

Intermediate Designer and Inspector Task Analysis		
I.	Become certified as an Intermediate Designer and/or Inspector	
	I.A	Complete training
	I.B	Pass certification exam
	I.C	Apply for certification
	I.D	Complete continuing education
II.	Obtain Intermediate Design and/or Inspector business license	
III.	Complete preliminary site evaluation	
	III.A	Communicate with client about desires and preferences
	III.B	Contact local unit of government
	III.B.1	Obtain legal description of property, including Township, Range, and Section
	III.B.2	Determine property lines, easements, and proposed or existing improvements
	III.B.3	Determine location and status of proposed or existing water supply wells and pipes in vicinity
	III.C	Determine dwelling or group of dwellings flow \leq 2,500 gpd
	III.D	Determine flow for other establishment \leq 2,500 gpd
	III.E	Determine anticipated effluent concentrations of BOD, TSS, & FOG
	III.E.1	Assess waste suitability (domestic, non-domestic - suitable for discharge into soil, non-domestic - not suitable for discharge into soil, hazardous)
	III.E.2	Identify challenging waste streams (inhibitors to treatment)
	III.E.3	Determine necessity for source segregation due to waste characteristics
	III.F	Complete preliminary site report
	III.F.1	Determine applicable setbacks
	III.F.2	Confirm authorization to perform intermediate design/inspection activities
	III.G	Assess risk based on preliminary site report
IV.	Complete field evaluation	
	IV.A	Contact Gopher One and locate utilities
	IV.B	Investigate property
	IV.B.1	Establish lot lines to satisfaction of owner or local unit of government
	IV.B.2	Identify improvements, setbacks, & easements
	IV.B.3	Investigate site for initial and replacement soil treatment areas
	IV.C	Identify surface features and soils characteristics for initial and replacement soil treatment area location, size, and depth
	IV.D	Assess waste strength
	IV.D.1	Measure waste strength in acceptable manner to confirm domestic waste strength
	IV.E	Complete field evaluation report
	IV.F.1	Prepare detailed site map
	IV.F.2	Define benchmark and elevations of soil observations, percolation tests, proposed SSTS components and soil treatment area locations, and the media/soil interface of the soil treatment area
	IV.F.3	Coordinate soils verification by local government
	IV.F	Assess risk (obstacles to effective treatment) based on field evaluation report
	IV.G.1	Recognize potential for groundwater mounding
	IV.G	Determine if a variance is necessary and warranted
	IV.H	Communicate with client about suitable system options

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V.	Create design report		
	V.A	Use preliminary and site evaluation to determine intermediate design specifications	
		V.A.1	Use depth to limiting layer in conjunction with treatment level to choose treatment system
			V.A.1.1 Account for rock fragments
			V.A.1.2 Identify if reduced vertical separation is necessary and warranted
		V.A.2	Use texture and structure or percolation rate in conjunction with treatment level to determine absorption area (hydraulic) loading rate
			V.A.2.1 Identify if increased hydraulic loading rate is necessary and warranted
		V.A.3	Use texture and structure or percolation rate to determine acceptable system geometry (contour loading rate)
		V.A.4	Determine ISTS classification and type
		V.A.5	Determine appropriate application of design considerations to mitigate risks
			V.A.5.1 Specify design requirements to mitigate non-domestic waste sources
			V.A.5.2 Specify design requirements to mitigate variation in flow
			V.A.5.3 Specify design requirements to mitigate high risk site conditions
			V.A.5.4 Specify design requirements to mitigate high risk soil conditions
			V.A.5.5 Specify design requirements to mitigate small lot conditions
			V.A.5.6 Specify design requirements to mitigate groundwater mounding that interferes with treatment
	V.B	Identify special design parameters for graywater, Type II & Type III systems with sse of registered Type IV products	
		V.B.1	Identify how use of a graywater system will impact design
		V.B.2	Identify how placing a system in floodplain will impact design (Type II)
		V.B.3	Identify how placing a system in cut, filled or compacted soils will impact design (Type III)
		V.B.4	Identify how down-sizing a system will impact design (Type III)
		V.B.5	Identify how placing a system in less than 12" unsaturated soil will impact design (Type III)
	V.C	Determine design specifications for collection systems ≤ 2500 gpd	
		V.C.1	Design gravity collection
		V.C.2	Design gravity collection with lift stations
		V.C.3	Design STEG - septic tank effluent gravity collection
		V.C.4	Calculate inflow and infiltration (I&I)
	V.D	Determine design specifications for tank(s) using MN Rules Chapter 7080, registered sewage tanks list, and design guidance documentation	
		V.D.1	Design septic tank size and features per manufacturer recommendation and product registration guidance
		V.D.2	Specify septic tank design requirements for Type I - V ISTS ≤ 2500 gpd
		V.D.3	Specify storage capacity design requirements for Type I - V ISTS ≤ 2500 gpd using flow equalization
		V.D.4	Specify recirculation tank design requirements
		V.D.5	Specify pump tank(s) design requirements for Type I - V ISTS ≤ 2500 gpd
		V.D.6	Calculate potential for tank flotation and specify restraint options when appropriate
	V.E	Determine design specifications for treatment system	
		V.E.1.	Choose registered pretreatment device most suited for the application
			V.E.1.1 Properly incorporate proprietary registered treatment product into treatment train based on understanding of design principles and applications
			V.E.1.2 Design single pass sand filter ≤ 2500 gpd per MPCA design guidance and RSG
			V.E.1.3 Design recirculating sand filter ≤ 2500 gpd per MPCA design guidance and RSG
			V.E.1.4 Specify installation requirements per manufacturer and product registration guidance
			V.E.1.5 Understand design principles and site conditions in which constructed wetlands are appropriate
		V.E.2	Design trench treatment system with Type IV pretreatment ≤ 2500 gpd using registered distribution media
		V.E.3	Design bed treatment system with Type IV pretreatment ≤ 2500 gpd using registered distribution media
		V.E.4	Design at-grade treatment system with Type IV pretreatment ≤ 2500 gpd using registered distribution media
		V.E.5	Design mound treatment system with Type IV pretreatment ≤ 2500 gpd using registered distribution media
		V.E.6	Understand design principles and site conditions in which drip distribution is appropriate

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	V.F	Determine design specifications for pump & distribution system	
		V.F.1	Design supply pipe to registered product and distribution system
		V.F.2	Design pump specifications & dosing volumes
		V.F.2.1	Design demand dosed distribution
		V.F.2.2	Design timed dose distribution
		V.F.2.3	Design for flow equalization
		V.F.2.4	Design specifications for duplex pumps
		V.F.3	Design uniform distribution system
		V.F.3.1	Design level pressure distribution
		V.F.3.2	Design non-level pressure distribution
		V.F.3.3	Design flow-splitting/zoned distribution system
	V.G	Determine site layout	
		V.G.1	Specify component elevations and locations on site map relative to defined benchmark
		V.G.2	Verify chosen contour loading rate and system geometry
	V.H	Complete and submit design report	
		V.H.1	Write and submit management plan for all systems
		V.H.2	Confirm applicable rules and regulation compliance with certified signature
		V.H.3	Submit all required design documents to local authority for review, revision, and approval
		V.H.4	Confirm operating permit requirements as written by permitting authority
		V.H.4.1	Ensure design specifications allow for the completion of required sampling
VI.	Conduct new and existing Intermediate Inspector activities		
	VI.A	Complete new system Inspector activities	
		VI.A.1	Review design report for accuracy and completeness
		VI.A.1.1	Request changes prior to permit issuance
		VI.A.1.2	Approve report and issue construction permit
		VI.A.2	Conduct new system inspection
		VI.A.2.1	Use locally developed or U of M New Inspection Report Form
		VI.A.2.2	Issue Certificate of Compliance or require changes to meet compliance
		VI.A.3	Develop operating permit required management activities and frequencies
		VI.A.3.1	Define reporting requirements
		VI.A.3.2	Verify system meets operating permit requirements
		VI.A.3.3	Confirm permit holder is aware of responsibilities and renewal process
		VI.A.4	Maintain records with local unit of government in a manner that facilitates compliance management
	VI.B	Conduct existing system inspection	
		VI.B.1	Complete MPCA Existing SSTS Inspection Form
		VI.B.2	Complete all local requirements
		VI.B.3	Issue Certificate of Compliance or Notice of Noncompliance
		VI.B.4	Resolve soil disputes per locally defined procedures
		VI.B.5	Submit inspection report to local program and system owner within 15 days of inspection
	VI.C	Confirm applicable rules and regulation compliance with certified signature	