

GENERAL MECHANICAL ABBREVIATIONS

ACFM	ACTUAL CUBIC FEET PER MINUTE	L.R.	RED. BASE ELL.	LONG RADIUS REDUCING BASE ELBOW
AFF	ABOVE FINISHED FLOOR	L.R.	RED. ELL.	LONG RADIUS REDUCING ELBOW
APPROX.	APPROXIMATE	LSH		PRESSURE SWITCH LOW
ARCH.	ARCHITECTURAL	LSP		LIQUID SAMPLE PORT
BCR	BRIDGE CRANE	LxW		LENGTH X WIDTH
BOD	BOTTOM OF DUCT	MAX.		MAXIMUM
CFM	CUBIC FEET PER MINUTE	MATL.		MATERIAL
C.I.	CAST IRON	MECH.		MECHANICAL
©	CENTERLINE	MGD		MILLION GALLONS PER DAY
CMU	CONCRETE MASONRY UNIT	MH		MANHOLE
C.O.	CLEANOUT	MIN.		MINIMUM
CONC.	CONCRETE	N.C.		NORMALLY CLOSED
CONN.	CONNECTION	N.O.		NORMALLY OPEN
CONT.	CONTINUATION	NO.		NUMBER
CORP.	CORPORATION	NOM.		NOMINAL
CPVC	CHLORINATED POLYVINYL CHLORIDE	NPT		NATIONAL PIPE THREAD
CS	CARBON STEEL	NTS		NOT TO SCALE
DEG. F.	DEGREES FAHRENHEIT	O.C.		ON CENTER
DET.	DETAIL	O.D.		OUTSIDE DIAMETER
D.I.	DUCTILE IRON	OPER.		OPERATING
DIA.	DIAMETER	P		PRESSURE GAUGE
DN	DOWN	PL		PLATE
DWG'S.	DRAWINGS	PLUMB.		PLUMBING
ECC. RED.	ECCENTRIC REDUCER	PS		PRESSURE SWITCH
EFF.	EFFLUENT	PSH		PRESSURE SWITCH HIGH
EFF. %	% EFFICIENCY	PSI		POUNDS PER SQUARE INCH
EGL	ENERGY GRADE LINE	PSIA		POUNDS PER SQUARE INCH ABSOLUTE
ELEC.	ELECTRICAL	PSIG		POUNDS PER SQUARE INCH GAGE
EL.	ELEVATION	PVC		POLYVINYL CHLORIDE
ENCL.	ENCLOSURE	R		RADIUS
EW	EFFLUENT WATER	RED.		REDUCER
EXIST.	EXISTING	RED. FLG.		REDUCING FLANGE
FE	FLOWMETER	REF.		REFERENCE
FIN. FL.	FINISHED FLOOR	REINF.		REINFORCING
FIN. GR.	FINISHED GRADE	REQ'D.		REQUIRED
FIT	FLOW INDICATING TRANSMITTER	RPM		REVOLUTIONS PER MINUTE
FLEX.	FLEXIBLE	SCH.		SCHEDULE
FL.	FLANGE	SCR		SCREEN
F.O.B.	FLAT ON BOTTOM	SG		SLIDE GATE
F.O.S.	FLAT ON SIDE	SH.		SHEET
F.O.T.	FLAT ON TOP	SL		STOP LOG
FPM	FEET PER MINUTE	SPD		SUMP PUMP DISCHARGE
FS	FLOW SWITCH	SPECS.		SPECIFICATIONS
FT.	FEET	SO.		SQUARE
GAL.	GALLONS	SR		RAW SEWAGE
GALV.	GALVANIZED	S.S.		STAINLESS STEEL
GPM	GALLONS PER MINUTE	STD.		STANDARD
HGL	HYDRAULIC GRADE LINE	STR.		STRUCTURAL
HO	HYDRAULIC OIL	SW		SEAL WATER
H.P.	HIGH POINT	TEMP.		TEMPERATURE
HP	HORSE POWER	THK.		THICK
HPT	HOSE PIPE THREAD	T.O.C.		TOP OF CONCRETE
HST	HOIST	T.O.D.		TOP OF DUCT
HVAC	HEATING VENTILATION	TYP.		TYPICAL
I.D.	INSIDE DIAMETER	V		VENT
IN.	INCHES	VAC		VACUUM
INSUL.	INSULATION	W/		WITH
INV.	INVERT	WxH		WIDTH X HEIGHT
KGV	KNIFE GATE VALVE	WC		WATER COLUMN
LB.	POUND	WS		WATER SURFACE
LG.	LONG	XPROOF		EXPLOSION PROOF
L.P.	LOW POINT			
L.R. ELL.	LONG RADIUS ELBOW			

NOTES:

1. THIS IS A GENERAL LEGEND PROVIDED TO FACILITATE USE OF THE PLANS. REFER TO THE PLANS AND SPECIFICATIONS FOR ITEMS REQUIRED.
2. VALVES AND PIPE FITTINGS ARE SHOWN WITH FLANGED JOINTS. OTHER JOINTS ARE SHOWN AS REQUIRED ON MECHANICAL DRAWINGS.
3. ALL SYMBOLS AND APPREVIATIONS SHOWN ON THIS SHEET MAY NOT APPEAR ON THIS SET OF DRAWINGS.

PIPE FITTINGS

DESCRIPTION	SYMBOL
CROSS	
CROSS (BRANCH UP)	
TEE	
TEE (BRANCH UP)	
TEE (BRANCH DOWN)	
SIDE OUTLET TEE (UP)	
SIDE OUTLET TEE (DOWN)	
LATERAL OR WYE	
90° BEND	
90° BEND (UP)	
90° BEND (DOWN)	
90° BEND (LONG RADIUS)	
45° BEND	
45° BEND (UP)	
45° BEND (DOWN)	
45° BEND (LONG RADIUS)	
SIDE OUTLET ELBOW (UP)	
SIDE OUTLET ELBOW (DOWN)	
BLIND FLANGE (TEE BRANCH UP)	
BASE ELBOW	
BLIND FLANGE	
REDUCER	
REDUCER - ECCENTRIC	
SLEEVE TYPE COUPLING	
FILLING RING	

PIPE FITTINGS

DESCRIPTION	SYMBOL
SLEEVE TYPE COUPLING (HARNESSED)	
EXPANSION JOINT RUBBER BELLOWS TYPE	
FLOW METER	
STRAINER	
DUPLEX STRAINER	
VENT	
THERMOSTAT (TEMP. REGULATOR)	
PRESSURE GAUGE	
THERMOMETER	
WATER LEVEL ALARM (HWL OR LWL)	
PIPE CAP (SCREWED)	
DIRECTION OF FLOW	

PIPE JOINTS

DESCRIPTION	SYMBOL
FLANGE	
MECHANICAL (R = RESTRAINED)	
PUSH-ON (R = RESTRAINED)	
WELDED	
SCREWED	
CONCRETE	
GROOVED	

OTHER SYMBOLS

DESCRIPTION	SYMBOL
WATER SURFACE	

VALVE SYMBOLS

DESCRIPTION	SYMBOL
GATE VALVE	
KNIFE GATE VALVE	
CHECK (SWING)	
BALL	
AUTO AIR/VACUUM RELEASE	
HOSE	
STOP AND DRAIN	
DRAIN VALVE ON MAIN VALVE BODY	
VALVE MOTOR OPERATED	
VALVE HANDWHEEL OPERATED	

WALL FITTINGS

DESCRIPTION	SYMBOL
WALL SLEEVE (CAULKED OR GROUTED)	
WALL SLEEVE WITH MECHANICAL LINK SEAL	
FLEXIBLE RESILIENT COMPRESSION CONNECTION	
FLANGE AND FLANGE FLUSH WALL PIPE WITH INTERMEDIATE COLLAR (FL x FL)	
FLANGE AND PLAIN END FLUSH WALL PIPE WITH INTERMEDIATE COLLAR (FL x PE)	

GENERAL MECHANICAL NOTES

1. REFER TO ARCHITECTURAL AND STRUCTURAL DRAWINGS FOR HATCH AND GRATING DETAILS.
2. CONTRACTOR TO PROVIDE A LAYOUT DRAWING SHOWING ALL PIPING, SUPPORTS, AND APPURTANENCES.
3. ALL DIMENSIONS LOCATING EQUIPMENT ARE FROM FINISHED WALL SURFACES OR CENTERLINES, AS INDICATED.
4. SEE CIVIL DRAWINGS FOR CONTINUATION OF PIPING OUTSIDE STRUCTURES.
5. ALL PIPE PENETRATIONS THROUGH INTERIOR AND EXTERIOR WALLS AND FLOORS SHALL BE SEALED WATERTIGHT.
6. SLEEVE COUPLINGS MAY BE USED WHERE NECESSARY, AND AS APPROVED BY THE ENGINEER, TO FACILITATE PIPING INSTALLATION.
7. FOR FLANGED SYSTEMS PROVIDE FLEXIBLE CONNECTORS WHERE NECESSARY, AND AS APPROVED BY THE ENGINEER, TO FACILITATE PIPING INSTALLATION AND VALVE AND EQUIPMENT REMOVAL.
8. ALL FLEXIBLE CONNECTORS, EXPANSION JOINTS, AND SLEEVE COUPLINGS SUBJECT TO PRESSURE SHALL BE RESTRAINED AS REQUIRED FOR EXPANSION AND FOR FLEXIBILITY.
9. THE CONTRACTOR SHALL MAKE ALL REQUIRED FIELD MEASUREMENTS TO VERIFY EXISTING AND CONTRACT INTERFACE DIMENSIONS, LOCATIONS, AND OTHER CONDITIONS.
10. THE PLANS ARE GENERALLY DIAGRAMMIC IN NATURE. ROUTING OF PIPING, DUCKWORK, CONDUITS, ETC., AS SHOWN ON THE DRAWINGS, DOES NOT INTEND TO SHOW EVERY RISE, DROP, OFFSET, FITTING, OR STRUCTURAL ELEMENT THAT MAY BE REQUIRED. THE CONTRACTOR SHALL VERIFY EXACT PLACEMENT OF ALL DEVICES AND EQUIPMENT WITH FIELD CONDITIONS AND APPROVED SHOP DRAWINGS.
11. THE DRAWINGS, SCHEDULES, AND SPECIFICATIONS HAVE BEEN PREPARED USING SPECIFIC MANUFACTURERS FOR THE BASIS OF DIMENSIONAL DESIGN. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CHECKING ALL OF THE EQUIPMENT DIMENSIONS TO ENSURE THAT ALL COMPONENTS WILL FIT INTO THE DESIGNATED SPACES INDICATED ON THE DRAWINGS. MINOR DEVIATIONS IN DIMENSIONS WILL BE PERMITTED AT THE ENGINEER'S DISCRETION, PROVIDED THAT THE EQUIPMENT MEETS THE SPECIFIED RATINGS AND FITS INTO THE ALLOCATED SPACES WITH SUITABLE CLEARANCE FOR ACCESS. THE CONTRACTOR SHALL PROVIDE ALL ALTERATIONS REQUIRED TO ACCOMMODATE SUCH EQUIPMENT AT NO ADDITIONAL COST TO THE OWNER.
12. PIPE SUPPORTS FOR PIPES LESS THAN 8-INCHES IN DIAMETER ARE NOT SHOWN ON THESE PLANS FOR CLARITY. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY PIPE SUPPORT SYSTEMS WITH SUITABLE SPACING AS REQUIRED BY THE PROJECT SPECIAL PROVISIONS.
13. ALL MECHANICAL AND ELECTRICAL ITEMS INSTALLED IN THE PUMP STATION WET WELL AND DRY WELL AREAS SHALL BE SUITABLE FOR CLASS 1, DIVISION II, GROUP D, EXPLOSION PROOF; AS CLASSIFIED BY THE NATIONAL ELECTRIC CODE (NEC) FOR HAZARDOUS LOCATIONS.

DESIGNED	DF	REVISED	-
CHECKED	APF	REVISED	-
SCALE	DF	REVISED	-
DATE	03/22/2012	CHECKED	APF
		REVISED	-

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
338/IL 59	2011-035-I	DUPAGE	181	110
CONTRACT NO. 60P41				
ILLINOIS FED. AID PROJECT				