

Appendix C

Conveyance Route and Pump Station Analysis Matrices

Indirect Discharge Pipeline Alignments Analysis per Criterion

Evaluation Criteria																							
Pipeline Segments	Segment Length (ft)	Reliability (High or Moderate) ¹	Flexibility (L, M, H) ²	Liquefaction Potential (length of pipe in moderate to very high haz in feet)	Fault Zones (length of pipe in fault zones in feet 200' each side of fault)	Proximity to Future Recycled Water Users (H, M, L)	Utility Conflicts (Y/N)	Street Widths (ave width ft)	Traffic (ADT)	Tree Density (H, M, L)	Tree Quality (H, M, L)	Canopy Cover (H, M, L)	Wells & Septic (sparse or dense)	Institutional (school, church, etc.)	Businesses	Floodplain (length of pipe in 100-yr fp in feet)	Greenhouse Gas Production/Energy Use ³	Logistics				Cost	
																		Number of parcels (on either side of pipeline)	Number of Government/Agriculture	Estimated number of easements	Schedule Compliance	Facilities Construction ⁴	O&M Costs
Discharge Site I1 - Soda Rock Lane, South																							
D5-D-01	2,400	M	M	2,400	0	H	causeway	24		H	H	M	s	0	0	1,700		2	1	0	ok		
11-J-01	2,050	M	M	1,670	0	H	N	20		H	H	H	s	0	1	500		1	1	0	ok		
11-J-02	4,200	M	M	2,400	0	H	N	15		H	H	H	s	0	2	0		13	4	0	ok		
11-J-03	1,050	M	M	985	400	H	N	15		0	0	0	s	0	1	0		2	2	1	ok		
11-J-04	2,250	M	M	630	400	H	N	15		L	H	L	s	0	1	0		6	4	0	ok		
Discharge Site I2 - Highway 128																							
I2-M-01	16,650	M	H	8900	0	H	N	26		H	H	H	d	1	20	8,750		43	26	0	ok		
Discharge Site I3 - Geyserville																							
I3-L-01	6,900	M	M	4,070	0	H	N	0		0	0	0	s	0	1	1,000		6	5	6	ok		
I3-N-01	5,500	M	M	5,390	0	H	N	0		M	H	M	s	0	1	4,300		5	4	3	ok		
Discharge Site I4 - Asti																							
<i>Railroad Alignment from Lytton Springs Road to Asti</i>																							
I4-O-01	3,796	M	L	2,470	0	L	N	Railroad		M	H	L	s	0	0	1,800		20	2	0	ok		
I4-O-02	10,025	M	M	4,133	0	H	N	Railroad		L	H	L	s	0	0	3,900		17	10	0	ok		
I4-O-03	2,400	M	L	670	0	L	N	Railroad		L	H	L	s	0	0	0		2	0	0	ok		
I4-O-04	2,000	M	L	1,990	0	L	N	Railroad		L	H	L	s	0	0	0		2	1	0	ok		
I4-P-04	1,150	L	H	1,150	0	H	Railroad Crossing	40		L	H	L	s	0	1	0		3	1	0	ok		
I4-O-05	23,899	L	H	23,899	0	H	N	Railroad		L	H	L	s	0	0	18,600		89	47	0	ok		
I4-O-07	9,269	L	M	9,269	0	H	N	Railroad		M	H	M	s	0	0	2,900		10	7	0	ok		
I4-O-08	7,100	L	H	3,230	400	L	River Undercrossing	26		H	H	H	d	0	5	2,200		24	9	2	ok		
I4-O-09	4,700	M	L	4,700	0	L	N	Railroad		L	H	L	s	0	0	4,700		2	1	0	ok		
I4-O-10	2,770	L	L	2,700	0	L	River Undercrossing	0		M	H	M	s	0	0	2,770		2	2	2	ok		
I4-O-11	4,100	L	L	4,000	0	M	N	Railroad		L	H	L	s	0	0	850		8	3	0	ok		
I4-O-12	3,550	L	M	3,330	0	H	River Undercrossing	0		L	H	L	s	0	0	2,500		8	7	4	ok		
I4-O-13	2,650	M	L	2,260	0	M	N	26		M	H	M	d	0	2	500		4	3	0	ok		
<i>Old Redwood Highway Alignment from Lytton Spring Road to Asti</i>																							
I4-P-01	12,254	M	M	2,340	0	M	N	40		H	H	M	s	0	6	0		19	5	0	ok		
I4-P-02	677	M	L	470	0	L	Railroad Crossing	26		L	H	0	s	0	0	0		3	1	0	ok		
I4-P-03	4,330	L	M	3,620	0	L	N	45		M	H	M	s	0	2	0		8	4	0	ok		
I4-P-05	23,407	L	H	19,680	400	H	N	30		H	H	H	d	2	8	0		124	22	0	ok		
I4-O-06	536	L	L	130	0	L	Railroad Crossing	0		0	0	0	s	0	3	0		1	1	1	ok		
I4-P-06	8,939	L	M	0	400	L	N	30		M	H	M	s	0	0	0		7	5	0	ok		
I4-P-07	1,789	M	L	320	0	M	Railroad Crossing	20	1,080	M	H	H	s	0	0	600		3	1	0	ok		
I4-P-08	4,700	M	L	1,700	0	L	N	40		M	H	M	s	1	2	0		8	3	0	ok		
I4-P-09	1,000	M	L	635	0	L	Railroad Crossing	20		L	H	L	s	0	0	0		1	0	0	ok		
I4-P-10	4,900	L	L	1,155	0	L	N	40		M	H	M	d	0	6	0		14	3	0	ok		
I4-P-11	800	M	L	800	0	L	Railroad Crossing	20		L	H	L	s	0	0	0		4	3	0	ok		
I4-P-12	33,350	L	H	20,700	1,200	L	Railroad Crossing	28	1,635	M	H	M	d	0	12	3,400		124	49	0	ok		

1. Reliability relates to the number of pump stations vs the miles of pipeline. Best is fewer pump stations and lowest miles of pipeline. Moderate reliability if pipeline is in fault zone or liquefiable soils.

2. Flexibility indicates ability to meet other uses L=few surrounding government or large ag parcels, H=numerous other uses

3. Greenhouse Gas Production/Energy Use cannot be calculated by pipeline segment, but is compared by alignment in Section 7.4.2

4. Cost for both construction and operations is calculated and compared by alignment in Section 7.5