ERRATA SHEET #1

Raven SR Bioenergy Project
Updated Initial Study / Mitigated Negative Declaration

The following clarifications are made to the Updated Initial Study / Mitigated Negative Declaration published March 9, 2023:

Page 12, Footnote 9: Single-underline changed to double-underline and added to footnote number, as follows:

9 To be clear, the proposed project is a separate and independent project from other possible hydrogen-related projects within the City that may be proposed in the near future. The Raven project has a separate and independent owner, located on a separate and independent site, has a separate and completely independent source stream to make hydrogen, is proposing "green" hydrogen, and is seeking separate entitlements. Additionally, baseline for the Raven project was established at the time that the completed application was filed by the applicant on July 30, 2021. At that time, other hydrogen-related projects were not in the entitlement process with the City. Months later Chevron submitted and application on November 15, 2021, for an alternatives fueling station that would include fueling equipment for hydrogen (H2) and compressed natural gas (CNG). That application did not propose the manufacturing of hydrogen. Additionally, after Raven's project was received no other application has been received by the City for a hydrogen production project. As a result, the Raven project is not required to analyze the potential cumulative impacts for subsequent/potentially future projects as i) the fueling station application was submitted after the Raven project's baseline; and/or ii) CEQA does not require analysis of speculative projects that have yet to be received. Finally, any hydrogen-related projects submitted after the Raven project or at some future date would be required to comply with CEQA. As part of that process, those projects would also need to include the Raven project in either the baseline or a reasonably foreseeable project for that project's initial study – assuming that the type of project impacts overlap for the purposes of a cumulative analysis.

Page 21, Second paragraph: Double-underline added to full paragraph, as follows:

While the Raven SR technology can use a variety of potential feedstocks, the selected feedstock for this Project is a blend of urban greenwaste and organic food waste supplied by WCCSL. The first stage of the process to turn feedstock into a raw syngas begins with an externally heated "biomass steam reformer" and a "syngas steam reformer." The raw syngas is then conditioned, compressed and processed through purification systems to produce hydrogen product: transportation-grade (compliant with SAE J2719) hydrogen. [11]

Page 21, Footnote 11: Double-underline added to full paragraph, as follows:

[11] "Conditioned" or "conditioning" refers to steps in the process to convert residual impurities, primarily sulfur compounds, into a form that can easily be removed from the syngas. If the sulfur is not removed, it will contaminate downstream catalyst/media, deactivating it, significantly reducing performance in downstream processing.

Page 26, Third full paragraph: Double-underline added, as follows:

Safety and Controls

No Combustion Technology. The Raven SR's facility's controls would be distributed through the various process islands, taking their direction from a central Human-Machine Interface in the control room with centralized data collection. Process setpoints would be bounded by high/low alarm limitations to draw the operator's attention to the specific problem. The control system would represent state-of-the-art digital technology with redundant instrumentation where necessary to ensure safe operation.

Page 27, First full paragraph: Double-underline added (shown highlighted), as follows:

Safety Standards and Maintenance. ~~Raven SR units are equipped~~The project is being designed in accordance with ~~continuous monitoring~~ California Fire Code for all systems and ~~can automatically shut down~~ equipment installation containing flammable, combustible, or hazardous materials, and an equipment maintenance program agreed upon by the City and the Fire Marshall will be implemented.

Page 33: Double-underline added to selected "Biological Resources" factor, as follows:

3. Environmental Factors Potentially Affected

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact," as indicated by the checklist on the following pages.

☐ Aesthetics	☐ Agriculture and Forestry Resources	☒ Air Quality
☒ Biological Resources	☒ Cultural Resources	☐ Energy
☐ Geology, Soils and Seismicity	☐ Greenhouse Gas Emissions	☐ Hazards /Hazardous Materials
☐ Hydrology and Water Quality	☐ Land Use and Planning	☐ Mineral Resources
☐ Noise/Vibration	☐ Population and Housing	☐ Public Services
☐ Recreation	☐ Transportation	☒ Tribal Cultural Resources
☐ Utilities and Service Systems	☐ Wildfire	☐ Mandatory Findings of Significance

Page 47, Table 4.3-1: Replacement note (shown highlighted).

TABLE 4.3-1
AVERAGE DAILY CONSTRUCTION-RELATED CRITERIA POLLUTANT EMISSIONS
(~~TONS PER YEAR~~POUNDS PER DAY) WITHOUT MITIGATION

Project Average Daily Construction Emissions by Year	ROG	NO_x	Exhaust PM_{10}	Exhaust $PM_{2.5}$
~~2022~~2023	~~3.33~~0.11	~~16.67~~1.00	~~0.77~~0.04	~~0.70~~0.04
~~2023~~2024	~~0.13~~0.06	~~1.14~~0.48	~~0.05~~0.02	~~0.04~~0.02
BAAQMD Threshold for Significant Construction Impacts	~~10~~54	~~10~~54	~~15~~82	~~10~~54
Potential Significant Impact?	No	No	No	No

NOTES: Construction emissions were revised to account for the one-year construction schedule delay.
The applicable BAAQMD significance thresholds for pounds-per-day are now shown.
SOURCE: ~~ESA~~Ramboll (Appendix A to this document~~checklist~~)

Page 47, Third full paragraph: Omitted deletion shown as striked-out, as follows:

> Fugitive emissions from piping components such as valves and pumps are also anticipated. Cooling towers, pressure storage tanks, raw water storage tanks, treated water storage tanks, bisulfite storage tanks, anti-scalant storage tanks, and condensate recovery tanks are exempt from the permit requirement under BAAQMD Regulation 2, Rule 1 (BAAQMD 2017c), as described in the permit application. ~~**Table 4.3-3** shows the anticipated emissions from the permitted sources.~~ The air quality analysis prepared for the IS/MND is based on protocols used for the emissions analysis under review by the BAAQMD as part of the Authority to Construct (ATC) permit application.

Page 48, Second full paragraph: New inserted text (highlighted) regarding Table 4.3-3, and correction to show deletion regarding Table 4.3-4, as follows:

> Operational-related mobile source activities, such as employee commuting, truck trips for delivery and materials hauling, use of landscape equipment, and other sources would generate emissions of criteria air pollutants, their precursors, and toxic air contaminants (TACs). Area sources generally include fuel combustion from space and water heating, landscape maintenance equipment, and fireplaces/stoves, evaporative emissions from architectural coatings, and consumer products. Although these sources are not regulated under the BAAQMD's air permitting program, **Table 4.3-3** shows the anticipated emissions from auxiliary operations that are not the permitted sources. ~~**Table 4.3-4** shows the emissions from operational emission sources that are not part of the air permit application.~~

Page 48, Table 4.3-2: Previously-omitted numerals highlighted and double striked-out.

TABLE 4.3-2
PROCESS OPERATIONS ~~AIR PERMIT APPLICATION'S~~ AVERAGE ANNUAL OPERATIONAL CRITERIA POLLUTANT EMISSIONS
(TONS PER YEAR)

Project Operations Emissions by Source	CO	NO_x	VOC/ROG	SO_2	PM_{10}	$PM_{2.5}$
Biogas engines	50.69	7.19	~~5.70~~ 6.83	6.63	5.13	5.13
~~Green waste off gas~~	~~N/A~~	~~N/A~~	~~2.38~~	~~N/A~~	~~N/A~~	~~N/A~~
Fugitive component leaks	N/A	N/A	0.63	N/A	N/A	N/A
Limestone handling	N/A	N/A	N/A	N/A	0.003	0.0005
Limestone storage	N/A	N/A	N/A	N/A	0.016	0.0024
Flare	0.092	0.16	0.0098	0.0002	0.0086	0.0086
Fire pump engine	0.055	0.04	0.0022	0.00009	0.0033	0.0033
Total	**50.84**	**7.39**	**~~8.72~~ 7.47**	**6.64**	**5.16**	**5.14**

Page 49, Table 4.3-4: Values corrected (shown highlighted), as follows:

TABLE 4.3-4
AVERAGE ANNUAL OPERATIONAL- RELATED CRITERIA POLLUTANT EMISSIONS
(TONS PER YEAR)

Project Operations Emissions	NO_x	VOC/ROG	~~Exhaust~~ PM_{10}	~~Exhaust~~ $PM_{2.5}$
~~Air Permit~~Process Operations	7.39	7.47 ~~8.72~~	5.16	5.14
~~CalEEMod~~Auxiliary Operations	3.75 ~~1.66~~	0.18 ~~0.47~~	0.35 ~~0.05~~	0.13 ~~0.05~~
Reduction in Flared Landfill Gas	-8.71	-0.10	-3.35	-3.35
Overall Total	**~~9.05~~ 2.43**	**~~9.19~~ 7.55**	**~~5.21~~ 2.16**	**~~5.19~~ 1.92**
BAAQMD Threshold for Significant Operational Impacts	*10*	*10*	*15*	*10*
Potential Significant Impact?	No	No	No	No

NOTES: Operational mobile emissions were revised to align with more detailed project information from the Project Applicant.

Source: ESA and Ramboll (Appendix A to this document~~checklist~~) ~~and Ramboll Permit Application (Raven, 2022a)~~

Page 53, First paragraph: Addition of unit of measurement inserted and double-underlined, as follows:

> particular matter (DPM) generated during construction would be less than significant. Although the nearest sensitive receptor is located further than the 1,000-foot distance, Raven conducted a Health Risk Assessment (HRA) to quantify construction-related emissions and associated health risks due to DPM exposure during construction. The results of this analysis are presented in Appendix A. Even though an HRA was not

required based on adopted thresholds, the HRA demonstrates that health impacts are below significance thresholds, and the project would result in a less than significant impact during construction.

Page 53, Last sentence of first full paragraph: Table reference corrected, as follows:

Emissions from the loader were calculated using CalEEMod and included in the operational emissions, shown in **Table 4.3-43.** Reduced TAC emissions due to the reduction in flaring of landfill gas at the existing WCCSL flare were also quantified and included in this analysis.

Page 54, Last sentence of first full paragraph: Last row (*"Exceeds Significance Threshold"*) corrected, as follows:

TABLE 4.3-6
HEALTH RISK IMPACTS AT THE MAXIMUM EXPOSED SENSITIVE RECEPTORS

Risk Scenario / Receptor Type	Maximum Cancer Risk (per million)	Chronic Hazard Index	Acute Hazard Index	$PM_{2.5}$ concentration ($\mu g/m^3$)
Construction + Operations				
Worker	3.0	0.058	0.22	0.57
Resident	0.70	0.0086	0.0039	0.024
School	0.49	0.011	0.036	0.030
Clinic	0.46	0.0058	0.032	0.016
Landfill Reductions				
Worker	-5.7	-0.21	-0.49	-0.84
Resident	-1.3	-0.018	-0.10	-0.042
School	-0.81	-0.019	-0.091	-0.044
Clinic	-0.79	-0.011	-0.077	-0.026
Project Construction + Operations with Landfill Reductions				
Worker	-2.7	-0.16	-0.27	-0.27
Resident	-0.57	-0.009	-0.064	-0.018
School	-0.32	-0.0084	-0.055	-0.014
Clinic	-0.33	-0.0056	-0.045	-0.010
BAAQMD Threshold of Significance	*10.0*	*1.0*	*1.0*	*0.3*
Exceeds Significance Threshold?	No	No	No	No

NOTES: Numbers may not appear to sum correctly due to rounding.

SOURCE: Ramboll (Appendix A to this document)

Page 88, Table 4.8-3: Table source supplemented, as follows:

TABLE 4.8-3
UNMITIGATED ANNUAL OPERATIONAL GREENHOUSE GAS EMISSIONS

Source	GHG ($MTCO_2e$)
Process Operations	
Biogas Engines	16,398
Flare	205
Fire Pump Engines	2.5
Auxiliary Operations	
Area	<1
Energy	80.5
Mobile	~~262.6~~ 1909.2
Off-road	303.2
Waste	96.7
Water	17.0
Amortized Construction Emissions	6.2
~~Amortized Construction Emissions~~Landfill Flare Reductions (blended gas)	~~8.63~~ -9,019
Total Project GHG Emissions (blended gas)	**~~697.17~~ 9,999**
Landfill Flare Reductions (100% LFG)	-16,398
Total Project GHG Emissions (100% LFG)	**2,620**

NOTES:

A 30-year lifetime was assumed for the project, which was used to amortize construction emissions.

Landfill flare reductions were estimated based on the landfill gas usage of the Project biogas engines, which can operate using a blended gas consisting of at least 55 percent landfill gas and up to 100 percent landfill gas

$MTCO_2e$ = metric tons of carbon dioxide equivalent

Operational emissions are revised in this updated IS/MND to align with more detailed project information from the Project Applicant.

SOURCE: Data compiled by Environmental Science Associates and Ramboll. (See Appendix A to this document~~checklist~~.)

Page 110, Second paragraph: Text added, as follows:

Operation

The Raven SR system would run up to 24 hours per day, 7 days per week, although an average of 1.5 days per month are planned down times. The primary source of noise during project operation would be mechanical equipment associated with the Steam/CO_2 Reformation system, including heating systems, HVAC equipment. Also, feedstock would be physically deposited in the receiving area via self-unloading transfer trucks or other suitable vehicles. The hydrogen compressors are industrial pieces that could generate noise up to as much as 85 dBa at 1.0 meter. Additionally, trucks used to distribute fuels generated on the site would be maneuvering within the parking lot of the proposed facility. As detailed in Section 2.5 (*Technology*), the purified, high-pressure hydrogen is not proposed to be flared but vented if necessary, thereby avoiding potential noise emissions that could be created by the high-pressure release.