

Massachusetts Engineering Excel Templates

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Title	Version & Date	File Name	Description
90 day Irrigation Water Use	1.1 (7/5/05)	90 day Water Use.xlt	Computes the 90-day estimated irrigation water needs given the crop needs, to determine whether an irrigator is subject to the Massachusetts DEP Water Management Act. Also prints fact sheet.
Compost Pad Area Calculation	2.1 (6/09)	NRAES-54 compost pad sizing v21.xls	Computes the size of compost pads using NRAES-54 "On-Farm Composting Handbook"
Concrete Tee Wall Steel Schedule	2.2 (12/20/10)	Concrete Tee Walls.xlt	Computes the concrete and steel quantities for the revised MA "tee" walls standard drawings, generally used for waste storage structures. Also a 4' buck wall drawing. (standard drawings MA-WSF-01 thru -12, and MA-HUA-1)
Grassed Waterway Design	1.12 (12/01)	Waterway Design.xlt	Designs grassed waterway, reduces profile and cross-section field notes, plots profile, prints drawing and specifications (originally written in Indiana)
Iowa Rock Chute	4.01 (5/23/03)	Iowa Rock Chute.xlt	Designs, computes quantities, and prepares drawings for a rock chute using the revised procedures (see 468 practice standard)
Irrigation Pipeline Hydraulics	3.2 (4/01/11)	Irrigation Pipeline Hydraulics.xlt	Computes the mainline and lateral hydraulics (Hazen-Williams formula) for irrigation pipelines. Elevations can also be entered and pressures along the pipeline are computed. Also computes total dynamic head, pump & motor requirements, and net positive suction head requirements for centrifugal pumps.
Irrigation Pit Design	2.0 (4/03)	Irrigation Pit Design.xlt	Given irrigation water needs, recommends minimum & maximum volume of pit and minimum recharge. Also computes size of pit given the required storage and trial dimensions. Estimates recharge of a pond for unconfined aquifers.
Irrigation Planning	1.5 (11/24/04)	Irrigation Planning.xlt	Based on soils and crops, determines the irrigation water needs. Computes minimum system capacity, days between irrigations, and volume of irrigation water needed for crop use. AWC values from NASIS soil data is incorporated into the workbook.

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Pipe Drop Hydraulics	1.0 (8/1/02)	Pipe Drop Hydraulics.xlt	Computes the hydraulics for pipe drop grade stabilization structures, consisting of a riser and a barrel, assuming full flow condition (does not compute storage routing).
Roof Runoff Design	1.12 (3/31/04)	Roof Runoff Design.xlt	Assists in the design of roof runoff structures (gutters & downspouts) according to practice standard 558. Also designs tile lines and dry wells for downspout outlets. A detailed example is included.
Roof Standard Drawing Quantities	4.1 (5/31/07)	Roof Standard Drawing Quantities.xlt	Computes quantities (bill of materials) for the two standard roof drawings approved in MA (truss roof and shed roof)
SE Mass Peak Discharge	1.0 (10/02)	SE Mass Peak Discharge.xlt	Computes the peak discharge from watersheds in cranberry growing areas where the peak flow is generated from groundwater seepage and not surface runoff. This procedure is only valid in Southeastern Massachusetts.
Trickle	1.2 (3/24/11)	Trickle Hydraulics.xlt	Computes the pipeline hydraulics for trickle irrigation for small (< 2") pipes using the Darcy-Weisbach formula.
Wastewater Treatment Strip Design	1.0 (5/06)	WTS Design.xlt	Sizes treatment strips for barnyard and milkhouse waste systems. Also sizes settling facilities for barnyards.
Water Control Structure Design for Cranberry Bog Water Management	1.1 (4/23/04)	Cranberry WCS Design.xlt	Analyzes various flow conditions (Storm flow, Flood, Deflood, and Flood/Deflood) for water control structures used for water management in cranberry bogs. Also determines the base plate size to counter flotation. The SE Mass Hydrology peak discharge procedure is incorporated into this workbook.