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Quick Guide to CEQA Compliance
for Discussing GHG Emissions of Exempted Projects

The DWR CEQA Climate Change Committee ("C4") developed this "Quick Guide" for use by DWR staff and consultants on projects for which DWR is involved in developing or supporting environmental documentation for CEQA compliance. This "Quick Guide" is to be used as internal guidance for DWR staff and is designed to help DWR provide a consistent approach to analyzing GHG emissions in its CEQA documents. DWR intends to make periodic updates and addenda to this "Quick Guide" as new information and policies on climate change and GHG emissions develop. This "Quick Guide" and other DWR climate change documents should be used when working with consultants and other agency staff to prepare GHG analysis for DWR documents. They may also be shared with other interested parties with the understanding that these are internal guidance documents intended to assist DWR staff.

The sample section below and in the other tabs of this Excel spreadsheet should be used as a guide. They may be edited or included as-is. However, DWR staff should carefully review the information provided for individual projects and add additional information that is relevant to their specific project or project location.

Prior to the public release of any environmental document (e.g., NOEs, NDs, MNDs, EIRs), the climate change and GHG portions must be reviewed by the C4. For Notices of Exemption and their supporting information, the review is done by climate change staff and can usually be completed

Passages within this "Quick Guide" have been *italicized* and colored red to indicate information that is local, regional, or project specific and must be added by the project team. Below is a brief summary of the information that must be supplied by the project team prior to review. Please make sure that you have included all of this information before submitting your GHG inventory for review.

1. For NOE's use the "Project Description" tab to provide a brief project description (including project purpose, duration of work, equipment to be used, and location of project).
2. For NOE's provide the specific CEQA code section that describes the exemption that applies to the project.
3. Using the information provided in the "GHG Emissions Calculations" tab, fill in the Construction Activity Emissions and Operations and Maintenance Activities Emissions.
4. If appropriate, provide the estimated useful lifespan of the project and the amortized construction emissions + ongoing emissions. (This will be appropriate for construction projects where a facility with a finite life span is being constructed, or where periodic maintenance, such as dredging, is being performed; this will not apply to many repair projects, such as erosion repair or levee armoring.)
5. On the "GHG Emissions Calculations" tab, fill in column B (lines 2-24) the construction equipment that will be used on the project (add or subtract lines as necessary).
6. Fill in column C the maximum quantity of each piece of equipment that will be used during construction of the project.
7. Fill in column D the number of days each type of equipment will operate during construction.
8. Column E automatically calculates, assuming a work day of 8 hours. If the project construction schedule were to call for a different work day length, modify the formula and the information under footnote number 1.
9. Fill in the fuel consumption rate for each type of equipment. The "Equip. Fuel Consumption Factors" tab can be used to provide default factors for most equipment. If a piece of equipment isn't listed under the "Equip. Fuel Consumption Factors" tab, contact a contractor or other knowledgeable professional to obtain appropriate fuel consumption factors. Be sure to document the source of all information in the footnotes.

Docusign Envelope ID: 4DC49B51-4C47-4800-9E85-595B83665C04

Tracy Sub-Basin TSS MW-102 Well Installation ~ Inventory and Calculation of Greenhouse Gas Emissions

Emissions from Construction Equipment

Line	Type of Equipment	Maximum Number per Day	Total Operation Days	Total Operation Hours[1]	Fuel Consumption Per Hour[2]	Total Fuel Consumption (gal. diesel)	CO_2e/gal diesel [3]	Total CO_2 Equivalent Emissions (metric tons)
1								
2	Bore/Drill Rigs	1	7	56	6.42	360	0.010	4
3	Off-Highway Tru	1	2	16	1.5	24	0.010	0
4	Off-Highway Tru	1	3	24	5.71	137	0.010	1
5	Off-Highway Tru	1	2	16	5.71	91	0.010	1
6				0		-	0.010	-
7				0		-	0.010	-
8				0		-	0.010	-
9				0		-	0.010	-
10				0		-	0.010	-
11				0		-	0.010	-
12				0		-	0.010	-
13				0		-	0.010	-
14				0		-	0.010	-
15				0		-	0.010	-
16				0		-	0.010	-
17				0		-	0.010	-
18				0		-	0.010	-
19				0		-	0.010	-
20				0		-	0.010	-
21				0		-	0.010	-
22				0		-	0.010	-
23				0		-	0.010	-
24				0		-	0.010	-
25	TOTAL					**612**		**6**

26 [1] An 8-hour work day is assumed.

27 [2] California Air Resource Board Offroad 2007 Emissions Inventory fuel consumption factors

28 [3] World Resources Institute-Mobile combustion CO_2 emissions tool, June 2003 Version 1.2

29

Emissions from Transportation of Construction Workforce

31	Average Number of Workers per Day	Total Number of Workdays	Average Distance Travelled (round trip)	Total Miles Travelled	Average Passenger Vehicle Fuel Efficiency[4]	Total Fuel Consumption (gal. gasoline)	CO_2e/gal Gasoline [3]	Total CO_2 Equivalent Emissions (metric tons)
32	3	7	130	2730	20.8	**131.3**	0.009	**1**

33 [4] United States Environmental Protection Agency. 2008. Light-Duty Automotive Technology and Fuel Economy Trends: 1975 through 2008. [EPA420-R-08-015]

Docusign Envelope ID: 4DC49B51-4C47-4800-9E85-595B83665C04

34

35 **Emissions from Transportation of Construction Materials**

36	Trip Type	Total Number of Trips	Average Trip Distance	Total Miles Travelled	Average Semi-truck Fuel Efficiency	Total Fuel Consumption (gal. diesel)	CO_2e/gal Diesel [3]	Total CO_2 Equivalent Emissions (metric tons)
37	Delivery	0	0	0	6	0	0.010	0
38	Spoils	1	130	130	6	21.66666667	0.010	0.22514648
39	TOTAL							**0.22514648**

40

41 **Construction Electricity Emissions**

42		MWh of electricity	$mtCO2_e$/ MWh[5]	CO_2 e emissions
43	Electricity Needed		0.277	0

44 [5] eGRID2010 Version 1.0 *CAMX-WECC sub-region* .

45

46	**Total Construction Activity Emissions**	7.8	(from lines 25, 32, 39, and 43)
47	**Total Years of Construction**	0.02	
48	**Expected Start Date of Construction**	1-May-26	

49

50	**Estimated Project Useful life**	50	Years
51	**Average Annual Total GHG Emissions[7]**	0.155328	**MT CO_2 equivalents**
52	**Max. Year Construction GHG Emissions[8]**		**MT CO2 equivalents**

53 [7]short-term construction emissions amortized over life of project

54 [8]Emissions total from single year of construction when emissions peak (for multi-year construction projects)

NOTE: the Average Annual Total GHG Emissions is NOT the same value as the "Maximum Annual Emissions" (MAE) value that is required on the DWR GGERP Consistency Form form for Projects Using Outside Labor and Equipment; The MAE is calculated to ensure that the project does not emit more than 12,500 mtCO2e in any given year

Docusign Envelope ID: 4DC49B51-4C47-4800-9E85-595B83665C04

These data were generated using the California Air Resource Control Board Offroad 2007 Emissions Inventory.

	Offroad 2007 Outputs			Individual Unit Factors
Equipment	**Fuel**	**MaxHP**	**Class**	**Gal/hr**
Tampers/Rammers	G2	15	Construction and Mining Equipment	0.20
Plate Compactors	G2	15	Construction and Mining Equipment	0.20
Asphalt Pavers	G4	15	Construction and Mining Equipment	0.58
Asphalt Pavers	G4	25	Construction and Mining Equipment	1.47
Asphalt Pavers	G4	50	Construction and Mining Equipment	2.34
Asphalt Pavers	G4	120	Construction and Mining Equipment	3.95
Tampers/Rammers	G4	15	Construction and Mining Equipment	0.49
Plate Compactors	G4	5	Construction and Mining Equipment	0.18
Plate Compactors	G4	15	Construction and Mining Equipment	0.44
Rollers	G4	5	Construction and Mining Equipment	0.27
Rollers	G4	15	Construction and Mining Equipment	0.55
Rollers	G4	25	Construction and Mining Equipment	1.19
Rollers	G4	50	Construction and Mining Equipment	2.64
Rollers	G4	120	Construction and Mining Equipment	4.64
Paving Equipment	G4	5	Construction and Mining Equipment	0.20
Paving Equipment	G4	15	Construction and Mining Equipment	0.58
Paving Equipment	G4	25	Construction and Mining Equipment	1.32
Paving Equipment	G4	50	Construction and Mining Equipment	2.30
Paving Equipment	G4	120	Construction and Mining Equipment	3.70
Surfacing Equipment	G4	5	Construction and Mining Equipment	0.20
Surfacing Equipment	G4	15	Construction and Mining Equipment	0.39
Surfacing Equipment	G4	25	Construction and Mining Equipment	0.94
Signal Boards	G4	5	Construction and Mining Equipment	0.33
Signal Boards	G4	15	Construction and Mining Equipment	0.60
Trenchers	G4	15	Construction and Mining Equipment	0.65
Trenchers	G4	25	Construction and Mining Equipment	1.40
Trenchers	G4	50	Construction and Mining Equipment	2.20
Trenchers	G4	120	Construction and Mining Equipment	4.27
Bore/Drill Rigs	G4	15	Construction and Mining Equipment	0.79
Bore/Drill Rigs	G4	25	Construction and Mining Equipment	1.45
Bore/Drill Rigs	G4	50	Construction and Mining Equipment	2.68
Bore/Drill Rigs	G4	120	Construction and Mining Equipment	6.67
Bore/Drill Rigs	G4	175	Construction and Mining Equipment	9.04
Concrete/Industrial Saws	G4	5	Construction and Mining Equipment	0.27
Concrete/Industrial Saws	G4	15	Construction and Mining Equipment	0.69
Concrete/Industrial Saws	G4	25	Construction and Mining Equipment	1.34
Concrete/Industrial Saws	G4	50	Construction and Mining Equipment	2.78
Concrete/Industrial Saws	G4	120	Construction and Mining Equipment	4.72
Cement and Mortar Mixers	G4	5	Construction and Mining Equipment	0.26
Cement and Mortar Mixers	G4	15	Construction and Mining Equipment	0.52
Cement and Mortar Mixers	G4	25	Construction and Mining Equipment	1.61
Cranes	G4	50	Construction and Mining Equipment	1.94
Cranes	G4	120	Construction and Mining Equipment	3.42
Cranes	G4	175	Construction and Mining Equipment	5.37
Crushing/Proc. Equipment	G4	15	Construction and Mining Equipment	0.75
Crushing/Proc. Equipment	G4	25	Construction and Mining Equipment	1.37

Docusign Envelope ID: 4DC49B51-4C47-4800-9E85-595B83665C04

Crushing/Proc. Equipment	G4	120	Construction and Mining Equipment	7.91
Rough Terrain Forklifts	G4	50	Construction and Mining Equipment	3.30
Rough Terrain Forklifts	G4	120	Construction and Mining Equipment	5.26
Rough Terrain Forklifts	G4	175	Construction and Mining Equipment	8.18
Rubber Tired Loaders	G4	50	Construction and Mining Equipment	2.44
Rubber Tired Loaders	G4	120	Construction and Mining Equipment	3.85
Tractors/Loaders/Backhoes	G4	120	Construction and Mining Equipment	2.97
Skid Steer Loaders	G4	15	Construction and Mining Equipment	0.80
Skid Steer Loaders	G4	25	Construction and Mining Equipment	1.11
Skid Steer Loaders	G4	50	Construction and Mining Equipment	1.93
Skid Steer Loaders	G4	120	Construction and Mining Equipment	4.31
Dumpers/Tenders	G4	5	Construction and Mining Equipment	0.14
Dumpers/Tenders	G4	15	Construction and Mining Equipment	0.40
Dumpers/Tenders	G4	25	Construction and Mining Equipment	0.84
Dumpers/Tenders	G4	120	Construction and Mining Equipment	2.60
Other Construction Equipment	G4	175	Construction and Mining Equipment	5.49
Pavers	D	25	Construction and Mining Equipment	0.85
Pavers	D	50	Construction and Mining Equipment	1.32
Pavers	D	120	Construction and Mining Equipment	3.18
Pavers	D	175	Construction and Mining Equipment	5.87
Pavers	D	250	Construction and Mining Equipment	8.84
Pavers	D	500	Construction and Mining Equipment	10.62
Plate Compactors	D	15	Construction and Mining Equipment	0.20
Rollers	D	15	Construction and Mining Equipment	0.29
Rollers	D	25	Construction and Mining Equipment	0.61
Rollers	D	50	Construction and Mining Equipment	1.22
Rollers	D	120	Construction and Mining Equipment	2.71
Rollers	D	175	Construction and Mining Equipment	4.94
Rollers	D	250	Construction and Mining Equipment	6.95
Rollers	D	500	Construction and Mining Equipment	9.95
Scrapers	D	120	Construction and Mining Equipment	4.32
Scrapers	D	175	Construction and Mining Equipment	6.77
Scrapers	D	250	Construction and Mining Equipment	9.52
Scrapers	D	500	Construction and Mining Equipment	14.64
Scrapers	D	750	Construction and Mining Equipment	25.28
Paving Equipment	D	25	Construction and Mining Equipment	0.57
Paving Equipment	D	50	Construction and Mining Equipment	1.13
Paving Equipment	D	120	Construction and Mining Equipment	2.50
Paving Equipment	D	175	Construction and Mining Equipment	4.62
Paving Equipment	D	250	Construction and Mining Equipment	5.56
Surfacing Equipment	D	50	Construction and Mining Equipment	0.66
Surfacing Equipment	D	120	Construction and Mining Equipment	2.92
Surfacing Equipment	D	175	Construction and Mining Equipment	3.91
Surfacing Equipment	D	250	Construction and Mining Equipment	6.12
Surfacing Equipment	D	500	Construction and Mining Equipment	10.04
Surfacing Equipment	D	750	Construction and Mining Equipment	15.75
Signal Boards	D	15	Construction and Mining Equipment	0.28
Signal Boards	D	50	Construction and Mining Equipment	1.68
Signal Boards	D	120	Construction and Mining Equipment	3.67
Signal Boards	D	175	Construction and Mining Equipment	7.05
Signal Boards	D	250	Construction and Mining Equipment	11.57
Trenchers	D	15	Construction and Mining Equipment	0.39
Trenchers	D	25	Construction and Mining Equipment	1.50
Trenchers	D	50	Construction and Mining Equipment	1.55

Docusign Envelope ID: 4DC49B51-4C47-4800-9E85-595B83665C04

Trenchers	D	120	Construction and Mining Equipment	2.98
Trenchers	D	175	Construction and Mining Equipment	6.58
Trenchers	D	250	Construction and Mining Equipment	10.14
Trenchers	D	500	Construction and Mining Equipment	14.18
Trenchers	D	750	Construction and Mining Equipment	26.74
Bore/Drill Rigs	D	15	Construction and Mining Equipment	0.47
Bore/Drill Rigs	D	25	Construction and Mining Equipment	0.73
Bore/Drill Rigs	D	50	Construction and Mining Equipment	1.42
Bore/Drill Rigs	D	120	Construction and Mining Equipment	3.52
Bore/Drill Rigs	D	175	Construction and Mining Equipment	6.42
Bore/Drill Rigs	D	250	Construction and Mining Equipment	8.50
Bore/Drill Rigs	D	500	Construction and Mining Equipment	14.07
Bore/Drill Rigs	D	750	Construction and Mining Equipment	27.80
Bore/Drill Rigs	D	1000	Construction and Mining Equipment	41.98
Excavators	D	25	Construction and Mining Equipment	0.75
Excavators	D	50	Construction and Mining Equipment	1.17
Excavators	D	120	Construction and Mining Equipment	3.38
Excavators	D	175	Construction and Mining Equipment	5.12
Excavators	D	250	Construction and Mining Equipment	7.19
Excavators	D	500	Construction and Mining Equipment	10.60
Excavators	D	750	Construction and Mining Equipment	17.56
Concrete/Industrial Saws	D	25	Construction and Mining Equipment	0.75
Concrete/Industrial Saws	D	50	Construction and Mining Equipment	1.40
Concrete/Industrial Saws	D	120	Construction and Mining Equipment	3.40
Concrete/Industrial Saws	D	175	Construction and Mining Equipment	7.30
Cement and Mortar Mixers	D	15	Construction and Mining Equipment	0.29
Cement and Mortar Mixers	D	25	Construction and Mining Equipment	0.80
Cranes	D	50	Construction and Mining Equipment	1.09
Cranes	D	120	Construction and Mining Equipment	2.30
Cranes	D	175	Construction and Mining Equipment	3.67
Cranes	D	250	Construction and Mining Equipment	5.09
Cranes	D	500	Construction and Mining Equipment	8.18
Cranes	D	750	Construction and Mining Equipment	13.77
Cranes	D	9999	Construction and Mining Equipment	44.16
Graders	D	50	Construction and Mining Equipment	1.29
Graders	D	120	Construction and Mining Equipment	3.44
Graders	D	175	Construction and Mining Equipment	5.66
Graders	D	250	Construction and Mining Equipment	7.81
Graders	D	500	Construction and Mining Equipment	10.42
Graders	D	750	Construction and Mining Equipment	22.05
Off-Highway Trucks	D	175	Construction and Mining Equipment	5.71
Off-Highway Trucks	D	250	Construction and Mining Equipment	7.55
Off-Highway Trucks	D	500	Construction and Mining Equipment	12.35
Off-Highway Trucks	D	750	Construction and Mining Equipment	20.03
Off-Highway Trucks	D	1000	Construction and Mining Equipment	28.37
Crushing/Proc. Equipment	D	50	Construction and Mining Equipment	2.06
Crushing/Proc. Equipment	D	120	Construction and Mining Equipment	3.82
Crushing/Proc. Equipment	D	175	Construction and Mining Equipment	7.64
Crushing/Proc. Equipment	D	250	Construction and Mining Equipment	11.09
Crushing/Proc. Equipment	D	500	Construction and Mining Equipment	16.94
Crushing/Proc. Equipment	D	750	Construction and Mining Equipment	26.70
Crushing/Proc. Equipment	D	9999	Construction and Mining Equipment	59.43
Rough Terrain Forklifts	D	50	Construction and Mining Equipment	1.58
Rough Terrain Forklifts	D	120	Construction and Mining Equipment	2.86

Docusign Envelope ID: 4DC49B51-4C47-4800-9E85-595B83665C04

Rough Terrain Forklifts	D	175	Construction and Mining Equipment	5.70
Rough Terrain Forklifts	D	250	Construction and Mining Equipment	7.74
Rough Terrain Forklifts	D	500	Construction and Mining Equipment	11.63
Rubber Tired Loaders	D	25	Construction and Mining Equipment	0.77
Rubber Tired Loaders	D	50	Construction and Mining Equipment	1.46
Rubber Tired Loaders	D	120	Construction and Mining Equipment	2.70
Rubber Tired Loaders	D	175	Construction and Mining Equipment	4.85
Rubber Tired Loaders	D	250	Construction and Mining Equipment	6.76
Rubber Tired Loaders	D	500	Construction and Mining Equipment	10.76
Rubber Tired Loaders	D	750	Construction and Mining Equipment	22.04
Rubber Tired Loaders	D	1000	Construction and Mining Equipment	26.99
Rubber Tired Dozers	D	175	Construction and Mining Equipment	5.93
Rubber Tired Dozers	D	250	Construction and Mining Equipment	8.36
Rubber Tired Dozers	D	500	Construction and Mining Equipment	12.11
Rubber Tired Dozers	D	750	Construction and Mining Equipment	18.23
Rubber Tired Dozers	D	1000	Construction and Mining Equipment	27.08
Tractors/Loaders/Backhoes	D	25	Construction and Mining Equipment	0.72
Tractors/Loaders/Backhoes	D	50	Construction and Mining Equipment	1.41
Tractors/Loaders/Backhoes	D	120	Construction and Mining Equipment	2.37
Tractors/Loaders/Backhoes	D	175	Construction and Mining Equipment	4.63
Tractors/Loaders/Backhoes	D	250	Construction and Mining Equipment	7.78
Tractors/Loaders/Backhoes	D	500	Construction and Mining Equipment	15.62
Tractors/Loaders/Backhoes	D	750	Construction and Mining Equipment	23.43
Crawler Tractors	D	50	Construction and Mining Equipment	1.17
Crawler Tractors	D	120	Construction and Mining Equipment	3.03
Crawler Tractors	D	175	Construction and Mining Equipment	5.54
Crawler Tractors	D	250	Construction and Mining Equipment	7.55
Crawler Tractors	D	500	Construction and Mining Equipment	11.80
Crawler Tractors	D	750	Construction and Mining Equipment	21.15
Crawler Tractors	D	1000	Construction and Mining Equipment	29.99
Skid Steer Loaders	D	25	Construction and Mining Equipment	0.63
Skid Steer Loaders	D	50	Construction and Mining Equipment	1.18
Skid Steer Loaders	D	120	Construction and Mining Equipment	1.95
Off-Highway Tractors	D	120	Construction and Mining Equipment	4.32
Off-Highway Tractors	D	175	Construction and Mining Equipment	5.97
Off-Highway Tractors	D	250	Construction and Mining Equipment	5.94
Off-Highway Tractors	D	750	Construction and Mining Equipment	25.95
Off-Highway Tractors	D	1000	Construction and Mining Equipment	37.23
Dumpers/Tenders	D	25	Construction and Mining Equipment	0.35
Other Construction Equipment	D	15	Construction and Mining Equipment	0.46
Other Construction Equipment	D	25	Construction and Mining Equipment	0.60
Other Construction Equipment	D	50	Construction and Mining Equipment	1.30
Other Construction Equipment	D	120	Construction and Mining Equipment	3.70
Other Construction Equipment	D	175	Construction and Mining Equipment	4.86
Other Construction Equipment	D	500	Construction and Mining Equipment	11.51
Compressor (Dredging)	D	50	Dredging	1.41
Compressor (Dredging)	D	120	Dredging	2.62
Compressor (Dredging)	D	175	Dredging	4.42
Compressor (Dredging)	D	250	Dredging	5.60
Compressor (Dredging)	D	500	Dredging	8.90
Compressor (Dredging)	D	1000	Dredging	22.11
Crane (Dredging)	D	750	Dredging	16.28
Deck/door engine	D	250	Dredging	6.45
Dredger	D	175	Dredging	4.09

Docusign Envelope ID: 4DC49B51-4C47-4800-9E85-595B83665C04

Dredger	D	250	Dredging	5.69
Dredger	D	750	Dredging	15.90
Dredger	D	9999	Dredging	34.80
Hoist/swing/winch	D	50	Dredging	0.96
Hoist/swing/winch	D	120	Dredging	3.05
Hoist/swing/winch	D	175	Dredging	3.88
Hoist/swing/winch	D	250	Dredging	6.18
Hoist/swing/winch	D	500	Dredging	9.81
Hoist/swing/winch	D	750	Dredging	19.56
Hoist/swing/winch	D	9999	Dredging	36.86
Pump (Dredging)	D	120	Dredging	4.29
Pump (Dredging)	D	175	Dredging	6.35
Pump (Dredging)	D	250	Dredging	10.51
Pump (Dredging)	D	500	Dredging	16.24
Pump (Dredging)	D	750	Dredging	23.77
Pump (Dredging)	D	9999	Dredging	114.38
Generator (Dredging)	D	50	Dredging	1.44
Generator (Dredging)	D	120	Dredging	4.05
Generator (Dredging)	D	175	Dredging	5.47
Generator (Dredging)	D	250	Dredging	9.94
Generator (Dredging)	D	500	Dredging	16.88
Generator (Dredging)	D	750	Dredging	28.09
Generator (Dredging)	D	9999	Dredging	61.55
Other (Dredging)	D	120	Dredging	2.96
Other (Dredging)	D	175	Dredging	5.11
Other (Dredging)	D	250	Dredging	6.32
Other (Dredging)	D	500	Dredging	11.20
Misc Portable Equipment	D	120	Other Portable Equipment	3.15
Misc Portable Equipment	D	175	Other Portable Equipment	4.32
Misc Portable Equipment	D	250	Other Portable Equipment	7.19
Misc Portable Equipment	D	500	Other Portable Equipment	13.44
Misc Portable Equipment	D	750	Other Portable Equipment	19.11
Misc Portable Equipment	D	1000	Other Portable Equipment	25.52