Colorado Water Project Cost Estimating Tool
Quick Reference Guide

Global Inputs | Project Modules | Costing Module | Cost Summary

Pipelines | Well Fields | Reservoirs | Treatment | Water Rights | Ditches & Diversions | Streams & Habitat | User-Specified

Tool Cell Key:

- **Required User Input**
- **Informational input**
- **Default values**
- **Calculated values**

Getting Started:

1. Ensure Macros are enabled within Excel upon opening tool
2. Read and understand tool disclaimer and assumptions
3. Step through project setup in *Global Inputs* tab, input project information into relevant *Project Modules*, review *Costing Module* outputs, retrieve final project cost data from *Cost Summary* tab

Global Inputs

Overview:

- Inputs for basic project identification information and cost calculation setup – including default and user-required inputs

Setup Process

- Required user inputs include:
  - Project Name, Project ID
  - Basin
  - Location
  - Annual-Average Water Supply Yield
  - Require Land Acquisition
  - Land Acquisition Cost

Global Inputs

Overview:

- Project-specific data entry to calculate required parameters that feed into the *Costing Module* to produce costs

Setup Process:

- Each project module has a different setup process – see backside of this sheet for overview of all 8 modules

Costing Module

Overview

- Converts inputs from Global Inputs Tab and all Project Module Tabs into capital costs based on cost curves

Setup Process:

- User has option to override calculated cost for any project module within this tab using the External Cost Estimate

Cost Summary

Overview

- Uses outputs from *Global Inputs* and *Costing Module* Summarizes all calculated costs for each project module into relevant components and total costs

	Description	Required User Inputs	Outputs to Costing Module
Pipelines	The Pipelines Module may be used to cost projects that transport finished or raw water for potable or non-potable uses.	• Pipeline Start/End Elevation • Environment • Desired Head at End of Pipe • Maximum Pipeline Pressure • Total Project Yield • Peaking Factor • Nominal Pipe Size • Pipeline Length • Pump Type • Storage Volume Requirement	• Environment • Nominal Pipe • Size • Pipeline Length • Pump Station Power Requirement • Number of Pump Stations • Total Pumping Energy
Well Fields	Well field projects that may be costed using the Well Fields Module include public supply wells, aquifer storage and recovery (ASR) wells, and irrigation wells.	• Well Type • Average Static Water Elevation • Total Project Yield • Peaking Factor • Elevation of Delivery Point • Residual Head at Delivery Point • Average Flow per Well • Well Head Elevation • Pipe Segment Diameter • Pipe Segment Length • Environment	• Well Type • Well Depth • Well Capacity • Total Well Pump Energy • Pipe Segment Diameter • Environment • Pump Type • Pump Station Power Requirement
Reservoirs	The Reservoirs Module may be used for new reservoirs or reservoir expansions.	• Project Type (New or Existing Reservoir) • New Storage Volume • Reservoir Rehabilitation Project Description • User-defined Rehabilitation Cost	• Project Type (New or Existing Reservoir) • New Storage Volume • User-defined Rehabilitation Cost
Treatment	Water treatment projects may be operated to provide water for potable or non-potable uses.	• Project Type (New or Existing Reservoir) • New Storage Capacity	• Project Type (New or Existing Reservoir) • New Storage Capacity
Ditches & Diversions	The Ditches and Diversions Module uses high-level design considerations for the construction of a new irrigation ditch or rehabilitation of existing irrigation ditches and canals.	• Project Components (Ditch, Diversion, Ditch & Diversion) • Maximum Diversion Capacity • Type of Diversion • Diversion Structure Cost • Type of Project (New Ditch or Rehabilitation) • Type of Ditch (Lining Material) • Ditch Length	• Project Components • Maximum Diversion Capacity • Type of Diversion • Diversion Structure Cost • Ditch Length
Streams & Habitats	The Streams and Habitat Module generates planning-level restoration costs based on the restoration activities employed.	• Stream Width Range • Stream Environment • Length of Stream Restoration • Level of Restoration	• Stream Width Range • Stream Environment • Length of Stream Restoration • Level of Restoration
Water Rights & User-Specified Projects	Water Rights and User-Specified Projects do not require user inputs used in calculations in the Costing Module. These modules require the user to know the total water right cost and volume of water associated with the water right and/or the total capital and operations and maintenance costs for user-specified projects.		