

California Integrated Waste Management Board

Linda Moulton-Patterson, Chair
1001 I Street • Sacramento, California 95814 • (916) 341-6000
Mailing Address: P. O. Box 4025, Sacramento, CA 95812-4025
www.ciwmb.ca.gov



Gray Davis
Governor

Winston H. Hickox
Secretary for
Environmental
Protection

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Ms. Lynn Marie Hornecker
Southwest Division, Naval Facilities Engineering Command
BRAC Programs Office
1220 Pacific Highway
Code 06CC.LMH
San Diego, California 92132-5190

REVISED DRAFT FINAL FEASIBILITY STUDY, INSTALLATION RESTORATION PROGRAM (IRP) SITE 11 DISPOSAL PITS, NASA Crows Landing Flight Facility, Stanislaus County, Solid Waste Facility No. 50-CR-0023.

Dear Ms. Hornecker:

Thank you for providing the California Integrated Waste Management Board (Board) staff the opportunity to review the subject Site 11 IRP Feasibility Study (FS). The FS report presents the results of recent site verification activities and identifies and evaluates a range of remedial action objectives and alternatives for Site 11. Board staff has reviewed the report and offers the following comments:

Site Characterization and Background

- 2.2.1 "Total extractable petroleum hydrocarbons were detected in two groundwater samples collected from the two monitoring wells.
"The locations...are shown in **Figure 2-1.**"

Comment: **Figure 2-1** shows the locations of *six* monitoring wells without identifying those of this statement.

- 2.2.2 "A soil-gas survey was conducted..." with samples collected from 50 feet or just above the water table at five locations.

Comment: Was a gas generation assessment study performed? If not, please explain.

California Environmental Protection Agency

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Detailed Analysis of Alternatives

Table 5.2 and Table 5.3 present the following estimates for capital expenditures and operation and maintenance costs for Remedial Action Alternatives:

Capital/O&M cost	Alternative 1	Alternative 2	Alternative 3	Alternative 4
Table 5.2	None	\$2,539,313	\$4,638,139	\$4,179,065
Table 5.3	None	\$2,700,000	\$4,700,000	\$4,400,000
Difference		+ \$160,687	+ \$61,861	+ \$220,935

Comment: Table 5.2 provides a detailed analysis of the Remedial Action Alternatives while Table 5.3 provides a comparative analysis of the same. As the alternatives remain the same, what justifies the significant increase in estimated costs?

Identification of Remedial Action Objectives

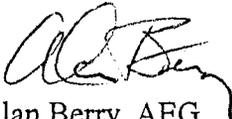
3.2 Applicable or Relevant and Appropriate Requirements (ARARs)

In Table 3.2 Title 27 California Code of Regulations (27CCR)§20620 is listed as “Relevant and Appropriate.” This section calls for an attendant to be present at any disposal site open to the public. Relevance and appropriateness seems questionable.

A number of IWMB regulations that may be considered applicable or relevant and appropriate to remediation and closure activities at Site 11 are *not* listed or considered in the IRP FS report. Since those remediation and closure activities finally may include either clean closure or closure (consolidation capping with clay barrier) and postclosure maintenance, or a combination thereof, the current listing of “chemical-specific,” “action-specific,” and “location-specific” ARARs should include those regulations that apply to site excavation and consolidation, clean closure, and closure and postclosure maintenance. For your convenience, a complete listing of those ARARs is enclosed.

Should you have any questions regarding the above, please contact me at (916) 341-6796.

Sincerely,



Alan Berry, AEG
 Closure and Technical Services
 Permitting and Enforcement Division
 CIWMB

cc: Mr. James Barton
 California Regional Water Quality Board, Central Valley Region
 3443 Routier Road, Suite A
 Sacramento, CA 95827-3003

Ms. Francesca D'Onofrio
California Department of Toxic Substances Control
Office of Military Facilities
8800 Cal Center Drive
Sacramento, CA 95826

Ms. Marianna Potacka
BRAC Environmental Coordinator
Southwest Division, Naval Facilities Engineering Command
BRAC Operations Office
1220 Pacific Highway
San Diego, CA 92132-5190

Mr. Jim Simpson
Hazardous Materials Division
Stanislaus County Department of Environmental Resources
3800 Cornucopia Way, Suite C
Modesto, CA 95358-9492

Mr. Don Chuck
NASA Ames Research Center
Office of Environmental Services
MS 218-1
Moffet Field, CA 94035-1000

State ARARs for Solid Waste Disposal Site Closure and Postclosure Maintenance

Source	Standard, Requirement, Criterion, or Limitation	ARAR Status	Description	Comment	Associated Site
✓ California Integrated Waste Management Act of 1989 PRC 40502 & 43020	27 CCR 21130 Ch. 3, Subch. 5, Art. 2, Closure & Postclosure Maint. Standards for Disposal Sites and Landfills	Applicable or Relevant and Appropriate	Emergency Response: potential emergency conditions that may exceed the design of the site and could endanger the public health or environment must be anticipated. Response procedures for these conditions must be addressed in the RD/RA plans.	Closure or Postclosure Maintenance Standards for Disposal Sites and Landfills of 27 CCR, Ch. 3, Subch. 5, Art. 2. Scope & Applicability pursuant to 27 CCR 21100.	For closing sites
California Integrated Waste Management Act of 1989 PRC 40502 & 43020	27 CCR 21135 Ch. 3, Subch. 5, Art. 2, Closure & Postclosure Maint. Standards for Disposal Sites and Landfills	Applicable or Relevant and Appropriate	Site Security: all points of access to the site must be restricted, except permitted entry points. All monitoring, control, and recovery systems shall be protected from unauthorized access.	Closure or Postclosure Maintenance Standards for Disposal Sites and Landfills of 27 CCR, Ch. 3, Subch. 5, Art. 2. Scope & Applicability pursuant to 27 CCR 21100	For closing sites
✓ California Integrated Waste Management Act of 1989 PRC 40502 & 43020	27 CCR 21137 Ch. 3, Subch. 5, Art. 2, Closure & Postclosure Maint. Standards for Disposal Sites and Landfills	Applicable or Relevant and Appropriate	Structure Removal: site structures and leachate and gas control systems not intended for reuse will be dismantled and removed at the time of closure to protect public health and safety.	Closure or Postclosure Maintenance Standards for Disposal Sites and Landfills of 27 CCR, Ch. 3, Subch. 5, Art. 2. Scope & Applicability pursuant to 27 CCR 21100	For closing sites
✓ California Integrated Waste Management Act of 1989 PRC 40502 & 43020	27 CCR 21140 Ch. 3, Subch. 5, Art. 2, Closure & Postclosure Maint. Standards for Disposal Sites and Landfills	Applicable or Relevant and Appropriate	Final Cover: the final cover shall function with minimum maintenance and provide waste containment to protect public health and safety by controlling at a minimum, vectors, fire, odor, litter and landfill gas migration. The final cover shall also be compatible with postclosure land use.	Closure or Postclosure Maintenance Standards for Disposal Sites and Landfills of 27 CCR, Ch. 3, Subch. 5, Art. 2. Scope & Applicability pursuant to 27 CCR 21100	For closing sites
✓ California Integrated Waste Management Act of 1989 PRC 40502 & 43020	27 CCR 21142 Ch. 3, Sub. 5, Article 2, Closure & Postclosure Maint. Standards for Disposal Sites and Landfills	Applicable or Relevant and Appropriate	Final Grading: final grades must be designed and maintained to reduce impacts to health and safety and take into consideration any postclosure land use.	Closure or Postclosure Maintenance Standards for Disposal Sites and Landfills of 27 CCR, Ch. 3, Subch. 5, Art. 2. Scope & Applicability pursuant to 27 CCR 21100	For closing sites
✓ California Integrated Waste Management Act of 1989 PRC 40502 & 43020	27 CCR 21145 Ch. 3, Subch. 5, Art. 2, Closure & Postclosure Maint. Standards for Disposal Sites and Landfills	Applicable or Relevant and Appropriate	Slope Stability: the operator shall ensure the integrity of final slopes under both static and dynamic conditions to protect public health & safety and prevent damage to postclosure land uses, roads, structures, utilities, gas monitoring and control systems, leachate collection and control systems to prevent public contact with leachate, and prevent exposure of waste.	Closure or Postclosure Maintenance Standards for Disposal Sites and Landfills of 27 CCR, Ch. 3, Subch. 5, Art. 2. Scope & Applicability pursuant to 27 CCR 21100.	For closing sites
✓ California Integrated Waste Management Act of 1989 PRC 40502 & 43020	27 CCR 21150 Ch. 3, Subch. 5, Art. 2, Closure & Postclosure Maint. Standards for Disposal Sites and Landfills	Applicable or Relevant and Appropriate	Drainage and Erosion Control: the drainage and erosion control system shall be designed and maintained to ensure integrity of postclosure land uses, roads, and structures; to prevent public contact with waste and leachate; to ensure integrity of gas monitoring and control systems; to prevent safety hazards; and to prevent exposure of waste.	Closure or Postclosure Maintenance Standards for Disposal Sites and Landfills of 27 CCR, Ch. 3, Sub. 5, Art. 2. Scope & Applicability pursuant to 27 CCR 21100	For closing sites
✓ California Integrated Waste Management Act of 1989 PRC 40502 & 43020	27 CCR 21160 Ch. 3, Sub. 5, Article 2, Closure & Postclosure Maint. Standards for Disposal Sites and Landfills	Applicable or Relevant and Appropriate	Landfill Gas Control and Leachate Contact: landfill gas control shall be implemented and maintained; leachate must be collected and controlled in a manner which prevents public contact and controls vectors, nuisance and odor.	Closure or Postclosure Maintenance Standards for Disposal Sites and Landfills of 27 CCR, Ch. 3, Subch. 5, Art. 2, Scope & Applicability pursuant to 27 CCR 21100. The state does not intend that subsurface leachate monitoring and collecting systems need to be added to existing landfills unless leachate production and/or accumulation is evident.	For closing sites

State ARARs for Solid Waste Disposal Site Excavation and Consolidation

Source	Standard, Requirement, Criterion, or Limitation	ARAR Status	Description	Comment	Associated Site
Waste Management Act of 1989 PRC 40502, 43020, 43021 and 43030	Div. 2, Subdiv. 1, Ch. 3, Subch. 4, Art. 1, Sec. 20700, Intermediate Cover		12 inches on all surfaces of the fill where no additional solid waste will be deposited within 180 days.	defined by Public Resources Code Section 40122.	excavation sites
California Integrated Waste Management Act of 1989 PRC 40502, 43020, 43021 and 43030	27 CCR 20710(a) Div. 2, Subdiv. 1, Ch. 3, Subch. 4, Art. 1, Sec. 20710(a), Scavenging, Salvaging and Storage	Applicable	Scavenging: Scavenging is prohibited.	Applies to solid waste disposal sites as defined by Public Resources Code Section 40122.	For consolidation and excavation sites
California Integrated Waste Management Act of 1989 PRC 40502, 43020, 43021 and 43030	27 CCR 20710(b) Div. 2, Subdiv. 1, Ch. 3, Subch. 4, Art. 1, Sec. 20710(b), Scavenging, Salvaging and Storage	Applicable	Salvaging Permitted: Salvaging is permitted in a planned and controlled manner.	Applies to solid waste disposal sites as defined by Public Resources Code Section 40122.	For consolidation and excavation sites
California Integrated Waste Management Act of 1989 PRC 40502, 43020, 43021 and 43030	27 CCR 20710(c) Div. 2, Subdiv. 1, Ch. 3, Subch. 4, Art. 1, Sec. 20710(c), Scavenging, Salvaging and Storage	Applicable	Storage of Salvage: Salvage material must be safely isolated for storage.	Applies to solid waste disposal sites as defined by Public Resources Code Section 40122.	For consolidation and excavation sites
California Integrated Waste Management Act of 1989 PRC 40502, 43020, 43021 and 43030	27 CCR 20710(c) Div. 2, Subdiv. 1, Ch. 3, Subch. 4, Art. 1, Sec. 20710(c), Scavenging, Salvaging and Storage	Applicable	Removal: Storage time for salvage materials shall be limited to a duration specified by the enforcement agency.	Applies to solid waste disposal sites as defined by Public Resources Code Section 40122.	For consolidation and excavation sites
California Integrated Waste Management Act of 1989 PRC 40502, 43020, 43021 and 43030	27 CCR 20720 Div. 2, Subdiv. 1, Ch. 3, Subch. 4, Art. 1, Sec. 20720, Non-Salvageable Items	Applicable	Non-Salvageable Items: Items capable of impairing public health shall not be salvaged without approval by the agencies.	Applies to solid waste disposal sites as defined by Public Resources Code Section 40122.	For consolidation and excavation sites
California Integrated Waste Management Act of 1989 PRC 40502, 43020, 43021 and 43030	27 CCR 20730 Div. 2, Subdiv. 1, Ch. 3, Subch. 4, Art. 1, Sec. 20730, Volume Reduction & Energy Recovery	Applicable	Volume Reduction and Energy Recovery: Volume reduction and energy recovery are permitted in planned and controlled manners. Processing area shall be confined to specified, clearly identifiable areas of the site.	Applies to solid waste disposal sites as defined by Public Resources Code Section 40122.	For consolidation and excavation sites
California Integrated Waste Management Act of 1989 PRC 40502, 43020, 43021 and 43030	27 CCR 20760 Div. 2, Subdiv. 1, Ch. 3, Subch. 4, Art. 1, Sec. 20710(c), Nuisance Control	Applicable	Nuisance Control: Each site shall be operated and maintained so as not to create a public nuisance.	Applies to solid waste disposal sites as defined by Public Resources Code Section 40122.	For consolidation and excavation sites
California Integrated Waste Management Act of 1989	27 CCR 20780(b) Div. 2, Subdiv. 1, Ch. 3, Subch. 4, Art. 4, Sec.	Applicable	Burning Wastes: Burning wastes shall be extinguished.	Applies to solid waste disposal sites as defined by Public Resources Code Section 40122.	For consolidation and excavation sites

State ARARs for Solid Waste Disposal Site Excavation and Consolidation

Source	Standard, Requirement, Criterion, or Limitation	ARAR Status	Description	Comment	Associated Site
PRC 40502, 43020, 43021 and 43030	20780(b), Open Burning & Burning Wastes				
California Integrated Waste Management Act of 1989 PRC 40502, 43020, 43021 and 43030	27 CCR 20790 Div. 2, Subdiv. 1, Ch. 3, Subch. 4, Art. 1, Sec. 20790, Nuisance Control	Applicable	Leachate Control: The operator shall ensure that leachate is controlled to prevent contact with the public.	The state does not intend that subsurface leachate monitoring and collection systems need to be installed at existing sites unless there is evidence of leachate production and/or accumulation. Applies to solid waste disposal sites as defined by Public Resources Code Section 40122.	For consolidation and excavation sites
✓ California Integrated Waste Management Act of 1989 PRC 40502, 43020, 43021 and 43030	27 CCR 20800 Div. 2, Subdiv. 1, Ch. 3, Subch. 4, Art. 4, Sec. 20800, Dust Control	Applicable	Dust Control: The operator shall take adequate measures to minimize the creation of dust and prevent safety hazards due to obscured visibility.	Applies to solid waste disposal sites as defined by Public Resources Code Section 40122.	For consolidation and excavation sites
✓ California Integrated Waste Management Act of 1989 PRC 40502, 43020, 43021 and 43030	27 CCR 20810 Div. 2, Subdiv. 1, Ch. 3, Subch. 4, Art. 4, Sec. 20810, Dust Control	Applicable	Vector and Bird Control: The operator shall take adequate measures to control or prevent the propagation, harborage, or attraction of flies, rodents, or other vectors, and to minimize bird problems.	Applies to solid waste disposal sites as defined by Public Resources Code Section 40122.	For consolidation and excavation sites
California Integrated Waste Management Act of 1989 PRC 40502, 43020, 43021 and 43030	27 CCR 20820 Div. 2, Subdiv. 1, Ch. 3, Subch. 4, Art. 4, Sec. 20820, Drainage and Erosion Control	Applicable	Drainage And Erosion Control: The drainage system shall be designed and maintained to: ensure integrity of roads, structures, and gas monitoring and control systems; prevent safety hazards; and prevent exposure of waste.	Applies to solid waste disposal sites as defined by Public Resources Code Section 40122.	For consolidation and excavation sites
California Integrated Waste Management Act of 1989 PRC 40502, 43020, 43021 and 43030	27 CCR 20830 Div. 2, Subdiv. 1, Ch. 3, Subch. 4, Art. 4, Sec. 20830, Grading of Fill Surface	Applicable	Litter Control: Litter and loose materials shall be routinely collected and disposed of properly.	Applies to solid waste disposal sites as defined by Public Resources Code Section 40122.	For consolidation and excavation sites
California Integrated Waste Management Act of 1989 PRC 40502, 43020, 43021 and 43030	27 CCR 20919 Div. 2, Subdiv. 1, Ch. 3, Subch. 4, Art. 6, Sec. 20919, Gas Control	Applicable	Gas Control: The operator shall cause the site to be monitored for the presence and movement of landfill gas and take any necessary action to control such gases in the event that the gas causes a hazard or nuisance.	Applies to solid waste disposal sites as defined by Public Resources Code Section 40122.	For consolidation and excavation sites
California Integrated Waste Management Act of 1989 PRC 40502, 43020, 43021 and 43030	27 CCR 21600 Div. 2, Subdiv. 1, Ch. 4, Subch. 3, Art. 2, Sec. 21600, Report of Disposal Site Info	Relevant and Appropriate	Report of Disposal Site Information: The planning and procedural requirements necessary to ensure that solid waste is handled and disposed in manners that protect public health and safety and the environment must be conducted.	Applies to operating solid waste disposal sites as defined by Public Resources Code Section 40122.	For consolidation sites

14 CCR - California Code of Regulations, Title 14 ARAR - applicable or relevant and appropriate requirement ROD - Record of Decision RD/RA - remedial design/remedial action

Transmittal

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From: Lynn Marie Hornecker *LMH*
Code 06CC.LMH

To: Diane Silva
Code 01LS.DS
Administrative Record Manager

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