

**CIVL 1112 Civil Engineering Analysis
Detention Pond Project Report - 2025**

Name: _____

Section	Topic	Check
Introduction	Background	Project scenario
		Project Coordinator
		Why is stormwater an issue?
		Why is a pond important?
	Objectives	At least 50,000 gallons
		Balanced cut-and-fill cost
		Low total project cost
	Design Constraints	At least 50,000 gallons
		Embankment side slopes
		Embankment crest
		Pond water level
		Diagram of embankment constraints
		A diagram indicating slopes
		A diagram indicating crest width
		Soil compaction
		Erosion protection
		Embankment spillway
		Earthwork unit costs
		Erosion control unit costs
Methods	Original topographic model	Source of data
		Grid size
		Topographic model
		Contour lines (use correct contour value)
		North arrow
	Cut-and-fill	Street markings
		Refining grid spacing
		Interpolation of elevations
		Proposed elevations
		Cut-and-fill elevations
		Cut-and-fill sign convention
		Adjustment of fill elevations for compaction
		Compaction elevation equation
		Cut-and-fill volume equation
		Definition of total cut
		Definition of total fill
		On-site cost equation
		Off-site cut cost equation
		Off-site fill cost equation
	Pond Volume	Proposed pond water elevation
		Pond volume equation
	Pond Design	Topographic features
		Pond location on site
		Model for computing pond volume
		Excel Goal Seek for pond volume
		>50,000 gallons
		Model for balancing cut-and-fill
		Goal Seek for balancing cut-and-fill
		Balanced cut-and-fill
		Total cut and fill values
		Spillway location
		Pond slope values
		Computation of erosion area
		Value of erosion area
	Budget	Values for total cut and total fill
		Cut-and-fill on-site cost
		Cut-and-fill off-site cost
		Erosion control cost
	Proposed topographic model	Total cost
		Topographic model
		Contour lines (use correct contour value)
		Indicate Spillway
		North arrow
	Discussion	Street markings
		Strength of design
		Weakness of design

Total of 65 points