

# **Port of Seattle CAD Standards Appendices 2023 Edition**

**Effective April 3, 2023**

Major changes in this Edition are documented in the Change Log on page 2.

**These Appendices supersede Port of Seattle  
CAD Standards, 2018 Edition**

<b>2023 Port of Seattle Appendices Change Log</b>	
<b>Section</b>	<b>Modification Description</b>
Appendix C	Design Symbols Library content has been updated to Arial font, restructured and renamed
Appendix C	Added Scale Bar block to CAD Library for 1/32" = 1'-0"
Appendix C	Sample Drawings/Title Block: Updated attribute - Consultant's #
Appendix H	Updated CAD & PDF Check Lists

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# Appendix A

## Public Website CAD Standards 2023 Index

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## Port of Seattle Cad Standards Index

Included with the Port of Seattle CAD Standards manual are Port standard symbol blocks, title blocks, sheet index & templates, etc. Below is an index of the files found in this download. They are located at <https://www.portseattle.org/page/design-standards-and-guidelines>. Click on CAD Standards to download the package. Please contact your Port Project Manager for the current link.

## Port of Seattle Civil 3D Template

Port\_Design\_R1.0.dwt

## Port of Seattle Layer Template Drawings

01_General Root Layers	05_Civil Root Layers	09_Mechanical Root Layers
02_Detail, Elevations And Etc Root Layers	06_Landscape Root Layers	10_Plumbing Root Layers
03_General Trade Root Layers	07_Architectural Root Layers	11_Electrical Root Layers
04_Survey Root Layers	08_Structural Root Layers	12_Fire Protection Root Layers

## Port of Seattle AutoCAD Library Folders

Design Symbols Blocks POS Design Symbols Index POS Key Plans Project Sheet_Blocks Paper Space_Only	<b>Project Sheet_Blocks</b> Detail_Elevation_Section Section_Cuts Titleblock For Xref → Title Block_4Xref_22x34 → Title Block_4Xref_24x36 → Title Block_4Xref_11x17 → Title Block_4Xref_8.5x11	<b>Paper Space_Only</b> Code Review Cover_Blocks North_Arrows Scale_Bars Titleblock_Attributes_4Xref_22x34 Titleblock_Attributes_4Xref_24X36 Titleblock_Stamps View_Titles
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## **Port of Seattle CAD Standards Appendices**

**Appendix A Port of Seattle Public Website CAD Standards Index**

**Appendix B Port of Seattle Abbreviation Tables and Descriptions**

**Appendix C Port of Seattle Design Symbols and Sample Drawings**

**Appendix D Port of Seattle Level Tables and Descriptions**

**Appendix E Port of Seattle CAD Layer naming Standards**

**Appendix F Design Submittal Deliverable Flowcharts**

**Appendix G Bluebeam Design Review Flowcharts**

**Appendix H AutoCAD and PDF Submittals Checklist**

## **Port of Seattle CAD Standards Manual**

**Port of Seattle CAD Standards 2023 Edition Rev0.pdf**

**Port of Seattle CAD Standards 2023 Edition Appendix a to H Rev0.pdf**

**Port of Seattle 2023 CAD Standards Training.pdf**

**Port of Seattle 2023 Layer Primer.pdf**

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## **Appendix B**

# **Port of Seattle Abbreviation Tables and Descriptions**

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**Abbreviations Definition**
**A**

A/C	Alternating Current
A/M	Auto/Manual Controller
AB	Anchor Bolt (-S)
ABAN	Abandon (-Ed)
ABBR	Abbreviation
ABS	Acrylonitrile-Butadiene-Styrene
ABST	Absolute
ABV	Above
AC	Acre
ACOT	Acoustical Title
ACST	Acoustic, Acoustical
ACT	Activate
AD	Area Drain
ADDL	Additional
ADH	Adhesive
ADJ	Adjust (-Ed, -Ment, -Able)
ADJT	Adjacent
ADWF	Average Dry Weather Flow
AEGP	Assured Equipment Grounding Program
AF	Ampere Frame
AFD	Adjustable Frequency Drive
AFET	Acre-Feet
AFF	Above Finished Floor
AGG	Aggregate
AHCC	Ambulatory Health Care Center
AHJ	Authority Having Jurisdiction
AHU	Air Handling Unit
AIC	Amperes Interrupting Capacity
AIH	Air Handler
AIL	Aileron
AIR	Ampere Interrupting Rating
AIRCON	Air Condition (-Er, -Ing)
AIRVAC	Air And Vacuum Valve
AL/ALUM	Aluminum
ALM	Alarm
ALT	Alternate (-E, -Ive)
ALTD	Altitude
ALY	Alloy
AM	Ammeter
AMB	Ambient
AMP	Ampere, Amps
AMPT	Ampere Trip
AMS	Ammeter Switch
AN	Anode
ANC	Anchor
ANN	Annunciator

**Abbreviations Definition**
**A**

ANSI	American National Standard Institute
ANT	Antenna
AOS	Automatic Sprinkler
APPD	Approved
APPL	Appliance
APPROX	Approximate (-E, -Ly)
APT	Apartment
AR	Area
ARC	Air Conditioned
ARCH	Architect (-Ural)
ARCON	Air Condition
AREQ	As Required
ARM	Armature
ARV	Air Release Valve
AS	Astragal
ASB	Asbestos
ASCM	Asbestos Cement
ASHRAE	American Society Of Heating, Refrigerating & Air Conditioning Engineers
ASPC	Asphalt Concrete
ASPH	Asphalt
ASPT	Asphalt Tile
ASST	Assistant
ASTM	American Society For Testing And Materials
AT	Air Tight
ATCB	Adjustable-Trip Circuit Breaker
ATM	Atmosphere (147 Lb/In )2
ATS	Automatic Transfer Switch
AU	Gold
AUTO	Automatic
AUX	Auxiliary
AVAR	Air Vacuum Air Release
AVE	Avenue
AVG	Average
AWG	American Wire Gauge
AWWA	American Water Works Association
AZ	Azimuth

**B**

BARM	Barminutor
BATT	Battery (Electric)
BCG	Bare Copper Ground
BCV	Ball Check Valve
BD	Board
BDD	Back draft Damper

**Abbreviations Definition**
**C**

C/S	Constant Speed/Control Switch
CA	Cold Air
CAB	Cabinet
CANTIL	Cantilever
CAP	Capacitor
CASO	Cased opening
CAT	Catalog
CATV	Cable Antenna Television
CB	Catch Basin
CBL	Cable
CBR	Circuit Breaker
CC	Control Cable/Closing Coil
CCF	Concrete Floor
CCW	Counterclockwise
CEL	Celsius (Centigrade) Degrees
CELR	Cellar
CEM	Cement
CEMF	Counter Electromotive Force
CEN	Central
CENM	Centimeter
CER	Ceramic
CF	Cubic Feet
CFM	Cubic Feet Per Minute
CFS	Cubic Foot Per Second
CHAN	Channel
CHAP	Chapter
CHAR	Characteristics
CHEM	Chemi (-Cal, -Stry)
CHH	Communication Handhold
CHKD	Checkered
CHM	Chimney
CHMB	Chamber
CHMOD	Chemical Oxygen Demand
CI	Cast Iron
CIP	Cast Iron Pipe
CIPTR	Circuit Interrupter
CIR	Circuit
CIRC	Circula (-R, -Tion)
CIRCUM	Circumference
CISP	Cast Iron Soil Pipe
CL	Centerline
CL2	Chlorine
CLASS	Classification
CLG	Ceiling
CLO	Cleanout
CLOS	Closet

**Abbreviations Definition**
**C**

CLR	Clear (-Ance)
CLWA	Castaic Lake Water Agency
CM	Circular mils
CM2	Centimeter Square
CM3	Centimeter Cubic
CMC	Cement Mortar Coated
CMF	Cement Floor
CMH	Communication Manhole
CML	Cement Mortar Lined
CML&C	Cement Mortar Lined & Coated
CMP	Code-Making Panel
CMU	Concrete Masonry Unit (-S)
CND	Conduit
CNDO	Conduit Only
CNR	Corner
CNST JT	Construction Joint
CNTOL	Control
CNTR	Counter
CNTRSK	Countersunk
CNTUR	Contour
CO2	Carbon Dioxide
COAX	Coaxial
COL	Column
COMM	Communication
COMPA	Compacted
COMPR	Compressor
CONC	Concrete
CONC BLK	Concrete Block
COND	Condenser
CONN	Connect (-S, -lon)
CONP	Concrete Pipe
CONS	Control Switch
CONSJ	Construction Joint
CONST	Construct (-lon)
CONT	Continuous
CONTJ	Control Joint
CONTR	Contractor
CONTY	County
COORD	Coordinate
COR	Cornice
CORMP	Corrugated Metal Pipe
CORR	Corrugated
CPLG	Coupling
CPR	Copper
CPS	Cycles Per Second
CPT	Control Power Transformer

**Abbreviations Definition**
**C**

CPU	Central Processing Unit
CPVC	Chlorinated Polyvinyl Chloride
CR	Control Relay
CRBS	Carbon Steel
CRM	Control Relay Master
CRMT	Ceramic Tile
CRS	Coarse
CS	Cast Steel
CSC	Car Sealed Closed
CSG	Casing
CSMT	Casement
CSO	Car Sealed Opened
CST	Cast Stone
CTC	Center To Center
CTD	Coated
CTR	Center
CTRAN	Current Transformer
CTRP	Control Panel
CTS	Catholic Test Station
CU	Cubic
CU FT	Cubic Foot
CU IN	Cubic Inch
CU YD	Cubic Yard
CURT	Court
CV	Check Valve
CW	Clock Wise
CWT	One Hundred Pounds
CWTR	Cold Water
CWTRP	Cold Water Pipe
CY	Cubic Yard

**D**

DB	Decibel
DBC	Dynamic Braking Contactor Or Relay
DBL	Double
DBL ACT	Double-Acting
DC	Direct Current
DD	Dutch Door
DDO	Ditto (Repeating Typical Beam Sizes On Plan)
DEG	Degree (-S)
DEMO	Demolish Or Demolition
DEPT	Department
DET	Detail (-S)
DF	Drinking Fountain
DFIR	Douglas Fir

Abbreviations	Definition
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D
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DGRM	Diagram
DHW	Double Hung Window
DI	Ductile Iron
DIA	Diameter
DIAPH	Diaphragm
DIM	Dimension (-S)
DINR	Dining Room
DIP	Ductile Iron Pipe
DIR	Direction
DISC	Disconnect
DISCH	Discharge
DISTB	Distribution
DIV	Division
DK	Deck
DKG	Decking
DL	Dead Load
DI0	Diode
DIAG	Diagram
DINAL	Diagonal
DML	Demolition
DMPR	Damper
DMR	Dimmer
DN	Down
DNS	Down Spout
DO	Dissolved Oxygen
DP	Double-Pole
DP SW	Double-Pole Switch
DPANL	Distribution Panel
DPDT	Double-Pole Double-Throw
DPDT SW	Double-Pole Double-Throw Switch
DPNL	Distribution Panel
DPRO	Damp Proofing
DPST	Double-Pole Single-Throw
DPTH	Depth
DR	Door
DRG	Double Rubber Gasket Joint
DRM	Dormer
DRMS	Drum Switch
DRN	Drain
DRNT	Drain Tile
DRY	Dryer
DRYW	Drywall
DS	Disconnect Switch
DSG	Double Strength Glass
DSTT	Dust Tight
DTR	Double-Throw

**Abbreviations Definition**

**D**

DTY CY	Duty Cycle
DUP	Duplex
DW	Dishwasher
DWG	Drawing

**E**

EA	Each
EBJ	Equipment Bonding Jumper
EC	End Of Horizontal Curve
ECC	Eccentric
ECD	Epoxy Coated
EF	Each Face; Exhaust Fan
EFF	Effluent
EFFIC	Efficiency
EG1	Eg01 Hmt
EG2	Eg02 Hmt
EGC	Equipment Grounding Conductor
EGL	Energy Grade Line
EHH	Electrical Handhold
EL	Elevation
EL	Epoxy Lined
EL&C	Epoxy Lined & Coated
ELB	Elbow
ELEC	Electric (-Al)
ELEK	Electronic
ELEM	Elementary
ELEV	Elevator
ELF	Efficiency
ELMCH	Electromechanical
ELVTR	For Elevator
EM	Expanded Metal
EMERG	Emergency
EMF	Electromotive Force
EMT	Electrical Metallic Tubing
ENAM	Enamel
ENCL	Enclosure
ENGR	Engineer
ENTR	Entrance
EP	Ejector Pump
EPA	Environmental Protection Agency
EPAN	Electric Panel
EPAV	Edge Of Pavement
EPR	Ethylene Propylene Rubber
EQ	Equal (-Ly)
EQPT	Equipment

**Abbreviations Definition**
**E**

EQUAL	Equalization
EQULV	Equivalent
EST	Estimate (-D)
ETC	Et Cetera
ETM	Elapsed Time Meter
EUC	Eucalyptus
EVC	End Of Vertical Curve
EW	Each Way
EWC	Electric Water Cooler
EWH	Electric Water Heater
EXC	Excavate
EXH	Exhauster (-S) Or Exhaust
EXPP	Explosion Proof
EXPT	Exception
EXST	Existing
EXT	Exterior
EXT GR	Exterior Grade

**F**

F1S	Finish One Side
F2S	Finish Two Sides
FA	Fire Alarm
FAA	Federal Aviation Administration
FAB	Fabricate (-D)
FAC	Factory
FACIL	Facility (-les)
FAHT	Fahrenheit
FAI	Fresh Air Intake
FAO	Finish All Over
FAS	Fast
FB	Flat Bar
FBCK	Firebrick
FBLK	Fuse Block
FBRK	Face Brick
FC	Flexible Coupling
FCA	Flanged Coupling Adapter
FCO	Floor Cleanout
FD	Floor Drain
FDC	Fire Department Connection
FDN	Foundation
FDR	Fire Door
FDRN	Floor Drain
FEDR	Feeder
FEXT	Fire Extinguisher
FF	Far Face/Finished Floor

**Abbreviations Definition**
**F**

FG	Flap Gate
FH	Fire Hydrant
FHP	Fractional Horsepower
FHY	Fire Hydrant
FIG	Figure
FILT	Filter
FIN	Finish (-Ed)
FIN FLR	Finished Floor
FIN GD	Finish Grade
FIN GR	Finished Grade
FIXT	Fixture
FL	Floor Line
FLA	Full-Load Amps
FLC	Full-Load Current
FLD	Field
FLEX	Flexible
FLG	Flange (-D)
LLT	Full-Load Torque
FLMB	Flammable
FLMT	Flush Mount
FLNE	Flow Line
FLR	Floor
FLS	Flow Switch
FLSH	Flashing
FLT	Flat
FLUOR	Fluorescent
FLUS	Flush
FM	Flow Meter
FMC	Flexible Metallic Conduit
FNSH	Finish
FNSH FL	Finished Floor
FOF	Face Of Flange
FOS	Face Of Stud
FP	Four-Pole
FPACE	Fireplace
FPDT SW	Four-Pole Double-Throw Switch
FPM	Foot Per Minute
FPN	Fine Print Note
FPRF	Fireproof
FPS	Foot Per Second
FPST SW	Four-Pole Single-Throw Switch
FPSW	Four-Pole Switch
FR	Frame
FRACE	Furnace
FRC	Flexible Rubber Coupling
FREQ	Frequency

**Abbreviations Definition**
**F**

FRP	Fiberglass Reinforced Plastic
FS	Far Side
FSBL	Fusible
FSWTH	Float Switch
FT	Feet, Foot
FT2	Square Feet
FT3	Cubic Feet
FTG	Footing
FTS	Foot switch
FU	Fuse
FUBX	Fuse box
FUHLR	Fuse holder
FURN	Furniture
FURR	Furring
FV	Full Voltage
FVNR	Full Voltage, Non Reversing
FVR	Full Voltage, Reversing
FVW	Front view
FWAL	Fire wall
FWD	Forward
FWTR	Feed Water
FX WDW	Fixed window

**G**

GA	Gauge
GAL	Gallon (-S)
GALV	Galvanize (-D)
GAR	Garage
GASO	Gasoline
GC	Grooved Coupling
GDL	Ground Level
GEC	Grounding Electrode Conductor
GEN	Generator
GENL	General
GES	Grounding Electrode System
GFCI	Ground-Fault Circuit Interrupter
GFI	Ground Fault Interrupter
GFPE	Ground Fault Protection Of Equipment
GL	Glass
GLB	Glu-Lam Or Glu-Lam Beam
GLB	Glass Block
GLL	Glass Lined
GLV	Globe Valve

**Abbreviations Definition**

**G**

GLZ	Glaze
GND	Ground
GND0	Grounded (Outlet)
GPD	Gallons Per Day
GPH	Gallons Per Hour
GPM	Gallons Per Minute
GR	Grade
GRDL	Grade Line
GRL	Guardrail
GRM	Gram
GRN	Green
GRS	Galvanized Rigid Steel
GRY	Gray
GS	Gas
GSB	Gypsum Sheathing Board
GSTL	Galvanized Steel
GTE	Gate
GV	Gate Valve
GVL	Gravel
GVW	Gross Vehicle Weight
GWB	Gypsum Wall Board
GYP	Gypsum

**H**

H2 O2	Hydrogen Peroxide
HACR	Heating, Air-Conditioning, Refrigeration
HAZ	Hazardous
HB	Hose Bibb
HBD	Hardboard
HC	Hollow Core
HD	Heavy-Duty
HDPE	High Density Polyethylene
HDR	Header
HDW	Hardware
HDWD	Hardwood
HGH	High
HGL	Hydraulic Grade Line
HGR	Hanger
HH	Handhold
HID	High Intensity Discharge
HM	Hollow Metal

**Abbreviations Definition**
**H**

HMD	Hollow Metal Door
HMI	Human Machine Interface
HNDRL	Handrail
HOA	Hand-Off-Automatic
HOR	Hand-Off-Remote
HORIZ	Horizontal
HP	High Point
HPFS	High Point Finished Surface
HPS	High Pressure Sodium
HPWR	Horsepower
HR	Hour
HRL	Handrail
HRS	Hours
HSS	High Strength Steel
HT	Height
HTG	Heating
HTR	Heater
HV	High Voltage
HVAC	Heating, Ventilating, And Air Conditioning
HVY	Heavy
HW	Hot Water
HWH	Hot Water Heater
HWL	High Water Level
HWY	Highway
HYDR	Hydraulic
HZ	Hertz

**I**

I & C	Instrumentation And Controls
IA	Instrument Air
IC	Interrupting Capacity
IC	Integrated Circuit
ICS	Illumination Control Station
ID	Inside Diameter
IDCI	Immersion Detection Circuit Interrupter
IEC	International Electro Technical Commission
IELV	Invert Elevation
IF	Inside Face
IG	Isolated Ground
IH	Insulation Hot
IJB	Instrument Junction Box
IMC	Intermediate Metal Conduit
IN	Inch (-Es)
IN LB	Inch-Pound

**Abbreviations Definition**
**I**

IN2	Inches Square
IN3	Inches Cubic
INCAN	Incandescent
IND LT	Indicator Light
INFL	Influent
INST	Instantaneous
INSTR	Instrument
INSUL	Insulate (-E, -lon)
INT	Interior
INT	Interrupt
INTLR	Interlock
INTR	Interior
INV	Invert
IOL	Instantaneous Overload
IP	Iron Pipe
IPS	International Pipe Standard
IPS	Inch Per Second
IR	Infrared
IRN	Iron
ITB	Instantaneous-Trip Circuit Breaker
ITB	Inverse Time Breaker
ITCB	Inverse-Time Circuit Breaker
IW	Industrial Waste

**J**

JAN	Janitor
JBOX	Junction Box
JCT	Junction
JMB	Jamb
JST	Joist
JT	Joint

**K**

K	Kilo (1000)
KIT	Kitchen
KCMIL	1000 circular mils
KD	Kiln-dried
KFT	1000'
KG	Kilogram; Knife Gate
KIP	One Thousand Pounds
KM	Kilometer
KN SW	Knife switch
KO	Knockout

**Abbreviations Definition**

**K**

KPL	Kick plate
KV	Kilovolts
KVA	Kilovolt amps
KVAR	Kilovolt-Amperes Reactive
KVARH	Kilovolt-Amperes Reactive Hours
KW	Kilowatt
KWH	Kilowatt-hour
KWHD	Kilowatt-Hour Demand
KWY	Key way

**L**

LAB	Laboratory
LAM	Laminate
LAT	Lateral
LAU	Laundry
LAV	Lavatory
LB	Pound (-S)
LB-FT	Pounds per feet
LB-IN	Pounds per inch
LBR	Lumber
LC	Locked Closed
LD	Load
LDG	Landing
LDT	Laundry tray
LE	Lifting Eye
LED	Light Emitting Diode
LEL	Lower Explosion Limit
LEN	Length
LF	Linear Feet
LFLI	Less-flammable, liquid-insulated
LFT	Left
LG	Long
LGT	Light
LH	Left Hand
LIB	Library
LIQ	Liquid
LL	Live load
LLH	Long Leg Horizontal
LINO	Linoleum
LLV	Long Leg Vertical
LM	Lime
LMP	Lamp

**Abbreviations Definition**

**L**

LNTL	Lintel
LO	Live Oak
LOC	Location
LONG	Longitudinal
LP	Lighting panel
LPD	Liters Per Day
LPG	Liquefied Petroleum Gas –Propane Or Butane As Noted
LPS	Low Pressure Sodium
LR	Living room
LRA	Locked-rotor opacity
LRC	Locked-rotor current
LS	Limit switch
LT	Light
LTG	Lighting
LTH	Lath
LTS	Lights
LV	Low Voltage
LVR	Louver
LWL	Low Water Level

**M**

M2	Square Meters
M3	Cubic Meters
MA	Mill amperes
MA	Metal anchor
MACH	Machine
MAGB	Magnetic brake
MAN	Manual
MATL	Material
MAX	Maximum
MBCSCGF	Motor branch-circuit, short-circuit, ground-fault
MBH	Thousand Btu Per Hour
MBJ	Main bonding jumper
MBT	Machine Bolt
MC	Medicine cabinet
MCC	Motor Control Center
MCP	Motor Circuit Protector
MECH	Mechanical
MED	Medium
MEM	Memory
MEZZ	Mezzanine
MFR	Manufacturer
MGAL	Million Gallons
MGPD	Million Gallons Per Day
MGPL	Milligrams Per Liter

**Abbreviations Definition**

**M**

MGRM	Milligrams
MH	Manhole
MILI	1/1000 Inch
MIN	Minimum
MINT	Minute
MIR	Mirror
MJ	Mechanical Joint
ML	Milliliter (-S)
ML	Monolithic
MLDG	Molding
MLO	Main Lugs Only
MLP	Metal lath and plaster
MISC	Miscellaneous
MMTR	Millimeter (-S)
MN	Main
MNCC	Main control center
MO	Masonry opening
MOD	Modification (-S)
MOM	Moment (As In Moment Frame)
MON	Monument
MOR	Mortar
MOT	Motor
MOV	Motor Operated Valve
MPG	Miles per gallon
MPH	Miles per hour
MRB	Marble
MS	Motor Starter
MSNRY	Masonry
MT	Mount
MTD	Mounted
MTG	Mounting
MTL	Metal
MTLD	Metal door
MTLF	Metal flashing
MTLJ	Metal jalousie
MTLT	Metal threshold
MTOR	Motor
MTR	Meter
MTS	Manual Transfer Switch
MUL	Mullion
MV	Mud Valve, Medium Voltage
MVA	Million Volt Amperes
MWP	Maximum working pressure

**Abbreviations Definition**
**N**

N/A	Not Applicable
NATCB	Nonadjustable-trip circuit breaker
NC	Normally closed
NE	Northeast
NEC	National Electrical code©
NEG	Negative
NEMA	National Electrical Manufacturer's Assoc
NEMA	National Electrical Manufacturers Association
NESC	National Electrical Safety Code
NEUT	Neutral
NEUT	Neutral
NF	Near Face
NFPA	National Fire Protection Association
NGVD	National Geodetic Vertical Datum
NIC	Not In Contract
NNO	Number/Normally Open
NO	Normally open
NOM	Nominal
NOR	North
NORM	Normal
NOS	Nosing
NPL	Nameplate
NRS	Non-Rising Stem (Valve)
NS	Non-Shear
NSD	Near Side,
NT	Normally Throttled
NTDF	Non-time delay fuse
NTS	Not to scale
NTWT	Net weight
NUMB	Number
NV	Needle Valve
NW	Northwest
NWL	Normal Water Level

**O**

O/C	Open/Close Service
OA	Overall
OBD	Opposed Blade Damper
OC	On center
OCPD	Over current protection device
OCRT	Over current
OD	Outside diameter
OF	Outside Face/Overflow
OFE	Owner Furnished Equipment
OFF	Office

**Abbreviations Definition**
**O**

OFS	Outside Face Of Stud
OH	Overhead
OHM	Ohmmeter
OL	Overload
OL	Overload relay
ONGE	Orange
OPA	Opaque
OPNG	Opening
OPP	Opposite
ORIG	Original
OS&Y	Outside Screw & Yoke
OSA	Outside Air
OSHA	Occupational Safety and Health Administration
OT	Over Temperature
OUIIN	Ounces per inch
OUTL	Outlet
OVHG	Overhang
OWJ	Open web joist
OZ	Ounce (-S)

**P**

P	PA
P&ID	Process (Or Piping) & Instrumentation Diagram
P/P	Poly Polyethylene
PA	Public Address
PAN	Pantry
PAV	Pavement
PBU	Push Button
PBX	Private Branch Exchange
PC	Personal computer
PCC	Point Of Compound Curve
PCF	Pounds Per Cubic Feet
PCO	Pressure Cleanout
PD	Pressure Drop
PDV	Plug Drain Valve
PEC	Photoelectric Cell
PED	Plain End
PEN	Penetration
PERF	Perforate (-E, -Ed, -Es, -Ation)
PERP	Perpendicular
PF	Power Factor
PFB	Prefabricated
PFN	Refinished
PG	Pressure Gauge
PGS	Pages

**Abbreviations Definition**
**P**

PH	Phase
PHM	Measure Of Acidity Or Alkalinity
PHMS	Pan Head Machine Screw
PIE	Piece
PIT	Pitch
PIV	Post Indicator Valve
PKG	Package
PL	Plate
PLAS	Plaster
PLAT	Platform
PLC	Programmable Logic Controller
PLCS	Places
PLG	Piling
PLGL	Plate glass
PLIT	Pilot light
PLK	Plank
PLMB	Plumbing
PLR	Pillar
PLS	Plugging switch
PLSTC	Plastic
PLWD	Plywood
PMP	Pump
PNEU	Pneumatic
PNL	Panel
PNLBD	Panel Board
PNT	Paint
PO	Pump Out
POB	Point of beginning
POC	Point Of Connection
POHC	Point Of Horizontal Curve
POHI	Point Of Horizontal Intersection
POL	Pole
POR	Porch
PORC	Porcelain
POS	Positive
POT	Point Of Tangency
POVC	Point Of Vertical Curve
POVI	Point Of Vertical Intersection
POVT	Point Of Vertical Tangency
PP	Pipe
PPB	Parts Per Billion
PPH	Pipe Hanger
PPM	Parts Per Million
PPOL	Power Pole
PR	Pair
PRCST	Recast
PRESS	Pressure

**Abbreviations Definition**
**P**

PRF	Profile
PRFV	Pressure Relief Valve
PRG	Pull Ring
PRI	Primary
PRIS	Primary switch
PRL	Property line
PRL	Parallel
PROJ	Project (-Ion)
PROP	Property
PROT	Protector
PRS	Pressure Snubber
PRSS	Pressure switch
PRV	Pressure Reducing Valve
PSF	Pounds Per Square Feet
PSF	Pounds per square foot
PSI	Pounds Per Square Inch
PSIA	Pounds Per Square Inch Absolute (Pressure Above Vacuum)
PSIG	Pounds Per Square Inch-Gauge (Pressure Above Atmosphere)
PSL	Pipe Sleeve
PSTA	Pump Station
PSUP	Pipe Support
PSV	Pressure Safety (Relief) Valve
PSW	Pressure Switch
PSWT	Pressure Switch
PT	Point
PTD	Painted
PTOE	Photoelectric
PTP	Peak-to-peak
PUB	Pull box
PULS	Pull switch
PUSB	Pushbutton
PUT	Pull-up torque
PV	Plug Valve
PVC	Poly Vinyl Chloride
PWR	Power
PWR	Power
PWRC	Power consumed
PWWF	Peak Wet Weather Flow

**Q**

QA	Quick-acting
QDRNT	Quadrant
QT	Quarry tile
QTR	Quarry-tile roof
QTY	Quantity
QUT	Quart

**Abbreviations Definition**
**R**

R/W	Right-Of-Way
RA	Return Air
RACT	Reverse-Acting
RAD	Radius
RC	Reinforced Concrete
RCP	Reinforced Concrete Pipe
RCPT	Receptacle
RCT	Repeat Cycle Timer
RD	Road
RDM	Random
RDRN	Roof Drain
RDU	Reduce (-R)
RE	Red
REC	Recessed
REC	Rectifier
RECIRC	Recirculation (-E, -Ion)
REF	Reference
REFR	Refrigerator
REFSB	Reinforcing Steel Bar
REG	Regulate (-E, -Or, -Ion, -Ing)
REINF	Reinforce (-E, -Ed, -Ing, -Ment)
REL	Relative
REQD	Required
REQT	Requirement
RES	Resistor
RESIL	Resilient
REVC	Receiving
REVR	Reverse
REVSN	Revision
RF	Raised Face
RFG	Roofing
RGD	Rigid
RGH	Rough
RGT	Right
RGTR	Register
RH	Right Hand
RHES	Rheostat
RIB	Ribbed
RJ	Restrained Joints
RM	Room
RMS	Root Mean Square
RND	Round
RNGE	Range
RO	Rough Opening
ROC	Receipt Of Comments
ROF	Roof

**Abbreviations Definition**

**R**

ROP	Receipt Of Proposals
RPM	Revolutions Per Minute
RPS	Revolutions Per Second
RPS	Revolutions Per Second
RR	Railroad
RRM	Roll Room
RS	Rough Sawn
RSET	Reset Timer/Right
RSR	Riser
RST	Reinforcing Steel
RSVR	Reservoir
RT	Rain tight
RTE	Route
RTN	Return
RTR	Rotor
RVAT	Reduced Voltage Autotransformer
RVNR	Reduced Voltage Non-Reversing
RWD	Redwood

**S**

S/W	Sidewalk
S1S	Surface One Side
S4S	Surface Four Sides
SA	Supply Air
SAN	Sanitary
SB	Splash Block
SC	Sill Cock
SCA	Scale
SCBF	Brace Frame
SCFM	Standard Cubic Feet Per Minute
SCHED	Schedule
SCR	Silicon Controlled Rectifier
SCRN	Screen
SCU	Scuttle
SD	Smoke Detector
SDCR	Solid Core
SDG	Siding
SE	Southeast
SEC	Second (-S, -Ary)
SECN	Secondary
SECT	Section (-S)
SED	Sedimentation
SER	Series
SERE	Service Entrance

**Abbreviations Definition**

**S**

SERV	Service
SERVF	Service Factor
SEW	Sewer
SF	Soffit
SG	Sluice Gate
SGLA	Structural Glass
SH	Shower
SH & RD	Shelf And Rod
SHELV	Shelving
SHGL	Shingle
SHK	Shake
SHLD	Shield Or Shielded
SHT	Sheet
SHTHG	Sheathing
SHTR	Shutter
SI	Sidewalk Inlet
SIG	Signal
SIM	Similar
SK	Sink
SKLT	Skylight
SKTH	Sketch
SL	Sludge
SLD	Sliding Door
SLO	Slow
SLP	Slope
SLT	Slate
SM	Sheet Metal
SN	Solid Neutral
SO2	Sulfur Dioxide
SOC	Socket
SOG	Slab On Grade
SOL	Solenoid
SOW	Socket Weld
SPC	Space
SPCB	Single-Pole Circuit Breaker
SPCD	Spaced
SPCNG	Spacing
SPCS	Spaces
SPDT	Single Pole, Double Throw
SPDT SW	Single-Pole Double-Throw Switch
SPEC	Specifications
SPGR	Specific Gravity
SPIP	Soil Pipe
SPLY	Supply
SPOLE	Single-Pole
SPR	Spare

**Abbreviations Definition**
**S**

SPRES	Static Pressure
SPST	Single-Pole Single-Throw
SPST SW	Single-Pole Single-Throw Switch
SPSW	Single-Pole Switch
SPUP	Sump Pump
SQ	Square
SQ FT	Square Foot
SQ IN	Square Inch
SQ YD	Square Yard
SRG	Single Rubber Gasket Joint
SS	Stainless
SS 304	Stainless Steel Type 304
SS 316	Stainless Steel Type 316
SS/SS	Sanitary Sewer/Stainless Steel
SSG	Single Strength Glass
SST	Stainless Steel
SSW	Safety Switch
SSWT	Selector Switch
ST	Street
STA	Station
STD	Standard
STH	South
STIFF	Stiffen (-Er)
STK	Stack
STL	Steel
STM	Steam
STN	Stone
STOR	Storage
STP	Standpipe
STR	Starter
STRMD	Storm Drain
STRP	Shunt Trip
STRS	Stairs
STRUCT	Structure (-E, -Al)
SUB	Substitution
SUBM	Submission (Submit)
SUBSTA	Substation
SUP	Supernatant
SUPF	Supply Fan
SUPP	Support (-S)
SURF	Surface
SUSP	Suspend (-Ed)
SV	Solenoid Valve
SVC	Service
SW	Southwest
SWBD	Switchboard

**Abbreviations Definition**
**S**

SWD	Switched Disconnect
SWGR	Switchgear
SYM	Symmetrical
SYNC	Synchronizing
SYNCS	Synchroscope
SYS	System

**T**

T & B	Top & Bottom
T & G	Tongue & Groove
T/	Timer; Time Top Of
T-__-P	Type __ Pipe
T-__-S	Type __ Support
TAN	Tangent (-lal)
TB	Terminal Board
TB/TB	Thrust Block/Terminal Box
TBM	Temporary Bench Mark
TBO	Test Boring
TC	Terra Cotta
TCAB	Telephone Cabinet
TD	Time Delay
TDF	Time-Delay Fuse
TDH	Total Dynamic Head
TDR	Time Delay Relay
TECV	Twin Element Check Valve
TEL	Telephone
TEMP	Temperature
TEMPD	Tempered
TEMPY	Temporary
TER	Terrazzo
TERM	Terminal
TH	Threshold
THERMO	Thermostat
THERMP	Thermally Protected
THHN	Heat-Resistant Thermoplastic
THK	Thick (-Ened, -Ener, -Ness)
THMST	Thermostat
THOL	Test Hole
THRM	Thermal
THS	Thermostat Switch
THWN	Moisture-And-Heat Resistant Thermoplastic
TOCON	Top Of Concrete
TOCUB	Top Of Curb
TOD	Total Oxygen Demand

**Abbreviations Definition**
**T**

TOIL	Toilet
TOP	Top Of Pavement
TOPO	Topography
TOR	Torque
TOS	Top Of Steel; Top Of Slab
TOW	Top Of Wall
TP	Telephone Pole
TRANSF	Transformer
TRANSV	Transverse
TRD	Tread
TROF	Through Roof
TRS	Truss
TRTMT	Treatment
TS	Tube Steel
TSP	Twisted Shielded Pair
TTB	Telephone Terminal Board
TURB	Turbidity
TV	Television
TYP	Typical

**U**

U RM	Utility Room
UCL	Unclamp
UDG	Underground
UF	Under Floor
UGE	Underground Electric
UGND	Underground
UH	Unit Heater
UKWN	Unknown
UL	Underwriter Laboratories
UNEXC	Unexcavated
UNFLN	Unfinished
UNGF	Underground Feeder
UNO	Unless Noted Otherwise
UP	Up
UPR	Upper
UPS	Uninterruptible Power Supply
UV	Under voltage

**V**

VA	Volt Amps
VAC	Volts Alternating Current
VACUM	Vacuum

**Abbreviations Definition**

**V**

VAL	Valley
VALV	Valve
VAPS	Vapor Seal
VAPT	Vapor tight
VAR	Volt Amperes Reactive
VARB	Variable
VARS	Variable Speed
VAT	Vinyl Asbestos Tile
VB	Valve Box
VC	Vertical Curve
VCP	Vitrified Clay Pipe
VD	Voltage Drop
VDC	Volts Direct Current
VDMPR	Volume Damper
VELO	Velocity
VENT	Ventilation
VERT	Vertical
VERTBS	Vertical Bars
VEST	Vestibule
VF	Ventilation Fan
VFD	Variable Frequency Drive
VH	Var-Hour
VIO	Violet
VLT	Vault
VM	Voltmeter
VNT	Vent
VOL	Volt
VOLM	Volume
VP	Vent Pipe
VPI	Vertical Point Of Intersection
VS	Vent Stack
VT	Vinyl Tile

**W**

W CL	Water Column
W/	With
W/O	Without
WA	Warm Air
WAIN	Wainscot
WASP	Waste Pipe
WC	Water Closet
WD	Wood
WF	Wide Flange
WH	Water Heater
WHDM	Watt-Hour Demand Meter



**Abbreviations Definition**
**Y**

YEL	Yellow
YD	Yard
YD2	Square Yard
YD3	Cubic Yard
YR	Year

**Z**

Z	Impedance
---	-----------

**Misc**

&	And
∠	Angle
±	Approximately
@	At
CL	Centerline
°	Degree
=	Equals
'	Foot
>	Greater Than
"	Inch
%%c	Phase
<	Less Than
#	Number
%	Percent

1 PH	Single-Phase
2PH	Two-Phase
3P	Three-Pole
3P SW	Triple-Pole Switch
3PDT	Three-Pole Double-Throw
3PDT	Triple-Pole Double-Throw
3PDT SW	Triple-Pole Double-Throw Switch
3PH	Three-Phase
3PST	Three-Pole Single-Throw
3PST	Triple-Pole Single-Throw
3PST SW	Triple-Pole Single-Throw Switch
3W	Three-Wire
3WAY	Three-Way

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# Appendix C

## Design Symbols

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Symbol	Block Name	Description
	BUB_DETL	
	BUB_ELEV_UP	
	BUB_ELEV_DN	
	BUB_EL2_UP	
	BUB_EL2_DN	
	BUB_SECT	

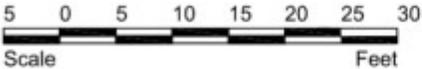
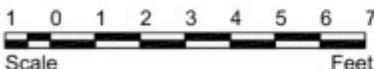
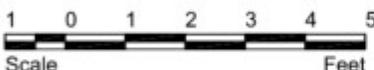
Detail\_Elevation\_Section (Model Space)

Symbol	Block Name	Symbol	Block Name
	SEC1_DN_L		Sect Exten_1 Sect Cut_1
	SEC2_DN_R		Sect Cut_2 Sect Exten_2
	SEC3_LF_1		Sect Cut_3 Sect Exten_3
	SEC4_LF_2		Sect Exten_4 Sect Cut_4
	SEC5_RT_1		Sect Cut_5 Sect Exten_5
	SEC6_RT_2		Sect Exten_6 Sect Cut_6
	SEC7_UP_1		Sect Exten_7 Sect Cut_7
	SECT_UP_R		Sect Exten_8 Sect Cut_8

Section Cuts (Model Space)

Symbol	Block Name	
	NAroBot	
	NAroLft	
	NAroRgt.	
	NAroTop.	

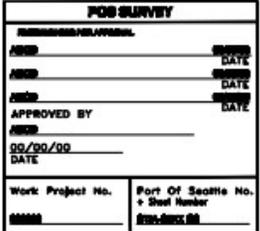
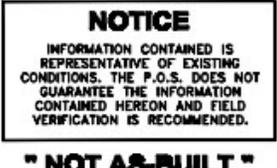
North Arrows (Paper Space)

Symbol	Block Name
$1/32"=1'-0"$ 	Bar_A384
$1/16"=1'-0"$ 	Bar_A192
$3/32"=1'-0"$ 	Bar_A128
$1/8"=1'-0"$ 	Bar_A96
$3/16"=1'-0"$ 	Bar_A64
$1/4"=1'-0"$ 	Bar_A48
$3/8"=1'-0"$ 	Bar_A32
$1/2"=1'-0"$ 	Bar_A24
$3/4"=1'-0"$ 	Bar_A16
$1"=1'-0"$ 	Bar_A12
$1-1/2"=1'-0"$ 	Bar_A8
$3"=1'-0"$ 	Bar_A4

**Architectural Scale Bars (Paper Space)**

Symbol	Block Name
$1"=10'-0"$ <p>Scale Feet</p>	Bar_C10
$1"=20'-0"$ <p>Scale Feet</p>	Bar_C20
$1"=30'-0"$ <p>Scale Feet</p>	Bar_C30
$1"=40'-0"$ <p>Scale Feet</p>	Bar_C40
$1"=50'-0"$ <p>Scale Feet</p>	Bar_C50
$1"=60'-0"$ <p>Scale Feet</p>	Bar_C60
$1"=100'-0"$ <p>Scale Feet</p>	Bar_C100
$1"=200'-0"$ <p>Scale Feet</p>	Bar_C200
$1"=300'-0"$ <p>Scale Feet</p>	Bar_C300
$1"=400'-0"$ <p>Scale Feet</p>	Bar_C400
$1"=500'-0"$ <p>Scale Feet</p>	Bar_C500

Civil Scale Bars (Paper Space)

Symbol	Block Name	Symbol	Block Name
	AsBltCvr		SurveyCvr
	MajContCvr		TenantCvr
	SmWkCvr		4RefOny
	ASBUILT		
	DISCLAIM		

Cover Sheet Stamps (Paper Space)

Symbol	Block Name
<b>DETAIL</b> LINE_1 LINE_2 LINE_3 SCALE: 1/4" = 1'-0" 	TTL_DETL
<b>LINE DIAGRAM</b> LINE_1 LINE_2 LINE_3 SCALE: None 	TTL_LDIA
<b>RISER DIAGRAM</b> LINE_1 LINE_2 LINE_3 SCALE: None 	TTL_RDIA
<b>BLOCK DIAGRAM</b> LINE_1 LINE_2 LINE_3 SCALE: None 	TTL_BDIA
<b>ELEVATION</b> LINE_1 LINE_2 LINE_3 SCALE: 1/8" = 1'-0" 	TTL_ELEV
<b>ELEVATION</b> LINE_1 LINE_2 LINE_3 SCALE: 1/16" = 1'-0" 	TTL_ELV2
<b>ENLARGED PLAN</b> LINE_1 LINE_2 LINE_3 SCALE: 1/4" = 1'-0" 	TTL_ENLP
<b>PHOTO</b> _____ #/SHEET LINE_1 LINE_2	TTL_PHOT
<b>PLAN</b> LINE_1 LINE_2 LINE_3 SCALE: 1/8" = 1'-0"	TTL_PLAN
<b>SECTION</b> LINE_1 LINE_2 LINE_3 SCALE: 1/4" = 1'-0" 	TTL_SECT
<b>TITLE</b> LINE_1 LINE_2 LINE_3 SCALE: None	TTL_TTLE

View Titles (Paper Space)

Symbol	Block Name	Description	Symbol	Block Name	Description	Symbol	Block Name	Description
AC	101	ASPHALT		199	ELECTRICAL VAULT		245	GUARD POST
	103	ASPHALT OVER CONCRETE		200	ELECTRICAL METER		247	GROUND ROD
	110	BACK FLOW PREVENTER		201	ELECTRICAL OUTLET		249	GROUND ROD BOX
	118	BOLLARD		201A	ELECTRICAL SHIP OUTLET		254	GUY WIRE ANCHOR
	129	CARD READER		207	FAA CHECK POINT		255	GUT POST
	130	CATCH BASIN STORM SEWER		208	FAA CABLE MARKER		259	MISC. HATCH
	130A	IWS CATCH BASIN		210	FAA ANTENNA		260	HATCH ON PIER
	135	CLEAN OUT SANITARY SEWER		211	FAA MANHOLE		265	JERSEY BARRIER
	136	CLEAN OUT STORM		216	FENCE CORNER		275	LADDER
	137	CLEAN OUT IWS		219	FIRE HOSE		276	LIGHT
	138	CLEAT		220	FIRE HYDRANT		277	LIFT HOIST
	140	COLUMN		222	FIREHOLES IN DECK		278	LIFT STATION
	156	CRANE STOPS		224	FIRE ALARM		280	LIGHT HOLDING
	170	DECK DRAIN		232	FUEL PUMP		282	LIT_THLD ELECTRIC
	171	UNKNOWN DRAIN		234	FUEL VENT		283	LIGHT CAN ABANDON
	177	DOLPHIN PILE		235	FUEL CAP		284	LIGHT TW CENTERLINE
	188	ECOLOGY BLOCK		236	FUEL PIT		285	LIGHT VASI
	193	ELECTRICAL JUNCTION BOX		236A	A=AIR PIT		286	LIGHT FAA R/W LANDING
	196	ELECTRICAL MANHOLE		236B	B=WATER PIT		288	EDGE LIGHT
	197	ELECTRICAL PANEL		238	GATE CONTROL BOX		289	WIGWAG LIGHT
	198	ELECTRICAL SUBSTATION		239	GUARD POST		290	RUNWAY LIGHT

Site Design Symbols 1

Symbol	Block Name	Description	Symbol	Block Name	Description	Symbol	Block Name	Description
	294	MAILBOX		331	POST (METAL)		391	SPRINKLER VALVE
	295	MANHOLE UNKNOWN		332	POST (WOOD)		392	CONDUIT ELECTRICAL
	296	MANHOLE COMBINATION		333	PROPERTY CORNER		394	SPRINKLER
	297	MANHOLE ELECTRICAL		345	RIP RAP		395	YIELD SIGN BOX
	298	MANHOLE SANITARY SEWER		345A	RIP ROCK		396	DO NOT ENTER SIGN
	299	MANHOLE STORM SEWER		347	REEFER OUTLET		398	STOP SIGN
	300	MANHOLE IWS		350A	R.R. FLANGE LUBRICATOR		399	PARKING ARROWS
	301	MANHOLE TELEPHONE		353	RAILROAD SIGN			
	302	MANHOLE OIL / WATER SEPERATOR		359	ROOF DRAIN		400	FUEL TANK
	303	MANHOLE WATER		368	SENSOR		402	PHONE, ELEC. UNDERGROUND
	304	MANHOLE METRO		375	SHIP'S WATER HYDRANT		403	TELEPHONE HANDHOLE
	306	METER NATURAL GAS		376	PIPE SIZE (IWS)		404	PHONE CABLE UNDERGROUND DO NOT NEED
	307	WATER METER		377B	AIR VENT		405	TELEPHONE PANEL
	312	MONITORING WELL		378	SEWER STUB (SANSEWER)		410	TEST HOLE
	317	PHONE BOOTH		380	SHRUB		413	TRANSFORMER
	320	PHOTO TARGET		382	SIGN (ELECTRIC)		414	TRANSFORMER CAN
	322	PILE		383	SIGNBASE SIGNAGE		415	TELEVISION DISK
	323	PILE FENDER		384	SIGN POST		417	TREE
	324	PILE STUB		385	WARNING SIGN FOR PIPELINE		417A	TREE DECIDUOUS
	330	PUMP (ELECTRICAL)		386	ONEWAY SIGN		417B	TREE CONIFER
	330A	PUMP (SUMP)		387	TIE DOWN		438	VALVE

Site Design Symbols 2

Symbol	Block Name	Description	Symbol	Block Name	Description	Symbol	Block Name	Description
	439	GAS VALVE		606	POLE POWER LIGHT PHONE CONDUIT		704	LIFE RING
	440	WATER VALVE		607	POLE POWER TELEPHONE CONDUIT		706	2 EL MET FIRE HOSE DOMESTIC WATER
	441	NATURAL GAS VALVE		608	POLE POWER CONDUIT UNDERGROUND TRANS.		710	SMALL AIRCRAFT TIEDOWN
	442	WATER P.I. VALVE		609	POLE POWER TELEPHONE		711	LIGHT POLE WITH 2 ELECTRICAL METERS
	442old	WATER P.I. VALVE old		610	POLE POWER WITH LIGHT		750	CENTERLINE RUNWAY LIGHT
	443	IWS VALVE		611	POLE POWER LIGHT TELEPHONE TRANSFORMER		751	SOUTH TDZ LIGHT
	443old	IWS VALVE old		612	POLE LIGHT TELEPHONE		752	NORTH TDZ LIGHT
	445	VAULT CORNER		613	POLE LIGHT		753	RUNWAY EDGE LIGHT UPRIGHT
	447	VENT VALVE		614	POLE POWER		754	RUNWAY EDGE LIGHT FLUSH
	448	WATER VALVE		615	POLE TELEPHONE		780	AIR WATER PIT
	448old	WATER VALVE old		616	POLE UTILITY		801	HH-L867
	453	TOP OF RETAINING WALL		617	POLE PHONE WITH LIGHT		802	BASE-L868
	456	WINDSOCK MISC.		618	POLE POWER LIGHT TRANSFORMER		803	BASE-L867
	460	WATER SPIGOT		619	POLE POWER TELEPHONE LIGHT CONDUIT		804	REFLECTORS
	462	SEDIMENT WATER MONITORING		620	POLE POWER TELEPHONE TRANSFORMER		805	MICROWAVE DETECTOR
	600	POLE POWER TRANSFORMER		621	LIGHT POLE ON METER TWO LIGHTS		806	TRANSFORMER CAN
	601	POLE POWER W/ CONDUIT		622	LIGHT POLE ON METER ONE LIGHT			
	602	POLE POWER LIGHT CONDUIT		700	2 EL MET FIRE HOSE DOMESTIC WATER			
	603	POLE POWER TELEPHONE		701	2 METERS DOMESTIC WATER			
	604	POLE POWER TELEPHONE CONDUIT		702	ELECTRICAL METERS			
	605	POLE POWER LIGHT PHONE TRANS CON		703	1 EL MET FIRE HOSE DOMESTIC WATER			

Site Design Design Symbols 3

Symbol	Block Name	Description	Symbol	Block Name	Description	Symbol	Block Name	Description
	BMK	BENCHMARK		MHL	MANHOLE		TSG	TRAFFIC SIGNAL
	CBN1	CATCH BASIN		MON	MONUMENT OR SURVEY POINT		UTB	UTILITY BOX (AS LABELED)
	CES	CULVERT WITH END SECTIONS		PWP	POWER POLE		WTR	WATER METER
	COT	CLEAN OUT		RSB	REINFORCING STEEL BAR		WTV	WATER VALVE
	CSN	CONSTRUCTION NOTE		RSBL	REINFORCING STEEL BAR (LONG.)		YDL	YARD LIGHT
	CVN	CURVE NUMBER		S1 S2	SIGN 1 SIGN 1			
	DIN	DROP INLET		SBID	SOIL BORING I.D. NUMBER			
	DOS	DITCH OR SWALE		SDR	STORM DRAIN			
	DWW	DRIVEWAY		SLT	STREET LIGHT			
	ETS	ELECTROLYSIS TEST STATION		SPT1	SPOT ELEVATION			
	FDC	FIRE DEPARTMENT CONNECTION		STC	SECTION CORNER			
	FLN	FLOW LINE		STL	STREET LIGHT			
	FRH	FIRE HYDRANT		STT	STREET LIGHT TRAFFIC SIGNAL			
	GAN	GUY ANCHOR		SVP	SURVEY PANEL			
	GAT	GATE		TPID	SOIL TEST PIT I.D. NUMBER			
	GLN	GENERAL NOTE		TRE	TREE			
	GSL	GRADED SLOPE		TRR	TELEPHONE RISER			

Civil Design Symbols



Symbol	Block Name	Description	Symbol	Block Name	Description	Symbol	Block Name	Description
	2SS	2 POSITION SELECTOR SWITCH		DCS	DISCONNECT SWITCH		MTO	MOTOR THERMAL OVERLOADS (3)
	3SS	3 POSITION SELECTOR SWITCH		EOS	ELECTRICALLY OPERATED SWITCH		MVT	MEDIUM VOLTAGE CABLE TERMINATION
	ACB	DRAWOUT AC CIRCUIT BREAKER		FAC	FLOW ACCUATED SWITCH CLOSSES ON INCREASED FLOW		NC	NORMALLY CLOSED
	ACB1	DRAWOUT AC CIRCUIT BREAKER 600V		FAO	FLOW ACCUATED SWITCH OPENS ON INCREASED FLOW		NCHO	NORMALLY CLOSED HELD OPEN
	ALS	ALARM LIGHT/STROBE		FCS	FUSED CUTOOUT SWITCH		NO	NORMALLY OPEN
	BAT	BATTERY		FWR	FUSE WITH RATING		NOHC	NORMALLY OPEN HELD CLOSED
	CBCL	CIRCUIT BREAKER CURRENT LIMITING		GEN	GENERATOR		OOSS	ON-OFF SELECTOR SWITCH
	CBEG	CIRCUIT BREAKER EXT. GFCI		GND	GROUND		PVT	POTENTIAL VOLTAGE TRANSFORMER
	CBG	CIRCUIT BREAKER/GFCI		GOS	GROUP OPERATED SWITCH		PWT	POWER TRANSFORMER
	CBST	CIRCUIT BREAKER SUBSCRIPT IND. SHUNT TRIP		IIN	INDICATING INSTRUMENT		RCL	RELAY COIL
	CCL	CIRCUIT CLOSING		ILC	INDICATING LIGHT		RLC	RESISTOR
	CCO	CIRCUIT OPENING		LQC	LIQUID LEVEL ACCUATED SWITCH CLOSSES ON RISING LIQUID		SAR	SURGE ARRESTORS
	CLCB	CURRENT LIMITING CIRCUIT BREAKER		LQO	LIQUID LEVEL ACCUATED SWITCH OPENS ON RISING LIQUID		SBL	SUBSTATION LIGHT
	CMOB	CIRCUIT MOTOR OPERATED BREAKER		MCM	MICROPROCESSOR CONTROLLED MONITOR		SCN	SEPARABLE CONNECTOR
	CO1	NORMALLY OPEN		MOV	MOTOR OPERATED VALVE		SEGF	SWITCH W/EXT. GFCI
	CO2	NORMALLY CLOSED		MSP	MOV SURGE PROTECTOR		SSL	SUBSTATION LIGHT
	CRT	CURRENT TRANSFORMER		MTC	MOTOR CONNECTION		ST3	STARTER 3-POLE

Electrical Design Schematic Symbols 1

	Symbol	Block Name	Description
		SVL	SOLENOID VALVE
		TAC	TEMPRATURE ACTUATED SWITCH CLOSES ON RISING TEMPERATURE
		TAO	TEMPRATURE ACTUATED SWITCH OPENS ON RISING TEMPERATURE
		TBK	TERMINAL BLOCK
		TD1	TIME DELAY SWITCH NORMALLY OPEN, CONTACT CLOSES AFTER TIME DELAY WHEN COIL IS ENERGIZED OPEN WHEN DE-ENERGIZED
		TD2	TIME DELAY SWITCH NORMALLY CLOSED, CONTACT OPENS AFTER TIME DELAY WHEN COIL IS ENERGIZED CLOSE WHEN DE-ENERGIZED
		TD3	TIME DELAY SWITCH NORMALLY OPEN, CONTACT CLOSES AFTER TIME DELAY WHEN COIL IS ENERGIZED OPEN AFTER DELAY
		TD4	TIME DELAY SWITCH NORMALLY CLOSED, CONTACT OPEN AFTER TIME DELAY WHEN COIL IS ENERGIZED CLOSES AFTER DELAY
		TSST	TESTING SWITCH SHORTING TYPE
		TSW	TEST SWITCH
		VAC	PRESSURE OR VACUUM ACCUATED SWITCH - CLOSES
		VAO	PRESSURE OR VACUUM ACCUATED SWITCH - OPENS ON RISING PRESSURE
		WYE	WYE

Electrical Design Schematic Symbols 2

Symbol	Block Name	Description	Symbol	Block Name	Description	Symbol	Block Name	Description
	4WPB	480Y/270V, 4W PANELBOARD		CNP	CONTROL PANEL		GDD	GRND TYPE DBL. DUPLEX
	4WPB2	208Y/120V, 4W PANELBOARD		CO	CONTRACTORS SUBSCRIPT INDICATES NUMBER OF POLES		GDT	GAS DETECTOR
	ABL	ALARM BELL		CPB	CAPACITOR BANK		GPG	GROUND PIGTAIL
	ABZ	ALARM BUZZER		CSP	CLOCK/SPEAKER COMBINATION		GRW	GROUND WELL
	ACH	ALARM CHIME		DEL	DELTA		GTD	GROUNDING TYPE DUPLEX RECEPTACLE
	AIJ	AUXILIARY OUTPUT JACK		DLE	DIRECTIONAL LIGHTING FIXTURE ON EMERGENCY CIRCUIT		GTR	GROUNDING TYPE SINGLE RECEPTACLE
	ANN	ANNUNCIATOR		ECB	EQUIPMENT CABINET		HDT	HEAT DETECTOR
	AOJ	AUXILIARY OUTPUT JACK		ELF	EXTERIOR LIGHTING FIXTURE		HNH	HANDHOLE
	BPL	BATTERY POWERED LIGHT		EQC	EQUIPMENT CONNECTION		ICS	ILLUMINATION CONTROL STATION
	CBL	SUBSTATION LIGHT		ESF	EXT. STEP LIGHTING FIXTURE		IES	ILL. EXIT SIGN/1 FACE
	CBPE	COMBINATION BATTERY POWERED EMER. LIGHT WITH ILLUMINATED EXIT		ESS	EMERGENCY SHUTDOWN SWITCH		IES2	ILLUMINATED EXIT SIGN 2 - FACE WITH EGRESS
	CBS	COMBINATION STARTER 3 POLE		FCP	FLUSH FLOOR COUPLING WITH PEDESTAL TELEPHONE OUTLET		ISW	INSTRUMENT SWITCH
	CBT	CABLE TRAY		FDT	FLAME DETECTOR		ITS	INTERCOM STATION
	CDO	COMPUTER DATA OUTLET		FETS	FIRE / EMERGENCY TELEPHONE STATION		MIJ	MICROPHONE INPUT JACK
	CLK	CLOCK		FFB	FLUSH FLOOR BOX		MPS	MANUAL PULL STATION
	CMD	CEILING MOUNTED DUPLEX RECEPTACLE		FFC	FLUSH FLOOR COUPLING		NTL	NIGHT LIGHT
	CMDF	CEILING MOUNTED DOUBLE FACED CLOCK		FFD	FLUSH FLOOR BOX WITH DEVICES		PBS	PUSH BUTTON SWITCH

Electrical Design Symbols

Symbol	Block Name	Description	Symbol	Block Name	Description	Symbol	Block Name	Description
	PHC	PHOTOCELL CONTROL		THT	THERMOSTAT			
	PHS	PHOTOELECTRIC SENSOR		TKL	TRACK LIGHT			
	PLB	PULLBOX		TLO	TELEPHONE OUTLET			
	PMD	PEDESTAL MOUNTED DEVICES		VDO	COMBINATION VOICE DATA OUTLET			
	PMF	POLE MOUNTED LIGHTING FIXTURE		VLC	VOLUME CONTROL			
	PTT	POKE THRU TYPE FITTING		WGC	WELDED GROUND CONNECTION			
	RCO	RECEPTACLE OUTLET		WSI	WALL SWITCH SUBSCRIPT INDICATES LOWER LETTER INDICATES SWITCHING GROUP			
	SCR	SPEAKER CEILING RECESSED						
	SCS	SPEAKER CEILING SURFACE						
	SDT	SMOKE DETECTOR						
	SPR	SPECIAL PURPOSE RECEPTACLE						
	SPS	SPEAKER						
	SPWS	SINGLE POLE WALL SWITCH						
	SWD	SPLIT WIRED GROUNDING TYPE DUPLEX RECEPTACLE						
	SWR	SPEAKER WALL RECESSED MOUNTED CXZCCZ						
	SWS	SPEAKER WALL SURFACE MOUNTED						
	TDR	TRANSDUCER						

Electrical Design Plan Symbols



	Symbol	Block Name	Description	Symbol	Block Name	Description
		2WY_1	2 WAY SOLENOID VALVE		DBL_E	DOUBLE ACTING ELECTRICALLY OPERATED
		2WY_2	2 WAY SOLENOID VALVE		DHYDS	DOUBLE ACTING HYDRAULIC PISTON OPERATED VALVE W/HYDRAULIC SHUTTLE SOLENOID VALVE
		3WY	3 WAY SOLENOID VALVE		DIA_3WY	BACK PRESSURE REGULATOR (EXTERNAL TAP)
		3WY_FO	3 WAY FAIL OPEN TO PATH A-C		DIA_P	DIAPHRAGM OPERATED WITH POSITIONER
		3WY_P	3 WAY PNEUMATIC PILOT		DRG	DIFFERENTIAL PRESSURE REDUCING REGULATOR
		4WY	4 WAY SOLENOID VALVE		FC	FAIL CLOSED
		4WY_2S	4 WAY SOLENOID VALVE DOUBLE SOLENOID		FLO	FLOAT OPERATED
		4WY_FO	4 WAY FAIL OPEN TO PATH A-C, D-B		FO	FAIL OPEN
		4WY_P	4 WAY PNEUMATIC PILOT		FV1	FLOAT VALVE (SINGLE LINE)
		BRG	BACK PRESSURE REGULATOR		MB1	MOTORIZED BALL VALVE
		BRG_X	BACK PRESSURE REGULATOR (EXTERNAL TAP)		MV1	MOTOR OPERATED VALVE
		CTL	CONTROL VALVE		PN1	PRESSURE REGULATOR
		CTL_M	CONTROL VALVE WITH MANUAL ACTUATOR		PRG	PRESSURE REDUCING REGULATOR
		DAP	DOUBLE ACTING PISTON OPERATED VALVE		PRG_X	PRESSURE REDUCING REGULATOR (EXTERNAL TAP)
		DAP_4WY	DOUBLE ACTING PISTON OPERATED VALVE W/4 WAY SOLENOID		PRS	PRESSURE RELIEF OR SAFETY VALVE
		DAPO	DOUBLE ACTING PISTON OPERATED VALVE		PVR	PRESSURE AND VACUUM RELIEF VALVE
		DAPO_P	DOUBLE ACTING PISTON OPERATED VALVE WITH PISTON		SAP	SINGLE ACTING PISTON VALVE

Piping Design Inline-p&amp;id Actuated Valves Symbols

Symbol	Block Name	Description	Symbol	Block Name	Description
	90dETV	90° ELBOW WITH TURNING VANES		PUMP	PUMP
	AD-AP	ACCESS DOOR OR ACCESS PANEL		RDD	ROUND DUCT DOWN
	AMU	AIR MEASURING UNIT (PROVIDE ACCESS DOOR UPSTREAM AND DOWNSTREAM)		RDUP	ROUND DUCT UP
	BDD	BACKDRAFT DAMPER		RG	RETURN WALL GRILLE
	CD3	CEILING DIFFUSER (THREE WAY DIRECTIONAL AIRFLOW WITH BLANK-OFF SHOWN)		RG-EG-TG	CEILING PLENUM RETURN AIR/ EXHAUST CIELING GRILLE/ TRANSFER GRILL
	CD4	CIELING DIFFUSER (FOUR WAY DIRECTIONAL AIRFLOW)		SADD	SUPPLY AIR DUCT DOWN
	EADD	EXHAUST OR RETURN AIR DUCT (DOWN)		SADUP	SUPPLY AIR DUCT UP
	EADUP	EXHAUST OR RETURN AIR DUCT (UP)		SDF	COMBINATION SMOKE/FIRE DAMPER (PROVIDE ACCESS)
	FAN	FAN		SFF	SERIES FLOW FAN
	FD	FIRE DAMPER (PROVIDE ACCESS)		SG	SUPPLY WALL GRILLE
	FLC	FLEXIBLE CONNECTION		TU	TERMINAL UNIT
	HC-CC	HEATING OR COOLING COIL		UH	UNIT HEATER
	LD	LINEAR DIFFUSER (FLOW ARROW SHOWN ONLY IF AIRFLOW IS ONE DIRECTIONAL)		VAF	VANE AXIAL FAN
	MD	MANUAL VOLUME DAMPER			
	MOD	MOTOR OPERATED DAMPER			
	PF	PROPELLER FAN			
	PFF	PARALLEL FLOW FAN TERMINAL UNIT			

Design Hvac Symbols

	Symbol	Block Name	Description	Symbol	Block Name	Description
		AN1	ANGLE		PUP	PIPE TURNING UP
		ANC	ANCHOR		RC1	REDUCER - CONCENTRIC (SINGLE LINE)
		BF	BLIND FLANGE		RE1	REDUCER - ECCENTRIC (SINGLE LINE)
		BL1	BELL (SINGLE LINE)		REB	REDUCING ELBOW (SINGLE LINE)
		CAP1	CAP (SINGLE LINE)		SON	SLIP-ON
		CNR	CONCENTRIC REDUCER (DOUBLE LINE)		SW1	SCREWED (SINGLE LINE)
		CR1	CROSS (SINGLE LINE)		TE1	TEE (SINGLE LINE)
		ECR	ECCENTRIC REDUCER (DOUBLE LINE)		UN1	UNION (SINGLE LINE)
		EL1	EXPANSION LOOP (SINGLE LINE)		WD1	WELDED (SINGLE LINE)
		ELB	ELBOW (SINGLE LINE)			
		FD	FLOOR DRAIN			
		FG1	FLANGED (SINGLE LINE)			
		GV1	GROOVED JOINT (SINGLE LINE)			
		MC1	MECHANICAL (SINGLE LINE)			
		PDWN	PIPE TURNING DOWN			
		PL1	PLUG (SINGLE LINE)			
		POC	POINT OF CONNECTION			

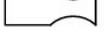
Pipe & Fittings Design Symbols

	Symbol	Block Name	Description	Symbol	Block Name	Description
		3PL1	3 WAY PLUG (SINGLE LINE)		GC	GAS COCK
		AAV	AUTOMATIC AIR VENT (SINGLE LINE)		GLV	GLOBE VALVE
		AFCV	AUTOMATIC FLOW CONTROL VALVE		GT1	GATE VALVE (SINGLE LINE)
		BC1	BALANCING COCK (SINGLE LINE)		MAV	MANUAL AIR VENT (SINGLE LINE)
		BFP	BACKFLOW PREVENTER		NV1	NEEDLE VALVE (SINGLE LINE)
		BFP1	BACK FLOW PREVENTER (SINGLE LINE)		PFC	PIPELINE FLUSHING COCK (SINGLE LINE)
		BFV	BUTTERFLY VALVE		PG1	PLUG VALVE (SINGLE LINE)
		BFV1	BUTTERFLY VALVE (SINGLE LINE)		PIV	POST INDICATOR VALVE (SINGLE LINE)
		BLV	BALANCING VALVE		PR1	PRESSURE REGULATOR (SINGLE LINE)
		BLV1	BALL VALVE (SINGLE LINE)		PRV1	PRESSURE RELIEF VALVE (SINGLE LINE)
		BV	BALL VALVE		PRV	PRESSURE REGULATING VALVE
		CK1	CHECK VALVE (SINGLE LINE)		PV1	PINCH VALVE (SINGLE LINE)
		CV	CHECK VALVE		RV	RELIEF VALVE
		DCV	DOUBLE CHECK VALVE (SINGLE LINE)		SV1	SPECIAL VALVE (SINGLE LINE)
		DH1	DIAPHRAGM (SINGLE LINE)		UNION	UNION
		FC	FLEXIBLE CONNECTION		VR1	VACUUM REGULATOR (SINGLE LINE)
		GB1	GLOBE VALVE (SINGLE LINE)			

Design Piping Inline - Valves Symbols

	Symbol	Block Name	Description	Symbol	Block Name	Description
		AFA	AIR FROM ATMOSPHERE		PT	PRESSURE/TEMP TEST PORT
		ATA	AIR TO ATMOSPHERE		RPD1	REDUCED PRESSURE DEVICE
		BS	BASKET STRAINER		SBDV	STRAINER WITH BLOW DOWN VALVE
		CHS	CHEMICAL SEAL		SG	SIGHT GLASS
		EXJ	EXPANSION JOINT		SMS	STATIC MIXER (SMALL)
		FC1	FLEXIBLE COUPLING		SNB	STEAM TRAP NO BYPASS
		FCA1	FLANGED COUPLING ADAPTOR		ST	STEAM TRAP ASSEMBLY
		FH1	FLEXIBLE HOSE		STM	STATIC MIXER
		FHL	FLEX HOSE (LONG)		SWB	STEAM TRAP WITH BYPASS
		FHS	FLEX HOSE (SHORT)		THM	THERMOMETER
		FN1	FLEXIBLE CONNECTOR		TMW	THERMOWELL
		HTR	HEAT TRACE		WHA	WATER HAMMER ARRESTER
		INSL	INSULATION (LONG)		WS	WYE STRAINER
		INSS	INSULATION (SHORT)			
		NUKS	NUCLEAR			
		PA	PIPE ANCHOR			
		PG	PIPE GUIDE			

Piping Design Inline Equipment Symbols

	Symbol	Block Name	Description
		ANB	SINGLE PORT PITOT TUBE
		ANL	ANALYZER
		CMFM	CONTINUAL MASS FLOW METER
		CONS	CONSISTENCY ANALYZER
		FM1	FLOW METER (SINGLE LINE)
		MAG_F	MAG METER
		NOZ	FLOW NOZZLE
		ORF_F	FLOW ORIFICE PLATE
		ORF_P	PRESSURE ORIFICE PLATE
		RM1	ROTAMETER (SINGLE LINE)
		ROTO	ROTAMETER
		VENT	VENTURI TUBE
		VRTX	VORTEX METER

Piping Design Inline-flowmeters-Symbols

	Symbol	Block Name	Description
		ADP	AIR DIAPHRAGM PUMP
		AGI	AGITATOR
		FAN	FAN
		MOT	MOTOR
		MTP	METERING PUMP
		PDP	POSITIVE DISPLACEMENT PUMP
		PMP	PUMP
		SMP	SUMP PUMP
		VPS	VERTICAL PUMP STANDARD HEAD
		VPT	VERTICAL PUMP TEE HEAD

Piping Design Inline - Machinery Symbols



	Symbol	Block Name	Description
		BELL	ALARM BELL
		DAV	DRY ALARM VALVE
		DPH	DRY PENDENT HEAD
		DSH	DRY SIDEWALL HEAD
		FDC	FIRE DEPARTMENT CONNECTION
		FDS	FLOW DETECTOR SWITCH
		HV	HOSE VALVE
		PH	PENDENT HEAD
		SH	SIDEWALL HEAD
		SVALVE	SUPERVISED VALVE
		UPH	UPRIGHT HEAD
		WAV	WET ALARM VALVE

Design Piping Inline Fire Symbols

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# Appendix C

## Sample Drawings

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GENERAL NOTES:

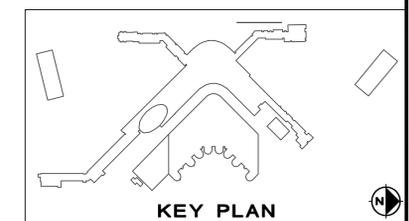
Consultants Logo Blocks Location

Professional Seal Location

Project % Review New Location In Revision Area

POS Wp Number:

POS Project Tracking Number + Trade & Sheet Number:



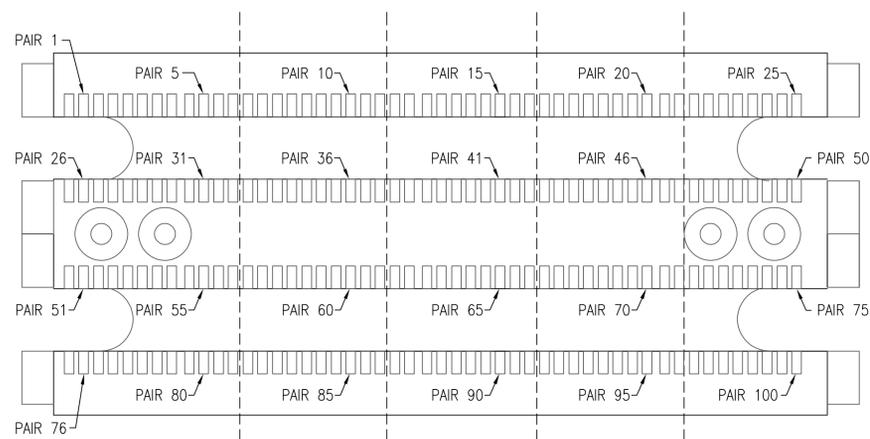
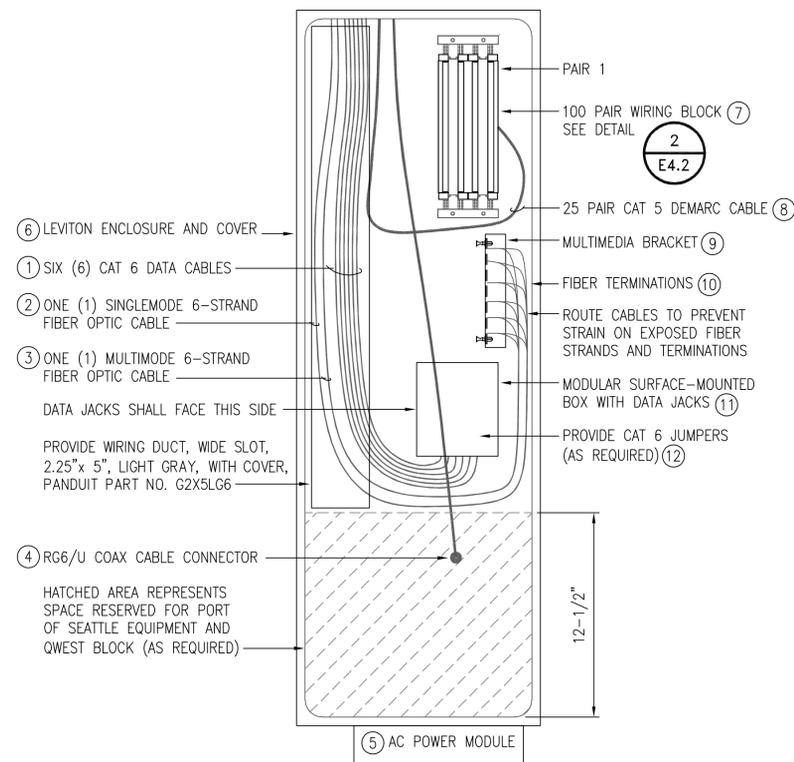
Consultant's Internal Project Number:

As-Built Stamp Location

<b>CDIENGINEERS</b> 4200 - 194th St SW, Suite 200 Lynnwood, WA 98036 T 425.672.1071 F 425.778.8769 www.CDIENGINEERS.com	PROJECT ENGR./ARCH. CONSULTANT NAME DESIGNER:		REVISIONS						POS PROJECT MANAGER: PM NAME POS PROJECT ENGINEER: POS DESIGN ENGINEER: POS DRAFTER: POS SCALE: POS DATE: POS CHECKED/APPROVED BY:	SEA-TAC INTERNATIONAL AIRPORT PROJECT NAME: <b>Project Name Above</b> <b>Project Name Below</b> SHEET TITLE:	POS WORK PROJECT NUMBER 000000																															
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**DETAIL**  
100 PAIR, 110 BLOCK WIRING  
SCALE: NTS

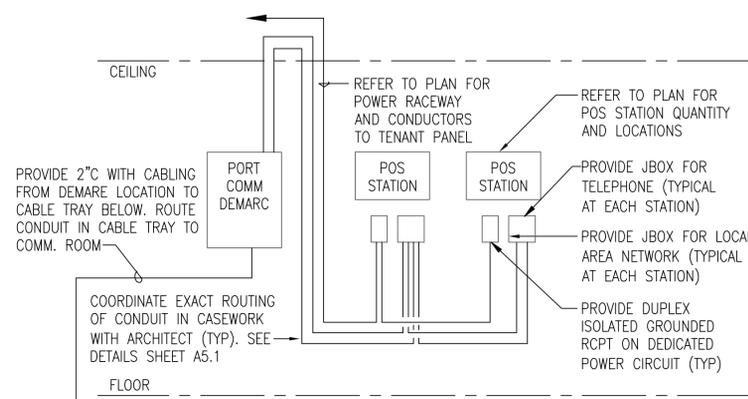
**GENERAL NOTES:**

1. DEMARCATION BOX IS FOR PORT OF SEATTLE CABLING AND QWEST DEMARC. COORDINATE INSTALLATION OF QWEST BLOCK AND CABLE PULL WITH QWEST.
2. PROVIDE PATHWAY TO PATCH FROM DEMARCATION BOX TO TENANT SYSTEMS EQUIPMENT OR PATCH PANELS OUTSIDE OF THIS BOX. METHOD AND SIZE OF PATHWAY SHALL BE APPROVED BY THE PORT AND TENANT AT TIME OF CONSTRUCTION.
3. ROUTE ALL FIBER OPTIC CABLES TO ALLOW FOR MINIMUM CABLE BEND RADIUS, TO MAXIMIZE USABLE SPACE IN BOX, AND TO AVOID BLOCKING EASY ACCESS TO JACKS AND CONNECTORS.
4. OBTAIN APPROVAL FOR ROUTING AND FASTENING FIBER OPTIC CABLES FROM THE PORT AT TIME OF CONSTRUCTION AND PRIOR TO TERMINATION.
5. LEAVE SERVICE LOOP OF FIBER OPTIC CABLE AT THE COMMUNICATIONS ROOM END AND ALLOW SOME SLACK, IF POSSIBLE, CLOSE TO THE DEMARCATION BOX.

**REFERENCE NOTES:**

1. PROVIDE SIX (6) CAT 6 DATA CABLES, RED, AVAYA PART NO. 1071004ERD/NON-PLENUM, OR AVAYA PART NO. 2071004ERD/PLENUM.
2. PROVIDE ONE (1) SINGLEMODE 6-STRAND FIBER OPTIC CABLE, YELLOW, AVAYA PART NO. 5200-006A-SYRL/RISER, OR PART NO. 5200-006A-SYPL/PLENUM.
3. PROVIDE ONE (1) MULTIMODE 6-STRAND FIBER OPTIC CABLE, ORANGE, AVAYA PART NO. 5200-006A-MRSL/RISER, OR PART NO. 5200-006A-MPSL/PLENUM.
4. PROVIDE RG6/U COAX CABLE WITH MALE 'f' CONNECTOR, COMMSCOPE PART NO. 5700/NON-PLENUM, COMMSCOPE PART NO. 2275/PLENUM. PROVIDE 75 OHM TERMINATOR AND 'f' ADAPTER, TESSCO/STERLING PART NUMBERS 452154 AND 415156.
5. PROVIDE AC POWER MODULE, 2-DUPLEX 15A RECEPTACLES WITH INTEGRAL HOSPITAL GRADE SURGE SUPPRESSOR, LEVITON PART NO. 47605-DP. WIRE TO 120VAC DEDICATED 20A CIRCUIT BREAKER.
6. PROVIDE LEVITON SMC 420 ENCLOSURE AND COVER, PART NO. 47605-42W, 42"H x 14.38"W x 3.6"D, FLUSH OR SURFACE MOUNT AS REQUIRED. WHERE BOX IS FLUSH-MOUNTED, PROVIDE (2)-1" CONDUIT SPARES WITH PULL STRING TO CEILING SPACE.
7. PROVIDE AVAYA 110AW2-100 WIRING BLOCK. REFER TO DETAIL THIS SHEET. PAIRS 1-25 ARE RESERVED FOR PORT DEMARC CABLE WITH 110C-5 CLIPS. PAIRS 26-100 ARE FOR TENANT STATION CABLE WITH 110C-4 CLIPS.
8. PROVIDE 25 PAIR CAT 5 DEMARC CABLE, AVAYA PART NO. 1061025CSL/NON-PLENUM, OR PART NO. 2061025ABL/PLENUM.
9. PROVIDE MULTIMEDIA BRACKET, LEVITON PART NO. 47612-MMA, WITH TWO (2) MOUNTING PLATES, EACH WITH THREE (3) SC-DUPLEX CONNECTORS, LEVITON PART NO. 5F100-3SC.
10. TERMINATE SINGLEMODE FIBER AT FRONT (3) SC-DUPLEX AND MULTIMODE FIBER AT REAR (3) SC-DUPLEX. USE AVAYA PART NO. P6001A-Z-125 SC CONNECTORS FOR SINGLEMODE AND AVAYA PART NO. P6201A-Z-125 SC CONNECTORS FOR MULTIMODE.
11. PROVIDE MODULAR SURFACE-MOUNT BOX (AVAYA PART NO. M106SMB-262) WITH SIX (6) CAT 6 RED DATA JACKS, AVAYA PART NO. MGS400-317. NUMBERING OF JACKS SHALL BE PER PORT NAMING ASSIGNMENTS AND STANDARDS. NUMBERS SHALL INCREASE FROM TOP TO BOTTOM.
12. PROVIDE CAT 6 JUMPERS (AS REQUIRED), RED JACKET, AVAYA PART NO. GSE-8x (x = LENGTH IN FEET).

**DETAIL**  
TENANT DEMARCATION COMMUNICATIONS BOX  
SCALE: NTS



**TYPICAL SCHEMATIC DIAGRAM**  
POINT-OF-SALE REQUIREMENTS  
SCALE: NTS

**POINT-OF-SALE (POS) SYSTEM NOTES:**

1. ALL CABLE WITHIN TENANT SPACE SHALL BE ROUTED IN CONDUIT, SIZED AS INDICATED OR AS APPROPRIATE FOR CABLE TYPE. USE 3/4" C FOR UP TO 5 CABLES, AND 1" C FOR 7 CABLES (7 CABLES MAXIMUM).
2. USE FLEXIBLE CONDUIT WITHIN CABINERY. PROVIDE ALL REQUIRED CABLING PENETRATIONS IN CABINETS, INCLUDING BLACK PLASTIC GROMMETS WITH COVERS.
3. PROVIDE DEDICATED DUPLEX RECEPTACLES FOR POINT-OF-SALE SYSTEM EQUIPMENT, WITH DEDICATED NEUTRAL AND ISOLATED GROUND CONDUCTOR BACK TO TENANT PANEL GROUND BUS. ROUTE POWER AND COMMUNICATIONS CABLING IN SEPARATE RACEWAYS.
4. THE POINT-OF-SALE SYSTEM SUPPLIER SHALL PROVIDE ALL EQUIPMENT AND TERMINATIONS AT COMM DEMARC BOX AND AT EACH 'DROP' POINT, AND SHALL INCLUDE ALL REQUIRED TESTING.

CT-27 PYRAMID TAPHOUSE PROJECT NO. 100899	CABLE TYPE:	CABLE LABEL		
		1ST LINE:	2ND LINE:	3RD LINE (FROM-TO):
DEMARC BOX LABEL: EQ. CB 05. 05171			(COMM RM END)	(DEMARC END)
RG6 PATCH PANEL LABEL: I.CXP. CB 05. 05171 .40	RG6/U	CB.CX. CB 05. 05171	(BLANK)	ER.CA04.00001 -EQ. CB 05. 05171
RJ45 PATCH PANEL LABEL: I.CXP. CB 05. 05171 .30	CAT 6, 4 PAIR	CB.U6. CB 05. 05171	(BLANK)	ER.CA04.00001 -EQ. CB 05. 05171
	CAT 6, 4 PAIR	CB.U6. CB 05. 05172	(BLANK)	ER.CA04.00001 -EQ. CB 05. 05171
	CAT 6, 4 PAIR	CB.U6. CB 05. 05173	(BLANK)	ER.CA04.00001 -EQ. CB 05. 05171
	CAT 6, 4 PAIR	CB.U6. CB 05. 05174	(BLANK)	ER.CA04.00001 -EQ. CB 05. 05171
	CAT 6, 4 PAIR	CB.U6. CB 05. 05175	(BLANK)	ER.CA04.00001 -EQ. CB 05. 05171
	CAT 6, 4 PAIR	CB.U6. CB 05. 05176	(BLANK)	ER.CA04.00001 -EQ. CB 05. 05171
110 PUNCH-DOWN BLOCK LABEL: I.CPB. CP 05. 05171 .20	CAT 5, 25 PAIR	CB.U5. CB 05. 05171	(BLANK)	ER.CA04.00001 -EQ. CB 05. 05171
FIBER OPTIC PATCH PANEL LABEL: I.FPP. CA 05. 05171 .10	SINGLEMODE FIBER OPTIC, 6 STRAND	FB.SM. CB 05. 05171	(BLANK)	ER.CA04.00001 -EQ. CB 05. 05171
	MULTIMODE FIBER OPTIC, 6 STRAND 62.5 MICRON	FB.M6. CB 05. 05171	(BLANK)	ER.CA04.00001 -EQ. CB 05. 05171

NOTE: ALL COMM WORK TO BE PROVIDED BY TENANT OR PORT SERVICES. CONDUIT & BOXES BY ELECTRICAL CONTRACTOR.

<p>PROJECT ENGR./ARCH NAME: DESIGNER: DRAWN BY: SCALE: DATE: CHECKED BY: CHECKED/APPROVED BY:</p>	<p>REVISIONS</p> <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>NO.</th> <th>DATE</th> <th>BY</th> <th>DESCRIPTION</th> <th>APP'D</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table>	NO.	DATE	BY	DESCRIPTION	APP'D																					<p>POS PROJECT MANAGER NAME: POS PROJECT ENGINEER: POS DESIGN ENGINEER: POS DRAFTER: POS SCALE: POS DATE: POS CHECKED/APPROVED BY:</p>	<p><b>Port of Seattle</b> SEA-TAC INTERNATIONAL AIRPORT PROJECT NAME: <b>Project Name Above</b> <b>Project Name Below</b> SHEET TITLE: <b>COMMUNICATIONS DEMARCATION DETAILS</b></p>	<p>POS WORK PROJECT NUMBER: <b>000000</b> CONSULTANT'S PROJECT NUMBER: <b>CONST. No.</b> POS PROJECT TRACKING NUMBER: <b>STIA-03xx EC4.2</b></p>
NO.	DATE	BY	DESCRIPTION	APP'D																									

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# **Appendix D Port of Seattle Level Tables and Descriptions**

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Level Designations Used In Layer Names			
Verified Data (1 character)	1 or 0	Floor Level Indicator (3 Characters)	Description
		ABV	Above Ground
		BAG	Baggage Level of the Main Terminal
		BMZ	Baggage Mezzanine
		BRG	Bridge and Promenade Level
		BS1	Basement 1
		BS2	Basement 2
		BS3	Basement 3
		CMP	Central Mechanical Plant
		CON	Concourse (Ticketing level)
		DCK	Dock
		FIS	FIS Mezzanine.
		FL1	1 <sup>st</sup> Floor
		FL2	2 <sup>nd</sup> Floor
		FL3	3 <sup>rd</sup> Floor
		FL4	4 <sup>th</sup> Floor
		FL5	5 <sup>th</sup> Floor
		FL6	6 <sup>th</sup> Floor
		FL7	7 <sup>th</sup> Floor
		FL8	8 <sup>th</sup> Floor
		FL9	9 <sup>th</sup> Floor
		GEN	General
		GRD	Ground, at Grade
		INC	South Satellite International Corridor Level
		MEZ	Mezzanine level
		PEN	Penthouses
		PG1	Parking Garage 1
		PG2	Parking Garage 2
		PG3	Parking Garage 3
		PG4	Parking Garage 4
		PG5	Parking Garage 5
		PG6	Parking Garage 6
		PG7	Parking Garage 7
		PG8	Parking Garage 8
		PG9	Parking Garage 9
		P10	Parking Garage 10
		RMP	Ramp
		ROF	Roof
		TUN	Tunnels & under Bridges @ ground level
		UDG	Underground
		UDK	Under Dock

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# Appendix E

## Port of Seattle

# CAD Layer Naming Standards

## 2023 Edition

*The following Port of Seattle Layer Tables are set to be specific to each trade.*

*Please Note:*

- 1)...No mismatching of trade roots and root modifiers are allowed with other trades.*
- 2)...No mismatching of root modifiers with other roots within the same trade is allowed.*
- 3)...Use all layers that are in the layer table as specific as noted in the layer tables.*

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# General Plot Sheet Layers

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Trade	Level	Root	Root Modifier	1st Optional Modifier	2nd Optional Modifier	Description
<b>Cover Sheet Layers W/ Sheet Index (General) 'G Trade'</b>						
<b>NO Other Root Modifiers allowed</b>						
<b>G</b>		<b>SHBD</b>	<b>COVR</b>			<b>Cover sheet</b>
				<b>ASBT</b>		<i>Cover Sheet Record Stamp Block</i>
				<b>INDX</b>		<i>Cover Sheet Index Template Lines</i>
				<b>MCON</b>		<i>Cover Sheet Major Contract Block</i>
				<b>TEXT</b>		<i>Cover Sheet Index Text</i>
			<b>TTLB</b>			<i>Cover Sheet frame</i>
				<b>CLIP</b>		<b>Cover Sheet Plot Sheet Limits</b>
			<b>TITLE</b>			<i>Title</i>
				<b>PROJ</b>		<b>Cover Sheet Project Title</b>
<b>SHBD</b>						
			<b>NUMB</b>			<i>Sheet or project number</i>
				<b>DRWG</b>		<i>Title Block</i>
			<b>STMP</b>			<i>Stamps</i>
				<b>ASBT</b>		<i>Title Block As-Built Stamps</i>
				<b>B4D1</b>		<i>Title Block: Before You Dig Stamp (up)</i>
				<b>B4D2</b>		<i>Title Block: Before You Dig Stamp (down)</i>
				<b>NFCS</b>		<i>Not for Construction Stamp</i>
				<b>FRVW</b>		<i>For Review Only Stamp</i>
			<b>TTLB</b>			<i>Title block</i>
				<b>CLIP</b>		<b>Cover Sheet Plot Sheet Limits</b>
				<b>DSNR</b>		<i>Title Block Plot Design team info</i>
				<b>FRME</b>		<i>Title Block Frame and lines</i>
				<b>REVN</b>		<i>Title Block Rev Deltas &amp; clouds + revision text</i>

				TBLK		Title Block Border, Frame, lines, pos logo and text
				SNUM		Discipline Sheet Number
				TITLE		Title for view tag symbols
				DRWG		Title Block Plot Sheet attribute block
				PROJ		Title Block Project Name PM/ RE WP# Consultant Number & Port tracking number...E.g. Stia-0xxx + % of project
		SHBD		GRPH		Graphic images or renderings
				LGND		Legend
				BLCK		Legend Blocks
				TEXT		Legend Text
				LOGO		Company logo in title block
NEWW NEWW				NOTE		General Notes
				NPLT		Non-plotting graphic information
				MAPS		Vicinity or site location map
				MTCH		Match Lines
				TEXT		Match Line Text
				OTLN		Drawing Outline Location
				NRTH		North arrow
				NUMB		Sheet or project number
				PLOT		Plot date information
				RCLD		Revision Clouds
			RDEL		Revision Delta's	
			SCAL		Bar Scales	
NEWW				SEAL		Engineering, Structural, Architectural, etc. seals
				STMP		Stamps registration or Record Drawing
				TEXT		Miscellaneous text and callouts with associated leaders
				VIEW		View ports in the layout

# Specified Trade Detail, Diagram, Elevation, Isometric, Profile, Schedule & Section Layers

***Please note: Roots & Root Modifiers are for the below layers only.***

Some 1<sup>st</sup> Optional Root Modifiers have been specified in the standard. If the object or element being drawn matches the layer description notes, the 1<sup>st</sup> Optional Root Modifier indicated must be used. The intent is to provide a consistent method of identifying the most common elements found throughout the Port of Seattle's properties and infrastructure. Objects or elements found on incorrect layers during the QC review process will be flagged as errors and will need to be corrected.

			PATT			Hatch patterns
			SYMB			Symbols, Tags or Tags
			TEXT			Text and notes
		<b>DIAG</b>				
			DIMS			Dimensions
			L001— L255	range from 1 to 255		<i>Line Weight for plotting based on AUTOCAD colors</i>
			BOLD			Bold Pen
			CNTR			Center Line
			HEVY			Heavy Pen
			HIDN			Hidden Line
			LITE			Light Pen
			MEDM			Medium Pen
			SCRN			Screen Pen
			XBLD			Extra bold pen
			XLIT			Extra light line
			XXBD			Extra-Extra bold pen
			XXLT			Extra-Extra light pen
			INVR			Invert data
			PATT			Hatch patterns
			SYMB			Symbols, Tags or Tags
			TEXT			Text and notes
		<b>ELEV</b>				
			DIMS			Dimensions
			L001— L255	range from 1 to 255		<i>Line Weight for plotting based on AUTOCAD colors</i>
			BOLD			Bold Pen
			CNTR			Center Line
			HEVY			Heavy Pen
			HIDN			Hidden Line
			LITE			Light Pen
			MEDM			Medium Pen
			SCRN			Screen Pen
			XBLD			Extra bold pen
			XLIT			Extra light line
			XXBD			Extra-Extra bold pen
			XXLT			Extra-Extra light pen
			INVR			Invert data
			PATT			Hatch patterns
			SYMB			Symbols, Tags or Tags
			TEXT			Text and notes
		<b>ISOM</b>				

			<b>DIMS</b>		<b>Dimensions</b>
			<b>L001— L255</b>	<b>range from 1 to 255</b>	<b><i>Line Weight for plotting based on AUTOCAD colors</i></b>
			<b>BOLD</b>		<b>Bold Pen</b>
			<b>CNTR</b>		<b>Center Line</b>
			<b>HEVY</b>		<b>Heavy Pen</b>
			<b>HIDN</b>		<b>Hidden Line</b>
			<b>LITE</b>		<b>Light Pen</b>
			<b>MEDM</b>		<b>Medium Pen</b>
			<b>SCRN</b>		<b>Screen Pen</b>
			<b>XBLD</b>		<b>Extra bold pen</b>
			<b>XLIT</b>		<b>Extra light line</b>
			<b>XXBD</b>		<b>Extra-Extra bold pen</b>
			<b>XXLT</b>		<b>Extra-Extra light pen</b>
			<b>INVR</b>		<b>Invert data</b>
			<b>PATT</b>		<b>Hatch patterns</b>
			<b>SYMB</b>		<b>Symbols, Tags or Tags</b>
			<b>TEXT</b>		<b>Text and notes</b>
		<b>PROF</b>			
			<b>DIMS</b>		<b>Dimensions</b>
			<b>L001— L255</b>	<b>range from 1 to 255</b>	<b><i>Line Weight for plotting based on AUTOCAD colors</i></b>
			<b>BOLD</b>		<b>Bold Pen</b>
			<b>CNTR</b>		<b>Center Line</b>
			<b>HEVY</b>		<b>Heavy Pen</b>
			<b>HIDN</b>		<b>Hidden Line</b>
			<b>LITE</b>		<b>Light Pen</b>
			<b>MEDM</b>		<b>Medium Pen</b>
			<b>SCRN</b>		<b>Screen Pen</b>
			<b>XBLD</b>		<b>Extra bold pen</b>
			<b>XLIT</b>		<b>Extra light line</b>
			<b>XXBD</b>		<b>Extra-Extra bold pen</b>
			<b>XXLT</b>		<b>Extra-Extra light pen</b>
			<b>INVR</b>		<b>Invert data</b>
			<b>PATT</b>		<b>Hatch patterns</b>
			<b>SYMB</b>		<b>Symbols, Tags or Tags</b>
<b>NEWW</b>			<b>VIEW</b>		<b>for Civil 3-D (only)</b>
<b>NEWW</b>				<b>BRDR</b>	<b>Profile View borders</b>
<b>NEWW</b>				<b>GRID</b>	<b>Profile Grids</b>
<b>NEWW</b>				<b>TEXT</b>	<b>Profile View Text</b>
<b>NEWW</b>				<b>TICS</b>	<b>Profile View Dimensions</b>
			<b>TEXT</b>		<b>Text and notes</b>

		SCHD			
			DIMS		Dimensions
			L001— L255	range from 1 to 255	<i>Line Weight for plotting based on AUTOCAD colors</i>
			BOLD		Bold Pen
			CNTR		Center Line
			HEVY		Heavy Pen
			HIDN		Hidden Line
			LITE		Light Pen
			MEDM		Medium Pen
			SCRN		Screen Pen
			XBLD		Extra bold pen
			XLIT		Extra light line
			XXBD		Extra-Extra bold pen
			XXLT		Extra-Extra light pen
			INVR		Invert data
			PATT		Hatch patterns
			SYMB		Symbols, Tags or Tags
			TEXT		Text and notes
		SECT			
			DIMS		Dimensions
			L001— L255	range from 1 to 255	<i>Line Weight for plotting based on AUTOCAD colors</i>
			BOLD		Bold Pen
			CNTR		Center Line
			HEVY		Heavy Pen
			HIDN		Hidden Line
			LITE		Light Pen
			MEDM		Medium Pen
			SCRN		Screen Pen
			XBLD		Extra bold pen
			XLIT		Extra light line
			XXBD		Extra-Extra bold pen
			XXLT		Extra-Extra light pen
			INVR		Invert data
			PATT		Hatch patterns
			SYMB		Symbols, Tags or Tags
			TEXT		Text and notes

# Generic Roots and Root Modifiers Layers for All Trades Except 'G' & 'X'

Some 1<sup>st</sup> Optional Root Modifiers have been specified in the standard. If the object or element being drawn matches the layer description notes, the 1<sup>st</sup> Optional Root Modifier indicated must be used. The intent is to provide a consistent method of identifying the most common elements found throughout the Port of Seattle's properties and infrastructure. Objects or elements found on incorrect layers during the QC review process will be flagged as errors and will need to be corrected.

Trade	Level	Root	Root Modifier	1st Optional Modifier	2 <sup>nd</sup> Optional Modifier	Description
<b>Generic Root for All Trade except 'G' &amp; 'X' Layers</b>						
<b>NO Other Root Modifiers allowed</b>						
<b>A</b>		<b>ARCH</b>				
<b>NEWW</b>			<b>DIMS</b>			<i>Dimensions</i>
			<b>GENL</b>			<b>General Component Elements</b>
			<b>GRID</b>			<i>Grids generic</i>
			<b>GRID</b>	<b>BUBL</b>		<i>Grid Bubbles</i>
			<b>GRID</b>	<b>CNTL</b>		<i>Grid Centerlines</i>
<b>NEWW</b>			<b>NOTE</b>			<b>Reference keynotes with associated leaders</b>
<b>NEWW</b>			<b>NPLT</b>			<b>Non-plotting graphic information</b>
<b>NEWW</b>			<b>MISC</b>			<b>Elements not covered by other modifiers.</b>
<b>NEWW NEWW</b>			<b>PATT</b>			<i>Floor Pattern or Hatch Patterns</i>
			<b>PHTO</b>			<i>Photograph</i>
			<b>REDL</b>			<b>Redlines</b>
			<b>REVS</b>			<b>Revisions</b>
			<b>SYMB</b>			<i>Symbols, Tags or Tags</i>
			<b>TEXT</b>			<i>Text associated with root</i>

V		SURV			
NEWW			DIMS		Dimensions
			GENL		General Component Elements
			GRID		Grids generic
			GRID	BUBL	Grid Bubbles
			GRID	CNTL	Grid Centerlines
NEWW			NOTE		Reference keynotes with associated leaders
NEWW			NPLT		Non-plotting graphic information
NEWW			MISC		Elements not covered by other modifiers.
NEWW NEWW			PATT		Floor Pattern or Hatch Patterns
			REDL		Redlines
			REVS		Revisions
			PHTO		Photograph
			SYMB		Symbols, Tags or Tags
			TEXT		Text associated with root

C		CIVL			
NEWW			DIMS		Dimensions
			GENL		General Component Elements
			GRID		Grids generic
			GRID	BUBL	Grid Bubbles
			GRID	CNTL	Grid Centerlines
NEWW			NOTE		Reference keynotes with associated leaders
NEWW			NPLT		Non-plotting graphic information
NEWW			MISC		Elements not covered by other modifiers.
NEWW NEWW			PATT		Floor Pattern or Hatch Patterns
			REDL		Redlines
			REVS		Revisions
			PHTO		Photograph
			SYMB		Symbols, Tags or Tags
			TEXT		Text associated with root
E					
E		ELEC			
NEWW			DIMS		Dimensions
			GENL		General Component Elements
			GRID		Grids generic
			GRID	BUBL	Grid Bubbles
			GRID	CNTL	Grid Centerlines
NEWW			NOTE		Reference keynotes with associated leaders
NEWW			NPLT		Non-plotting graphic information
NEWW			MISC		Elements not covered by other modifiers.
NEWW NEWW			PATT		Floor Pattern or Hatch Patterns
			REDL		Redlines
			REVS		Revisions
			PHTO		Photograph
			SYMB		Symbols, Tags or Tags
			TEXT		Text associated with root

F		PROT				
NEWW			DIMS			Dimensions
			GENL			General Component Elements
			GRID			Grids generic
			GRID	BUBL		Grid Bubbles
			GRID	CNTL		Grid Centerlines
NEWW			NOTE			Reference keynotes with associated leaders
NEWW			NPLT			Non-plotting graphic information
NEWW			MISC			Elements not covered by other modifiers.
			PATT			Floor Pattern or Hatch Patterns
NEWW			REDL			Redlines
NEWW			REVS			Revisions
			PHTO			Photograph
			SYMB			Symbols, Tags or Tags
			TEXT			Text associated with root
L		LAND				
NEWW			DIMS			Dimensions
			GENL			General Component Elements
			GRID			Grids generic
			GRID	BUBL		Grid Bubbles
			GRID	CNTL		Grid Centerlines
NEWW			NOTE			Reference keynotes with associated leaders
NEWW			NPLT			Non-plotting graphic information
NEWW			MISC			Elements not covered by other modifiers.
			PATT			Floor Pattern or Hatch Patterns
NEWW			REDL			Redlines
NEWW			REVS			Revisions
			PHTO			Photograph
			SYMB			Symbols, Tags or Tags
			TEXT			Text associated with root

M		MECH				
NEWW			DIMS			Dimensions
			GENL			General Component Elements
			GRID			Grids generic
			GRID	BUBL		Grid Bubbles
			GRID	CNTL		Grid Centerlines
NEWW			NOTE			Reference keynotes with associated leaders
NEWW			NPLT			Non-plotting graphic information
NEWW			MISC			Elements not covered by other modifiers.
NEWW NEWW			PATT			Floor Pattern or Hatch Patterns
			REDL			Redlines
			REVS			Revisions
			PHTO			Photograph
			SYMB			Symbols, Tags or Tags
			TEXT			Text associated with root
P		PLMB				
NEWW			DIMS			Dimensions
			GENL			General Component Elements
			GRID			Grids generic
			GRID	BUBL		Grid Bubbles
			GRID	CNTL		Grid Centerlines
NEWW			NOTE			Reference keynotes with associated leaders
NEWW			NPLT			Non-plotting graphic information
NEWW			MISC			Elements not covered by other modifiers.
NEWW NEWW			PATT			Floor Pattern or Hatch Patterns
			REDL			Redlines
			REVS			Revisions
			PHTO			Photograph
			SYMB			Symbols, Tags or Tags
			TEXT			Text associated with root

S		STRU			
			DIMS		Dimensions
NEWW			GENL		General Component Elements
			GRID		Grids generic
			GRID	BUBL	Grid Bubbles
			GRID	CNTL	Grid Centerlines
NEWW		NOTE		Reference keynotes with associated leaders	
NEWW		NPLT		Non-plotting graphic information	
NEWW		MISC		Elements not covered by other modifiers.	
		PATT		Floor Pattern or Hatch Patterns	
NEWW		REDL		Redlines	
NEWW		REVS		Revisions	
		PHTO		Photograph	
		SYMB		Symbols, Tags or Tags	
		TEXT		Text associated with root	

# Survey Layers

Some 1<sup>st</sup> Optional Root Modifiers have been specified in the standard. If the object or element being drawn matches the layer description notes, the 1<sup>st</sup> Optional Root Modifier indicated must be used. The intent is to provide a consistent method of identifying the most common elements found throughout the Port of Seattle's properties and infrastructure. Objects or elements found on incorrect layers during the QC review process will be flagged as errors and will need to be corrected.

Trade	Level	Root	Root Modifier	1st Optional Modifier	2nd Optional Modifier	Description
<b>V</b>						
		ACFT				Small Aircraft
		ACST				Aircraft control striping
		AFLD				Airfield
		ALIT				Airfield lighting systems
<b>NEWW</b>		<b>ALGN</b>				<b>Civil 3d</b>
		ALPD				Airport layout plan Drawing
<b>NEWW</b>		<b>ASSM</b>				<b>Civil 3d</b>
<b>NEWW</b>		CHAN				Navigable channels
<b>NEWW</b>		<b>CORR</b>				<b>Civil 3d</b>
		CTOW				Control tower
		FAAC				FAA communication systems
		FAAL				FAA lighting systems
		FAAP				FAA Power systems
<b>NEWW</b>		<b>GRAD</b>				<b>Civil 3d</b>
		SFNC				Security Fence
		BRDG				Bridges site
		BLDG				Buildings site
		CHWR				Chilled water systems site
		CCTV				Cable TV systems
		CDAT				Data and computer systems
		CTEL				Telephone systems
<b>NEWW</b>		<b>CTRL</b>				<b>Control points</b>
		CTWR				Communication radio towers
		CMPA				Compressed air systems
		CDSR				Condenser water systems site
		CNDS				Condensate systems site
		DOCK				Docks and piers site
<b>NEWW</b>		<b>DRIV</b>				<b>Driveways</b>
<b>NEWW</b>		<b>DTCH</b>				<b>Ditches or washes</b>
<b>NEWW</b>		<b>DOMW</b>				<b>Domestic Water</b>
		ENVR				Environmental elements site
<b>NEWW</b>		<b>ESMT</b>				<b>Easements</b>
		FIRE				Fire protection systems site
		FDSL				Diesel fuel system elements
		FGAS				Fuel gas (gasoline) system elements
		FJET				Jet fuel system elements
		FOIL				Fuel oil system elements
		NGAS				Natural gas system elements

		PRPN			Propane system elements
		METH			Methane system elements
		GNDG			Grounding systems site
		HHWT			Heating hot water systems site
		IRRG			Irrigation systems
		IWSS			Industrial waste water sewer systems site
		LEMG			Emergency lighting systems
		LNOR			Normal lighting systems
<b>NEWW</b>		<b>MASS</b>			<b>Civil 3d</b>
		MTNK			Miscellaneous storage tanks site
<b>NEWW</b>		<b>NODE</b>			<b>Civil 3d Node</b>
		<b>PKNG</b>			<b>Parking areas and elements</b>
		PATH			Paths other than roads or sidewalks
		PLNT			Landscape plants
		POND			Ponds site
		POWR			Electrical Power
		PELV			Emergency power low voltage
		PEMV			Emergency power medium voltage
<b>NEWW</b>		<b>PNET</b>			<b>Civil 3d</b>
		PNHV			Normal power high voltage systems
		PNLV			Normal power low voltage systems
		PNMV			Normal power medium voltage systems
		PROP			Property and property management site
		RLRD			Railroads site
		ROAD			Roads site
		SITE			Project Site
		SSWR			Sanitary sewer systems
		SYRD			Ship yard site
		STEM			Steam systems site
		STRM			Storm sewer systems
		STRC			Structural elements site
		SRVY			Survey data
<b>NEWW</b>		<b>SURF</b>			<b>Civil 3d</b>
		TOPO			Topography site
		TRAF			Traffic control devices and signage
		TUNL			Tunnels (railroad roadway transit and utility tunnels)
		WATR			Domestic water systems site

Additional Root Modifiers for Survey Root Layers Only					
			ABLT		Anchor bolts
			ADAE		Americans with disabilities
			BASE		Equipment Base
			BOLT		Bolts (other than anchor bolts)
			CONC		Concrete
			CRNR		Object corners
			CTLO		Centerlines of objects
			FLOW		Flow
			FLIN		Flow line
			GRAD		Finished grade
			GRAV		Gravity flow
			MTR2		2 power meters
			PLAT		Metal Plates
			RBAR		Rebar
			ROLL		Rolling stock equipment
			SCAL		Scale weighing equipment
			SGNL		Signal
			SLEV		Sleeves for utilities
			SNSR		Sensor
			STAN		Stationing data (pipe roadway etc.)
			STUB		Stub
			TIED		Tied
			UTIL		Utility
Additional Root Modifiers for Survey Root Layers					
			ABOV		Above
			ACCY		Accessory
			AREA		An Area within Specific Boundaries
			AUXL		Auxiliary
			BELW		Below
			BYND		Object beyond
			CNTR		Centerlines
			DIMS		Dimensions
			FNSH		Surface Finish
			FITG		Fitting
			FIXT		Fixture
			GENL		General Component Elements

			GRID		Grids generic
				BUBL	Grid Bubbles
			HIDE		Hidden lines or objects
			IDEN		Equipment or material system ID
			MATL		Material
			MISC		Elements not covered by other modifiers.
NEWW			NICN		<b>Not in contract</b>
NEWW			NOTE		<b>General Notes</b>
NEWW			NPLT		<b>Non-plotting graphic information</b>
			NPOS		All Non-POS property lines equipment etc.
NEWW			OPEN		<b>Openings, ceiling/roof penetrations, ETC.</b>
			OPTN		Optional elements or equipment
			OTLN		Object Outlines
NEWW			OVHD		<b>Objects Overhead</b>
			PATT		Floor Pattern or Hatch Patterns
			PHAS		Phasing
			PHTO		Photograph
			PPOS		POS property line
			REVN		Rev Deltas & clouds + revision text
			SIGN		Signs or signage
			SPCL		Specialty equipment
			SYMB		Symbols
NEWW			TEMP		<b>Temporary</b>
			TEXT		Text associated with root
			UTIL		Utility
Specific Root Modifiers for Survey Root Layers					
		ACFT			Aircraft
V					
NEWW			CLER		<b>Airplanes turning clearance</b>
			EQMT		Aircraft equipment
			PLNE		Airplanes
			TIED		Aircraft tie-down
NEWW			LBRG		<b>Aircraft People Boarding Bridge</b>
NEWW			LCAB		<b>Aircraft Cab equipment for Boarding Bridge</b>
		ACST			Aircraft control striping
			FOGL		Fog line
			HASH		Striped hashed line
			JANG		J line angle
			JEND		J line end

			JLIN		J line
			JNOS		J line nose
			LSTR		Left straight arrow
			LTRN		Left turn arrow
			RSTR		Right straight arrow
			RTRN		Right turn arrow
			SBAR		Stop bar
			STRA		Straight arrow
			SWLK		Sidewalk
			TEMP		Temporary striping
			TEXT		Aviation systems text
			TWCL		Taxiway center line
			VHCL		Vehicle access route
			WING		Stripe wing line
V		AFLD			Airfield
NEWW			AHOA		<b>Aircraft / Helicopter Operations Area</b>
NEWW			AIDC		<b>Airfield Navigational Aid - Critical Area</b>
NEWW			AIDS		<b>Airfield Navigational Aid - Site</b>
			CONC		Airfield concrete
				CJNT	Contraction joint
				EJNT	Expansion joint
				FOOT	Footing
				ISLD	Concrete Island
				JOIN	Concrete joint
				PADS	Concrete pads
				RAMP	Concrete ramp
				SDWK	Concrete sidewalk
NEWW			DEVC		<b>Capacitors, voltage regulators, motors, buses,</b>
NEWW			DUCT		<b>Duct banks</b>
			GFLD		Greenfield
NEWW			JBOX		<b>Junction boxes, pull boxes, manholes, handholds,</b>
NEWW			NLGT		Airfield navigation lighting
NEWW			OBST		<b>Airspace obstructions</b>
			RNWX		Airfield runway
NEWW				ARST	<b>Runway Arresting Gear Location</b>
NEWW				BLST	<b>Blast pad markings</b>
NEWW				CNTR	<b>Centerline</b>
NEWW				DISP	<b>Displaced threshold markings</b>
NEWW				DIST	<b>Fixed distance markings</b>
NEWW				EDG	<b>Airfield runway edges</b>
NEWW				INTS	<b>Runway intersection</b>
NEWW				LAHS	<b>Runway land and hold short area</b>

NEWW			SAFT		Runway Safety Area
			SHLD		Shoulder markings
			SIDE		Side stripes
			STWY		Runway stop way markings
			TDZM		Touchdown zone markers
			THRS		Threshold markers
			APPR		Runway approaches
NEWW			SIDA		Security Identification Display Area
			SIGN		Airfield signs
			TAXI		Airfield taxiway
			WNDS		Windsock
V		ALIT			Airfield lighting systems
NEWW			ABAN		Lcan_Abn
	NEWW		APPR		Approach lights
			APRN		Apron Lighting
			BASE		Light base
			CABL		Airfield lighting cable
NEWW			MRKR		Airfield lighting cable marker
	NEWW		COAX		Coax cable
	NEWW		FIBR		Fiber optics cable
	NEWW		MULT		Multi-conductor cable
			TRAY		Cable trays and wire ways
			CIRC		Airfield lighting circuit
			CLRW		Center line runway lights
NEWW			COND		Airfield lighting conduit
	NEWW		CONS		Constant Current Regulators
			DBNK		Airfield lighting duct-bank
			DIST		Distance and arresting gear markers and lights
NEWW			EDGE		Airfield lighting Edge elements
	NEWW		EMER		Emergency fixtures
	NEWW		FAAL		LT_FAARW
NEWW			EQMT		Airfield lighting equipment
			HNHL		Airfield lighting hand hole
			HOLD		Runway holding light
			LAND		LIGHT LANDING
			LNDL		Landing light
			MNHL		Airfield lighting manhole
			MRKR		Airfield lighting cable marker
			NTDN		North Tdz light
			PANL		Airfield lighting panel
			PAPI		Light papi
NEWW			PBOX		Airfield lighting pull box
			RNWX		FAA runway light
			CNTR		CNTR Runway Centerline lights
			DTGS		1 Runway Distance to go lights
			EDGE		Runway edge lights
			TDZN		Runway Touchdown Zone lights
			RWEF		Runway edge lights flush
			RWEU		Runway edge lights upright

NEWW			RWLL			Runway landing lights
			SIGN			Airfield lighting signs
			SNSR			Airfield lighting sensor
			STDN			South Tdz light
NEWW			STRC			Airfield lighting Structural elements
NEWW			SWBD			Airfield lighting switchboards
			TEXT			Airfield lighting text
NEWW			TDZL			Touchdown Light
NEWW			THRS			Thresh Hold light
			TWCL			Taxiway centerline light
				EDGE		Taxiway edge lights
			WWAG			Wigwag light
V			ALPD			Airport layout plan Drawing
			PDWG			Airplanes layout plan Drawing
V			APRN			Airfield apron
NEWW			ACPK			Aircraft gate/stand parking area
NEWW			ANOM			Aircraft non-movement area
NEWW			CNTR			Centerlines
NEWW			DEIC			Aircraft Deicing Area
NEWW			GRND			Grounding points
NEWW			HOLD			Holding position markings
NEWW			JOIN			Apron joints
NEWW			MOOR			Mooring points
NEWW			MRKG			Apron markings
NEWW			OTLN			Airfield apron - outlines
NEWW			SECU			Security zone markings
NEWW			SHLD			Shoulder stripes
NEWW			TEXT			Text
V			BLDG			Buildings and primary Structures
NEWW			BDOR			Building door
			BELV			Building Elevation
			BENT			Bridge: top of bent
			BFND			Building foundation
NEWW			BWAL			Building outside wall
			COLM			Building Columns
NEWW				CRNR		Column Corner
NEWW			CRNR			Building Corner
NEWW			CTLJ			Bridge: control joint
			COMR			Commercial Building
NEWW			DECK			Buildings and primary structures: deck (attached, no roof overhead)
			EBLD			Equipment building or enclosure
			FACE			Building face
NEWW				CRNR		Building Corner
				JTWY		Jet way
				OVHG		Building overhang
NEWW			GRAL			Bridge: guard rail

NEWW			INDU		Industrial building
				BPLT	Batch-plant
			LOAD		Loading dock
			OFFC		Office building
			OTLN		Object Outlines
			OVHD		Objects Overhead
			PRCH		Buildings and primary structures: porch (attached, roof overhead)
			RAMP		Building ramp
				ADAE	Handicap ramp
			ROFF		Building roof
			STRC		Building Structural elements
			TEMP		Temporary building
				PORT	Portable building
				TRLR	Trailer
TEXT		Text			
WRHS		Warehouse building			
V		BRDG			Bridges site
NEWW			BENT		Bridge: top of bent
			BFRM		Bridge framework
			COLM		Bridge column elements
NEWW				JTWY	Jet Way Column
NEWW			CTLJ		Bridge: control joint
NEWW			CTWK		Bridge outside wall
			DECK		Bridge deck elements
			FOND		Bridge foundation elements
NEWW			GRAL		Bridge: guard rail
			PASS		Passenger Bridge
			PEDS		Pedestrian
			TEXT		Text
NEWW			TMBR		Bridge Timber elements
V		CCTV			Cable TV systems
			CABL		Cable standard
NEWW				COAX	Coax cable
NEWW				FIBR	Fiber optics cable
NEWW				MULT	Multi-conductor cable
NEWW				TRAY	Cable trays and wire ways
			CIRC		Circuit
			COND		Conduit
NEWW				LOCT	Cable Conduit Locates
			DISK		Satellite Disk
			EQMT		Cable TV equipment
				CRDR	Security access card reader
			HNHL		Communication hand hole
			JBOX		Junction box
			MNHL		Manhole
			PANL		Panel
			PBOX		Pull box

V		CDAT			Communication Data and computer systems
			CABL		Data Cable
NEWW				COAX	Coax cable
NEWW				FIBR	Fiber optics cable
NEWW				MULT	Multi-conductor cable
NEWW				TRAY	Cable trays and wire ways
			CIRC		Circuit
			COND		Data Conduit
				LOCT	Data Conduit Locates
			EQMT		Generic data and computer systems equipment not associated with other systems
			FIBO		Fiber optic cable
NEWW				ABND	Abandon Fiber Optic
NEWW				COND	Fiber Optic Conduit
NEWW				LOCT	Fiber Optic Locates
			HNHL		Hand hole
			JBOX		Junction Box
			MNHL		Manhole
			NETW		Network components
NEWW			OVHD		Communications: Objects Overhead
			PANL		Panel
NEWW			PBOX		Pull Box
			POLE		Communications: pole
NEWW			STRC		computer systems Structural elements
			TEXT		Text
NEWW			UGND		Communications: underground
NEWW			VALT		Communications vault
V		CDSR			Condenser water systems site
			CLTR		Cooling tower elements
			EQMT		Generic condenser water equipment not associated with other systems
			ETNK		Expansion or surge tank
			MNHL		Manhole
			PIPE		
				ABND	Abandoned condenser water pipe
				CAPS	Blind flange or cap
				CWRP	Condenser water return pipe
				CWSP	Condenser water supply pipe
				TEMP	Temporary condenser water pipe
NEWW			PITT		Condenser water pit
			PUMP		Condenser water pumps
			SPRT		Condenser storage water tanks
			STNK		Condenser water tanks
			TEXT		Text
			VALV		Condenser water vaults

NEWW			VALT			vaults
			VENT			Venting system elements
NEWW			STRC			Condenser water systems Structural elements
V		CHAN				Navigable channels
NEWW			BWTR			Navigable channels: breakwater
NEWW			CNTR			Navigable channels: center
NEWW			DACL			Navigable channels: de-authorized channel limits, anchorages, etc.
NEWW			DOCK			Navigable channels: decks, docks, floats, piers
NEWW			NAID			Navigable channels: navigation aids
NEWW			TEXT			Text
V		CTRL				Control points
NEWW			BMRK			Control points: benchmarks
NEWW			FLYS			Control points: fly station
NEWW			GRID			Control points: grid
NEWW			HORZ			Control points: horizontal
NEWW			HVPT			Control points: horizontal/vertical
NEWW			PNPT			Control points: panel points
NEWW			TRAV			Control points: transverse
NEWW			VERT			Control points: vertical
NEWW			TEXT			Text
V		CHWR				Chilled water systems site
			EQMT			Generic chilled water equipment not associated with other systems
			ETNK			Expansion or surge tank
			MNHL			Manhole
			PIPE			Chilled water pipe
				ABND		Abandoned chilled water pipe
				CAPS		Blind flange or cap
				CHRT		Chilled water return pipe
				CHWS		Chilled water supply pipe
				SCHR		Secondary chilled water return pipe
				SCHS		Secondary chilled water supply pipe
NEWW			PITT			Chilled water pit
			PIPE	TEMP		Temporary chilled water pipe
			PUMP	PPMP		Primary chilled water pumps
			PUMP	SPMP		Secondary chilled water pumps
NEWW			STNK			Chilled water tanks
			TEXT			Text
			VALT			Chilled water vaults
			VALV			Chilled water valves
NEWW			VENT			Venting system elements

<b>NEWW</b>			STRC		Chilled water systems Structural elements	
V		CMPA			Compressed air systems	
NEWW NEWW			ADRY		Compressed air dryer	
			COMP		Compressed air piping	
			EQMT		Generic compressed air equipment not associated with other systems	
			PIPE		Compressed air pipe or line	
				ABND		Abandoned compressed air pipe
				CAPS		Blind flange or cap
				CMPR		Compressed air return pipe
				CMPS		Compressed air supply pipe
					LOCT	Compressed air pipe or line Locates
				PITT		Compressed air pit
				PIPE	TEMP	Temporary compressed air pipe
				QCON		Quick disconnect
				RCVR		Compressed air receiver
				SPRT		Pipe and equipment supports
NEWW NEWW NEWW NEWW			STNK		Compressed air tanks	
			STRC		Compressed Air Structure	
				PITT		Air Structure Pit
				VENT		Air Structure Vent
NEWW			TEXT		Compressed air text	
			VALT		Compressed air vaults	
			VALV		Compressed valves	
NEWW			VENT		Venting system elements	
V		CPRO			Cathodic Protection site	
NEWW			ABOV		Above	
			ACCY		Accessory	
			ANOD		Anode Terminal or electrode from which electrons leave a system.	
			AREA		An Area within a Specific Boundaries	
			AUXL		Auxiliary	
			BASE		Base	
			BELW		Below	
			BENT		Bent	
				BUBL		Bubbles
				CNTR		Bent centerlines
			CABL		Cathodic cable	
			CIRC		Circuits	
			CNTR		Centerlines of objects	
			COND		Conduit	
			CURR		Impress current system	
			CTRL		Control	
			DIMS		Dimensions	
			EQMT		Cathodic equipment	
			FIXT		Fixtures	

NEWW			GENL		General dock elements	
			GRID		Dock grid	
				BUBL		Grid Symbol Bubbles
				CNTR		Grid centerlines
				GRND		Ground
				HIDE		Hidden lines or objects
				HNHL		Hand hole
				IDEN		Equipment or material system ID
				JBOX		Junction box
				MISC		Elements not covered by other modifiers.
				MNHL		Manhole
				NPOS		All Non-POS property lines equipment etc.
				OPTN		Object Outlines
				PANL		panels
				PATT		Object Pattern or Hatch Patterns
				PHAS		Phasing
				PHTO		Photograph
				PILE		Piles
					AUGR	Auger cast piles
					BATT	Batter piles
					BEAR	Bearing piles
					CONC	Concrete piles
					EXST	Existing piles
					FNDR	Fender piles
					FUTR	Future piles
					MCRO	Micro piles
					MOOR	Mooring piles
		SHTP	Sheet pile			
		TIMR	Timber piles			
		PIPE	pipng			
		PPOS	POS property line			
		REVN	Rev Deltas & clouds + revision text			
		SIGN	Signs or signage			
		SPRT	Pipe and equipment supports			
NEWW		STRC	Cathodic systems Structure			
		SYMB				
NEWW		STNK	tanks			
		TEST	Test stations			
		TEXT	Text			
		UTIL	Utility			
V		CTEL		Telephone systems		
NEWW NEWW NEWW NEWW NEWW			CABL		Telephone cable	
				COAX		Coax cable
				LOCT		Telephone Cable Locates
				FIBR		Fiber optics cable
				MULT		Multi-conductor cable
				TRAY		Cable trays and wire ways
				CIRC		Telephone Circuits
	COND		Telephone Conduit			

NEWW			ABND		Telephone Conduit Abandon
			NEWW	LOCT	Telephone Conduit Locates
NEWW			ENCL		Telephone enclosure (booth)
			EQMT		Telephone equipment
			FIXT		Telephone Fixtures
			HNHL		Telephone Structure Handhold
			JBOX		Junction box
			MNHL		Manhole
				STRC	Telephone manhole Structure
NEWW		OVHD		Telephone Overhead Communication Line	
NEWW			PANL		Telephone panels
			POLE		Telephone poles
NEWW			STRC		Telephone systems Structure
NEWW			TEXT		Text
			VALT		Telephone Vaults
			UNKN		Telephone Unknown
			XFMR		Telephone pole transformer
V		CTOW			Control tower
			EQMT		Control tower equipment
			CSTR		Control tower Structure
V		CTWR			Communication radio towers
			EQMT		Communication radio tower equipment
V		DOCK			Docks and piers site
NEWW			ALDR		Access ladders (permanent)
			BEAM		Dock Beams
			BENT		Bent
				BUBL	Bubbles
				CNTR	Bent centerlines
			BLRD		Bollards
			BRTH		Ship Berth
			BULK		Bulkhead
			BULR		Bull rail
			CLET		Cleats
			CONC		Dock concrete
				CURB	Dock curbs
				RBAR	Rebar
			DECK		Deck
				DKDR	Deck drain
				DPNL	Deck panel
			DOLP		Dolphin
			EDGE		Deck edge
				PIER	Edge of Pier
				EQMT	Dock equipment
				BAGL	Baggage loading equipment
	CCRN	Container crane			
	GCRN	Gantry crane			
	HOST	Hoist			
	PLOD	Passenger loading equipment			

NEWW				SCAL		Weigh scales			
				SLOD		Ship loading equipment			
				WASH		Truck wash			
			FHOL			Fire holes in deck			
			FLTS			Floats			
			FNDR			Fender			
			GENL			General dock elements			
			GRAL			Guard Rail			
			GRID			Dock grid			
							BUBL		Grid Symbol Bubbles
							CNTR		Grid centerlines
			HTCH			Utility Hatch (Ships Hydrant, Water Hatch & Ships Electrical hatch)			
			HRAL			Hand Rail			
			LADR			Dock Ladders			
			LFRG			Life ring			
			MFAB			Dock metal fabrication elements			
			PCAP			Pile cap			
			PILE			Piles			
							AUGR		Auger cast piles
							BATT		Batter piles
							BEAR		Bearing piles
							CONC		Concrete piles
							EXST		Existing piles
							FNDR		Fender piles
							FUTR		Future piles
							MCRO		Micro piles
							MOOR		Mooring piles
SHTP		Sheet pile							
TIMR		Timber piles							
PNSK			Pin socket						
PVMT			Dock pavement						
RAIL			Dock Rails						
				CRAN		Crane rail			
				STOP		Crane stop			
NEWW NEWW				RAMP		Dock Ramps			
				SHTP		Dock Sheet Pile			
NEWW				SLEV		Sleeve for utilities			
				SPDR		Dock Structure Spreader			
				SPRT		Pipe and equipment supports			
				STRC		Dock Structure			
				STEP		Stairs and platforms			
				STGR		Timber stringer			
				TEXT		Text			
				TIED		Dock tie-down			
TMBR		Timber dock elements							
WALR		Dock Structure Whaler							
V		DOMW			Domestic Water				
NEWW			ABND		Abandoned piping				
NEWW			FIRE		Fire lines				

NEWW			FTTG			Caps, cleanouts, crosses, and tees
NEWW			HYDR			Hydrants
NEWW			IDEN			Identifier tags, symbol
NEWW			MAIN			Main domestic water piping
NEWW			METR			Meters
NEWW			NHYD			Non-potable hydrants/flushing hydrants
NEWW			NPOT			Non-potable water piping
NEWW			PITS			water pits
NEWW			PUMP			Booster pump stations
NEWW			REDC			Pressure reducing stations
NEWW			RSVR			Reservoirs
NEWW			SERV			Domestic water service piping
NEWW			SIGN			Surface markers/signs
NEWW			TANK			Water storage tanks
NEWW			VENT			Vent pits
NEWW			VLVE			Valve pits/vaults
NEWW			WELL			Water well houses
V		DRIV				Driveways
NEWW			ASPH			Driveways: asphalt
NEWW			CNTR			Driveways: center
NEWW			CONC			Driveways: concrete
NEWW			CURB			Driveways: curb
NEWW			FLNE			Driveways: fire lane
NEWW			GRVL			Driveways: gravel
NEWW			MRKG			Driveways: pavement markings
NEWW			UPVD			Driveways: unpaved surface
V		DTCH				Ditches or washes
NEWW			BOTM			Ditches or washes: bottom
NEWW			CNTR			Ditches or washes: center
NEWW			EWAT			Ditches or washes: edge of water
NEWW			TOPP			Ditches or washes: top
V		ENVR				Environmental elements site
			ASBS			Asbestos contaminated areas
			BORE			Bore hole (test)
			CTAM			Contaminated soil
			DPND			Detention pond
			EBAK			Ecology backfill
			EBLK			Ecology block
			ENMT			Environmental mitigation area
			EROS			Erosion control boundary area
			HAZM			Hazmat storage area
NEWW			LOGW			Environment Log
NEWW			MWEL			Monitoring well
				PIPE		Monitor Well Pipe
			RMDS			Remediation system
			SHOR			Shoreline mitigation area

			THLE			Environment Test Hole Soil Boring
			TEXT			Text
			WELL			Monitoring well
			WTLN			Wetland environmental area
<b>NEWW</b>				BUFF		Environment Wetland Area
<b>V</b>		<b>ESMT</b>				Easements
<b>NEWW</b>			ACCS			Easements: access (pedestrian only; private access)
<b>NEWW</b>			CATV			Easements: cable television system
<b>NEWW</b>			CONS			Easements: conservation
<b>NEWW</b>			CSTG			Easements: Construction/grading
<b>NEWW</b>			FDPL			Easements: flood plain
<b>NEWW</b>			INEG			Easements: ingress/egress (vehicles; private access)
<b>NEWW</b>			LSCP			Easements: landscape
<b>NEWW</b>			PHON			Easements: telephone line
<b>NEWW</b>			RWAY			Easements: right-of-way (public access)
<b>NEWW</b>			SGHT			Easements: sight distance
<b>NEWW</b>			SWMT			Easements: storm water management
<b>NEWW</b>			TRAL			Easements: trail or path (public access)
<b>NEWW</b>			UTIL			Easements: utility lines
<b>V</b>		<b>EVTR</b>				Elevators and components
<b>NEWW</b>			SHFT			Elevator shaft
<b>NEWW</b>				SVNT		Elevator shaft vent
<b>NEWW</b>			SPRT			Equipment supports
<b>V</b>		<b>FAAC</b>				FAA communication systems
			CABL			FAA communication cable
				MRKR		FAA communication cable marker
				COAX		Coax cable
				FIBR		Fiber optics cable
				LOCT		FAA Communication Locates
				MULT		Multi-conductor cable
				TRAY		Cable trays and wire ways
			CKPT			FAA Checkpoint
			CIRC			FAA communication circuit
			COMT			FAA communications tower
			COND			FAA communication conduit
			DBNK			FAA communication duct-bank
			EQMT			FAA communication equipment
				ATNA		FAA Antenna
				CEIL		FAA Ceil
				LOCL		FAA Local
<b>NEWW</b>			FAAL			FAA Localizer

NEWW			FAAN			FAA Antenna
NEWW			FIBO			FAA fiber-optic communication elements
			MNHL			FAA communication manhole
			PANL			FAA communication panel
			PBOX			FAA communication pull box
NEWW			STRC			communication systems Structural elements
			SWBD			FAA communication switchboards
			TEXT			FAA communication text
NEWW			UNKN			FAA communication Unknown
V		FAAL				FAA lighting systems
			CABL			FAA lighting cable
NEWW				MRKR		FAA lighting cable marker
NEWW				COAX		Coax cable
NEWW				FIBR		Fiber optics cable
NEWW				MULT		Multi-conductor cable
				TRAY		Cable trays and wire ways
			CIRC			FAA lighting circuit
			COND			FAA lighting conduit
			DBNK			FAA lighting duct-bank
			EQMT			FAA lighting equipment
			FEED			FAA lighting feeders
			HNHL			FAA lighting hand hole
			JBOX			FAA lighting Junction box
			MNHL			FAA lighting manhole
			MKRR			FAA lighting cable marker
			PANL			FAA lighting panels
			PBOX			FAA lighting pull box
			RNWX			FAA runway light
NEWW			STRC			FAA lighting systems Structural elements
			SWBD			FAA lighting switchboards
			SWGR			FAA lighting switchgear
			TEXT			FAA lighting text
			XFMR			FAA lighting transformer
V		FAAP				FAA Power systems
			CABL			FAA power cable
NEWW				MRKR		FAA power cable marker
NEWW				COAX		Coax cable
NEWW				FIBR		Fiber optics cable
NEWW				MULT		Multi-conductor cable
				TRAY		Cable trays and wire ways
			CIRC			FAA power circuit
			COND			FAA power circuit conduit
NEWW				LOCT		FAA Power Locates
			DBNK			FAA power duct-bank
			EQMT			FAA power equipment
			FEED			FAA power feeders

NEWW			HNHL		FAA power hand hole
			JBOX		FAA power junction box
			MNHL		FAA power manhole
			MRKR		FAA power cable marker
			PANL		FAA power panels
			PBOX		FAA power pull box
			STRC		FAA Power systems Structural elements
			SWBD		FAA power switchboards
			SWGR		FAA power switchgear
			TEXT		FAA power text
		XFMR		FAA power transformer	
V		FDSL			Diesel fuel system elements
NEWW NEWW			ALRM		Alarm system
			CTRL		Control system
			DISP		Dispenser
			DPIT		Diesel fuel pit
			EQMT		Diesel fueling equipment
			ETNK		Expansion tank
			FCAP		Fuel cap
			FLTR		Diesel fuel filters
			METR		Diesel fuel meter
			PIPE		Piping
				ABND	Abandon Diesel pipe or line
				LOCT	Diesel pipe or line Locates
			PITT		Diesel fuel pit
				ABND	Abandoned diesel fuel piping
				CAPS	Blind flange or cap
				RPIP	Diesel return pipe
				SPIP	Diesel supply pipe
				TEMP	Temporary diesel fuel pipe
			PUMP		Diesel fuel pumps
			SPRT		Pipe and equipment supports
		STNK		Diesel fuel storage tanks	
		TEXT		Text	
		VALT		Diesel fuel valve vault	
		VALV		Diesel fuel valves	
			ABND	Abandoned diesel fuel valves	
NEWW			VENT		Venting system elements
V		FGAS			Fuel gas (gasoline) system elements
NEWW			DISP		Fuel gas dispenser
			EQMT		Fuel gas equipment
			ETNK		Expansion tank
			FLTR		Fuel gas filters
			FTTG		Caps, crosses, and tees
			METR		Fuel gas meter
			PIPE		Piping
NEWW NEWW				ABND	Abandon Gasoline pipe or line
				LOCT	Gasoline pipe or line Locates

NEWW OLD NEWW NEWW NEWW			ABND		Abandoned diesel fuel piping
			CAPS		Blind flange or cap
			FILL		Fill pipe
			RPIP		Fuel gas return pipe
			SPIP		Fuel gas supply pipe
			TEMP		Temporary fuel gas pipe
		PITT		Fuel pit	
		PUMP		Fuel gas pumps	
		SPRT		Pipe and equipment supports	
		STRC		Fuel Gas Structure	
		STNK		Fuel gas storage tank	
		TANK		Fuel Tank	
			ABOV	Above Ground Fuel Tank	
			BELW	Below Ground Fuel Tank	
NEWW NEWW			TEXT		Text
			VALT		Fuel gas valve vault
			VALV		Fuel Gas Valve
			VENT		Venting system elements
V		FJET			Jet fuel system elements
NEWW NEWW			ALRM		Jet fuel alarm panel and controls
			CAPP		Jet Fuel Cap
			FTTG		crosses, and tees
			ETNK		Jet fuel expansion/surge tank
			FLTR		Jet fuel filters
			FPIT		Jet fuel pit
			HTCH		Fuel hatch
			METR		Jet fuel meter
			PIPE		Jet fuel piping
			NEWW NEWW NEWW		
CAPS		Blind flange or cap			
FILL		Jet Fuel pipe or line			
LOCT		Jet Fuel pipe or line Locates			
RPIP		Jet fuel return pipe			
SPIP		Jet fuel supply pipe			
VENT		Jet Fuel Pipe Vent			
TEMP		Temporary jet fuel pipe			
NEWW			PITT		Jet fuel pit
			PUMP		Jet fuel pumps
			SPRT		Pipe and equipment supports
			STNK		Jet fuel storage tank
				ALDR	Storage tank ladder or stairs
				MDOR	Storage tank Man-door
				FROF	Floating roof
				VALV	Storage tank valves
				VENT	Storage tank vents
			TCSE		Fuel test casing
			TEXT		Text
			TRCK		Jet fuel truck loading/unloading station
NEWW			UNKN		Jet Fuel Unknown
			VALT		Jet fuel vaults

NEWW NEWW			HATC		Jet fuel vault hatch			
			VALV		Jet fuel valves			
			VENT		Venting system elements			
			STRC		Jet fuel Structural elements			
			WAST		Jet fuel waste system elements			
			PIPE PUMP STNK VALV		Waste fuel pipe			
					Waste fuel pump			
	Waste fuel storage tank							
	Waste fuel valves							
V		FOIL			Fuel oil system elements			
NEWW			ALRM		Fuel oil alarm panel and controls			
			EQMT		Fuel oil equipment			
			ETNK		Fuel oil expansion/surge tank			
			FLTR		Fuel oil filters			
			FTTG		Caps, crosses, and tees			
			METR		Fuel oil meter			
			PIPE		Fuel oil piping			
			ABND CAPS RPIP SPIP TEMP		Abandoned fuel oil pipe			
					Blind flange or cap			
					Fuel oil return pipe			
	Fuel oil supply pipe							
NEWW			PITT		Fuel oil fuel pit			
			PUMP		Fuel oil pumps			
			SPRT		Pipe and equipment supports			
			STNK		Fuel oil storage tank			
			TEXT		Text			
			VALT		Fuel oil vault			
			VALV		Fuel oil valves			
			VENT		Venting system elements			
			V		FIRE			Fire protection systems site
			BFPA		Backflow prevention assembly			
			BLRD		Bollards			
			DELG		Deluge system elements			
			PIPE VALV		Deluge system piping			
					Deluge system valves			
			DRYP		Dry pipe system elements			
			PIPE VALV		Dry pipe system piping			
					Dry pipe system valves			
			ENCL		Valve enclosure			
			EQMT		Fire protection equipment			
			FHOS		Fire hose			
			FALM		Fire alarm panel and controls			
			FDCN		Fire department connections			
				SMSE	Siamese			
			FOMS		Foam water system elements			
			PIPE PUMP STNK VALV		Foam system piping			
					Foam system pump			
					Foam system storage tank			
					Foam system valves			
			HOSE		Fire hose			

NEWW NEWW			CBNT	Fire hose cabinet
			RACK	Fire hose rack
			HYDT	Fire Hydrant
			FLSH	Fire hydrant flush
			METR	Fire meter
			FHOS	Metered fire hose
			PIPE	Fire protection piping
			ABND	Abandoned fire protection pipe
			CAPS	Blind flange or cap
			FSPK	Fire sprinkler line
			TEMP	Temporary pipe
			PUMP	Fire pumps jockey pumps
			SNSR	Sensors
			SPKL	Fire sprinklers
			LINE	Fire Sprinkler Line
			STRC	Fire Structural elements
			STDP	Stand pipe
			STNK	Fire protection storage tank
			SPRT	Pipe and equipment supports
			TEXT	Text
VALT	Fire protection valve vault			
VALV	Fire protection valves			
WETP	Wet pipe system elements			
PIPE	Wet pipe system piping			
VALV	Wet pipe system valves			
V		GNDG		Grounding systems site
			CIRC	Grounding system cables
			COND	Grounding system conduit
			EQMT	Grounding system equipment
			GROD	Grounding rod
			HNHL	Grounding system hand hole
			JBOX	Grounding system junction box
			TEXT	Text
V		HHWT		Heating hot water systems site
			BWLR	Boiler and associated equipment
			EQMT	Generic hot water equipment not associated with other systems
			ETNK	Expansion or surge tank
			HEXC	Steam/hot water heat exchanger
			MNHL	Manhole
			PIPE	Heating hot water pipe
			ABND	Abandoned hot water pipe
			CAPS	Blind flange or cap
			HWSP	Hot water supply pipe
			HWRP	Hot water return pipe
			SHWS	Secondary hot water supply pipe
			SHWR	Secondary hot water return pipe
			TEMP	Temporary hot water pipe
			PUMP	Hot water pumps
			PPMP	Primary hot water pumps
			SPMP	Secondary hot water pumps

NEWW			SPRT			Pipe and equipment supports
			STNK			hot water tanks
			TEXT			Text
			VALT			Hot water vaults
			VALV			Hot water valves
V		IRRG				Irrigation systems
NEWW NEWW			CIRC			Control circuit
			COND			Conduit
			CSTA			Valve control station
			EQMT			Generic irrigation equipment not associated with other systems
			FTTG			Caps, crosses, and tees
			HEAD			
			PANL			Power/control panel
			PIPE			Irrigation piping
NEWW NEWW			ABND			Abandon Irrigation piping
			LOCT			Irrigation pipe Locates
NEWW NEWW			PUMP			Irrigation pump
			SPRK			Sprinkler head
				FULL		Sprinkler head full coverage
				HALF		Sprinkler head ½ coverage
				HEAD		Sprinkler Head
				IMPL		Sprinkler head Impulse type
				QRTR		Sprinkler head ¼ coverage
			SBOX			Sprinkler box
			SPRT			Pipe and equipment supports
			STRC			Irrigation Structural elements
NEWW NEWW			STNK			hot water tanks
			VALV			Sprinkler valves
			VBOX			Valve box
V		IWSS				Industrial waste water sewer systems site
NEWW			CBSN			IWSS catch basin
			COUT			IWSS clean out
			EQMT			Generic IWSS equipment not associated with other systems
			FLSH			IWSS flushing system components
			JBOX			Junction boxes
			LFTS			Lift station (IWSS)
				STCR		IWSS manhole Structure
			MNHL			IWSS manhole
			OWSP			Oil/water separator
			PIPE			IWSS piping
NEWW			ABND			Abandoned IWSS piping
			ARRW			IWS Direction of Flow Arrows
			CAPS			Blind flange or cap
			FMAN			Force main piping
NEWW			GRAV			Gravity IWSS drain piping
			LOCT			IWS Locates
			ROFD			IWSS roof drain piping

				TEMP		Temporary IWSS piping
				WOIL		Waste oil pipe
				PUMP		IWSS lift station pump
				SDRN		IWSS sub-drain elements
				SPRT		Pipe and equipment supports
				STNK		IWSS storage tank
NEWW				STRC		Industrial waste water sewer Structural elements
				TEXT		Text
NEWW				UNKN		IWS Unknown
				VALT		IWSS vaults
				VALV		IWSS valves
NEWW				WOIL		Ind Waste Water Sewer Sys
V		LEMG				Emergency lighting systems
NEWW				CABL		cable
NEWW					COAX	Coax cable
NEWW					FIBR	Fiber optics cable
NEWW					MULT	Multi-conductor cable
NEWW					TRAY	Cable trays and wire ways
NEWW				CEIL		Ceiling mounted (surface/pendant) fixtures
				CIRC		Emergency lighting circuits
				COND		Emergency lighting system conduit
					ABND	Abandoned emergency lighting conduit
NEWW				CONS		Constant Current Regulators
				DBNK		Emergency lighting duct bank
NEWW				EQMT		Emergency lighting equipment
				EXIT		Emergency Exit fixtures
				FEED		Emergency lighting feeders
				FIXT		Emergency lighting fixtures
				HNHL		Emergency lighting hand holes
				JBOX		Emergency lighting junction box
				NAVG		Emergency lighting navigation lights marine GYRS system
				PANL		Emergency lighting panels
				POLE		Light poles emergency lighting
				SNSR		Emergency lighting sensor
				TEXT		Text
				VALT		Emergency lighting vaults
NEWW				WAAL		Emergency Wall mounted fixtures
				XFMR		Emergency lighting transformer
V		LNDS				Landis and GYR system
				EQMT		Landis and GYR system equipment
				TEXT		Text

V		LNOR			Normal lighting systems
NEWW			CABL		cable
NEWW				COAX	Coax cable
NEWW				FIBR	Fiber optics cable
NEWW				MULT	Multi-conductor cable
NEWW				TRAY	Cable trays and wire ways
NEWW			CEIL		mounted (surface/pendant) fixtures
			CIRC		Circuits normal lighting
			COND		Conduit normal lighting
NEWW				ABND	Abandoned conduit normal lighting
NEWW			CONS		Constant Current Regulators
			DBNK		Duct bank normal lighting
			EQMT		Equipment normal lighting
			FEED		Feeders normal lighting
NEWW			FIXT		Fixtures normal lighting
			FLRR		Floor mounted fixtures
			HNHL		Hand holes normal lighting
			JBOX		Normal lighting junction box
			NAVG		Navigation lights marine GYRS system normal lighting
			PANL		Panels normal lighting
			POLE		Light poles normal lighting
			SNSR		Normal lighting sensor
			TEXT		Text
NEWW			VALT		Normal lighting vaults
			WAAL		Wall mounted fixtures
			XFMR		Normal lighting transformer
V		METH			Methane system elements
			ALRM		Methane system alarm panel and controls
			EQMT		Methane equipment
			METR		Methane meter
			PIPE		Methane piping
				ABND	Abandoned methane pipe
				CAPS	Blind flange or cap
			PREG		Methane pressure regulator
			SPRT		Pipe and equipment supports
			STNK		Methane storage tank
			TEXT		Text
NEWW			VALV		Methane system valves
			VENT		Venting system elements
V		MTNK			Miscellaneous storage tanks site
			ALDR		Storage tank ladder or stairs
			DRAN		Tank drain
			FIBR		Fiberglass storage tanks
			MDOR		Man-door
			PLAS		Plastic

			SPRT			Pipe and equipment supports
			STEL			Steel storage tanks
			TEXT			Text
			TVNT			Tank vents
V		NGAS				Natural gas system elements
NEWW			ALRM			Natural gas alarm panel and controls
			FTTG			Caps, crosses, and tees
NEWW NEWW NEWW			EQMT			Natural gas equipment
			METR			Natural gas meter
			MNHL			Natural gas systems: manhole
			PIPE			Natural gas piping
				ABND		Abandoned natural gas pipe
				CAPS		Blind flange or cap
NEWW NEWW				POST		Natural Gas Witness Post
			PITT			Natural gas fuel pit
NEWW			PREG			Natural gas pressure regulator
			SPRT			Pipe and equipment supports
			STNK			Natural gas storage tank
			STRC			Natural gas Structural elements
NEWW NEWW			TEXT			Text
			VALV			Natural gas valves
			UGND			Natural gas systems: underground
			VENT			Venting system elements
V		NODE				Node
NEWW			ABUT			Node: abutment
NEWW			ACTL			Node: aerial horizontal and vertical control points
NEWW			BLDG			Node: building points
NEWW			BLIN			Node: baseline
NEWW			BRDG			Node: bridge survey points
NEWW						Node: break lines, spot elev. points and lines for creation of break lines as top of bank
NEWW			BRKL			Node: brush row points
NEWW			BROW			Node: brush points
NEWW			BRSH			Node: underground cable systems
NEWW			CABL			Node: curb
NEWW			CURB			Node: description attributes for survey points
NEWW			DASP			Node: deck
NEWW			DECK			Node: driveway
NEWW			DRIV			Node: elevation attributes for survey points
NEWW			EASP			Node: expansion joint
NEWW			EXPJ			Node: ground
NEWW			GRND			Node: manhole
NEWW			MHOL			Node: pavement markings (yellow/white stripes)
NEWW			MRKG			

NEWW			NGAS			Node: natural gas line
NEWW			PASP			Node: point number attributes for survey points
NEWW			PIPE			Node: piping (driveway/roadway culverts)
NEWW			POLE			Node: pole (power, telephone, etc.)
NEWW			PVMT			Node: pavement
NEWW			SIGN			Node: signage
NEWW			SSWR			Node: sanitary sewer
NEWW			STRM			Node: storm sewer
NEWW			SWLK			Node: sidewalks
NEWW			TREE			Node: tree
NEWW			TROW			Node: tree row
NEWW			WATR			Node: water supply
V		PATH				Paths other than roads or sidewalks
			BIKE			Bike path
			PEDS			Pedestrian path
			TEXT			Text
V		PARC				Parcels
NEWW			ESMT			Parcel Easement
NEWW			ROWW			Right of Way of Parcel
NEWW			TABL			Parcel Tables
NEWW			TEXT			Parcel Text
V		PAVE				Generic paved areas (not roads etc.) site
			ASPH			Asphalt pavement
NEWW				DVWY		Asphalt Driveway
				EDGE		Edge of asphalt pavement
				OCON		AC concrete
				SWCT		Saw cut
NEWW				WALK		Asphalt pavement Walk ways
NEWW			CURB			Paved Roadway curbs
			CONC			Concrete pavement
NEWW				AVIA		Pavement Concrete Aviation
				DVWY		Concrete driveway
				EDGE		Edge of concrete pavement
NEWW				FOOT		Concrete Footing
				JOIN		Concrete joints
				PADS		Concrete Pad
				RAMP		Concrete Ramp
				RBBL		Concrete Rubble
				SPWY		Concrete Spillway
				SWCT		Saw Cut In Concrete
				ASPH		Asphalt Curb
			DVWY			Driveway
				ASPH		Asphalt driveway
				CONC		Concrete driveway

			EDGE		Edge of driveway pavement
NEWW			GROV		Pavement Grooving
			GRVL		Gravel roads areas
NEWW			EDGE		Edge of Pavement
NEWW			JNTS		Construction/ expansion Joints
NEWW			MRKG		Pavement markings
			SDWK		Sidewalk
			ADAE		Wheelchair access
NEWW			STRP		Striping
NEWW				FOGL	Pavement Striping Fog Line
NEWW		HASH		Pavement Striping Stripe Hatched	
NEWW		OFAL		Pavement Striping Object Free Area	
NEWW		RSNT		Pavement Striping Wing Line/Equip Restraint	
NEWW		TWCL		Pavement Striping Taxiway Centerline	
NEWW			TEXT		Pavement Text
NEWW			WALK		Asphalt pavement walk ways
V		PELV			Emergency power low voltage
			BUSW		Emergency power circuit bus-way low voltage
NEWW			CABL		Emergency power low voltage cable
NEWW			CEIL		Ceiling mounted
			CIRC		Emergency power circuit low voltage
			COND		Emergency power conduit low voltage
				ABND	Abandoned emergency power conduit low voltage
			DBNK		Emergency power duct bank low voltage
			EQMT		Emergency power equipment low voltage
NEWW			EXIT		Exit fixtures
			FEED		Emergency power feeders low voltage
NEWW			GRND		Ground For Electrical Power
			JBOX		Emergency power junction box
			METR		Emergency power low voltage meter
				PMTR	Port of Seattle meter emergency power low voltage
				CMTR	City power meter emergency power low voltage
			MONI		Emergency power monitoring system low voltage
			PANL		Emergency power panels low voltage

NEWW			PBOX			Emergency power pull box low voltage		
			RCPT			Emergency power receptacle low voltage		
			REEF			Reefer Receptacle emergency power low voltage		
		NEWW			STRC			<b>Normal power low Structural elements</b>
					SWBD			Emergency power switchboards low voltage
					SWGR			Emergency power switchgear low voltage
					WAAL			<b>Wall Elements</b>
					XFMR			Emergency power transformer low voltage
			TCAN			Emergency power transformer can low voltage		
V		PEMV				Emergency power medium voltage		
NEWW NEWW NEWW NEWW NEWW NEWW NEWW NEWW NEWW NEWW NEWW NEWW NEWW NEWW NEWW NEWW NEWW NEWW NEWW NEWW			BUSW			Emergency power circuit bus-way low voltage		
			CABL			cable		
				COAX			Coax cable	
				FIBR			Fiber optics cable	
				MULT			Multi-conductor cable	
				TRAY			Cable trays and wire ways	
			CEIL			Ceiling mounted		
			CIRC			Emergency power circuit medium voltage		
			COND			Emergency power conduit medium voltage		
				ABND			Abandoned emergency power conduit medium voltage	
			DBNK			Emergency power duct-bank medium voltage		
			EQMT			Emergency power equipment medium voltage		
			EXIT			Exit fixtures		
			FEED			Emergency power feeders medium voltage		
			GRND			Ground For Electrical Power		
			JBOX			Emergency power junction box medium voltage		
			METR			Emergency power medium voltage meter		
				PMTR			Port of Seattle meter emergency power medium voltage	
				CMTR			City power meter emergency power medium voltage	
			MONI			Emergency power monitoring system medium voltage		

NEWW			PANL			Emergency power panels medium voltage
			PBOX			Emergency power pull box medium voltage
			POLE			Emergency power medium voltage pole
				GYWR		Guy wire
				BASE		Power pole base
			RCPT			Emergency power receptacle medium voltage
			REEF			Reefer Receptacle emergency power medium voltage
			STRC			Emergency power medium voltage Structural elements
			SWBD			Emergency power switchboards medium voltage
			SWGR			Emergency power switchgear medium voltage
			TEXT			Text
			NEWW			WAAL
			XFMR		Emergency power transformer medium voltage	
				TCAN	Emergency power transformer can medium voltage	
V		PKNG				Parking areas and elements
NEWW			ASPH			Parking General Asphalt area
NEWW			CARS			Graphic illustration of cars
NEWW			CONC			Parking General Concrete area
			CURB			Parking area curbs
NEWW			DRAN			Parking lot drainage slope indications
			FLNE			Parking lots: fire lane
NEWW			GRVL			Parking lots: gravel
			ISLD			Parking islands
			MRKG			Parking lots: pavement markings
			STOP			Parking stops and blocks
NEWW			STRC			Parking areas Structural elements
			STRP			Striping for parking paved areas
NEWW			UPVD			Parking lots: unpaved surface
V		PLNT				Landscape plants
			EDGE			Edge vegetation
			PLTR			Planter
			SHRB			Shrub
			TREE			Tree
				CONF		Conifer tree
				DCDS		Deciduous tree
			TURF			New seeded area

V		PNET			Pipe Network
NEWW			PATT		
V		PNHV			High voltage systems over 480
NEWW			CABL		Emergency power low voltage cable
NEWW				COAX	Coax cable
NEWW				FIBR	Fiber optics cable
NEWW				MULT	Multi-conductor cable
NEWW				TRAY	Cable trays and wire ways
NEWW			CEIL		Ceiling mounted
			BUSW		Normal power circuit bus-way high voltage
			CIRC		Circuits normal power high voltage
			COND		Conduit normal power high voltage
				ABND	Abandoned normal power conduit high voltage
NEWW			CONS		Constant Current Regulators
			DBNK		Normal power duct-bank high voltage
			EQMT		Equipment normal power high voltage
			FEED		Feeders normal power high voltage
NEWW			FLRR		Floor
NEWW			GRND		Ground For Electrical Power
NEWW			GYWR		Guy wire
			HNHL		Hand holes normal power high voltage
			JBOX		Normal power junction box high voltage
			L480		Elements less than 480v electrical system (e.g. conduits, wires, panels, handholds, vaults, switches, etc)
NEWW			METR		Normal power high voltage meter
				CMTR	City power meter high voltage
				PMTR	Port of Seattle meter high voltage
			MNHL		Manhole normal power high voltage
			MONI		Normal power monitoring system high voltage
			PANL		Panels normal power high voltage
NEWW			PBOX		pull box High voltage
			POLE		Power poles normal power high voltage
				BASE	Power pole base

				GPST		Guy post
				GYWR		Guy wire
			TEXT			Text
NEWW			STRC			High voltage systems over 480
NEWW			SWGR			Structural elements
			VALT			switchgear High voltage
NEWW			WAAL			Vaults normal power high voltage
			XFMR			Wall Elements
				TCAN		Normal power transformer high voltage
						Normal power transformer can high voltage
V		PNLV				Normal power low voltage systems 120
NEWW			CABL			Normal power low voltage cable
NEWW				COAX		Coax cable
NEWW				FIBR		Fiber optics cable
NEWW				MULT		Multi-conductor cable
NEWW				TRAY		Cable trays and wire ways
			CEIL			Ceiling Normal Power
NEWW			CIRC			Circuits normal power low voltage
			COND			Conduit normal power low voltage
				ABND		Abandoned normal power conduit low voltage
NEW			CONS			Constant Current Regulators
			DBNK			Normal power duct-bank low voltage
			EQMT			Equipment normal power low voltage
			FEED			Feeders normal power low voltage
NEWW			GRND			Ground For Electrical Power
NEWW			GYWR			Guy wire
			HNHL			Hand holes normal power low voltage
			JBOX			Normal power junction box low voltage
			METR			Normal power low voltage meter
				PMTR		Port of Seattle meter normal power low voltage
				CMTR		City power meter normal power low voltage
			MNHL			Manhole normal power low voltage
			MONI			Normal power monitoring system low voltage
			PANL			Panels normal power low voltage

NEWW			PBOX			pull box Normal power low voltage
			POLE			Power poles normal power low voltage
			RCPT			Receptacles normal power low voltage
	NEWW		STRC			Normal power low voltage systems 120 Structural elements
	NEWW		SWGR			switchgear Normal power low voltage
			TEXT			Text
			VALT			Vaults normal power low voltage
	NEWW		WAAL			Wall Elements
			XFMR			Normal power transformer low voltage
				TCAN		Normal power transformer can low voltage
V		PNMV				Normal power medium voltage systems 220-440
NEWW NEWW NEWW NEWW NEWW NEW			BUSW			Normal power circuit bus-way medium voltage
			CABL			Normal power low voltage cable
				COAX		Coax cable
				FIBR		Fiber optics cable
				MULT		Multi-conductor cable
				TRAY		Cable trays and wire ways
				CEIL		Ceiling
	NEW			CIRC		Circuits normal power medium voltage
					ABND	Abandoned normal power conduit medium voltage
	NEW NEW			COND		Conduit normal power medium voltage
			CONS		Constant Current Regulators	
			DBNK		Normal power duct-bank medium voltage	
			EQMT		Equipment normal power medium voltage	
			FEED		Feeders normal power medium voltage	
NEWW NEWW			GRND		Ground For Electrical Power	
			GYWR		Guy wire	
			HNHL		Hand holes normal power medium voltage	
			JBOX		Normal power junction box medium voltage	
NEWW			L480			Elements less than 480v electrical system (e.g. conduits, wires, panels, handholds, vaults, switches, etc)
			METR			Normal power medium voltage meter

NEWW				PMTR	Port of Seattle meter medium voltage		
				CMTR	City power meter medium voltage		
				MNHL	Manhole normal power medium voltage		
				MONI	Normal power monitoring system medium voltage		
				PANL	Panels normal power medium voltage		
				PBOX	pull box medium voltage		
				POLE	Power poles normal power medium voltage		
					GYWR	Guy wire	
					BASE	Power pole base	
					RCPT	Receptacles normal power medium voltage	
					SUBS	Substation normal power medium voltage	
						BASE	Substation equipment base
			NEWW			STRC	Normal power medium voltage systems 220-440 Structural elements
NEWW			SWGR	switchgear Normal power medium voltage			
NEWW			TEXT	Text			
			VALT	Vaults normal power medium voltage			
NEWW			WAAL	Wall Elements			
			XFMR	Normal power transformer medium voltage			
				TCAN	Normal power transformer can medium voltage		
V		POND			Ponds site		
			INLT		Inlet Structure for pond		
				CONC	Concrete inlet Structure for pond		
				PIPE	Inlet pipe		
				RIPR	Riprap inlet Structure for pond		
			OUTL		Outlet Structure for pond		
				CONC	Concrete inlet Structure for pond		
				RIPR	Riprap inlet Structure for pond		
				PIPE	Outlet pipe		
				OVFL	Overflow Structure for pond		

V		POWR			Survey Power for site
NEWW			CABL		Power Cables
NEWW				COAX	Coax cable
NEWW				FIBR	Fiber optics cable
NEWW				MULT	Multi-conductor cable
NEWW				TRAY	Cable trays and wire ways

NEWW NEWW		CBNT			Power Cabinet
		CIRC			Power Circuits
		CMTR			CITY OWNED POWER METERS
NEWW NEWW		COND			Power Conduit
			ABND		Abandon Power
OLD		CNDT			Power conduit underground
		CRAN			ELEMENTS OF CRANE POWER SYSTEMS (e.g. MAIN SWITCH GEAR, POWER FEED, POWER TRENCH, ISOLATION CIRCUITS, ETC)
NEWW		CTRL			ELECTRICAL Power CONTROL SYSTEMS
NEWW		DUCT			Center line power conduit
		FENC			Power: fences
		GRND			Ground rod box
NEWW		GYRS			Landis gyrs system
NEWW		GYWR			Guy wire
NEWW			POST		Guy Wire Post
NEWW		G480			ELEMENTS GREATER THAN 480V ELECTRICAL SYSTEM (e.g. CONDUITS, WIRES, PANELS, HANDHOLDS, VAULTS, SWITCHES, ETC)
NEWW		INST			Power: instruct (meters, transformers)
		HNHL			Power hand hole
		JBOX			Power junction box
		LITE			Lite
NEWW		L480			ELEMENTS LESS THAN 480V ELECTRICAL SYSTEM (e.g. CONDUITS, WIRES, PANELS, HANDHOLDS, VAULTS, SWITCHES, ETC)
		METR			Power Meter
			HOSE MTR2		2el met. Fire hose/ Water 2 power meters
		MNHL			Manhole power
NEWW		MONI			Power Monitoring, site utility
NEWW		OTLT			Power Outlet
NEWW		OVHD			Power: overhead
NEWW		PBOX			pull box for Power
NEWW		PANL			Elect. Power Panel
NEWW		PMTR			POS Water meters
		POLE			Pole w/light
			GYWR		Guy wire anchor
			GYWR		Guy post
			LITE		Lightpole 2meters
		REEF			Reefer outlet
NEWW		SWGR			switchgear FOR power
		SNSR			Sensor

NEWW			STCR			Power Manhole Structure
			STRC			Power Structural elements
			SUBS			Power substation
	NEWW		TELM			Telemetry Equipment
			TREN			Power trench
	NEWW		UGND			Power: underground
	NEWW		UNKN			Unknown objects associated with root
			VALT			Power vault
			XFMR			Transformer can
V		PROP				Property and property management site
			BNDY			Boundaries
NEWW				BLKS		Property Boundaries
NEWW				GLOT		Survey Boundary Government Lot lines
NEWW				MENR		Survey Boundary Meander Section lines
NEWW				QSEC		Survey Boundary Quarter Section lines
NEWW				SECT		Survey Boundary Section lines
NEWW				SSEC		Survey Boundary Sixteenth Section lines
NEWW			BERM			Berms
NEWW			BRKW			Breakwater
NEWW			BULK			Bulkheads
NEWW			CONS			Construction limits/controls, staging area
NEWW			CRNR			Surveyed Corner
NEWW			DAMS			Dams, run off control
			ESMT			Easements
				TEXT		Property Easements Text
			FENC			Fences
				ASPH		Fence at Asphalt
				CLNK		Chain link fence
				CRNR		Fence corner
				POST		Fence post
				TEMP		Temporary/construction fence
			GATE			Gates
				CBOX		Gate control box
				POST		Gate posts
			HARB			Harbor lines
NEWW				FORM		Harbor Lines Former
NEWW				INNER		Harbor Lines Inner
NEWW				OUTR		Harbor Lines Outer
NEWW				PIER		Harbor Lines Pier head Line
			LEAS			Lease line and areas
			LEGL			Legal descriptions
NEWW			LOTT			Property Lots
NEWW			MONS			Survey Monuments
			NPOS			Non Port of Seattle property lines

NEWW NEWW			MEAN			Mean water levels, tides
			PARC			Parcel Boundary Line
			PARK			All parks
			PHLN			Pier head lines
			PHTO			Photographs images
			PPKG			Public parking areas
			PPOS			Port of Seattle property lines
				CRNR		Port of Seattle property corner
				LEAS		Port of Seattle lease line
			PUBA			Public access areas
	NEWW		RTWL			Retaining wall
	NEWW		RTWY			Right of way
	NEWW NEWW		SBCK			Property: setback lines
	NEWW NEWW		SIGN			Signs (non traffic)
		STEP			Site or landscaping steps	
		STRC			Property Structural elements	
		TEXT			Text	
		WTRW			Channels canals and waterways	
V		PRPN				Propane system elements
NEWW			ALRM			Propane system alarm panel and controls
			FTTG			Caps, crosses, and tees
			EQMT			Propane equipment
			METR			Propane meter
			PIPE			Propane piping
NEWW				ABND		Abandoned propane pipe
				CAPS		Blind flange or cap
				LOCT		Propane pipe or line Locates
NEWW NEWW			PREG			Propane pressure regulator
			SPRT			Pipe and equipment supports
			STNK			Propane tanks
			VENT			Venting system elements
V		RLRD				Railroads site
NEWW			CNTR			Railroad centerlines
			CROS			Railroad crossing
			EQMT			Generic railroad equipment not associated with other systems
			FROG			Railroad Frog
			LUBE			Railroad flange lubricator
			RTWY			Right of way
			SGNL			Railroad signal
			SIDG			Railroad siding
			SIGN			Traffic signs
			SPUR			Railroad spur
			SWCH			Railroad switch
			TEXT			Text
			TRAK			Railroad track
NEWW NEWW NEWW				TIES		Railroad Ties
			YARD			Railroad Yard
			XING			Railroad Crossings

V		ROAD			Roads site									
NEWW			AROD		Access road									
			ASPH		Asphalt road									
NEWW			BRCK		Brick road									
			BRDG		Road Surface at Bridge									
NEWW			CNTR		Road centerlines									
			CRWN		Road Crown									
NEWW			CONC		Concrete road									
			CURB		Roadway curbs									
NEWW				ASPH		Asphalt curb								
				CAST		Pre-cast curb								
				CTOP		Curb top								
				ETRD		Extruded curb								
				GUTR		Curb and gutter								
				LINE		Curb line								
				STOP		Wheel stops								
NEWW			FLNE		Roadways: fire lane									
NEWW			EDGE		Edge of road									
NEWW			FEAT		Roadways: feature line									
NEWW			GRAL		Guardrails									
NEWW			GRVL		Gravel road									
NEWW			MRKG		Roadways: pavement markings									
NEWW				RPNT		Road survey points								
				RSTA		Road stationing								
				SDWK		Sidewalk								
				SIGN		Traffic signs								
				STRP		Striping								
NEWW			TEXT		Text									
NEWW			UPVD		Roadways: unpaved surface									
V														
V		SITE			Survey Site Elements									
NEWW				APIT		Air service pit								
				APIT	VENT		Air vent							
				AWTR	PITT		Air water pit							
				BNCH			Park bench							
				EQMT			Machine							
				NEWW				FARM		Fire alarm				
								PUMP		Pump				
								PUMP		Sump pump				
				NEWW			EWAT		Site features: edge of water					
				NEWW				FENC		Fence				
								NEWW				ASPH		Fence at asphalt
												CLNK		Fence chain link
												CRDR		Card reader
												CRNR		Fence corner
												GATE		Gate
												GATE		Gate control box
												GATE		Gate post
												TEMP		Fence temporary
								HTCH		Misc. hatch				
				MLBX		Mailbox								
NEWW			ROCK		Site features: large rocks and rock outcroppings									

NEWW			RPRP			Rip rap
			RTWL			Site features: retaining wall
NEWW			RRCK			Rat rock
			SIGN			Site features: signage
NEWW			VALT			Vault corner
			VALT			Vault corner
			VEGE			Site features: trees, shrubs, and other vegetation
			VENT			Vent
			WPIT			Water service pit
V		SFNC				Security Fence
			AOPF			Airside operations security fence
			BLST			Blast fence
			FAAF			FAA security fence
V		SGAT				Security control gates
			FAAG			FAA secure area access gate
V		SRVY				Survey data
			ALGN			Alignment
			BENC			Benchmarks
			BNDY			Survey boundary
			BRNG			Bearing and distance
			CLIN			Survey control lines
			CRNR			Surveyed corner
			DATM			Datum information
			GRID			Grid system
				LAMB		Lambert system
				STIA		SeaTac system
				TIDE		Tideland system
			MONS			Survey monuments
				RMON		Row monument
			MONS			Survey monuments
				WMON		Water monument
			PONT			Survey point data
				TEXT		Survey point text
			SNDG			Sounding data
				TEXT		Sounding data text
			TEXT			General text
			TRAV			Traverse data
				BCRV		Beginning of curve
				BSLN		Baseline
				CHEK		Traverse check
				CPNT		Control points
				ECRV		End of curve
				INST		Instrument setup
				PCRV		Point of curve
				PTAN		Point of tangent
				RADI		Radius of curve
				TEMP		Temporary traverse data
				TEXT		Traverse text

V		SSWR			Sanitary sewer systems	
NEWW NEWW			CBSN			Catch basin
			COUT			Clean out
			EQMT			Generic sanitary sewer system equipment not associated with other systems
			FLOW			Flow line sewer
			FTTG			Caps, crosses, and tees
			JBOX			Junction boxes
			LFTS			Lift station
				PUMP		Lift station pumps
				MNHL		Sanitary sewer: manhole
					COMB	Combined manhole (sewer / storm)
					STCR	Manhole Structure
			NEWW			OWSP
PUMP						Sanitary sewer Pump elements
NEWW			PIPE			Piping
				ABND		Abandoned sanitary sewer pipe
				CAPS		Blind flange or cap
				FMAN		Force main piping
				GRAV		Gravity drain piping
				LOCT		Sewer Pipe Locates
				STUB		Pipe stub
				TEMP		Temporary IWSS piping
NEWW NEWW NEWW			SPRT			Pipe and equipment supports
			STRC			Sewer Structural elements
			UNKN			Sewer Unknown
NEWW			UGND			Sanitary sewer: underground
			TEXT			Text
			VENT			Sanitary sewer Venting elements
			VALT			Vaults
			VALV			Valves
V		STEM			Steam systems site	
NEWW  NEWW NEWW NEWW			FTTG			Caps, crosses, and tees
			EQMT			Generic steam equipment not associated with other systems
			MNHL			Steam system: manhole
			PIPE			Piping
					CAPS	Blind flange or cap
					EXPJ	Expansion joint
					LOCT	Compressed air pipe or line Locates
					SPRT	Pipe and equipment supports
					STRC	Steam Structural elements
					UGND	Steam system: underground
					TEXT	Text
					TRAP	Steam trap
			BUCK	Bucket type steam trap		
		VALT	Vaults			
		VALV	Steam valves			

NEWW			VENT		Steam Venting system elements
V		STRC			Structural elements site
NEWW		BASE			Equipment Support Base
		BCNV			Baggage conveyor
		BLOK			Concrete block
		CONC			Concrete site elements
		CTWK			Catwalk
		FOOT			Structural footing
		HRAL			Handrail
		JOIN			Structural joint
			CNST		Construction joint
			EXPJ		Expansion joint
NEWW		MFAB			Metal fabrications
		MPLT			Metal plate
NEWW		NCTR			Normal contour
			EXST		Existing grades
			GRAD		Finished grade
			GRBR		Grade break
			ORGR		Original ground
		PADS			Structural elements site pads
		PFRM			Platform
		POST			Structural post
			METL		Metal post
			WOOD		Wood post
NEWW		RAMP			Ramp
			CONC		Concrete ramp
			LOAD		Loading ramp
			METL		Metal ramp
		RPRP			Rip-rap
		RRCK			Rat-rock
		RTWL			Retaining wall site
			FACE		Face of retaining wall
			TOPW		Top of retaining wall
		RUBL			Concrete rubble
NEWW		SCOL			Structural columns site
			CRNR		Column corner
		SDEK			Structural deck site
		SDWK			Sidewalk site
		SFAB			Structural fabrications site
		SFND			Structural foundations site
			FOOT		Foundation footings site
			PILE		Foundation piles site
		SFRM			Structural framework site
		SIGN			Sign elements
NEWW			BASE		Sign support base
			SBRG		Sign-bridge
NEWW		SLEV			Sleeve for utilities
		SPAD			Structural concrete pads
		SSLB			Structural slab site
		STEP			Stairs site
		STWL			Structural walls site

			TMBR		Structural timber site
V		STRM			Storm sewer systems
			CBSN		Catch basin
NEWW			CHUT		Chutes and concrete erosion control structures
			CLVT		Culvert
			COUT		Clean out
				CONC	Concrete culvert
			DRAN		Storm drain
				RDRN	Roof storm drain
				UNKN	Unknown storm drain
			DTCH		Drainage ditch
			EQMT		Generic storm water equipment not associated with other systems
NEWW				LSPR	Storm Level Spreader
			FLOW		Flow line
			FLSH		Gutter flush
NEWW			FMON		Flow monitoring station
NEWW			FTTG		Caps, crosses, and tees
			GUTR		Gutter
NEWW			HDWL		Headwalls and end walls
			LFTS		Lift station
				PUMP	Lift station pumps
			MNHL		Storm sewer: manhole
				COMB	Combined manhole (Sewer/ Storm)
				MTRO	Metro storm manhole
				STCR	Manhole storm water Structure
				UNKN	Unknown Storm Manhole
NEWW			OFAL		Storm System Outfalls
			OWSP		Storm oil water separator
			PIPE		Piping
				ABND	Abandoned sanitary sewer pipe
NEWW				ARRW	Direction of Flow
				CAPS	Blind flange or cap
				CLVT	Culvert Pipe
				FCMN	Force main piping
NEWW				FLSH	Gutter Pipe flush
				GRAV	Gravity drain piping
NEWW				IOCT	Storm pipe or line locates
				HALF	Gutter pipe half
				NPRF	Non-perforated pipe
				PERF	Perforated pipe
				ROFD	Roof drain
				STUB	Storm pipe stub
				UNKN	Unknown drain
NEWW			POND		Storm sewer: retention pond
NEWW			ROFD		Storm sewer Roof drain line
			SPRT		Pipe and equipment supports
NEWW			STRC		Storm sewer Structural elements

NEWW			SUBS			Subsurface drain piping
NEWW			SWAL			Storm Swale
			UDRN			Under-drain elements
NEWW			UGND			Storm sewer: underground
			UDRN			Under-drain elements
NEWW			UNKN			Storm Unknown
			TEXT			Text
			VENT			Storm sewer Venting system elements
NEWW			VALT			Vaults
			VALV			Valves
V		SURF				Surface
NEWW			BNDY			Survey boundary
NEWW			CONT			Contour Line
NEWW				MAJR		Major Contour Line
NEWW				MINR		Minor Contour Line
NEWW				TEXT		Surface Contour Text
NEWW				USER		
NEWW			GRBR			Surface Grade Break
NEWW				FEAT		Surface Feature Break
NEWW			FEAT			Surface Feature
NEWW			TEXT			Surface Contour Text
V		SYRD				Ship yard site
			EQMT			Generic ship yard equipment not associated with other systems
			FENC			Security fence
			GATE			Entrance and exit gates
			SBOT			Security booth
			SCAL			Weigh scales
				EQMT		Scale equipment
				SPIT		Scale pit
			SIGN			Shipyard signs
				CLOC		Shipyard container location signs
				SGNL		Shipyard traffic signals
				TSGN		Shipyard traffic signs
			SPRT			Pipe and equipment supports
			WASH			Truck wash system equipment
V		TABL	civil 3d			
NEWW			BRDR			
NEWW			FILL			
NEWW			GRID			
NEWW			TEXT			
V		TOPO				Topography site
			APPR			Runway approaches
NEWW			AUCO			Noise Complaint
NEWW			AUST			Noise Monitoring Station
NEWW			AUZN			Noise Contour/Zone
NEWW			BBLT			Baggage Conveyor Belt

NEWW			BKLN		Break lines
NEWW			BNCH		Park Bench
NEWW			BORE		Boring locations
NEWW			COLM		Top of Bolt
NEWW			CONC		Edge of Concrete
			CREK		Creek
				EDGE	Edge of creek
				FLIN	Creek flow line
NEWW			CURB		Roadway Curbs
NEWW				ASPH	Asphalt Curb
NEWW				CAST	Pre-cast Curb
NEWW				CTOP	Curb Top
NEWW				ETRD	Extruded Curb
NEWW				GUTR	Curb and Gutter
NEWW				STOP	Wheel Stops
NEWW				TEXT	Curb Text
NEWW			GRVL		Topography Gravel
			GRAD		Grading limits
			GRID		Topographic feature: grid
NEWW			FWAT		Topographic feature: edge of water
			EQMT		Equipment
NEWW			FENC		Fences
NEWW				CLNK	Fence Chain link
NEWW				CRDR	Card Reader
NEWW				CRNR	Fence Corner
NEWW				GATE	Fence Gate
NEWW				MISC	Misc Fence
NEWW				POST	Fence Post
NEWW				TEXT	Fence Text
NEWW				WOOD	Fence Wood
NEWW			FLOW		Flow Line
NEWW			FLZN		Flood Zone
NEWW			GATE		Gates
NEWW				CBOX	Gate Control Box
NEWW				POST	Gate Posts
NEWW			GRVL		
NEWW			HNHL		Hand Holes
NEWW			HOST		Equipment Hoist
NEWW			HOSL		Hoist Lift
NEWW			LIFT		Lift
NEWW				STAT	Lift Station
NEWW			MAJR		Topographic feature: major (contours)
NEWW			METL		Metal Plate
NEWW			MINR		Topographic feature: minor (contours)
NEWW			MLBX		Mailbox
NEWW			MNHL		Manhole
NEWW				UNKN	Unknown Manhole
			NCTR		Normal contour
				EXST	Existing grades
				GRAD	Finished grade

			GRBR		Grade break
			ORGR		Original ground
NEWW			NOTE		Topo Notes
NEWW			PILE		Pile (non seaport)
NEWW			PIPE		Pipe
NEWW				CASG	Pipe Casing (any utility)
NEWW				STND	Pipe Stand
NEWW				UNKN	Unknown Pipe
NEWW			POTH		Pot-Hole Utilities
NEWW			PUMP		Pump
NEWW				SUMP	Sump Pump
			RIVR		River
				EDGE	Edge of river
				FLIN	River flow line
NEWW			RPRP		Riprap Rock
NEWW			RRCK		Rat Rock
NEWW			RTWL		Property Retaining Wall
NEWW				FACE	Property Retaining Wall Face
NEWW				TOPW	Property Retaining Wall Top
NEWW			SCAL		Equipment Scales
NEWW			SDWK		Sidewalk
			SHOR		Shoreline
				EDGE	Edge of shoreline
NEWW			SHTP		Sheet Pile
			SIGN		Signs
			SLOP		Slopes
				DAYL	Daylight Top-Toe
				TOES	Toe of slope
				TOPS	Top of slope
NEWW			SLTP		Top/toe slopes
NEWW			SOUN		Topographic feature: soundings
NEWW			SPOT		Topographic feature: spot elevations
NEWW			STEP		Topo Steps
NEWW				HRAL	Topo Step Handrail
			SUBG		Sub-grades
				GRVL	Top of Rock (Base Coarse)
			TEXT		Text
NEWW			TREN		Trench
NEWW				UNKN	Utility Trench
NEWW			VALT		Misc Vault
NEWW				UNKN	Unknown Vault Type
NEWW			VALV		
NEWW			VENT		Misc Vent
			WTRW		Waterways
				EDGE	Edge of water
NEWW			WOOD		
			XCTR		Index Contour Minor

V		TRAF			Traffic control devices and signage
NEWW			ATTE		Attenuators traffic
			BARR		Barriers traffic
				JRSY	Jersey barrier
			GRAL		Guard rails
			ISLD		Traffic islands
			LOAD		Traffic load limits
			MBOX		Mail box
			PANL		Traffic signal control panels
			POST		Traffic control post Structure
			SGNL		Traffic signals or electrical signals
NEWW NEWW NEWW				GARD	Traffic Guard Post
				HNHL	Traffic Signal Hand hole
				POLE	Traffic Signal Pole
NEWW			SIGN		Traffic signs
				BASE	Sign support base
				DNOT	Do not enter sign
				ESGN	Electric traffic sign
				LTRN	Left turn arrow
				RTRN	Right turn arrow
			SIGN		Traffic signs
				POLE	Traffic Sign Pole
				SBAR	Stop bar
				SDWK	Sidewalk
				SLIM	Speed limit text
				SPST	Sign post
				STOP	Stop sign
				STRT	Straight arrow
				TEMP	Temporary striping
	TEXT	Traffic control/warning text			
	WARN	Warning sign			
	YELD	Yield sign			
	STRP		Traffic control striping (paint stripe)		
		FOGL	Fog line		
		HASH	Hashed stripe		
		LSTR	Left straight arrow		
		LTRN	Left turn arrow		
		RSTR	Right straight arrow		
		RTRN	Right turn arrow		
		SBAR	Stop bar		
		STRT	Straight arrow		
		YELD	Yield sign		
		TPST	Traffic posts		
			GARD	Guard posts	
V		TUNL			Tunnels (railroad roadway transit and utility tunnels)
			EQMT		Generic tunnel equipment not associated with other systems

			HGWY		Highway/roadway tunnel
				TSTR	Tunnel Structure
			RDWY		Roadway tunnel
				TSTR	Tunnel Structure
			RRTN		Railroad tunnel
				TSTR	Tunnel Structure
			TRAN		Below Ground Transit Tunnel
				TSTR	Tunnel Structure
			UTIL		Utility tunnel
				TSTR	Tunnel Structure
V		WATR			Domestic water systems site
NEWW			ABND		Abandoned piping
			BKFL		Backflow preventer
			CMTR		City Meter
			DCBA		Double check backflow assembly
NEWW NEWW			DEVC		Connectors, faucets, reducers, regulators, etc.
			DOMW		Domestic cold water
NEWW			FTTG		Caps, cleanouts, crosses, and tees
			EQMT		Generic domestic water equipment not associated with other systems
				FHOS	Fire hose
			ETNK		Expansion or surge tank
			HBIB		Domestic water hose Bibb
			HYDT		Hydrants
NEWW				FHYD	Fire hydrant
				FLSH	Fire Hydrant Flush
				SHIP	Ship's hydrant
				WHYD	Wall hydrant
				YARD	Yard hydrant
			LFTS		Lift station
			METR		Meter (non Port of Seattle)
			MNHL		Manhole
				STCR	Manhole water Structure
NEWW			NHYD		Non-potable hydrants/flushing hydrants
			PIPE		Domestic water pipe
				ABND	Abandoned water pipe
				CAPS	Blind flange or cap
NEWW				FPRO	Fire protection piping
				LOCT	Domestic Water Pipe Locates
				SMON	Water monument
				TEMP	Temporary water pipe
NEWW NEWW			PITT		Water pit
			PIVL		Post Indicator Valve
			PMTR		Port of Seattle water meter
			PUMP		Domestic water pumps
			RPBA		Reduced pressure backflow assembly

NEWW			RSVR			Reservoirs
			SPGT			Water spigot
			SPRT			Pipe and equipment supports
			STNK			Domestic water tanks
NEWW			STRC			Water Structural elements
NEWW			UGND			Water supply: underground
NEWW			TANK			Water Tank
			TEXT			Text
NEWW			UNKN			Water Unknown
			VALT			Vaults
			VALV			Valves
NEWW			VENT			Vent pits
			WELL			Water wells

V		XSEC			
NEWW			VIEW		
NEWW			TEXT		
Requires Optional Modifier for Elements Matching Layer Description					

# Civil Layers

Some 1<sup>st</sup> Optional Root Modifiers have been specified in the standard. If the object or element being drawn matches the layer description notes, the 1<sup>st</sup> Optional Root Modifier indicated must be used. The intent is to provide a consistent method of identifying the most common elements found throughout the Port of Seattle's properties and infrastructure. Objects or elements found on incorrect layers during the QC review process will be flagged as errors and will need to be corrected.

## **Notes for Civil Site Plan Drawings:**

1. To the greatest extent possible, the civil layers should be used for all site work (including docks). The other disciplines (mechanical, electrical, plumbing, etc.) should be used for buildings and airport/seaport terminals. Landscaping may be used for both site and buildings.
2. To the greatest extent possible, the layer standards are divided into "systems". All utilities, equipment, structural elements, etc., associated with a "system" must be placed on layers associated with that "system".
3. Do not place text, notes, leaders, etc., on X-Refs. These should be placed on each individual drawing. Text and pattern X-Ref's that are sized for the drawing they are attached to are acceptable. The standard symbols with text and point information for manholes, handholes, catch basins, pipe sizes, etc., used by the survey team in backgrounds or base drawings can remain provided the symbols are small enough and the text attribute and point information can be frozen if required.
4. For mechanical utility plans, place all piping and fittings on piping layers. Put valves on valve layers, equipment on equipment layers, symbols on symbol layers, etc., (i.e., do not put valves on equipment layers or symbols on piping layers, etc.). This prevents issues associated with drawings at different scales. Align all valves with the piping in the direction of flow.
5. For electrical utility plans, place all conduits on conduit layers, duct-banks on duct-bank layers. Cables on cable layers, etc. Put electrical fixtures on fixture layers, handholes on handhole layers, manholes on manhole layers, etc., (i.e., do not put electrical manholes on duct-bank layers, electric handholes on conduit layers, etc.).
6. For docks, all structural elements of the dock must be placed on individual layers (i.e., deck panels on deck panel layer, fenders on fender layer, pile caps on pile cap layer, etc.).

Trade	Level	Root	Root Modifier	1st Optional Modifier	2nd Optional Modifier	Description
<b>C</b>						
	<b>NEWW</b>	ALGN				<b>IN POS CIVIL 3D TEMPLATE</b>
	<b>NEWW</b>	ASSM				<b>IN POS CIVIL 3D TEMPLATE</b>
	<b>NEWW</b>	CORR				<b>IN POS CIVIL 3D TEMPLATE</b>
	<b>NEWW</b>	MASS				<b>IN POS CIVIL 3D TEMPLATE</b>
	<b>NEWW</b>	NODE				<b>IN POS CIVIL 3D TEMPLATE</b>
	<b>NEWW</b>	PNET				<b>IN POS CIVIL 3D TEMPLATE</b>
	<b>NEWW</b>	SURF				<b>IN POS CIVIL 3D TEMPLATE</b>
		ACFT				Small Aircraft
		ACST				Aircraft control striping
		AFLD				Airfield
		ALIT				Airfield lighting systems
		ALPD				Airport layout plan Drawing
		BLDG				Buildings site
		BRDG				Bridges site
		CCTV				Cable TV systems
		CDAT				Data and computer systems
		CDSR				Condenser water systems site
		CHWR				Chilled water systems site
		CMPA				Compressed air systems
		CNDS				Condensate systems site
	<b>NEWW</b>	<b>CPRO</b>				<b>Cathodic Protection site</b>
		CTEL				Telephone systems
		CTOW				Control tower
		CTWR				Communication radio towers
		DOCK				Docks and piers site
		ENVR				Environmental elements site
		FAAC				FAA communication systems
		FAAL				FAA lighting systems
		FAAP				FAA Power systems
		FDSL				Diesel fuel system elements
		FGAS				Fuel gas (gasoline) system elements
		FIRE				Fire protection systems site
		FJET				Jet fuel system elements
		FOIL				Fuel oil system elements
		GNDG				Grounding systems site
		HHWT				Heating hot water systems site
		IRRG				Irrigation systems
		IWSS				Industrial waste water sewer systems site
		LEMG				Emergency lighting systems

		LNOR			Normal lighting systems	
		METH			Methane system elements	
		MTNK			Miscellaneous storage tanks site	
		NGAS			Natural gas system elements	
		PATH			Paths other than roads or sidewalks	
	NEWW	PAVE			<b>Generic paved areas (not roads etc.)</b>	
		PELV			Emergency power low voltage	
		PEMV			Emergency power medium voltage	
		PKNG			Parking areas and elements	
		PLNT			Landscape plants	
		PNHV			Normal power high voltage systems	
		PNLV			Normal power low voltage systems	
		PNMV			Normal power medium voltage systems	
		POND			Ponds site	
		POWR			<b>Civil Power for site</b>	
		PROP			Property and property management site	
		PRPN			Propane system elements	
		RLRD			Railroads site	
		ROAD			Roads site	
		SITE			<b>Civil Site Elements</b>	
		SFNC			Security Fence	
		SRVY			Survey data	
		SSWR			Sanitary sewer systems	
		STEM			Steam systems site	
		STRC			Structural elements site	
		STRM			Storm sewer systems	
		SYRD			Ship yard site	
		TOPO			Topography site	
		TRAF			Traffic control devices and signage	
		TUNL			Tunnels (railroad roadway transit and utility tunnels)	
		WATR			Domestic water systems site	
Additional Root Modifiers for Civil Root Layers Only						
			ABLT			Anchor bolts
		ADAE			Americans with disabilities	
		BASE			Equipment Base	
		BOLT			Bolts (other than anchor bolts)	
		CONC			Concrete	
		CRNR			Object corners	
		CTLO			Centerlines of objects	
		FLOW			Flow	
			FLIN		Flow line	

			GRAD		Finished grade
			GRAV		Gravity flow
			MTR2		2 power meters
			PLAT		Metal Plates
			RBAR		Rebar
			ROLL		Rolling stock equipment
			SCAL		Scale weighing equipment
			SGNL		Signal
			SLEV		Sleeves for utilities
			SNSR		Sensor
			STAN		Stationing data (pipe roadway etc.)
			STUB		Stub
			TIED		Tied
			UTIL		Utility
Additional Root Modifiers for Civil Root Layers					
			ABOV		Above
			ACCY		Accessory
			AREA		An Area within Specific Boundaries
			AUXL		Auxiliary
			BELW		Below
			BYND		Object beyond
			CNTR		Centerlines
			DIMS		Dimensions
			FNSH		Surface Finish
			FITG		Fitting
			FIXT		Fixture
			GENL		General Component Elements
			GRID		Grids generic
				BUBL	Grid Bubbles
			HIDE		Hidden lines or objects
			IDEN		Equipment or material system ID
			MATL		Material
			MISC		Elements not covered by other modifiers.
NEWW			NICN		Not in contract
NEWW			NOTE		General Notes
NEWW			NPLT		Non-plotting graphic information
			NPOS		All Non-POS property lines equipment etc.
NEWW			OPEN		Openings, ceiling/roof penetrations, ETC.
			OPTN		Optional elements or equipment
			OTLN		Object Outlines
NEWW			OVHD		Objects Overhead

NEWW			PATT			Floor Pattern or Hatch Patterns
			PHAS			Phasing
			PHTO			Photograph
			PPOS			POS property line
			REVN			Rev Deltas & clouds + revision text
			SIGN			Signs or signage
			SPCL			Specialty equipment
			SYMB			Symbols
		TEMP			Temporary	
		TEXT			Text associated with root	
		UTIL			Utility	
Specific Root Modifiers for Civil Root Layers						
		ACFT				Aircraft
NEWW			CLER			Airplanes turning clearance
			EQMT			Aircraft equipment
			PLNE			Airplanes
			TIED			Aircraft tie-down
NEWW			LBRG			Aircraft People Boarding Bridge
NEWW			LCAB			Aircraft Cab equipment for Boarding Bridge
		ACST				Aircraft control striping
			FOGL			Fog line
			HASH			Striped hashed line
			JANG			J line angle
			JEND			J line end
			JLIN			J line
			JNOS			J line nose
			LSTR			Left straight arrow
			LTRN			Left turn arrow
			RSTR			Right straight arrow
			RTRN			Right turn arrow
			SBAR			Stop bar
			STRA			Straight arrow
			SWLK			Sidewalk
			TEMP			Temporary striping
			TEXT			Aviation systems text
			TWCL			Taxiway center line
			VHCL			Vehicle access route
WING			Stripe wing line			

		AFLD			Airfield
NEWW			AHOA		Aircraft / Helicopter Operations Area
NEWW			AIDC		Airfield Navigational Aid - Critical Area
NEWW			AIDS		Airfield Navigational Aid - Site
			CONC		Airfield concrete
				CJNT	Contraction joint
				EJNT	Expansion joint
				FOOT	Footing
				ISLD	Concrete Island
				JOIN	Concrete joint
				PADS	Concrete pads
				RAMP	Concrete ramp
				SDWK	Concrete sidewalk
NEWW			FLNE		Airfields: fire lane
				MRKG	Airfields: fire lane: pavement markings
				SIGN	Airfields: fire lane: signage
			GFLD		Greenfield
NEWW			GRVL		Airfields: gravel
NEWW			MRKG		Airfields: pavement markings
			NLGT		Airfield navigation lighting
NEWW			OBST		Airspace obstructions
			RNWX		Airfield runway
NEWW				ARST	Runway Arresting Gear Location
NEWW				BLST	Blast pad markings
NEWW				CNTR	Centerline
NEWW				DISP	Displaced threshold markings
NEWW				DIST	Fixed distance markings
NEWW				EDG	Airfield runway edges
NEWW				INTS	Runway intersection
NEWW				LAHS	Runway land and hold short area
NEWW				SAFT	Runway Safety Area
NEWW				SHLD	Shoulder markings
NEWW				SIDE	Side stripes
NEWW				STWY	Runway stop way markings
NEWW				TDZM	Touchdown zone markers
NEWW				THRS	Threshold markers
				APPR	Runway approaches
NEWW			SIDA		Security Identification Display Area
			SIGN		Airfield signs
NEWW			STAN		Airfields: stationing
			TAXI		Airfield taxiway
NEWW			WHIT		Airfields: white paint

			WNDS			Windsock
NEWW			YELO			Airfields: yellow paint
		ALIT				Airfield lighting systems
			ABAN			Lcan_Abn
NEWW			APPR			Approach lights
NEWW			APRN			Apron Lighting
			BASE			Light base
			CABL			Airfield lighting cable
NEWW				MRKR		Airfield lighting cable marker
NEWW				COAX		Coax cable
NEWW				FIBR		Fiber optics cable
NEWW				MULT		Multi-conductor cable
NEWW				TRAY		Cable trays and wire ways
			CIRC			Airfield lighting circuit
			CLRW			Center line runway lights
			COND			Airfield lighting conduit
NEWW			CONS			Constant Current Regulators
NEWW			DBNK			Airfield lighting duct-bank
			DIST			Distance and arresting gear markers and lights
NEWW			EDGE			Airfield lighting Edge elements
NEWW			EMER			Emergency fixtures
NEWW			FAAL			LT FAARW
			EQMT			Airfield lighting equipment
			HNHL			Airfield lighting hand hole
			HOLD			Runway holding light
NEWW			LAND			LIGHT LANDING
			LNDL			Landing light
			MNHL			Airfield lighting manhole
			MRKR			Airfield lighting cable marker
			NTDN			North Tdz light
			PANL			Airfield lighting panel
			PAPI			Light papi
			PBOX			Airfield lighting pull box
			RNWX			FAA runway light
NEWW				CNTR		CNTR Runway Centerline lights
NEWW				DTGS		1 Runway Distance to go lights
NEWW				EDGE		Runway edge lights
NEWW				TDZN		Runway Touchdown Zone lights
			RWEF			Runway edge lights flush
			RWEU			Runway edge lights upright
			RWLL			Runway landing lights
			SIGN			Airfield lighting signs

NEWW			SNSR			Airfield lighting sensor
			STDN			South Tdz light
NEWW			STRC			Airfield lighting Structural elements
			SWBD			Airfield lighting switchboards
			TEXT			Airfield lighting text
			THRS			Thresh Hold light
			TWCL			Taxiway centerline light
NEWW				EDGE		Taxiway edge lights
			WWAG			Wigwag light
C		ALPD				Airport layout plan Drawing
			PDWG			Airplanes layout plan Drawing
		APRN				Airfield apron
NEWW			ACPK			Aircraft gate/stand parking area
NEWW			ANOM			Aircraft non-movement area
NEWW			CNTR			Centerlines
NEWW			DEIC			Aircraft Deicing Area
NEWW			GRND			Grounding points
NEWW			HOLD			Holding position markings
NEWW			JOIN			Apron joints
NEWW			MOOR			Mooring points
NEWW			MRKG			Apron markings
NEWW			OTLN			Airfield apron - outlines
NEWW			SECU			Security zone markings
NEWW			SHLD			Shoulder stripes
NEWW			TEXT			Text
		BLDG				Buildings site
NEWW			BDOR			Building door
			BELV			Building Elevation
			BFND			Building foundation
			BWAL			Building outside wall
			BCOL			Building Columns
			COMR			Commercial Building
			EBLD			Equipment building or enclosure
			FACE			Building face
				CRNR		Building Corner
				JTWY		Jet way
				OVHG		Building overhang
			INDU			Industrial building
				BPLT		Batch-plant
			LOAD			Loading dock
		OFFC			Office building	

NEWW NEWW			RAMP			Building ramp	
				ADAE		Handicap ramp	
			ROFF			Building roof	
			STRC			Building Structural elements	
			TEMP			Temporary building	
				PORT			Portable building
				TRLR			Trailer
			TEXT			Text	
WRHS			Warehouse building				
		BRDG				Bridges site	
NEWW			BFRM			Bridge framework	
			COLM			Bridge column elements	
			DECK			Bridge deck elements	
			FOND			Bridge foundation elements	
			PASS			Passenger Bridge	
			PEDS			Pedestrian	
			TEXT			Text	
			TMBR			Bridge Timber elements	
		CCTV				Cable TV systems	
NEWW NEWW NEWW NEWW			CABL			Cable standard	
				COAX			Coax cable
				FIBR			Fiber optics cable
				MULT			Multi-conductor cable
	TRAY			Cable trays and wire ways			
NEWW			CIRC			Circuit	
			COND			Conduit	
			DISK			Television disk	
			EQMT			Cable TV equipment	
				CRDR			Security access card reader
			HNHL			Communication hand hole	
			JBOX			Junction box	
			MNHL			Manhole	
			OVHD			Cable television system: overhead	
			PANL			Panel	
NEWW			PBOX			Pull box	
			POLE			Cable television system: pole	
NEWW			UGND			Cable television system: underground	
		CDAT				Communications Data and computer systems	
NEWW			CABL			Cable standard	
				COAX			Coax cable

NEWW			FIBR		Fiber optics cable
NEWW			MULT		Multi-conductor cable
NEWW			TRAY		Cable trays and wire ways
			CIRC		Circuit
			COND		Conduit
			EQMT		Generic data and computer systems equipment not associated with other systems
			FIBO		Fiber optic cable
			HNHL		Hand hole
			JBOX		Junction Box
			MNHL		Manhole
			NETW		Network components
NEWW			OVHD		Communications Data : overhead
			PANL		Panel
			PBOX		Pull Box
NEWW			POLE		Cable television system: pole
NEWW			UGND		Cable television system: underground
NEWW			STRC		computer systems Structural elements
			TEXT		Text
		CDSR			Condenser water systems site
			CLTR		Cooling tower elements
			EQMT		Generic condenser water equipment not associated with other systems
			ETNK		Expansion or surge tank
			MNHL		Manhole
			PIPE	ABND	Abandoned condenser water pipe
			PIPE	CAPS	Blind flange or cap
			PIPE	CWRP	Condenser water return pipe
			PIPE	CWSP	Condenser water supply pipe
			PIPE	TEMP	Temporary condenser water pipe
NEWW			PITT		Condenser water pit
			PUMP		Condenser water pumps
			SPRT		Condenser storage water tanks
			STNK		Condenser water tanks
			TEXT		Text
			VALV		Condenser water vaults
			VALT		Vaults
NEWW			VENT		Venting system elements
NEWW			STRC		Condenser water systems Structural elements

CHWR					
					Chilled water systems site
NEWW		EQMT			Generic chilled water equipment not associated with other systems
		ETNK			Expansion or surge tank
		MNHL			Manhole
		PIPE			Chilled water pipe
		PIPE	ABND		Abandoned chilled water pipe
		PIPE	CAPS		Blind flange or cap
		PIPE	CHRT		Chilled water return pipe
		PIPE	CHWS		Chilled water supply pipe
		PIPE	SCHR		Secondary chilled water return pipe
		PIPE	SCHS		Secondary chilled water supply pipe
		PITT			Chilled water pit
NEWW		PIPE	TEMP		Temporary chilled water pipe
		PUMP	PPMP		Primary chilled water pumps
		PUMP	SPMP		Secondary chilled water pumps
NEWW		STNK			Chilled water tanks
		TEXT			Text
		VALT			Chilled water vaults
		VALV			Chilled water valves
NEWW		VENT		Venting system elements	
NEWW		STRC		Chilled water systems Structural elements	
CMPA					
					Compressed air systems
NEWW		ADRY			Compressed air dryer
		COMP			Compressed air piping
		EQMT			Generic compressed air equipment not associated with other systems
		PIPE	ABND		Abandoned compressed air pipe
		PIPE	CAPS		Blind flange or cap
		PIPE	CMPR		Compressed air return pipe
		PIPE	CMPS		Compressed air supply pipe
		PITT			Compressed air pit
NEWW		PIPE	TEMP		Temporary compressed air pipe
		QCON			Quick disconnect
		RCVR			Compressed air receiver
		SPRT			Pipe and equipment supports
		STNK			Compressed air tanks
	TEXT			Compressed Text	
	VALT			Compressed air vaults	

			VALV		Compressed valves	
NEWW			VENT		Venting system elements	
NEWW			STRC		Compressed air systems Structural elements	
NEWW		CPRO			<b>Cathodic Protection site</b>	
NEWW			ABOV		Above	
			ACCY		Accessory	
			ANOD		Anode Terminal or electrode from which electrons leave a system.	
			AREA		An Area within a Specific Boundaries	
			AUXL		Auxiliary	
			BASE		Base	
			BELW		Below	
			BENT		Bent	
				BUBL		Bubbles
				CNTR		Bent centerlines
			CABL			Cathodic cable
			CIRC			Circuits
			CNTR			Centerlines of objects
			COND			Conduit
			CTRL			Control
			DIMS			Dimensions
			EQMT			Cathodic equipment
			FIXT			Fixtures
			GENL			General dock elements
			GRID			Dock grid
				BUBL		Grid Symbol Bubbles
				CNTR		Grid centerlines
				GRND		Ground
				HIDE		Hidden lines or objects
				HNHL		Hand hole
				IDEN		Equipment or material system ID
				JBOX		Junction box
				MISC		Elements not covered by other modifiers.
				MNHL		Manhole
				NPOS		All Non-POS property lines equipment etc.
				OPTN		Object Outlines
				PANL		Panels
	PATT		Object Pattern or Hatch Patterns			
	PHAS		Phasing			
	PHTO		Photograph			
	PILE		Piles			

				AUGR	Auger cast piles
				BATT	Batter piles
				BEAR	Bearing piles
				CONC	Concrete piles
				EXST	Existing piles
				FNDR	Fender piles
				FUTR	Future piles
				MCRO	Micro piles
				MOOR	Mooring piles
				SHTP	Sheet pile
				TIMR	Timber piles
				PIPE	Piping
				PPOS	POS property line
				REVN	Rev Deltas & clouds + revision text
				SIGN	Signs or signage
				SPRT	Pipe and equipment supports
NEWW				STRC	Cathodic systems Structural elements
				SYMB	
NEWW				STNK	Tanks
				TEST	Test stations
				TEXT	Text
				UTIL	Utility
		CTEL			Telephone systems
NEWW				CABL	Telephone cable
NEWW				COAX	Coax cable
NEWW				FIBR	Fiber optics cable
NEWW				MULT	Multi-conductor cable
				TRAY	Cable trays and wire ways
				CIRC	Circuits
				COND	Conduit
				ENCL	Telephone enclosure (booth)
				EQMT	Telephone equipment
				FIXT	Fixtures
				HNHL	Hand hole
				JBOX	Junction box
				MNHL	Manhole
				STCR	Telephone manhole Structure
				PANL	Telephone panels
				POLE	Telephone poles
				TEXT	Text
				VALT	Telephone Vaults
NEWW				STRC	Telephone systems Structural elements

			XFMR			Telephone pole transformer
			CTOW			Control tower
			EQMT			Control tower equipment
			C.STR			Control tower Structure
			CTWR			Communication radio towers
			EQMT			Communication radio tower equipment
			DOCK			Docks and piers site
			ALDR			Access ladders (permanent)
			BEAM			Dock Beams
			BENT			Bent
				BUBL		Bubbles
				CNTR		Bent centerlines
			BLRD			Bollards
			BRTH			Ship Berth
			BULK			Bulkhead
			BULR			Bull rail
			CLET			Cleats
			CONC			Dock concrete
				CURB		Dock curbs
				RBAR		Rebar
			DECK			Deck
				DKDR		Deck drain
				DPNL		Deck panel
			DOLP			Dolphin
			EDGE			Deck edge
			EQMT			Dock equipment
				BAGL		Baggage loading equipment
				CCRN		Container crane
				GCRN		Gantry crane
				HOST		Hoist
				PLOD		Passenger loading equipment
				SCAL		Weigh scales
				SLOD		Ship loading equipment
				WASH		Truck wash
			FHOL			Fire holes in deck
			FLTS			Floats
			FNDR			Fender
			GENL			General dock elements
			GRAL			Guard Rail
			GRID			Dock grid
				BUBL		Grid Symbol Bubbles

			<b>CNTR</b>		Grid centerlines
<b>NEWW</b>			HTCH		Utility Hatch (Ships Hydrant, Water Hatch & Ships Electrical hatch)
			HRAL		Hand Rail
			LADR		Dock Ladders
			LFRG		Life ring
			MFAB		Dock metal fabrication elements
			PCAP		Pile cap
			PILE		Piles
				<b>AUGR</b>	Auger cast piles
				<b>BATT</b>	Batter piles
				<b>BEAR</b>	Bearing piles
			<b>CONC</b>	Concrete piles	
			<b>EXST</b>	Existing piles	
			<b>FNDR</b>	Fender piles	
			<b>FUTR</b>	Future piles	
			<b>MCRO</b>	Micro piles	
			<b>MOOR</b>	Mooring piles	
			<b>SHTP</b>	Sheet pile	
			<b>TIMR</b>	Timber piles	
			PNSK		Pin socket
			PVMT		Dock pavement
			RAIL		Dock Rails
<b>NEWW</b>				<b>CRAN</b>	Crane rail
				<b>STOP</b>	Crane stop
			RAMP		Dock Ramps
			SLEV		Sleeve for utilities
			SPDR		Spreader
			SPRT		Pipe and equipment supports
			STEP		Stairs and platforms
			STGR		Timber stringer
			TEXT		Text
			TIED		Dock tie-down
		TMBR		Timber dock elements	
		WALR		Whaler	
		<b>ENVR</b>			Environmental elements site
<b>NEWW</b>			ASBS		Asbestos contaminated areas
			BORE		Bore hole (test)
<b>NEWW</b>			CIPR		Erosion and sediment control: culvert inlet protection
<b>NEWW</b>			CNTE		Erosion and sediment control: construction entrance
			CTAM		Contaminated soil

NEWW			DDIV			Erosion and sediment control: drainage divides
			DPND			Detention pond
NEWW			DVDK			Erosion and sediment control: diversion dike
			EBAK			Ecology backfill
			EBLK			Ecology block
			ENMT			Environmental mitigation area
			EROS			Erosion and sediment control
			HAZM			Hazmat storage area
NEWW			INPR			Erosion and sediment control: inlet protection
			MWEL			Monitoring well
			RMDS			Remediation system
			SHOR			Shoreline mitigation area
NEWW			SILT			Erosion and sediment control: silt fence
NEWW			SSLT			Erosion and sediment control: super silt fence
			THLE			Test hole (bore)
			TEXT			Text
			WELL			Monitoring well
			WTLN			Wetland environmental area
C		FAAC				FAA communication systems
			CABL			FAA communication cable
				MRKR		FAA communication cable marker
NEWW				COAX		Coax cable
NEWW				FIBR		Fiber optics cable
NEWW				MULT		Multi-conductor cable
NEWW				TRAY		Cable trays and wire ways
			CKPT			FAA Checkpoint
			CIRC			FAA communication circuit
			COMT			FAA communications tower
			COND			FAA communication conduit
			DBNK			FAA communication duct-bank
			EQMT			FAA communication equipment
				ATNA		FAA Antenna
				CEIL		FAA Ceil
				LOCL		FAA Local
			FIBR			FAA fiber-optic communication elements
			MNHL			FAA communication manhole
			PANL			FAA communication panel
			PBOX			FAA communication pull box
NEWW			STRC			communication systems Structural elements

			SWBD		FAA communication switchboards	
			TEXT		FAA communication text	
		FAAL			FAA lighting systems	
NEWW NEWW NEWW NEWW			CABL		FAA lighting cable	
				MRKR	FAA lighting cable marker	
				COAX	Coax cable	
				FIBR	Fiber optics cable	
				MULT	Multi-conductor cable	
				TRAY	Cable trays and wire ways	
				CIRC		FAA lighting circuit
				COND		FAA lighting conduit
				DBNK		FAA lighting duct-bank
				EQMT		FAA lighting equipment
				FEED		FAA lighting feeders
				HNHL		FAA lighting hand hole
				JBOX		FAA lighting Junction box
				MNHL		FAA lighting manhole
				MKRR		FAA lighting cable marker
				PANL		FAA lighting panels
				PBOX		FAA lighting pull box
				RNWX		FAA runway light
		NEWW			STRC	
			SWBD		FAA lighting switchboards	
			SWGR		FAA lighting switchgear	
			TEXT		FAA lighting text	
			XFMR		FAA lighting transformer	
		FAAP			FAA Power systems	
NEWW NEWW NEWW NEWW			CABL		FAA power cable	
				MRKR	FAA power cable marker	
				COAX	Coax cable	
				FIBR	Fiber optics cable	
				MULT	Multi-conductor cable	
				TRAY	Cable trays and wire ways	
				CIRC		FAA power circuit
				COND		FAA power circuit conduit
				DBNK		FAA power duct-bank
				EQMT		FAA power equipment
				FEED		FAA power feeders
				HNHL		FAA power hand hole
				JBOX		FAA power junction box
				MNHL		FAA power manhole
				MRKR		FAA power cable marker

			PANL			FAA power panels
			PBOX			FAA power pull box
<b>NEWW</b>			STRC			FAA Power systems Structural elements
			SWBD			FAA power switchboards
			SWGR			FAA power switchgear
			TEXT			FAA power text
			XFMR			FAA power transformer
		<b>FDSL</b>				Diesel fuel system elements
<b>NEWW</b>			ALRM			Alarm system
			CTRL			Control system
			DISP			Dispenser
			DPIT			Diesel fuel pit
			EQMT			Diesel fueling equipment
			ETNK			Expansion tank
			FCAP			Fuel cap
			FLTR			Diesel fuel filters
			INST			instrumentation (meters, valves, etc.)
			METR			Diesel fuel meter
			PIPE			Piping
			PITT			Diesel fuel pit
				ABND		Abandoned diesel fuel piping
				CAPS		Blind flange or cap
				RPIP		Diesel return pipe
				SPIP		Diesel supply pipe
				TEMP		Temporary diesel fuel pipe
				PUMP		Diesel fuel pumps
				SPRT		Pipe and equipment supports
				STNK		Diesel fuel storage tanks
			TEXT		Text	
			VALT		Diesel fuel valve vault	
			VALV		Diesel fuel valves	
				ABND	Abandoned diesel fuel valves	
<b>NEWW</b>			VENT			Venting system elements
<b>NEWW</b>			UGND			Fuel systems: underground
		<b>FGAS</b>				Fuel gas (gasoline) system elements
<b>NEWW</b>			DISP			Fuel gas dispenser
			EQMT			Fuel gas equipment
			ETNK			Expansion tank
			FLTR			Fuel gas filters
			FTTG			Caps, crosses, and tees

NEWW			INST		instrumentation (meters, valves, etc.)	
			METR		Fuel gas meter	
			PIPE		Piping	
				ABND		Abandoned diesel fuel piping
				CAPS		Blind flange or cap
				FILL		Fill pipe
				RPIP		Fuel gas return pipe
				SPIP		Fuel gas supply pipe
				TEMP		Temporary fuel gas pipe
			PITT		Fuel pit	
			PUMP		Fuel gas pumps	
			SPRT		Pipe and equipment supports	
			STNK		Fuel gas storage tank	
			TEXT		Text	
			VALT		Fuel gas valve vault	
NEWW			VENT		Venting system elements	
NEWW			UGND		Fuel systems: underground	
		FJET			Jet fuel system elements	
NEWW			ALRM		Jet fuel alarm panel and controls	
			FTTG		Caps, crosses, and tees	
			ETNK		Jet fuel expansion/surge tank	
			FLTR		Jet fuel filters	
			FPIT		Jet fuel pit	
			HTCH		Fuel hatch	
NEWW			INST		instrumentation (meters, valves, etc.)	
			METR		Jet fuel meter	
			PIPE		Jet fuel piping	
				ABND		Abandoned jet fuel pipe
				CAPS		Blind flange or cap
				RPIP		Jet fuel return pipe
				SPIP		Jet fuel supply pipe
				TEMP		Temporary jet fuel pipe
			PITT		Jet fuel pit	
			PUMP		Jet fuel pumps	
			SPRT		Pipe and equipment supports	
			STNK		Jet fuel storage tank	
				ALDR		Storage tank ladder or stairs
				MDOR		Storage tank Man-door
				FROF		Floating roof
VALV		Storage tank valves				
VENT		Storage tank vents				
TCSE		Fuel test casing				

			TEXT			Text
			TRCK			Jet fuel truck loading/unloading station
NEWW NEWW NEWW			VALT			Jet fuel vaults
				HATC		Jet fuel vault hatch
			VALV			Jet fuel valves
			VENT			Venting system elements
			UGND			Fuel systems: underground
			STRC			Jet fuel Structural elements
			WAST			Jet fuel waste system elements
				PIPE		Waste fuel pipe
				PUMP		Waste fuel pump
				STNK		Waste fuel storage tank
			VALV		Waste fuel valves	
C		FOIL				Fuel oil system elements
NEWW NEWW			ALRM			Fuel oil alarm panel and controls
			EQMT			Fuel oil equipment
			ETNK			Fuel oil expansion/surge tank
			FLTR			Fuel oil filters
			FTTG			Caps, crosses, and tees
			INST			instrumentation (meters, valves, etc.)
			METR			Fuel oil meter
			PIPE			Fuel oil piping
				ABND		Abandoned fuel oil pipe
				CAPS		Blind flange or cap
NEWW				RPIP		Fuel oil return pipe
				SPIP		Fuel oil supply pipe
				TEMP		Temporary oil gas pipe
			PITT			Fuel oil fuel pit
			PUMP			Fuel oil pumps
NEWW NEWW			SPRT			Pipe and equipment supports
			STNK			Fuel oil storage tank
			TEXT			Text
			VALT			Fuel oil vault
			VALV			Fuel oil valves
			VENT			Venting system elements
UGND			Fuel systems: underground			
		FIRE				Fire protection systems site
			BFPA			Backflow prevention assembly
			BLRD			Bollards
			DELG			Deluge system elements
				PIPE		Deluge system piping

			VALV		Deluge system valves
			DRYP		Dry pipe system elements
			PIPE		Dry pipe system piping
			VALV		Dry pipe system valves
			ENCL		Valve enclosure
			EQMT		Fire protection equipment
			FHOS		Fire hose
			FALM		Fire alarm panel and controls
			FDCN		Fire department connections
			SMSE		Siamese
			FOMS		Foam water system elements
			PIPE		Foam system piping
			PUMP		Foam system pump
			STNK		Foam system storage tank
			VALV		Foam system valves
			HOSE		Fire hose
			CBNT		Fire hose cabinet
			RACK		Fire hose rack
			HYDT		Fire Hydrant
			FLSH		Fire hydrant flush
			METR		Fire meter
			FHOS		Metered fire hose
			PIPE		Fire protection piping
			ABND		Abandoned fire protection pipe
			CAPS		Blind flange or cap
			FSPK		Fire sprinkler line
			TEMP		Temporary pipe
			PUMP		Fire pumps jockey pumps
			SNSR		Sensors
			SPKL		Fire sprinklers
			STDP		Stand pipe
			STNK		Fire protection storage tank
			SPRT		Pipe and equipment supports
			TEXT		Text
			UGND		Fire protection: underground
			VALT		Fire protection valve vault
			VALV		Fire protection valves
			WETP		Wet pipe system elements
			PIPE		Wet pipe system piping
			VALV		Wet pipe system valves
		GNDG			Grounding systems site
			CIRC		Grounding system cables
			COND		Grounding system conduit
			EQMT		Grounding system equipment

NEWW

			GROD		Grounding rod
			HNHL		Grounding system hand hole
			JBOX		Grounding system junction box
			TEXT		Text
		HHWT			Heating hot water systems site
NEWW			BWLR		Boiler and associated equipment
			EQMT		Generic hot water equipment not associated with other systems
			ETNK		Expansion or surge tank
			HEXC		Steam/hot water heat exchanger
			MNHL		Manhole
			PIPE		Heating hot water pipe
				ABND	Abandoned hot water pipe
				CAPS	Blind flange or cap
				HWSP	Hot water supply pipe
				HWRP	Hot water return pipe
				SHWS	Secondary hot water supply pipe
				SHWR	Secondary hot water return pipe
				TEMP	Temporary hot water pipe
				PUMP	Hot water pumps
				PPMP	Primary hot water pumps
				SPMP	Secondary hot water pumps
				SPRT	Pipe and equipment supports
				STNK	hot water tanks
	TEXT	Text			
	VALT	Hot water vaults			
	VALV	Hot water valves			
		IRRG			Irrigation systems
NEWW			CIRC		Control circuit
			COND		Conduit
			CSTA		Valve control station
			FTTG		Caps, crosses, and tees
			EQMT		Generic irrigation equipment not associated with other systems
			PANL		Power/control panel
			PIPE		Irrigation piping
			PUMP		Irrigation pump
			SPRK		Sprinkler head
				FULL	Sprinkler head full coverage
				HALF	Sprinkler head ½ coverage
				HEAD	Sprinkler Head
	IMPL	Sprinkler head Impulse type			
	QRTR	Sprinkler head ¼ coverage			

NEWW			SBOX			Sprinkler box
			SPRT			Pipe and equipment supports
			STNK			hot water tanks
			VALV			Sprinkler valves
			VBOX			Valve box
		IWSS				Industrial waste water sewer systems site
NEWW			CBSN			IWSS catch basin
			COUT			IWSS clean out
			EQMT			Generic IWSS equipment not associated with other systems
			FLSH			IWSS flushing system components
			JBOX			Junction boxes
			LFTS			Lift station (IWSS)
				STCR		IWSS manhole Structure
			MNHL			IWSS manhole
			OWSP			Oil/water separator
			PIPE			IWSS piping
				ABND		Abandoned IWSS piping
				CAPS		Blind flange or cap
				FMAN		Force main piping
				GRAV		Gravity IWSS drain piping
				ROFD		IWSS roof drain piping
				TEMP		Temporary IWSS piping
				WOIL		Waste oil pipe
				PUMP		IWSS lift station pump
				SDRN		IWSS sub-drain elements
			SPRT		Pipe and equipment supports	
			STNK		IWSS storage tank	
NEWW			STRC			Industrial waste water sewer Structural elements
			TEXT			Text
			VALT			IWSS vaults
			VALV			IWSS valves
		LEMG				Emergency lighting systems
NEWW			CABL			cable
NEWW				COAX		Coax cable
NEWW				FIBR		Fiber optics cable
NEWW				MULT		Multi-conductor cable
NEWW				TRAY		Cable trays and wire ways
NEWW			CEIL			Ceiling mounted (surface/pendant) fixtures
			CIRC			Emergency lighting circuits

			COND			Emergency lighting system conduit
				ABND		Abandoned emergency lighting conduit
<b>NEWW</b>			CONS			Constant Current Regulators
			DBNK			Emergency lighting duct bank
			EQMT			Emergency lighting equipment
<b>NEWW</b>			EXIT			Emergency Exit fixtures
			FEED			Emergency lighting feeders
			FIXT			Emergency lighting fixtures
			HNHL			Emergency lighting hand holes
			JBOX			Emergency lighting junction box
			NAVG			Emergency lighting navigation lights marine GYRS system
			PANL			Emergency lighting panels
			POLE			Light poles emergency lighting
			SNSR			Emergency lighting sensor
			TEXT			Text
			VALT			Emergency lighting vaults
<b>NEWW</b>			WAAL			Emergency Wall mounted fixtures
			XFMR			Emergency lighting transformer
			LNDS			Landis and GYR system
			EQMT			Landis and GYR system equipment
			TEXT			Text
			LNOR			Normal lighting systems
<b>NEWW</b>			CABL			cable
<b>NEWW</b>				COAX		Coax cable
<b>NEWW</b>				FIBR		Fiber optics cable
<b>NEWW</b>				MULT		Multi-conductor cable
<b>NEWW</b>				TRAY		Cable trays and wire ways
<b>NEWW</b>			CEIL			mounted (surface/pendant) fixtures
			CIRC			Circuits normal lighting
			COND			Conduit normal lighting
				ABND		Abandoned conduit normal lighting
<b>NEWW</b>			CONS			Constant Current Regulators
			DBNK			Duct bank normal lighting
			EQMT			Equipment normal lighting
			FEED			Feeders normal lighting
			FIXT			Fixtures normal lighting
<b>NEWW</b>			FLRR			Floor mounted fixtures
			HNHL			Hand holes normal lighting

NEWW			JBOX			Normal lighting junction box
			NAVG			Navigation lights marine GYRS system normal lighting
			PANL			Panels normal lighting
			POLE			Light poles normal lighting
			SNSR			Normal lighting sensor
			TEXT			Text
			VALT			Normal lighting vaults
			WAAL			Wall mounted fixtures
		XFMR			Normal lighting transformer	
		METH				Methane system elements
NEWW NEWW			ALRM			Methane system alarm panel and controls
			EQMT			Methane equipment
			METR			Methane meter
			PIPE			Methane piping
				ABND		Abandoned methane pipe
				CAPS		Blind flange or cap
			PREG			Methane pressure regulator
			SPRT			Pipe and equipment supports
			STNK			Methane storage tank
			TEXT			Text
			VALV			Methane system valves
			VENT			Venting system elements
		UGND			Fuel systems: underground	
		MTNK				Miscellaneous storage tanks site
			ALDR			Storage tank ladder or stairs
			DRAN			Tank drain
			FIBR			Fiberglass storage tanks
			MDOR			Man-door
			PLAS			Plastic
			SPRT			Pipe and equipment supports
			STEL			Steel storage tanks
			TEXT			Text
			TVNT			Tank vents
		NGAS				Natural gas system elements
NEWW			ALRM			Natural gas alarm panel and controls
			FTTG			Caps, crosses, and tees
NEWW			EQMT			Natural gas equipment
			INST			instrumentation (meters, valves, etc.)
			METR			Natural gas meter

NEWW			MNHL						
			PIPE			Natural gas piping			
				ABND		Abandoned natural gas pipe			
				CAPS		Blind flange or cap			
			PITT			Natural gas fuel pit			
NEWW			PREG			Natural gas pressure regulator			
			SPRT			Pipe and equipment supports			
			STNK			Natural gas storage tank			
NEWW			STRC			Natural gas Structural elements			
			TEXT			Text			
NEWW			VALV			Natural gas valves			
NEWW			VENT			Venting system elements			
			UGND			Fuel systems: underground			
C		PATH				Paths other than roads or sidewalks			
			BIKE			Bike path			
			PEDS			Pedestrian path			
			TEXT			Text			
	NEWW	PAVE				<b>Generic paved areas (not roads etc.) site</b>			
NEWW			ASPH			Asphalt pavement			
				EDGE		Edge of asphalt pavement			
				SWCT		Saw cut			
				OCON		AC concrete			
					CURB			Paved Roadway curbs	
						CONC			Concrete pavement
							DWY		Concrete driveway
							EDGE		Edge of concrete pavement
							JOIN		Concrete joints
								DWY	
						ASPH			Asphalt driveway
			CONC			Concrete driveway			
			EDGE			Edge of driveway pavement			
NEWW			GROV			Pavement Grooving			
			GRVL			Gravel roads areas			
NEWW			EDGE			Edge of Pavement			
NEWW			JNTS			Construction/ expansion Joints			
NEWW			MRKG			Pavement markings			
NEWW			SDWK			Sidewalk			
				ADAE		Wheelchair access			
NEWW			STRP			Striping			

		PELV			Emergency power low voltage
NEWW			BUSW		Emergency power circuit bus-way low voltage
			CABL		Emergency power low voltage cable
			CEIL		Ceiling mounted
			CIRC		Emergency power circuit low voltage
			COND		Emergency power conduit low voltage
				ABND	Abandoned emergency power conduit low voltage
			DBNK		Emergency power duct bank low voltage
			EQMT		Emergency power equipment low voltage
			EXIT		Exit fixtures
			FEED		Emergency power feeders low voltage
			GRND		Ground For Electrical Power
			JBOX		Emergency power junction box
			METR		Emergency power low voltage meter
				PMTR	Port of Seattle meter emergency power low voltage
				CMTR	City power meter emergency power low voltage
			MONI		Emergency power monitoring system low voltage
			PANL		Emergency power panels low voltage
			PBOX		Emergency power pull box low voltage
			RCPT		Emergency power receptacle low voltage
			REEF		Reefer Receptacle emergency power low voltage
NEWW			STRC		Normal power low Structural elements
			SWBD		Emergency power switchboards low voltage
			SWGR		Emergency power switchgear low voltage
NEWW			WAAL		Wall Elements
			XFMR		Emergency power transformer low voltage
				TCAN	Emergency power transformer can low voltage

		PEMV			Emergency power medium voltage
NEWW			BUSW		Emergency power circuit bus-way low voltage
NEWW			CABL		cable
NEWW			COAX FIBR MULT TRAY		Coax cable
NEWW					Fiber optics cable
NEWW					Multi-conductor cable
NEWW					Cable trays and wire ways
NEWW			CEIL		Ceiling mounted
			CIRC		Emergency power circuit medium voltage
			COND		Emergency power conduit medium voltage
				ABND	Abandoned emergency power conduit medium voltage
			DBNK		Emergency power duct-bank medium voltage
			EQMT		Emergency power equipment medium voltage
NEWW			EXIT		Exit fixtures
			FEED		Emergency power feeders medium voltage
NEWW			GRND		Ground For Electrical Power
			JBOX		Emergency power junction box medium voltage
			METR		Emergency power medium voltage meter
				PMTR	Port of Seattle meter emergency power medium voltage
				CMTR	City power meter emergency power medium voltage
			MONI		Emergency power monitoring system medium voltage
			PANL		Emergency power panels medium voltage
			PBOX		Emergency power pull box medium voltage
			POLE		Emergency power medium voltage pole
				GYWR BASE	Guy wire Power pole base
			RCPT		Emergency power receptacle medium voltage
			REEF		Reefer Receptacle emergency power medium voltage
NEWW			STRC		Emergency power medium voltage Structural elements
			SWBD		Emergency power switchboards medium voltage

			SWGR			Emergency power switchgear medium voltage
			TEXT			Text
NEWW			WAAL			Wall Elements
			XFMR			Emergency power transformer medium voltage
				TCAN		Emergency power transformer can medium voltage
		PKNG				Parking areas and elements
NEWW			ASPH			Parking General Asphalt area
NEWW			CARS			Graphic illustration of cars
NEWW			CONC			Parking General Concrete area
			CURB			Parking area curbs
NEWW			DRAN			Parking lot drainage slope indications
			FIXT			Parking lots: fixtures (wheel stops, parking meters, etc.)
NEWW			FLNE			Parking lots: fire lane
				MRKG		Parking lots: fire lane: pavement markings
NEWW			GRVL			Parking lots: gravel
NEWW			ISLD			Parking islands
			MRKG			Parking lots: pavement markings
			STOP			Parking stops and blocks
NEWW			STRC			Parking areas Structural elements
			STRP			Striping for parking paved areas
NEWW			UPVD			Parking lots: unpaved surface
NEWW			WHIT			Parking lots: white paint
NEWW			YELO			Parking lots: yellow paint
		PLNT				Landscape plants
			EDGE			Edge vegetation
			PLTR			Planter
			SHRB			Shrub
			TREE			Tree
				CONF		Conifer tree
				DCDS		Deciduous tree
			TURF			New seeded area
		PNHV				High voltage systems over 480
NEWW			CABL			Emergency power low voltage cable
NEWW				COAX		Coax cable
NEWW				FIBR		Fiber optics cable
NEWW				MULT		Multi-conductor cable
NEWW				TRAY		Cable trays and wire ways

NEWW			CEIL		Ceiling mounted	
			BUSW		Normal power circuit bus-way high voltage	
			CIRC		Circuits normal power high voltage	
			COND		Conduit normal power high voltage	
			ABND		Abandoned normal power conduit high voltage	
NEWW			CONS		Constant Current Regulators	
			DBNK		Normal power duct-bank high voltage	
			EQMT		Equipment normal power high voltage	
			FEED		Feeders normal power high voltage	
NEWW NEWW NEWW			FLRR		Floor	
			GRND		Ground For Electrical Power	
			GYWR		Guy wire	
			HNHL		Hand holes normal power high voltage	
			JBOX		Normal power junction box high voltage	
NEWW			L480		Elements less than 480v electrical system (e.g. conduits, wires, panels, handholds, vaults, switches, etc)	
			METR		Normal power high voltage meter	
				CMTR		City power meter high voltage
				PMTR		Port of Seattle meter high voltage
				MNHL		Manhole normal power high voltage
				MONI		Normal power monitoring system high voltage
				PANL		Panels normal power high voltage
				POLE		Power poles normal power high voltage
					BASE	Power pole base
					GPST	Guy post
				GYWR	Guy wire	
			TEXT		Text	
NEWW			STRC		High voltage systems over 480 Structural elements	
			VALT		Vaults normal power high voltage	
NEWW			WAAL		Wall Elements	
			XFMR		Normal power transformer high voltage	
				TCAN		Normal power transformer can high voltage

		PNLV			Normal power low voltage systems 120
NEWW			CABL		Normal power low voltage cable
NEWW				COAX	Coax cable
NEWW				FIBR	Fiber optics cable
NEWW				MULT	Multi-conductor cable
NEWW				TRAY	Cable trays and wire ways
NEWW			CEIL		Ceiling mounted
NEWW			CIRC		Circuits normal power low voltage
NEWW			COND		Conduit normal power low voltage
				ABND	Abandoned normal power conduit low voltage
NEWW			CONS		Constant Current Regulators
			DBNK		Normal power duct-bank low voltage
			EQMT		Equipment normal power low voltage
			FEED		Feeders normal power low voltage
NEWW			GRND		Ground For Electrical Power
NEWW			GYWR		Guy wire
			HNHL		Hand holes normal power low voltage
			JBOX		Normal power junction box low voltage
			METR		Normal power low voltage meter
				PMTR	Port of Seattle meter normal power low voltage
				CMTR	City power meter normal power low voltage
			MNHL		Manhole normal power low voltage
			MONI		Normal power monitoring system low voltage
			PANL		Panels normal power low voltage
			POLE		Power poles normal power low voltage
			RCPT		Receptacles normal power low voltage
NEWW			STRC		Normal power low voltage systems 120 Structural elements
			TEXT		Text
			VALT		Vaults normal power low voltage
NEWW			WAAL		Wall Elements
			XFMR		Normal power transformer low voltage
				TCAN	Normal power transformer can low voltage
		PNMV			Normal power medium voltage systems 220-440

			BUSW			Normal power circuit bus-way medium voltage
NEWW			CABL			Normal power low voltage cable
NEWW				COAX		Coax cable
NEWW		FIBR			Fiber optics cable	
NEWW		MULT			Multi-conductor cable	
NEWW		TRAY			Cable trays and wire ways	
NEWW			CEIL			Ceiling Elements
NEWW			CIRC			Circuits normal power medium voltage
				ABND		Abandoned normal power conduit medium voltage
NEWW			COND			Conduit normal power medium voltage
NEWW			CONS			Constant Current Regulators
			DBNK			Normal power duct-bank medium voltage
			EQMT			Equipment normal power medium voltage
			FEED			Feeders normal power medium voltage
NEWW			GRND			Ground For Electrical Power
NEWW			GYWR			Guy wire
			HNHL			Hand holes normal power medium voltage
			JBOX			Normal power junction box medium voltage
			L480			Elements less than 480v electrical system (e.g. conduits, wires, panels, handholds, vaults, switches, etc)
NEWW			METR			Normal power medium voltage meter
				PMTR		Port of Seattle meter medium voltage
				CMTR		City power meter medium voltage
			MNHL			Manhole normal power medium voltage
			MONI			Normal power monitoring system medium voltage
			PANL			Panels normal power medium voltage
			POLE			Power poles normal power medium voltage
				GYWR		Guy wire
				BASE		Power pole base
			RCPT			Receptacles normal power medium voltage
			SUBS			Substation normal power medium voltage

				BASE		Substation equipment base
NEWW				STRC		Normal power medium voltage systems 220-440 Structural elements
				TEXT		Text
				VALT		Vaults normal power medium voltage
NEWW				WAAL		Wall Elements
				XFMR		Normal power transformer medium voltage
				TCAN		Normal power transformer can medium voltage
		POND				Ponds site
NEWW				EDGE		Ponds: edge
				INLT		Inlet Structure for pond
				CONC		Concrete inlet Structure for pond
				PIPE		Inlet pipe
				RIPR		Riprap inlet Structure for pond
				OUTL		Outlet Structure for pond
				CONC		Concrete inlet Structure for pond
				RIPR		Riprap inlet Structure for pond
				PIPE		Outlet pipe
				OVFL		Overflow Structure for pond
NEWW				SWAY		Ponds: spillway
NEWW				TOPB		Ponds: top of bank
		PROP				Property and property management site
				BNDY		Property: Boundaries lines
NEWW				BERM		Berms
NEWW				BRKW		Breakwater
NEWW				BULK		Bulkheads
NEWW				CONS		Construction limits/controls, staging area
NEWW				DAMS		Dams, run off control
				ESMT		Easements
				FENC		Fences
				ASPH		Fence at Asphalt
				CLNK		Chain link fence
NEWW				GRAL		Fences: guard rail
				POST		Fence post
NEWW				STEL		Fences: steel (barbed wire and/or chain link)
				TEMP		Temporary/construction fence

NEWW			WOOD		Fences: wood
			GATE		Gates
			CBOX POST		Gate control box
					Gate posts
			HARB		Harbor lines
			LEAS		Lease line and areas
			LEGL		Legal descriptions
NPOS		Non Port of Seattle property lines			
NEWW			MEAN		Mean water levels, tides
			PARK		All parks
			PHLN		Pier head lines
			PHTO		Photographs images
			PPKG		Public parking areas
			PPOS		Port of Seattle property lines
			CRNR LEAS		Port of Seattle property corner
					Port of Seattle lease line
			PUBA		Public access areas
			NEWW		
RTWY		Right of way			
NEWW			SBCK		Property: setback lines
			SIGN		Signs (non traffic)
NEWW NEWW			STEP		Site or landscaping steps
			STRC		Property Structural elements
			TEXT		Text
			WTRW		Channels canals and waterways
		PRPN			Propane system elements
NEWW			ALRM		Propane system alarm panel and controls
			FTTG		Caps, crosses, and tees
			EQMT		Propane equipment
NEWW			INST		instrumentation (meters, valves, etc.)
			METR		Propane meter
			PIPE		Propane piping
			ABND CAPS		Abandoned propane pipe
	Blind flange or cap				
NEWW NEWW NEWW			PREG		Propane pressure regulator
			SPRT		Pipe and equipment supports
			STNK		Propane tanks
			VENT		Venting system elements
			UGND		Fuel systems: underground

C		POWR			Civil Power for site
NEWW			CABL		Power Cables
NEWW				COAX	Coax cable
NEWW				FIBR	Fiber optics cable
NEWW				MULT	Multi-conductor cable
NEWW				TRAY	Cable trays and wire ways
NEWW			CIRC		Power circuits
			CMTR		CITY OWNED POWER METERS
			CNDT		Power conduit underground
NEWW			CRAN		ELEMENTS OF CRANE POWER SYSTEMS (e.g. MAIN SWITCH GEAR, POWER FEED, POWER TRENCH, ISOLATION CIRCUITS, ETC)
NEWW			CTRL		ELECTRICAL Power CONTROL SYSTEMS
			DUCT		Center line power conduit
			GRND		Ground rod box
NEWW			GYRS		Landis gyrs system
NEWW			GYWR		Guy wire
NEWW			G480		ELEMENTS GREATER THAN 480V ELECTRICAL SYSTEM (e.g. CONDUITS, WIRES, PANELS, HANDHOLDS, VAULTS, SWITCHES, ETC)
			HNHL		Power hand hole
NEWW			INST		Power: instrumentation (meters, transformers)
			JBOX		Power junction box
			LITE		Lite
NEWW			L480		ELEMENTS LESS THAN 480V ELECTRICAL SYSTEM (e.g. CONDUITS, WIRES, PANELS, HANDHOLDS, VAULTS, SWITCHES, ETC)
			METR	HOSE	2el met. Fire hose d. Water
				MTR?	2 power meters
			MNHL		Manhole power
NEWW			MONI		Power Monitoring, site utility
NEWW			OVHD		Power: overhead
NEWW			PANL		Elect. Power Panel
NEWW			PMTR		POS Water meters
			POLE		Pole w/light
				GYWR	Guy wire anchor
				GYWR	Guy post
				LITE	Lightpole_2meters
			REEF		Reefer outlet

NEWW			SNSR			Sensor
			STCR			Power manhole Structure
			STRC			Power Structural elements
			SUBS			Power substation
			TELM			Telemetry Equipment
			TREN			Power trench
			UGND			Power: underground
			UNKN			Unknown objects associated with root
			VALT			Power vault
			XFMR			Transformer can
		RLRD				Railroads site
NEWW			CNTR			Railroad centerlines
			CROS			Railroad crossing
			EQMT			Generic railroad equipment not associated with other systems
			FROG			Railroad Frog
			LUBE			Railroad flange lubricator
			SGNL			Railroad signal
			SIDG			Railroad siding
			SIGN			Traffic signs
			SPUR			Railroad spur
			SWCH			Railroad switch
			TEXT			Text
			TRAK			Railroad track
			YARD			Railroad Yard
		ROAD				Roads site
NEWW			AROD			Access road
			ASPH			Asphalt road
			BRCK			Brick road
			CNTR			Road centerlines
			CONC			Concrete road
			CURB			Roadway curbs
				ASPH		Asphalt curb
				CAST		Pre-cast curb
				CTOP		Curb top
				ETRD		Extruded curb
				GUTR		Curb and gutter
				LINE		Curb line
				STOP		Wheel stops
			EDGE			Edge of road
			FLNE			Roadways: fire lane

NEWW			GRAL		Guardrails
			GRVL		Gravel road
NEWW			MRKG		Roadways: pavement markings
			RPNT		Road survey points
			RSTA		Road stationing
			SDWK		Sidewalk
			SIGN		Traffic signs
NEWW			STAN		Roadways: stationing
NEWW			STRP		Striping
			TEXT		Text
NEWW			UPVD		Roadways: unpaved surface
NEWW			WHIT		Roadways: white paint
NEWW			YELO		Roadways: yellow paint
<b>SITE</b>					
					<b>Civil Site Elements</b>
			APIT		Air service pit
				VENT	Air vent
			AWTR	PITT	Air water pit
			BNCH		Park bench
			EQMT		Machine
				FARM	Fire alarm
				PUMP	Pump
				PUMP	Sump pump
			FENC		Fence
				ASPH	Fence at asphalt
				CLNK	Fence chain link
				CRDR	Card reader
				CRNR	Fence corner
				GATE	Gate
				GATE	Gate control box
				GATE	Gate post
				TEMP	Fence temporary
			HTCH		Misc. hatch
			MLBX		Mailbox
			RPRP		Rip rap
			RRCK		Rat rock
			VALT		Vault corner
			VALT		Vault corner
			VENT		Vent
			WPIT		Water service pit
<b>SFNC</b>					
					Security Fence
			AOPF		Airside operations security fence
			BLST		Blast fence
			FAAF		FAA security fence

		SGAT			Security control gates
		FAAG			FAA secure area access gate
		SRVY			Survey data
		ALGN			Alignment
		BENC			Benchmarks
		BNDY			Survey boundary
		BRNG			Bearing and distance
		CLIN			Survey control lines
		CRNR			Surveyed corner
		DATM			Datum information
		GRID			Grid system
			LAMB		Lambert system
			STIA		SeaTac system
			TIDE		Tideland system
		MONS			Survey monuments
			RMON		Row monument
			WMON		Water monument
		PONT			Survey point data
			TEXT		Survey point text
		SNDG			Sounding data
			TEXT		Sounding data text
		TEXT			General text
		TRAV			Traverse data
			BCRV		Beginning of curve
			BSLN		Baseline
			CHEK		Traverse check
			CPNT		Control points
			ECRV		End of curve
			INST		Instrument setup
			PCRV		Point of curve
			PTAN		Point of tangent
			RADI		Radius of curve
			TEMP		Temporary traverse data
			TEXT		Traverse text
		SSWR			Sanitary sewer systems
		CBSN			Catch basin
		COUT			Clean out
		EQMT			Generic sanitary sewer system equipment not associated with other systems
		FLOW			Flow line sewer
NEWW		FORC			Sanitary sewer: force main
NEWW		FTTG			Caps, crosses, and tees

NEWW			JBOX		Junction boxes
	NEWW		LATL		Sanitary sewer: lateral line
			LFTS		Lift station
				PUMP	Lift station pumps
			MNHL		Manhole
				COMB	Combined manhole (sewer / storm)
				STCR	Manhole Structure
			OWSP		Oil Water or Grease Separator
NEWW			PUMP		Sanitary sewer Pump elements
			PIPE		Piping
				ABND	Abandoned sanitary sewer pipe
				CAPS	Blind flange or cap
				FMAN	Force main piping
				GRAV	Gravity drain piping
				STUB	Pipe stub
				TEMP	Temporary IWSS piping
			SPRT		Pipe and equipment supports
NEWW			STAN		Sanitary sewer: stationing
NEWW			STRC		Sewer Structural elements
NEWW			UGND		Sanitary sewer: underground
			TEXT		Text
NEWW			VENT		Sanitary sewer Venting elements
			VALT		Vaults
			VALV		Valves
			STEM		Steam systems site
NEWW			FTTG		Caps, crosses, and tees
			EQMT		Generic steam equipment not associated with other systems
NEWW			INST		Steam system: instrumentation
			MNHL		Manhole
			PIPE		Piping
				CAPS	Blind flange or cap
				EXPJ	Expansion joint
			SPRT		Pipe and equipment supports
			TEXT		Text
			TRAP		Steam trap
				BUCK	Bucket type steam trap
NEWW			UGND		Steam system: underground
			VALT		Vaults
			VALV		Steam valves
NEWW			VENT		Steam Venting system elements

		STRC		Structural elements site
NEWW			BASE	Equipment Support Base
			BCNV	Baggage conveyor
			BLOK	Concrete block
			CONC	Concrete site elements
			CTWK	Catwalk
			FOOT	Structural footing
			HRAL	Handrail
			JOIN	Structural joint
			CNST	Construction joint
			EXPJ	Expansion joint
NEWW			MFAB	Metal fabrications
			MPLT	Metal plate
			PADS	Structural elements site pads
			PFRM	Platform
			POST	Structural post
			METL	Metal post
			WOOD	Wood post
			RAMP	Ramp
			CONC	Concrete ramp
			LOAD	Loading ramp
			METL	Metal ramp
			RPRP	Rip-rap
			RRCK	Rat-rock
			RTWL	Retaining wall site structures
			FACE	Face of retaining wall
			TOPW	Top of retaining wall
			RUBL	Concrete rubble
			SCOL	Structural columns site
			CRNR	Column corner
			SDEK	Structural deck site
			SDWK	Sidewalk site
			SFAB	Structural fabrications site
			SFND	Structural foundations site
			FOOT	Foundation footings site
			PILE	Foundation piles site
			SFRM	Structural framework site
			SIGN	Sign elements
			BASE	Sign support base
			SBRG	Sign-bridge
			SLEV	Sleeve for utilities
		SPAD	Structural concrete pads	
		SSLB	Structural slab site	
		STEP	Stairs site	

			STWL		Structural walls site
			TMBR		Structural timber site
		STRM			Storm sewer systems
NEWW			CBSN		Catch basin
			CHUT		Chutes and concrete erosion control Structures
			CLVT		Culvert
			CNTR		Storm sewer: center
			COUT		Clean out
				CONC	Concrete culvert
			DRAN		Storm drain
				RDRN	Roof storm drain
				UNKN	Unknown storm drain
			DTCH		Drainage ditch
			EQMT		Generic storm water equipment not associated with other systems
			FLOW		Flow line
			FLSH		Gutter flush
	NEWW			FMON	Flow monitoring station
NEWW			FTTG	Caps, crosses, and tees	
			GUTR	Gutter	
NEWW			HWAL	Headwalls and end walls	
			LFTS	Lift station	
				PUMP	Lift station pumps
			MNHL	Manhole	
NEWW				COMB	Combined manhole (Sewer/ Storm)
				MTRO	Metro storm manhole
				UNKN	Unknown storm manhole
				STCR	Manhole storm water Structure
				OFAL	Storm System Outfalls
				OWSP	Storm oil water separator
				PIPE	Piping
					ABND
				CAPS	Blind flange or cap
				FCMN	Force main piping
				GRAV	Gravity drain piping
				HALF	Gutter pipe half
				NPRF	Non-perforated pipe
				PERF	Perforated pipe
				ROFD	Roof drain
				STUB	Storm pipe stub
				UNKN	Unknown drain

NEWW			RFDR			Roof drain line
NEWW			RISR			Storm drain risers
			SPRT			Pipe and equipment supports
NEWW			STAN			Storm sewer: stationing
NEWW			STRC			Storm sewer Structural elements
NEWW			SUBS			Subsurface drain piping
			TEXT			Text
NEWW			VENT			Storm sewer Venting system elements
			UDRN			Under-drain elements
NEWW			UGND			Storm sewer: underground
			VALT			Vaults
			VALV			Valves
		SYRD				Ship yard site
			EQMT			Generic ship yard equipment not associated with other systems
			FENC			Security fence
			GATE			Entrance and exit gates
			SBOT			Security booth
			SCAL			Weigh scales
				EQMT		Scale equipment
				SPIT		Scale pit
			SIGN			Shipyards signs
				CLOC		Shipyards container location signs
				SGNL		Shipyards traffic signals
				TSGN		Shipyards traffic signs
			SPRT			Pipe and equipment supports
			WASH			Truck wash system equipment
		TOPO				Topography site
			APPR			Runway approaches
NEWW			AUCO			Noise Complaint
NEWW			AUST			Noise Monitoring Station
NEWW			AUZN			Noise Contour/Zone
NEWW			BKLN			Break lines
NEWW			BORE			Boring locations
			CREK			Creek
				EDGE		Edge of creek
				FLIN		Creek flow line
NEWW			DEPR			Topographic feature: depression
NEWW			GRVL			Topography Gravel
			GRAD			Grading limits
NEWW			FLZN			Flood Zone

NEWW NEWW			MAJR		Major contours
			MINR		Minor contours
			NCTR		Normal contour
			EXST		Existing grades
			GRAD		Finished grade
			GRBR		Grade break
			ORGR		Original ground
			RIVR		River
			EDGE		Edge of river
			FLIN		River flow line
NEWW			RTWL		Retaining wall
			SHOR		Shoreline
			EDGE		Edge of shoreline
			SLOP		Slopes
			TOES		Toe of slope
			TOPS		Top of slope
NEWW NEWW NEWW			SLTP		Top/toe slopes
			SOUN		Soundings
			SPOT		Spot elevations
			SUBG		Sub-grades
			GRVL		Gravel sub-grade
NEWW			TPIT		Topographic feature: test pits
			TEXT		Text
			WTRW		Waterways
			EDGE		Edge of water
			XCTR		Index contours
		TRAF			Traffic control devices and signage
NEWW			ATTE		Attenuators traffic
			BARR		Barriers traffic
			JRSY		Jersey barrier
			GRAL		Guard rails
			ISLD		Traffic islands
			LOAD		Traffic load limits
			MBOX		Mail box
			PANL		Traffic signal control panels
			POST		Traffic control post Structure
			SIGN		Traffic signs
			BASE		Sign support base
			DNOT		Do not enter sign
		ESGN		Electric traffic sign	
		LTRN		Left turn arrow	
		RTRN		Right turn arrow	

			SIGN		Traffic signs
			SBAR		Stop bar
			SDWK		Sidewalk
			SLIM		Speed limit text
			SPST		Sign post
			STOP		Stop sign
			STRT		Straight arrow
			TEMP		Temporary striping
			TEXT		Traffic control/warning text
			WARN		Warning sign
			YELD		Yield sign
			SGNL		Traffic signals or electrical signals
			STRP		Traffic control striping (paint stripe)
			FOGL		Fog line
			HASH		Hashed stripe
			LSTR		Left straight arrow
			LTRN		Left turn arrow
			RSTR		Right straight arrow
			RTRN		Right turn arrow
			SBAR		Stop bar
			STRT		Straight arrow
			YELD		Yield sign
			TPST		Traffic posts
			GARD		Guard posts
		TUNL			Tunnels (railroad roadway transit and utility tunnels)
			EQMT		Generic tunnel equipment not associated with other systems
			HGWY		Highway/roadway tunnel
			TSTR		Tunnel Structure
			RDWY		Roadway tunnel
			TSTR		Tunnel Structure
			RRTN		Railroad tunnel
			TSTR		Tunnel Structure
			TRAN		Transit tunnel
			TSTR		Tunnel Structure
			UTIL		Utility tunnel
			TSTR		Tunnel Structure
		WATR			Domestic water systems site
NEWW			ABND		Abandoned piping
			BKFL		Backflow preventer
			CMTR		City Meter
			DCBA		Double check backflow assembly

NEWW		DEVC		Connectors, faucets, reducers, regulators, etc.	
		DOMW		Domestic cold water	
		FTTG		Caps, cleanouts, crosses, and tees	
		EQMT		Generic domestic water equipment not associated with other systems	
		FHOS		Fire hose	
		ETNK		Expansion or surge tank	
		HBIB		Domestic water hose Bibb	
		HYDT		Hydrants	
		FHYD		Fire hydrant	
		SHIP		Ship's hydrant	
		WHYD		Wall hydrant	
		YARD		Yard hydrant	
	NEWW		INST		Water supply: instrumentation
			LFTS		Lift station
		METR		Meter (non Port of Seattle)	
		MNHL		Manhole	
		STCR		Manhole water Structure	
NEWW		NHYD		Non-potable hydrants/flushing hydrants	
		PIPE		Domestic water pipe	
		ABND		Abandoned water pipe	
		CAPS		Blind flange or cap	
		FPRO		Fire protection piping	
		SMON		Water monument	
NEWW		TEMP		Temporary water pipe	
		PITT		Water pit	
		PMTR		Port of Seattle water meter	
		PUMP		Domestic water pumps	
		RPBA		Reduced pressure backflow assembly	
NEWW		RSVR		Reservoirs	
		SPGT		Water spigot	
		SPRT		Pipe and equipment supports	
NEWW		STAN		Water supply: stationing	
		STNK		Domestic water tanks	
NEWW		STRC		Water Structural elements	
		TEXT		Text	
		VALT		Vaults	
		VALV		Valves	
NEWW		VENT		Vent pits	
		UGND		Water supply: underground	
		WELL		Water wells	
Requires Optional Modifier for Elements Matching Layer Description					

# Landscaping Layers

Some 1<sup>st</sup> Optional Root Modifiers have been specified in the standard. If the object or element being drawn matches the layer description notes, the 1<sup>st</sup> Optional Root Modifier indicated must be used. The intent is to provide a consistent method of identifying the most common elements found throughout the Port of Seattle's properties and infrastructure. Objects or elements found on incorrect layers during the QC review process will be flagged as errors and will need to be corrected.

## **Notes for Landscape Drawings:**

1. To the greatest extent possible, the layer standards are divided into "systems". All utilities, equipment, structural elements, etc., associated with a "system" must be placed on layers associated with that "system".
2. Do not place text, notes, leaders, etc., on X-Refs. These should be placed on each individual drawing. Text and pattern X-Ref's that are sized for the drawing they are attached to are acceptable.
3. For landscape utility plans, place all piping and fittings on piping layers. Put valves on valve layers, equipment on equipment layers, symbols on symbol layers, etc., (i.e., do not put valves on equipment layers or symbols on piping layers, etc.). This prevents issues associated with drawings at different scales. Align all valves with the piping in the direction of flow.

Trade	Level	Root	Root Modifier	1st Optional Modifier	2nd Optional Modifier	Description
<b>L</b>						
		FOUN				Fountain
		IRRG				Irrigation systems
		LBRG				Landscape Bridge
		LDEK				Landscape deck
		LFEA				Landscape features
		LFUR				Landscape furniture
		LLIT				Landscape lighting
		PATH				Landscape paths other than sidewalks
		PLNT				Planted areas and components
		POND				Landscape ponds
NEWW		PVMT				Landscape Pavement
NEWW		SITE				Landscape Site Elements
NEWW		TOPO				Topographic feature
<b>Additional Root Modifiers for Landscaping Root Layers only</b>						
			GCOV			Ground coverage
			GRPH			Graphic images or renderings
			LCOV			Landscape groundcover
			SLEV			Sleeve for utilities
			STAN			Stationing data (pipe, project, etc.)
<b>Generic Root Modifiers for All Landscaping Root Layers</b>						
			ABOV			Above
			ACCY			Accessory
			AREA			An Area within Specific Boundaries
			AUXL			Auxiliary
			BELW			Below
			BYND			Object beyond
			CNTR			Centerlines

		DIMS			<i>Dimensions</i>
		FNSH			<i>Surface Finish</i>
		FITG			<i>Fitting</i>
		FIXT			<i>Fixture</i>
		GENL			<i>General Component Elements</i>
		GRID			<i>Grids generic</i>
			BUBL		<i>Grid Bubbles</i>
		HIDE			<i>Hidden lines or objects</i>
		IDEN			<i>Equipment or material system ID</i>
		MATL			<i>Material</i>
		MISC			<i>Elements not covered by other modifiers.</i>
NEWW		NICN			<b>Not in contract</b>
NEWW		NOTE			<b>General Notes</b>
NEWW		NPLT			<b>Non-plotting graphic information</b>
		NPOS			<i>All Non-POS property lines equipment etc.</i>
NEWW		OPEN			<b>Openings, ceiling/roof penetrations, ETC.</b>
		OPTN			<i>Optional elements or equipment</i>
		OTLN			<i>Object Outlines</i>
NEWW		OVHD			<b>Objects Overhead</b>
		PATT			<i>Floor Pattern or Hatch Patterns</i>
		PHAS			<i>Phasing</i>
		PHTO			<i>Photograph</i>
		PPOS			<i>POS property line</i>
		REVN			<i>Rev Deltas &amp; clouds + revision text</i>
		SIGN			<i>Signs or signage</i>
		SPCL			<i>Specialty equipment</i>
		SYMB			<i>Symbols</i>
NEWW		TEMP			<b>Temporary</b>
		TEXT			<i>Text associated with root</i>
		UTIL			<i>Utility</i>

**Additional Optional Root Modifiers for All Landscaping Valve Layers (Only)**

		FOUN			Fountain
			VALV	ANGL	Angle valves
				AVAC	Air/vacuum valves
				BFLY	Butterfly valve
				BVLV	Ball valves
				CHEK	Check valves
				DRAN	Drain valves
				FCVL	Flow control valves
				FREZ	Freeze protection valves
				GLOB	Globe valves
				GVLV	Gate valves
				PIVL	Post indicator valve
				PLUG	Plug valves
				PREG	Pressure regulator valve
				SAFE	Safety valves
				STRN	Strainers
		VVLV	High point vent valves		
		FOUN			Fountain
			VALV	ANGL	Angle valves
				AVAC	Air/vacuum valves
				BFLY	Butterfly valve
				BVLV	Ball valves
				CHEK	Check valves
				DRAN	Drain valves
				FCVL	Flow control valves
				FREZ	Freeze protection valves
				GLOB	Globe valves
				GVLV	Gate valves
				PIVL	Post indicator valve
				PLUG	Plug valves
				PREG	Pressure regulator valve
				SAFE	Safety valves
				STRN	Strainers
		VVLV	High point vent valves		
		POND			Fountain
			VALV	ANGL	Angle valves
				AVAC	Air/vacuum valves
				BFLY	Butterfly valve
				BVLV	Ball valves
				CHEK	Check valves

			DRAN		Drain valves
			FCVL		Flow control valves
			FREZ		Freeze protection valves
			GLOB		Globe valves
			GVLV		Gate valves
			PIVL		Post indicator valve
			PLUG		Plug valves
			PREG		Pressure regulator valve
			SAFE		Safety valves
			STRN		Strainers
			VVLV		High point vent valves
<b>Specific Root Modifiers for Land Scene Root Layers</b>					
		FOUN			<b>Fountain</b>
			CIRC		Power circuit
			CTRL		Control station
			PANL		Fountain power/control panel
			PIPE		Fountain water piping
			PUMP		Fountain pumps
			SPRT		Pipe and equipment supports
			VALV		Fountain valves
<b>Irrigation systems</b>					
		IRRG			<b>Irrigation systems</b>
			CIRC		Control circuit
			COND		Conduit
NEWW			COVR		<b>Irrigation coverage, spray distribution patterns</b>
			CSTA		Valve control station
NEWW			DRIP		<b>Irrigation: drip irrigation tubing</b>
			EQMT		Irrigation: equipment (pumps, valves, and controllers)
NEWW			LTRL		Irrigation: lateral pipe
NEWW			MAIN		Irrigation: mainline
			PANL		Power/control panel
			PIPE		Irrigation piping
			PUMP		Irrigation pump
NEWW			SLVE		<b>Irrigation: pipe sleeve</b>
			SPRK		Sprinkler head
			FULL		Sprinkler head full coverage
			HALF		Sprinkler head ½ coverage
			HEAD		Sprinkler Head
			IMPL		Sprinkler head Impulse type
			QRTR		Sprinkler head ¼ coverage

			SPRT			Pipe and equipment supports
			VALV			Valves
			VBOX			Valve box
		LBRG				<b>Landscape Bridge</b>
			CONC			Concrete Landscape Bridge
			ROCK			Rock Landscape Bridge
			WOOD			Wood Landscape Bridge
		LDEK				<b>Landscape deck</b>
			CONC			Concrete deck
			FLLD			Deck floor load schedule
			WOOD			Wood deck
		LFEA				<b>Landscape features</b>
			LFEN			Landscape fence
			LROK			Landscape rocks
		LFUR				<b>Landscape furniture</b>
			BNCH			Bench
			TBLE			Table
		LLIT				<b>Landscape lighting components low voltage</b>
			CIRC			Landscape lighting circuit low voltage
			LSTA			Lighting control station
			PANL			Landscape lighting panel
		PATH				<b>Landscape paths other than sidewalks</b>
			ASPH			Asphalt paths
			BIKE			Bicycle paths
			CNTR			Path centerline
			GRVL			Gravel paths
			PEDS			Pedestrian paths
			STON			Stepping stones
			STRP			Striping
		PLNT				<b>Planted areas and components</b>
			ACCY			Accessory
			BEDS			Planting beds general
			BUSH			Landscape bushes
				DCID		Deciduous bushes
				EGRN		Evergreen bushes

NEWW			CONI			Plant and landscape material: coniferous trees
						Plant and landscape material: container or planter
NEWW			CTNR			Plant and landscape material: container or planter
			CNST			Construction
NEWW			EDGE			Plant and landscape material: planting bed edger
			EVGR			Plant and landscape material: evergreen trees - broadleaf
			FLWR			Flower beds
				ANUL		Annual flower beds
				PERR		Perennial flower beds
			GCOV			Plant and landscape material: ground cover
			GRAD			Finished grade
			GRSS			Grass areas
				EXST		Existing grass areas
				NEWG		New grass areas
			LIST			Plant list
			MATL			Material
			MISC			Elements not covered by other modifiers.
	NEWW			MLCH		
NEWW			PALM			Plant and landscape material: palm trees
			PLTR			Planter vegetation
			RWAL			Retaining wall
				CONC		Concrete retaining wall
				ROCK		Rock retaining wall
			TMBR		Timber retaining wall	
NEWW			SEED			Plant and landscape material: seeding areas
NEWW			SHAD			Plant and landscape material: shadow area
			SFTY			Safety equipment
			SHRB			Shrub
				CONF		Coniferous shrub
				DCDS		Deciduous shrub
			SIGN			Signs or signage
			SOIL			Planting soil or mix
			SPCL			Specialty equipment
		SPRT			Planter and equipment supports	

			SWAL			Landscape drainage swale
				FLIN		Drainage flow line
			TREE			Tree
				CONF		Coniferous Tree
				DCDS		Deciduous Tree
				SHAD		Shade Tree
NEWW			TURF			Plant and landscape material: lawn areas
NEWW			VINE			Plant and landscape material: vines
		POND				Landscape ponds
			CIRC			Power circuit
			CTRL			Control station
			EQMT			Generic pond equipment not associated with other systems
			PANL			Pond power/control panel
			PIPE			Pond water piping
			PUMP			Pond pumps
			SPRT			Pipe and equipment supports
			VALV			Pond water valves
			WTRB			Water bodies
			WTRW			Waterway or stream
		PVMT				Landscape Pavement
NEWW			ASPH			Pavement: asphalt
NEWW			BRCK			Pavement: brick
NEWW			CONC			Pavement: concrete
NEWW			GRVL			Pavement: gravel
NEWW			JNTC			Pavement: control joint
NEWW			JNTE			Pavement: expansion joint (for concrete only)
NEWW			PAVR			Pavement: unit pavers
NEWW			RAMP			Pavement: accessible ramp
NEWW			STRS			Pavement: stair treads
		SITE				Landscape Site Elements
NEWW			BRDG			Bridges
NEWW			CURB			Site features: curb
NEWW			DECK			Decks
NEWW			FENC			Fencing
NEWW				LINK		Fences: chain link
NEWW				PRVC		Fences: privacy
NEWW				WOOD		Fences: wood

NEWW			GATE			Gate
NEWW			PLAY			Play Structures
NEWW			POOL			Pools and spas
NEWW			PRKG			Site features: parking
NEWW			ROAD			Site features: edge of roadway line
NEWW			ROCK			Boulders and cobble
NEWW			RRAP			Site features: riprap
NEWW			RTWL			Retaining walls
NEWW			SPRT			Sports fields
NEWW			STEP			Site features: steps
NEWW			SWLK			Site features: sidewalks and steps
NEWW			TUNL			Tunnels
NEWW			TRAL			Site features: trail or path
NEWW			WALL			Site features: walls
		TOPO				<i>Topographic feature</i>
NEWW			LIMI			Topographic feature: limit of earthwork
NEWW			SPOT			Topographic feature: spot elevations

# Architectural Layers

Some 1<sup>st</sup> Optional Root Modifiers have been specified in the standard. If the object or element being drawn matches the layer description notes, the 1<sup>st</sup> Optional Root Modifier indicated must be used. The intent is to provide a consistent method of identifying the most common elements found throughout the Port of Seattle's properties and infrastructure. Objects or elements found on incorrect layers during the QC review process will be flagged as errors and will need to be corrected.

## **Notes for Architectural Drawings:**

1. To the greatest extent possible, the layer standards are divided into "systems". All utilities, equipment, structural elements, etc., associated with a "system" must be placed on layers associated with that "system".
2. Do not place text, notes, leaders, etc., on X-Refs. These should be placed on each individual drawing. Text and pattern X-Ref's that are sized for the drawing they are attached to are acceptable.

Trade	Level	Root	Root Modifier	1st Optional Modifier	2nd Optional Modifier	Description
<b>A</b>						
<b>NEWW</b>		APPL				All Appliances for the kitchen office etc.
		<b>BAGS</b>				<b>Baggage and components</b>
		CLNG				Ceilings and components
		COLS				Columns design and components
		DOOR				Doors
		ESCL				Escalators and components
		EVTR				Elevators and components
		FLOR				Floors and components
		FURN				Furniture and elements
		FXTR				Fixtures and their components
		GLAZ				Glazing and window elements
		HYGN				Health and Safety including asbestos abatement
		LADR				Ladders and their components
		ROOF				Roof
	STAR				Stairs and their components	
	WALL				Walls	
<b>Generic Root Modifiers for All Architectural Root Layers</b>						
			ABOV			Above
			ACCY			Accessory
			AREA			An Area within Specific Boundaries
			AUXL			Auxiliary
			BELW			Below
			BYND			Object beyond
			CNTR			Centerlines
			DIMS			Dimensions
			FNSH			Surface Finish
			FITG			Fitting
			FIXT			Fixture
			GENL			General Component Elements
			GRID			Grids generic
				BUBL		Grid Bubbles
			HIDE			Hidden lines or objects
			IDEN			Equipment or material system ID
			MATL			Material

			MISC			<i>Elements not covered by other modifiers.</i>
NEWW			NICN			<b>Not in contract</b>
NEWW			NOTE			<b>General Notes</b>
NEWW			NPLT			<b>Non-plotting graphic information</b>
			NPOS			<i>All Non-POS property lines equipment etc.</i>
NEWW			OPEN			<b>Openings, ceiling/roof penetrations, ETC.</b>
			OPTN			<i>Optional elements or equipment</i>
			OTLN			<i>Object Outlines</i>
NEWW			OVHD			<b>Objects Overhead</b>
			PATT			<i>Floor Pattern or Hatch Patterns</i>
			PHAS			<i>Phasing</i>
			PHTO			<i>Photograph</i>
			PPOS			<i>POS property line</i>
			REVN			<i>Rev Deltas &amp; clouds + revision text</i>
			SIGN			<i>Signs or signage</i>
			SPCL			<i>Specialty equipment</i>
			SYMB			<i>Symbols</i>
NEWW			TEMP			<b>Temporary</b>
			TEXT			<i>Text associated with root</i>
			UTIL			<b>Utility</b>
<b>Specific Root Modifiers for Architectural Root Layers</b>						
		APPL				<b>Appliance kitchen office</b>
			CMPT			<i>Computers</i>
			COPY			<i>Copiers scanners plotters</i>
			DISH			<i>Dishwasher</i>
			FAUC			<i>Faucet</i>
			FREZ			<i>Freezer walk in</i>
			GRIL			<i>Grille restaurant</i>
			HOOD			<i>Exhaust hood</i>
			OVEN			<i>Oven</i>
NEWW			RCPT			<b>Receptacles/power outlets</b>
			REFR			<i>Refrigerator</i>
			SINK			<i>Sink</i>
			STOV			<i>Stove</i>
<b>BAGS</b>						
NEWW						<b>Baggage and components</b>
NEWW			CART			<b>Cart/Tug</b>
NEWW			CATW			<b>Catwalk</b>
NEWW			CLMD			<b>Claim Device</b>
NEWW			CONV			<b>Baggage Conveyor</b>
			CRBS			<b>Curbside Baggage Conveyor</b>
NEWW			CTRL			<b>Control</b>
NEWW			DIMS			<b>Dimensions</b>
NEWW			EQMT			<b>Equipment</b>

NEWW			ICNV			Inbound Baggage Conveyor
NEWW			IOSZ			Inbound Oversized Baggage Conveyor
NEWW			MKUP			Make-Up Device
NEWW			NOTE			Notes
NEWW			OCNV			Outbound Baggage Conveyor
NEWW			OOSZ			Outbound Oversized Baggage Conveyor
NEWW			RAIL			Guardrail
NEWW			ROWY			Right-of-Way
NEWW			SCDR			Security Door
NEWW			SCNU			Screening Unit
NEWW			TCBC			Ticket Counter Baggage Conveyor
NEWW			TEMP			Temporary
NEWW			TTRY			Tilt-Tray Baggage System
NEWW			XFBC			Transfer Baggage Conveyor
NEWW			XRAY			X-Ray Unit
		CLNG				<b>Ceilings and components</b>
NEWW			ACCS			Ceiling: access
NEWW			CAMR			Ceiling Camera
			CHAS			Utility chase
			GRID			Grids generic
			GRIL			Grill ventilation supply/return
NEWW			HEAD			Ceiling Headers
			JOIN			Joint slab construction expansion
			LEVL			Level changes for floors or roofs.
			LGHT			Ceiling mounted lights
				EMER		Emergency lighting ceiling mounted
			OPEN			Ceiling and roof penetrations
			RCPT			Receptacles/power outlets
			RFDR			Roof drain
			SDET			Smoke detector
			SIGN			Signage
			SKYL			Skylight
			SOFF			Soffits
			SPKL			Fire protection sprinklers
			SPKR			Speakers
			SUSP			Ceiling: suspended elements
		COLS				<b>Columns design and components</b>
			CONC			Concrete columns
			COVR			Column Covers
NEWW			ENCL			Column enclosures/fire protection
			GRID			Column grids

			BUBL	Column grid bubbles
			CNTR	Column grid centerlines
			RCPT	Receptacles/power outlets
			STEL	Steel columns
		<b>DOOR</b>		<b>Doors</b>
			ADOR	Access door
			DRFM	Door frame
			DRNO	Door number
			EXTR	Exterior doors
			FDOR	Fire-door
			FNSH	Door finish/type
			GLAS	Glass doors
			METL	Metal doors
			WOOD	Wood doors
			FULL	
			HRDW	Door hardware
			INTR	Interior doors
			PRHT	Partial height doors
			ROLL	Rollup door
		<b>EVTR</b>		<b>Elevators and components</b>
			CABL	Elevator cable and sheaves
			CRDR	Elevator card reader
			CWGT	Elevator counter weight
			ECAB	Elevator cab frame
			FNSH	Elevator cab finish
			OPEN	Elevator cab access/egress opening
			ELDR	Elevator access egress ladders
			EVNT	Elevator passenger ventilation
			FDET	Elevator fire detector
			SNSR	Elevator fire sensor
			FNSH	Elevator finish
			GRAL	Elevator guide rail
			LGHT	Elevator lighting
			EMER	Emergency lighting
			NORM	Normal lighting
			MOTR	Elevator motors
			PANL	Elevator panels control fire
			EMER	Emergency panel fire department control
			OPER	Operations panel inside cab
			SDET	Elevator smoke detector
			SHFT	Elevator shaft
			SVNT	Elevator shaft vent
			SPRT	Equipment supports

		ESCL			<b>Escalators and components</b>
			ADOR		Maintenance access door
			EQMT		Generic escalator equipment not associated with other systems
			HRAL		Escalator handrail
			LNDG		Escalator landing
			MOTR		Escalator motor
			PANL		Escalators control/operations panels
			STEP		Escalator steps
		FIXT			<b>Bathroom fixtures and their components</b>
			COUN		Counters and shelves
			FAUC		Faucet
			SINK		Sinks
			SPRT		Fixture supports
			STAL		Floor: toilet partitions
			TOIL		Toilets
			URNL		Urinals
		FLOR			<b>Floors components</b>
NEWW			ADAE		<b>AMERICAN DISABILITIES ACT (ADA) ELEMENTS</b>
NEWW			CSWK		<b>Built-in or free standing Casework</b>
			CHAS		Utility chase
			DECO		Décor decorate
			FNSH		Floor finish
				CONC	Concrete finish
				MRBL	Marble finish
				SPCL	Special flooring
				TILE	Tile floor
			FLDR		Floor drain
			GRAD		Finish floor or grade
			HRAL		Hand rail
			JOIN		Construction/expansion Joint
			JOST		Floor joist
			LEAS		Tenant lease lines
			LEVL		Level changes for floors or roofs.
			MASN		Masonry
			MEZN		Mezzanine
			OPEN		Opening or penetration
			PATT		Pattern
		RCPT		Receptacles/power outlets floor mounted	
		RMNM		Room names	
		RMNO		Room number identification	
		SHFT		Shafts	
		SLEV		Utility sleeve	
NEWW			STRP		<b>Floor Striping</b>

<b>NEWW</b>			<b>WDWK</b>			<b>Floor: architectural woodwork</b>
		<b>FNDN</b>				<b>Building foundation and components</b>
			<b>FOOT</b>			Footing
			<b>FSLB</b>			Floor slab
			<b>FWAL</b>			Foundation wall
			<b>INSU</b>			Foundation insulation
			<b>OPEN</b>			Opening or penetration
			<b>PILE</b>			Foundation piles
			<b>SBAS</b>			Sub-base
			<b>SLEV</b>			Utility sleeve
		<b>FURN</b>				<b>Furniture components</b>
			<b>CASE</b>			Book cases cabinets etc.
			<b>CHAR</b>			Chairs, sofas, etc
			<b>FILE</b>			File cabinets
<b>NEWW</b>			<b>FIXD</b>			<b>Fixed furnishings</b>
<b>NEWW</b>			<b>FREE</b>			<b>Free-standing furnishings (desks, beds, tables, dressers, credenzas, case goods)</b>
			<b>PLTR</b>			Planters vegetation
			<b>PNLS</b>			Panels furniture system
			<b>RCPT</b>			Receptacles/power outlets
			<b>STOR</b>			Storage furniture
<b>NEWW</b>			<b>SYST</b>			<b>Systems Furniture</b>
			<b>TABL</b>			Tables and counters
			<b>WDWK</b>			Wood work
			<b>WKSF</b>			Work surface components
		<b>GLAZ</b>				<b>Glazing and window elements</b>
			<b>EXTR</b>			Exterior windows
			<b>FNSH</b>			Window finish
			<b>INTR</b>			Interior windows
<b>NEWW</b>			<b>PRHT</b>			<b>Partial Windows</b>
			<b>SILL</b>			Window sill
			<b>WFRM</b>			Window frame
		<b>HYGN</b>				<b>Health &amp; Safety plus asbestos abatement</b>
			<b>ASBS</b>			Asbestos contaminated areas
			<b>HAZM</b>			Hazardous material storage area
			<b>MPCT</b>			Impacted areas (clean up/abatement)
		<b>LADR</b>				<b>Access and maintenance ladders and their components permanent</b>
			<b>GRAL</b>			Ladder guardrail

			HRAL			Ladder handrail
			LDRL			Ladder landings
				GRAT		Landing grating
			SPRT			Ladder structural support
			STEP			Ladder steps rungs
		ROOF				<b>Roof components</b>
			ACCY			Accessory
			BEAM			Roof beam
			CAPY			Canopies
NEWW			EXPJ			<b>Expansion joints</b>
			EQMT			Roof equipment
NEWW			GUTR			<b>Roof internal gutters</b>
NEWW			HRAL			<b>Roof: handrails</b>
			INSU			Insulation
			JOIN			Slab construction/expansion joint
			JOIS			Roof joist
			LEVL			Level changes for floors or roofs.
			MATL			Roof Material
			OPEN			Ceiling and roof penetrations
			OTLN			Roof Outlines
			PATT			Pattern
			RCPT			Receptacles/power outlets
			RFDR			Roof drain
NEWW			RFNG			Roofing materials
			RISR			<b>Roof: stair risers</b>
			SDRN			Roof storm drain pipe
			SLEV			Utility sleeve
			SKYL			Skylights
			SLOP			Roof slope
NEWW			STRS			<b>Roof: stair treads, ladders</b>
			TRUS			Roof truss
NEWW			WALK			<b>Roof walkways</b>
NEWW			WAAL			<b>Parapet walls and wall caps</b>
		STAR				<b>Stairs and their components</b>
			CATW			Catwalk
				GRTG		Grating
			EMER			Emergency egress stairs
			FESC			Fire escape
			LNDG			Stair landing
			HRAL			Stair handrail
			STEP			Stair steps
			TRED			Treads on Steps

		WALL			<i>Walls and components</i>		
			AGAP		<i>Air gap</i>		
			BACK		<i>Backing</i>		
			CBLK		<i>Concrete block</i>		
			CUBE		<i>Cubical walls</i>		
			CURT		<i>Curtain wall</i>		
NEWW			CWMG		<b>Curtain wall mullions and glass</b>		
			EXTR		<i>Exterior</i>		
NEWW			FIRE		<b>Walls: fire protection</b>		
			FULL		<i>Full height wall</i>		
NEWW			FWAL		<i>Fire wall</i>		
			GLAS		<i>Glass walls</i>		
			HEAD		<i>Header door or window</i>		
			HRAL		<i>Wall mounted handrail</i>		
			INSU		<i>Insulation</i>		
			INTR		<i>Interior Walls</i>		
			MASN		<i>Masonry block wall</i>		
			MOVE		<b>Walls: moveable partitions</b>		
			OPNG		<i>Wall opening or penetration</i>		
			PART		<i>Partition</i>		
			PRHT		<i>Partial height doors and walls</i>		
			RCPT		<i>Receptacles/power outlets</i>		
			RT1H		<i>1 Hour Wall rating</i>		
			RT2H		<i>2 Hour Wall rating</i>		
			RT3H		<i>3 Hour Wall rating</i>		
			SLEV		<i>Sleeves for pipe conduit etc</i>		
			STUD		<i>Wall studs</i>		
					METL		<i>Metal wall studs</i>
					WOOD		<i>Wood wall studs</i>
			<b>Requires Optional Modifier for Elements Matching Layer Description</b>				

# Structural Layers

Some 1<sup>st</sup> Optional Root Modifiers have been specified in the standard. If the object or element being drawn matches the layer description notes, the 1<sup>st</sup> Optional Root Modifier indicated must be used. The intent is to provide a consistent method of identifying the most common elements found throughout the Port of Seattle's properties and infrastructure. Objects or elements found on incorrect layers during the QC review process will be flagged as errors and will need to be corrected.

## **Notes for Structural Drawings:**

1. To the greatest extent possible, the layer standards are divided into "systems". All utilities, equipment, structural elements, etc., associated with a "system" must be placed on layers associated with that "system".  
For example: All structural elements of a dock must be placed on individual layers (i.e., deck panels on deck panel layer, fenders on fender layer, pile cap on pile cap layer, etc.).
2. Do not place text, notes, leaders, etc., on X-Refs. These should be placed on each individual drawing. Text and pattern X-Ref's that are sized for the drawing they are attached to are acceptable.

Trade	Level	Root	Root Modifier	1st Optional Modifier	2nd Optional Modifier	Description
<b>S</b>						
		COLS				structural columns
		DOCK				Docks Piers and their components
		FABS				structural fabrications
		FLOR				structural floors and elements
		FNDN				Foundations and elements
		FRAM				structural framing
		ROOF				structural roof
		SLAB				structural slabs
		WALL				structural Walls
<b>Additional Root Modifiers for structural Root Layers (Only)</b>						
<b>NEWW</b>			ABLT			Anchor bolt
			BLOK			Concrete blocks
			BRNG			Bearing structural
			COLM			<b>Columns Elements</b>
<b>NEWW</b>			CONC			Concrete
			FLLD			Floor load schedule
			GYWR			Guy wire
			RBAR			Rebar
			<b>SAFE</b>			<b>Safety Barriers</b>
			<b>NEWW</b> <b>NEWW</b> <b>NEWW</b>			FENC
			HRAL			<b>Handrails</b>
			SLEV			Sleeve for utilities
<b>Generic Root Modifiers for All structural Root Layers</b>						
			ABOV			Above
			ACCY			Accessory
			AREA			An Area within Specific Boundaries
			AUXL			Auxiliary
			BELW			Below
			BYND			Object beyond
			CNTR			Centerlines
			DIMS			Dimensions
			FNSH			Surface Finish
			FITG			Fitting
			FIXT			Fixture
			GENL			General Component Elements
			GRID			Grids generic

			<b>BUBL</b>		<i>Grid Bubbles</i>
			HIDE		<i>Hidden lines or objects</i>
			IDEN		Equipment or material system ID
			MATL		Material
			MISC		<i>Elements not covered by other modifiers.</i>
<b>NEWW</b>			NICN		<b>Not in contract</b>
<b>NEWW</b>			NOTE		<b>General Notes</b>
<b>NEWW</b>			NPLT		<b>Non-plotting graphic information</b>
			NPOS		<i>All Non-POS property lines equipment etc.</i>
<b>NEWW</b>			OPEN		<b>Openings, ceiling/roof penetrations, ETC.</b>
			OPTN		<i>Optional elements or equipment</i>
			OTLN		<i>Object Outlines</i>
<b>NEWW</b>			OVHD		<b>Objects Overhead</b>
			PATT		<i>Floor Pattern or Hatch Patterns</i>
			PHAS		<i>Phasing</i>
			PHTO		<i>Photograph</i>
			PPOS		<i>POS property line</i>
			REVN		<i>Rev Deltas &amp; clouds + revision text</i>
			SIGN		<i>Signs or signage</i>
			SPCL		<i>Specialty equipment</i>
			SYMB		<i>Symbols</i>
<b>NEWW</b>			TEMP		<b>Temporary</b>
			TEXT		<i>Text associated with root</i>
			UTIL		<b>Utility</b>
		<b>COLS</b>			<b>structural columns</b>
			ABLT		<i>Anchor bolt</i>
<b>NEWW</b>			ALUM		<b>Columns: aluminum</b>
<b>NEWW</b>			COLM		<b>Columns Elements</b>
			CONC		<i>Concrete columns</i>
				<b>RBAR</b>	<i>Column reinforcing</i>
<b>NEWW</b>			COVR		<b>Column Covers</b>
			GRID		<i>Column grid</i>
				<b>BUBL</b>	<i>Grid bubbles</i>
				<b>CNTR</b>	<i>Grid centerlines</i>
<b>NEWW</b>			PRIM		<b>Primary columns</b>
<b>NEWW</b>			SCND		<b>Secondary columns</b>
			STEL		<i>Steel columns</i>
<b>NEWW</b>			WOOD		<b>wood Columns</b>

DOCK					
NEWW		DOCK			<i>Docks Piers and their components</i>
			ALDR		<i>Access ladders (permanent)</i>
			COLM		<b>Columns Elements</b>
			BEAM		<i>Dock beams</i>
			BENT		<i>Bent Gridlines</i>
				BUBL	<i>Bent bubbles</i>
				CNTR	<i>Bent centerlines</i>
			BLRD		<i>Bollards</i>
			BRTH		<i>Ship Berth</i>
			BULK		<i>Bulkhead</i>
			BULR		<i>Bull rail</i>
			CLET		<i>Cleats</i>
			CONC		<i>Dock concrete</i>
				CURB	<i>Dock concrete curbs</i>
			DECK		<i>Deck</i>
				DKDR	<i>Deck drains</i>
				DPNL	<i>Deck panel</i>
			DOLP		<i>Dolphin</i>
			EQMT		<i>Dock equipment</i>
				GCRN	<i>Gantry crane</i>
				PASS	<i>Passenger loading elements</i>
				SCAL	<i>Weigh scales</i>
				WASH	<i>Truck wash</i>
			FLTS		<i>Floats</i>
			FNDR		<i>Fenders</i>
			GRAL		<i>Guard Rail</i>
			GRID		<i>Pile or column grid</i>
				BUBL	<i>Pile or column grid bubbles</i>
				CNTR	<i>Pile or column grid centerlines</i>
			HTCH		<i>Utility Hatch (Ships Hydrant, Water Hatch &amp; Ship Electrical)</i>
			HRAL		<i>Handrail</i>
			LFRG		<i>Life ring</i>
			MFAB		<i>Metal fabrications</i>
			PADS		<i>Concrete Pads</i>
			PCAP		<i>Pile cap</i>
				CONC	<i>Pile cap concrete</i>
				RBAR	<i>Pile cap rebar</i>
			PILE		<i>Piles</i>
				AUGR	<i>Auger cast piles</i>
				BATT	<i>Batter piles</i>
				BEAR	<i>Bearing piles</i>
				CONC	<i>Concrete piles</i>

			EXST		Existing piles
			FNDR		Fender piles
			FUTR		Future piles
			MCRO		Micro piles
			MOOR		Mooring piles
			SHTP		Sheet pile
			TIMB		Timber piles
			PNSK		Pin socket
			PVMT		Pavement
			RAIL		Rails
			CRAN		Crane rail
			STOP		Crane stop
			SLEV		Sleeve for utilities
			SPDR		Spreader
			SPRT		Pipe and equipment supports
			STEP		Stairs and platforms
			STGR		Timber stringer
			TEXT		Text
			TMBR		Timber dock elements
			WHLR		Whaler
		<b>FABS</b>			<b>structural fabrications</b>
<b>NEWW</b>			ABLT		Anchor bolts
			<b>COLM</b>		<b>Columns Elements</b>
			BASE		structural bases for equipment
			EQAK		Equipment earthquake restraints
			VIBR		Equipment vibration isolation bases
			BEAM		structural beams
			BRAC		structural bracing
			CATW		Catwalk
			GRAT		Grating
			MFAB		Metal fabrications
			PLAT		Metal plates
			POST		structural posts
			RAMP		Ramps
			SPRT		Equipment and pipe supports
			STEP		Stair steps
			ALDR		Access/maintenance ladders
			HRAL		Handrail
		WELD		Fabrication welding symbols	

		FLOR			<i>structural floors and elements</i>
			BEAM		Floor beams
NEWW			COLM		Columns Elements
NEWW			CONC		Concrete
NEWW			FOOT		structural floor footings
			DECK		structural floor deck
NEWW			EDGE		Floor edge
			JOST		Floor joist
NEWW				BRDG	Bridging
NEWW				PRIM	Primary joists
NEWW				SECD	Secondary joists
NEWW			LEVL		Level Changes
NEWW			OVHD		Objects Overhead
			OPEN		Floor opening or penetration
NEWW			PADS		Concrete Floor pads
NEWW			RAMP		Floor Ramps
			RBAR		Floor reinforcing
			SLEV		Sleeve for utilities
		FNDN			<i>structural foundations and their elements</i>
NEWW			COLM		Columns Elements
NEWW			FACE		Foundation Face
			FOOT		Foundation: footings
				RBAR	Footing reinforcement
NEWW			GRBM		Foundation: grade beams
NEWW			OVHD		Objects Overhead
			PADS		Concrete equipment pads
				RBAR	Pad reinforcement
			PCAP		Foundation: pile caps
				RBAR	Pile cap reinforcement
NEWW			PIER		Foundation: drilled piers
			PILE		Foundation piles
				BEAR	Bearing piles
				CONC	Concrete piles
				FUTR	Future piles
				GRID	Pile grid
				RBAR	Pile reinforcement
				SHET	Sheet pile
				TIMB	Timber piles
				STEL	Steel piles
			RBAR		Foundation reinforcement
NEWW			RAMP		Concrete Ramps

			SLEV			Sleeve for utilities
NEWW			SDWK			Concrete Sidewalks
		FRAM				<b>structural framing</b>
NEWW			COLM			Columns Elements
			BEAM			structural frame-work beams
			BRAC			structural bracing
			BRKT			Brackets
			DECK			structural frame-work decking
NEWW			FOOT			structural framing footings
			JOIS			Joists that span between columns or posts
NEWW			OVHD			Objects Overhead
NEWW			PILE			structural framing piles
			SCOL			structural frame-work columns
				GRID		Framing grid
NEWW			SEIS			structural SEISMIC ELEMENTS
			SLEV			Sleeve for utilities
NEWW			STEL			Steel structural Elements
			TRUS			structural support truss
NEWW			STEP			structural Steps
		ROOF				<b>Roof support Structure</b>
			BEAM			Roof beams
				RBAR		Concrete beam reinforcement
				STEL		Steel beams
NEWW			DECK			Roof Deck openings
			JOIS			Roof joists
			TRUS			Roof truss
			EDGE			Roof support Structure edge
			JOIN			Slab control joints
NEWW			OVHD			Objects Overhead
			RBAR			Slab reinforcing
			SLEV			Sleeve for utilities
		SLAB				<b>structural slabs</b>
			CONC			Concrete slab
NEWW			DECK			Slab top surface
			EDGE			Slab edge
			JOIN			Slab control joints
NEWW			OPEN			Openings and penetrations
			RBAR			Slab reinforcing
			SLEV			Sleeve for utilities
NEWW			STEL			Slab: steel

NEWW			WOOD			Slab: wood
		STAR				<i>Stairs and their components</i>
NEWW			LADD			Stairs: ladders & ladder assemblies
NEWW			STRC			Stairs: structural elements
		WALL				<i>structural walls</i>
			ABOV			Wall Above
			BLOK			Concrete block walls
				RBAR		Concrete block wall reinforcement
NEWW			COLM			Columns Elements
			CONC			Concrete walls
NEWW			EXTR			interior Walls
NEWW				RBAR		Concrete wall reinforcement
NEWW			HBAR			Horizontal/secondary reinforcement
NEWW			INTR			interior Walls
NEWW			LOAD			Load bearing CMU walls
			MSNY			Masonry walls
				RBAR		Masonry wall reinforcement
NEWW			NONL			Non-load bearing CMU walls
			OPEN			Wall penetration or opening
NEWW			OVHD			Objects Overhead
NEWW			PCST			Precast walls concrete
			RETN			Retaining walls
				RBAR		Retaining wall reinforcement
NEWW			SHEA			structural bearing or shear walls
NEWW			SLEV			Sleeve for utilities
NEWW			STEL			Walls: steel stud
			STUD			Stud walls
				METL		Metal stud walls
				WOOD		Wood stud walls
NEWW			VBAR			Vertical/primary reinforcement
NEWW			VENR			Walls: veneer
NEWW			WOOD			Walls: wood

**Requires Optional Modifier for Elements Matching Layer Description**

# Mechanical Layers

Some 1<sup>st</sup> Optional Root Modifiers have been specified in the standard. If the object or element being drawn matches the layer description notes, the 1<sup>st</sup> Optional Root Modifier indicated must be used. The intent is to provide a consistent method of identifying the most common elements found throughout the Port of Seattle's properties and infrastructure. Objects or elements found on incorrect layers during the QC review process will be flagged as errors and will need to be corrected.

## **Notes for Mechanical Drawings:**

1. To the greatest extent possible the layer standards are divided into "systems". All utilities, equipment, structural elements, etc., associated with a "system" must be placed on layers associated with that "system".
2. Do not place text, notes, leaders, etc., on X-Refs. These should be placed on each individual drawing. Text and pattern X-Ref's that are sized for the drawing they are attached to are acceptable.
3. For mechanical utility plans, place all piping and fittings on piping layers. Put valves on valve layers, equipment on equipment layers, controls on control layers, symbols on symbol layers, etc., (i.e., do not put valves, equipment, or symbols on piping layers, etc.). Align all valves with piping in the direction of flow.

Trade	Level	Root	Root Modifier	1st Optional Modifier	2nd Optional Modifier	Description
<b>M</b>						
<b>NEWW</b>		<b>ACID</b>				<b>Industrial Waste Piping</b>
		AH##				<i>Air Handling Units (AH01-AH99)</i>
		AMMO				<i>Ammonia systems</i>
<b>NEWW</b>		BAGC				<i>Baggage systems</i>
		<b>BRIN</b>				<b>Brine systems</b>
		CDSR				<i>Condenser water systems</i>
		CHEM				<i>Chemical Treatment System</i>
		CHWR				<i>Chilled water systems</i>
		CMPA				<i>Compressed/processed air systems</i>
		CNDS				<i>Condensate systems</i>
		CNVR				<i>Conveyor systems</i>
		CS##				<i>Central Station Air handling Units (CS01-CS99)</i>
		<b>DOMW</b>				<b>Domestic water systems</b>
	<b>NEWW</b>		<b>DUAL</b>			
		DUST				<i>Dust collection and control systems</i>
		EXHS				<i>Industrial and commercial exhaust system</i>
		FDSL				<i>Diesel fuel systems</i>
		FGAS				<i>Fuel gas (gasoline) systems</i>
<b>NEWW</b>		<b>FJET</b>				<b>Jet fuel system elements</b>
		FOIL				<i>Fuel oil systems</i>
		GLYC				<i>Glycol systems</i>
		HHWT				<i>Heating Hot water systems</i>
		HVAC				<i>Generic or Single Unit HVAC Systems</i>
		HYDL				<i>Hydraulic systems</i>
		IWTP				<i>Industrial wastewater treatment plant systems and components</i>
		LPAR				<i>Low pressure compressed air systems</i>
		METH				<i>Methane systems</i>

		MTNK			<i>Miscellaneous storage tanks, buildings</i>
		NGAS			<i>Natural gas systems</i>
		PROC			<i>Mechanical process systems for buildings</i>
		PRPN			<i>Propane systems</i>
		REFG			<i>Refrigeration systems</i>
		STEM			<i>Steam systems for buildings</i>
		VACM			<i>Vacuum systems</i>
<b>Additional Optional Root Modifiers for Mechanical Root Layers (only)</b>					
		ADAE			<i>Americans with disabilities</i>
		BASE			<i>Equipment Base</i>
		DDTU			<i>Dual duct terminal units</i>
		FLOW			<i>Flow</i>
			FLIN		<i>Flow line</i>
		GRAD			<i>Finished grade</i>
		GRAV			<i>Gravity flow</i>
		INST			<i>Instrumentation</i>
		INSU			<i>Pipe and equipment insulation</i>
		PADS			<i>Equipment pads</i>
		RPIP			<i>Return pipe</i>
		ROLL			<i>Rolling stock equipment</i>
		SEIS			<i>Seismic restraints</i>
		SDTU			<i>Single duct terminal unit</i>
		SGNL			<i>Signal</i>
		SLEV			<i>Sleeves for utilities</i>
		SNUM			<i>System Identification Number</i>
		SNSR			<i>Sensor</i>
		SPIP			<i>Supply pipe</i>
		STAN			<i>Stationing data (pipe project etc.)</i>
		THRM			<i>Thermostats</i>
		TIED			<i>Tied</i>
		UHTR			<i>Unit heater</i>
		UTIL			<i>Utility</i>
		VENT			<i>Equipment vents</i>
		VIBR			<i>Vibration isolation of equipment piping ductwork pumps etc.</i>
<b>Generic Root Modifiers for All Mechanical Root Layers</b>					
		ABOV			<i>Above</i>
		ACCY			<i>Accessory</i>

			AREA		An Area within Specific Boundaries
			AUXL		Auxiliary
			BELW		Below
			BYND		Object beyond
			CNTR		Centerlines
			DIMS		Dimensions
			FNSH		Surface Finish
			FITG		Fitting
			FIXT		Fixture
			GENL		General Component Elements
			GRID		Grids generic
			<b>BUBL</b>		Grid Bubbles
			HIDE		Hidden lines or objects
			IDEN		Equipment or material system ID
			MATL		Material
			MISC		Elements not covered by other modifiers.
<b>NEWW</b>			<b>NICN</b>		<b>Not in contract</b>
<b>NEWW</b>			<b>NOTE</b>		<b>General Notes</b>
<b>NEWW</b>			<b>NPLT</b>		<b>Non-plotting graphic information</b>
			NPOS		All Non-POS property lines equipment etc.
<b>NEWW</b>			<b>OPEN</b>		<b>Openings, ceiling/roof penetrations, ETC.</b>
			OPTN		Optional elements or equipment
			OTLN		Object Outlines
<b>NEWW</b>			<b>OVHD</b>		<b>Objects Overhead</b>
			PATT		Floor Pattern or Hatch Patterns
			PHAS		Phasing
			PHTO		Photograph
			PPOS		POS property line
			REVN		Rev Deltas & clouds + revision text
			SIGN		Signs or signage
			SPCL		Specialty equipment
			SYMB		Symbols
<b>NEWW</b>			<b>TEMP</b>		<b>Temporary</b>
			TEXT		Text associated with root
			UTIL		Utility

<b>NEWW</b>		<b>ACID</b>			<b>Industrial Waste Piping</b>
<b>NEWW</b>			<b>EQMT</b>		<b>Acid, alkaline, and oil waste equipment</b>
<b>NEWW</b>			<b>PIPE</b>		<b>Acid, alkaline, and oil waste</b>
<b>NEWW</b>			<b>VENT</b>		<b>Acid, alkaline, and oil waste vent piping</b>
<b>NEWW</b>			<b>TEXT</b>		<b>Industrial Waste Piping Text</b>

**NOTE: The pound sign # in the Root = a numeral input from the user  
 ...# # = A number range of 1-99**

		<b>AH##</b>			<b>Air Handling Units (AH01-AH99)</b>
			<b>BLWR</b>		Blowers
			<b>COIL</b>		HVAC system coils
				<b>CHWT</b>	Chilled water coil
				<b>HWTR</b>	Hot water coil
				<b>GHTR</b>	Natural gas fired heater
			<b>COIL</b>		HVAC system coils
				<b>REFR</b>	Refrigerant coil
				<b>SCOL</b>	Steam coil
				<b>ELEC</b>	Electric heating coil
			<b>CNDU</b>		Condensing unit
				<b>PIPE</b>	Condensing unit pipe
				<b>VALV</b>	Condensing unit valves
			<b>CTRL</b>		HVAC system controls
			<b>DFSR</b>		Supply diffusers
			<b>DMPR</b>		
				<b>AUTO</b>	Automatic dampers
				<b>EAIR</b>	Exhaust air damper
				<b>FDMP</b>	Fire/smoke dampers
				<b>MAIR</b>	Mixed air damper
				<b>MANL</b>	Manual dampers
				<b>OAIR</b>	Outside air damper
			<b>DMPR</b>		
				<b>RAIR</b>	Return air damper
				<b>SAIR</b>	Supply air damper
			<b>DHMD</b>		Dehumidifier
			<b>DRAN</b>		HVAC equipment drains
			<b>DUCT</b>		HVAC Ducts and equipment
				<b>EAIR</b>	Exhaust air duct
				<b>MAIR</b>	Mixed air duct
				<b>OAIR</b>	Outside air duct

			RAIR		Return air duct
			SAIR		Supply air duct
			EQMT		Generic HVAC equipment not associated with other systems
			FANS		Fan Powered Terminal Units
			EFAN		Exhaust fan
			RFAN		Return fan
			SFAN		Supply fan
			FLTR		Air filter
			CHAR		Charcoal filter
					HEPA filter
			HEPA		Standard filter
			FPWR		Fan Powered Terminal Units
			HMID		Humidifier
			LOVR		Louvers
			MOTR		HVAC Motors
			PLNM		Plenum
			REGR		Register
			RGRL		Return grilles
			SGRL		Supply grilles
			SNSR		Sensors
			SPRT		Duct, pipe and equipment supports
			SEIS		Seismic restraint
			TUNT		Terminal Units
		AMMO			<b>Ammonia systems</b>
			AAHU		Ammonia air handling unit
			ACON		Ammonia condensing unit
			COIL		Ammonia refrigeration coil
			COMP		Ammonia compressor
			CTRL		Ammonia system controls
			EQMT		Generic Ammonia system equipment not associated with other systems
			INSU		Pipe and equipment insulation
			PIPE		Ammonia piping
			ABND		Abandoned ammonia pipe
			CAPS		Blind flange or cap
			RPIP		Return pipe
			SPIP		Supply pipe
			TEMP		Temporary pipe
			PUMP		Ammonia pumps

			RCVR			<i>Ammonia receiver</i>
			SNSR			<i>Sensors</i>
			SPRT			<i>Pipe and equipment supports</i>
			TEXT			<i>Ammonia system text</i>
			VALV			<i>Ammonia valves</i>
<b>NOTE: The pound sign # in the Root = a numeral input from the user          ...# # = A number range of 1-99</b>						
		<b>BAGC</b>				<b><i>Baggage system</i></b>
			ABOV			<i>Baggage System Mechanical Items Above</i>
			BELO			<i>Baggage System Mechanical Items Below</i>
			BSDM			<i>Baggage System Demolition</i>
			BWAL			<i>Baggage System Wall</i>
			CAT#			<i>Catwalk for Baggage System Conveyors</i>
			CL##			<i>Baggage Claim Device</i>
			CLR#			<i>Baggage Clearance Zone Identification</i>
			CN##			<i>Baggage System Conveyor</i>
			COLN			<i>Columns on Baggage System Drawings</i>
			CSWK			<i>Baggage System Casework</i>
			CTRL			<i>Baggage System Controls</i>
			CURB			<i>Curb</i>
			DFT#			<i>Baggage Conveyor Draft Curtain</i>
			DIA#			<i>Baggage System Mechanical Diagram</i>
			DIM#			<i>Baggage System Dimensions</i>
			DR##			<i>Baggage System Door</i>
			DTL#			<i>Baggage System Details</i>
			DVT#			<i>Baggage System Diverters</i>
			EDS#			<i>Baggage System Explosive Detection System</i>
			EDSF			<i>Future Baggage System Explosive Detection System</i>
			EQ##			<i>Baggage System Equipment – Multiple Layers</i>
			EQMT			<i>Baggage System Equipment</i>
			ETD#			<i>Baggage System Explosive Trace Detection</i>

<b>NEWW</b>			<b>FD##</b>		<i>Feed Baggage Conveyor</i>
			<b>FDR#</b>		<i>Baggage Conveyor Fire Door</i>
			<b>FUT#</b>		<i>Future Baggage System Work</i>
			<b>GRL#</b>		<i>Baggage System Guardrail</i>
			<b>IB##</b>		<i>Inbound Baggage Conveyor</i>
			<b>IBCL</b>		<i>Baggage Claim Device</i>
			<b>IBHS</b>		<i>Baggage System Conveyor</i>
			<b>IDEN</b>		<i>Equipment or material system ID</i>
			<b>INST</b>		<i>Instrumentation</i>
			<b>IO##</b>		<i>Inbound Oversize Baggage Conveyor</i>
			<b>IT##</b>		<i>Interim Baggage Conveyor</i>
			<b>LAD#</b>		<i>Baggage System Ladder</i>
			<b>ME##</b>		<i>Manual Encoding Baggage Conveyor</i>
			<b>MISC</b>		<i>Elements not covered by other modifiers.</i>
			<b>MK##</b>		<i>Baggage Make-up Device</i>
			<b>ML##</b>		<i>Mainline Baggage Conveyor</i>
			<b>NOT#</b>		<i>Baggage System Notes</i>
			<b>OB##</b>		<i>Outbound Baggage Conveyor</i>
			<b>OO##</b>		<i>Outbound Oversize Baggage Conveyor</i>
			<b>OPNG</b>		<i>Baggage System Opening</i>
			<b>PANL</b>		<b>Baggage Panels</b>
			<b>PLAT</b>		<i>Baggage System Platform</i>
			<b>PROT</b>		<i>Baggage System Protection</i>
			<b>RC##</b>		<i>Recirculation Baggage Conveyor</i>
			<b>RFSC</b>		<i>Conveyor for Radio Frequency Scanning</i>
			<b>SA##</b>		<i>Security Subsystem Baggage Conveyor</i>
			<b>SB##</b>		<i>Security Subsystem Baggage Conveyor</i>
			<b>SC##</b>		<i>Security Subsystem Baggage Conveyor</i>
			<b>SCHD</b>		<i>Baggage System Schedules</i>
			<b>SDR#</b>		<i>Baggage Conveyor Security Door</i>
		<b>SNSR</b>		<i>Sensors</i>	
		<b>STP#</b>		<i>Striping for Carts/Tugs</i>	
		<b>TAGR</b>		<i>Automation Tag Reader</i>	

NEWW			TC##			<i>Ticketing Baggage Conveyor</i>
			TEMP			<i>Interim Baggage Conveyor</i>
			TEXT			<i>Text associated with root</i>
			TR##			<i>Transfer Baggage Conveyor</i>
			TTR#			<i>Tilt Tray Conveyor</i>
			TUGS			<i>Tug/Cart</i>
			TX##			<i>Transfer Input Baggage Conveyor</i>
			VSU#			<i>Baggage System Vertical Sorter Unit</i>
			WIPE			
			XO##			<i>Crossover Baggage Conveyor</i>
		XOVR			<i>Access Crossover</i>	
		XR##			<i>Transfer Input Baggage Conveyor</i>	
NEWW		BRIN				<b>Brine systems</b>
NEWW			EQMT			<b>Brine systems: equipment</b>
NEWW			PIPE			<b>Brine systems: piping</b>
NEWW			TEXT			<b>Brine systems: text</b>
		CDSR				<b>Condenser water systems</b>
			CTRL			<i>Condenser system controls</i>
			EQMT			<i>Generic condenser water equipment not associated with other systems</i>
			ETNK			<i>Expansion or surge tank</i>
			HEXC			<i>Heat exchanger</i>
			INSU			<i>Pipe and equipment insulation</i>
			MNHL			<i>Manhole</i>
			PIPE			<i>Condenser water pipe</i>
				ABND		<i>Abandoned water pipe</i>
				CAPS		<i>Blind flange or cap</i>
				RPIP		<i>Condenser return pipe</i>
				SPIP		<i>Condenser supply pipe</i>
				TEMP		<i>Temporary water pipe</i>
			PUMP			<i>Condenser water pumps</i>
NEWW			RETN			<b>Condenser water systems: return</b>
			SNSR			<i>Sensors</i>
NEWW			SPLY			<b>Condenser water systems: supply</b>

			SPRT			Pipe and equipment supports
			STNK			Condenser water tank
			STRN			Strainer
			TEXT			Text
			VALT			Vaults
			VALV			Condenser water valves
		CHEM				<b>Chemical feed systems</b>
			CTRL			Chemical feed system controls
			EQMT			Generic chemical feed equipment not associated with other systems
			ETNK			Expansion or surge tank
			PIPE			Chemical feed pipe
				ABND		Abandoned chemical feed pipe
				CAPS		Blind flange or cap
				RPIP		Chemical feed return pipe
				SPIP		Chemical feed supply pipe
				TEMP		Temporary chemical feed pipe
			PUMP			Chemical feed pumps
			SNSR			Sensors
			SPRT			Pipe and equipment supports
			STNK			Chemical feed storage tanks
			STRN			Strainer
			TEXT			Text
			VALV			Chemical feed valves
		CHWR				<b>Chilled water systems for buildings</b>
			CHIL			Chiller and associated equipment
			CNDS			<b>Chilled water systems: condensate piping</b>
			CTRL			Chiller system controls
			EQMT			Generic chilled water equipment not associated with other systems
			ETNK			Expansion or surge tank
			HEXC			Heat exchanger
			INSU			Pipe and equipment insulation

			<b>PIPE</b>			<i>Chilled water pipe</i>
				<b>ABND</b>		<i>Abandoned chilled water pipe</i>
				<b>CAPS</b>		<i>Blind flange or cap</i>
				<b>CHWS</b>		<i>Chilled water supply pipe</i>
				<b>CHWT</b>		<i>Chilled water return pipe</i>
				<b>SCHS</b>		<i>Secondary chilled water supply pipe</i>
				<b>SCHR</b>		<i>Secondary chilled water return pipe</i>
				<b>TEMP</b>		<i>Temporary chilled water pipe</i>
			<b>PUMP</b>			<i>Chilled water pumps</i>
				<b>PPMP</b>		<i>Primary chilled water pumps</i>
				<b>SPMP</b>		<i>Secondary chilled water pumps</i>
<b>NEWW</b>			<b>RETN</b>			<b>Chilled water systems: return</b>
			<b>SNSR</b>			<i>Sensors</i>
<b>NEWW</b>			<b>SPLY</b>			<b>Chilled water systems: supply</b>
			<b>SPRT</b>			<i>Pipe and equipment supports</i>
			<b>STRN</b>			<i>Strainer</i>
			<b>TEXT</b>			<i>Text</i>
			<b>VALT</b>			<i>Chilled water vaults</i>
			<b>VALV</b>			<i>Chilled water valves</i>
		<b>CPMA</b>				<b>Compressed air systems for buildings</b>
			<b>ADRY</b>			<i>Compressed air dryer</i>
			<b>COMP</b>			<i>Compressor</i>
			<b>CTRL</b>			<i>Compressor system controls</i>
			<b>EQMT</b>			<i>Generic compressed air equipment not associated with other systems</i>
<b>NEWW</b>			<b>PEQP</b>			<b>Compressed/processed air systems: process equipment</b>
			<b>PIPE</b>			<i>Compressed air piping</i>
				<b>ABND</b>		<i>Abandoned compressed air pipe</i>
				<b>CAPS</b>		<i>Blind flange or cap</i>
				<b>TEMP</b>		<i>Temporary compressed air pipe</i>
<b>NEWW</b>			<b>PIIP</b>			<b>Compressed/processed air systems: process piping</b>

			QCON			Quick disconnect
			RCVR			Compressed air receiver
			SNSR			Sensors
			SPRT			Pipe and equipment supports
			STRN			Strainer
			TEXT			Text
			VALV			Valves
		CNDS				<b>Condensate systems for buildings</b>
			CTRL			Condensate system controls
			EQMT			Generic condensate equipment not associated with other systems
			EXPJ			Expansion joint
			INSU			Pipe and equipment insulation
			MNHL			Manhole
			PIPE			Piping
				ABND		Abandoned pipe
				CAPS		Blind flange or cap
				RPIP		Return pipe
				SPIP		Supply pipe
				TEMP		Temporary pipe
				VENT		Vent piping
			PUMP			Condensate pump
			SNSR			Sensors
			SPRT			Pipe and equipment supports
			STRN			Strainer
			VALT			Vaults
			VALV			Condensate valves
		CNVR				<b>Conveyor systems</b>
			CATW			Catwalk for Conveyor Systems
			CTRL			Conveyor system controls
			CVDC			Conveyor Draft Curtain
			DIMS			Conveyor System Dimensions
			EDSX			Conveyor System Explosive Detection System
			EQMT			Generic conveyor equipment
			GRAL			Guardrail for conveyor system

			<b>IDEN</b>			Equipment or material system ID
			<b>MISC</b>			<i>Elements not covered by other modifiers.</i>
			<b>SNSR</b>			Sensors
			<b>TEXT</b>			Text
		<b>CS##</b>				<b>Central Station Air handling Units (CS01-CS99)</b>
			<b>BLWR</b>			Blowers
			<b>COIL</b>			HVAC system coils
				<b>CHWT</b>		Chilled water coil
				<b>HWTR</b>		Hot water coil
				<b>GHTR</b>		Natural gas fired heater
				<b>REFR</b>		Refrigerant coil
				<b>SCOL</b>		Steam coil
				<b>ELEC</b>		Electric heating coil
			<b>CNDU</b>			Condensing unit
				<b>PIPE</b>		Condensing unit pipe
				<b>VALV</b>		Condensing unit valves
			<b>CTRL</b>			HVAC system controls
			<b>DFSR</b>			Supply diffusers
			<b>DMPR</b>			Dampers
				<b>AUTO</b>		Automatic dampers
				<b>EAIR</b>		Exhaust air damper
				<b>FDMP</b>		Fire/smoke dampers
				<b>MAIR</b>		Mixed air damper
				<b>MANL</b>		Manual dampers
				<b>OAIR</b>		Outside air damper
				<b>RAIR</b>		Return air damper
				<b>SAIR</b>		Supply air damper
			<b>DHMD</b>			Dehumidifier
			<b>DRAN</b>			HVAC equipment drains
			<b>DUCT</b>			HVAC Duct
				<b>EAIR</b>		Exhaust air duct
				<b>MAIR</b>		Mixed air duct
				<b>OAIR</b>		Outside air duct
				<b>RAIR</b>		Return air duct
				<b>SAIR</b>		Supply air duct
			<b>EQMT</b>			Generic HVAC equipment not associated with other systems
			<b>FANS</b>			Fans
				<b>EFAN</b>		Exhaust fan
				<b>RFAN</b>		Return fan

				SFAN	Supply fan
			FLTR		Air filter
				CHAR	Charcoal filter
				HEPA	HEPA filter
				STRD	Standard filter
			FPWR		Fan Power Terminal Units
			HMID		Humidifier
			LOVR		Louvers
			MOTR		HVAC Motors
			PLNM		Plenum
			REGR		Register
			RGRL		Return grilles
			SGRL		Supply grilles
			SNSR		Sensors
			SPRT		Duct, pipe and equipment supports
				SEIS	Seismic restraint
			TUNT		Terminal Units
			VIBR		Vibration isolation
NEWW		DOMW			<b>Domestic water systems</b>
NEWW			MKUP		<b>Domestic water systems: make-up water</b>
NEWW			CPIP		<b>Domestic water systems: cold water piping</b>
NEWW			EQMT		<b>Domestic water systems: equipment</b>
NEWW			HPIP		<b>Domestic water systems: hot water piping</b>
NEWW			RISR		<b>Domestic water systems: risers</b>
NEWW		DUAL			<b>Dual temperature systems</b>
NEWW			RETN		<b>Dual temperature systems: return</b>
NEWW			SPLY		<b>Dual temperature systems: supply</b>
		DUST			<b>Dust collection systems</b>
			CHBR		Clean air chamber
				ADOR	Clean air chamber access door
			CTRL		Dust collection system controls

NEWW			LEVEL		Dust level indicator
			DBIN		Dust bin with drawers
			DUCT		<b>Dust and fume ductwork</b>
			DRUM		Drum
			COVR		Drum cover
			EQMT		Generic dust collection equipment not associated with other systems
			FANS		Exhaust fans
			SILN		Silencer
			FLTR		Filter
			PFTR		Pre-filter
			FFTR		Final filter
			HOPR		Hopper
			ADOR		Hopper access door
			CATW		Cat walk
			EXPP		Explosion vent
			RLCK		Rotary airlock
			SNSR		Sensors
			PSNS		Pressure sensor
			SDET		Smoke detector
			TSNS		Temperature sensor
		SPRT		Duct pipe and equipment supports	
		SEIS		Seismic restraint	
		EXHS			<b>Industrial and commercial ventilation and exhaust systems</b>
NEWW			BLWR		Blowers
			CDFE		<b>Exhaust air ceiling registers and grilles</b>
			CTRL		Ventilation system controls
			DFSR		Supply diffusers
			DMPR		Dampers
			AUTO		Automatic dampers
			EAIR		Exhaust air damper
			FDMP		Fire/smoke dampers
			MANL		Manual dampers
			OAIR		Outside air damper
			SAIR		Supply air damper
			DUCT		Exhaust ductwork
			EAIR		Exhaust air duct
		OAIR		Outside air duct	
		SAIR		Supply duct	

NEWW			FANS		Fans
				EFAN	Exhaust fan
				SFAN	Supply fan
			FLTR		Air filter
				HEPA	HEPA filter
				STRD	Standard filter
			LOVR		Louvers
			MOTR		Fan and blower motors
		PLNM		Plenum	
		REGR		Register	
			RFEQ	Exhaust system: rooftop equipment	
			SGRL	Supply grilles	
			SNSR	Sensors	
			SPRT	Duct and equipment supports	
	SEIS	Seismic restraint			
		FDSL			Diesel fuel system elements
			ALRM		Diesel Fuel Alarm System
			CTRL		Diesel fuel system controls
			DISP		Diesel fuel dispenser
			EQMT		Generic diesel fuel equipment not associated with other systems
			ETNK		Expansion tank
			FLTR		Diesel fuel filters
			METR		Diesel fuel meter
			PIPE		Piping
				ABND	Abandoned diesel fuel piping
				CAPS	Blind flange or cap
				RPIP	Return pipe
				SPIP	Supply pipe
				TEMP	Temporary pipe
			PITT		Diesel fuel pit
			PUMP		Diesel fuel pumps
			SNSR		Sensors
			SPRT		Pipe and equipment supports
			STNK		Diesel fuel storage tanks
			STRN		Strainer
			TEXT		Text
VALT		Diesel fuel valve vault			
VALV		Diesel fuel valves			

		FGAS			<b>Fuel gas (gasoline) systems</b>
			DISP		Fuel gas dispenser
			EQMT		Fuel gas equipment
			FLTR		Fuel gas filters
			METR		Fuel gas meter
			PIPE		Piping
				ABND	Abandoned fuel gas piping
				CAPS	Blind flange or cap
				RPIP	Return pipe
				SPIP	Supply pipe
				TEMP	Temporary pipe
			PITT		Fuel gas pit
			PUMP		Fuel gas pumps
			SNSR		Sensors
			SPRT		Pipe and equipment supports
			STNK		Fuel gas storage tank
			STRN		Strainer
			TEXT		Text
			VALT		Fuel gas valve vault
			VALV		Fuel gas valves
		FJET			<b>Jet fuel system elements</b>
NEWW			ALRM		Jet fuel alarm panel and controls
NEWW			EQMT		Jet fuel equipment
NEWW			ETNK		Jet fuel expansion/surge tank
NEWW			FLTR		Jet fuel filters
NEWW			FPIT		Jet fuel pit
NEWW			HTCH		Fuel hatch
NEWW			METR		Jet fuel meter
NEWW			PIPE		Jet fuel piping
NEWW				ABND	Abandoned jet fuel pipe
NEWW				CAPS	Blind flange or cap
NEWW				RPIP	Jet fuel return pipe
NEWW				SPIP	Jet fuel supply pipe
NEWW				TEMP	Temporary jet fuel pipe
NEWW			PITT		Jet fuel pit
NEWW			PUMP		Jet fuel pumps
					Pipe and equipment supports
NEWW			SPRT		

NEWW			STNK		Jet fuel storage tank
NEWW				ALDR	Storage tank ladder or stairs
NEWW				MDOR	Storage tank Man-door
NEWW				FROF	Floating roof
NEWW				VALV	Storage tank valves
NEWW				VENT	Storage tank vents
NEWW			TCSE		Fuel test casing
NEWW			TEXT		Text
NEWW			TRCK		Jet fuel truck loading/unloading station
NEWW			VALT		Jet fuel vaults
NEWW				HATC	Jet fuel vault hatch
NEWW			VALV		Jet fuel valves
NEWW			VENT		Venting system elements
NEWW			STRU		Jet fuel Structural elements
NEWW			WAST		Jet fuel waste system elements
NEWW				PIPE	Waste fuel pipe
NEWW				PUMP	Waste fuel pump
NEWW				STNK	Waste fuel storage tank
NEWW				VALV	Waste fuel valves
<b>Fuel oil systems</b>					
		FOIL			<i>Fuel oil systems</i>
			ALRM		<i>Fuel oil alarm panel and controls</i>
			CTRL		<i>Fuel oil system controls</i>
			DISP		<i>Fuel oil dispenser</i>
			EQMT		<i>Generic fuel oil equipment not associated with other systems</i>
			ETNK		<i>Fuel oil expansion/surge tank</i>
			FLTR		<i>Fuel oil filters</i>
			METR		<i>Fuel oil meter</i>
			PIPE		<i>Fuel oil piping</i>
				ABND	<i>Abandoned fuel oil pipe</i>
				CAPS	<i>Blind flange or cap</i>
				RPIP	<i>Return pipe</i>
				SPIP	<i>Supply pipe</i>
				TEMP	<i>Temporary pipe</i>
			PITT		<i>Fuel gas pit</i>
			PUMP		<i>Fuel oil pumps</i>

			SNSR			Sensors
			SPRT			Pipe and equipment supports
			STNK			Fuel oil storage tank
			STRN			Strainer
			TEXT			Text
			VALT			Fuel oil vault
			VALV			Fuel oil valves
		GLYC				<b>Glycol systems</b>
			CTRL			Glycol system controls
			EQMT			Generic glycol equipment not associated with other systems
			ETNK			Expansion or surge tank
			INSU			Pipe and equipment insulation
			MNHL			Manhole
			PIPE			Glycol pipe
				ABND		Abandoned glycol pipe
				CAPS		Blind flange or cap
				TEMP		Temporary glycol pipe
			PUMP			Glycol pumps
NEWW			RETN			<b>Glycol systems: return</b>
			SNSR			Sensors
NEWW			SPLY			<b>Glycol systems: supply</b>
			SPRT			Pipe and equipment supports
			STNK			Glycol storage tanks
			STRN			Strainer
			TEXT			Text
			VALT			Vaults
			VALV			Valves
		HHWT				<b>Heating Hot water systems buildings</b>
			BWLR			Boiler and associated equipment
			CTRL			Hot water system controls
			EQMT			Generic hot water equipment not associated with other systems
			ETNK			Expansion or surge tank
			HEXC			Steam/hot water heat exchanger
			INSU			Pipe and equipment insulation
			MNHL			Manhole

			<b>PIPE</b>		<i>Chilled water pipe</i>
				<b>ABND</b>	<i>Abandoned heating hot water pipe</i>
				<b>CAPS</b>	<i>Blind flange or cap</i>
				<b>HWSP</b>	<i>Heating hot water supply pipe</i>
				<b>HWRP</b>	<i>Heating hot water return pipe</i>
				<b>SHWS</b>	<i>Secondary heating hot water supply pipe</i>
				<b>SHWR</b>	<i>Secondary heating hot water return pipe</i>
				<b>TEMP</b>	<i>Temporary heating hot water pipe</i>
			<b>PUMP</b>		<i>Heating hot water pumps</i>
				<b>PPMP</b>	<i>Primary heating hot water pumps</i>
				<b>SPMP</b>	<i>Secondary heating hot water pumps</i>
<b>NEWW</b>			<b>RETN</b>		<b>Hot water heating system: return</b>
<b>NEWW</b>			<b>SPLY</b>		<b>Hot water heating system: supply</b>
			<b>SNSR</b>		<i>Sensors</i>
			<b>SPRT</b>		<i>Pipe and equipment supports</i>
			<b>STNK</b>		<i>Heating Hot water storage tank</i>
			<b>STRN</b>		<i>Strainer</i>
			<b>TEXT</b>		<i>Text</i>
			<b>VALT</b>		<i>Vaults</i>
			<b>VALV</b>		<i>Heating hot water valves</i>
		<b>HVAC</b>			<b>Generic or Single Unit HVAC Systems</b>
<b>NEWW</b>			<b>ACCS</b>		<b>Equipment access doors</b>
			<b>BLWR</b>		<i>Blowers</i>
<b>NEWW</b>			<b>BOXD</b>		<b>HVAC systems: mixing box, dual duct</b>
<b>NEWW</b>			<b>BOXS</b>		<b>HVAC systems: mixing box, single duct</b>
<b>NEWW</b>			<b>CDFF</b>		<b>Ceiling diffusers, registers, and grilles</b>

<b>NEWW</b>			<b>CLDA</b>		<b>HVAC systems: cold air</b>
<b>NEWW</b>				<b>DUCT</b>	<b>HVAC systems: cold air: ductwork</b>
<b>NEWW</b>				<b>EQMT</b>	<b>HVAC systems: cold air: ductwork equipment</b>
			<b>COIL</b>		<i>HVAC system coils</i>
				<b>CHWT</b>	<i>Chilled water coil</i>
				<b>HWTR</b>	<i>Hot water coil</i>
				<b>GHTR</b>	<i>Natural gas fired heater</i>
				<b>REFR</b>	<i>Refrigerant coil</i>
				<b>SCOL</b>	<i>Steam coil</i>
				<b>ELEC</b>	<i>Electric heating coil</i>
			<b>CNDU</b>		<i>Condensing unit</i>
				<b>PIPE</b>	<i>Condensing unit pipe</i>
				<b>VALV</b>	<i>Condensing unit valves</i>
			<b>CTRL</b>		<i>HVAC system controls</i>
<b>NEWW</b>			<b>DOOR</b>		<b>HVAC systems: equipment doors</b>
			<b>DFSR</b>		<i>Supply diffusers</i>
			<b>DMPR</b>		<i>Dampers</i>
				<b>AUTO</b>	<i>Automatic dampers</i>
				<b>EAIR</b>	<i>Exhaust air damper</i>
				<b>FDMP</b>	<i>Fire/smoke dampers</i>
				<b>MAIR</b>	<i>Mixed air damper</i>
				<b>MANL</b>	<i>Manual dampers</i>
				<b>OAIR</b>	<i>Outside air damper</i>
				<b>RAIR</b>	<i>Return air damper</i>
				<b>SAIR</b>	<i>Supply air damper</i>
			<b>DHMD</b>		<i>Dehumidifier</i>
			<b>DRAN</b>		<i>HVAC equipment drains</i>
			<b>DUCT</b>		<i>HVAC Duct</i>
				<b>EAIR</b>	<i>Exhaust air duct</i>
				<b>MAIR</b>	<i>Mixed air duct</i>
				<b>OAIR</b>	<i>Outside air duct</i>
				<b>RAIR</b>	<i>Return air duct</i>
				<b>SAIR</b>	<i>Supply air duct</i>
<b>NEWW</b>			<b>EFAN</b>		<b>HVAC systems: equipment with electric fans</b>
<b>NEWW</b>			<b>EPDU</b>		<b>HVAC systems: equipment with piping, ductwork and electricity</b>

NEWW			EPIP			<b>HVAC systems: equipment with piping and electricity</b>
			EQMT			<i>Generic HVAC equipment not associated with other systems</i>
NEWW			EXHS			<b>HVAC systems: exhaust air</b>
				DUCT		<b>HVAC systems: exhaust air: ductwork</b>
				EQMT		<b>HVAC systems: exhaust air: ductwork equipment</b>
				GRIL		<b>HVAC systems: exhaust air: grilles</b>
			FANS			<i>Fans</i>
				EFAN		<i>Exhaust fan</i>
				RFAN		<i>Return fan</i>
				SFAN		<i>Supply fan</i>
NEWW			FDFD			<b>Floor diffusers, registers, and grilles</b>
			FPWR			<i>Fan Power Terminal Units</i>
			FLTR			<i>Air filter</i>
				CHAR		<i>Charcoal filter</i>
				HEPA		<i>HEPA filter</i>
				STRD		<i>Standard filter</i>
NEWW			HOTA			<b>HVAC systems: hot air</b>
NEWW				DUCT		<b>HVAC systems: hot air: ductwork</b>
NEWW				EQMT		<b>HVAC systems: hot air: ductwork equipment</b>
			HMID			<i>Humidifier</i>
NEWW			ODFF			<b>HVAC systems: other diffusers</b>
			LOVR			<i>Louvers</i>
			MOTR			<i>HVAC Motors</i>
NEWW			PIPE			<b>HVAC systems: piping</b>
			PLNM			<i>Plenum</i>
NEWW			RDFD			<b>HVAC systems: return air diffusers</b>
			REGR			<i>Register</i>
			RGRL			<i>Return grilles</i>
NEWW			RETN			<b>HVAC systems: return</b>
NEWW			ROOF			<b>Roof mounted HVAC equipment</b>
NEWW			SDFD			<b>HVAC systems: supply diffusers</b>

NEWW			SGRL			Supply grilles
			SNSR			Sensors
			SPLY			<b>HVAC systems: supply</b>
			SPRT			Duct, pipe and equipment supports
				SEIS		Seismic restraint
NEWW			TUNT			Terminal Units
			TAGS			<b>Diffuser/register/grille tags and air flow arrows</b>
			VIBR			Vibration isolation
			SEIS			Seismic restraint
NEWW			WDFE			<b>Wall diffusers, registers, and grilles</b>
		HYDL				<b>Hydraulic systems</b>
			CTRL			Hydraulic system controls
			ETNK			Expansion or surge tank
			EQMT			Generic hydraulic system equipment not associated with other systems
			MNHL			Manhole
			PIPE			Hydraulic system pipe
				ABND		Abandoned hydraulic system pipe
				CAPS		Blind flange or cap
				RPIP		Hydraulic system supply pipe
				SPIP		Hydraulic system return pipe
				TEMP		Temporary hydraulic system pipe
			PUMP			Hydraulic system pumps
			SNSR			Sensors
			SPRT			Pipe and equipment supports
			STRN			Strainer
			TEXT			Text
			VALV			Hydraulic system valves
			VALT			Hydraulic system vaults
		IWTP				<b>Industrial wastewater treatment plant systems and components</b>
			CBSN			IWTP catch basin
			CFUG			Centrifuge
			CLFY			Clarifier
			COUT			IWTP clean out

			CTRL			IWPT system controls
			DGST			Digester
			EQMT			Generic IWPT equipment not associated with other systems
			FLTR			Filter equipment
			FLSH			IWTP flushing system components
			MNHL			IWTP manhole
			OWSP			Oil/water separator
			PIPE			IWTP piping
				ABND		Abandoned piping
				CAPS		Blind flange or cap
				RPIP		Return pipe
				SPIP		Supply pipe
				TEMP		Temporary pipe
			PUMP			IWTP pumps
			SNSR			Sensors
			SPRT			Pipe and equipment supports
			STNK			IWTP storage tanks
			TEXT			Text
			VALV			IWTP valves
			VALT			IWTP vaults
		LPAR				<b>Low pressure compressed air systems</b>
			ADRY			Low pressure compressed air dryer
			COMP			Low pressure air compressor
			CTRL			Low pressure compressed air system controls
			EQMT			Generic low pressure air equipment not associated with other systems
			QCON			Quick disconnect
			PIPE			Low pressure compressed air piping
				ABND		Abandoned piping
				CAPS		Blind flange or cap
				TEMP		Temporary pipe
			RCVR			Low pressure compressed air receiver
			SNSR			Sensors
			SPRT			Pipe and equipment supports
			STRN			Strainer
			TEXT			Text

			VALV			Valves
			VALT			Vaults
		<b>METH</b>				<b>Methane systems</b>
			ALRM			Methane system alarm panel and controls
			CTRL			Methane system controls
			EQMT			Generic methane equipment not associated with other systems
			METR			Methane meter
			PIPE			Methane piping
				ABND		Abandoned methane pipe
				CAPS		Blind flange or cap
				TEMP		Temporary pipe
			PREG			Methane pressure regulator
			SNSR			Sensors
			SPRT			Pipe and equipment supports
			STNK			Methane storage tank
			STRN			Strainer
			TEXT			Text
			VALV			Methane system valves
		<b>MTNK</b>				<b>Miscellaneous storage tanks</b>
			DRAN			Tank drain
			FIBR			Fiberglass
			ALDR			Storage tank ladder or stairs
			MDOR			Man-door
			PLAS			Plastic
			SNSR			Sensors
			SPRT			Tank storage
			STEL			Steel
			TEXT			Text
			VALV			Tank valves
		<b>NGAS</b>				<b>Natural gas systems</b>
			ALRM			Natural gas alarm panel and controls
			CTRL			Natural gas system controls
			EQMT			Generic natural gas equipment not associated with other systems
			METR			Natural gas meter

			PIPE			Natural gas piping
				ABND		Abandoned natural gas pipe
				CAPS		Blind flange or cap
				TEMP		Temporary pipe
			PREG			Pressure regulator
			SNSR			Sensors
			SPRT			Pipe and equipment supports
			STRN			Strainer
			TEXT			Text
			VALV			Natural gas valves
		PROC				<b>Mechanical process systems for buildings</b>
			CTRL			Process system controls
			EQMT			Generic Process system not associated with other systems
			ETNK			Expansion or surge tank
			HEXC			Process heat exchanger
			INSU			Pipe and equipment insulation
			MNHL			Manhole
			PIPE			Process pipe
				ABND		Abandoned Processor pipe
				ARGO		Argon gas piping
				CAPS		Blind flange or cap
				LGAS		Laboratory gas piping
				NTRO		Nitrogen gas piping
				PRSP		Process supply pipe
				PRRP		Process return pipe
				TEMP		Temporary hot water pipe
			PUMP			Process pumps
			SNSR			Sensors
			SPRT			Pipe and equipment supports
			STNK			Process storage tank
			STRN			Strainer
			TEXT			Text
			VALT			Vaults
			VALV			Process valves
		PRPN				<b>Propane systems</b>
			ALRM			Propane system alarm panel and controls
			CTRL			Propane system controls

			EQMT			Generic propane equipment not associated with other systems
			METR			Propane meter
			PIPE			Propane piping
				ABND		Abandoned propane pipe
				CAPS		Blind flange or cap
				TEMP		Temporary pipe
			PREG			Pressure regulator
			SNSR			Sensors
			SPRT			Pipe and equipment supports
			STNK			Propane storage tank
			STRN			Strainer
			VALV			Propane system valves
		REFG				<b>Refrigeration systems</b>
			AAU#			Refrigeration system air handling unit
			COIL			Refrigeration coil
			CDNS			Condensing unit
			COMP			Compressor
			CTRL			Refrigeration system controls
NEWW			DISC			<b>Refrigeration systems: discharge</b>
			PIPE			Refrigeration piping
				ABND		Abandoned piping
				CAPS		Blind flange or cap
				RPIP		Return pipe
		SPIP			Supply pipe	
			TEMP		Temporary pipe	
			PUMP			Refrigeration pumps
NEWW			RETN			<b>Refrigeration systems: return</b>
			RCVR			Refrigeration receiver
			SNSR			Sensors
NEWW			SPLY			<b>Refrigeration systems: supply</b>
			SPRT			Pipe and equipment supports
			TEXT			Refrigeration system text
			VALV			Refrigeration system valves

<b>NEWW</b>		<b>SMOK</b>			<i>Smoke extraction systems</i>
			<b>CDFF</b>		<b>Smoke extraction systems: ceiling diffusers</b>
			<b>DUCT</b>		<b>Smoke extraction systems: duct</b>
			<b>EQMT</b>		<b>Smoke extraction systems: equipment</b>
		<b>STEM</b>			<i>Steam system: boiler blow down piping</i>
<b>NEWW</b>			<b>BLBD</b>		<b>Steam system: boiler blow down piping</b>
			<b>BTNK</b>		<i>Blow down tank</i>
			<b>BWLR</b>		<i>boiler</i>
<b>NEWW</b>			<b>CNDS</b>		<b>Steam system: condensate piping</b>
			<b>CTRL</b>		<i>Steam system controls</i>
			<b>EQMT</b>		<i>Generic steam equipment not associated with other systems</i>
			<b>EXPJ</b>		<i>Expansion joint</i>
			<b>HEXC</b>		<i>Heat exchanger</i>
<b>NEWW</b>			<b>HPIP</b>		<b>Steam system: high-pressure piping</b>
			<b>INSU</b>		<i>Pipe and equipment insulation</i>
<b>NEWW</b>			<b>LPIP</b>		<b>Steam system: low-pressure piping</b>
<b>NEWW</b>			<b>MPIP</b>		<b>Steam system: medium-pressure piping</b>
			<b>MNHL</b>		<i>Manhole</i>
			<b>PIPE</b>		<i>Piping</i>
				<b>ABND</b>	<i>Abandoned piping</i>
				<b>CAPS</b>	<i>Blind flange or cap</i>
				<b>RPIP</b>	<i>Return pipe</i>
				<b>SPIP</b>	<i>Supply pipe</i>
				<b>TEMP</b>	<i>Temporary pipe</i>
			<b>SDRM</b>		<i>Steam drum</i>
			<b>SNSR</b>		<i>Sensors</i>
			<b>SPRT</b>		<i>Pipe supports and equipment</i>
			<b>STRN</b>		<i>Strainer</i>
			<b>TEXT</b>		<i>Text</i>
			<b>VALT</b>		<i>Vaults</i>
			<b>VALV</b>		<i>Steam valves</i>

		VACM			<b>Vacuum systems</b>
			ADRY		Air dryer / liquid separator
			CTRL		Vacuum system controls
			ETNK		Expansion or surge tank
			EQMT		Generic vacuum system equipment not associated with other systems
			FLTR		Filter
			HBIB		Vacuum system hose Bibb
			PIPE		Vacuum system pipe
				ABND	Abandoned piping
				CAPS	Blind flange or cap
				TEMP	Temporary pipe
			PUMP		Vacuum pumps
			SNSR		Sensors
			SPRT		Pipe and equipment supports
			STNK		Storage tank
			STRN		Strainer
			TEXT		Text
			VALV		Valves
		VCND		Condenser	
<b>Requires Optional Modifier for Elements Matching Layer Description</b>					
<b>NOTE: The pound sign # in the Root = a numeral input from the user...# # = A number range of 1-99</b>					

# Plumbing Layers

Some 1<sup>st</sup> Optional Root Modifiers have been specified in the standard. If the object or element being drawn matches the layer description notes, the 1<sup>st</sup> Optional Root Modifier indicated must be used. The intent is to provide a consistent method of identifying the most common elements found throughout the Port of Seattle's properties and infrastructure. Objects or elements found on incorrect layers during the QC review process will be flagged as errors and will need to be corrected.

## **Notes for Building Plumbing Drawings:**

1. To the greatest extent possible the layer standards are divided into "systems". All utilities, equipment, structural elements, etc., associated with a "system" must be placed on layers associated with that "system".
2. Do not place text, notes, leaders, etc., on X-Refs. These should be placed on each individual drawing. Text and pattern X-Ref's that are sized for the drawing they are attached to are acceptable.
3. For plumbing utility plans, place all piping and fittings on piping layers. Put valves on valve layers, equipment on equipment layers, controls on control layers, symbols on symbol layers, etc., (i.e., do not put valves, equipment, or symbols on piping layers, etc.). Align all valves with piping in the direction of flow.

Trade	Level	Root	Root Modifier	1st Optional Modifier	2nd Optional Modifier	Description
<b>P</b>						
		DCWT				Domestic cold water systems for buildings
		DHWT				Domestic hot water systems for buildings
		SSWR				Sanitary sewer systems for buildings
		STRM				Storm sewer systems for buildings
<b>Additional Optional Root Modifiers for Plumbing Root Layers (only)</b>						
			ADAE			Americans with disabilities
			FLOW			Flow
			GRAD			Finished grade
			GRAV			Gravity flow
			INST			Instrumentation
			FLOW			Flow
			GRAD			Finished grade
			GRAV			Gravity flow
			RACK			Electrical racks
			RISR			Riser pipe
			RPIP			Return pipe
			SGNL			Signal
			SLEV			Sleeves for utilities
			SNSR			Sensor
			SPIP			Supply pipe
			THRM			Thermostats
			TIED			Tied
			UTIL			Utility
			VENT			Equipment vent pipe
<b>Additional Optional Root Modifiers for All Plumbing Root Layers</b>						
			ABOV			Above
			ACCY			Accessory
			AREA			An Area within Specific Boundaries
			AUXL			Auxiliary
			BELW			Below
			BYND			Object beyond
			CNTR			Centerlines

			DIMS			Dimensions
			FNSH			Surface Finish
			FITG			Fitting
			FIXT			Fixture
			GENL			General Component Elements
			GRID			Grids generic
				BUBL		Grid Bubbles
			HIDE			Hidden lines or objects
			IDEN			Equipment or material system ID
			MATL			Material
			MISC			Elements not covered by other modifiers.
NEWW			NICN			Not in contract
NEWW			NOTE			General Notes
NEWW			NPLT			Non-plotting graphic information
			NPOS			All Non-POS property lines equipment etc.
NEWW			OPEN			Openings, ceiling/roof penetrations, ETC.
			OPTN			Optional elements or equipment
			OTLN			Object Outlines
NEWW			OVHD			Objects Overhead
			PATT			Floor Pattern or Hatch Patterns
			PHAS			Phasing
			PHTO			Photograph
			PPOS			POS property line
			REVN			Rev Deltas & clouds + revision text
			SIGN			Signs or signage
			SPCL			Specialty equipment
			SYMB			Symbols
NEWW			TEMP			Temporary
			TEXT			Text associated with root
			UTIL			Utility
		DCWT				Domestic cold water systems for buildings
NEWW			ACCS			Equipment access doors
			CMTR			City Meter
			CTRL			Domestic water system controls
			DCBA			Double check backflow assembly

NEWW		EQMT			Domestic water equipment	
		ETNK			Expansion or surge tank	
		FPIP			<b>Domestic filtered water piping</b>	
		FIXT			Domestic cold water fixtures	
			DRNK			Drinking fountain
			EWSH			Domestic cold water eye wash
			FCET			Domestic cold water faucet
			MVLV			Domestic hot water/cold water mixing valve for normal and emergency showers
			SINK			Sink (not shown on Architectural)
			TOIL			Toilet (not shown on Architectural)
			URNL			Urinal (not shown on Architectural)
		HBIB			Domestic cold water Hose Bibb	
		FTNG			Domestic cold water fittings	
		HYDT			Domestic cold water hydrant	
			WHYD			Wall hydrant
			YARD			Yard or courtyard hydrant
		MNHL			Manhole	
		PIPE			Domestic cold water pipe	
			ABND			Abandoned water pipe
			CAPS			Blind flange or cap
			RISR			Domestic cold water riser pipe
			SLEV			Pipe sleeves
			TEMP			Temporary domestic cold water pipe
		PMTR			Port of Seattle water meter	
		PUMP			Domestic water booster pumps	
	NEWW		RPIP			<b>Domestic Cold water recirculation piping</b>
	NEWW		RISR			<b>Domestic cold water risers</b>
		RPBA			Reduced pressure backflow assembly	
		SPGT			Domestic cold water spigot	
		STRN			Strainer	
		STNK			Domestic cold water storage tanks	
		TEXT			Text	
		VALT			Domestic water vaults	
		VALV			Valves	

		DHWT			<b>Domestic hot water supply systems for buildings</b>	
NEWW NEWW			BWLR			Domestic hot water boiler / heater
			EQMT			Domestic hot water equipment
			ETNK			Expansion or surge tank
			FIXT			Domestic hot water fixtures
				EWSH		Tempered water eye wash
				FCET		Hot water faucet
			FTNG			Domestic hot water fittings
			HBIB			Domestic hot water hose Bibb
			MNHL			Manhole
			MVLV			Domestic hot water/cold water mixing valve for normal and emergency showers
			PIPE			Domestic water pipe
				ABND		Abandoned hot water pipe
				FLNG		Blind flange or cap
				RISR		Hot water riser pipe
			SLEV		Pipe sleeves	
			TEMP		Temporary hot water pipe	
			RPIP		<b>Domestic hot water recirculation piping</b>	
			RISR		<b>Domestic hot water risers</b>	
			PUMP		Domestic hot water booster pumps	
			SPGT		Water spigot	
	SPRT		Pipe supports			
	STNK		Domestic hot water storage tanks			
	TEXT		Text			
	VALV		Domestic hot water valves			
		SSWR			<b>Sanitary sewer systems for buildings</b>	
NEWW			CONP		<b>Condensate piping</b>	
NEWW			COUT		Clean out	
			FITG		<b>SANITARY FITTINGS</b>	
			FIXT		Sanitary sewer fixtures	
				EDRN	Equipment drain	
		FDRN	Floor drain			
NEWW			FLDR		<b>Sanitary sewer: floor drains</b>	
			MNHL		Manhole	
			OWSP		Oil Water or Grease Separator	

			<b>PIPE</b>			<i>Sanitary sewer system drain and vent piping</i>
				FCMN		<i>Force main</i>
				CAPS		<i>Blind flange or cap</i>
				RISR		<i>Sanitary sewer riser pipe</i>
				SDRN		<i>Sanitary drain pipe</i>
				SLEV		<i>Pipe sleeves</i>
				SVNT		<i>Sanitary vent piping</i>
<b>NEWW</b>			<b>RISR</b>			<b>Sanitary drainage systems: risers</b>
<b>NEWW</b>			<b>ROOF</b>			<b>DOWNSPOUTS AND RELATED ELEMENTS</b>
			TEXT			<i>Text</i>
			VALT			<i>Sanitary sewer system vaults</i>
			VALV			<i>Sanitary sewer system valves (force mains)</i>
<b>NEWW</b>			<b>VENT</b>			<b>Sanitary sewer Vents</b>

		<b>STRM</b>				<b>Storm sewer systems</b>
			CBSN			<i>Catch basin</i>
			COUT			<i>Clean out</i>
			DRAN			<i>Storm drain</i>
				RDRN		<i>Roof storm drain</i>
				DDRN		<i>Deck storm drain</i>
				UNKN		<i>Unknown storm drain</i>
			FLOW			<i>Flow line</i>
			FLSH			<i>Gutter flush</i>
			GUTR			<i>Gutter</i>
			LFTS			<i>Lift station</i>
			MNHL			<i>Manhole</i>
				UNKN		<i>Unknown storm manhole</i>
				MTRO		<i>Metro storm manhole</i>
				COMB		<i>Combined sewer manhole (SSWRTRM)</i>
				STCR		<i>Manhole water Structure</i>
			PIPE			<i>Piping</i>
				ABND		<i>Abandoned sanitary sewer pipe</i>
				CAPS		<i>Blind flange or cap</i>
				FCMN		<i>Force mains</i>
				HALF		<i>Gutter pipe half</i>
				NPRF		<i>Non-perforated pipe</i>
				PERF		<i>Perforated pipe</i>
				RISR		<i>Storm drain riser pipe</i>

			SLEV		Pipe sleeves
			STUB		Storm pipe stub
NEWW			RISR		Storm drainage systems: risers
NEWW			RFDR		Storm drainage systems: roof drains
			TEXT		Text
			UDRN		Under-drain elements
			VALT		Vaults
			VALV		Valves (force mains)
<b>Requires Optional Modifier for Elements Matching Layer Description</b>					

# Electrical Layers

Some 1<sup>st</sup> Optional Root Modifiers have been specified in the standard. If the object or element being drawn matches the layer description notes, the 1<sup>st</sup> Optional Root Modifier indicated must be used. The intent is to provide a consistent method of identifying the most common elements found throughout the Port of Seattle's properties and infrastructure. Objects or elements found on incorrect layers during the QC review process will be flagged as errors and will need to be corrected.

## **Notes for Building Electrical Drawings:**

1. To the greatest extent possible the layer standards are divided into "systems". All utilities, equipment, structural elements, etc., associated with a "system" must be placed on layers associated with that "system".
2. Do not place text, notes, leaders, etc., on X-Refs. These should be placed on each individual drawing. Text and pattern X-Ref's that are sized for the drawing they are attached to are acceptable.
3. For electrical utility plans, place all conduits on conduit layers, duct-banks on duct-bank layers, cables on cable layers. Put electrical fixtures on fixture layers, handholes on handhole layers, manholes on manhole layers, symbols on symbol layers, etc., (i.e., do not electrical manholes on duct-bank layers, etc.).

Trade	Level	Root	Root Modifier	1st Optional Root Modifier	2nd Optional Root Modifier	Description
<b>E</b>						
NEWW		ACCS				Access systems power and control
		ALMS				Alarm systems
		BAGC				Baggage system power and controls
		CCTV				Communication Cable TV systems
		CDAT				Communication Data and computer systems
		CPRO				<b>Cathodic Protection site</b>
		CTEL				Communication Telephone systems
		CTWR				Communication radio towers
		GNDG				Grounding systems
		LEMG				Emergency lighting systems
		LNOR				Normal lighting systems
		PELV				Emergency power low voltage
		PEMV				Emergency power medium voltage
		PNLV				Normal power low voltage
		PNMV				Normal power medium voltage
NEWW		PNHV				High voltage systems over 480
		POWR				<b>Power for inside Buildings</b>
<b>Specific Root Modifiers for Power and Lighting Root Layers (only)</b>						
		ALRM				Alarm
		BUSW				Bus-way
		CTRL				Power Controls, Relay, Thermostat, Door Holders
		DBNK				Duct bank cabling
		EXIT				Exit sign
		FEED				Feeder electrical
		FIBO				Fiber optics
		HNHL				Hand hole
		INST				Instrumentation
		JBOX				Junction boxes
		MONI				Power monitoring site utility & electrical system or computer
		MSTR				Master
		NTWK				Network

			NUMB			All Electrical circuit numbers
			PANL			Electrical Panels
			RACE			Raceway
			RACK			Electrical racks
			RCPT			Receptacles/power outlets
			SLEV			Sleeves for conduit etc
			SNSR			Sensor
			SPLI			Splice
			STAN			Stationing data
			SUBS			Electrical substations
			SWBD			Switchboard
			SWCH			Switch
			SWGR			Switchgear
			TELM			Telemetry equipment
			TERM			Electrical terminal
			TRAY			Cable tray
			UTIL			Utility
			VALT			Utility Vault
			WIRE			Wire
<b>Generic Root Modifiers for All Electrical Root Layers</b>						
			ABOV			Above
			ACCY			Accessory
			AREA			An Area within Specific Boundaries
			AUXL			Auxiliary
			BELW			Below
			BYND			Object beyond
			CNTR			Centerlines
			DIMS			Dimensions
			FNSH			Surface Finish
			FITG			Fitting
			FIXT			Fixture
			GENL			General Component Elements
			GRID			Grids generic
				BUBL		Grid Bubbles
			HIDE			Hidden lines or objects
			IDEN			Equipment or material system ID
			MATL			Material
			MISC			Elements not covered by other modifiers.
NEWW			NICN			Not in contract
NEWW			NOTE			General Notes
NEWW			NPLT			Non-plotting graphic information
			NPOS			All Non-POS property lines equipment etc.
NEWW			OPEN			Openings, ceiling/roof penetrations, ETC.

NEWW			OPTN			Optional elements or equipment	
			OTLN			Object Outlines	
			OVHD			<b>Objects Overhead</b>	
			PATT			Floor Pattern or Hatch Patterns	
			PHAS			Phasing	
			PHTO			Photograph	
			PPOS			POS property line	
			REVN			Rev Deltas & clouds + revision text	
			SIGN			Signs or signage	
			SPCL			Specialty equipment	
			SYMB			Symbols	
	NEWW			TEMP			<b>Temporary</b>
				TEXT			Text associated with root
			UTIL			<b>Utility</b>	
		ACCS				<b>Access systems power and control</b>	
NEWW			ACLN			Access system control line number	
			AGRD			Access system power and control grounding	
				GROD		Ground rod	
			APLN			Access system power line number	
			BUSW			Access systems control buss way	
				PBSW		Power buss way	
				CBSW		Control buss way	
			CEIL			<b>Ceiling Elements</b>	
			CIRC			Access systems circuit	
				PCIR		Power circuit	
				CCIR		Control circuit	
			COND			Access systems power and control systems conduit	
				PCND		Power conduit	
				CCND		Control conduit	
			CPWR			Access system control power	
			CTRL			Access system controls	
			EQMT			Access systems power & control equipment	
				PEQT		Access systems power equipment	
				CEQT		Access systems control equipment	
			CRDR		Card reader		
NEWW			FLRR			<b>Floor Elements</b>	
			JBOX			Access system junction box	

NEWW			M CPR			Access system main control power
			PANL			Access system panels
				CPNL		Access systems control panel
				PPNL		Access systems power panel
			PBOX			Access system pull box
			WAAL			<b>Wall Elements</b>
			WIRE			Access system control wiring
				PWIR		Power wire
			CWIR		Control wire	
<b>ALMS</b>						
						<b>Alarm systems</b>
NEWW			BELL			<b>Pushbuttons, Buzzer/Horn, Buzzer</b>
NEWW			CABL			Alarm system cable
			CEIL			<b>Ceiling Elements</b>
			CIRC			Alarm system circuit
				PCIR		Power circuit
				CCIR		Control circuit
NEWW			COND			<b>Conduit</b>
NEWW				PCND		Power conduit
NEWW				CCND		Control conduit
			CTRL			<b>Power Controls, Relay, Thermostat, Door Holders</b>
NEWW			EQMT			Alarm system equipment
				CMNT		Ceiling mounted access control device
				DMNT		Door mounted access control device
				FMNT		Floor mounted access control device
				GMNT		Gate mounted access control device
				WMNT		Wall mounted access control device
NEWW			FARM			<b>Fire Alarm system</b>
NEWW			FLRR			<b>Floor Elements</b>
NEWW			GRND			<b>Ground For Electrical Power</b>
			HDHL			Alarm system hand-hole
			IDEN			Alarm system identification
			JBOX			Alarm system junction box
			PANL			Alarm systems panels
				CPNL		Alarm system control panel
				PPNL		Alarm system power panel

NEWW			SNSR			<b>Security Devices, Motion Sensors, Card Reader, Access Control Panels, Duress Alarm, Electric Locks/Strikes/Door Contact Switch, etc.</b>			
			TEXT			<i>Alarm system text</i>			
			WAAL			<b>Wall Elements</b>			
			WIRE			<i>Alarm systems wire</i>			
				PWIR		<i>Power wire</i>			
			CWIR			<i>Control wire</i>			
		BAGC				<b>Baggage system power and controls</b>			
NEWW			APSY			<b>Audio paging system</b>			
NEWW			ATMS			<b>Advanced traffic management system</b>			
NEWW			AVID			<b>Automatic vehicle identification system</b>			
NEWW			BIDS			<b>Baggage information display system</b>			
NEWW			BGRD			<i>Baggage grounding systems</i>			
			BUSW			<i>Baggage System Control Buss way</i>			
			CEIL			<b>Ceiling Elements</b>			
			CIRC			<i>Baggage System Control Circuit</i>			
			CMCP			<i>Baggage System Control Line Number</i>			
			COND			<i>Baggage System Control Conduit</i>			
			CTPO			<i>Baggage System Control Power</i>			
			CTRL			<i>Baggage System Controls</i>			
			NEWW			FIDS			<b>Flight information display system</b>
			NEWW			FLRR			<b>Floor Elements</b>
NEWW			GISY			<b>Gate information system</b>			
NEWW			GRND			<b>Ground For Electrical Power</b>			
NEWW			JBOX			<b>Junction boxes</b>			
			PANL			<i>power panels</i>			
NEWW			PMRC			<b>Parking management and revenue control</b>			
NEWW			VPSY			<b>Visual paging system</b>			
NEWW			WAAL			<b>Wall Elements</b>			
			WIRE			<i>Baggage System Control Wiring</i>			

		CCTV			Cable TV systems
NEWW			AUDI		Audio/Visual, Microphone system, Infrared Receivers, CATV outlets, Speakers, Assistive Listening, etc.
			CABL		Cable standard
NEWW				COAX	Coax cable
NEWW				FIBR	Fiber optics cable
NEWW				MULT	Multi-conductor cable
				TRAY	Cable trays and wire ways
NEWW			CIRC		Circuit
NEWW			CEIL		Ceiling Elements
NEWW			COND		Conduit
					Power Controls, Relay, Thermostat, Door Holders
NEWW			CTRL		
			DISK		Television disk
			EQMT		Communication equipment
				CRDR	Security access card reader
NEWW			FLRR		Floor Elements
					Ground For Electrical Power
NEWW			GRND		
			TEXT		Text
NEWW			WAAL		Wall Elements
		CDAT			Data and computer systems
NEWW			CABL		Data and computer Cable
NEWW				COAX	Coax cable
NEWW				FIBR	Fiber optics cable
NEWW				MULT	Multi-conductor cable
				TRAY	Cable trays and wire ways
NEWW			CEIL		Ceiling Elements
NEWW			CLOK		Clocks
NEWW			COND		Conduit
			CIRC		Circuit
					Data/LAN system: circuit number
NEWW			CNMB		
					Power Controls, Relay, Thermostat, Door Holders
NEWW			CTRL		
					Controls and instrumentation: devices
NEWW			DEVC		
			FIBO		Fiber optic cable
			JBOX		Junction Box

NEWW			FLRR			Floor Elements
NEWW			GRND			Ground For Electrical Power
NEWW			INTC			Intercom and devices
NEWW			MNHL			Manhole
			NETW			Network components
NEWW			STRC			computer systems Structural elements
			PANL			Panel
NEWW			TRAY			Cable tray
						Video Equipment, Video Cameras, Video Displays, Projectors, Switchers, etc.
NEWW			VIDO			Wall Elements
NEWW			WAAL			Wall Elements
NEWW			WIRE			Controls and instrumentation: wiring
NEWW		CPRO				Cathodic Protection site
			ABOV			Above
			ACCY			Accessory
			ANOD			Anode Terminal or electrode from which electrons leave a system.
			AREA			An Area within a Specific Boundaries
			AUXL			Auxiliary
			BASE			Base
			BELW			Below
			BENT			Bent
				BUBL		Bubbles
				CNTR		Bent centerlines
			CABL			Cathodic cable
			CIRC			Circuits
			CNTR			Centerlines of objects
			COND			Conduit
NEWW			CURR			Cathodic protection system: impress current
			CTRL			Control
			DIMS			Dimensions
			EQMT			Cathodic equipment
			FIXT			Fixtures
			GENL			General dock elements
			GRID			Dock grid
				BUBL		Grid Symbol Bubbles
				CNTR		Grid centerlines
NEWW			GRND			Ground
			HIDE			Hidden lines or objects
			HNHL			Hand hole
			IDEN			Equipment or material system ID
			JBOX			Junction box

			MISC			Elements not covered by other modifiers.
			MNHL			Manhole
			NPOS			All Non-POS property lines equipment etc.
			OPTN			Object Outlines
			PANL			panels
			PATT			Object Pattern or Hatch Patterns
			PHAS			Phasing
			PHTO			Photograph
			PILE			Piles
				AUGR		Auger cast piles
				BATT		Batter piles
				BEAR		Bearing piles
				CONC		Concrete piles
				EXST		Existing piles
				FNDR		Fender piles
				FUTR		Future piles
				MCRO		Micro piles
				MOOR		Mooring piles
				SHTP		Sheet pile
				TIMR		Timber piles
			PIPE			pipng
			PPOS			POS property line
			REVN			Rev Deltas & clouds + revision text
			SIGN			Signs or signage
			SPRT			Pipe and equipment supports
NEWW			STRC			Cathodic systems Structural elements
			SYMB			
			STNK			tanks
NEWW			TEST			Cathodic protection system: test stations
			TEXT			Text
			UTIL			Utility
		CTEL				Telephone systems
NEWW			CABL			Telephone cable
NEWW				COAX		Coax cable
NEWW				FIBR		Fiber optics cable
NEWW				MULT		Multi-conductor cable
				TRAY		Cable trays and wire ways
			CIRC			Circuits
			COND			Conduit
NEWW			CTRL			Power Controls, Relay, Thermostat, Door Holders

NEWW			ENCL			Telephone enclosure (booth)
			EQMT			Telephone equipment
			FIXT			Fixtures
			FLRR			Floor Elements
NEWW			GRND			Ground For Electrical Power
NEWW			JBOX			Telephone system junction box
NEWW			MNHL			Manhole
NEWW			PANL			Telephone panels
			POLE			Telephone poles
			STRC			Telephone systems Structural elements
NEWW			VALT			Telephone Vaults
NEWW			WAAL			Wall Elements
		CTWR				Communication radio towers
			EQMT			Communication radio tower equipment
		GNDG				Grounding systems
NEWW			CEIL			Grounding Ceiling elements
NEWW			CIRC			Grounding system cables
			CNMB			Ground system: circuit number
			COND			Grounding system conduit
NEWW			EQMT			Grounding system equipment
			EQUI			Ground system: equipment
			GROD			Grounding rod
			HNHL			Grounding system hand hole
			JBOX			Grounding system junction box
NEWW			TEXT			Text
			WAAL			Wall Elements
		LEMG				Emergency lighting systems
NEWW			CEIL			Emergency Ceiling elements
NEWW			CIRC			Emergency lighting circuits
			COND			Emergency lighting system conduit
				ABND		Abandoned emergency lighting conduit

NEWW			CONS			<b>Emergency Constant Current Regulators</b>
			EQMT			Emergency lighting equipment
NEWW			EXIT			<b>Emergency Exit fixtures</b>
			FEED			Emergency lighting feeders
			FIXT			Emergency lighting fixtures
NEWW			GRND			<b>Ground For Electrical Power</b>
NEWW			JBOX			<b>Junction boxes</b>
			NAVG			Emergency lighting navigation lights marine GYRS system
			PANL			Emergency lighting panels
			SNSR			Emergency lighting sensor
NEWW			SWCH			<b>Emergency switches</b>
			TEXT			Text
NEWW			WAAL			<b>Emergency wall fixtures</b>
			XFMR			Emergency lighting transformer
		LNOR				<b>Normal lighting systems</b>
NEW			CEIL			<b>Ceiling elements</b>
			CIRC			Circuits normal lighting
NEWW			CNMB			<b>Lighting: circuit number</b>
			COND			Conduit normal lighting
				ABND		Abandoned conduit normal lighting
NEWW			CONS			<b>Constant Current Regulators</b>
			DBNK			Normal lighting systems duct bank
NEW			EMER			<b>Emergency fixtures</b>
			EQMT			Equipment normal lighting
NEWW			EXTR			<b>Lighting: exterior</b>
NEWW			GRND			<b>Ground For Electrical Power</b>
			FEED			Feeders normal lighting
			FIXT			Fixtures normal lighting
NEW			JBOX			
			PANL			Panels normal lighting
NEWW			ROOF			<b>Lighting: roof</b>
			SNSR			Normal lighting sensor
NEWW			SWCH			<b>Lighting: switches</b>
			TEXT			Text
NEW			WAAL			<b>Wall Elements</b>
			XFMR			Normal lighting transformer
		PELV				<b>Emergency power low voltage</b>

NEWW			BUSW			<b>Emergency power circuit bus-way low voltage</b>
NEWW			CABL			<b>Emergency power low voltage cable</b>
NEWW				COAX		<b>Coax cable</b>
NEWW				FIBR		<b>Fiber optics cable</b>
NEWW				MULT		<b>Multi-conductor cable</b>
NEWW				TRAY		<b>Cable trays and wire ways</b>
NEWW			CEIL			<b>Emergency power Ceiling elements</b>
			CIRC			<i>Emergency power circuit low voltage</i>
			COND			<i>Emergency power conduit low voltage</i>
				ABND		<i>Abandoned emergency power conduit low voltage</i>
NEWW			CONS			<b>Constant Current Regulators</b>
			DBNK			<i>Emergency power duct bank low voltage</i>
			EQMT			<i>Emergency power equipment low voltage</i>
			FEED			<i>Emergency power feeders low voltage</i>
NEWW			GRND			<b>Ground For Electrical Power</b>
NEWW			JBOX			<b>Emergency power junction box</b>
NEWW			METR			<b>Emergency power low voltage meter</b>
NEWW				PMTR		<i>Port of Seattle meter emergency power low voltage</i>
NEWW				CMTR		<i>City power meter emergency power low voltage</i>
NEWW			MONI			<b>Emergency power monitoring system low voltage</b>
			PANL			<i>power panels</i>
			PBOX			<i>Emergency power pull box low voltage</i>
			RCPT			<i>Emergency power receptacle</i>
NEWW			REEF			<b>Reefer Receptacle emergency power low voltage</b>

NEWW			SWBD			Emergency power switchboards low voltage
NEWW			SWGR			Emergency power switchgear low voltage
			TEXT			Text
NEWW			XFMR			Emergency power transformer low voltage
NEWW				TCAN		Emergency power transformer can low voltage
		PEMV				Emergency power medium voltage
NEWW			BUSW			Emergency power circuit bus-way low voltage
NEW			CABL			Emergency power low voltage cable
NEWW				COAX		Coax cable
NEWW				FIBR		Fiber optics cable
NEWW				MULT		Multi-conductor cable
NEWW				TRAY		Cable trays and wire ways
NEWW			CEIL			Ceiling elements
			CIRC			Emergency power circuit medium voltage
			COND			Emergency power conduit medium voltage
				ABND		Abandoned emergency power conduit medium voltage
NEWW			CONS			Constant Current Regulators
			DBNK			Emergency power duct-bank medium voltage
			EQMT			Emergency power equipment medium voltage
			FEED			Emergency power feeders medium voltage
NEWW			GRND			Ground For Electrical Power
NEW			JBOX			Emergency power junction box
NEW			METR	PMTR		Port of Seattle meter emergency power medium voltage
				CMTR		City power meter emergency power medium voltage

NEW			<b>MONI</b>			<b>Emergency power monitoring system medium voltage</b>
			<b>PANL</b>			<i>power panels</i>
			<b>PBOX</b>			<i>Emergency power pull box medium voltage</i>
NEW			<b>POLE</b>			<b>Emergency power medium voltage pole</b>
NEW			<b>RCPT</b>			<b>Emergency power receptacle medium voltage</b>
			<b>REEF</b>			<i>Reefer Receptacle emergency power medium voltage</i>
			<b>SWBD</b>			<i>Emergency power switchboards medium voltage</i>
NEW			<b>SWGR</b>			<b>Emergency power switchgear medium voltage</b>
			<b>TEXT</b>			<i>Text</i>
			<b>XFMR</b>			<i>Emergency power transformer medium voltage</i>
		<b>PNLV</b>				<b>Normal power low voltage systems 120</b>
NEWW			<b>CABL</b>			<b>Emergency power low voltage cable</b>
NEWW				<b>COAX</b>		<b>Coax cable</b>
NEWW				<b>FIBR</b>		<b>Fiber optics cable</b>
NEWW				<b>MULT</b>		<b>Multi-conductor cable</b>
NEWW				<b>TRAY</b>		<b>Cable trays and wire ways</b>
NEWW			<b>CEIL</b>			<b>Ceiling elements</b>
NEWW			<b>CIRC</b>			<b>Circuits normal power low voltage</b>
NEWW			<b>COND</b>			<b>Conduit normal power low voltage</b>
NEWW				<b>ABND</b>		<b>Abandoned normal power conduit low voltage</b>
NEWW			<b>CONS</b>			<b>Constant Current Regulators</b>
NEWW			<b>DBNK</b>			<b>Normal power duct-bank low voltage</b>
NEWW			<b>EQMT</b>			<b>Equipment normal power low voltage</b>
NEWW			<b>FEED</b>			<b>Feeders normal power low voltage</b>

NEWW			FLRR			Floor Elements
NEWW			JBOX			
NEWW			GRND			Ground For Electrical Power
NEWW			GYWR			Guy wire
NEWW			HNHL			Hand holes normal power low voltage
NEWW			JBOX			Normal power junction box low voltage
NEWW			METR			Normal power low voltage meter
NEWW				PMTR		Port of Seattle meter normal power low voltage
NEWW				CMTR		City power meter normal power low voltage
NEWW			MNHL			Manhole normal power low voltage
NEWW						Normal power monitoring system low voltage
NEWW			MONI			
NEWW			PANL			power panels
NEWW			RCPT			Receptacles normal power low voltage
NEWW			POLE			Power poles normal power low voltage
NEWW			STRC			Normal power low Structural elements
NEWW			VALT			Vaults normal power low voltage
NEWW			WAAL			Wall Elements
NEWW			XFMR			Normal power transformer low voltage
		PNMV				<i>Normal power medium voltage systems</i>
NEWW			BUSW			Normal power circuit bus-way medium voltage
NEWW			CABL			Normal power cable
NEWW				COAX		Coax cable
NEWW				FIBR		Fiber optics cable
NEWW				MULT		Multi-conductor cable
NEWW				TRAY		Cable trays and wire ways
NEWW			CEIL			Ceiling elements
NEWW			CIRC			<i>Circuits normal power medium voltage</i>

			COND			Conduit normal power medium voltage
NEWW			CONS			Constant Current Regulators
			DBNK			Normal power duct-bank medium voltage
			EQMT			Equipment normal power medium voltage
			FEED			Feeders normal power medium voltage
NEWW			FLRR			Floor Elements
NEWW			GRND			Ground
NEWW			GYWR			Landis gyrs system
			HNHL			Hand holes normal power medium voltage
NEWW			JBOX			junction box
NEWW			METR			Normal power medium voltage meter
NEWW				PMTR		Port of Seattle meter medium voltage
NEWW				CMTR		City power meter medium voltage
NEWW			GRND			Ground For Electrical Power
			MNHL			Manhole normal power medium voltage
NEWW			MONI			Normal power monitoring system medium voltage
			PANL			power panels
NEWW			POLE			Power poles normal power medium voltage
NEWW			RCPT			Receptacles normal power medium voltage
NEWW			STRC			Normal power medium Structural elements
			SUBS			Substation normal power medium voltage
				EQMT		Substation equipment
			VALT			Vaults normal power medium voltage
NEWW			WAAL			Wall Elements
			XFMR			Normal power transformer medium voltage
				TCAN		Normal power transformer can high voltage
			PNHV			High voltage systems over 480
NEWW			CABL			Emergency power low voltage cable

NEWW			COAX		Coax cable
NEWW			FIBR		Fiber optics cable
NEWW			MULT		Multi-conductor cable
NEWW			TRAY		Cable trays and wire ways
NEWW			CEIL		Ceiling elements
NEWW			BUSW		Normal power circuit bus-way high voltage
NEWW			CIRC		Circuits normal power high voltage
NEWW			COND		Conduit normal power high voltage
NEWW				ABND	Abandoned normal power conduit high voltage
NEWW			CONS		Constant Current Regulators
NEWW			DBNK		Normal power duct-bank high voltage
NEWW			EQMT		Equipment normal power high voltage
NEWW			FEED		Feeders normal power high voltage
NEWW			FLRR		Floor Elements
NEWW			GRND		Ground For Electrical Power
NEWW			GYWR		Guy wire
NEWW			HNHL		Hand holes normal power high voltage
NEWW			JBOX		Normal power junction box high voltage
NEWW			L480		Elements less than 480v electrical system (e.g. conduits, wires, panels, handholds, vaults, switches, etc)
NEWW			METR		Normal power high voltage meter
NEWW				CMTR	City power meter high voltage
NEWW				PMTR	Port of Seattle meter high voltage
NEWW			MNHL		Manhole normal power high voltage
NEWW			MONI		Normal power monitoring system high voltage

NEWW			PANL			Panels normal power high voltage
NEWW			POLE			Power poles normal power high voltage
NEWW				BASE		Power pole base
NEWW				GPST		Guy post
NEWW				GYWR		Guy wire
NEWW			TEXT			Text
NEWW			VALT			Vaults normal power high voltage
NEWW			WAAL			Wall Elements
NEWW			XFMR			Normal power transformer high voltage
NEWW				TCAN		Normal power transformer can high voltage
E		POWR				<i>Power for inside Buildings</i>
NEWW			BUSW			Bus ways and wire ways
NEWW			CABL			Power: cable systems
NEWW				COAX		Coax cable
NEWW				FIBR		Fiber optics cable
NEWW				MULT		Multi-conductor cable
NEWW				TRAY		Cable trays and wire ways
NEWW			CBOX			Power: combiner box
NEWW			CIRC			Power circuits (including cross lines and homeruns)
NEWW			CEIL			Ceiling outlets (receptacles and switches)
NEWW			CNDT			Power conduit underground
NEWW			CNMB			Power: circuit number
NEWW			CTRL			ELECTRICAL Power CONTROL SYSTEMS
NEWW			DEVC			Power: devices
NEWW			DSCO			Power: disconnect switches
NEWW			DUCT			Center line power conduit
NEWW			FEED			Feeders
NEWW			FLRR			Floor Elements
NEWW			GENR			Generators and auxiliary equipment
NEWW			GRND			Ground rod
NEWW			GRND			Ground rod box

NEWW			GYWR			Guy wire
NEWW			G480			ELEMENTS GREATER THAN 480V ELECTRICAL SYSTEM (e.g. CONDUITS, WIRES, PANELS, HANDHOLDS, VAULTS, SWITCHES, ETC)
NEWW			HNHL			Power hand hole
NEWW			JBOX			Power junction box
NEWW			L480			ELEMENTS LESS THAN 480V ELECTRICAL SYSTEM (e.g. CONDUITS, WIRES, PANELS, HANDHOLDS, VAULTS, SWITCHES, ETC)
NEWW			MOTR			Motors and utilization equipment
NEWW			PANL			Panel boards, switchboards, MCC, unit substations
NEWW			REEF			Reefer outlet
NEWW			ROOF			Power: roof
NEWW			SNSR			Sensor
NEWW			STRC			Power Structural elements
NEWW			SUBS			Power substation
NEWW			SWBD			Power: switchboards
NEWW			SWCH			Disconnect switches, motor starters, contactors, etc.
NEWW			TREN			Power trench
NEWW			UNKN			Unknown objects associated with root
NEWW			UCPT			Power: under-carpet wiring
NEWW			URAC			Under floor raceways
NEWW			VALT			Power vault
NEWW			WAAL			Wall/floor outlets (receptacles and switches)
NEWW			XFMR			Transformer can

# Fire Protection Layers

Some 1<sup>st</sup> Optional Root Modifiers have been specified in the standard. If the object or element being drawn matches the layer description notes, the 1<sup>st</sup> Optional Root Modifier indicated must be used. The intent is to provide a consistent method of identifying the most common elements found throughout the Port of Seattle's properties and infrastructure. Objects or elements found on incorrect layers during the QC review process will be flagged as errors and will need to be corrected.

## **Notes for Building Fire Protection Drawings:**

1. To the greatest extent possible the layer standards are divided into "systems". All utilities, equipment, structural elements, etc., associated with a "system" must be placed on layers associated with that "system".
2. Do not place text, notes, leaders, etc., on X-Refs. These should be placed on each individual drawing. Text and pattern X-Ref's that are sized for the drawing they are attached to are acceptable.
3. For fire protection utility plans, place all piping and fittings on piping layers. Put valves on valve layers, equipment on equipment layers, symbols on symbol layers, etc., (i.e., do not put valves, equipment, and symbols on piping layers, etc.). Align all valves with piping in the direction of flow.

Trade	Level	Root	Root Modifier	1st Optional Modifier	1st Optional Modifier	Description
<b>F</b>						
NEWW		ALRM				Fire Alarm / Detection Equipment
NEWW		CO2S				CO2 Sprinkler System
NEWW		CTRL				Control Panels
		DELU				Deluge systems for buildings
NEWW		FLOR				Floor Information
		FOAM				Aqueous film-forming foam system
NEWW		HALN				Halon System
NEWW		IGAS				Inert Gas
NEWW		LGHT				Lights
NEWW		LSFT				Egress Requirements
NEWW		PROT				Fire Protection / Suppression Equipment
NEWW		RATE				Fire Ratings
NEWW		SMOK				Smoke/Pressurization Control
		SPRN				Sprinkler systems for buildings
		STND				Standpipe systems for buildings
NEWW		WATR				Water Supply and Distribution
<b>Generic Root Modifiers for All Fire Root Layers</b>						
			ABOV			Above
			ACCY			Accessory
			AREA			An Area within Specific Boundaries
			AUXL			Auxiliary
			BELW			Below
			BYND			Object beyond
			CNTR			Centerlines
			DIMS			Dimensions
			FNSH			Surface Finish
			FITG			Fitting
			FIXT			Fixture
			GENL			General Component Elements

			GRID		Grids generic
			BUBL		Grid Bubbles
			HIDE		Hidden lines or objects
			IDEN		Equipment or material system ID
			MATL		Material
			MISC		Elements not covered by other modifiers.
NEWW			NICN		Not in contract
NEWW			NOTE		General Notes
NEWW			NPLT		Non-plotting graphic information
			NPOS		All Non-POS property lines equipment etc.
NEWW			OPEN		Openings, ceiling/roof penetrations, ETC.
			OPTN		Optional elements or equipment
			OTLN		Object Outlines
NEWW			OVHD		Objects Overhead
			PATT		Floor Pattern or Hatch Patterns
			PHAS		Phasing
			PHTO		Photograph
			PPOS		POS property line
			REVN		Rev Deltas & clouds + revision text
			SIGN		Signs or signage
			SPCL		Specialty equipment
			SYMB		Symbols
NEWW			TEMP		Temporary
			TEXT		Text associated with root
			UTIL		Utility
		ALRM			Fire Alarm / Detection Equipment
NEWW			DTCT		Smoke/heat/other detectors
NEWW			INDC		Indicating appliances
NEWW			FLRM		Fire protection system: alarm
NEWW			MANL		Manual fire alarm pull stations
NEWW			PHON		Fire service or emergency telephone stations
NEWW			TEXT		Text
NEWW			WIRE		

		<b>CO2S</b>			<b>CO2 system</b>
<b>NEWW</b>			<b>EQMT</b>		<b>CO2 equipment systems</b>
<b>NEWW</b>			<b>PIPE</b>		<b>CO2 system piping</b>
<b>NEWW</b>				<b>CAPS</b>	<b>Blind flange or cap</b>
<b>NEWW</b>				<b>SPIP</b>	<b>Supply pipe</b>
<b>NEWW</b>				<b>TEMP</b>	<b>Temporary pipe</b>
<b>NEWW</b>			<b>PUMP</b>		<b>CO2 system pumps</b>
<b>NEWW</b>			<b>SNSR</b>		<b>Sensors</b>
<b>NEWW</b>			<b>SPRT</b>		<b>Pipe and equipment supports</b>
<b>NEWW</b>			<b>TEXT</b>		<b>Text</b>
<b>NEWW</b>			<b>VALV</b>		<b>CO2 system valves</b>
		<b>CTRL</b>			<b>Control Panels</b>
<b>NEWW</b>			<b>PANL</b>		<b>Control panels</b>
<b>NEWW</b>			<b>TEXT</b>		<b>Text</b>
		<b>DELU</b>			<b>Deluge systems for buildings</b>
<b>NEWW</b>			<b>ALRM</b>		<i>Fire alarm panel and controls</i>
			<b>BFPA</b>		<i>Backflow prevention assembly</i>
			<b>BLRD</b>		<i>Bollards</i>
			<b>CIRC</b>		<b>Deluge systems Circuits</b>
			<b>CTRL</b>		<i>Controls for equipment</i>
			<b>ENCL</b>		<i>Valve enclosure</i>
			<b>EQMT</b>		<i>Deluge equipment not associated with other systems</i>
			<b>FDCN</b>		<i>Fire department connections</i>
				<b>SMSE</b>	<i>Siamese</i>
			<b>FDET</b>		<i>Fire detectors</i>
			<b>HOSE</b>		<i>Fire hose</i>
				<b>CBNT</b>	<i>Fire hose cabinet</i>
				<b>RACK</b>	<i>Fire hose rack</i>
			<b>PIPE</b>		<i>Deluge system piping</i>
				<b>ABND</b>	<i>Abandoned pipe</i>
				<b>CAPS</b>	<i>Blind flange or cap</i>
				<b>SPIP</b>	<i>Supply pipe</i>
				<b>TEMP</b>	<i>Temporary pipe</i>
			<b>PUMP</b>		<i>Deluge system pumps</i>
			<b>SNSR</b>		<i>Sensors</i>
		<b>SPKL</b>		<i>Deluge system sprinklers</i>	
		<b>SPRT</b>		<i>Pipe and equipment supports</i>	
		<b>STNK</b>		<i>Deluge system storage tank</i>	
		<b>TEXT</b>		<i>Text</i>	
		<b>VALT</b>		<i>Fire protection valve vault</i>	

			VALV			Fire protection valves
		FLOR				Control Panels
NEWW			EQMT			Floor equipment
NEWW			TEXT			Text
		FOAM				Aqueous Film Forming Foam System
			ALRM			Fire alarm panel and controls
			BFPA			Backflow prevention assembly
			BLRD			Bollards
			CTRL			Controls for equipment
			ENCL			Valve enclosure
			EQMT			Foam equipment systems
			HOSE			Fire hose
				CBNT		Fire hose cabinet
				RACK		Fire hose rack
			PIPE			Foam system piping
				CAPS		Blind flange or cap
				SPIP		Supply pipe
				TEMP		Temporary pipe
			PUMP			Foam system pumps
			SNSR			Sensors
			SPRT			Pipe and equipment supports
			STNK			Foam system storage or bladder tank
			TEXT			Text
			VALT			Fire protection valve vault
			VALV			Foam system valves
		HALN				Halon
NEWW			EQMT			Halon equipment systems
NEWW			PIPE			Halon system piping
NEWW				CAPS		Blind flange or cap
NEWW				SPIP		Supply pipe
NEWW				TEMP		Temporary pipe
NEWW			PUMP			Halon system pumps
NEWW			SNSR			Sensors
NEWW			SPRT			Pipe and equipment supports
NEWW			TEXT			Text
NEWW			VALV			Halon system valves

		<b>IGAS</b>			<b>Inert gas</b>
<b>NEWW</b>			<b>EQMT</b>		<b>Inert gas equipment systems</b>
<b>NEWW</b>			<b>PIPE</b>		<b>Inert gas system piping</b>
<b>NEWW</b>				<b>CAPS</b>	<b>Blind flange or cap</b>
<b>NEWW</b>				<b>SPIP</b>	<b>Supply pipe</b>
<b>NEWW</b>				<b>TEMP</b>	<b>Temporary pipe</b>
<b>NEWW</b>			<b>PUMP</b>		<b>Inert gas system pumps</b>
<b>NEWW</b>			<b>SNSR</b>		<b>Sensors</b>
<b>NEWW</b>			<b>SPRT</b>		<b>Pipe and equipment supports</b>
<b>NEWW</b>			<b>TEXT</b>		<b>Text</b>
<b>NEWW</b>			<b>VALV</b>		<b>Inert gas system valves</b>
		<b>LGHT</b>			<b>Lights</b>
<b>NEWW</b>			<b>EMER</b>		<b>Emergency fixtures</b>
<b>NEWW</b>			<b>EXIT</b>		<b>Exit fixtures</b>
<b>NEWW</b>			<b>TEXT</b>		<b>Text</b>
		<b>LSFT</b>			<b>Egress Requirements</b>
<b>NEWW</b>			<b>EGRE</b>		<b>Egress requirements designator</b>
<b>NEWW</b>			<b>OCCP</b>		<b>Exit fixtures</b>
<b>NEWW</b>			<b>TRVL</b>		<b>Maximum travel distances</b>
<b>NEWW</b>			<b>TEXT</b>		<b>Text</b>
		<b>PROT</b>			<b>Fire protection system</b>
<b>NEWW</b>			<b>CABN</b>		<b>Fire hose cabinets</b>
<b>NEWW</b>			<b>EXTI</b>		<b>Fire extinguishers and fire extinguisher cabinets</b>
<b>NEWW</b>			<b>HOSE</b>		<b>Fire hoses</b>
<b>NEWW</b>			<b>EQMT</b>		<b>Fire protection system equipment systems</b>
			<b>HYDT</b>		<b>Fire Hydrant and connections</b>
<b>NEWW</b>			<b>PIPE</b>		<b>Fire protection system piping</b>
<b>NEWW</b>				<b>CAPS</b>	<b>Blind flange or cap</b>
<b>NEWW</b>				<b>SPIP</b>	<b>Supply pipe</b>
<b>NEWW</b>				<b>TEMP</b>	<b>Temporary pipe</b>
<b>NEWW</b>			<b>PUMP</b>		<b>Fire protection system pumps</b>
<b>NEWW</b>			<b>SMOK</b>		<b>Fire protection system: smoke detector / heat sensors</b>
<b>NEWW</b>			<b>SPRT</b>		<b>Pipe and equipment supports</b>
<b>NEWW</b>			<b>TEXT</b>		<b>Text</b>

<b>NEWW</b>			<b>VALV</b>			<b>Fire protection system valves</b>
		<b>RATE</b>				<i>Fire protection system: ratings</i>
<b>NEWW</b>			<b>FDOR</b>			<b>Door fire ratings</b>
<b>NEWW</b>			<b>WAAL</b>			<b>Wall fire ratings</b>
<b>NEWW</b>			<b>TEXT</b>			<b>Text</b>
		<b>SMOK</b>				<i>Smoke/Pressurization Control</i>
<b>NEWW</b>			<b>DAMP</b>			<b>Dampers</b>
<b>NEWW</b>			<b>EQMT</b>			<b>Equipment</b>
<b>NEWW</b>			<b>TEXT</b>			<b>Text</b>
		<b>SPRN</b>				<i>Sprinkler systems for buildings</i>
<b>NEWW</b> <b>NEWW</b>			<b>ALRM</b>			<i>Fire alarm panel and controls</i>
			<b>BFPA</b>			<i>Backflow prevention assembly</i>
			<b>BLRD</b>			<i>Bollards</i>
			<b>CLHD</b>			<b>Sprinkler system: ceiling heads</b>
			<b>COMB</b>			<b>Combination system</b>
			<b>CTRL</b>			<i>Controls for equipment</i>
			<b>DRYP</b>			<i>Dry pipe system elements</i>
				<b>PIPE</b>		<i>Dry pipe system piping</i>
				<b>VALV</b>		<i>Dry pipe system valves</i>
			<b>ENCL</b>			<i>Valve enclosure</i>
			<b>EQMT</b>			<i>Sprinkler equipment not associated with other systems</i>
			<b>FDCN</b>			<i>Fire department connections</i>
				<b>SMSE</b>		<i>Siamese</i>
			<b>FDET</b>			<i>Fire detectors</i>
			<b>HOSE</b>			<i>Fire hose</i>
	<b>CBNT</b>		<i>Fire hose cabinet</i>			
	<b>RACK</b>		<i>Fire hose rack</i>			
<b>HYDT</b>			<i>Fire Hydrant</i>			
<b>NEWW</b> <b>NEWW</b> <b>NEWW</b>			<b>OTHD</b>			<b>Sprinkler - other heads</b>
			<b>OTHR</b>			<b>Sprinkler - other</b>
			<b>PEND</b>			<b>Sprinkler - pendant</b>
			<b>PIPE</b>			<i>Fire protection piping</i>
				<b>ABND</b>		<i>Abandoned pipe</i>
	<b>CAPS</b>		<i>Blind flange or cap</i>			
	<b>RPIP</b>		<i>Return pipe</i>			
	<b>SPIP</b>		<i>Supply pipe</i>			
	<b>TEMP</b>		<i>Temporary pipe</i>			

<b>NEWW</b>			PUMP		Fire pumps
			SNSR		Sensors, switches
			SPKL		Fire sprinklers
			SPRT		Pipe and equipment supports
			<b>STAN</b>		<b>Standpipe system</b>
			TEXT		Text
			VALT		Fire protection valve vault
			VALV		Fire protection valves
			WETP		Wet pipe system elements
				PIPE	Wet pipe system piping
	VALV	Wet pipe system valves			
		<b>STND</b>			<b>Standpipe systems for buildings</b>
			ALRM		Fire alarm panel and controls
			BFPA		Backflow prevention assembly
			BLRD		Bollards
			CTRL		Controls for equipment
			DRYP		Dry pipe system elements
				PIPE	Dry pipe system piping
				VALV	Dry pipe system valves
			ENCL		Valve enclosure
			EQMT		Standpipe equipment not associated with other systems
			FDCN		Fire department connections
				SMSE	Siamese
			HOSE		Fire hose
				CBNT	Fire hose cabinet
				RACK	Fire hose rack
			PUMP		Fire pumps
			SNSR		Sensors, switches
			SPKL		Fire sprinklers
			SPRT		Pipe and equipment supports
			TEXT		Text
			VALT		Fire protection valve vault
			VALV		Fire protection valves
			WFDT		Water flow detector
				AVLV	Alarm valve
				PIVL	Post indicator valves
				WMAL	Water motor alarm valve
			WETP		Wet pipe system elements
	PIPE	Wet pipe system piping			
	VALV	Wet pipe system valves			

		<b>WATR</b>			<b><i>Water Supply and Distribution</i></b>
<b>NEWW</b>			<b>CONN</b>		<b>Fire department connections</b>
<b>NEWW</b>			<b>HYDT</b>		<b>Fire water hydrant</b>
<b>NEWW</b>			<b>HOSE</b>		<b>Water hoses</b>
<b>NEWW</b>			<b>PIPE</b>		<b>Piping</b>
<b>NEWW</b>			<b>PUMP</b>		<b>Fire pumps</b>
<b>NEWW</b>			<b>TEXT</b>		

# X-Reference Layers

<b>Trade</b>	<b>Level</b>	<b>Root</b>	<b>Root Modifier</b>	<b>1st Optional Modifier</b>	<b>2nd Optional Modifier</b>	<b>Description</b>
<b>X</b>	<b>Not required</b>	<b>see note below</b>				
		XF01	ARCH			<i>For Architectural X-Reference Bases</i>
		XF01	CIVL			<i>For Civil X-Reference Bases</i>
		XF01	SRVY			<i>For Civil Survey X-Reference Bases</i>
		XF01	ELEC			<i>For Electrical X-Reference Bases</i>
		XF01	FIRE			<i>For Fire Protection X-Reference Bases</i>
		XF01	LAND			<i>For Landscaping X-Reference Bases</i>
		XF01	MECH			<i>For Mechanical X-Reference Bases</i>
		XF01	BAGC			<i>For Mechanical Baggage X-Reference Bases</i>
		XF01	PLMB			<i>For Plumbing X-Reference Bases</i>
		XF01	STRU			<i>For Structural X-Reference Bases</i>
<p><b>NOTE:</b> Replace the 00 to 01 and add additional numbers as needed for X-Reference drawings...Example</p> <p><b>X XF01 ARCH      X XF02 ARCH</b></p>						
<p><b>NOTE 1:</b> The pound sign # in the Root = a numeral input from the user.</p> <p><b># # = A number range of 1-99</b></p>						
<p><b>NOTE 2:</b> The 1<sup>st</sup> and 2<sup>nd</sup> Optional Modifier may be used to provide additional information for each X-ref</p> <p><b>I.e. X XF01 STRU PILE For a new pile location X-ref</b></p>						

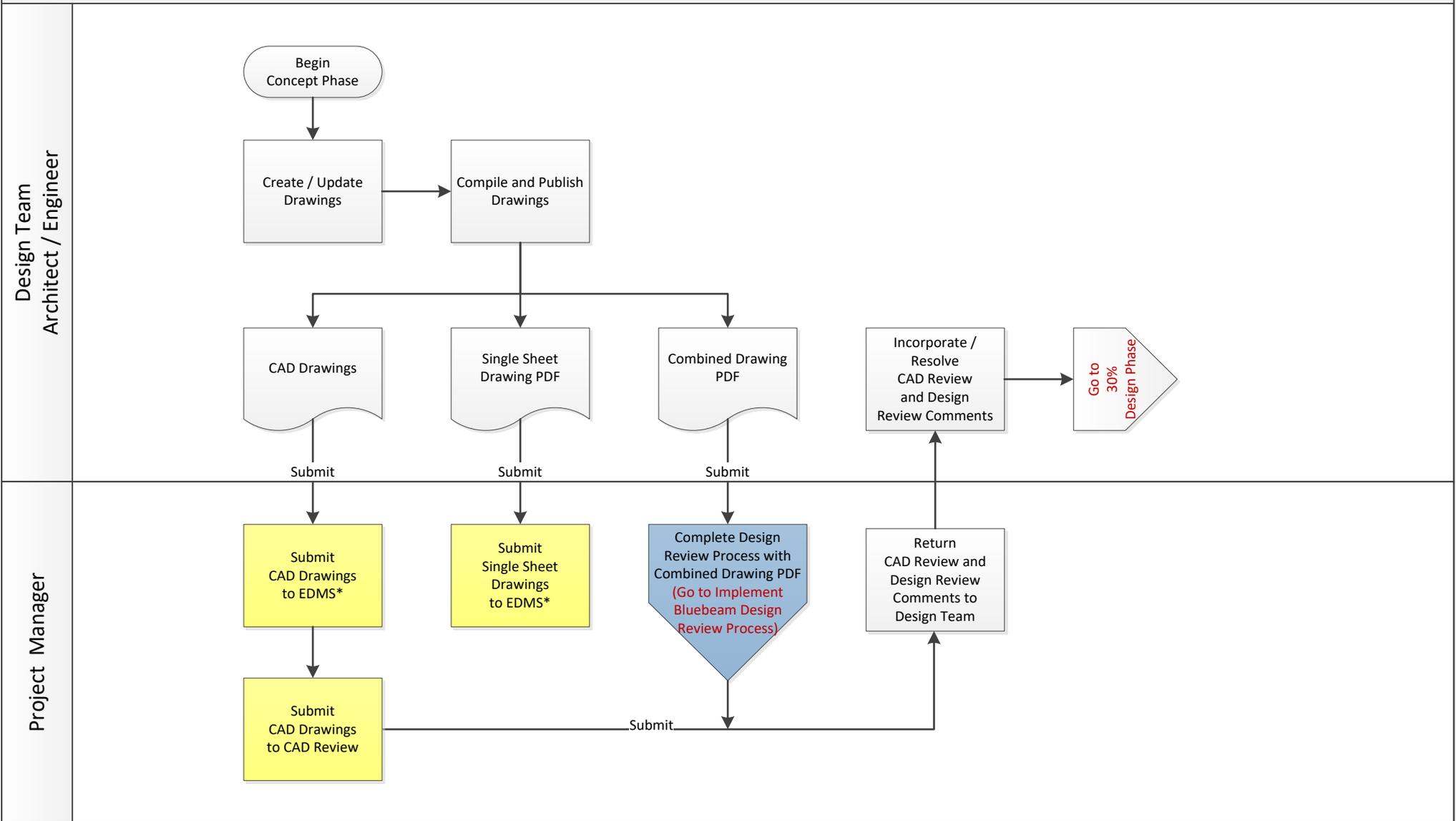
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# **Appendix F Design Submittal Deliverable Flowcharts**

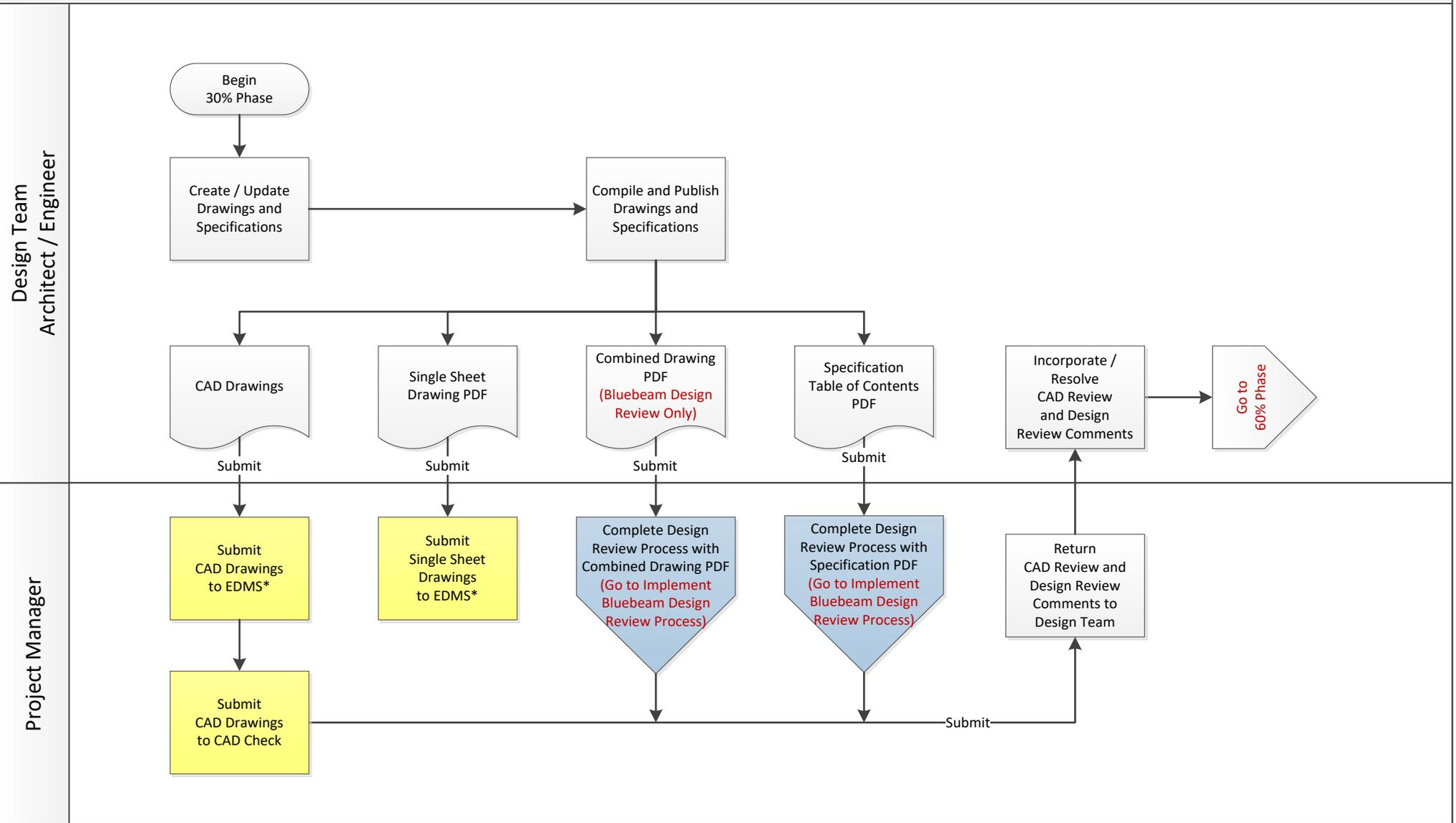
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### Design Phase Deliverables

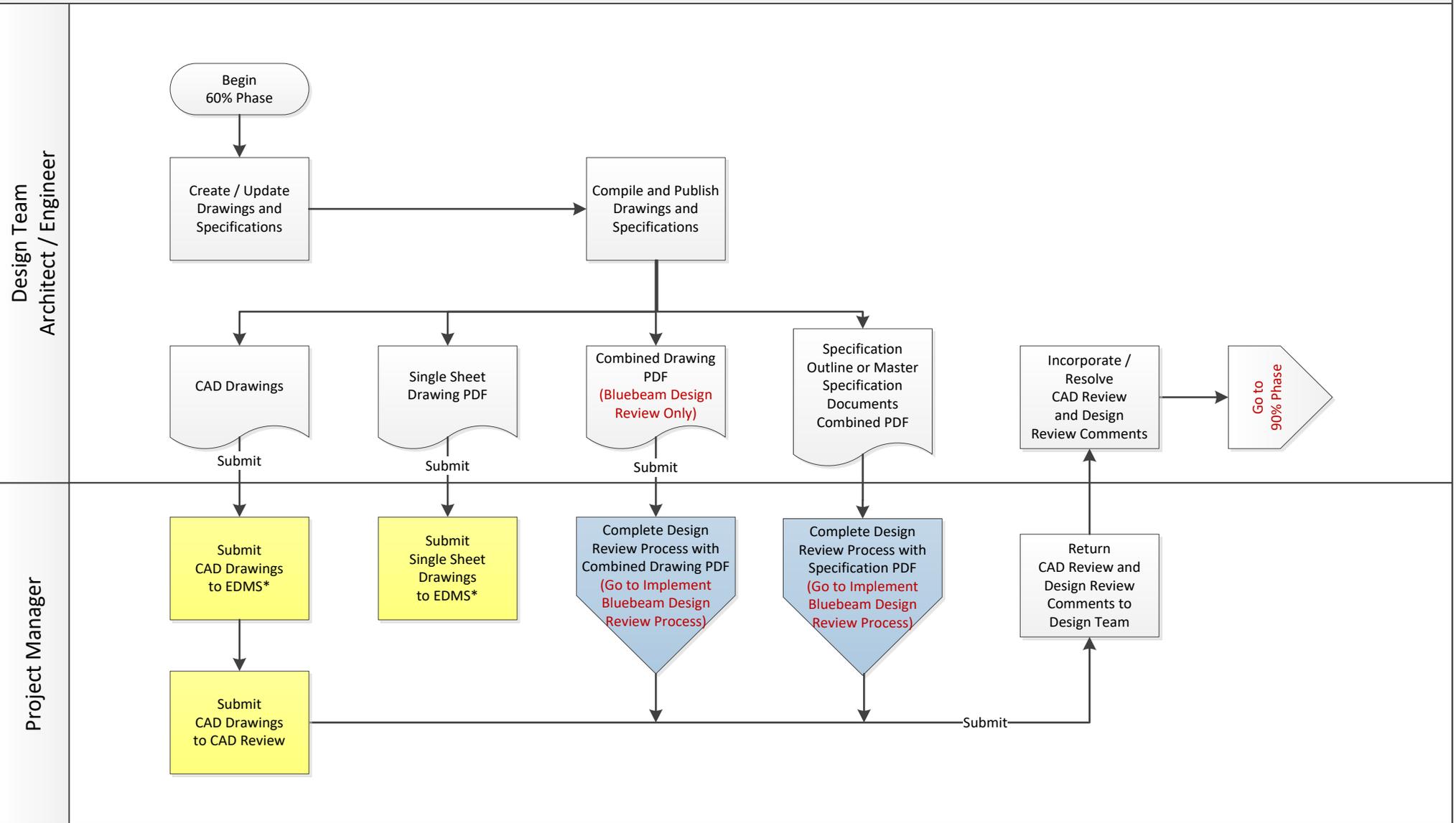
		A/E Deliverable	PM Task
<b>Concept (15%) Design Review</b>			
Drawings	CAD	Individual sheet files	Send to EDMS
	PDF	Individual sheet files	Send to CAD Review
		Combined project drawings	Send to EDMS
Specifications	Word	None required	Go through Bluebeam Design Review process
	PDF	None required	N/A
<b>30% Design Review</b>			
Drawings	CAD	Individual sheet files	Send to EDMS
	PDF	Individual sheet files	Send to CAD Review
		Combined project drawings	Send to EDMS
Specifications	Word	None required	Go through Bluebeam Design Review process
	PDF	Table of Contents	N/A
<b>60% Design Review</b>			
Drawings	CAD	Individual sheet files	Send to EDMS
	PDF	Individual sheet files	Send to CAD Review
		Combined project drawings	Send to EDMS
Specifications	Word	None required	Go through Bluebeam Design Review process
	PDF	Outline or Master Specs	N/A
<b>90% Design Review</b>			
Drawings	LAU	Individual sheet files	Send to EDMS
	PDF	Individual sheet files	Send to CAD Review
		Combined project drawings	Send to EDMS
Specifications	Word	Individual section files	Go through Bluebeam Design Review process
	PDF	Combined specification file	Go through Design Review process (optional)
<b>Building Permit Submittal</b>			
Drawings	CAD	Signed individual sheet files	Go through Bluebeam Design Review process
	PDF	Signed individual permit sheet files	Submit to Building Department/Authority Having Jurisdiction
		Signed combined permit drawings	Send to EDMS
Specifications	Word	N/A	Submit to Building Department/Authority Having Jurisdiction
	PDF	Combined specification file (where required by Authority Having Jurisdiction)	N/A
<b>100% Design Review</b>			
Drawings	CAD	Individual sheet files	Send to EDMS
	PDF	Individual sheet files	Send to CAD Review
		Combined project drawings	Send to EDMS
Specifications	Word	Individual section files	Go through Bluebeam Design Review process
	PDF	Combined specification file	Go through Design Review process (optional)
<b>Ready to Bid Document Submittal</b>			
Drawings	CAD	Individual sheet files	Send to EDMS
	PDF	Signed individual sheet files	Send to EDMS
		Signed combined project drawings	Send to CPO for Bid
Specifications	Word	Individual section files with signed Certification of Specifications PDF	Send to project delivery team for construction use
	PDF	Combined specification file	Send to CPO for reference
<b>Bid Addenda</b>			
Drawings	CAD	Individual sheet files	Send to EDMS
	PDF	Signed individual sheet files	Send to EDMS
		Combined project drawings	Send to CPO for Bid
Specifications	Word	Individual section files with signed Certification of Specifications PDF	Send to project delivery team for construction use
	PDF	Combined specification file	Send to CPO for Bid
<b>Ready to Bid Document Submittal</b>			
Drawings	CAD	Individual sheet files	Send to EDMS
	PDF	Signed individual sheet files	Send to EDMS
		Combined project drawings	Send to CPO for Bid
Specifications	Word	Individual section files with signed Certification of Specifications PDF	Send to project delivery team for construction use
	PDF	Combined specification file	Send to CPO for Bid



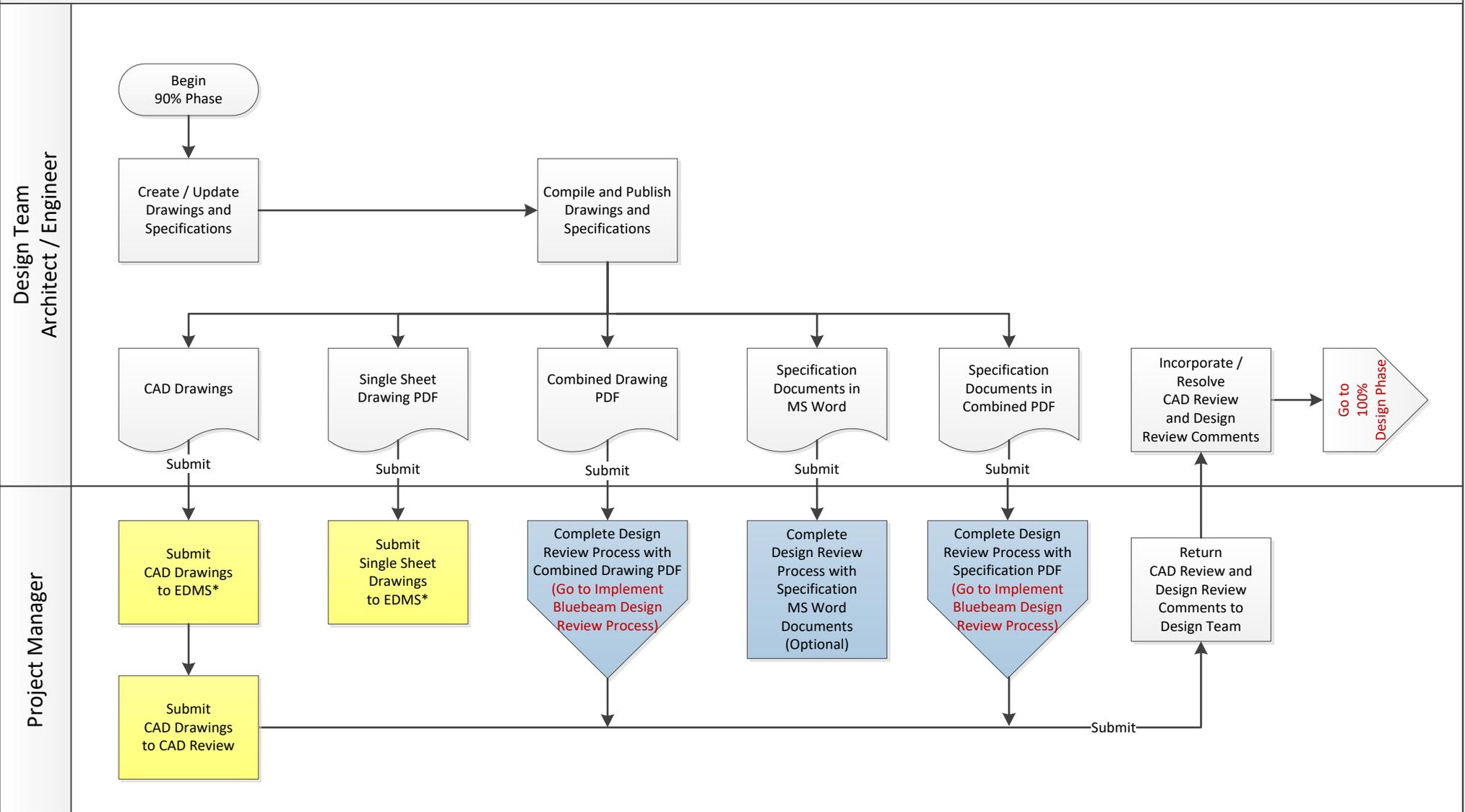
\*Engineering Document Management System (EDMS)



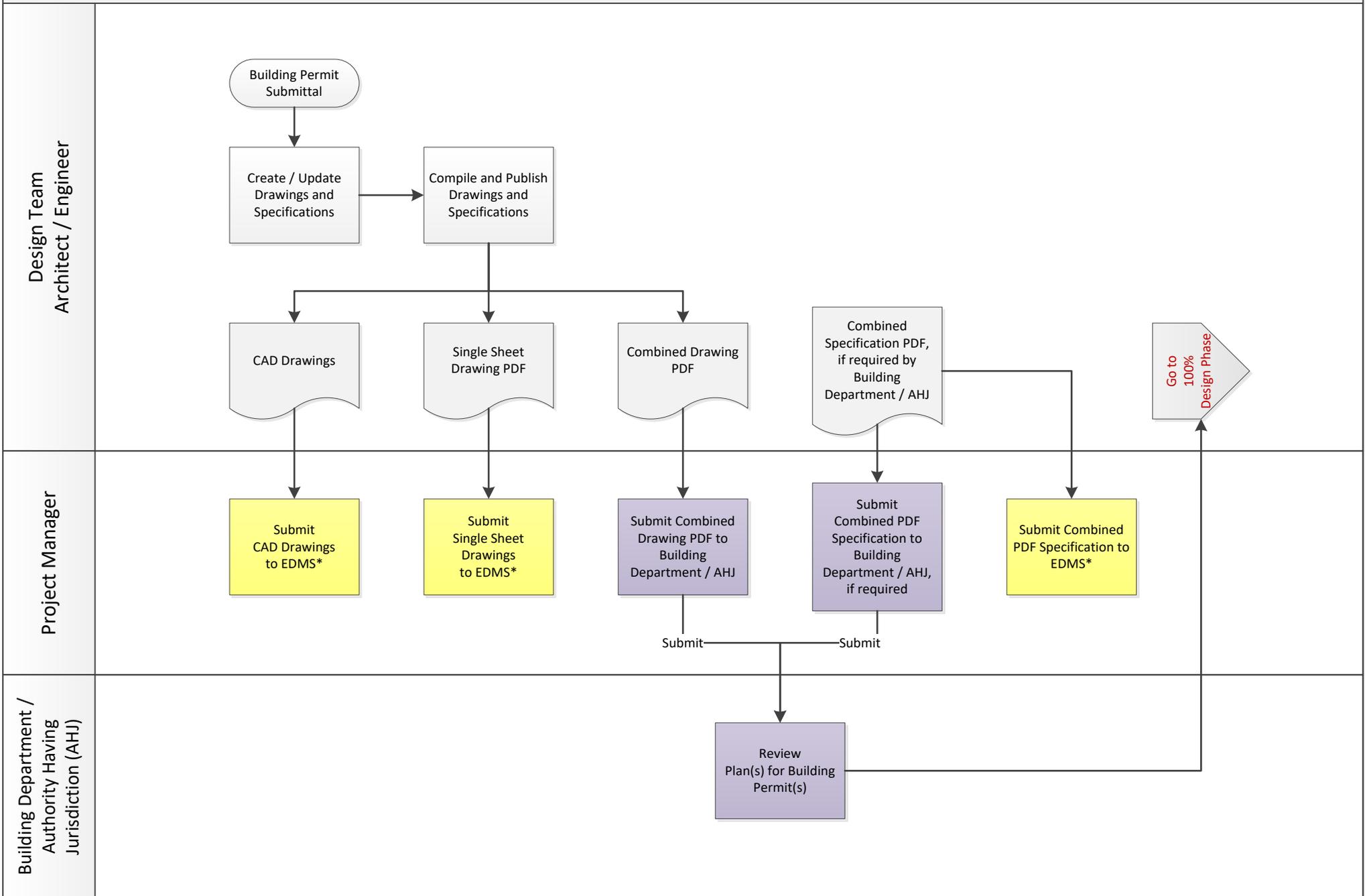
\*Engineering Document Management System (EDMS)



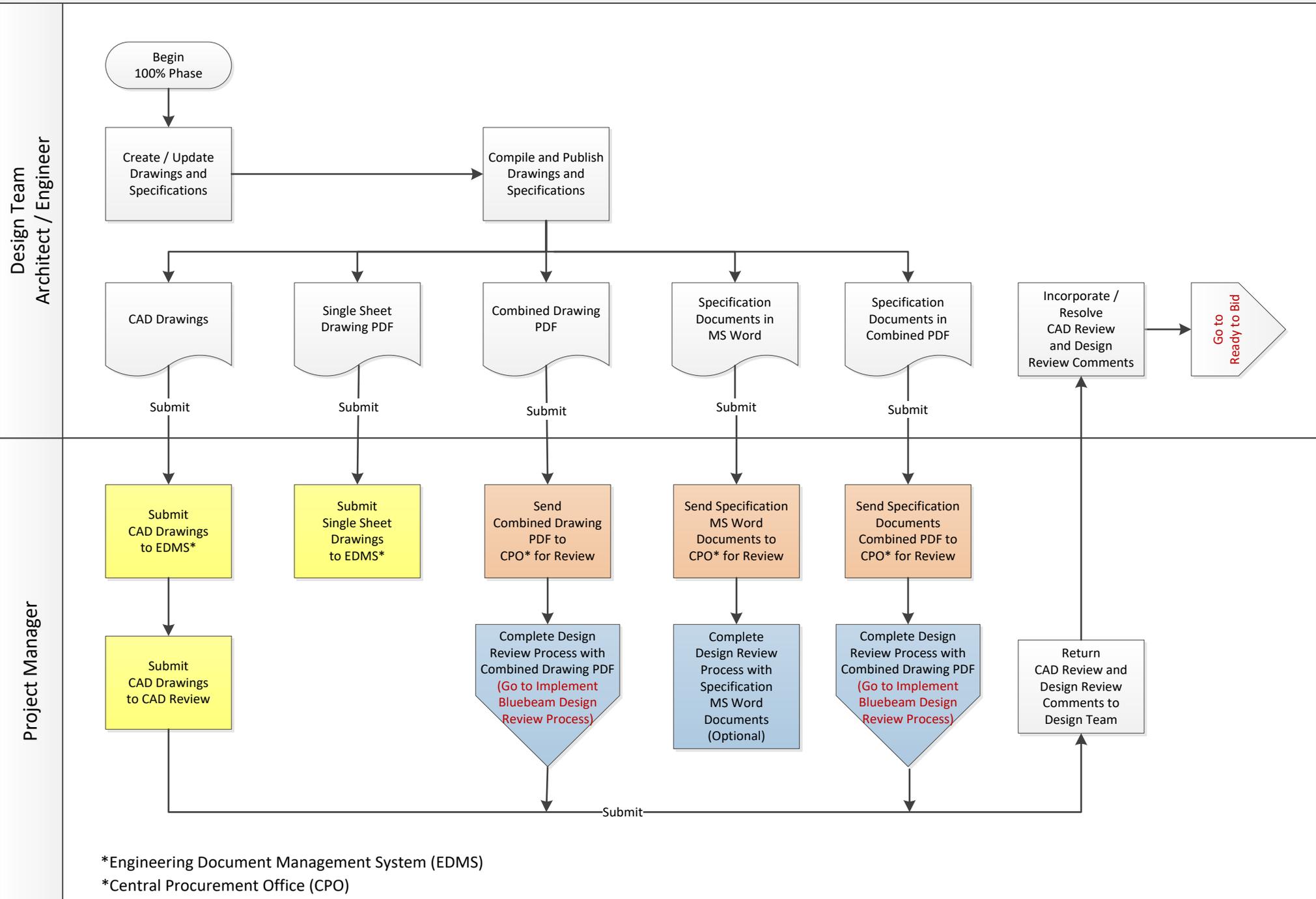
\*Engineering Document Management System (EDMS)



\*Engineering Document Management System (EDMS)

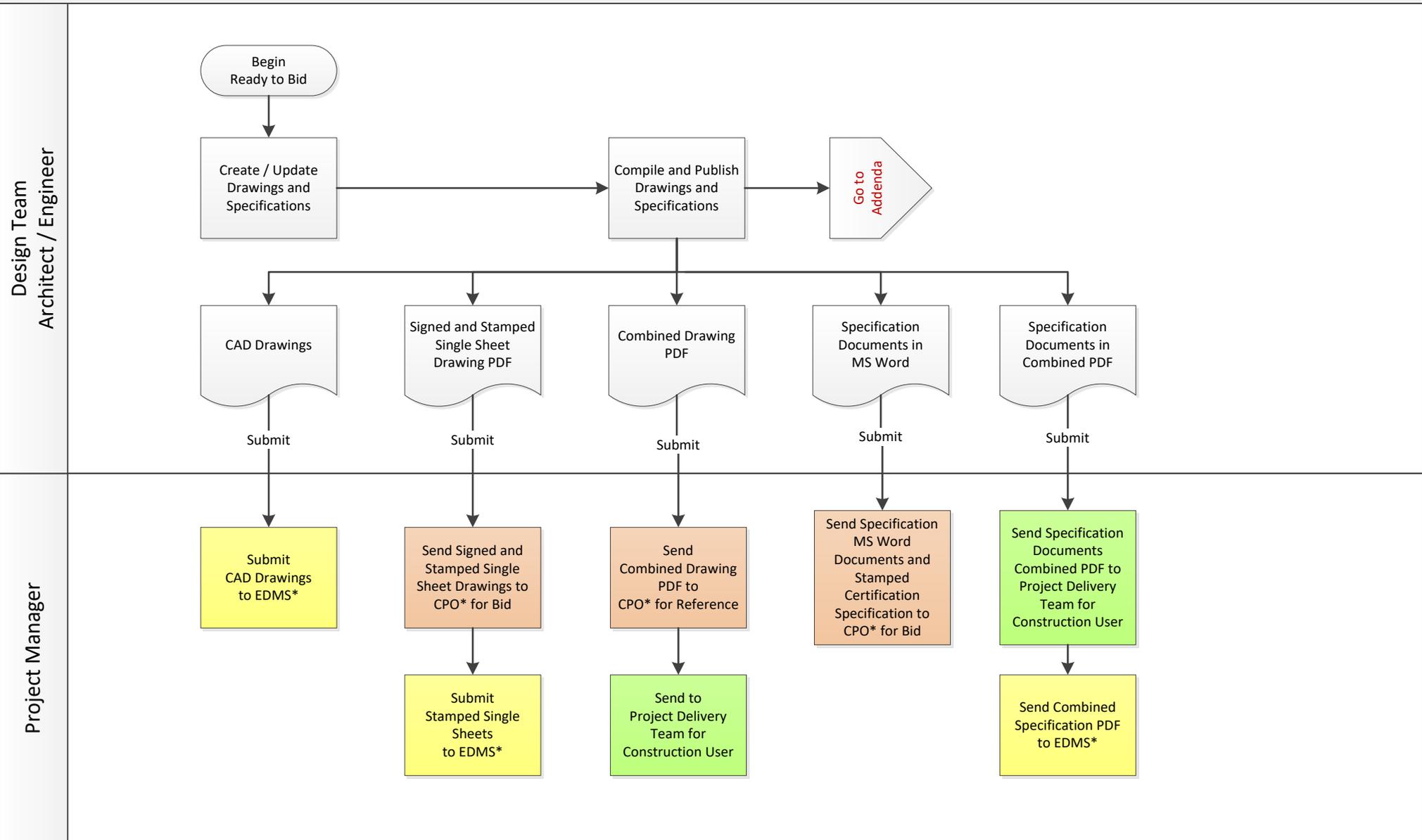


\*Engineering Document Management System (EDMS)



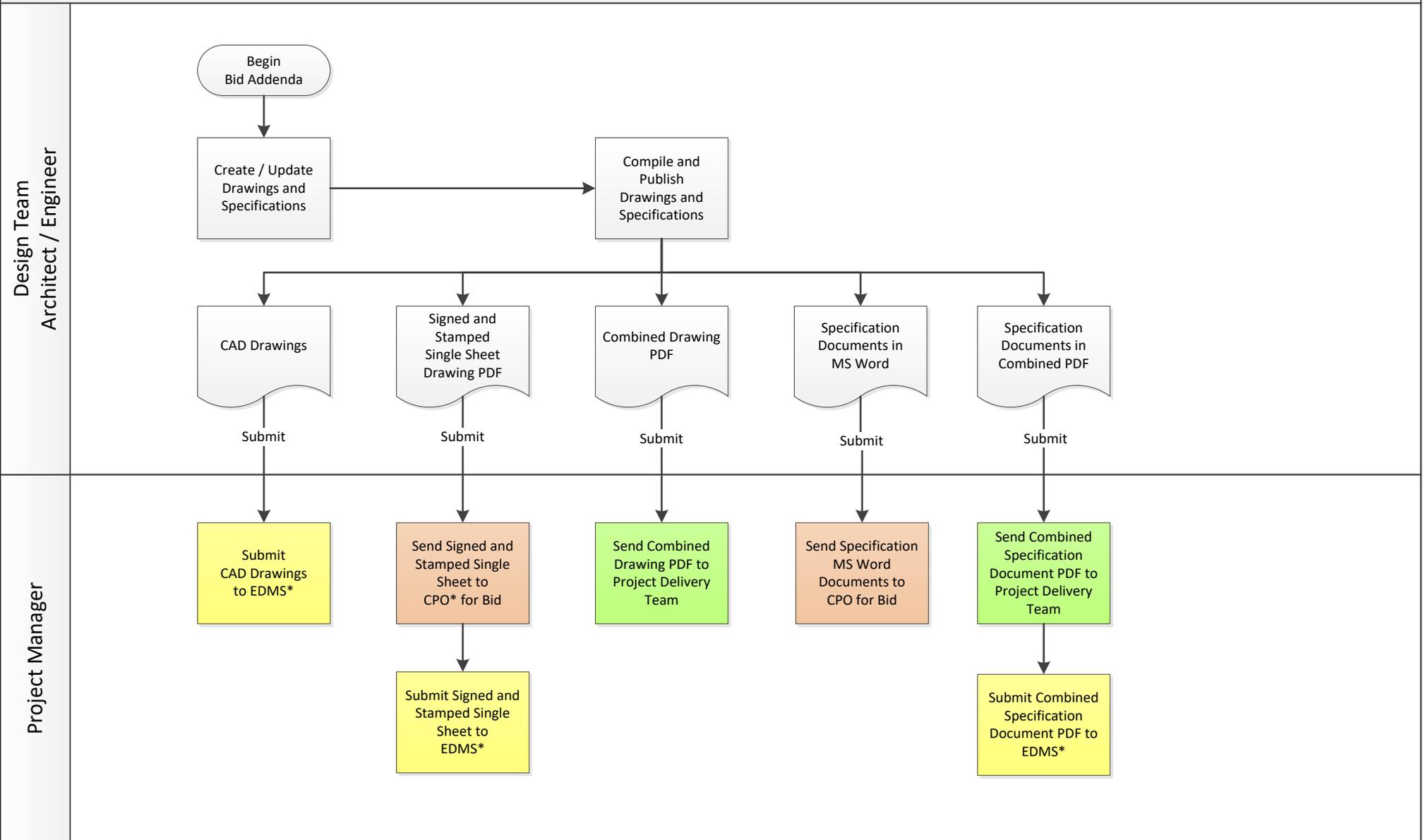
\*Engineering Document Management System (EDMS)

\*Central Procurement Office (CPO)



\*Engineering Document Management System (EDMS)

\*Central Procurement Office (CPO)



\*Engineering Document Management System (EDMS)

\*Central Procurement Office (CPO)

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# Appendix G

## Bluebeam Design

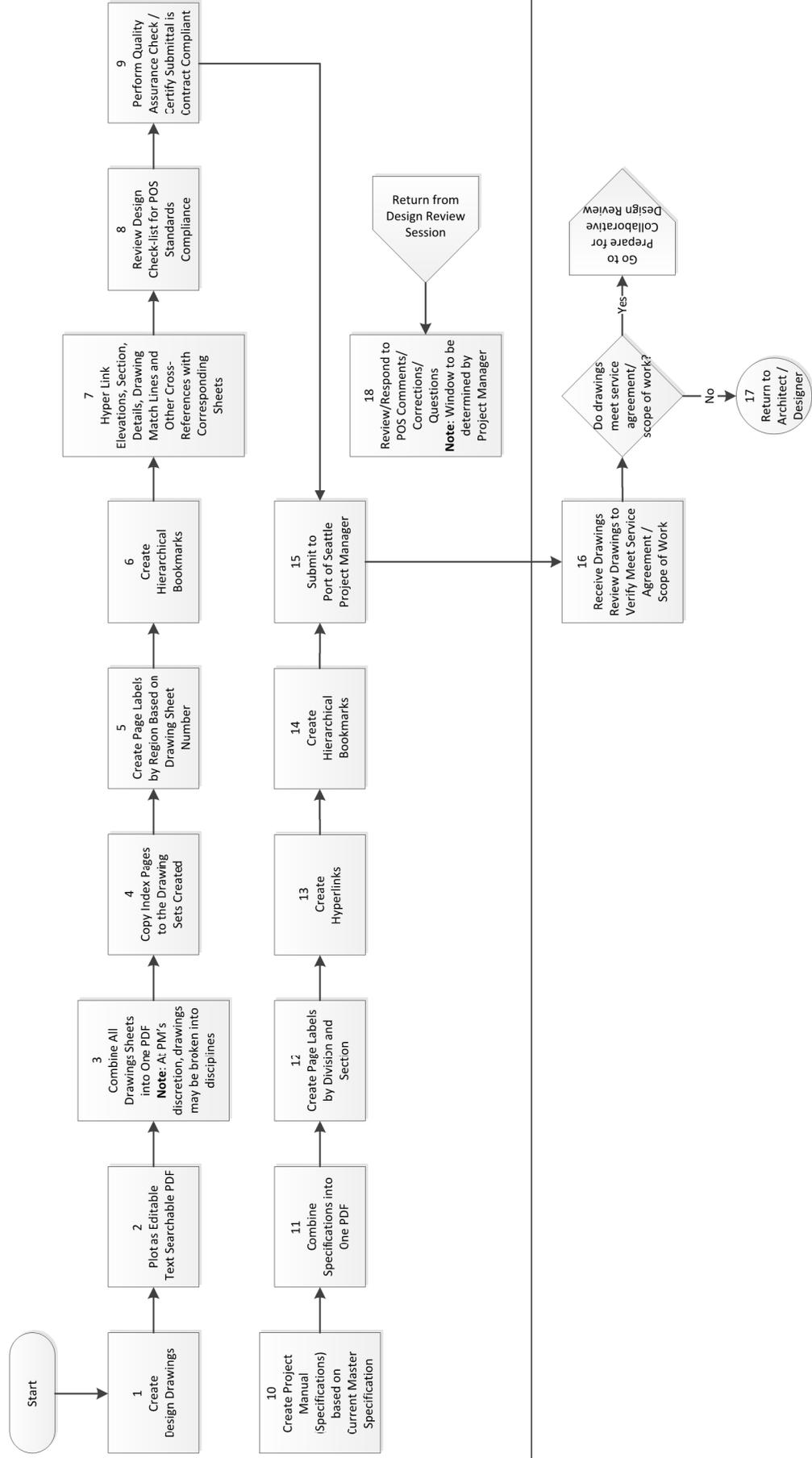
## Review Flowcharts

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Port of Seattle Cad Standards 2023

1.0 Create and Submit Design Drawings and Specifications for Bluebeam Review Process, 4/17/18

Phase

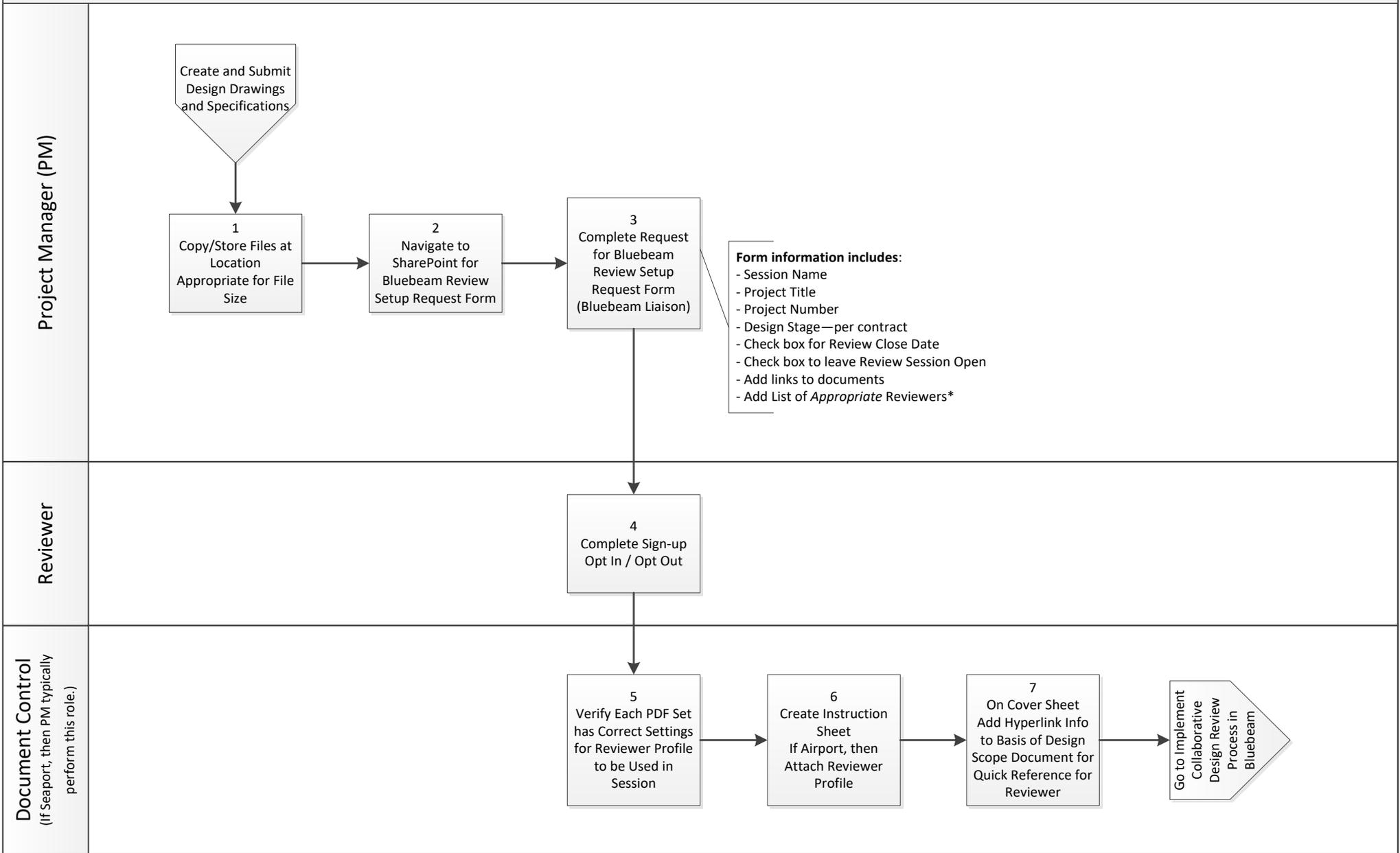


Architect / Engineer

Project Manager

## 2.0 Prepare for Collaborative Design Review Session in Bluebeam, 4/17/18

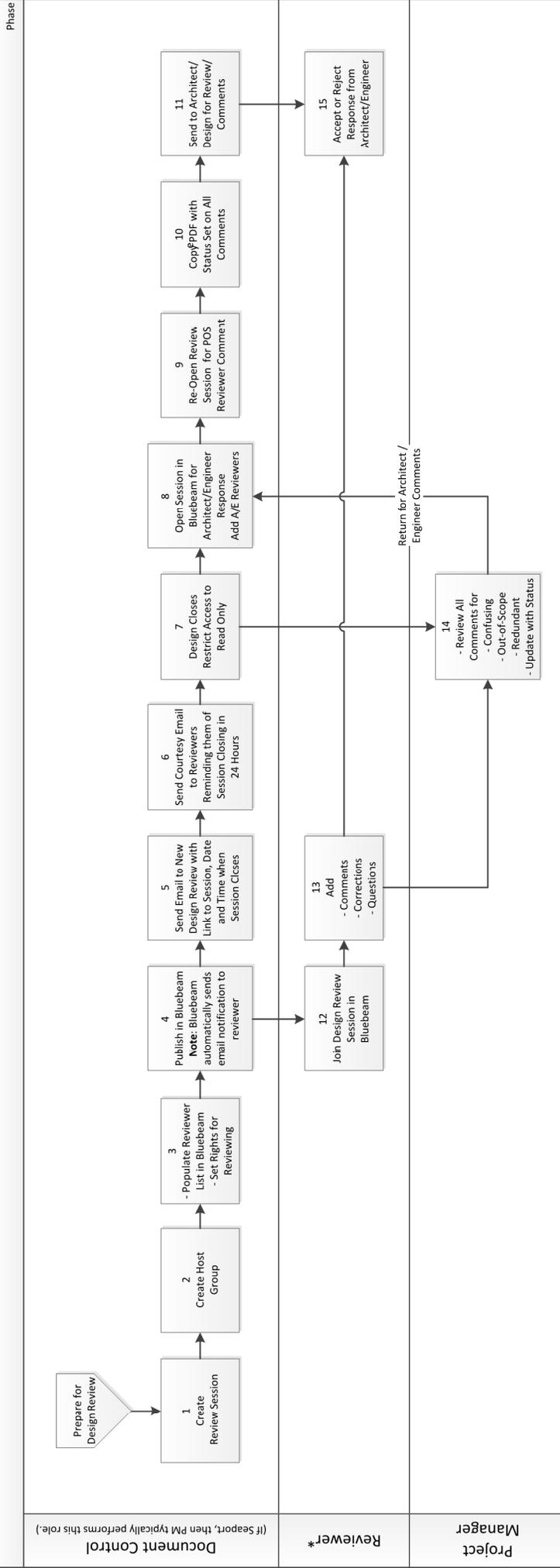
Phase



\* Reviewers may include Architect/Engineer, Airport Bldg. Dept. and Central Procurement Office as appropriate reviewers

# Port of Seattle CAD Standards 2023

## 3.0 Implement Bluebeam Design Review Session, 4/17/18



\* Reviewers may include Architect/Engineer, Airport Bldg. Dept. and Central Procurement Office as appropriate reviewers

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# **Appendix H AutoCAD & Bluebeam PDF Submittals Checklists**

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**AUTOCAD AND PDF CHECKLISTS FOR SUBMITTALS**

<b>AUTOCAD Checklist (See PDF Below)</b>			
<b>PREPARER</b>		<b>QUALITY CONTROL REPRESENTATIVE</b>	
<input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> N/A Has there been a POS CAD Kick-Off Meeting for this project with the Quality Assurance Section of Design Engineering?	<input type="checkbox"/> Verified <input type="checkbox"/> Not Verified Comments (Optional):	<input type="checkbox"/> N/A <input type="checkbox"/> N/A <input type="checkbox"/> Not Verified <input type="checkbox"/> N/A	<input type="checkbox"/> N/A <input type="checkbox"/> N/A
<b>SUBMITTAL DOCUMENTS</b>			
<input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> N/A Is this submittal in conformance with the Port of Seattle CAD Standards 2018 Edition?	<input type="checkbox"/> Verified <input type="checkbox"/> Not Verified Comments (Optional):	<input type="checkbox"/> Not Verified <input type="checkbox"/> N/A	<input type="checkbox"/> N/A <input type="checkbox"/> N/A
<input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> N/A Is each submitted AutoCAD sheet listed in the Sheet Index? Are all sheets listed in the index submitted unless noted otherwise?	<input type="checkbox"/> Verified <input type="checkbox"/> Not Verified Comments (Optional):	<input type="checkbox"/> Not Verified <input type="checkbox"/> N/A	<input type="checkbox"/> N/A <input type="checkbox"/> N/A
<input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> N/A Do the Sheet Numbers and Sheet Titles in each title block match those listed in the Sheet Index?	<input type="checkbox"/> Verified <input type="checkbox"/> Not Verified Comments (Optional):	<input type="checkbox"/> Not Verified <input type="checkbox"/> N/A	<input type="checkbox"/> N/A <input type="checkbox"/> N/A
<input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> N/A Are both PDF and AutoCAD files included with this submittal?	<input type="checkbox"/> Verified <input type="checkbox"/> Not Verified Comments (Optional):	<input type="checkbox"/> Not Verified <input type="checkbox"/> N/A	<input type="checkbox"/> N/A <input type="checkbox"/> N/A
<input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> N/A Have all CAD drawing files been saved in an AutoCAD format compatible with AutoCAD 2018 software?	<input type="checkbox"/> Verified <input type="checkbox"/> Not Verified Comments (Optional):	<input type="checkbox"/> Not Verified <input type="checkbox"/> N/A	<input type="checkbox"/> N/A <input type="checkbox"/> N/A
<input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> N/A Is the complete AutoCAD submittal provided in one folder for all disciplines, including all referenced files (dwgs, jpgs, pdfs, etc.) and ctb files?	<input type="checkbox"/> Verified <input type="checkbox"/> Not Verified Comments (Optional):	<input type="checkbox"/> Not Verified <input type="checkbox"/> N/A	<input type="checkbox"/> N/A <input type="checkbox"/> N/A
<input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> N/A Have all comments in previous POS CAD Reviews been resolved?	<input type="checkbox"/> Verified <input type="checkbox"/> Not Verified Comments (Optional):	<input type="checkbox"/> Not Verified <input type="checkbox"/> N/A	<input type="checkbox"/> N/A <input type="checkbox"/> N/A
<b>NAMING</b>			
<input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> N/A Does this submittal follow POS Sheet Numbering convention?	<input type="checkbox"/> Verified <input type="checkbox"/> Not Verified Comments (Optional):	<input type="checkbox"/> Not Verified <input type="checkbox"/> N/A	<input type="checkbox"/> N/A <input type="checkbox"/> N/A



PDF Checklist (See AUTOCAD Above)

PREPARER		QUALITY CONTROL REPRESENTATIVE		
<b>STANDARD REVIEW (Non-Bluebeam) PDF's</b>				
<input type="checkbox"/> Submit individual sheet PDFs, full-size pages. Document size must match size of full-size printed hardcopy (e.g. 22"x34" electronic pages for most drawings)	Verified <input type="checkbox"/>	Not Verified <input type="checkbox"/>	N/A <input type="checkbox"/>	
	Comments (Optional):			
<input type="checkbox"/> Submit single combined PDF for entire package, full-size pages.	Verified <input type="checkbox"/>	Not Verified <input type="checkbox"/>	N/A <input type="checkbox"/>	
	Comments (Optional):			
<b>BLUEBEAM REVIEW PDFs</b>				
<b>At the discretion of the Port PM, files may be broken into disciplines, multi-discipline volumes, or other grouping (typically for large projects)</b>				
<input type="checkbox"/> Create bookmarks for each page, with bookmark title to match sheet number (e.g. C2.1)	Verified <input type="checkbox"/>	Not Verified <input type="checkbox"/>	N/A <input type="checkbox"/>	
	Comments (Optional):			
Recommendation: Batch-create bookmarks by area, selecting sheet number area on the drawing file <ol style="list-style-type: none"> <li>Left pane → Bookmarks </li> <li>Highlight and then delete all existing Bookmarks</li> <li>Create Bookmarks </li> </ol>	Verified <input type="checkbox"/>	Not Verified <input type="checkbox"/>	N/A <input type="checkbox"/>	
	Comments (Optional):			
<input type="checkbox"/> Create hierarchical bookmarks for each discipline (e.g. "Civil", under which C1.0, C2.0, and C2.1 would fall)  Recommendation: Create New Bookmark at front of each discipline, then move individual pages' bookmarks under the parent discipline bookmark <ol style="list-style-type: none"> <li>Left pane → Bookmarks </li> <li>Add Bookmark  for discipline</li> <li>Drag individual sheet bookmarks under the discipline bookmark as a group</li> <li></li> </ol>	Verified <input type="checkbox"/>	Not Verified <input type="checkbox"/>	N/A <input type="checkbox"/>	
	Comments (Optional):			

<p><input type="checkbox"/> Ensure page labels match sheet numbers (e.g., C2.1) <i>Recommendation: Create bookmarks first, then use batch page label "by bookmarks"</i></p> <ol style="list-style-type: none"> <li>1. Verify Bookmarks exist for each page, matching sheet number</li> <li>2. Left pane → Thumbnails </li> <li>3. <b>Create Page Labels</b>  → Bookmarks</li> </ol> <p><input type="checkbox"/> Provide links between call-outs and pages referenced</p> <p><i>Recommendation: OCR (Optical Character Recognition) document only if needed, then batch create new links. These functions only available in Bluebeam extreme.</i></p>	<p>Verified <input type="checkbox"/></p> <p>Not Verified <input type="checkbox"/></p> <p>N/A <input type="checkbox"/></p> <p>Comments (Optional):</p>
<ol style="list-style-type: none"> <li>1. "Document" ribbon → <b>OCR</b>  → <b>Okay</b></li> <li>2. "File" ribbon → Batch → Link → <b>New</b></li> </ol>  <ol style="list-style-type: none"> <li>3. Add Open Files → <b>Next</b></li> <li>4. Page Label → <b>Generate</b></li> </ol>  <p><b>6. Run</b></p> <p><input type="checkbox"/> Use PDF format that is text-searchable, including all blocks, notes, labels, model space areas, paper space areas, etc.</p> <p><i>Recommendations:</i></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Use Autodesk DWG-to-PDF driver when creating PDFs</li> <li><input type="checkbox"/> Do not flatten PDFs</li> <li><input type="checkbox"/> When searching, select "Search Markups" in search options in Bluebeam. Alternatively, use OCR.</li> <li><input type="checkbox"/> If a hardcopy is signed &amp; scanned, use OCR (or submit copy w/o signature, originated with PDF driver)</li> </ul>	<p>Verified <input type="checkbox"/></p> <p>Not Verified <input type="checkbox"/></p> <p>N/A <input type="checkbox"/></p> <p>Comments (Optional):</p>

<input type="checkbox"/> Embed all drawing fonts in PDF file.  <input type="checkbox"/> Verify that files are unlocked. <i>(i.e., pages can be split out, added, etc. No ability to edit text or images in drawings is required.)</i>	Verified <input type="checkbox"/>	Not Verified <input type="checkbox"/>	N/A <input type="checkbox"/>
	Comments (Optional):		
	Verified <input type="checkbox"/>	Not Verified <input type="checkbox"/>	N/A <input type="checkbox"/>

Name:	
Date:	

Name:	
Date:	

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End of Appendices.**