Attachment 4.16-B: Estimated Truck Trips Required to Deliver Recycled Water for Construction

Construction Activity	Estimated Gallons of Water Required	Location (Approximate Milepost [MP] or Cross Streets)	Possible Sources of Recycled Water[1]	Total Number of Truck Trips Required to Transport Water From Source[2]	Average One Way Mileage[3]	Estimated Activity Duration (Days)	Average Number of Truck Trips Per Day	Total Miles Required to Transport Water[4]
Pipeline Installation								
Pipeline Installation Dust Control (On Road Construction)	36,833	MP 0 – 3.3, MP 3.8 – 8.5, MP 9.4 – 11.1, MP 12.0 – 29.3, MP 30.4 – 43.2	Hale Avenue Resource Recovery Facility. 2305 Harveson Place, Escondido (Site One) North City Water Reclamation Facility. 4949 Eastgate Mall, San Diego (Site Two)	8	25[5]	113	0.07	400
Pipeline Installation Dust Control (Cross Country Construction)	3,119,175	MP 3.3 – 3.8, MP 43.2 – 46.9[6]	Site One Site Two	624	22.9 (Site 1) 6.7 (Site 2)	65	9.6	28,579.2 (Site 1) 8,361.6 (Site 2)
Saw Cutting	67,904	MP 0 – MP 3.3, MP 3.8 – 8.5, MP 9.4 – 11.1, MP 12.0 – 29.3, MP 30.4 – 43.2	Site One Site Two	14	25	256	0.05	700
Laydown Yards								
Laydown Yard 1 Dust Control	133,243	Old Highway 395 and Rainbow Valley Boulevard	Site One Site Two	27	25.3 (Site 1) 49.4 (Site 2)	416	0.06	1,366.2 (Site 1) 2667.9 (Site 2)
Laydown Yard 2 Dust Control	246,186	Rainbow Hills Road at MP 3.2	Site One Site Two	50	24.1 (Site 1) 48.1 (Site 2)	416	0.12	2,410 (Site 1) 4,810 (Site 2)
Laydown Yard 3 Dust Control	225,953	Old Highway 395 and Pala Mesa Drive	Site One Site Two	46	18.5 (Site 1) 42.8 (Site 2)	416	0.11	1,702.0 (Site 1) 3,937.6 (Site 2)
Laydown Yard 4 Dust Control	564,333	Champagne Boulevard and Boulder Knolls Road.	Site One Site Two	113	11.2 (Site 1) 35.2 (Site 2)	416	0.27	2,531.2 (Site 1) 7,955.2 (Site 2)

[1] The locations for obtaining recycled water and the estimated usage are intended to provide two possible scenarios for using recycled water during construction. However, because the availability of both potable and recycled water at the time of construction is unknown, this information is provided only as an estimate of the potential number of truck trips and mileage which would result from transportation of recycled water and is not proposing the use of 100 percent recycled water during construction of the Proposed Project.

[2] Assumes an average water truck capacity of 5,000 gallons. All partial trips have been rounded up to the next whole number.

[3] Measured using Google Maps software to determine the shortest public road route from the source to the construction location.

[4] Calculated based on the round trip distance multiplied by the total number of truck trips.

[5] The actual mileage for each trip will vary based on the location of the construction on any given day. The 25-mile average trip estimate is based on a conservative assumption that recycled water will be trucked from less than 25 miles away to any location on the Proposed Project route. This assumption also applies to the following row, which estimates the requirements of saw cutting-related water demand.

[6] Assumes water from either facility will be delivered through the Marine Corps Air Station Miramar Gate at Kearny Villa Road and H Avenue.

Construction Activity	Estimated Gallons of Water Required	Location (Approximate Milepost [MP] or Cross Streets)	Possible Sources of Recycled Water[1]	Total Number of Truck Trips Required to Transport Water From Source[2]	Average One Way Mileage[3]	Estimated Activity Duration (Days)	Average Number of Truck Trips Per Day	Total Miles Required to Transport Water[4]
Laydown Yard 5 Dust Control	230,356	North Nutmeg Street and North Centre City Parkway	Site One Site Two	47	4.2 (Site 1) 29.7 (Site 2)	416	0.11	394.8 (Site 1) 2,791.8 (Site 2)
Laydown Yard 6 Dust Control	563,292	Pomerado Road and Highland Valley Road	Site One Site Two	113	7.1 (Site 1) 17.7 (Site 2)	416	0.27	1,604.6 (Site 1) 4,000.2 (Site 2)
Horizontal Directional Drilling (HDD)								
HDD #1 Entry Work Area Dust Control	93,500	Pomerado Road and Hidden Valley Road	Site One Site Two	19	7.1 (Site 1) 17.7 (Site 2)	75	0.25	269.8 (Site 1) 672.6 (Site 2)
HDD #1 Exit Work Area Dust Control	23,375	Bear Valley Parkway and Beethoven Drive	Site One Site Two	5	6.4 (Site 1) 22.3 (Site 2)	75	0.07	64 (Site 1) 223 (Site 2)
HDD #1 Pipe Stringing Work Area Dust Control	116,875	Bear Valley Parkway and Beethoven Drive	Site One Site Two	24	6.4 (Site 1) 22.3 (Site 2)	75	0.32	64 (Site 1) 223 (Site 2)
HDD #2 Entry Work Area Dust Control	93,500	North Old Highway 395 and Palos Verdes Drive	Site One Site Two	19	14.4 (Site 1) 38.6 (Site 2)	75	0.25	547.2 (Site 1) 1,466.8 (Site 2)
HDD #2 Exit Work Area Dust Control	23,375	Old Highway 395 and Via Urner Way	Site One Site Two	5	14.9 (Site 1) 38.8 (Site 2)	75	0.07	149 (Site 1) 388 (Site 2)
HDD #2 Pipe Stringing Work Area	187,000	Old Highway 395 from MP 10.6 to 11.2	Site One Site Two	38	14.9 (Site 1) 38.8 (Site 2)	75	0.51	1,132.4 (Site 1) 2,948.8 (Site 2)
HDD #3 Entry Work Area Dust Control	93,500	Old Highway 395 and Highway 76/Pala Road	Site One Site Two	19	17.4 (Site 1) 41.4 (Site 2)	75	0.25	661.2 (Site 1) 1,573.2 (Site 2)
HDD #3 Exit Work Area Dust Control	23,375	Old Highway 395 and Dulin Road.	Site One Site Two	5	21.1 (Site 1) 40.9 (Site 2)	75	0.07	211 (Site 1) 409 (Site 2)
HDD #3 Pipe Stringing Work Area Dust Control	128,563	Old Highway 395 from MP 9.3 to 9.9	Site One Site Two	26	21.1 (Site 1) 40.9 (Site 2)	75	0.35	1,097.2 (Site 1) 2,126.8 (Site 2)

Construction Activity	Estimated Gallons of Water Required	Location (Approximate Milepost [MP] or Cross Streets)	Possible Sources of Recycled Water[1]	Total Number of Truck Trips Required to Transport Water From Source[2]	Average One Way Mileage[3]	Estimated Activity Duration (Days)	Average Number of Truck Trips Per Day	Total Miles Required to Transport Water[4]
HDD Drilling Fluid	HDD #1: 343,053[7]	HDD #1: Pomerado Road and Hidden Valley Road, MP 30.3	Site One Site Two	HDD #1: 69	HDD #1: Site One: 7.1 Site Two: 17.7	75	0.92	HDD #1: Site One: 979.8 Site Two: 2,442.6
	HDD #2: 512,253	HDD #2: North Old Highway 395 and Palos Verdes Drive, MP 11.9		HDD #2: 103	HDD #2: Site One: 14.4 Site Two: 38.6	75	1.38	HDD #2: Site One: 2,966.4 Site Two: 7,951.6
	HDD #3: 371,394	HDD #3: Old Highway 395 and Highway 76/Pala Road, MP 8.6		HDD #3: 75	HDD #3: Site One: 17.4 Site Two: 41.4	75	1	HDD #3 Site One: 2,610.0 Site Two: 6,210.0
Hydrostatic Testing								
Hydrostatic Testing	4,263,355	MP 46.9, Access will be via Kearny Villa Road and H Avenue[8]	Site One Site Two	853	22.9 (Site One) 6.7 (Site Two)	1[9]	853	Site One: 9,067.4 Site Two: 11,430.2
HDD Hydrostatic testing[10]	119,947	HDD #1: Pomerado Road and Hidden Valley Road, MP 30.3	Site One Site Two	24	HDD #1: Site One: 6.4 Site Two: 22.3	1	24	HDD #1: Site One: 1,100.8 Site Two: 3,835.6
	179,107	HDD #2: North Old Highway 395 and Palos Verdes Drive, MP 11.9		36	HDD #2: Site One: 14.9 Site Two: 38.8	1	36	HDD #2: Site One: 2,562.8 Site Two: 6,673.6
	129,807	HDD #3: Old Highway 395 and Highway 76/Pala Road, MP 8.6		26	HDD #3 Site One: 21.1 Site Two: 40.9	1	26	HDD #3: Site One: 3,629.2 Site Two: 7,034.8

[7]To determine the amount of water required for drilling mud at each HDD location, the total volume of water required for drilling mud (1,226,654 gallons) was divided by the total length of the HDD sections (8,700 feet). Based on this calculation, each foot of HDD was determined to require 141 gallons of water for drilling mud.

[8] This assumes hydrostatic testing will start at the Southern Terminus of the Proposed Project and proceed from south to north.

[9] While hydrostatic testing will take place over several weeks, all water for this task must be in place prior to beginning the test.

[10] The pipe sections that will be installed using HDD techniques will be hydrostatically tested prior to installation during construction, separately from the other portions of the Proposed Project. To determine the amount of water required for each test, the total volume of water required for the three tests (428,606 gallons) was divided by the total length of the test segments (8,700 feet). Based on this calculation each foot of hydrostatic testing was determined to require 49.3 gallons of water.