

**Table 6-8**  
**Construction Cost Estimate for Soil Alternative No. 5**  
Rolling Knolls Landfill Superfund Site - Feasibility Study  
Chatham, New Jersey

Geosyntec Consultants

Component	Range Unit Cost			Unit	Quantity	Construction Cost Estimate
A - Design/Construction Oversight/Permits						
Pre-Design Investigation	0.5%	to	2%	% Construction <sup>(2)</sup>	\$ 50,370,500	\$ 629,700
Remedial Design	0.5%	to	2%	% Construction <sup>(2)</sup>	\$ 50,370,500	\$ 629,700
Remedial Oversight	5%	to	10%	% Construction <sup>(2)</sup>	\$ 50,370,500	\$ 3,777,800
Subtotal						\$ 5,037,200
B - Construction Preparation						
Bonding, insurance etc.	0.05%	to	0.10%	% Construction <sup>(2)</sup>	\$ 50,370,500	\$ 37,800
Mobilization/demobilization	0.50%	to	1%	% Construction <sup>(2)</sup>	\$ 50,370,500	\$ 377,800
Subtotal						\$ 415,600
C - General Construction and Site Management						
Site management and facilities	\$ 5,400	to	\$ 21,600	per mth	36	\$ 486,000
Survey (topo , wetlands, etc.)	\$ 80,800	to	\$ 107,700	est.	1	\$ 94,300
Britten Road entrance overlay	\$ 6	to	\$ 7	sft	35,000	\$ 227,500
Construction entrance	\$ 5,400	to	\$ 10,800	est.	1	\$ 8,100
Traffic management	\$ 2,200	to	\$ 10,800	mth	24	\$ 156,000
Demolition existing structures and place in LF	\$ 10,800	to	\$ 27,000	est.	1	\$ 18,900
25-ft wide construction access road	\$ 110	to	\$ 220	lin ft	5,600	\$ 924,000
15-ft wide permanent access road (half of perimeter)	\$ 65	to	\$ 130	lin ft	5,600	\$ 546,000
Structural BMP (bog turtle)	\$ 21,600	to	\$ 43,100	est.	1	\$ 32,400
Subtotal						\$ 2,493,200

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<b>D - Areas of Particular Concern (APCs)</b>					
APCs include POI-09, SS-109 (i.e. TP-09) and POI-14.					
Assumed 1-acre remediation for each APC.					
Remediation area:	3.0	acres			
Flood hazard area (FHA):	2.0	acres	including APCs POI-9, and POI-14		
Surface Debris Area :	2.0	acres	including APCs POI-9 and POI-14		
Wetland impact area:	3.6	acres			
Remediation area perimeter:	2200	feet			
<b>Site Preparation</b>					
Silt fence (perimeter of each APC)		\$ 6	lin ft	2,640	\$ 15,900
Turbidity curtain		\$ 11	lin ft	2,200	\$ 24,200
Clearing/grubbing		\$ 2,200	acre	3.6	\$ 8,000
Relocation of surface debris using LGP equipment		\$ 11	cyd	3,300	\$ 36,300
<b>Consolidate Impacted Soil Under Cap Area</b>					
Remove/relocate 2-ft thick impacted soil		\$ 22	cyd	6,500	\$ 143,000
Backfill with offsite soil (e.g., loam)		\$ 44	cyd	6,500	\$ 286,000
Wetland restoration (re-vegetation)		\$ 3,300	acre	2.0	\$ 6,600
<b>Excavate and Dispose Offsite (SS-109/TP-09)</b>					
Excavate 2-ft thick impacted soil		\$ 22	cyd	3,300	\$ 72,600
Off-site transportation	\$ 6 to	\$ 11	ton	3,300	\$ 28,100
Off-site disposal (hazardous waste)	\$ 220 to	\$ 540	ton	1,650	\$ 627,000
Off-site disposal (non-hazardous waste)	\$ 44 to	\$ 76	ton	1,650	\$ 99,000
Backfill with offsite soil (e.g., loam)		\$ 44	cyd	3,300	\$ 145,200
Wetland 1:1 on-Site reconstruction		\$ 161,600	acre	1.0	\$ 161,600
Wetland restoration (re-vegetation)		\$ 3,300	acre	0.6	\$ 2,000
<b>Subtotal (consolidation)</b>					<b>\$ 1,655,500</b>

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<b>E - Landfill Area 1 (Privately Held)</b>					
Buried waste area:	105	acres			
Flood hazard area (FHA):	29	acres			
Wetland impact area:	9	acres			
Waste area perimeter:	10,825	feet			
Silt fence		\$ 6	lin ft	12,990	\$ 78,000
Turbidity curtain		\$ 11	lin ft	5,413	\$ 59,600
Clearing/grubbing		\$ 2,200	acre	105.0	\$ 231,000
Excavate/relocate 3-ft soil in FHA		\$ 17	cyd	140,400	\$ 2,386,800
Soil/waste grading (ave. 2 ft)		\$ 11	cyd	245,227	\$ 2,697,500
Subtitle D cap		\$ 234,000	acre	105	\$ 24,570,000
Stormwater basin	\$ 21,600 to	\$ 43,100	est.	3	\$ 97,100
Perimeter anchor trench		\$ 3	lin ft	3,248	\$ 9,800
Landform plus enhanced anchor trench		\$ 70	lin ft	7,578	\$ 530,500
Passive LFG control (vents or vents & trenches)	\$ 4,400 to	\$ 6,500	acre	105	\$ 572,300
Wetland 1:1 on-Site reconstruction		\$ 161,600	acre	9.0	\$ 1,454,400
Wetland restoration (re-vegetation)		\$ 3,300	acre	10.5	\$ 34,700
<b>Subtotal</b>					\$ 32,721,700
<b>F - Landfill Area 2 (Great Swamp National Wildlife Refuge Area)</b>					
Buried waste area:	35	acres			
Flood hazard area (FHA):	33	acres			
Wetland impact area:	9.2	acres			
Waste area perimeter:	6,300	feet			
Silt fence		\$ 6	lin ft	7,560	\$ 45,400
Turbidity curtain		\$ 11	lin ft	3,150	\$ 34,700
Clearing/grubbing		\$ 2,200	acre	42	\$ 93,000
Excavate/relocate 3-ft soil in FHA		\$ 17	cyd	159,800	\$ 2,716,600
Soil/waste grading (ave. 2 ft)		\$ 11	cyd	7,099	\$ 78,100
Subtitle D cap		\$ 234,000	acre	35.2	\$ 8,236,800
Stormwater basin	\$ 21,600 to	\$ 43,100	est.	2	\$ 64,700
Perimeter anchor trench		\$ 3	lin ft	1,890	\$ 5,700
Landform plus enhanced anchor trench		\$ 70	lin ft	4,410	\$ 308,700
Passive LFG control (vents or vents & trenches)	\$ 4,400 to	\$ 6,500	acre	35	\$ 191,900
Wetland 1:1 on-Site reconstruction		\$ 161,600	acre	9.2	\$ 1,486,800
Wetland restoration (re-vegetation)		\$ 3,300	acre	3.5	\$ 11,700
<b>Subtotal</b>					\$ 13,274,100

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<b>G - Site Controls (physical)</b>				
7-ft high perimeter fence	\$ 33	lin ft	6,500	\$ 214,500
20-ft wide double access gates	\$ 4,400	each	2	\$ 8,800
3-ft wide man gates	\$ 870	each	3	\$ 2,700
<b>Subtotal</b>				\$ 226,000
<b>H - Site Controls (administrative)</b>				
Institutional controls	\$ 10,800	est.	1	\$ 10,800
Reporting to EPA	\$ 4,400	every 5-yr	6	\$ 26,400
Reporting to NJ	\$ 4,400	every 2-yr	15	\$ 66,000
<b>Subtotal</b>				\$ 103,200
<b>I - Post-Remedy Operation &amp; Maintenance</b>				
Landfill monitoring/maintenance	\$ 53,900 to \$ 86,200	annual	30	\$ 3,075,400
Fence O&M	\$ 2,300 to \$ 6,800	annual	30	\$ 199,800
Wetland mitigation monitoring/maintenance	\$ 80,800 to \$ 107,700	annual	5	\$ 495,500
<b>Subtotal</b>				\$ 3,770,700
<b>Total</b>				\$ 59,698,000

Notes:

- (1) See Table 6-4 for cost estimate assumptions, notes, and limitations.
- (2) Construction cost to estimate these items include the costs of Items C through G.