

FIRE PUMP NOTES

1. FIRE PUMP SHALL BE INSTALLED IN ACCORDANCE WITH NFPA 20, 2016 EDITION.
2. THE COMPLETE FIRE PUMP UNIT SHALL BE FIELD ACCEPTANCE TESTED FOR PROPTER PERFORMANCE IN ACCORDANCE WITH THE PROVISIONS OF NFPA 20.
3. PUMP SHALL BE DEDICATED TO AND LISTED FOR FIRE PROTECTION SERVICE.
4. PUMP SHALL BE PROVIDED WITH NAMEPLATE.
5. A PRESSURE GAUGE HAVING A DIAL NOT LESS THAN 3.5" IN DIAMETER SHALL BE CONNECTED NEAR THE DISCHARGE AND SUCTION CASTINGS WITH A NOMINAL .25" GAUGE VALVE. THE DIAL SHALL INDICATE PRESSURE TO AT LEAST TWICE THE RATED WORKING PRESSURE OF THE PUMP, BUT NOT LESS THAN 200 PSI FOR THE DISCHARGE GAUGE.
6. WHERE THE MINIMUM PUMP SUCTION PRESSURE IS BELOW 20 PSI UNDER ANY FLOW CONDITION, THE SUCTION GAUGE SHALL BE A COMPOUND PRESSURE AND VACUUM PRESSURE.
7. AN AUTOMATIC RELIEF VALVE LISTED FOR FIRE PROTECTION SERVICE SHALL BE INSTALLED AND SET BELOW THE SHUTOFF PRESSURE AT MINIMUM EXPECTED SUCTION PRESSURE.
8. AN APPROVED OR LISTED SOURCE OF HEAT SHALL BE PROVIDED FOR MAINTAINING THE TEMPERATURE OF A PUMP ROOM OR PUMP HOUSE, WHERE REQUIRED, ABOVE 40° F.
9. ARTIFICIAL & EMERGENCY LIGHTING SHALL BE PROVIDED IN THE PUMP ROOM OR PUMP HOUSE.
10. PROVISIONS SHALL BE MADE FOR VENTILATION OF A PUMP ROOM OR PUMP HOUSE.
11. PIPE, FITTINGS, HANGERS AND SEISMIC BRACING FOR FIRE PUMP UNIT, INCLUDING SUCTION AND DISCHARGE PIPING, SHALL COMPLY WITH THE APPLICABLE REQUIREMENTS OF NFPA 13.
12. THE GAUGE PRESSURE AT THE SUCTION FLANGE SHALL NOT DROP BELOW .3PSI WITH THE TANK AT ITS LOWEST WATER LEVEL AFTER THE MAXIMUM SYSTEM DEMAND AND DURATION HAVE BEEN SUPPLIED.
13. FOR PUMP TAKING SUCTION FROM A STORED WATER SUPPLY, A VORTEX PLATE SHALL BE INSTALLED AT THE ENTRANCE TO THE SUCTION PIPE.
14. PUMP DISCHARGE PIPING SHALL BE HYDROSTATICALLY TESTED IN ACCORDANCE WITH NFPA 13 AND NFPA 24.
15. THE SUCTION VALVE AND DISCHARGE VALVE SHALL BE SUPERVISED IN THE OPEN POSITION.
16. TEST OUTLET CONTROL VALVES SHALL BE SUPERVISED IN THE CLOSED POSITION.
17. TWO CHECK VALVES SHALL BE INSTALLED IN EACH PRESSURE SENSING LINE LOCATED AT LEAST 5 FEET APART WITH A 0.09375 HOLE IN THE CLAPPER TO SERVE AS DAMPENING.
18. ALL ELECTRICAL EQUIPMENT AND INSTALLED METHODS SHALL COMPLY WITH NFPA 70.
19. ELECTRIC DRIVES FOR PUMP SHALL BE INSTALLED IN COMPLIANCE WITH CHAPTER 9 OF NFPA 20.
20. ELECTRIC DROVE CONTROLLERS AND ACCESSORIES SHALL BE INSTALLED IN COMPLIANCE WITH CHAPTER 10 OF NFPA 20.

WATER FLOW INFORMATION

PRODUCTS RESOURCES TESTING SOFTWARE LOGIN EVENTS CONTACT CART LOG IN

8/3/18
PATRICK SPADHOUT / EVELYN BOEABE
FLOW HYDRANT - 1230 OLIVE
STARBUCK RESIDUAL HYDRANT 1100 OLIVE
MR PAGE - 72

RESOURCES

HYDRANT FLOW TEST CALCULATOR: CALCULATE RATED CAPACITY AT 20 PSI

The Hydrant Flow Test Calculator measures the rated capacity at 20 psi of a fire hydrant. The rated capacity calculation is useful in determining the total water supply at a given point in the hydrant or water main. The calculation offers more useful information than the test flow by itself and is used by insurance underwriters. For more information see NFPA 291, ANWA M-17, or our web page on Hydrant Flow Testing.

RESOURCE DOWNLOADS

TESTING APPLICATIONS

CALCULATORS

CALCULATE RATED CAPACITY AT 20 PSI

Static Pressure (PSI): 42
Residual Pressure (PSI): 34
Total Test Flow-rate (GPM): 1250

PUMP TEST HOSE CALCULATOR

FAQ

GLOSSARY

CALCULATE

GPM at 20 psi: 2159
Class: AA
Marking color: Light Blue
% Pressure Drop: 19%

FIRE PUMP NOTES

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APPROVED:
[Signature]
[Title]
[Date]

FOR INFORMATION:
[Signature]
[Title]
[Date]

FOR INFORMATION:
[Signature]
[Title]
[Date]

FOR INFORMATION:
[Signature]
[Title]
[Date]

FOR INFORMATION:
[Signature]
[Title]
[Date]

CPVC COMPATIBILITY

Incompatible Products - Lubrizol

CPVC Incompatible Products

To avoid damage to the pipe and fittings, ancillary construction products coming into direct contact with FlowGuard, BlazeMaster, Corzan, or products made with TempRite Technology must be chemically compatible. Lubrizol recommends that the compatibility of ancillary products be confirmed with that product's manufacturer prior to use.

The following products have been found to be incompatible with FlowGuard, BlazeMaster, Corzan, and products made with TempRite Technology.

Please note:
A product's absence from this list does not mean that it is compatible. Products in this list are designated with numerals to clarify the known compatibility hazards associated with them, as follows:

Compatibility Hazard	Description
1	These products were reported to have been used at the site of one or more failed piping systems, and upon further investigation were found to contain the same ingredient(s) which were identified as having caused or contributed to the reported failure.
2	These products have been determined to be incompatible based on laboratory testing conducted by Lubrizol.
3	These products have been determined to be incompatible based on compositional information found in the manufacturer's labeling or published literature. One or more ingredients reported by the manufacturer is the same as or chemically similar to ingredients identified as having caused or contributed to piping system failure with similar products (the products designated with a 2).
4	These products have recommendations in their manufacturer's published literature not to use them with CPVC. This may not necessarily reflect their compatibility status. They are nevertheless listed here because, as reported by the manufacturer, they should not be used with CPVC.

INCOMPATIBLE PRODUCTS

Do not use the products below with FlowGuard pipe & fittings, BlazeMaster fire sprinkler systems, Corzan industrial systems, and products made with TempRite Technology. If you have any questions about chemical compatibility, contact the product manufacturer for more information.

Antimicrobial Coatings - refer to specific manufacturer listing data.

<https://www.lubrizol.com/CPVC/FBC-System-Compatible-Program/Incompatible-Products>

CPVC COMPATIBILITY

Incompatible Products - Lubrizol

Caulks

Company	Product	Compatibility Hazard
British Gypsum	Gyproc Sealant	1
John Wagner Associates	Grabber Acoustical Sealant GSCS	1
No Nonsense Limited	Nemesis Fire Rated Hybrid Sealant 290ML	2
OSI Sealants (Dartworth Company) / (Ohio Sealants)	Polysensseal All Purpose Adhesive Caulk	1
OSI Sealants (Dartworth Company) / (Ohio Sealants)	Polysensseal Tub & Tile Adhesive Caulk	1
OSI Sealants (Dartworth Company) / (Ohio Sealants)	Pro Series PC-15B Caulk	1
Pecora	AC-20 Acrylic Latex Caulk & Silicone	1
Sika Corporation	SikaFlex Self-Leveling Sealant	1
Specified Technolgies, Inc.	SpecSeal® Smoke 'N' Sound Sealant	3
United States Gypsum	Sheetrock Brand Acoustical Sealant	3
White Lightning	3056 All Purpose Adhesive Caulk	2

Fire Stopping Systems

Company	Product	Compatibility Hazard
3M	Fire Barrier 2003 Silicone	2
3M	Fire Barrier CP25WB+	1
3M	Fire Barrier Sealant FD 150+	3
3M	Fire Barrier Tuck-in Wrap Strips	4
BritChem Limited	FR Intumescent & Acoustic Acrylic Sealant	3
Everbuild	Everbuild Fire Mate Sealant C3	3
Firechem	Intumastic HP	1
Fischer	Fischer FFB-ES Elastoseal	3
Flame Stop	Flame Stop V	1
Hilti	CP506 Smoke and Acoustic Sealant	3

<https://www.lubrizol.com/CPVC/FBC-System-Compatible-Program/Incompatible-Products>

CPVC COMPATIBILITY

Incompatible Products - Lubrizol

Company	Product	Compatibility Hazard
Hilti	CP406 Flexible Firestop Sealant	3
No Nonsense Limited	No Nonsense Intumescent Acrylic Sealant	3
Promat	Grafflex	3
Proset	Proseal Plug, Black	1
Proset	Proseal Plug, Red	2

Leak Detector (See also Other Compatibility Concerns)

Company	Product	Compatibility Hazard
Federal Process Co.	Gasolla Leak Tech	1
G. F. Thompson Co., Ltd.	Masters Leak Detector	1
Radnor Welding Products	Radnor® Leak Test Regulator Temperature	1
RectorSeal®	RectorSeal™ Low-Temp	1
Unipak A/S	Multitec Leak Detecting Spray	3

Mold Cleaners

Company	Product	Compatibility Hazard
Anabec Systems	Anabec Advanced Cleaning Solution	1
Coating Systems Laboratories, Inc.	Zoonoxide	1
Fiberlock Technologies	IAQ Advanced Peroxide Cleaner No. 8314	3
Fiberlock Technologies	ShockWave	1
H. B. Fuller Construction Products	Foster First Defense 40-80 Disinfectant	3
Microban Systems	Microban QCG	3
X-M Industries	Structure-Guard Mold and Mildew Resistant Coating	3

Mold Inhibitors

Company	Product	Compatibility Hazard
Allied Rubbert & Gasket Company (IARGCO)	Super Dope	2
Anti-Seize Technology	TFE Paste	1
Dawcon	Super Lock HI-Strength Stud Lock Grade 2271	2
G.F. Thompson Co., Ltd.	Masters™ Pro-Dope™ with Teflon®	1
General Sealant	GS-600	2
Hercules	Brush-on/Blue Block	2
Hemson Mtg. Inc.	Powerseal #932	2
J.C. Whitlam Mtg. Co.	Seal Unyte Thread & Gasket Sealer	2
Jet Lube, Inc.	Jet Lube V-2	2
Jonar	Tighter-than-Tite	2
Loctite	577	1

<https://www.lubrizol.com/CPVC/FBC-System-Compatible-Program/Incompatible-Products>

CPVC COMPATIBILITY

Incompatible Products - Lubrizol

Company	Product	Compatibility Hazard
Fiberlock Technologies, Inc.	Fiberlock IAQ200	3
Serum Products, LLC	Serum 3000	1

Pipe Clamp

Company	Product	Compatibility Hazard
Naylon Products	Naylon vinyl-coated wire pipe hangers	3

Pipe Tape

Company	Product	Compatibility Hazard
Christy's	Pipe Wrap Tape	2
Pasco	All Weather PVC Pipe Wrap	2
Pro Pak, Inc.	Pipe wrap tape (black)	3
Wonder	No. 413 Pipe Wrap Tape	2

Thread Sealants

Company	Product	Compatibility Hazard
Allied Rubbert & Gasket Company (IARGCO)	Super Dope	2
Anti-Seize Technology	TFE Paste	1
Dawcon	Super Lock HI-Strength Stud Lock Grade 2271	2
G.F. Thompson Co., Ltd.	Masters™ Pro-Dope™ with Teflon®	1
General Sealant	GS-600	2
Hercules	Brush-on/Blue Block	2
Hemson Mtg. Inc.	Powerseal #932	2
J.C. Whitlam Mtg. Co.	Seal Unyte Thread & Gasket Sealer	2
Jet Lube, Inc.	Jet Lube V-2	2
Jonar	Tighter-than-Tite	2
Loctite	577	1

<https://www.lubrizol.com/CPVC/FBC-System-Compatible-Program/Incompatible-Products>

CPVC COMPATIBILITY

Incompatible Products - Lubrizol

Company	Product	Compatibility Hazard
Loctite	Threadlocker242	2
Lyn-Car Products Ltd.	Proseal	2
National Starch & Chemical, Permabond Division	Permabond LH-050	2
National Starch & Chemical, Permabond Division	Permabond LH-054	1
Permatex Company, Inc.	Permatex 14H	2
Rule	High Performance Teflon Thread Sealing Compound	2
Saf-T-Lok Chemical	Saf-T-Lok TPS Anaerobic Adhesive/Sealant, Industrial Grade TPS	2
SOS Products	Teflon Pipe Dope	1
Swagelok Company	SWAK	2

Waterproofing

Company	Product	Compatibility Hazard
Tremco	TREMOR® 250GC single component polyurethane	3

Updated: November 1, 2018
Supersedes: August 15, 2018

Legal Disclaimer

The FBC™ System Compatible Program is a resource made available to manufacturers of ancillary products intended to be used with CPVC to help determine whether a product is chemically compatible with Lubrizol's FlowGuard, BlazeMaster, Corzan and products made with TempRite Technology. Other manufacturers and/or brands of CPVC piping have not been tested as part of the FBC System Compatible Program. The FBC System Compatible program is, therefore, only applicable to the chemical compatibility of ancillary products with the Lubrizol brands of FlowGuard, BlazeMaster, Corzan, and products made with TempRite Technology. This distinction is made because every brand of CPVC piping is made with unique compounds, some of which may contain resins with different molecular weights and varying chlorine content. These characteristics directly impact the performance of the resulting product. Similarly, various CPVC products contain different performance additives. This too affects the performance characteristics of the ancillary product. For these reasons, Lubrizol has no responsibility for any failures occurring as a result of using products in the FBC System Compatible Program with CPVC products other than FlowGuard, BlazeMaster, Corzan, and products made with TempRite Technology.

<https://www.lubrizol.com/CPVC/FBC-System-Compatible-Program/Incompatible-Products>

STAMP

PROJECT

LINCOLN 40 STUDENT HOUSING
1111 OLIVE DRIVE, DAVIS, CA

CUSTOMER

HUMPHREYS & PARTNERS
NEWPORT BEACH, CA

APPROVALS

FIRE DEPARTMENT
LOCAL FIRE MARSHALL
23 RUSSELL BOULEVARD, DAVIS CA 95616
PHONE: (530) 757-5682

INSPECTIONS

PHONE: (503)757-5682
WELD INSPECTION: NO

REVISIONS

NO.	DATE DESCRIPTION
1	FIRE REVIEW COMMENTS

CITY SUPPLY

STATIC PRESSURE: 42 PSI
RESIDUAL PRESSURE: 34 PSI
FLOW @ RESIDUAL: 1250 GPM
TEST LOCATION: 1230 OLIVE DRIVE
TEST DATE: 8/3/18
TESTING AGENCY:
HYDRANT #: 1230 OLIVE DRIVE

ORIENTATION

SCALE

NOT TO SCALE

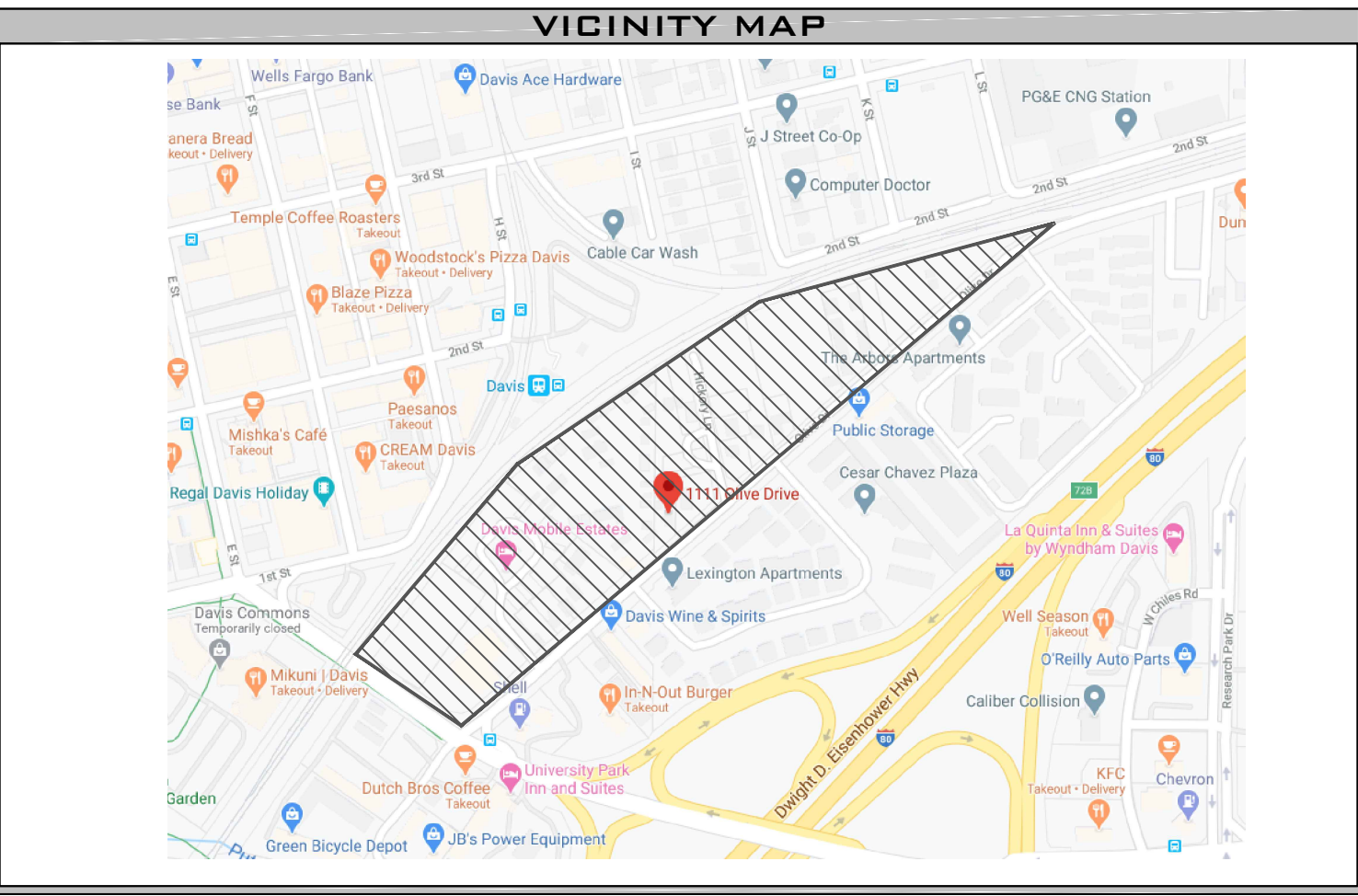
DESCRIPTION

NOTES & INFORMATION

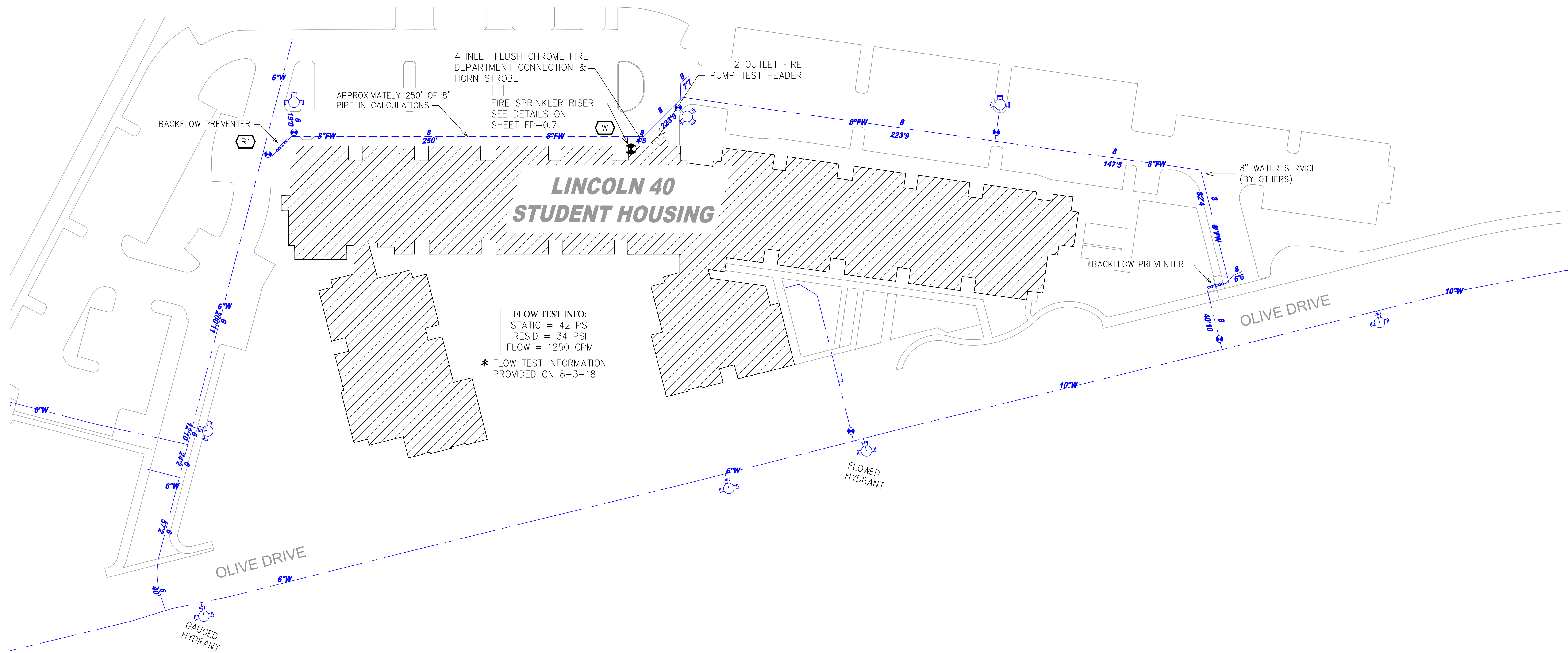
SHEET NUMBER

FP-0.2

JOB NUMBER: -
DRAWN BY: J. YANGAMBEREN
CHECKED BY: E. JOHNSON
PLAN DATE: 05/18/2020
PRINT DATE: 05/18/2020



UNDERGROUND NOTE
 ALL UNDERGROUND PIPING IS BY OTHERS AND IS SHOWN FOR HYDRAULIC REFERENCE ONLY. SEE ARCHITECTURAL & UTILITY DRAWINGS.



FLOW TEST INFO:
 STATIC = 42 PSI
 RESID = 34 PSI
 FLOW = 1250 GPM
 * FLOW TEST INFORMATION PROVIDED ON 8-3-18

STAMP

PROJECT
LINCOLN 40 STUDENT HOUSING
 1111 OLIVE DRIVE, DAVIS, CA

CUSTOMER
HUMPHREYS & PARTNERS
 NEWPORT BEACH, CA

APPROVALS
FIRE DEPARTMENT
 LOCAL FIRE MARSHALL
 23 RUSSELL BOULEVARD, DAVIS CA 95616
 PHONE: (530) 757-5682

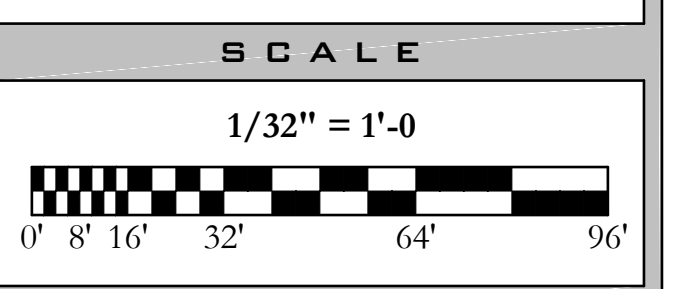
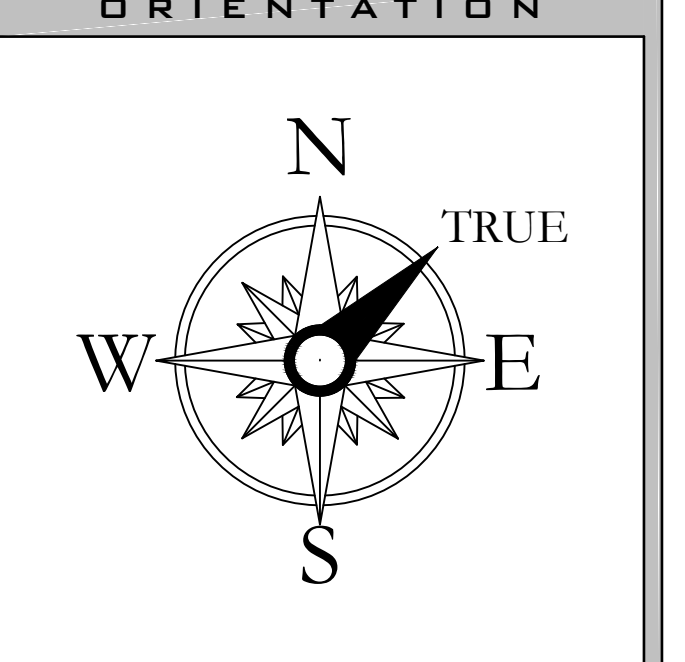
INSPECTIONS
 PHONE: (503)757-5682
 WELD INSPECTION: NO

REVISIONS

NO.	DATE	DESCRIPTION
1		FIRE REVIEW COMMENTS

CITY SUPPLY

STATIC PRESSURE:	42 PSI
RESIDUAL PRESSURE:	34 PSI
FLOW @ RESIDUAL:	1250 GPM
TEST LOCATION:	1230 OLIVE DRIVE
TEST DATE:	8/3/18
TESTING AGENCY:	
HYDRANT #:	1230 OLIVE DRIVE



DESCRIPTION
 FIRE WATER SITE PLAN

SHEET NUMBER
FP-0.3

JOB NUMBER: -
DRAWN BY: J. YANGAMBEREN
CHECKED BY: E. JOHNSON
PLAN DATE: 05/18/2020
PRINT DATE: 05/18/2020



FIRST FLOOR HOSE REACH PLAN



SECOND FLOOR HOSE REACH PLAN

STAMP

PROJECT

**LINCOLN 40
STUDENT
HOUSING**
1111 OLIVE DRIVE, DAVIS, CA

CUSTOMER

**HUMPHREYS &
PARTNERS**
NEWPORT BEACH, CA

APPROVALS

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LOCAL FIRE MARSHALL
23 RUSSELL BOULEVARD, DAVIS CA 95616
PHONE: (530) 757-5682

INSPECTIONS

PHONE: (503)757-5682
WELD INSPECTION: NO

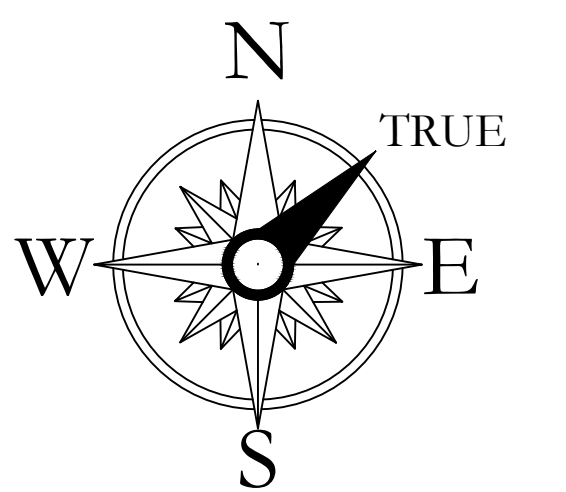
REVISIONS

NO.	DATE	DESCRIPTION
1		FIRE REVIEW COMMENTS

CITY SUPPLY

STATIC PRESSURE: 42 PSI
RESIDUAL PRESSURE: 34 PSI
FLOW @ RESIDUAL: 1250 GPM
TEST LOCATION: 1230 OLIVE DRIVE
TEST DATE: 8/3/18
TESTING AGENCY:
HYDRANT #: 1230 OLIVE DRIVE

ORIENTATION



SCALE

1/16" = 1'-0"
0' 4' 8' 16' 32' 48'

DESCRIPTION

HOSE REACH PLANS
FIRST - SECOND FLOORS

SHEET NUMBER

FP-0.4

JOB NUMBER: -
DRAWN BY: J. VANGAMMERN
CHECKED BY: E. JOHNSON
PLAN DATE: 05/18/2020
PRINT DATE: 05/18/2020



THIRD FLOOR HOSE REACH PLAN



FOURTH FLOOR HOSE REACH PLAN

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LINCOLN 40 STUDENT HOUSING
1111 OLIVE DRIVE, DAVIS, CA

CUSTOMER

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23 RUSSELL BOULEVARD, DAVIS CA 95616
PHONE: (530) 757-5682

INSPECTIONS

PHONE: (503)757-5682
WELD INSPECTION: NO

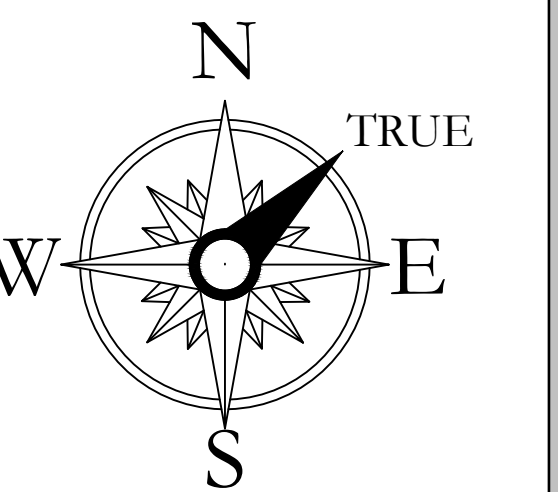
REVISIONS

NO.	DATE	DESCRIPTION
1		FIRE REVIEW COMMENTS

CITY SUPPLY

STATIC PRESSURE: 42 PSI
RESIDUAL PRESSURE: 34 PSI
FLOW @ RESIDUAL: 1250 GPM
TEST LOCATION: 1230 OLIVE DRIVE
TEST DATE: 8/3/18
TESTING AGENCY:
HYDRANT #: 1230 OLIVE DRIVE

ORIENTATION



SCALE

1/16" = 1'-0"
0' 4' 8' 16' 32' 48'

DESCRIPTION

HOSE REACH PLANS
THIRD - FOURTH FLOORS

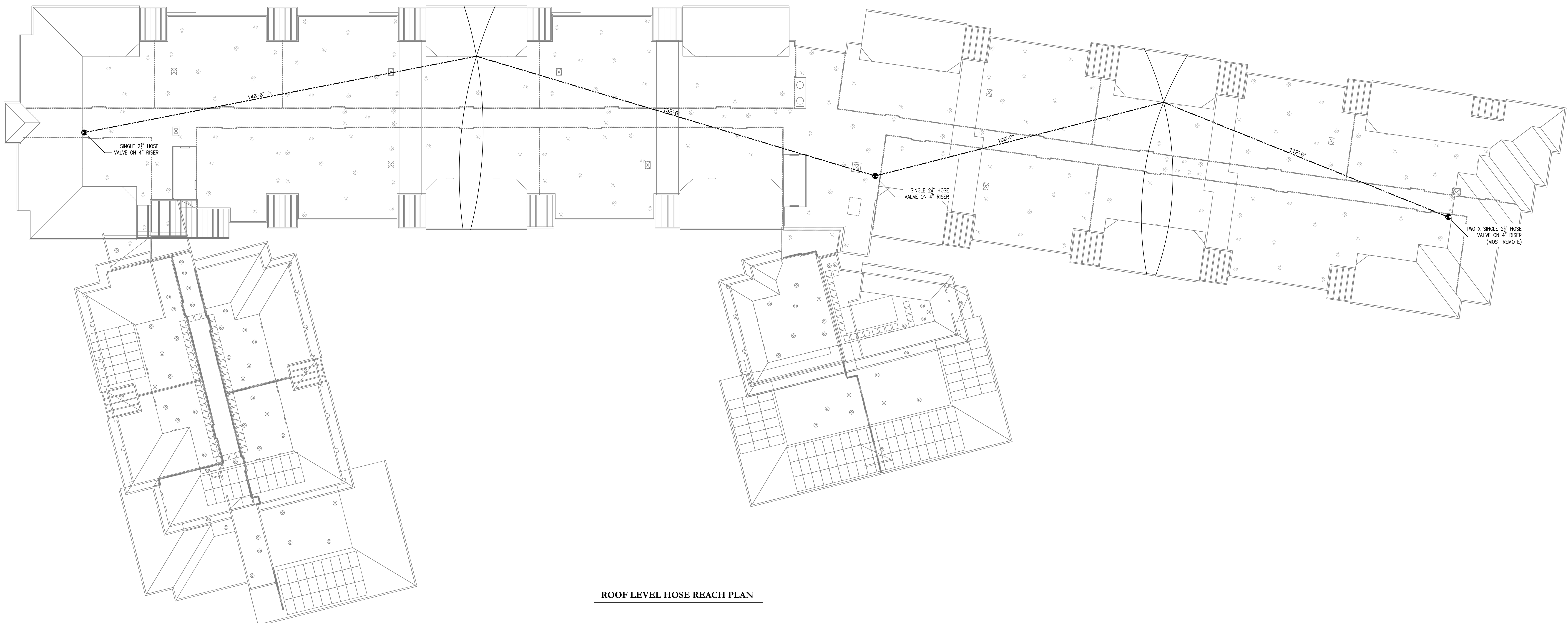
SHEET NUMBER

FP-0.5

JOB NUMBER: -
DRAWN BY: J. VANGAMBEREN
CHECKED BY: E. JOHNSON
PLAN DATE: 05/18/2020
PRINT DATE: 05/18/2020



FIFTH FLOOR HOSE REACH PLAN



ROOF LEVEL HOSE REACH PLAN

STAMP

PROJECT

**LINCOLN 40
STUDENT
HOUSING**
1111 OLIVE DRIVE, DAVIS, CA

CUSTOMER

**HUMPHREYS &
PARTNERS**
NEWPORT BEACH, CA

APPROVALS

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23 RUSSELL BOULEVARD, DAVIS CA 95616
PHONE: (530) 757-5682

INSPECTIONS

PHONE: (503)757-5682
WELD INSPECTION: NO

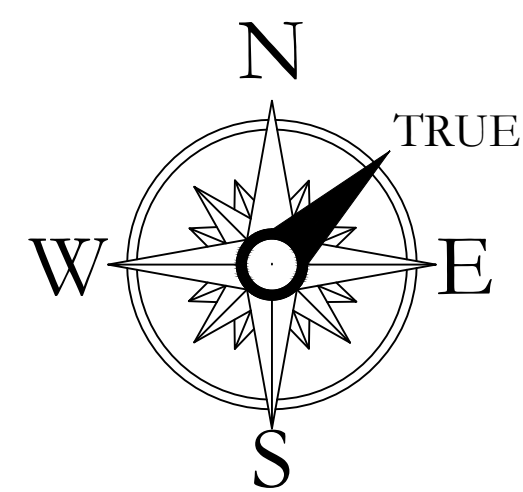
REVISIONS

NO.	DATE	DESCRIPTION
1		FIRE REVIEW COMMENTS

CITY SUPPLY

STATIC PRESSURE: 42 PSI
RESIDUAL PRESSURE: 34 PSI
FLOW @ RESIDUAL: 1250 GPM
TEST LOCATION: 1230 OLIVE DRIVE
TEST DATE: 8/3/18
TESTING AGENCY:
HYDRANT #: 1230 OLIVE DRIVE

ORIENTATION



SCALE

1/16" = 1'-0"
0' 4' 8' 16' 32' 48'

DESCRIPTION

HOSE REACH PLANS
FIFTH FLOOR - ROOF LEVEL

SHEET NUMBER

FP-0.6

JOB NUMBER:
DRAWN BY: J. VANGAMBEREN
CHECKED BY: E. JOHNSON
PLAN DATE: 05/18/2020
PRINT DATE: 05/18/2020

FIRE PUMP DATA	
MAKE	PENTAIR
TYPE	INLINE
MODEL	4-383-9
SIZE	4X5X9
RATED FLOW	400.0 GPM
RATED PRESSURE	100.0 PSI
RPM	3560
ROTATION	RIGHT HANDED
SUCTION SIZE	5.00 INCH
DISCHARGE SIZE	4.00 INCH
IMPELLER DIAMETER	7.81 INCH
ESTIMATED WEIGHT	1262 LB.

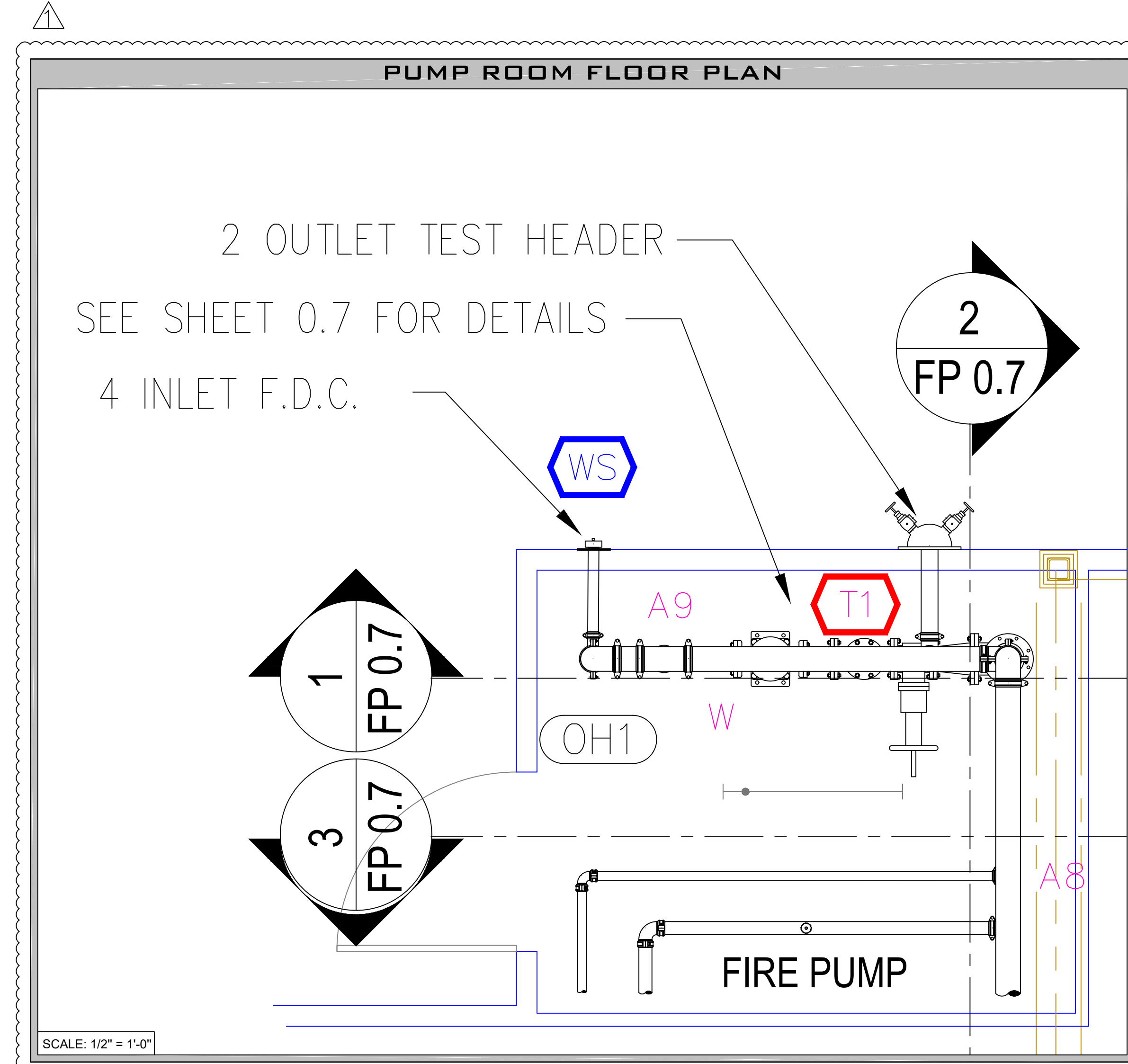
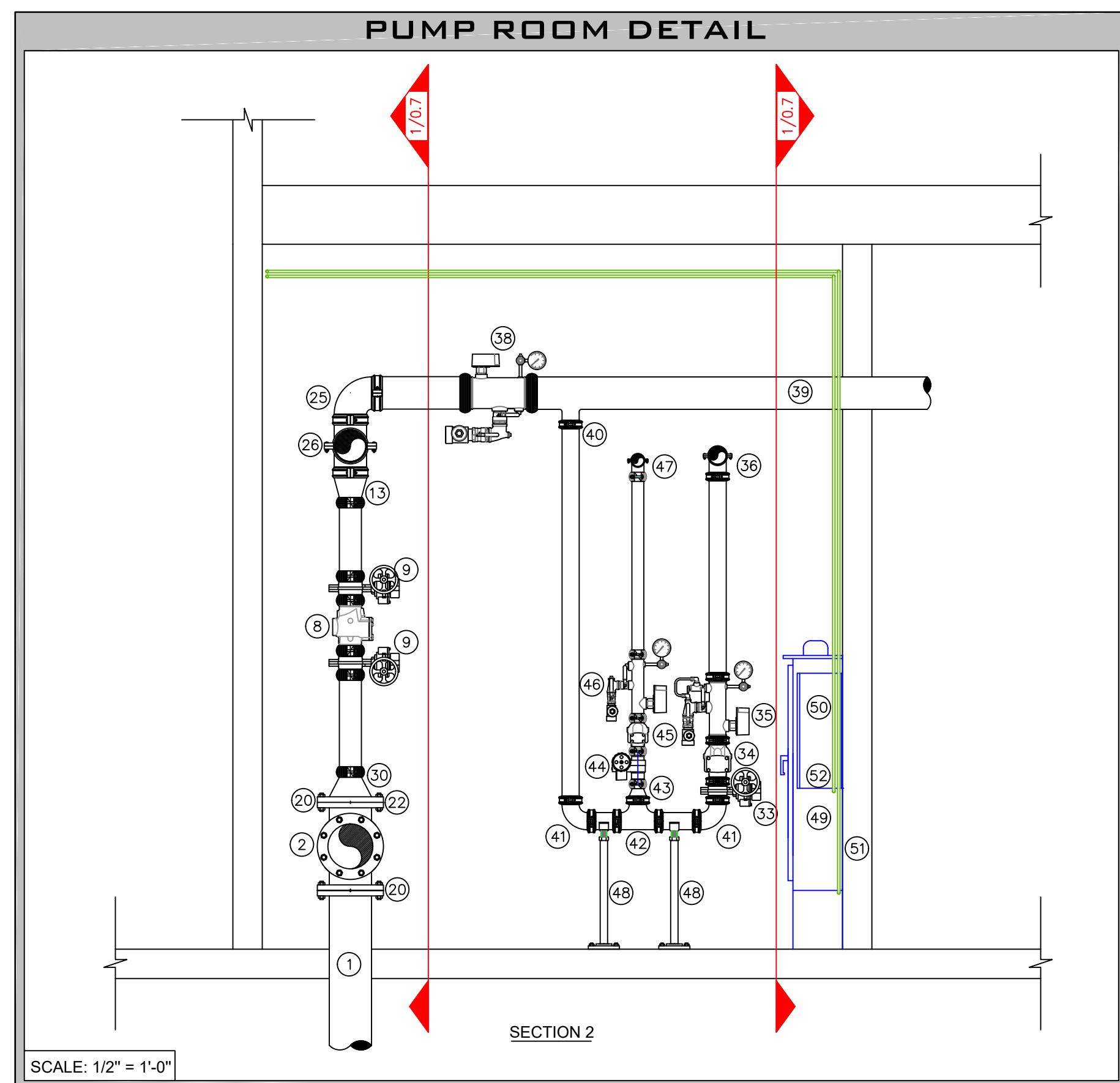
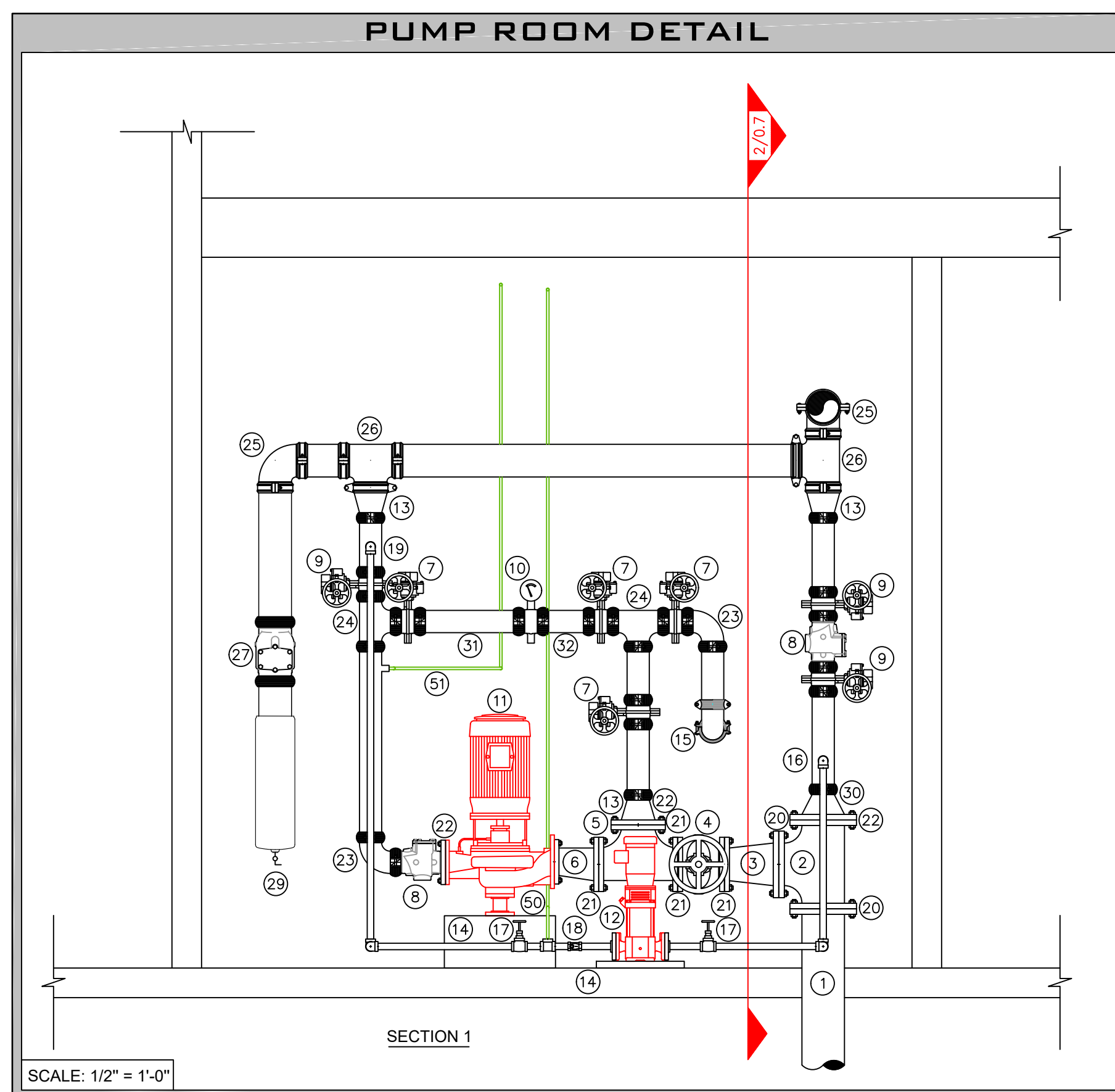
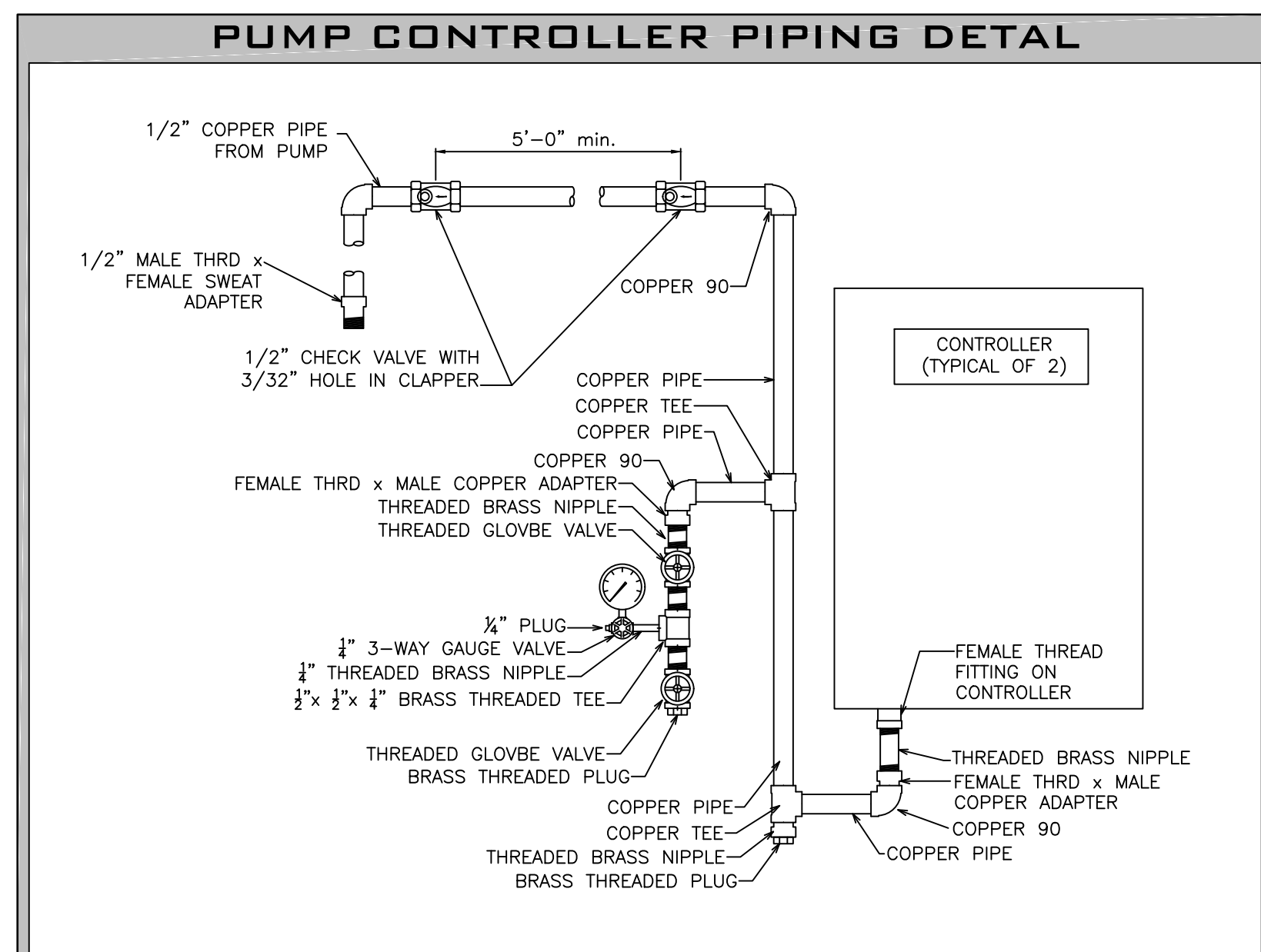
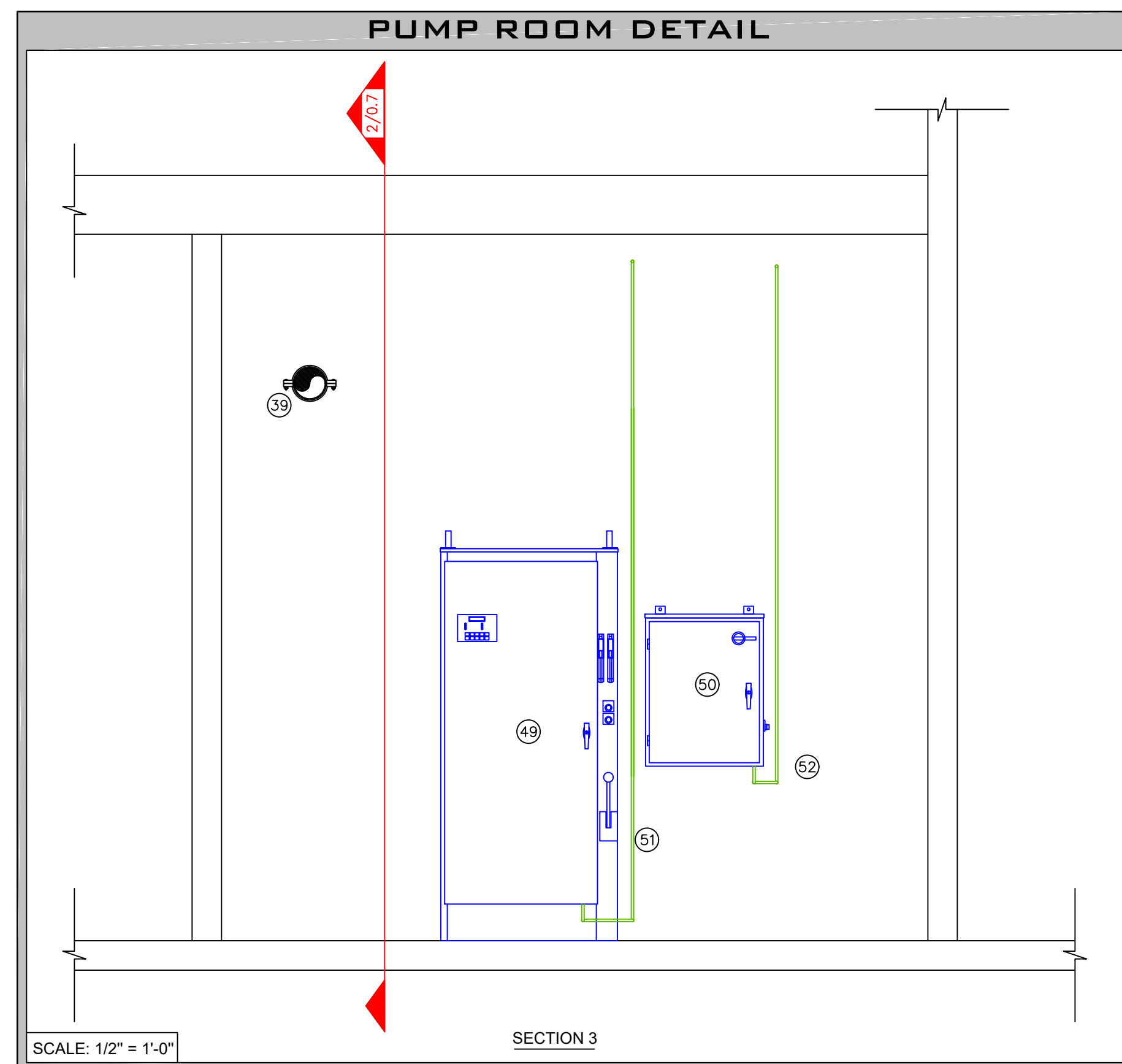
DRIVER DATA	
TYPE	ELECTRIC
POWER	40.00 HP
PHASE	3 PHASE
HERTZ	60 HZ
VOLTS	208V
RPM	3560
ESTIMATED WEIGHT	349 LB.

JOCKEY PUMP DATA	
MAKE	PENTAIR
MODEL	PVM1-10
FLOW RATING	5.00 GPM
SUCTION SIZE	1.25 INCH
DISCHARGE SIZE	1.25 INCH
POWER	1.50 HP
PHASE	3 PHASE
VOLTS	200

STAND PIPE DATA	
MANUAL WET STANDPIPE	
LOCATION: ROOF LEVEL	
REQUIRED FLOW: 1,000 GPM	
OUTLET PSI: 100	
REQUIRED INLET PSI: 147.6	

FIRE PUMP CONTROL PANEL DATA	
MAKE	TORNATECH
MODEL	GPA
VOLTAGE	208V
MIN. HP	40 HP
MAX. HP	60 HP
REMOTE ALARMS	PHASE REVERSAL, MOTOR RUN, FAIL TO START

SYSTEM MONITORING
VALVE MONITORING, WATER-FLOW ALARM, AND TROUBLE SIGNALS SHALL BE AUTOMATICALLY TRANSMITTED TO AN APPROVED CENTRAL STATION. THIS WORK IS DONE BY OTHERS.



#	DESCRIPTION
1.	8" UNDERGROUND WATER SERVICE (BY OTHERS)
2.	8" FLANGED TEE
3.	8"x6" FLANGED REDUCER
4.	6" GATED OS&Y VALVE w/ TAMPER (NORMALLY OPEN)
5.	6" FLANGED TEE
6.	6" X 5" FLANGED ECCENTRIC REDUCER
7.	4" GROOVED BUTTERFLY VALVE w/ TAMPER (NORMALLY CLOSED)
8.	4" GROOVED CHECK VALVE
9.	4" GROOVED BUTTERFLY VALVE w/ TAMPER (NORMALLY OPEN)
10.	4" FLOW METER
11.	AURORA FIRE PUMP 400gpm @ 100psi
12.	AURORA JOCKEY PUMP
13.	6"x4" GROOVED CONC. REDUCER
14.	HOUSEKEEPING PAD
15.	TO FIRE PUMP TEST HEADER
16.	1 1/2" FEED TO JOCKEY PUMP
17.	1 1/2" OS&Y CONTROL VALVE w/ TAMPER
18.	1 1/2" CHECK VALVE
19.	1 1/2" FROM JOCKEY PUMP
20.	8" FLANGE PACK
21.	6" FLANGE PACK
22.	GROOVE X FLANGE ADAPTOR
23.	4" GROOVED 90
24.	4" GROOVED TEE
25.	6" GROOVE 90
26.	6" GROOVE TEE
27.	6" GROOVED CHECK VALVE
28.	6" X 4 WAY F.D.C.
29.	BALL DRIP
30.	8" X 4" GROOVED BELL REDUCER
31.	5 PIPE DIAMETERS MINIMUM
32.	2 PIPE DIAMETERS MINIMUM
33.	3" GROOVED BUTTERFLY VALVE w/ TAMPER (NORMALLY OPEN)
34.	3" GROOVED CHECK VALVE
35.	3" GROOVED COMMERCIAL RISER MANIFOLD w/ FLOW SWITCH, PRESSURE GAUGE, & TEST AND DRAIN
36.	3" TO ZONE 1.1 WET SYSTEM
37.	6" GROOVED BUTTERFLY VALVE w/ TAMPER (NORMALLY OPEN)
38.	6" GROOVED COMMERCIAL RISER MANIFOLD w/ FLOW SWITCH, PRESSURE GAUGE, & TEST AND DRAIN
39.	6" TO COMBINED STANDPIPE SYSTEM
40.	3" TO 1ST FLOOR ISOLATION VALVES
41.	3" GROOVED 90
42.	3" GROOVED TEE
43.	3" X 2" GROOVED CONC. REDUCER
44.	2" GROOVED BUTTERBALL VALVE
45.	2" GROOVED CHECK VALVE
46.	2" GROOVED COMMERCIAL RISER MANIFOLD w/ FLOW SWITCH, PRESSURE GAUGE, & TEST AND DRAIN
47.	2" TO ZONE 2.1 WET SYSTEM
48.	PIPE STAND
49.	FIRE PUMP CONTROLLER / TRANSFER SWITCH
50.	JOCKEY PUMP CONTROLLER
51.	FIRE PUMP SENSING LINE (SEE DETAIL ON THIS PAGE FOR MORE INFO)
52.	JOCKEY PUMP SENSING LINE (SEE DETAIL ON THIS PAGE FOR MORE INFO)

STAMP

PROJECT
LINCOLN 40 STUDENT HOUSING
1111 OLIVE DRIVE, DAVIS, CA

CUSTOMER
HUMPHREYS & PARTNERS
NEWPORT BEACH, CA

APPROVALS
FIRE DEPARTMENT
LOCAL FIRE MARSHALL
25 RUSSELL BOULEVARD, DAVIS CA95616
PHONE: (530) 757-5682

INSPECTIONS
PHONE: (503)757-5682
WELD INSPECTION: NO

REVISIONS

NO.	DATE	DESCRIPTION
1		FIRE REVIEW COMMENTS

CITY SUPPLY
STATIC PRESSURE: 42 PSI
RESIDUAL PRESSURE: 34 PSI
FLOW @ RESIDUAL: 1250 GPM
TEST LOCATION: 1230 OLIVE DRIVE
TEST DATE: 8/3/18
TESTING AGENCY:
HYDRANT #: 1230 OLIVE DRIVE

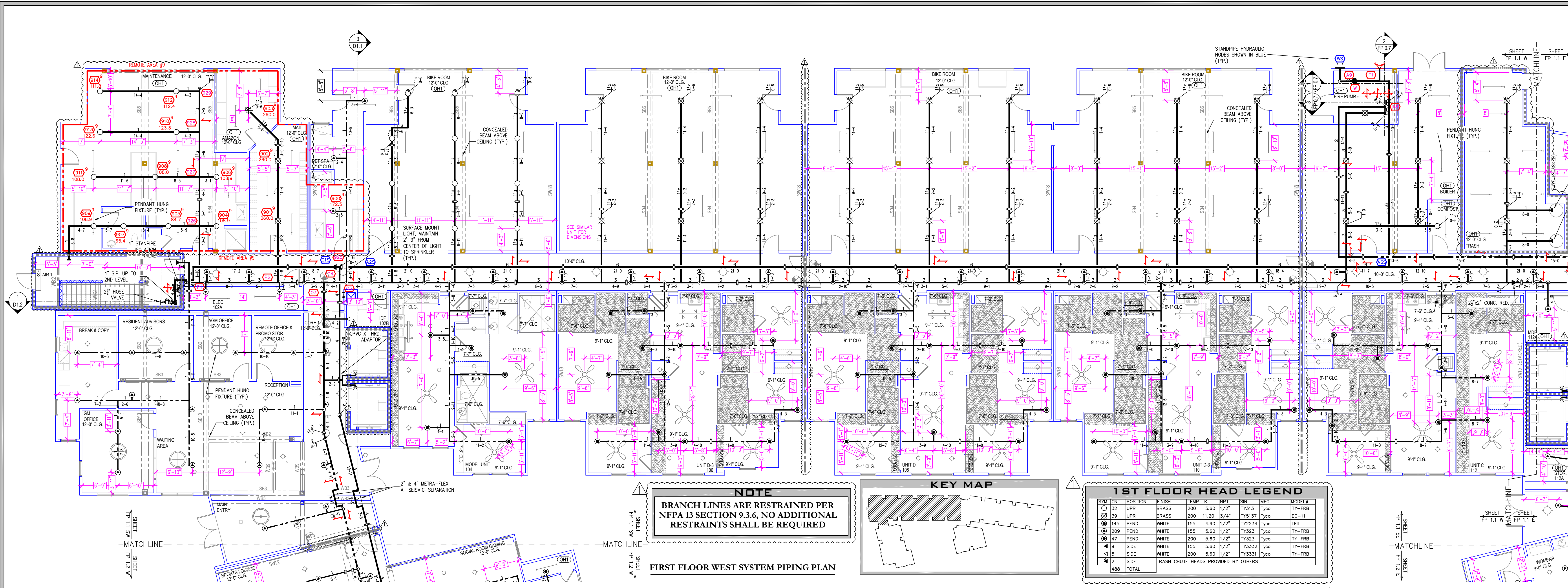
ORIENTATION

SCALE
NOT TO SCALE

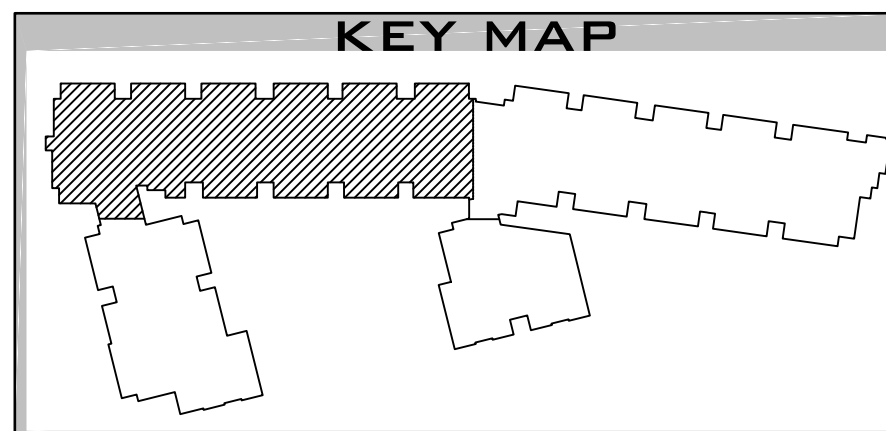
DESCRIPTION
ENLARGED FIRE PUMP PLAN

SHEET NUMBER
FP-0.7

JOB NUMBER:
DRAWN BY: J. VANGAMBEREN
CHECKED BY: E. JOHNSON
PLAN DATE: 05/18/2020
PRINT DATE: 05/18/2020

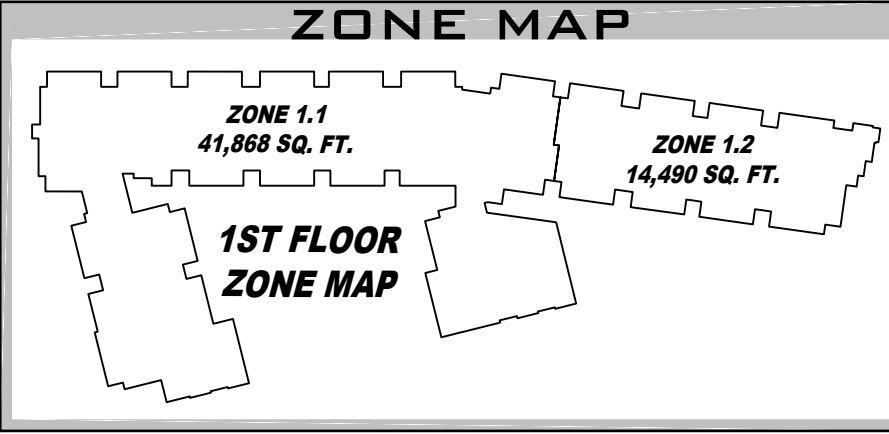
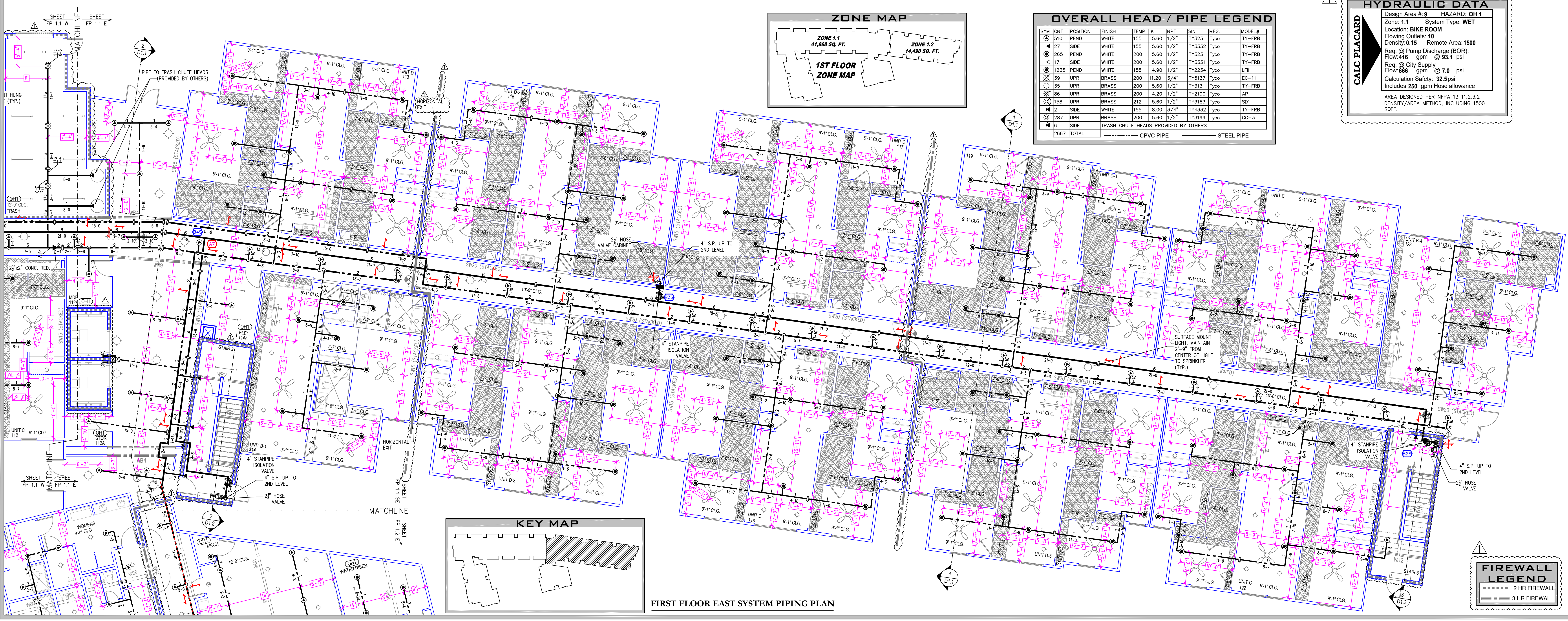


NOTE
BRANCH LINES ARE RESTRAINED PER NFPA 13 SECTION 9.3.6, NO ADDITIONAL RESTRAINTS SHALL BE REQUIRED



1ST FLOOR HEAD LEGEND

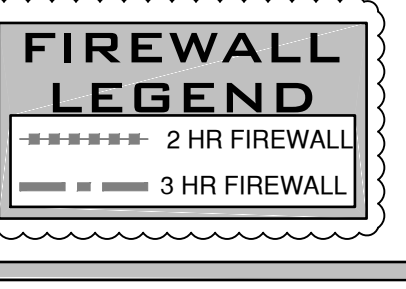
SYM	QTY	POSITION	FINISH	TEMP	K	INPT	SIN	MFG.	MODEL#
⊙	132	UPR	BRASS	200	5.60	1/2"	TY313	Typo	TY-FRB
⊙	39	UPR	BRASS	200	11.20	3/4"	TY5137	Typo	EC-11
⊙	145	PEND	WHITE	155	4.90	1/2"	TY2234	Typo	LFI
⊙	209	PEND	WHITE	155	5.60	1/2"	TY323	Typo	TY-FRB
⊙	47	PEND	WHITE	200	5.60	1/2"	TY323	Typo	TY-FRB
⊙	4	SIDE	WHITE	155	5.60	1/2"	TY3332	Typo	TY-FRB
⊙	1	SIDE	WHITE	200	5.60	1/2"	TY3331	Typo	TY-FRB
⊙	12	SIDE	TRASH CHUTE HEADS PROVIDED BY OTHERS						
	488	TOTAL							



OVERALL HEAD / PIPE LEGEND

SYM	QTY	POSITION	FINISH	TEMP	K	INPT	SIN	MFG.	MODEL#
⊙	510	PEND	WHITE	155	5.60	1/2"	TY323	Typo	TY-FRB
⊙	265	PEND	WHITE	200	5.60	1/2"	TY323	Typo	TY-FRB
⊙	17	SIDE	WHITE	200	5.60	1/2"	TY3331	Typo	TY-FRB
⊙	1235	PEND	WHITE	155	4.90	1/2"	TY2234	Typo	LFI
⊙	39	UPR	BRASS	200	11.20	3/4"	TY5137	Typo	EC-11
⊙	135	UPR	BRASS	200	5.60	1/2"	TY313	Typo	TY-FRB
⊙	66	UPR	BRASS	200	4.20	1/2"	TY2190	Typo	AF
⊙	158	UPR	BRASS	212	5.60	1/2"	TY3183	Typo	SD1
⊙	12	SIDE	WHITE	155	8.00	3/4"	TY4332	Typo	TY-FRB
⊙	287	UPR	BRASS	200	5.60	1/2"	TY3199	Typo	CC-3
⊙	6	SIDE	TRASH CHUTE HEADS PROVIDED BY OTHERS						
	2667	TOTAL							

HYDRAULIC DATA
Design Area # 8 HAZARD: OH 1
Zone: 1.1 System Type: WET
Location: BIKE ROOM
Flowing Outlets: 10
Density: 0.15 Remote Area: 1500
Req. @ Pump Discharge (BOR):
Flow: 416 gpm @ 93.1 psi
Res. @ City Supply
Flow: 666 gpm @ 7.0 psi
Calculation Safety: 32.5psi
Includes 250 gpm Hose allowance
AREA DESIGNED PER NFPA 13 11.2.3.2
DENSITY/AREA METHOD, INCLUDING 1500
SQFT.



STAMP

PROJECT
LINCOLN 40 STUDENT HOUSING
1111 OLIVE DRIVE, DAVIS, CA

CUSTOMER
HUMPHREYS & PARTNERS
NEWPORT BEACH, CA

APPROVALS

FIRE DEPARTMENT
LOCAL FIRE MARSHALL
23 RUSSELL BOULEVARD, DAVIS CA 95616
PHONE: (530) 757-5662

INSPECTIONS
PHONE: (503) 757-5682
WELD INSPECTION: NO

REVISIONS

NO.	DATE	DESCRIPTION
1		FIRE REVIEW COMMENTS

CITY SUPPLY

STATIC PRESSURE: 42 PSI
RESIDUAL PRESSURE: 34 PSI
FLOW @ RESIDUAL: 1250 GPM
TEST LOCATION: 1230 OLIVE DRIVE
TEST DATE: 8/3/18
TESTING AGENCY:
HYDRANT #: 1230 OLIVE DRIVE

ORIENTATION

SCALE
1/8" = 1'-0"
0' 2' 4' 8' 16' 24'

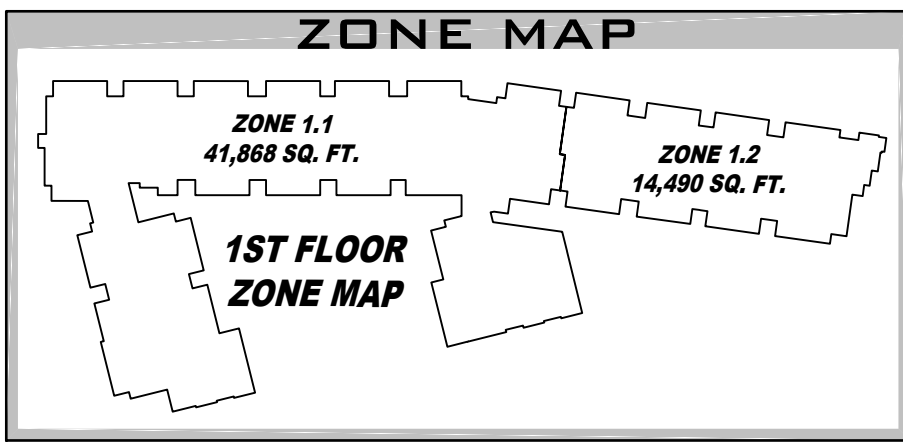
DESCRIPTION
1ST FLOOR SYSTEM PIPING PLAN
SHEET NUMBER
FP-1.1

JOB NUMBER:
DRAWN BY: J. VANGAMBEREN
CHECKED BY: E. JOHNSON
PLAN DATE: 05/18/2020
PRINT DATE: 05/18/2020

NOTE
BRANCH LINES ARE RESTRAINED PER NFPA 13 SECTION 9.3.6, NO ADDITIONAL RESTRAINTS SHALL BE REQUIRED

1ST FLOOR HEAD LEGEND

SYM	UNIT	POSITION	FINISH	TEMP	K	NPT	SN	MPG.	MODEL #
○	152	UPR	BRASS	200	5.60	1/2"	TY313	TYco	TY-FRB
○	159	UPR	BRASS	200	11.20	3/4"	TY313	TYco	EG-11
○	145	PEND	WHITE	155	4.90	1/2"	TY2234	TYco	LFII
○	209	PEND	WHITE	155	5.60	1/2"	TY323	TYco	TY-FRB
○	47	PEND	WHITE	200	5.60	1/2"	TY323	TYco	TY-FRB
○	1	SIDE	WHITE	155	5.60	1/2"	TY3332	TYco	TY-FRB
○	1	SIDE	WHITE	200	5.60	1/2"	TY3331	TYco	TY-FRB
○	12	SIDE	TRASH CHUTE HEADS PROVIDED BY OTHERS						
○	488	TOTAL							



OVERALL HEAD / PIPE LEGEND

SYM	UNIT	POSITION	FINISH	TEMP	K	NPT	SN	MPG.	MODEL #
○	510	PEND	WHITE	155	5.60	1/2"	TY323	TYco	TY-FRB
○	127	SIDE	WHITE	155	5.60	1/2"	TY3332	TYco	TY-FRB
○	285	PEND	WHITE	200	5.60	1/2"	TY323	TYco	TY-FRB
○	117	SIDE	WHITE	200	5.60	1/2"	TY3331	TYco	TY-FRB
○	1235	PEND	WHITE	155	4.90	1/2"	TY2234	TYco	LFII
○	39	UPR	BRASS	200	11.20	3/4"	TY313	TYco	EG-11
○	155	UPR	BRASS	200	5.60	1/2"	TY313	TYco	TY-FRB
○	186	UPR	BRASS	200	4.20	1/2"	TY2190	TYco	AP
○	158	UPR	BRASS	212	5.60	1/2"	TY3163	TYco	SD1
○	12	SIDE	WHITE	155	8.00	3/4"	TY4332	TYco	TY-FRB
○	287	UPR	BRASS	200	5.60	1/2"	TY3199	TYco	CC-3
○	16	SIDE	TRASH CHUTE HEADS PROVIDED BY OTHERS						
○	2867	TOTAL							

--- CPVC PIPE --- STEEL PIPE



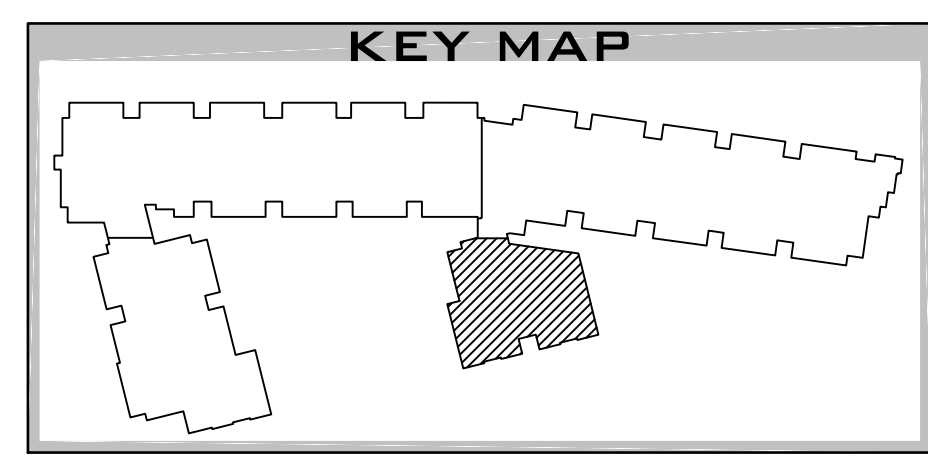
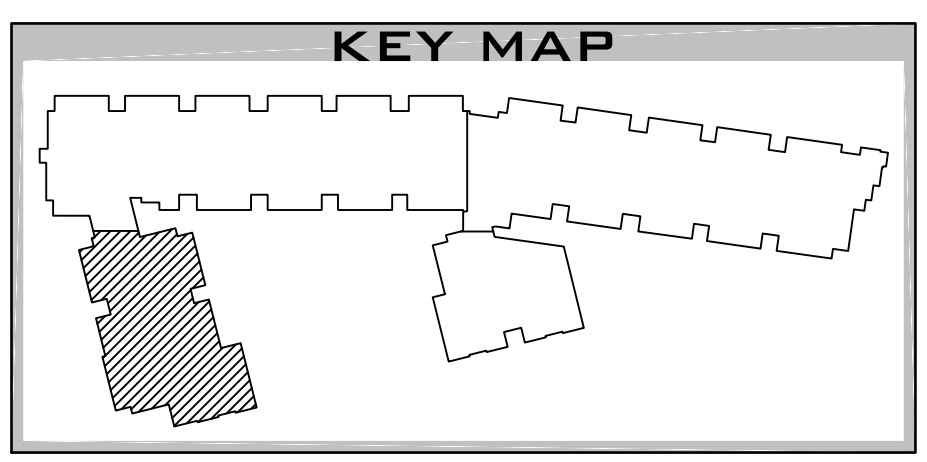
FIRST FLOOR SOUTH WEST SYSTEM PIPING PLAN



FIRST FLOOR SOUTH EAST SYSTEM PIPING PLAN

HYDRAULIC DATA

Design Area # 8 HAZARD: LIGHT
Zone: 1.1 System Type: WET
Location: LOUNGE
Flowing Outlets: 7 Remote Area: 945
Req. @ Pump Discharge (BOR):
Flow: 157 gpm @ 105.6psi
Req. @ City Supply
Flow: 287 gpm @ 3.2 psi
Calculation Safety: 38.3psi
Includes 100 gpm Hose allowance
AREA DESIGNED PER NFPA 13 11.2.3.2 DENSITY/AREA METHOD INCLUDING QUICK RESPONSE REDUCTION PER NFPA 13 11.2.3.2.3 AND 37' ALONG THE BRANCH LINE.



STAMP

PROJECT
LINCOLN 40 STUDENT HOUSING
1111 OLIVE DRIVE, DAVIS, CA

CUSTOMER
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APPROVALS

FIRE DEPARTMENT
LOCAL FIRE MARSHALL
23 RUSSELL BOULEVARD, DAVIS CA 95616
PHONE: (530) 757-5662

INSPECTIONS
PHONE: (503) 757-5682
WELD INSPECTION: NO

REVISIONS

NO.	DATE	DESCRIPTION
1		FIRE REVIEW COMMENTS

CITY SUPPLY

STATIC PRESSURE: 42 PSI
RESIDUAL PRESSURE: 34 PSI
FLOW @ RESIDUAL: 1250 GPM
TEST LOCATION: 1230 OLIVE DRIVE
TEST DATE: 8/3/18
TESTING AGENCY:
HYDRANT #: 1230 OLIVE DRIVE

ORIENTATION

SCALE
1/8" = 1'-0"
0' 2' 4' 8' 16' 24'

DESCRIPTION
1ST FLOOR SYSTEM PIPING PLAN
SHEET NUMBER
FP-1.2

JOB NUMBER:
DRAWN BY: J. VANGAMBEREN
CHECKED BY: E. JOHNSON
PLAN DATE: 05/18/2020
PRINT DATE: 05/18/2020