

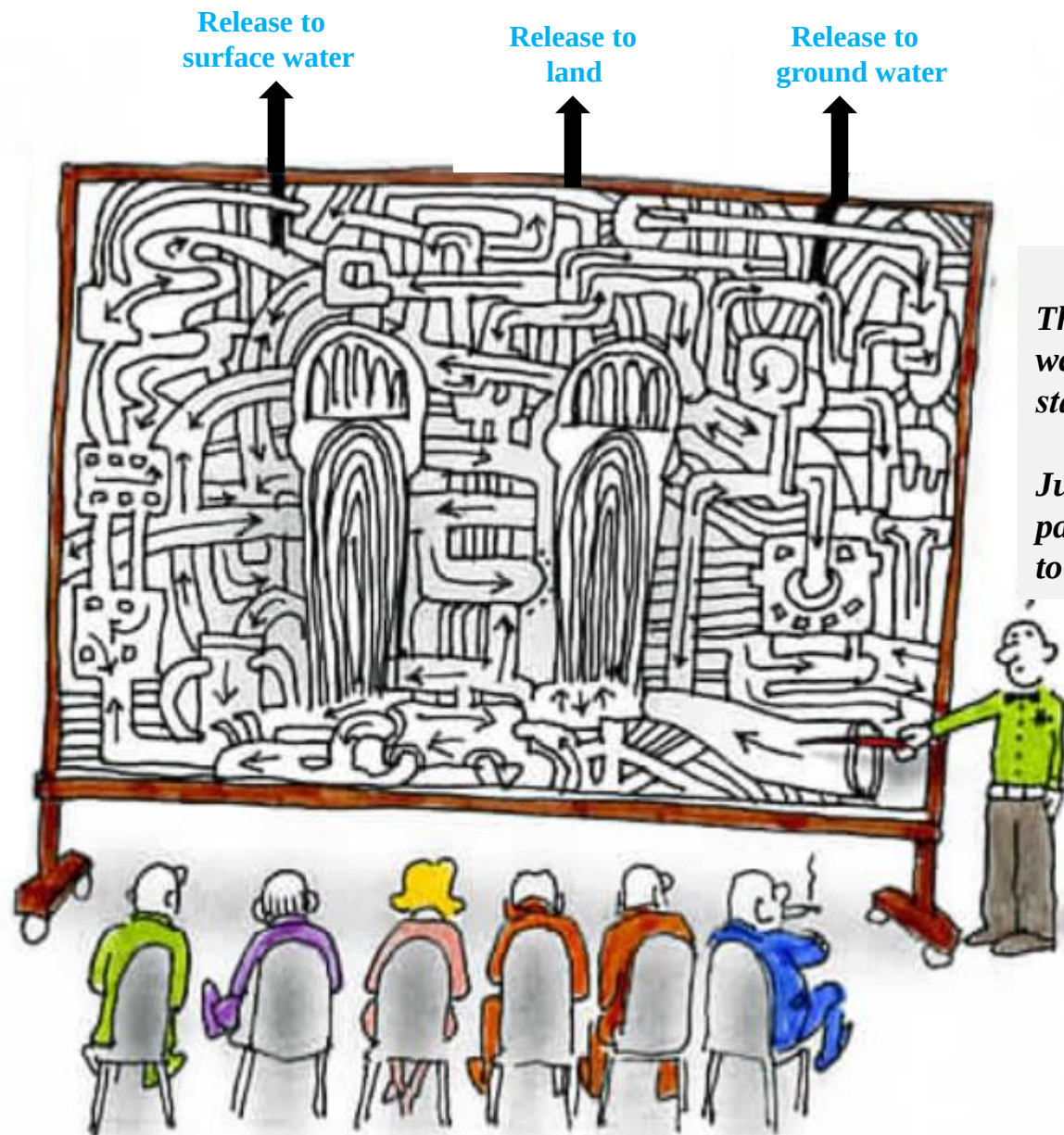


INDUSTRIAL WATER AND WASTEWATER PERMITTING IN COLORADO



**Rocky Mountain Water Environmental Association
6th Annual POW Industrial Wastewater Treatment Seminar
March 29, 2013 Golden, Colorado**

**Gary Beers, Principal
Industrial Water Permitting
and Recycling Consultants**



The industrial water or industrial wastewater management process starts here....

Just follow the arrows and the pathways to permitting for releases to the environment are obvious

Key Terms

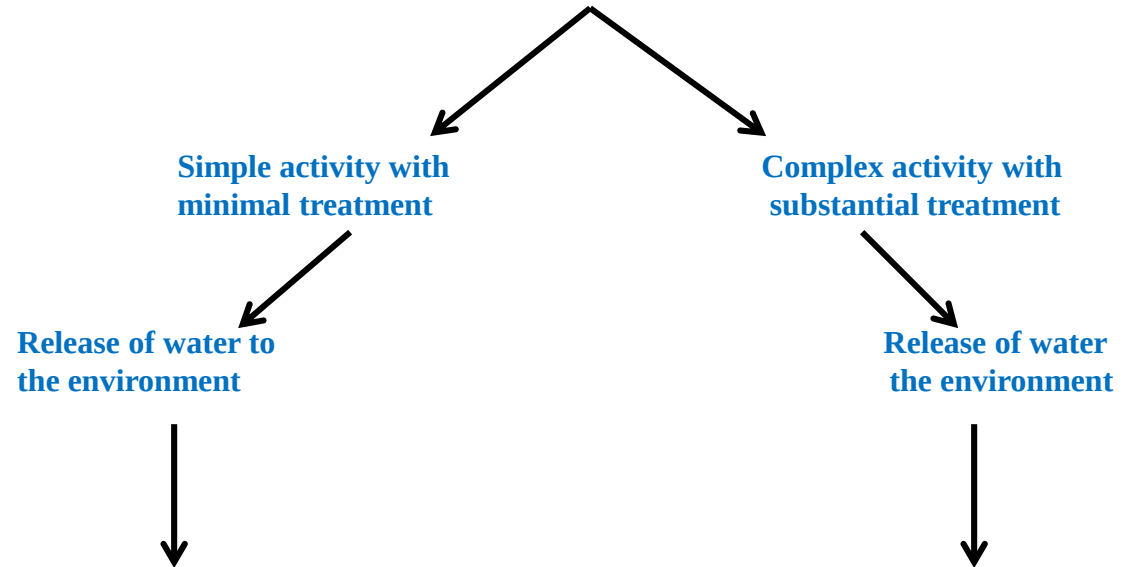
Domestic Sources



**Domestic
Wastewater**

Non-domestic Sources

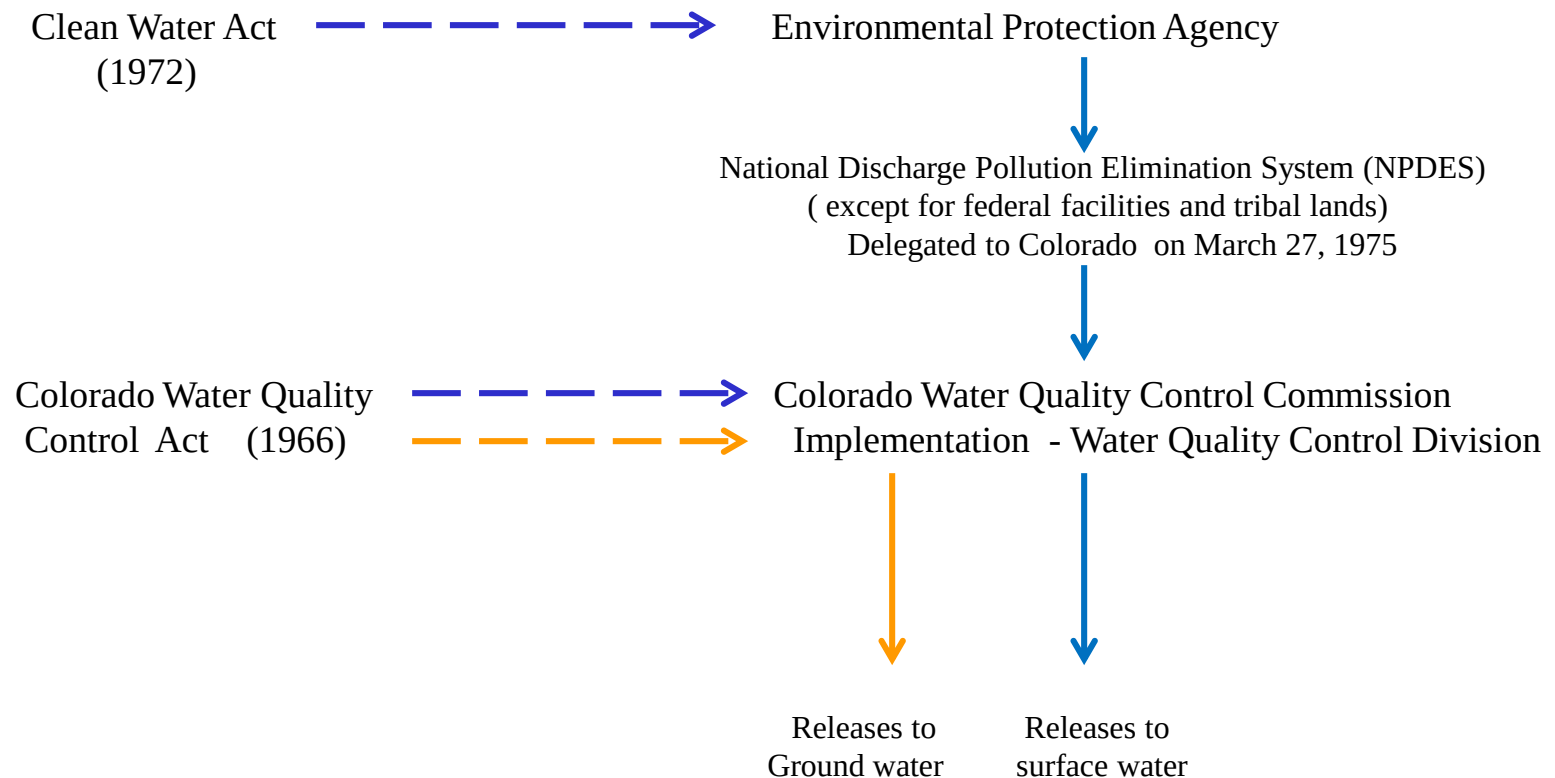
Industrial or Commercial Activities



**Industrial Water
(Process Water)**

Industrial Wastewater

Delegation of Water Authorities



Delegation of National Discharge Elimination System (NPDES) Components

POINT SOURCE	DISCHARGE			NPDES COMPONENT DELEGATED ?	STATE-ONLY PROGRAM ?
	Type		Destination		
Municipal Facilities	Treated Effluent		Surface Water	YES	NO
			Groundwater	---	YES
	Stormwater		Surface Water	YES	NO
	Reclaimed Water		Land	---	YES
	Biosolids		Land	NO	SHARED
Industrial Facilities	Pretreatment		WWTF	NO	SHARED
	Treated Effluent	Outfall		Surface Water	YES
		UIC Well	Oil/Gas	Groundwater	NO
			Other	Groundwater	---
		Non-UIC Well or Pond		Groundwater	---
	Stormwater	Oil/Gas		Surface Water	YES
		Non-Oil/Gas		Surface Water	YES
	Reclaimed Water (Reuse)		Land	---	YES
	Residuals		Land	---	YES
Federal Facilities and Tribal Lands	Treated Effluent		Surface Water	NO	---
			Groundwater	---	YES
	Stormwater		Surface Water	NO	---
	Reclaimed Water (Reuse)		Land	---	YES
	Biosolids		Land	NO	---
Agricultural Operations	Return Flow		Surface Water	EXEMPT	EXEMPT
			Groundwater	EXEMPT	EXEMPT
	Confined Animal Operations (CAFO) (livestock)		Surface Water	YES	NO
			Groundwater	YES	NO

Implementation of Senate Bill 89-181

Subsection 25-8-202(7) of the 1989 amendments to the state Water Quality Control Act (SB 181) restates and clarifies existing law, and **provides a procedure for coordination between state agencies vested with responsibilities to implement water-quality protection of state waters.**

Key among the provisions is the requirement that the Water Quality Control Commission (WQCC) and the Water Quality Control Division (WQCD) recognize the water-quality responsibilities of the following entities, referred to in the subsection as the “**implementing agencies**”:

Division of Reclamation, Mining, and Safety (DRMS)
State Engineer
Colorado Oil and Gas Conservation Commission
Division of Oil and Public Safety (Oil Inspector)

and the state agency responsible for activities related to the federal “Resource Conservation and Recovery Act of 1975” as amended. Currently, this is the **Hazardous Material and Waste Management Division** located in the Colorado Department of Public Health and Environment.

The WQCC is to remain solely responsible for the adoption of water quality standards and classifications for state waters. Each implementing agency is to apply these water quality standards and classifications adopted by the WQCC through their own programs after consultation with the WQCC and the WQCD. Generally, application of the standards and classifications would be limited to nonpoint surface discharges and to sub-surface discharges as the WQCD remains solely responsible for the issuance and enforcement of permits for point-source discharges into state surface waters. The implementing agencies are to specify applicable points of compliance for groundwater discharges. The points of compliance are to be adopted in accordance with criteria established through public rulemaking following consultation with the WQCC and the WQCD.

WQCD and Implementing State Agencies

Slide 7

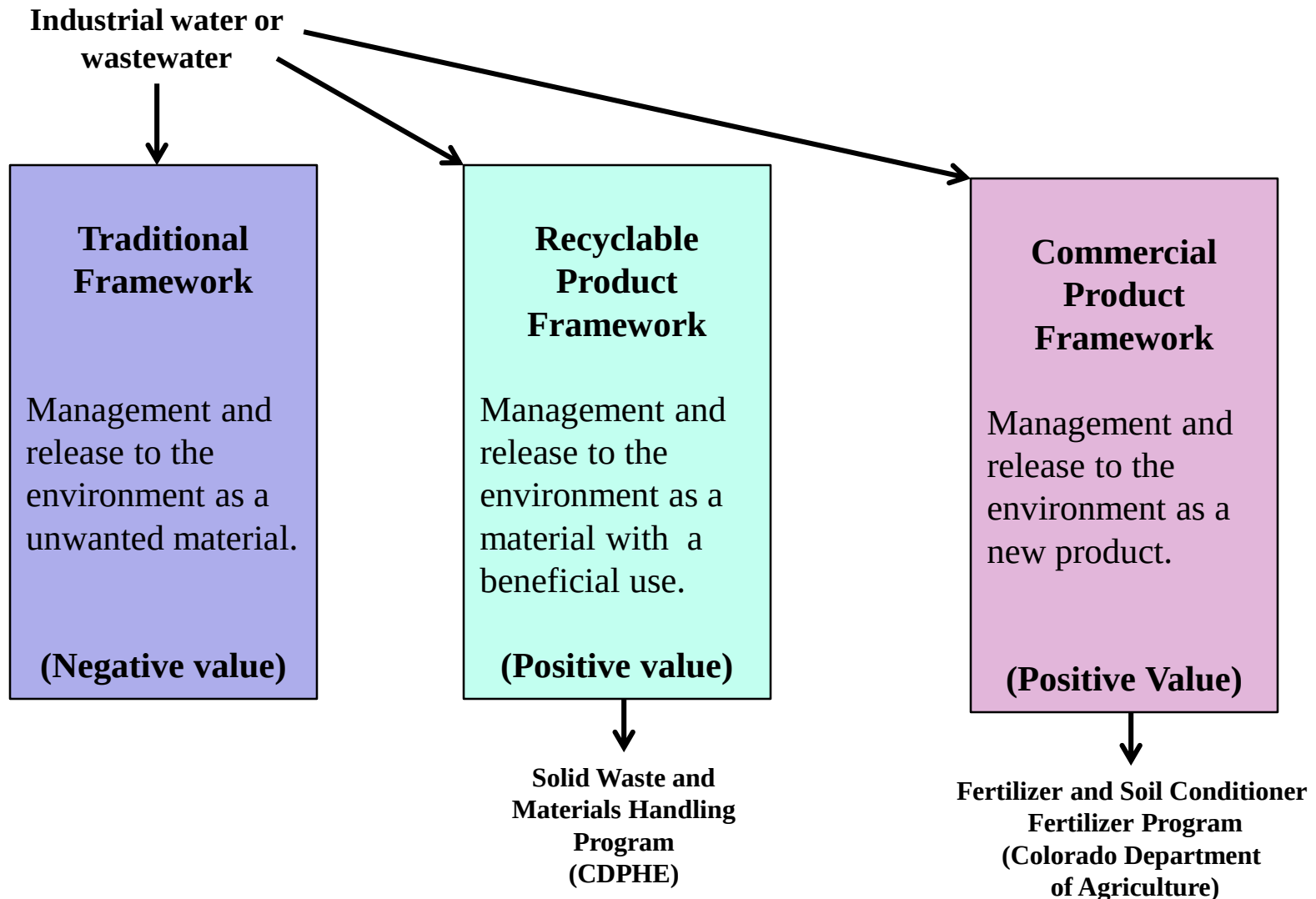
Industrial Water Activity	EPA Region 8	Colorado Agency						
		Department of Health and Environment		Department of Natural Resources			Department of Labor and Employment	Department of Agriculture
		Water Quality Control Division	Hazardous Materials and Waste Management Division	Oil and Gas Conservation Commission	Division of Reclamation Mining and Safety	Division of Water Resources	Division of Oil and Public Safety	Inspection and Customer Services Division
Permitting : Discharges to Surface Water								
Federal Facilities	X							
Tribal Facilities	X							
Other Facilities		X				X		
Permitting : Underground Injection Wells								
Oil/Gas Facilities				X				
Other Facilities	X							
Permitting : Discharges to Ground Water or Land (Implementing Agencies)								
Hazardous Waste			X					
Solid Waste			X					
Oil/Gas				X				
Mining					X			
Underground Tanks							X	
Livestock Feedlots		X						
Other		X						
Recycling								
Recycling	X	X	X	X	X		X	
Beneficial Use			X					
Commercial Product								X

TYPES OF PERMITS ISSUED BY WQCD'S PERMITS SECTION

TYPE	SECTOR	NAME		NUMBER ISSUED (9,916)
		Name	Number	
Individual Permit	Domestic	Surface Water Discharge	CO-----	230
		Ground Water		100
	Industrial	Surface Water Discharge	CO-----	90
		Ground Water	CO-----	10
	TOTAL			430
General Permit	Commerce and Industry	Aquatic Animal Production	COG130000	13
		Commercial Washing Outdoor Structures	COG607000	8
		Coal Mining Process Water and Stormwater	COG850000	4
		Hydrostatic Testing of Pipelines, etc	COG604000	31
		Metal Mining Industry Stormwater	COR040000	100
		Non-Contact Cooling Water	COG605000	17
		Non-Extractive Industries Stormwater	COR900000	900
		NoExposure Exclusion Stormwater	CONOX000	183
		Pesticides Application	COG860000	1,200
		Produced Water Treatment Facilities	COG840000	3
		Sand & Gravel Mining Wastewater/Stormwater	COG500000	32
		Sand & Gravel Mining Processing Stormwater	COG340000	200
		Subterranean Dewatering & Well Development	COG603000	48
		Water Treatment Plant Wastewater Discharge	COG641000	13
	Sewage Systems	Domestic WWTF with Chronic Low Flow	COG588000	67
		Domestic Wastewater Treatment Facilities	COG589000	30
		Domestic Septic Treatment Systems	COX620000	15
		Domestic On-site Systems ISDS	COX621000	38
		Domestic On-site Systems ISDS – No Wells	COX622000	32
		Domestic Lagoon Systems	COX630000	28
		Domestic Discharge Land Disposal	COX631000	35
		Domestic Discharge Land Treatment	COX632000	32
		Domestic Discharge Land Treatment Ag Rate	COX633000	3
	Construction	Construction Dewatering	COG070000	569
		Remediation Discharges to Surface Water	COG315000	28
		Remediation Discharges to Ground Water	COG316000	21
		Stormwater Construction	COR030000	3,723
	MS4	MS4 Cherry Creek Reservoir Basin	COR080000	116
		MS4 Non-Standard	COR070000	5
		MS4 Standard	COR090000	20
	TOTAL			8,476
Authorization	Reclaimed Water	Treaters	COE000000	24
		Users	COE000000	266
	TOTAL			290

Industrial Water or Wastewater can be Released Under Other Regulatory Frameworks

Slide 9

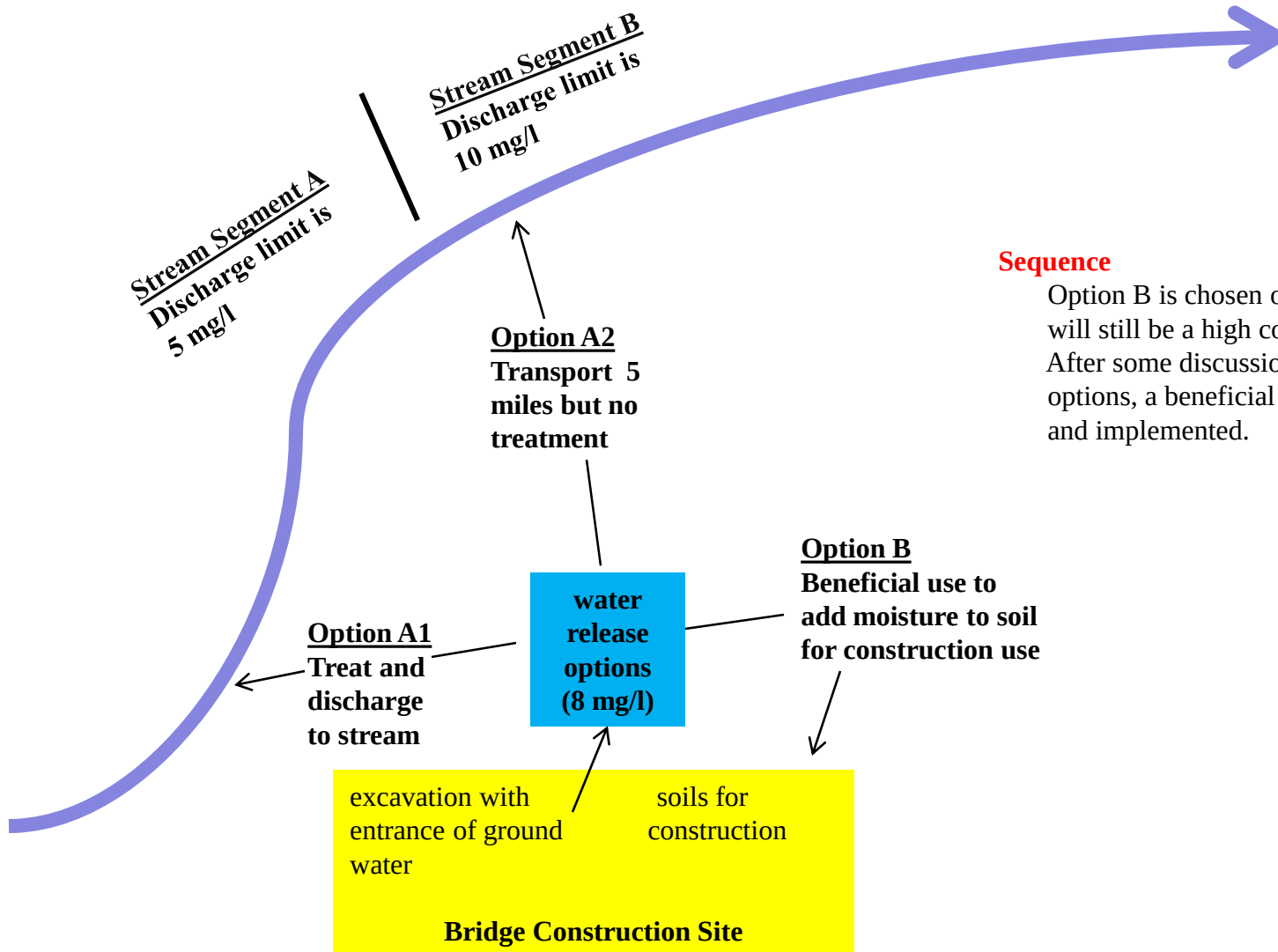


Two Examples

Construction Dewatering Project

Oil/Gas Produced Water Project

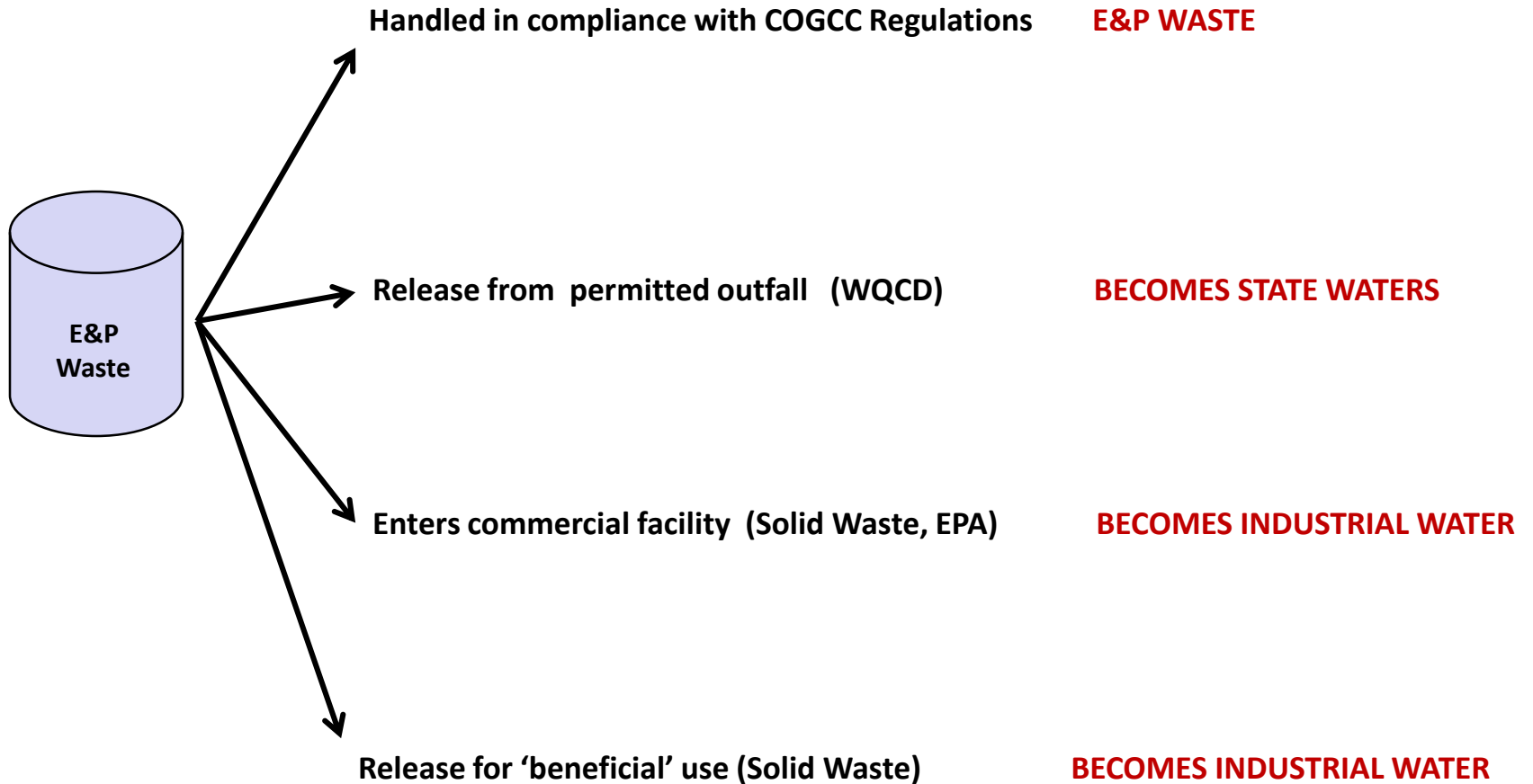
Construction Dewatering Project



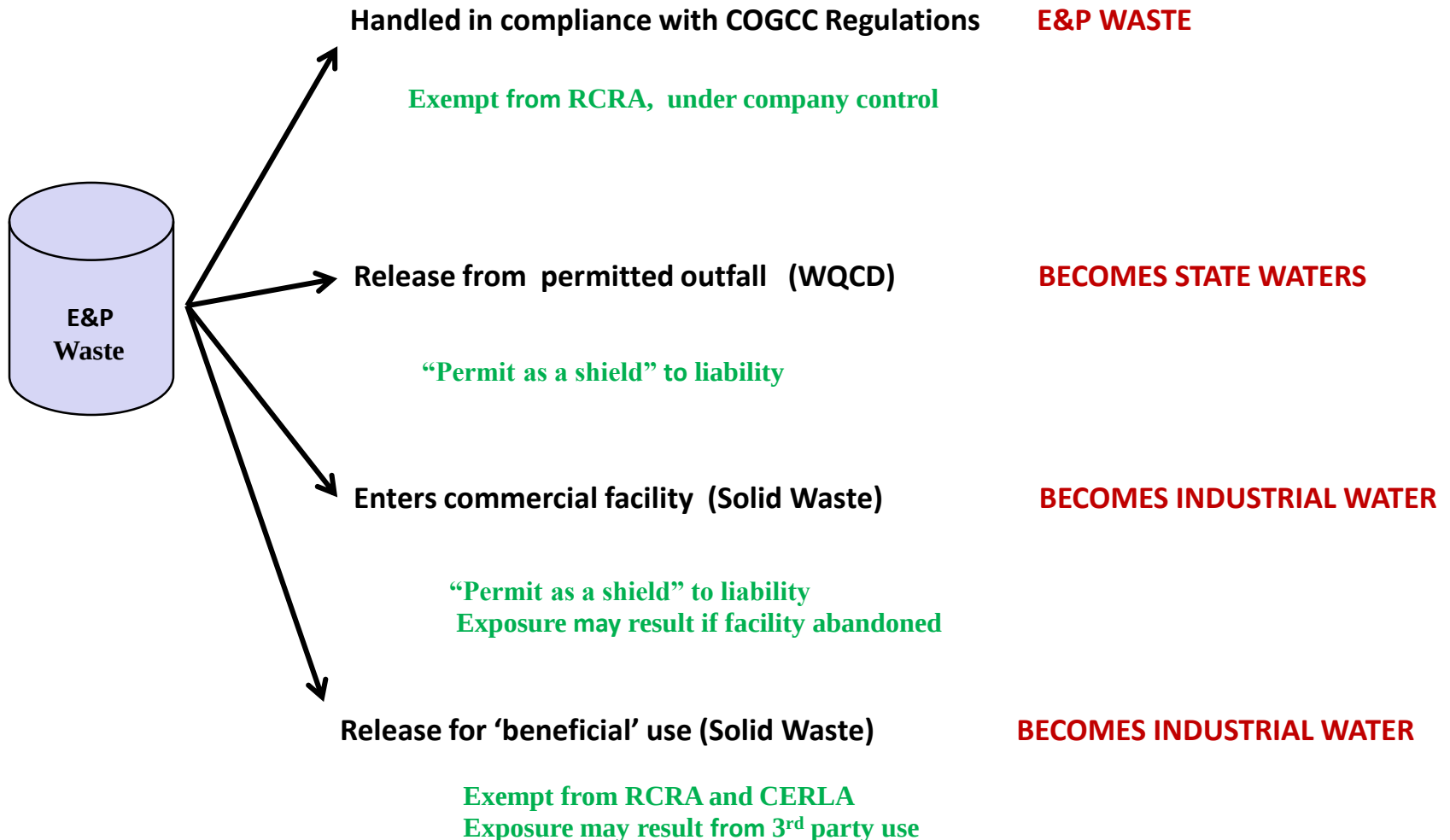
Sequence

Option B is chosen over Option A2, but there will still be a high cost for hauling water. After some discussions to explore other options, a beneficial use was decided upon and implemented.

Changes In Regulatory Status Of E&P Waste

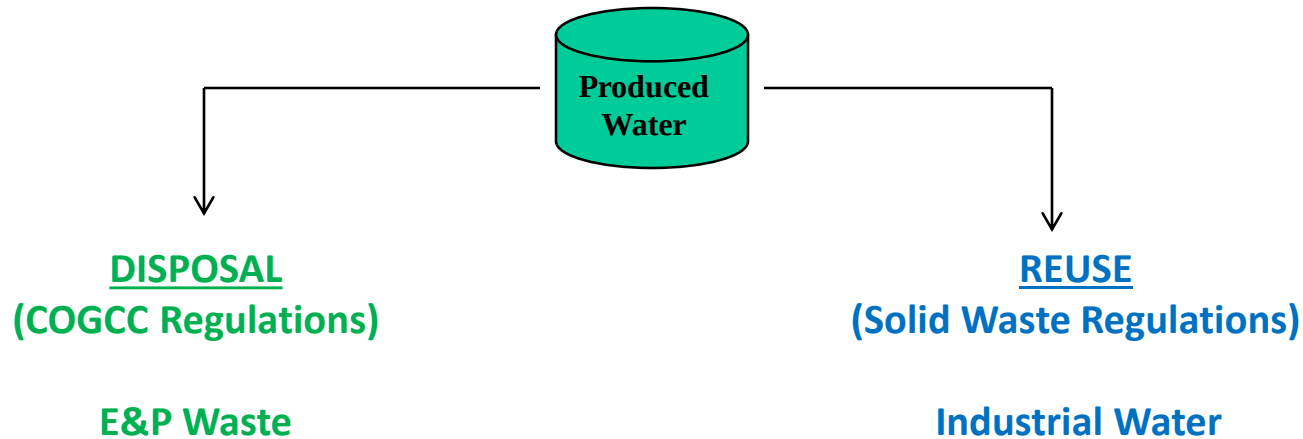


Changes In Regulatory Status Of E&P Waste With Potential Liability Considerations



Use Of Produced Water As Dust Suppressant

Disposal or Reuse ?



Centralized Disposal Facility

E&P waste meets water-quality requirements, application rate does not generate runoff, and Total Dissolved Solids (TDS) is less than 3,500mg/l.

Commercial Disposal or Recycling Facility

Industrial water from facility essentially meets water-quality requirements, application rate does not generate runoff, and Total Dissolved Solids concentration is sufficient to perform as a commercial dust suppressant under local road department practices. For example, TDS levels in 100,000 to 400,000 range with chloride levels of at least 80,000 mg/l.

Thank you

Questions