APPENDIX M: WATER USAGE STUDY

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ELM Project

Table 5 - Total Water Demand for Project Duration

Disturbance Source	Duration (days)	Demand From Table 2 (gallons/acre/day)	Total Area (acres)	Active Areas (acres)	Daily Water Demand (gallons/day)	Evapotranspiration Table 3 (additional gallons/day)	Daily Task Demand (gallons/day)	Applications (times/day)	Duration Task Demand (Gallons)	Duration Task Demand (acre-feet)
Mid-Line Series Cap	390	1,815	8.4	1.7	3,049	661	3,711	3	1,447,122.55	4.44
OPGW Construction	234	1,815	18.4	3.7	6,679	1,449	8,128	3	1,901,932.50	5.84
Transmission	156	1,815	126.1	12.6	22,880	4,963	27,842	3	4,343,405.24	13.33
Telecommunications	286	1,815	32.1	3.2	5,826	1,264	7,090	3	2,027,694.34	6.22
Distribution	130	1,815	25.7	2.6	4,665	1,012	5,676	3	737,917.65	2.265
Substations	260	1,210	49.5	5.0	5,990	1,949	7,938	3	2,063,927.16	6.33
Staging Areas	30	1,210	182.7	18.3	22,107	7,192	29,299	3	878,973.18	2.70
Access Roads and/or Spur Roads	390	1,815	104.9	10.5	19,046	4,131	23,178	3	9,039,279.65	27.74
Hydroseeding									1,214,150.00	3.73
Fill Compaction									1,414,440.65	4.34
Total (Overall)		Total Disturbed Area:	547.8	acres					**25,068,842.9**	**76.9**

Total Demand: 77 Acre-Feet for project duration
(25 Million Gallons for project duration)

Total Demand with 10% Contingency: 85 Acre-Feet for project duration
(28 Million Gallons for project duration)

-All areas and durations based on the construction schedule as of April 2018 (Eldorado-Lugo-Mohave Capacitor Series Project).
-Total Project duration (15 months) based on current licensing and construction schedule as of April 2018 (Eldorado-Lugo-Mohave Project)
-Assume 10% of general construction/grading considered active at any given time throughout the project except within the Mid-Line Series Cap.
-Assume that the access roads may utilize soil binders and the number of water applications for dust suppression per day may be reduced.
-Assumes that the staging yards will be constructed and stabilized within 30 days.
-Assume that the project will work a 6 day work week.
-Assume 26 working days per month, on average.
-Assume that concrete for this project will be premixed offsite by the concrete provider.

Fill Soil Max Dry Density	126	pcf
Fill Soil Optimum Moisture Content	14	%
Fill Soil Relative Compaction	95	%
Imported / Excavated Moisture Content	4	%
Total Water Demand for Compaction	**1.44**	gal/cf
Total Water Demand for Compaction	**38.75**	gal/cy

ELM Project

Fill Compaction Water Needs Primary Option

Site Soil	**Volume (cuyd)**	**Total Duration (months)**	**Water Demand (gallons)**	**Total Daily Water Demand (gallons)**	**Total Water Demand (gallons)**
Soil Volume					
Fill Compaction Areas (Primary - Site 2)	18,000	2.5	697,532.37	10,731.27	697,532
Fill Compaction Areas (Primary - Site 4)	18,500	2.5	716,908.27	11,029.36	716,908
		TOTAL:			**1,414,441 (gallons)**

Notes: **4.34 acre-feet**

-Soil dry density assumes the material is compacted to the specified relative compaction.
-Assume water applied to reach OMC will be the difference between OMC and the antecedent soil moisture content.

Water Spec. Weight:
8.3436 lbs/US gallon

Notes
Made assumptions on geotechnical fill soil max dry density, optimum moisture content, soil relative compaction percentage.