

- ### SECTION NOTES
- MIRROR, 6' WIDE X 8' HIGH.
 - (E) R-30 INSULATION AND (E) 2X12 ROOF FRAMING.
 - REMOVE & REPLACE INSULATION AS REQUIRED FOR
 - INSTALL WOOD/METAL BLOCKING OR UNISTRUT AS MECHANICAL DUCT WORK, GALV. FINISH, SUPPORT ON AIRCRAFT CABLE. PROVIDE WOOD/METAL BLOCKING OR SUSPENDED LIGHT FIXTURE.
 - CEILING FAN.
 - (E) GLU-LAM BEAM.
 - VINYL CAP SHEET.
 - EXISTING STOREFRONT. CLEAN GLASS & FRAMES.
 - REPLACE (E) BROKEN GLASS WITH NEW. INSTALL NEW ELEC. RACEWAY.
 - RECEPTION DESK, SEE 5/A-2.
 - LOCKERS, SEE 7/A-2.
 - CEILING MOUNTED FLAT SCREEN TV, SEE NOTE 13/A-3
 - VENDING MACHINE, BY TENANT.
 - WALL MOUNTED FLAT SCREEN TV, SEE NOTE 12/A-3 FOR MOUNTING BRACKET INFORMATION. T.V.'S BY TENANT. BRACKET AND BLOCKING BY G.C. VERIFY LOCATION
 - GYP. BD. FURR OUT AT WALER BEAM. FINSH/RETURN AT

CALC #1

Hydraulic Information

OCCUPANCY CLASSIFICATION	Ordinary Group II
DENSITY	0.200gpm/ft² for 1092.00ft² (Actual 1640.55ft²)
TOTAL HOSE STREAMS	250.00
DRY CAPACITY	0.00gal
TOTAL HEADS FLOWING	20
K-FACTOR	5.6
TOTAL WATER REQUIRED	713.48
TOTAL PRESSURE REQUIRED	49.345
BASE OF RISER - GPM	463.48
BASE OF RISER - PSI	43.165
SAFETY MARGIN - PSI	+9.275 (15.8%)

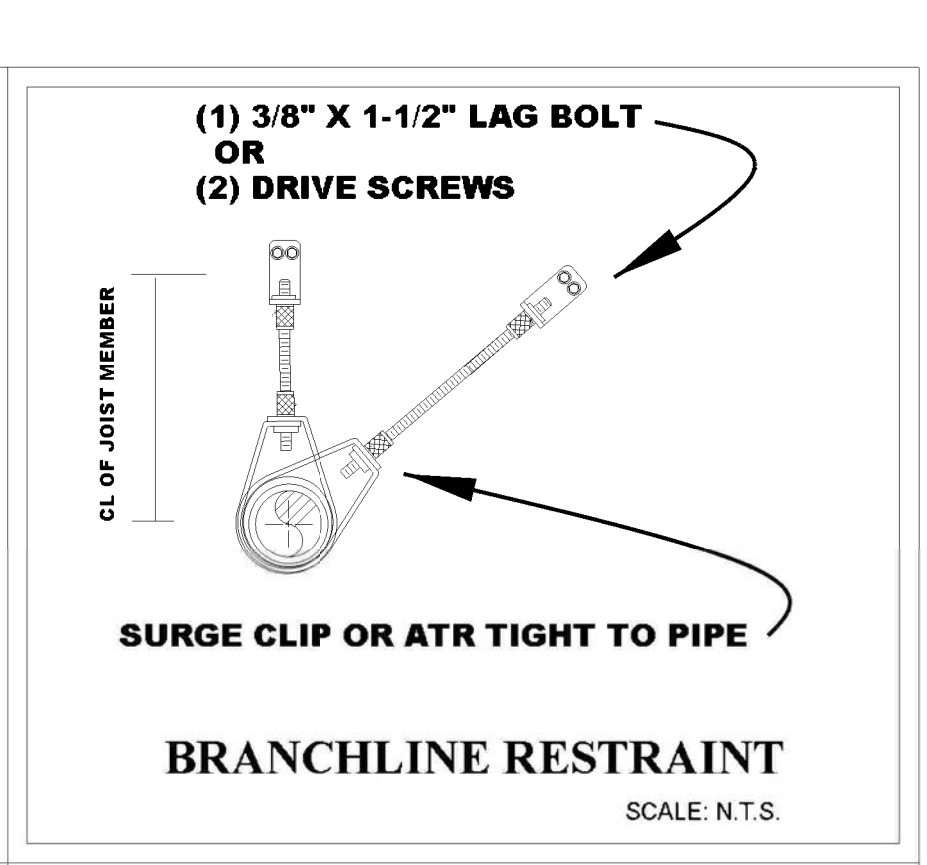
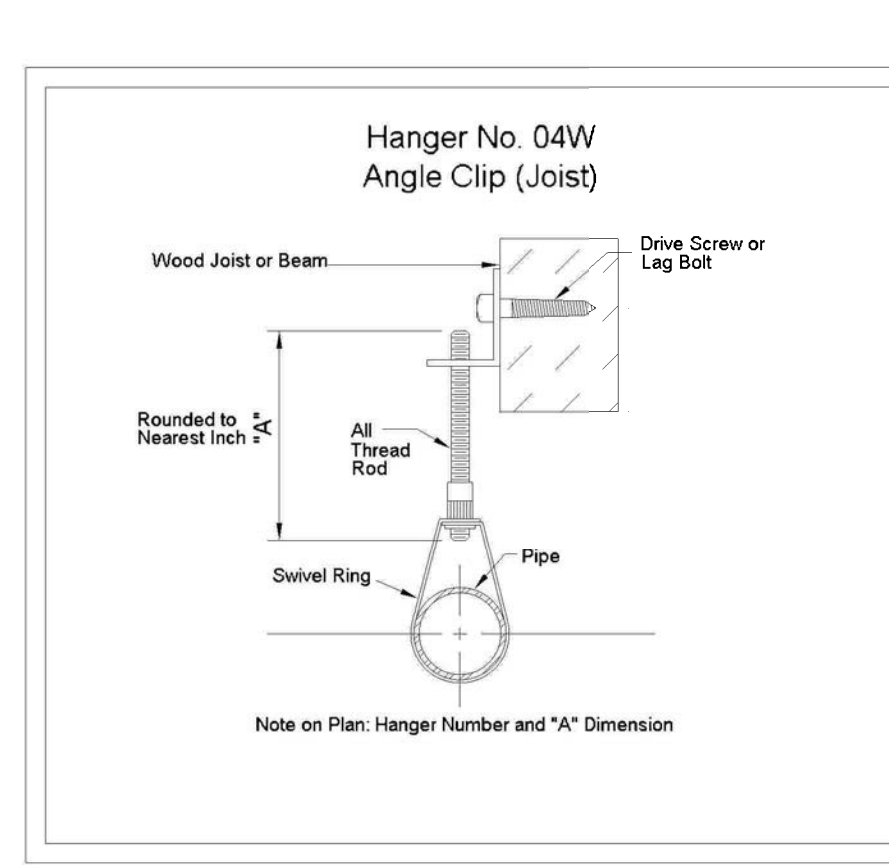
CALCULATION AREA MODIFIER
NFPA 13 2002 11.2.3.2.4
WHERE Y= % REDUCTION AND X = CEILING HEIGHT
ACTUAL CEILING HEIGHT 18'-6" AFF

$$Y = \frac{-3(X)}{2} + 55 = \frac{-3(18.6)}{2} + 55 = -27.9 + 55 = 27.1$$

AREA REDUCED 27.1% 1500 SQ.FT. 408.75 = 1091.25 SQ.FT
AREA OF APPLICATION: LIGHT HAZ. WET PIPE
SYSTEM EMPLOYING QUICK RESPONSE SPRINKLERS.

NFPA 13 Table 8.6.5.2.1.3

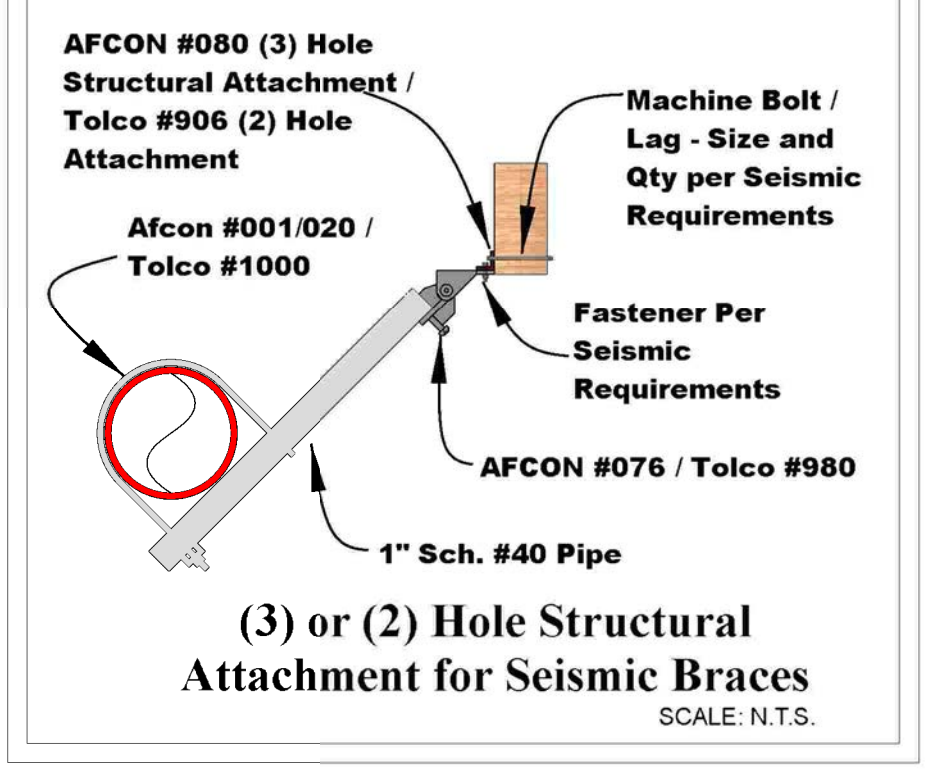
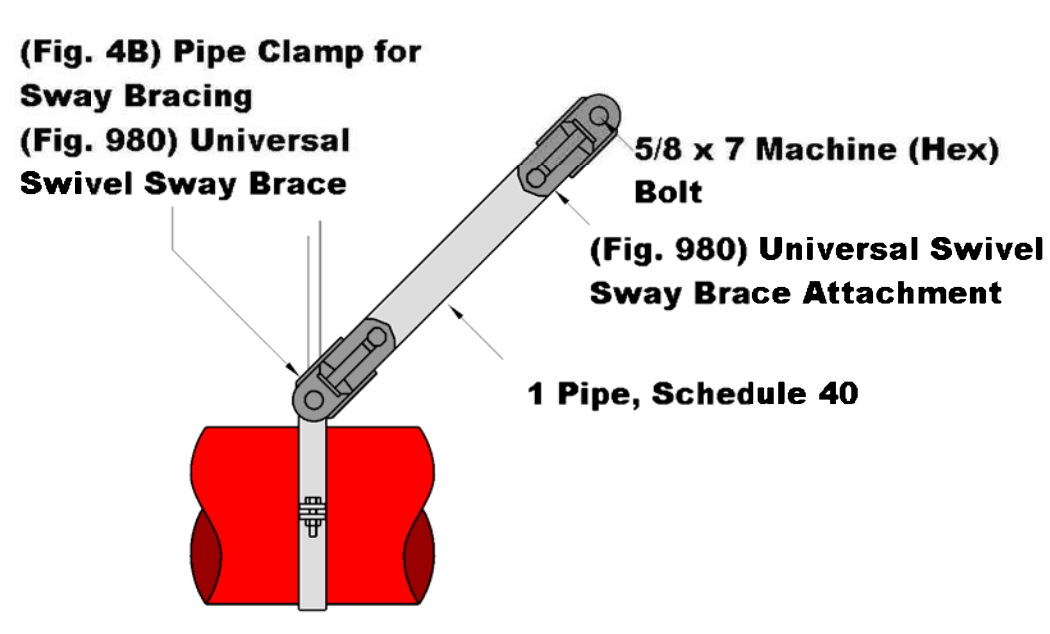
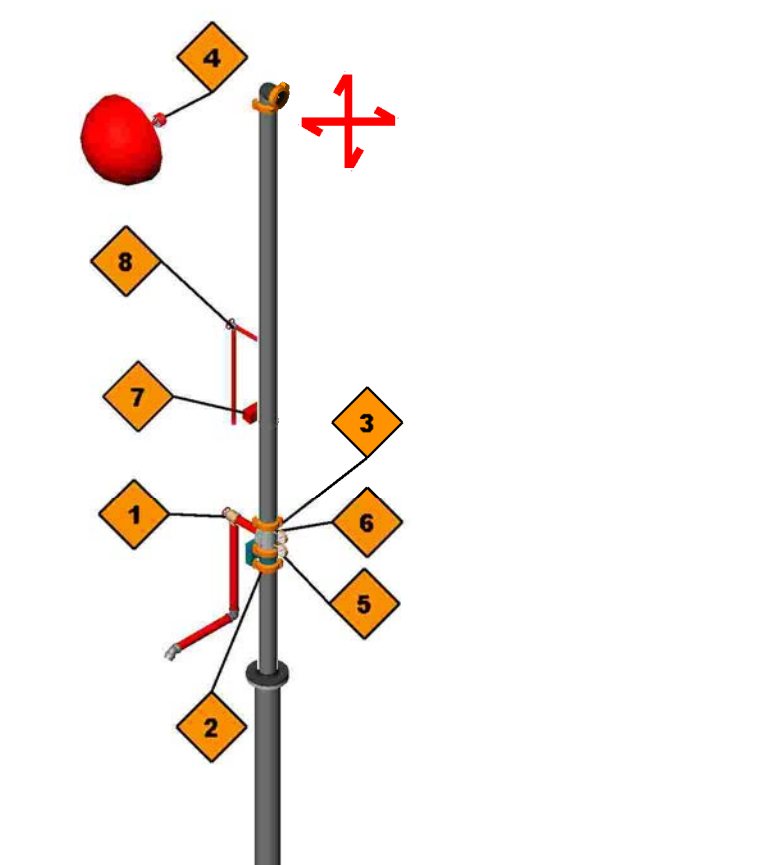
Horiz. Distance From Outside edge of Obstruction (A)	Min. Vertical Distance from Deflector (B)
6" or less	3"
More than 6" to 9"	3"
More than 9" to 12"	6"
More than 12" to 15"	8"
More than 15" to 18"	9.5"
More than 18" to 24"	12.5"
More than 24" to 30"	15.5"
More than 30"	18"



CALC #2

Hydraulic Information

OCCUPANCY CLASSIFICATION	Light Hazard
DENSITY	0.100gpm/ft² for 900.00ft² (Actual 1146.26ft²)
TOTAL HOSE STREAMS	100.00
DRY CAPACITY	0.00gal
TOTAL HEADS FLOWING	13
K-FACTOR	5.6
TOTAL WATER REQUIRED	424.16
TOTAL PRESSURE REQUIRED	52.438
BASE OF RISER - GPM	324.16
BASE OF RISER - PSI	46.747
SAFETY MARGIN - PSI	+7.777 (12.9%)



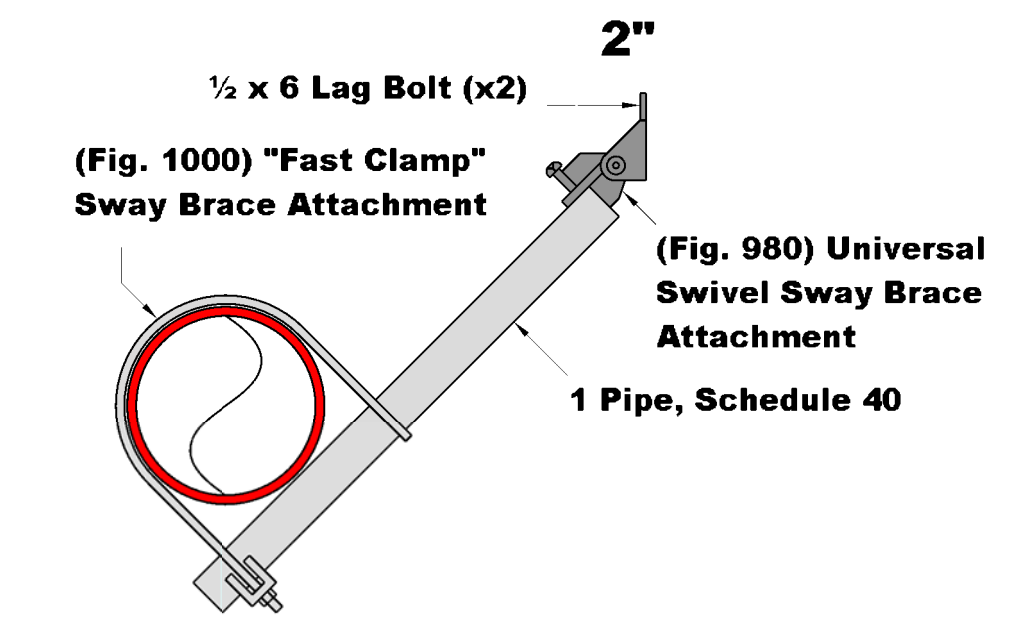
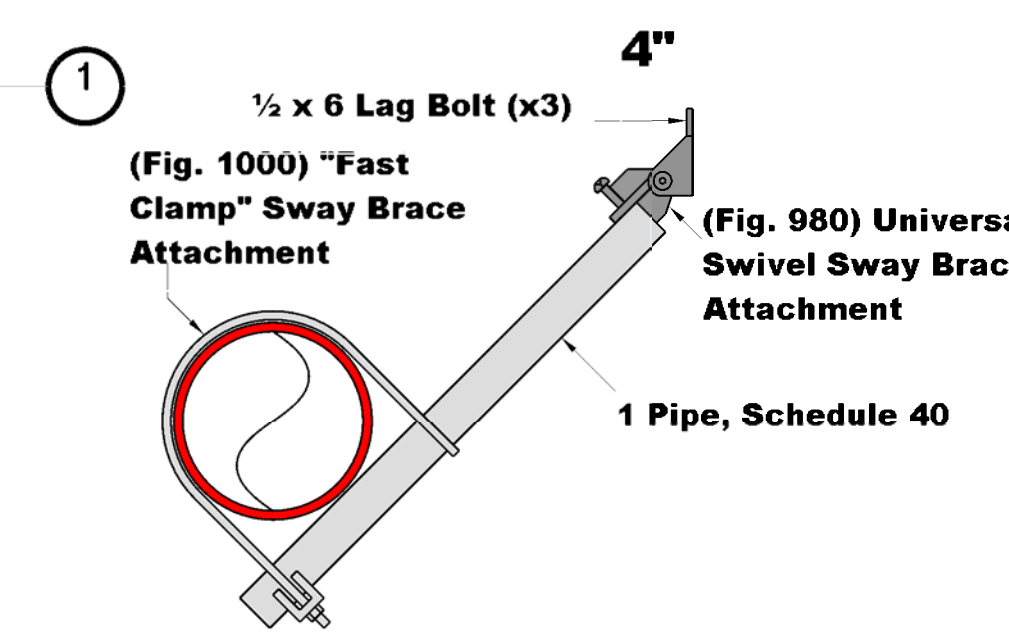
CALC #3

Hydraulic Information

OCCUPANCY CLASSIFICATION	Light Hazard
DENSITY	0.100gpm/ft² for 900.00ft² (Actual 929.18ft²)
TOTAL HOSE STREAMS	100.00
DRY CAPACITY	0.00gal
TOTAL HEADS FLOWING	7
K-FACTOR	5.6
TOTAL WATER REQUIRED	261.80
TOTAL PRESSURE REQUIRED	54.873
BASE OF RISER - GPM	161.80
BASE OF RISER - PSI	46.746
SAFETY MARGIN - PSI	+5.923 (9.7%)

RISER DETAIL

Part Number	Tag	Size	Description
1	2	Valve, T-T Angle - Main Drain	
2	4	Valve, G-G Butterfly - Control Valve w/Tamper	
3	4	Valve, G-G Check	
4	10"	10" 120v Elec Bell	
5	1/2"	Gauge	
6	1/2"	Gauge	
7	4 x 2	Waterflow Detector	
8	1"	Inspector's Test Assy	



DESIGN CRITERIA

- ALL MATERIAL AND METHODS SHALL CONFORM TO THE REQUIREMENTS OF CONTRA COSTA COUNTY FIRE DEPARTMENT.
- THIS SYSTEM HAS BEEN HYDRAULICALLY CALCULATED PER THE DESIGN CRITERIA ABOVE; SEE PRINTED CALCULATION REPORT FOR DETAILS. A PLACARD INDICATING THE HYDRAULIC DESIGN CRITERIA WILL BE INSTALLED ON THE RISER.
- ALL MATERIALS TO BE NEW AND APPROVED.
- OVERHEAD PIPING 2" & LARGER SHALL BE DYNA FLOW PIPE GROOVED WITH SHOP WELDED OUTLETS INSTALLED BY CERTIFIED WELDERS.
- OVERHEAD PIPING 1 1/2" & SMALLER SHALL BE DYNA THREAD PIPE.
- CROSS/FEED MAIN PIPE FITTINGS, GROOVED WITH STANDARD GASKETS.
- BRANCHLINE FITTINGS, DUCTILE IRON, CAST IRON, #125#, AND THREADED.
- ALL PIPING SHALL BE HYDROSTATICALLY TESTED PER NFPA 13, 24 HOUR NOTIFICATION REQUIRED, 200# FOR 2 HOURS.
- A SPARE HEAD CABINET; SPRINKLERS, AND WRENCH(S) SHALL BE PROVIDED PER NFPA 13.
- PROTECTION AGAINST FREEZING OF ALL EXPOSED PIPING, SPRINKLERS, AND VALVES IS THE RESPONSIBILITY OF THE OWNER & SHALL ADHERE TO NFPA 13.
- ALARM BELL SHALL BE PROVIDED BY AQUAMATIC FIRE PROTECTION INC. INSTALLATION & WIRING N.I.C.
- THE SYSTEM ALARMS SHALL BE PROVIDED WITH 24 HR MONITORING PER UFC.
- 18" CLEARANCE ABOVE STORAGE US REQUIRED PER NFPA 13.
- FOREMAN TO SCHEDULE WELD INSPECTION IN JURISDICTIONS WHERE REQUIRED.
- WATER INFORMATION: DESIGN CRITERIA STATIC PSI-61.2, RESIDUAL PSI - 55.2, GPM - 1126

FIRE SPRINKLER PIPING PLAN

Standard Symbols

- Alarm Check Valve
- Key Operated Valve
- Public Hydrant
- Fire Dept. Connection
- O.S.&Y Gate Valve
- Check Valve
- New Underground
- Existing Underground

Standard Symbols

- Alarm Check Valve
- Thrust Block
- Backflow Preventer

Standard Sprinkler Symbols

- Upright on 1/2" Outlet
- Pendent on 1/2" Outlet
- Upright on 1" Spring
- Pendent below ceiling on 1" Drop
- Upright above Pendent on 1" Drop
- Sidewall on 1/2" Outlet
- Sidewall on 1" Spring

GENERAL SYSTEM NOTES

- HYDRAULIC INFORMATION TO BE PROVIDED ON SPRINKLER RISES
- EXISTING SPRINKLER SYSTEM TO BE PROVIDED PER NFPA 13
- ALL INSURANCE TEST CONNECTIONS AND LOW VOLT
- DESIGN TO BE PROVIDED PER NFPA 13
- ALL RISERS TO BE TEST CONNECTIONS PER NFPA 13 REQUIREMENTS
- LINE PIPING SHALL BE SOL. FIBER SPRINKLER PIPE NETWORKED
- OUTLETS SHALL BE GROOVED THREADED OR WITH GROOVED THREADED FITTINGS
- MAIN PIPING SHALL BE SOL. FIBER THREADED
- WELDED OUTLETS SHALL BE GROOVED WELD AND GROOVED FITTING
- EVERY OTHER RISER SHALL BE PER NFPA 13
- OTHERS TO PROVIDE PIPING, WELD, FIRE EXTINGUISHERS
- HYDRAULIC CITY CONNECTIONS, BOARDING, SIZES, & LETTER MONITORING, U.S.A.
- HYDRAULIC REFERENCE POINT
- ALL HYDRO COMMENTS SHALL BE LISTED AND FIRE APPROVED
- SPARE HEAD CABINET TO INCLUDE: 10.00 HEADS, 10.00 WRENCH & COPY OF NFPA 13

Contacts

Dyna-Thd	Pipe Ends/Run	Fittings
Armovers	Dyna-Thd	Threaded
Sprigs	Dyna-Thd	Threaded
Drops	Dyna-Thd	Threaded
BLs	Dyna-Thd	Threaded
Cross Mains	Dyna-Flow	Welded/Grv
Flat Main	Dyna-Flow	Welded/Grv
Standpipes	Sch. 10	Welded/Grv
Underground	PVC	PVC Fittings

Contacts

General Contractor

Architect

Revisions

Date	Revisions

Sprinkler Legend

Symbol	Manufacturer	SIN/Model	Quantity	K-Factor	Type	Orifice/Finish	Temperature/Note
●	Globe Fire Sprinkler Corp	GL5011	31	5.6	Pendent	1/2" Chrome	155°F
○	Globe Fire Sprinkler Corp	GL5015	188	5.6	Upright	1/2" Bronze	155°F
◐	Globe Fire Sprinkler Corp	GL5020	6	5.6	Swivel	1/2" Chrome	155°F
		Total	225				

Dana Plaza Fitness 19

4115 Concord Blvd
Concord, Ca 94519

AS NOTED
Design: Gerald Ebeling
Drawn: 1043
Date: 11/07/10
Drawing No: FP2
PIPING PLAN