



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION IX  
75 Hawthorne Street  
San Francisco, CA 94105

SENT VIA EMAIL AS PDF

November 1, 2013

Truong T. Mai, P.E.  
Principal, Environmental Resources Management  
2875 Michelle Drive, Suite 200  
Irvine, California 92606

Subject: EPA Comments on Preliminary Design Report  
B.F. Goodrich Superfund Site, Source Area Operable Unit

Dear Mr. Mai:

We have reviewed the September 2013 Preliminary Design Report (the "PDR") for the Source Area Operable Unit (SAOU) at the B.F. Goodrich Superfund Site. The PDR was prepared by Environmental Resources Management (ERM) on behalf of Emhart Industries, Inc.

Our comments are enclosed. Please submit responses to our comments by November 15, 2013.

Please call or email with any questions.

Sincerely,

A handwritten signature in blue ink that reads "Wayne Praskins".

Wayne Praskins  
Project Manager

cc: Kurt Berchtold, Santa Ana Regional Water Quality Control Board  
Kamron Saremi, Santa Ana Regional Water Quality Control Board  
Rafat Abbasi, California Department of Toxic Substances Control  
Heather Balfour, ERM  
Joseph W. Hovermill, Miles & Stockbridge P.C.  
James L. Meeder Esq., Allen Matkins Leck Gamble Mallory & Natsis LLP  
Marcus Fuller, Rialto  
Deborah Schmall, Paul Hastings LLP  
Danielle Sakai, Best Best & Krieger LLP  
Penny Alexander-Kelley, San Bernardino County Counsel  
Sean McCarthy, California Department of Public Health

**EPA Comments on "Preliminary Design Report, Source Area Operable Unit, B.F. Goodrich Superfund Site, EPA ID: CAN000905945"**  
**Report prepared for Emhart Industries by Environmental Resources Management (ERM)**  
**(Report dated September 2013; EPA comments dated November 1, 2013)**

**SUBSTANTIVE COMMENTS**

No.	Location	Comment
#1.	Pg. 3, 1st Par.	The Preliminary Design Report (PDR) proposes submittal of a memorandum indicating how EPA's comments were incorporated into the pre-final design concurrently with the pre-final design submittal. We request submittal of responses to EPA's comments within 14 days of receipt, rather than concurrent with the pre-final design submittal.
#2.	Pg. 10, 1st Par	EPA approved a Work Plan and Sampling and Analysis Plan for the new monitoring wells after submittal of the PDR, on October 17, 2013.
#3.	Pg. 13, Sec 3.1.4.6	The PDR says that "The FAA develops engineering, design, and construction standards for civil airports." Does the FAA need to review and approve the design or any other work related to the project? If so, have communications been initiated with FAA representatives to ensure the project is not delayed awaiting FAA approval?
#4.	Pg. 14, Sec. 3.2.1	The boundaries of the Target Area should be reevaluated after installation and sampling of the new groundwater monitoring wells in early 2014.
#5.	Pg. 15, Sec. 3.2.3	<p>The PDR states that "Because the performance standards are based on the State or federal MCLs identified in the 2010 ROD, reductions of the State or Federal drinking water standards for COCs will not modify the performance standards for the Work."</p> <p>This statement is incorrect.</p> <p>First, not all Performance Standards are based on Maximum Contaminant Levels (MCLs). As noted in the PDR, the Performance Standards include cleanup standards, the Applicable or Relevant and Appropriate Requirements ("ARARs"), and other measures of achievement of the goals of the Remedial Action. Second, the proposed design includes the conveyance of treated groundwater to the city of Rialto drinking water supply distribution system and the wheeling of water from the Rialto distribution system to the Colton distribution system. To implement the design and serve water to Rialto and Colton, the treated water will need to satisfy all MCLs in effect at the time the water is served and any other requirements imposed by EPA or the California Department of Public Health to ensure that the treated water provides a reliable supply of safe drinking water (i.e., MCLs in effect at the time the water is served will be performance standards for the remedy).</p>
#6.	Pg. 15, Sec. 3.2.3	The PDR lists the cleanup standard for chloroform as 80 ug/L. There is an 80 ug/L standard for total trihalomethanes, but no EPA or State MCL specifically for chloroform.
#7.	Pg. 16	The PDR states that up to 3,370 gallons per minute (gpm) in "currently available water rights" are available for the combined County/SAOU remedies. We understand that this value is based on the average elevation of spring-high water levels in the Rialto Basin "Index Wells" (Index Well average). As noted in the text, water levels have substantially declined over the last decade and will continue to decline absent changes in pumping or recharge, resulting in a reduction of available water rights.

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		<p>Given these conditions, please specify the following:</p> <ul style="list-style-type: none"> <li>- the Index Well average that corresponds to the 3,370 gpm value;</li> <li>- the number of feet that the Index Well average can drop before the available Rialto and Colton rights are inadequate;</li> <li>- the year that the available Rialto and Colton rights will become inadequate if the recent declining trend in the Index Well average continues.</li> </ul>
#8.	Pg. 18, Sec 4.2.1, 2nd Par.	The PDR lists several scenarios that may prompt installation of a second new extraction well (EW-2). These include: 1) a hydraulic capture analysis indicating insufficient capture or 2) monitoring well results indicating more westerly groundwater flow, There are additional scenarios that may prompt installation of a second extraction well, such as the determination that the SAOU Target Area is larger than currently assumed.
#9.	Pg. 18, Sec. 4.2.1, 2 <sup>nd</sup> bullet	The proposed screen interval for EW-1 is approximately 480 to 710 feet below ground surface (bgs). Considering the elevated perchlorate concentrations in the deepest port in PW-5 and the estimated vertical extent of contamination illustrated in Figure 3, the EW-1 screened interval should extend down to a target depth of about 750 feet bgs. We also recommend that the top of the screen be raised about 10', so that the screen interval is approximately 470 to 750 feet bgs.
#10.	Pg. 19, 1 <sup>st</sup> Par.	The proposed maximum pumping rate for EW-1 is 2,040 gpm, 20% above the estimated average rate of 1,700 gpm. Given the inherent uncertainty in modeling results, the potential for future changes in groundwater flow and contaminant conditions, and the potential need to adjust production seasonally to accommodate fluctuations in water demand, a larger "safety factor" is warranted. We request a peak design rate of about 2,250 gpm for EW-1.
#11.	Pg. 19, Sec 4.2.2	<p>The PDR notes that the Miro wells are equipped with 480 volt, 400 HP pumps. The succeeding text notes that pumps with motors sized in excess of 400 HP typically require 5 kV to operate (an order-of-magnitude higher than listed for the Miro wells).</p> <p>Although a hydraulic analysis is planned to determine pump sizing, please indicate whether ERM anticipates needing a larger pump for EW-1 and clarify the likely power requirements.</p>
#12.	Pg. 20, Sec. 4.2.4	The proposed screen interval for the shallower piezometer is 40 feet, but the text states that 50-foot intervals will be used. Please clarify. In addition, the deeper screened interval should be lowered consistent with the deeper screened interval requested for EW-1.
#13.	Pg. 20, Sec. 4.3, 1 <sup>st</sup> bullet	The length of the untreated groundwater conveyance line shown in Figure 7 looks to be closer to 4,000 linear feet, not 6,000 feet as listed in the text (and in several other locations throughout the report).
#14.	Pg. 21, 2 <sup>nd</sup> par.	Will a flow meter and totalizer also be required on the connection between the Rialto and Colton distribution systems to measure the amount of water provided to Colton?
#15.	Pg. 23, 2 <sup>nd</sup> bullet	See comment #13 regarding the pipeline length.
#16.	Pg. 25, 2 <sup>nd</sup> Par.	The text lists a design capacity of the County Remedy Treatment Plant of 2,200 gpm. Please explain the basis for this value. Is it the operational limit included in the CDPH 97-005 Permit Amendment or is it based on hydraulic capacity of the system components?
#17.	Pg. 26, 2 <sup>nd</sup>	The expected and reasonable worst-case conditions described in the text and presented in Table 3 do not appear to cover the full range of potential operations. The "expected"

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	Par.	<p>conditions need to account for the seasonal flow variations incorporated into the County's Rialto-3 operations, not just the annual average. Table 3 should include projected influent concentrations when the Rialto-3 well is pumping at the low end (1,100 gpm) and high end (1,800 gpm) of its typical operational range.</p> <p>The worst-case scenario presented in Table 3 is not a worst-case for contaminant loading at the treatment plant because the assumed flow rate is only 2,040 gpm. Although assuming only EW-1 is pumping results in higher influent concentrations, a more representative worst-case scenario would be to have both EW-1 and Rialto-3 pumping at close to maximum rates such that the total flow is closer to the treatment plant design capacity of 4,200 gpm.</p>
#18.	Pg. 26, Sec. 4.4.3, 2 <sup>nd</sup> bullet	The PDR proposes that the effluent requirement for perchlorate be equal to an administrative level set by the CA DPH (the 4 ug/L "detection limit for purpose of reporting" [DLR]). The treatment plant should be designed to reduce perchlorate concentrations to below 1 ug/L. Commercial laboratories should be able to easily achieve a reporting limit at or below 1 ug/L.
#19.	Pg. 26, Sec. 4.4.3, 2 <sup>nd</sup> bullet	Effluent limits should also be specified for VOC COCs. The CA DPH DLRs for carbon tetrachloride, methylene chloride, and TCE (0.5 ug/L) are acceptable.
#20.	Pg. 26, Sec. 4.4.4	There is a reference to Table 2 for the maximum extraction rate. However, Table 2 does not include flow rates.
#21.	Pg. 27, 1 <sup>st</sup> Par.	How was the 2,200 gpm capacity of the existing County system determined? (see also Comment #16)
#22.	Pg. 28, 1 <sup>st</sup> Par.	The proposed process flow diagram shown in Figure 11 shows that the proposed expansion is essentially a duplicate of the current treatment vessels. Please provide additional support for the proposed design considering that the perchlorate loading is projected to be more than 10 times higher than in the current system, and the concerns expressed by CA DPH. Please comment on the value of adding a third vessel in series (lead-lag-lag) or adding an additional parallel pair of vessels in lead-lag configuration.
#23.	Pg. 31, 3 <sup>rd</sup> bullet	This bullet references a fine particle bag filter. The text suggests that the filters will be located at the treatment plant, but Figure 11 indicates that the new filters will be located at the EW-1 wellhead. Please clarify.
#24.	Pg. 31, 4 <sup>th</sup> bullet	See Comment #13 regarding the pipeline length.
#25.	Pg. 32, Sec 4.7.1	Waste materials must be disposed at EPA "offsite rule" approved facilities in accordance with EPA policy (and paragraph 21 of the Emhart Consent Decree).
#26.	Pg. 32, Sec. 4.7.2	There will be additional waste streams during system startup and operation, including: 1) CDPH-required testing of the treatment system; and 2) after a system upset, possible discharges to waste needed to demonstrate that the treated water is suitable for potable use.
#27.	Table 4, Sheet 7	Are two discharge piping drawings needed, one for the connection from the treatment plant to Rialto's system and one from Rialto's system to Colton's system?
#28.	Table 4	It doesn't appear that there are P&IDs included that cover the equipment (valves, flow meter, sample port, communication equipment) and controls for the connection between Rialto and Colton.

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#29.	Figure 10	The drawing does not show any waste lines associated with the existing carbon system or any backwash supply lines. In addition, there needs to be a waste line from EW-1 to the infiltration pond (regardless of which well development discharge option is selected).
#30.	Figure 11	<p>The typical and maximum design flows listed under the "Expected" section are incorrect as they don't account for the normal operating range of Rialto-3.</p> <p>The maximum TCE concentrations listed for locations 7 - 9, and the maximum perchlorate concentrations for locations 5 - 9, are too high (&lt;2.5 ug/L for TCE; &lt; 4 ug/L for perchlorate). See Comments #18-19.</p> <p>The "Worst Case" section does not include worst case conditions as it assumes no pumping from Rialto-3 (see Comment #17).</p>

### MINOR COMMENTS/TYPOS

#1.	Pg. 12, Sec 3.1.4.5	The text refers to "State Board Resolution 97-005." The correct reference is "Policy Memo 97-005 Policy Guidance for Direct Domestic Use of Extremely Impaired Sources," adopted by the California Department of Health Services.
#2.	Pg. 18, Sec 4.2.1	The PDR states that "Extraction Well EW-1 is located approx. 2,500 feet south of Interstate Highway 210 and west of the Rialto Municipal Airport, at the intersection of Leiske Drive and North Ayala Drive (Figure 4)." EW-1 is located east, not west, of the airport.
#3.	Pg. 30	"Effectuated" should be "affected"
#4.	Pg. 30, <u>Equip. Failure.</u>	The PDR states that "Appropriate interlocking to affect the power outage shutdown actions will be addressed during the intermediate design phase of the project." We assume that this topic will be addressed in the prefinal design submittal.
#5.	Pg.31, 3 <sup>rd</sup> bullet	Missing comma in 2nd line
#6.	Pg. 37, Sec 5.2.2	Misplaced "with" in last line
#7.	Table 2	Footnote 2 is mis-located.

**Enclosure to 1 November 2013 USEPA letter**  
**USEPA Comments on "Preliminary Design Report, Source Area Operable Unit, B.F. Goodrich Superfund Site"**  
**Prepared for Emhart Industries by Environmental Resources Management (ERM)**  
**(Work Plan dated September 2013)**

**SUBSTANTIVE COMMENTS**

No.	Location	Comment
#1.	Page 3, 1 <sup>st</sup> Para.	<p><b>Comment:</b> The Preliminary Design Report (PDR) proposes submittal of a memorandum indicating how EPA's comments were incorporated into the pre-final design concurrently with the pre-final design submittal. We request submittal of responses to EPA's comments within 14 days of receipt, rather than concurrent with the pre-final design submittal.</p>
		<p><b>Response:</b> This response to comments is being submitted as requested.</p>
#2.	Page 10, 1 <sup>st</sup> Para.	<p><b>Comment:</b> EPA approved a Work Plan and Sampling and Analysis Plan for the new monitoring wells after submittal of the PDR, on October 17, 2013.</p>
		<p><b>Response:</b> Correct. Emhart submitted the Final Monitoring Well Installation Work Plan/Field Sampling Plan on 1 November 2013 in accordance with the 25 September 2013 response to comments, which U.S. Environmental Protection Agency (USEPA) approved in its 17 October 2013 letter.</p>
#3.	Page 13, Sec. 3.1.4.6	<p><b>Comment:</b> The PDR says that "The FAA develops engineering, design, and construction standards for civil airports." Does the FAA need to review and approve the design or any other work related to the project? If so, have communications been initiated with FAA representatives to ensure the project is not delayed awaiting FAA approval?</p>
		<p><b>Response:</b> Based on ERM's previous experience at airports with these types of activities, the Federal Aviation Administration (FAA) will not need to review and approve the design. Applicable notifications will be provided to FAA prior to any work on airport property. In conversations with the City of Rialto and the land developer for this area, Emhart understands that the airport will be shut down within the next year.</p>
#4.	Page 14, Sec. 3.2.1	<p><b>Comment:</b> The boundaries of the Target Area should be reevaluated after installation and sampling of the new groundwater monitoring wells in early 2014.</p>
		<p><b>Response:</b> Emhart will re-evaluate the boundaries of the Target Area as appropriate based on monitoring data and remedy performance.</p>

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#5.	Page 15, Sec. 3.2.3	<p><b>Comment:</b> The PDR states that "Because the performance standards are based on the State or federal MCLs identified in the 2010 ROD, reductions of the State or Federal drinking water standards for COCs will not modify the performance standards for the Work." This statement is incorrect. First, not all Performance Standards are based on Maximum Contaminant Levels (MCLs). As noted in the PDR, the Performance Standards include cleanup standards, the Applicable or Relevant and Appropriate Requirements ("ARARs"), and other measures of achievement of the goals of the Remedial Action. Second, the proposed design includes the conveyance of treated groundwater to the city of Rialto drinking water supply distribution system and the wheeling of water from the Rialto distribution system to the Colton distribution system. To implement the design and serve water to Rialto and Colton, the treated water will need to satisfy all MCLs in effect at the time the water is served and any other requirements imposed by EPA or the California Department of Public Health to ensure that the treated water provides a reliable supply of safe drinking water (i.e., MCLs in effect at the time the water is served will be performance standards for the remedy).</p> <p><b>Response:</b> The statement made in Section 3.2.3 is correct in regards to the performance standards for the hydraulic capture system. Because the treated groundwater will be used as City of Rialto and City of Colton drinking water supply, the treatment will need to comply with all California Department of Public Health (CDPH) permit requirements for distribution.</p>
#6.	Page 15, Sec. 3.2.3	<p><b>Comment:</b> The PDR lists the cleanup standard for chloroform as 80 µg/L. There is an 80 µg/L standard for total trihalomethanes, but no EPA or State MCL specifically for chloroform.</p> <p><b>Response:</b> Comment noted.</p>
#7.	Page 16	<p><b>Comment:</b> The PDR states that up to 3,370 gallons per minute (gpm) in "currently available water rights" are available for the combined County/SAOU remedies. We understand that this value is based on the average elevation of spring-high water levels in the Rialto Basin "Index Wells" (Index Well average). As noted in the text, water levels have substantially declined over the last decade and will continue to decline absent changes in pumping or recharge, resulting in a reduction of available water rights.</p> <p>Given these conditions, please specify the following:</p> <ul style="list-style-type: none"> <li>- the Index Well average that corresponds to the 3,370 gpm value;</li> <li>- the number of feet that the Index Well average can drop before the available Rialto and Colton rights are inadequate;</li> <li>- the year that the available Rialto and Colton rights will become inadequate if the recent declining trend in the Index Well average continues.</li> </ul>

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		<p><b>Response:</b> The currently available water rights for the Combined Remedy identified with the Preliminary Design Report (PDR), is based on the 2013 average Index Wells elevation of 952.33 feet above mean sea level. Assuming a Combined Remedy extraction rate of 3,000 gallons per minute (gpm), the average elevation of the Index Wells can drop an additional approximately 8 feet before the available water rights are inadequate. Regarding potential, future declining rights, it is not now possible to predict especially given the pending litigation and potential recharge activities; an answer will be further developed during the four-party implementation agreement negotiations.</p>
#8.	Page 18, Section 4.2.1, 2 <sup>nd</sup> Para.	<p><b>Comment:</b> The PDR lists several scenarios that may prompt installation of a second new extraction well (EW-2). These include: 1) a hydraulic capture analysis indicating insufficient capture or 2) monitoring well results indicating more westerly groundwater flow, There are additional scenarios that may prompt installation of a second extraction well, such as the determination that the SAOU Target Area is larger than currently assumed.</p> <p><b>Response:</b> Comment noted. The evaluation of the need for installation of a second new extraction well (EW-2) will be based on actual remedy performance and monitoring data gathered over time.</p>
#9.	Page 18, Section 4.2.1, 2 <sup>nd</sup> Bullet	<p><b>Comment:</b> The proposed screen interval for EW-1 is approximately 480 to 710 feet below ground surface (bgs). Considering the elevated perchlorate concentrations in the deepest port in PW-5 and the estimated vertical extent of contamination illustrated in Figure 3, the EW-1 screened interval should extend down to a target depth of about 750 feet bgs. We also recommend that the top of the screen be raised about 10', so that the screen interval is approximately 470 to 750 feet bgs.</p> <p><b>Response:</b> The estimated vertical extent of impacted groundwater in the vicinity of EW-1, as depicted on Figure 3 of the PDR, extends from the water table at approximately 430 feet below ground surface (ft bgs) to about 710 ft bgs. Raising the top of the screened interval by 10 feet to about 470 ft bgs allows only approximately 40 feet to accommodate drawdown and potential declining water levels before the screen is exposed. Using an average hydraulic conductivity and assuming 94 percent well efficiency results in a predicted EW-1 drawdown of 27.8 feet, leaving only about 12 feet for potential water level declines before the screen is exposed. Thus, Emhart would prefer to have the top of the EW-1 screened interval remain at approximately 480 feet bgs. Locating the bottom of the screen to 750 ft bgs extends the screen about 40 feet below the estimated lower extent of impacted groundwater at the EW-1. Because the precise depth of impact at the EW-1 location is not known, we believe extending the bottom of the</p>

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		<p>screened interval to 750 ft bgs would allow for more remedy coverage, noting that perchlorate and trichloroethene (TCE) are non- detect at EPA-MW9B and PW-6E. Again, as stated in the PDR, final actual well construction may be modified, in consultation with USEPA, based on lithological and geophysical logging data obtained during drilling.</p>
#10	Page 19, 1 <sup>st</sup> Para.	<p><b>Comment:</b> The proposed maximum pumping rate for EW-1 is 2,040 gpm, 20% above the estimated average rate of 1,700 gpm. Given the inherent uncertainty in modeling results, the potential for future changes in groundwater flow and contaminant conditions, and the potential need to adjust production seasonally to accommodate fluctuations in water demand, a larger “safety factor” is warranted. We request a peak design rate of about 2,250 gpm for EW-1.</p> <p><b>Response:</b> Typically, equipment should be oversized at a minimum of 10 percent to provide a suitable margin between fluctuations in normal operation. An approximate safety factor, or over-design factor of 20 percent is recommended when sizing equipment to account for fluctuations in service expected or anticipated with respect to "normal" operation, as well as provisions for future developments, expansion, decrease in efficiency over a period of time, and uncertainty of process conditions and operating parameters (Ref#1). As the system’s operational throughput will be limited by the available water rights and CDPH permit discharge limitations, a 20 percent over-design factor, which is two times the standard minimum, is sufficient. The difference between a peak design flow rate of 2,250 gpm and 2,040 gpm is 210 gpm. Increasing to design the flow rate by 210 gpm will result in upsizing the conveyance pipelines, ion exchange resin and carbon vessels, bag filter units, and extraction pump, all of which will unnecessarily increase the capital, construction, and operating costs once the plant is in operation. Further, the existing County Remedy has some excess capacity which would provide an additional factor of safety.</p> <p>Ref#1: <i>Plant Design and Economics for Chemical Engineers, Table 6, Chapter 2; Peters and Timmerhaus, 1991.</i></p>
#11	Page 19, Sec. 4.2.2	<p><b>Comment:</b> The PDR notes that the Miro wells are equipped with 480 volt, 400 HP pumps. The succeeding text notes that pumps with motors sized in excess of 400 HP typically require 5 kV to operate (an order-of-magnitude higher than listed for the Miro wells).</p> <p>Although a hydraulic analysis is planned to determine pump sizing, please indicate whether ERM anticipates needing a larger pump for EW-1 and clarify the likely power requirements.</p>

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		<p><b>Response:</b> It was anticipated that the pump for EW-1 will be similar in size to the Miro wells and be approximately 400 HP or less. Ultimately the pump size and electrical power requirements will be based on both the final well performance objectives, and the available electrical supply within Edison’s power grid in the vicinity of the well, respectively. The well location will need to be communicated to Edison along with the final pumping requirements to determine available power in the grid and whether standard 480 volt or 4,160 volt power will be required. In either case, the power available in the Edison grid will require a pad-mounted transformer at the wellhead to supply power to the pump and other controls. Power supply and pumping requirements will be specified in the pre-final design.</p>
#12	Page 20, Sec. 4.2.4	<p><b>Comment:</b> The proposed screen interval for the shallower piezometer is 40 feet, but the text states that 50-foot intervals will be used. Please clarify. In addition, the deeper screened interval should be lowered consistent with the deeper screened interval requested for EW-1.</p> <p><b>Response:</b> The piezometers will have 50-foot screened intervals and will correspond to the screened intervals of EW-1 as constructed (that is, the shallow piezometer will be screened for 50 feet beginning at the top of the EW-1 screened interval and the deep piezometer will be screened for 50 feet, terminating at the bottom of the EW-1 screened interval).</p>
#13	Page 20, Sec. 4.3, 1 <sup>st</sup> Bullet	<p><b>Comment:</b> The length of the untreated groundwater conveyance line shown in Figure 7 looks to be closer to 4,000 linear feet, not 6,000 feet as listed in the text (and in several other locations throughout the report).</p> <p><b>Response:</b> Comment noted; the distance is approximately 4,000 linear feet.</p>
#14	Page 21, 2 <sup>nd</sup> Para.	<p><b>Comment:</b> Will a flow meter and totalizer also be required on the connection between the Rialto and Colton distribution systems to measure the amount of water provided to Colton?</p> <p><b>Response:</b> The connection point between the Rialto and Colton distribution systems is being designed based on requirements from both cities. Based on discussions during the 5 November 2013 meeting with Emhart and the cities, a flow meter with totalizer will be included at the point of delivery for water from Rialto to Colton.</p>

No.	Location	Comment
#15	Page 23, 2 <sup>nd</sup> Bullet	<b>Comment:</b> See comment #13 regarding the pipeline length.
		<b>Response:</b> Comment noted; the distance is approximately 4,000 linear feet.
#16	Page 25, 2 <sup>nd</sup> Para.	<b>Comment:</b> The text lists a design capacity of the County Remedy Treatment Plant of 2,200 gpm. Please explain the basin for this value. Is it the operational limit included in the CDPH 97-005 Permit Amendment or is it based on hydraulic capacity of the system components?
		<b>Response:</b> The design capacity identified within the PDR is based on information provided by the County. The 2,200-gpm capacity is the permitted amount. In conversations with County representatives, Emhart understands that the actual system capacity is slightly less, approximately 1,900 gpm, and is limited by flow through the existing ion exchange resin vessels.
#17	Page 26, 2 <sup>nd</sup> Para.	<b>Comment:</b> The expected and reasonable worst-case conditions described in the text and presented in Table 3 do not appear to cover the full range of potential operations. The “expected” conditions need to account for the seasonal flow variations incorporated into the County’s Rialto-3 operations, not just the annual average. Table 3 should include projected influent concentrations when the Rialto-3 well is pumping at the low end (1,100 gpm) and high end (1,800 gpm) of its typical operational range.
		The worst-case scenario presented in Table 3 is not a worst-case for contaminant loading at the treatment plant because the assumed flow rate is only 2,040 gpm. Although assuming only EW-1 is pumping results in higher influent concentrations, a more representative worst-case scenario would be to have both EW-1 and Rialto-3 pumping at close to maximum rates such that the total flow is closer to the treatment plant design capacity of 4,200 gpm.
		<b>Response:</b> Emhart acknowledges that the treatment system needs to be designed based on reasonable, worst-case scenarios for both flow and concentrations.
		For concentrations, the reasonable worst-case scenario is when the system operates with only EW-1 in operation due to the anticipated perchlorate concentrations at this location.
		For flow rates, the reasonable worst-case scenario will be when the County Remedy operates at the high-end flow rate of its operational range (i.e., during the summer months). The specifics of the operational flow rates are being determined in the design process as part of the Implementation Agreement.
		The design of the treatment equipment will be based on the reasonable, worst-case scenarios for both concentration and flow rates.

No.	Location	Comment
#18	Page 26, Sec. 4.4.3, 2 <sup>nd</sup> Bullet	<p><b>Comment:</b> The PDR proposes that the effluent requirement for perchlorate be equal to an administrative level set by the CA DPH (the 4 µg/L "detection limit for purpose of reporting" [DLR]). The treatment plant should be designed to reduce perchlorate concentrations to below 1 µg/L. Commercial laboratories should be able to easily achieve a reporting limit at or below 1 µg/L.</p>
		<p><b>Response:</b> As stated in Section 4.4.3, the effluent requirements are specific to each source, but will likely be similar to existing CDPH Permit 71-009, as amended. The values listed in Section 4.4.3 are from the May 2006 Amended City of Rialto permit:</p> <p>“All water leaving the treatment facility shall have perchlorate concentrations below the detection limit established by the Department, presently 4 µg/L.”</p> <p>Emhart anticipates CDPH will apply similar system effluent limits as part of the amended or new permit for the Combined Remedy.</p>
#19	Page 26, Sec. 4.4.3, 2 <sup>nd</sup> Bullet	<p><b>Comment:</b> Effluent limits should also be specified for VOC COCs. The CA DPH DLRs for carbon tetrachloride, methylene chloride, and TCE (0.5 µg/L) are acceptable.</p>
		<p><b>Response:</b> As stated in Section 4.4.3, the effluent requirements are specific to each source, but will likely be similar to existing CDPH Permit 71-009, as amended. The existing permit limits are Maximum Contaminant Levels (MCLs) established by CDPH.</p>
#20	Page 26, Sec. 4.4.4	<p><b>Comment:</b> There is a reference to Table 2 for the maximum extraction rate. However, Table 2 does not include flow rates.</p>
		<p><b>Response:</b> The reference should have been for Table 3.</p>
#21	Page 27, 1 <sup>st</sup> para.	<p><b>Comment:</b> How was the 2,200 gpm capacity of the existing County system determined? (see also Comment #16)</p>
		<p><b>Response:</b> Please see Response to Comment #16. The design capacity identified within the PDR is based on information provided by the County. The 2,200-gpm capacity is the permitted amount.</p>

No.	Location	Comment
#22	Page 28, 1 <sup>st</sup> Para.	<p><b>Comment:</b> The proposed process flow diagram shown in Figure 11 shows that the proposed expansion is essentially a duplicate of the current treatment vessels. Please provide additional support for the proposed design considering that the perchlorate loading is projected to be more than 10 times higher than in the current system, and the concerns expressed by CA DPH. Please comment on the value of adding a third vessel in series (lead-lag-lag) or adding an additional parallel pair of vessels in lead-lag configuration.</p> <p><b>Response:</b> As stated in response to Comment #17, the design of the treatment equipment will be based on the reasonable, worst-case scenarios for both concentration and flow rates. Specifically, the perchlorate treatment system ion exchange vessels will be sized based upon the required resin bed volume to meet the performance standards. The resin bed volume is a function of both influent target and inorganic groundwater concentrations and groundwater throughput. Emhart is currently evaluating the perchlorate treatment system resin bed volume size, which will dictate the need for alternate configurations to maximize the run time of the system. These alternate configurations may include: multiple treatment trains (additional parallel pair of vessels in lead-lag configuration) or adding a third vessel in series (lead-lag-lag configuration).</p>
#23	Page 31, 3 <sup>rd</sup> Bullet	<p><b>Comment:</b> This bullet references a fine particle bag filter. The text suggests that the filters will be located at the treatment plant, but Figure 11 indicates that the new filters will be located at the EW-1 wellhead. Please clarify.</p> <p><b>Response:</b> The bag filters need to be located between the extraction well at the Jerry Eaves Park and the reservoir tank at the treatment plant. Ideally locating the filters at the wellhead prevents sediment from entering the transmission line. Based on ongoing discussions with the City of Rialto, limited space is available for the compound at the Jerry Eaves Park, which may not allow for location of the filters. At this time, it is anticipated that the bag filters will likely be located at the treatment plant.</p>
#24	Page 31, 4 <sup>th</sup> Bullet	<p><b>Comment:</b> See Comment #13 regarding the pipeline length.</p> <p><b>Response:</b> Comment noted; please see Response to Comment #13.</p>
#25	Page 32, Sec. 4.7.1	<p><b>Comment:</b> Waste materials must be disposed at EPA "offsite rule" approved facilities in accordance with EPA policy (and paragraph 21 of the Emhart Consent Decree).</p> <p><b>Response:</b> Comment noted; this will be incorporated in the remedial action planning deliverables as appropriate.</p>

No.	Location	Comment
#26	Page 32, Sec. 4.7.2	<b>Comment:</b> There will be additional waste streams during system startup and operation, including: 1) CDPH-required testing of the treatment system; and 2) after a system upset, possible discharges to waste needed to demonstrate that the treated water is suitable for potable use.
		<b>Response:</b> Comment noted; this is being incorporated into the design.
#27	Table 4, Sheet 7	<b>Comment:</b> Are two discharge piping drawings needed, one for the connection from the treatment plant to Rialto's system and one from Rialto's system to Colton's system?
		<b>Response:</b> Yes, drawings will be required for all segments of water transmission lines.
#28	Table 4	<b>Comment:</b> It doesn't appear that there are P&IDs included that cover the equipment (valves, flow meter, sample port, communication equipment) and controls for the connection between Rialto and Colton.
		<b>Response:</b> P&IDs for the connection between Rialto and Colton will be included within the plans and specifications of the Pre-Final Design.
#29	Figure 10	<b>Comment:</b> The drawing does not show any waste lines associated with the existing carbon system or any backwash supply lines. In addition, there needs to be a waste line from EW-1 to the infiltration pond (regardless of which well development discharge option is selected).
		<b>Response:</b> The pre-final design will include waste lines associated with the existing carbon system and backwash system. Figure 7 includes a segment of piping to divert pump-to-waste liquids to the Infiltration Pond. This will also be incorporated into the Pre-Final Design.
#30		<b>Comment:</b> The typical and maximum design flows listed under the "Expected" section are incorrect as they don't account for the normal operating range of Rialto-3. The maximum TCE concentrations listed for locations 7 - 9, and the maximum perchlorate concentrations for locations 5 - 9, are too high (<2.5 µg/L for TCE; < 4 µg/L for perchlorate). See Comments #18-19. The "Worst Case" section does not include worst case conditions as it assumes no pumping from Rialto-3 (see Comment #17).
		<b>Response:</b> See response to Comment #17. The design of the treatment equipment will be based on the reasonable, worst-case scenarios for both concentration and flow rates.

MINOR COMMENTS/TYPOS

No.	Location	Comment
#1.	Page 12, Sec. 3.1.4.5	<p><b>Comment:</b> The text refers to "State Board Resolution 97-005." The correct reference is "Policy Memo 97-005 Policy Guidance for Direct Domestic Use of Extremely Impaired Sources," adopted by the California Department of Health Services.</p> <p><b>Response:</b> Comment noted.</p>
#2.	Page 18, Sec. 4.2.1	<p><b>Comment:</b> The PDR states that "Extraction Well EW-1 is located approx. 2,500 feet south of Interstate Highway 210 and west of the Rialto Municipal Airport, at the intersection of Leiske Drive and North Ayala Drive (Figure 4)." EW-1 is located east, not west, of the airport.</p> <p><b>Response:</b> Correct, the text should be:</p> <p>"Extraction Well EW-1 is located approximately 2,500 feet south of Interstate Highway 210 and east of the Rialto Municipal Airport, at the intersection of Leiske Drive and North Ayala Drive (Figure 4)."</p>
#3.	Page 30	<p><b>Comment:</b> "Effected" should be "affected"</p> <p><b>Response:</b> Correct, the sections should be:</p> <p><u>Power Outage</u> In the event of a power outage, all affected wells and pumps will shut down. At the County Remedy Treatment Plant, there is an Uninterruptable Power Supply (UPS) installed to maintain power to the control systems. A similar system will be installed in the extraction well enclosure for the new extraction well.</p> <p><u>Equipment Failure</u> To the extent possible, equipment failures will cause the affected equipment to shut down and alarm the system. A PLC failure will shut down the affected system. In the event of a catastrophic PLC failure at the Treatment Plant, all equipment at the treatment plant and all remote wells will shut down. A PLC failure at the new extraction well will only shut down equipment at the well site. Appropriate interlocking to affect the power outage shutdown actions will be addressed during the intermediate design phase of the project."</p>

No.	Location	Comment
#4.	Page 30, <u>Equip.</u> <u>Failure.</u>	<b>Comment:</b> The PDR states that "Appropriate interlocking to affect the power outage shutdown actions will be addressed during the intermediate design phase of the project." We assume that this topic will be addressed in the prefinal design submittal.
		<b>Response:</b> Correct, the Pre-Final Design will address this topic.
#5.	Page 31, 3 <sup>rd</sup> Bullet	<b>Comment:</b> Missing comma in 2nd line.
		<b>Response:</b> Correct, the bullet should be: <ul style="list-style-type: none"> <li>• "A groundwater treatment system, consisting of ion exchange vessels, LGAC vessels, fine particle bag filter unit, booster pump, and hypochlorination injection unit capable of treating up to 2,040 gpm of VOC- and perchlorate-impacted groundwater extracted from the Target Area; and"</li> </ul>
#6.	Page 37, Sec. 5.2.2	<b>Comment:</b> Misplaced "with" in last line.
		<b>Response:</b> Correct, the sentence should be: <p>"If it is determined that EW-1 well development water will need to be conveyed to the treatment plant for either discharge into the existing infiltration pond, or treatment through the plant, then the segment of pipeline between EW-1 and the treatment plant may be constructed concurrently or prior to the installation of EW-1."</p>
#7.	Table 2	<b>Comment:</b> Footnote 2 is mis-located.
		<b>Response:</b> There is no Footnote 2 on Table 2. Emhart believes the USEPA is referring to Table 3. Comment acknowledged.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION IX  
75 Hawthorne Street  
San Francisco, CA 94105

SENT VIA EMAIL AS PDF

November 18, 2013

Truong T. Mai, P.E.  
Principal, Environmental Resources Management  
2875 Michelle Drive, Suite 200  
Irvine, California 92606

Subject: EPA Approval of Preliminary Design Report  
B.F. Goodrich Superfund Site, Source Area Operable Unit

Dear Mr. Mai:

We have reviewed the responses to EPA's comments on the Preliminary Design Report ("PDR") for the Source Area Operable Unit ("SAOU") at the B.F. Goodrich Superfund Site. The responses to comments ("RTC") were transmitted by email on November 15, 2013; EPA's comments are dated November 1, 2013; and the PDR is dated September 2013. The PDR and RTC were prepared by Environmental Resources Management (ERM) on behalf of Emhart Industries, Inc.

We hereby approve the PDR. Nevertheless, we have several concerns with the RTC that, if not adequately addressed, may affect EPA's approval of the remedial design. Our concerns are summarized in the following comments.

Comment #1 (Response to EPA Comment #3, which addresses Pg. 13, Sec 3.1.4.6 of the PDR): EPA asked whether the FAA needs to review and approve the design. The RTC states that "Based on ERM's previous experience at airports with these types of activities, the Federal Aviation Administration (FAA) will not need to review and approve the design."

Please make contact with the FAA to confirm your understanding that the FAA will not need to review and approve the design.

Comment #2 (RTC#4, Pg. 14, Sec. 3.2.1): EPA requested that the boundaries of the Target Area be reevaluated after installation and sampling of the new groundwater monitoring wells in early 2014. The RTC states that "Emhart will re-evaluate the boundaries of the Target Area as appropriate based on monitoring data and remedy performance."

The response does not indicate the timing of the reevaluation. A reevaluation is appropriate after sampling data are available in 2014 from installation of the new groundwater monitoring wells. Data should be available well before the remedy becomes operational.

Comment #3 (RTC # 7, Pg. 16): EPA requested information related to water rights and declining water levels in the Rialto-Colton groundwater basin. The RTC partially responds to EPA's request, providing the Index Well average water level corresponding to the available water rights (952.33 feet above mean sea level), and stating that if water levels drop another 8 feet the available rights will be inadequate.

The RTC did not, as EPA requested, estimate the year that the available Rialto and Colton rights will become inadequate if the recent declining trend in the Index Well average continues. We have performed the calculation. On average, the calculated water level at the index wells declined at a rate of 3.1 feet per year over the last 10 years (2004-2013). At that rate, water rights will become inadequate by 2016, not long after the remedy is scheduled to begin operation. Given the risk of further decline, Emhart should continue discussions with water rights holders in the basin to ensure that adequate rights are available to operate the remedy.

Comment #4 (RTC # 8, Pg. 18, Sec 4.2.1, 2nd Par.): EPA listed several scenarios that may prompt installation of a second new extraction well (EW-2). The RTC states that "The evaluation of the need for installation of a second new extraction well (EW-2) will be based on actual remedy performance and monitoring data gathered over time."

As we have commented before, new data may warrant installation of a second new extraction well before the remedy begins operation.

Comment #5 (RTC # 9, Pg. 18, Sec. 4.2.1, 2nd bullet): EPA requested changes in the top and bottom of the screen interval (raising the top by 10' and lowering the bottom by 40'). The RTC expresses a preference to keep the top of the screen interval as proposed. The RTC is not clear on whether Emhart has agreed to deepen the bottom of the screen interval.

EPA accepts leaving the top of the screen at 480' below ground surface (bgs). However, based on the contamination present in PW-7f (750-760' bgs), we will not approve an EW-1 screened interval that only extends down to 710' bgs. We expect the borehole to be drilled and logged to at least 760' bgs to provide information to support selection of the screened interval.

Comment #6 (RTC #10, Pg. 19, 1st Par.): EPA recommended that the peak design rate for EW-1 be increased from 2,040 to 2,250 gpm due to uncertainty in modeling results, the potential for future changes in groundwater flow and contaminant conditions, and the potential need to adjust production seasonally to accommodate fluctuations in water demand. The RTC declines to increase the peak rate.

EPA still believes that incorporating a higher design capacity for EW-1 is warranted. For EPA to consider approving the 2,040 gpm capacity in the Final Design, Emhart will need to provide additional information on expected resin change-out frequencies and have firm commitments from water purveyors to accept the 1,700 gpm from EW-1 on a continuous, year-round basis without substantial seasonal variability.

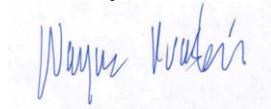
Comment #7 (RTC # 16, Pg. 25, 2nd Par): EPA asked about the basis for design capacity of the County Remedy Treatment Plant specified in the PDR. The RTC states that the actual system capacity is approximately 1,900 gpm, and is limited by flow through the existing ion exchange resin vessels.

The stated 1,900 gpm hydraulic capacity of the existing system confirms that simply replicating the existing system (as currently proposed) will not provide the intended treatment capacity of 4,200 gpm.

Comment #8 (RTC # 22, Page 28, 1<sup>st</sup> Par): EPA requested additional support for the proposed treatment plant design. The RTC states that Emhart is evaluating the perchlorate treatment system resin bed volume size and vessel configuration. Please notify EPA when a decision has been made on the configuration of the perchlorate treatment system. We may request a conference call to discuss.

Please call or email with any questions.

Sincerely,

A handwritten signature in blue ink that reads "Wayne Praskins". The signature is written in a cursive style and is positioned above the printed name and title.

Wayne Praskins  
Project Manager

cc: Kurt Berchtold, Santa Ana Regional Water Quality Control Board  
Rafat Abbasi, California Department of Toxic Substances Control  
Heather Balfour, ERM  
Joseph W. Hovermill, Miles & Stockbridge P.C.  
James L. Meeder Esq., Allen Matkins Leck Gamble Mallory & Natsis LLP  
Marcus Fuller, Rialto  
Deborah Schmall, Paul Hastings LLP  
Danielle Sakai, Best Best & Krieger LLP  
Penny Alexander-Kelley, San Bernardino County Counsel  
Sean McCarthy, California Department of Public Health

**Enclosure to November 18, 2013 EPA letter  
USEPA Comments on "Preliminary Design Report" Response to Comments,  
Source Area Operable Unit, Rockets, Fireworks, and Flares Superfund Site  
Prepared on behalf of Emhart Industries by ERM-West, Inc. (ERM)  
(Response to Comments dated 15 November 2013)**

No.	Location	Comments and Responses
#1.	RTC #3 Pg. 13, Sec. 3.1.4.6	<p><b>Comment:</b> EPA asked whether the FAA needs to review and approve the design. The RTC states that "Based on ERM's previous experience at airports with these types of activities, the Federal Aviation Administration (FAA) will not need to review and approve the design."</p> <p>Please make contact with the FAA to confirm your understanding that the FAA will not need to review and approve the design.</p> <p><b>Response:</b> In preparing the 15 November 2013 response to comments document, ERM contacted the FAA and confirmed it they will not need to review and approve the design.</p>
#2.	RTC#4, Pg. 14, Sec. 3.2.1	<p><b>Comment:</b> EPA requested that the boundaries of the Target Area be reevaluated after installation and sampling of the new groundwater monitoring wells in early 2014. The RTC states that "Emhart will re-evaluate the boundaries of the Target Area as appropriate based on monitoring data and remedy performance."</p> <p>The response does not indicate the timing of the reevaluation. A reevaluation is appropriate after sampling data are available in 2014 from installation of the new groundwater monitoring wells. Data should be available well before the remedy becomes operational.</p> <p><b>Response:</b> Comment noted.</p>
#3.	RTC # 7, Pg. 16	<p><b>Comment:</b> EPA requested information related to water rights and declining water levels in the Rialto-Colton groundwater basin. The RTC partially responds to EPA's request, providing the Index Well average water level corresponding to the available water rights (952.33 feet above mean sea level), and stating that if water levels drop another 8 feet the available rights will be inadequate.</p>

No.	Location	Comments and Responses
		<p>The RTC did not, as EPA requested, estimate the year that the available Rialto and Colton rights will become inadequate if the recent declining trend in the Index Well average continues. We have performed the calculation. On average, the calculated water level at the index wells declined at a rate of 3.1 feet per year over the last 10 years (2004-2013). At that rate, water rights will become inadequate by 2016, not long after the remedy is scheduled to begin operation. Given the risk of further decline, Emhart should continue discussions with water rights holders in the basin to ensure that adequate rights are available to operate the remedy.</p> <p><b>Response:</b> Comment noted.</p>
#4.	RTC # 8, Pg. 18, Sec 4.2.1, 2nd Par.	<p><b>Comment:</b> EPA listed several scenarios that may prompt installation of a second new extraction well (EW-2). The RTC states that “The evaluation of the need for installation of a second new extraction well (EW-2) will be based on actual remedy performance and monitoring data gathered over time.”</p> <p>As we have commented before, new data may warrant installation of a second new extraction well before the remedy begins operation.</p> <p><b>Response:</b> Comment noted.</p>
#5.	RTC # 9, Pg. 18, Sec. 4.2.1, 2nd bullet	<p><b>Comment:</b> EPA requested changes in the top and bottom of the screen interval (raising the top by 10’ and lowering the bottom by 40’). The RTC expresses a preference to keep the top of the screen interval as proposed. The RTC is not clear on whether Emhart has agreed to deepen the bottom of the screen interval.</p> <p>EPA accepts leaving the top of the screen at 480’ below ground surface (bgs). However, based on the contamination present in PW-7f (750-760’ bgs), we will not approve an EW-1 screened interval that only extends down to 710’ bgs. We expect the borehole to be drilled and logged to at least 760’ bgs to provide information to support selection of the screened interval.</p> <p><b>Response:</b> The Pre-Final Design includes drilling EW-1 to a total depth of 760 feet bgs with a screen interval of 480 feet to 750 feet bgs. Final actual well construction may be modified, in consultation with USEPA, based on lithological and geophysical logging data obtained during drilling.</p>

No.	Location	Comments and Responses
#6.	RTC #10, Pg. 19, 1st Par.	<p><b>Comment:</b> EPA recommended that the peak design rate for EW-1 be increased from 2,040 to 2,250 gpm due to uncertainty in modeling results, the potential for future changes in groundwater flow and contaminant conditions, and the potential need to adjust production seasonally to accommodate fluctuations in water demand. The RTC declines to increase the peak rate.</p> <p>EPA still believes that incorporating a higher design capacity for EW-1 is warranted. For EPA to consider approving the 2,040 gpm capacity in the Final Design, Emhart will need to provide additional information on expected resin change-out frequencies and have firm commitments from water purveyors to accept the 1,700 gpm from EW-1 on a continuous, year-round basis without substantial seasonal variability.</p> <p><b>Response:</b> Emhart has provided additional details on the anticipated resin usage rate/change-out frequencies at design status meetings held on 14 and 31 January 2014. The Work Consent Decree requires Colton to accept water from EW-1 up to the full extent of Colton’s available water rights under the 1961 Decree (less the 200 AF already leased to the County). Although, because of possible fluctuations in remedy pumping needs and Rialto and Colton water demands, the Four Party Implementation Agreement will not (and cannot) set, in advance, a fixed water delivery schedule. During all discussions with Colton, Rialto, and the County, Colton has confirmed that, based on its current water rights under the 1961 Consent Decree and historical seasonal water demand, it can accept 1,700 gpm on a nearly continuous, year-round basis without significant seasonal variability.</p>
#7.	RTC # 16, Pg. 25, 2nd Par.	<p><b>Comment:</b> EPA asked about the basis for design capacity of the County Remedy Treatment Plant specified in the PDR. The RTC states that the actual system capacity is approximately 1,900 gpm, and is limited by flow through the existing ion exchange resin vessels.</p> <p>The stated 1,900 gpm hydraulic capacity of the existing system confirms that simply replicating the existing system (as currently proposed) will not provide the intended treatment capacity of 4,200 gpm.</p> <p><b>Response:</b> The groundwater flow modeling simulations (<i>Final Groundwater Flow Modeling Report</i>, ERM, July 2013) indicate that a combined annual average flow rate of approximately 3,000 gpm from Rialto-3 and EW-1 will achieve hydraulic capture of both the County Remedy Area and the SAOU Target Area. This annual average flow rate includes pumping 1,085 to 1,600 gpm from Rialto-3 (incorporating seasonal water supply needs and based on input from the County) and a nearly constant rate from EW-1 of 1,700 gpm.</p>

No.	Location	Comments and Responses
		<p>With this anticipated pumping plan, the combined treatment plant will need to treat water at a rate of 2,785 to 3,300 gpm.</p> <p>For a “reasonable maximum flow condition”, which incorporates a safety factor of 1.2 to the pumping anticipated from EW-1 (i.e., 1.2 X 1,700 gpm = 2,040 gpm), the potential range of system treatment rate is 3,125 to 3,640 gpm.</p> <p>For the Pre-Final Design, the Emhart additions to the Combined Treatment System have a capacity of 2,040 gpm. Combined with the County’s current practical capacity of approximately 1,900 gpm, the combined treatment system will have a total capacity of approximately 3,940 gpm, exceeding the “reasonable maximum flow condition”, let alone the likely pumping rates of 2,785 to 3,300 gpm. As such, Emhart believe that the Pre-Final Design is adequate.</p>
#8.	RTC # 22, Page 28, 1 <sup>st</sup> Par.	<p><b>Comment:</b> EPA requested additional support for the proposed treatment plant design. The RTC states that Emhart is evaluating the perchlorate treatment system resin bed volume size and vessel configuration. Please notify EPA when a decision has been made on the configuration of the perchlorate treatment system. We may request a conference call to discuss.</p> <p><b>Response:</b> As discussed at design status meetings held on 14 and 31 January 2014, Emhart’s evaluation of perchlorate treatment system resin bed volume size and vessel configuration resulted in the lead-lag-lag resin vessel configuration for perchlorate treatment presented in the Pre-Final Design.</p>



RON CHAPMAN, MD, MPH  
Director & State Health Officer

State of California—Health and Human Services Agency  
California Department of Public Health



EDMUND G. BROWN JR.  
Governor

March 25, 2014

Heather D. Balfour  
ERM-West, Inc.  
2875 Michelle Drive  
Suite 200  
Irvine, CA 92606

**SUBJECT - CITY OF RIALTO'S ROCKETS, FIREWORKS, AND FLARES SOURCE AREA  
OPERABLE UNIT PRE-FINAL DESIGN CDPH REVIEW AND COMMENTS**

Dear Ms. Balfour:

The Department has received and reviewed the submitted pre-final design plans for City of Rialto's Rockets, Fireworks, and Flares SAOU. In the pre-final design plans for the SAOU review, the Department has identified a few comments and areas of concern, as follows:

**- Ion Exchange Vessels (Sheet 55)**

The single shut off valve separation of raw and treated water in the lead-lag-lag piping manifolds is a concern (valves V-B17, V-B18, and V-C17). EW-1's expected perchlorate concentration is about 200 ppb with an assumption of the worst case scenario at 240 ppb. A leaking valve, during the worst case operating scenario, would need a minimal amount of leakage (2.5% of total flow) for a 6 ppb detection at the perchlorate MCL in the IX plant effluent. A second shutoff valve is necessary adjacent to the above valves for additional redundancy.

**- IX Equipment General Arrangement & Details (Sheet 46)**

The piping configuration shown on the elevation drawing shows the vessel configuration as A-lead vessel, C-first lag vessel, and B-second lag vessel, when the A vessel is in lead position. After the first resin change out the order becomes C-B-A, not B-C-A as you would expect if the initial configuration was A-B-C. It is suggested that the vessels be renamed to follow the A-B-C configuration. Otherwise change out and reconfiguration of the vessels may cause operational errors.

**- Treatment Plant Mechanical Piping Section (Sheet 43)**

It is difficult to follow the piping configuration for the existing IX train with the addition of the 3<sup>rd</sup> vessel. The previous comments regarding the single shutoff valve separation and lead-lag-lag vessel configuration must also be applied to the existing IX train and integrated into its piping manifold.

- **Plant Flow Diagram (Sheet 4)**

Bag Filters F-100A/B, at the existing Rialto 3 IX plant, is noted to be a pending component, contradictory to Sheet 54 and the Operation & Maintenance Manual. Please clarify.

- **Booster Station Mechanical Piping Plan, Sections, and Details (Sheet 44)**

There is no sample tap on the well head piping. The well head should have a sample tap for source sampling.

- **Overall Comments**

As EW-1 will be an extremely impaired drinking water source, the Department's 97-005 permitting process must consider whether sufficient redundancies are designed into the treatment plant components, as well as adequate safeguards are provided in the plant operating procedures to ensure all drinking water standards are met in the water supplied to the public at all times. The expected range of perchlorate concentrations (up to 240 ppb) in comparison with the low perchlorate MCL of 6 ppb, leaves little margin for error in treatment plant failures (whether by mechanical or other reasons). In addition ion-exchange resins have yet to be utilized for drinking water treatment at these high perchlorate concentrations and the resin change-out criteria in the lead-lag-lag arrangement will need to be closely evaluated.

The present design of the overall treatment system (Sheet 4) has each lead-lag-lag IX vessel and GAC vessel combination as independent treatment trains with no combined treatment plant effluent before diverging in two different directions into the City's distribution system. A single, combined plant effluent is strongly recommended as this would provide additional redundancy in the event of a failure in one of the trains. In addition, no consideration appears to be made for additional treatment trains to be added for plant expansion, or additional operating redundancy if necessary.

At this time, the Department has insufficient information to fully comment on the Draft Operations and Maintenance Plan submittal. Specifically, Section 3.5.5 and Table 6 include parameters for resin change out with which the Department has not yet agreed to. These operating parameters will need to be established through a pilot-scale demonstration test of the lead-lag-lag arrangement using EW-1 once it is constructed as discussed in previous meetings. A demonstration test protocol should be submitted to the Department for review and approval prior to initiation of the test.

Given the uncertainties in the reliability of this design, the Department must reserve the opportunity for further comment on the design and operations until after the pilot-scale demonstration test is complete and reliable treatment is demonstrated according to Department's 97-005 permitting process. The Department appreciates the opportunity given to review this submittal. If you have any question or comments please contact myself or Brenda Pauli at 909-383-4328.

Sincerely,

  
Sean F. McCarthy, P.E.  
Senior Sanitary Engineer  
San Bernardino District

Heather Balfour  
March 25, 2014  
Page 3

cc: Wayne Praskins  
United States EPA Region 9  
75 Hawthorne Street  
San Francisco, CA 94105

Peter Fox, Veolia/City of Rialto  
325 W. Rialto Ave.  
Rialto, CA 92376

**Enclosure to 25 March 2014 CDPH Letter**  
**CDPH Comments on “Pre-Final Design; Source Area Operable Unit; Rockets, Fireworks, and**  
**Flares Superfund Site”**  
**Prepared for Emhart Industries by Environmental Resources Management (ERM)**  
**(Pre-Final Design dated 18 February 2014)**

**MORE SUBSTANTIVE COMMENTS**

No.	Location	Comment
#1.	Ion Exchange Vessels (Sheet 55)	<p><b>Comment:</b> The single shut off valve separation of raw and treated water in the lead-lag-lag piping manifolds is a concern (valves V-B17, V-B18, and V-C17). EW-1's expected perchlorate concentration is about 200 ppb with an assumption of the worst case scenario at 240 ppb. A leaking valve, during the worst case operating scenario, would need a minimal amount of leakage (2.5% of total flow) for a 6 ppb detection at the perchlorate MCL in the IX plant effluent. A second shutoff valve is necessary adjacent to the above valves for additional redundancy.</p>
		<p><b>Response:</b> Second shut-off valves will be included following the lead, middle, and lag resin vessels within the Final Design.</p>
#2.	IX Equipment General Arrangement & Details (Sheet 46)	<p><b>Comment:</b> The piping configuration shown on the elevation drawing shows the vessel configuration as A-lead vessel, C-first lag vessel, and B-second lag vessel, when the A vessel is in lead position. After the first resin change out the order becomes C-B-A, not B-C-A as you would expect if the initial configuration was A-B-C. It is suggested that the vessels be renamed to follow the A-B-C configuration. Otherwise change out and reconfiguration of the vessels may cause operational errors.</p>
		<p><b>Response:</b> The vessel identifications will be modified as suggested in the Final Design.</p>
#3.	Treatment Plant Mechanical Piping Section (Sheet 43)	<p><b>Comment:</b> It is difficult to follow the piping configuration for the existing IX train with the addition of the 3<sup>rd</sup> vessel. The previous comments regarding the single shutoff valve separation and lead-lag-lag vessel configuration must also be applied to the existing IX train and integrated into its piping manifold.</p>
		<p><b>Response:</b> Currently, there are multiple valves placed in between the existing resin inlet and outlet discharge line. Similar redundancy will be provided for the third vessel in the Final Design to prevent any leaching.</p>

No.	Location	Comment
#4.	Plant Flow Diagram (Sheet 4)	<b>Comment:</b> Bag Filters F-100AIB, at the existing Rialto 3 IX plant, is noted to be a pending component, contradictory to Sheet 54 and the Operation & Maintenance Manual. Please clarify.
		<b>Response:</b> The existing County treatment system at Rialto-3 does not include the Bag Filters F-100AIB unit. During preparation of the Pre-Final Design, the County indicated that that Miro-2 and Miro-3 wells do not produce sand while pumping. Emhart proposes to install a bag filter unit following the new booster pump to optimize operation of the IX and GAC components. The need for an additional bag filter unit downstream of the existing Booster Pump (BP-1) will be evaluated during demonstration testing.
#5.	Booster Station Mechanical Piping Plan, Sections, and Details (Sheet 44)	<b>Comment:</b> There is no sample tap on the well head piping. The well head should have a sample tap for source sampling.
		<b>Response:</b> The Final Design will include a sample port at EW-1.

## OVERALL COMMENTS

No.	Location	Comment
#1.	General Information	<p><b>Comment:</b> As EW-1 will be an extremely impaired drinking water source, the Department's 97-005 permitting process must consider whether sufficient redundancies are designed into the treatment plant components, as well as adequate safeguards are provided in the plant operating procedures to ensure all drinking water standards are met in the water supplied to the public at all times. The expected range of perchlorate concentrations (up to 240 ppb) in comparison with the low perchlorate MCL of 6 ppb, leaves little margin for error in treatment plant failures (whether by mechanical or other reasons). In addition ion-exchange resins have yet to be utilized for drinking water treatment at these high perchlorate concentrations and the resin change-out criteria in the lead-lag-lag arrangement will need to be closely evaluated.</p>
		<p><b>Response:</b> Comment noted.</p>
#2.	General Information	<p><b>Comment:</b> The present design of the overall treatment system (Sheet 4) has each lead-lag-lag IX vessel and GAC vessel combination as independent treatment trains with no combined treatment plant effluent before diverging in two different directions into the City's distribution system. A single, combined plant effluent is strongly recommended as this would provide additional redundancy in the event of a failure in one of the trains. In addition, no consideration appears to be made for additional treatment trains to be added for plant expansion, or additional operating redundancy if necessary</p>
		<p><b>Response:</b> The flow from the two treatment trains will be combined as recommended. This is described in ERM's 2 April 2014 memorandum to USEPA, CDPH, and Rialto.</p> <p>As articulated in the cover letter to the Pre-Final Design submittal , by providing "stub-outs" for both electrical components and pipes and placing treatment components in recognition of potential future space needs, the system is designed to accommodate potential system modification or expansion, should future, unanticipated circumstances requires such modification.</p>

No.	Location	Comment
#3.	General Information	<p><b>Comment:</b> At this time, the Department has insufficient information to fully comment on the Draft Operations and Maintenance Plan submittal. Specifically, Section 3.5.5 and Table 6 include parameters for resin change out with which the Department has not yet agreed to. These operating parameters will need to be established through a pilot-scale demonstration test of the lead-lag-lag arrangement using EW-1 once it is constructed as discussed in previous meetings. A demonstration test protocol should be submitted to the Department for review and approval prior to initiation of the test.</p>
		<p><b>Response:</b> In recognition of this issue, Emhart submitted a memorandum setting forth its proposed demonstration testing protocol for CDPH review and approval on 29 April 2014.</p>
#4.	Section 2.2.2, page 5	<p><b>Comment:</b> Given the uncertainties in the reliability of this design, the Department must reserve the opportunity for further comment on the design and operations until after the pilot-scale demonstration test is complete and reliable treatment is demonstrated according to Department's 97-005 permitting process.</p>
		<p><b>Response:</b> Comment noted.</p>



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION IX  
75 Hawthorne Street  
San Francisco, CA 94105

SENT VIA EMAIL AS PDF

April 17, 2014

Truong T. Mai, P.E.  
Principal, Environmental Resources Management  
2875 Michelle Drive, Suite 200  
Irvine, California 92606

Subject: EPA Comments on Pre-Final Design Submittal  
Rockets, Fireworks, and Flares Superfund Site, Source Area Operable Unit

Dear Mr. Mai:

We have reviewed the "Pre-Final Design" submittal for the Source Area Operable Unit ("SAOU") at the Rockets, Fireworks, and Flares Superfund Site (formerly the B.F. Goodrich Site). The submittal consists of a cover letter and nine enclosures, which provide a construction schedule, cost estimate, construction specifications, construction drawings, a draft Operation and Maintenance Plan ("O&M Plan"), a draft Compliance Monitoring Plan, a draft Construction Quality Assurance Plan, and a Construction Health and Safety Plan. The submittal is dated February 18, 2014, and was prepared by Environmental Resources Management (ERM) on behalf of Emhart Industries, Inc.

Our comments are enclosed. Please submit responses to our comments as follows:

- by May 1, 2014, for comments on the construction drawings, construction specifications, and Construction Quality Assurance Plan
- by May 15, 2014, for comments on the O&M Plan and Compliance Monitoring Plan.

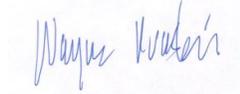
In addition, please provide a copy of any responses to comments provided by the California Department of Public Health (CDPH) and GeoLogic Associates (GLA). The CDPH comments were dated March 25, 2014; the GLA comments, provided on behalf of the County of San Bernardino, were dated April 4, 2014. Upon receipt of satisfactory responses to comments on the construction drawings, construction specifications, and Construction Quality Assurance Plan, and receipt of acceptable construction drawings for the remaining conveyance piping, we anticipate approving the Final Design.

The O&M Plan will remain draft until after construction and startup of the remedy, at which time it will need to be updated to incorporate manufacturer and vendor information, any modifications made during construction or startup, and any relevant requirements from amendment of the city of Rialto's water supply permit. Similarly, we expect that the compliance monitoring plan will remain draft until amendment of the city's water supply permit to incorporate any relevant requirements (e.g., for early warning groundwater monitoring).

The February 18, 2014, submittal did not include construction drawings for the conveyance piping from the treatment plant location to the Rialto distribution system. Those drawings are due no later than May 16, 2014.

Please call or email with any questions.

Sincerely,



Wayne Praskins  
Project Manager

cc: Kurt Berchtold, Santa Ana Regional Water Quality Control Board  
Rafat Abbasi, California Department of Toxic Substances Control  
Heather Balfour, ERM  
Joseph W. Hovermill, Miles & Stockbridge P.C.  
James L. Meeder Esq., Allen Matkins Leck Gamble Mallory & Natsis LLP  
Marcus Fuller, Rialto  
Deborah Schmall, Paul Hastings LLP  
Danielle Sakai, Best Best & Krieger LLP  
Penny Alexander-Kelley, San Bernardino County Counsel  
Ralph Murphy, GLA  
Sean McCarthy, California Department of Public Health

**EPA Comments on "Pre-Final Design; Source Area Operable Unit; Rockets, Fireworks and Flares Superfund Site"**  
**prepared for Emhart Industries by Environmental Resources Management (ERM)**  
**(Submittal dated February 18, 2014; EPA comments dated April 17, 2014)**

No.	Location	Comment
<b>Enclosure 4 –Construction specifications</b>		
#1.	Section 01 45 00, Part 1.05.B	<p>Please add a new sentence or similar language to Part 1. Existing text is shown in italics; new text in bold.</p> <p><i>The CONTRACTOR's attention is directed to the National Historic Preservation Act of 1966 (16 U.S.C. 470) and 36 CFR 800 which provides for the preservation of potential historical architectural, archeological or cultural resources (hereinafter called "cultural resources"). <b>Equipment operators will be directed to watch for arrow points, pottery fragments, stone tools, and other archaeological or cultural artifacts during excavation of native soils.</b> If potential cultural resources are discovered during subsurface excavations at the site of construction, the following procedures shall be instituted:</i></p>
#2.	Section 01 45 00, Part 1.05.B	<p>Please make the changes shown in bold font and strikeout to Part 1c</p> <p><i>Such Field Order shall be effective until such time as a qualified archeologist <b>(one meeting the Secretary of Interior qualification standards)</b> can be called to assess the value of these potential cultural resources and make recommendations to the <del>State Historical Society Archeologist</del> <b>ENGINEER</b></i></p>
#3.	Section 01 45 00, Part 1.05.B	<p>Please make the changes shown in bold font and strikeout to Part 2</p> <p><i>If the archeologist determines that the potential find is a bona fide cultural resource, at the direction of the <del>Historical Society</del> <b>qualified</b> Archeologist, the CONTRACTOR shall suspend work at the location of the find under the provisions for changes contained in Articles 13, 14 and 15 of the General Conditions.</i></p>
#4.		<p>EPA is responsible for compliance with Section 106 of the National Historic Preservation Act (NHPA). If potential cultural resources are discovered, we request prompt notification and consultation on steps to be taken by Emhart to evaluate the discovery.</p> <p>If a discovery is made, EPA's responsibilities may include consultation with the State Historic Preservation Officer (SHPO) and other interested parties, determining whether a cultural resource is eligible for listing on the National Register of Historic Places, and determining whether planned construction activities may have an effect on cultural resources.</p> <p>We are also evaluating whether it is appropriate to notify or consult with Native American tribal resources about planned excavation activities.</p>

No.	Location	Comment
<b>Enclosure 5 – Design/construction drawings</b>		
#5.	Sheet 1	It would be useful if the drawing set included a Site Plan for the treatment plant site that showed all existing and planned facilities, including the infiltration basin. The existing drawings are zoomed in to focus on the treatment systems. An overall Site Plan would show how much space is available for future system expansion and for construction trailers, parking and staging.
#6.	Sheet 4	Please include a tentative location for EW-2.  In Policy 97-005 permits for other extremely impaired sources, we have seen CDPH require carbon change-out based on detection of VOCs at the effluent of the lead LGAC bed (rather than at ½ of the MCL as is currently assumed in the design). If CDPH applies this more conservative approach, a lead-lag-lag configuration for the LGAC may be more cost-effective, thus allowing full exhaustion of the lead carbon bed.
#7.	Sheet 7	We understand that the city of Rialto has not completed its review of the construction documents. Please submit to EPA a summary of any changes made to the design in response to Rialto's review.
#8.	Sheet 49	The Well Head Casing detail shows the depth to the well pump intake as 480' and the top of the well screen 15' below that. This is incorrect as the well screen is planned to start at 480'.

**Enclosure 6 – Draft O&M Plan**

#1.	General	The final O&M plan should include tables summarizing the type and frequency of operating information/data to be collected by system operators and should include actual templates (log sheets) to be used to record the required information.  The final O&M Plan should include tables summarizing the frequency and type of maintenance/monitoring required for the extraction, conveyance and treatment equipment and should include templates of logs to be used to track maintenance activities.
#2.	Pg. 2, 1 <sup>st</sup> bullet.	The text lists a design capacity of the County Remedy Treatment Plant of 2,200 gpm. However, the Response to EPA Comments (Enclosure 1) states that, according to the County, the current operational capacity is about 1,900 gpm. The design submittal should present the actual operational capacity of the existing system, not the design capacity. Note that the 2,200 gpm design capacity is also referenced in the draft Compliance Monitoring Plan (Enclosure 7) and Construction Quality Assurance Plan (Enclosure 8).
#3.	Pg. 4, 7 <sup>th</sup> bullet	The text references notification to USEPA and the State within 72 hours after receipt of information indicating noncompliance.  CDPH permits typically require notification of exceedances within 24 hours. If

No.	Location	Comment
		CDPH requires notification sooner than 72 hours, EPA should be notified at the same time.
#4.	Pg. 7, Sec. 2.3	The text states that water pumped by the Miro-2 and Miro-3 production wells flows west to the treatment plant at Rialto-3. The water appears to flow east, not west.
#5.	Pg. 11, Sec. 2.6	The bag filters are described in Sections 2.4.1 and 2.6. We suggest that the two descriptions be consolidated. Also, Section 2.4.1 indicates that 1 micron filters will be used but Section 2.6 references 10 micron filters. Please make the two references consistent.
#6.	Pg. 11, Sec. 2.7	<p>The text states that one of two resins will be used (Rohm &amp; Haas PWA “2” or DOWTEX “PSR2”) or, with CDPH approval, an alternative resin. The text should note that CDPH has not yet approved any resins for use in the new combined treatment plant.</p> <p>Also, the Rohm and Haas resin was not included in the January meeting materials documenting the resin evaluation conducted by ERM. Please submit information on the expected performance of the Rohm and Haas resin.</p> <p>The design flow rate for each IX train is 1,500 gpm (2,400 gpm maximum per Table 2). However, the Siemens resin evaluation using DOWTEX PSR2 includes a recommended flow rate of 1,100 gpm (Table 3 of the January meeting materials). Please justify the sizing of the IX system in light of the vendor recommendation. Similarly, please provide the vendor recommended flow rate for the Rohm &amp; Haas PWA2 resin.</p>
#7.	Pg. 12, 1 <sup>st</sup> Par.	Section 2.7 should define the breakthrough of perchlorate, as is done for VOCs in Section 2.8. We suggest, as a placeholder, that “breakthrough” be defined as detectable (i.e., above the DLR) concentrations of perchlorate at the effluent of the second vessel. The text (and the change out criteria listed in Table 6) should be reviewed after CDPH amends Rialto's water supply permit and modified if needed. In addition, as discussed in the January meetings with CDPH, the train may need to be taken out of service once breakthrough occurs until the resin is replaced so that there are always three active (lead-lag-lag) vessels per train.
#8.	Pg. 12, Sec. 2.8	The text notes that VOC “breakthrough” is stipulated by Rialto's current domestic water supply permit as half the MCL or Notification Level. The text should be reviewed after CDPH amends Rialto's water supply permit and modified if needed. The criteria could change.
#9.	Pg. 13, 1 <sup>st</sup> full Par.	There are two typos where “closing” should be “dosing”.
#10.	Pg. 14, Sec. 2.11	Please confirm that CP-1 and the PLC are equipped with extra capacity to handle a second new extraction well and the additional treatment system equipment mentioned in the text (e.g., an additional booster pump or another

No.	Location	Comment
		UV treatment unit).
#11.	Pg. 14, Sec. 2.11	The last sentence in the last full paragraph reads: "Once connected, County Remedy System adjustments can be made remotely by the City of Rialto Water Department." Should the reference be to the combined remedy?
#12.	Pg. 15, Sec. 2.12	The text states that spent materials will be profiled for proper waste disposal. Does this apply to the spent bag filters? Also, if correct, the text should state that the backwash water will be discharged to the on-site infiltration basin as discussed in Section 3.5.6.
#13.	Pg. 15, Sec. 2.12	The text should also summarize the requirements applicable to the offsite shipment of wastes specified in paragraph 21 of the Consent Decree entered by the U.S. District Court on July 2, 2013 (the "Emhart Consent Decree") .
#14.	Pg. 17, Extraction Wells	Are the extraction wells set-up to shut down on a high pressure or high temperature reading? It doesn't appear that the wells are equipped with a transducer that would allow them to be shut down if water levels drop too low. Is that correct? Relying solely on an effluent flow meter reading of zero to shut down the pump provides only limited protection from conditions that could result in pump/motor failure.
#15.	Pg. 17, Booster Pumps	Are the booster pumps set-up to shut down on a high pressure or high temperature reading?
#16.	Pg. 18, Sec. 3.2	The T-1 by-pass mode will also be required during well development, start-up, and CDPH-required demonstration testing of the new treatment system.
#17.	Pg. 21, Sec. 3.5.3, 6 <sup>th</sup> bullet	The pressure bleed off noted in this bullet should occur earlier in the work sequence. Also, we suggest that the last sentence of this bullet be deleted as replacing the filters is addressed in the preceding bullet.
#18.	Pg. 23, Sec. 3.5.5, 1 <sup>st</sup> Par.	<p>As noted in comment #7, based on prior discussions with CDPH, the week period of continued operation in standard operation mode may not be allowed in the new permit.</p> <p>Also, the text should note that the resin in the two existing County IX vessels may need to be changed out prior to full system start-up depending on which resin is approved by CDPH for the combined systems.</p> <p>The change out criteria and procedures should be reviewed after CDPH amends Rialto's water supply permit and modified if needed.</p> <p>The final O&amp;M Plan should include ballpark estimates of the anticipated resin change-out frequency to assist with O&amp;M planning.</p>
#19.	Pg. 24, Sec. 3.5.6	<p>Please specify the required backwash flow rate and length of a standard backwash cycle.</p> <p>The final O&amp;M Plan should include ballpark estimates of the anticipated carbon change-out frequency to assist with O&amp;M planning.</p>

No.	Location	Comment
#20.	Pg. 25, Sec. 3.5.7	The carbon change out procedures should be reviewed after CDPH amends Rialto's water supply permit, and modified if needed.
#21.	Pg. 29, Sec. 4.1	The sampling locations listed in the text for Rialto-3 and EW-1 (1A and 1B) appear to be reversed in the figure. Sampling locations listed in the text for the Miro wells (1C and 1D) are not shown in the figure.
#22.	Pg. 30, Sec. 4.2.1	<p>The text indicates that a courtesy copy of the monthly CDPH report will be submitted to EPA. The CDPH reports must be supplemented with the following:</p> <ul style="list-style-type: none"> <li>- a summary of O&amp;M activities, including average pumping rate in the period preceding the report; year-to-date average pumping rate; amount, nature (planned or unplanned), and cause of any down time; any media replacement completed or planned; and the treatment or disposal of spent media;</li> <li>- a statement whether all performance standards were met in the period preceding the report, any indication that performance standards may not be achieved in the future, and a description of the nature of, duration of, and response to any noncompliance with Performance Standards or other requirements;</li> <li>- a description of any operational problems that occurred in the period preceding the report, steps taken to resolve or mitigate the problem(s), and a timetable for resolution of any outstanding problem(s);</li> <li>- a summary of sampling and analysis activities in the period preceding the report;</li> <li>- provision of analytical results not previously provided to EPA.</li> </ul> <p>This information should be provided to EPA no less frequently than monthly.</p>
#23.	Pg. 32, Sec. 5	The O&M Plan should specifically reference the CDPH-mandated operator certification requirements for operating this treatment system. These will likely remain the same as in the current permit for the County system.
#24.	Pg. 32, Sec. 5	In addition to complying with Rialto's domestic water supply permit and other applicable laws, the Combined Remedy must be operated and maintained in accordance with the Emhart Consent Decree, which requires compliance with relevant performance standards and the approved O&M and Compliance Monitoring Plans.
#25.	Pg. 33, Sec. 6.1	The text indicates that inspection records will be kept for a minimum of three years. The text should also reflect record retention requirements in the Emhart CD.
#26.	Pg. 33, Sec. 6.2.2	As noted in comment #3, the 72-hour non-compliance notification requirement

No.	Location	Comment
		is not what CDPH typically requires. The notification requirement should be reviewed after CDPH amends Rialto's water supply permit, and modified if needed.
#27.	Table 1, Pump Intake	The 480' depth matches the expected top of the well screen. This is not consistent with the construction drawings, which indicate that the pump intake will be set 15' above the top of the screen.
#28.	Table 2	The last column appears to have an error in the Resin Vessels row. Also, as noted previously, the type of resin is yet to be approved.
#29.	Tables 4 and 5	The units for chlorine and acid dosage are listed as millijoules per liter. Please correct.
#30.	Table 6	The upper end of the residual chlorine range seems high at 3.0 mg/L. What is the basis for this value?
#31.	Table 8	There are four different rows with pressure differential as the issue and a reference to valves reading incorrectly or not functioning properly. Should these references be to pressure gauges that may not be reading correctly or functioning properly? It isn't clear what "Valves reading incorrectly" means.

#### Enclosure 7 – Compliance Monitoring Plan

#1.	Pg. 3, 1 <sup>st</sup> Par.	See O&M Plan comment #2 regarding the capacity of the existing County system.
#2.	Pg. 3, Sec. 1.2	The text lists data collection and analysis activities as objectives of the Compliance Monitoring Plan (CMP). The list of objectives should include reporting to EPA on compliance monitoring activities.
#3.	Pg. 3, Sec. 1.2	In addition to the RAOs, which are more general, the CMP objectives should reference compliance with the Performance Criteria for the remedy.
#4.	Pg. 4, Sec. 2.1, 4 <sup>th</sup> bullet	The Work also needs to achieve the Performance Criteria, not just the RAOs.
#5.	Pg. 5, Sec. 2.2, 2 <sup>nd</sup> Par.	Section 3.4 of the Statement of Work also references Section 2.11.2.1 of the ROD, which defines performance criteria. The CMP text should be expanded to describe these criteria, which include: i) providing hydraulic control to prevent movement of groundwater from the Target Area into clean or less contaminated areas under all anticipated flow conditions; and ii) ensuring that the remedy does not result in adverse effects to water supply wells that are not used as part of the remedy.
#6.	Pg. 6, 1st bullet	The text states that "Water treated by the expanded treatment system will be distributed by Rialto and Colton consistent with their respective water rights under the 1961 Decree."  The text should be supplemented with a statement to the effect that Emhart will make a diligent effort to attempt to obtain the additional necessary water

No.	Location	Comment
		rights from another water purveyor if groundwater level trends, or other information, suggest that the water rights leased from the City of Colton may be insufficient. In our approval letter for the Preliminary Design Report we noted that if current trends continue, water rights will become inadequate by 2016.
#7.	Pg. 6, 2 <sup>nd</sup> bullet	Please include a specific reference to EPA's offsite rule.
#8.	Pg. 6, Sec. 2.4	<p>This section is too general. Please incorporate additional details from ROD Sections 2.11.2.1 (Performance Criteria) and 2.11.2.2 (Groundwater Monitoring subsection).</p> <p>This section should identify and describe the purpose of the compliance wells, as discussed in Section 2.11.2.1 of the ROD.</p> <p>The 3rd bullet indicates that groundwater flow modeling to evaluate hydraulic control will be included "as necessary, if empirical data indicates significant uncertainty with hydraulic control." This is not acceptable. The ROD mandates use of groundwater flow modeling to support the evaluation of hydraulic control.</p> <p>As noted in earlier comments, the RAOs are further defined by specific Performance Criteria identified in the ROD. The remedy must achieve those Performance Criteria.</p>
#9.	Pg. 7, Sec. 3.0	This section should describe the specific compliance wells, wells that will be used to help evaluate remedy performance and define capture zones, wells that will be used as early warning wells, and wells that will track remedy progress and changes in the target areas.
#10.	Pg. 7, Sec. 3.1, 2 <sup>nd</sup> sen.	The text provides a general reference to collection of potentiometric data to "assess the aquifer response upon startup of EW-1." The discussion should be expanded to describe how the potentiometric data will be used specifically to support definition of capture zones, evaluation of hydraulic control and to evaluate groundwater flow model calibration.
#11.	Pg. 7, Sec. 3.1	The quarterly potentiometric monitoring should start at least two quarters prior to startup of EW-1. Also, installation of the remaining remedy monitoring wells and piezometers needs to be completed in time to allow this pre-startup potentiometric data collection.
#12.	Pg. 7, Sec. 3.1	The 2013 SAP referenced in the text will need to be replaced or supplemented to address compliance-related sampling and analysis activities. Please provide a submittal date for a SAP or addendum to the 2013 SAP. This SAP or addendum may be combined with the SAP amendment described in Section 4.1 of the draft O&M Plan.
#13.	Pg. 7, Sec. 3.2, 2 <sup>nd</sup> sen.	The text provides a general reference to collection of water quality data to "assess the aquifer response upon startup of EW-1." The discussion should be expanded to discuss evaluation of groundwater concentrations at compliance

No.	Location	Comment
		wells and early-warning wells and use of water quality data to assess changes in the target area and overall remedy progress.
#14.	Pg. 9, Sec. 4.0	The text should state that the data evaluation will address capture zones, hydraulic control, compliance well concentrations, changes in the target area, remedy progress and overall remedy performance.
#15.	Pg. 9, Sec. 4.1	The text should state that the potentiometric surface maps will be used to evaluate capture zones and hydraulic control.
#16.	Pg. 9, Sec. 4.3, 1 <sup>st</sup> sen.	The text should state that groundwater flow modeling <u>will</u> be performed.
#17.	Pg. 10, 1 <sup>st</sup> Par.	This text only describes how observed data will be compared to simulated data to support model calibration and evaluation of model performance. Text should be added to describe how the groundwater flow model, including particle tracking or equivalent, will be used to evaluate remedy performance and specifically hydraulic control over the lateral and vertical extent of the target area.
#18.	Pg. 11, Sec. 4.6	As noted above in comment #14, the data evaluation documented in the Annual Report should describe the capture zones, the hydraulic control evaluation, compliance well concentrations, changes to the target area, remedy progress, and overall remedy performance.
#19.	Pgs. 10-11, Sec. 4.5	The text states that activities completed and monitoring performed in accordance with the CMP will be presented in the Monthly Progress Reports. Please clarify the method and frequency with which compliance monitoring information will be submitted to EPA. We suggest that the submittal of compliance-related information be combined with the submittal of O&M information. See comment #22 on the draft O&M Plan. Compliance monitoring information should be submitted no less frequently than monthly.
#20.	Tables 1 and 2	Please add a column to describe the well's rationale/intended use (e.g., compliance well, early warning well, hydraulic control evaluation well, remedy progress/target area definition well). A similar designation was included in the SAP for the remedial design investigation.
#21.	Table 1	The listed screened intervals for the PZ-3S and PZ-3D wells are different than the depths listed in construction specifications Section 33 30 00 – Wells, Attachment 2. Please modify the table to match the specs.

#### **Enclosure 8 – Draft Construction Quality Assurance Plan**

#1.	Pg. 2, 2 <sup>nd</sup> bullet	See O&M Plan comment #2 regarding the capacity of the existing County system.
#2.	Pg. 4, Sec. 2.0	The text refers to Figure 1. Should the reference be to Appendix A?
#3.	Pg. 5, Sec. 2.1.3, 2 <sup>nd</sup> sen.	It appears that text may be missing from this sentence.
#4.	Pg. 14, Sec. 4.1.1	Will the submittal register and an inspection and testing plan or log be

No.	Location	Comment
		developed during the pre-construction phase?
#5.	Pg. 16, Sec. 4.2	The text states that inspections will be conducted during each phase of control. Please clarify what types of inspections are anticipated during the pre-construction phase.
#6.	Pg. 19, Sec. 4.2.3	The bullet list of items should include verification of the media (LGAC and resin) placed into the treatment vessels.
#7.	Pg. 25, Sec. 7.0, 3 <sup>rd</sup> Par.	The text states that the Contractor is responsible for documenting changes in the as-built drawings. However, Section 2.1.4 states that the Construction Task Leader is response for preparation of as-built drawings. Please clarify who is responsible for tracking construction changes and preparing as-built drawings.
#8.	Pg. 25, Sec. 7.1, 1 <sup>st</sup> Par.	The pre-construction meetings should also be used to ensure that all parties are fully aware of the QC processes, including the inspection and testing requirements and procedures.
#9.	Pg. 26-27, Sections 7.2 and 7.3	See O&M Plan comment #22 regarding periodic submittal of information to EPA on O&M activities.

**Enclosure 9 – Construction Health and Safety Plan**

#1.	Pgs. 12-13	Chloroform is another VOC present in the SAOU and may be worthy of consideration in the plan.
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**Enclosure to 17 April 2014 EPA Letter**  
**USEPA Comments on "Pre-Final Design; Source Area Operable Unit; Rockets, Fireworks, and**  
**Flares Superfund Site"**  
**Prepared for Emhart Industries by ERM-West, Inc. (ERM)**  
**(Pre-Final Design dated 18 February 2014)**

**COMMENTS ON CONSTRUCTION DRAWINGS/SPECIFICATIONS AND CONSTRUCTION**  
**QUALITY ASSURANCE PLAN - Submission by 1 May 2014**

No.	Location	Comment
<b>Enclosure 4 - Construction Specifications</b>		
#1.	Section 01 45 00, Part 1.05.B	<p><b>Comment:</b> Please add a new sentence or similar language to Part 1. Existing text is shown in italics; new text in bold. <i>The CONTRACTOR's attention is directed to the National Historic Preservation Act of 1966 (16 U.S.C. 470) and 36 CFR 800 which provides for the preservation of potential historical architectural, archeological or cultural resources (hereinafter called "cultural resources").</i> <b>Equipment operators will be directed to watch for arrow points, pottery fragments, stone tools, and other archaeological or cultural artifacts during excavation of native soils.</b> <i>If potential cultural resources are discovered during subsurface excavations at the site of construction, the following procedures shall be instituted:</i></p> <p><b>Response:</b> The bolded sentence will be added to the Construction Specifications of the Final Design.</p>
#2.	Section 01 45 00, Part 1.05.B	<p><b>Comment:</b> Please make the changes shown in bold font and strikeout to Part 1c. <i>Such Field Order shall be effective until such time as a qualified archeologist (<b>one meeting the Secretary of Interior qualification standards</b>) can be called to assess the value of these potential cultural resources and make recommendations to the <del>State Historical Society</del> Archeologist <b>ENGINEER</b></i></p> <p><b>Response:</b> The requested modifications will be made to the Construction Specifications of the Final Design.</p>
#3.	Section 01 45 00, Part 1.05.B	<p><b>Comment:</b> Please make the changes shown in bold font and strikeout to Part 2. <i>If the archeologist determines that the potential find is a bona fide cultural resource, at the direction of the <del>Historical Society</del> <b>qualified</b> Archeologist, the CONTRACTOR shall suspend work at the location of the find under the provisions for changes contained in Articles 13, 14 and 15 of the General Conditions.</i></p> <p><b>Response:</b> The requested modifications will be made to the Construction Specifications of the Final Design.</p>

No.	Location	Comment
#4.		<p><b>Comment:</b> EPA is responsible for compliance with Section 106 of the National Historic Preservation Act (NHPA). If potential cultural resources are discovered, we request prompt notification and consultation on steps to be taken by Emhart to evaluate the discovery.</p> <p>If a discovery is made, EPA's responsibilities may include consultation with the State Historic Preservation Officer (SHPO) and other interested parties, determining whether a cultural resource is eligible for listing on the National Register of Historic Places, and determining whether planned construction activities may have an effect on cultural resources.</p> <p>We are also evaluating whether it is appropriate to notify or consult with Native American tribal resources about planned excavation activities.</p> <hr/> <p><b>Response:</b> Division 1: Section 01 45 00 Part 1.05 B will be modified to:</p> <p><i>The CONTRACTOR's attention is directed to the National Historic Preservation Act of 1966 (16 U.S.C. 470) and 36 CFR 800 which provides for the preservation of potential historical architectural, archeological or cultural resources (hereinafter called "cultural resources"). Equipment operators will be directed to watch for arrow points, pottery fragments, stone tools, and other archaeological or cultural artifacts during excavation of native soils. If potential cultural resources are discovered during subsurface excavations at the site of construction, the following procedures shall be instituted:</i></p> <ul style="list-style-type: none"> <li><i>a. The CONTRACTOR shall immediately notify the ENGINEER.</i></li> <li><i>b. The ENGINEER will issue a Field Order directing the CONTRACTOR to cease all construction operations at the location of such potential cultural resources find.</i></li> <li><i>c. Such Field Order shall be effective until such time as a qualified archeologist can be called to assess the value of these potential cultural resources and make recommendations to the State Historical Society Archeologist.</i></li> <li><i>d. The ENGINEER will notify the USEPA.</i></li> </ul>
<b>Enclosure 5 - Design/Construction Drawings</b>		
#5.	Sheet 1	<p><b>Comment:</b> It would be useful if the drawing set included a Site Plan for the treatment plant site that showed all existing and planned facilities, including the infiltration basin. The existing drawings are zoomed in to focus on the treatment systems. An overall Site Plan would show how much space is available for future system expansion and for construction trailers, parking and staging.</p>

No.	Location	Comment
		<p><b>Response:</b> An overall Site Plan for the treatment plant site will be added to the general drawings in the Final Design.</p>
#6.	Sheet 4	<p><b>Comment:</b> Please include a tentative location for EW-2.</p> <p>In Policy 97-005 permits for other extremely impaired sources, we have seen CDPH require carbon change-out based on detection of VOCs at the effluent of the lead LGAC bed (rather than at ½ of the MCL as is currently assumed in the design). If CDPH applies this more conservative approach, a lead-lag-lag configuration for the LGAC may be more cost-effective, thus allowing full exhaustion of the lead carbon bed.</p> <p><b>Response:</b> It is not possible at this time to provide a tentative location for EW-2. As set forth in the Preliminary Design Report, should future hydraulic capture analyses demonstrate insufficient capture of the SAOU Target Area by EW-1 and Rialto-3, the need for and potential location of a second extraction well, EW-2, will be evaluated.</p> <p>Given the relatively low concentrations of VOCs in CR-3 and those expected from EW-1, CDPH has not indicated that it will require modification of the carbon change-out criteria from that in the existing permit for operation of the County Treatment System.</p>
#7.	Sheet 7	<p><b>Comment:</b> We understand that the city of Rialto has not completed its review of the construction documents. Please submit to EPA a summary of any changes made to the design in response to Rialto's review.</p> <p><b>Response:</b> The City of Rialto will review the plans during its permitting process following completion of the Final Design. Emhart will notify USEPA of changes to the design, if any, made in response to Rialto's review.</p>
#8.	Sheet 49	<p><b>Comment:</b> The Well Head Casing detail shows the depth to the well pump intake as 480' and the top of the well screen 15' below that. This is incorrect as the well screen is planned to start at 480'</p> <p><b>Response:</b> The Well Head Casing Detail will be corrected to include the top of the well screen at 480 feet, as specified in the specifications.</p>
<b>Enclosure 8 - Draft Construction Quality Assurance Plan</b>		
#1.	Pg. 2, 2nd bullet	<p><b>Comment:</b> See O&amp;M Plan comment #2 regarding the capacity of the existing County system.</p> <p>O&amp;M Plan 2 - The text lists a design capacity of the County Remedy Treatment Plant of 2,200 gpm. However, the Response to EPA Comments (Enclosure 1) states that,</p>

No.	Location	Comment
		<p>according to the County, the current operational capacity is about 1,900 gpm. The design submittal should present the actual operational capacity of the existing system, not the design capacity. Note that the 2,200 gpm design capacity is also referenced in the draft Compliance Monitoring Plan (Enclosure 7) and Construction Quality Assurance Plan (Enclosure 8).</p> <p><b>Response:</b> The referenced bullet will be revised to read:</p> <p><i>Treatment – The County currently operates a treatment system to address releases emanating from and near the area proposed to be used for the future Unit 5 of the Mid-Valley Sanitary Landfill (County Remedy Area). The County Remedy Treatment Plant removes trichloroethene (TCE), other volatile organic compounds, and perchlorate from extracted groundwater from up to three extraction wells (Rialto-3, Miro-2, and Miro-3) and has a maximum operational treatment capacity of 1,900 gallons per minute (gpm). The Work includes expanding the treatment capacity of the County Remedy Treatment Plant by approximately 2000 gpm.</i></p>
#2.	Pg. 4, Sec. 2.0	<p><b>Comment:</b> The text refers to Figure 1. Should the reference be to Appendix A?</p> <p><b>Response:</b> Yes, the text will be modified accordingly.</p>
#3.	Pg. 5, Sec. 2.1.3, 2nd sen.	<p><b>Comment:</b> It appears that text may be missing from this sentence.</p> <p><b>Response:</b> The second sentence of the first paragraph of Section 2.1.3 will be modified to read:</p> <p><i>The CQA Manager coordinates with the PM for day-to-day construction operation to identify and communicate quality issues related to planning and assessment, and assists in improving the quality management system.</i></p>
#4.	Pg. 14, Sec. 4.1.1	<p><b>Comment:</b> Will the submittal register and an inspection and testing plan or log be developed during the pre-construction phase?</p> <p><b>Response:</b> The following bullet will be added to Section 4.1.1:</p> <ul style="list-style-type: none"> <li>• <i>The Construction Task Leader will develop a submittal register and inspection and testing log.</i></li> </ul>
#5.	Pg. 16, Sec. 4.2	<p><b>Comment:</b> The text states that inspections will be conducted during each phase of control. Please clarify what types of inspections are anticipated during the pre-construction phase.</p>

No.	Location	Comment
		<p><b>Response:</b> The inspections conducted during the pre-construction phase are outlined in Section 4.1.1 including:</p> <ul style="list-style-type: none"> <li>• <i>The contractor will submit to the Construction Task Leader, for review and approval, the name of the materials' supplier with specifications of all construction supply materials, inclusive of, but not limited to equipment and materials listed in the Final Design.</i></li> <li>• <i>The contractor will confirm availability of the required materials and equipment.</i></li> <li>• <i>The contractor will examine the materials and equipment to confirm compliance with approved procedures.</i></li> <li>• <i>The contractor and Construction Task Leader will confirm permits and regulatory requirements are met.</i></li> </ul>
#6.	Pg. 19, Sec. 4.2.3	<p><b>Comment:</b> The bullet list of items should include verification of the media (LGAC and resin) placed into the treatment vessels.</p> <p><b>Response:</b> Verification that the liquid phase granular activated carbon and resin placed into the treatment vessels complies with the requirements of the specifications will be added to Section 4.2.3 of the Final CQA Plan.</p>
#7.	Pg. 25, Sec. 7.0, 3rd Par.	<p><b>Comment:</b> The text states that the Contractor is responsible for documenting changes in the as-built drawings. However, Section 2.1.4 states that the Construction Task Leader is response for preparation of as-built drawings. Please clarify who is responsible for tracking construction changes and preparing as-built drawings.</p> <p><b>Response:</b> During implementation, the Contractor will document field changes and confirmed/approved modifications to the specifications. The Construction Task Leader will verify modifications and will be responsible for preparation of the as-built drawings.</p>
#8.	Pg. 25, Sec. 7.1, 1st Par.	<p><b>Comment:</b> The pre-construction meetings should also be used to ensure that all parties are fully aware of the QC processes, including the inspection and testing requirements and procedures.</p> <p><b>Response:</b> The last sentence of the first paragraph of Section 7.1 will be modified to read:</p> <p><i>Project meetings initiated during the pre-construction phase will help ensure all parties involved in the project understand and agree to the goal; objectives; schedule; submittal, documentation, and QC processes; and inspection and testing requirements and procedures.</i></p>

No.	Location	Comment
#9.	Pg. 26-27, Sections 7.2 and 7.3	<p data-bbox="430 153 1377 231"><b>Comment:</b> See O&amp;M Plan comment #22 regarding periodic submittal of information to EPA on O&amp;M activities.</p> <p data-bbox="430 289 1528 489"><b>Response:</b> Sections 7.2 and 7.3 of the Construction Quality Assurance Plan describe the proposed reporting during the construction of the remedy. O&amp;M Plan Comment 22 addresses USEPA reporting requirements during the operation and maintenance of the remedy following completion of the construction of the remedy. Therefore, this comment does not apply to the Construction Quality Assurance Plan.</p>



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION IX  
75 Hawthorne Street  
San Francisco, CA 94105

SENT VIA EMAIL AS PDF

May 19, 2014

Truong T. Mai, P.E.  
Principal, Environmental Resources Management  
2875 Michelle Drive, Suite 200  
Irvine, California 92606

Subject: EPA Approval of Construction Drawings, Construction Specifications, and Construction Quality Assurance Plan  
Rockets, Fireworks, and Flares Site, Source Area Operable Unit

Dear Mr. Mai:

We have reviewed the responses to EPA's comments on the construction drawings, construction specifications, and Construction Quality Assurance Plan (collectively the "pre-final design submittal") for the Source Area Operable Unit ("SAOU") at the Rockets, Fireworks, and Flares Site (formerly the B.F. Goodrich Superfund Site). The responses to comments are dated May 1, 2014; EPA's comments are dated April 17, 2014; and the pre-final design submittal is dated February 18, 2014. We also reviewed the responses to comments submitted by the California Department of Public Health (CDPH). The response is dated May 1, 2014; the CDPH comments are dated March 25, 2014. The responses were prepared by Environmental Resources Management (ERM) on behalf of Emhart Industries, Inc.

In a submittal dated May 16, 2014, ERM provided design drawings for the pipeline connecting the water treatment plant to the City of Rialto (Rialto) municipal water distribution system.

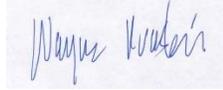
Our comments on the February 18, 2014, submittal have been satisfactorily addressed. We do not have any comments on the May 16, 2014, submittal. For compliance with the project schedule, this letter serves as approval of the design. Please submit, by June 18, 2014, a final design that reflects the responses to comments and incorporates the supplemental information provided on May 16, 2014. In accordance with the Consent Decree entered by the court on July 2, 2013, a draft Remedial Action Work Plan is due on June 18, 2014.

Please let us know the anticipated dates for submittal of the bid package(s) for remedy construction and EPA notification of the construction contractor(s).

We will separately respond to the May 15, 2014 letter responding to EPA's comments on the draft Operation and Maintenance Plan and Compliance Monitoring Plan.

Please call or email with any questions.

Sincerely,

A rectangular box containing a handwritten signature in blue ink that reads "Wayne Praskins".

Wayne Praskins  
Project Manager

cc: Kurt Berchtold, Santa Ana Regional Water Quality Control Board  
Rafat Abbasi, California Department of Toxic Substances Control  
Heather Balfour, ERM  
Joseph W. Hovermill, Miles & Stockbridge P.C.  
James L. Meeder Esq., Allen Matkins Leck Gamble Mallory & Natsis LLP  
Marcus Fuller, Rialto  
Deborah Schmall, Paul Hastings LLP  
Danielle Sakai, Best Best & Krieger LLP  
Penny Alexander-Kelley, San Bernardino County Counsel  
Sean McCarthy, California Department of Public Health