	Park soils	Source Area	PCBs/VOC/SVOC Access Road	Yard soil	GW onsite	GW offsite	Soil Vapor Intrusion	Well Head Treatment Contingency/ Upgrade
ALT I	NFA	NFA	NFA	NFA	NFA	NFA	NFA	NFA
ALT II	NFA	NFA	NFA	NFA	NFA W/SM	NFA	NFA W/SM	NFA
ALT III Grumman	Excavate 2ft ~~Root~~ Cover	IST D	Cover	Complete removal	OMM	GWALT 3	OMM	WHTCP
ALT IV DEC	Excavation → 0 10 ~~feet~~	IST D	some removal	Complete removal	OMM	GWALT 4	OMM	WHTCP
ALT V Complete	Complete Excavation-10 ALT 2 waste	IST D	Complete removal	Complete removal	OMM	GWALT 5 ↺ 6 ?	OMM	WHTCP

Excavation Depth	Non HAZ volume	Cost	HAZardous volume	Cost
0-2ft	9,000 yd^3	$8,000,000	—	—
2-10ft	27,000 yd^3	$11,250,000.	8,000 yd^3	$3,750,000
10-20ft	—		12,000 yd^3	$5,000,000
20plusft	—		12,000 yd^3	$5,000,000
	36,000 yd^3	$19,250,000	32,000 yd^3	

* — using Grummon's Costs and currently in PRAP

* Cost includes mob-demob, HASP, Excavation, transportation & Disposal

Grumman OU3 FS Estimates (w/o OMM)

	total unrestricted total yd^3	w/oversight Cost w/o Contingency	P.M. Cost w/ Legal Contingency
			(Eng. & legal)
0-2 FT	8,928 yd^3	$5,462,000	$7,700,000 - 5 462,000
2-6/10 FT	88,971 yd^3	$ 39,759,000	
10-15 FT	39,083 yd^3	$ 19,623,000	
≥ 15 FT	90,417 yd^3	$ 47,816,000	
Total Grumman	227,399 yd^3	112,987,339	$2,238,000

$$\frac{\$\ 112,887,339}{227,399\ yd^3} = \$496/yd^3$$ Grumman Cost Haz & Non-Haz

Alternative 2	Capital	Annual	P.W
SVE-O+M	——	$198,000	$3,050,000
GW O+M		$450,000	$7,400,000
Total		648,000	$10,450,000

ALTERNATIVE 3 – Complete to extent Practicable

	Capital	Annual	P. W
Soils - Park (SP-4)	125,900,000	—	125,927,000
Soils Access Rd	5,365,000	—	5,365,000
Soils - Residential yards	1,200,000	—	1,200,000
Source Area ITSD	$15,600,000		$15,600,000
Offsite GW Complete to Extent feasible	$41,511,000	$2,850,000 (OMM PW 43,450,000)	$85,350,000
Onsite GW. O,M,M,	—	$450,000	$7,400,000
Soil Gas - SVE	—	$198,000	$3,050,000
	181,576,000	$3,498,000	193,900,000
	189,500,000	3,500,000	
~~Wellhead upgrade~~	~~12,500,000~~	~~200,000~~	~~14,500,000~~
			~~209,000,000~~
			194,000,000

Alternative 4 - Grumman Alt

	Capital	Annual	P.W
Soils Park Excavation - 0.2'	$7,700,000	$16,000	$8,000,000
Soils Yards	500,000	$6,000	$600,000
Soils Access Rd	$5,365,000	—	$5,365,000
Source Area IST D	$15,600,000		$15,600,000
Offsite GW	4,800,000 ~~6,250,000~~ 11,050,000	410,875	$7,800,000
Onsite GW	—	$450,000	$7,400,000
Soil Gas SVE	—	$198,000	$3,050,000
wellhead treatment upgrade	12,500,000	$200,000	~~14,500,000~~
wellhead Treatment Contingency	$5,000,000	$100,000	$6,500,000
	~~57,715,000~~	~~1,180,875~~	
SAI	~~57,750,000~~	1,200,000	~~69,000,000~~
REVISED	40,250,000	1,100,000	58,000,000

Alternative 5	Capital	Annual	P.W.
Soils - Parks			
Excavation 0-2'	$ 7,700,000	$ 16,000	$ 8,000,000
Middle Excavation 2-10'	$ 14,625,000		$ 15,000,000
~~2~~ * .25 greater 10-20' (plus)	5,000,000		5,000,000
Soils Disposal	$ 5,365,000	—	$ 5,365,000
0-2 ft Estimate			
2-6 ft			
Soils Hotspots	1,200,000	~~$5,000~~	$ 1,200,000
Source Area	$ 15,600,000	—	$ 15,600,000
~~ISD~~			
In-Situ Thermal Desorption			
Offsite GW	12,000,000	$ 612,150	$ 9,900,000
Soil Gas - SVE - OMM	—	$ 198,000	$ 3,050,000
Onsite GW OMM	—	$ 450,000	$ 7,400,000
~~Wellhead Treatment Upgrade~~	~~12,500,000~~	~~200,000~~	
Wellhead Treatment Contingency	5,000,000	$ 100,000	$ ~~6,500,000~~
	~~78,990,000~~	1,560,151	102,683,344
		(23,683,344) (PW)	
		SAY	~~103,000,000~~
REVISED Cost	61,490,000	1,260,151	81,000,000

Ballfield Area

Shallow 0-2ft Scale $\frac{7}{8}$" = 200ft
1" = 228 ft

PCBs 1-10 ppm All

$1\frac{3}{4} \times 1\frac{3}{4}$

(1.75 × 1.75)

350' × 350' = 122,500 ft²

122,500 ft² × 2ft = 245,000 ft³

= 9,000 yd³

Non Hazardous	Hazardous
9,000 yd³	

2 - 10 feet Scale $\frac{7}{8}$" = 200ft
1" = 228 feet

$1\frac{3}{4} \times 1\frac{3}{4}$

(1.75 × 1.75)

350' × 350') = 122,500 ft²

122,500 × 8 ft = 980,000 ft³

= 36,000 yd³

¼ Hazardous

¾ Non Hazardous

27,000 yd³	9,000 yds³

10 - 20 feet - Arzonly
.75" = 120 feet scale

1" = 137 ft

$A = \pi R^2$

$= (3.14)(100)^2$

$= 31,400 ft^2 \times 10 ft / 27 = 12,000 yd^3$

$R = D/2 = \left(\frac{1.5(120)}{2}\right)$

r = 90 ft

SAY 100 ft

12,000 yd³

20 Plus

12,000 yd³

36,000 yd³	12,000 yd³ / 33,000 yd³

Access Rd

Shallow ~ 2

$\frac{1}{2} \times 8 \times 160$ ft/in

$50 \times 400 \times 2 / 27$ = 3000

$\frac{1}{2} \times 3 \times 10$

$50 \times 300 \times 2 / 27$ = 1,100

> 2 ft

½ | ¼ | 1'' (from PCB figure)

A = $A = \pi R^2$ $A = \pi R^2$ $A = \pi R^2$

$\pi (25)^2$ $\pi (15)^2$ $\pi\ 50^2$

500 yd^3 130 yd^3 1,400 yd^3 = 2,000 yd^3

6,000 yd^3

DEC PRAP vs OPTION 1 & OPTION 2

Onsite Soils & G.W.

Task-Action	OPTION 1	OPTION 2	PRAP
Remove Hazardous Waste (1) PCB's	No	No	Yes
ISTD of RAG Pit Waste (2)	No	No	Yes
(3) Remove Cr Sludge	No	No	Yes
(4) Removal on Access Road	No	No	Yes
Adds Elevation	Yes - 4 ft	Yes - 2 ft	No - to GRADE
Synthetic turf	Yes	Yes	No → Natural
ISTD Cost	$15,600,000	$15,600,000	Included
Onsite G.W.	30 years $7,400,000	30 years $7,400,000	10 years? $2,300,000
Access Road	$5,365,000	$5,365,000	Included
SVE	3,050,000	3,050,000	Included