VALVES AND GATES

- GATE
- SWING CHECK VALVE
- GLOBE
- BALL
- DIAPHRAM
- PIPING REDUCER
- PRESSURE OR VACUMM RELIEF
- REGULATED SIDE PRESSURE/ALTITUDE CONTROL
- CAM STYLE COUPLING

PUMPS AND MISCELLANEOUS SYMBOLS

- LE — ULTRASONIC LEVEL
- DIAPHRAGM SEAL
- RADIO ANTENNA
- CALIBRATION COLUMN
- Z — POSITIONER
- FLUSHING CONNECTION
- M — ELECTROMAGNETIC FLOWMETER
- AS — ADJUSTED SPEED
- CS-1 — CONSTANT SPEED (SINGLE SPEED)
- CS-2 — CONSTANT SPEED (TWO SPEED)
- EXHAUST FAN (CENTRIFUGAL)
- METERING PUMP

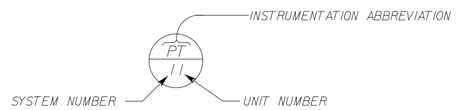
DIGITAL SYSTEM INTERFACES

- ANALOG INPUT
- ANALOG OUTPUT
- DISCRETE INPUT
- DISCRETE OUTPUT

ISA TEXT ABBREVIATIONS

	MEASURED OR INDICATING VARIABLE	MODIFIER	READOUT OR PASSIVE FUNCTION	OUTPUT FUNCTION	MODIFIER
A	ANALYSIS		ALARM		
B	BURNER,COMBUSTION		USERS CHOICE	USERS CHOICE	USERS CHOICE
C	USERS CHOICE			CONTROL	
D	USERS CHOICE	DIFFERENTIAL			
E	VOLTAGE		SENSOR (PRIMARY ELEMENT)		
F	FLOW RATE	RATIO (FRACTION)			
G	USERS CHOICE		GLASS,VIEWING DEVICE		
H	HAND				HIGH
I	CURRENT (ELECTRICAL)		INDICATE		
J	POWER	SCAN			
K	TIME,TIME SCHEDULE	TIME RATE OF CHANGE		CONTROL STATION	
L	LEVEL		LIGHT		LOW
M	USERS CHOICE	MOMENTARY			MIDDLE,INTERMEDIATE
N	LOG REMOVAL		USERS CHOICE	USERS CHOICE	USERS CHOICE
O	USERS CHOICE		ORIFICE,RESTRICTION		
P	PRESSURE,VACUUM		POINT (TEST) CONNECTION		
Q	QUANTITY	INTEGRATE,TOTALISE			
R	RADIATION		RECORD		
S	SPEED,FREQUENCY	SAFETY		SWITCH	
T	TEMPERATURE			TRANSMIT	
U	MULTIVARIABLE		MULTIFUNCTION	MULTIFUNCTION	MULTIFUNCTION
V	VIBRATION,MECHANICAL ANALYSIS			VALVE,DAMPER, LOUVER	
W	WEIGHT,FORCE		WELL		
X	UNCLASSIFIED	X AXIS	AVERAGE	UNCLASSIFIED	UNCLASSIFIED
Y	EVENT,STATE OR PRESENT	Y AXIS		RELAY,COMPUTE, CONVERT	
Z	POSITION,DIMENSION	Z AXIS		DRIVER,ACTUATOR, UNCLASSIFIED FINAL CONTROL ELEMENT	

INSTRUMENTATION DESIGNATION



NOTE: FOR THE ABOVE EXAMPLE: PRESSURE TRANSMITTER No. 1 ON PUMP SYSTEM No. 1

1 - PUMP 1
2 - PUMP 2
3 - PUMP 3

LINE LEGEND

- 4-20 mA — ANALOG SIGNAL
- BUILDING OR FACILITY BOUNDARY
- DIGITAL SIGNAL
- HYDRAULIC SYSTEM SIGNAL
- PNEUMATIC SIGNAL
- PROCESS (CLOSED CONDUIT)
- PROCESS (OPEN CHANNEL)

MECHANICAL OR INSTRUMENT DEVICE TAG IDENTIFICATION PREFIX

AA	AQUA AMMONIA
AV	AIR VENT
AC	ALTERNATING CURRENT
AE/AIT	ANALYSIS ELEMENT WITH ANALYSIS INDICATING TRANSMITTER
AE/AT	ANALYSIS ELEMENT WITH ANALYSIS TRANSMITTER
BPV	BACK PRESSURE VALVE
CV	CHECK VALVE/INJECTION QUILL
EF	EXHAUST FAN
FE/FIT	FLOW ELEMENT WITH FLOW INDICATING TRANSMITTER
FE/FT	FLOW ELEMENT WITH FLOW TRANSMITTER
FG	FLOW SIGHT GLASS
FI	FLOW INDICATOR
FO	ORIFICE PLATE
FV	AUTOMATIC VALVE
FX	FLOW STRAIGHTENING DEVICE
GWC	GRIT WASHER/CLASSIFIER
HOA	HAND-OFF-AUTO
HV	HANDVALVE
LCV	LEVEL CONTROL VALVE
LE/LIT	LEVEL ELEMENT WITH LEVEL INDICATING TRANSMITTER
LE/LT	LEVEL ELEMENT WITH LEVEL TRANSMITTER
LG	LEVEL SIGHT GLASS
LI	LEVEL INDICATOR
LS*	LEVEL SWITCH
MFV	MULTI FUNCTION VALVE (COMBINATION RELIEF & BACKPRESSURE VALVE FOR METERING PUMPS)
OO	ON-OFF
P	PUMP
PD	PULSATION DAMPENER
PE/PIT	PRESSURE ELEMENT WITH PRESSURE INDICATING TRANSMITTER
PE/PT	PRESSURE ELEMENT WITH PRESSURE TRANSMITTER
PI	PRESSURE INDICATOR
PRV	PRESSURE REGULATING VALVE
PS*	PRESSURE SWITCH
PLC	PROGRAMABLE LOGIC CONTROLLER
PSV	PRESSURE RELIEF VALVE
SS	START STOP
STR	STRAINER
SV	SAMPLE VALVE
TCV	TEMPERATURE CONTROL VALVE
TE/TIT	TEMPERATURE ELEMENT WITH TEMPERATURE INDICATING TRANSMITTER
TE/TT	TEMPERATURE ELEMENT WITH TEMPERATURE TRANSMITTER
TI	TEMPERATURE INDICATOR
TK	TANK
UV	UV STERILIZER
V	VENT
VB	VACUUM BREAKER

* ADD THE SUFFIX HH (HIGH HIGH),H (HIGH),L (LOW),LL (LOW LOW) AS REQUIRED FOR THESE ITEMS.

REGISTERED PROFESSIONAL ENGINEER GARY J. HOBSON No. 40779 Exp. 3/31/11 CIVIL STATE OF CALIFORNIA

AKM JOB No. 0760890.00

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Designed by KEVIN SALEH | Drawn by CADD | Checked by GARY J. HOBSON
PLANS PREPARED UNDER SUPERVISION OF GARY J. HOBSON
Date MARCH 2010 R.C.E. No. 40779

Date	By	REVISIONS	App'd

AKM CONSULTING ENGINEERS
553 WALD
IRVINE, CA. 92618
(949) 753-7333

CDWP _____
WMWD _____

Department of Water and Power Approval
By _____
Donald A. Williams, P.E.
R.C.E. No. 32333 EXP 12/31/2010

Approved _____
By _____
Jeffrey D. Sims, P.E.
R.C.E. No. 46212, Exp. 12/31/10
Assistant General Manager/
Chief Operations Officer

Approved _____
By _____
Kip D. Field, P.E.
R.C.E. No. 45679, Exp. 12/31/10
Public Works Director

CITY OF CORONA - ARLINGTON DESALTER CONNECTION
WESTERN MUNICIPAL WATER DISTRICT - PROMENADE CONNECTION
PROCESS AND INSTRUMENTATION ABBREVIATIONS AND DEVICE TAGS

Drawing No. 09-050U
I-1
Sht. 22 of 24

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