DRIP IRRIGATION DESIGN REVIEW WORKSHEET		
		BUILDING SEWERS
		PRIMARY TREATMENT TANKS
		1) septic tank(s)
		a) multiple-compartmented tank
		b) tanks in a series
		2) aerobic
		SECONDARY TREATMENT OPTIONS
		1) intermittent sand filter
		a) free access
		b) buried
		2) aerobic tank
		3) peat filter
		DOSING TANK TO THE HYDRAULIC UNIT
	gal.	liquid capacity
	pump	pump
		Minutes set for timer:
	minutes	zone 1 – average flow dose (doses 4 per zone)
	minutes	zone 1 – peak flow dose (doses 6.7 per zone)
	minutes	zone 2 – average flow dose (doses 4 per zone)
	minutes	zone 2 – peak flow dose (doses 6.7 per zone)
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		DRIP ZONES
	gpd	gallons per day – number of bedrooms?
	lin. ft.	soil linear load – max. .34 gpd. ÷ linear ft. (from soil scientist report)
	linear ft. min.	total drip tubing = gpd ÷ soil loading rate
	zones	number of zones on the design
	ft. min.	horizontal linear load = average gpd ÷ 4.6 gal./foot
		HYDRAULIC UNIT
		two-disc filter
		three-disc filter
		Zone 1
	ft.	linear feet of drip tubing
	ft.	length of longest run
	ft.	length of longest drip irrigation lateral
	laterals	number of drip irrigation laterals or number of field flush connections (must meet hydraulic unit specifications)
	ft.	distance between drip tubing
	ft.	distance between drip emitters
	gpm	field flush flow rate (1.6 gpm × lateral connections)
	gpm	dosing rate = linear feet of drip tubing ÷ distance between emitters × .65 gph ÷ 60 min./hr.
	gpm	total drip tube forward flush flow required
		Zone 2
	ft.	linear feet of drip tubing
	ft.	length of longest run
	ft.	length of longest drip irrigation lateral
	laterals	number of drip irrigation laterals or number of field flush connections (must meet hydraulic unit specifications)
	ft.	distance between drip tubing
	ft.	distance between emitters
	gpm	field flush flow rate (1.6 gpm × lateral connections)
	gpm	dosing rate = linear feet of drip tubing ÷ distance between emitters × .65 gph ÷ 60 min./hr.
	gpm	total drip tube forward flush flow required

		HEAD LOSS
		Pump Tank to the Hydraulic Unit
	in.	size of supply line
	ft.	supply line equivalent fitting length = 50 feet of pipe
	ft. max.	length of supply line (should be ≤ 30 feet)
	ft.	total feet of pipe = supply line fitting equivalent in feet + supply line in feet
	ft.	supply line friction loss @ 15 gpm = total feet of supply line pipe × head loss due to friction (using head loss due to friction chart) ÷ 100 feet of pipe
	ft. max.	static head loss from the dose enabler (second float) to the hydraulic unit
	ft.	total feet of head loss from the pump tank to the hydraulic unit = supply line friction loss + static head loss
		Through the Hydraulic Unit
	gpm	max. design drip tubing forward field flush flow = the largest design flow from a zone
	ft.	feet of head loss from hydraulic unit (from table 2A @ maximum design drip tubing forward flushing flow)
		Through the Supply Lines
		Zone 1
	gpm	zone 1 total flow requirement during drip tubing forward field flush
	in.	size of supply line
	ft.	length of supply line
	ft.	supply line friction loss = [total feet of supply line pipe × head loss due to friction (using the head loss due to friction chart, round the gpm to the closest whole number on the chart)] ÷ 100 feet of pipe
		Zone 2
	gpm	zone 2 total flow requirement during drip tubing forward field flush
	in.	size of supply line
	ft.	length of supply line
	ft.	supply line friction loss = [total feet of supply line pipe × head loss due to friction (using the head loss due to friction chart, round the gpm to the closest whole number on the chart)] ÷ 100 feet of pipe
		Flushing Through the Drip Tubing
	ft.	Zone 1
	ft.	Zone 2
		Through the Return Lines
		Zone 1
	gpm	zone 1 total flow requirement during drip tubing forward flush
	in.	size of return line
	ft.	length of return line
	ft.	return line friction loss = [total feet of common return line pipe × head loss due to friction (using the head loss due to friction chart, round the gpm to the closest whole number on the chart)] ÷ 100 feet of pipe
		Zone 2
	gpm	zone 2 total flow requirement during drip tubing forward flush
	in.	size of return line
	ft.	length of return line
	ft.	return line friction loss = [total feet of common return line pipe × head loss due to friction (using the head loss due to friction chart, round the gpm to the closest whole number on the chart)] ÷ 100 feet of pipe
		Zone Static Head Loss
	ft	Zone 1 total static head loss = elevation change between hydraulic unit and the highest drip emitter in zone 1
	ft.	Zone 2 total static head loss = elevation change between hydraulic unit and the highest drip emitter in zone 2

		Calculating Total Head Loss for Zone 1
	ft.	hydraulic unit pump to hydraulic unit
	ft.	hydraulic unit
	ft.	zone 1 supply line pipe
	ft.	flushing through the drip tubing in zone 1
	ft.	zone 1 return line pipe
	ft.	static head (hydraulic unit to highest zone 1 drip emitter)
	ft.	**Total head loss for zone 1**
		Calculating Total Head Loss for Zone 2
	ft.	hydraulic unit pump to hydraulic unit
	ft.	hydraulic unit
	ft.	zone 2 supply line pipe
	ft.	flushing through the drip tubing in zone 2
	ft.	zone 2 return line pipe
	ft.	static head (hydraulic unit to highest zone 2 drip emitter)
	ft.	**Total head loss for zone 2**
		Pump Size
	ft	maximum head loss from a zone during the forward field flush hydraulic condition
	ft.	disc filter back flush (hydraulic unit supply line dynamic head loss +115 @ 15 gpm)
	ft.	use greater of the two head losses to determine pump size at 15 gpm
	pump	pump selected