

## Advanced Designer Task Analysis

I.	Become Certified as an Advanced Designer
I.A	Complete Training
I.B	Pass Certification Exam
I.C	Apply for Certification
I.D	Complete Continuing Education
II.	Obtain Advanced Design Business License
III.	Complete Preliminary Site Evaluation
III.A	Obtain USGS Map
III.B	Complete Historic & Future Land Use Assessment
III.C	Determine System Flow
III.C.1	Determine Proposed Dwelling Hydraulic Design Flow
III.C.2	Determine Multiple Dwelling Hydraulic Design Flow >5,000 gpd
III.C.3	Determine Flow Due to Inflow & Infiltration
III.C.4	Determine Waste Strength
III.D	Identify Challenging Waste Streams (Inhibitors to Treatment)
III.E	Determine Necessity for Source Segregation
III.F	Assess Risk Based on Preliminary Evaluation
III.F.1	Assess Risk Due to Waste Strength
III.F.2	Assess Risk Due to Nitrogen Loading to Aquifer
III.F.3	Assess Risk Due to Phosphorus Loading to Surface Water
III.F.4	Assess Risk Due to Presence of Bedrock
III.F.5	Assess Risk Due to Periodic Soil Saturation
III.F.6	Assess Risk Due to Presence of Surface Water
III.F.7	Assess Risk Due to Challenging Waste Streams
III.F.8	Assess Mounding Risk
III.F.8.a	Regional
III.F.8.b	Periodic Soil Saturation
III.G	Identify Potential Problem Setbacks
III.H	Identify Potential Pretreatment Options due to Risk Assessment
III.I	Identify Possible System Geometry
III.J	Compile Groundwater Investigation Information
III.K	Develop Field Evaluation Plan & Discuss with Local Government Unit
IV.	Complete Field Evaluation
IV.A	Investigate Property
IV.A.1	Identify Possible System Configurations
IV.A.2	Identify System Liquid Levels & Flow Lines using Measured Elevations and Benchmarks

**Green Text: MSTs Systems Only**

## Advanced Designer Task Analysis (cont)

IV.B	Investigate Soil for each Site
IV.B.1	Select Appropriate Hydraulic Conductivity Test
IV.B.2	Investigate Soil for Each Site
IV.B.2.a	Dig Soil Pit
IV.B.2.b	Complete Hydraulic Conductivity Test
IV.C	Complete Field Evaluation Report
IV.C.1	Create Site Plan to Scale
IV.C.1.a	Map Countours
IV.D	Verify Risk Assessment Based on Field Evaluation
IV.E	Identify Potential Pretreatment or Best Management Practice (BMP) due to Risk Assessment
V.	Design ISTS / MSTS
V.A	Identify Special Design Parameters for Type IV systems
V.A.1	Identify System Parameters for a Down-Sized Soil Treatment Area due to Enhanced Treatment
V.A.1.a	Down-Size Vertical Separation
V.A.1.b	Down-Size Square Footage
V.A.2	Identify High Strength Waste System Paramenters
V.A.3	Identify Challenging Waste Stream Parameters
V.A.4	Identify Parameters for Design Considerations Flagged by Risk Assessment
V.B	Identify Special Design Parameters for Type V Systems
V.C	Identify Special Design Parameters for Large ISTS Systems
V.D	Identify Special Design Parameters for MSTS
V.D.1	Identify System Parameters for Nitrogen
V.D.2	Identify System Parameters for Phosphorus
V.D.3	Identify System Parameters for Risk of Mounding
V.E	Use Soils Analysis to Determine Initial Design Specifications
V.E.1	Use Depth to Restrictive Layer to Choose Treatment System
V.E.2	Use Soil Evaluation to Determine Hydraulic Loading Rate
V.E.3	Use Soil Evaluation to Determine Contour Loading Rate
V.E.5	Use Soil Evaluation to Determine Soil Organic Loading Rate
V.F	Determine Design Specifications for Tank(s)
V.F.1	Design Septic Tank
V.F.1.a	Determine Capacity
V.F.1.a.i	Determine Tank with Pretreatment Capacity
V.F.1.a.iii	Determine MSTS Tank Capacity
V.F.2	Determine Design Specifications for Grease Trap
V.F.3	Determine Design Specifications for Effluent Screen

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## Advanced Designer Task Analysis (cont)

V.G	Determine Design Specifications for Pump & Distribution System
V.G.1	Design Level Pressure Distribution System
V.G.2	Design Zoned Distribution System
V.G.3	Size Dosing Chamber & Determine Dosing Volumes
V.G.3.a	Design Multiple Pump System
V.H	Determine Design Specifications for Aerobic Treatment Unit
V.I	Determine Design Specifications for Media Filters
V.I.1	Design Single Pass Filter
V.I.2	Design Recirculating Media Filter
V.I.3	Design Constructed Wetland System
V.I.4	Design Liner
V.J	Determine Design Specifications for Drip Distribution System
V.K	Determine Design Specifications for Piezometer Configuration
VI.	Determine Design Specifications for Collection System
VI.A	Design Gravity Collection System
VI.B	Design Pressure Collection System
VI.B.1	Design Step System
VI.B.2	Design Grinder System
VII.	Determine Site Layout
VII.A	Identify Replacement System Land Area
VIII.	Write & Submit Management Plan (Type IV - Type V) (MSTS)
IX.	Confirm Operating Permit Requirements
X.	Complete Design Permit for Submittal

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