

Appendix 9.4 - Generation of C&D Materials form HATS Stage 2A, SCISTW

Items	Total Quantity (m3)	Reused in the Project (m3)	Surplus C&D Material (m3)
(i) Inert C&D Materials (soft public fill)	238,541	23,854	214,687
(ii) Low Quality Rock	16,412	1,641	14,771
(iii) C&D Waste (Site Clearance)	7,337	0	7,337
(iv) Marine Deposit	13,018	0	13,018
TOTAL	276,747	25,495	251,252

Remark:

1. 10% soil and rock are assumed to be reused for on-site backfilling

Appendix 9.4 - Generation of C&D Materials form HATS Stage 2A, SCISTW

A. Total C&D Materials to be Generated:

Item	Width	Length	Plan Area	Ground Level	Excavated Level	Depth	Total Excavated Volume	Excavated Volume			Bulk Volume			
								Reinforced Concrete / Bituminous Materials (Site Clearance)	Rock	Soil	Reinforced Concrete / Bituminous Materials (Site Clearance)	Rock	Soil	TOTAL
	(m)	(m)	(m ²)	(mPD)	(mPD)	(m)	(m ³)	(m ³)	(m ³)	(m ³)	(m ³)	(m ³)	(m ³)	(m ³)
1.1 Pumping Station (50m Dia)	50m Dia	-	1,963	5	-35.0	40.0	78,500	393		78,108	523		104,143	104,667
1.2 Treatment Unit														
- CEPT Units	60	145	8,700	5	1.0	4.0	34,800	1,740		33,060	2,320		44,080	46,400
- Disinfection Facilities	34	174	5,829	5	-1.0	6.0	34,974	1,166		33,808	1,554		45,078	46,632
- Dechlorination Facilities	15	21	315	5	3.5	1.5	473	63		410	84		546	630
1.3 Deodourization Unit														
- Blower House	33	35	1,155	5	3.5	1.5	1,733	231		1,502	308		2,002	2,310
- Deodourization Unit	33	65	2,145	5	3.5	1.5	3,218	429		2,789	572		3,718	4,290
1.4 Effluent Tunnels														
- Tunnel A (SCISTW -> Chlorine Contact Tank) (7m Dia)	7m Dia	-	-	-	-	-	15,386	50	12,309	3,077	67	16,412	4,103	36,018
- Tunnel B (Chlorine Contact Tank -> Chamber 15)	10	400	4,000	5	-1.0	6.0	24,000	800		23,200	1,067		30,933	32,000
1.5 Sludge Treatment Facilities														
- Centrifuge Building	30	50	1,500	5	3.0	2.0	3,000	300		2,700	400		3,600	4,000
- Sludge Holding Tank	15	15	225	5	3.5	1.5	338	45		293	60		390	450
- Sludge Cake Silo	10	12	120	5	3.5	1.5	180	24		156	32		208	240
1.6 Miscellaneous Works (5% of total excavated volume)							9,830	262		9,568	349		12,757	13,107
								5,503	12,309	188,669	7,337	16,412	251,558	275,307

Remark:

1. Excavation volume of miscellaneous works is assumed to be 5% of total excavated volume
2. 200mm below ground is assumed to be pathed by reinforced concrete / bituminous materials and defined as waste generated from site clearance.
3. It is assumed that bulk volume equals to excavated volume over a factor of 0.75
4. 200mm below ground is assumed to be pathed by reinforced concrete / bituminous materials / vegetation and defined as waste generated from site clearance.
5. Approximate 3 -5 m marine deposit is identified from the G.I. Record at about 20 m below ground level.
6. The estimation has not included the C&D materials generated from construction shaft which is calculated in the SCS section.