

DU	Surface Area (ft^2)	Average Depth (ft)	Volume (ft^3)	Excavation Cost (4\$/ft^3)
	3	42200	2	84400
	4	32540	2	65080
WRP		7500	10	75000
HS1		510	2	1020
HS2		1200	20	24000
HS3		700	10	7000
HS4		1270	20	25400
HS5		190	2	380
3 W/O HS		39790	2	79580
4 W/O HS		8390	2	16780
4W/O HS/WR		32350	2	64700
Tailings hills		13500	20	270000
DU 3 W/O Tailings Hills		28700		
Total surface area		76010		7958
Alternative	Amount Excavated (ft^3)	Cost of Excavation	Excavation Equip	Total excavation cost
1(No action)	0	\$0.00	0	\$0.00
2(fence/sign)	0	\$0.00	0	\$0.00
1Excavate HS, DU3, DU4 to onsite repository	490680	\$2,453,400.00	40000	\$2,493,400.00
2Excavate HS to onsite repository; excavate/soil wash/ replace DU4; insitu solidification of DU3	630380	\$3,151,900.00	40000	\$3,191,900.00
Excavate HS to DU3 and solidify; excavate/soil wash/ replace DU4.	635200	\$3,176,000.00	40000	\$3,216,000.00
Excavate HS to DU3 and cap; excavate/soil wash/replace DU4 + retaining wall	554360	\$2,771,800.00	40000	\$2,811,800.00

TOTALS	Alternative	
	1(No action)	\$0
	2(fence/sign)	\$154,000
Excavate Everything	1Excavate HS, DU3, DU4 to onsite repository	\$4,654,160
Ex(HS) Wash(4) Solid(3)	2Excavate HS to onsite repository; excavate/soil wash/ replace DU4; insitu solidification of DU3	\$4,939,951
Ex(HS) Wash(4) Cap(3)	Excavate HS to DU3 and solidify; excavate/soil wash/ replace DU4.	\$5,490,277
Ex(HS+3) Wash(4)	Excavate HS to DU3 and cap; excavate/soil wash/replace DU4 + retaining wall	\$4,375,336

Alternative 4 Cost Estimate Breakdown	Alternative 4 Cost Breakdown
Excavation Cost	Institutional Controls
Labor Cost	Site changes/ road making
Material Cost	Excavation Cost
Total Cost	Soil Washing Cost
	Capping Cost
	Retaining Wall Cost
	Labor Cost
	Total Cost

Materials Cost	Alternative	#Workers Needed	Pay/worker/yr	(1 yr remediation) Total Labor cost	abt 1000ft of barbwire Institutional controls	(AI) Soln + equipment	For cap+repos 18" layer Clay cost	(connor mine) Cap operation cost	100000 for cement trucks 20\$/94lbs of cement portland cement solidifying agent cost	(Connor Mine) road making Site changes	Total of material cost
	1(No action)	0	75000	0	0	0	0	0	0	0	0
	2(fence/sign)	8	18750	150000	4000	0	0	0	0	0	4000
Excavate HS, DU3,4 + Repos	1Excavate HS, DU3, DU4 to onsite repository	8	75000	600000	4000	0	1313760	168000	0	75000	1560760
Ex(HS) Wash(4) Solid(3)+Repos	2Excavate HS to onsite repository; excavate/soil wash/ replace DU4; insitu solidification of DU3	8	75000	900000	4000	200000	198800	84000	286251.0638	75000	848051
Ex(HS) Wash(4) Cap(3)+repos	Excavate HS to DU3 and solidify; excavate/soil wash/ replace DU4.	8	75000	600000	4000	200000	789600	168000	437676.5957	75000	1674276.596
Ex(HS+3) Wash(4)+Repos	Excavate HS to DU3 and cap; excavate/soil wash/replace DU4 + retaining wall	8	75000	600000	4000	200000	590800	84000	0	75000	953800
Retaining Wall	208 LF, 2ft high, 1 ft wide	416	9736.170213	~10k			420\$/30ft^2				

<https://homeguide.com/costs/barbed-wire-fence>
<https://lonestarbarite.com/products/bentonite-clay-for-ponds-super-sack/>
<https://www.lowes.com/pd/Sakrete-Portland-94-lb-I-I-Cement/4747085>