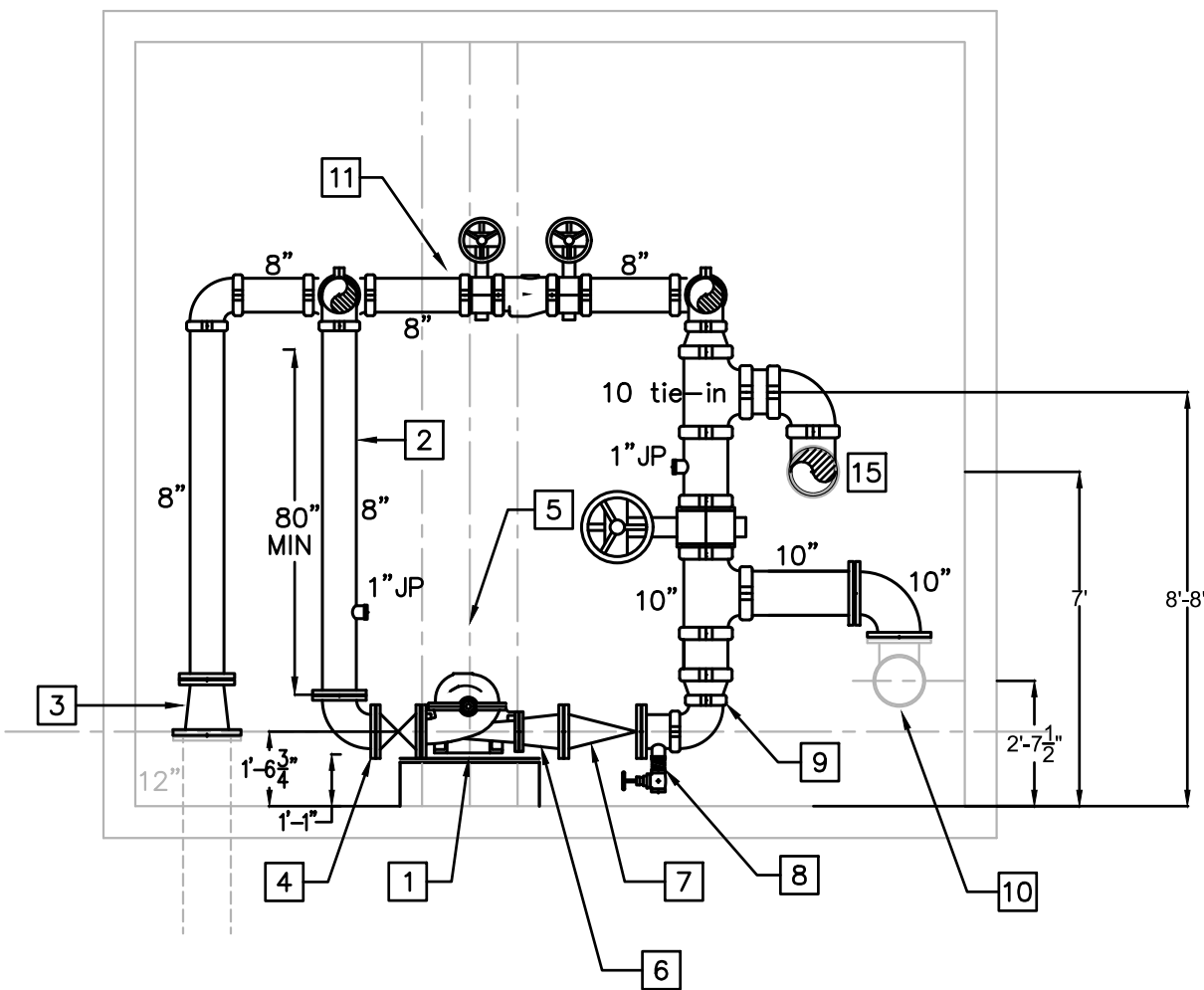
SHEET NO. :

FP-102



FIRE PUMP FLOOR PLAN – RENOVATION

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



FIRE PUMP SECTION – RENOVATION

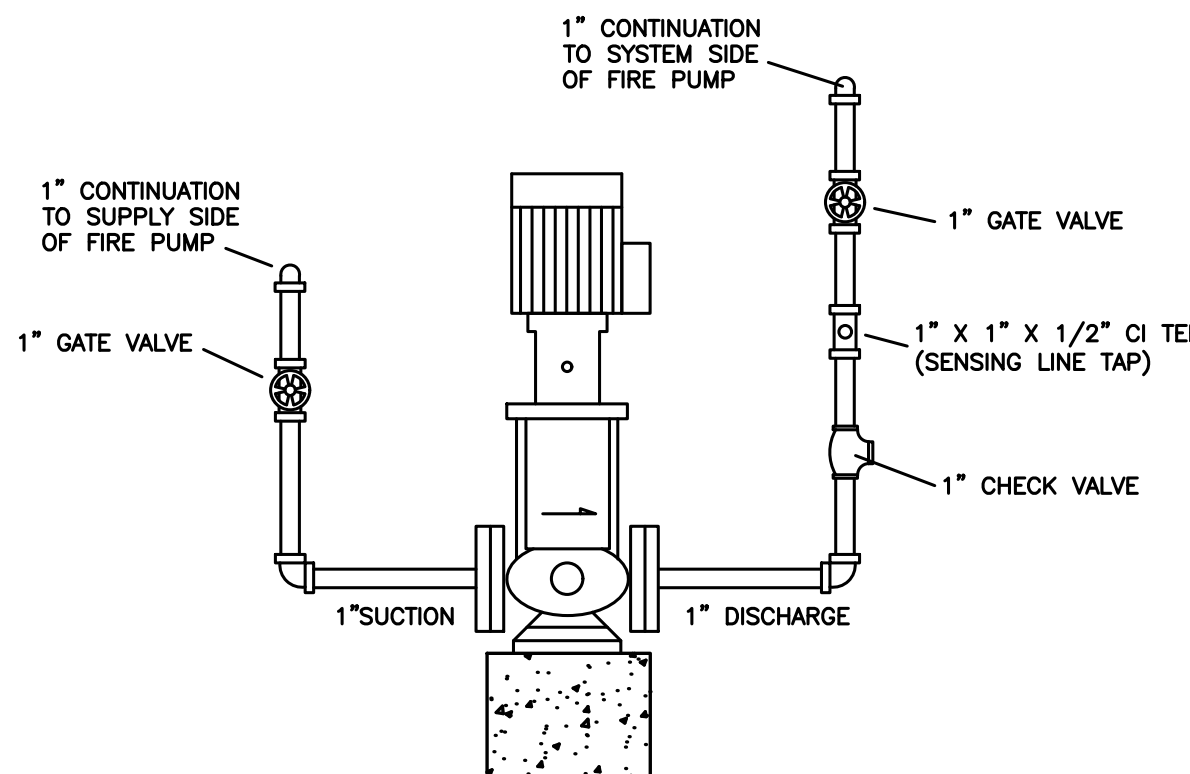
SCALE : 1/4" = 1'-0"

RENOVATION CODED NOTES:

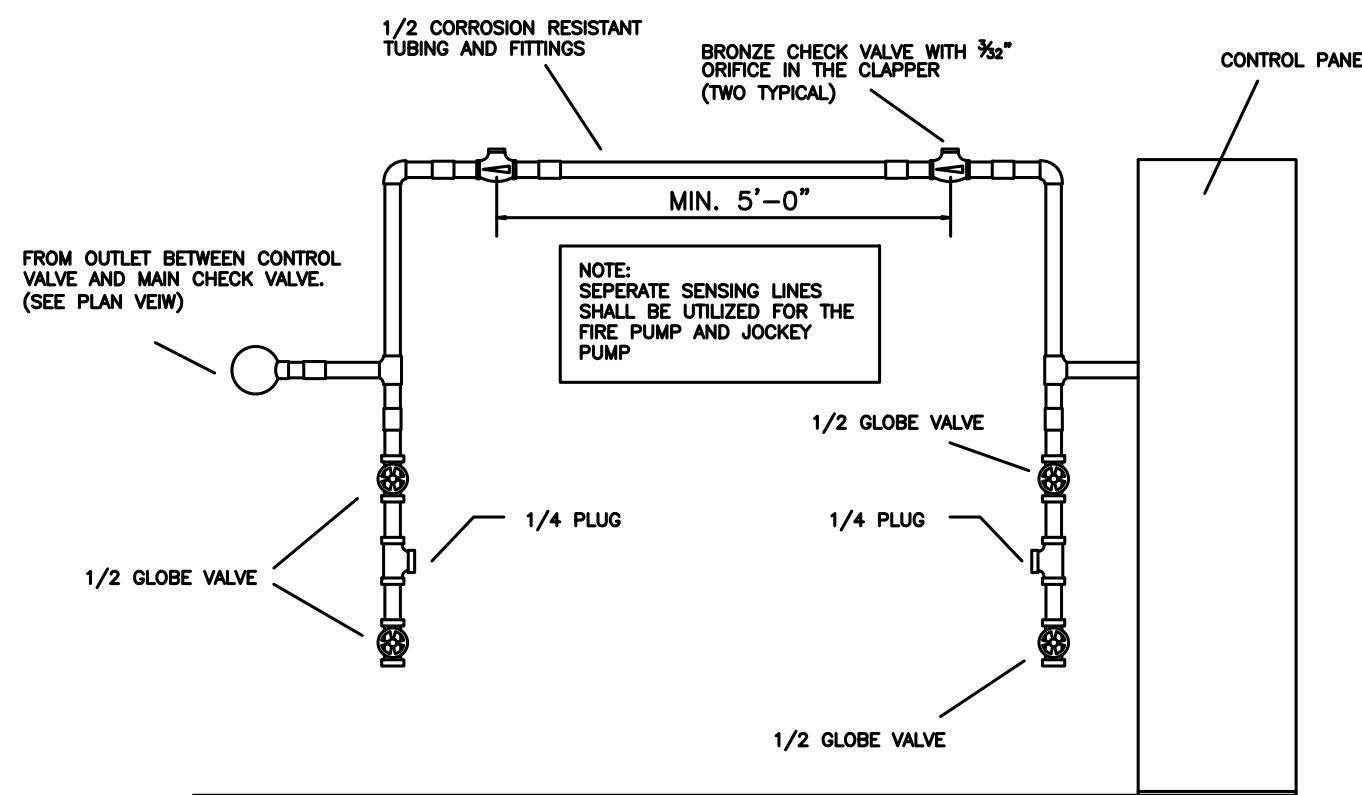
- 1 ADD 3 INCH OF GROUT TO RAISE PUMP CENTER LINE ABOVE EXISTING HOUSEKEEPING PAD TO +/- 15 INCHES.
- 2 SUCTION PIPE SIZE SHALL BE 8" PER NFPA 20 2013 TABLE 4.26(a). DISTANCE BETWEEN PUMP FLANGE AND ELBOW/TEE FLANGE IS GREATER THAN 10 PIPE DIAMETERS (80" MINIMUM) AS REQUIRED BY NFPA 20 2013 FIGURE A.4.14.6 RIGHT AND WRONG PUMP SUCTIONS.
- 3 12"x8" FLANGED CONCENTRIC REDUCER AT EXISTING 12" UNDERGROUND STUB-UP.
- 4 8" FLANGED GATE SUCTION CONTROL VALVE WITH OPEN SUPERVISION OF TAMPER SWITCH.
- 5 8"x5" 1000 GPM AT 85 PSI 75 HP HORIZONTAL SPLIT CASE SINGLE STAGE 3550 RPM, 60 HZ ELECTRIC PUMP.
- 6 8"x5" DISCHARGE CONCENTRIC FLANGED REDUCER.
- 7 8" FLANGED SWING CHECK VALVE.
- 8 2" DRAIN VALVE.
- 9 10"x8" GROOVED CONCENTRIC REDUCER.
- 10 10" OUTLET TO EXISTING TEST HEADER PIPING, TIE IN TO FLANGED 90 ELL ROTATED UP. REMOVE EXISTING OS&Y VALVE AND INSTALL 10" FLG&GRV SPOOL PIECE AND 10" BUTTERFLY VALVE WITH TAMPER FOR CLOSED SUPERVISION TO TEST HEADER.
- 11 8" BYPASS LINE WITH (2) BUTTERFLY CONTROL VALVES WITH OPEN SUPERVISION AND CHECK VALVE.
- 12 ELECTRIC FIRE PUMP CONTROLLER REDUCED CURRENT STARTING WITH TRANSFER SWITCH (54" X 19" X 52" FOR INSTALLATION DIMENSIONS).
- 13 ELECTRIC JOCKEY PUMP CONTROLLER (13" X 8" X 16" WITH 20" DOOR SWING FOR INSTALLATION DIMENSIONS).
- 14 EXISTING TEST HEADER WITH (4) HOSE VALVES.
- 15 EXISTING 10" DISCHARGE.

| REPLACEMENT FIRE PUMP SCHEDULE | | |
|--------------------------------|--------------------------------------|---------------------|
| | FIRE PUMP | JOCKEY PUMP |
| MANUFACTURER | PEERLESS PUMP | GRUNDFOS |
| MODEL | 5AEF8A | CR 3-12 |
| FLOW - GPM | 1000 - GPM | 10 - GPM |
| HEAD - PSI | 85 - PSI | 85 - PSI |
| SPEED - RPM | 3550 RPM | 3600 RPM |
| ENGINE | BALDOR | TEFC ELECTRIC MOTOR |
| CONTROLLER | FIRETROL FTA-1930 | FIRETROL FTA550F |
| ENGINE POWER | 75 HP | 2 - HP |
| VOLTAGE | 480V | 480V |
| PHASE | 3 | 3 |
| HERTZ | 60 | 60 |
| STARTER | REDUCED CURRENT WITH TRANSFER SWITCH | FULL VOLTAGE |

ALL WORK PERFORMED SHALL BE IN COMPLIANCE WITH NFPA 20 2013, NFPA 25 2014 AND AHJ REQUIREMENTS



JOCKEY PUMP DETAIL
NTS



SENSING LINE SCHEMATIC
NTS

FOR LOCATION OF FIRE PUMP ROOM IN BUILDING, REFER TO DRAWING FP-103



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SHEET TITLE :
**FIRE PROTECTION
PARTIAL SITE
BUILDING ROOF PLAN**

DRAWN BY: BT / ML
DATE: 09/23/2020
COMM. NO. 20024

SHEET NO. :
FP-103

THIS PLAN SHOWS THE PIPING FOR
THE MOST HYDRAULICALLY DEMANDING
BUILDING IN THIS SYSTEM. ONLY THE
PIPING NEEDED TO CALCULATE THE
HYDRAULIC DEMAND IS SHOWN. ALL
PIPING SHOWN ON THIS PLAN IS
EXISTING AND FOR REFERENCE ONLY

EXISTING CLASS I STANDPIPE HYDRAULIC CODED NOTES:

- 8" SUPPLY TO BUILDING 7 & 12 ROOF CHASE CONNECTION AT HYDRAULIC NODE A5.
- 10"x8" REDUCING FITTING IN ROOF CHASE STANDPIPE PIPING SYSTEM.
- 10" SUPPLY TO BUILDING 13 ROOF CHASE CONNECTION TO FIRE PUMP DISCHARGE.
- 10" SUPPLY DOWN FROM ROOF CHASE TO BLDG 13 CEILING PIPING SYSTEM.

PARTIAL SITE BUILDINGS ROOF PLAN
SCALE : 1/32" = 1'-0"





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| delta | date | revision |

SHEET TITLE :
**FIRE PROTECTION
ENLARGED PLANS**

DRAWN BY: BT / ML
DATE: 09/23/2020
COMM. NO. 20024

SHEET NO. :
FP-104

EXISTING CLASS I STANDPIPE HYDRAULIC CODED NOTES:

- 1 NFPA 14 2013 7.8.1. AND NFPA 14 2013 7.10.1.1.1. MOST REMOTE/HYDRAULIC DEMANDING 2-1/2" FHV OUTLET.
- 2 NFPA 14 2013 7.10.1.1.3. ADDITION SECOND ROOF MANIFOLD FOR 1000 GPM DEMAND.
- 3 NEW HORIZONTAL SPLIT CASE SINGLE STAGE 1000 GPM AT 85 PSI ELECTRIC FIRE PUMP. REFER TO SHEET FP-102 FOR DETAILS OF PUMP ASSEMBLY.
- 4 12" UNDERGROUND SUPPLY STUB-UP IN FIRE PUMP ROOM.
- 5 12" UNDERGROUND SUPPLY TO FIRE HYDRANT #5 WATER SOURCE.
- 6 6"x2-1/2" DOUBLE CLAPPER FREE STANDING FDC SERVING BLDG'S 1-14 ON SITE.

ROOF MANIFOLD
(2) 2-1/2" FHV
NFPA 14 2013 7.8.1. THE MINIMUM RESIDUAL PRESSURE OF 100 PSI AT THE OUTLET OF THE HYDRAULIC MOST REMOTE 2-1/2" FHV.
NFPA 14 2013 7.10.1.1.1. MINIMUM FLOW RATE FOR THE HYDRAULIC MOST REMOTE STANDPIPE SHALL BE 500 GPM THROUGH THE MOST REMOTE FHV.
NFPA 14 2013 7.10.1.1.3. THE MINIMUM FLOW RATE FOR ADDITIONAL STANDPIPE SHALL BE 250 GPM PER STANDPIPE FOR BUILDINGS THAT DO NOT EXCEED 80,000 SQ.FT. PER FLOOR.
NFPA 14 2013 7.10.1.1.5. THE MAXIMUM FLOW RATE SHALL BE 1000 GPM FOR BUILDINGS THAT ARE SPRINKLERED THROUGHOUT.

CALC AREA 1 - BLDG 6 ROOF MANIFOLDS
STANDPIPE CLASSIFICATION - CLASS I NFPA 14
DENSITY- 1.0 GPM/SQ FT
AREA OF APPLICATION - NFPA 14 2013 7.8.1.
AND NFPA 14 2013 7.10.1.1.1.

NUMBER OF HOSE OUTLETS CALCULATED - (4)
HOSE STREAM ALLOWANCE - 0
SYSTEM DEMAND @ PUMP DISCHARGE
1000 GPM @ 126.6 PSI
SAFETY MARGIN 36.8 PSI OF SUPPLY

THE CLASS I STANDPIPE SYSTEM HYDRAULIC DEMAND IS THE GREATER DEMAND COMPARED TO THE AUTOMATIC SPRINKLER SYSTEM DEMAND FOR THE LIGHT HAZARD OCCUPANCY OF THE MOST REMOTE BUILDING 6 HYDRAULIC PROOF

ALL PIPING SHOWN ON THIS PLAN IS EXISTING AND FOR REFERENCE ONLY

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

2 ENLARGED PLAN
SCALE : 1/8" = 1'-0"