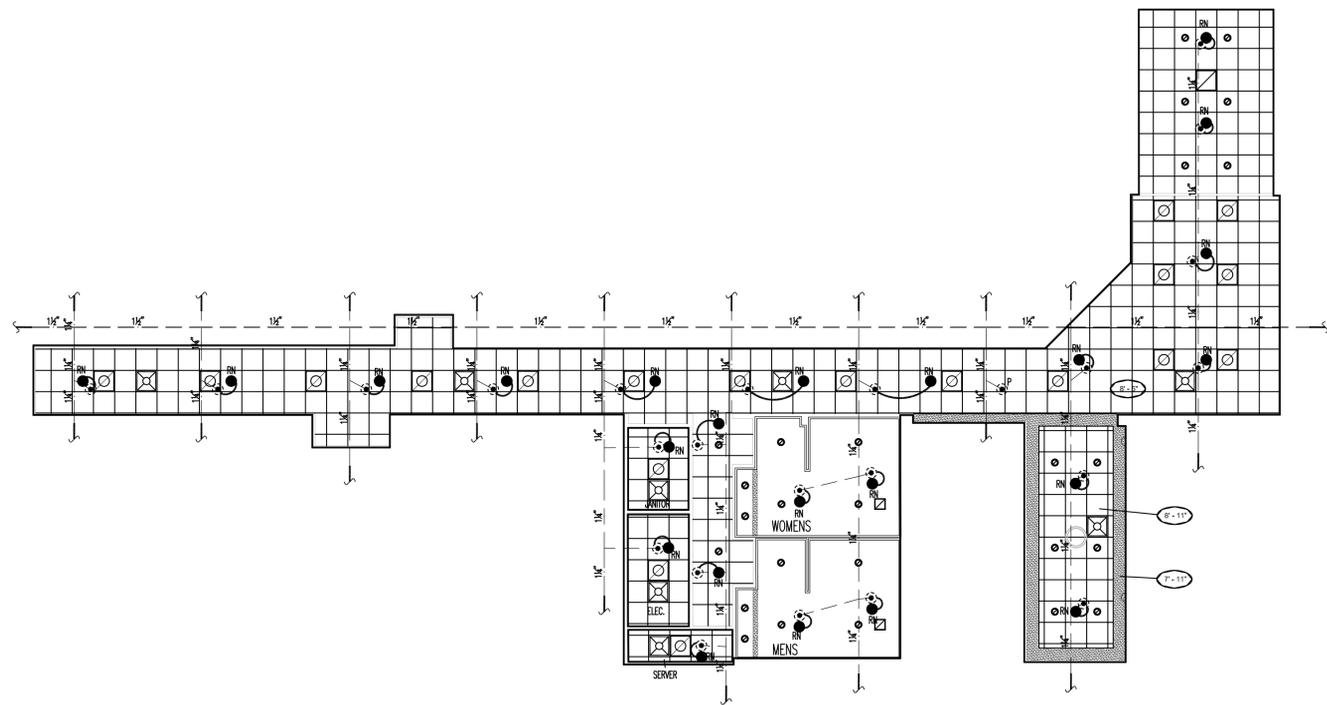


- SEE THE FIRE PROTECTION EQUIPMENT DATA FOR ALL APPLICABLE MATERIALS AND EQUIPMENT INSTALLED UNDER THIS CONTRACT.
- THIS SET OF FIRE PROTECTION PLANS AND HYDRAULIC CALCULATIONS HAVE BEEN DESIGNED BY ARAPAHOE FIRE PROTECTION IN THEIR ENTIRETY, AND HAVE BEEN SEALED BY A PROFESSIONAL ENGINEER OR MINIMUM NICET LEVEL III ENGINEER AS REQUIRED BY THE STATE OF COLORADO.
- THESE FIRE PROTECTION PLANS AND CALCULATIONS HAVE BEEN DESIGNED PER NFPA 13, 2002, PROJECT SPECIFICATIONS, AND APPLICABLE STATE CODES AND REGULATIONS.
- ALL MATERIALS AND DEVICES INSTALLED UNDER THIS CONTRACT SHALL BE UL LISTED AND/OR FACTORY MUTUAL APPROVED.
- SCOPE OF WORK IS TO MODIFY THE EXISTING HYDRAULICALLY CALCULATED FIRE SPRINKLER SYSTEM TO ACCOMMODATE THE NEW TENANT FINISH AREA, THE MODIFICATIONS SHOWN ON THESE PLANS SHOULD NOT ADVERSELY AFFECT THE HYDRAULICS OF THE EXISTING SPRINKLER SYSTEM CURRENTLY INSTALLED.
- ALL MATERIALS, DEVICES, AND HANGERS SHALL BE INSTALLED IN ACCORDANCE WITH THEIR LISTINGS AND MINIMUM APPLICABLE NFPA 13, 2002 ENGINEERING STANDARDS.
- UNDER THIS CONTRACT ARAPAHOE FIRE PROTECTION SHALL BEGIN ITS WORK AT THE NEW 6" U.G. FLANGE INSIDE INSIDE ROOM #115. WE WILL DESIGN AND INSTALL A NEW WET SPRINKLER SYSTEM IN THE NEW BUILDING.
- VALVES CONTROLLING WATER SUPPLY TO 20 OR MORE SPRINKLERS SHALL BE ELECTRICALLY SUPERVISED AND SHALL BE MONITORED BY AN APPROVED MONITORING AGENCY. ANY AND ALL ELECTRICAL AND/OR ALARM WIRING, CONNECTIONS AND TERMINATIONS, OR HORN AND STROBE(S) SHALL BE BY OTHERS. FIRE ALARM SYSTEMS (BY OTHERS) SHALL BE INTERCONNECTED WITH FIRE SPRINKLER SYSTEMS FLOW SWITCH AND HORN AND STROBE(S).
- IT IS THE RESPONSIBILITY OF THE OWNER OR OTHERS TO PROVIDE, INSTALL AND MAINTAIN AN APPROVED MONITORING SYSTEM OF ALL FIRE PROTECTION SYSTEM COMPONENTS ELECTRICAL OR OTHERWISE INSTALLED UNDER THIS CONTRACT.
- IT SHALL BE THE SOLE RESPONSIBILITY OF THE OWNER TO PROVIDE ADEQUATE HEAT THROUGHOUT THE FACILITY WHERE WET PIPE SPRINKLER SYSTEMS ARE PRESENT, TO PREVENT FREEZING OF SPRINKLER SYSTEM COMPONENTS (MIN 40° F).
- THE OWNER SHALL MAINTAIN A CLEAR SPACE OF 18" BETWEEN THE TOP OF STORAGE AND STANDARD SPRAY SPRINKLERS.
- ALL SPRINKLER PIPING PENETRATIONS THROUGH FIRE RATED ASSEMBLIES SHALL BE SEALED WITH AN APPROVED MATERIAL EQUAL TO THE RATING OF SUCH ASSEMBLY PENETRATED.
- ALL NEW SPRINKLER PIPING UNDER THIS CONTRACT SHALL BE HYDROSTATICALLY TESTED IN ACCORDANCE WITH ALL APPLICABLE NFPA ENGINEERING STANDARDS AND STATE AND LOCAL CODES.
- UPON SUCCESSFUL INSTALLATION AND COMPLETION:
 - A SPARE SPRINKLER HEAD BOX WITH SPRINKLERS AND WRENCHES AS NOTED WILL BE INSTALLED PER MINIMUM NFPA 13, 2002 REQUIREMENTS.
 - HYDRAULIC PLACARDS, CARE AND MAINTENANCE CARDS, AND 24 HOUR EMERGENCY PHONE NUMBER SHALL BE POSTED.
 - OPERATIONS AND MAINTENANCE MANUALS SHALL BE PROVIDED.
 - CONTRACTORS MATERIALS AND TEST CERTIFICATES SHALL BE PROVIDED.
 - ALL SYSTEM CONTROL VALVES SHALL BE ACCESSIBLE, LEFT OPEN, AND IN SERVICE.
 - ALL SYSTEM DEVICES SHALL BE IDENTIFIED PER MINIMUM NFPA 13 REQUIREMENTS.
- ADEQUATE DRAINAGE OF FIRE PROTECTION PIPING SHALL BE PROVIDED PER MINIMUM NFPA 13 REQUIREMENTS.
- SEISMIC BRACING IS NOT PART OF THIS CONTRACT.
- CHLORINATION OF FIRE PROTECTION PIPING IS NOT PART OF THIS CONTRACT.
- PAINTING OF FIRE PROTECTION PIPING IS NOT PART OF THIS CONTRACT.
- FIRE EXTINGUISHERS AND CABINETS ARE NOT PART OF THIS CONTRACT.
- FIRE PROTECTION IDENTIFICATION, IS NOT PART OF THIS CONTRACT.
- CENTERING OF SPRINKLER HEADS IN CEILING TILES OR ALIGNMENT WITH OTHER SPRINKLERS OR CEILING FIXTURES/DEVICES IS NOT PART OF THIS CONTRACT.
- PROTECTION OF ELECTRICAL DEVICES, SUCH AS CIRCUIT BREAKER PANELS FROM WATER DISCHARGE, SHALL BE BY OTHERS.
- ARAPAHOE FIRE PROTECTION, INC. SHALL NOT BE HELD RESPONSIBLE SHOULD THE NOTED WATER MODEL RESULTS NOT BE SUPPLIED AT THE POINT OF CONNECTION NOW, OR IN THE FUTURE, DUE TO THE POSSIBILITY OF DETERIORATING WATER SUPPLIES. SEE HYDRAULIC SOURCE NODE LOCATION.
- ALL KNOX EQUIPMENT IS NOT PART OF THIS CONTRACT AND SHALL BE PROVIDED AND INSTALLED BY OTHERS.
- ALL REQUIRED SIGNAGE NOT PER MINIMUM NFPA 13 REQUIREMENTS SHALL BE PROVIDED AND INSTALLED BY OTHERS.
- PROVISIONS FOR FLUSHING FIRE SPRINKLER PIPING INSTALLED UNDER THIS CONTRACT WILL BE MADE BY ARAPAHOE FIRE PROTECTION, INC. ARAPAHOE FIRE PROTECTION WILL PERFORM ALL TESTING AND PROVIDE ALL REQUIRED TESTING EQUIPMENT REQUIRED BY THE LIFE SAFETY INSPECTOR.
- ALL UNDERGROUND PIPING SHALL BE TESTED AND FLUSHED BY THE INSTALLING CONTRACTOR. UNDERGROUND TESTING CERTIFICATIONS SHALL BE PROVIDED TO ARAPAHOE FIRE PROTECTION, INC. PRIOR TO ANY ABOVEGROUND PIPING BEING CONNECTED TO THE UNDERGROUND FIRE LINE LEAD IN FLANGE.
- PIPE AND FITTING NOTES:
 - ALL PIPING SHALL BE IN ACCORDANCE WITH NFPA STANDARDS.
 - ALL THREADABLE PIPING SHALL BE EDDYFLOW 40 BLACK STEEL PIPING PER ASTM A135/A795 WITH COMPATIBLE MALLEABLE IRON FITTINGS, UNLESS NOTED OTHERWISE.
 - ALL GROOVABLE PIPING SHALL BE EDDYFLOW BLACK STEEL PIPING PER ASTM A135/A795 WITH WELDED OUTLET FITTINGS, AND ROLL GROOVED JOINTS, COMPATIBLE WITH FITTINGS USED.
 - ALL SCREWED FITTINGS SHALL MEET ANSI B.16.4 REQUIREMENTS.
 - ALL FLANGED FITTINGS SHALL MEET ANSI B.16.1 REQUIREMENTS.
 - ALL GROOVED FITTINGS SHALL MEET ASTM A536 REQUIREMENTS.
 - ALL METHODS OF JOINING PIPE SHALL BE IN ACCORDANCE WITH NFPA 13 SECTIONS 2-5.

PIPE SPECIFICATIONS		PER NFPA 13 2016 EDITION AND MANUFACTURERS' MATERIAL DATA SHEETS										
NOMINAL PIPE SIZE (IN.)		3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"	5"	6"	8"
INSIDE DIAMETER		I.D.	I.D.	I.D.	I.D.	I.D.	I.D.	I.D.	I.D.	I.D.	I.D.	I.D.
DYNA THREAD	N/A	1.080	1.408	1.639	2.104	2.703	3.314	4.310	N/A	N/A	N/A	N/A
DYNA FLOW	N/A	N/A	1.536	1.728	2.203	2.703	3.314	4.310	N/A	N/A	N/A	N/A
MEGA THREAD	N/A	1.087	1.416	1.650	2.117	2.707	3.316	4.316	N/A	6.395	N/A	N/A
MEGA FLOW	N/A	N/A	1.530	1.740	2.215	2.707	3.316	4.316	N/A	N/A	N/A	N/A
EDDYTHREAD	.0856	1.083	1.418	1.654	2.123	2.705	3.334	4.310	N/A	N/A	N/A	N/A
EDDYFLOW	N/A	N/A	1.530	1.728	2.203	2.705	3.334	4.310	N/A	N/A	N/A	N/A
SCH 40	N/A	1.049	1.380	1.610	2.067	2.469	3.068	4.026	5.047	6.065	7.981	
SCH 10	N/A	1.097	1.442	1.682	2.157	2.635	3.260	4.260	5.295	6.357	8.249	
CPVC	0.874	1.101	1.394	1.598	2.003	N/A	N/A	N/A	N/A	N/A	N/A	N/A
COPPER (TYPE M)	0.811	1.055	1.291	1.527	2.009	2.495	2.981	3.935	N/A	N/A	N/A	N/A

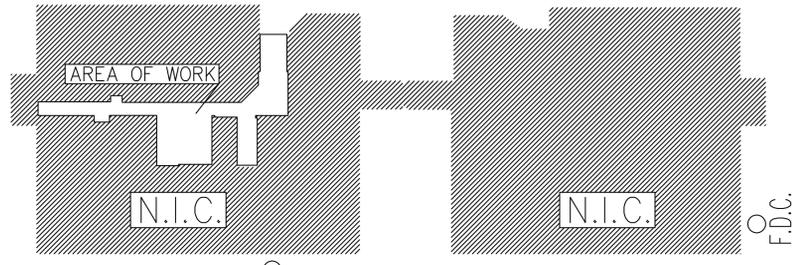
HANGER SPACING LEGEND		PER NFPA 13 TABLE 9.2.2.1 2016 EDITION									
NOMINAL PIPE SIZE (IN.)		3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"	6"	8"
STEEL PIPE											
SCH 40, SCH 10, DF, EF	N/A	12-0	12-0	15-0	15-0	15-0	15-0	15-0	15-0	15-0	15-0
THREADED LIGHTWALL	N/A	12-0	12-0	12-0	12-0	12-0	N/A	N/A	N/A	N/A	N/A
COPPER	8-0	8-0	1	1	12-0	12-0	12-0	15-0	15-0	15-0	15-0
CPVC	5-6	6-0	6-6	7-0	8-0	9-0	1	N/A	N/A	N/A	N/A

WHERE STATIC OR OPERATING PRESSURES EXCEED 100 PSI HANGERS SHALL BE PER NFPA 13 9.2.3.5.2.1 2016 EDITION



FIRE PROTECTION REMODEL PLAN

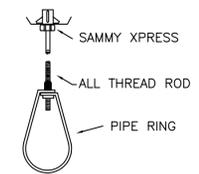
1/8" = 1'-0"
 STEEL STRUCTURE 12"-7" AFF.
 PIPE: 10"-10"
 GRID ELEVATION: 8'-11"
 GRID ELEVATION: 8'-5"



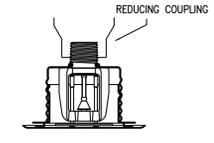
KEY PLAN
N.T.S.

REMODEL LEGEND

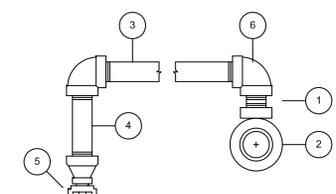
- EXISTING SPRINKLER PIPE
- NEW SPRINKLER PIPE
- EXISTING QR SSP SPRINKLER
- RN RELOCATE NEW QR SSP SPRINKLER
- P EXISTING QR SSP SPRINKLER



SAMMY XPRESS HANGER



RELIABLE MODEL (G5) QR SSP CONCEALED SPRINKLER



- SCHEDULE
- 1" X SH SCH. 40 NIPPLE
 - EXISTING BRANCHLINE
 - 1" ARMOVER*
 - 1" DROP
 - NEW FIRE SPRINKLER HEAD
 - 1" C.I. 90° ELL

* ARMOVERS GREATER THAN 24" IN LENGTH SHALL BE SUPPORTED BY A HANGER.

Items determined to be in violation of code during inspection are required to be corrected; this review does not grant approval of code violations.

SYM	SPRINKLER MAKE, MODEL, TRIM, NPT	ORIFICE	K	TEMP.	FINISH	QUANTITY
●	RELIABLE G5 QR SSP CONCEALED	1/2"	5.6	155	BRASS	23
HEAD CABT & WRENCH(ES) PROVIDED						TOTAL COUNT THIS SHEET = 23
						TOTAL COUNT THIS JOB = 23

Prepared Under Supervision Of:
 Ronald Lumsden
 NICET Level IV
 Registration # 118272

Signature: _____

City of Aurora Building Division
 Project: Aurora Medical HCP Floors 1-4
 Address: 1411 S POTOMAC ST
 Occupancy Group: IBC B
 Construction Type: IBC Type IIB-Spk
 RSN: 1199631
 Permit: 2017-1279409-LT

ARAPAHOE FIRE PROTECTION
 11901 East 14th Ave.
 Aurora, Colorado 80010
 Voice: (303)366-4905
 Email: office@arapahoefire.com
 Fax: (303)366-4966
 Colorado State Registration #034

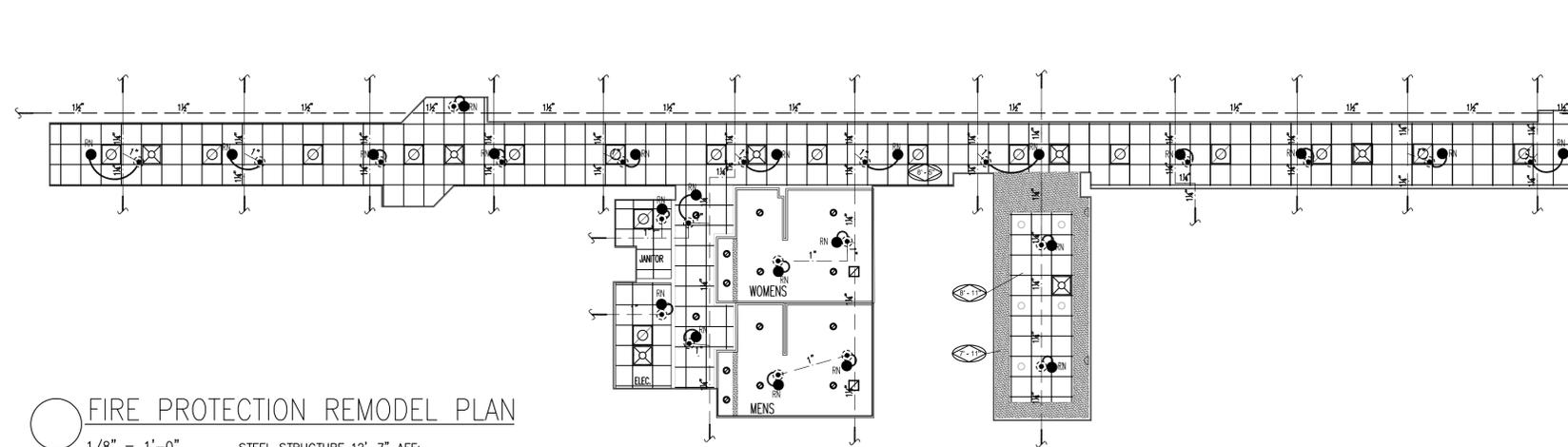
AURORA MEDICAL HCP
 1411 1ST FL
 1411 S POTOMAC ST
 AURORA, CO 80012

FIRE SPRINKLER REMODEL PLAN	
CONTRACT NO.	7151
DESIGNED BY	CAM V
SUBMIT REVIEW BY	
FAB. REVIEW BY	
SCALE	1/8"=1'
DATE	4/7/2017
REVISED	
PLOTTED	FP1 OF 1

Field inspection consultation is available upon request; call (303) 739-7420 to schedule a consultation.

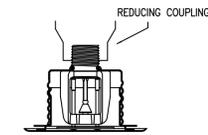
City of Aurora Building Division
 Reviewed for Code Compliance
 By: Ted Caviness
 Date: April 28, 2017
 2015 INTERNATIONAL CODES & 2014 NEC

01. SEE THE FIRE PROTECTION EQUIPMENT DATA FOR ALL APPLICABLE MATERIALS AND EQUIPMENT INSTALLED UNDER THIS CONTRACT.
02. THIS SET OF FIRE PROTECTION PLANS AND HYDRAULIC CALCULATIONS HAVE BEEN DESIGNED BY ARAPAHOE FIRE PROTECTION IN THEIR ENTIRETY, AND HAVE BEEN SEALED BY A PROFESSIONAL ENGINEER OR MINIMUM NICET LEVEL III ENGINEER AS REQUIRED BY THE STATE OF COLORADO.
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09. IT IS THE RESPONSIBILITY OF THE OWNER OR OTHERS TO PROVIDE, INSTALL AND MAINTAIN AN APPROVED MONITORING SYSTEM OF ALL FIRE PROTECTION SYSTEM COMPONENTS ELECTRICAL OR OTHERWISE INSTALLED UNDER THIS CONTRACT.
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12. ALL SPRINKLER PIPING PENETRATIONS THROUGH FIRE RATED ASSEMBLIES SHALL BE SEALED WITH AN APPROVED MATERIAL EQUAL TO THE RATING OF SUCH ASSEMBLY PENETRATED.
13. ALL NEW SPRINKLER PIPING UNDER THIS CONTRACT SHALL BE HYDROSTATICALLY TESTED IN ACCORDANCE WITH ALL APPLICABLE NFPA ENGINEERING STANDARDS AND STATE AND LOCAL CODES.
14. UPON SUCCESSFUL INSTALLATION AND COMPLETION:
 - A SPARE SPRINKLER HEAD BOX WITH SPRINKLERS AND WRENCHES AS NOTED WILL BE INSTALLED PER MINIMUM NFPA 13, 2002 REQUIREMENTS.
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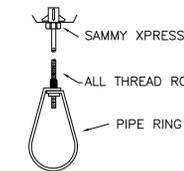


FIRE PROTECTION REMODEL PLAN

1/8" = 1'-0"
 STEEL STRUCTURE 12'-7" AFF.
 PIPE: 10'-10"
 GRID ELEVATION: 8'-11"
 GRID ELEVATION: 8'-5"



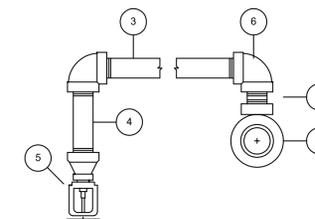
RELIABLE MODEL (G5) OR SSP CONCEALED SPRINKLER



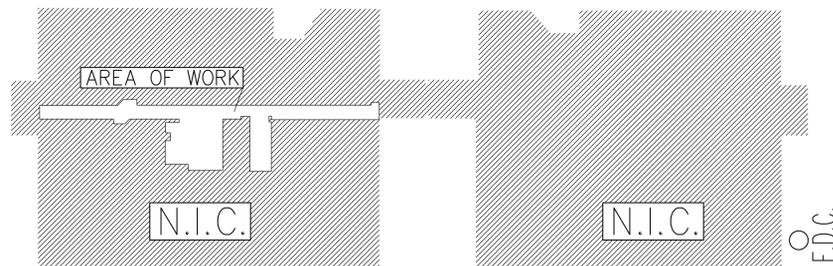
SAMMY XPRESS HANGER

SCHEDULE

1. 1" X SH SCH. 40 NIPPLE
2. EXISTING BRANCHLINE.
3. 1" ARMOVER.*
4. 1" DROP.
5. NEW FIRE SPRINKLER HEAD
6. 1" C.I. 90° ELL



* ARMOVERS GREATER THAN 24" IN LENGTH SHALL BE SUPPORTED BY A HANGER.



F.D.C.

KEY PLAN

N.T.S.

REMODEL LEGEND

- EXISTING SPRINKLER PIPE
- NEW SPRINKLER PIPE
- EXISTING OR SSP SPRINKLER
- RN RELOCATE NEW OR SSP SPRINKLER

23



City of Aurora Building Division
 Reviewed for Code Compliance
 By: **Ted Caviness**
 Date: **April 28, 2017**
 2015 INTERNATIONAL CODES & 2014 NEC

Prepared Under Supervision Of
Ronald Lumsden
 NICET Level IV
 Registration # 115272
 Signature: *[Signature]*



11901 East 14th Ave.
 Aurora, Colorado 80010
 Voice: (303)366-4905
 Email: office@arapahofire.com
 Fax: (303)366-4966
 Colorado State Registration #034

PIPE SPECIFICATIONS

NOMINAL PIPE SIZE (N.)	PER NFPA 13 2016 EDITION AND MANUFACTURERS' MATERIAL DATA SHEETS										
	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"	5"	6"	8"
INSIDE DIAMETER	I.D.	I.D.	I.D.	I.D.	I.D.	I.D.	I.D.	I.D.	I.D.	I.D.	I.D.
DYNA THREAD	N/A	1.080	1.408	1.639	2.104	2.703	3.314	4.310	N/A	N/A	N/A
DYNA FLOW	N/A	N/A	1.536	1.728	2.203	2.703	3.314	4.310	N/A	N/A	N/A
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MEGA FLOW	N/A	N/A	1.530	1.740	2.215	2.707	3.316	4.316	N/A	6.395	N/A
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CPVC	0.874	1.101	1.394	1.598	2.003	N/A	N/A	N/A	N/A	N/A	N/A
COPPER (TYPE M)	0.811	1.055	1.291	1.527	2.009	2.495	2.981	3.935	N/A	N/A	N/A

HANGER SPACING LEGEND

NOMINAL PIPE SIZE (N.)	PER NFPA 13 TABLE 9.2.2.1 2016 EDITION									
	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"	6"	8"
STEEL PIPE SCH 40, SCH 10, DF, EF	N/A	12-0	12-0	15-0	15-0	15-0	15-0	15-0	15-0	15-0
THREADED LIGHTWALL	N/A	12-0	12-0	12-0	12-0	12-0	N/A	N/A	N/A	N/A
COPPER	8-0	8-0	1	1	12-0	12-0	12-0	15-0	15-0	15-0
CPVC	5-6	6-0	6-6	7-0	8-0	9-0	1	N/A	N/A	N/A

WHERE STATIC OR OPERATING PRESSURES EXCEED 100 PSI HANGERS SHALL BE PER NFPA 13 9.2.3.5.2.1 2016 EDITION

SPRINKLER SCHEDULE & LEGEND						
SYM	SPRINKLER MAKE, MODEL, TRIM, NPT	ORIFICE	K	TEMP.	FINISH	QUANTITY
●	RELIABLE G5 QR SSP CONCEALED	1/2"	5.6	155	BRASS	23
HEAD CABT & WRENCH(ES) PROVIDED						TOTAL COUNT THIS SHEET = 23
						TOTAL COUNT THIS JOB = 23

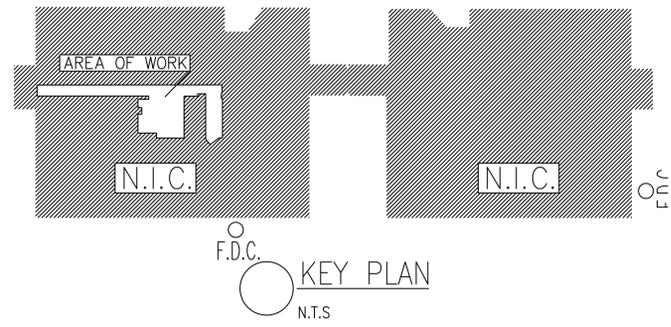
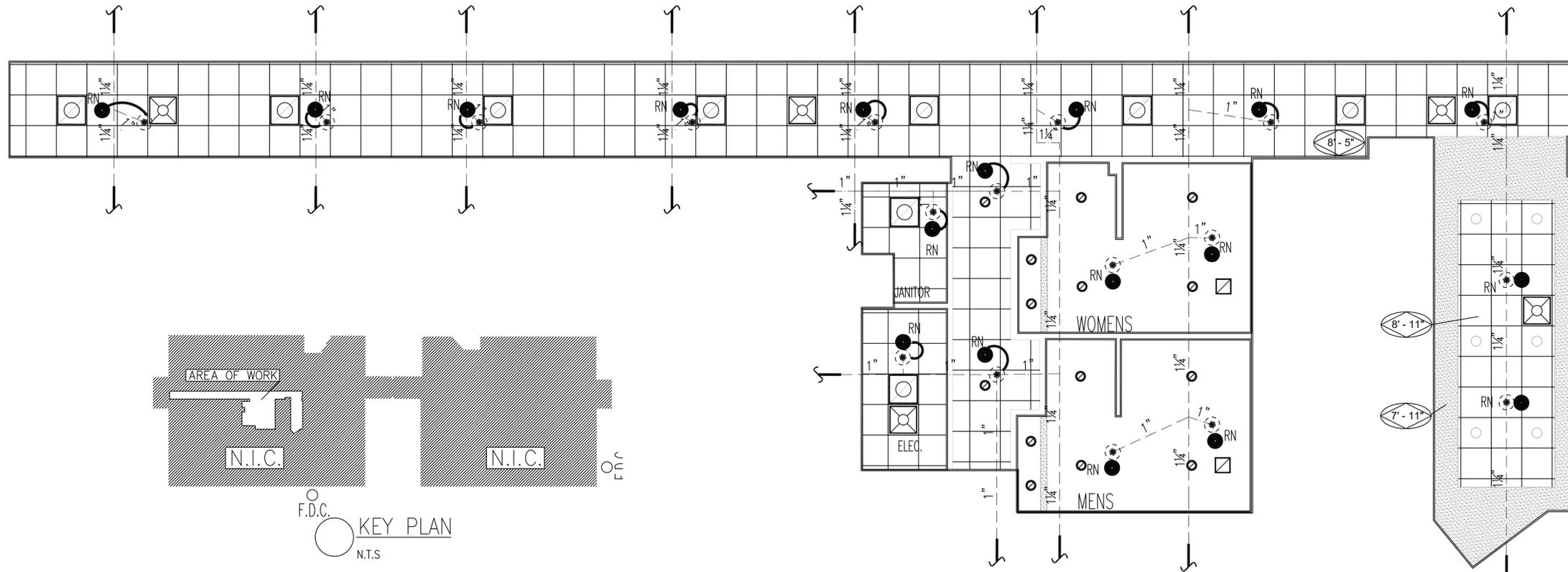
AURORA MEDICAL HCP
 1411 2ND FL
 1411 S POTOMAC ST
 AURORA, CO 80012

FIRE SPRINKLER REMODEL PLAN

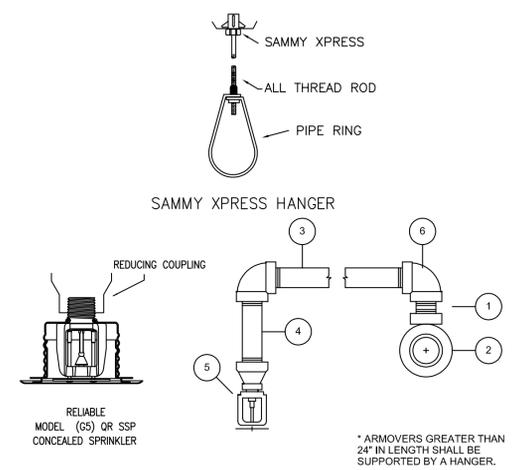
CONTRACT NO.	7151
DESIGNED BY	CAM V
SUBMIT REVIEW BY	
FAB. REVIEW BY	
SCALE	1/8"=1'
DATE	4/7/2017
REVISED	
PLOTTED	FP1 OF 1

CITY OF AURORA PROJECT
GENERAL NOTES

- SEE THE FIRE PROTECTION EQUIPMENT DATA FOR ALL APPLICABLE MATERIALS AND EQUIPMENT INSTALLED UNDER THIS CONTRACT.
- THIS SET OF FIRE PROTECTION PLANS AND HYDRAULIC CALCULATIONS HAVE BEEN DESIGNED BY ARAPAHOE FIRE PROTECTION, INC. IN THEIR ENTIRETY, AND HAVE BEEN SEALED BY A PROFESSIONAL ENGINEER OR MINIMUM NICET LEVEL III ENGINEER AS REQUIRED BY THE STATE OF COLORADO.
- THESE FIRE PROTECTION PLANS AND CALCULATIONS HAVE BEEN DESIGNED PER NFPA 13, 2002, PROJECT SPECIFICATIONS, AND APPLICABLE STATE CODES AND REGULATIONS.
- ALL MATERIALS AND DEVICES INSTALLED UNDER THIS CONTRACT SHALL BE UL LISTED AND/OR FACTORY MUTUAL APPROVED.
- SCOPE OF WORK IS TO MODIFY THE EXISTING HYDRAULICALLY CALCULATED FIRE SPRINKLER SYSTEM TO ACCOMMODATE THE NEW TENANT FINISH AREA. THE MODIFICATIONS SHOWN ON THESE PLANS SHOULD NOT ADVERSELY AFFECT THE HYDRAULICS OF THE EXISTING SPRINKLER SYSTEM CURRENTLY INSTALLED.
- ALL MATERIALS, DEVICES, AND HANGERS SHALL BE INSTALLED IN ACCORDANCE WITH THEIR LISTINGS AND MINIMUM APPLICABLE NFPA 13, 2002 ENGINEERING STANDARDS.
- UNDER THIS CONTRACT ARAPAHOE FIRE PROTECTION SHALL BEGIN ITS WORK AT THE NEW 6" U.G. FLANGE INSIDE ROOM #115. WE WILL DESIGN AND INSTALL A NEW WET SPRINKLER SYSTEM IN THE NEW BUILDING.
- VALVES CONTROLLING WATER SUPPLY TO 20 OR MORE SPRINKLERS SHALL BE ELECTRICALLY SUPERVISED AND SHALL BE MONITORED BY AN APPROVED MONITORING AGENCY. ANY AND ALL ELECTRICAL AND/OR ALARM WIRING, CONNECTIONS AND TERMINATIONS, OR HORN AND STROBE(S) SHALL BE BY OTHERS. FIRE ALARM SYSTEMS (BY OTHERS) SHALL BE INTERCONNECTED WITH FIRE SPRINKLER SYSTEMS FLOW SWITCH AND HORN AND STROBE(S).
- IT IS THE RESPONSIBILITY OF THE OWNER OR OTHERS TO PROVIDE, INSTALL AND MAINTAIN AN APPROVED MONITORING SYSTEM OF ALL FIRE PROTECTION SYSTEM COMPONENTS ELECTRICAL OR OTHERWISE INSTALLED UNDER THIS CONTRACT.
- IT SHALL BE THE SOLE RESPONSIBILITY OF THE OWNER TO PROVIDE ADEQUATE HEAT THROUGHOUT THE FACILITY WHERE WET PIPE SPRINKLER SYSTEMS ARE PRESENT, TO PREVENT FREEZING OF SPRINKLER SYSTEM COMPONENTS (MIN 40° F).
- THE OWNER SHALL MAINTAIN A CLEAR SPACE OF 18" BETWEEN THE TOP OF STORAGE AND STANDARD SPRAY SPRINKLERS.
- ALL SPRINKLER PIPING PENETRATIONS THROUGH FIRE RATED ASSEMBLIES SHALL BE SEALED WITH AN APPROVED MATERIAL EQUAL TO THE RATING OF SUCH ASSEMBLY PENETRATED.
- ALL NEW SPRINKLER PIPING UNDER THIS CONTRACT SHALL BE HYDROSTATICALLY TESTED IN ACCORDANCE WITH ALL APPLICABLE NFPA ENGINEERING STANDARDS AND STATE AND LOCAL CODES.
- UPON SUCCESSFUL INSTALLATION AND COMPLETION:
 - A SPARE SPRINKLER HEAD BOX WITH SPRINKLERS AND WRENCHES AS NOTED WILL BE INSTALLED PER MINIMUM NFPA 13, 2002 REQUIREMENTS.
 - HYDRAULIC PLACARDS, CARE AND MAINTENANCE CARDS, AND 24 HOUR EMERGENCY PHONE NUMBER SHALL BE POSTED.
 - OPERATIONS AND MAINTENANCE MANUALS SHALL BE PROVIDED.
 - CONTRACTOR'S MATERIALS AND TEST CERTIFICATES SHALL BE PROVIDED.
 - ALL SYSTEM CONTROL VALVES SHALL BE ACCESSIBLE, LEFT OPEN, AND IN SERVICE.
 - ALL SYSTEM DEVICES SHALL BE IDENTIFIED PER MINIMUM NFPA 13 REQUIREMENTS.
- ADEQUATE DRAINAGE OF FIRE PROTECTION PIPING SHALL BE PROVIDED PER MINIMUM NFPA 13 REQUIREMENTS.
- SEISMIC BRACING IS NOT PART OF THIS CONTRACT.
- CHLORINATION OF FIRE PROTECTION PIPING IS NOT PART OF THIS CONTRACT.
- PAINTING OF FIRE PROTECTION PIPING IS NOT PART OF THIS CONTRACT.
- FIRE EXTINGUISHERS AND CABINETS ARE NOT PART OF THIS CONTRACT.
- FIRE PROTECTION IDENTIFICATION, IS NOT PART OF THIS CONTRACT.
- CENTERING OF SPRINKLER HEADS IN CEILING TILES OR ALIGNMENT WITH OTHER SPRINKLERS OR CEILING FIXTURES/DEVICES IS NOT PART OF THIS CONTRACT.
- PROTECTION OF ELECTRICAL DEVICES, SUCH AS CIRCUIT BREAKER PANELS FROM WATER DISCHARGE, SHALL BE BY OTHERS.
- ARAPAHOE FIRE PROTECTION, INC. SHALL NOT BE HELD RESPONSIBLE SHOULD THE NOTED WATER MODEL RESULTS NOT BE SUPPLIED AT THE POINT OF CONNECTION NOW, OR IN THE FUTURE, DUE TO THE POSSIBILITY OF DETERIORATING WATER SUPPLIES. SEE HYDRAULIC SOURCE NODE LOCATION.
- ALL KNOX EQUIPMENT IS NOT PART OF THIS CONTRACT AND SHALL BE PROVIDED AND INSTALLED BY OTHERS.
- ALL REQUIRED SIGNAGE NOT PER MINIMUM NFPA 13 REQUIREMENTS SHALL BE PROVIDED AND INSTALLED BY OTHERS.
- PROVISIONS FOR FLUSHING FIRE SPRINKLER PIPING INSTALLED UNDER THIS CONTRACT WILL BE MADE BY ARAPAHOE FIRE PROTECTION, INC. ARAPAHOE FIRE PROTECTION WILL PERFORM ALL TESTING AND PROVIDE ALL REQUIRED TESTING EQUIPMENT REQUIRED BY THE LIFE SAFETY INSPECTOR.
- ALL UNDERGROUND PIPING SHALL BE TESTED AND FLUSHED BY THE INSTALLING CONTRACTOR. UNDERGROUND TESTING CERTIFICATIONS SHALL BE PROVIDED TO ARAPAHOE FIRE PROTECTION, INC. PRIOR TO ANY ABOVEGROUND PIPING BEING CONNECTED TO THE UNDERGROUND FIRE LINE LEAD IN FLANGE.
- PIPE AND FITTING NOTES:
 - ALL PIPING SHALL BE IN ACCORDANCE WITH NFPA STANDARDS.
 - ALL THREADABLE PIPING SHALL BE EDDYTHREAD 40 BLACK STEEL PIPING PER ASTM A135/A795 WITH COMPATIBLE MALLEABLE IRON FITTINGS, UNLESS NOTED OTHERWISE.
 - ALL GROOVABLE PIPING SHALL BE EDDYFLOW BLACK STEEL PIPING PER ASTM A135/A795 WITH WELDED OUTLET FITTINGS, AND ROLL GROOVED JOINTS, COMPATIBLE WITH FITTINGS USED.
 - ALL SCREWED FITTINGS SHALL MEET ANSI B.16.4 REQUIREMENTS.
 - ALL FLANGED FITTINGS SHALL MEET ANSI B.16.1 REQUIREMENTS.
 - ALL GROOVED FITTINGS SHALL MEET ASTM A536 REQUIREMENTS.
 - ALL METHODS OF JOINING PIPE SHALL BE IN ACCORDANCE WITH NFPA 13 SECTIONS 2-5.



FIRE PROTECTION REMODEL PLAN
 1/4" = 1'-0"
 STEEL STRUCTURE 12'-7" AFF:
 PIPE: 10'-10"
 GRID ELEVATION: 8'-11"
 GRID ELEVATION: 8'-5"



- SCHEDULE**
- 1" X SH SCH. 40 NIPPLE
 - EXISTING BRANCHLINE.
 - 1" ARMOVER.*
 - 1" DROP.
 - NEW FIRE SPRINKLER HEAD
 - 1" C.I. 90° ELL

PIPE SPECIFICATIONS											
PER NFPA 13 2016 EDITION AND MANUFACTURERS' MATERIAL DATA SHEETS											
NOMINAL PIPE SIZE (IN.)	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"	5"	6"	8"
INSIDE DIAMETER	I.D.	I.D.	I.D.	I.D.	I.D.	I.D.	I.D.	I.D.	I.D.	I.D.	I.D.
DYNA THREAD	N/A	1.080	1.408	1.639	2.104	2.703	3.314	4.310	N/A	N/A	N/A
DYNA FLOW	N/A	N/A	1.536	1.728	2.203	2.703	3.314	4.310	N/A	N/A	N/A
MEGA THREAD	N/A	1.087	1.416	1.650	2.117	2.707	3.316	4.316	N/A	6.395	N/A
MEGA FLOW	N/A	N/A	1.530	1.740	2.215	2.707	3.316	4.316	N/A	6.395	N/A
EDDYTHREAD	.0856	1.083	1.418	1.654	2.123	2.705	3.334	4.310	N/A	N/A	N/A
EDDYFLOW	N/A	N/A	1.530	1.728	2.203	2.705	3.334	4.310	N/A	N/A	N/A
SCH 40	N/A	1.049	1.380	1.610	2.067	2.469	3.068	4.026	5.047	6.065	7.981
SCH 10	N/A	1.097	1.442	1.682	2.157	2.635	3.260	4.260	5.295	6.357	8.249
CPVC	0.874	1.101	1.394	1.598	2.003	N/A	N/A	N/A	N/A	N/A	N/A
COPPER (TYPE M)	0.811	1.055	1.291	1.527	2.009	2.495	2.981	3.935	N/A	N/A	N/A

HANGER SPACING LEGEND										
PER NFPA 13 TABLE 9.2.2.1 2016 EDITION										
NOMINAL PIPE SIZE (IN.)	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"	6"	8"
STEEL PIPE	N/A	12-0	12-0	15-0	15-0	15-0	15-0	15-0	15-0	15-0
SCH 40, SCH 10, DF, EF	N/A	12-0	12-0	12-0	12-0	12-0	N/A	N/A	N/A	N/A
THREADABLE LIGHTWALL	N/A	12-0	12-0	12-0	12-0	12-0	12-0	15-0	15-0	15-0
COPPER	8-0	8-0	1	1	12-0	12-0	12-0	15-0	15-0	15-0
CPVC	5-6	6-0	6-6	7-0	8-0	9-0	1	N/A	N/A	N/A

WHERE STATIC OR OPERATING PRESSURES EXCEED 100 PSI HANGERS SHALL BE PER NFPA 13 9.2.3.5.2.1 2016 EDITION

REMODEL LEGEND

--- EXISTING SPRINKLER PIPE
 --- NEW SPRINKLER PIPE

● EXISTING QR SSP SPRINKLER
 ● R RELOCATE NEW QR SSP SPRINKLER

SPRINKLER SCHEDULE & LEGEND						
SYM	SPRINKLER MAKE, MODEL, TRIM, NPT	ORIFICE	K	TEMP.	FINISH	QUANTITY
●	RELIABLE G5 QR SSP CONCEALED	1/2"	5.6	155	BRASS	18
HEAD CAB'T & WRENCH(ES) PROVIDED						TOTAL COUNT THIS SHEET = 18
						TOTAL COUNT THIS JOB = 18

Prepared Under Supervision Of
Ronald Lumsden
 NICET Level IV
 Registration # 118272

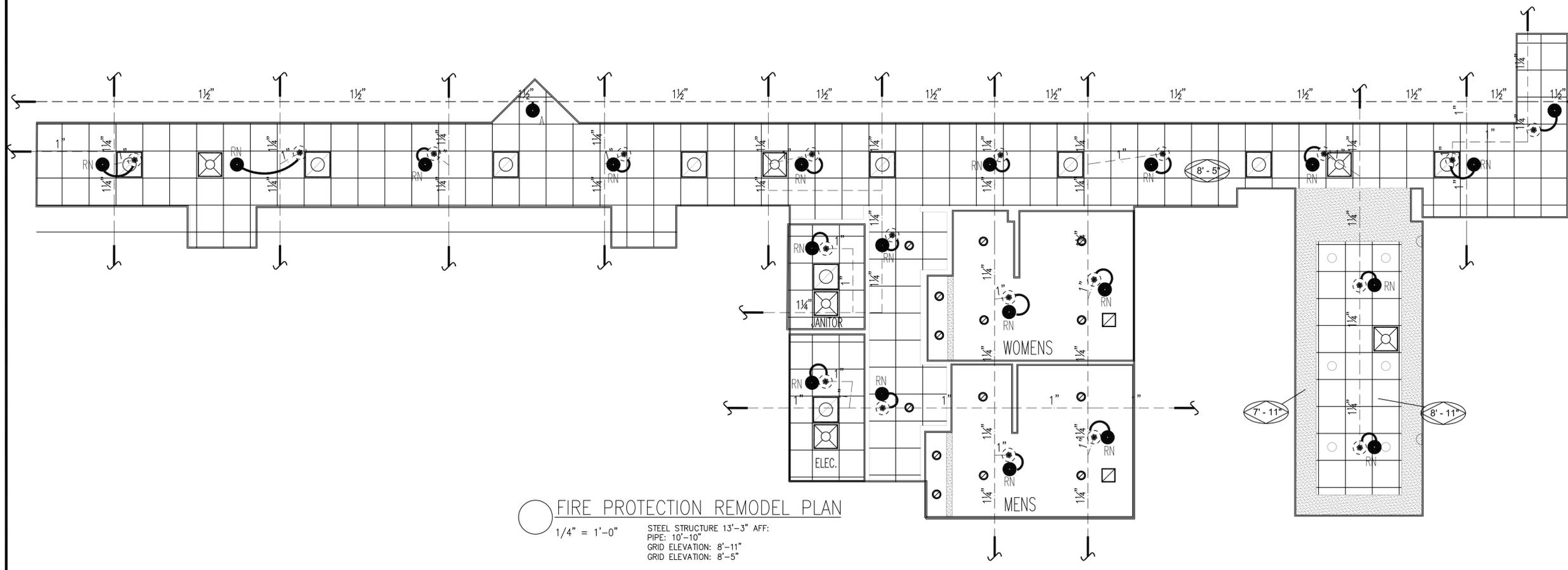
Signature: _____

Arpahoe FIRE PROTECTION, INC.
 11901 East 14th Ave.
 Aurora, Colorado 80010
 Voice: (303)366-4905 Fax: (303)366-4966
 Email: office@arapahofire.com Colorado State Registration #034

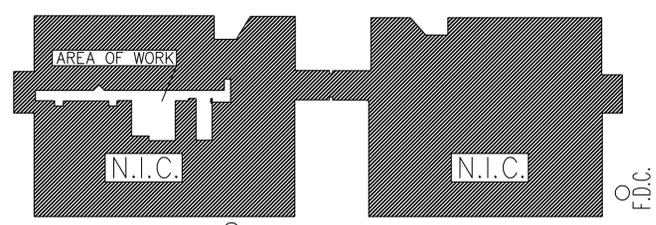
AURORA MEDICAL HCP
 1411 3RD FL
 1411 S POTOMAC ST
 AURORA, CO 80012

FIRE SPRINKLER REMODEL PLAN	
CONTRACT NO.	7151
DESIGNED BY	CAM V
SUBMIT REVIEW BY	
FAB. REVIEW BY	
SCALE	1/4"=1'
DATE	4/7/2017
REVISED	
PLOTTED	FP1 OF 1

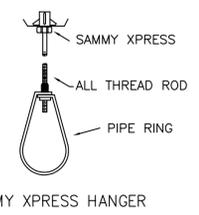
01. SEE THE FIRE PROTECTION EQUIPMENT DATA FOR ALL APPLICABLE MATERIALS AND EQUIPMENT INSTALLED UNDER THIS CONTRACT.
02. THIS SET OF FIRE PROTECTION PLANS AND HYDRAULIC CALCULATIONS HAVE BEEN DESIGNED BY ARAPAHOE FIRE PROTECTION IN THEIR ENTIRETY, AND HAVE BEEN SEALED BY A PROFESSIONAL ENGINEER OR MINIMUM NICET LEVEL III ENGINEER AS REQUIRED BY THE STATE OF COLORADO.
03. THESE FIRE PROTECTION PLANS AND CALCULATIONS HAVE BEEN DESIGNED PER NFPA 13, 2002, PROJECT SPECIFICATIONS, AND APPLICABLE STATE CODES AND REGULATIONS.
04. ALL MATERIALS AND DEVICES INSTALLED UNDER THIS CONTRACT SHALL BE UL LISTED AND/OR FACTORY MUTUAL APPROVED.
05. SCOPE OF WORK IS TO MODIFY THE EXISTING HYDRAULICALLY CALCULATED FIRE SPRINKLER SYSTEM TO ACCOMMODATE THE NEW TENANT FINISH AREA. THE MODIFICATIONS SHOWN ON THESE PLANS SHOULD NOT ADVERSELY AFFECT THE HYDRAULICS OF THE EXISTING SPRINKLER SYSTEM CURRENTLY INSTALLED.
06. ALL MATERIALS, DEVICES, AND HANGERS SHALL BE INSTALLED IN ACCORDANCE WITH THEIR LISTINGS AND MINIMUM APPLICABLE NFPA 13, 2002 ENGINEERING STANDARDS.
07. UNDER THIS CONTRACT ARAPAHOE FIRE PROTECTION SHALL BEGIN ITS WORK AT THE NEW 6" U.G. FLANGE INSIDE ROOM #115. WE WILL DESIGN AND INSTALL A NEW WET SPRINKLER SYSTEM IN THE NEW BUILDING.
08. VALVES CONTROLLING WATER SUPPLY TO 20 OR MORE SPRINKLERS SHALL BE ELECTRICALLY SUPERVISED AND SHALL BE MONITORED BY AN APPROVED MONITORING AGENCY. ANY AND ALL ELECTRICAL AND/OR ALARM WIRING, CONNECTIONS AND TERMINATIONS, OR HORN AND STROBE(S) SHALL BE BY OTHERS. FIRE ALARM SYSTEMS (BY OTHERS) SHALL BE INTERCONNECTED WITH FIRE SPRINKLER SYSTEMS FLOW SWITCH AND HORN AND STROBE(S).
09. IT IS THE RESPONSIBILITY OF THE OWNER OR OTHERS TO PROVIDE, INSTALL AND MAINTAIN AN APPROVED MONITORING SYSTEM OF ALL FIRE PROTECTION SYSTEM COMPONENTS ELECTRICAL OR OTHERWISE INSTALLED UNDER THIS CONTRACT.
10. IT SHALL BE THE SOLE RESPONSIBILITY OF THE OWNER TO PROVIDE ADEQUATE HEAT THROUGHOUT THE FACILITY WHERE WET PIPE SPRINKLER SYSTEMS ARE PRESENT, TO PREVENT FREEZING OF SPRINKLER SYSTEM COMPONENTS (MIN 40° F).
11. THE OWNER SHALL MAINTAIN A CLEAR SPACE OF 18" BETWEEN THE TOP OF STORAGE AND STANDARD SPRAY SPRINKLERS.
12. ALL SPRINKLER PIPING PENETRATIONS THROUGH FIRE RATED ASSEMBLIES SHALL BE SEALED WITH AN APPROVED MATERIAL EQUAL TO THE RATING OF SUCH ASSEMBLY PENETRATED.
13. ALL NEW SPRINKLER PIPING UNDER THIS CONTRACT SHALL BE HYDROSTATICALLY TESTED IN ACCORDANCE WITH ALL APPLICABLE NFPA ENGINEERING STANDARDS AND STATE AND LOCAL CODES.
14. UPON SUCCESSFUL INSTALLATION AND COMPLETION:
 - A SPARE SPRINKLER HEAD BOX WITH SPRINKLERS AND WRENCHES AS NOTED WILL BE INSTALLED PER MINIMUM NFPA 13, 2002 REQUIREMENTS.
 - HYDRAULIC PLACARDS, CARE AND MAINTENANCE CARDS, AND 24 HOUR EMERGENCY PHONE NUMBER SHALL BE POSTED.
 - OPERATIONS AND MAINTENANCE MANUALS SHALL BE PROVIDED.
 - CONTRACTORS MATERIALS AND TEST CERTIFICATES SHALL BE PROVIDED.
 - ALL SYSTEM CONTROL VALVES SHALL BE ACCESSIBLE, LEFT OPEN, AND IN SERVICE.
 - ALL SYSTEM DEVICES SHALL BE IDENTIFIED PER MINIMUM NFPA 13 REQUIREMENTS.
15. ADEQUATE DRAINAGE OF FIRE PROTECTION PIPING SHALL BE PROVIDED PER MINIMUM NFPA 13 REQUIREMENTS.
16. SEISMIC BRACING IS NOT PART OF THIS CONTRACT.
17. CHLORINATION OF FIRE PROTECTION PIPING IS NOT PART OF THIS CONTRACT.
18. PAINTING OF FIRE PROTECTION PIPING IS NOT PART OF THIS CONTRACT.
19. FIRE EXTINGUISHERS AND CABINETS ARE NOT PART OF THIS CONTRACT.
20. FIRE PROTECTION IDENTIFICATION, IS NOT PART OF THIS CONTRACT.
21. CENTERING OF SPRINKLER HEADS IN CEILING TILES OR ALIGNMENT WITH OTHER SPRINKLERS OR CEILING FIXTURES/DEVICES IS NOT PART OF THIS CONTRACT.
22. PROTECTION OF ELECTRICAL DEVICES, SUCH AS CIRCUIT BREAKER PANELS FROM WATER DISCHARGE, SHALL BE BY OTHERS.
23. ARAPAHOE FIRE PROTECTION, INC. SHALL NOT BE HELD RESPONSIBLE SHOULD THE NOTED WATER MODEL RESULTS NOT BE SUPPLIED AT THE POINT OF CONNECTION NOW, OR IN THE FUTURE, DUE TO THE POSSIBILITY OF DETERIORATING WATER SUPPLIES. SEE HYDRAULIC SOURCE NODE LOCATION.
24. ALL KNOX EQUIPMENT IS NOT PART OF THIS CONTRACT AND SHALL BE PROVIDED AND INSTALLED BY OTHERS.
25. ALL REQUIRED SIGNAGE NOT PER MINIMUM NFPA 13 REQUIREMENTS SHALL BE PROVIDED AND INSTALLED BY OTHERS.
26. PROVISIONS FOR FLUSHING FIRE SPRINKLER PIPING INSTALLED UNDER THIS CONTRACT WILL BE MADE BY ARAPAHOE FIRE PROTECTION, INC. ARAPAHOE FIRE PROTECTION WILL PERFORM ALL TESTING AND PROVIDE ALL REQUIRED TESTING EQUIPMENT REQUIRED BY THE LIFE SAFETY INSPECTOR.
27. ALL UNDERGROUND PIPING SHALL BE TESTED AND FLUSHED BY THE INSTALLING CONTRACTOR. UNDERGROUND TESTING CERTIFICATIONS SHALL BE PROVIDED TO ARAPAHOE FIRE PROTECTION, INC. PRIOR TO ANY ABOVEGROUND PIPING BEING CONNECTED TO THE UNDERGROUND FIRE LINE LEAD IN FLANGE.
 - 28. PIPE AND FITTING NOTES:
 - ALL PIPING SHALL BE IN ACCORDANCE WITH NFPA STANDARDS.
 - ALL THREADABLE PIPING SHALL BE EDDYFLOW 40 BLACK STEEL.
 - ALL SCHEDULE 40 PIPE SHALL BE EDDYFLOW 40 BLACK STEEL UNLESS NOTED OTHERWISE.
 - ALL GROOVABLE PIPING SHALL BE EDDYFLOW BLACK STEEL PIPING PER ASTM A135/A795 WITH WELDED OUTLET FITTINGS, AND ROLL GROOVED JOINTS, COMPATIBLE WITH FITTINGS USED.
 - ALL SCREWED FITTINGS SHALL MEET ANSI B.16.4 REQUIREMENTS.
 - ALL FLANGED FITTINGS SHALL MEET ANSI B.16.1 REQUIREMENTS.
 - ALL GROOVED FITTINGS SHALL MEET ASTM A536 REQUIREMENTS.
 - ALL METHODS OF JOINING PIPE SHALL BE IN ACCORDANCE WITH NFPA 13 SECTIONS 2-5.



FIRE PROTECTION REMODEL PLAN
 1/4" = 1'-0" STEEL STRUCTURE 13'-3" AFF.
 PIPE: 10'-10" GRID ELEVATION: 8'-11"
 GRID ELEVATION: 8'-5"



KEY PLAN
N.T.S.



SAMMY XPRESS HANGER

PIPE SPECIFICATIONS PER NFPA 13 2016 EDITION AND MANUFACTURERS' MATERIAL DATA SHEETS

NOMINAL PIPE SIZE (IN.)	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"	5"	6"	8"
INSIDE DIAMETER	I.D.	I.D.	I.D.	I.D.	I.D.	I.D.	I.D.	I.D.	I.D.	I.D.	I.D.
DYNA THREAD	N/A	1.080	1.408	1.639	2.104						
DYNA FLOW	N/A	N/A	1.536	1.728	2.203	2.703	3.314	4.310	N/A	N/A	N/A
MEGA THREAD	N/A	1.087	1.416	1.650	2.117						
MEGA FLOW	N/A	N/A	1.530	1.740	2.215	2.707	3.316	4.316	N/A	6.395	N/A
EDDYTHREAD	.0856	1.083	1.418	1.654	2.123						
EDDYFLOW	N/A	N/A	1.530	1.728	2.203	2.705	3.334	4.310	N/A	N/A	N/A
SCH 40	N/A	1.049	1.380	1.610	2.067	2.469	3.068	4.026	5.047	6.065	7.981
SCH 10	N/A	1.097	1.442	1.682	2.157	2.635	3.260	4.260	5.295	6.357	8.249
CPVC	0.874	1.101	1.394	1.598	2.003	N/A	N/A	N/A	N/A	N/A	N/A
COPPER (TYPE M)	0.811	1.055	1.291	1.527	2.009	2.495	2.981	3.935	N/A	N/A	N/A

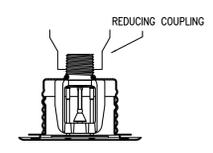
HANGER SPACING LEGEND PER NFPA 13 TABLE 9.2.2.1 2016 EDITION

NOMINAL PIPE SIZE (IN.)	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"	6"	8"
STEEL PIPE SCH 40, SCH 10, DF, EF	N/A	12-0	12-0	15-0	15-0	15-0	15-0	15-0	15-0	15-0
THREADED LIGHTWALL	N/A	12-0	12-0	12-0	12-0	12-0	N/A	N/A	N/A	N/A
COPPER	8-0	8-0	1	1	12-0	12-0	12-0	15-0	15-0	15-0
CPVC	5-6	6-0	6-6	7-0	8-0	9-0	1	N/A	N/A	N/A

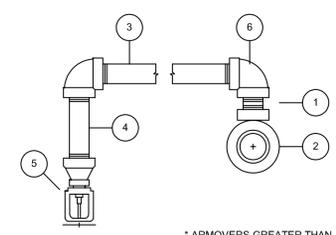
WHERE STATIC OR OPERATING PRESSURES EXCEED 100 PSI HANGERS SHALL BE PER NFPA 13 9.2.3.5.2.1 2016 EDITION

REMODEL LEGEND

- EXISTING SPRINKLER PIPE
- NEW SPRINKLER PIPE
- EXISTING QR SSP CONCEALED SPRINKLER
- A ADDED NEW QR SSP SPRINKLER
- RN RELOCATE NEW QR SSP SPRINKLER



RELIABLE MODEL (GS) QR SSP CONCEALED SPRINKLER



* ARMOVERS GREATER THAN 24" IN LENGTH SHALL BE SUPPORTED BY A HANGER.

SPRINKLER SCHEDULE & LEGEND

SYM	SPRINKLER MAKE, MODEL, TRIM, NPT	ORIFICE	K	TEMP.	FINISH	QUANTITY
●	RELIABLE G5 QR SSP CONCEALED	1/2"	5.6	155	WHT	21
HEAD CABT & WRENCH(ES) PROVIDED						TOTAL COUNT THIS SHEET = 21
						TOTAL COUNT THIS JOB = 21

Prepared Under Supervision Of
Ronald Lumsden
 NICET Level IV
 Registration # 118272

Signature: _____

ARAPAHOE FIRE PROTECTION, INC.
 11901 East 14th Ave.
 Aurora, Colorado 80010
 Voice: (303)366-4905 Fax: (303)366-4966
 Email: office@arapahoefire.com Colorado State Registration #034

AURORA MEDICAL HCP
 1411 4TH FL
 1411 S POTOMAC ST
 AURORA, CO 80012

FIRE SPRINKLER REMODEL PLAN

CONTRACT NO.	7151
DESIGNED BY	CAM V
SUBMIT REVIEW BY	
FAB. REVIEW BY	
SCALE	1/4"=1'
DATE	4/7/2017
REVISED	
PLOTTED	FP1 OF 1

MATERIAL SUBMITTAL



FOR

**AURORA MEDICAL HCP
1411 FLOORS 1-4
1411 S POTOMAC ST
AURORA, CO 80012**

JOB 7151

CAMERON VANDERWERKEN



Model G5-80, Model G5-56, Model G5-42, Model G5-28 Quick Response Concealed Automatic Sprinkler

UL Quick Response FM Standard Response Concealed Sprinkler With a $\frac{3}{4}$ " (19mm) Adjustment

Features

1. Cover plate attachment (Plain or Perforated) with $\frac{3}{4}$ " (19mm) assembly adjustment.
2. Smooth aesthetic ceiling profile.
3. Factory installed protective cap.
4. Available in Chrome and White as Standard Finishes. Special Application Finishes are also available.
5. Ordinary and Intermediate temperature rating.

For additional Sprinklers refer to Bulletin 154 for Technical Specification and Approvals

Approvals & Listings

1. Underwriters Laboratories Inc. and cULus - Quick Response
 - G5-80, G5-56 - Light Hazard and Ordinary Hazard Occupancies
 - G5-42 - Light Hazard Occupancies
 - G5-28 - Light Hazard Occupancies
2. Factory Mutual Research Corp. (FM) - Standard Response (See Page 3)
 - G5-56 & G5-28 only.
 - See the most recent FM Global Property Loss Prevention Data Sheets for installation and use guidelines.
3. Loss Prevention Council (LPCB, UK) - Standard Response
 - G5-56 - Light Hazard and Ordinary Hazard Occupancies
4. VdS Schadenverhütung GmbH - Standard Response
5. EC-Certificate of Conformity 0832-CPD-2062

U.S. Patent number 6,554,077.

Application

The Reliable Model G5-80, G5-56, G5-42 and G5-28 are the most versatile quick response concealed sprinklers available. It provides the best form of fire protection while offering an attractive appearance and $\frac{3}{4}$ " (19mm) of cover adjustment for ease of installation. The small diameter cover plate assembly is easily attached and blends into the ceiling, concealing the most dependable fire protection available, an automatic sprinkler system.



Plain Cover Plate



Perforated Cover Plate

The Model G5-80, G5-56, G5-42 and G5-28 are designed for use where aesthetic appearance is important. Offices, hospitals, motels and restaurants are but a few of the applications where it can be used.

The Model G5-80, G5-56, G5-42 and G5-28 are UL Listed Quick Response Concealed sprinklers intended for use in accordance with NFPA 13. FM Approves the G5-56 and the G5-28 sprinkler as a standard response concealed sprinkler intended for use in accordance with FM Loss Prevention Data Sheet 2.0.

Product Description

The Reliable Model G5-80, G5-56, G5-42 and G5-28 uses a proven quick response fusible element in a standard style sprinkler frame with a drop-down deflector. This assembly is recessed into the ceiling and concealed by a flat cover plate assembly. The threaded engagement provides $\frac{3}{4}$ " (19mm) of cover adjustment. The flat cover plate is attached to the skirt using either 135°F (57°C) or 165°F (74°C) ordinary temperature classification solder.

When the ceiling temperature rises, the solder holding the flat cover plate melts, the flat cover plate released thus exposing the sprinkler inside to the rising ambient temperature.

The subsequent fusing of the element opens the waterway and causes the deflector to distribute the water. Any secure engagement between the cover plate and cup will assure that the drop-down deflector is properly located below the ceiling.

Reliable Automatic Sprinkler Co., Inc., 103 Fairview Park Drive, Elmsford, New York 10523

Installation

Do not install the G5-80, G5-56, G5-42 and G5-28 in ceilings which have positive pressure in the space above.

- Cut a 2⁵/₈" inch (67mm) diameter hole is cut in the ceiling, the sprinkler is easily installed with the Model FC Wrench. The wrench has a socket drive which is inserted into the body of the sprinkler. When installing a sprinkler the wrench is first positioned into the sprinkler/cup assembly until the wrench socket engages the body of the sprinkler. The sprinkler is then tightened into the pipe fitting. When inserting or removing the wrench from the sprinkler/cup assembly, care should be taken to prevent damage to the sprinkler. DO NOT WRENCH ON ANY OTHER PART OF THE SPRINKLER/CUP ASSEMBLY. Install the cover plate by hand turning the cover in the clockwise direction until it is tight against the ceiling.

A protective cap is provided to protect the drop-down sprinkler deflector from damage which could occur during construction before the cover plate is installed. The cap is factory installed inside the sprinkler cup. Remove cap to install sprinkler, then re-install cap until the cover plate is installed.

Maintenance

The Model G5-80, G5-56, G5-42 and G5-28 should be inspected and the sprinkler system maintained in accordance with NFPA 25. Do not clean sprinklers with soap and water, ammonia or any other cleaning fluids. Remove any sprinkler that has been painted (other than factory applied) or damaged in any way. Concealed sprinklers cover plates can not be painted in the field, after installation or have any other coating applied other than the factory finish. A stock of spare sprinklers should be maintained to allow quick replacement of damaged or operated sprinklers. Prior to installation, sprinklers should be maintained in the original cartons and packaging to minimize the potential for damage to sprinklers that would cause improper operation or non-operation.

Ordering Information

1. Sprinkler Model
2. Nominal Orifice
3. Flat Cover Plate
Plain or Perforated
4. Flat Cover Plate
Assembly Finish
5. Inlet Type

Cover Plate Finishes⁽¹⁾

Standard Finishes
Chrome
White Paint
Special Application Finishes ⁽²⁾
Bright Brass
Finished Bronze
Black Plating
Black Paint
Off White
Satin Chrome

- ⁽¹⁾ Other finishes and colors are available on special order. Consult factory for details. Coverplate custom paint is semi-gloss, unless specified otherwise.
- ⁽²⁾ For the perforated style coverplate, consult factory for availability on these and other custom finishes.



Model FC Sprinkler Wrench

UL Listing Category

Sprinklers, Automatic and Open

Quick Response Sprinkler

UL Guide Number

VNIV

Maximum Working Pressure

175 psi (12 bar)

100% Factory tested Hydrostatically to 500 psi (34.5 bar)

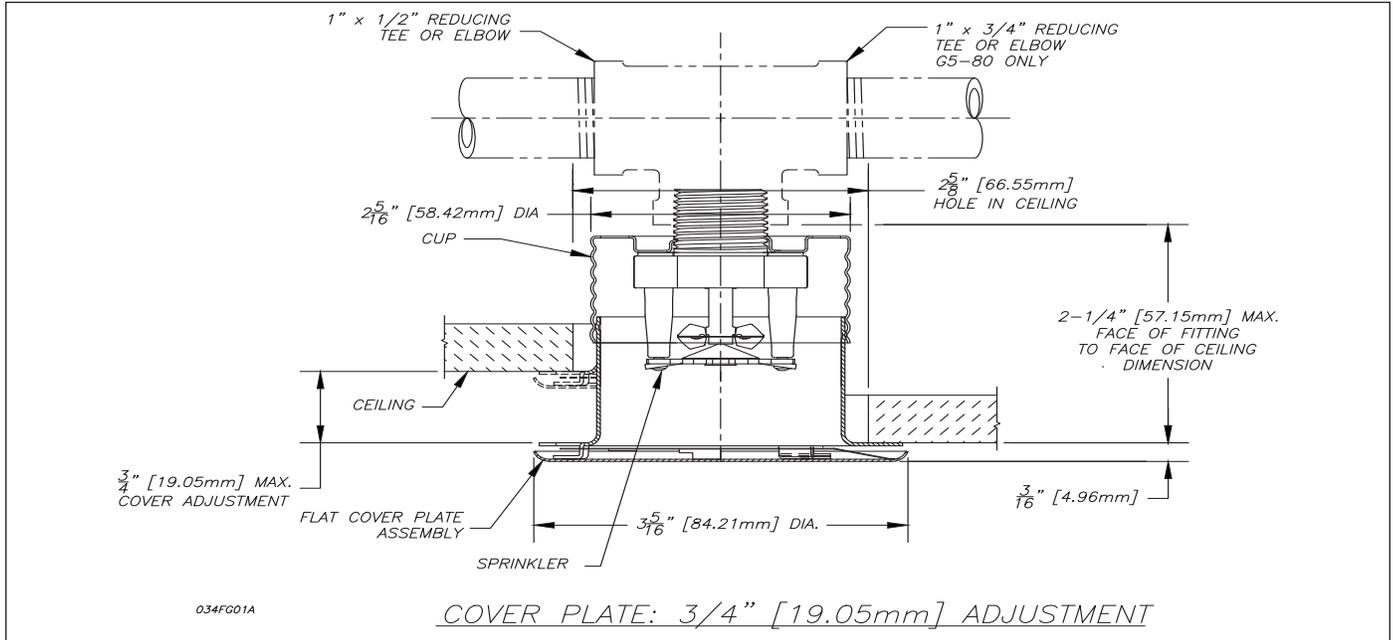
Temperature Rating

Classification	Sprinkler	Cover Plate	Max. Ambient Temp.
Ordinary	165°F/74°C	135°F/57°C	100°F/38°C
Intermediate	212°F/100°C	165°F/74°C	150°F/66°C

Technical Data

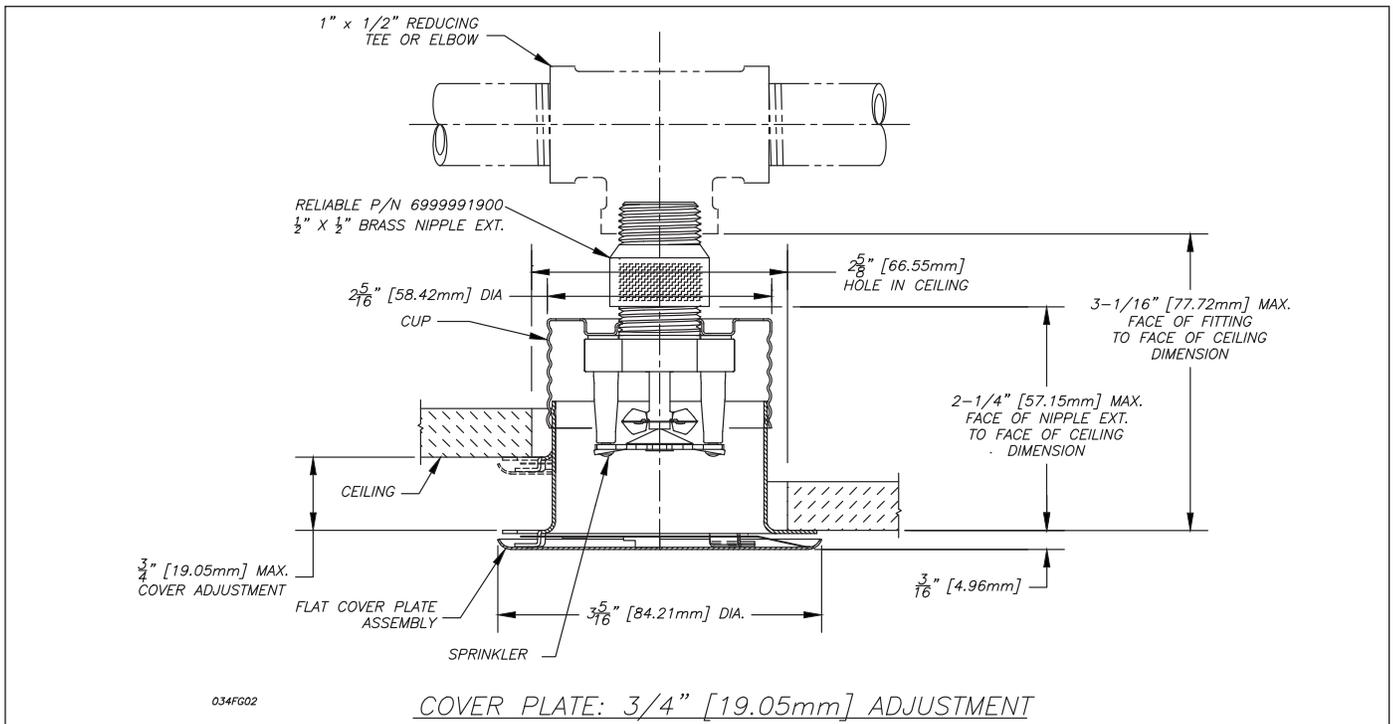
Sprinkler Model	Sprinkler Inlet	Total Adjustment	Nominal Orifice	Nominal K Factor		Thread	Approvals	Sprinkler Identification (SIN)
				US	Metric			
G5-80	Non Adjustable	3/4" (19mm)	17/32" (15mm)	8.0	115	3/4" NPT (R3/4)	1	RA3412
G5-56	Non Adjustable	3/4" (19mm)	1/2" (15mm)	5.6	80	1/2" NPT (R1/2)	1,2,3,4,5	RA3415
G5-42	Non Adjustable	3/4" (19mm)	7/16" (10mm)	4.2	60	1/2" NPT (R1/2)	1	RA3413
G5-28	Non Adjustable	3/4" (19mm)	3/8" (10mm)	2.8	40	1/2" NPT (R1/2)	1,2	RA3411

For VdS Approval, temperature rating sprinkler 165°F/74°C and cover plate 135°F/57°C only!



Notice

FOR USE AS A REPLACEMENT OF MODEL G4A SPRINKLERS



NOTE:

1. Testing has shown that use of a "nipple extension" will not affect the listing of the sprinkler.
2. For RETROFIT installations, per **NFPA 13 (2010) section 8.15.19.4**, "which allows the use of nipples as the same pipe thread size as the existing outlet when revamping existing systems".
3. Do not exceed 8-18 ft-lbs of torque during installation.

Reliable...For Complete Protection

Reliable offers a wide selection of sprinkler components. Following are some of the many precision-made Reliable products that guard life and property from fire around the clock.

- Automatic sprinklers
- Flush automatic sprinklers
- Recessed automatic sprinklers
- Concealed automatic sprinklers
- Adjustable automatic sprinklers
- Dry automatic sprinklers
- Intermediate level sprinklers
- Open sprinklers
- Spray nozzles
- Alarm valves
- Retarding chambers
- Dry pipe valves
- Accelerators for dry pipe valves
- Mechanical sprinkler alarms
- Electrical sprinkler alarm switches
- Water flow detectors
- Deluge valves
- Detector check valves
- Check valves
- Electrical system
- Sprinkler emergency cabinets
- Sprinkler wrenches
- Sprinkler escutcheons and guards
- Inspectors test connections
- Sight drains
- Ball drips and drum drips
- Control valve seals
- Air maintenance devices
- Air compressors
- Pressure gauges
- Identification signs
- Fire department connection

The equipment presented in this bulletin is to be installed in accordance with the latest published Standards of the National Fire Protection Association, Factory Mutual Research Corporation, or other similar organizations and also with the provisions of governmental codes or ordinances whenever applicable.

Products manufactured and distributed by Reliable have been protecting life and property for over 90 years, and are installed and serviced by the most highly qualified and reputable sprinkler contractors located throughout the United States, Canada and foreign countries.

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Eddythread 40

A Lightweight Schedule 40 Replacement Pipe That Has a Corrosion Resistance Ratio of 1.0

Bull Moose Tube Company has been making pipe for a long time and is recognized as a producer of quality pipe products. Eddythread 40 is designed with the same thoroughness as our other fine pipe products and now our customers have an option to buy a carefully designed replacement for Schedule 40 that:

- Has a Corrosion Resistance Ratio of 1.0
- Has a Pressure Rating of 300 psi
- Is Lighter Weight Than Schedule 40
- Is Approved by Factory Mutual and Listed by Underwriters Laboratories
- Is Produced in Accordance to ASTM A-135 and A-795
- Can be Used With Standard Schedule 40 Threaded Fittings, Couplings and Valves
- Is Produced From Steel With Excellent Properties of Strength and Threadability
- Can be Used in Wet, Dry, Preaction, and Deluge Type Sprinkler Systems*
- Offers Lower Freight Costs

EDDYTHREAD 40 SPECIFICATIONS

NOMINAL PIPE SIZE (in)	WEIGHT (lbs/ft)	I.D. (in)	BUNDLE SIZE
1	1.461	1.083	70
1 1/4	2.070	1.418	51
1 1/2	2.547	1.654	44
2	3.308	2.123	30

CORROSION RESISTANCE RATIOS

NOMINAL PIPE SIZE (in)	SCHEDULE 40	EDDYTHREAD 40
1	1.00	1.00
1 1/4	1.00	1.00
1 1/2	1.00	1.00
2	1.00	1.00

* Eddythread 40 can be hot dipped galvanized to meet FM's requirement for dry systems



A CAPARO company

1819 Clarkson Road
Chesterfield, MO 63017
(800) 325-4467
FAX: (636) 537-2645
www.bullmoosetube.com
e-mail: sales@bullmoosetube.com

For additional information,
contact your salesperson today at
(800) 325-4467 or (636) 537-2600
in the USA, or from Canada
call (800) 882-4666



Eddy Flow

The Cost Effective Replacement for Schedule 10

Realizing the growing need of fire protection systems in commercial and residential construction, Bull Moose Tube has added Eddy Flow to its comprehensive line of sprinkler pipe products.

Eddy Flow is a specially engineered replacement for schedule 10, offering better flow characteristics while providing design flexibility. This product is FM approved, as well as UL listed (for U.S. and Canada) for roll grooving and welding for use in fire protection

systems with a working pressure of 300 psi or less. Please check with appropriate sources for up-to-date listings and approval information.

As an added benefit, it is more economical to use than schedule 10 due to reduced delivery costs and ease of handling. Furthermore, Eddy Flow's larger ID provides an opportunity for downsizing and further cost savings.

COMPARISON

Nominal Pipe Size (in)	O.D. (in)	INSIDE DIAMETER			C.R.R.*	
		Eddy Flow (in)	Schedule 10 (in)	Schedule 40 (in)	Eddy Flow	Schedule 40
1 1/4	1.660	1.530	1.442	1.380	1.98	1.00
1 1/2	1.900	1.728	1.682	1.610	3.44	1.00
2	2.375	2.203	2.157	2.067	2.78	1.00
2 1/2	2.875	2.705	2.635	2.469	1.66	1.00
3	3.500	3.334	3.260	3.068	1.00	1.00
4	4.500	4.310	4.260	4.026	1.00	1.00

* Corrosion Resistance Ratio

BENEFITS

- Dual Certified to ASTM A135 and A795.
- FM Approved for roll grooved, and welded, and plain-end application in wet systems.
- UL Listed (for U.S. and Canada) for joining by welding or by listed rubber gasketed fittings for use in wet, dry, preaction, and deluge type sprinkler systems.
- UL Listed (for US and Canada) and FM Approved for use with Victaulic® FIT® Fittings in plain end applications.
- Lightweight - saves shipping costs, and offers easier handling.
- Can be used with roll grooved couplings or welded outlets for pressures up to 300 psi.
- Floor stock available in various lengths produced in Casa Grande (AZ), Gerald (MO), and Masury (OH). Also can be ordered in custom lengths..
- Can be used for wet and dry* systems.

* Eddy Flow can be hot dipped galvanized to meet FM's requirement for dry systems.

PIPE PREPARATION

For proper operation, all pipe surfaces should be cleaned prior to installation. In order to provide a leak-tight seat for the gasket, pipe surfaces should be free from indentations and projections from the end of the pipe to the groove. All loose paint, scale, dirt, chips, grease, and rust must be removed prior to installation. Failure to take these important steps may result in improper coupling assembly, causing leakage. Also, check the manufacturer's instructions for the specific fitting used.



A CAPARO company

1819 Clarkson Road
 Chesterfield, MO 63017
 (800) 325-4467
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D.I. THREADED FITTINGS

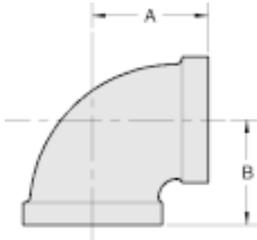


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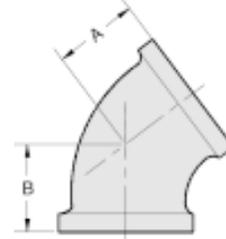
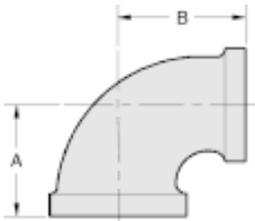


DUCTILE IRON THREADED FITTINGS ARE UL, ULC LISTED AND FACTORY MUTUAL APPROVED FOR 500 PSI SERVICE. DUCTILE IRON PER ASTM A 536 GRADE 65-45-12. DIMENSIONS CONFORM TO ANSI B16.3 CLASS 150. THREADS ARE NPT PER ANSI/ASME B1.20.1

NOTICE: DUCTILE IRON FITTINGS HAVE HIGHER TENSILE STRENGTH THEN THAT OF STEEL PIPE. THEREFORE, OVER TIGHTENING CAN CAUSE DAMAGE TO PIPE THREADS WHICH MAY CAUSE LEAKAGE. DUCTILE IRON FITTINGS SHOULD BE TIGHTENED THREE TURNS BEYOND HAND TIGHT, BUT NO MORE THAN FOUR TURNS.

DUCTILE IRON 90 DEG. ELBOW

NOMINAL SIZE (INCH)	ITEM CODE #	MAX. WORKING P.S.I.	DIMENSIONS		WEIGHT EACH PIECE
			A	B	
1	DB90033	500	1.50	1.50	0.62
1 1/4	DB90044	500	1.75	1.75	0.90
1 1/2	DB90055	500	1.94	1.94	1.20
2	DB90066	500	2.25	2.25	1.85

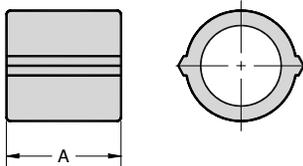


DUCTILE IRON 45 DEG. ELBOW

NOMINAL SIZE (INCH)	ITEM CODE #	MAX. WORKING P.S.I.	DIMENSIONS		WEIGHT EACH PIECE
			A	B	
1	DB45033	500	1.12	1.12	0.46
1 1/4	DB45044	500	1.29	1.29	0.73
1 1/2	DB45055	500	1.43	1.43	0.92
2	DB45066	500	1.68	1.68	1.50

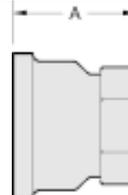
DUCTILE IRON RED.90 DEG. ELBOW

NOMINAL SIZE (INCH)	ITEM CODE #	MAX. WORKING P.S.I.	DIMENSIONS		WEIGHT EACH PIECE
			A	B	
1X1/2	DB90031	500	1.26	1.36	0.44
1X3/4	DB90032	500	1.37	1.45	0.52
1 1/4X1/2	DB90041	500	1.34	1.53	0.64
1 1/4X3/4	DB90042	500	1.45	1.62	0.72
1 1/4X1	DB90043	500	1.58	1.67	0.75
1 1/2X1	DB90053	500	1.65	1.80	0.92
1 1/2X1 1/4	DB90054	500	1.82	1.88	1.08
2X1/2	DB90061	500	1.49	1.88	1.08
2X3/4	DB90062	500	1.60	1.97	1.24
2X1	DB90063	500	1.73	2.02	1.40
2X1 1/4	DB90064	500	1.90	2.10	1.52
2X1 1/2	DB90065	500	2.02	2.16	1.65



DUCTILE IRON STRAIGHT TEE

NOMINAL SIZE (INCH)	ITEM CODE #	MAX. WORKING P.S.I.	DIMENSIONS		WEIGHT EACH PIECE
			A	B	
1	DT333	500	1.50	1.50	0.85
1 1/4	DT444	500	1.75	1.75	1.22
1 1/2	DT555	500	1.94	1.94	1.55
2	DT666	500	2.25	2.25	2.45



DUCTILE IRON COUPLING

NOMINAL SIZE (INCH)	ITEM CODE #	MAX. WORKING P.S.I.	DIMENSION	WEIGHT EACH PIECE
			A	
1	DCL033	500	1.67	0.40
1 1/4	DCL044	500	1.93	0.57
1 1/2	DCL055	500	2.15	0.75
2	DCL066	500	2.53	1.15

DUCTILE IRON RED. COUPLING

NOMINAL SIZE (INCH)	ITEM CODE #	MAX. WORKING P.S.I.	DIMENSION	WEIGHT EACH PIECE
			A	
1X1/2	DRC031	500	1.69	0.39
1X3/4	DRC032	500	1.69	0.53

D.I. THREADED FITTINGS

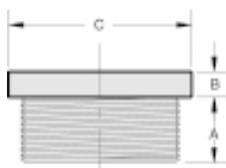
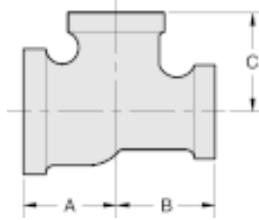


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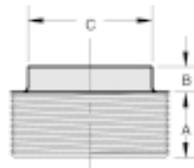
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OUTSIDE HEAD



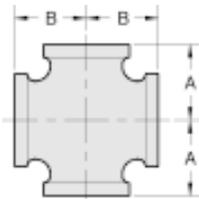
INSIDE HEAD

DUCTILE IRON REDUCING TEE

NOMINAL SIZE (INCH)	ITEM CODE #	MAX. WORKING P.S.I.	DIMENSIONS			WEIGHT EACH PIECE
			A	B	C	
1X1X1/2	DT331	500	1.26	1.26	1.36	0.64
1X1X3/4	DT332	500	1.37	1.37	1.45	0.73
1X1/2X1	DT313	500	1.50	1.36	1.50	0.71
1X3/4X1	DT323	500	1.50	1.45	1.50	0.76
1X1X1 1/4	DT334	500	1.67	1.67	1.58	0.98
1X1X1 1/2	DT335	500	1.80	1.80	1.65	1.16
1 1/4X1X1/2	DT431	500	1.34	1.26	1.53	0.82
1 1/4X1X3/4	DT432	500	1.45	1.37	1.62	0.90
1 1/4X1X1	DT433	500	1.58	1.50	1.67	1.00
1 1/4X1X1 1/4	DT434	500	1.75	1.67	1.75	1.08
1 1/4X1X1 1/2	DT435	500	1.88	1.80	1.82	1.42
1 1/4X1 1/4X1/2	DT441	500	1.34	1.34	1.53	0.86
1 1/4X1 1/4X3/4	DT442	500	1.45	1.45	1.62	0.92
1 1/4X1 1/4X1	DT443	500	1.58	1.58	1.67	0.95
1 1/4X1 1/4X1 1/2	DT445	500	1.88	1.88	1.82	1.45
1 1/4X1 1/4X2	DT446	500	2.10	2.10	1.90	1.75
1 1/2X1X1/2	DT531	500	1.41	1.34	1.66	0.95
1 1/2X1X3/4	DT532	500	1.52	1.37	1.75	1.14
1 1/2X1X1	DT533	500	1.65	1.50	1.80	1.17
1 1/2X1X1 1/4	DT534	500	1.82	1.67	1.88	1.34
1 1/2X1X1 1/2	DT535	500	1.94	1.80	1.94	1.45
1 1/2X1 1/4X1/2	DT541	500	1.41	1.34	1.66	1.05
1 1/2X1 1/4X3/4	DT542	500	1.52	1.45	1.75	1.15
1 1/2X1 1/4X1	DT543	500	1.65	1.58	1.80	1.25
1 1/2X1 1/4X2	DT546	500	2.16	2.10	2.02	1.90
1 1/2X1 1/2X1/2	DT551	500	1.41	1.41	1.16	1.15
1 1/2X1 1/2X3/4	DT552	500	1.52	1.52	1.75	1.24
1 1/2X1 1/2X1	DT553	500	1.65	1.65	1.80	1.30
1 1/2X1 1/2X1 1/4	DT554	500	1.82	1.82	1.88	1.48
1 1/2X1 1/2X2	DT556	500	2.16	2.16	2.02	1.98
2X1X2	DT636	500	2.25	2.02	2.25	2.15
2X1 1/4X2	DT646	500	2.25	2.10	2.25	2.30
2X1 1/2X1/2	DT651	500	1.49	1.41	1.88	1.50
2X1 1/2X3/4	DT652	500	1.60	1.52	1.97	1.62
2X1 1/2X1	DT653	500	1.73	1.65	2.02	1.64
2X1 1/2X1 1/4	DT654	500	1.90	1.82	2.10	1.80
2X1 1/2X1 1/2	DT655	500	2.02	1.94	2.16	2.00
2X1 1/2X2	DT656	500	2.25	2.16	2.25	2.35
2X2X1/2	DT661	500	1.49	1.49	1.88	1.60
2X2X3/4	DT662	500	1.60	1.60	1.97	1.68
2X2X1	DT663	500	1.73	1.73	2.02	1.85
2X2X1 1/4	DT664	500	1.90	1.90	2.10	2.04
2X2X1 1/2	DT665	500	2.02	2.02	2.16	2.18
2X2X2 1/2	DT667	500	2.60	2.60	2.39	3.61
2 1/2X2X3/4	DT762	500	1.74	1.60	2.32	2.28

DUCTILE IRON BUSHINGS

NOMINAL SIZE (INCH)	ITEM CODE #	DIMENSIONS			STYLE	WT. EACH
		A	B	C		
1x1/2	DBUSH31	0.75	0.25	1.42	OUT	0.22
1x3/4	DBUSH32	0.75	0.25	1.42	OUT	0.17
1 1/4x1	DBUSH43	0.80	0.28	1.76	OUT	0.28
1 1/2x1	DBUSH53	0.83	0.31	2.00	OUT	0.44
1 1/2x1 1/4	DBUSH54	0.83	0.31	2.00	OUT	0.30
2x1	DBUSH63	0.88	0.41	1.95	IN	0.66
2x1 1/4	DBUSH64	0.88	0.34	2.48	OUT	0.72
2x1 1/2	DBUSH65	0.88	0.34	2.48	OUT	0.61



DUCTILE IRON CROSS

NOMINAL SIZE (INCH)	ITEM CODE #	MAX. WORKING P.S.I.	DIMENSIONS		WEIGHT EACH PIECE
			A	B	
1	DX033	500	1.50	1.50	0.98
1 1/4	DX044	500	1.75	1.75	1.50
1 1/2	DX055	500	1.94	1.94	1.90
2	DX066	500	2.25	2.25	2.95
1 1/4X1	DX043	500	1.58	1.67	1.27
1 1/2X1	DX053	500	1.65	1.80	1.48
2X1	DX063	500	1.73	2.02	2.10



DUCTILE IRON CAP

NOMINAL SIZE (INCH)	ITEM CODE #	MAX. WORKING P.S.I.	DIMENSION	WEIGHT EACH PIECE
			A	
1	DCP003	500	1.16	0.32
1 1/4	DCP004	500	1.28	0.43
1 1/2	DCP005	500	1.33	0.60
2	DCP006	500	1.45	0.91

FIG. MT-30 Threaded Mechanical Branch Tee



Submittal Sheet

Model MT-30 mechanical tee serves the same function as MT-1 & MT-8 but uses a steel electro-plated U-Bolt to save space and for easier installation in tight places. It is ideal for direct connections with sprinkler heads and drop nipples.



APPROVED
 For Listing / Approval details contact your AnvilStar™ Representative.



WARNING

For dry pipe systems and freezer applications lubrication of the gasket is required, Gruvlok® Xtreme™ Lubricant is recommended.

MATERIAL SPECIFICATIONS

HOUSING:

Ductile Iron conforming to ASTM A-536, Grade 65-45-12.

U-BOLT & NUTS:

U-bolt is carbon steel SAE Grade 2, Zinc Plated with plated hex nuts carbon steel ASTM A-194, Zinc Plated.

THREADS:

MT-30 NPT per ANSI/ASME B1.20.1

COATINGS:

- Zinc Electroplated
 - Other (Specify): _____ Example: RAL3000 or RAL9000 Series
- For other Coating requirements contact an AnvilStar Representative.

GASKETS: Materials

Properties as designated in accordance with ASTM D-2000.

- Grade "E" EPDM (Green color code)
 - 40°F to 230°F (Service Temperature Range) (-40°C to 110°C)
 - Recommended for water service, diluted acids, alkalis solutions, salts, oil-free air and many chemical services not involving hydrocarbons, oils or gases.
 - NOT FOR USE WITH HYDROCARBONS.
- Other _____

PROJECT INFORMATION:

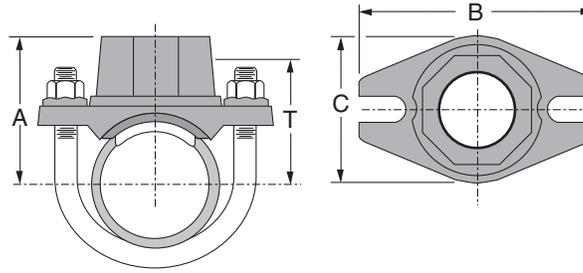
APPROVAL STAMP:

Project:	
Date:	Phone:
Architect / Engineer:	
Contractor:	
Address:	
Notes 1:	
Notes 2:	

FIG. MT-30 Threaded Mechanical Branch Tee



Submission Sheet



MT-30 MECHANICAL TEES

Nominal Size	O.D.	Hole Diameter		Max. Wk. Pressure	Dimensions				Approx. Wt. Ea.
		Min. Diameter	Max. Diameter		A	B	C	T Take-Out	
In./DN(mm)	In./mm	In./mm	In./mm	PSI/bar	In./mm	In./mm	In./mm	In./mm	Lbs./kg
1¼ x ½ 32 x 12	1.660 x 0.840 42.4 x 21.3	1⅜ 30	1⅝ 33	300 20.7	2⅞ 54	3½ 89	2¼ 57.2	1⅝ 42	0.8 0.4
1¼ x ¾ 32 x 19	1.660 x 1.050 42.4 x 26.7	1⅜ 30	1⅝ 33	300 20.7	2⅞ 54	3½ 89	2¼ 57.2	1⅝ 42	0.8 0.4
1¼ x 1 32 x 25	1.660 x 1.315 42.4 x 33.7	1⅜ 30	1⅝ 33	300 20.7	2¼ 58	3½ 89	2¼ 57.2	1⅝ 41	1.1 0.5
1½ x ½ 40 x 12	1.900 x 0.840 48.3 x 21.3	1⅜ 30	1⅝ 33	300 20.7	2¼ 57	3½ 89	2¼ 57.2	1¾ 48	0.8 0.4
1½ x ¾ 40 x 19	1.900 x 1.050 48.3 x 26.7	1⅜ 30	1⅝ 33	300 20.7	2¼ 57	3½ 89	2¼ 57.2	1¾ 48	0.9 0.4
1½ x 1 40 x 25	1.900 x 1.315 48.3 x 33.7	1⅜ 30	1⅝ 33	300 20.7	2⅜ 61	3½ 89	2¼ 57.2	1¾ 44	1.1 0.5
2 x ½ 50 x 12	2.375 x 0.840 60.3 x 21.3	1⅜ 30	1⅝ 33	300 20.7	2½ 64	3¾ 95	2¼ 57.2	2 51	0.9 0.4
2 x ¾ 50 x 19	2.375 x 1.050 60.3 x 26.7	1⅜ 30	1⅝ 33	300 20.7	2½ 64	3¾ 95	2¼ 57.2	2 51	0.9 0.4
2 x 1 50 x 25	2.375 x 1.315 60.3 x 33.7	1⅜ 30	1⅝ 33	300 20.7	2⅝ 67	3¾ 95	2¼ 57.2	2 50	1.1 0.5
2½ x ½ 65 x 12	2.875 x 0.840 73.0 x 21.3	1⅜ 30	1⅝ 33	300 20.7	2¾ 70	4¼ 108	2¼ 57.2	2¼ 57	0.9 0.4
2½ x ¾ 65 x 19	2.875 x 1.050 73.0 x 26.7	1⅜ 30	1⅝ 33	300 20.7	2¾ 70	4¼ 108	2¼ 57.2	2¼ 57	0.9 0.4
2½ x 1 65 x 25	2.875 x 1.315 73.0 x 33.7	1⅜ 30	1⅝ 33	300 20.7	2⅞ 73	4¼ 108	2¼ 57.2	2¼ 56	1.1 0.5

BSP equivalent is available as a MT-90.

NOTE: Tighten nuts alternatively to a recommended torque of 18 -22 ft-lbs (25 - 30 N-m) on pipe wall less than schedule 10 or 23 -27 ft-lbs (31 - 37 N-m) on pipe walls schedule 10 and above.

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Permit #: **2017-1279409-LT**

Fig. 200 - "Trimline" Adjustable Band Hanger

Size Range — 1/2" thru 8" pipe

Material — Carbon Steel, Mil. Galvanized to G90 specifications

Function — For fire sprinkler and other general piping purposes. Knurled swivel nut design permits hanger adjustment after installation.

Features —

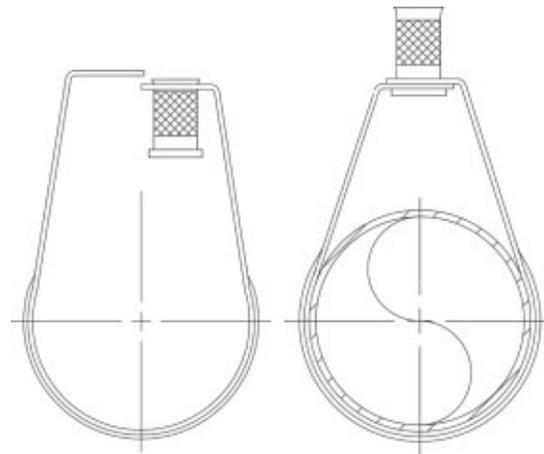
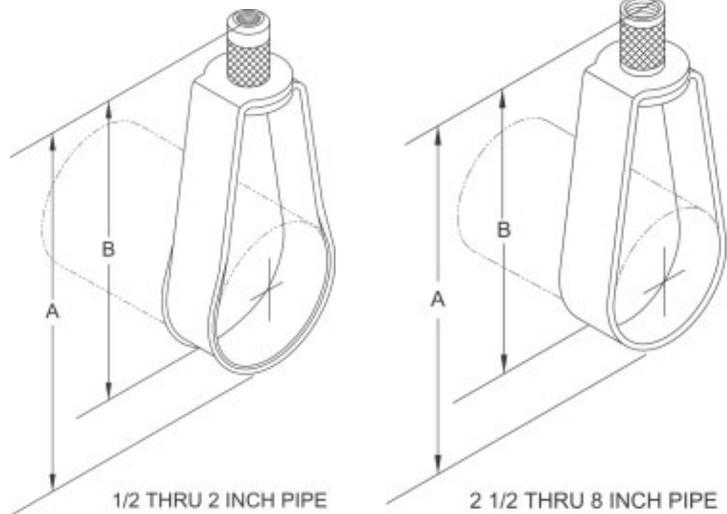
- (1/2" thru 2") Flared edges ease installation for all pipe types and protect CPVC plastic pipe from abrasion. Captured design keeps adjusting nut from separating with hanger. Hanger is easily installed around pipe.
- (2 1/2" thru 8" Spring tension on nut holds it securely in hanger before installation. Adjusting nut is easily removed.

Approvals — Underwriters' Laboratories listed (1/2" thru 8") in the USA (**UL**) and Canada (**cUL**) for steel and CPVC plastic pipe and Factory Mutual Engineering Approved (3/4" thru 8"). Conforms to Federal Specifications WW-H-171E, Type 10 and Manufacturers Standardization Society SP-69, Type 10.

Maximum Temperature — 650°F

Finish — Mil. Galvanized. For Stainless Steel materials, order TOLCO™ Fig. 200WON.

Order By — Figure number and pipe size



Dimensions • Weights

Pipe Size	Rod Size		A	B	Max. Rec. Load Lbs.	Approx. Length
	Inch	Metric				
1/2	3/8	8mm or 10mm	3 1/8	2 5/8	400	11
3/4	3/8	8mm or 10mm	3 1/8	2 1/2	400	11
1	3/8	8mm or 10mm	3 3/8	2 5/8	400	12
1 1/4	3/8	8mm or 10mm	3 3/4	2 7/8	400	13
1 1/2	3/8	8mm or 10mm	3 7/8	2 7/8	400	14
2	3/8	8mm or 10mm	4 1/2	3	400	15
2 1/2	3/8	10mm	5 5/8	4 1/8	600	27
3	3/8	10mm	5 7/8	4	600	29
3 1/2	3/8	10mm	7 3/8	5 1/4	600	34
4	3/8	10mm	7 3/8	5	1000	35
5	1/2	12mm	9 1/8	6 1/4	1250	66
6	1/2	12mm	10 1/8	6 3/4	1250	73
8	1/2	12mm	13 1/8	8 3/4	1250	136

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Fig. 65 and Fig. 66 Reversible C-Type Beam Clamps 3/4" and 1 1/4" Throat Openings

Size Range — (Fig. 65 and Fig. 66) 3/8", 1/2" and 5/8" rod

Material — Carbon Steel with hardened cup point set screw and jam nut

Function — Recommended for hanging from steel beam where flange thickness does not exceed 3/4" (Fig. 65) or 1 1/4" (Fig. 66).

Features — All steel construction eliminates structural deficiencies associated with casting type beam clamps. May be used on top or bottom flange of the beam. (Beveled lip allows hanging from top flange where clearance is limited.) May be installed with set screw in up or down position. Offset design permits unlimited rod adjustment by allowing the rod to be threaded completely through the clamp. Open design permits inspection of thread engagement.

Approvals — Underwriters' Laboratories Listed in the USA (**UL**) and Canada (**cUL**). Factory Mutual Engineering approved. Conforms to Federal Specification WW-H-171E, Type 23 and Manufacturers Standardization Society SP-69, Type 19. Exceeds requirements of the National Fire Protection Association (NFPA), Pamphlet 13, 3/8" rod will support 1/2" thru 4" pipe, 1/2" rod will support 1/2" thru 8" pipe. Included in our Seismic Restraints Catalog approved by the State of California Office of Statewide Health Planning and Development (OSHPD). For additional load, spacing and placement relating to OSHPD projects, please refer to the TOLCO Seismic Restraint Systems Guidelines.

Finish — Plain

Note — Available in Electro-Galvanized and HDG finish.

Order By — Figure number, rod size and finish

Fig. 65 Patent #4,570,885

Component of State of California OSHPD Approved Seismic Restraints System

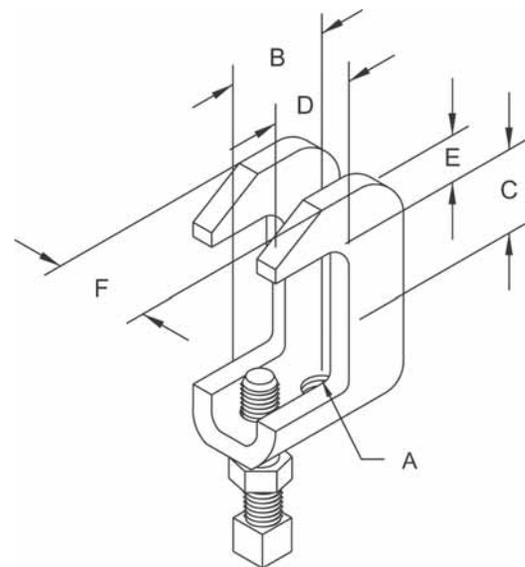
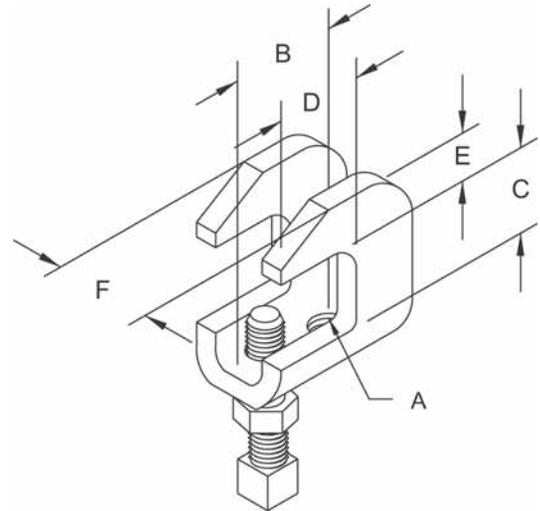


Fig. 65

Dimensions • Weights

Rod Size A	B	C	D	E	F	Max. Rec. Load Lbs.*	Approx. Wt./100
3/8	1 ³ / ₁₆	3/4	1	7/16	1	610	28
1/2	1 ¹ / ₂	3/4	1	9/16	1 ¹ / ₄	1130	55
5/8	1 ¹ / ₂	3/4	1	9/16	1 ¹ / ₄	1130	55

* Max. loads for clamp with set screw in up or down position.

Fig. 66

Dimensions • Weights

Rod Size A	B	C	D	E	F	Max. Rec. Load Lbs.*	Approx. Wt./100
3/8	1 ³ / ₁₆	1 ¹ / ₄	1	7/16	1	610	28
1/2	1 ¹ / ₂	1 ¹ / ₄	1	9/16	1 ¹ / ₄	1130	55
5/8	1 ¹ / ₂	1 ¹ / ₄	1	9/16	1 ¹ / ₄	1130	55

* Max. loads for clamp with set screw in up or down position.

SAMMY X PRESS

ITW Buildex

XP 200 for 1/4" and
XP 20 & XP 35 for 3/8" Rod

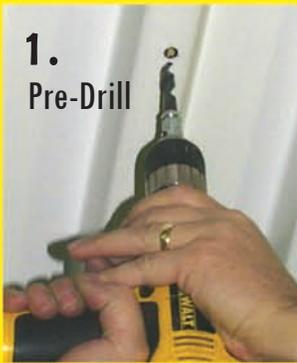
Expands to provide direct vertical attachment in:

- Metal Deck (22-16 gauge)
- Purlin (18-16 gauge)

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U.S. Patent No.
6,935,821

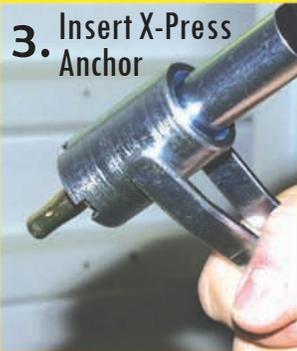
- Installs in seconds, saves time & installation costs.
- Use in applications where easy access to the back of the installed fastener is prohibited.
- No retaining nut required.



1.
Pre-Drill



2.
Attach
Sleeve



3.
Insert X-Press
Anchor



4.
Install

*Tool Includes: Sleeve, Bit Receiver, Hex Wrench and 25/64" Drill Bit.

Ask your supplier or call us at 800-BUILDDEX.

SSS05

	Approvals	Min Steel Ga.	Part #	Model	Screw Description	Rod Size	Pipe Size	Test Load
Pipe Hanger	FM	12 ga	8150922	XP 20	Sammy X-Press 20	3/8 - 16"	3/4 - 4"	1475 Lbs.
		12 ga	8153922	XP 35	Sammy X-Press 35	3/8 - 16"	3/4 - 4"	1475 Lbs.
	UL 9R21	22 ga	8150922	XP 20	Sammy X-Press 20	3/8 - 16"	3/4 - 2"	750 Lbs.
		18 ga	8153922	XP 35	Sammy X-Press 35	3/8 - 16"	3/4 - 3-1/2"	1250 Lbs.
Luminaire Fitting	Approvals	Min Steel Ga.	Part #	Model	Screw Description	Rod Size	Load Rating	
	UL 25ES	22 ga	8150922	XP 20	Sammy X-Press 20	3/8 - 16"	185 Lbs.	
			8153922	XP 35	Sammy X-Press 35	3/8 - 16"	185 Lbs.	
		16 ga	8181922	XP 200	Sammy X-Press 200	1/4 - 20"	185 Lbs.	
			8150922	XP 20	Sammy X-Press 20	3/8 - 16"	250 Lbs.	
	8153922	3/8 - 16"	8153922	XP 35	Sammy X-Press 35	3/8 - 16"	250 Lbs.	
			8181922	XP 200	Sammy X-Press 200	1/4 - 20"	250 Lbs.	
		8151910	XPIT	Sammy X-Press It® Installation Tool				
	8152910	XPDB	25/64" Drill Bit					