	SPRINKLER DRAWING I	ND	Έ	<		
•	NEW OR REVISED ISSUE					
0	NON REVISED ISSUE					
		DATE:				
		ISSUE:				
NUMBER	NAME					
FP-001	SPRINKLER COVER SHEET					
FP-101	SPRINKLER FIRST FLOOR REFLECTED CEILING PLAN					
FP-102	SPRINKLER SECOND FLOOR REFLECTED	)				
FP-103	SPRINKLER ATTIC PLAN					
FP-301	SPRINKLER SPECIFICATION					
FP-401	SPRINKLER DETAILS					
FP-501	SPRINKLER RISER					

# <u>SYMBOLS</u>

—— F ——	FIRE MAIN
SP	SPRINKLER MAIN
— DR —	DRAIN PIPE
FSP	COMBINED FIRE STANDPIPE SPRINKLER
DSP	DRY STANDPIPE
WSP	WET STANDPIPE
I∰∎I ₽∯	BALL VALVE HOSE VALVE
٣	FLOOR CONTROL VALVE ASSEMBLY CHECK VALVE
<u>م</u>	CONTROL VALVE (OS & Y)
	PRESSURE REDUCING VALVE
—— <b>O</b> ——	ALARM CHECK VALVE ASSEMBLY
<b>—</b>	DRY PIPE VALVE ASSEMBLY
	OUTSIDE WALL HYDRANT
	OUTSIDE GROUND HYDRANT
	NON FREEZE WALL HYDRANT
Ĵ_−+	HOSE BIBB
۶ <u>ــــــــــــــــــــــــــــــــــــ</u>	FIRE DEPARTMENT CONNECTION (SIAMESE)
, <i></i>	FIRE DEPARTMENT TEST HEADER
X	FIRE HYDRANT
ম	FIRE HOSE VALVE
• PIV	ALARM GONG
	POST INDICATOR VALVE
PA	PRE-ACTION VALVE
	OPENING THROUGH STEEL
	TERMINATION POINT OF DEMOLITION AND CAP
•	CONNECT NEW TO EXISTING
<s99></s99>	HYDRAULIC CALCULATION POINT INDICATOR
(FHR)	FIRE HOSE RACK/CABINET
(FHV)	FIRE HOSE VALVE
	PUMPS: 1. HOUSE PUMP (AKA FILL PUMP) 2. FIRE PUMP (SHOW GPM & MANUAL OR AUTOMATIC) 3. BOOSTER PUMP (SHOW GPM)
TS	TAMPER SWITCH
WF	WATER FLOW SWITCH
	EXISTING SPRINKLER PIPING TO REMAIN
	NEW SPRINKLER PIPING
	EXISTING SPRINKLER PIPING TO BE REMOVED
FP.XXX	— DETAIL REFERENCE: DETAIL NUMBER — DETAIL REFERENCE: DRAWING NUMBER
FSP X	— RISER CALLOUT: RISER TYPE — RISER CALLOUT: RISER NUMBER
RCV	RISER CONTROL VALVE
OXXXX	EXTENDED COVERAGE PENDENT SPRINKLER HEAD NUMBER INDICATES WIDTH X THROW IN FEET EX: 1820 = (18' X 20')

NOTE : SYMBOL LIST AND ABBREVIATIONS PROVIDED FOR CONVENIENCE ONLY. NOT EVERY SYMBOL OR ABBREVIATION IS NECESSARY USED.

## ABBREVIATIONS

ABV	
AD AD	ACCESS DOOR
AFF	ABOVE FINISHED FLOOR
BFP	BACK FLOW PREVENTER
BLDG	BUILDING
BSMT	BASEMENT
CI	CAST IRON
۹ ۱۰	CENTER LINE
CO	CLEAN OUT
COL	COLUMN
CONC	CONCRETE
CONN	CONNECTION CHECK VALVE
°C	DEGREES CENTIGRADE
DIA	DIAMETER
DIAG DISCH	DIAGRAM DISCHARGE
DN	DOWN
DWG	DRAWING
(E) FA	EXISTING FACH
ELEV	ELEVATION
ENT	ENTERING
EQ FQUIP	EQUAL FQUIPMENT
EQUIV	EQUIVALENT
EX	EXISTING
°F	DEGREES FAHRENHEIT
FAI	FRESH AIR INLET
FD FH	FLOOR DRAIN
FHC	FIRE HOSE CABINET
FHR	FIRE HOSE RACK
FL FI FY	FLANGE
FLEA	FLOOR
FP	FIRE PROTECTION
FPM	FEET PER MINUTE
FT	FEET
GA	GAUGE
GALV	GALVANIZED GENERAL CONTRACTOR
GPD	GALLONS PER DAY
GPH	GALLONS PER HOUR
GPM GV	GALLONS PER MINUTE GATE VALVE
HC	HUNG CEILING
HD	HEAD
HK HTR	HOUR HEATER
ID	INTERNAL DIAMETER
JP MAX	MAXIMUM
MFR	MANUFACTURER
MIN	MINIMUM
MTD	MOUNTED
(N)	NEW
NAS	NO AUTOMATIC SPRINKLERS
NIC	NORMALLT CLOSED NOT IN CONTRACT
No	NUMBER
	NORMALLY OPEN NON-ROTABLE WATER
NOM	NOMINAL
NTS	NOT TO SCALE
OPG OS&Y	OPENING OUTSIDE SCREW & YOKE
OZ	OUNCE
	PARTIAL
PERF	CROSS LINKED POLYETHYLENE TUBING
PH	PHASE
PIV PO	POST INDICATOR VALVE
POS	POSITIVE
PRESS	PRESSURE
PS PSI	PRESSURE SWITCH POUNDS PER SQUARE INCH
PSIG	POUNDS PER SQUARE INCH GAUGE
PSIA	POUNDS PER SQUARE INCH ABSOLUTE
FV PVC	POLYVINYL CHLORIDE
QTY	QUANTITY
RCV	RISER CONTROL VALVE
RM	ROOM
RPZ	REDUCED PRESSURE ZONE BACKFLOW PREVENTER
SCH SCV	SCHEDULE SPRINKLER CONTROL VALVE
SPEC	SPECIFICATION
STD	STANDARD
SUM SYS	SYSTEM
TDH	TOTAL DYNAMIC HEAD
TEMP TS	TEMPERATURE
TYP	TYPICAL
UG	UNDERGROUND
v VO	VENT VALVED OUTLET
W	WASTE
w⊦ WM	WAIER FLOW SWIICH WATER METER

NOTE: SYMBOL LIST AND ABBREVIATIONS PROVIDED FOR CONVENIENCE ONLY. NOT EVERY SYMBOL OR ABBREVIATION IS NECESSARY USED.

## **DESIGN CRITERIA**

SPRINKLER SYSTEM LAYOUT AND CALCULATIONS SHALL COMPLY WITH IBC 2018 WITH AMENDMENTS, N.J.A.C. 5:70 UNIFORM FIRE CODE, NFPA 13 (2016) AS MODIFIED BY NJ ADMINISTRATIVE CODE, OWNER'S INSURANCE COMPANY REQUIREMENTS AND GOOD ENGINEERING PRACTICE.

2. THE SPRINKLER SYSTEM SHALL BE HYDRAULICALLY CALCULATED BASED ON COORDINATED SHOP DRAWINGS.

3. SPACE OCCUPANCY CLASSIFICATION: AS PER NFPA STANDARD IS: LIGHT HAZARD IN RESIDENTIAL AREAS AND ATTIC, ORDINARY HAZARD GROUP I IN PARKING GARAGE AREAS AND MECHANICAL ROOMS, AND ORDINARY HAZARD GROUP II IN STORAGE DEDICATED SPACES.

SPRINKLERS PROTECTION SHALL PROVIDE A MINIMUM DENSITY OF DISCHARGE OF 0.1 GPM / SQ.FT. IN LIGHT HAZARD AREAS, 0.15 GPM / SQ.FT. IN OH1 AREAS AND 0.2 GPM / SQ.FT. IN OH2 AREAS. DESIGN AREA FOR WET SYSTEMS IS 1500 SQ.FT.; DESIGN AREA FOR DRY SYSTEM IN THE GARAGES IS 1950 SQ.FT. AND DESIGN AREA FOR THE DRY SYSTEM IN THE ATTIC IS 2535 SQ.FT.

5. SPRINKLER COVERAGE IS 225 SQ.FT. FOR LIGHT HAZARD AREAS AND 130 SQ.FT. FOR ORDINARY HAZARD LOCATIONS.

RESIDENTIAL SPRINKLER HEADS ARE PERMITTED TO PROTECT THE DWELLING UNITS. REQUIRED DENSITY SHALL BE 0.1 GPM/SQ.FT. IN THE DWELLING UNITS. RESIDENTIAL SPRINKLER COVERAGE SHALL BE AS PER THE MANUFACTURER'S TABLES.

MINIMUM PRESSURE AT ANY SPRINKLER HEAD SHALL BE 7 PSI OR THE MANUFACTURER'S RECOMMENDED PRESSURE WHICHEVER IS THE HIGHEST.

YDRANT FLOW TEST DAT
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STATIC: 110 PSI RESIDUAL: 96 PSI @ 1121 GPM

TEST PERFORMED BY: SUEZ WATER NEW JERSEY JERRY ARGUELLO 60 Devoe place, hackensack, nj 07601 DATE: 09/03/2020

## PERFORMANCE SPECIFICATION CRITERIA

SPRINKLER PLANS AS SHOWN ARE FOR BIDDING PURPOSES ONLY. SPRINKLER CONTRACTOR IS TO OBTAIN CURRENT HYDRANT FLOW TEST DATA AND PROVIDE HYDRAULIC CALCULATIONS FOR SYSTEM PIPE SIZING IN ACCORDANCE WITH NFPA 13. CONTRACTOR IS TO SUBMITT SHOP DRAWINGS INDICATING HYDRAULIC CALCULATIONS, PIPING LAYOUT & SIZING. SHOP DRAWINGS AND CALCULATIONS ARE TO BE SIGNED & SEALED BY A PROFESSIONAL ENGINEER, AND REVIEWED AND APPROVED BY THE AUTHORITY HAVING JURISDICTION. ALL WORK IS TO BE DONE IN ACCORDANCE WITH NFPA 13, NFPA 14, NFPA 20, INTERNATION BUILDING CODE 2018 - NJ EDITION, AND ALL OTHER STATE, LOCAL, GOVERNING AND APPLICABLE CODES.

VILLES     M-Y.     NOTES     SM     IFFE     LOCATION     FINE- & REMARK     FRUNC FACTOR FOODERSE, NUM     MAX							SCHEDULE OF SPR	NKLER HEADS						
●     PLUGE     Q=-5     TAYES     Outcome proves     Provide and provide the restrict of the restrind the restrind the restrict of the restrict of the restrind the	YMBOL	MFR.	MODEL	SIN	TYPE		LOCATION	FINISH & REMARKS	TEMP. RATING	'K' FACTOR	HEAD COVERAGE	MIN. FLOW	MIN. PRESS.	LISTINGS
●     ■     #	0	RELIABLE	G5-56	RA3415	QUICK RESPONSE CONCEALED PENE	<u>.</u> DENT	THROUGHOUT THE FACILITY IN AREAS WITH SUSPENDED CEILINGS UNLESS OTHERWISE NOTED	AS SELECTED BY ARCHITECT	165 <b>°</b> F	5.6	-	_	7 PSI	
None     Handbar     Internet     Prescription     Prescription <th< td=""><td></td><td>RELIABLE</td><td>F1FR-56</td><td>RA1425</td><td>QUICK RESPONSE UPRIGHT</td><td></td><td>HROUGHOUT THE FACILITY IN AREAS WITHOUT SUSPENDED CEILINGS JNLESS OTHERWISE NOTED</td><td>AS SELECTED BY ARCHITECT</td><td>155<b>°</b>F</td><td>5.6</td><td>_</td><td>_</td><td>7 PSI</td><td></td></th<>		RELIABLE	F1FR-56	RA1425	QUICK RESPONSE UPRIGHT		HROUGHOUT THE FACILITY IN AREAS WITHOUT SUSPENDED CEILINGS JNLESS OTHERWISE NOTED	AS SELECTED BY ARCHITECT	155 <b>°</b> F	5.6	_	_	7 PSI	
Image: Note:	0	VIKING	RESIDENTIAL	VK474	RESIDENTIAL CON PENDENT	CEALED	THROUGHOUT THE FACILITY IN RESIDENTIAL AREAS WITH SUSPENDED CEILINGS UNLESS OTHERWISE NOTED	AS SELECTED BY ARCHITECT	165 <b>°</b> F	5.8	_	AS LISTED	AS LISTED	
Image: Notice of the second status of the second		VIKING	QR HSW	VK305	QUICK RESPONSE HORIZONTAL SIDE	WALL	FOR THE PROTECTION OF THE ELEVATOR PIT AND ROOF ACCESS CLOSET	AS SELECTED BY ARCHITECT	165°F	5.6	_	_	7 PSI	
No.     SPECIAL DV PERMITTING     UNDER INSPOSED PERMITTING     NO. DESCRIPTION     ALL SPECIAL DV PERMITTING     SPECIAL DV	$\triangleright$	VIKING	QR DRY HSW	VK182	QUICK RESPONSE HORIZONTAL SIDE	DRY WALL	OR THE PROTECTION OF ENTRY OVERHANG	AS SELECTED BY ARCHITECT	165 <b>°</b> F	5.6	_	_	7 PSI	
NOTES:   Product Here Source Here Hand Like A PAR     Product Here Source Here Here Here Here Here Here Here H	8	VIKING	SPECIFIC APPLICATION "COIN"	VK950	QUICK RESPONSE UPRIGHT SPECIFIC APPLICATION (MA SPACING: 16'x16'		THROUGHOUT THE FACILITY IN COMBUSTIBLE CONCEALED SPACES ABOVE FLOOR CEILINGS	AS SELECTED BY ARCHITECT	200°F	5.6	_	_	7 PSI	
SYSTEM PIPE FITTINGS JOINTS REMARKS   URED BUILDING FRE SERVICE OUCTLE RON ROB WATER PRESSURE DUCTLE RON ROB WATER PRESSURE DUCTLE RON ROB WATER PRESSURE DUCTLE RON ROB WATER PRESSURE MECH. JOINT   IRE STANDPIPE STELL SCHED 40 SELLXCK MALLEARLE RON WATERLOW DUCTAULC COUPLINGS STANDPIPE PRESSURE SHALL NOT EXCEED 300 PSI VALVE. ASSEMBLY, PIPE SIZE 2" & SMALLER.   SPRINKLER STELL SCHED 40 BLACK MALLEARLE RON CAST RON CAST RON VCTAULC THREADED FLANGED TO BE USED DOWNSTREAM OF SPRINKLER FLOOR CONTROL VALVE. ASSEMBLY, PIPE SIZE 2" & SMALLER.   SPRINKLER STELL SCHED 40 BLACK MALLEARLE RON VCTAULC THREADED VCTAULC TO BE USED ON MISSRS AND MAINS, PIPE SIZES 2%" AND LARGER.   SPRINKLER STELL SCHED 40 GALVANIZED GALVANIZED THREADED VCTAULC TO BE USED ON MISSRS AND MAINS, PIPE SIZES 2%" AND LARGER.   SPRINKLER NOT STEM AND DRAIN STELL SCHED 40 GALVANIZED GALVANIZED THREADED VCTAULC THREADED VCTAULC   SILL SCH 10 STELL THE SCHED 40 GALVANIZED 10 B- USE OWNED HIR CL AGROOVED VCTAULC COUPLINGS FOR SPRINKLER MAINS 2%" AND LARGER (NOT ALLOWED FOR STANDPIPE OR UNDERGROUND PRE).   SILL SCH 10 STELL THE SCHED 40 GALVANIZED MANUFACTURER NOMBER NOTES   SPRINKLER MAINS 2%" AND LARGER (NOT ALLOWED FOR STANDPIPE OR UNDERGROUND PRE). NOTES   SPRINKLER MAINS 2%" AND LARGER (NOT ALLOWED FOR STANDPIPE OR UNDERGROUND PRE). NOTES   SPRINKLER MAINS 2	WHEN	I LOCATED LC	OWER THAN 7	–O" A.F.F.	RE PROTEC	TION	MATERIAL SCHEDULE	. BE 5. ALI	BASED ON H SPRINKLER	YDRAULIC CA HEAD FINISHE	LCULATION DES S TO BE APPR	IGN DENSI OVED BY	TIES. Architect.	
BURED BUILDING PRE STRACE COLTILE IRON CAST IRON WATER DPE DUCTILE IRON MECH. JOINT   IRE STRACE STEEL SCHED 40 MALLEAGLE IRON THREADED VICTAULIC STANDPIPE PRESSURE SHALL NOT EXCEED 300 PSI   SPRINKLER STEEL SCHED 40 MALLEAGLE IRON THREADED VICTAULIC TO BE USED DOWNSTREAM OF SPRINKLER FLOOR CONTROL VALVE. ASSUMBLY, PPE SIZE 2" & SMALLER.   SPRINKLER STEEL SCHED 40 MALLEAGLE IRON THREADED FLANGED TO BE USED OWNSTREAM OF SPRINKLER FLOOR CONTROL VALVE. ASSUMBLY, PPE SIZE 2" & SMALLER.   SPRINKLER STEEL SCHED 40 MALLEAGLE IRON THREADED VICTAULIC TO BE USED ON RISEN AND MAINS, PIPE SIZES 2%" AND DANGER.   SPRINKLER DRY STEM AND DRWN STEEL SCHED 40 GALVANZED THREADED THREADED   SPRINKLER DRY STEM AND DRWN STEEL SCHED 40 GALVANZED THREADED THREADED   SPRINKLER DRY STEM AND DRWN STEEL SCHED 40 GALVANZED THREADED THREADED   SPRINKLER DRY STEM AND DRWN STEEL SCHED 40 GALVANZED THREADED THREADED   SPRINKLER NOT STEEL SCHED 10 THIS SCHEDURAL MOST BE INFORMED SCHEDURAL MOST	SYS	TEM	PIPE	-	FITTINGS	J	DINTS	REMARKS						
STER STERL SCHUD 40 BLACK MALLEABLE IRON VICTAULIC THREADED VICTAULIC STANDPIPE PRESSURE SHALL NOT EXCEED 300 PSI   SPRINKLER STEEL SCHED 40 BLACK MALLEABLE IRON BLACK THREADED VICTAULIC TO BE USED DOWNSTREAM OF SPRINKLER FLOOR CONTROL VALVE. ASSEMBLY, PIPE SIZE 2" & SMALLER.   SPRINKLER STEEL SCHED 40 BLACK MALLEABLE IRON CAST IRON VICTAULIC THREADED THREADED VICTAULIC TO BE USED OWNSTREAM OF SPRINKLER FLOOR CONTROL VALVE. ASSEMBLY, PIPE SIZE 2" & SMALLER.   SPRINKLER STEEL SCHED 40 BLACK MALLEABLE IRON CAST IRON VICTAULIC THREADED THREADED TO BE USED ON RISERS AND MAINS, PIPE SIZE 2 // AND LARGER.   SPRINKLER DRY STEM AND DRAIN PIPE PIPE STEEL SCHED 40 GALVANIZED GALVANIZED THREADED TO BE USED ON RISERS AND MAINS, PIPE SIZES 2 // NICTAULIC   SPRINKLER DRY STEM AND DRAIN PIPE STEEL SCHED 40 GALVANIZED GALVANIZED THREADED THREADED   STAL MATERIALS SELECTED ON THIS SCHEDULE MUST BE APPROVED BY THE LOCAL AUTHORNTIES. USE OF ANY PIPING OR TUBING WITH ID & 0D OTHER THEN SCHEDULE 40 & SCHEDULE 80 IS NOT PERMITTED. SOCH 10 STEEL DIPT IS FERMITTED TO BE USE ONLY WHEN DIREE BY ROLLIC COULINGS FOR SPRINKLER MAINS 2!' AND LARGER (NOT ALLOWED FOR STANDPIPE OR UNDERGROUND PIPE).   TYPE DESCRIPTION SIZE MANUFACTURER MODEL D NOTES NUMBER   DRY VICTAULIC G'' RELIABLE MODEL D PROVIDE BASIC TRIM, MODEL A2 OLY MAINTED AND COMPRESSOR N	BURIED FIRE S	BUILDING SERVICE	DUCTILE CAST IRON PIPE	IRON WATER	DUCTILE IRON	MEC	H. JOINT							
SPRINKLER STEEL SCHED 40 BLACK MALLEABLE IRON CAST IRON THREADED FLANGED TO BE USED DOWNSTREAM OF SPRINKLER FLOOR CONTROL VALVE. ASSEMBLY, PIPE SIZE 2" & SMALLER.   SPRINKLER STEEL SCHED 40 BLACK MALLEABLE IRON OAST IRON MALLEABLE IRON VICTAULIC TO BE USED ON RISERS AND MAINS, PIPE SIZES 2½" AND LARGER.   SPRINKLER DRY SPRINKLER DR	FIRE ST	ANDPIPE	STEEL SCH STEEL SCH BLACH	ED 40 ED 80 <	MALLEABLE IRON VICTAULIC	TH VICTAULI	READED STANDPIPE PRESSU	IRE SHALL NOT EXCEED 300	PSI					
SPRINKLER STEEL SCHED 40 BLACK MALLEABLE IRON CAST IRON VICTAULIC THREADED FLANED VICTAULIC To be used on risers and mains, pipe sizes 2%" and Larger.   SPRINKLER DRY PIPE STEEL SCHED 40 GalVANIZED GalVANIZED THREADED   SPRINKLER DRY PIPE STEEL SCHED 40 GalVANIZED GalVANIZED THREADED   STEM AND DRAIN STEEL SCHED 40 GalVANIZED GalVANIZED THREADED   SPRINKLER MAIN PIPE SCHEDULE MUST BE APPROVED BY THE LOCAL AUTHORTIES. USE OF ANY PIPING OR TUBING WITH 10 & 00 OTHER THEN SCHEDULE 40 & SCHEDULE 60 IS NOT PERMITTED. SCH. 10 STEEL PIPE IS PERMITTED TO BE USE ONLY WHEN JOINED BY ROLL GROUPED VICTAULIC COUPLINGS FOR SPRINKLER MAINS 2½" AND LARGER (NOT ALLOWED FOR STANDPIPE OR UNDERGROUND PIPE).   TYPE DESCRIPTION SIZE MANUFACTURER MODEL NUMBER NOTES   DRY DRY VALVE ASSEMBLY 6" RELIABLE MODEL D PROVIDE BASIC TRIM, MODEL A-2 AUTOMATIC PRESSURE DEVICE AND TANK MOUNTED AIR COMPRESSOR   DRY MAINTENANCE DEVICE - General Air Products AMD2	SPRI	NKLER	STEEL SCH BLACH	ED 40	MALLEABLE IRON CAST IRON	TH Fl	READED TO BE USED DOWNSTR ANGED VALVE. ASSEMB	EAM OF SPRINKLER FLOOR C LY, PIPE SIZE 2" & SMALLEF	ONTROL 2.					
SPRINKLER   DRY GALVANIZED   STEEL SCHED 40 GALVANIZED   GALVANIZED   THREADED     ES: ALL MATERIALS SELECTED ON THIS SCHEDULE MUST BE APPROVED BY THE LOCAL AUTHORITIES. USE OF ANY PIPING OR TUBING WITH ID & 00 OTHER THEN SCHEDULE 40 & SCHEDULE 80 IS NOT PERMITTED. SCH. 10 STEEL PIPE IS PERMITTED TO BE USE ONLY WHEN JOINED BY ROLL GROOVED VICTAULIC COUPLINGS FOR SPRINKLER MAINS 2 <sup>‡</sup> AND LARGER (NOT ALLOWED FOR STANDPIPE OR UNDERGROUND PIPE).     SPECIALTY EOUIPMENT: SPECIALTY EOUIPMENT     TYPE DESCRIPTION SIZE MANUFACTURER MODEL D ASSEMBLY   MODEL D MODEL D   PROVIDE BASIC TRIM, MODEL A-2 AUTOMATIC PRESSURE DEVICE MAINTED AIR COMPRESSOR     DRY   DRY VALVE MISTENANCE   General Air Products   AMD2   COMPRESSOR	SPRI	NKLER	STEEL SCH BLACI	ED 40	MALLEABLE IRON CAST IRON VICTAULIC	TH FL VI	READED TO BE USED ON RIS ANGED TAULIC	SERS AND MAINS, PIPE SIZES AND LARGER.	2½"					
SX: LM MATERIALS SELECTED ON THIS SCHEDULE MUST BE APPROVED BY THE LOCAL AUTHORITIES. USE OF ANY PIPING OR TUBING WITH ID & OD OTHER THEN SCHEDULE 40 & SCHEDULE 80 IS NOT PERMITTED. SCH. 10 STEEL PIPE IS DERWITED TO BE USE ONLY WHEN JOINED BY ROLL GROUVED VICTAULIC COUPLINGS FOR SPRINKLER MAINS 2J" AND LARGER (NOT ALLOWED FOR STANDPIPE OR UNDERGROUND PIPE).     SPECIALTY EOUIPMENT     SPECIALTY EOUIPMENT     TYPE DESCRIPTION SIZE MANUFACTURER MODEL NUMBER NUMBER     OPOVIDE BASIC TRIM, MODEL A2 AUTOMATIC PRESSURE DRY ALVE 6" RELIABLE MODEL D PROVIDE BASIC TRIM, MODEL A2 DEVICE AND TANK MOUNTED AIR COMPRESSOR     DRY MAINTENANCE DEVICE   General Air Products   AMD2	SPRINKI (STEM A PI	ler Dry and Drain Pe	STEEL SCH GALVANI	ED 40 ZED	GALVANIZED	TH	READED							
SPECIALTY EOUIPMENTTYPEDESCRIPTIONSIZEMANUFACTURERMODEL NUMBERNOTESDRYDRY VALVE ASSEMBLY6"RELIABLEMODEL DPROVIDE BASIC TRIM, MODEL A2 AUTOMATIC PRESSURE MAINTENANCE DEVICE AND TANK MOUNTED AIR COMPRESSORDRYPRESSURE DEVICE-General Air ProductsAMD2	ALL MA USE OF SCH. 1 SPRINK	ATERIALS SEI 7 ANY PIPIN 0 STEEL PIF (LER MAINS	LECTED ON G OR TUBIN PE IS PERM 2 <sup>1</sup> 2" AND LAI	THIS SCHE G WITH ID TTED TO E RGER (NOT	DULE MUST BE APF & OD OTHER THEN BE USE ONLY WHEN ALLOWED FOR STA	PROVED E N SCHEDI I JOINED NDPIPE (	Y THE LOCAL AUTHORITIES. JLE 40 & SCHEDULE 80 IS NOT PERMI BY ROLL GROOVED VICTAULIC COUPLING DR UNDERGROUND PIPE).	ITED. S FOR						
TYPEDESCRIPTIONSIZEMANUFACTURERMODEL NUMBERNOTESDRYDRY VALVE ASSEMBLY6"RELIABLEMODEL DPROVIDE BASIC TRIM, MODEL A-2 AUTOMATIC PRESSURE MAINTENANCE DEVICE AND TANK MOUNTED AIR COMPRESSORDRYPRESSURE DEVICE-General Air ProductsAMD2				<u>SP</u>	ECIALTY EC		IENT							
DRYDRY VALVE ASSEMBLY6"RELIABLEMODEL DPROVIDE BASIC TRIM, MODEL A-2 AUTOMATIC PRESSURE MAINTENANCE DEVICE AND TANK MOUNTED AIR COMPRESSORDRYPRESSURE MAINTENANCE DEVICE-General Air ProductsAMD2	TYPE	DESCRIPTIO	ON S	ZE	MANUFACTURER	MODE NUMB	R NOTES							
DRY PRESSURE MAINTENANCE DEVICE – General Air Products AMD2	DRY	DRY VALV ASSEMBL	YE 6	)"	RELIABLE	MODEL	D PROVIDE BASIC TRIM, MODEL AUTOMATIC PRESSURE MAINTEN DEVICE AND TANK MOUNTED COMPRESSOR	A-2 ANCE AIR						
	DRY	PRESSUR MAINTENAN DEVICE	E CE	-	General Air Products	AMD								
DRYAIR COMPRESSOR31" X 17" X 17.75"General Air ProductsL1600300AELECTRICAL REQUIREMENTS: 3 HP, 230V, 1 PHASE, 16.8 RUNNING AMPS. PROVIDE PRESSURE SWITCH. BASE MOUNTED.	DRY	AIR COMPRESS	OR 31" X 17.	17"X 75"	General Air Products	L160030	ELECTRICAL REQUIREMENTS: 3 0A 230V, 1 PHASE, 16.8 RUNNING PROVIDE PRESSURE SWITCH. E MOUNTED.	HP, AMPS. BASE						
AUX. DRAIN 1" RELIABLE ACD PROVIDE SIGHT GLASS	AUX. DRAIN	AUXILIAR CONDENSA DRAIN	Y TE 1	"	RELIABLE	ACE	PROVIDE SIGHT GLASS							

		1		I		SCHE	DULE OF SPRI	NKLER HEADS	TEMD	,,,,		MIN	MIN	
SYMBOL	MFR.	MODEL	SIN	TYPE				FINISH & REMARKS	RATING	FACTOR	COVERAGE	FLOW	PRESS.	LISTINGS
0	RELIABLE	G5-56	RA3415	QUICK RESPONS CONCEALED PEN	E DENT	AREAS WITH SU	HE FACILITY IN JSPENDED CEILINGS WISE NOTED	AS SELECTED BY ARCHITECT	165 <b>°</b> F	5.6	-	-	7 PSI	
۲	RELIABLE	F1FR-56	RA1425	QUICK RESPONS UPRIGHT	E	THROUGHOUT T AREAS WITHOUT UNLESS OTHER	HE FACILITY IN SUSPENDED CEILINGS WISE NOTED	AS SELECTED BY ARCHITECT	155°F	5.6	_	-	7 PSI	
0	VIKING	RESIDENTIAL	VK474	RESIDENTIAL CON PENDENT	NCEALED	THROUGHOUT T RESIDENTIAL AR CEILINGS UNLES	HE FACILITY IN EAS WITH SUSPENDED SS OTHERWISE NOTED	AS SELECTED BY ARCHITECT	165 <b>°</b> F	5.8	_	AS LISTED	AS LISTED	
	VIKING	QR HSW	VK305	QUICK RESPONS HORIZONTAL SID	E EWALL	FOR THE PROT	ECTION OF THE ELEVATOR ACCESS CLOSET	AS SELECTED BY ARCHITECT	165°F	5.6	-	-	7 PSI	
$\triangleright$	VIKING	QR DRY HSW	VK182	QUICK RESPONS HORIZONTAL SID	E DRY EWALL	FOR THE PROTE OVERHANG	ECTION OF ENTRY	AS SELECTED BY ARCHITECT	165°F	5.6	-	_	7 PSI	
8	VIKING	SPECIFIC APPLICATION "COIN"	VK950	QUICK RESPONS UPRIGHT SPECIF APPLICATION (MA SPACING: 16'×16	E  C AX. 5')	THROUGHOUT T COMBUSTIBLE C ABOVE FLOOR (	HE FACILITY IN CONCEALED SPACES CEILINGS	AS SELECTED BY ARCHITECT	200 <b>°</b> F	5.6	_	_	7 PSI	
1. SPRIN MANU 2. PROV SUBJE UNDEI WHEN	KLER HEADS FACTURER'S DE METAL V ECT TO DAM R HVAC DUC LOCATED L	S SHALL BE IN REQUIREMENT WIRE GUARDS ' AGE AND SPRI CTS IN MECHAI OWER THAN 7	ISTALLED AS WHERE SPRII INKLER HEAI NICAL EQUIP '—O" A.F.F.	S PER 3 NKLERS ARE DS LOCATED MENT ROOMS ETC.	5. ALL S ORDIN a. SP TEI b. SP TEI	PRINKLER HEADS IARY TEMPERATURE RINKLER HEADS IN MPERATURE RATING RINKLER HEADS LO MPERATURE RATING	THROUGHOUT THE FACILITY SHE RATING EXCEPT AS FOLLOWS SHOWERS SHALL BE OF INTE G (175° TO 225°). DCATED CLOSE TO HEATERS, S G AS REQUIRED BY NFPA 13.	IALL BE OF THE c. S: RMEDIATE SHALL BE OF THE 4. SPF BE 5. ALL	ALL HEAT GEI TEMPERATURE DENTIFIED ON APPROVAL. RINKLER HEAD BASED ON H SPRINKLER I	NERATING EQ RATING OF I THE SHOP I S MINIMUM F YDRAULIC CA HEAD FINISHE	UIPMENT WHICH THE SPRINKLER DRAWINGS PRIOF LOW & MINIMUM LCULATION DESI S TO BE APPR(	CAN AFFE HEADS SI R TO SUBN I PRESSUR GN DENSIT OVED BY A	ECT THE HALL BE CLE MISSION FOR E REQUIREMI TIES. ARCHITECT.	ARLY ENTS TO
			<u>FIF</u>	RE PROTEC		I MATERIA	L SCHEDULE							
SYS BURIED		DUCTILE CAST IRON	IRON WATER	FITTINGS	ME	JOINTS		REMARKS						
FIRE ST		PIPE STEEL SCH STEEL SCH BLACI	IED 40 IED 80	MALLEABLE IRON VICTAULIC	T VICTAU	HREADED LIC COUPLINGS	STANDPIPE PRESSUF	RE SHALL NOT EXCEED 300	PSI					
SPRIN	IKLER	STEEL SCH BLACK	IED 40 K	MALLEABLE IRON CAST IRON	T	HREADED FLANGED	TO BE USED DOWNSTRE VALVE. ASSEMBL	AM OF SPRINKLER FLOOR C Y, PIPE SIZE 2" & SMALLER	ONTROL					
SPRIN	IKLER	STEEL SCH BLACI	IED 40 K	MALLEABLE IRON CAST IRON VICTAULIC	T \	HREADED FLANGED /ICTAULIC	TO BE USED ON RISE	ERS AND MAINS, PIPE SIZES AND LARGER.	2½"					
SPRINKL SYSTEM A PII	.er dry Nd drain Pe	STEEL SCH GALVANI	IED 40 ZED	GALVANIZED	Т	HREADED								
NOTES: 1. ALL MA 2. USE OF 3. SCH. 1 SPRINKI	TERIALS SE ANY PIPIN 0 STEEL P LER MAINS	ELECTED ON NG OR TUBIN IPE IS PERM 2 <sup>1</sup> 2 AND LAI	THIS SCHE IG WITH ID ITTED TO E RGER (NOT	DULE MUST BE AF & OD OTHER THE BE USE ONLY WHE ALLOWED FOR ST	PROVED N SCHE N JOINEI ANDPIPE	BY THE LOCAL DULE 40 & SCH D BY ROLL GROU OR UNDERGROU	AUTHORITIES. IEDULE 80 IS NOT PERMIT OVED VICTAULIC COUPLINGS IND PIPE).	FED. FOR						
			SP	ECIALTY E	QUIP	<u>MENT</u>								
TYPE	DESCRIPT	ION S	IZE	MANUFACTURER	MOI NUM	DEL BER	NOTES							
DRY	DRY VAL ASSEMBL	VE 6	5"	RELIABLE	MODE	EL D AUTON DEV	VIDE BASIC TRIM, MODEL A MATIC PRESSURE MAINTENA ICE AND TANK MOUNTED A COMPRESSOR	–2 NCE IR						
DRY	PRESSUF MAINTENAN DEVICE	RE NCE	-	General Air Products	AMI	D2								
DRY	AIR COMPRESS	31" X SOR 17.	17" X .75"	General Air Products	L1600	300A ELEC PROV	TRICAL REQUIREMENTS: 3 1 PHASE, 16.8 RUNNING / /IDE PRESSURE SWITCH. B/ MOUNTED.	HP, AMPS. ASE						
AUX. DRAIN	AUXILIAR CONDENS/ DRAIN	ATE 1	1"	RELIABLE	AC	D	PROVIDE SIGHT GLASS							

SPECIALTY EQUIPMENT							
TYPE	DESCRIPTION	SIZE	MANUFACTURER	MODEL NUMBER	NOTES		
DRY	DRY VALVE ASSEMBLY	6"	RELIABLE	MODEL D	PROVIDE BASIC TRIM, MODEL A-2 AUTOMATIC PRESSURE MAINTENANCE DEVICE AND TANK MOUNTED AIR COMPRESSOR		
DRY	PRESSURE MAINTENANCE DEVICE	_	General Air Products	AMD2			
DRY	AIR COMPRESSOR	31" X 17" X 17.75"	General Air Products	L1600300A	ELECTRICAL REQUIREMENTS: 3 HP, 230V, 1 PHASE, 16.8 RUNNING AMPS. PROVIDE PRESSURE SWITCH. BASE MOUNTED.		
AUX. DRAIN	AUXILIARY CONDENSATE DRAIN	1"	RELIABLE	ACD	PROVIDE SIGHT GLASS		

Paterson	
Fabilitat For Humanity	v
146 North 1st Street Paterson, NJ 07522	у
PROJECT NAME	
135 SUMMER STREET PASSAIC, NJ	
29 GANUNG DRIVE OSSINING, NY 10562 646-812-5566	
<b>KEA</b> ENGINEERS Engineering Excellence since 1984 186 WOOD AVE. SOUTH, 1ST FLOOR ISELIN, NJ 08830 TEL (732) 635 0044 • FAX (732) 635 1777	<b>4</b>
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ARMEN KHACHATURIAN, P.E. – NJ LICENSE #2129 NJ CERTIFICATE OF AUTHORIZATION #24GA2803470	5 )0

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

Paterson     Habitat     For Humanity*     Paterson Habitat For Humanity     146 North 1st Street     Paterson, NJ 07522
PROJECT NAME 135 SUMMER STREET PASSAIC, NJ
CHEN O'NEIL ARCHITECTS, PLLC 29 GANUNG DRIVE OSSINING, NY 10562 646-812-5566
<b>ENGINEERS</b> <b>Engineering Excellence since 1984</b> 186 WOOD AVE. SOUTH, 1ST FLOOR ISELIN, NJ 08830 TEL (732) 635 0044 • FAX (732) 635 1777
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DRAWING TITLE SPRINKLER SECOND FLOOR REFLECTED CEILING PLAN
DRAWING NO.
DATE:     12/01/20       SCALE:     AS NOTED
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ARMEN KHACHATURIAN, P.E. – NJ LICENSE #21295 NJ CERTIFICATE OF AUTHORIZATION #24GA28034700

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SPRINKLER ATTIC PLAN SCALE: 1/4" = 1'-0"

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		DA	TE: 12/01/20 ALE: AS NOTED
	<u>SPRINKLER G</u> ENERAL NO	TES:	AMP & SIGNATURE
	DRY PIPE SYSTEM TO BE PROVIDED TO SERVE / SPRINKLER SYSTEM.	ATTIC	
		ARI NJ	CERTIFICATE OF AUTHORIZATION #24GA28034700

FIRE PROTECTION SPECIFICATIONS

1. <u>General:</u>

- 1.1. ALL PROVISIONS IN THE GENERAL SPECIFICATIONS ABOVE APPLY TO THE FIRE PROTECTION SPECIFICATIONS.
- 1.2. THE FIRE PROTECTION SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH THE BUILDING CODE AND NFPA INSTALLATION OF SPRINKLER SYSTEMS. THE ENGINEERING PLANS PROVIDED ARE PRELIMINARY PLANS AS DEFINED IN NFPA PROVIDED FOR SCOPE AND REVIEW BY THE AUTHORITY HAVING JURISDICTION. WORKING PLANS AND HYDRAULIC CALCULATIONS IN ACCORDANCE WITH NFPA SHALL BE SUBMITTED AND APPROVED BY THE ENGINEER AND THE AHJ PRIOR TO THE INSTALLATION OF SYSTEM EQUIPMENT.
- 1.3. THE FIRE PROTECTION DRAWINGS ARE DIAGRAMMATIC, AND THEREFORE DO NOT RELIEVE THIS CONTRACTOR FROM PROVIDING ALL WORK AND EQUIPMENT NECESSARY TO COMPLETE THE INSTALLATION ACCORDING TO THEIR REQUIREMENTS. THE NUMBER AND SPACING OF SPRINKLER HEADS, SPACING AND SIZE OF A PIPE LOCATION AND NUMBER OF VALVES, METHOD OF DRAWING LINES, ALARM VALVES, AND ALL OTHER WORK AND DETAILS SHALL BE AS REQUIRED BY THE OWNER'S UNDERWRITES, NFPA, AND ALL OTHER AUTHORITIES HAVING JURISDICTION.
- 1.4. THE SPRINKLER HEADS IN ALL AREAS ARE TO BE INSTALLED ON A TRUE AXIS LINE IN BOTH DIRECTIONS WITH A MAXIMUM DEVIATION FROM AXIS LINE OF 1/2 IN. PLUS OR MINUS. IN ADDITION, ALL SPRINKLERS SHALL BE LOCATED IN CENTER OF TILES, GRIDS AND/OR ALIGNED WITH LIGHTS, DIFFUSERS, ETC., AS INDICATED ON ARCHITECTURAL REFLECTED CEILING PLANS AND DETAILS. AT THE COMPLETION OF THE INSTALLATION, IF ANY HEADS ARE FOUND TO EXCEED THE ABOVE-MENTIONED TOLERANCE, SAME SHALL BE REMOVED AND REINSTALLED BY THIS CONTRACTOR.
- 1.5. THE ARRANGEMENT, POSITIONS AND CONNECTIONS OF PIPE, DRAINS, VALVES, ETC., SHOWN ON THE DRAWINGS SHALL BE TAKEN AS A CLOSE APPROXIMATION AND WHILE THEY SHALL BE FOLLOWED AS CLOSELY AS POSSIBLE, THE RIGHT IS RESERVED BY THE OWNER TO CHANGE LOCATIONS, TO ACCOMMODATE ANY CONDITIONS WHICH MAY ARISE DURING THE PROGRESS OF THE WORK, WITHOUT ADDITIONAL COMPENSATION TO THIS CONTRACTOR FOR SUCH CHANGES, PROVIDED THAT THE CHANGES ARE REQUESTED PRIOR TO THE INSTALLATION OF THIS CONTRACTOR'S WORK. THE RESPONSIBILITY FOR ACCURATELY LAYING OUT THE WORK RESTS WITH THIS CONTRACTOR. SHOULD IT BE FOUND THAT ANY OF HIS WORK IS SO LAID OUT THAT INTERFERENCE WILL OCCUR, HE SHALL SO REPORT THAT TO THE OWNER.
- PROVIDE ALL SPRINKLER HEADS IN STRICT ACCORDANCE WITH APPROVED SHOP DRAWINGS. THE 1.6. ARCHITECT AND OWNER RESERVE THE RIGHT TO REJECT ANY AND ALL WORK NOT IN ACCORDANCE WITH THE APPROVED SHOP DRAWINGS.
- 1.7. ALL PIPING AND EQUIPMENT SHALL BE SUBSTANTIALLY SUPPORTED FROM THE BUILDING STRUCTURE. HANGERS AND SUPPORTS SHALL BE SPECIFICALLY APPROVED FOR USE IN EACH APPLICATION. WHERE OVERHEAD CONDITIONS DOES NOT PERMIT THE FASTENING OF HANGER RODS IN REQUIRED LOCATIONS, PROVIDE ADDITIONAL STEEL FRAMING AS REQUIRED AND APPROVED. DO NOT USE EXPANSION SHIELDS.
- 1.8. NO FIRE PROTECTION WORK SHALL BE HUNG FROM DUCTWORK OR THE HANGERS OF OTHER
- 1.9. BECOME THOROUGHLY FAMILIAR WITH ACTUAL BUILDING SYSTEMS, WHICH ARE TO BE CHANGED, ALTERED, OR TO WHICH NEW CONNECTIONS ARE TO BE MADE. VERIFY ALL EXISTING CONDITIONS INCLUDING PIPE SIZE, LOCATION, AND ELEVATION.
- 1.10. THE INTENT OF THE WORK IS INDICATED ON THE DRAWINGS AND DESCRIBED HEREINAFTER. NO CONSIDERATION WILL BE GRANTED FOR REASON OF LACK OF FAMILIARITY ON THE PART OF THE CONTRACTOR REGARDING ACTUAL PHYSICAL CONDITIONS AT THE SITE.
- 1.11. COORDINATE WORK WITH ALL TRADES AND EXISTING CONDITIONS OF THE JOB SITE AND MAINTAIN REQUIRED CEILING HEIGHTS AND SPACE CONDITIONS.
- 1.12. ALL EQUIPMENT SHALL BE ASBESTOS FREE AND INDICATED AS SUCH.
- 1.13. DUE TO THE NATURE OF ALTERATION WORK WHICH REQUIRES THE BUILDING OR FACILITY TO BE KEPT OPERABLE AT ALL TIMES, IT SHALL BE THE RESPONSIBILITY OF THIS CONTRACTOR TO COORDINATE ALL ACTIVITIES, CONNECTIONS, SHUT DOWNS AND THE LIKE WITH THE GENERAL CONTRACTOR, TENANT, AND BUILDING OWNER, ANY INTERRUPTIONS OF BUILDING SERVICES INCLUDING PHYSICAL ACCESS TO ADJACENT SPACES MUST BE COORDINATED WITH THE BUILDING OWNER. ALL TEMPORARY CONNECTIONS OR AFTER-HOURS WORK SHALL BE SO ARRANGED WITH ALL PARTIES INVOLVED.
- 1.14. THIS TRADE MUST PERFORM WORK IN OCCUPIED AREAS, IT SHALL MAKE ARRANGEMENTS WITH THE GENERAL CONTRACTOR AND THE OWNER AS TO THE TIME AND METHOD IN WHICH THIS WORK SHALL BE PERFORMED. ARRANGE FOR ALL ADJACENT AREAS TO BE PROPERLY PROTECTED AGAINST DAMAGE, DEBRIS, DIRT AND DUST.
- 1.15. PROVIDE AS PART OF NEW WORK:
- 1.15.1. HANGERS AND SUPPORTS FOR PIPING
- 1.15.2. SCAFFOLDING, RIGGING, AND HOISTING
- 1.15.3. RUBBISH REMOVAL AND CLEANING
- 1.15.4. CUTTING AND PATCHING
- 1.15.5. SLEEVES, OPENINGS AND THE CORE DRILLING OF EXISTING SLABS
- 1.15.6. CAULKING, FIREPROOFING, AND THE PACKING AND FILLING OF SLEEVES AND OPENINGS
- 1.15.7. SHOP DRAWINGS AND "AS BUILT" DRAWINGS
- 1.15.8. OPERATING AND MAINTENANCE INSTRUCTIONS
- 1.15.9. OBTAINING ALL REQUIRED PERMITS, APPROVALS, ACCEPTANCE, FILING AND INSPECTION CERTIFICATES
- 1.15.10. GUARANTEE ALL WORK, LABOR AND MATERIALS FOR ONE YEAR FOLLOWING DATE OF ACCEPTANCE
- 1.15.11. VERIFYING EXISTING CONDITIONS AT THE PROJECT SITE
- 1.15.12. SPARE PARTS AND TOOLS
- 1.15.13. TESTS: OPERATION, PERFORMANCE AND CODE-REQUIRED TESTS
- 1.15.14. PROTECTION OF WORK AND ADJACENT SPACES DURING CONSTRUCTION
- 1.15.15. COORDINATION WITH OTHER TRADES
- 1.15.16. IDENTIFICATION: VALVE TAGS, VALVE TAG SCHEDULES, AND PIPING IDENTIFICATION

2. <u>SCC</u>	<u> XPE OF WORK:</u>
2.1 P S P D	ROVIDE ALL MATERIALS, LABOR CAFFOLDING, SUPPORT AND SL ROTECTION WORK, AND ALL RE OCUMENT, INCLUDING BUT NOT
2.1.1.	PROVIDE A COMPLETE AUTON UNDERWRITER'S, NFPA, AND
2.1.2.	SPRINKLER SYSTEMS SHALL OF A COMBINATION SHUTOFF DRAIN/TEST CONNECTION CO CONTROL VALVE.
2.1.3.	THE SPRINKLER SYSTEMS SH PARAMETERS:
2.1.3.	1. OFFICE AREAS AND THE LI
2.1.3.2	2. <u>STORAGE, SHOWROOM, MEC</u> OVER 1,500 SQ.FT.
2.1.4.	INCLUDE ALL PIPE, FITTINGS, PAINTING, ALARM SWITCHES, PANELS, ETC., IN FULL ACCO
2.1.5.	DO ANY CUTTING REQUIRED THE LIKE. IN GENERAL, DEM OTHERS.
2.1.6.	ALL PATCHING WILL BE DON

#### 3. DEMOLITION, CONNECTIONS TO EXISTING WORK, AND ALTERATION:

- COMPLETION OF WORK.
- 3.2. PLAN INSTALLATION OF NEW WORK AND CONNECTIONS TO EXISTING SYSTEMS TO INSURE MINIMUM INTERFERENCE WITH REGULAR OPERATION OF EXISTING FACILITIES. SUBMIT TO OWNER AND ARCHITECT FOR APPROVAL, DATE AND SCHEDULE OF ALL NECESSARY TEMPORARY SHUTDOWNS OF EXISTING SERVICES. ALL SHUTDOWNS SHALL BE MADE AT SUCH TIMES AS THEY WILL NOT INTERFERE WITH REGULAR OPERATION OF EXISTING FACILITIES AND ONLY AFTER WRITTEN APPROVAL OF THE SAME HAS BEEN OBTAINED FROM OWNER.
- 3.3. MAKE TEMPORARY CONNECTIONS AS REQUIRED BETWEEN NEW AND EXISTING WORK TO INSURE CONTINUOUS OPERATION OF THE FACILITY. ALL COSTS ASSOCIATED WITH AND RESULTING FROM TEMPORARY CONNECTIONS SHALL BE BORNE BY THIS CONTRACTOR.
- 3.4. CONNECT NEW WORK TO EXISTING WORK IN A NEAT AND APPROVED MANNER. RESTORE ANY DISTURBED EXISTING WORK TO ITS ORIGINAL CONDITION.
- INSTALLATION.
- 3.7. ANY PIPING RENDERED DEFUNCT BY THIS ALTERATION WORK SHALL BE REMOVED. ALERT THE ARCHITECT AND GENERAL CONTRACTOR OF ANY "DISCOVERED" ABANDONED PIPING. IN GENERAL ALL ABANDONED, INACTIVE, OR SUPERFLUOUS PIPING, INCLUDING HANGERS AND CLAMPS SHALL BE REMOVED.
- 3.8. ALL NEW AND EXISTING SYSTEMS SHALL BE LEFT IN PERFECT WORKING ORDER UPON COMPLETION OF ALL NEW WORK.

#### 4.<u>SLEEVES</u>:

- 4.1. PROVIDE SLEEVES FOR ALL PIPES PASSING THROUGH FLOORS, WALLS AND CONCRETE, OR CONCRETE FIREPROOFED BEAMS. SLEEVES IN CONCRETE BEAMS, THROUGH CONCRETE WALLS, AND EXPOSED PIPES PENETRATING FLOORS: SCHEDULE 40 STEEL PIPE. SLEEVES WITHIN FURRED OUT ENCLOSURES IN FLOORS, THROUGH PARTITIONS, STEEL BEAMS AND WALLS: 18 GAUGE GALVANIZED SHEET METAL.
- 4.2. PROVIDE SLEEVES WITH AN I.D. AT LEAST 1/2 IN. GREATER THAN OUTSIDE OF PIPE SERVED, INCLUDING PIPE INSULATION WHICH MUST BE CONTINUOUS THROUGH SLEEVE. FINISH SLEEVES FLUSH WITH UNDERSIDE OF SLAB AND 1 IN. ABOVE FINISHED FLOOR.
- 4.3. WHERE PIPING PENETRATES WALLS (OTHER THAN FOUNDATION WALLS), PARTITIONS, FLOOR SLABS, ETC., SPACE BETWEEN PIPING AND SLEEVE SHALL BE PACKED WITH "3M" M.E.A. APPROVED FIRE-RATED MATERIAL. WHERE SLEEVES PASS THROUGH FIRE-RATED CONSTRUCTION, FIT ESCUTCHEON ON BOTH SIDES OF CONSTRUCTION.
- 4.4. PROVIDE WATERPROOF TYPE PIPE SLEEVES, ZURN Z-197 WITH GALVANIZED SCHEDULE 40 PIPE EXTENSIONS WHERE PENETRATING MEMBRANE WATERPROOFED FLOORS.

#### 5. CODES, PERMITS, AND INSPECTIONS:

- 5.1. INSTALL ALL WORK IN FULL ACCORDANCE WITH THE REQUIREMENTS OF LOCAL AND GOVERNMENTAL DEPARTMENTS HAVING JURISDICTION OVER THESE MATTERS, AS WELL AS WITH ANY REQUIREMENTS OF NFPA, UL, FM, BSA, MEA, ETC, AND OTHER APPLICABLE CODES.
- 5.2. SECURE AND PAY FOR ALL NECESSARY APPROVALS, PERMITS, INSPECTIONS, CARTING, LEGAL DUMPING, ETC., AND DELIVER THE OFFICIAL RECORDS OF THE GRANTING OF PERMITS TO THE ARCHITECT AND OWNER WITHOUT ANY ADDITIONAL COST TO THE OWNER.
- 5.3. PAY ALL FILING FEES TO OBTAIN RELEASE OF APPROVED PLANS. 5.4. PAY ROYALTIES OR FEES REQUIRED IN CONNECTION WITH THE USE OF PATENTED DEVICES OR
- SYSTEMS, AND SAVE THE OWNER, THE ARCHITECT, THE CONSULTING ENGINEER, AND THE TENANT HARMLESS FROM ANY CLAIMS OR LAWSUITS ARISING FROM SUCH USE, AND INDEMNIFY EACH THEREOF AGAINST ATTORNEYS' FEES IN CONNECTION THEREWITH.
- 5.5. PROVIDE ALL SIGNS REQUIRED BY THE MUNICIPAL AUTHORITIES.

#### 6. MATERIALS OF PIPING SYSTEMS:

- 6.1. WET SPRINKLER PIPING SHALL BE BLACK STEEL, SCHEDULE 40, SCHEDULE 10 WILL BE PERMITTED FOR SIZES 2 1/2" AND LARGER.
- 6.2. FITTINGS SHALL BE SCREWED, STANDARD WEIGHT, CAST IRON, UL AND FM APPROVED, FITTINGS. MECHANICAL GROOVE COUPLINGS, VICTAULIC STYLE 75, OR AS APPROVED, MAY BE USED WITH SCHEDULE 10 PIPE, COUPLINGS SHALL BE ROLLED GROOVE. WHEN USED WITH SCHEDULE 80 PIPE, COUPLINGS SHALL BE CUT GROOVE. EITHER ROLL OR CUT GROOVE MAY BE USED WITH SCHEDULE 40 PIPE. WELDED JOINTS AND FITTINGS MAY BE USED WHERE PERMITTED BY THE AUTHORITIES HAVING JURISDICTION PROVIDED SAFETY PROCEDURES DESCRIBED IN NFPA-13 AND 14 ARE FOLLOWED.
- 6.3. FOR PIPING 2 IN. AND LARGER, VICTAULIC STYLE 920 OR STYLE 921 MECHANICAL-T WITH LOCATING COLLAR ENGAGING INTO THE PIPE MAY BE USED FOR LESS THAN FULL SIZE BRANCH CONNECTIONS.
- 6.4. EXTERIOR WATER PIPING SHALL BE DUCTILE IRON WATER PIPE CLASS 56, ANSI A21.51., FITTINGS SHALL BE PUSH ON OR MECHANICAL JOINT.ANSI A21.10. AND ANSI A21.11. FITTINGS SHALL BE CONCRETE LINED PER A21.4.

#### EQUIPMENT, TOOLS, APPLIANCES, SERVICES, HOISTING, UPERVISION FOR THE FURNISHING AND INSTALLING OF ALL THE FIRE ELATED WORK, COMPLETE, IN ACCORDANCE WITH THE CONTRACT LIMITED TO THE FOLLOWING:

- MATIC SPRINKLER SYSTEM IN ACCORDANCE WITH THE OWNERS THE RULES OF ALL AUTHORITIES HAVING JURISDICTION.
- INCLUDE CONNECTIONS TO THE SPRINKLER PIPING AND PROVISION VALVE AND PRESSURE REDUCING VALVE, FLOW SWITCH AND A ONNECTED TO A VERTICAL DRAIN RISER SERVING THE FLOOR

SHALL BE HYDRAULICALLY CALCULATED TO THE FOLLOWING

- I<u>KE:</u> LIGHT HAZARD, 0.10 GPM/SQ FT. OVER 1,500 SQ.FT. CHANICAL EQUIPMENT ROOMS: ORDINARY HAZARD, 0.15 GPM/SQ.FT.
- BRANCHES, VALVES, ALARM VALVES, LADDERS, SIGNS, PROTECTIVE TEST CONNECTION, SPRINKLER HEADS, DRAINS, TESTS, ALARM ORDANCE WITH UNDERWRITERS' AND MUNICIPAL REQUIREMENTS.
- FOR THE PASSAGE OR INSTALLATION OF PIPES, SUPPORTS, AND IOLITION OF EXISTING WALLS AND CEILINGS WILL BE DONE BY
- NE BY OTHERS. THE EXPENSE OF CUTTING AND RESTORING SURFACES TO THEIR ORIGINAL CONDITION WHEN CAUSED BY THIS TRADE'S FAILURE TO PERFORM ITS PRELIMINARY WORK, SHALL BE BORNED BY THIS TRADE.

- 3.1. REFER TO THE CONTRACT DOCUMENTS FOR THE EXTENT OF SYSTEMS TO BE REMOVED. THE CONTRACTOR SHALL FIELD VERIFY AND INCLUDE IN THE BID ALL REMOVALS REQUIRED FOR THE
- 3.5. PROVIDE CAPS, PLUGS, AND OUTLETS AS REQUIRED ON EXISTING PIPING.
- 3.6. REMOVE AND / OR RELOCATE EXISTING AND OTHER WORK AS REQUIRED TO COMPLETE FINAL

## 7. IDENTIFICATION OF SYSTEMS:

- 7.1. PROVIDE A TAG FOR EACH VALVE, THREE INCH DIAMETER BRASS OR ALUMINUM TAGS STAMPED WITH DESIGNATING NUMBERS TWO INCHES HIGH, PAINTED WITH WHITE ENAMEL; BACKGROUND PAINTED WITH RED ENAMEL. ATTACH TAG TO VALVE HANDLE OR SPINDLE WITH BRASS CHAIN.
- 8. HANGERS, INSERTS, AND PIPE SUPPORTS:
- 8.1. PROVIDE SUITABLE AND SUBSTANTIAL HANGERS AND SUPPORTS FOR ALL PIPING.
- 8.2. SPACE SUPPORTS SO THAT THERE IS AT LEAST ONE HANGER FOR EACH LENGTH OF PIPE, WITH ONE HANGER WITHIN 30 INCHES OF THE END SPRINKLER HEAD. WHERE THIS WOULD REQUIRE HANGERS CLOSER THAN 6 FEET 0 INCHES APART, HANGER SPACING MAY BE INCREASED TO 10 FEET 0 INCHES BETWEEN HANGERS FOR PIPES UP TO AND INCLUDING 2 INCH IPS AND 12 FEET 0 INCHES BETWEEN HANGERS FOR PIPES 2-1/2 INCH IPS AND LARGER. WHERE POSSIBLE, FASTEN HANGER RODS TO STRUCTURAL STEEL BEAMS.
- SUPPORT HANGERS FROM APPROVED CONCRETE INSERTS WHERE CONCRETE SLABS EXIST. IF ANY 8.3. PIPE HAS TO BE HUNG IN A SPACE WHERE NO INSERTS HAVE BEEN PROVIDE, DRILL A HOLE FROM BELOW THROUGH STONE CONCRETE SLABS, AND PROVIDE A ROD AND HANGER ATTACHED TO AN APPROVED FISHPLATE, OR FOR PIPES SMALLER THAN 3 INCH IPS, INSTALL A PHILLIPS RED HEAD STUD CONCRETE ANCHOR OR OTHER.
- 8.4. DO NOT HANG PIPING FROM DUCTWORK OR PIPING.
- 8.5. THIS CONTRACTOR MAY COORDINATE WITH THE OTHER CONTRACTORS TO USE COMMON MEANS OF SUPPORT. SUBMIT FOR APPROVAL ALL PERTINENT DESIGN DATA RELATING TO THE SUPPORT, AS WELL AS VERIFICATION OF THE RESPONSIBILITY FOR THE SUPPORT.

### 9. <u>VALVES</u>:

- 9.1 ALL WATER CONTROL VALVES WITHING THE BUILDING SHALL BE MILWAUKEE "GATE 2885-FP" OS&Y WEDGE GATE VALVES WITH PAINTED IRON WHEEL HANDLES, SHALL HAVE THE NAME OF THE MANUFACTURER AND WORKING PRESSURE CAST OR STAMPED THEREON.
- 9.2 VALVES CONTROLLING SPRINKLER BUTTERFLY, BALL OR OS&Y GATE VALVES.
- BALL VALVES SHALL BE MILWAUKEE "BA-100" OR APPROVED ALL BRASS OR BRONZE CONSTRUCTION WITH REPLACEABLE TEFLON SEAT RING, TWO-PIECE UNION OR THREE-PIECE BOLTED CONSTRUCTION, WITH STUFFING BOX; WORKING PRESSURE SHALL NOT BE LESS THAN 175 PSI AT 175°F. AND SHALL CONFORM WITH ANSI STANDARDS. ALL VALVES SHALL BE STANDARD PORT UNLESS FULL-PORTED VALVES ARE INDICATED ON PLANS. THREADED VALVES USED IN BRAZED OR SOLDERED PIPING SYSTEMS SHALL BE FITTED WITH ADAPTERS. WHEN BRAZED OR SOLDERED END VALVES ARE USED, TEFLON SEATS MUST BE REMOVED PRIOR TO SOLDERING OR BRAZING.
- BUTTERFLY VALVES SHALL BE MILWAUKEE BUTTERBALL "BB-SC" SERIES SLOW CLOSING 9.2.2. INDICATING WAFER TYPE BUTTERFLY VALVE WITH OR WITHOUT SUPERVISORY TAMPER SWITCH ASSEMBLY (USE SCREWED LUG TYPE WHEN VALVE HAS TO PERFORM DEAD-END SERVICE): CAST IRON BODY TO 200 PSI WWP, DUCTILE IRON FOR HIGHER PRESSURES, INSTALLED BETWEEN FLANGES OF SIMILAR RATING. ACTUATORS SHALL BE MANUAL GEAR TYPE WITH HANDWHEEL; AND VALVE SHALL INCORPORATE A VISIBLE INDICATION OF OPEN OR CLOSED POSITION.
- PRESSURE REGULATING VALVES (PRV) WHERE INSTALLED SHALL BE COMBINATION SHUTOFF AND 9.2.3. PRESSURE REGULATING TYPE 400 PSI WWP BRONZE BODY WITH BALANCED PISTON. VALVE SHALL BE ZURN SERIES Z3004 "PRESSURE-TRU" OR POTTER ROEMER SERIES PRV-400-2.5 "REG-U-MATIC" OR AS APPROVED. PROVIDE PRESSURE GAUGE DOWNSTREAM OF PRV.
- 9.2.4. PROVIDE LADDERS TO ALL VALVES LOCATED MORE THAN 7 FEET 0 INCHES ABOVE FLOOR.
- DRY PIPE VALVE SHALL BE A 4" DIFFERENTIAL TYPE VALVE RELIABLE "MODEL D" OR 9.2.5. APPROVED EQUAL. WATER TO AIR SEAT AREA DIFFERENTIAL TO BE AT LEAST 6 TO 1, CAPABLE OF CONTROLLING AIR PRESSURE RANGING FROM 20 TO 50 PSI. DRY PIPE VALVE CONSTRUCTION SHALL BE CAST IRON. DRY PIPE VALVE SEAT SHALL BE OF BRONZE CONSTRUCTION WITH O-RING SEALS TO PREVENT CORROSION AND LEAKAGE THREADED-IN, ONE PIECE AIR AND WATER SEAT SHALL BE REMOVABLE FOR EASE OF MAINTENANCE. END CONNECTION STYLES TO BE [4" (100 MM) OR 6" (150 MM) ANSI FLANGED INLET AND OUTLET IN ACCORDANCE WITH ANSI B16.1 (125 LB.) FLANGE] [4" (100 MM) OR 6" (150 MM) ANSI FLANGED INLET AND GROOVED OUTLET, WITH GROOVED OUTLET DIMENSIONS PER ANSI/AWWA C606] [100 MM OR 150 MM METRIC FLANGED INLET AND OUTLET PER EN 1092-2, NF-E-29-282, AND BS 4504 PN 16 FLANGES]. DRY PIPE VALVE SHALL HAVE A RATED WORKING PRESSURE OF 175 PSI (12.1 BAR) AND SHALL BE FACTORY HYDROSTATIC TESTED AT 350 PSI (24.1 BAR). THE FRICTION LOSS FOR THE DRY VALVE SHALL NOT EXCEED [28 FEET (8.5 M) FOR 4"] [47 FEET (14.3M) FOR 6"] OF EQUIVALENT LENGTH OF [4"] [6"] SCHEDULE 40 PIPE.

### 10. SPRINKLER HEADS:

- 10.1. PROVIDE AUTOMATIC SPRINKLER HEADS OF FINISH AS APPROVED BY THE OWNER, THE MUNICIPAL AUTHORITIES AND BY THE INSURING AGENCIES HAVING JURISDICTION. SPRINKLER HEADS SHALL BE SELECTED AS PER THE SPRINKLER SCHEDULE TABLE IN DRAWING SP-001.
- 10.2. ALL HEADS SHALL BE "STANDARD" 1/2 INCH DIAMETER ORIFICE, UPRIGHT, PENDENT, FLUSH TYPE PENDENT, COVER PLATE FLUSH TYPE, OR DRY TYPE PENDENT, TO FIT THE CONDITIONS IN WHICH THEY ARE INSTALLED.
- 10.3. ALL HEADS SHALL BE OF THE PROPER TEMPERATURE RATING FOR THE LOCATIONS IN WHICH THEY ARE INSTALLED. IN GENERAL, TEMPERATURE RATING SHALL BE 165"F., EXCEPT FOR MECHANICAL EQUIPMENT ROOMS, WHICH SHALL BE 286°F.

#### 11. SPRINKLER SYSTEM APPURTENANCES

- 11.1. PROVIDE THE SPRINKLER SYSTEM APPURTENANCES REQUIRED TO PROVIDE FIRE PROTECTION FOR THE RENOVATED AREA.
- 11.2. DETECTOR CHECK VALVE SHALL BE WATTS MODEL No. 709DCDA.

## 12. ALARM DEVICES:

- 12.1. ALL INTERCONNECTING ELECTRICAL WIRING WILL BE FURNISHED UNDER THE SPECIFICATIONS OF OTHER TRADES. PROVIDE ALL SWITCHES DIRECTLY CONNECTED TO EQUIPMENT PROVIDED BY THIS TRADE, REQUIRED FOR THE TRANSMISSION OF ALARM IMPULSES. SWITCHES SHALL BE OPEN OR CLOSED TYPE TO CONFORM WITH THE ALARM SYSTEM TO WHICH THEY ARE CONNECTED.
- 12.2. PROVIDE TAMPER SWITCHES FOR THE FOLLOWING VALVES:
- 12.2.1. ALL VALVES CONTROLLING THE FLOW OF WATER TO SPRINKLER HEADS, INCLUDING FLOOR CONTROL VALVES, AND METER VALVES, ETC.
- 12.2.2. SWITCHES SHALL GIVE AN ALARM IF THE VALVES SERVED ARE CLOSED, THE SWITCHES ARE REMOVED, OR IF THE COVER IS OPENED. VALVE STEMS SHALL BE NOTCHED TO TAKE THE SWITCHES. SWITCHES SHALL BE ACME FIRE ALARM CO. TYPE OSYS-U, OR AS APPROVED.
- 12.3. PROVIDE THE FOLLOWING FLOW ALARM DEVICES:
- 12.3.1. RETARD CHAMBER AND CLOSED CIRCUIT ELECTRIC SWITCH FOR EACH ALARM VALVE.
- 12.3.2. PADDLE TYPE WATER FLOW DETECTORS, CLOSED CIRCUIT TYPE WITH AN ADJUSTABLE RETARD OR TIME DELAY TO PREVENT FALSE ALARMS DUE TO WATER PRESSURE SURGES. SWITCHES SHALL BE ACME FIRE ALARM CO., TYPE WFD, OR AS APPROVED.

### 13. <u>SPRINKLER DRAINS:</u>

- 13.1. PROVIDE ALL NECESSARY DRAIN VALVES, CAPPED NIPPLES, AUXILIARY PIPING, ETC., AS REQUIRED TO DRAIN TRAPPED PORTIONS OF THE SYSTEM.
- 13.2. INSPECTORS TEST CONNECTIONS SHALL BE PROVIDED WITH A SIGHT CONNECTION AND PIPED TO WASTE
- 13.3. MAIN DRAIN AND TEST CONNECTION SHALL BE PIPED TO WASTE.
- 13.4. PROVIDE ALL PIPING REQUIRED TO SPILL THE DRAINS AND TEST CONNECTIONS TO THE FLOOR, FUNNEL OR OTHER DRAINAGE CONNECTIONS PROVIDED UNDER THE PLUMBING CONTRACT. OR ARRANGE WITH THE PLUMBING CONTRACTOR TO PROVIDE ADDITIONAL DRAINAGE FACILITIES, IN WHICH CASE PAY ALL CHARGES RELATED TO THE ADDITIONAL PLUMBING WORK.

#### 14. ACCESS DOORS FOR FINISHED CONSTRUCTION:

- 14.1. PROVIDE ACCESS DOORS AS REQUIRED FOR ALL CONCEALED VALVES, CLEANOUTS AND OTHER ELEMENTS REQUIRING ACCESS ABOVE CEILINGS OR BEHIND WALLS OR AS INDICATED ON THE DRAWINGS. THE INSTALLATION OF ALL DOORS WILL BE PERFORMED UNDER THE SPECIFICATIONS OF ANOTHER TRADE. COORDINATE THE WORK AND ASSUME RESPONSIBILITY FOR THE ACCESSIBILITY OF ALL VALVES
- 14.2. USE THE FOLLOWING TYPE DOORS AS MANUFACTURED BY KARP ASSOCIATES, INC.
- 14.2.1. IN PLASTER CEILINGS, KARP DSC 210-PL.
- 14.2.2. IN 3 HOUR MASONRY ENCLOSURES (PIPE OR DUCT SHAFTS), KARP DSC-211-FRT WITH 1-1/2 INCH VERMICULITE PLASTER FILL. METAL LATH LINING FOR PLASTER SHALL BE SELF-FURRING TYPE, TACK WELDED TO PAN.
- 14.2.3. IN NON-RATED MASONRY, KARP DSC-211.
- 14.2.4. IN DRY WALL CONSTRUCTION, KARP DSC-214M.
- 14.3. SIZE ACCESS DOORS AS INDICATED ON THE DRAWINGS, OR AS SPECIFIED, BUT NOT SMALLER THAN 16 INCHES BY 16 INCHES. WHERE MORE THAN TWO VALVES ARE SERVED BY A DOOR AND THE BONNETS ARE WITHIN 12 INCHES OF THE FACE OF THE DOOR, THE SIZE OF THE DOOR SHALL BE NCREASED SO THAT ALL PORTIONS OF THE VALVES ARE WITHIN THE AREA DEFINED BY THE OPENING IN THE DOOR. WHERE THE BONNETS OF THE VALVES ARE MORE THAN 12 INCHES FROM THE FACE OF THE DOOR, THE DOORS SHALL HAVE A MINIMUM OF 20 INCH X 20 INCH CLEAR OPENING.
- 14.4. FURNISH BUTTONS OR TABS TO CEILING CONTRACTOR FOR SETTING, AS APPROVED BY ARCHITECT TO INDICATE LOCATION OF VALVES, CLEANOUTS OR OTHER EQUIPMENT LOCATED ABOVE REMOVABLE TYPE CEILINGS WHERE ACCESS DOORS ARE NOT FURNISHED.

#### 15. <u>TESTS:</u>

- 15.1. TEST THE SYSTEMS BEFORE ANY PAINT IS APPLIED.
- 15.2. TEST ALL SYSTEMS IN FULL ACCORDANCE WITH APPLICABLE UNDERWRITERS' AND MUNICIPAL REQUIREMENTS, BUT IN NO CASE SHALL THE SPRINKLER SYSTEM BE TESTED AT LESS THAN 200 LBS. HYDROSTATIC PRESSURE. APPLY THE TEST FOR A MINIMUM OF TWO (2) CONSECUTIVE HOURS WITH NO LOSS IN PRESSURE. PRIOR TO APPLYING THE HYDROSTATIC TEST ON A DRY PIPE SYSTEM, IT SHALL BE TESTED WITH 40 PSIG COMPRESSED AIR FOR A PERIOD OF 24 HOURS WITH A PRESSURE LOSS NOT TO EXCEED 11/2" PSIG.
- 15.3. FURNISH AND PAY FOR ALL DEVICES, MATERIALS, SUPPLIES, LABOR AND POWER REQUIRED IN CONNECTION WITH TESTS. MAKE ALL TESTS IN THE PRESENCE AND TO THE SATISFACTION OF THE ENGINEER, INSURANCE UNDERWRITERS AND CITY INSPECTORS HAVING JURISDICTION.
- 15.4. REPAIR, OR IF REQUIRED BY THE ENGINEER REPLACE, DEFECTIVE WORK WITH NEW WORK WITHOUT EXTRA CHARGE TO THE OWNER. REPEAT TESTS AS DIRECTED, UNTIL ALL WORK IS PROVEN SATISFACTORY
- 15.5. RESTORE TO ITS ORIGINAL CONDITION ANY WORK DAMAGED OR DISTURBED BY TESTS, ENGAGING THE ORIGINAL TRADES TO DO THE WORK OF RESTORATION.
- 15.6. NOTIFY THE ENGINEER AND INSPECTORS HAVING JURISDICTION AT LEAST 48 HOURS IN ADVANCE OF MAKING THE REQUIRED TESTS, SO THAT ARRANGEMENTS MAY BE MADE FOR THEIR PRESENCE TO WITNESS THE TESTS
- 15.7. TEST EQUIPMENT IN SERVICE AND DEMONSTRATE THAT THE EQUIPMENT PERFORMS THE WORK INTENDED FOR IT AND THAT IT COMPLIES WITH THE REQUIREMENTS OF THESE SPECIFICATIONS FOR SUCH EQUIPMENT.

### 16. <u>GUARANTEES AND CERTIFICATIONS:</u>

16.1. ALL WORK SHALL BE GUARANTEED TO BE FREE FROM LEAKS OR DEFECTS. ANY DEFECTIVE MATERIALS OR WORKMANSHIP AS WELL AS DAMAGE TO THE WORK OF OTHER TRADES RESULTING FROM SAME SHALL BE REPLACED OR REPAIRED AS DIRECTED FOR THE DURATION OF STIPULATED GUARANTEE PERIODS. THE DURATION OF GUARANTEE PERIODS SHALL BE ONE YEAR FROM THE DATE OF THE FINAL ACCEPTANCE OF THE INSTALLATION BY THE OWNER, UNLESS A MORE STRINGENT PERIOD IS STIPULATED ELSEWHERE.

#### 17. ENGINEER'S REVIEW, SHOP DRAWINGS, AND CERTIFICATIONS:

- 17.1. PREPARE AND SUBMIT DETAILED SHOP DRAWINGS. THE ENGINEER WILL REVIEW SHOP DRAWINGS AND SAMPLES FOR CONFORMANCE WITH THE DESIGN CONCEPT OF THE PROJECT AND THE INFORMATION CONTAINED IN THE CONTRACT DOCUMENTS. THE ENGINEER'S REVIEW OF SHOP DRAWINGS AND SAMPLES IS ONLY FOR THE CONVENIENCE OF THE OWNER IN FOLLOWING THE WORK AND DOES NOT RELIEVE THIS TRADE OF RESPONSIBILITY FOR DEVIATIONS FROM THE REQUIREMENTS OF THE CONTRACT DOCUMENTS. THE ENGINEER'S REVIEW SHALL NOT BE CONSTRUED AS A COMPLETE OR DETAILED CHECK OF THE WORK SUBMITTED, NOR SHALL IT RELIEVE THIS TRADE OF RESPONSIBILITY FOR ERRORS OF ANY SORT IN THE SHOP DRAWINGS AND SAMPLES, OR FROM THE NECESSITY OF FURNISHING ANY WORK REQUIRED BY THE CONTRACT DOCUMENTS WHICH HAVE BEEN OMITTED FROM THE SHOP DRAWING SUBMITTALS.
- 17.2. NO PART OF THE WORK SHALL BE STARTED IN THE SHOP OR IN THE FIELD UNTIL THE ENGINEER HAS REVIEWED THE SHOP DRAWINGS AND SAMPLES FOR THAT PORTION OF THE WORK. THEREAFTER, THE WORK SHALL BE EXECUTED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND THE INDICATED STATUS OF THE REVIEWED SHOP DRAWINGS. PRIOR TO ASSEMBLING THE WORK, THE FOLLOWING SHALL BE SUBMITTED: SCALED FLOOR PLAN AND CEILING DRAWINGS WITH DIMENSIONED LOCATIONS OF ALL PIPING AND EQUIPMENT INCLUDING SIZES, ELEVATIONS, AND APPROPRIATE INDICATION OF COORDINATION BETWEEN STRUCTURAL AND MECHANICAL ELEMENTS. MANUFACTURER'S CATALOGUE CUTS OF ALL EQUIPMENT TO BE USED. SAMPLES OF ALL DEVICES, WHICH WILL BE CLEARLY VISIBLE TO VIEW. ALL SUBMITTALS SHALL BE PROPERLY IDENTIFIED WITH PROJECT NAME. ARCHITECT, ENGINEER, AND SUBCONTRACTOR'S NAME, ADDRESS, AND TELEPHONE NUMBER. PROVIDE CLEAR DETAILED REPRODUCIBLE "AS-BUILT" DRAWINGS UPON COMPLETION OF WORK AND PROVIDE SETS OF THE SAME TO LANDLORD AS DIRECTED.
- 17.3. THE ARCHITECT AND/OR ENGINEER WILL REVIEW SHOP DRAWINGS AND SAMPLES WITH REASONABLE PROMPTNESS AND WILL RETURN THEM TO THE CONTRACTOR STAMPED TO INDICATE THE APPROPRIATE ACTION AS FOLLOWS:
- 17.3.1. "NO EXCEPTIONS TAKEN" MEANS THAT FABRICATION. MANUFACTURE OR CONSTRUCTION MAY PROCEED PROVIDING THE SUBMITTAL COMPLIES WITH THE CONTRACT DOCUMENTS.
- 17.3.2. "MAKE CORRECTIONS NOTED" MEANS THAT FABRICATION, MANUFACTURE OR CONSTRUCTION MAY PROCEED PROVIDING THE SUBMITTAL COMPLIES WITH THE ARCHITECT'S AND/OR ENGINEER'S NOTATIONS AND THE CONTRACT DOCUMENTS. A COPY OF THE CORRECTED SUBMITTAL SHALL BE RETURNED TO THE ARCHITECT AND/OR ENGINEER FOR RECORD. IF, FOR ANY REASON, THE CONTRACTOR CANNOT COMPLY WITH THE NOTATIONS, THE CONTRACTOR SHALL RESUBMIT AS DESCRIBED FOR SUBMITTALS STAMPED "REVISE AND RESUBMIT".
- 17.3.3. "REVISE AND RESUBMIT" MEANS THAT THE CONTRACTOR MUST COMPLY WITH THE ARCHITECT'S AND/OR ENGINEER'S NOTATIONS AND RESUBMIT BEFORE FABRICATION. MANUFACTURE OR CONSTRUCTION MAY PROCEED. SUBMITTALS STAMPED IN THIS MANNER ARE NOT PERMITTED ON THE JOB SITE.
- 17.3.4. "REJECTED" MEANS THAT THE SUBMITTAL DOES NOT COMPLY WITH THE CONTRACT DOCUMENTS AND THAT FABRICATION, MANUFACTURER CONSTRUCTION SHALL NOT PROCEED. SUBMITTALS STAMPED IN THIS MANNER ARE NOT PERMITTED ON THE JOB SITE.

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PART NO.	DESCRIPTION	REMARKS	QTY.
96606607	TEE, GLVN., 1/2 X 1/2 X 1/4		2
96606608	TEE, GLVN, 1/4 X 1/4 X 1/4		1
98048034	BUSHING, REDUCER, 3/8″ X 1/4″, GALV.		1
98085630	CONNECTOR, 1/4" TUBING × 1/4" NPT		1
98523100	RESTRICTION DRIFICE		1
98543223	NIPPLE, STEEL, GALV., 1/2″ X 1-1/2″		1
98543226	NIPPLE, STEEL, GALV., 1/4″ X 1-1/2″		2
98543227	NIPPLE, STEEL, GALV., 1/4″ X CLOSE		3
98614403	PLUG, IRON, SQ. HD., 1/4"		1
98727607	STRAINER, 1/4"		1
98728801	PRESSURE SWITCH		1
98750004	PIPE CROSS, 1/4″, GALV.		1
98815201	UNION, 1/4", IRON, G.J., GALV.		2
98840147	CHECK VALVE, 1/4″ NPT, POPPET TYPE Inline		1
98840237	VALVE, BALL, 1/4" NPTF x 1/4" NPTM		2
9884011E	VALVE, BALL, 1/2" NPTF X 1/2" NPTM		1
98768000	CUPPER TUBING, 1/4"		18″

ELCHEN O'NEIL ARCHITECTS, PL 29 GANUNG DRIVE OSSINING, NY 10562

646-812-5566

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Habitat for Humanity

Paterson Habitat For Humanity 146 North 1st Street

Paterson, NJ 07522

**135 SUMMER STREET** 

PASSAIC, NJ

PROJECT NAME

Engineering Excellence since 1984 186 WOOD AVE. SOUTH, 1ST FLOOR ISELIN, NJ 08830 TEL (732) 635 0044 • FAX (732) 635 1777

2 100% PERMIT SET 2/02/2021 1 80% DD SET 1/08/2021

**ISSUE/REVISION** DATE

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SPRINKLER DETAILS

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DATE:

SCALE:

**FP-401** 

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