

APPENDIX E

GHG CALCULATIONS

HSAT Construction Annual CO2e

Seville 4 Solar Project - HSAT Annual Construction and Associated Traffic					
Annual Unmitigated	Emission Rate (Metric Tons/year)				
	Bio-CO2	NBio-CO2	Total CO2	CH4	CO2e
Access Road Construction 2018 - Offroad	0.00	11.96	11.96	0.0037	12.05
Access Road Construction 2018 - Mobile	0.00	0.81	0.81	0.0001	0.81
Grading/Fencing 2018 - Offroad	0.00	78.49	78.49	0.0244	79.10
Grading/Fencing 2018 - Mobile	0.00	6.45	6.45	0.0005	6.46
Racking Installation 2018 - Offroad	0.00	85.55	85.55	0.0226	86.12
Racking Installation 2018 - Mobile	0.00	17.02	17.02	0.0015	17.06
Solar Panel Installation 2015 - Offroad	0.00	74.87	74.87	0.0193	75.35
Solar Panel Installation 2015 - Mobile	0.00	17.02	17.02	0.0015	17.06
System Wiring and Trenching 2018 - Offroad	0.00	64.28	64.28	0.0143	64.64
System Wiring and Trenching 2018 - Mobile	0.00	3.70	3.70	0.0003	3.71
Inverter Installation 2018 - Offroad	0.00	30.50	30.50	0.0075	30.69
Inverter Installation 2018 - Mobile	0.00	2.98	2.98	0.0003	2.98
GenTie Power Line Construction 2018 - Offroad	0.00	14.17	14.17	0.0044	14.28
GenTie Power Line Construction 2018 - Mobile	0.00	1.69	1.69	0.0001	1.69
Substation/Switch Station Construc 2018 - Offroad	0.00	25.72	25.72	0.0080	25.92
Substation/Switch Station Construc 2018 - Mobile	0.00	2.05	2.05	0.0002	2.06
Total	0.00	437.26	437.26	0.11	439.98
Annual Mitigated	Emission Rate (Metric Tons/year)				
	Bio-CO2	NBio-CO2	Total CO2	CH4	CO2e
Access Road Construction 2018 - Offroad	0.00	11.96	11.96	0.0037	12.05
Access Road Construction 2018 - Mobile	0.00	0.81	0.81	0.0001	0.81
Grading/Fencing 2018 - Offroad	0.00	78.49	78.49	0.0244	79.10
Grading/Fencing 2018 - Mobile	0.00	6.45	6.45	0.0005	6.46
Racking Installation 2018 - Offroad	0.00	85.55	85.55	0.0226	86.12
Racking Installation 2018 - Mobile	0.00	17.02	17.02	0.0015	17.06
Solar Panel Installation 2015 - Offroad	0.00	74.87	74.87	0.0193	75.35
Solar Panel Installation 2015 - Mobile	0.00	17.02	17.02	0.0015	17.06
System Wiring and Trenching 2018 - Offroad	0.00	64.28	64.28	0.0143	64.64
System Wiring and Trenching 2018 - Mobile	0.00	3.70	3.70	0.0003	3.71
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GenTie Power Line Construction 2018 - Mobile	0.00	1.69	1.69	0.0001	1.69
Substation/Switch Station Construc 2018 - Offroad	0.00	25.72	25.72	0.0080	25.92
Substation/Switch Station Construc 2018 - Mobile	0.00	2.05	2.05	0.0002	2.06
Total	0.00	437.26	437.26	0.11	439.98

FF Construction Annual CO2e

Seville 4 Solar Project - FF Annual Construction and Associated Traffic					
Annual Unmitigated	Emission Rate (Metric Tons/year)				
	Bio-CO2	NBio-CO2	Total CO2	CH4	CO2e
Access Road Construction 2018 - Offroad	0.00	11.96	11.96	0.0037	12.05
Access Road Construction 2018 - Mobile	0.00	0.81	0.81	0.0001	0.81
Grading/Fencing 2018 - Offroad	0.00	78.49	78.49	0.0244	79.10
Grading/Fencing 2018 - Mobile	0.00	6.45	6.45	0.0005	6.46
Racking Installation 2018 - Offroad	0.00	85.55	85.55	0.0226	86.12
Racking Installation 2018 - Mobile	0.00	17.02	17.02	0.0015	17.06
Solar Panel Installation 2015 - Offroad	0.00	74.87	74.87	0.0193	75.35
Solar Panel Installation 2015 - Mobile	0.00	17.02	17.02	0.0015	17.06
System Wiring and Trenching 2018 - Offroad	0.00	64.28	64.28	0.0143	64.64
System Wiring and Trenching 2018 - Mobile	0.00	3.70	3.70	0.0003	3.71
Inverter Installation 2018 - Offroad	0.00	30.50	30.50	0.0075	30.69
Inverter Installation 2018 - Mobile	0.00	2.98	2.98	0.0003	2.98
GenTie Power Line Construction 2018 - Offroad	0.00	14.17	14.17	0.0044	14.28
GenTie Power Line Construction 2018 - Mobile	0.00	1.69	1.69	0.0001	1.69
Substation/Switch Station Construc 2018 - Offroad	0.00	25.72	25.72	0.0080	25.92
Substation/Switch Station Construc 2018 - Mobile	0.00	2.05	2.05	0.0002	2.06
Total	0.00	437.26	437.26	0.11	439.98
Annual Mitigated	Emission Rate (Metric Tons/year)				
	Bio-CO2	NBio-CO2	Total CO2	CH4	CO2e
Access Road Construction 2018 - Offroad	0.00	11.96	11.96	0.0037	12.05
Access Road Construction 2018 - Mobile	0.00	0.81	0.81	0.0001	0.81
Grading/Fencing 2018 - Offroad	0.00	78.49	78.49	0.0244	79.10
Grading/Fencing 2018 - Mobile	0.00	6.45	6.45	0.0005	6.46
Racking Installation 2018 - Offroad	0.00	85.55	85.55	0.0226	86.12
Racking Installation 2018 - Mobile	0.00	17.02	17.02	0.0015	17.06
Solar Panel Installation 2015 - Offroad	0.00	74.87	74.87	0.0193	75.35
Solar Panel Installation 2015 - Mobile	0.00	17.02	17.02	0.0015	17.06
System Wiring and Trenching 2018 - Offroad	0.00	64.28	64.28	0.0143	64.64
System Wiring and Trenching 2018 - Mobile	0.00	3.70	3.70	0.0003	3.71
Inverter Installation 2018 - Offroad	0.00	30.50	30.50	0.0075	30.69
Inverter Installation 2018 - Mobile	0.00	2.98	2.98	0.0003	2.98
GenTie Power Line Construction 2018 - Offroad	0.00	14.17	14.17	0.0044	14.28
GenTie Power Line Construction 2018 - Mobile	0.00	1.69	1.69	0.0001	1.69
Substation/Switch Station Construc 2018 - Offroad	0.00	25.72	25.72	0.0080	25.92
Substation/Switch Station Construc 2018 - Mobile	0.00	2.05	2.05	0.0002	2.06
Total	0.00	437.26	437.26	0.11	439.98

Operations 2018 HSAT

Seville 4 Solar Project - Winter 2018 HSAT Operations/Maintenance and Associated Traffic											
Winter Unmitigated	Source*	ROG	NOx	CO	SO2	FUGPM10	EXHPM10	PM10	FUGPM2.5	EXHPM2.5	PM2.5
Operations Area	A	0.00	0.00	0.02	0.0000		0.00	0.00		0.0001	0.00
Operations Mobile	A	0.04	0.28	0.41	0.0009	26.06	0.00	26.06	2.601	0.0011	2.60
Operations Offroad	A	0.58	6.24	3.15	0.01		0.23	0.23		0.21	0.21
Total		0.62	6.53	3.58	0.01	26.06	0.23	26.29	2.60	0.21	2.81
Seville 4 Solar Project - Summer 2018 Operations/Maintenance and Associated Traffic											
Summer Unmitigated	Source*	ROG	NOx	CO	SO2	FUGPM10	EXHPM10	PM10	FUGPM2.5	EXHPM2.5	PM2.5
Operations Area	A	0.00	0.00	0.02	0.0000		0.00	0.00		0.0001	0.00
Operations Mobile	A	0.05	0.28	0.51	0.0010	26.06	0.00	26.06	2.601	0.0010	2.60
Operations Offroad	A	0.58	6.24	3.15	0.01		0.23	0.23		0.21	0.21
Total		0.63	6.52	3.68	0.01	26.06	0.23	26.29	2.60	0.21	2.81
Summer Mitigated	Source*	ROG	NOx	CO	SO2	FUGPM10	EXHPM10	PM10	FUGPM2.5	EXHPM2.5	PM2.5
Operations Area	A	0.00	0.00	0.02	0.0000		0.00	0.00		0.0001	0.00
Operations Mobile	A	0.05	0.28	0.51	0.0010	26.06	0.00	26.06	2.601	0.0010	2.60
Operations Offroad	A	0.58	6.24	3.15	0.01		0.23	0.23		0.21	0.21
Total		0.63	6.52	3.68	0.01	26.06	0.23	26.29	2.60	0.21	2.81

* Source A - CalEEMod Model Results
 Source B - Other Calculated Results

Operations HSAT Annual CO2e

Seville 4 Solar Project - 2018 HSAT Annual Operations and Associated Traffic					
Annual Unmitigated	Emission Rate (Metric Tons/year)				
	Bio-CO2	NBio-CO2	Total CO2	CH4	CO2e
Operations Offroad	0	117.61	117.61	0.04	118.52
Operations Energy	0	87.39	87.39	1.99E-03	87.56
Operations Area	0	0.00311	0.00311	0.00001	0.00332
Operations Water	0	20.87	20.87	4.80E-04	20.91
Operations Mobile	0	14.09	14.09	0.00	14.12
Total	0.00	239.96	239.96	0.04	241.12
Annual Mitigated	Emission Rate (Metric Tons/year)				
	Bio-CO2	NBio-CO2	Total CO2	CH4	CO2e
Operations Offroad	0	117.61	117.61	0.04	118.52
Operations Energy	0	87.39	87.39	1.99E-03	87.56
Operations Area	0	0.00311	0.00311	0.00001	0.00332
Operations Water	0	20.87	20.87	4.80E-04	20.91
Operations Mobile	0	14.09	14.09	0.00	14.12
Total	0.00	239.96	239.96	0.04	241.12

Operations 2018 FF

Seville 4 Solar Project - Winter 2018 Fixed-Frame Operations/Maintenance and Associated Traffic											
Winter Unmitigated	Source*	ROG	NOx	CO	SO2	FUGPM10	EXHPM10	PM10	FUGPM2.5	EXHPM2.5	PM2.5
Operations Area	A	0.00	0.00	0.02	0.0000		0.00	0.00		0.0001	0.00
Operations Mobile	A	0.03	0.25	0.35	0.0009	25.51	0.00	25.51	2.546	0.0008	2.55
Operations Offroad	A	0.50	4.74	2.86	0.01		0.17	0.17		0.16	0.16
Total		0.53	4.99	3.22	0.01	25.51	0.17	25.69	2.55	0.16	2.71
Seville 4 Solar Project - Summer 2018 Operations/Maintenance and Associated Traffic											
Summer Unmitigated	Source*	ROG	NOx	CO	SO2	FUGPM10	EXHPM10	PM10	FUGPM2.5	EXHPM2.5	PM2.5
Operations Area	A	0.00	0.00	0.02	0.0000		0.00	0.00		0.0001	0.00
Operations Mobile	A	0.03	0.25	0.35	0.0009	25.51	0.00	25.51	2.546	0.0008	2.55
Operations Offroad	A	0.50	4.74	2.86	0.01		0.17	0.17		0.16	0.16
Total		0.53	4.99	3.22	0.01	25.51	0.17	25.69	2.55	0.16	2.71
Summer Mitigated	Source*	ROG	NOx	CO	SO2	FUGPM10	EXHPM10	PM10	FUGPM2.5	EXHPM2.5	PM2.5
Operations Area	A	0.00	0.00	0.02	0.0000		0.00	0.00		0.0001	0.00
Operations Mobile	A	0.03	0.25	0.35	0.0009	25.51	0.00	25.51	2.546	0.0008	2.55
Operations Offroad	A	0.50	4.74	2.86	0.01		0.17	0.17		0.16	0.16
Total		0.53	4.99	3.22	0.01	25.51	0.17	25.69	2.55	0.16	2.71

* Source A - CalEEMod Model Results
 Source B - Other Calculated Results

Operations Annual CO2e FF

Seville 4 Solar Project - 2018 Fixed-Frame Annual Operations and Associated Traffic					
Annual Unmitigated	Emission Rate (Metric Tons/year)				
	Bio-CO2	NBio-CO2	Total CO2	CH4	CO2e
Operations Offroad	0	113.09	113.09	0.04	114.01
Operations Energy	0	73.32	73.32	1.67E-03	73.47
Operations Area	0	0.00261	0.00261	0.00001	0.00278
Operations Water	0	20.87	20.87	4.80E-04	20.91
Operations Mobile	0	13.43	13.43	1.08E-03	13.46
Total	0.00	220.72	220.72	0.04	221.85
Annual Mitigated	Emission Rate (Metric Tons/year)				
	Bio-CO2	NBio-CO2	Total CO2	CH4	CO2e
Operations Offroad	0	113.09	113.09	0.04	114.01
Operations Energy	0	73.32	73.32	1.67E-03	73.47
Operations Area	0	0.00261	0.00261	0.00001	0.00278
Operations Water	0	20.87	20.87	4.80E-04	20.91
Operations Mobile	0	13.43	13.43	1.08E-03	13.46
Total	0.00	220.72	220.72	0.04	221.85