

NO	EQUIPMENTS
1	ELECTRIC FIRE PUMPS (1000 GPM @ 8BAR)
2	JOCKEY PUMP (19 GPM @ 8BAR)
3	FIRE PUMP CONTROL PANEL WITH AUTO TRANSFER SWITCH
4	JOCKEY PUMP CONTROL PANEL
5	OS & Y GATE VALVES
6	SWING CHECK VALVE
7	FLOW METER
8	HOSE VALVE HEADER WITH 4 NOS. 2.5" HOSE VALVES
9	JOCKEY PUMP SUPPLY PIPING
10	JOCKEY PUMP DISCHARGE PIPING

PUMP ROOM REQUIREMENTS PER NFPA 20

A.4.12.3 Heat 4.12.3.1 An approved or listed source of heat shall be provided for maintaining the temperature of a pump room or pump house, where required, above 40°F (5°C).

B.4.12.4 Normal Lighting. Artificial light shall be provided in a pump room or pump house.

C.4.12.5 Emergency Lighting. 4.12.5.1 Emergency lighting shall be provided in accordance with NFPA 101, Life Safety Code. 4.12.5.2 Emergency lights shall not be connected to an engine starting battery.

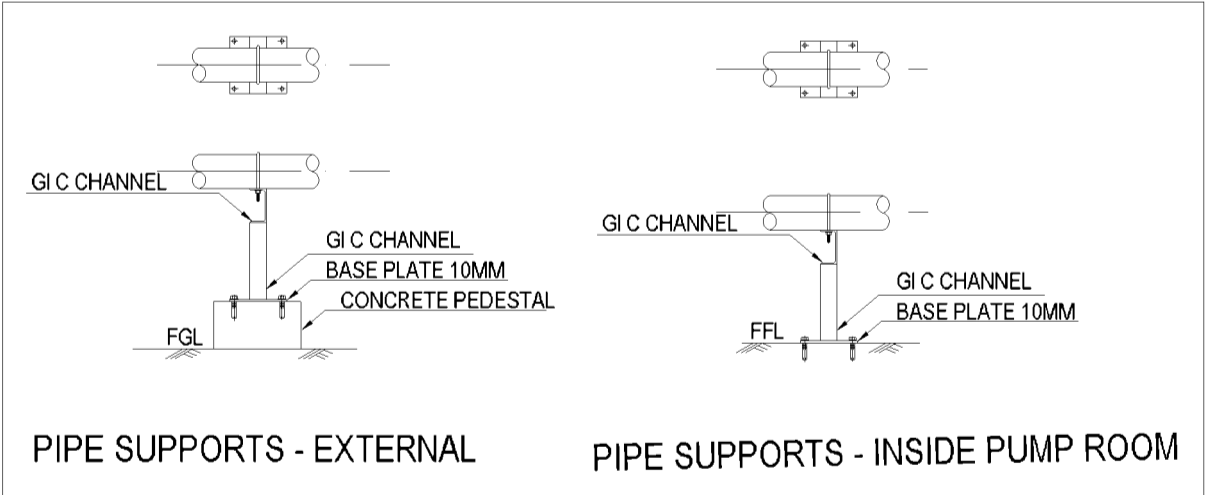
D.4.12.6 Ventilation. Provision shall be made for ventilation of a pump room or pump house.

E.4.12.7*Drainage. 4.12.7.1 Floors shall be pitched for adequate drainage of escaping water away from critical equipment such as the pump, driver, controller, and so forth. 4.12.7.2 The pump room or pump house shall be provided with a floor drain that will discharge to a frost-free location.

F.4.12.8 Guards. Couplings and flexible connecting shafts shall be installed with a coupling guard in accordance with Section 8 of ANSI B15.1, Safety Standard for Mechanical Power Transmission Apparatus.

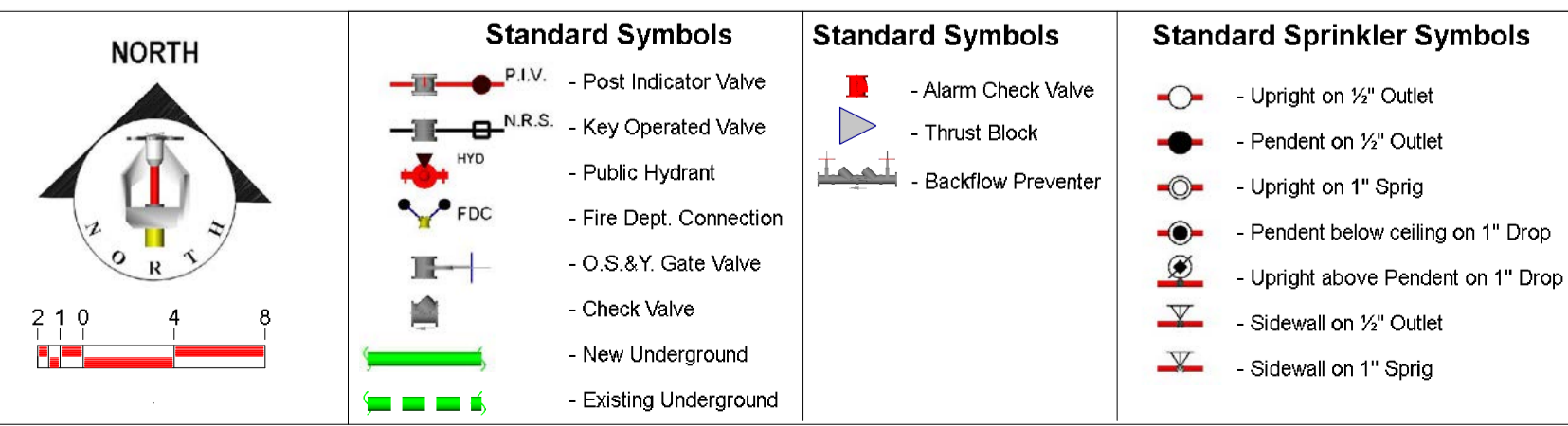
FIRE PUMP SELECTION CRITERIA

DESIGN REFERENCE - NFPA 13- EXTRA HAZARD GROUP 2
 AREA OF SPRINKLER OPERATION - 232 Sq. M
 WATER DENSITY - 16.3 L/ SQ. M/MIN
 TOTAL WATER DEMAND FOR THE SPRINKLER SYSTEM - 3781.6LPM = 999GPM
 FIRE PUMP CAPACITY = 1000 GPM
 FIREWATER TANK CAPACITY FOR 1 HOUR OPERATION - 227M Cu.



REV	DESCRIPTION
REV-1	PUMP ORIENTATION HAS BEEN CHANGED TO AVOID THE BENDS AT THE SUCTION SIDE PIPING ARRANGEMENT AND EQUIPMENTS LOCATIONS MODIFIED TO SUITE THE PUMP ORIENTATION THE BURIED HDPE LINE HAS CHANGED TO DUCTILE IRON PIPES
REV-2	HOSE TEST HEADER HAS BEEN ADDED TO THE DISCHARGE HEADER
REV-3	MODIFICATIONS TO PLANS, ADDED CALCULATION TO OVERHEAD PIPING, MODIFIED PAINT BOOTH CALCULATION DUE TO FPE REVIEW AND PLAN REVIEW COMMENTS.

NOTE: ALL THE PIPE JOINTS FOR 65MM DIA. AND ABOVE SHALL BE ROLL GROOVED JOINTS AND 50MM DIA. AND BELOW SHALL BE THREADED JOINTS
 THE STEEL PIPES SHALL BE ASTM A53 GRADE B- SCHEDULE 40 ERW PIPES & BURIED SECTION OF PIPE SHALL BE DUCTILE IRON PIPING WITH SOCKET & SPIGOT JOINTS.
 GROOVED FITTINGS SHALL BE UL LISTED AND FM APPROVED DUCTILE IRON FITTINGS
 THREADED FITTINGS SHALL BE UL LISTED FM APPROVED MALLEABLE IRON GALVANIZED FITTINGS.
 PAINTING FOR THE EXTERNAL PIPING AND FABRICATED SUPPORTS SHALL BE DONE WITH ZINC RICH EPOXY BASED PRIMER AND TOP COAT.
 10 -20 MM GROUTING ALLOWANCE SHALL BE PROVIDED BETWEEN PUMP FOUNDATION AND THE BASE FRAME FOR ELECTRIC PUMPS
 PRESSURE SENSING LINE TO CONTROL PANELS SHALL BE ROUTED TO SUIT THE SPACE AVAILABILITY
 PIPE SUPPORT SPACING AND DIMENSION SHALL BE ACCORDING TO THE SITE CONDITION



GENERAL SYSTEM NOTES

1. HYDRAULIC INFORMATION TO BE PROVIDED ON SPRINKLER RISER.
2. EARTHQUAKE BRACING TO BE PROVIDED PER NFPA 13, IF REQUIRED
3. ALL INSPECTOR'S TEST CONNECTIONS AND LOW POINT DRAINS TO BE PROVIDED PER NFPA 13.
4. ALL HANGERS TO MEET CURRENT NFPA 13 REQUIREMENTS (U.N.O.).
5. LINE PIPING SHALL BE SCH. #40 GALVANIZED PIPE WITH WELDED OUTLETS, ROLL GROOVED/THREADED ENDS WITH GROOVED/THREADED FITTINGS.
6. MAIN PIPING SHALL BE SCH. #40 GALVANIZED WITH WELDED OUTLETS, ROLL GROOVED ENDS, AND GROOVED FITTINGS.
7. SYSTEM DESIGN SHALL BE PER NFPA #13
8. (X) = HYDRAULIC REFERENCE POINT
9. ALL SYSTEM COMPONENTS SHALL BE U.L. LISTED AND F.M. APPROVED.
10. SPARE HEAD CABINET TO INCLUDE: (2) ADD HEADS EA KIND, WRENCH & COPY OF NFPA 25
11. SPARE HEAD CABINET TO INCLUDE: (2) ADD HEADS EA KIND, WRENCH & COPY OF NFPA 25

Symbol	Manufacturer	SIN/Model	Quantity	K-Factor	Type	Response	Orifice	Finish	Temperature
○	Rapidrop	RD025	60	80	Upright	Quick	12 1/2	Brass	93.33 °C
●	Rapidrop	RD023	24	80	Pendant	Quick	13 1/2	Brass	93.33 °C
		Total	84						

CERTIFIED BY:

3D FIRE DESIGN, LLC
 Professional Fire Protection Design,
 3D BIM Design & Coordination

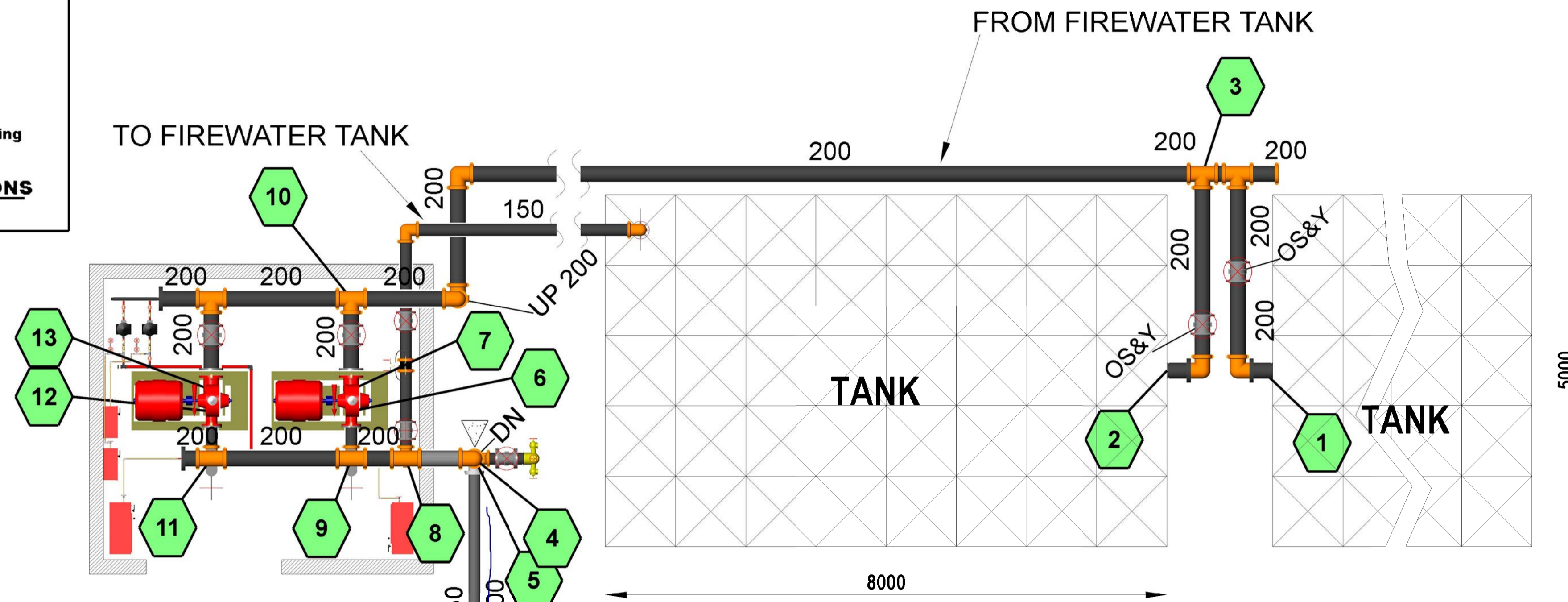
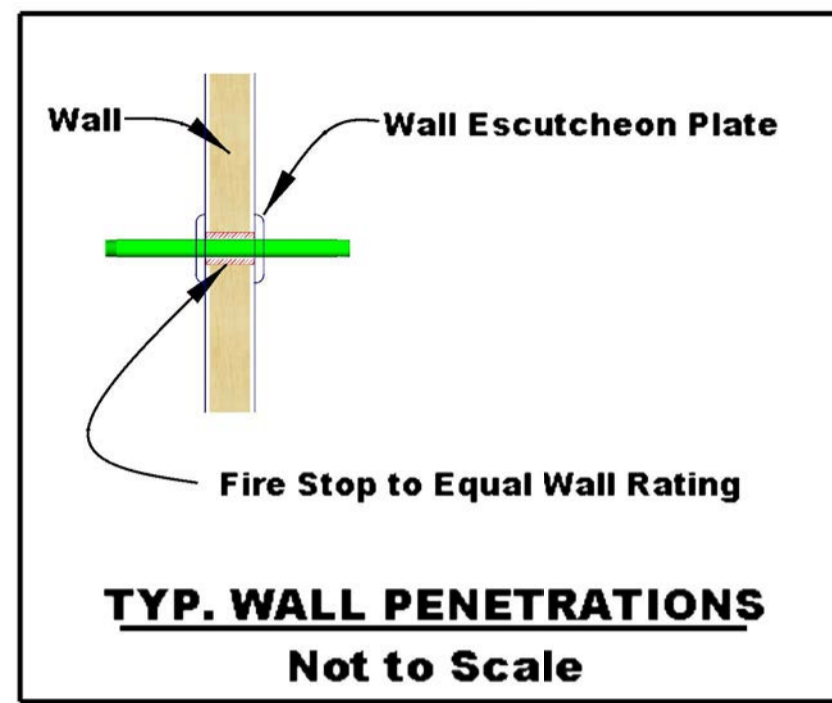
Gerald W. Ebeling, S.E.T.
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 (204) 558-2587
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DRAWING TITLE: FP01

DRAWN	Gerald W. Ebeling, S.E.T.	CHECKED	GWE
DATE	11/23/11	APPROVED	GWE
SCALE	AS NOTED	REV. NO.	3
DRAWING NO.	FIRE PUMP ROOM LAYOUT		SHEET 1 OF 6

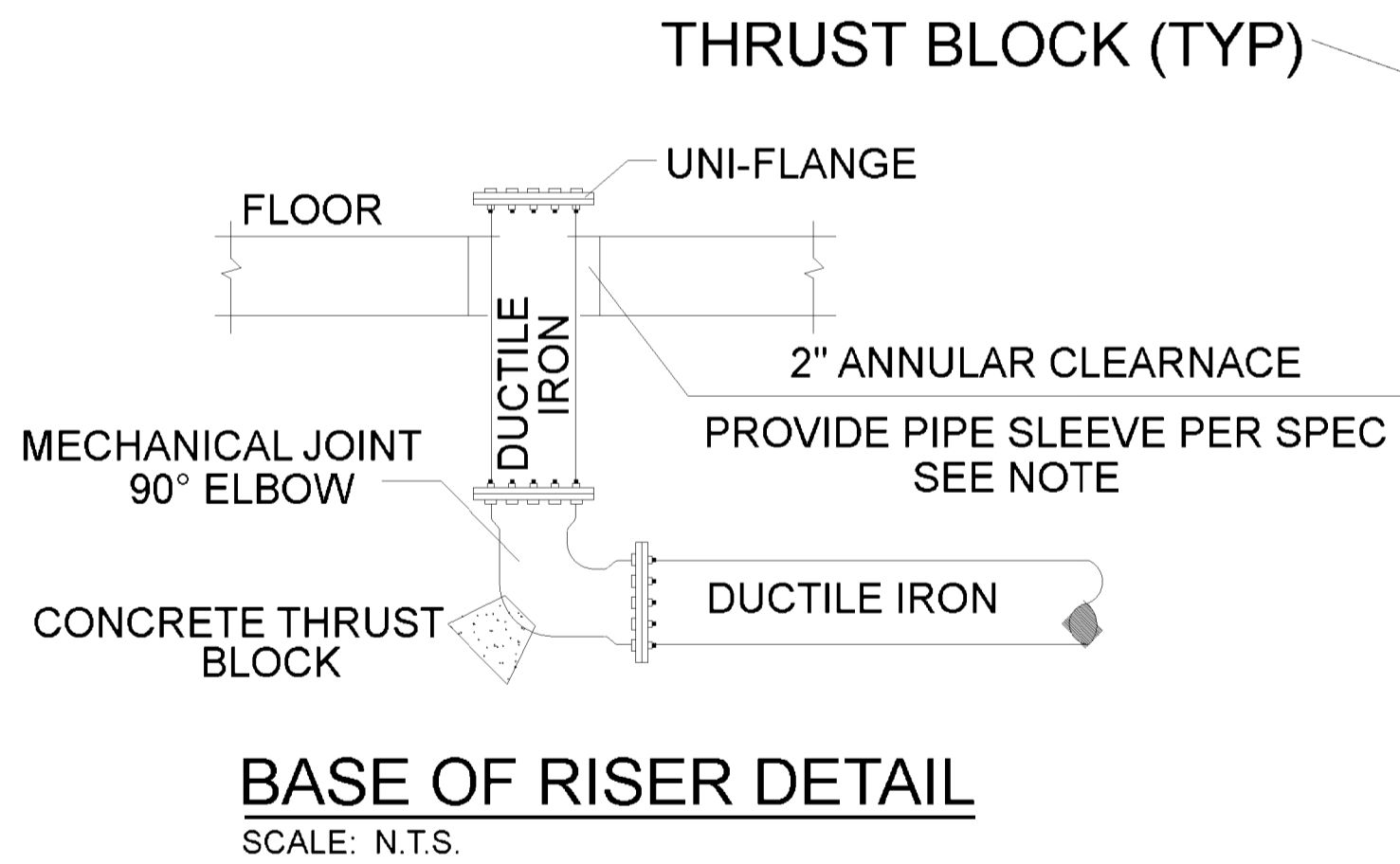
Drawings created using AutoSPRINK from MEPCAD

FIREWATER TANK SHALL BE GRP SECTIONAL BOLTED TYPE TANKS OF SIZE 8000 X 5000 X 3000 OF A CAPACITY OF 120 M CU.
 PIPE SUPPORT SPACING AND DIMENSION SHALL BE ACCORDING TO THE SITE CONDITION



TANK: 8000 x 5000 x 3000 - 119808 Liters

PIPE SLEEVE NOTE:
 PROVIDE PIPE SLEEVES PER SPEC
 PASSING THRU: WALLS, FLOORS,
 & ROOFS. APPROVED MATERIAL:
 GALVANIZED, DUCTILE IRON,
 OR CAST IRON.



UNDERGROUND INSTALLATION NOTES

- Underground to be installed per NFPA 13, 2010, NFPA 24, 2010 and the requirements of the USACE
- All portions of the underground main shall be DUCTILE IRON.
- A Hydrostatic pressure test at 200 psi for 2 hours shall be conducted before joints are covered.
- The underground piping shall be flushed prior to system tie in.
- All metallic pipe and fittings shall be epoxy coated, polyethylene encased. All bolts, nuts, tie rods, etc. for all portions of the underground mains shall be 316 stainless steel.
- All pipe fittings and transitions to have approved thrust blocks meeting all applicable codes.
- Pipe and fittings to be Class 51 minimum and to be UL listed for fire service.
- Minimum pipe bury to be 42".
- Provide a 2" annular clearance around pipe and floor slab at the system riser.
- Underground to be mechanical joint and/or thrust blocked.
- Coordinate conduit run for tamper switches and/or alarms with General Contractor.
- Provide warning tape and tracer wire.

- INSPECTION: Prior to backfilling around thrust block, secure inspection of installation by FIRE PROTECTION SPECIALIST.
- BACKFILL: Install and compact all backfill material per APWA SECTION 02320.
- CONCRETE: Class 2,000 minimum per APWA Section 03304. Pour concrete against undisturbed soil.
- PIPE JOINTS: DO NOT COVER WITH CONCRETE. Leave completely accessible.
- GREASE: Apply poly-fm grease to all buried metal surfaces. Wrap with 8 mil thick polyethylene sheet and tape wrap.

Rev.	Date	Drawn	Checked	Remarks
3	21-11-2011	GE	GE	Revised per FPE review and certification
2	20-10-2011	BALA	BKT	Revised as per client's comment
1	11-10-2011	BALA	BKT	Revised as per client's comment
0	15-09-2011	BALA	BKT	Submitted for approval

REVISIONS:

PROJECT NAME:
FIRE PROTECTION SYSTEM FOR CORROSION REPAIR BUILDINGS

PROJECT OWNER:
USACE

MAIN CONTRACTOR:
STRABAG OMAN LLC
 STRABAG Oman LLC PO Box 444, Muscat Postal Code 100 Sultanate of Oman
 Tel.: +968-24526900 Fax: +968-24526902

FIRE PROTECTION SYSTEM CONTRACTOR:
PROTECT UNITED TRADING & CONT. CO
 PB. NO. 2834, POSTAL CODE -211, SALALAH, SULTANATE OF OMAN
 TEL.: +968 23210925 FAX: +968 23210926 Email: protectu@gmail.com

DRAWING TITLE:
FP2

DRAWN	DATE	SCALE	DRAWING NO.	CHECKED	APPROVED	REV. NO.	SHEET
Gerald W. Ebeling, S.E.T.	11/23/11	AS NOTED	PUMP ROOM AND TANK LAYOUT	GWE	GWE	3	2 OF 6

Standard Symbols

- P.I.V. - Post Indicator Valve
- N.R.S. - 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" Sprig
- Pendent below ceiling on 1" Drop
- Upright above Pendent on 1" Drop
- Sidewall on 1/2" Outlet
- Sidewall on 1" Sprig

GENERAL SYSTEM NOTES

- HYDRAULIC INFORMATION TO BE PROVIDED ON SPRINKLER RISER.
- EARTHQUAKE BRACING TO BE PROVIDED PER NFPA 13, IF REQUIRED
- ALL INSPECTOR'S TEST CONNECTIONS AND LOW POINT DRAINS TO BE PROVIDED PER NFPA 13.
- ALL HANGERS TO MEET CURRENT NFPA 13 REQUIREMENTS (U.N.O.).
- LINE PIPING SHALL BE SCH. #40 GALVANIZED PIPE WITH WELDED OUTLETS, ROLL GROOVED/THREADED ENDS WITH GROOVED/THREADED FITTINGS.
- MAIN PIPING SHALL BE SCH. #40 GALVANIZED WITH WELDED OUTLETS, ROLL GROOVED ENDS, AND GROOVED FITTINGS.
- SYSTEM DESIGN SHALL BE PER NFPA #13
- HYDRAULIC REFERENCE POINT
- ALL SYSTEM COMPONENTS SHALL BE U.L. LISTED AND F.M. APPROVED.
- SPARE HEAD CABINET TO INCLUDE: (2) ADD HEADS EA KIND, WRENCH & COPY OF NFPA 25

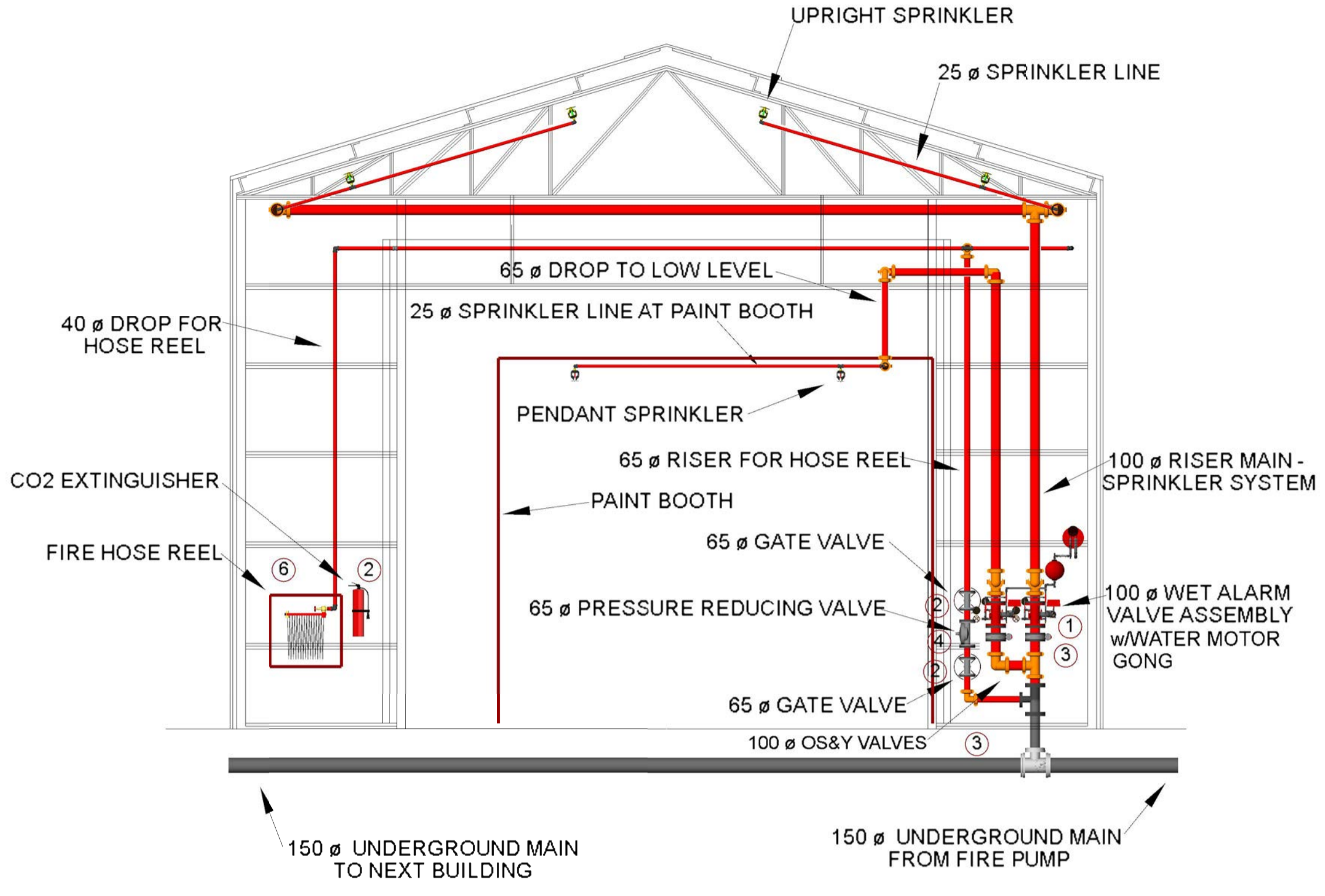
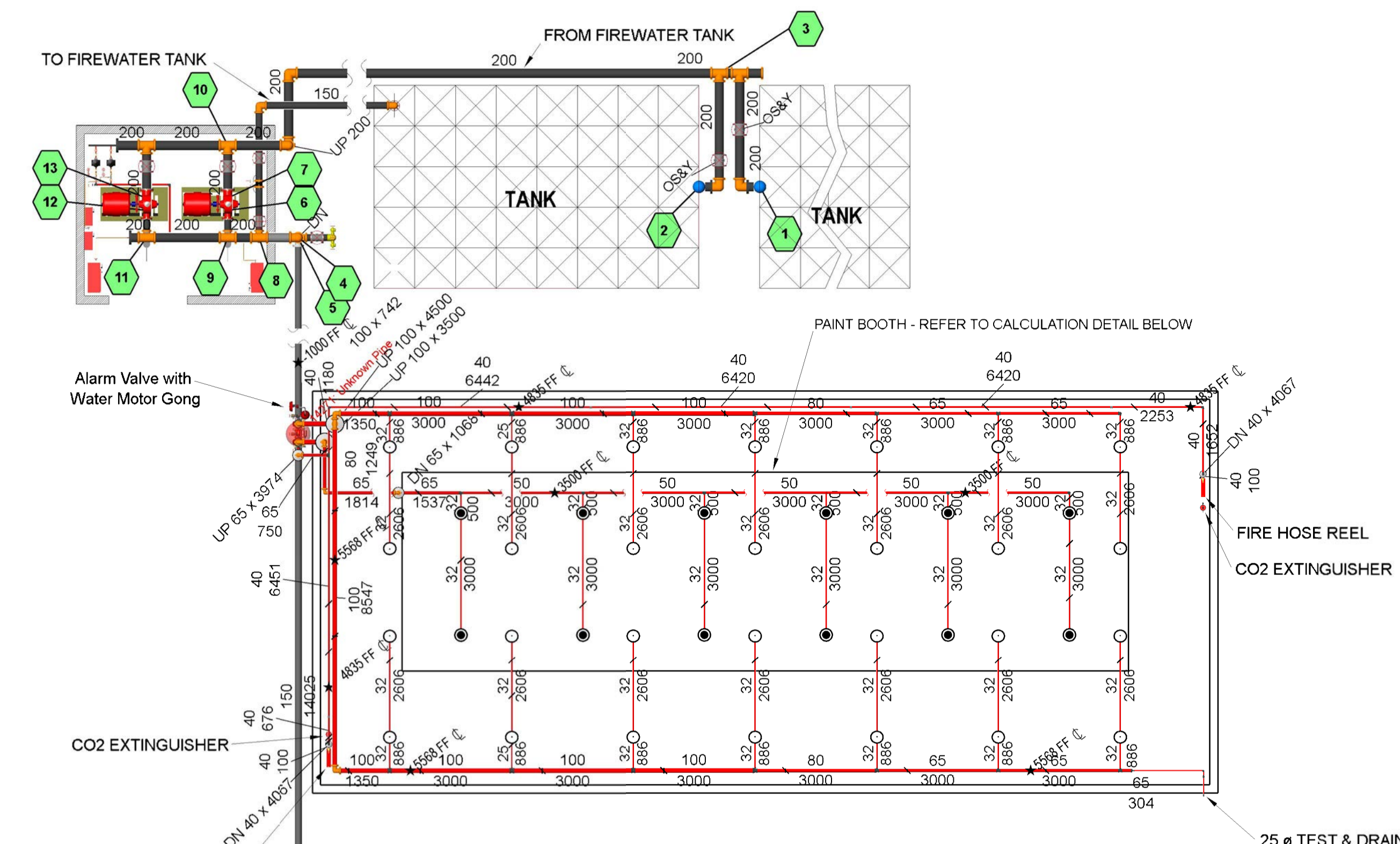
Sprinkler Legend

Symbol	Manufacturer	SIN/Model	Quantity	K-Factor	Type	Response	Orifice	Finish	Temperature
○	Rapidrop	RD025	60	80	Upright	Quick	12 1/2	Brass	93.33 °C
●	Rapidrop	RD023	24	80	Pendent	Quick	13 1/2	Brass	93.33 °C
		Total	84						

CERTIFIED BY:

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 3D BIM Design & Coordination

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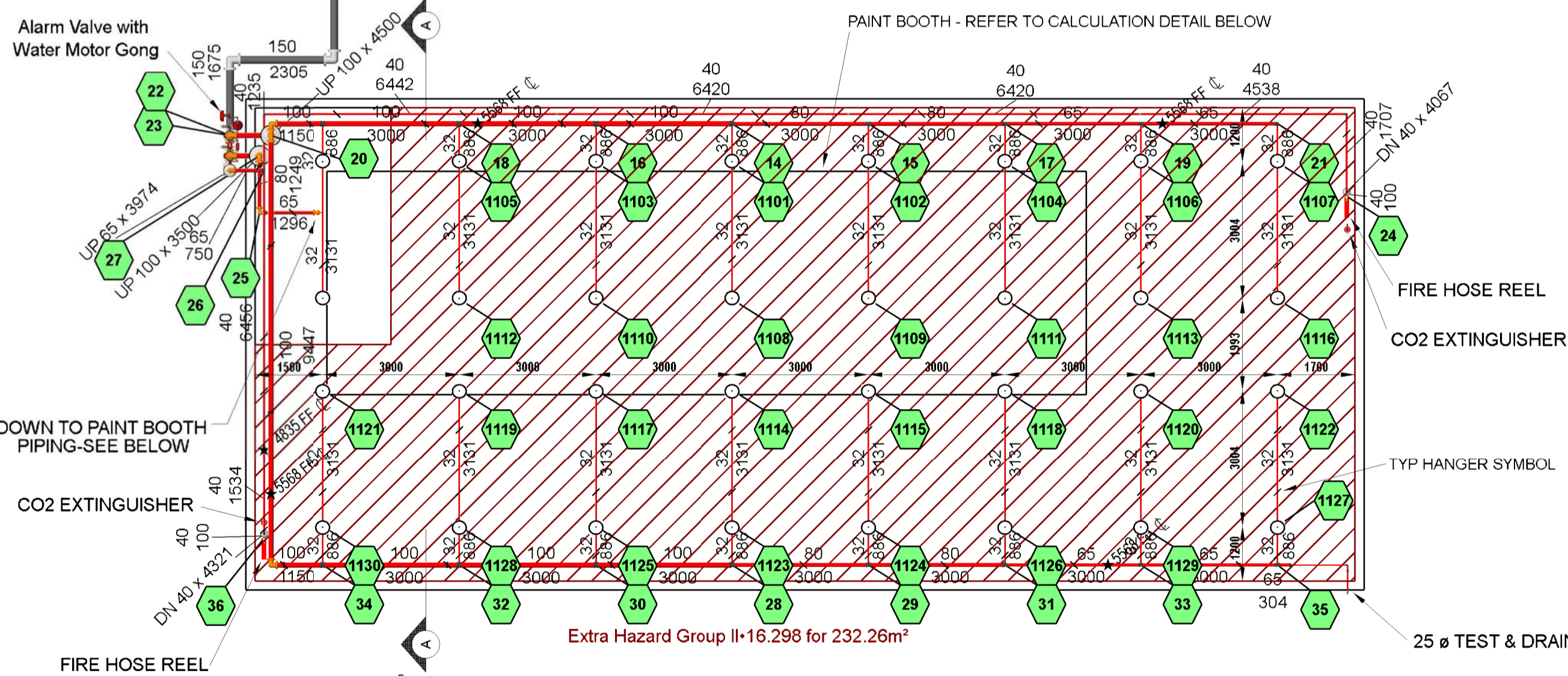


SECTION "A-A"

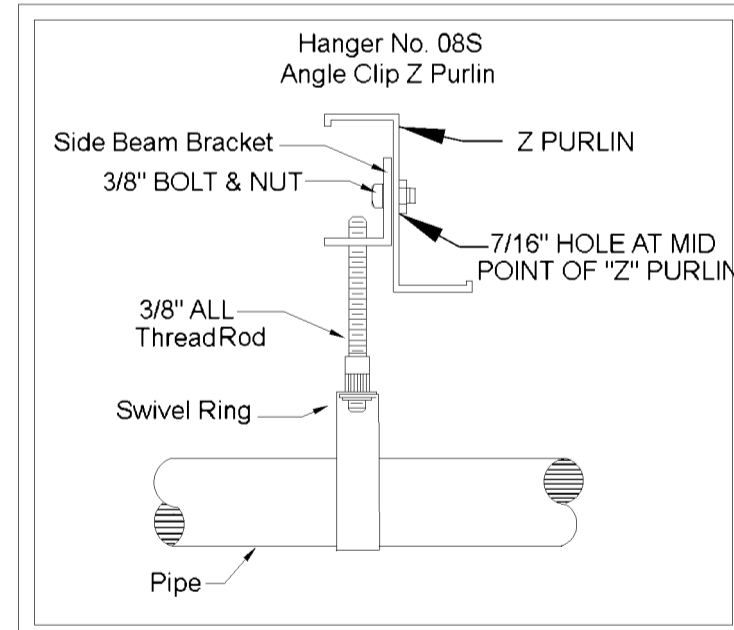
NOTE: ALL CONTROL VALVES SHALL HAVE TAMPER SWITCHES PER THE SPEC: NO BUTTERFLY TYPE VALVES ALLOWED

Hydraulic Information	
Remote Area 2	
OCCUPANCY CLASSIFICATION	Extra Hazard Group II
DENSITY	16.298 for 232.26m ² (Actual 236.09m ²)
TOTAL HOSE STREAMS	378.54
DRY CAPACITY	0.00L
TOTAL HEADS FLOWING	30
K-FACTOR	80
TOTAL WATER REQUIRED	5143.03
TOTAL PRESSURE REQUIRED	-0.567
BASE of RISER (L/min)	5143.03
BASE of RISER (bar)	7.693
SAFETY MARGIN (bar)	+0.609 (1449.4%)

NO	EQUIPMENTS
1	WET ALARM VALVE (FLANGE)
2	GATE VALVE (FLANGE)
3	OS&Y VALVE (FLANGE)
4	PRESSURE REDUCING VALVE (FLANGE)
5	CO2 EXTINGUISHER
6	HOSE REEL



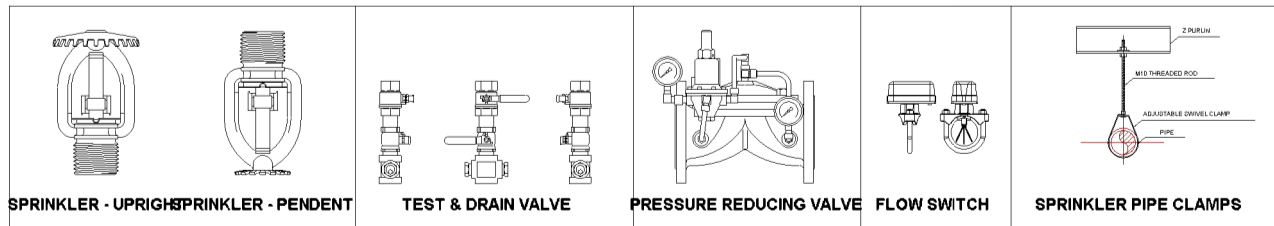
Hydraulic Information	
Remote Area 1	
OCCUPANCY CLASSIFICATION	Extra Hazard Group II
DENSITY	16.298 for 232.26m ² (Actual 88.51m ²)
TOTAL HOSE STREAMS	378.54
DRY CAPACITY	0.00L
TOTAL HEADS FLOWING	12
K-FACTOR	80
TOTAL WATER REQUIRED	2341.12
TOTAL PRESSURE REQUIRED	-0.613
BASE of RISER (L/min)	2341.12
BASE of RISER (bar)	8.740
SAFETY MARGIN (bar)	+0.676 (1077.4%)



GENERAL NOTES

- All materials & installations of this automatic fire sprinkler system to conform to N.F.P.A. #13, #20, & #24 & US Army Specifications.
- Underground piping to be properly rod & blocked per N.F.P.A. #24 with a minimum bury of 1000mm.
- Earthquake bracing to be standard per N.F.P.A. #13 if required.
- Provide spare head cabinet with a minimum of 3 of each type of sprinkler head used.
- Low points of system shall have provisions for proper drainage.
- System to be hydrostatically tested @ 200psi for 2 hours - per N.F.P.A. #13.
- Test Connection. A system test connection shall be provided to verify proper operation of equipment
- 24-hour supervision to be provided by others.
- All electrical & painting to be provided by others.
- Pipe sizing per: HYDRAULIC CALCULATIONS
- All piping be ANSI / ASTM A-795 Sch.40 galvanized steel piping with grooved or threaded couplings & fittings.

EQUIPMENT DETAILS



FIRE SPRINKLER SYSTEM PIPING PLAN

SCALE: 1:100

Standard Symbols

- P.I.V. - Post Indicator Valve
- N.R.S. - 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
- Pendant on 1/2" Outlet
- Upright on 1" Sprig
- Pendant below ceiling on 1" Drop
- Upright above Pendant on 1" Drop
- Sidewall on 1/2" Outlet
- Sidewall on 1" Sprig

- GENERAL SYSTEM NOTES**
- HYDRAULIC INFORMATION TO BE PROVIDED ON SPRINKLER RISER.
 - EARTHQUAKE BRACING TO BE PROVIDED PER NFPA 13, IF REQUIRED.
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 - MAIN PIPING SHALL BE SCH. #40 GALVANIZED WITH WELDED OUTLETS, ROLL GROOVED ENDS, AND GROOVED FITTINGS.
 - SYSTEM DESIGN SHALL BE PER N.F.P.A. #13
 - HYDRAULIC REFERENCE POINT
 - ALL SYSTEM COMPONENTS SHALL BE U.L. LISTED AND F.M. APPROVED.
 - SPARE HEAD CABINET TO INCLUDE: (2) ADD HEADS EA KIND, WRENCH & COPY OF NFPA 25

Sprinkler Legend

Symbol	Manufacturer	SIN/Model	Quantity	K-Factor	Type	Response	Orifice	Finish	Temperature	Note
●	Rapidrop	RD025	60	80	Upright	Quick	12mm/Brass		93.33°C	
○	Rapidrop	RD023	24	80	Pendant	Quick	13mm/Brass		68.33°C	
			Total = 84							

CERTIFIED BY:

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Professional Fire Protection Design,
3D BIM Design & Coordination

Gerald W. Ebeling, S.E.T.
Owner/NICET IV Cert. #108930

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REVISIONS:

Rev.	Date	Drawn	Checked	Submitted for approval	Remarks
3	21-11-2011	GE	GE		Revised per FPE review and certification
2	20-10-2011	BALA	BKT		Revised as per client's comment
1	11-10-2011	BALA	BKT		Revised as per client's comment
0	15-09-2011	BALA	BKT		Submitted for approval

PROJECT NAME:

FIRE PROTECTION SYSTEM FOR CORROSION REPAIR BUILDINGS

PROJECT OWNER:

USACE

MAIN CONTRACTOR:

STRABAG OMAN LLC
STRABAG Oman LLC PO Box 444, Muscat Postal Code 100 Sultanate of Oman
Tel.: +968-24526900 Fax: +968-24526902

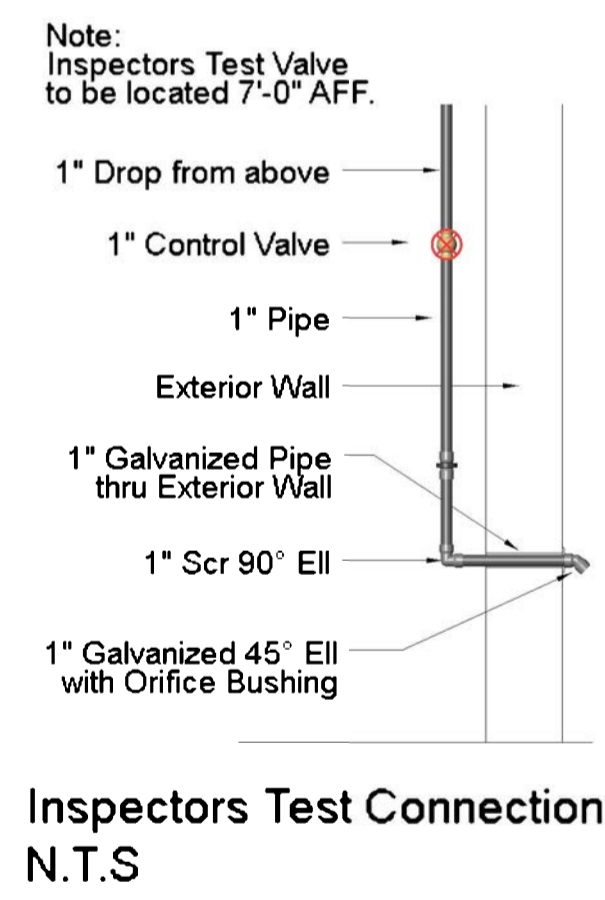
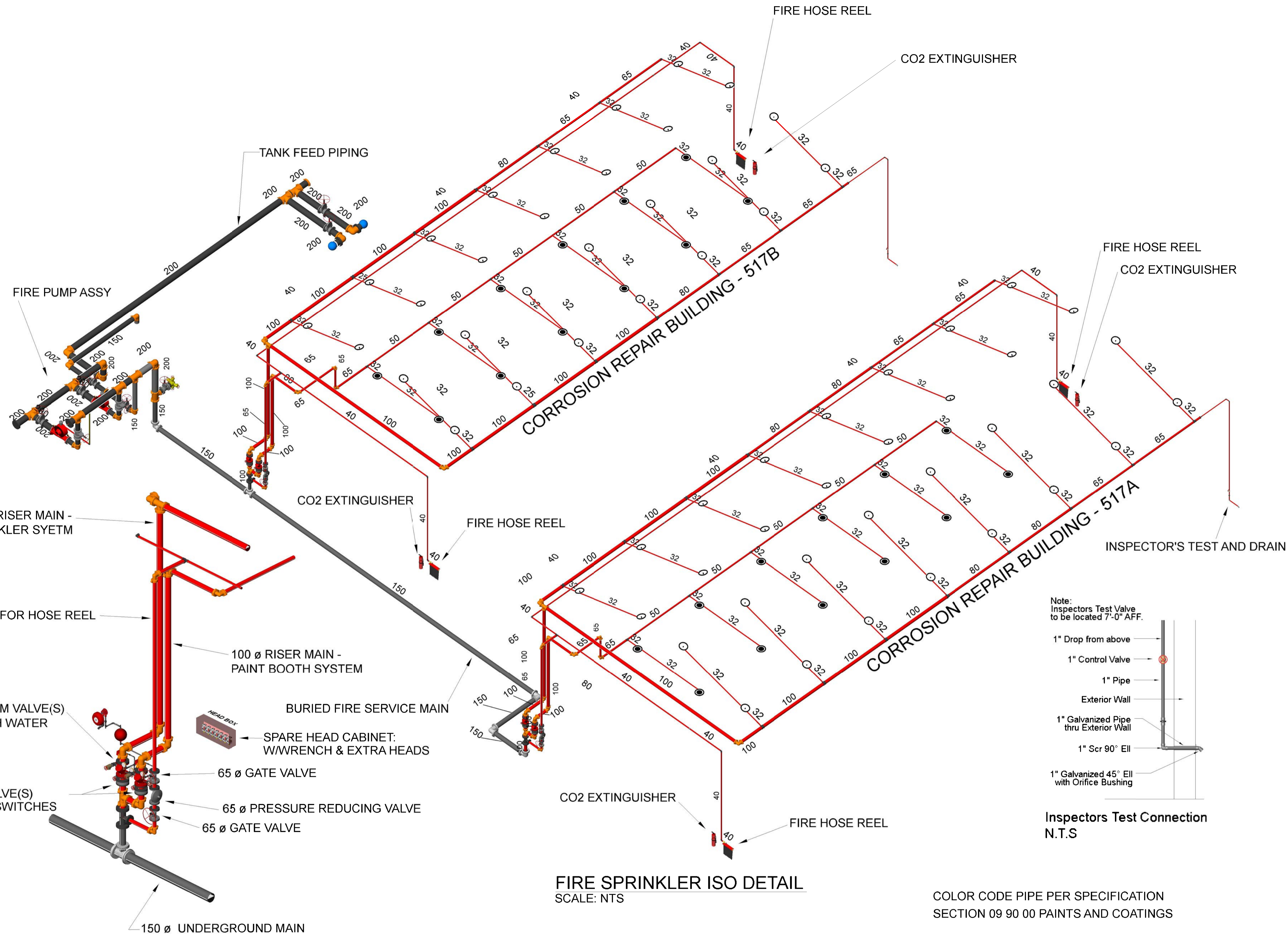
FIRE PROTECTION SYSTEM CONTRACTOR:

PROTECT UNITED TRADING & CONT. CO
PB. NO. 2834, POSTAL CODE -211, SALALAH, SULTANATE OF OMAN
TEL.: +968 23210925 FAX: +968 23210926 Email:protectu@gmail.com

DRAWING TITLE:

FP3

DRAWN	Gerald W. Ebeling, S.E.T.	CHECKED	GWE
DATE	11/23/11	APPROVED	GWE
SCALE	AS NOTED	REV. NO.	3
DRAWING NO.	SPRINKLER SYSTEM LAYOUT		SHEET 3 OF 6



FIRE SPRINKLER ISO DETAIL
SCALE: NTS

COLOR CODE PIPE PER SPECIFICATION
SECTION 09 90 00 PAINTS AND COATINGS

FIRE SPRINKLER RISER DETAIL
SCALE: NTS

Rev.	Date	Drawn	Checked	Remarks
3	21-11-2011	GE	GE	Revised per FPE review and certification
2	20-10-2011	BALA	BKT	Revised as per client's comment
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DRAWING TITLE:
FP4

DATE	SCALE	DRAWING NO.	DRAWING TITLE
11/23/11	AS NOTED	AS NOTED	ISOMETRIC - SPRINKLER SYSTEM

Standard Symbols

- P.I.V. - Post Indicator Valve
- N.R.S. - Key Operated Valve
- FDC - 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" Sprig
- Pendent below ceiling on 1" Drop
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GENERAL SYSTEM NOTES

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Sprinkler Legend

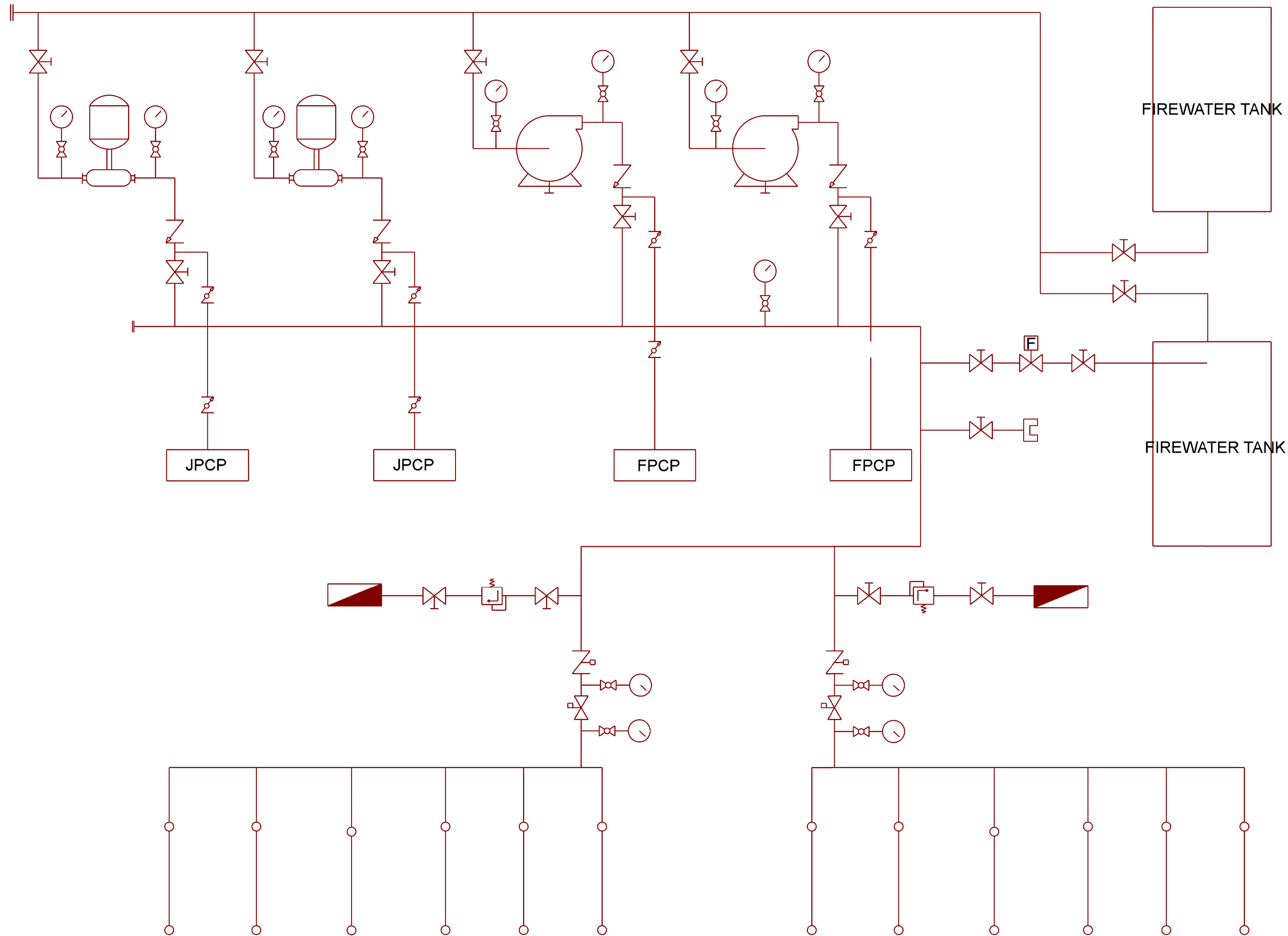
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SYMBOL LEGEND					
	GATE VALVE		WET ALARM VALVE		PRESSURE GAUGE
	SWING CHECK VALVE		PENDANT SPRINKLER		FIRE PUMP
	BALL VALVE		UPRIGHT SPRINKLER		VERTICAL JOCKEY PUMP
	WET ALARM VALVE		TEST & DRAIN VALVE		FLOW METER
	PCP FIRE PUMP CONTROL PANEL		PCP JOCKEY PUMP CONTROL PANEL		BLIND FLANGES
	PRESSURE REDUCING VALVE		FIRE HOSE REEL CABINET		BUTTERFLY VALVE
	NON RETURN VALVE WITH 90° HOLE		HOSE TEST HEADER		



Rev.	Date	Drawn	Checked	Remarks
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REVISIONS:

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FIRE PROTECTION SYSTEM FOR CORROSION REPAIR BUILDINGS

PROJECT OWNER:
USACE

MAIN CONTRACTOR:
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DRAWING TITLE:			
SCHEMATIC			
DRAWN	Gerald W. Ebeling, S.E.T.	CHECKED	GWE
DATE	11/23/11	APPROVED	GWE
SCALE	AS NOTED	REV. NO.	3
DRAWING NO.	FP-05		SHEET 5 OF 6

NORTH

2 1 0 4 8

Standard Symbols

- Post Indicator Valve
- Key Operated Valve
- Public Hydrant
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- O.S.&Y. Gate Valve
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- ALL INSPECTOR'S TEST CONNECTIONS AND LOW POINT DRAINS TO BE PROVIDED PER NFPA 13.
- ALL HANGERS TO MEET CURRENT NFPA 13 REQUIREMENTS (U.N.O.).
- LINE PIPING SHALL BE SCH. #40 GALVANIZED PIPE WITH WELDED OUTLETS, ROLL GROOVED/THREADED ENDS WITH GROOVED/THREADED FITTINGS.
- MAIN PIPING SHALL BE SCH. #40 GALVANIZED WITH WELDED OUTLETS, ROLL GROOVED ENDS, AND GROOVED FITTINGS.
- SYSTEM DESIGN SHALL BE PER NFPA #13.
- HYDRAULIC REFERENCE POINT.
- ALL SYSTEM COMPONENTS SHALL BE U.L. LISTED AND F.M. APPROVED.
- SPARE HEAD CABINET TO INCLUDE: (2) ADD HEADS EA KIND, WRENCH & COPY OF NFPA 25

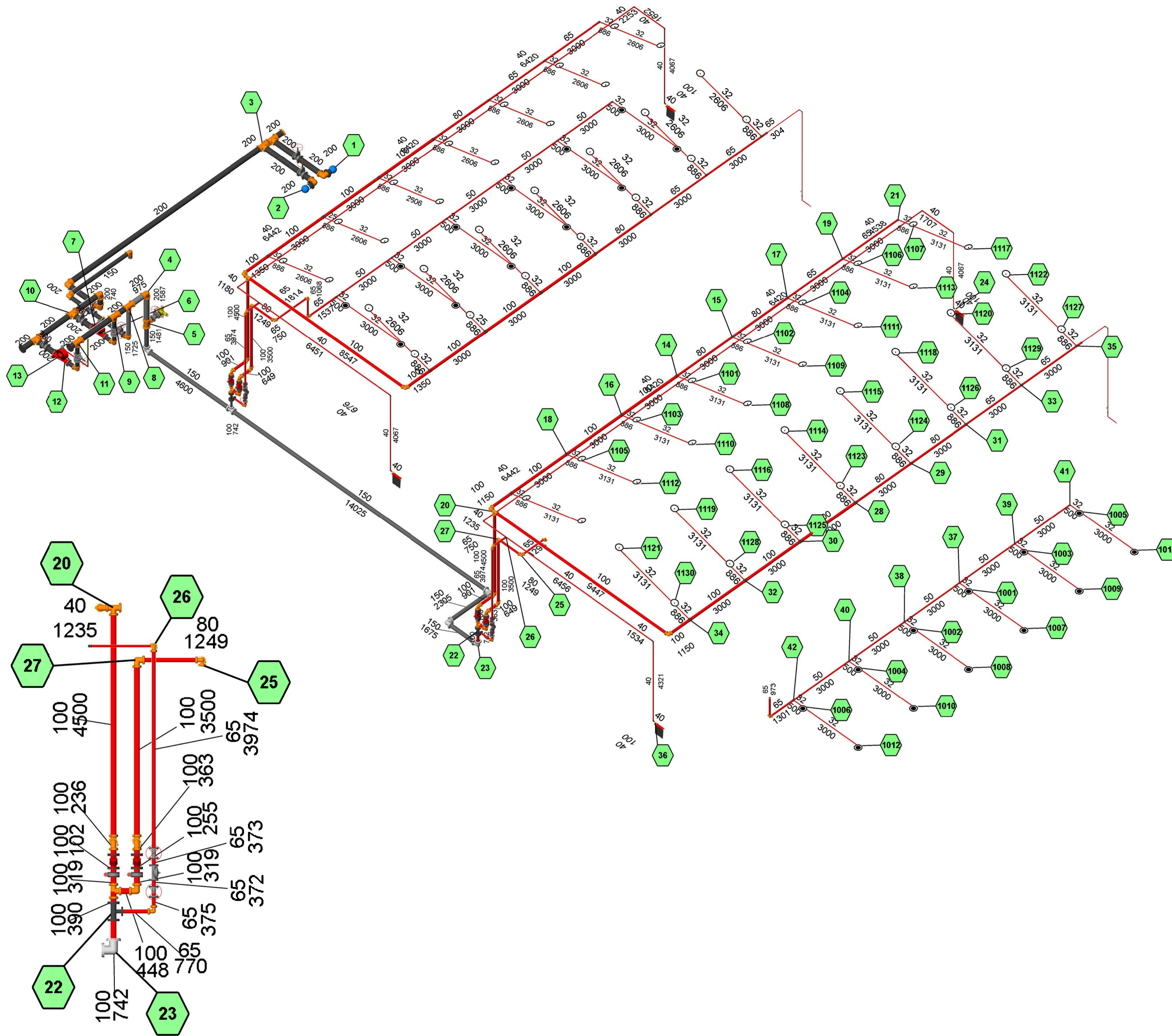
Sprinkler Legend									
Symbol	Manufacturer	SIN/Model	Quantity	K-Factor	Type	Response	Orifice	Finish	Temperature
○	Rapidrop	RD025	60	80	Upright	Quick	12 1/2	Brass	93.33 °C
●	Rapidrop	RD023	24	80	Pendant	Quick	13 1/2	Brass	93.33 °C
			Total	84					

CERTIFIED BY:

3D FIRE DESIGN, LLC
Professional Fire Protection Design,
3D BIM Design & Coordination

Gerald W. Ebeling, S.E.T.
Owner/NICET IV Cert. #108930

(204) 558-2587
gerald@3dfiredesign.com
www.3dfiredesign.com



Rev.	Date	Drawn	Checked	Remarks
3	21-11-2011	GE	GE	Revised per FPE review and certification
2	20-10-2011	BALA	BKT	Revised as per client's comment
1	11-10-2011	BALA	BKT	Revised as per client's comment
0	15-09-2011	BALA	BKT	Submitted for approval

REVISIONS:

PROJECT NAME:
FIRE PROTECTION SYSTEM FOR CORROSION REPAIR BUILDINGS

PROJECT OWNER:
USACE

MAIN CONTRACTOR:
STRABAG OMAN LLC
STRABAG Oman LLC PO Box 444, Muscat Postal Code 100 Sultanate of Oman
Tel.: +968-24526900 Fax: +968-24526902

FIRE PROTECTION SYSTEM CONTRACTOR:
PROTECT UNITED TRADING & CONT. CO
PB. NO. 2834, POSTAL CODE -211, SALALAH, SULTANATE OF OMAN
TEL.: +968 23210925 FAX: +968 23210926 Email: protectu@gmail.com

DRAWING TITLE:
FP6

DATE	SCALE	DRAWING NO.	DESCRIPTION
11/23/11	AS NOTED	HYD CALC SCHEMATIC	3

DRAWN: Gerald W. Ebeling, S.E.T. | CHECKED: GWE | APPROVED: GWE

DRAWING NO.: HYD CALC SCHEMATIC | SHEET 6 OF 6

Standard Symbols

- P.I.V. - Post Indicator Valve
- N.R.S. - Key Operated Valve
- Public Hydrant
- FDC - 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" Sprig
- Pendent below ceiling on 1" Drop
- Upright above Pendent on 1" Drop
- Sidewall on 1/2" Outlet
- Sidewall on 1" Sprig

GENERAL SYSTEM NOTES

- HYDRAULIC INFORMATION TO BE PROVIDED ON SPRINKLER RISER.
- EARTHQUAKE BRACING TO BE PROVIDED PER NFPA 13, IF REQUIRED.
- ALL INSPECTOR'S TEST CONNECTIONS AND LOW POINT DRAINS TO BE PROVIDED PER NFPA 13.
- ALL HANGERS TO MEET CURRENT NFPA 13 REQUIREMENTS (U.N.O.).
- LINE PIPING SHALL BE SCH. #40 GALVANIZED PIPE WITH WELDED OUTLETS, ROLL GROOVED/THREADED ENDS WITH GROOVED/THREADED FITTINGS.
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Sprinkler Legend

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