Table 4-1
Remediation Summary of Estimated Water Usage

No.	Area/Activity	Working Days	Estimated Peak Water Demand (gpd)			
			Dust Control	Soil Moisture Conditioning	Support Facilities	Total
1	**Remediation and Abandonment**					
(i)	Facilities Abandonment and Removal	180	25,000	-	1,500	26,500
(ii)	Remediation	160	25,000	37,000	1,500	63,500
2	**Site Grading**					
	Grading	120	50,000	75,000	2,000	127,000

Assumptions:

Dust control: One 5000 gal water truck, 5 trips a day during remediation and abandonment activities.
Two 5,000 gal water trucks, 5 trips/day each during site grading.

Soil moisture condition during remediation: Production of 1,400 tons/day of soil, increase moisture by 10%.

Soil moisture condition during site grading: Production of 2,000 tons/day of soil, increase moisture by 10%.

Table 4-2
Remediation Summary of Disposal Quantities

No.	Area/Activity	Nominal Quantity	Units	Contingency Factor (1)	Estimated Quantity	Notes and Assumptions
1	**Remediation and Abandonment**					
(i)	**Facilities Abandonment and Removal**					
A	**Remove Former Operations Infrastructure**					
	Buildings and tanks demolition debris (Metal Scrap)	156	tons	1.25	195	
	Demolition of concrete foundations, pads and walls	2,800	tons	1.50	4,200	A contingency factor of 1.5 has been applied to account for uncertainties associated with unknown building footings and foundations, and subsurface concrete vaults.
B	**Petroleum Pipeline Removal/Abandonment**					
	Pipeline removal	1,331	tons	1.50	1,997	A contingency factor of 1.5 has been applied to account for uncertainties associated with unknown pipelines.
	naTPH soil within excavation	2,925	tons	3.00	8,775	A contingency factor of 3.0 has been applied to account for the possibility of pipelines being deeper than the assumed 4' depth and the uncertainty associated with possible presence of TPH impacted soil during excavation.
	Liquid waste (oil residue and water)	40,000	gals	1.50	60,000	A contingency factor of 1.5 has been applied to account for uncertainties associated with unknown quantities of residue in the existing pipelines.
	Slurry pipeline grouting	-	-	-	-	
C	**Monitoring Well Abandonment**					
	Waste disposal	126	tons	1.25	157	
D	**Removal Existing Abandoned Utilities**					
	Utilities pipeline Removal	147	tons	1.25	183	
	Power poles	5	tons	1.25	6	
(ii)	**Remediation**					
	OU 1/AOC 1 Pump House Soil Removal (naTPH>1000) offsite disposal	42,000	tons	2.50	105,000	A contingency factor of 2.5 has been applied to account for the possible variability in groundwater depth at the time of remediation. Although the nominal excavation assumes an average depth of 10 feet, the depth of groundwater could be as deep as 15 feet.
	OU 2/AOC 1 Refractory glass in refinery area	-		-	-	The refractory glass-containing soil excavated near the refinery area will be interred onsite.
	OU 2/AOC 2 Lead in near-surface soil removal and dispose offsite	1,800	tons	1.50	2,700	A contingency factor of 1.5 has been applied to account for uncertainties associated with lateral and vertical extent of lead in soil.
	OU 2/AOC 3 naTPH soil in Refinery Area, removal	450	tons	1.25	563	
	OU 2/AOC 5 naTPH soil along pipeline corridor, removal	500	tons	3.00	1,500	A contingency factor of 3.0 has been applied to account for the possibility of pipelines being deeper than the assumed 4' depth and the uncertainty associated with possible presence of TPH impacted soil during excavation.
	OU 4/AOC 2 Groundwater monitoring	1	tons	1.25	1	
	Reconfigure stormwater management system (nTPH>1000 soil)	100	tons	1.50	150	A contingency factor of 1.5 has been applied to account for uncertainties associated with possible presence of TPH impacted soil during excavation.
2	**Site Grading**					
	Grading					
	Groundwater monitoring well installation waste disposal	79	tons	1.25	98	
	Additional naTPH-impacted soil handling due to development grading	2,250	tons	2.00	4,500	A contingency factor of 2.0 has been applied to account for uncertainties associated with possible presence of TPH impacted soil during excavation.

Note:

(1) A default contingency factor of 1.25 has been used to account for uncertaintainties associated with project unknowns. Explanations for higher contingency factors are listed in the Notes and Assumptions column

(2) Unit weight of soil is assumed to be 1.5 tons/cy and truck hauling capacity is assumed to be 20 tons/truck.

Table 4-3
Remediation Summary of Offsite Truck Trips

No.	Area/Activity	Estimated Quantity (tons)	Unit	Estimated Number of Trucks Required	Estimated Construction One-Way Trips	Activity Duration (working days)	Avg. Daily Construction One-Way Trips
1	**Remediation and Abandonment**						
	Mobilization/Demobilization	-		24	48	10	4.8
(i)	**Facilities Abandonment and Removal**				-		
A	**Remove Former Operations Infrastructure**				-		
	Buildings and tanks demolition debris (Metal Scrap)	195	tons	10	20	80	0.3
	Demolition of concrete foundations, pads and walls	4,200	tons	210	420	80	5.3
B	**Petroleum Pipeline Removal/Abandonment**				-		
	Pipeline removal	1,997	tons	100	200	160	1.3
	naTPH soil within excavation	8,775	tons	439	878	160	5.5
	Liquid waste (oil residue and water)	60,000	gals	24	48	160	0.3
	Slurry pipeline grouting	134	tons	7	14	10	1.4
C	**Monitoring Well Abandonment**				-		
	Waste disposal	157	tons	8	16	50	0.3
D	**Removal Existing Abandoned Utilities**				-		
	Utilities pipeline Removal	183	tons	10	20	30	0.7
	Power poles and other	6	tons	1	2	10	0.2
	Soil import allowance	15,000	tons	750	1,500	160	9.4
(ii)	**Remediation**				-		
	OU 1/AOC 1 Pump House Soil Removal (naTPH>1000) offsite disposal	105,000	tons	5,250	10,500	105	100.0
	OU 1/AOC 1 Pump House Soil Removal (naTPH>1000) import of float rock for backfill (3 feet)	19,556	tons	978	1,956	60	32.6
	OU 2/AOC 1 Refractory glass in refinery area	-		-	-	-	-
	OU 2/AOC 2 Lead in near-surface soil removal and dispose offsite	2,700	tons	135	270	20	13.5
	OU 2/AOC 3 naTPH soil in Refinery Area, removal	563	tons	29	58	140	0.4
	OU 2/AOC 5 naTPH soil along pipeline corridor, removal	1,500	tons	75	150	140	1.1
	OU 4/AOC 2 Groundwater monitoring	1	tons	1	2	4	0.5
	Reconfigure stormwater management system	150	tons	8	16	30	0.5
	Soil import allowance	36,000	tons	1,800	3,600	140	25.7
	Demobilization			24	48	10	4.8
2	**Site Grading**						
	Mobilization	-		10	20	5	4.0
	Grading	-		-		-	-
	Install groundwater monitoring wells	98	tons	5	10	50	0.2
	Additional naTPH-impacted soil handling due to development grading	4,500	tons	225	450	60	7.5
			Total	10,123	20,246	460	44

Notes:

Construction truck trips are based on a one-way trip. Each truckload for disposal will result in 2, one-way trips.

Total working days of 460 days based on preliminary project schedule provide in Table 4-4.

Assumed unit weight of soil = 1.5 tons/cy, unit weight of rock = 2.0 tons/cy, unit weight of concrete slurry = 1.74 tons/cy.

One-way distances from the site to the different landfills are as follows: Santa Maria landfill = 29 miles (Route 1), 32 miles (Route 2)
Cold Canyon landfill = 13 miles, Buttonwillow landfill = 113 miles, and Kettleman Hills landfill = 90 miles.

Table 4-4
Remediation Preliminary Project Schedule and Associated Vehicle Trips

No.	Task	Duration	Approx # months	Month 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	**Remove Former Operations Infrastructure**																										
A	Building Removal	50	3	X	X	X																					
	Tank Removal	30	2			X	X																				
	Demo of Foundations and Walls	80	4					X	X	X	X																
	Concrete Crushing	80	4					X	X	X	X																
B	**Petroleum Pipeline Removal/Abandonment**																										
	Pipeline Removal	160	8										X	X	X	X	X	X	X	X							
C	**Monitoring Well Abandonment**																										
	Well abandonment	50	3			X					X						X										
D	**Remove Existing Abandoned Utilities**																										
	Pipeline Removal	30	2									X	X														
	Power poles and other	40	2							X	X																
2	**Remediation**																										
	OU 1/AOC 1 Pump House Soil Removal (naTPH>1000) offsite disposal	105	6				X	X	X	X	X	X															
	OU 1/AOC 1 Pump House Soil Removal (naTPH>1000) float rock import	60	3					X	X	X																	
	OU 2/AOC 1 Refractory glass in refinery area	15	1								X																
	OU 2/AOC 2 Lead in near-surface soil removal and dispose offsite	15	1									X															
	OU 2/AOC 3 naTPH soil in Refinery Area, removal	10	1										X														
	OU 2/AOC 5 naTPH soil along pipeline corridor, removal	10	1										X														
	OU 4/AOC 2 Groundwater monitoring	4	1											X													X
	Reconfigure stormwater management system	30	2										X	X													
3	**Site Grading**																										
	Grading (Cut and fill operations)	120	6																X	X	X	X	X				
	Install groundwater monitoring wells	30	2																X		X		X				
	Additional naTPH-impacted soil handling due to development grading	120	6																X	X	X	X	X				
	Average Daily Construction One-Way Trips (Rounded Up)			1	1	3	101	139	139	**140**	108	115	13	10	8	8	9	8	17	16	9	8	9	0	0	0	1

Note: Table 4-2 already applies contingency factors to the offsite disposal quantities. Therefore the daily construction truck trip estimates are considered conservative and no additional contingency factors are applied.

Table 4-5
Remediation Summary of Estimated Vehicle Trips

Evaluation of Average Daily Personal Vehicle Trips	Duration (working days)	Avg. Daily Personnel	Assumptions
CM & Related	460	5	This is a nominal number that reflects the assumed average CM presence onsite and allows for a Construction Manager and 2 Inspectors, plus a NA Monitor and an Archaeologist (or similar functions during the project).
Construction Crew - Remediation and Facilities Abandonment	340	30	This is the assumed average size of the construction crew over the duration of the project. This number will vary depending upon what activities are underway. Nominally, this reflects a Superintendent, 3 Foremen, 15 Operators, and 10 Laborers.
Construction Crew - Site Grading	120	23	This is the assumed average size of the construction crew over the duration of the project. This number will vary depending upon what activities are underway. Nominally, this reflects a Superintendent, 2 Foremen, 10 Operators, and 10 Laborers.

Average Total Daily Trips Over 460 Days

Activity	Duration (working days)	Average Const. Truck One-Way Trips	Passenger Vehicle One-Way Trips	Average Total One-Way Trips	Assumptions
All Trips	460	44	105	149	Assumes the crew would make an average of 3 one-way trips per day, allotting for lunch and errand trips.

Maximum Total Daily Trips During of Remediation

Activity	Duration (working days)	Const. Truck One-Way Trips	Passenger Vehicle One-Way Trips	Maximum Total Daily One-Way Trips
1 Remediation and Abandonment				
(i) Facilities Abandonment and Removal	340	140	105	245
(ii) Remediation	340	140	105	245
2 Site Grading	120	17	84	101

Note: Maximum construction truck trips calculated based on schedule provided in Table 4-4.

Peak Daily Trips Based on Maximum During Remediation

Activity	Duration (working days)	During Peak Hours of 7AM - 9AM *Assumes 75% of trucks and 100% of personnel arrive onsite during the peak morning hours*			During Peak Hours of 4PM - 6PM (1) *Assumes 15% of trucks and 100% of personnel leave the site during the peak evening hours*		
		Const. Truck One-Way Trips to Site	Passenger Vehicle One-Way Trips to Site	Total One-Way Trips to Site	Const. Truck One-Way Trips Leaving Site	Passenger Vehicle One-Way Trips Leaving Site	Total One-Way Trips Leaving Site
1 Remediation and Abandonment							
(i) Facilities Abandonment and Removal	340	53	35	**88**	11	35	**46**
(ii) Remediation	340	53	35	**88**	11	35	**46**
2 Site Grading	120	6	28	**34**	2	28	**30**

Notes: (1) Santa Maria landfill only operates between 7AM and 4PM. Hence, it is unlikely that trucks for offsite disposal will be operating during the peak hours of 4PM to 6PM.

(2) Table 4-2 already applies contingency factors to the offsite disposal quantities. Therefore peak daily trip estimates are considered conservative and no additional contingency factors are applied.

Table 4-6
Remediation Summary of Earthwork Quantities

	Area Activity	Nominal Quantity of Excavated Soils (cy)				Backfill Soil Quantities (cy)			
		Impacted Soil for Transport Offsite	Total Excavated Volume	Excavated Soil Available for Onsite Reuse (1)	Excavated Soil for Onsite Reuse Assuming 10% Shrinkage (1)	Backfill to Replace Impacted Soil	Backfill to Replace Excavated Clean Soil	Backfill Required for Cover or Grading	Total Backfill Soil Required (3)
		A	B	C = (B-A)	C x 0.9	D	E	F	G = (D + E + F)
1	**Remediation and Abandonment**								
(i)	**Facilities Abandonment and Removal**								
	Pipeline Removal	1,950	45,926	43,976	39,578	1,950	43,976	7,800	53,726
(ii)	**Remediation**			-	-				
	OU 1/AOC 1 Pump House Soil Removal (naTPH>1000) offsite disposal	28,000	35,000	7,000	6,300	18,222	7,000	7,800	33,022
	OU 1/AOC 1 Pump House Soil Removal float rock import (2)	-	-	-	-	9,778	-	-	-
	OU 2/AOC 1 Refractory glass in refinery area	-	2,800	2,800	2,520	-	2,800	7,800	10,600
	OU 2/AOC 2 Lead in near-surface soil removal and dispose offsite	1,200	1,200	-	-	1,200	-	-	1,200
	OU 2/AOC 3 naTPH soil in Refinery Area, removal	300	300	-	-	300	-	-	300
	OU 2/AOC 5 naTPH soil along pipeline corridor, removal	500	500	-	-	500	-	-	500
	OU 4/AOC 2 Groundwater monitoring	-	-	-	-	-	-	-	-
	Reconfigure stormwater management system (naTPH>1000 soil)	100	9,000	8,900	8,010	100	8,900	3,000	12,000
2	**Site Grading**								
	Grading	1,500	266,200	264,700	238,230	1,500	-	169,600	171,100
	Total	***33,550***	***360,926***	***327,376***	***294,638***	***33,550***	***62,676***	***196,000***	***282,448***

Notes

(1) All the impacted soil will be transported offsite to an approved facility with the exception of the refractory glass in the Refinery Area (OU2/AOC1). The refractory glass-containing soil will be interred onsite and covered with 6' of clean soil. A 10% shrinkage factor has been applied to the soil available for reuse.

(2) Float rock required in the remediation activities associated with the former pump house area (OU1/AOC1) will be imported. It is assumed that a 3-foot thick layer of angular float rock will be placed on the floor of the excavation followed by backfill soil obtained from onsite sources. The estimated quantity of the angular float rock is approximately 9,778 cy. Hence, the quantity of backfill soil required to replace the impacted soil excavated from the former Pump House area (OU1/AOC1) is approximately 28,000 - 9,778 = 18,222 cy.

(3) The total backfill soil required does not include the quantity of imported float rock (9,778 cy).

(4) The difference between the excavated clean soil available for resuse and total backfill required is estimated to be approximately *294,638 - 282,448 = 12,190* cy. This soil will be available as a contingency to account for possible unforeseen excavations during remediation and site grading activities.

Table 4-7
Remediation Summary of Equipment Usage

No.	Task	Working Days	John Deere 290 Excavator	CAT 631 Scraper	CAT 950 Loader	CAT 815 Compactor	CAT D9 Dozer	50T Crane	16T Stinger Crane	End-Dump Trucks	Backhoe	Motor Grader (1)	Water Truck	Concrete Crusher (2)	Drill Rig
1	**Remove Former Operations Infrastructure**														
A	Building Removal	50	1		1			1	1	4	1		1		
	Tank Removal	30	1		1					4	1		1		
	Demo of Foundations and Walls	80	1		1					4	1		1		
	Concrete Crushing	80			1					2				1	
B	**Petroleum Pipeline Removal/Abandonment**														
	Pipeline Removal	120	1		1	1				4	1		1		
C	**Monitoring Well Abandonment**														
	Well abandonment	50								1	1				1
D	**Remove Existing Abandoned Utilities**														
	Pipeline Removal	30	1		1	1			1	4	1		1		
	Power poles and other	40			1		1			2	1		1		
2	**Remediation**														
	OU 1/AOC 1 Pump House Soil Removal (naTPH>1000) offsite disposal	105	1		1	1	1			4	1		1		
	OU 1/AOC 1 Pump House Soil Removal (naTPH>1000) float rock import	30			1					2					
	OU 2/AOC 1 Refractory glass in refinery area	15	1		1	1				2	1		1		
	OU 2/AOC 2 Lead in near-surface soil removal and dispose offsite	15	1		1					2	1		1		
	OU 2/AOC 3 naTPH soil in Refinery Area, removal	10	1		1	1				2	1		1		
	OU 2/AOC 5 naTPH soil along pipeline corridor, removal	10	1		1	1				2	1		1		
	OU 4/AOC 2 Groundwater monitoring	4													
	Reconfigure stormwater management system	30		1	1	1	1			2	1		1		
3	**Site Grading**														
	Grading (Cut and fill operations)	120	1	3	1	1	2			4	1	1	2		
	Install groundwater monitoring wells	50								1	1				1
	Additional naTPH-impacted soil handling due to development grading	30	1		1	1				2	1		1		

Note

(1) Used for 50% of the duration of grading activity.

(2) Used for 25% of the duration of grading activity.

Table 4-7A
Remediation Summary of Equipment Used (As a Percent)

No.	Task	Working Days	John Deere 290 Excavator	CAT 631 Scraper	CAT 950 Loader	CAT 815 Compactor	CAT D9 Dozer	50T Crane	16T Stinger Crane	End-Dump Trucks	Backhoe	Motor Grader	Water Truck	Concrete Crusher	Drill Rig
1	**Remove Former Operations Infrastructure**														
A	Building Removal	50	75%		50%			10%	25%	25%	50%		25%		
	Tank Removal	30	75%		50%					25%	50%		25%		
	Demo of Foundations and Walls	80	75%		50%					25%	50%		25%		
	Concrete Crushing	80			50%					50%				25%	
B	**Petroleum Pipeline Removal/Abandonment**														
	Pipeline Removal	120	75%		50%	40%				50%	50%		25%		
C	**Monitoring Well Abandonment**														
	Well abandonment	50								10%	10%				50%
D	**Remove Existing Abandoned Utilities**														
	Pipeline Removal	30	75%		50%	40%			25%	50%	50%		25%		
	Power poles and other	40			50%		75%			25%	50%		25%		
2	**Remediation**														
	OU 1/AOC 1 Pump House Soil Removal (naTPH>1000) offsite disposal	105	75%		50%	50%	75%			50%	50%		50%		
	OU 1/AOC 1 Pump House Soil Removal (naTPH>1000) float rock import	30			50%					50%					
	OU 2/AOC 1 Refractory glass in refinery area	15	50%		50%	25%				25%	25%		25%		
	OU 2/AOC 2 Lead in near-surface soil removal and dispose offsite	15	75%		50%					25%	50%		25%		
	OU 2/AOC 3 naTPH soil in Refinery Area, removal	10	50%		50%	50%				50%	25%		25%		
	OU 2/AOC 5 naTPH soil along pipeline corridor, removal	10	75%		50%	50%				50%	25%		25%		
	OU 4/AOC 2 Groundwater monitoring	4													
	Reconfigure stormwater management system	30		75%	50%	50%	50%			50%	50%		25%		
3	**Site Grading**														
	Grading (Cut and fill operations)	120	75%	75%	75%	75%	50%			75%	50%	50%	50%		
	Install groundwater monitoring wells	50								25%	25%				75%
	Additional naTPH-impacted soil handling due to development grading	30	50%		50%	50%				50%	50%		50%		

Note

(1) The values represent the average percent of time the equipment will be used during each working day of 8 hours.

Table 4-9
Trees Within Remediation Site Grading

Tree #	Species	Trunk Diameter (≥8 inches)	Condition	Notes
5301	Pinus radiata	≈14”	6	Codominant leader
5302	Pinus radiata	12.2”	5.5	Multiple tops
5304	Pinus radiata	17.3”	2.5	Red Turpentine Beetle
5305	Pinus radiata	26.8”	4	Red Turpentine Beetle
5306	Pinus radiata	10.9”	8.5	
5309	Pinus radiata	8”	9	9.9” @45”, Growing on berm
5320	Pinus radiata	10.6”	7.5	Growing on berm
5321	Quercus agrifolia	9.5”,11.4”	8	Nice tree
5321A	Quercus agrifolia	10.9”	7	Nice tree. Just south of 5321
5321B	Quercus agrifolia	7”, 8.7”, 9.2”,11.2”	8	Nice tree. Just north of 5321
5323	Pinus radiata	22.1”	5	
5324	Pinus radiata	14.3”	4	
5327	Pinus radiata	17.5”	6.5	
5329	Quercus agrifolia	10”	5.5	
5339	Pinus radiata	8.5”	0	Dead
5350	Pinus radiata	11.3”	5.5	
5353	Pinus radiata	8.9”	6	
5389	Pinus radiata	15”	5.5	
5390	Pinus radiata	14”	5	
5391	Pinus radiata	23.6”	5	
5392	Pinus radiata	17.1”	4.5	
5393	Pinus radiata	19.4”	0	Dead
5394	Pinus radiata	32.3”	3.5	Red Turpentine Beetle
5395	Pinus radiata	20.5”	0	Dead
5396	Quercus agrifolia	≈10.5”	5.5	
5397	Quercus agrifolia	12.6”	5.5	
5400	Quercus agrifolia	≈15.5”	5.5	
5427A	Hesperocyparis macrocarpa	8”	4	8.6” @ 4’. Failed and is still growing. Approximately 30’ SW of 5427. Growing on berm
5428	Hesperocyparis macrocarpa	9.4”	6	Growing on berm
5429	Hesperocyparis macrocarpa	6.1”	6	≈ 10” @ 4’. Partially failed (growing at 45° angle). Growing on berm
5430	Hesperocyparis macrocarpa	9.5”	5	Partially failed (growing at 45° angle). Growing on berm
5436	Quercus agrifolia	≈14”	4.5	Codominant leaders. Red Turpentine Beetle. Growing on berm
5437	Quercus agrifolia	6.6”, 9.3”, 10.9”	5	Growing on berm
5438	Pinus radiata	9.5”	4.5	Red Turpentine Beetle. Growing on berm

Table 4-9
Trees Within Remediation Site Grading

Tree #	Species	Trunk Diameter (≥8 inches)	Condition	Notes
5439	Pinus radiata	17.9”	0	Dead, Growing on berm
5440	Pinus radiata	14.3”	4	
5441	Pinus radiata	20.2”	4.5	16” wound 24” above grade
5442	Pinus radiata	13.1”	5	
5443	Pinus radiata	24.5”	3.5	Red Turpentine Beetle
5444	Pinus radiata	8.7”	6	
5446	Pinus radiata	8.6”	4.5	
5448	Pinus radiata	9”	5	
5449	Pinus radiata	10.6”	5	
5451	Pinus radiata	26.4”	6.5	
5452	Pinus radiata	29.5”	4.5	
5453	Pinus radiata	20.5”	5	
5461	Pinus radiata	8.8”	6.5	Red Turpentine Beetle
5469	Pinus radiata	14.5”	5	Red Turpentine Beetle
5470	Pinus radiata	12.6”	4.5	Red Turpentine Beetle
5472	Pinus radiata	15.6”	6.5	
5473	Pinus radiata	3.6”, 4.8”, 11.8”, 12.4”	5	Growing on Berm
5474	Pinus radiata	11.4”	4	Red Turpentine Beetle. Growing on berm
5491	Pinus radiata	24.6”	4.5	@4’
5493	Pinus radiata	28.6”	5	
5494	Pinus radiata	12.1”	5	
5495	Pinus radiata	13.2”	4	
5497	Pinus radiata	24.3”	4.5	
5498	Pinus radiata	20.1”	4	
5499	Pinus radiata	16.9”	4	
5500	Pinus radiata	21.1”	5.5	
5501	Pinus radiata	14.3”	4.5	Red Turpentine Beetle
5503	Pinus radiata	10.2”	5	
5507	Pinus radiata	29.4”	4	
5510	Pinus radiata	14.5”	6.5	
5511	Pinus radiata	8.1”	5	
5512	Pinus radiata	18”	3.5	
5513	Pinus radiata	8.3”	5	
5518	Pinus radiata	14.7”	4	Red Turpentine Beetle
5519	Pinus radiata	8.5”	4.5	
5521	Pinus radiata	9.1”	3.5	
5522	Pinus radiata	18.2”	6.5	
5525	Pinus radiata	14.1”	4.5	Red Turpentine Beetle

Table 4-9
Trees Within Remediation Site Grading

Tree #	Species	Trunk Diameter (≥8 inches)	Condition	Notes
5526	Pinus radiata	10.2”	4.5	Red Turpentine Beetle
5527	Pinus radiata	24.8”	4	
5531	Pinus radiata	20.1”	4.5	Multiple tops
5532	Pinus radiata	13.6”	0	Dead
5540	Pinus radiata	22.4”	3.5	Red Turpentine Beetle
5542	Pinus radiata	17.7”	7	
5543	Pinus radiata	15.3”	4.5	Red Turpentine Beetle
5544	Pinus radiata	18.8”	3	Extensive amount of boring dust on trunk. Red Turpentine Beetle
5548	Pinus radiata	27.3”	3.5	Lost original top at 20’. Red Turpentine Beetle
5550	Pinus radiata	5.9”	4	
5551	Pinus radiata	8.4”	4.5	
5552A	Pinus radiata	15”	4	3’ south of 5552/5553. Lost original top. Red Turpentine Beetle
5553	Pinus radiata	8.3”	4.5	
5554	Pinus radiata	9.5”	4	
5555	Pinus radiata	10.1”	4.5	
5558	Pinus radiata	9.5”	5	
5561	Pinus radiata	15.3”	5.5	
5565	Pinus radiata	13.8”	6	
5566	Pinus radiata	12.2”	0	Dead. Failed
5571	Quercus agrifolia			See 5464, duplicated
5602	Pinus radiata	12.3”	5	
5610	Pinus radiata	21”	4	@4’
5611	Quercus agrifolia	7.6”,10.5”	5	
5612	Quercus agrifolia	7”,10.4”	5	10.4”@45”
5615	Pinus radiata	15.2”	6.5	
5616	Pinus radiata	9.9”,15”	6	9.9” @ 4’ 15”
5644	Juglans sp.			See 5643, duplIcate
5645	Juglans sp.	7”, 9”	4.5	

Notes: The arborist has rated the condition of the trees. The rating ranges between 0 (dead) and 10 (excellent) .

Table 5-2A
Redevelopment Infrastructure Water Usage Summary

Task	Element	Expected # of Work Days	Estimated Avg. Daily Construction Water Demand (gpd)			
			Dust Control*	Soil Moisture Conditioning **	Support Facilities***	Total
Phase I						
Mobilization		2	625	938	210	1,773
Road Development	**Road A**	12	98	246	150	494
	Road B	20	101	253	150	504
	Road C	9	130	325	150	605
	Road F	7	186	464	130	780
Coastal Trail Construction		10	271	677	100	1,048
Onsite Drainage System		22	75	189	100	364
Parking Areas	**Upper**	21	989	1,484	150	2,623
	Lower	76	22	33	130	185
Water Connection (ABCSD)		10	46	92	70	209
Onsite Water Mains	**Road A**	6	98	197	100	395
	Road B	8	104	208	100	412
	Road C	3	100	200	100	400
	Road F	10	97	194	90	381
Water Service Stub outs		11	50	100	60	210
Sewer Connection (ABCSD)		10	27	54	50	130
Onsite Sewer Lift Station		10	50	50	60	160
Sewer Mains	**Road A**	12	50	100	50	200
	Road B	17	50	100	60	210
	Road C	6	50	100	60	210
	Road F	19	50	100	50	200
	Connector	6	50	100	60	210
Sewer Stub outs		11	25	50	70	145
Phase II						
Clearing and Grubbing		2	30	60	100	190
Phase III						
Road Development	**Road E**	7	130	325	80	535
Onsite Water Mains	**Road E**	1	130	260	110	500
Water Service Stub outs		6	10	20	60	90
Sewer Mains	**Road E**	3	50	100	60	210
Sewer Stub outs		1	50	100	50	200
Phase IV						
Water Service Stub outs		1	60	120	70	250
Sewer Stub outs		1	60	120	40	220
Phase V						
Road Development	**Road D**	5	172	430	80	682
Onsite Water Mains	**Road D**	1	135	270	110	515
Water Service Stub outs		1	75	150	90	315
Existing Water Tank Demolition		5	200	300	190	690
Sewer Mains	**Road D**	3	50	100	60	210
Sewer Stub outs		1	60	120	50	230

Phase 1 Max. Avg. Daily Water Usage (gpd)		317				2,623
Phase 2 Max. Avg. Daily Water Usage (gpd)		2				190
Phase 3 Max. Avg. Daily Water Usage (gpd)		18				535
Phase 4 Max. Avg. Daily Water Usage (gpd)		2				250
Phase 5 Max. Avg. Daily Water Usage (gpd)		16				690

Options						
Water Connection (SMMWC)		40	11	22	100	133
Sewer Connection (SMMWC)		50	9	18	100	127
Onsite Sewer Treatment Plant		40	120	522	100	742
800K gal Under Ground Water Tank		180	200	300	100	600

*** Dust control water usage assumed to be 0.5 gallons per linear feet of utility trench, 1.0 gallons per linear foot of road or trail and 0.0 gallons per square feet of parking area**

**** Soil Moisture water usage assumed to be 1.0 gallons per linear feet of trench or 2.5 gallons per linear foot of road or trail 0.0 or square feet of parking area.**

*****Support Facility Water is assumed to be 10 gallons per person per day, Persons per day are assumed to be half of the Max. One Way Daily Truck Trips.**

Table 5-2B
Redevelopment Infrastructure Quantities Summary

Task	Element	Expected Excavated Soil (cy)	Expected Re-Compacted Soil (cy)*	Expected Imported Material (cy)	Expected Imported Material
Phase I					
Mobilization		50	50		Gravel
Road Development	**Road A**	875	1,006	728	AC, Gravel
	Road B	1,500	1,725	1,250	AC, Gravel
	Road C	700	805	580	AC, Gravel
	Road F	480	552	400	AC, Gravel
Coastal Trail Construction		300	345	200	DG
Onsite Drainage System		3,481	4,003	1,740	Select Backfill
Parking Areas	**Upper**	2,308	2,655	385	Select Backfill
	Lower	8,462	9,731	1,410	Select Backfill
Water Connection (ABCSD)		171	197	34	Select Backfill
Onsite Water Mains	**Road A**	262	302	66	Select Backfill
	Road B	370	426	93	Select Backfill
	Road C	133	153	33	Select Backfill
	Road F	431	496	108	Select Backfill
Sewer Connection (ABCSD)		179	205	89	Select Backfill
Onsite Sewer Lift Station		23	27	37	Select Backfill
Water Service Stub outs		24	27	-	N/A
Sewer Mains	**Road A**	350	402	175	Select Backfill
	Road B	494	568	247	Select Backfill
	Road C	178	204	89	Select Backfill
	Road F	575	661	287	Select Backfill
	Connector	187	215	93	Select Backfill
Sewer Stub outs		283	325	-	N/A
Phase II					
Clearing and Grubbing		-	-	-	N/A
Phase III					
Road Development	**Road E**	540	621	450	AC, Gravel
Onsite Water Mains	**Road E**	58	66	14	Select Backfill
Water Service Stub outs		3	3	-	N/A
Sewer Mains	**Road E**	77	89	39	Select Backfill
Sewer Stub outs		32	37	-	N/A
Phase IV					
Water Service Stub outs		1	1	-	N/A
Sewer Stub outs	**alaaa**	11	12	-	N/A
Phase V					
Road Development	**Road D**	510	587	425	AC, Gravel
Onsite Water Mains	**Road D**	60	69	15	Select Backfill
Water Service Stub outs		2	2	-	N/A
Existing Water Tank Demolition		1,100	1,265	-	N/A
Sewer Mains	**Road D**	80	92	40	Select Backfill
Sewer Stub outs		21	25	-	N/A
Total Phase 1		22,501	25,524	8,109	N/A
Total Phase 2		-	-	-	N/A
Total Phase 3		709	816	503	N/A
Total Phase 4		12	13	-	N/A
Total Phase 5		10,573	5,019	1,597	N/A
Options					
Water Connection (SMMWC)		310	357	32	Select Backfill
Sewer Connection (SMMWC)		377	433	32	Select Backfill
Onsite Sewer Treatment Plant		2,600	2,100	500	Select Backfill
800K gal Under Ground Water Tank		8,800	2,980	1,117	Select Backfill

*** Compacted backfill is assumed to be 15% of Excavated Soil**

Table 5-2C
Redevelopment Infrastructure Construction Truck Trip Summary
(Does not Include Personnel Vehicle Trips)

Task	Element	Imported Backfill (tons)*	Backfill Type	One way Backfill Truck Trips**	Materials Delivery	Material Type	One way Material Truck Trips***	Total one-way Truck Trips	Expected # OF Work Days	Avg. Daily One way Truck Trips
Phase I										
Mobilization		375	Gravel	38				38	2	20
Road Development	**Road A**	1,770	Gravel and AC	178				178	12	16
	Road B	3,030	Gravel and AC	304				304	20	16
	Road C	1,404	Gravel and AC	140				140	9	16
	Road F	975	Gravel and AC	98				98	7	14
Coastal Trail Construction		813	DG	82				82	10	8
Onsite Drainage System		518	Sand Backfill	52	166	CMP Pipes	6	58	22	4
Parking Areas	**Upper**	1,558	Gravel and AC	156	1,558	Tons of AC	156	312	21	16
	Lower	5,712	Gravel and AC	572	5,712	Tons of AC	572	1,144	76	16
Water Connection (ABCSD)		208	Sand Backfill	20	92	PVC Pipes	2	22	10	2
Onsite Water Mains	**Road A**	266	Sand Backfill	26	118	PVC Pipes	2	28	6	6
	Road B	375	Sand Backfill	38	167	PVC Pipes	4	42	8	6
	Road C	135	Sand Backfill	14	60	PVC Pipes	2	16	3	6
	Road F	437	Sand Backfill	44	194	PVC Pipes	4	48	10	6
Water Service Stub outs		143	Sand Backfill	14	1,272	LF of CU Pipe	2	16	11	2
Sewer Connection (ABCSD)		121	Sand Backfill	12	54	PVC Pipes	2	14	10	2
Onsite Sewer Lift Station		65	Gravel	6	70	C.Y Conc	12	18	10	2
Sewer Mains	**Road A**	266	Sand Backfill	26	118	PVC Pipes	2	28	12	2
	Road B	375	Sand Backfill	38	167	PVC Pipes	4	42	17	4
	Road C	135	Sand Backfill	14	60	PVC Pipes	2	16	6	4
	Road F	437	Sand Backfill	44	194	PVC Pipes	4	48	19	2
	Connector	142	Sand Backfill	14	63	PVC Pipes	2	16	6	4
Sewer Stub outs		143	Sand Backfill	14	64	PVC Pipes	2	16	11	2
Phase II										
Clearing and Grubbing		-			-		-	-	-	-
Phase III										
Road Development	**Road E**	312	Gravel and AC	32				32	7	6
Onsite Water Mains	**Road E**	59	Sand Backfill	6	26	PVC Pipes	2	8	1	8
Water Service Stub outs		16	Sand Backfill	2	144	LF of CU Pipe	2	4	6	2
Sewer Mains	**Road E**	59	Sand Backfill	6	26	PVC Pipes	2	8	3	4
Sewer Stub outs		16	Sand Backfill	2	7	PVC Pipes	2	4	1	4
Phase IV										
Water Service Stub outs		5	Sand Backfill		48	LF of CU Pipe	2	2	1	2
Sewer Stub outs		5	Sand Backfill	-	2	PVC Pipes	2	2	1	2
Phase V										
Road Development	**Road D**	324	Gravel and AC	32				32	5	6
Onsite Water Mains	**Road D**	61	Sand Backfill	6	27	PVC Pipes	2	8	1	8
Water Service Stub outs		11	Sand Backfill	2	96	LF of CU Pipe	2	4	1	6
Existing Water Tank Demolition					1,145	Tons AC, Steel	114	114	5	24
Sewer Mains	**Road D**	61	Sand Backfill	6	27	PVC Pipes	2	8	3	4
Sewer Stub outs		11	Sand Backfill	2	5	PVC Pipes	2	4	1	4
Total Phase 1		19,800		1,984	10,306	0	784	2,768	317	178
Total Phase 2		-	0	-	-	0	-	-	-	-
Total Phase 3		461		48	203	0	8	56	18	24
Total Phase 4		-		-	11	0	50	-	2	4
Total Phase 5		4,001		404	3,757	0	532	936	16	56
Options										
Water Connection (SMMWC)		200	Sand Backfill	20	89	PVC Pipes	2	22	40	1
Sewer Connection (SMMWC)		200	Sand Backfill	20	89	PVC Pipes	2	22	50	1
Onsite Sewer Treatment Plant		500	Sand Backfill	52	2,200	PVC Pipes	48	100	20	5
800K gal Under Ground Water Tank		3,534	Sand Backfill	356	2,457	CY Conc	410	766	180	4

* Assumed Backfill density is 150 lbs/ft^3

** Assumed Truck Capacity is 20 tons

*** The following assumption were made:

Steel density is 20 lbs/sf, Asphalt density is 150 lbs/ft3, Max. of 90 PVC pipes per truck, Max. of 60 CMP pipes per truck, 12 yard concrete trucks, CU (Copper Pipe) will be delivered by one truck per phase

Table 5-2D
Redevelopment Infrastructure Equipment Summary

Task	Element	Expected # OF Work Days	Month* 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Phase I																						
Mobilization		2	X																			
Road Development	**Road A**	12	X																			
	Road B	20	X	X																		
	Road C	9		X																		
	Road F	7		X																		
Coastal Trail Construction		10			X																	
Onsite Drainage System		22				X	X	X														
Parking Areas	**Upper**	21							X													
	Lower	76								X	X	X										
Water Connection (ABCSD)		10											X									
Onsite Water Mains	**Road A**	6											X									
	Road B	8											X									
	Road C	3											X									
	Road F	10												X								
Water Service Stub outs		11												X								
Sewer Connection (ABCSD)		10													X							
Onsite Sewer Lift Station		10													X							
Sewer Mains	**Road A**	12														X						
	Road B	17														X						
	Road C	6														X						
	Road F	20															X					
	Connector	7															X					
Sewer Stub outs		11																X				
Phase II																						
Mobilization		2																	X			
Phase III																						
Road Development	**Road E**	7																		X		
Onsite Water Mains	**Road E**	1																		X		
Water Service Stub outs		6																		X		
Sewer Mains	**Road E**	3																		X		
Sewer Stub outs		1																		X		
Phase IV																						
Road Development	**Road E**	7																			X	
Water Service Stub outs		1																			X	
Sewer Stub outs		1																			X	
Phase V																						
Road Development	**Road D**	5																				X
Onsite Water Mains	**Road D**	1																				X
Water Service Stub outs		1																				X
Existing Water Tank Demolition		5																				X
Sewer Mains	**Road D**	3																				X
Sewer Stub outs		1																				X
Average Daily One way Construction Trips**			**52**	46	8	4	4	4	16	16	16	16	20	8	4	10	6	2	**20**	**24**	**10**	**52**
Average Daily Personnel one way Trips***			**38**	30	10	14	14	14	10	8	8	8	46	18	14	18	12	10	**18**	**38**	**22**	**50**
Options****																						
Water Connection (SMMWC)		40						X	X													
Sewer Connection (SMMWC)		50						X	X	X												
Onsite Sewer Treatment Plant		40							X	X												
800K gal Under Ground Water Tank		180											X	X	X	X	X	X	X	X	X	X

* Schedule assumes 20 works days per month, tasks will be performed consecutively and no lag time between phase development.

** Average Daily One way Truck Trips assumes multiple tasks occurring simultaneously and is calculated by the summation of Average Daily One way Truck trips per simultaneous task shown in Table 5-2b

*** Average Daily One way Personnel Trips assumes multiple tasks occurring simultaneously and is calculated by the summation of Average Daily One way Personnel Trips per simultaneous task shown in Table 5-2b

****Average Daily Personnel and Truck Trips associated with options are summarized in Table 5-2h

Table 5-2E
Redevelopment Infrastructure Total Vehicle Trip Summary
(Includes Vehicle and Construction Trips)

Task	Element	Expected # OF Work Days	Avg. Daily One way Personnel Trips *	Avg. Daily One way Const. Truck Trips*	Avg. Total Daily One way Trips	Avg. Max. Daily One way Trips**	Avg. Daily Peak Hour One way Trips (7am to 9am)***	Avg. Daily Peak Hour One way Trips (4pm to 6 pm)****
Phase I								
Mobilization		2	18	20	38	42	20	12
Road Development	**Road A**	12	10	16	26	30	14	8
	Road B	20	10	16	26	30	14	8
	Road C	9	10	16	26	30	14	8
	Road F	7	10	14	24	26	12	6
Coastal Trail Construction		10	10	8	18	20	10	6
Onsite Drainage System		22	14	4	18	20	10	8
Parking Areas	**Upper**	21	10	16	26	30	14	8
	Lower	76	8	16	24	26	12	6
Water Connection (ABCSD)		10	10	2	12	14	6	6
Onsite Water Mains	**Road A**	6	12	6	18	20	10	8
	Road B	8	12	6	18	20	10	8
	Road C	3	12	6	18	20	10	8
	Road F	10	10	6	16	18	8	6
Water Service Stub outs		11	8	2	10	12	6	4
Sewer Connection (ABCSD)		10	6	2	8	10	4	4
Onsite Sewer Lift Station		10	8	2	10	12	6	4
Sewer Mains	**Road A**	12	6	2	8	10	4	4
	Road B	17	6	4	10	12	6	4
	Road C	6	6	4	10	12	6	4
	Road F	20	6	2	8	10	4	4
	Connector	7	6	4	10	12	6	4
Sewer Stub outs		11	10	2	12	14	6	6
Phase II								
Clearing and Grubbing		2	18	20	38	42	20	12
Phase III								
Road Development	**Road E**	7	8	6	14	16	8	6
Onsite Water Mains	**Road E**	1	12	8	20	22	10	8
Water Service Stub Outs		6	8	2	10	12	6	4
Sewer Mains	**Road E**	3	6	4	10	12	6	4
Sewer Stub Outs		2	4	4	8	10	4	2
Phase IV								
Road Development	**Road E**	7	8	6	14	16	8	6
Water Service Stub outs		1	10	2	12	14	6	6
Sewer Stub outs		1	4	2	6	8	4	2
Phase V								
Road Development	**Road D**	5	8	6	14	16	8	6
Onsite Water Mains	**Road D**	1	12	8	20	22	10	8
Water Service Stub outs		1	10	6	16	18	8	6
Existing Water Tank Demolition		5	10	24	34	38	18	8
Sewer Mains	**Road D**	3	6	4	10	12	6	4
Sewer Stub outs		1	4	4	8	10	4	2
		-						

Options								
Water Connection (SMMWC)		40	5	6	11	12	6	4
Sewer Connection (SMMWC)		50	5	7	12	14	6	4
Onsite Sewer Treatment Plant		40	12	5	17	20	10	8
800K gal Under Ground Water Tank		180	5	9	14	16	8	4

*** Trips are assumed based on construction experience**
**** Max Daily Vehicles are assumed to be an additional 10% of the Total Daily Average**
***** Daily Morning Vehicles are assumed to be 50% of the Avg. Daily One way Personnel Trips + 50% of the Avg Daily One way Const. Truck Trips**
****** Daily Evening Vehicles are assumed to be 50% of the Avg. Daily One way Personnel Trips + 10% of the Avg Daily One way Const. Truck Trips**

Table 5-2F
Redevelopment Infrastructure Equipment Summary, Number of Equipment

Task	Element	Expected # OF Work Days	Equipment Type																
			Water Truck (# of Eq.)	CAT D9 Dozer (# of Eq.)	CAT 631 Scraper (# of Eq.)	John Deere 290 Excavator (# of Eq.)	CAT 815 Compactor (# of Eq.)	CAT 120M2 Motor Grader (# of Eq.)	John Deere 310 Backhoe (# of Eq.)	CAT AP500E Paver (# of Eq.)	International 7400 Dump Truck (# of Eq.)	Semi Trailer Truck (# of Eq.)	Concrete Truck (# of Eq.)	Concrete Pumper Truck (# of Eq.)	Flatbed Delivery Truck (# of Eq.)	CLS Concrete Curb Machine (# of Eq.)	Volvo DD70 Asphalt Roller (# of Eq.)	Ditch Witch JT1220 Directional Boring Machine (# of Eq.)	Grove RT9130E 130 Ton Crane (# of Eq.)
Phase I																			
Mobilization		2	1	1							1				1				
Road Development	**Road A**	12	1	1	1		1	1		1	1	1					1		
	Road B	20	1	1	1		1	1		1	1	1					1		
	Road C	9	1	1	1		1	1		1	1	1					1		
	Road F	7	1	1	1		1	1		1	1	1					1		
Coastal Trail Construction		10	1				1	1	1										
Onsite Drainage System		22	1	1		1			1		1	1	1						
Parking Areas	**Upper**	21	1	1	1		1	1		1	1	1				1	1		
	Lower	76	1	1	1		1	1		1	1	1				1	1		
Water Connection (ABCSD)		10				1			1		1		1		1				
Onsite Water Mains	**Road A**	6	1			1			1		1	1	1		1				
	Road B	8	1			1			1		1	1	1		1				
	Road C	3	1			1			1		1	1	1		1				
	Road F	10	1			1			1		1	1	1		1				
Water Service Stub outs		11				1			1										
Sewer Connection (ABCSD)*		10				1			1		1		1		1				
Onsite Sewer Lift Station*		10				1			1		1		1	1					
Sewer Mains*	**Road A**	12	1			1			1		1	1	1		1				
	Road B	17	1			1			1		1	1	1		1				
	Road C	6	1			1			1		1	1	1		1				
	Road F	19	1			1			1		1	1	1		1				
	Connector	6	1			1			1		1	1	1		1				
Sewer Stub outs		11				1			1										
Phase II																			
Clearing and Grubbing		2				1			1										
Phase III																			
Road Development	**Road E**	7	1	1	1		1	1		1	1	1					1		
Onsite Water Mains	**Road E**	3	1			1			1		1	1	1		1				
Water Service Stub outs	**Road E**	1	1			1			1		1	1	1		1				
Sewer Mains		6				1			1										
Sewer Stub outs		1				1			1										
Phase IV																			
Water Service Stub outs		1				1			1										
Sewer Stub outs		1				1			1										
Phase V																			
Road Development	**Road D**	5	1	1	1		1	1		1	1	1					1		
Onsite Water Mains	**Road D**	1	1			1			1		1	1	1		1				
Water Service Stub outs		1				1			1										
Existing Water Tank Demolition		5	1			1					1								
Sewer Mains	**Road D**	3	1			1			1		1	1	1		1				
Sewer Stub outs		1				1			1										
Options																			
Water Connection (SMMWC)		40				35			35			1	3	3				5	
Sewer Connection (SMMWC)*		50				45			45			1						5	
Onsite Sewer Treatment Plant		40	1			1			1		1	1	1		1				
800K gal Under Ground Water Tank		180		12		5	5		1		5	10	20	20	90				90

Note: Equipment usage is based on full days of equipment use.
*** It is assumed precast manholes will be used for the sewer main installation**

Table 5-2G
Redevelopment Infrastructure Equipment Summary, Percent of Use

Task	Element	Expected # OF Work Days	Equipment Type																
			Water Truck (% of Days)	CAT D9 Dozer (% of Days)	CAT 631 Scraper (% of Days)	John Deere 290 Excavator (% of Days)	CAT 815 Compactor (% of Days)	CAT 120M2 Motor Grader (% of Days)	John Deere 310 Backhoe (% of Days)	CAT AP500E Paver (% of Days)	International 7400 Dump Truck (% of Days)	Semi Trailer Truck (% of Days)	Concrete Truck (% of Days)	Concrete Pumper Truck (% of Days)	Flatbed Delivery Truck (% of Days)	CLS Concrete Curb Machine (% of Days)	Volvo DD70 Asphalt Roller (% of Days)	Ditch Witch JT1220 Directional Boring Machine (% of Days)	Grove RT9130E 130 Ton Crane (% of Days)
Phase I																			
Mobilization		2	85%	50%							25%				50%				
Road Development	**Road A**	12	90%	50%	50%		50%	25%		25%	25%	10%					25%		
	Road B	20	90%	50%	50%		50%	25%		25%	25%	10%					25%		
	Road C	9	90%	50%	50%		50%	25%		25%	25%	10%					25%		
	Road F	7	90%	50%	50%		50%	25%		25%	25%	10%					25%		
Coastal Trail Construction		10	90%				50%	25%	85%										
Onsite Drainage System		22	90%	50%		85%			85%		25%	20%	10%						
Parking Areas	**Upper**	21	90%	50%	50%		50%	25%		25%	25%	10%				25%	25%		
	Lower	76	90%	50%	50%		50%	25%		25%	25%	10%				25%	25%		
Water Connection (ABCSD)		10	50%			70%			70%		25%		10%		25%				
Onsite Water Mains	**Road A**	6	50%			70%			70%		25%		10%		25%				
	Road B	8	50%			70%			70%		25%		10%		25%				
	Road C	3	50%			70%			70%		25%		10%		25%				
	Road F	10	50%			70%			70%		25%		10%		25%				
Water Service Stub outs		11	50%			90%			90%										
Sewer Connection (ABCSD)*		10	50%			70%			70%		25%		10%		25%				
Onsite Sewer Lift Station*		10	30%			70%			70%		25%		10%	10%					
Sewer Mains*	**Road A**	12	50%			70%			70%		25%		10%		25%				
	Road B	17	50%			70%			70%		25%		10%		25%				
	Road C	6	50%			70%			70%		25%		10%		25%				
	Road F	19	50%			70%			70%		25%		10%		25%				
	Connector	6	50%			70%			70%		25%		10%		25%				
Sewer Stub outs		11	50%			90%			90%										
Phase II																			
Clearing and Grubbing		2	50%			90%			90%										
Phase III																			
Road Development	**Road E**	7	90%	50%	50%		50%	25%		25%	25%	10%					25%		
Onsite Water Mains	**Road E**	1	50%			70%			70%		25%		10%		25%				
Water Service Stub outs		6	50%			90%			90%										
Sewer Mains	**Road E**	3	50%			70%			70%		25%		10%		25%				
Sewer Stub outs		1	50%			90%			90%										
Phase IV																			
Water Service Stub outs		1	50%			90%			90%										
Sewer Stub outs		1	50%			90%			90%										
Phase V																			
Road Development	**Road D**	5	90%	50%	50%		50%	25%		25%	25%	10%					25%		
Onsite Water Mains	**Road D**	1	50%			70%			70%		25%		10%		25%				
Water Service Stub outs		1	50%			90%			90%										
Existing Water Tank Demolition		5	90%			100%					100%								
Sewer Mains	**Road D**	3	50%			70%			70%		25%		10%		25%				
Sewer Stub outs		1	50%			90%			90%										
Options																			
Water Connection (SMMWC)		40	90%			90%			95%			10%	25%	25%				30%	
Sewer Connection (SMMWC)**		50	90%			90%			95%			10%						30%	
Onsite Sewer Treatment Plant		40	50%			70%			70%		25%		10%		25%				
800K gal Under Ground Water Tank		180	90%	50%		50%	50%		95%		25%	85%	75%	75%	60%				85%

***Days of Equipment use is the percent use of an equipment type times the number workdays times the number of an equipment type**

**** It is assumed precast manholes will be used for the sewer main installation**

Table 5-2H
Redevelopment Infrastructure Equipment Summary

Task	Element	Expected # OF Work Days	Equipment Type																
			Water Truck (# Days)	CAT D9 Dozer (# Days)	CAT 631 Scraper (# Days)	John Deere 290 Excavator (# Days)	CAT 815 Compactor (# Days)	CAT 120M2 Motor Grader (# Days)	John Deere 310 Backhoe (# Days)	CAT AP500E Paver (# Days)	International 7400 Dump Truck (# Days)	Semi Trailer Truck (# Days)	Concrete Truck (# Days)	Concrete Pumper Truck (# Days)	Flatbed Delivery Truck (# Days)	CLS Concrete Curb Machine (# Days)	Volvo DD70 Asphalt Roller (# Days)	Ditch Witch JT1220 Directional Boring Machine (# Days)	Grove RT9130E 130 Ton Crane (# Days)
Phase I																			
Mobilization		2	2	1							1				1				
Road Development	**Road A**	12	11	6	6		6	3		3	3	1					3		
	Road B	20	18	10	10		10	5		5	5	2					5		
	Road C	9	8	5	5		5	2		2	2	1					2		
	Road F	7	6	4	4		4	2		2	2	1					2		
Coastal Trail Construction		10	9				5	3	9										
Onsite Drainage System		22	20	11		19			19		6	4	2						
Parking Areas	**Upper**	21	19	11	11		11	5		5	5	2				5	5		
	Lower	76	68	38	38		38	19		19	19	8				19	19		
Water Connection (ABCSD)		10				7			7		3		1		3				
Onsite Water Mains	**Road A**	6	3			4			4		2		1		2				
	Road B	8	4			6			6		2		1		2				
	Road C	3	2			2			2		1		0		1				
	Road F	10	5			7			7		3		1		3				
Water Service Stub outs		11				10			10										
Sewer Connection (ABCSD)*		10				7			7		3		1		3				
Onsite Sewer Lift Station*		10				7			7		3		1	1					
Sewer Mains*	**Road A**	12	6			8			8		3		1		3				
	Road B	17	8			12			12		4		2		4				
	Road C	6	3			4			4		2		1		2				
	Road F	19	10			14			14		5		2		5				
	Connector	6	3			4			4		2		1		2				
Sewer Stub outs		11				10			10										
Phase II																			
Clearing and Grubbing		2				2			2										
Phase III																			
Road Development	**Road E**	7	6	4	4		4	2		2	2	1					2		
Onsite Water Mains	**Road E**	1	1			1			1		0		0		0				
Water Service Stub outs		6				5			5										
Sewer Mains	**Road E**	3	1			2			2		1		0		1				
Sewer Stub outs		1				1			1										
Phase IV																			
Water Service Stub outs		1				1			1										
Sewer Stub outs		1				1			1										
Phase V																			
Road Development	**Road D**	5	5	3	3		3	1		1	1	1					1		
Onsite Water Mains	**Road D**	1	1			1			1		0		0		0				
Water Service Stub outs		1				1			1										
Existing Water Tank Demolition		5	5			5					5								
Sewer Mains	**Road D**	3	1			2			2		1		0		1				
Sewer Stub outs		1				1			1										
Total Phase 1		317	205	85	73	120	78	39	128	36	72	19	14	1	28	24.25	36.25		
Total Phase 2		2				2			2										
Total Phase 3		18	8	4	4	9	4	2	9	2	3	1	0		1		2		
Total Phase 4		2				2			2										
Total Phase 5		16	11	3	3	9	3	1	4	1	7	1	0		1		1		
Options																			
Water Connection (SMMWC)		40	36			36			38			4	10	10				12	
Sewer Connection (SMMWC)*		50	45			45			48			5						15	
Onsite Sewer Treatment Plant		40	25			35			35		13		5		13				
800K gal Under Ground Water Tank		180	162	90		90	90		171		45	153	135	135	108				153

***Days of Equipment use is the percent use of an equipment multiplied by the number workdays to complete a task. The number of a specific equipment type to complete a task is assumed to be one.**

*** It is assumed precast manholes will be used for the sewer main installation**

Table 5-3A
Redevelopment Vertical Construction Summary of Estimated Water Usage

No	Area/Activity	Working Days	Estimated Peak Water Demand (gallons per day)			
			Dust Control	Support Facilities	Landscaping	Total
1	Phase 1 Construction	240	5,000	1,000	17,000	23,000
2	Phase 2 Construction	120	4,000	1,000	18,000	23,000
3	Phase 3 Construction	120	4,000	1,000	8,000	13,000
4	Phase 4 Construction	120	4,000	1,000	11,000	16,000
5	Phase 5 Construction	120	4,000	1,000	9,000	14,000

Assumptions:

Dust control: One 5,000 gal water truck during vertical construction activities.

Landscaping water requirement assumes 0.1 inches of water per acre per week over 75% of the non-impervious areas in each phase.

Table 5-3B
Redevelopment Vertical Construction Estimated Truck Trips

Task	No. of Working Days (1)	Total Weight of Bldg. Materials (tons)(1)	Total No. of Trucks(2)	Average Daily Const. Trucks(3)	Avg. Daily One way Const. Truck Trips
Phase 1					
Mobilization	10	-	5	1	2
Construction of Buildings					
BOH and Recreation	240	6,353	318	2	4
Resort Core	240	5,445	272	2	4
15 Buildings (4 Units/2 floors)	200	5,250	262	2	4
Guard House	40	220	11	1	2
Scout House (4)	40	495	25	1	2
Landscaping(5)	80	965	48	1	2
Paving	60	3,206	160	3	6
Pools	100	508	25	1	2
Subtotal for Phase 1	**240**		**1,127**	**5**	**10**
Phase 2					
Mobilization	10	-	5	1	2
Construction of Buildings (4 Unit/2 floors)		-			
13 Buildings	120	4,550	227	2	4
Landscaping	30	1,037	10	1	2
Paving	10	171	9	1	2
Subtotal for Phase 2	**120**		**251**	**5**	**10**
Phase 3					
Mobilization	10	-	5	1	2
Construction of Buildings (4 Unit/2 floors)		-			-
13 Buildings	120	4,550	227	2	4
Landscaping	30	495	10	1	2
Paving	10	171	9	1	2
Subtotal for Phase 3	**120**		**251**	**5**	**10**
Phase 4					
Mobilization	10	-	5	1	2
Construction of Buildings (4 Unit/2 floors)		-			-
9 Buildings	120	3,150	157	2	4
Landscaping	30	663	10	1	2
Paving	10	118	6	1	2
Subtotal for Phase 4	**120**		**178**	**5**	**10**
Phase 5					
Mobilization	10	-	5	1	2
Construction of Buildings (4 Unit/2 floors)		-			-
8 Buildings	120	2,800	140	2	4
Landscaping	30	507	10	1	2
Paving	10	105	5	1	2
Subtotal for Phase 5	**120**		**160**	**5**	**10**

Options for Scout House Area (4)					
Multifamily Residential (10,000 sf)	120	756	38	1	2
Office 7,000 sf	80	529	26	1	2
Retail 1,000 sf and Meeting Rooms 3,500 sf	80	495	25	1	2

Notes:

(1) Building material weights obtained from Table 5-3G. The building weights were increased by 10% to account for furnishings and associated tr

(2) Assumes each truck can handle 20 tons/load.

(3) It is assumed that the deliveries of the various building materials will be spread out over the duration of construction. The average daily truck: calculated as the total number of trucks for an activity divided by the corresponding duration of that activity.

(4) Three additional separate options are provided for the Scout House Area.

(5) Landscaping material includes top soil/mulch, irrigation piping and accessories.

(6) Schedule assumes 20 works days per month, tasks will be performed consecutively and no lag time between phase development. A conceptual schedule provided in Table 5-3C.

Table 5-3C
Redevelopment Vertical Construction Preliminary Schedule and Associated Vehicle Trips

Task	No. of Working Days	Expected Duration (months)	Average Daily Onsite Personnel	Month* 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36
Phase 1																																							
Mobilization	10	1	5	X																																			
Construction of Buildings																																							
BOH and Recreation	240	12	8	X	X	X	X	X	X	X	X	X	X	X	X																								
Resort Core	240	12	10		X	X	X	X	X	X	X	X	X	X	X																								
15 Buildings (4 Units/2 floors)	200	10	12	X	X	X	X	X	X	X	X	X	X																										
Guard House	40	2	6					X	X																														
Scout House	40	2	4				X	X	X																														
Landscaping	80	4	10									X	X	X	X																								
Paving	60	3	6							X	X	X																											
Pools	80	4	6				X	X	X	X																													
Phase 2																																							
Mobilization	10	1	5													X																							
Construction of Buildings (4 Unit/2 floors)																																							
13 Buildings	120	6	12													X	X	X	X	X	X																		
Landscaping	30	2	8																	X	X																		
Paving	10	1	6																		X																		
Phase 3																																							
Mobilization	10	1	5																			X																	
Construction of Buildings (4 Unit/2 floors)																																							
13 Buildings	120	6	12																			X	X	X	X	X	X												
Landscaping	30	1	8																							X	X												
Paving	10	1	6																								X												
Phase 4																																							
Mobilization	10	1	5																									X											
Construction of Buildings (4 Unit/2 floors)																																							
9 Buildings	120	6	12																									X	X	X	X	X	X						
Landscaping	30	2	8																													X	X						
Paving	10	1	6																														X						
Phase 5																																							
Mobilization	10	1	5																															X					
Construction of Buildings (4 Unit/2 floors)																																							
8 Buildings	120	6	12																															X	X	X	X	X	X
Landscaping	30	2	8																																			X	X
Paving	10	1	6																																				X
	Average Daily Construction Trips			10	12	12	16	18	18	**20**	18	20	14	10	10	6	4	4	4	6	**8**	6	4	4	4	6	**8**	6	4	4	4	6	**8**	6	4	4	4	6	**8**
	Average Daily Onsite Personnel			25	30	30	40	46	**46**	42	36	46	40	28	28	17	12	12	12	20	**26**	17	12	12	12	20	**26**	15	10	10	10	18	**24**	15	10	10	10	18	**24**

Note: *Schedule assumes 20 works days per month, tasks will be performed consecutively with no lag time between phase development.

Task	No. of Working Days	Expected Duration (months)	Average Daily Onsite Personnel	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36
Options for Scout House Area																																							
Multifamily Residential (10,000 sf)	120	6	12		X	X	X	X	X	X																													
Office 7,000 sf	80	4	12			X	X	X	X																														
Retail 1,000 sf and Meeting Rooms 3,500 sf	80	4	12			X	X	X	X																														

Table 5-3D
Redevelopment Vertical Construction Summary of Estimated Vehicle Trips

Evaluation of Average Daily Personal Vehicle Trips	Duration (working days)	Avg. Daily Personnel	Assumptions
CM & Related	720	5	This is a nominal number that reflects the assumed average CM presence onsite and allows for a Construction Manager and 2 Inspectors, plus a NA Monitor and an Archaeologist (or similar functions during the project).
Construction Crew - Vertical Construction	720	24	This is the assumed average size of the construction crew over the duration of the project. This number varies depending the scheduled activities per the schedule in Table 5-3C. Nominally, this reflects 2 Superintendents, 3 Foremen, 4 Operators, and 15 Laborers.

Maximum Average Total Daily One-Way Trips During Vertical Construction

Activity	Duration (working days)	Const. Truck One-Way Trips (1)	Passenger Vehicle One-Way Trips(2)	Maximum Total Daily One-Way Trips
Phase 1 Construction	240	20	138	**158**
Phase 2 Construction	120	8	78	**86**
Phase 3 Construction	120	8	78	**86**
Phase 4 Construction	120	8	72	**80**
Phase 5 Construction	120	8	72	**80**

Note: (1) Maximum average construction truck trips based on schedule provided in Table 5-3C.
(2) Assumes one vehicle per personnel averaging 3 one-way trips daily.

Peak Daily Trips (Based on Maximum Average) During Vertical Construction

Activity	Duration (working days)	During Peak Hours of 7AM - 9AM *Assumes 75% of trucks and 100% of personnel arrive onsite during the peak morning hours*			During Peak Hours of 4PM - 6PM *Assumes 15% of trucks and 100% of personnel leave the site during the peak evening hours*		
		Const. Truck One-Way Trips to Site	Passenger Vehicle One-Way Trips to Site	Total One-Way Trips to Site	Const. Truck One-Way Trips Leaving Site	Passenger Vehicle One-Way Trips Leaving Site	Total One-Way Trips Leaving Site
Phase 1 Construction	240	8	46	**54**	2	46	**48**
Phase 2 Construction	120	3	26	**29**	1	26	**27**
Phase 3 Construction	120	3	26	**29**	1	26	**27**
Phase 4 Construction	120	3	24	**27**	1	24	**25**
Phase 5 Construction	120	3	24	**27**	1	24	**25**

Note: Table 5-3B incorporates contingency factors to the estimated quantities. Therefore peak daily trip estimates are considered conservative and no additional contingency factors are applied.

Options for Scout House Area							
Multifamily Residential (10,000 sf)	120	1	12	**13**	1	12	**13**
Office 5,800 sf	80	1	12	**13**	1	12	**13**
Retail 1,000 sf and Meeting Rooms 3,500 sf	80	1	12	**13**	1	12	**13**

Note: Construction truck trips for the Scout House options are obtained from the values estimated and summarized in Table 5-3B.

Table 5-3E
Redevelopment Vertical Construction Estimated Equipment Usage

Task	No. of Working Days	Equipment Type											
		Water Truck	CAT D9 Dozer	CAT 631 Scraper	John Deere 290 Excavator	CAT 815 Compactor	CAT 120M2 Motor Grader	John Deere 310 Backhoe	CAT AP500E Paver	Dump Truck	Concrete Pumper Truck	Asphalt Roller	16T Stinger Crane
Phase 1													
Mobilization	10												
Construction of Buildings													
BOH and Recreation	240	1	1	1	1	1	1	1		1	1		1
Resort Core	240	1	1	1	1	1	1	1		1	1		1
15 Buildings (4 Units/2 floors)	200	1	1	1		1	1	1		1			1
Guard House	40	1	1	1		1	1	1		1			
Scout House	40	1	1	1		1	1	1		1			
Landscaping	80	1	1		1					1			
Paving	60	1							1			1	
Pools	80		1		1	1		1		1	1		
Phase 2													
Mobilization	10												
Construction of Buildings (4 Unit/2 floors)													
13 Buildings	120	1	1	1		1	1	1					1
Landscaping	30	1	1		1								
Paving	10	1										1	
Phase 3													
Mobilization	10												
Construction of Buildings (4 Unit/2 floors)													
13 Buildings	120	1	1	1		1	1	1		1			1
Landscaping	30	1	1		1					1			
Paving	10	1							1			1	
Phase 4													
Mobilization	10												
Construction of Buildings (4 Unit/2 floors)	0												
9 Buildings	120	1	1	1		1	1	1		1			1
Landscaping	30	1	1		1					1			
Paving	10	1							1			1	
Phase 5													
Mobilization	10												
Construction of Buildings (4 Unit/2 floors)													
8 Buildings	120	1	1	1		1	1	1		1			1
Landscaping	30	1	1		1					1			
Paving	10	1							1			1	

Options for Scout House Area													
Multifamily Residential (10,000 sf)	120	1	1	1		1	1	1		1			1
Office 7,000 sf	80	1	1	1		1	1	1		1			1
Retail 1,000 sf and Meeting Rooms 3,500 sf	80	1	1	1		1	1	1		1			1

Table 5-3F
Redevelopment Vertical Construction Estimated Equipment Usage (Percent)

Task	No. of Working Days	Equipment Type											
		Water Truck	CAT D9 Dozer	CAT 631 Scraper	John Deere 290 Excavator	CAT 815 Compactor	CAT 120M2 Motor Grader	John Deere 310 Backhoe	CAT AP500E Paver	Dump Truck	Concrete Pumper Truck	Asphalt Roller	16T Stinger Crane
Phase 1													
Mobilization	10												
Construction of Buildings													
BOH and Recreation	240	20%	25%	10%	20%	10%	10%	25%		25%	10%		10%
Resort Core	240	20%	25%	10%	20%	10%	10%	25%		25%	10%		10%
15 Buildings (4 Units/2 floors)	200	20%	25%	10%		10%	10%	25%		25%			10%
Guard House	40	20%	25%	10%		10%	10%	25%		25%			
Scout House	40	20%	25%	10%		10%	10%	25%		25%			
Landscaping	80	20%	25%	10%						25%			
Paving	60	10%							75%			75%	
Pools	80		25%		25%	10%		25%		25%	10%		
Phase 2													
Mobilization	10												
Construction of Buildings (4 Unit/2 floors)													
13 Buildings	120	20%	25%	10%		10%	10%	25%		25%			10%
Landscaping	30	20%	25%	10%						25%			
Paving	10	10%										100%	
Phase 3													
Mobilization	10												
Construction of Buildings (4 Unit/2 floors)													
13 Buildings	120	20%	25%	10%		10%	10%	25%		25%			10%
Landscaping	30	20%	25%	10%						25%			
Paving	10	10%							100%			100%	
Phase 4													
Mobilization	10												
Construction of Buildings (4 Unit/2 floors)	0												
9 Buildings	120	20%	25%	10%		10%	10%	25%		25%			10%
Landscaping	30	20%	25%	10%						25%			
Paving	10	10%							100%			100%	
Phase 5													
Mobilization	10												
Construction of Buildings (4 Unit/2 floors)													
8 Buildings	120	20%	25%	10%		10%	10%	25%		25%			10%
Landscaping	30	20%	25%	10%						25%			
Paving	10	10%							100%			100%	

Options for Scout House Area													
Multifamily Residential (10,000 sf)	120	25%	25%	10%		10%	10%	25%		50%			10%
Office 7,000 sf	80	25%	25%	10%		10%	10%	25%		50%			10%
Retail 1,000 sf and Meeting Rooms 3,500 sf	80	25%	25%	10%		10%	10%	25%		50%			10%

Note:
Percent usage corresponds to percent of time that the equipment is estimated to be actively used over the duration of the activity.

Table 5-3G
Redevelopment Vertical Construction Estimated Quantities of Building Materials

Task	No. of Working Days	No. of Units	Building Footprint Area Per Unit (sf)[1]	Total Footprint Area (sf)	Unit Weight of Bldg. Materials[2]	Total Weight of Bldg. Materials (tons)
Phase 1						
Mobilization	10					
Construction of Buildings						
BOH and Recreation[3]	240	1	42,000	42,000	275	5,775
Resort Core	240	1	36,000	36,000	275	4,950
15 Buildings (4 Units/2 floors)[5]	200	15	2,314	34,710	275	4,773
Guard House	40	1	2,000	2,000	200	200
Scout House	40	1	4,500	4,500	200	450
Landscaping [4]	80					5
Paving (BOH, Hotel Core and Buildings)	60		85,500			3,206
Pools	80					
Phase 2						
Mobilization	10					
Construction of Buildings (4 Unit/2 floors)						
13 Buildings	120	13	2,314	30,082	275	4,136
Landscaping	30					5
Paving (Buildings)	10		4,550			171
Phase 3						
Mobilization	10					
Construction of Buildings (4 Unit/2 floors)						
13 Buildings	120	13	2,314	30,082	275	4,136
Landscaping	30					3
Paving (Buildings)	10		4,550			171
Phase 4						
Mobilization	10					
Construction of Buildings (4 Unit/2 floors)	0					
9 Buildings	120	9	2,314	20,826	275	2,864
Landscaping	30					3
Paving (Buildings)	10		3,150			118
Phase 5						
Mobilization	10					
Construction of Buildings (4 Unit/2 floors)						
8 Buildings	120	8	2,314	18,512	275	2,545
Landscaping	30					3
Paving (Buildings)	10		2,800			105

Note:

(1) Building footprint areas are based on whether the structures are single or two-storeyed.

(2) The weight of building materials per sq. ft. is based on a conservative rule of thumb industry standard. The weights include weights of building construction materials and HVAC system. Average unit weights of construction materials for single- and two-storey structures asre assumed to be 200 and 275 lbs/sf respectively.

(3) Assumes BOH-20,000 sf, pool and reacreation-12,000 sf, spa facilities-8,000 sf, and contingency-2,000sf.

(4) Assumes irrgiation piping and accessories

(5) There are two types of 2-storied building units proposed with a total footprint of approximately 134,100 sf. Hence for the 58 units proposed, an average building footprint of 2,514 sq. ft. is assumed for estimating building weights.

Options for Scout House Area						
Multifamily Residential (10,000 sf)	60	1	5,000	5,000	275	688
Office 7,000 sf	40	1	3,500	3,500	275	481
Retail 1,000 sf and Meeting Rooms 3,500 sf	30	1	4,500	4,500	200	450

Table 5-3H
Redevelopment Vertical Construction Estimated Earthwork Quantities

Task	No. of Working Days	Excavated Soil (cy)	Excavated Soil with 10% Shrinkage (cy)	Import Topsoil/Mulch
Phase 1				
Mobilization	10	-	-	-
Construction of Buildings				-
BOH and Recreation	240	4,700	4,230	-
Resort Core	240	8,800	7,920	-
15 Buildings (4 Units/2 floors)	200	-	-	-
Guard House	40	-	-	-
Scout House	40	-	-	-
Landscaping	80	-	-	800
Paving	60	-	-	-
Pools	80	2,900	2,610	-
Phase 2				
Mobilization	10	-	-	-
Construction of Buildings				-
13 Buildings	120	-	-	-
Landscaping	30	-	-	860
Paving	10	-	-	-
Phase 3				
Mobilization	10	-	-	-
Construction of Buildings				-
13 Buildings	120	-	-	-
Landscaping	30	-	-	410
Paving	10	-	-	-
Phase 4				
Mobilization	10	-	-	-
Construction of Buildings	0			-
9 Buildings	120	-	-	-
Landscaping	30	-	-	550
Paving	10	-	-	-
Phase 5				
Mobilization	10	-	-	-
Construction of Buildings				-
8 Buildings	120	-	-	-
Landscaping	30	-	-	420
Paving	10	-	-	-
	Total	16,400	**14,760**	**3,040**

Note:

Approximately 14,760 cy of soil will be available for onsite use during fine grading and compaction of building footprints and paved areas and as a contingency for other onsite use. Soil will not be hauled offsite.