JEA Water & Wastewater Standards Manual

VOLUME VIA: Water Reclamation Facility Details

2023 - Edition

"Foundation for the Future - Water & Wastewater Standards"

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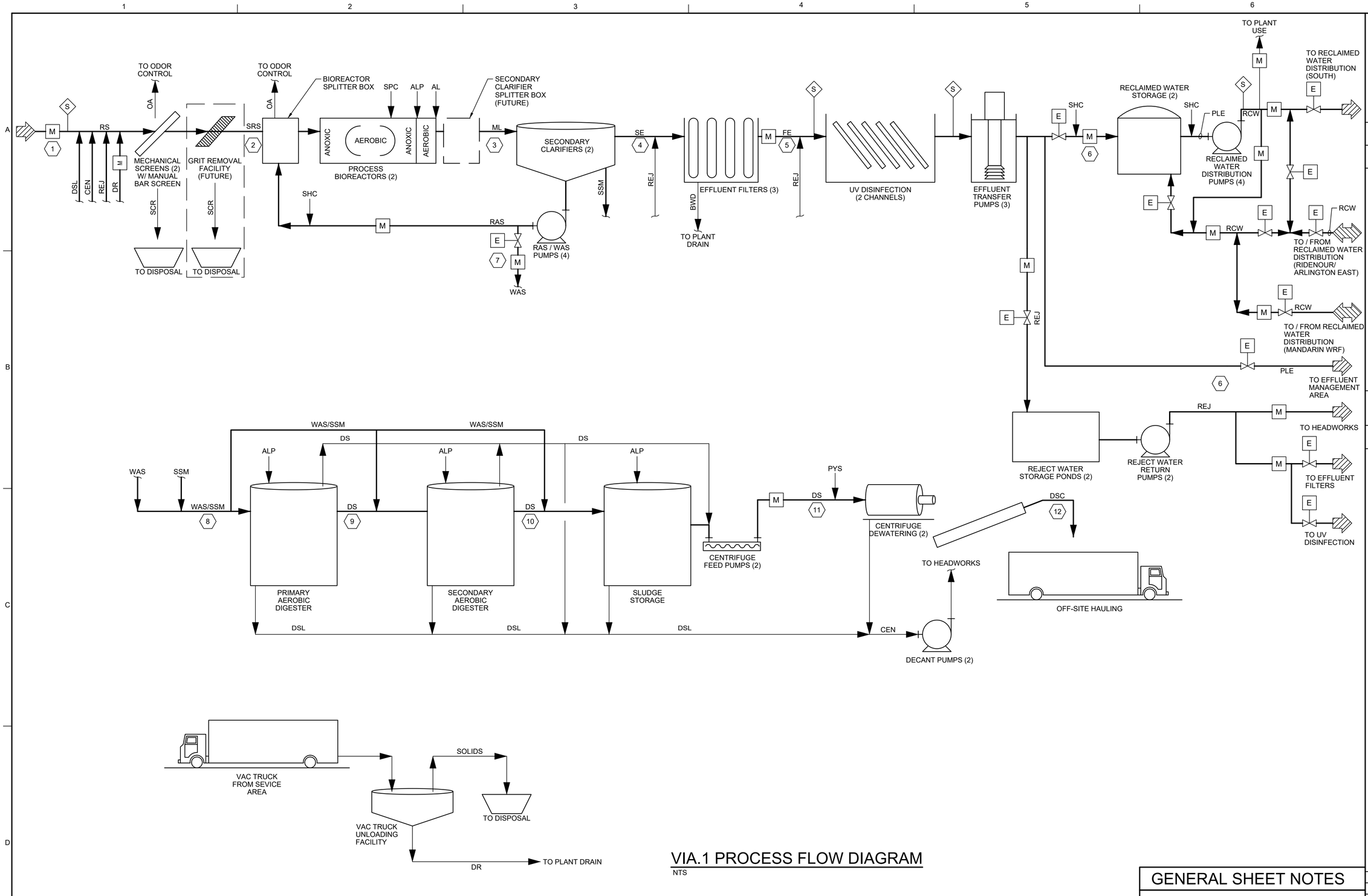
RELCAIMED WATER TREATMENT PLANT DETAILS

SECTION I – RECLAIMED WATER TREATMENT PLANT

RECLAIMED TREATMENT PLANT



VIA.1 PROCESS FLOW DIAGRAM

NTS

GENERAL SHEET NOTES

1. THIS PROCESS FLOW DIAGRAM IS AN EXAMPLE FROM GREENLAND WRF AND IS PROVIDED ONLY AS A TEMPLATE TO SHOW GENERAL APPEARANCE AND FORMATTING. PROCESS FLOW DIAGRAMS ARE SITE SPECIFIC; TECHNICAL CONTENT SHALL BE CUSTOMIZED BASED ON PROJECT REQUIREMENTS.

NO.	DSGN	DATE	DR	CHK	REVISION	BY	APVD

JEA Building Community

GENERAL

PROCESS FLOW DIAGRAM

00-G-001

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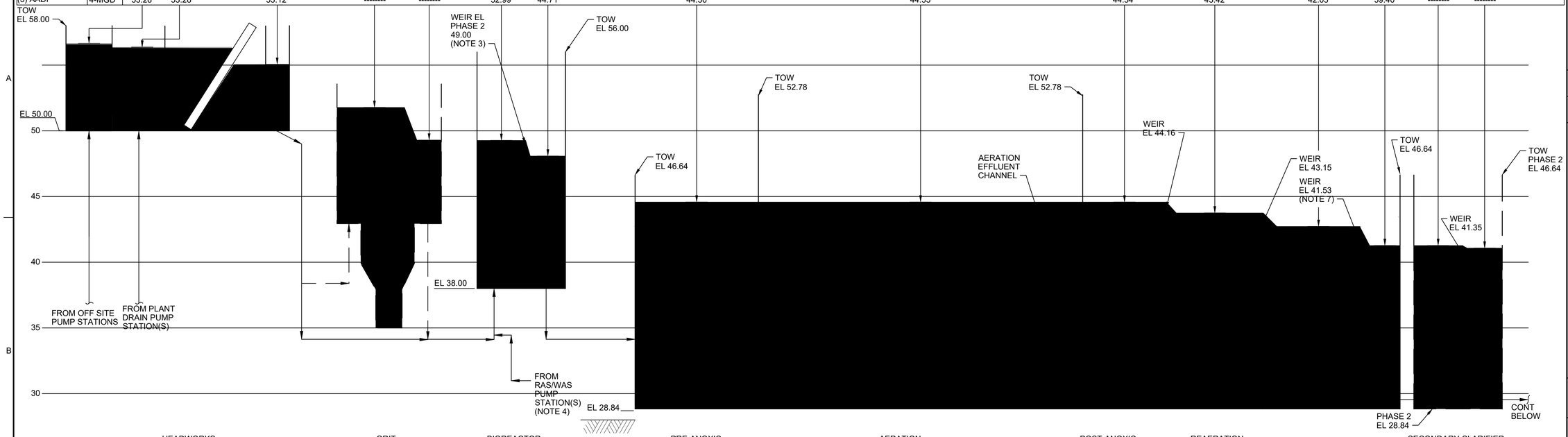
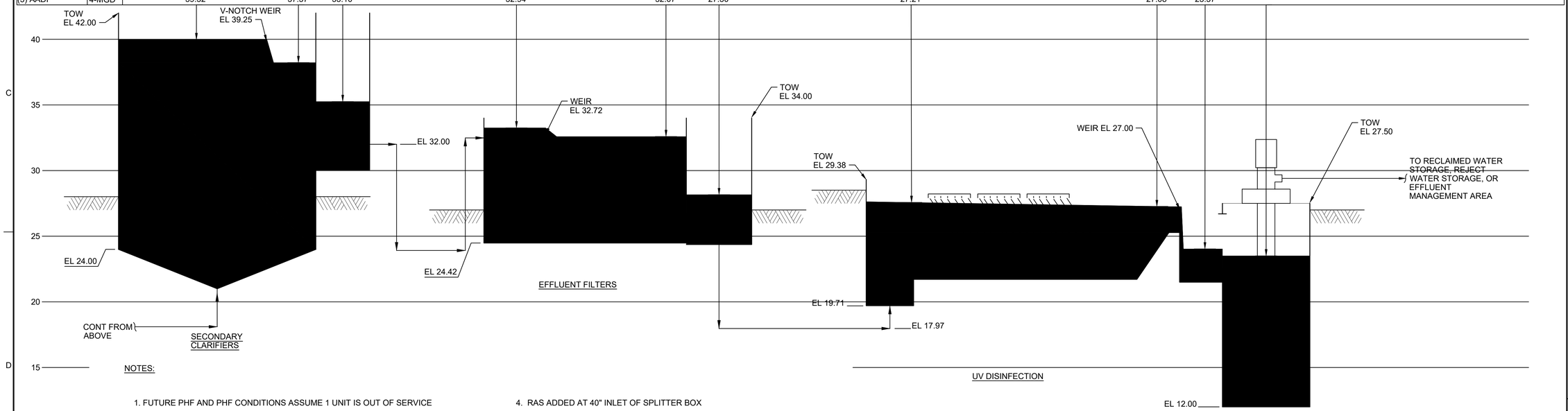
FILENAME: PLOT DATE: $PLOTDATE PLOT TIME: $PLOTTIME

CONDITION	FLOW	WATER SURFACE ELEVATION (NAVD88) IN FEET														
(1) PHF (FUTURE)	24-MGD	55.58	55.36	54.84	52.30	50.38	49.97	48.81	44.51	44.51	44.49	43.64	42.61	42.55	42.20	40.85
(2) PHF	12-MGD	55.40	55.34	54.82	--------	--------	53.79	50.95	44.65	44.60	44.60	43.81	42.76	40.45	--------	--------
(3) AADF	4-MGD	53.28	53.28	53.12	--------	--------	52.99	44.71	44.36	44.35	44.34	43.42	42.03	39.40	--------	--------



CONDITION	FLOW	WATER SURFACE ELEVATION (NAVD88) IN FEET										
		(NOTE 5)										
(1) PHF (FUTURE)	24-MGD	39.39	38.22	36.12	33.25	32.59	28.51	27.57	27.27	24.46	(NOTE 6)	
(2) PHF	12-MGD	39.39	38.23	35.55	33.26	32.61	28.53	27.57	27.27	23.90	MAX EL 23.50	
(3) AADF	4-MGD	39.32	37.57	33.10	32.94	32.07	27.30	27.21	27.08	23.57		



NOTES:

1. FUTURE PHF AND PHF CONDITIONS ASSUME 1 UNIT IS OUT OF SERVICE
2. PEAK INSTANTANEOUS FLOW OF 14.0 MGD FOR PHASE 1 AND 28.0 MGD FOR PHASE 2 PHF CONDITIONS THROUGH THE PROCESS BIOREACTORS.
3. ADJUSTABLE WEIRS FOR FLOW SPLITTING AND MAINTAINING CHANNEL DEPTH IN HEADWORKS AT LOW FLOW. PHASE 1 WEIR ELEVATION 52.50' PROVIDE FOR ASSUMED 2-FT LOSS FOR FUTURE GRIT REMOVAL FACILITY.
4. RAS ADDED AT 40" INLET OF SPLITTER BOX
5. MAXIMUM WATER LEVEL IS SHOWN HERE SINCE WEIR IS FIELD ADJUSTABLE.
6. NORMAL OPERATING LEVELS: 19.50' - 23.50'
7. WEIR GATE TO BE DEMOLISHED IN THE FUTURE; FUTURE TOW 39.00

VIA.2 HYDRAULIC PROFILE

NTS

EFFLUENT TRANSFER PUMP STATION

GENERAL SHEET NOTES

1. THIS HYDRAULIC PROFILE IS AN EXAMPLE FROM GREENLAND WRF. HYDRAULIC PROFILES ARE SITE SPECIFIC AND SHALL BE CUSTOMIZED BASED ON PROJECT REQUIREMENTS.

NO.	DATE	DSGN	DR	CHK	APVD	BY	APVD	REVISION

JEA Building Community

GENERAL
HYDRAULIC PROFILE

00-G-002

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FILENAME: PLOT DATE: $PLOTDATE PLOT TIME: $PLOTTIME

PIPING SCHEDULE LEGEND

SERVICE	
AL	ALUM
ALP	AIR - LOW PRESSURE
BWD	BACKWASH DRAIN
BYP	BYPASS
CDR	CONTAINMENT DRAIN
CEN	CENTRATE
D	DRAIN-SANITARY
DR	DRAIN
DS	DIGESTED SLUDGE
DSL	DECANT SLUDGE
FE	FILTERED EFFLUENT
FOR	FUEL OIL RETURN
FOS	FUEL OIL SUPPLY
HSM	HEADWORKS SCUM
HW	HOT WATER-POTABLE
LPO	LIQUID POLYMER
ML	MIXED LIQUOR
OA	ODOROUS AIR
OCD	ODOR CONTROL DRAIN
OF	OVERFLOW
PLE	PLANT EFFLUENT
PW	POTABLE WATER
PYS	POLYMER SOLUTION
RAS	RETURNED ACTIVATED SLUDGE
RCW	RECLAIMED WATER
REJ	REJECT WATER
RS	RAW SEWAGE
SA	SAMPLE
SE	SECONDARY EFFLUENT
SHC	SODIUM HYPOCHLORITE
SPC	SUPPLEMENTAL CARBON
SRS	SCREENED RAW SEWAGE
SSM	SECONDARY SCUM
V	VENT
WAS	WASTE ACTIVATED SLUDGE
EXPOSURE	
BUR	BURIED
CONT	CONTAINMENT
EXP	EXPOSED
SUB	SUBMERGED
ENC	CONCRETE ENCASED
MATERIAL	
CELDI	CERAMIC EPOXY LINED DUCTILE IRON
CLDI	CEMENT-LINED DUCTILE IRON
CPVC	CHLORINATED POLYVINYL CHLORIDE PIPE
CS	CARBON STEEL
FRP	FIBERGLASS REINFORCED PLASTIC
PVC	POLYVINYL CHLORIDE
SST	STAINLESS STEEL
JOINT TYPE	
FL	FLANGED
PO	PUSH-ON
PRJ	PROPRIETARY RESTRICTED
RM	RESTRAINED MECHANICAL
W	WELDED (INCLUDING SOLVENT AND FUSION)
SW	SOCKET WELDED
T	THREADED
PRESSURE TEST TYPE	
G	GRAVITY SERVICE: TEST PRESSURE IS NOT SHOWN ON GRAVITY SERVICES. TEST TO HIGHEST LIQUID LEVEL THAT PIPE CAN BE SUBJECT TO
H	HYDROSTATIC
P	PNEUMATIC
PC	TEST PER UNIFORM PLUMBING CODE
NA	NOT APPLICABLE

PIPING SCHEDULE

SERVICE	LEGEND	SIZE(S) (IN.)[1]	EXPOSURE	PIPING MATERIAL	SPECIFICATION SECTION	JOINT TYPE	TEST PRESSURE (PSIG) AND TYPE (AS INDICATED IN LEGEND)	PIPE COLOR (AND LABEL)[2]	REMARKS
ALUM	AL	1 – 3	BUR/EXP	PVC	40 27 00.10	W	100, H	DARK GREEN	
AIR LOW PRESSURE	ALP	5 – 18	EXP	SST	40 27 00.08	W	30, P	FEDERAL SAFETY GREEN	INSULATION PER SPEC SECTION 40 42 13
BACKWASH DRAIN	BWD	3 – 8	BUR/ENC	PVC	40 27 00.10	W	25, H		
		3	EXP	SST	40 27 00.08	W, FL			TYPE 304 SST
BYPASS	BYP	ALL	BUR/EXP	ALL					MATCH PIPE FOR PROCESS FLOW AT FACILITY (FAC)
CENTRATE	CEN	4 – 12	EXP	PVC	40 27 00.10	FL/W	10, H	BLACK	
		16	BUR/EXP	CELDI	40 27 00.01	PRJ/FL			
DRAIN, SANITARY	D	<=4	BUR/EXP	PVC-DWV	22 10 01.02	W	5,H		SEE SPEC SECTION 22 10 01 FOR MORE DETAILS.
DRAIN	DR	<=8	BUR/EXP/ENC	PVC	40 27 00.10	W	5, H	BLACK	ARV/ CONTAINMENT DRAINS
		4	BUR/EXP/ENC	CELDI	40 27 00.01	PRJ/FL	50, H	BLACK	FAC 10
		2 - 4	EXP	SST	40 27 00.08	W	10, H		FAC 38; TYPE 304 SST
		4 – 6	EXP/SUB	SST	40 27 00.08	W	50, H		FAC 59 AND FAC 63
		6 – 8	BUR/EXP	CELDI	40 27 00.01	PRJ/FL	50, H	BLACK	FAC 59 AND FAC 63
		6 – 10	BUR/ENC	CELDI	40 27 00.01	PRJ	15, H		FAC 22 AND FAC 30
		6 – 12	BUR/ENC	CLDI	40 27 00.01	PRJ	20, H		FAC 42 AND FAC 50
		4 – 12	BUR/ENC	PVC SDR 26	33 05 01.12	PO	G		IN BETWEEN MANHOLES
DIGESTED SLUDGE	DS	3– 10	BUR/EXP	CELDI	40 27 00.01	PRJ/FL	150, H	DARK BROWN	
DIGESTED SLUDGE AND WASTE ACTIVATED SLUDGE	DS/ WAS	8	BUR/EXP	CELDI	40 27 00.01	PRJ/FL	150, H	DARK BROWN	
DECANT SLUDGE	DSL	4 – 8	BUR/EXP/SUB	CELDI	40 27 00.01	PRJ/FL	50, H	LIGHT BROWN	
FILTERED EFFLUENT	FE	24 – 36	BUR/EXP/ENC	CLDI	40 27 00.01	PRJ/FL	30, H	SILVER/GRAY	
FUEL OIL RETURN	FOR	1 ½ –2	EXP/CONT	CS	40 27 00.03/ 43 40 05	T/SW	50, P	FEDERAL SAFETY ORANGE	PIPING TO INCLUDE SECONDARY CONTAINMENT PER SPEC SECTION 40 27 00.25.
FUEL OIL SUPPLY	FOS	½ – 4	EXP/CONT	CS	40 27 00.03/ 43 40 05	T/SW	50, P	FEDERAL SAFETY ORANGE	PIPING TO INCLUDE SECONDARY CONTAINMENT PER SPEC SECTION 40 27 00.25.
HEADWORKS SCUM	HSM	6	EXP	PVC	40 27 00.10	W	20, H	LIGHT BROWN	
HOT WATER	HW	<=2	EXP	CPVC	40 27 00.11	W	150,H	GREEN (WITH WHITE LETTERS)	SEE SPEC SECTION 22 10 01 FOR MORE DETAILS.
INTERNAL PLANT RETURN	IPR	10 – 18	BUR/EXP/ENC	CELDI	40 27 00.01	PRJ/FL	50, H	BLACK	FAC 10
LIQUID POLYMER	LPO	2 – 4	EXP	PVC	40 27 00.10	W	100, H	BUFF	HEAT TRACE PER SPEC SECTION 40 05 33. INSULATION PER SPEC SECTION 40 42 13.
MIXED LIQUOR	ML	30	BUR/EXP/ENC	CELDI	40 27 00.01	PRJ/FL	30, H	SILVER/GRAY	
ODOROUS AIR	OA	6 – 24	EXP	FRP	23 31 16.16	SEE 23 31 16.16	25, H	NATURAL OR WHITE (WITH BLACK LETTERS)	
ODOR CONTROL DRAIN	OCD	2 – 4	BUR/EXP	PVC	40 27 00.10	W	5, H	BLACK	
OVERFLOW	OF	3 - 4	EXP	PVC	40 27 00.10	W	5, H	MATCH PROCESS FLOW	MATCH PIPE FOR PROCESS FLOW AT FACILITY
		10 – 24	EXP/SUB/BUR/ ENC	CELDI/ CLDI	40 27 00.01	FL/PRJ	5, H		
PLANT EFFLUENT	PLE	<=2 1/2	EXP/ENC	SST	40 27 00.08	W/FL	50, H		INSULATION PER SPEC SECTION 40 42 13. TYPE 304 SST.
		2 1/2	BUR	PVC	40 27 00.10	W	50, H		
		14 – 36	BUR/EXP/ ENC	CLDI	40 27 00.01	PRJ/FL	50, H	SILVER/GRAY	
POTABLE WATER	PW	<=2 1/2	BUR/EXP	PVC/CPVC	40 27 00.10/ 40 27 00.11	W	150, H	LIGHT BLUE, (PLUMBING PIPING LABEL TO BE GREEN WITH WHITE LETTERS)	HEAT TRACE PER SPEC SECTION 40 05 33. INSULATION PER SPEC SECTION 40 42 13. PLUMBING DISTRIBUTION PIPING TO BE CPVC.
		6 – 8	BUR	CLDI	40 27 00.01	PRJ	150, H		
POLYMER SOLUTION	PYS	1 – 2	BUR/EXP	PVC	40 27 00.10	FL/ W	150, H	BUFF	HEAT TRACE PER SPEC SECTION 40 05 33. INSULATION PER SPEC SECTION 40 42 13
RETURNED ACTIVATED SLUDGE	RAS	14 - 36	BUR/EXP/ENC	CELDI	40 27 00.01	PRJ/FL	50, H	LIGHT BROWN	
RETURN AND WASTE ACTIVATED SLUDGE	RAS/ WAS	10 – 14	BUR/EXP/ENC	CELDI	40 27 00.01	PRJ/FL	50, H	LIGHT BROWN	
RECLAIMED WATER	RCW	<= 3	EXP/ENC	SST	40 27 00.08	W	150, H		INSULATION PER SPEC SECTION 40 42 13. TYPE 304 SST AT HOSE BIBB WASHDOWN STATIONS AND AT FAC 30 SECONDARY CLARIFIERS.
		<= 4	BUR/EXP	PVC	40 27 00.10	W	150, H	PURPLE	
		4 – 36	BUR/EXP/ENC	CLDI	40 27 00.01	PRJ/FL	150, H	PURPLE	
REJECT WATER	REJ	6 – 24	BUR/EXP/ ENC	CLDI	40 27 00.01	PRJ/FL	30, H	DARK GRAY	
RAW SEWAGE	RS	30 – 36	BUR/EXP	CELDI	40 27 00.01	PRJ/FL	150, H	DARK GRAY	
SAMPLE	SA	<= 1	EXP	PVC	40 27 00.10	W	50, H	MEDIUM GREEN	
SECONDARY EFFLUENT	SE	24 – 36	BUR/EXP	CLDI	40 27 00.01	PRJ/FL	30, H	SILER/GRAY	
SODIUM HYPOCHLORITE	SHC	1 – 3	BUR/EXP	PVC	40 27 00.10	W	100, H	FEDERAL SAFETY YELLOW	
SUPPLEMENTAL CARBON	SPC	1 – 3	BUR/EXP	PVC	40 27 00.10	W	100, H	BLACK	
SCREENED RAW SEWAGE	SRS	24	BUR/EXP	CELDI	40 27 00.01	PRJ/FL	30, H	DARK GRAY	
SECONDARY SCUM	SSM	4 – 6	SUB/BUR/EXP	CELDI	40 27 00.01	PRJ/FL	20, H	LIGHT BROWN	
VENT	V	<= 4	EXP	PVC/PVC-DWV	40 27 00.10/ 22 10 01.02	W	NA	MATCH PROCESS FLOW	MATCH PIPE FOR PROCESS FLOW AT FACILITY, PLUMBING VENTS TO BE PVC-DWV, SEE SPECIFICATION 22 10 01 FOR MORE DETAILS.
		4 – 24	EXP	CLDI	40 27 00.01	FL	NA		
WASTE ACTIVATED SLUDGE	WAS	4 – 8	BUR/ENC/EXP	CELDI	40 27 00.01	PRJ/FL	50, H	DARK BROWN	

[1] ">" GREATER THAN
"<" LESS THAN
"<=" LESS THAN OR EQUAL TO
">=" GREATER THAN OR EQUAL TO
"ALL" ALL SIZES

[2] COATING SYSTEM NUMBER AS SPECIFIED IN SECTION 09 90 00, PAINTING AND COATING, AND AS SPECIFIED IN ARTICLE PIPE CORROSION PROTECTION.

VIA.3 PIPING SCHEDULE

GENERAL SHEET NOTES

1. THIS PIPING SCHEDULE IS AN EXAMPLE FROM GREENLAND WRF. PIPING SCHEDULES ARE SITE SPECIFIC AND SHALL BE CUSTOMIZED BASED ON PROJECT REQUIREMENTS.

NO.	DATE	BY	REVISION	CHK	APVD
DSGN			DR		

JEA Building Community

GENERAL
PIPING SCHEDULE

00-G-004

SHEET of 46

FILENAME: PLOT DATE: $PLOTDATE PLOT TIME: $PLOTTIME

ELECTRIC ACTUATED VALVE SCHEDULE									
TAG NUMBER	VALVE TYPE	ACTUATOR POWER SUPPLY	VALVE SIZE (INCHES)	PROCESS SERVICE	MAXIMUM OPERATING FLOW (GPM)	MAXIMUM DP (PSI)	OPERATION SERVICE	TRAVEL TIME (SECONDS)	CONTROL FEATURE MODIFICATIONS/ SUPPLEMENTS
[EXAMPLE] 34FV1201	VXXX	480-VOLT, THREE-PHASE	4	WAS	350	20	O/C	60	C, D, E, L, N

NOTES:
1. XXX

OPERATIONS SERVICE: O/C = OPEN-CLOSE, T = THROTTLING, M = MODULATING

CONTROL FEATURE MODIFICATIONS/SUPPLEMENTS:

A = ACTUATOR SHALL OPEN VALVE UPON LOSS OF SIGNAL.

B = ACTUATOR SHALL CLOSE VALVE UPON LOSS OF SIGNAL.

C = ACTUATOR SHALL REMAIN IN LAST POSITION UPON LOSS OF SIGNAL.

D = LOCAL-OFF-REMOTE SWITCH. WHEN IN LOCAL, OPEN-CLOSE MOMENTARY PUSHBUTTONS THAT MUST BE CONTINUOUSLY DEPRESSED TO INITIATE/MAINTAIN VALVE TRAVEL; TRAVEL STOPS WHEN PUSHBUTTON IS RELEASED OR WHEN END OF TRAVEL LIMIT IS REACHED. WHEN IN REMOTE, CONTROL POSSIBLE FROM REMOTE LOCATION EITHER VIA HARD WIRED CONTROL OR PROFINET AS APPLICABLE.

E = REMOTE OPEN-CLOSE MAINTAINED DRY CONTACTS; TRAVEL STOPS WHEN REMOTE CONTACT OPENS, OR WHEN END OF TRAVEL LIMIT IS REACHED.

F = THREE 24-VOLT DC INTERPOSING RELAYS FOR REMOTE OPEN-STOP-CLOSE CONTROL. RELAYS POWERED EXTERNALLY, THEREBY PERMITTING VALVE CONTROL FROM GREATER DISTANCES.

G = MOTOR AND CONTROL ENCLOSURE(S) NEMA 250, TYPE 4X WITH INTERNAL BRAKE, THERMAL OVERLOAD MONITOR AND ANTI-CONDENSATION HEATER.

H = MOTOR AND CONTROL ENCLOSURE(S) NEMA 250, TYPE 6 (IP 68) WITH 120-VOLT SPACE HEATERS.

I = MOTOR AND CONTROL ENCLOSURE(S) NEMA 250, TYPE 7 WITH 120-VOLT SPACE HEATERS.

J = VALVE POSITION OUTPUT CONVERTER THAT GENERATES ISOLATED 4 mA DC SIGNAL IN PROPORTION TO VALVE POSITION, AND IS CAPABLE OF DRIVING INTO LOADS OF UP TO 500 OHMS AT 24 VOLTS DC.

K = 120-VOLT SECONDARY CONTROL POWER TRANSFORMER.

L = EXTERNALLY OPERABLE POWER DISCONNECT SWITCH.

N = PROVIDE A NATIVE PROFINET DIGITAL NETWORK INTERFACE FOR COMMUNICATION WITH THE OWNDER'S PLC BASED SCADA SYSTEM. REMOTE CONTROL AND MONITORING OF THE VALVE SHALL BE POSSIBLE VIA THIS INTERFACE. NO EXCEPTIONS.

O = PROVIDE REMOTE HAND SWITCH TO BE LOCATED AS SHOWN ON DRAWINGS.

VIA.4 VALVE SCHEDULE, ELECTRIC ACTUATED
NTS

SOLENOID VALVE SCHEDULE								
TAG NUMBER	VALVE TYPE	VALVE SIZE (INCHES)	PROCESS SERVICE	MAXIMUM OPERATING FLOW (GPM)	MAXIMUM DP (PSI)	OPERATIONS SERVICE	TRAVEL TIME (SECONDS)	ACTUATOR CONTROL FEATURES, OTHER NOTES
[EXAMPLE] 10FV0601	VXXX	2"	RCW	30	100	O/C	<1	FLP, B

NOTES:
1. XXX

OPERATIONS SERVICE: O/C = OPEN-CLOSE, T = THROTTLING, M = MODULATING

ACTUATOR CONTROL FEATURES:

A = VALVE SHALL BE EXPLOSION-PROOF SUITABLE FOR SERVICE IN A CLASS 1, DIV 1 ENVIRONMENT.

B = VISUAL INDICATOR

FC = FAIL CLOSE UPON LOSS OF SIGNAL

FO = FAIL OPEN UPON LOSS OF SIGNAL

FLP = FAIL LAST POSITION UPON LOSS OF SIGNAL

VIA.5 VALVE SCHEDULE, SOLENOID
NTS

NO.	DSGN	DATE	DR	CHK	APVD	BY	APVD	REVISION

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GENERAL

VALVE SCHEDULES

00-G-004

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FILENAME: PLOT DATE: $PLOTDATE PLOT TIME: $PLOTTIME

SELF-REGULATED VALVE SCHEDULE							
TAG NUMBER	VALVE TYPE	VALVE SIZE (INCHES)	INLET PRESSURE[1]	OUTLET PRESSURE[1]	MAXIMUM PRESSURE (PSIG)	FLOW (GPM, UON)	PROCESS SERVICE
[EXAMPLE] 10ARV0101	VXXX	2	N/A	N/A	<25	12,600	RS

NOTES:

1. INLET/OUTLET PRESSURE = INITIAL SET PRESSURE FOR PRESSURE RELIEF/SUSTAINING VALVE OR INITIAL DOWNSTREAM SET PRESSURE FOR PRESSURE REDUCING VALVE. IN POUNDS PER SQUARE INCH, GAUGE (PSIG). THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING ADJUSTMENTS TO VALVE SETTINGS DURING START-UP TO "TUNE" THE SYSTEM AS DIRECTED BY THE OWNER OR ENGINEER.

VIA.6 VALVE SCHEDULE, SELF REGULATED

NTS

FLOW CONTROL VALVE SCHEDULE												
TAG NUMBER	VALVE TYPE	VALVE SIZE (INCHES)	PROCESS SERVICE	Cv		VALVE POSITION (PERCENT OPEN)		MAX DP (PSIG)	CONTROL FEATURES	ACTUATOR POWER SUPPLY	TRAVEL TIME (SECONDS)	P&ID NO.
				MIN	MAX	Min Cv	Max Cv					
[EXAMPLE] 34FCV1401	VXXX	4	WAS	235	803	20	80	20	NA	NA (MANUAL)	NA	I-08-609

CONTROL FEATURE MODIFICATIONS/SUPPLEMENTS:

A = ACTUATOR SHALL OPEN VALVE UPON LOSS OF SIGNAL.

B = ACTUATOR SHALL CLOSE VALVE UPON LOSS OF SIGNAL.

C = ACTUATOR SHALL REMAIN IN LAST POSITION UPON LOSS OF SIGNAL.

D = LOCAL-OFF-REMOTE SWITCH. WHEN IN LOCAL, OPEN-CLOSE MOMENTARY PUSHBUTTONS THAT MUST BE CONTINUOUSLY DEPRESSED TO INITIATE/MAINTAIN VALVE TRAVEL; TRAVEL STOPS WHEN VIA HARD WIRED CONTROL OR PROFINET AS APPLICABLE. PUSHBUTTON IS RELEASED OR WHEN END OF TRAVEL LIMIT IS REACHED. WHEN IN REMOTE, CONTROL POSSIBLE FROM REMOTE LOCATION EITHER

E = REMOTE OPEN-CLOSE MAINTAINED DRY CONTACTS; TRAVEL STOPS WHEN REMOTE CONTACT OPENS, OR WHEN END OF TRAVEL LIMIT IS REACHED.

F = THREE 24-VOLT DC INTERPOSING RELAYS FOR REMOTE OPEN-STOP-CLOSE CONTROL. RELAYS POWERED EXTERNALLY, THEREBY PERMITTING VALVE CONTROL FROM GREATER DISTANCES.

G = MOTOR AND CONTROL ENCLOSURE(S) NEMA 250, TYPE 4X WITH INTERNAL BRAKE, THERMAL OVERLOAD MONITOR AND ANTI-CONDENSATION HEATER.

H = MOTOR AND CONTROL ENCLOSURE(S) NEMA 250, TYPE 6 (IP 68) WITH 120-VOLT SPACE HEATERS.

I = MOTOR AND CONTROL ENCLOSURE(S) NEMA 250, TYPE 7 WITH 120-VOLT SPACE HEATERS.

J = VALVE POSITION OUTPUT CONVERTER THAT GENERATES ISOLATED 4 mA DC SIGNAL IN PROPORTION TO VALVE POSITION, AND IS CAPABLE OF DRIVING INTO LOADS OF UP TO 500 OHMS AT 24 VOLTS DC.

K = 120-VOLT SECONDARY CONTROL POWER TRANSFORMER.

L = EXTERNALLY OPERABLE POWER DISCONNECT SWITCH.

N = PROVIDE A NATIVE PROFINET DIGITAL NETWORK INTERFACE FOR COMMUNICATION WITH THE OWNDER'S PLC BASED SCADA SYSTEM. REMOTE CONTROL AND MONITORING OF THE VALVE SHALL BE POSSIBLE VIA THIS INTERFACE. NO EXCEPTIONS.

VIA.7 VALVE SCHEDULE, FLOW CONTROL

NTS

NO.	DSGN	DATE	DR	REVISION	CHK	BY	APVD

JEA Building Community

GENERAL

VALVE SCHEDULES

00-G-005

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FILENAME: PLOT DATE: $PLOTDATE PLOT TIME: $PLOTTIME

Slide Gate Schedule							
Gate Identification No. and Location	**Assembly Style**	**Wall Opening (width / height inches)**	**Gate Height (inches)**	**Flow Stream**	**Design Operating Head (feet) Seating/Unseating Condition**	**Operator Type / Control Style**	**Notes**
[Example] 10GTE0301 Headworks	Style A.2	36 / 96	96	RS	3 Seating	Type 2	Odor Control Seal

Note: See the Drawings for configuration and invert elevations.

VIA.8 SLIDE GATE SCHEDULE

NTS

NO.	DSGN	DATE	REVISION	DR	CHK	APVD	BY	APVD

JEA Building Community sm

GENERAL

SLUDGE GATE SCHEDULE

00-G-006

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FILENAME: PLOT DATE: $PLOTDATE PLOT TIME: $PLOTTIME

CRANE DATA SHEET: (Facility No. – Facility Name)

Project:_____ Manufacturer.:_____

Owner:_____ Model No.:_____

Service:_____ Number of Units:_____

Equip. Tag Number(s):_____ Rev/Date/By: _____/_____/_____

GENERAL REQUIREMENTS

Equipment Capacity:_____tons

Method of Control:_____

Location of Control:_____

Equipment Location:

☐Indoors ☐Outdoors

Factory Testing:

☐Required ☐Not Required

Field Testing: ☐Not required

☐Required, functional and Performance

Power Supply:_____

Voltage_____

Phase_____

Frequency_____

BRIDGE	TROLLEY	HOIST
Type: ☐Single Girder ☐Double Girder ☐Top Running ☐Underhung	Type: ☐Top Running ☐Underhung	Type: ☐Electric, Wire Rope ☐Hand Operated, Chain
Service Class (ANSI): ☐A (standby) ☐B (light) ☐C (moderate) ☐D (heavy) ☐E (severe) ☐F (continuous)	Service Class (ANSI): ☐A (standby) ☐B (light) ☐C (moderate) ☐D (heavy) ☐E (severe) ☐F (continuous)	Service Class (ANSI): ☐H1 (standby) ☐H2 (light) ☐H3 (standard ☐H4 (heavy) ☐H5 (severe)
Speed (fpm): _____ ☐Constant Speed ☐Variable Speed ☐Hand Operated	Speed (fpm): _____ ☐Constant Speed ☐Two Speed ☐Variable Speed ☐Hand Operated	Speed (fpm):_____ ☐Constant Speed ☐Two Speed ☐Variable Speed
Motor hp:_____ Service Factor:_____	Motor hp: _____ Service Factor:_____	Motor hp:_____ Service Factor:_____
Main Runway Electric Conductors: ☐Bus Bar ☐Festoon	Electric Conductors: ☐Bus Bar ☐Festoon ☐_____ ☐Cable Reel	Hook: See Crane Dimension Sheet Hook Manufacturer:_____ Reeving: _____
Bridge Drive System (CMAA): ☐A1 ☐A2 ☐A3 ☐A4 ☐A5 ☐A6		

SPECIAL REQUIREMENTS

Accessories:	Remote Controls:	Special Electrical Requirements:
☐Service Platform ☐Central Lubrication System ☐OSHA Operating and Safety Devices	☐Infrared, line-of-sight ☐Frequency Modulated (FM) Manufacturer:_____ ☐Extended Grease Fittings	

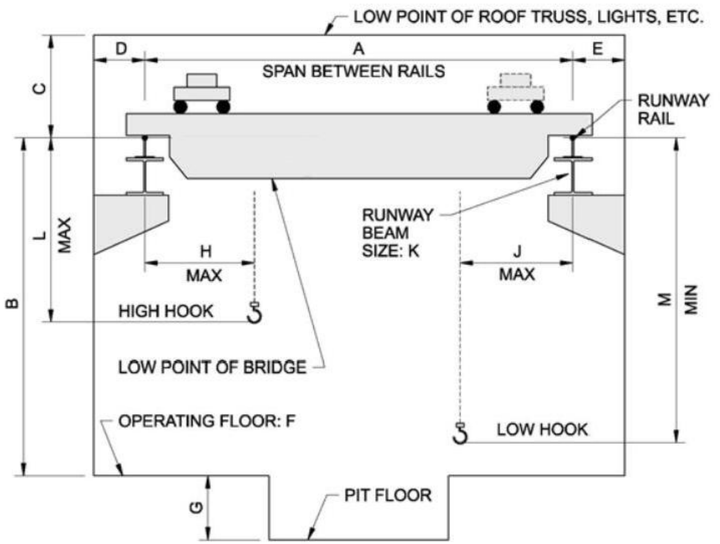
See Crane Dimension Sheet for clearances, lift distances, and details.

CRANE DIMENSION SHEET: (Facility No. – Facility Name)
Building Clearances for Top-Running Cranes

Project: _____

Owner:_____

Equip. Tag No.:_____



A: _____ E: _____ J:_____

B: _____ F: _____ K:_____

B plus C: _____ G: _____ High Hook to Operating

D: _____ H: _____ Floor:_____

Notes:

1. Runway Length: _____
2. Bridge Wheelbase, Centered on Bridge, Maximum: _____
3. Notes: _____

VIA.9 CRANE DATA SHEET
NTS

VIA.10 CRANE DIMENSION SHEET
NTS

NO.	DSGN	DATE	DR	CHK	APVD	BY	APVD

REVISION

JEA Building Community℠

GENERAL
CRANE DATA SHEET & DIMENSION SHEET

00-G-007

SHEET 1 of 46

FILENAME: PLOT DATE: $PLOTDATE PLOT TIME: $PLOTTIME

MASTER

HOIST/MONORAIL DATA SHEET: (Facility No. – Facility Name)

Project:_____ Manufacturer.:_____

Owner:_____ Model No.:_____

Service:_____ Number of Units:_____

Equip. Tag Number(s):_____ Rev/Date/By: ____/____/____

GENERAL REQUIREMENTS

Equipment Capacity:_____tons

Method of Control:_____

Location of Control:_____

Equipment Location:

☐Indoors ☐Outdoors

Factory Testing:

☐Required ☐Not Required

Field Testing: ☐Not required

☐Required, functional and performance

Power Supply:_____

Voltage_____

Phase_____

Frequency_____

HOIST	TROLLEY
Type: ☐Electric, Wire Rope ☐Hand Operated, Chain	Type: ☐Top Running ☐Underhung
Service Class (ANSI): ☐H1 (standby) ☐H2 (light) ☐H3 (standard) ☐H4 (heavy) ☐H5 (severe)	Service Class (ANSI): ☐A1 (standby) ☐A2 (infrequent) ☐B (light) ☐C (moderate) ☐D (heavy)
Speed (fpm): _____ to _____ ☐Constant Speed ☐Two Speed ☐Variable Speed	Speed (fpm): _____ to _____ ☐Constant Speed ☐Variable Speed ☐Hand Operated
Motor hp:_____	Motor hp:_____
Hook: See Hoist/Monorail Dimension Sheet	Electric Conductors:
Hook Manufacturer: _____	☐Bus Bar ☐Festoon ☐_____
Reeving:_____	☐Cable Reel

SPECIAL REQUIREMENTS

Accessories:

☐Central Lubrication System

☐OSHA operating and safety devices

Remote Controls:

☐Infrared, line-of-sight

☐Frequency modulated (FM)

Manufacturer:_____

☐Extended Grease Fittings

Special Electrical Requirements:

_____

See Hoist/Monorail Dimension Sheet for clearances, lift distances, and details.

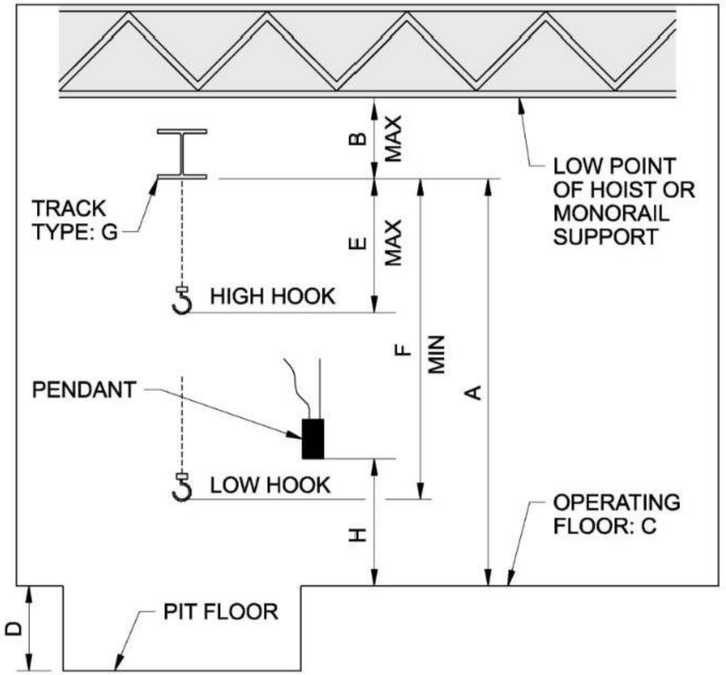
VIA.11 HOIST/MONORAIL DATA SHEET
NTS

HOIST/MONORAIL DIMENSION SHEET: (Facility No. – Facility Name)
Building Clearances for Monorail Cranes

Project: _____

Owner: _____

Equipment Tag Number(s): _____



A: _____ D: _____ G: See Drawings

B: _____ E: _____ H: _____

C: _____ F: _____

Notes:

1. Monorail Track Length: _____

VIA.12 HOIST/MONORAIL DIMENSION SHEET
NTS

NO.	DSGN	DATE	DR	CHK	APVD	BY	APVD
				REVISION			

JEA Building Community℠

GENERAL
HOIST/MONORAIL DATA & DIMENSION SHEET

00-G-008

SHEET 1 of 46

FILENAME: PLOT DATE: $PLOTDATE PLOT TIME: $PLOTTIME

PUMP DATA SHEET

Tag Numbers: _____

Pump Name: _____

Manufacturer and Model Number: (1) _____

(2) _____

(3) _____

SERVICE CONDITIONS

Liquid Pumped (Material and Percent): _____

Pumping Temperature (Fahrenheit): Normal: ____ Max _____ Min _____

Specific Gravity at 60 Degrees F: _____ Viscosity Range: _____

Vapor Pressure at 60 Degrees F: _____ pH: _____

Abrasive (Y/N) _____ Possible Scale Buildup (Y/N): _____

Total suspended solids (mg/L) _____

Largest diameter solid pump can pass (inches) _____

Min. NPSH Available (Ft. Absolute): _____

Suction Pressure (Ft): Max _____ Rated _____

Altitude (Feet above Mean Sea Level): _____

Area Classification: _____

Ambient Temperature (degrees F.): _____

Location: Indoor (Y/N): _____ Outdoor (Y/N): _____

PERFORMANCE REQUIREMENTS

Capacity (US gpm): Rated: _____ Secondary: _____

Total Dynamic Head (Ft): Rated: _____ Secondary: _____

BHP at Rated Point: _____ Secondary: _____

Maximum Shutoff Pressure (Ft): _____

VIA.13 PUMP DATA SHEET
NTS

Min. Pump Hydraulic Efficiency at Rated Capacity (%): _____

Max. NPSH Required at Rated Capacity (Ft. Absolute): _____

Max. Pump Speed at Rated Capacity (rpm): _____

Constant (Y/N): _____

Adjustable (Y/N): _____

Reverse rotation: Pump shall be capable of operating at runaway speed in reverse rotation without damage.

wk2 inertia of total rotating assembly (pump + motor components) lb-ft2, minimum: _____

DESIGN AND MATERIALS

Pump Type: Horizontal (Y/N) _____ Frame-Mounted (Y/N) _____

Vertical (Y/N) _____ Other _____

Casing Material: _____

Casing Wear Rings (Y/N) _____ Casing Wear Ring Material: _____

Impeller: Type: _____ Material: _____

Impeller Wear Rings (Y/N) _____ Impeller Wear Ring Material: _____

Shaft Material: _____ Shaft Sleeve Material: _____

Shaft Seal: Packing (Y/N) _____ Mechanical (Y/N) _____ Type: _____

Seal Lubrication: _____

ABMA B-10 Bearing Life (hrs): _____ Lubrication: _____

Bearings: Outboard End Type: _____ Inboard End Type: _____

Coupling: Falk (Y/N) _____ Fast: (Y/N) _____ Spring-Grid (Y/N) _____

Gear Type (Y/N) _____ Spacer (Y/N) _____

Manufacturer Standard (Y/N) _____

Baseplate Material: _____

Drive Type: Direct-Coupled ____ Belt ____ Adjustable Speed _____ Other _____

VIA.13 PUMP DATA SHEET CONTINUED
NTS

NO.	DSGN	DATE	DR	CHK	APVD	BY	APVD
REVISION							

JEA Building Community

GENERAL
PUMP DATA SHEETS

00-G-009

SHEET 1 of 46

FILENAME: PLOT DATE: $PLOTDATE PLOT TIME: $PLOTTIME

DRIVE MOTOR (See Specification Low-Voltage AC Induction Motors or Medium-Voltage AC Induction Motors.)

Horsepower: _____ Voltage: _____ Phase: Synchronous Speed (rpm) _____

Service Factor: _____

Motor nameplate horsepower shall not be exceeded at any head-capacity point on pump curve.

Enclosure: DIP _____ EXP _____ ODP _____ TEFC _____ CISD-TEFC _____
TENV _____ WPI _____ WPII _____ SUBM _____

Mounting Type: Horizontal _____ Vertical Solid Shaft _____
Nonreverse Ratchet (Y/N) _____

Adjustable Speed Drive Range: _____ min to _____ max,
See Specification Low-Voltage Adjustable Frequency Drive Systems.

REMARKS _____

_____

_____

_____

VIA.13 PUMP DATA SHEET CONTINUED
NTS

PERISTALTIC HOSE PUMP DATA SHEET _____

Tag Numbers: _____

Pump Name: _____

Manufacturer and Model Number: (1) _____
(2) _____

SERVICE CONDITIONS

Liquid Pumped (Material and Percent): _____

Pumping Temperature (Fahrenheit): Normal: _____ Max _____ Min _____

Specific Gravity @ 60 Degrees F: _____ Viscosity Range: _____

pH: _____

Abrasive (Y/N): _____ Possible Scale Buildup (Y/N): _____

Inlet Pressure at Pump (psig): _____

Min. Net Positive Inlet Pressure Available (psia): _____

Area Classification: _____

PERFORMANCE REQUIREMENTS

Rated Capacity (gpm): _____ Rated Differential Pressure (psi): _____

Maximum Pump Speed at Rated Condition (rpm): _____

Constant Speed (Y/N): _____ Adjustable Speed (Y/N): _____

Speed Range: ____% to____% of Rated Speed: _____

DESIGN AND MATERIALS

Pump Type: Heavy-duty, horizontal, peristaltic hose pump

Pump Configuration: Direct or close-coupled

Pump Housing Material: Cast, ASTM A48/A48M, Class 25

Cover Material: Carbon steel or cast iron, with inspection window

Cover Seal Material: EPDM or Buna N (NBR)

Rotor Material: Cast iron

VIA.14 PERISTALTIC HOSE PUMP DATA SHEET
NTS

NO.	DSGN	DATE	BY	CHK	DR	APVD
					REVISION	APVD

JEA Building Community

GENERAL
PUMP DATA SHEETS

00-G-010

FILENAME: PLOT DATE: $PLOTDATE PLOT TIME: $PLOTTIME

Rotor Shoes: Material selected to be suitable for intended flow stream and hose material.

No. of Rotor Shoes (Minimum): 2

Rotor Shoe Shim Material: Type 316 stainless steel

Hose Size, Millimeters:

Maximum Number of Hose Occlusions per 100 Gallons Pumped:

Hose Material: Material selected to be suitable for intended flow stream.

Hose Pressure Rating (psig):

Hose Inserts Material:

Hose Lubricant: Manufacturer's standard

Flange Rating and Material: ANSI Class 125/150 Material selected to be suitable for intended flow stream.

Bearing Housing Material: Cast iron

Bearing Type: Ball bearings, permanently lubricated

Bearing Life (ABMA L-10) (hrs): 100,000

Gear Drive: Planetary type, AGMA Class II

Baseplate: Material selected to be suitable for intended flow stream/service area.

High Level Leak Detector (Y/N): _____

Pump Speed Sensor (Y/N): _____

Revolution Sensor (Y/N): _____

Suction Pulsation Dampener (Y/N): _____

Discharge Pulsation Dampener (Y/N): _____

DRIVE MOTOR (see IV.3.9, Low-Voltage AC Induction Motors)

Horsepower: ____ Voltage: _____ Phase: _____ Synchronous Speed (rpm): _____

Service Factor: _____Inverter Duty (Y/N): _____

Enclosure: DIP _____ EXP _____ ODP _____ TEFC _____ CISD-TEFC _____
TENV _____ WPI _____ WPII _____ SUBM _____

Adjustable Speed Drive Range: _____ min to _____ max, see Section IV.3.15, Low-Voltage Adjustable Frequency Drive Systems

VIA.14 PERISTALTIC HOSE PUMP DATA SHEET CONTINUED
NTS

REMARKS_____

VIA.14 PERISTALTIC HOSE PUMP DATA SHEET CONTINUED
NTS

NO.	DSGN	DATE	DR	CHK	APVD	BY	APVD
REVISION							

JEA Building Community

GENERAL
PUMP DATA SHEET

00-G-011

SHEET 15 of 46

FILENAME: PLOT DATE: $PLOTDATE PLOT TIME: $PLOTTIME

VERTICAL TURBINE PUMP DATA SHEET

Tag Numbers: _____

Pump Name: _____

Manufacturers and Product: (1)_____
(2)_____
(3)_____

SERVICE CONDITIONS

Liquid Pumped:_____

Pumping Temperature (Fahrenheit): Normal _____ Max _____ Min _____

Specific Gravity at 60 Degrees F: _____ Viscosity Range:_____

Possible Scale Buildup (Y/N): ____ Corrosive (Y/N): _____

Largest Diameter Solid Pump Can Pass (inches): _____

Min. NPSH Available (Ft. Absolute):_____

Location: Outdoor (Y/N): _____

PERFORMANCE REQUIREMENTS

Primary Duty Point: _____

Secondary Duty Point:_____

Maximum Shutoff Pressure at Primary Duty Point (Ft): _____

Max. NPSH Required (Ft. Absolute): _____

Adjustable Speed (Y/N): _____

DESIGN AND MATERIALS

Pump Type: _____

Bowl:_____

Bowl Bearings: _____

Bowl Wear Rings (Y/N): ____Bowl Wear Ring Material:_____

Column:_____

Line Shafting: _____

Line Shaft Bearings: _____

Discharge Head: _____

Type: _____

Material: _____

Discharge Nozzle Size (inches): _____ Flange Standard/Class: _____

Impeller Material: _____

Impeller Wear Rings (Y/N): _____Impeller Wear Ring Material:_____

Head Shaft Material: _____ Shaft Sleeve Material: _____

Shaft Sealing: Packing (Y/N):_____ Mechanical (Y/N): _____

Type: _____

Seal Lubrication: _____

Coupling: Falk (Y/N):_____ Fast: (Y/N):_____ Spring-Grid (Y/N): _____

Gear Type (Y/N):_____ Spacer (Y/N): _____

Manufacturer Standard (Y/N):_____

Sole Plate (Y/N): _____ Material**:** _____

Motor Base Material: _____

DRIVE MOTOR (See Specification Low-Voltage AC Induction Motors or Medium-Voltage AC Induction Motors)

Horsepower: _____ Voltage: _____ Phase: _____

Synchronous Speed (rpm): _____

Service Factor: _____

Motor nameplate horsepower shall not be exceeded at any head-capacity point on pump curve.

Enclosure: DIP:____ EXP:_____ ODP:_____ TEFC: _____CISD-TEFC:_____
TEWAC:_____ WPI:_____ WPII: _____

Mounting Type: Vertical Hollow Shaft:__ Nonreverse Ratchet (Y/N):_____

Vertical Solid Shaft:_____

ABMA 9 and ABMA 11, B-10 Motor Bearing Life (hrs):_____

REMARKS: _____

_____

_____

VIA.15 VERTICAL TURBINE PUMP DATA SHEET
NTS

VIA.15 VERTICAL TURBINE PUMP DATA SHEET CONTINUED
NTS

NO.	DSGN	DATE	DR	CHK	APVD
				BY	APVD

REVISION

JEA Building Community

GENERAL
PUMP DATA SHEETS

00-G-012

SHEET 16 of 46

FILENAME: PLOT DATE: $PLOTDATE PLOT TIME: $PLOTTIME

CHEMICAL METERING PUMP DATA SHEET - _____

Tag Numbers: _____

Pump Name: _____

Manufacturer and Model Number: (1) _____

(2) _____

SERVICE CONDITIONS

Liquid Pumped (Material and Percent): _____

Pumping Temperature (Fahrenheit): Normal: _____ Max _____ Min _____

Liquid pH: _____

Abrasive (Y/N) _____ Possible Scale Buildup (Y/N): _____

Suction Pressure (psig): Minimum _____

Altitude (ft msl): _____ Area Classification: _____ Location (indoor/outdoor): _____

PERFORMANCE REQUIREMENTS

Capacity (US gpm): Maximum: _____ Minimum: _____

Maximum Discharge Pressure (psig): _____

Internal Bypass Valve Setting (psig): _____

Relief Valve Setting (psig/as recommended): _____

Back Pressure Valve Setting (psig/as recommended): _____

Max. Stroke Rate (spm): Mfr. (1) _____ Mfr. (2) _____

DESIGN AND MATERIALS

Pump Type: Single Diaphragm (Y/N) _____

Tubular (double) Diaphragm (Y/N) _____ Other _____

Wet End Material: _____ Tubular Diaphragm Housing Material: _____

Check Valve Material: _____ Configuration(Single/Double): _____

Diaphragm Material: _____ Primary: _____ Tubular: _____

Calibration Cylinder: Quantity: _____ Material: _____Units: _____ Capacity: _____

Diaphragm Actuation Type: Mechanical _____ Hydraulic _____

Stroke Position Adjustment: Manual _____ Automatic _____

Pump Speed Control: Constant _____ Variable _____

VIA.16 CHEMICAL METERING PUMP DATA SHEET
NTS

CHEMICAL METERING PUMP DATA SHEET - _____

Tag Numbers: _____

DRIVE MOTOR (See Specification Section, Low-Voltage AC Induction Motors)

Horsepower: _____ Voltage: _____ Phase: _____ Synchronous Speed (rpm) _____

Service Factor: _____

Motor nameplate horsepower shall not be exceeded at any head-capacity point on pump curve.

Enclosure: DIP _____ EXP _____ ODP _____ TEFC _____ CISD-TEFC _____ TENV _____WPI _____ WPII _____ SUBM _____

Variable Speed Drive, See Specification Section, Low-Voltage Variable Frequency Drive System.

TESTING

Pump Tests: Factory Functional (Y/N) _____ Factory Performance (Y/N) _____

Field Functional (Y/N) _____ Field Performance (Y/N) _____

Motor Test: Short Commercial (Y/N) _____ Other _____

REMARKS _____

VIA.16 CHEMICAL METERING PUMP DATA SHEET
NTS

NO.	DSGN	DATE	DR	CHK	APVD	BY	APVD

REVISION

JEA Building Community

GENERAL
PUMP DATA SHEET

00-G-013

SHEET 1 of 46

FILENAME: PLOT DATE: $PLOTDATE PLOT TIME: $PLOTTIME

Screw Conveyor Schedule		
Conveyor Name		
Number		
Conveyor Type		
Material		
Density, lbs/ft^3 maximum		
Capacity, cubic feet per hour		
Screw Speed, rpm maximum		
Trough Fill, maximum percent		
Screw Diameter, inches maximum		
Conveyor Length, end plate to end plate, feet		
Incline, degrees		
Drive Location		
Feed Points, each		
Feed From		
Discharge Points, each		
Actuated Gates, each		
Discharge To		
Hours of Operation, hours per day		

VIA.17 SCREW CONVEYOR SCHEDULE

NTS

REVISION

NO.	DATE	DR	CHK	APVD	BY	APVD
DSGN						

JEA Building Community

GENERAL

EQUIPMENT SCHEDULE

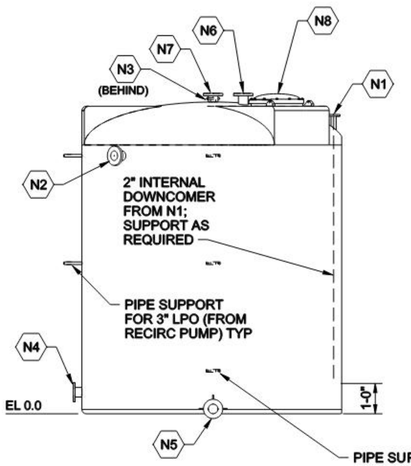
00-G-014

SHEET 1 of 46

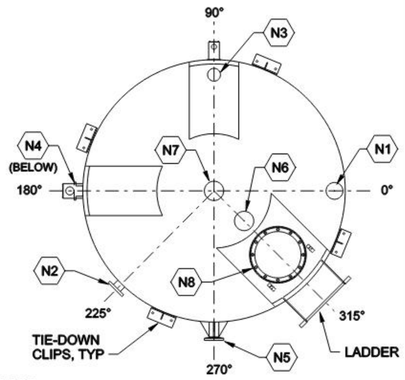
FILENAME: PLOT DATE: $PLOTDATE PLOT TIME: $PLOTTIME

TANK DATA SHEET

TANK NAME:	POLYMER BULK STORAGE TANK		
TAG NUMBER(S):	67TNK0101		
SERVICE:	NEAT POLYMER		
QUANTITY:	1	SPECIFIC GRAVITY:	1.03
pH RANGE:	3 - 7	TEMP. RANGE (°F):	33 - 96
DIAMETER:	10'-2"	STRAIGHT SHELL HEIGHT:	10'-5"
CAPACITY:	6,150 GALLONS	STRAIGHT SKIRT HEIGHT:	N/A



COMPOSITE SECTION
NTS (LADDER NOT SHOWN FOR CLARITY)



PLAN
NTS

NOZZLES	MARK	QTY	SIZE	ELEV	CL RADIUS	NOTES
RECYCLE IN	N1	1	3"	TOP	4'-8"	FROM RECYCLE PUMP
OVERFLOW	N2	1	4"	120"	N/A	
FILL	N3	1	2"	TOP	4'-6"	
RECYCLE OUT	N4	1	4"	10"	N/A	RECYCLE PUMP SUCTION
OUTLET	N5	1	4"	*	N/A	**
LEVEL ELEMENT	N6	1	4"	TOP	1'-8"	
VENT	N7	1	4"	TOP	N/A	
ACCESSWAY	N8	1	24"	TOP	3'-6"	

* IMFO
** METERING PUMP SUCTION/TANK DRAIN

DESIGN DATA
TANK LOCATION: OUTDOORS UNDER COVER
TYPE OF TOP HEAD: DOME
TANK MATERIAL: XLHDPE
LADDER REQUIRED: YES
PIPE SUPPORTS FOR INTERIOR PIPING: YES
PIPE SUPPORTS FOR EXTERIOR PIPING: YES
GRADUATED STANDPIPE: NO
HEAT TRACING AND INSULATION: YES
HANDRAILS: NO
TIE DOWN SYSTEM: YES
LATERAL RESTRAINT: YES
N/A= NOT APPLICABLE

VIA.18 TANK DATA SHEET
NTS

FRP TANK SCHEDULE

Name of Tank*			
Equipment Numbers			
Filament-wound or Contact-molded			
Maximum Capacity Measured to High Solution Level (gallons)			
Installation (Vertical/Horizontal)			
Diameter (feet)			
Straight Shell Height (feet)			
Support (saddles, flat pad, legs)			
Type of Bottom Head			
Type of Top Head			
Ladder Required (Yes/No)			
Tank Location (indoor/outdoor)			
Ambient Temperature Range (degrees F)			
Exterior Loading (psf):			
Personnel Roof Loads			
Platforms			
Mixers			
Pipe Supports			
Operating Contents:			
Temperature (degrees F, not to exceed 180)			
Chemical Composition			
Specific Gravity			
Concentration			
pH Range			
Sight Glass Type (1 or 2)			
Sight Glass Tube Length			
Insulation/Heat Tracing (Yes/No)			

*Specify feed/mix tanks as such.

VIA.19 FRP TANK SCHEDULE
NTS

GENERAL SHEET NOTES

1. THIS TANK DATA SHEET IS AN EXAMPLE FROM BLACKS FORD WRF. TANK DATA SHEETS ARE SITE-SPECIFIC AND SHALL BE CUSTOMIZED BASED ON PROJECT REQUIREMENTS.

NO.	DSGN	DATE	BY	APVD

REVISION

APVD | CHK | DR

JEA Building Community

GENERAL
TANK DATA SHEET AND SCHEDULE

00-G-015

SHEET 1 of 46

FILENAME: PLOT DATE: $PLOTDATE PLOT TIME: $PLOTTIME

Line Shaft Bearings: _____

Discharge Head: _____

Type: _____

Material: _____

Discharge Nozzle Size (inches): _____ Flange Standard/Class: _____

Impeller Material: _____

Impeller Wear Rings (Y/N): _____Impeller Wear Ring Material:_____

Head Shaft Material: _____ Shaft Sleeve Material: _____

Shaft Sealing: Packing (Y/N):_____ Mechanical (Y/N): _____

Type: _____

Seal Lubrication: _____

Coupling: Falk (Y/N):_____ Fast: (Y/N):_____ Spring-Grid (Y/N): _____

Gear Type (Y/N):_____ Spacer (Y/N): _____

Manufacturer Standard (Y/N):_____

Sole Plate (Y/N): _____ Material**:** _____

Motor Base Material: _____

DRIVE MOTOR (See Specification Low-Voltage AC Induction Motors or Medium-Voltage AC Induction Motors)

Horsepower: _____ Voltage: _____ Phase: _____

Synchronous Speed (rpm): _____

Service Factor: _____

Motor nameplate horsepower shall not be exceeded at any head-capacity point on pump curve.

Enclosure: DIP:_____ EXP:_____ ODP:_____ TEFC: _____CISD-TEFC:_____
TEWAC:_____ WPI:_____ WPII: _____

Mounting Type: Vertical Hollow Shaft:__ Nonreverse Ratchet (Y/N):_____

Vertical Solid Shaft:_____

VIA. 20 SUBMERSIBLE MIXER DATA SHEET
NTS

SUBMERSIBLE MIXER DATA SHEET

Tag Numbers:_____

Mixer Name:_____

Elastomers: _____

Fasteners: _____

Impeller: Material: _____

Shaft Material: _____

Double Mechanical Seal: _____ Bearing Life (Hrs): _____

DRIVE MOTOR (See Specification Low Voltage AC Induction Motors)

Horsepower: _____Voltage: _____Phase: _____ Synchronous Speed (rpm):____

Enclosure: _____

Other Features:
Moisture Detection Switches (Y/N): _____

Thermal Protection Embedded in Windings (Y/N): _____

REMARKS_____

VIA.20 SUBMERSIBLE MIXER DATA SHEET CONTINUED
NTS

REVISION | NO. | DSGN | DATE | BY | APVD | DR | CHK | APVD

JEA Building Community

GENERAL
SUBMERSIBLE MIXER DATA SHEET

00-G-016

SHEET of 46

FILENAME: PLOT DATE: $PLOTDATE PLOT TIME: $PLOTTIME

INDUCTION MOTOR DATA SHEET

Project: _____

Owner: _____

Equipment Name: _____

Equipment Tag Number(s): _____

Type: Squirrel-cage induction meeting requirements of NEMA MG 1

Manufacturer: For multiple units of the same type of equipment, furnish motors and accessories of a single manufacturer.

Hazardous Location: ☐ Furnish motors for hazardous (classified) locations that conform to UL 674 and have an applied UL listing mark.

Motor Horsepower: _____ Guaranteed Minimum Efficiency at Full Load: ____ percent

Voltage: _____ Guaranteed Minimum Power Factor at Full Load: ____ percent

Phase: _____ Service Factor (@ rated max. amb. temp.): ☐ 1.0 ☐ 1.15

Frequency: _____ Enclosure Type: _____

Synchronous Speed: _____ ☐ Multispeed, Two-Speed: ____ / ____ rpm

☐ Thermal Protection: _____ Winding: ☐ One ☐ Two

☐ Space Heater: _____ Mounting Type: ☐ Horizontal ☐ Vertical

☐ Vertical Shaft: ☐ Solid ☐ Hollow

☐ Vertical Thrust Capacity (lb): Up ____ Down ____

☐ Adjustable Speed Drive: See Specification Low-Voltage Adjustable Frequency Drive Systems.

Operating Speed Range: ____ to ____% of Rated Speed

☐ Variable Torque

☐ Constant Torque

Additional Motor Requirements: ☐ See Specification Low-Voltage AC Induction Motors.

Special Features:

_____

_____

_____

Breathers and drains for moisture removal.

VIA. 21 INDUCTION MOTOR DATA SHEET
NTS

Panel	P&ID	Service	NEMA	Material	Maximum External Dimensions HxWxD (in)	Notes	FDT	Thermostat	Service Lights/ Outlets	Environment
(EXAMPLE) 70-ICP-1	I-08-619A	Primary and Secondary Digester Control	12	Painted Steel	72x72x 24		Yes	Yes	Yes	Inside, Air Conditioned

VIA. 22 CONTROL PANEL SCHEDULE
NTS

NO.	DSGN	DATE	DR	CHK	APVD	BY	APVD

REVISION

JEA Building Community sm

GENERAL
INDUCTION MOTOR DATA SHEET
CONTROL PANEL SCHEDULE

00-G-017

SHEET 2 of 46

FILENAME: PLOT DATE: $PLOTDATE PLOT TIME: $PLOTTIME

PAINT SYSTEM DATA SHEET

Complete this PSDS for each coating system, include all components of the system (surface preparation, primer, intermediate coats, and finish coats). Include all components of a given coating system on a single PSDS.

Paint System Number (from Spec.):		
Paint System Title (from Spec.):		
Coating Supplier:		
Representative:		
Surface Preparation:		
Paint Material (Generic)	**Product Name/Number (Proprietary)**	**Min. Coats, Coverage**

VIA. 23 PAINT SYSTEM DATA SHEET
NTS

PAINT PRODUCT DATA SHEET

Complete and attach manufacturer's Technical Data Sheet to this PPDS for each product submitted. Provide manufacturer's recommendations for the following parameters at temperature (F)/relative humidity:

Temperature/RH	50/50	70/30	90/25
Induction Time			
Pot Life			
Shelf Life			
Drying Time			
Curing Time			
Min. Recoat Time			
Max. Recoat Time			

Provide manufacturer's recommendations for the following:

Mixing Ratio: _____

Maximum Permissible Thinning: _____

Ambient Temperature Limitations: min.: _____ max.: _____

Surface Temperature Limitations: min.: _____ max.: _____

Surface Profile Requirements: min.: _____ max.: _____

VIA. 24 PAINT PRODUCT DATA SHEET
NTS

NO.	DSGN	DATE	BY	APVD

REVISION | DR | CHK | APVD

JEA Building Community

GENERAL
PAINT SYSTEM AND PRODUCT DATA SHEET

00-G-018

SHEET 2 of 46

FILENAME: PLOT DATE: $PLOTDATE PLOT TIME: $PLOTTIME

APPLICATION SCHEDULE

(Note: Submittals will be rejected unless this form is completely filled out for each proposed CRC system)

Attach additional information, as specified (technical data sheets, chemical resistance, application specifications, special configuration details).

CRC System No. (From Spec):	
Coating Supplier:	
Representative (Name and Telephone)	
Reinforcing Material:	
Recommended Joint Material:	
Substrate Surface Preparation:	

Component	Product Name/Number	Application Method	Min. Coats/Cover
Primer			
Base Coat			
Intermediate Coat(s)			
Intermediate Coat(s)			
Topcoat			
(Sealer)			

VIA. 25 CHEMICAL RESISTANT COATING APPLICATION SCHEDULE
NTS

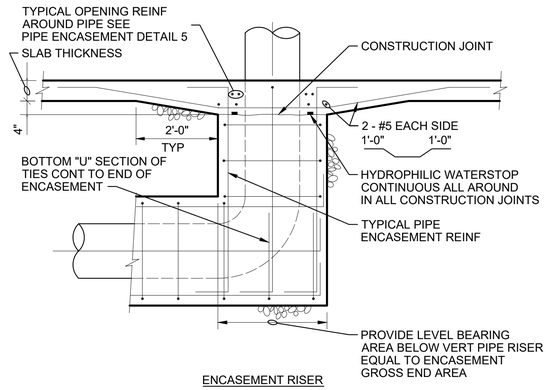
REVISION
NO. | DSGN | DATE | DR | CHK | APVD | BY | APVD

JEA Building Community

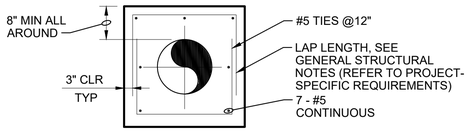
GENERAL
CHEMICAL RESISTANT COATING APPLICATION SCHEDULE

00-G-019
SHEET 2 of 46

FILENAME: PLOT DATE: $PLOTDATE PLOT TIME: $PLOTTIME



ENCASEMENT RISER



SECTION

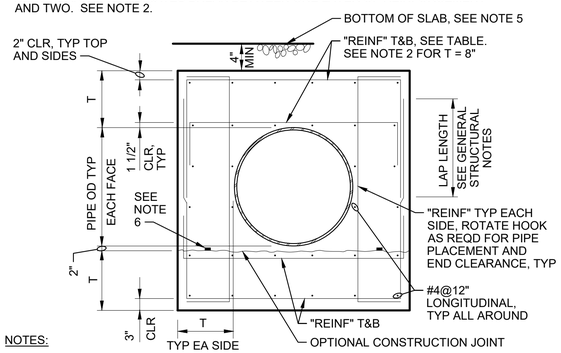
NOTES:

1. SECTION APPLIES TO PIPES W/ DIAMETERS 18" AND SMALLER. FOR 20" DIAMETER PIPES AND LARGER, SEE PIPE ENCASEMENT DETAIL 2.
2. WHEN PIPE ENCASEMENT IS CLOSER THAN 4" TO SLAB ABOVE, TIE SLAB & ENCASEMENT TOGETHER. SEE PIPE ENCASEMENT DETAIL 3.
3. EXTEND PIPE ENCASEMENT 5'-0" MIN BEYOND EDGE OF BASE SLAB.

VIA.26 PIPE ENCASEMENT DETAIL 1
NTS

PIPE ENCASEMENT TABLE								
PIPE DIA (IN.)	H=10 FEET		H=20 FEET		H=30 FEET		H=40 FEET	
	T (in)	REINF	T (in)	REINF	T (in)	REINF	T (in)	REINF
20 THRU 30	8	#5@12"	10	#5@12"	10	#5@12"	10	#6@12"
36 THRU 42	10	#5@12"	10	#6@12"	10	#7@12"	10	#6@6"
48 THRU 54	10	#6@12"	10	#7@12"	10	#7@6"	12	#7@6"
UP TO 60	10	#6@12"	10	#6@6"	14	#7@6"	14	#7@6"

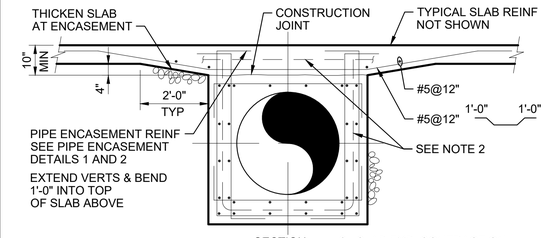
HEAVY DARK LINE INDICATES BREAK BETWEEN ONE LAYER OF REINFORCEMENT AND TWO. SEE NOTE 2.



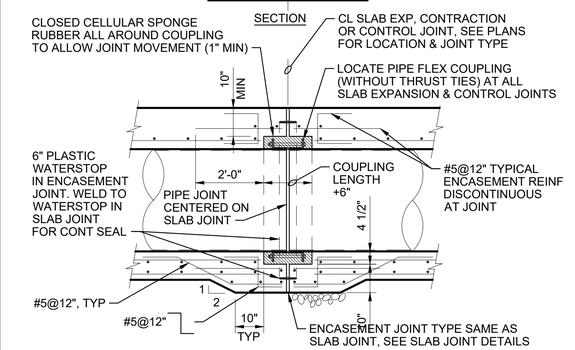
NOTES:

1. THIS DETAIL APPLIES TO PIPE DIAMETER OF 20" AND LARGER. FOR SMALLER THAN 20", SEE PIPE ENCASEMENT DETAIL 1.
2. FOR T=8" REINFORCEMENT SHALL BE ONE LAYER AND CENTERED IN SLABS OR WALLS. SIM PIPE ENCASEMENT DETAIL 1.
3. FOR ENCASEMENT AT PIPE RISER, SEE PIPE ENCASEMENT DETAIL 1.
4. "H" IS FILL HEIGHT OR WATER DEPTH OR COMBINATION ABOVE PIPE.
5. WHEN PIPE ENCASEMENT CLOSER THAN 4" TO SLAB ABOVE, TIE SLAB & ENCASEMENT TOGETHER. SEE PIPE ENCASEMENT DETAIL 3.
6. HYDROPHILIC WATERSTOP CONTINUOUS ALL AROUND IN ALL CONSTRUCTION JOINTS.

VIA.27 PIPE ENCASEMENT DETAIL 2
NTS



SECTION

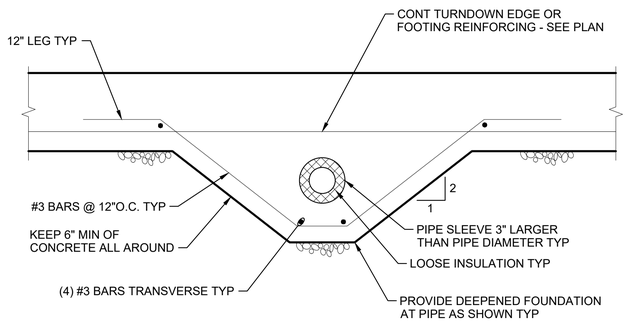


JOINT DETAIL

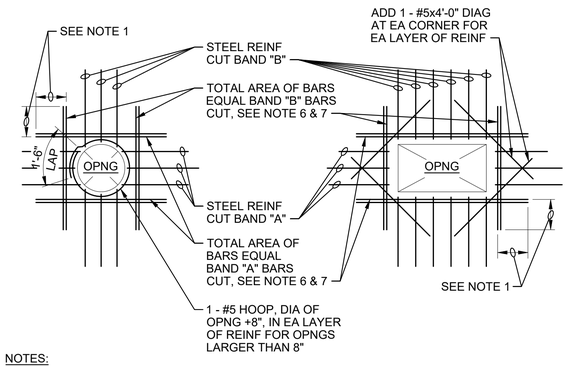
NOTES:

1. TIE PIPE ENCASEMENT TO SLAB AS SHOWN WHEN DISTANCE BETWEEN PIPE ENCASEMENT AND BOTTOM OF SLAB IS LESS THAN 4".
2. 6" PLASTIC WS IN ENCASEMENT JOINTS. WELD TO WS IN SLAB JOINTS.

VIA.28 PIPE ENCASEMENT DETAIL 3
NTS



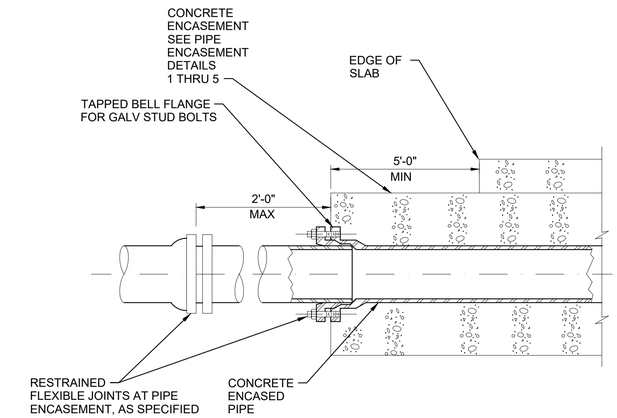
VIA.29 PIPE ENCASEMENT DETAIL 4
NTS



NOTES:

1. PROVIDE MINIMUM LAP, SEE GENERAL STRUCTURAL NOTES (REFER TO PROJECT-SPECIFIC REQUIREMENTS).
2. TYPICAL FOR ALL OPENINGS IN CONCRETE WALLS OF BELOW GRADE AND HYDRAULIC STRUCTURES AND ALL STRUCTURAL CONCRETE SLABS UNLESS INDICATED OTHERWISE ON PLANS.
3. DO NOT WELD REINFORCEMENT TO PIPE SLEEVES AND INSERTS.
4. PROVIDE A MINIMUM OF 2 "A" BARS AND 2 "B" BARS EACH SIDE OF OPENING (1 EACH FACE), INCLUDING DOWELS AND CORNER BARS, TYPICAL.
5. FOR OPENINGS LARGER THAN 8'-0", REINFORCE SAME AS FOR 8'-0" OPENINGS.
6. SPACE AT 3 BAR DIAMETERS (OR 3" MINIMUM) ON CENTER. LOCATE HALF OF TOTAL AREA ON EACH SIDE OF OPENING.
7. AT OPENINGS WITHIN 12" OF AN INTERSECTING WALL OR SLAB, PROVIDE ONLY THE EXTRA REINFORCEMENT WHICH WILL FIT, AT THE BAR SPACING IN NOTE 6.

VIA.30 PIPE ENCASEMENT DETAIL 5
NTS



VIA.31 PIPE ENCASEMENT DETAIL 6
NTS

NO.	DATE	DSGN	REVISION	BY	APVD

JEA Building Community sm

STRUCTURAL/PROCESS DETAILS

PIPE ENCASEMENT

99-SD-501

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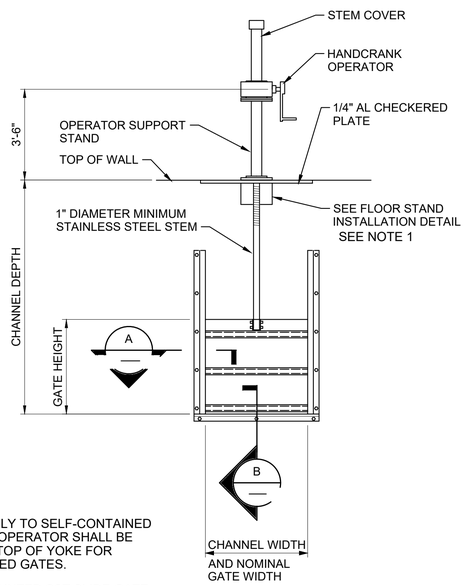
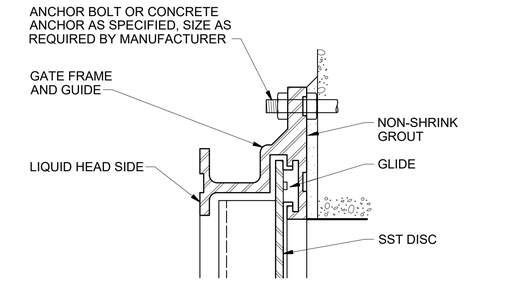
FILENAME: PLOT DATE: $PLOTDATE PLOT TIME: $PLOTTIME

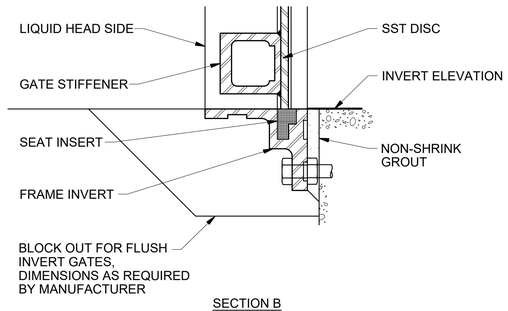


NOTES:

1. DOES NOT APPLY TO SELF-CONTAINED GATES. GATE OPERATOR SHALL BE MOUNTED ON TOP OF YOKE FOR SELF-CONTAINED GATES.
2. SURFACE - MOUNTED SST SLIDE GATE SHOWN. COPOLYMER GATE SIMILAR.



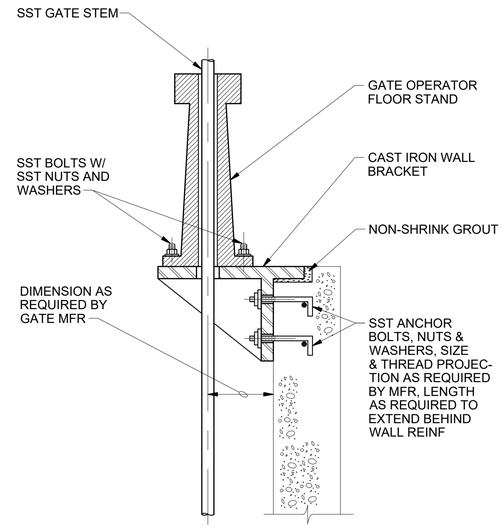
SECTION A



SECTION B

VIA.32 FABRICATED SLIDE GATES

NTS

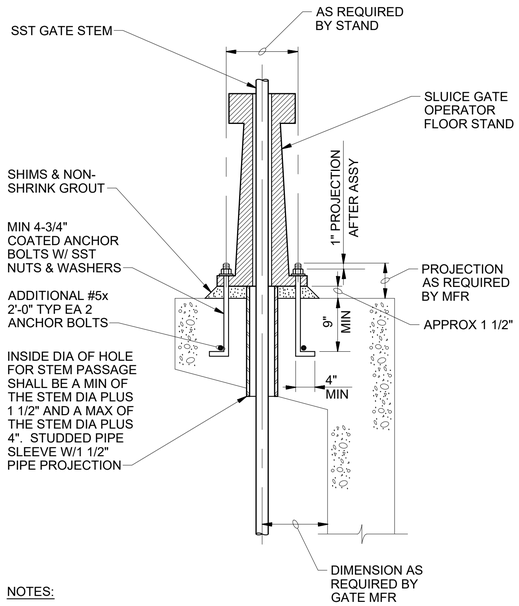


NOTES:

1. FLOOR STAND IS REPRESENTATIVE ONLY.

VIA.33 FLOOR STAND INSTALLATION TYPE 1

NTS

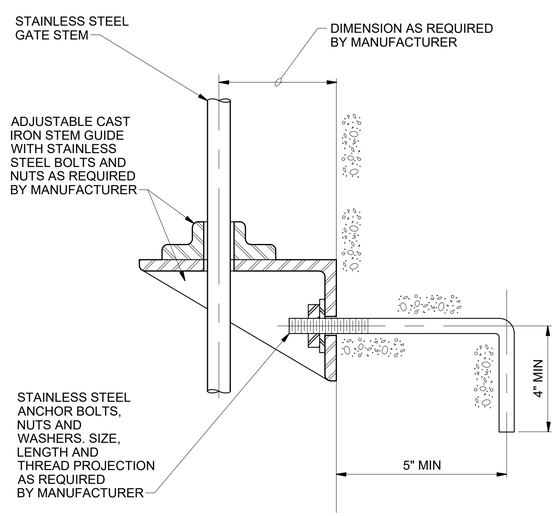


NOTES:

1. FLOOR STAND IS REPRESENTATIVE ONLY.

VIA.34 FLOOR STAND INSTALLATION TYPE 2

NTS



VIA.35 STEM GUIDE INSTALLATION

NTS

NO.	DATE	DSGN	DR	CHK	APVD	BY	APVD
						REVISION	

PROCESS DETAILS

SLIDE GATES, FLOOR STANDS, & STEM GUIDES

JEA Building Community

99-SD-502

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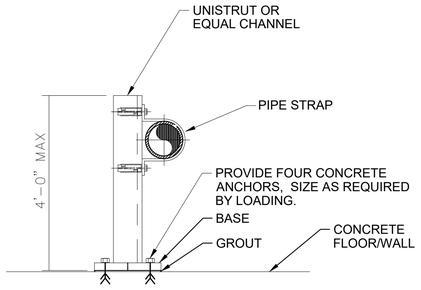
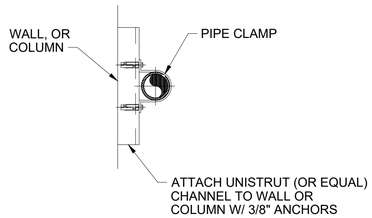
FILENAME: PLOT DATE: $PLOTDATE PLOT TIME: $PLOTTIME



NOTES:

1. INCLUDE SAFETY CAP ON CHANNEL. ADD GROUT BETWEEN BASEPLATE AND FLOOR SLAB.
2. FOR MATERIALS OF CONSTRUCTION, SEE PIPING SUPPORT SYSTEMS SPECIFICATIONS

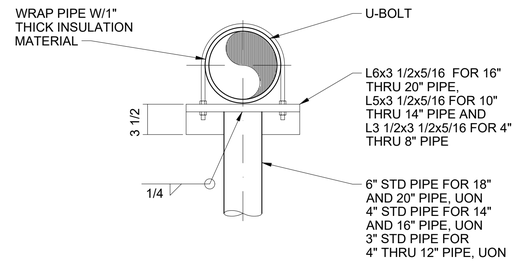
VIA. 36 PIPE SUPPORTS GENERAL TYPE 1
NTS



NOTES:

1. FOR MATERIALS OF CONSTRUCTION, SEE PIPING SUPPORT SYSTEMS SPECIFICATIONS.
2. TIGHTEN CLAMP SNUG TO PIPE.

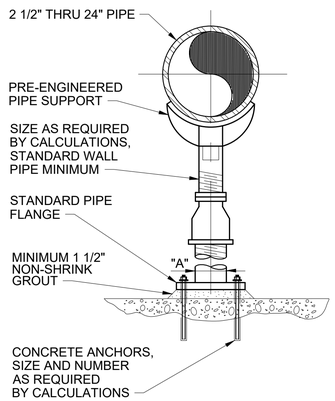
VIA.37 PIPE SUPPORTS GENERAL TYPE 2
NTS



NOTES

1. USE STANDARD AWWA RING FLANGE FOR BASE.
2. FOR MATERIAS OF CONSTRUCTION, SEE PIPING SUPPORT SYSTEMS SPECIFICATIONS
3. SUBMIT FINAL DESIGN AND CALCULATIONS FOR SUPPORT AND ANCHORAGE AS SPECIFIED

VIA.38 PIPE SUPPORTS GENERAL TYPE 3
NTS

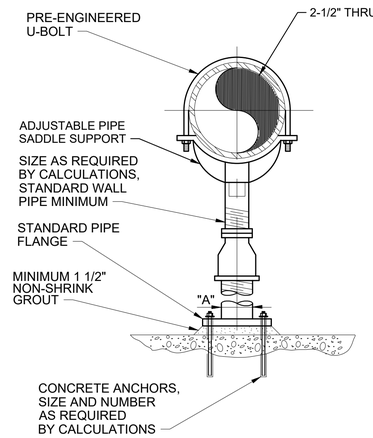


DIMENSION TABLE	
PIPE SIZE	"A" MINIMUM NOMINAL PIPE SIZE
2-1/2"	2-1/2"
3"	2-1/2"
4"	3"
6"	3"
8"	3"
10"	3"
12"	3"
14"	4"
16"	4"
20"	6"
24"	6"

NOTE:

1. SUBMIT FINAL DESIGN AND CALCULATIONS FOR SUPPORT AND ANCHORAGE AS SPECIFIED.
2. FOR MATERIALS OF CONSTRUCTION, SEE PIPING SUPPORT SYSTEMS SPECIFICATIONS.

VIA.39 PIPE SUPPORT - SADDLE SUPPORT PEDESTAL TYPE 1
NTS

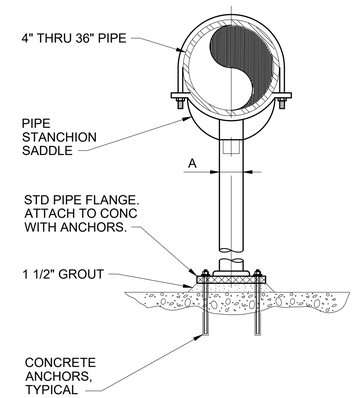


DIMENSION TABLE	
PIPE SIZE	"A" MINIMUM NOMINAL PIPE SIZE
2-1/2"	2-1/2"
3"	2-1/2"
4"	3"
6"	3"
8"	3"
10"	3"
12"	3"
14"	4"
16"	4"
20"	6"
24"	6"
30"	6"
36"	6"

NOTES:

1. SUBMIT FINAL DESIGN AND CALCULATIONS FOR SUPPORT AND ANCHORAGE AS SPECIFIED.
2. FOR MATERIALS OF CONSTRUCTION, SEE PIPING SUPPORT SYSTEMS SPECIFICATIONS.

VIA.40 PIPE SUPPORT - SADDLE SUPPORT PEDESTAL TYPE 2
NTS



DIMENSION TABLE	
PIPE SIZE	A
2-1/2"	2-1/2"
3"	2-1/2"
4"	3"
6"	3"
8"	3"
10"	3"
12"	3"
14"	3"
16"	3"
20"	4"
24"	4"
30"	4"
36"	4"

NOTES:

1. FOR MATERIALS OF CONSTRUCTION, SEE PIPING SUPPORT SYSTEMS SPECIFICATIONS.

VIA.41 PIPE SUPPORT - SADDLE SUPPORT PEDESTAL TYPE 3
NTS

NO.	DATE	DSGN	DR	CHK	APVD	BY	APVD	REVISION

JEA Building Community

PROCESS DETAILS
PIPE SUPPORTS

99-SD-503

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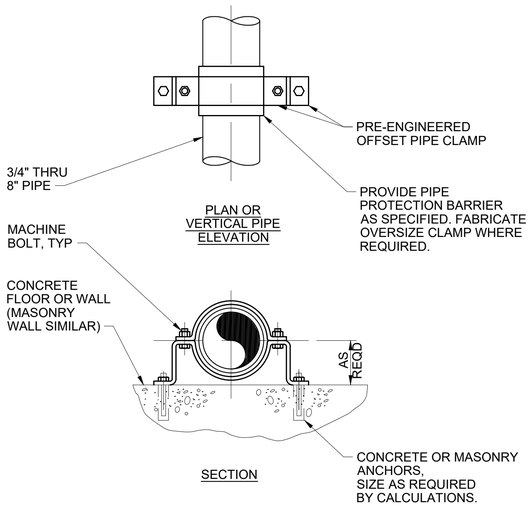
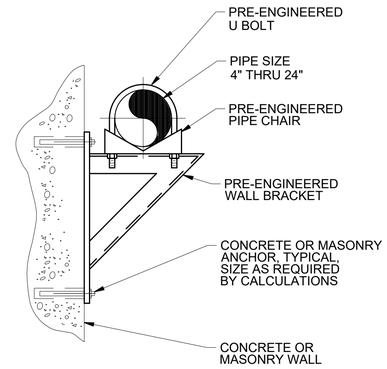
FILENAME: PLOT DATE: $PLOTDATE PLOT TIME: $PLOTTIME



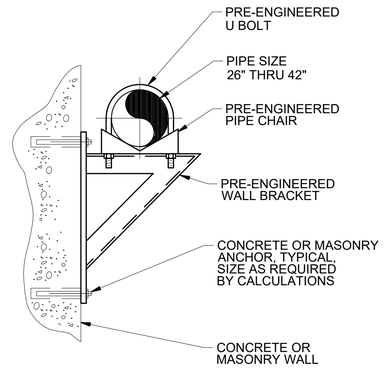
NOTES:
1. ONLY FOR VERTICAL OR FLOOR MOUNTED PIPES.
2. SUBMIT FINAL DESIGN AND CALCULATIONS FOR SUPPORT AND ANCHORAGE AS SPECIFIED.
3. FOR MATERIALS OF CONSTRUCTION, SEE PIPING SUPPORT SYSTEMS SPECIFICATIONS

VIA.42 PIPE SUPPORT - WALL/FLOOR MOUNTED
NTS



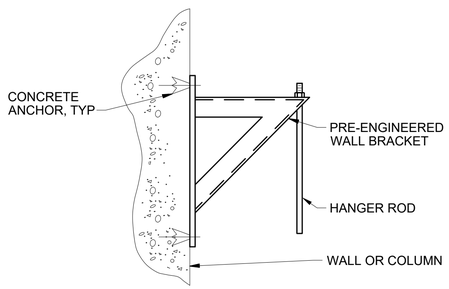
NOTES:
1. WALL BRACKET SHALL BE MEDIUM HEAVY DUTY AS REQUIRED BY CALCULATIONS.
2. SUBMIT FINAL DESIGN AND CALCULATIONS FOR SUPPORT AND ANCHORAGE AS SPECIFIED.
3. FOR MATERIALS OF CONSTRUCTION, SEE PIPING SUPPORT SYSTEMS SPECIFICATIONS.

VIA.43 PIPE SUPPORT - WALL MOUNTED TYPE 1
NTS



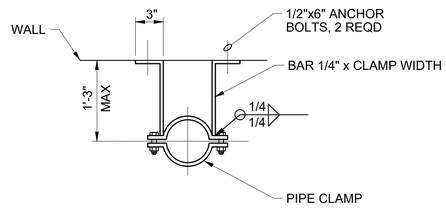
NOTES:
1. WALL BRACKET SHALL BE HEAVY DUTY AS REQUIRED BY CALCULATIONS.
2. SUBMIT FINAL DESIGN AND CALCULATIONS FOR SUPPORT AND ANCHORAGE AS SPECIFIED.
3. FOR MATERIALS OF CONSTRUCTION, SEE PIPING SUPPORT SYSTEMS SPECIFICATIONS.

VIA.44 PIPE SUPPORT - WALL MOUNTED TYPE 2
NTS



NOTES:
1. FOR MATERIALS OF CONSTRUCTION, SEE PIPING SUPPORT SYSTEMS SPECIFICATIONS.
2. SUBMIT FINAL DESIGN AND CALCULATIONS FOR SUPPORT AND ANCHORAGE AS SPECIFIED

VIA.45 PIPE SUPPORT - WALL MOUNTED TYPE 3
NTS



NOTES:
1. FOR MATERIALS OF CONSTRUCTION, SEE PIPING SUPPORT SYSTEMS SPECIFICATIONS.
2. SUBMIT FINAL DESIGN AND CALCULATIONS FOR SUPPORT AND ANCHORAGE AS SPECIFIED.
3. WHEN USED FOR LOW PRESSURE AIR APPLICATIONS, ONE LAYER OF EXPANSION JOINT FILLER, WRAPPED AROUND PIPE. WHEN USED AS SLIDING, REPLACE WITH TEFLON PADS.

VIA.46 PIPE SWAY BRACE
NTS

NO.	DATE	DSGN	DR	CHK	APVD	BY	APVD

REVISION

JEA Building Community

PROCESS DETAILS
PIPE SUPPORTS

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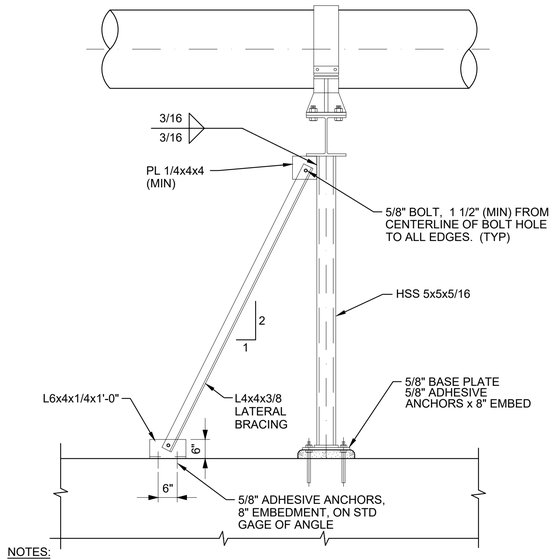
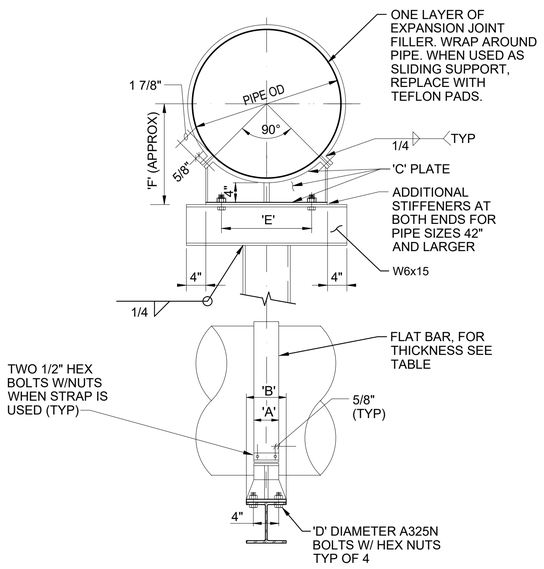
FILENAME: PLOT DATE: $PLOTDATE PLOT TIME: $PLOTTIME



NOTES:

1. LATERAL BRACING REQUIRED ONLY FOR FIXED PIPE SUPPORTS. LATERAL BRACING NOT REQUIRED FOR SLIDING SUPPORTS.
2. FOR MATERIALS OF CONSTRUCTION, SEE PIPING SUPPORT SYSTEMS SPECIFICATIONS.
3. SIZES OF MEMBERS, BOLTS, AND ANCHORS ARE PRELIMINARY. FINAL DESIGN SHALL BE PROVIDED IN ACCORDANCE WITH PIPING SUPPORT SYSTEMS SPECIFICATIONS.



VIA.47 PIPE SUPPORT - FIXED OR SLIDING

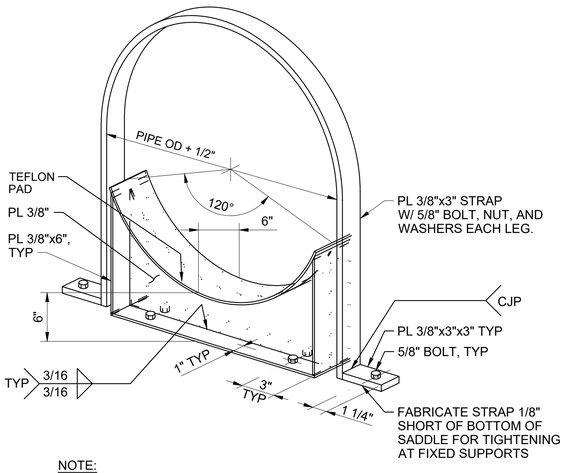
NTS

DIMENSIONS IN INCHES

NOMINAL PIPE SIZE					SUPPORTING			
					PIPE		FLANGE	
	'A'	'B'	'C'	'D'	'E'	'F'	'E'	'F'
6	4	6	3/8	5/8	4 1/2	10	6 1/2	13
8	4	6	3/8	5/8	5	11	7 1/2	14
10	4	6	3/8	5/8	6	12	9	15
12	4	6	3/8	5/8	7	13	10	16
14	4	6	3/8	5/8	8	14	11	17
16	4	6	3/8	5/8	9	15	12	18
18	4	6	3/8	5/8	10	16	13	19
20	5	6	3/8	5/8	10	17	15	21
22	5	6	3/8	5/8	12	18	16	22
24	5	6	3/8	5/8	13	19	16	23
26	5	6	3/8	3/4	14	20	18	24
30	5	6	3/8	3/4	16	22	20	26
34	5	6	3/8	3/4	18	24	22	29
36	6	6	3/8	3/4	19	25	24	30
42	6	8	1/2	1	21	28	27	33
48	6	8	1/2	1	24	31	30	37
54	6	8	1/2	1	28	34	34	40
60	6	8	1/2	1 1/8	32	37	36	44
66	6	8	1/2	1 1/8	33	40	40	47
72	6	8	1/2	1 1/8	36	43	44	50

NOTES:

1. CONFIRM SUPPORTING BEAM FLANGE WIDTH MEETS OR EXCEEDS SADDLE WIDTH 'B'
2. USE A325 BOLTS AND ANCHOR BOLTS.

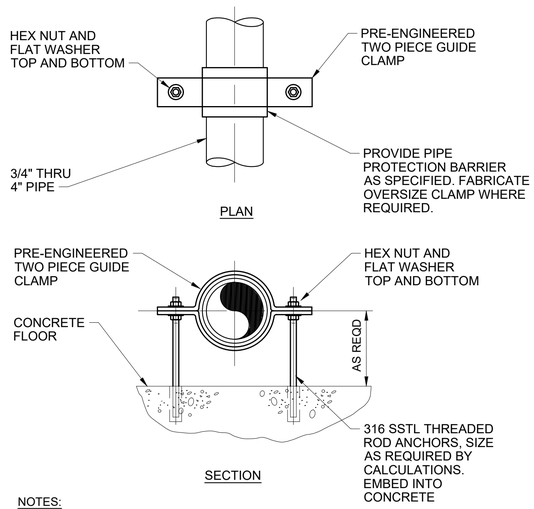


NOTE:

1. BOLT TO STRUCTURE USING 5/8" BOLTS, 4 MINIMUM FOR SADDLE, 2 MINIMUM FOR STRAP.
2. FOR OTHER THAN FIXED SUPPORTS PROVIDE TEFLON PAD ON ENTIRE SADDLE SURFACE.
3. AT FIXED SUPPORTS ELIMINATE TEFLON PAD AND TIGHTEN STRAP AROUND DUCT.
4. FOR MATERIALS OF CONSTRUCTION, SEE PIPING SUPPORT SYSTEMS SPECIFICATIONS.

VIA.48 PIPE/DUCT SUPPORT - FIXED OR SLIDING

NTS

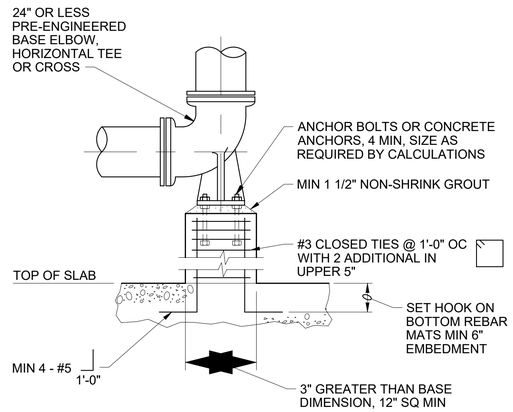


NOTES:

1. ONLY FOR FLOOR MOUNTED PIPES.
2. SUBMIT FINAL DESIGN AND CALCULATIONS FOR SUPPORT AND ANCHORAGE AS SPECIFIED.
3. FOR MATERIALS OF CONSTRUCTION, SEE PIPING SUPPORT SYSTEMS SPECIFICATIONS.

VIA.49 PIPE SUPPORT - FLOOR MOUNTED

NTS



NOTES:

1. SUBMIT FINAL DESIGN DRAWINGS AND CALCULATIONS OF SUPPORTS AND ANCHORAGES AS SPECIFIED.
2. MINIMUM COMPONENT AND CONNECTION SIZES SHOWN. FURNISH LARGER SIZES AS REQUIRED BY CALCULATIONS.
3. FOR MATERIALS OF CONSTRUCTION, SEE PIPING SUPPORT SYSTEMS SPECIFICATIONS.

VIA.50 PIPE SUPPORT - BASE BEND

NTS

NO.	DATE	DR	CHK	APVD
DSGN			BY	APVD

REVISION

JEA Building Community

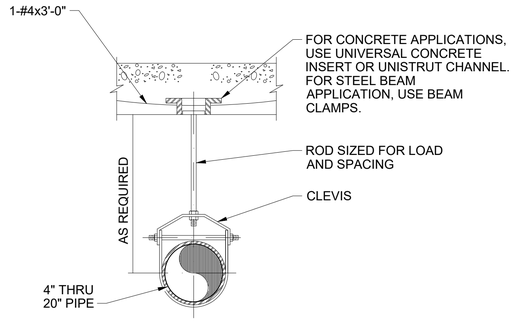
PROCESS DETAILS

PIPE SUPPORTS

99-SD-505

SHEET 2 of 46

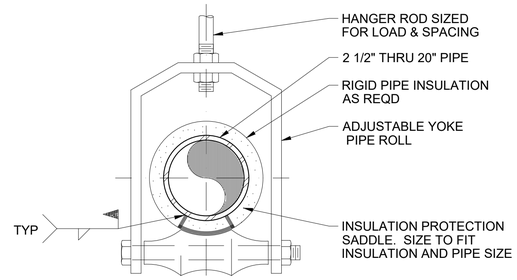
FILENAME: PLOT DATE: $PLOTDATE PLOT TIME: $PLOTTIME



NOTES:

1. SUBMIT FINAL DESIGN AND CALCULATIONS FOR SUPPORT AND ANCHORAGE AS SPECIFIED
2. FOR MATERIALS OF CONSTRUCTION, SEE PIPING SUPPORT SYSTEMS SPECIFICATIONS.

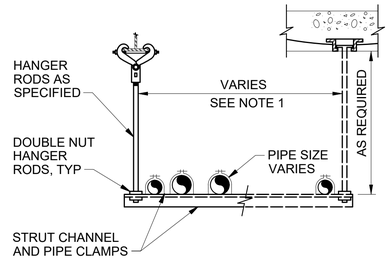
VIA.51 OVERHEAD PIPE HANGER
NTS



NOTES:

1. SUBMIT FINAL DESIGN AND CALCULATIONS FOR SUPPORT AND ANCHORAGE AS SPECIFIED
2. FOR MATERIALS OF CONSTRUCTION, SEE PIPING SUPPORT SYSTEMS SPECIFICATIONS.

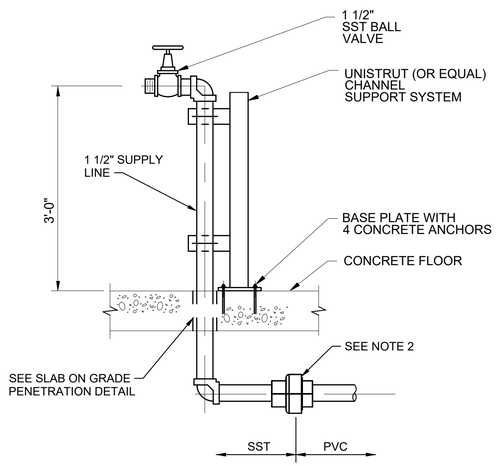
VIA.52 PIPE HANGER
NTS



NOTES:

1. LENGTH VARIES WITH NUMBER OF PIPES TO BE SUPPORTED, AND SPACING BETWEEN PIPES.
2. VERIFY LOAD RATING AND SPACING FOR EACH APPLICATION. DO NOT USE FOR HOT PIPES REQUIRING ROLLERS UNLESS REVISED.
3. FOR MATERIALS OF CONSTRUCTION, SEE PIPING SUPPORT SYSTEMS SPECIFICATIONS.

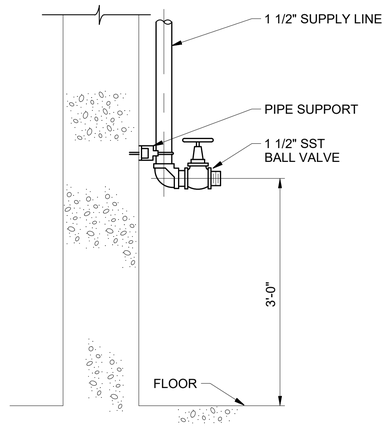
VIA.53 TRAPEZE PIPE HANGER
NTS



NOTES:

1. ALL METAL PIPING COMPONENTS TO BE TYPE 304 STAINLESS STEEL, UNLESS NOTED OTHERWISE.
2. PROVIDE PVC TRANSITION COUPLING WITH STAINLESS STEEL END CONNECTOR ALONG THE HORIZONTAL RUN OF CONCRETE ENCASED PIPING UNDERNEATH BASE SLAB.

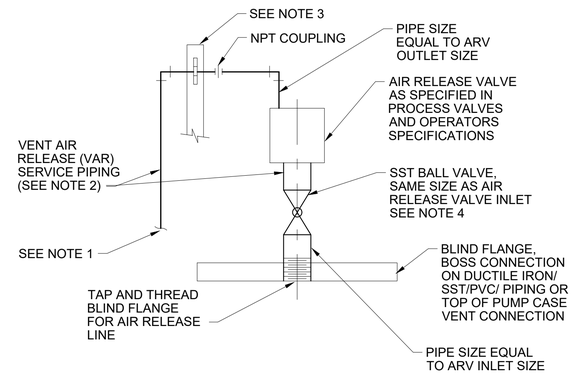
VIA.54 EXTERIOR HOSE VALVE
NTS



NOTES:

1. ROTATE VALVE 30° OFF WALL.

VIA.55 INTERIOR OR EXTERIOR HOSE VALVE WALL MOUNT
NTS



NOTES:

1. ROUTE VENT TO FLOOR DRAIN/TRENCH DRAIN FOR INTERIOR INSTALLATION. FOR EXTERIOR INSTALLATION ROUTE VENT OFF PAD TO GRADE OR TO DRAIN.
2. VAR PIPING MATERIAL AS SPECIFIED.
3. SECURE PIPING AGAINST VIBRATION BY FASTENING TO STANCHION SUPPORT.
4. PROVIDE SST ECC PLUG VALVE FOR RAW SEWAGE AND SLUDGE APPLICATIONS.

VIA.56 AIR RELEASE VALVE ASSEMBLY
NTS

NO.	DSGN	DATE	BY	APVD
REVISION				

DR

CHK

APVD

JEA Building Community

PROCESS DETAILS

PIPE HANGERS AND VALVES

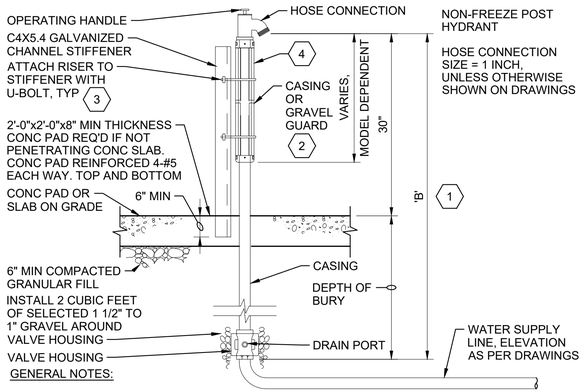
99-SD-506

SHEET 2 of 46

FILENAME:

PLOT DATE: $PLOTDATE

PLOT TIME: $PLOTTIME



GENERAL NOTES:

A. NON-FREEZE POST HYDRANT CONSISTS OF AN OPERATING HANDLE, HOSE CONNECTION, CASING, CASING/GRAVEL GUARD, INTERNAL ROD, AND VALVE HOUSING.

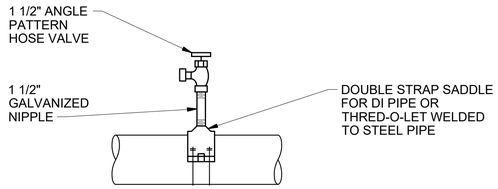
B. POST HYDRANT AVAILABLE WITH HOSE CONNECTIONS 3/4", 1", 1 1/4", 1 1/2" & 2".

C. DEPTH OF BURY IS TYPICALLY 3-FEET, BUT OCCASIONALLY MAY BE DEEPER. HYDRANTS ARE AVAILABLE WITH DEPTH OF BURY RANGING FROM 2 TO 10 FEET (MODEL DEPENDENT).

KEYED NOTE(S):

1. 'B' DIMENSION BASED ON (1) HOSE CONNECTION 30" ABOVE GRADE AND (2) DEPTH OF BURY REQUIRED TO CONNECT WATER SUPPLY LINE.
2. FURNISH CASING OR GRAVEL GUARD IF SUCH OPTION IS AVAILABLE.
3. U-BOLT AND FASTENERS SHALL BE STAINLESS STEEL.
4. PROVIDE SIGN AS PER SPECIFICATIONS, WITH TEXT "DANGER - NON-POTABLE WATER - NOT FOR DRINKING".

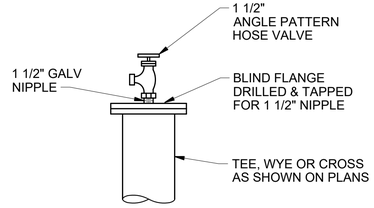
VIA.57 NON-FREEZE POST HYDRANT , NON-POTABLE
NTS



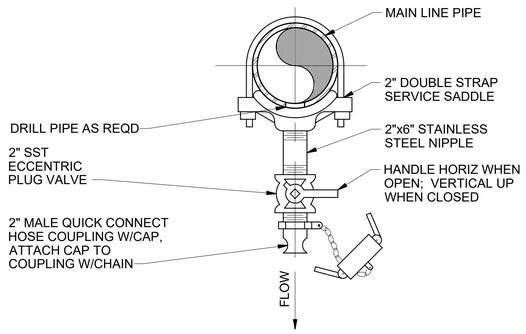
NOTES:

1. TAPPING OF FITTINGS ALLOWED AT BOSS ONLY.

VIA.58 FLUSHING CONNECTION TYPE 1
NTS



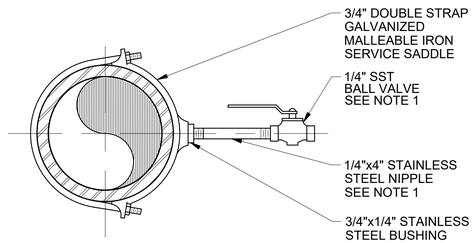
VIA.59 FLUSHING CONNECTION TYPE 2
NTS



NOTES:

1. FOR LINE SIZE 2" AND SMALLER, FITTINGS AND VALVES SHALL BE SAME SIZE AS LINE.
2. FOR TIGHT VERTICAL SPACE UNDERNEATH MAIN LINE PIPE, PROVIDE WITH A 90° ELBOW AND NIPPLE. INSTALL VALVE AND QUICK CONNECT COUPLING IN HORIZONTAL.

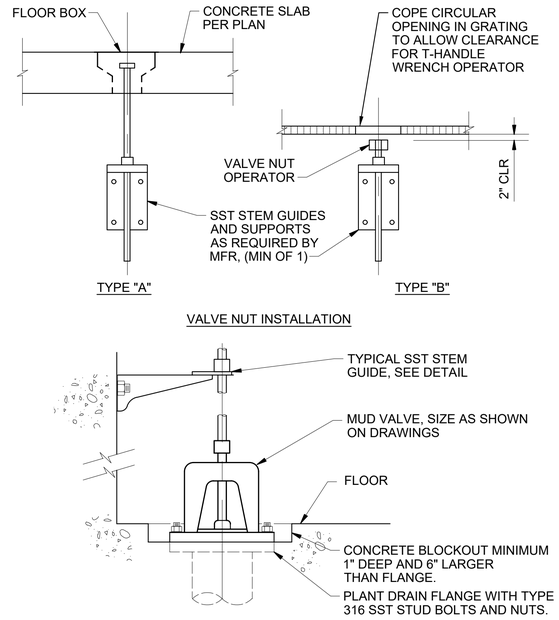
VIA.60 LINE DRAIN VALVE INSTALLATION
NTS



NOTES:

1. FOR RAS/WAS APPLICATIONS PROVIDE A 1/2" SST ECC PLUG VALVE (IN LIEU OF BALL VALVE) WITH 1/2" NIPPLE AND BUSHING.

VIA.61 SAMPLING VALVE INSTALLATION
NTS



VIA.62 MUD VALVE INSTALLATION
NTS

NO.	DSGN	DATE	BY	REVISION	CHK	APVD	DR	APVD

JEA Building Community

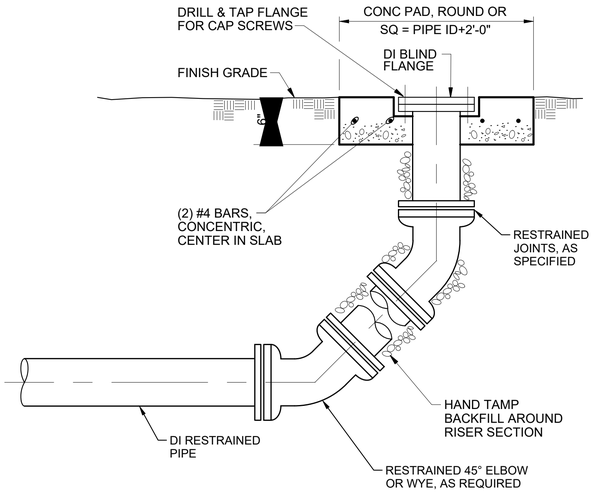
PROCESS DETAILS

VALVES & MISC PIPING

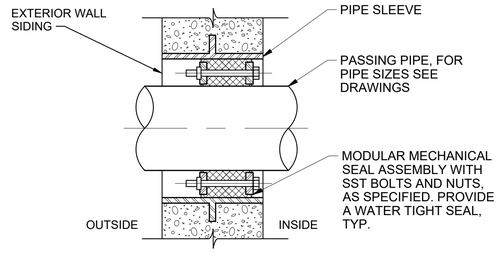
99-SD-507

SHEET of 46

FILENAME: PLOT DATE: $PLOTDATE PLOT TIME: $PLOTTIME



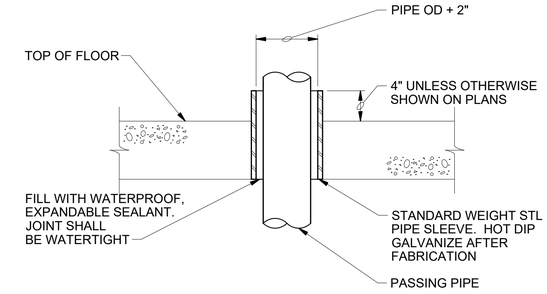
VIA.63 PROCESS LINE CLEANOUT
NTS



NOTE:

1. OMIT PIPE SLEEVE FOR INSTALLATION IN EXISTING STRUCTURE.
2. FOR EXISTING CMU WALL PENETRATION, CORE DRILL THROUGH WALL, CLEAN CORED HOLE, FILL CORES WITH GROUT AND GROUT IN SLEEVE.
3. FOR EXISTING CONCRETE WALL PENETRATION, CORE DRILL THROUGH WALL 1" GREATER THAN PIPE OD, CLEAN CORED HOLE, AND COAT WITH BITUMINOUS DAMP PROOFING. VOIDS IN CONCRETE SHALL BE GROUTED PRIOR TO DAMP PROOFING.
4. FOR EXISTING PENETRATIONS, APPLY SEALANT OR NON-SHRINK GROUT TO PROVIDE FLUSH SURFACE.
5. FOR INTERIOR PIPES EXPOSED TO VIEW IN FINISHED SPACES, FILL WITH NON-SHRINK GROUT AFTER MODULAR MECHANICAL SEAL ASSEMBLY IS INSTALLED.
6. BETWEEN PASSAGES OF DIFFERENT CLASSIFICATIONS OR RATINGS, FILL ANNULAR SPACE WITH FIRE STOPPING OR NON-SHRINK GROUT. LINK SEAL IS NOT ALLOWED.
7. FOR PENETRATION THROUGH EXTERIOR WALL EXPOSED TO VIEW, PROVIDE 304 SST ESCUTCHEON PLATE ON EXTERIOR.

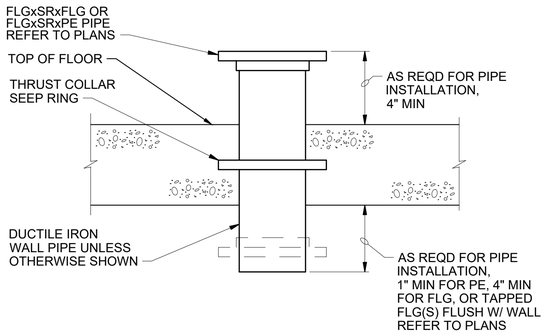
VIA.64 WALL PIPE PENETRATION SEAL
NTS



NOTES:

1. COAT FLOOR SLEEVE WITH SPECIFIED PAINT SYSTEM BEFORE CONCRETE PLACEMENT.

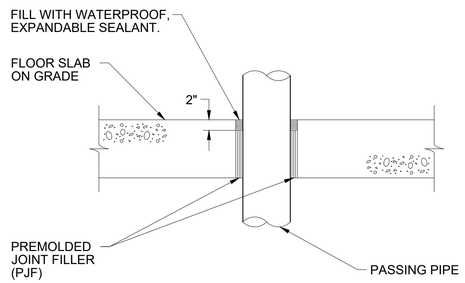
VIA.65 FLOOR SLEEVE
NTS



NOTES:

1. COAT FLOOR PIPE WITH SPECIFIED PAINT SYSTEM PRIOR TO CONCRETE PLACEMENT.

VIA.66 FLOOR/WALL PIPE
NTS



VIA.67 SLAB ON GRADE PIPE PENETRATION
NTS

NO.	DSGN	DATE	DR	CHK	APVD	BY	APVD

REVISION

JEA Building Community

PROCESS DETAILS
CLEANOUT
& PIPE PENETRATIONS

99-SD-508

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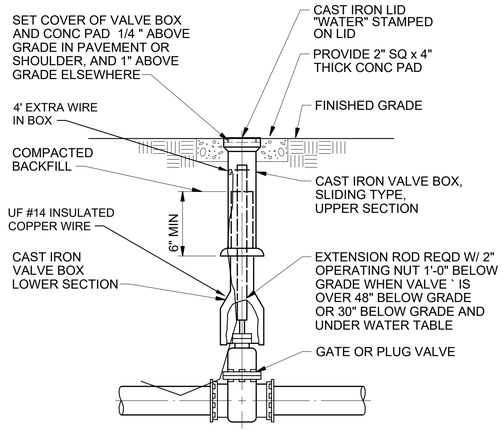
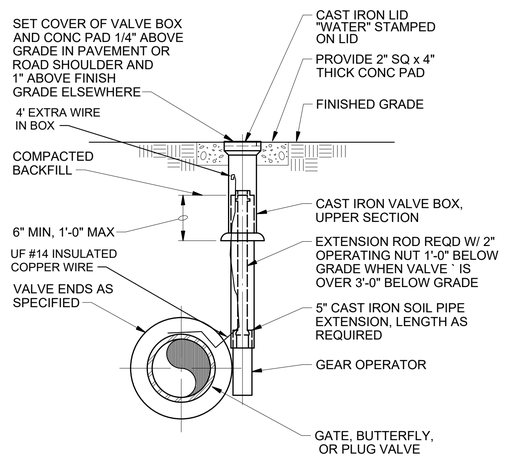
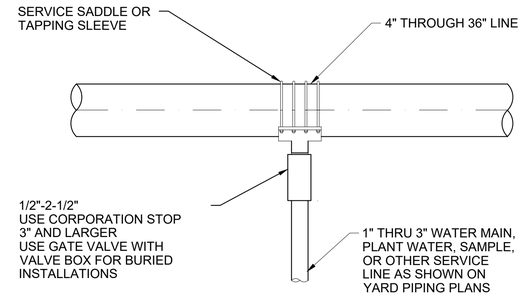
FILENAME: PLOT DATE: $PLOTDATE PLOT TIME: $PLOTTIME



VIA.68 BURIED VALVE AND BOX - VERTICAL MOUNT
NTS

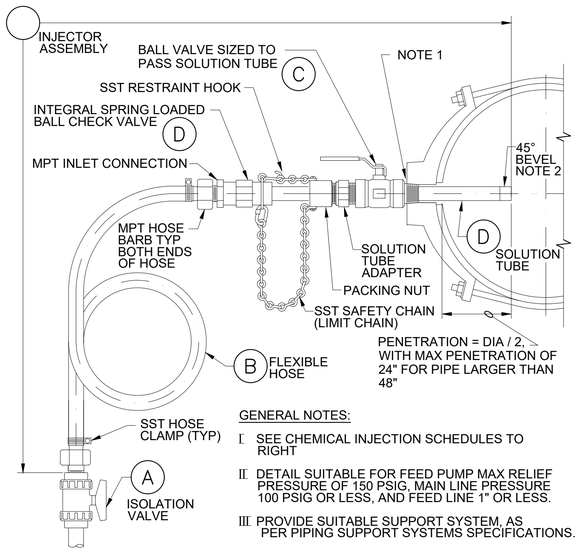


VIA.69 BURIED VALVE AND BOX - SIDE MOUNT
NTS



PLAN

VIA.70 SERVICE TAP
NTS



GENERAL NOTES:

I. SEE CHEMICAL INJECTION SCHEDULES TO RIGHT

II. DETAIL SUITABLE FOR FEED PUMP MAX RELIEF PRESSURE OF 150 PSIG, MAIN LINE PRESSURE 100 PSIG OR LESS, AND FEED LINE 1" OR LESS.

III. PROVIDE SUITABLE SUPPORT SYSTEM, AS PER PIPING SUPPORT SYSTEMS SPECIFICATIONS.

SPECIFIC NOTES:

1. UNLESS OTHERWISE NOTED, PROVIDE SST SERVICE SADDLE FOR DUCTILE IRON (42" MAX). PROVIDE OUTLET / TAPPING SADDLE FOR 48" TO 54" DUCTILE IRON. FOR CARBON STEEL AND SST PIPE (36" MAX), PROVIDE THREADOLET, SAME MATERIAL AS PIPE. FOR CARBON STEEL AND SST PIPE (42" - 72"), PROVIDE WELDED NOZZLE SAME MATERIAL AS PIPE. FOR CARBON STEEL AND SST PIPE WITH INTERIOR COATING, WELD FITTINGS IN FACTORY PRIOR TO APPLYING INTERIOR COATING. FOR PVC, PROVIDE REDUCED TEE FITTING.
2. ORIENT BEVEL SO IT FACES FLOW DIRECTION. SEE VENDOR'S RECOMMENDATIONS.

SCHEDULE 1 - CHEMICAL INJECTOR DEFAULT COMPONENTS		
COMPONENT MARK	COMPONENT DESCRIPTION	MODEL / MATERIALS
Ⓐ	ISOLATION VALVE	1/2" PVC/CPVC BALL VALVE
Ⓑ	FLEXIBLE HOSE	REINFORCED PVC (1" MAX & 150 PSIG MAX)
Ⓒ	SOLUTION TUBE ISOLATION VALVE	1" SST BALL VALVE
Ⓓ	SOLUTION TUBE AND INTEGRAL SPRING LOADED BALL CHECK VALVE WITH TEFLON BALL	SEE SCHEDULE 2
Ⓔ	INJECTOR ASSEMBLY INCLUDES ⒷⒸⒹ AND ANCILLARIES	SAF-T-FLO EB146; OR EQUAL

SCHEDULE 2 - COMPONENTS BY CHEMICAL			
FLOW STREAM	DESCRIPTION (NOTE 1)	MATERIAL OF SOLUTION TUBE AND BALL CHECK BODY & SPRING	OTHER COMPONENTS SEE SCHEDULE 1
FL	HYDROFLUOSILICIC ACID, 25-35%	ALLOY 20; HASTELLOY C-276 SPRING	DEFAULT
SH	SODIUM HYDROXIDE, 30-70%	316 STAINLESS STEEL	DEFAULT, NOTE 2
SBS	SODIUM BISULFITE, 38%	316 STAINLESS STEEL	DEFAULT
SHC	SODIUM HYPOCHLORITE, 12%	HASTELLOY C-276	DEFAULT, NOTE 3
FC	FERRIC CHLORIDE, 40%	HASTELLOY C-276	DEFAULT
AL	ALUM, 48%	HASTELLOY C-276	DEFAULT
PP	POTASSIUM PERMANGANATE, 10%	ALLOY 20; HASTELLOY C-276 SPRING	DEFAULT
X	CORROSION INHIBITOR (ORTHO-PHOSPHATES)	316 STAINLESS STEEL	DEFAULT
X	FERRIC SULFATE, 40%	ALLOY 20; HASTELLOY C-276 SPRING	DEFAULT
X	POLYMER (CATIONIC AND ANIONIC)	316 STAINLESS STEEL	DEFAULT

NOTE:

1. COMPONENTS SUITABLE FOR CONCENTRATIONS LISTED UP TO 100°F.
2. FOR HYDROXIDE ISOLATION VALVE Ⓐ FURNISH 1/2" SST BALL VALVE, SST NIPPLES, AND SST FLANGES. FLANGE CONNECT TO MATING PIPE USING SST FASTENERS.
3. FOR HYPOCHLORITE ISOLATION VALVE Ⓐ, PROVIDE PRESSURE RELIEF HOLE DRILLED ON LOW PRESSURE SIDE OF BALL VALVE.

VIA.71 CHEMICAL INJECTOR - RETRACTABLE WITH FLEXIBLE HOSE
NTS

NO.	DATE	DSGN	DR	CHK	APVD	BY	REVISION
						APVD	

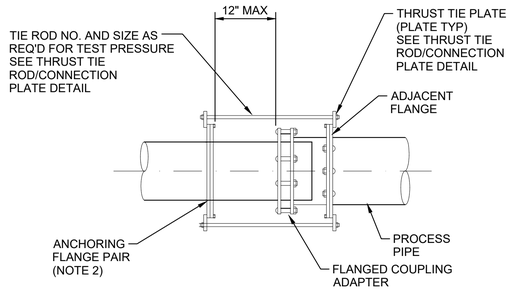
JEA Building Community

PROCESS DETAILS
BURIED VALVES & MISC PIPING

99-SD-509

SHEET 3 of 46

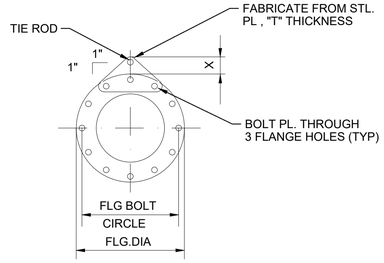
FILENAME: PLOT DATE: $PLOTDATE PLOT TIME: $PLOTTIME



NOTES:

1. ANCHORING FLANGE PAIR ON PROCESS PIPE REQUIRED WHETHER OR NOT SHOWN ON REFERENCED MECHANICAL DRAWING. ANCHORING TO FLANGES OF FLOW METERS, STATIC MIXERS, PUMPS, ETC. PROHIBITED.

VIA.72 RESTRAINED FLANGED COUPLING ADAPTER
NTS



PIPE SIZE	X	T @ TEST PRESS <150 PSI	T @ TEST 150< PRESS <375 PSI
6"	2 3/4 "	5/8 "	5/8 "
8"	2 3/4 "	5/8 "	3/4 "
10"	2 3/4 "	5/8 "	1"
12"	3"	3/4 "	1"
14"	3 1/4 "	3/4 "	1"
16"	3 1/4 "	1"	1"
18"	3 1/2 "	1"	1"
20"	3 3/4 "	1"	1 1/2 "
22"	4"	1"	1 3/4 "
24"	4 1/4 "	1 1/4 "	1 3/4 "
30"	4 1/4 "	1 1/4 "	1 3/4 "
36"	4 1/2 "	1 1/2 "	1 3/4 "
42"	4 3/4 "	1 1/2 "	1 7/8 "
48"	4 3/4 "	1 1/2 "	1 7/8 "
54"	4 3/4 "	1 1/2 "	1 7/8 "
60"	4 3/4 "	1 1/2 "	1 7/8 "

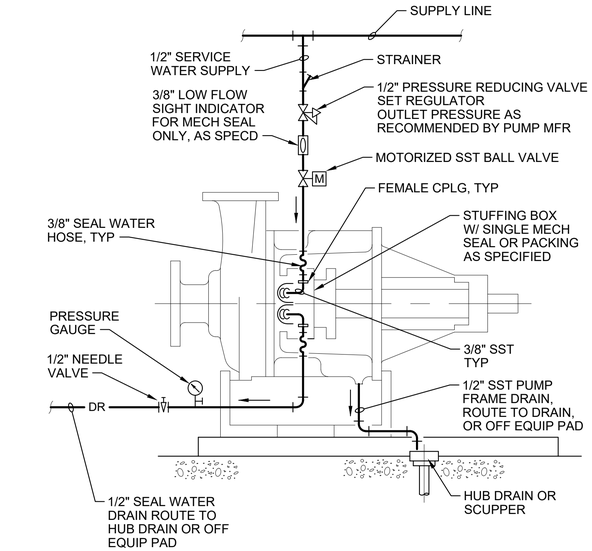
NOTES:

1. TIE RODS SHALL CONFORM TO ASTM A193 GRADE B7.
2. NUTS SHALL CONFORM TO ASTM A194 GRADE 2H.
3. PLATE SHALL CONFORM TO ASTM A283 GRADE D.
4. TIE ROD NUTS SHALL BE TIGHTENED GRADUALLY AND EQUALLY IN STAGES TO PREVENT UNEVEN ALIGNMENT AND TO ALLOW EQUAL STRESS ON ALL TIE RODS UNDER PRESSURE. TIGHTEN UNTIL SNUG. THREADS SHALL PROTRUDE FROM NUTS. PEEN THREADS AFTER TIGHTENING NUTS.
5. CONTRACTOR SHALL USE DATA FOR ONLY THOSE PIPE SIZES AND TEST PRESSURES SPECIFIED IN THIS CONTRACT.

TIE ROD SCHEDULE

TEST PRESSURE		25 PSI		50 PSI		100 PSI		150 PSI		225 PSI		375 PSI	
PIPE DIAM. (IN.)	MINIMUM PIPE WALL THICKNESS (IN.)	TIE RODS		TIE RODS		TIE RODS		TIE RODS		TIE RODS		TIE RODS	
		DIA. (IN.)	NO. REQ'D	DIA. (IN.)	NO. REQ'D	DIA. (IN.)	NO. REQ'D	DIA. (IN.)	NO. REQ'D	DIA. (IN.)	NO. REQ'D	DIA. (IN.)	NO. REQ'D
6	3/16	–	–	–	–	5/8	2	5/8	2	5/8	2	5/8	2
8	3/16	–	–	–	–	5/8	2	5/8	2	5/8	2	3/4	2
10	3/16	–	–	–	–	5/8	2	5/8	2	5/8	2	7/8	2
12	3/16	5/8	2	5/8	2	5/8	2	5/8	2	5/8	2	7/8	4
14	3/16	5/8	2	5/8	2	3/4	2	3/4	2	3/4	4	1	4
16	3/16	5/8	2	5/8	2	3/4	2	7/8	2	7/8	4	1	4
18	1/4	5/8	2	5/8	2	7/8	2	1	2	1	4	1-1/4	4
20	1/4	5/8	2	3/4	2	7/8	2	7/8	4	7/8	4	1-1/4	4
22	1/4	5/8	2	3/4	2	3/4	4	7/8	4	7/8	4	1-1/2	4
24	1/4	5/8	2	3/4	2	7/8	4	1	4	1	6	1-1/2	6
30	1/4	5/8	4	3/4	4	7/8	6	1	6	1	8	1-1/2	8
36	1/4	3/4	4	7/8	4	1	6	1	8	1	8	1-1/2	10
42	1/4	3/4	4	1	4	1	8	1-1/4	8	1-1/4	8	1-3/4	10
48	5/16	7/8	4	7/8	8	1	10	1-1/4	10	1-1/4	10	1-3/4	12
54	5/16	3/4	6	7/8	8	1	12	1-1/4	12	1-1/4	12	1-3/4	14
60	11/32	7/8	6	1	8	1-1/4	10	1-1/4	14	1-1/4	14	1-3/4	16

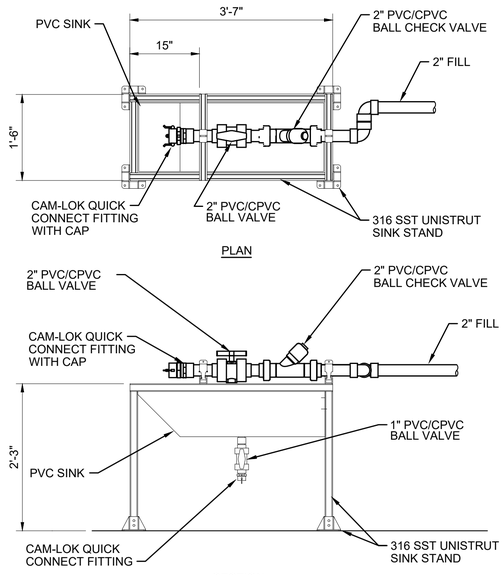
VIA.73 THRUST TIE ROD/CONNECTION PLATE
NTS



NOTES:

1. USE STAINLESS STEEL TUBE ADAPTERS AND BUSHINGS AS REQUIRED FOR ALLCONNECTIONS TO PUMP.
2. REFERENCE PUMP MANUFACTURERS INSTALLATION INSTRUCTIONS CONCERNING RECOMMENDED SEAL WATER CONFIGURATION.

VIA.74 PUMP SEAL WATER PIPING
NTS



NOTE: VALVE BODY, BALL AND STEM MATERIALS SHALL MATCH THE MATERIAL OF THE ADJOINING PIPELINE.

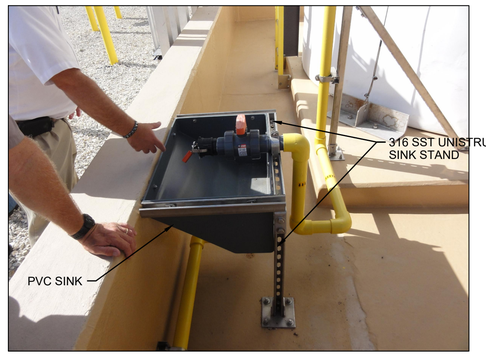


PHOTO (SIMILAR)

VIA.75 BULK CHEMICAL TRUCK UNLOADING STATION
NTS

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JEA Building Community

PROCESS DETAILS
MISCELLANEOUS

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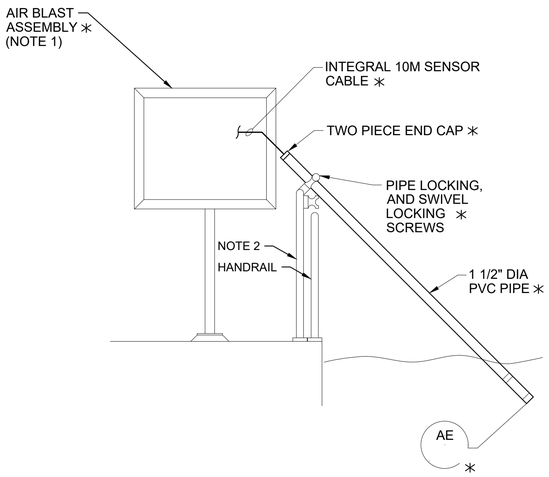
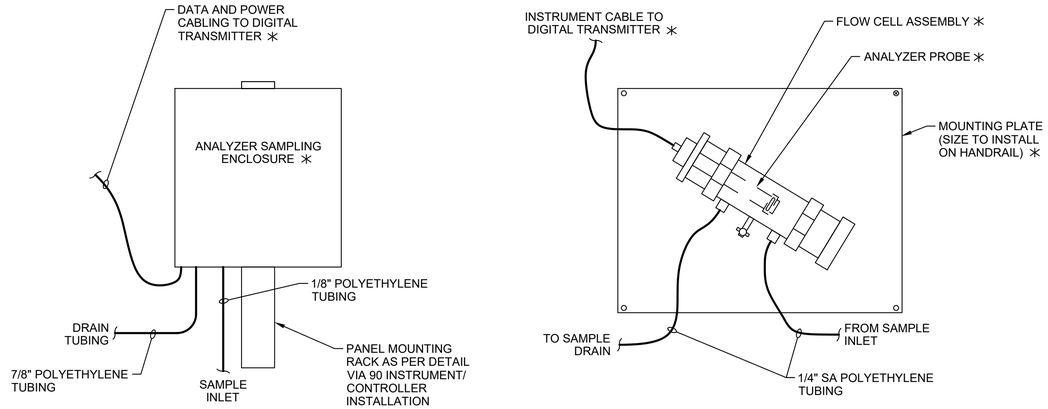


NOTES:

1. PROVIDE IF NOTED ON INSTRUMENT LIST OR SHOWN ON DRAWINGS.
2. PROVIDE STAND AND INSTALL INDEPENDENT FROM HANDRAIL.
3. COMPONENTS DESIGNATED BY AN ASTERISK (⁎) ARE SUPPLIED BY INSTRUMENT MANUFACTURER.

VIA.76 ANALYZER - POLE MOUNT INSTALLATION

NTS



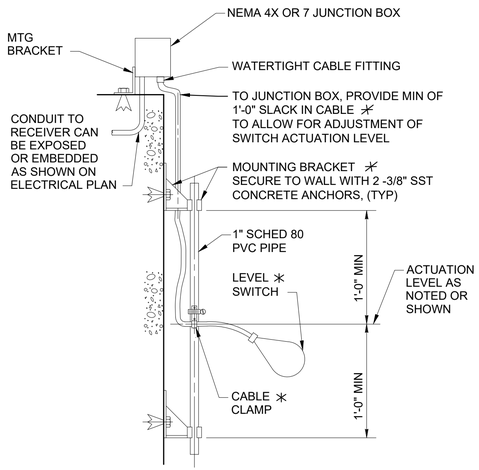
FLOW CELL OPTION

NOTES:

1. COMPONENTS DESIGNATED BY AN ASTERISK (⁎) ARE SUPPLIED BY INSTRUMENT MANUFACTURER.

VIA.77 ANALYZER - FLOW THROUGH MOUNTING INSTALLATION

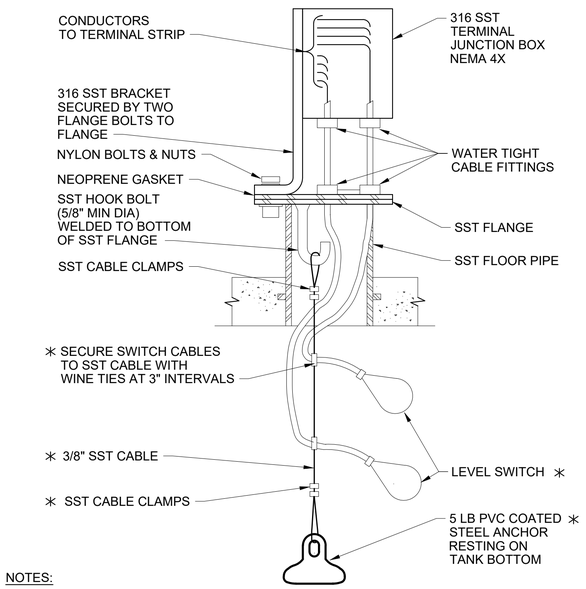
NTS



NOTES:

1. COMPONENTS DESIGNATED BY (⁎) ARE SUPPLIED BY INSTRUMENT MANUFACTURER.

VIA.78 FLOAT TYPE LEVEL SWITCH WITH JUNCTION BOX INSTALLATION

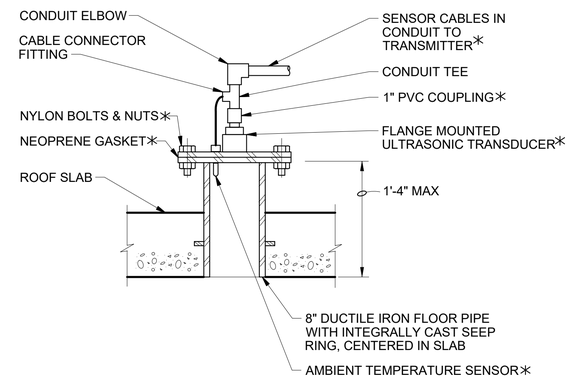


NOTES:

1. COMPONENTS DESIGNATED BY⁎ ARE SUPPLIED BY INSTRUMENT MANUFACTURER.

VIA.79 FLOAT TYPE LEVEL SWITCH WITH JUNCTION BOX INSTALLATION - FLANGE MOUNT

NTS



NOTES:

1. COMPONENTS DESIGNATED BY⁎ ARE SUPPLIED BY INSTRUMENT MANUFACTURER.
2. COAT FLOOR PIPE WITH SPECIFIED PAINT SYSTEM PRIOR TO CONCRETE PLACEMENT.

VIA.80 ULTRASONIC LEVEL ELEMENT INSTALLATION - CONCRETE ROOF

NTS

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JEA Building Community

I&C DETAILS

INSTRUMENT INSTALLATION

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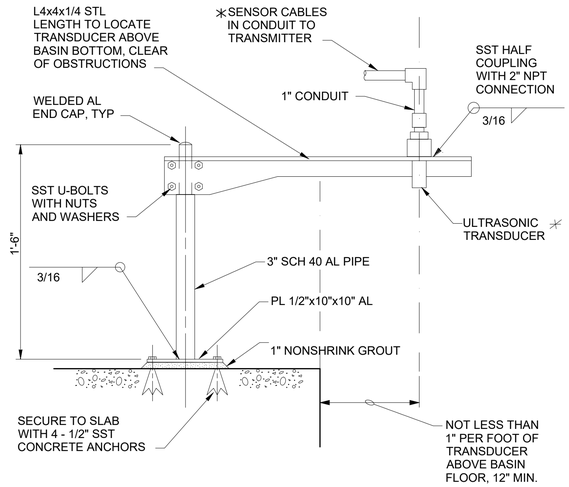
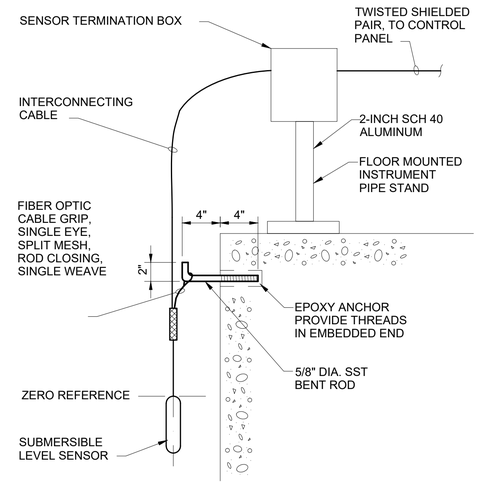


NOTES:

1. COMPONENTS DESIGNATED BY AN ASTERISK (∗) ARE SUPPLIED BY INSTRUMENT MANUFACTURER.
2. PAINT ALUMINUM IN CONTACT WITH CONCRETE ACCORDING TO SPECIFICATIONS FOR PAINTING.

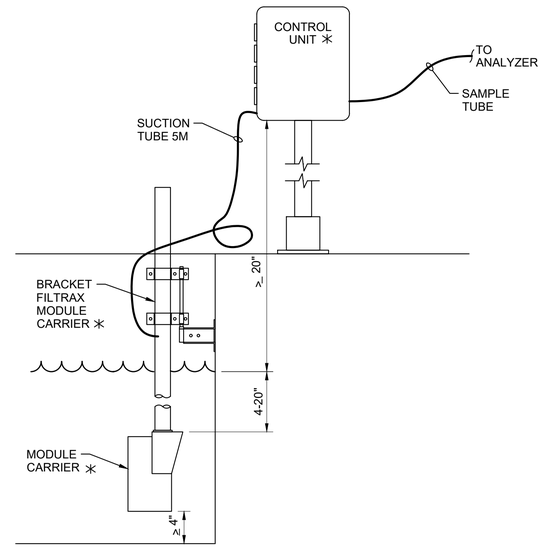
VIA.81 ULTRASONIC LEVEL ELEMENT INSTALLATION

NTS



VIA.82 SUBMERSIBLE LEVEL TRANSMITTER INSTALLATION

NTS

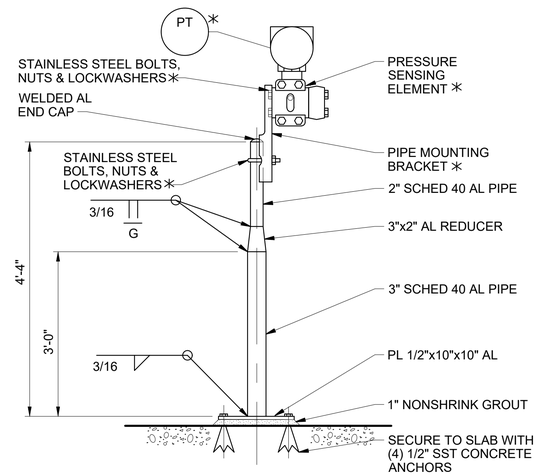


NOTES:

1. COMPONENTS DESIGNATED BY AN ASTERISK (∗) ARE SUPPLIED BY INSTRUMENT MANUFACTURER.

VIA.83 SAMPLE PREPARATION SYSTEM INSTALLATION

NTS



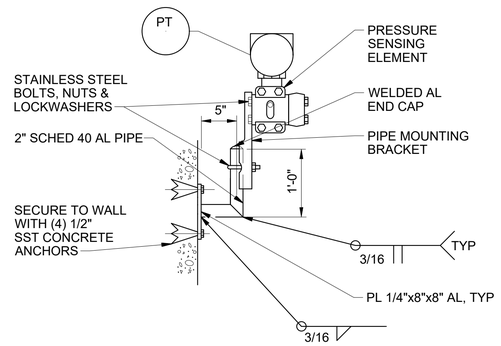
STANCHION MOUNT

NOTES:

1. PAINT ALUMINUM IN CONTACT WITH CONCRETE ACCORDING TO SPECIFICATIONS FOR PAINTING.
2. COMPONENTS DESIGNATED BY ∗ ARE SUPPLIED BY INSTRUMENT MANUFACTURER.

VIA.84 PRESSURE AND PRESSURE DIFFERENTIAL TRANSMITTER INSTALLATION - STANCHION MOUNT

NTS



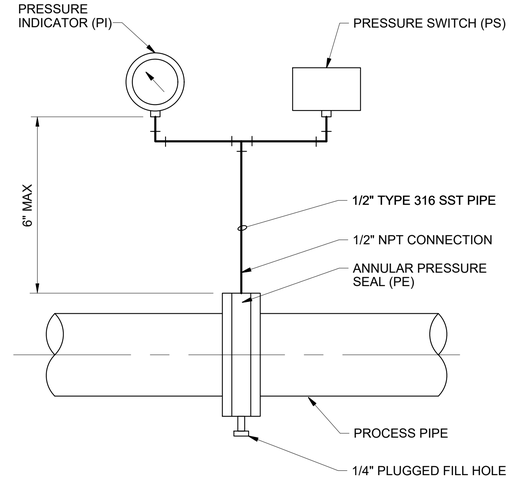
CONCRETE WALL

NOTES:

1. PAINT ALUMINUM IN CONTACT WITH CONCRETE ACCORDING TO SPECIFICATIONS FOR PAINTING.
2. ALL MOUNTING BRACKETS ARE TO BE INSTALLED APPROXIMATELY 4'-0" ABOVE FLOOR OR AS REQUIRED BY PROCESS CONNECTION.

VIA.85 PRESSURE AND PRESSURE DIFFERENTIAL TRANSMITTER INSTALLATION - WALL MOUNT

NTS



NOTES:

1. INDICATOR AND SWITCH INSTALLATION SHOWN. FOR SINGLE INSTRUMENT INSTALLATIONS, MOUNT DEVICE DIRECTLY TO SEAL.

VIA.86 PRESSURE SWITCH AND INDICATOR WITH ANNULAR SEAL INSTALLATION

NTS

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		DR		CHK	APVD

JEA Building Community

I&C DETAILS

INSTRUMENT INSTALLATION

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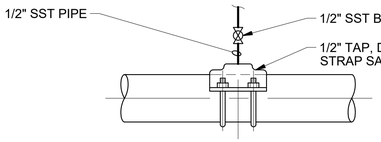
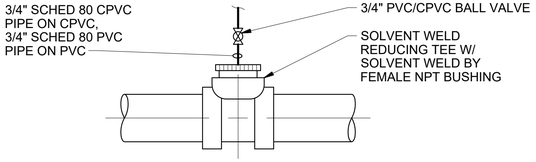


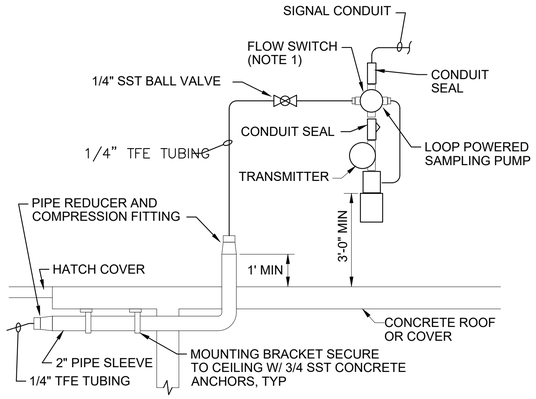
CEMENT LINE STEEL PIPE, CAST IRON PIPE AND DUCTILE IRON PIPE



PVC AND CPVC PIPE

VIA.87 PRESSURE CONNECTION INSTALLATION

NTS



GENERAL NOTES:

A. LOCATE TRANSMITTER LESS THAN 50 FEET FROM PIPE SLEEVE.

SPECIFIC NOTES:

1. PROVIDE SAMPLING PUMP WITH LOW FLOW SWITCH INTERLOCK TO DISABLE 4-20 MA DC SIGNAL ON FALLING LOW FLOW EVENT.

VIA.88 COMBUSTIBLE GAS UNIT MOUNT DETAIL

NTS

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JEA Building Community

I&C DETAILS

INSTRUMENT INSTALLATION

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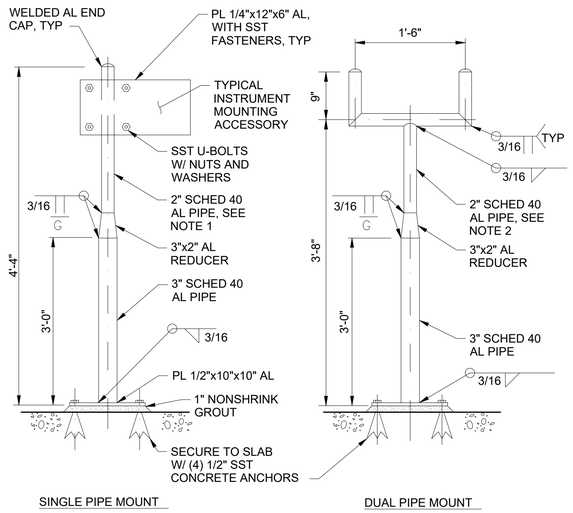
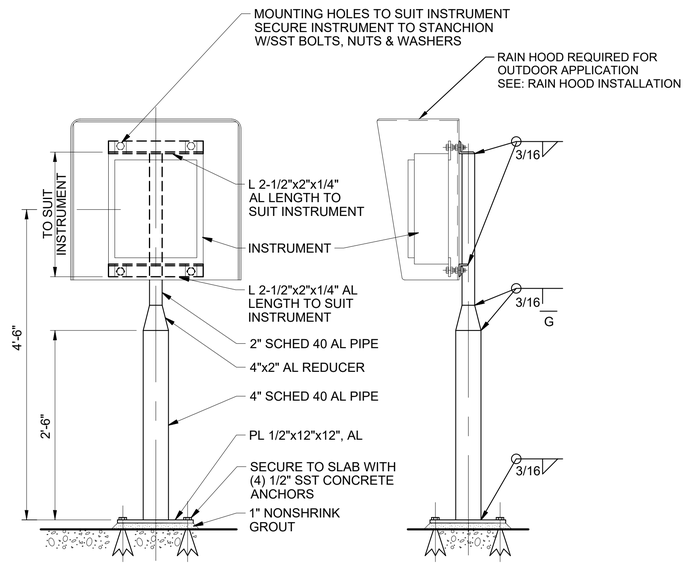


NOTES:

1. PAINT ALUMINUM IN CONTACT WITH CONCRETE ACCORDING TO SPECIFICATIONS FOR PAINTING.

VIA.89 FLOOR MOUNTED INSTRUMENT PIPE STANDS

NTS

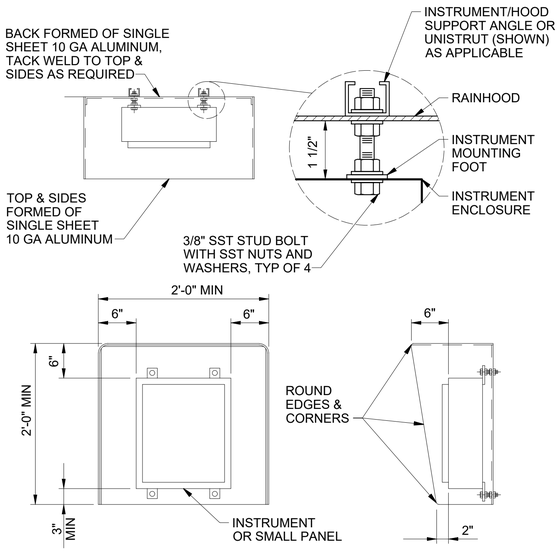


NOTES:

1. ROUND OFF ALL EXPOSED EDGES AND CORNERS.
2. PAINT ALUMINUM IN CONTACT WITH CONCRETE ACCORDING TO SPECIFICATIONS FOR PAINTING.

VIA.90 INSTRUMENT/CONTROLLER INSTALLATION

NTS

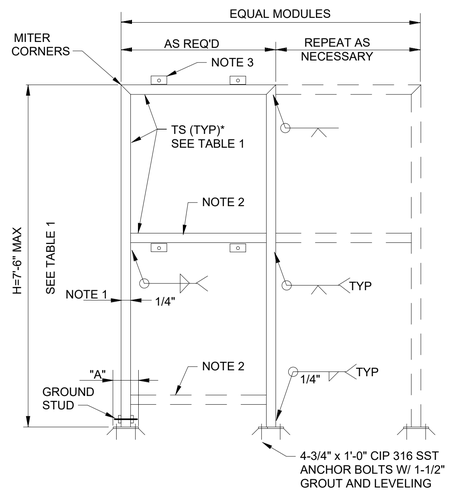


NOTES:

1. ALL EXPOSED EDGES TO BE GROUND SMOOTH AND BURR FREE.
2. MOUNT RAIN HOOD BETWEEN INSTRUMENT AND MOUNTING BRACKET. DRILL HOLES IN RAIN HOOD AS PER MOUNTING HOLES FOR INSTRUMENT, SEE INSTRUMENT/CONTROLLER INSTALLATION STANDARD DETAIL.

VIA.91 RAIN HOOD INSTALLATION

NTS



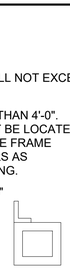
ELEVATION

PROVIDE ONE 3/8" DIA, SILICON BRONZE GROUND STUD WITH SILICON BRONZE NUTS AND WASHERS. (NOTE 8)

PLAN

NOTES:

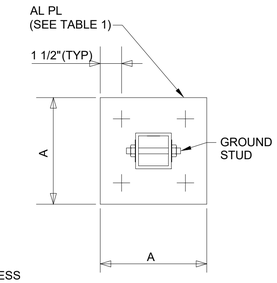
1. TOTAL WEIGHT OF PANEL(S) SHALL NOT EXCEED 750 LB IN EACH MODULE.
2. FOR PANELS WITH "H" GREATER THAN 4'-0". ONE HORIZONTAL MEMBER MUST BE LOCATED WITHIN THE MIDDLE THIRD OF THE FRAME HEIGHT. PROVIDE ADD'L MEMBERS AS NECESSARY FOR PANEL MOUNTING.
3. PROVIDE L 2 1/2"x 2 1/2"x 1/4"x 0'-3" WELD ALL AROUND TO TS: TYP AT EACH PANEL MOUNT.



4. GRIND ALL WELDS AND SHARP CORNERS SMOOTH.
5. THIS DETAIL APPLIES TO NON-FREE STANDING ELECTRICAL EQUIPMENT OVER 25 LB WHICH IS NOT MOUNTED ON A FREE STANDING FRAME OR IS NOT WALL MOUNTED.
6. PANEL OR INSTRUMENT FRONT FACES NORTH, UNLESS OTHERWISE NOTED.

TABLE 1			
HEIGHT "H"	ALUMINUM FRAME		
	TS (MIN SIZE)	BASE PLATE (IN)	
		A	t
5'-0" MAX.	TS 3 x 3 x.188	8	1/2
7'-6" MAX.	TS 4 x 4 x.188	9	5/8

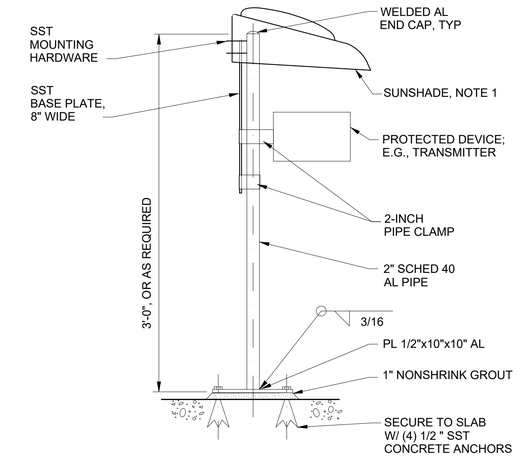
7. FOR OUTDOOR APPLICATIONS, PROVIDE RAINHOOD/ SOLAR SHIELD AS PER DETAIL V.78.
8. PROVIDE #6 BARE COPPER GROUND WIRE FROM EACH PANEL AND INSTRUMENT MOUNTED ON RACK TO GROUND STUD. CONNECTION TO GROUND GRID SPECIFIED UNDER "ELECTRICAL SPECIFICATIONS".



BASE PLATE

VIA.92 PANEL MOUNTING RACK

NTS



SPECIFIC NOTES:

1. PROVIDE SUNSHADE OF SUITABLE SIZE. SUNSHADE SHALL BE BLENDED ABS MATERIAL FOR UV PROTECTION AND CORROSION RESISTANCE.

GENERAL NOTES:

1. PAINT ALUMINUM IN CONTACT WITH CONCRETE ACCORDING TO SPECIFICATIONS FOR PAINTING.

VIA.93 INSTRUMENT PIPE STAND/SOLAR SHIELD

NTS

NO.	DATE	DSGN	REVISION	BY	APVD

JEA Building Community

I&C DETAILS

INSTRUMENT & PANEL MOUNTING

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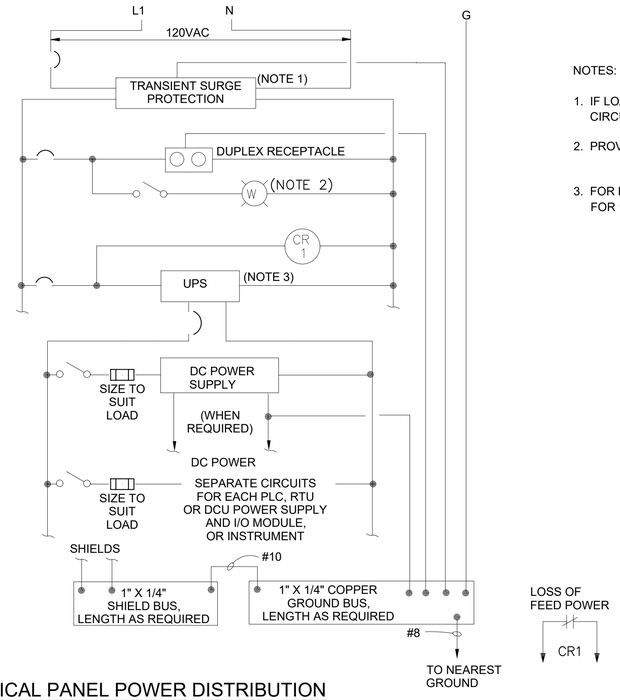
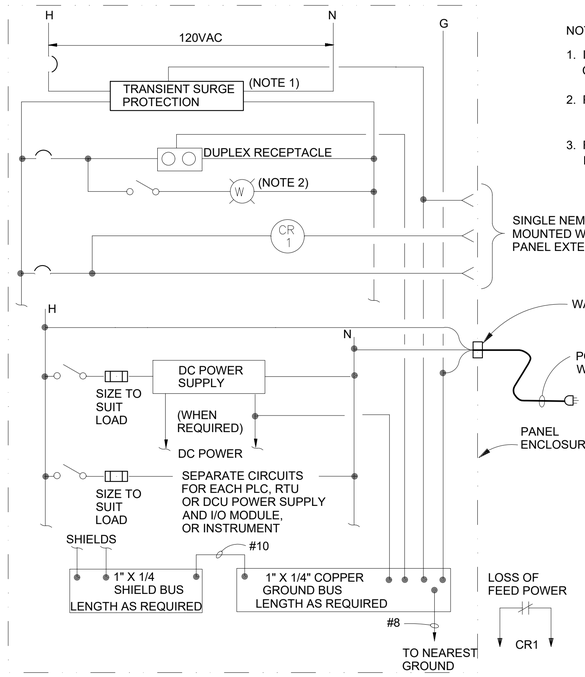


NOTES:

1. IF LOAD EXCEEDS 15 AMPS PROVIDE ADDITIONAL PARRALLEL CIRCUITS WITH TRANSIENT SURGE PROTECTION AS SHOWN.
2. PROVIDE APPROPRIATE LIGHTING PACKAGE FOR PANEL SIZE
3. FOR LOADS OVER 400VA, PROVIDE SIMILAR UPS SIZED FOR 125 PERCENT OF THE CONNECTED LOAD.

VIA.94 TYPICAL PANEL POWER DISTRIBUTION FOR PANELS WITH INTERNAL UPS

NTS

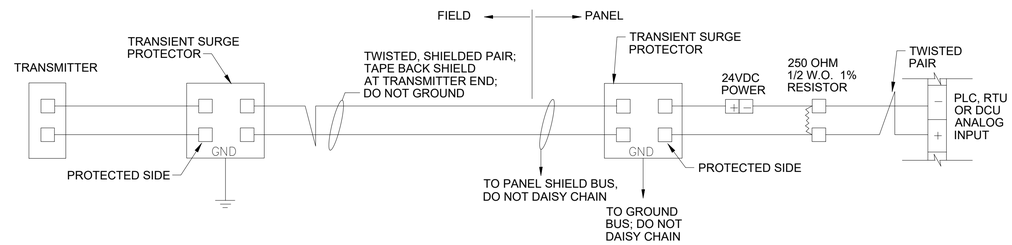


NOTES:

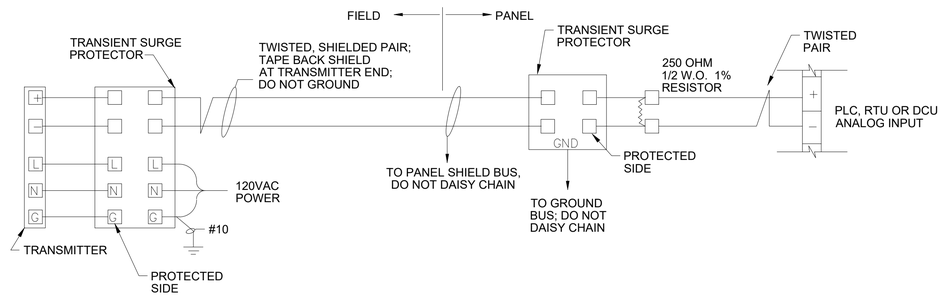
1. IF LOAD EXCEEDS 15 AMPS PROVIDE ADDITIONAL PARRALLEL CIRCUITS WITH TRANSIENT SURGE PROTECTION AS SHOWN.
2. PROVIDE APPROPRIATE LIGHTING PACKAGE FOR PANEL SIZE
3. FOR LOADS OVER 400VA, PROVIDE SIMILAR UPS SIZED FOR 125 PERCENT OF THE CONNECTED LOAD.

VIA.95 TYPICAL PANEL POWER DISTRIBUTION FOR PANELS WITH EXTERNAL LOCAL UPS

NTS



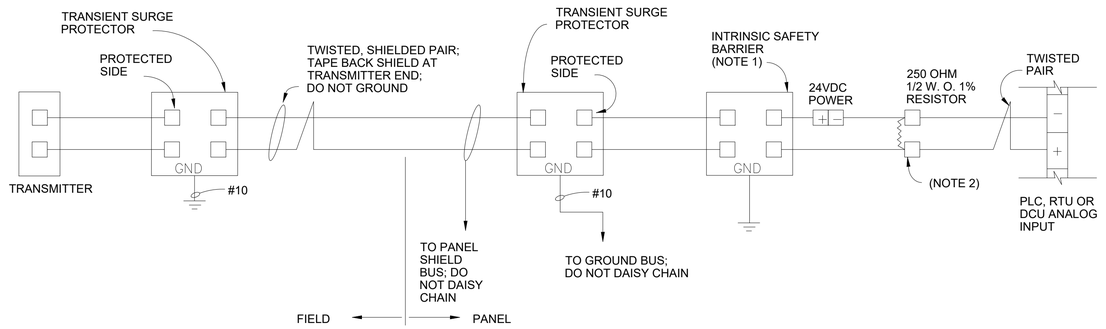
2-WIRE TRANSMITTER



4-WIRE TRANSMITTER

VIA.96 TYPICAL OUTDOOR TRANSMITTERS

NTS



NOTES:

1. INSTALL PER MANFUCTURERS RECOMMENDATIONS TO PROVIDE PROTECTION FOR FIELD ELEMENTS IN CLASS 1, DIVISION 2, GROUP D ENVIRONMENTS.
2. LOCATE ADJACENT TO INTRINSIC SAFETY BARRIERS.

VIA.97 TYPICAL OUTDOOR HAZARDOUS LOCATION 2-WIRE TRANSMITTER

NTS

NO.	DSGN	DATE	DR	CHK	APVD	BY	APVD	REVISION

JEA Building Community sm

I&C DETAILS

POWER DISTRIBUTION & SURGE PROTECTION

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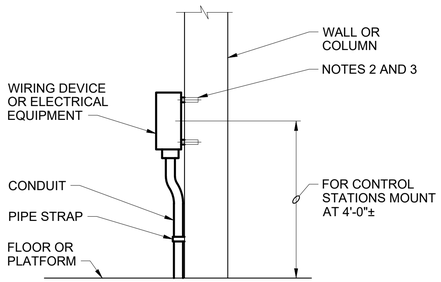
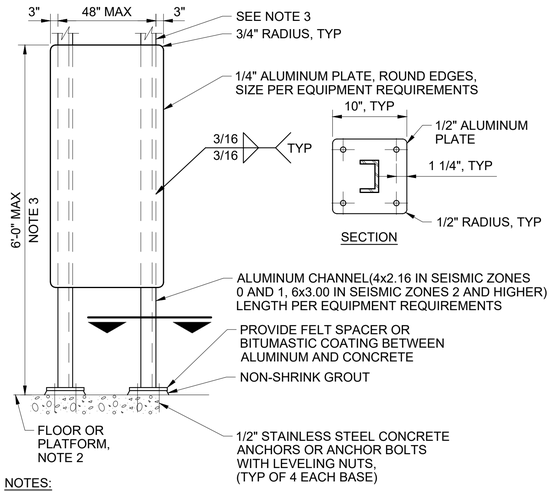


NOTES:

1. ALL MOUNTING HARDWARE SHALL BE STAINLESS STEEL. USE WASHER AND SPLIT-LOCK WASHERS UNDER ALL NUTS.
2. ON CONCRETE WALLS USE STAINLESS STEEL CONCRETE ANCHORS. MOUNT ENCLOSURE ON 1/2" SPACERS OF 1/2" SCHEDULE 80 PVC CONDUIT.
3. BOXES 6 INCHES SQUARE AND LESS SHALL BE SUPPORTED BY TWO ANCHORS. LARGER BOXES SHALL BE SUPPORTED BY AT LEAST FOUR.

VIA.98 DEVICE MOUNTING, WALL OR COLUMN

NTS

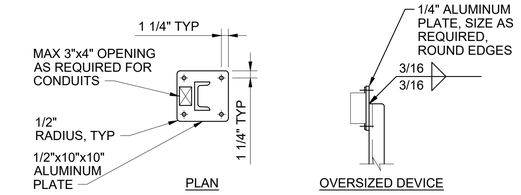


NOTES:

1. USE STAINLESS STEEL MOUNTING HARDWARE. USE WASHER AND SPLIT LOCK WASHER UNDER ALL NUTS.
2. FOR YARD LOCATIONS PROVIDE A 6 INCH THICK CONCRETE PAD AT GRADE WITH #4 BAR @ 12" OC EACH WAY, CENTERED. THE PAD SHALL BE 12 INCHES LONGER THAN THE MOUNTING PLATE BY ONE HALF THE HEIGHT OF THE MOUNTING PLATE ABOVE FINISHED GRADE. MINIMUM WIDTH 24 INCHES.
3. FOR HEIGHTS EXCEEDING 5'-0" OR WEIGHT OF MOUNTED EQUIPMENT EXCEEDING 200 LBS, SIZE POSTS AND CONNECTIONS FOR LATERAL LOADS. EXTEND POSTS TO STRUCTURE ABOVE WHERE REQUIRED BY CALCULATION, SEE GENERAL ELECTRICAL CONSTRUCTION NOTES ON DRAWINGS.

VIA.99 DEVICE MOUNTING, EQUIPMENT PEDESTAL

NTS

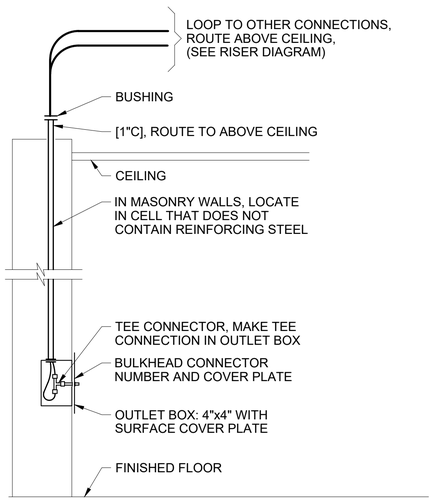


NOTES:

1. ALL MOUNTING HARDWARE SHALL BE STAINLESS STEEL. USE WASHERS AND SPLIT-LOCK WASHERS UNDER ALL NUTS AND BOLTS.
2. FOR HEIGHTS EXCEEDING 4'-0" OR WEIGHTS OF MOUNTED EQUIPMENT EXCEEDING 200 LBS, SIZE POST AND CONNECTION FOR LATERAL LOADS. EXTEND POSTS TO STRUCTURE ABOVE WHERE REQUIRED BY CALCULATION.

VIA.100 DEVICE MOUNTING, PEDESTAL

NTS



VIA.101 DEVICE MOUNTING, COMPUTER OUTLET BOX

NTS

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JEA Building Community

ELECTRICAL DETAILS

DEVICE MOUNTING

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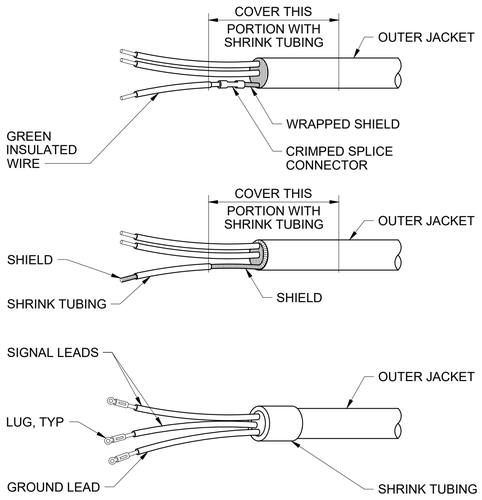
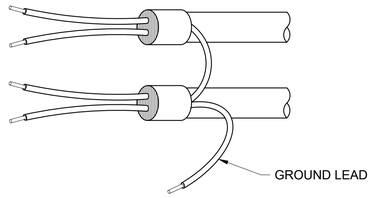


NOTES:
1. ALL SHIELDED INSTRUMENTATION CABLE SHALL BE TERMINATED IN ACCORDANCE WITH THIS DETAIL WHERE GROUNDING IS REQUIRED.

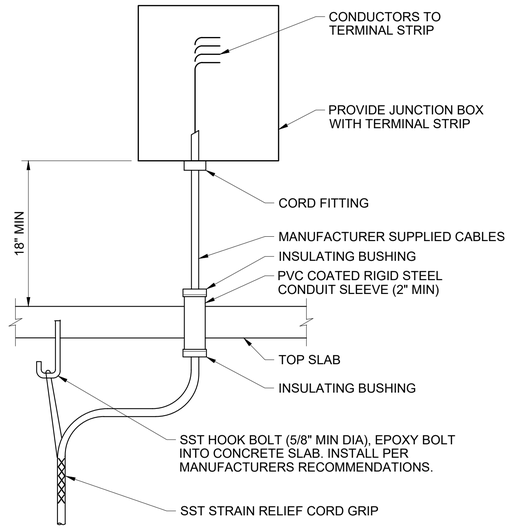
VIA.102 TERMINATION OF SHIELDED INSTRUMENTATION CABLE

NTS



VIA.103 UNACCEPTABLE METHODS OF GROUNDING INSTRUMENTATION CABLE SHIELD

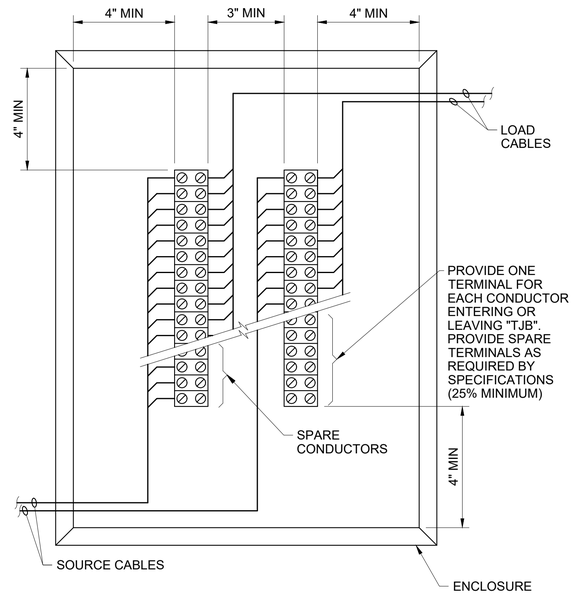
NTS



NOTES:
1. ALL HARDWARE SHALL BE STAINLESS STEEL.
2. THIS DETAIL SHALL BE USED FOR TERMINATION OF ALL MANUFACTURER SUPPLIED CABLES (MSC) EXITING A WET WELL IF NO OTHER DETAIL IS CALLED OUT ON THE DRAWINGS.
3. FILL CONDUIT SLEEVE WITH EXPANDABLE SEALING COMPOUND.

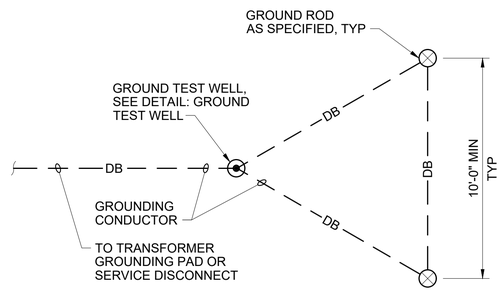
VIA.104 MSC CABLE TERMINATION

NTS



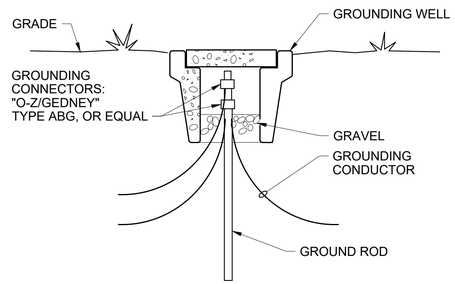
VIA.105 TERMINAL JUNCTION BOX (TJB)

NTS



VIA.106 GROUND TRIANGLE

NTS



VIA.107 GROUND TEST WELL

NTS

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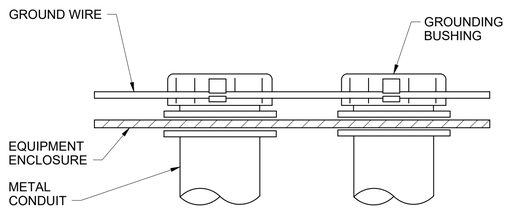
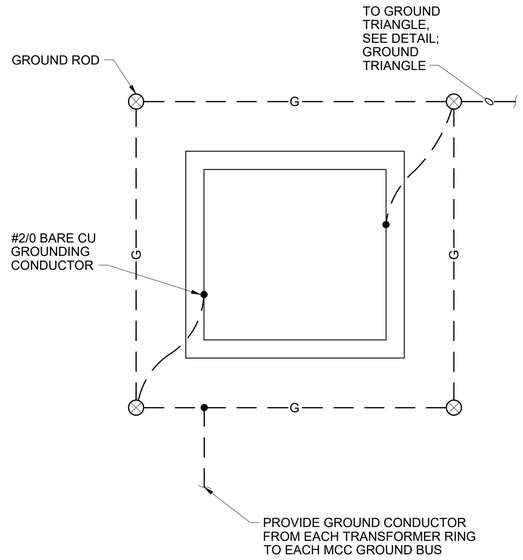


NOTES:
1. THE ENDS OF ALL CONDUITS REQUIRED TO BE GROUNDED BY THE SPECIFICATIONS SHALL BE GROUNDED IN ACCORDANCE WITH THIS DETAIL.

VIA.108 CONDUIT GROUNDING

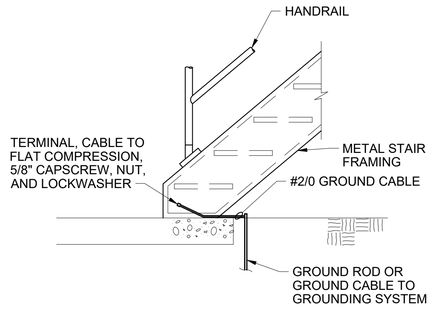
NTS



PLAN

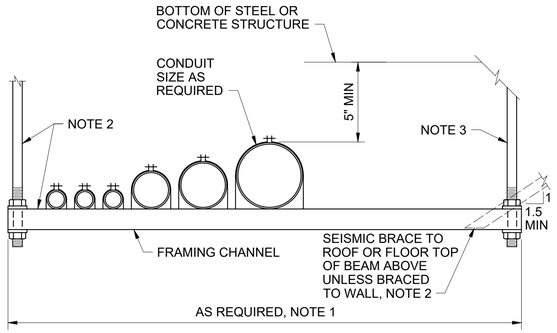
VIA.109 PAD MOUNTED TRANSFORMER AND PAD MOUNTED SWITCH GROUNDING

NTS



VIA.110 GROUNDING, GENERAL STAIRWAY

NTS

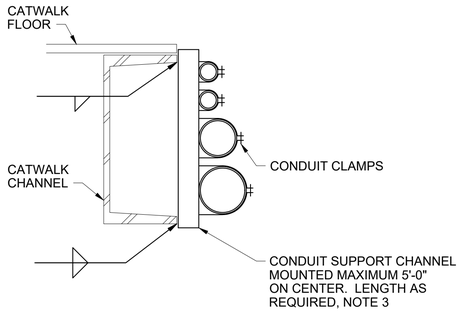


SINGLE RACK

NOTES:
1. LENGTH VARIES WITH NUMBER OF CONDUITS TO BE SUPPORTED AND SPACING BETWEEN CONDUITS.
2. DETERMINE SPAN AND TYPE OF SUPPORTS, LOCATE SUPPORTS, AND SIZE SUPPORT RODS, CONNECTIONS AND BRACES PER MANUFACTURER'S RECOMMENDATIONS AND SEISMIC REQUIREMENTS.
3. AT STEEL STRUCTURE, USE MALLEABLE BEAM CLAMP. AT CONCRETE STRUCTURE, USE UNIVERSAL CONCRETE INSERT, FRAMING CHANNEL WITH #4 x 3'-0" BELOW. TYPE AND SIZE AS REQUIRED BY TOTAL LOADS.
4. USE STAINLESS STEEL HARDWARE IN WET AND/OR CORROSIVE AREAS.
5. SPACE CONDUIT SUFFICIENTLY TO ALLOW REMOVAL OF ONE CONDUIT WITHOUT DISTURBING ADJACENT CONDUITS.

VIA.111 CONDUIT RACKING SYSTEM

NTS



NOTES:
1. EXPOSED CONDUIT AND CONDUIT CLAMPS IN AREAS SUBJECT TO ACCELERATED CORROSION SHALL BE PVC COATED RIGID STEEL.
2. MOUNTING HARDWARE SHALL BE STAINLESS STEEL.
3. LOCATE AND SIZE SUPPORTS FOR VERTICAL AND LATERAL LOADS.

VIA.112 CONDUIT RACKING SYSTEM, VERTICAL

NTS

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						REVISION	

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GROUNDING & CONDUIT RACKING

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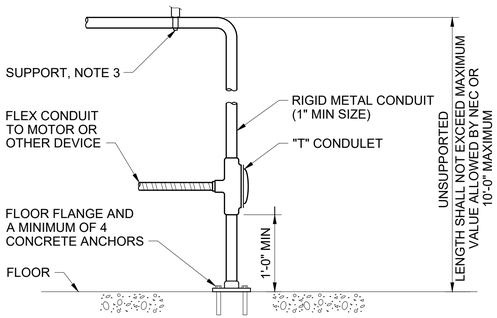
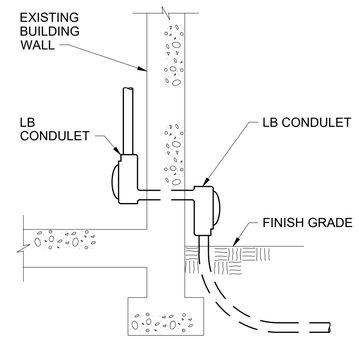


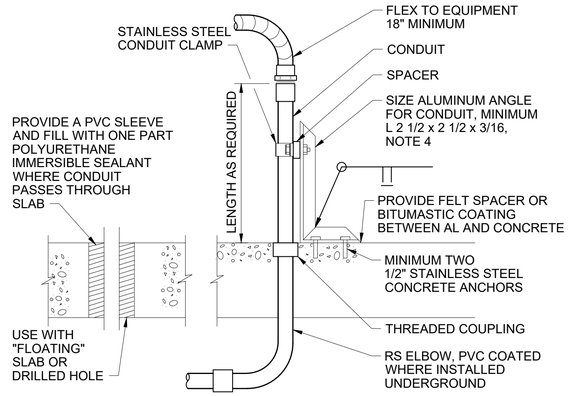
NOTES:
1. INSTALLATION OF CONDUIT TO A MOTOR OR OTHER DEVICE WHERE A FLEXIBLE CONNECTION IS REQUIRED AND NO JUNCTION BOXES OR CONTROL DEVICES ARE REQUIRED SHALL BE MADE IN ACCORDANCE WITH THIS DETAIL.
2. ALL HARDWARE SHALL BE STAINLESS STEEL.
3. SIZE TOP AND ANY INTERMEDIATE LATERAL SUPPORTS AS REQUIRED FOR STABILITY AND SEISMIC LOADS. SEE GENERAL ELECTRICAL CONSTRUCTION NOTES ON DRAWINGS.

VIA.113 CONDUIT TO EQUIPMENT FROM CEILING
NTS



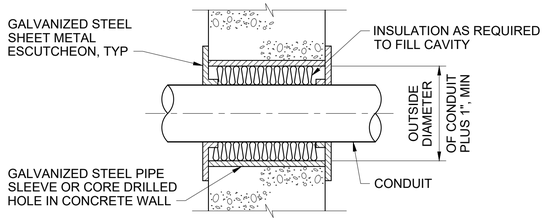
NOTES:
1. INSTALL CONDUITS THROUGH EXISTING WALLS IN ACCORDANCE WITH THIS DETAIL IF NOT OTHERWISE INDICATED.
2. DRILL HOLE USING METHODS THAT LEAVE A SMOOTH OPENING. SEAL OPENING AROUND CONDUIT, INSIDE, AND OUTSIDE, WITH ONE PART POLYURETHANE IMMERSIBLE SEALANT.

VIA.114 CONDUIT ENTRANCE
NTS



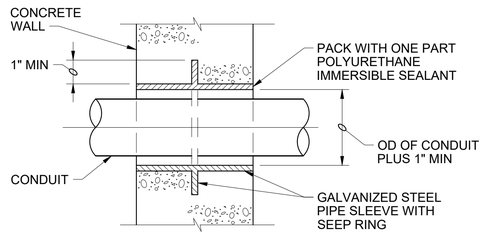
NOTES:
1. PROVIDE SUPPORT FOR ALL METAL CONDUITS WHICH EXTEND MORE THAN 18 INCHES OUT OF THE SLAB WITHIN 3 INCHES OF THE END OF THE CONDUIT.
2. PROVIDE SUPPORT FOR ALL PVC CONDUIT WITHIN 3 INCHES OF THE END OF THE CONDUIT.
3. THIS DETAIL SHALL BE USED FOR SUPPORT OF ALL CONDUITS WHICH ARE NOT OTHERWISE SUPPORTED IN A RIGID MANNER SUCH AS AGAINST AN EQUIPMENT BASE, WALL, COLUMN, ETC, AS REQUIRED ABOVE.
4. FOR ANY ANGLE GREATER THAN 2'-6" TALL, SIZE ANGLE SUPPORT AND ANCHORS FOR SEISMIC LOADS.

VIA.115 CONDUIT TRANSITION AND SUPPORT
NTS

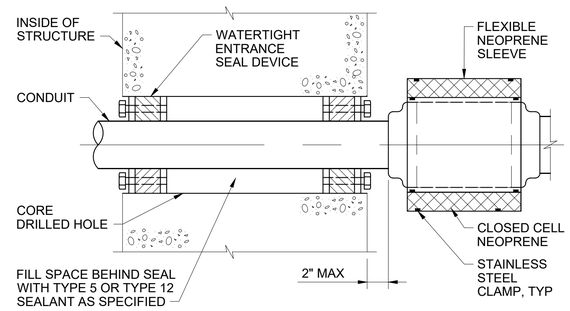


NOTES:
1. CONDUITS WHICH INDIVIDUALLY PASS THRU AN INTERIOR WALL SHALL BE INSTALLED IN ACCORDANCE WITH THIS DETAIL. IF WALL IS A FIRE WALL, FILL CAVITY WITH FIRE STOP SEALANT AS SPECIFIED.

VIA.116 INTERIOR WALL PENETRATION
NTS



VIA.117 CONDUIT UNDERGROUND ENTRANCE
NTS



NOTES:
1. USE WATERTIGHT CONDUIT SEAL WHERE CONDUIT PENETRATIONS OF EXISTING BUILDING EXTERIOR WALLS ARE BELOW GRADE.

VIA.118 WATERTIGHT WALL CONDUIT SEAL
NTS

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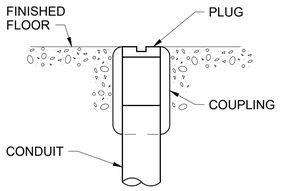
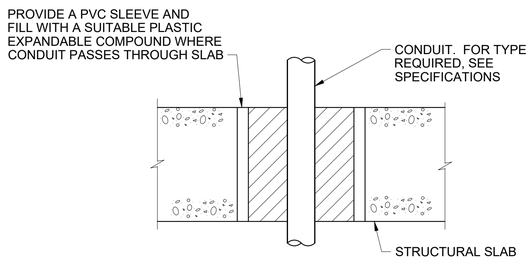


NOTES:
1. CONDUITS WHICH ARE STUBBED UP IN A CONCRETE SLAB FOR FUTURE EXTENSION SHALL BE INSTALLED IN ACCORDANCE WITH THIS DETAIL.

VIA.119 FLUSH CONDUIT STUB

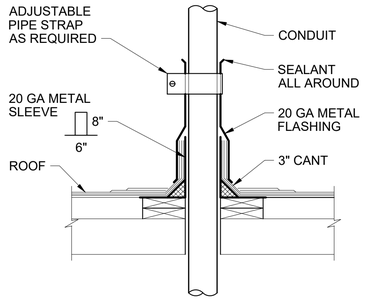
NTS



NOTES:
1. ALL CONDUITS THROUGH CONCRETE FLOOR SLABS AND EQUIPMENT PADS SHALL BE INSTALLED IN ACCORDANCE WITH THIS DETAIL.

VIA.120 INTERIOR FLOOR SLAB PENETRATION

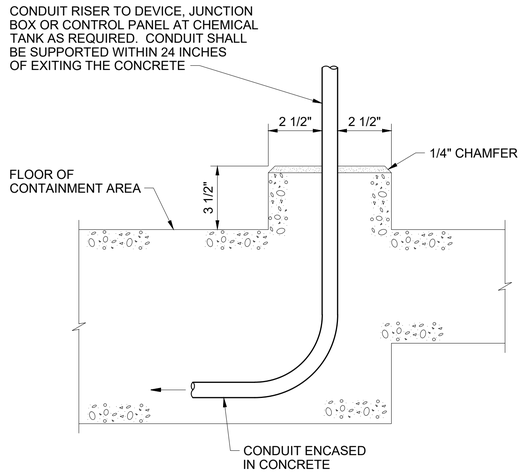
NTS



NOTES:
1. CONDUITS WHICH PASS THROUGH A ROOF SHALL BE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF THIS DETAIL.

VIA.121 FLASHING

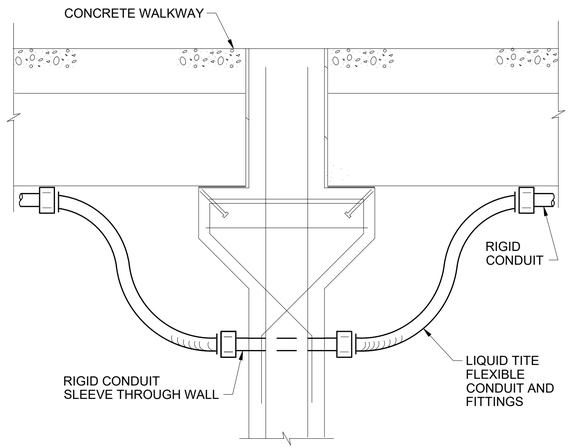
NTS



NOTES:
1. CONDUIT INSTALLED INSIDE OF A CONTAINMENT AREA SHALL BE INSTALLED IN ACCORDANCE WITH THIS DETAIL. FOR TYPE OF CONDUIT TO BE INSTALLED, SEE SPECIFICATION.

VIA.122 CONDUIT IN CONTAINMENT AREA

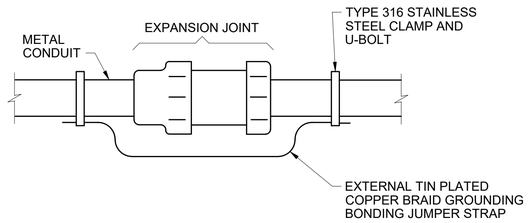
NTS



SECTION

VIA.123 CONDUIT ALONG WALKWAY AT CORBEL SUPPORT

NTS



NOTES:
1. COUPLINGS TO BE INSTALLED AT CONCRETE EXPANSION JOINTS OR 100' INTERVALS.

VIA.124 CONDUIT EXPANSION JOINT

NTS

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REVISION							

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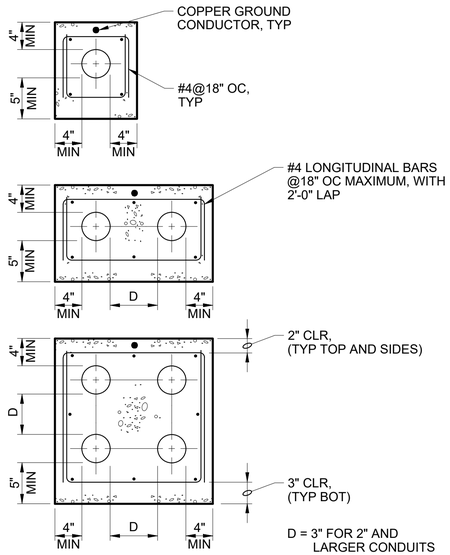
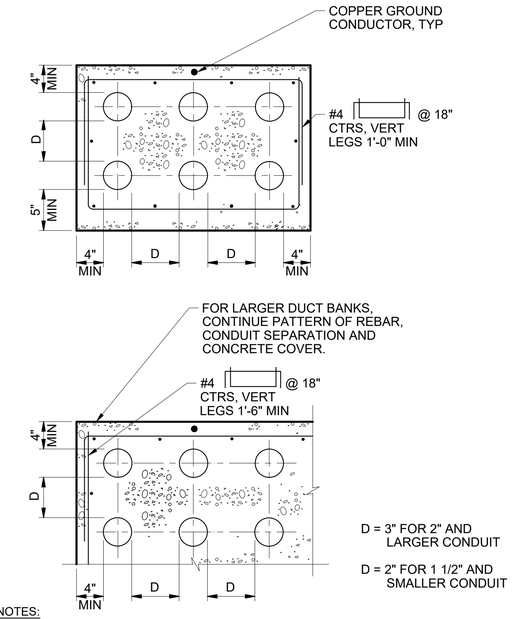


NOTES:
1. PROVIDE 6" MINIMUM COMPACTED GRAVEL, 3/4" MINUS, UNDER ALL CONCRETE ENCASED DUCT RUNS.

VIA.125 DUCTBANK A

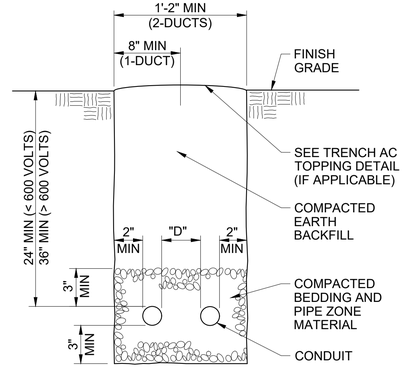
NTS



NOTES:
1. PROVIDE 6" MINIMUM COMPACTED GRAVEL, 3/4" MINUS, UNDER ALL CONCRETE ENCASED DUCT RUNS.

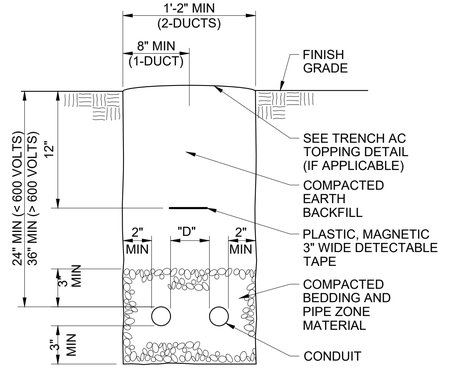
VIA.126 DUCTBANK B

NTS



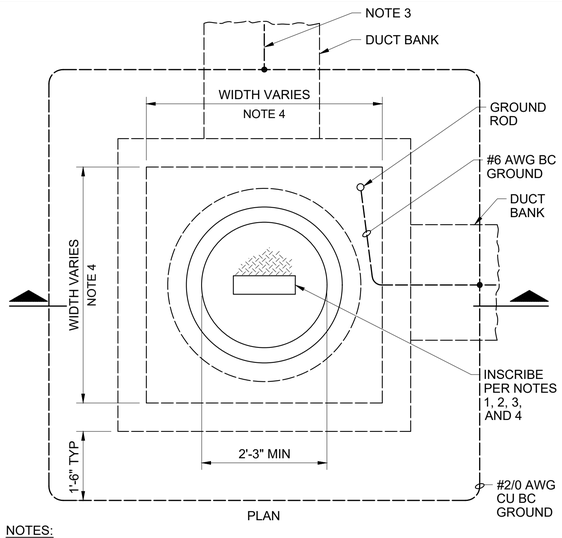
VIA.127 TRENCH AND CONDUIT PLACEMENT TYPE 1

NTS



VIA.128 TRENCH AND CONDUIT PLACEMENT TYPE 2

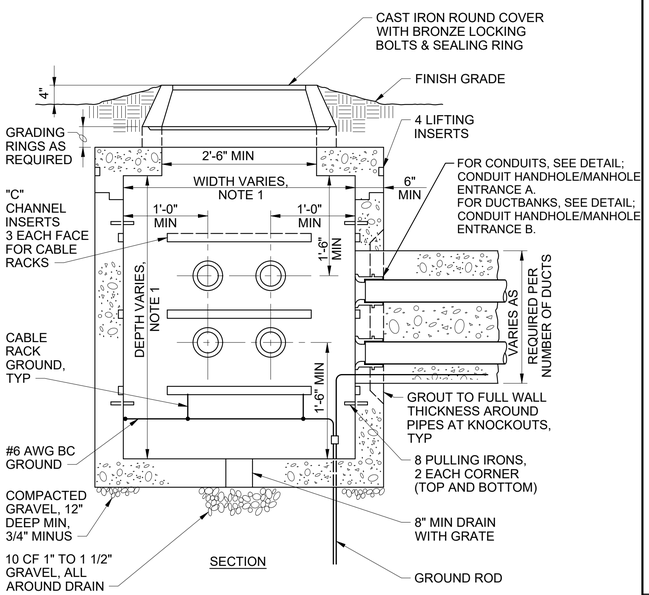
NTS



NOTES:
1. INSCRIBE "ELECTRICAL HIGH VOLTAGE" IF ANY CIRCUIT IN MANHOLE IS ABOVE 600V.
2. INSCRIBE "ELECTRICAL LOW VOLTAGE" IF ALL CIRCUITS IN MANHOLE ARE 600V OR LESS.
3. INSCRIBED "CONTROLS" IF ALL CIRCUITS IN MANHOLE ARE DISCRETE, ANALOG, AND FIBER OPTIC.
4. INSCRIBE "SECURITY" IF ALL CIRCUITS IN MANHOLE ARE SECURITY, AND FIBER OPTIC.
5. INSTALL #2/0 AWG BARE COPPER GROUND CENTERED ON TOP OF ALL DUCT RUNS.

VIA.129 MANHOLE WITH GROUND

NTS



NOTES:
1. SIZE MANHOLE PER NEC REQUIREMENTS (MINIMUM WIDTH AND DEPTH 72 INCHES).

VIA.130 MANHOLE WITH GROUND, SECTION

NTS

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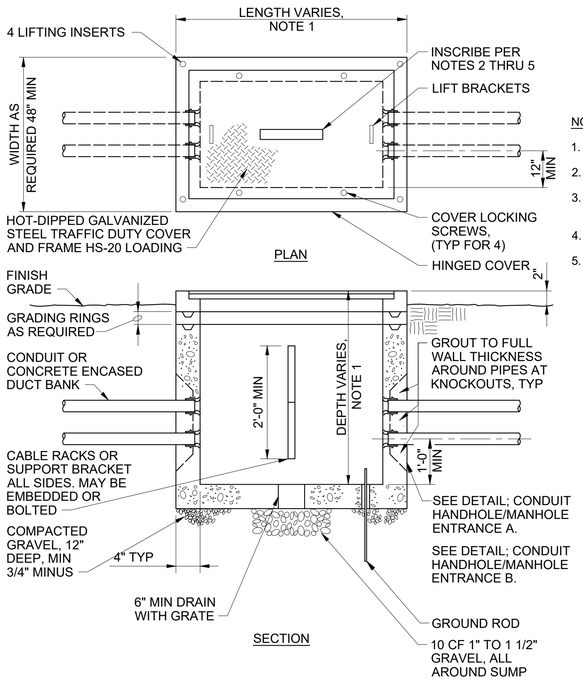
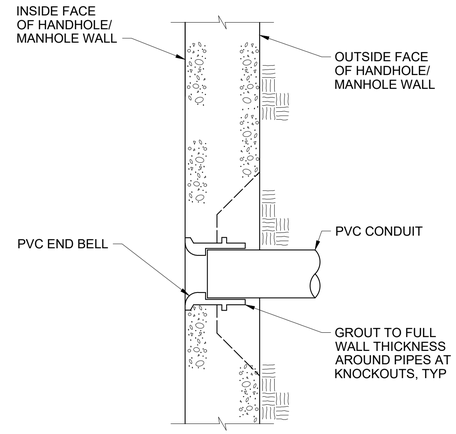


NOTES:

1. SIZE HANDHOLE PER NEC REQUIREMENTS (MINIMUM LENGTH AND DEPTH 48 INCHES).
2. INSCRIBE "ELECTRICAL HIGH VOLTAGE" IF ANY CIRCUIT IN HANDHOLE IS ABOVE 600V.
3. INSCRIBE "ELECTRICAL LOW VOLTAGE" IF ALL CIRCUITS IN HANDHOLE ARE 600V OR LESS.
4. INSCRIBE "CONTROLS" IF ALL CIRCUITS ARE DISCRETE, ANALOG, AND FIBER OPTIC.
5. INSCRIBE "SECURITY" IF ALL CIRCUITS ARE SECURITY, AND FIBER OPTIC.

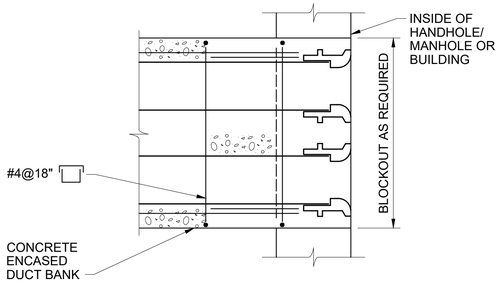
VIA.131 HANDHOLE

NTS



VIA.132 CONDUIT HANDHOLE/MANHOLE ENTRANCE A

NTS

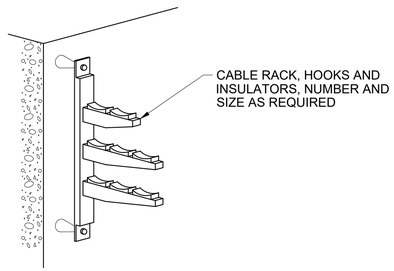


NOTES:

1. EXTEND REBAR A MINIMUM OF 2' BEYOND THE LIMIT OF EXCAVATION.

VIA.133 CONDUIT HANDHOLE/MANHOLE ENTRANCE B

NTS



VIA.134 CABLE RACK

NTS

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				REVISION		APVD

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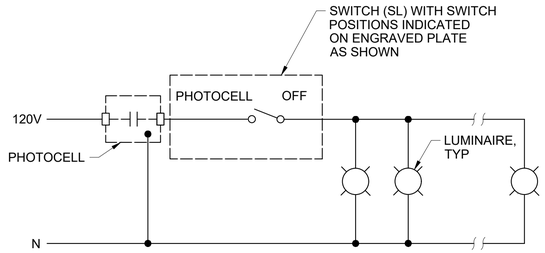
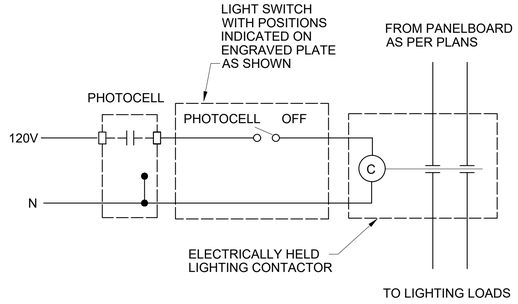


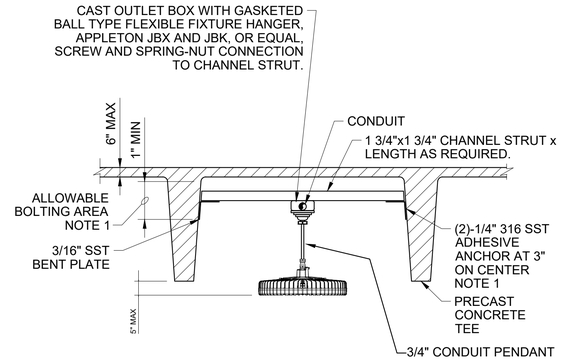
VIA.135 EXTERIOR BUILDING LIGHT CONTROL

NTS



VIA.136 EXTERIOR LIGHT CONTROL

NTS

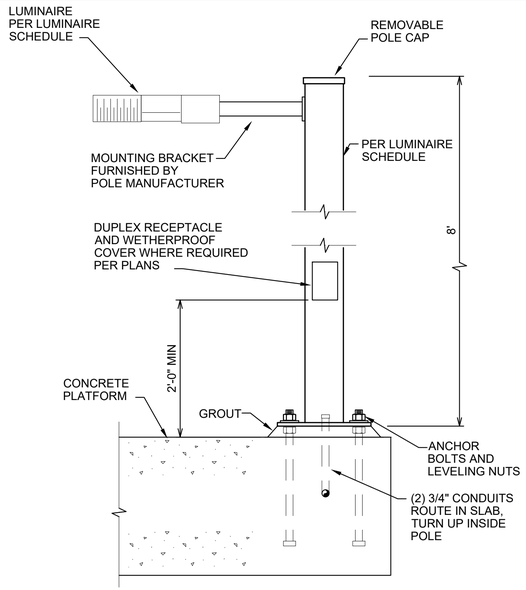


VIA.137 LUMINAIRE MOUNTING

NTS

NOTES:

1. CONTRACTOR SHALL COORDINATE BOLTING AREA AND ANCHOR LOCATION WITH PRECAST MANUFACTURER PRIOR TO FABRICATION.
2. PROVIDE ADDITIONAL CHANNEL STRUT, SPACED AS REQUIRED TO SUPPORT CONDUIT.

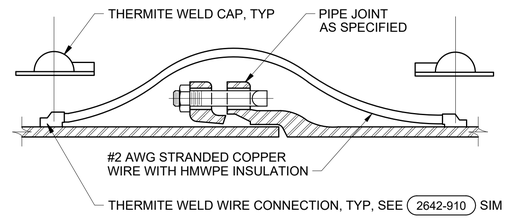


NOTES:

1. CONTRACTOR SHALL COORDINATE POLE LOCATIONS WITH HANDRAILS.
2. POLE SUPPLIER SHALL DESIGN POLE ANCHORAGE TO CONCRETE. SUBMIT CALCULATIONS SIGNED AND SEAL BY FL. P.E.

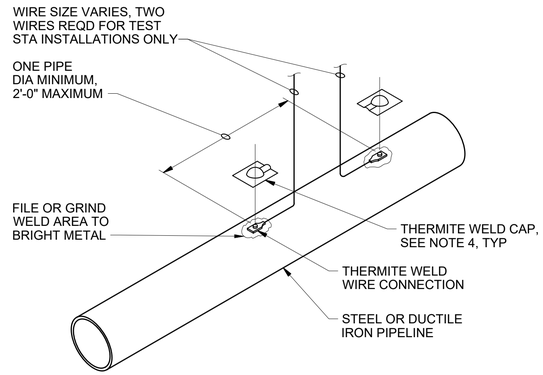
VIA.138 LUMINAIRE POLE MOUNTING

NTS



VIA.139 PIPE JOINT BOND

NTS



NOTES:

1. COPPER SLEEVE REQUIRED FOR THERMITE WELDING OF #10 AWG AND SMALLER WIRE.
2. USE COPPER SLEEVE ON #2 AWG JOINT BONDING WIRES.
3. WELDER AND CARTRIDGE SIZE VARIES ACCORDING TO WIRE SIZE AND PIPE MATERIAL, CONSULT WELDER MANUFACTURER FOR RECOMMENDED WELDER AND CARTRIDGE.
4. COAT WELD AREA AND FILL RECESS ON THERMITE WELD CAP WITH COLD APPLIED COAL TAR MASTIC AND APPLY CAP TO WELD.

VIA.140 CATHODIC PROTECTION WIRE CONNECTION FOR STEEL AND DUCTILE IRON PIPE

NTS

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LIGHTING & MISC

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