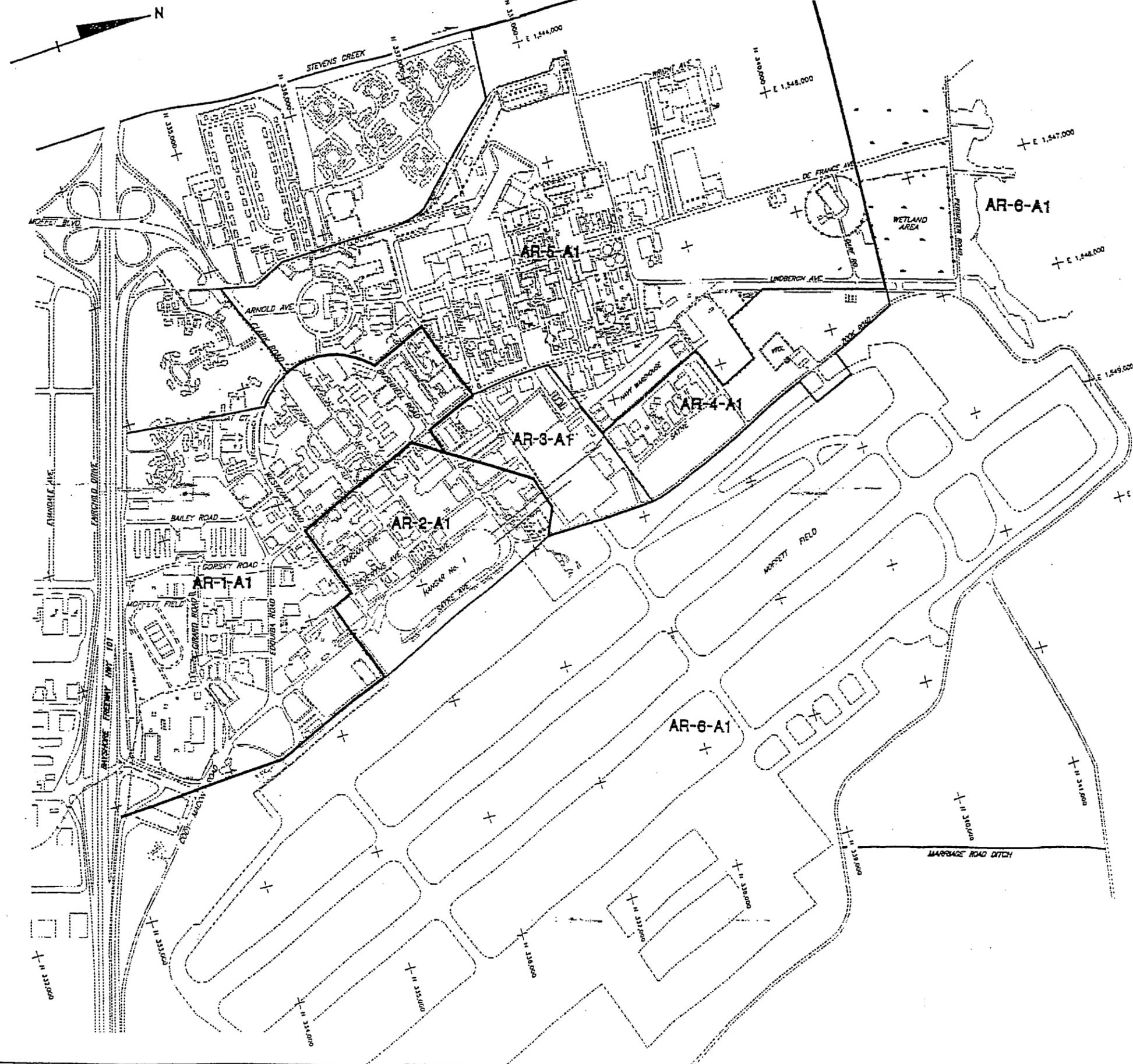


## **APPENDIX A**

### **MEW Companies/Navy/NASA Allocation Area Map**

DRAWING NUMBER 92-023-E504

DS 1-28-88



Allocation and Settlement Agreement  
NASA/NAVY/MEW Companies

Location	Responsible Party/Contamination Type
AR-1	MEW Companies: chlorinated solvents in saturated soil and groundwater NAVY: TPH in saturated soil and groundwater and all vadose zone soil
AR-2	NAVY: all soil and groundwater
AR-3	MEW Companies: chlorinated solvents in saturated soil and groundwater NASA: TPH in saturated soil and groundwater and all vadose zone soil
AR-4	NASA: all soil and groundwater
AR-5	NASA: all soil and groundwater
AR-6	NAVY: all soil and groundwater



A/A1 AQUIFER  
CLEANUP RESPONSIBILITY  
MOFFETT FIELD, CALIFORNIA  
PREPARED FOR  
FAIRCHILD  
SEMICONDUCTOR. CORP.

**SMTH**

No.	DATE	ISSUE / REVISION	DS	EM	JEB
			DWN. BY	CKD BY	APD BY

DATE: 8-23-88	EXHIBIT B1	DRAWING NUMBER: 92-023-E504
SCALE: AS SHOWN		

## **APPENDIX B**

### **Mitigated Alternative 5 Land Use Plan from Final Programmatic Environmental Impact Statement**

**Figure 2.6 from Design, Community, and Environment, *NASA Ames Development Plan, Final Programmatic Environmental Impact Statement, NASA Ames Research Center, July 2002***

FIGURE 2.6

MITIGATED ALTERNATIVE FIVE



**LEGEND:**

- Partner Parcel
- Community Support
- University Reserve
- NASA Reserved
- Recreation
- Relocated AT Control Tower
- Housing - Bay View
- Housing - NRP
- California Air and Space Center
- Historic District Infill
- Historic District Renovation
- Historic Buildings
- Computer Museum
- Supporting Retail
- Light Rail
- Preserve (Burrowing Owl)
- Open Space
- Wetlands
- Fence Line
- Bay Trail Extension

① Denotes Parcel Number as Noted on Table 2-14

- 1 Ames Campus
- 1 NASA Research Park
- 1 Eastside / Airfield
- 1 Bay View

\* A portion of Building 19 will remain offices

DMJMH+N

EDAW



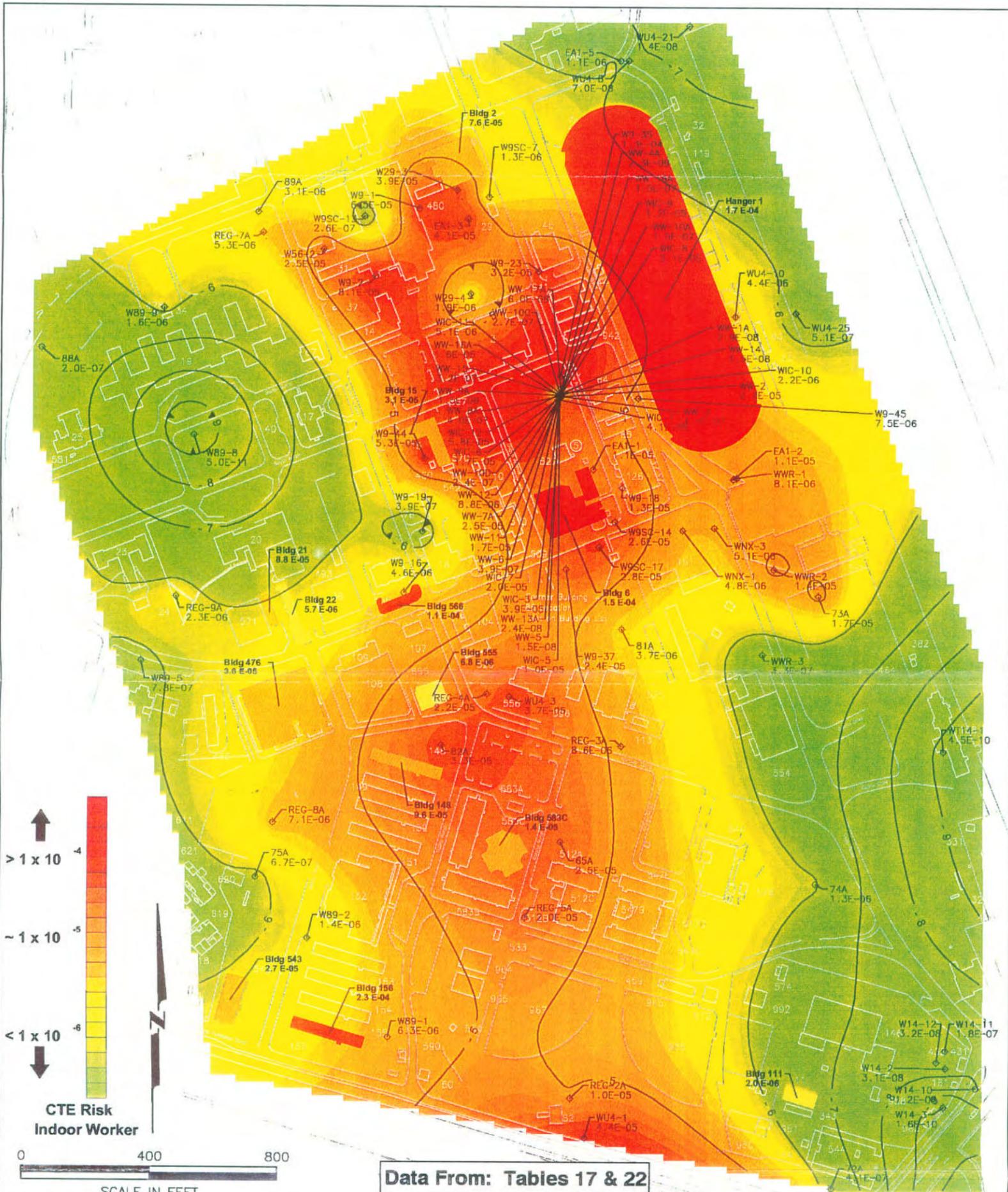
## **APPENDIX C**

### **Selected Plates from the Revised Human Health Risk Assessment**

***Mactec, Inc., Revised Human Health Risk Assessment, NASA Research Park, Moffett Field, California, 28 July 2003***

Includes:

- Plate 8: Indoor Worker RME Risk;
- Plate 10: Indoor Worker RME HI;
- Plate 16: Child Resident (10 yr) RME Risk;
- Plate 18: Child Resident (10 yr) RME HI;
- Plate 20: Resident (30 yr) RME Risk;
- Plate 22: Resident, Child (6 yr) HI,



Data From: Tables 17 & 22



**Harding ESE**  
A MACTEC Company

**Indoor Worker RME Risk**  
Human Health Risk Assessment  
NASA Research Park Parcels  
Moffett Field, California

PLATE

**8**

DRAWN  
Rws

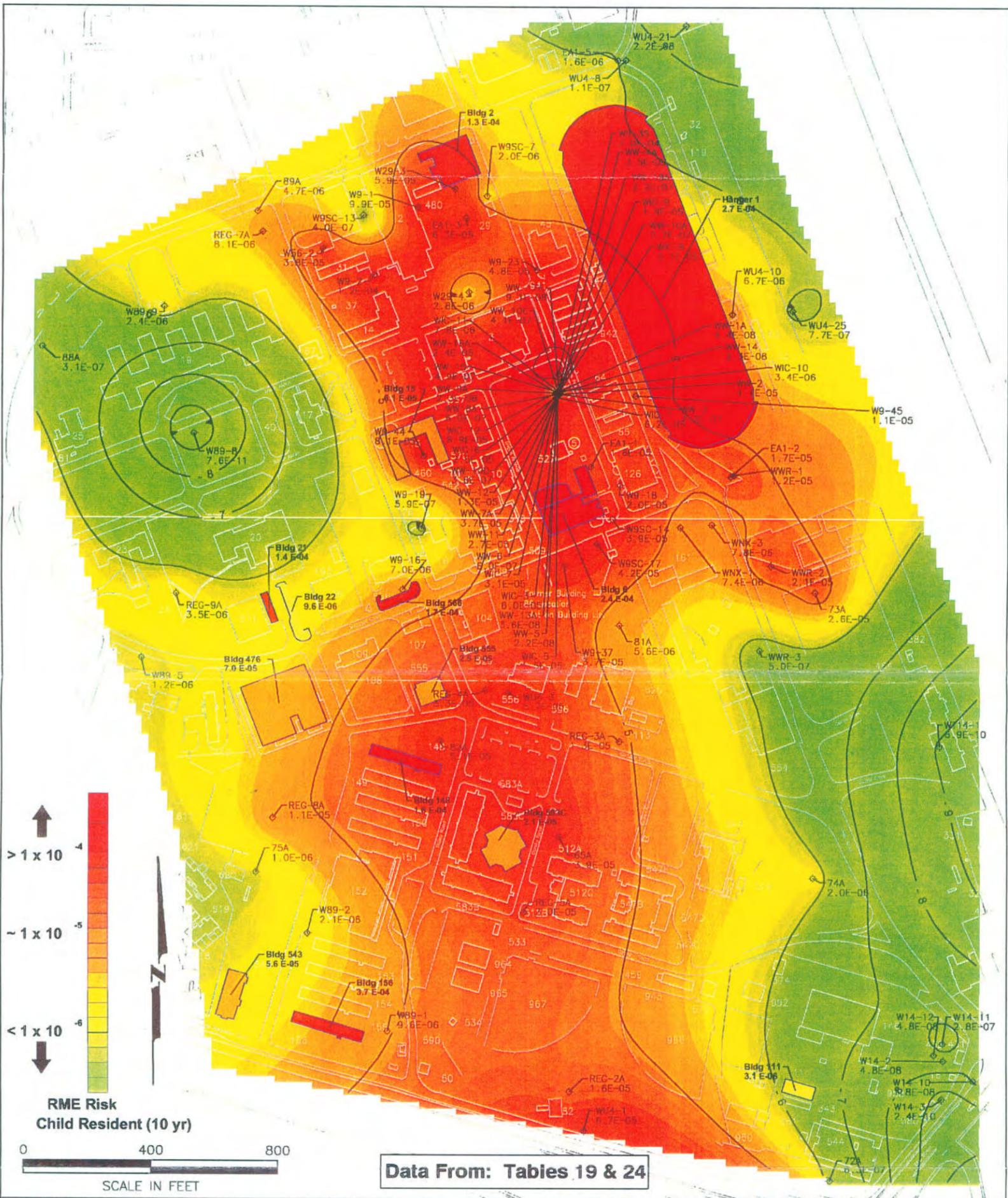
JOB NUMBER  
56042

DATE  
04/03

REVISED DATE

P:\Geophys\nASA Ames





**Harding ESE**  
A MACTEC Company

**Child Resident (10 yr) RME Risk**  
Human Health Risk Assessment  
NASA Research Park Parcels  
Moffett Field, California

PLATE

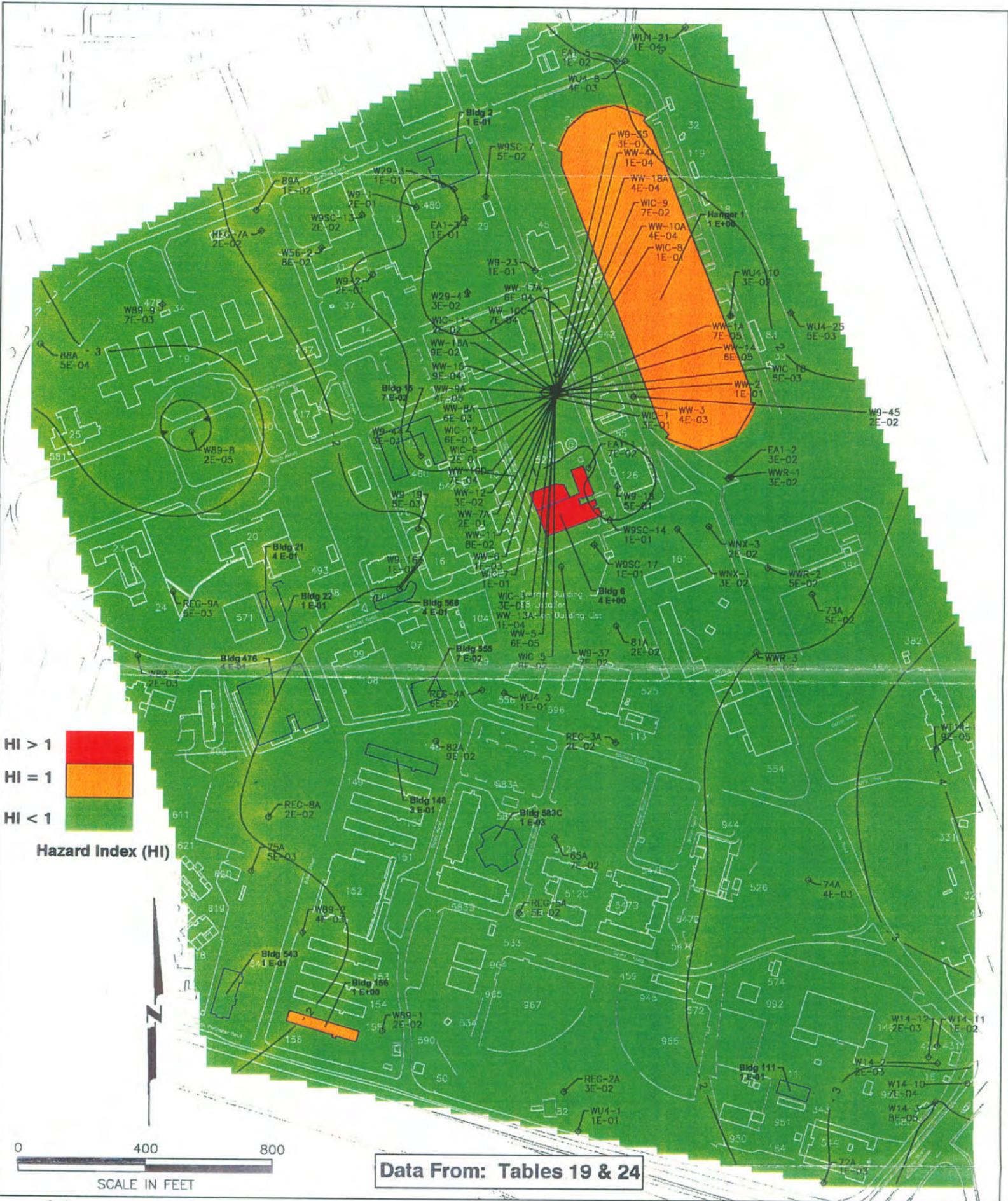
**16**

DRAWN  
Rws

JOB NUMBER  
56042

DATE  
04/03

REVISED DATE

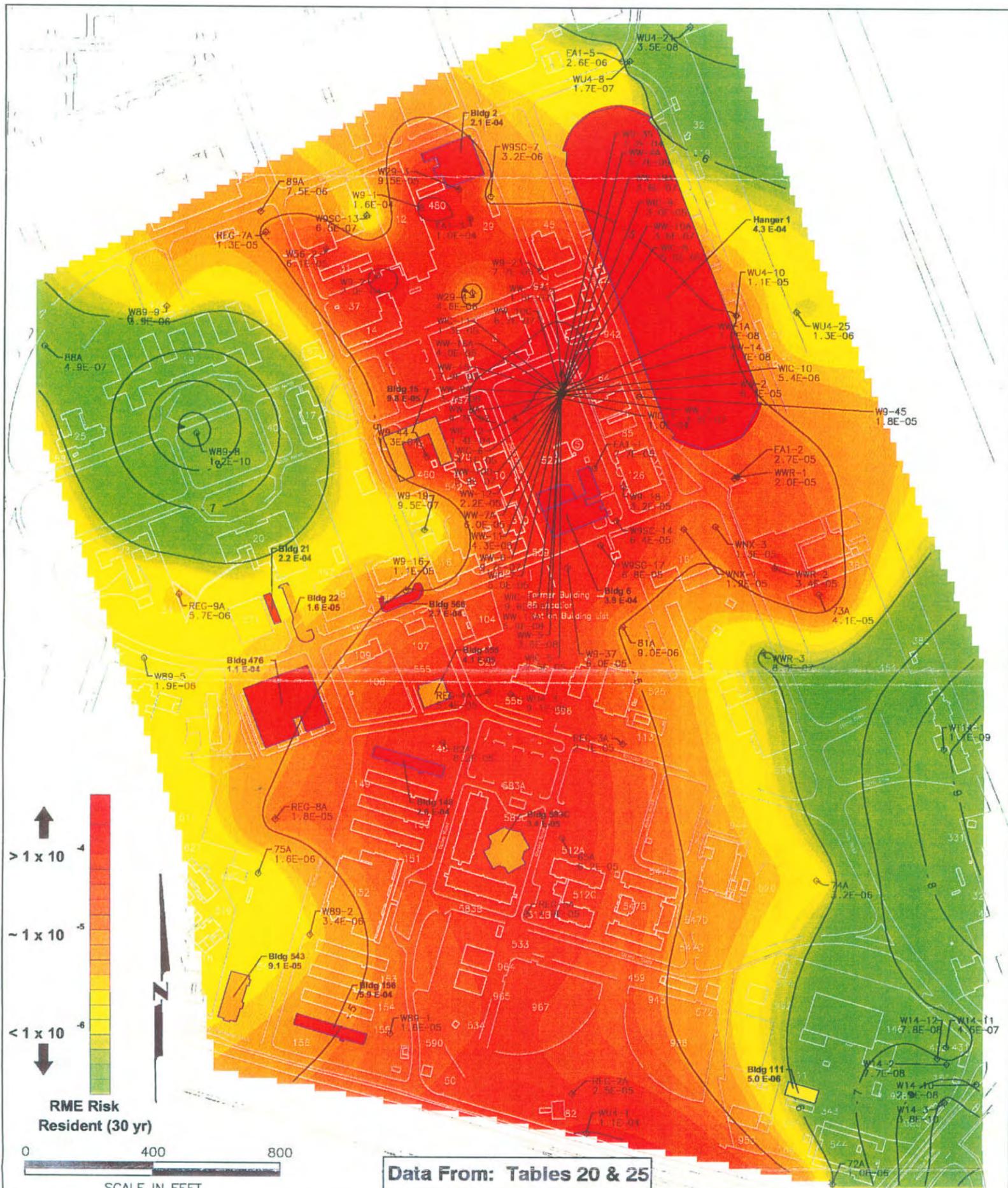


**Child Resident (10 yr) RME HI**  
 Human Health Risk Assessment  
 NASA Research Park Parcels  
 Moffett Field, California

PLATE  
**18**

DRAWN Rws	JOB NUMBER 56042	DATE 04/03	REVISED DATE
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P:\Geophysics\NASA Ames



Data From: Tables 20 & 25



**Harding ESE**  
A MACTEC Company

**Resident (30 yr) RME Risk**  
Human Health Risk Assessment  
NASA Research Park Parcels  
Moffett Field, California

PLATE

**20**

DRAWN  
Rws

JOB NUMBER  
56042

DATE  
04/03

REVISED DATE

P:\Geophys/NASA Ames

## **APPENDIX D**

### **Agreement for Coordination of Construction and MEW Remedial System Modification Work NASA Research Park, Moffett Federal Airfield**

AGREEMENT FOR COORDINATION OF CONSTRUCTION  
AND MEW REMEDIAL SYSTEM MODIFICATION WORK AT  
NASA RESEARCH PARK, AMES RESEARCH CENTER, MOFFETT FIELD,  
CALIFORNIA

The National Aeronautics and Space Administration (“NASA”) enters into this Agreement for Coordination of Construction and MEW Remedial System Modification Work at NASA Research Park, Ames Research Center, Moffett Field, California (“Agreement”) with Fairchild Semiconductor Corporation, a Delaware corporation, and Raytheon Company, a Delaware corporation (collectively, the “MEW Companies”), and CM SPE, LLC, a Pennsylvania limited liability company (“Project Developer”). NASA enters into this Agreement pursuant to the authority of the National Aeronautics and Space Act of 1958, as amended, 42 U.S.C. §§ 2451 et seq.

RECITALS

A. On June 9, 1989, the United States Environmental Protection Agency (“EPA”) issued a Record of Decision (the “MEW ROD”) for the Middlefield-Ellis-Whisman area of Mountain View, California. The MEW ROD was modified in September 1990 and April 1996 by EPA’s Explanations of Significant Differences. The MEW ROD requires the implementation of an EPA-approved regional groundwater remediation program (“RGRP”).

B. On November 29, 1990, pursuant to Section 106(a) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended by the Superfund Amendments and Reauthorization Act of 1986 (as so amended, “CERCLA”) (42 U.S.C. § 9606(a)), the EPA issued an Administrative Order for Remedial Design and Remedial Action for the MEW Site to Fairchild Semiconductor Corporation, Schlumberger Technology Corporation, National Semiconductor Corporation, NEC Electronics, Inc., Siltec Corporation, Sobrato Development Companies, General Instrument Corporation, Tracor X-Ray, Inc., and Union Carbide Chemicals and Plastics Company Inc. (the “106 Order”).

C. On May 9, 1991, pursuant to CERCLA, the EPA entered into a Consent Decree with Intel Corporation and Raytheon Company to compel them to perform remedial actions at the MEW Site.

D. As part of the RGRP, the MEW Companies have installed, operate, monitor and maintain a groundwater monitoring and remedial system (“Remedial System”) on Moffett Field (“Moffett”) under the direction of EPA. The Remedial System’s components include, but are not limited to, groundwater monitoring wells, groundwater extraction wells, single and double-contained pipelines, air relief structures, electrical power and instrumentation conduits, fiber-optic instrument systems, electrical field control panels, leak detection systems, radio frequency communication links, settlement pin monuments and a groundwater treatment system (“GWTS”). The MEW Companies are required by EPA to operate the Remedial System GWTS and related

extraction wells and components continuously except during maintenance. Approval for any shutdown of more than 24 hours duration must be obtained from the EPA Remedial Project Manager (“RPM”) in advance.

E. NASA has entered into an agreement with the Project Developer to undertake redevelopment activities at Moffett in connection with the Project Developer’s lease of certain improvements at Moffett. These activities include, but are not limited to, demolition, grading, trenching and other excavation work, and construction connected with the development of office, educational, and research and development facilities (collectively, “Project Development”).

F. NASA, the MEW Companies and the Project Developer enter into this Agreement to minimize any impact of Project Development on the operation, monitoring, maintenance and modification of the Remedial System and to allow MEW Companies and the EPA access to the Remedial System during and after Project Development; and to delineate the roles and responsibilities for managing contaminated soil and groundwater that is excavated during the Project Development. NASA, the MEW Companies and the Project Developer recognize that, to coordinate Project Development and the continued operation of the Remedial System effectively, it will be necessary for NASA, the Project Developer and the MEW Companies to be in regular, frequent communication.

G. The Parties to this Agreement all agree that all actions to be taken hereunder shall be in compliance with all applicable laws and, to the extent required by law, will receive the approval of all state and federal agencies having jurisdiction over such actions.

NOW, THEREFORE, NASA, Project Developer and the MEW Companies agree as follows:

## AGREEMENT

### **1. Geographic Scope of Agreement**

This Agreement applies only within those geographical parts of Moffett that are or will be physically affected by the construction work performed by the Project Developer in connection with the Project Development and located within the areas designated as AR-1 and AR-3 on the attached Figure 1, together with other areas that may be affected by extensions of portions of the Remedial System that extend from AR-1 and/or AR-3.

### **2. Scheduling of Work**

The Project Developer shall meet with the MEW Companies as early as possible during Project Development planning to coordinate Project Development with the operation, monitoring, maintenance and modification of the Remedial System. Detailed drawings showing the locations of the Remedial System components shall be provided by the MEW Companies to the Project Developer in CAD form so they can be integrated into the Project Developer’s plans.

### **3. Remedial System Protection and Modification; Exacerbation of Contamination**

During Project Development, (i) the Project Developer shall protect the integrity of all components of the Remedial System and shall take all reasonable measures to minimize Remedial System downtime, in each case to the extent the Remedial System may be affected as a result of the Project Development, and (ii) the MEW Companies shall operate the Remedial System in a manner that, to the extent reasonably possible and subject to the express requirements of this Agreement, minimizes interference with the ongoing Project Development. After completion of Project Development, the MEW Companies both (a) shall protect the integrity of all components of facilities resulting from the Project Development and (b) shall take all reasonable measures to minimize interference with the Project Developer's use of its facilities, in each case to the extent they may be affected as a result of the operation of the Remedial System, provided that the MEW Companies shall not be required to relocate components of the Remedial System as they exist on the date of this Agreement. The Project Developer shall pay any costs of relocation, replacement, alteration, protection, modification, or repair of the Remedial System caused by Project Development, to the extent any such relocation, replacement, alteration, protection, modification or repair is required by applicable laws and/or is required for the Remedial System to operate in substantially the same manner it operated prior to any such relocation, replacement, alteration, protection, modification or repair caused or necessitated by the Project Development. In addition, if the Project Developer damages any Remedial System component in a manner that causes a release of untreated groundwater or soil or if the Project Developer exacerbates existing soil or groundwater contamination, the Project Developer shall pay all costs of investigation, remediation, EPA oversight, and any penalties associated with such release or exacerbation. The design and construction of any modification to the Remedial System shall be performed by the MEW Companies; all modification costs, including EPA oversight costs, shall be paid by the Project Developer, subject to Section 18.

### **4. Well Protection**

The Project Developer shall repair any damage to Remedial System wells caused by Project Development. Prior to the initial Project Development demolition or construction field work, the MEW Companies shall field locate all Remedial System wells. Prior to the start of Project Development field work, the Project Developer shall install brightly painted steel pipes over each Remedial System monitoring and extraction well designated by the MEW Companies. The painted pipe shall extend above ground not less than four feet, so as to be highly visible, and shall be buried sufficiently below the ground surface to protect the wellhead. Alternative equivalent well protection measures may be used by the Project Developer provided the MEW Companies approve any alternative protective measure in writing prior to its use.

Additionally, all Project Development work within two (2) feet of Remedial System wells shall be performed manually with hand tools. Fine grading work

performed in areas more than two feet from the Remedial System wells but within close proximity shall be performed by light grading equipment.

## **5. Well Sealing and Well Replacement**

If the Project Developer determines that a Remedial System well conflicts with the planned Project Development and must be removed, the Project Developer shall pay all costs of well sealing and replacement and all related MEW Companies' costs, including but not limited to the cost of installing replacement conduit, piping, boxes, controls and all other components needed to return a well to service, developing the well, conducting a baseline first round of groundwater sampling, and preparing all required plans, surveys and reports. The Project Developer shall be responsible for sealing all wells located within 15 feet of the outer wall of a new building. No well shall be sealed or relocated without the prior written approval of the EPA RPM. Well sealing and installation shall comply with Santa Clara Valley Water District ("SCVWD") guidance and take place under SCVWD permit. Coordination with EPA and well sealing and replacement shall be performed by the MEW Companies, at the Project Developer's sole cost, subject to Section 18.

## **6. Remedial System Pipeline Protection and Replacement**

Prior to initial Project Development field work, the Project Developer shall provide and place steel plate or equivalent protective measures over the existing MEW Companies' pipelines and power and control conduits. If the Project Developer determines that a pipeline conflicts with the planned Project Development and must be removed and relocated, the Project Developer shall pay all costs related to pipeline removal and replacement, including but not limited to design, permitting, review, inspection, construction and independent quality assurance inspection costs. The Project Developer shall be responsible for removing and relocating all pipelines located within five feet of the outer edge of the footing or foundation of a new building. No pipeline shall be relocated without the prior approval of the EPA RPM. Replacement pipeline installation procedures shall also be approved by the EPA RPM. Coordination to obtain EPA approval, and pipeline removal and replacement work, shall be performed by the MEW Companies at the Project Developer's cost, subject to Section 18.

## **7. Notification of Shutdown of Groundwater Extraction Wells or GWTS**

If, during Project Development, the Project Developer believes it to be necessary that either a Remedial System extraction well or the GWTS be shut down, the Project Developer shall make written request of same to the MEW Companies no later than five (5) working days in advance of the proposed shutdown. If such shutdown does not require EPA approval, the MEW Companies shall, within five (5) working days of receipt of the Project Developer's written request, notify Project Developer in writing either that (a) the MEW Companies consent to such request, including information on the anticipated timing of the shutdown or (b) the MEW Companies do not consent to such request and the reason(s) for such refusal. If such shutdown does require EPA approval, the MEW Companies shall, promptly upon receipt of the Project Developer's written

request, make appropriate application to EPA for its consent and shall notify the Project Developer of EPA's response within one (1) working day of its receipt of EPA's response or, failing a response from EPA within fifteen (15) working days, shall notify the Project Developer of EPA's lack of response and any additional steps the MEW Companies have taken to elicit a response. In the event of an inadvertent shutdown of any component of the Remedial System, the Project Developer shall give immediate verbal notice to the MEW Companies, and the MEW Companies shall be responsible for any required notice to EPA pursuant to the 106 Order. Additionally, the Project Developer shall provide to the MEW Companies a written explanation of the reason for and the duration of any inadvertent shutdown within 48 hours of the shutdown.

## **8. Access to Wells and the GWTS**

Project Development shall be performed in such a way that all Remedial System wells, pull boxes and the GWTS and associated components remain accessible to the EPA and the MEW Companies and their equipment for sampling, operation, maintenance, removal and replacement of pumps, and well sealing to the maximum extent practicable during and after Project Development. If it becomes necessary to restrict access to a well or other Remedial System component during Project Development, the Project Developer shall provide written notice to the MEW Companies five working days in advance of creating the restriction, with an explanation of the reason for and the expected duration of the proposed restricted access. Prior to the initial Project Development field work, the MEW Companies shall provide the Project Developer with the schedule for well sampling.

## **9. Modifications to Well Vaults and Wellheads**

Following completion of final grade by the Project Developer, the MEW Companies shall modify the MEW wells, well vaults, and pull boxes as needed based on the final grade established by the Project Developer. All costs associated with these modifications shall be paid by the Project Developer, subject to Section 18.

## **10. Communications**

The Project Developer, all of its contractors, the MEW Companies, all of their contractors, and NASA shall each designate in writing a primary and alternate contact person, including all applicable mailing addresses, telephone numbers, email addresses and facsimile numbers. The MEW Companies shall have sole authority and responsibility for all communications with EPA regarding the Remedial System, including its operating status, any Project Development-related shutdowns and any modifications. The Project Developer shall provide the MEW Companies with all demolition, grading and construction work schedules, a full set of civil, landscaping, foundation and utility plans and specifications, and updates to these plans and specifications and schedules promptly as they occur. The MEW Companies and their contractor shall be notified of and invited to weekly construction meetings that pertain to these plans and schedules.

## **11. Monitoring and Sampling of Excavated Soil**

The Project Developer or NASA shall monitor all excavated soil to determine if the soils contain volatile organic compounds (“VOCs”) or petroleum constituents. Vadose zone soils shall be stockpiled and managed separately from saturated zone soils. The Project Developer shall remove and segregate concrete, asphalt, wood, piping and other demolition debris from soil and shall manage and dispose of demolition debris in accordance with all applicable regulations. The Project Developer shall pay all costs related to demolition debris disposal.

NASA, at the Project Developer’s expense and in compliance with applicable laws, shall monitor and sample soils generated from trenching and other excavation work throughout trenching and excavation activities. The soil being removed shall be visually observed for evidence of discoloration or staining. Soil exhibiting these characteristics shall be analyzed using an organic vapor analyzer (“OVA”) or equivalent device before stockpiling. Excavated soil shall be field-screened using an OVA (or equivalent) to determine if the excavated soils are clean or may be chemically affected. Field screening shall be performed in a manner acceptable to EPA, which the Project Developer, NASA and the MEW Companies currently expect will be performed with an OVA (or equivalent) at a rate of one soil sample for every 15 cubic yards of excavated soil. Excavated soils that show a continuous reading of five parts per million (“ppm”) or greater for at least ten seconds using the OVA (or equivalent) shall be considered as possibly containing chemicals, and shall be segregated. NASA shall transfer soil exhibiting these characteristics to a plastic-lined stockpile area in or near the area of trenching or excavation. Soil samples shall be collected from random locations within the stockpile at a rate of two samples for every 50 cubic yards of stockpiled soil. Each of the two samples shall consist of at least five composite samples representative of the stockpiled soil. The samples shall be submitted to a state-certified laboratory and analyzed using EPA Method 8260 (or its superceding EPA Method), including cis-1, 2-dichloroethene and Freon 113 and EPA Method 8015 (or its superceding EPA Method) for high and low boiling point total petroleum hydrocarbons (“TPH”). After the soil has been verified to conform to the soil cleanup standards specified in the MEW ROD, the soils may be used for on-site cover or backfill. Clean soil that is tested using the field head space method with an OVA (or equivalent) that does not have a reading greater than five ppm for at least ten seconds also may be used for on-site cover or backfill. Soil that does not qualify as clean soil shall be managed in accordance with Sections 13.2 through 13.6 of this Agreement.

### **11.1 Excavated Soil Classification and Monitoring Procedure**

The Project Developer or NASA shall monitor excavated soil with an OVA (or equivalent) to determine if the soils are clean or may contain chemicals, as defined below:

*Clean Soil:* Soil that does not have a reading greater than five ppm continuously for ten seconds using the field head space method with an OVA (or equivalent) specified below will be considered clean soil.

*Soil Containing Chemicals:* Soil that does not meet the definition of clean soil will be considered soil containing chemicals.

## **11.2 Field Head Space Methods:**

(a) A soil sample shall be taken from excavated soil in the backhoe bucket at a point out of the excavation.

(b) The soil to be tested shall be placed into an unused re-sealable plastic bag or clean mason jar container with a minimum volume of one quart or one liter, until the container is half full.

(c) The container shall be sealed and left to sit under direct sunlight for approximately five minutes.

(d) The container shall be opened just enough to allow the probe of the OVA (or equivalent) to be inserted into the container's headspace.

(e) Any sample having a reading of five ppm or greater continuously for at least ten seconds shall be considered soil containing chemicals.

## **12. Notification of Saturated Soil Containing VOC**

If VOCs are determined to exist in saturated zone soils, the Project Developer shall immediately notify the MEW Companies' representative.

## **13. Management and Disposition of Soils**

### ***13.1 Clean Soil***

NASA shall be responsible for the determination as to whether soil qualifies as clean soil either because it has been classified as clean soil in accordance with Section 11.1 of this Agreement or has been treated to the soil cleanup standards specified in the MEW ROD. Clean soil that does not require treatment may be reused for cover or backfill or shall be transported to the open field north of Electrical Substation West (N225A) on Moffett, shown as Area A on the attached Figure 2, or to other areas on Moffett designated by NASA, and spread by the Project Developer at the Project Developer's cost. NASA and the Project Developer agree that the MEW Companies shall not be responsible for (a) any determination made by NASA or the Project Developer that any soil qualifies as clean soil or that any soil may be used for any particular purpose at any particular location on Moffett, or (b) any other actions or omissions by NASA or the Project Developer with respect to their respective handling of soils pursuant to this Agreement.

### ***13.2 Vadose Zone Soils and Saturated Soils Containing TPH***

Vadose zone and saturated soils containing TPH from AR-1 (whether or not they also contain VOCs) shall be transported by the Project Developer to the

bioremediation pad on the east side of Moffett, as shown on Figure 3, or to other areas on Moffett designated by NASA, and shall be managed by NASA in accordance with the procedures specified in the document entitled “Coordination of Construction and Navy Remedial System Modification Work.”

Vadose zone and saturated soils containing TPH from AR-3 (whether or not they also contain VOCs) shall be transported by the Project Developer to the bioremediation pad at the northwest corner of Moffett, shown as Area C on Figure 2, or to other areas on Moffett designated by NASA, and shall be managed by NASA.

### ***13.3 Saturated Zone Soils Containing Only VOCs***

The Project Developer shall notify the MEW Companies promptly if any saturated zone soil in AR-1 or AR-3 is determined by analytical testing to contain only those VOCs associated with the MEW plume at concentrations exceeding MEW ROD soil cleanup standards. The MEW Companies shall manage and dispose of these soils at their cost. The Project Developer or NASA shall promptly make available to the MEW Companies copies of analytical soil data. Following review of the data, any soils that are found to be the responsibility of the MEW Companies shall be delivered by the Project Developer to a soil aeration facility on Moffett at the location shown as Area B on Figure 2 (the “MEW Soil Aeration Facility”) and treated and/or disposed of by the MEW Companies. Treatment or offsite disposal of the soil shall be at the discretion and timing of the MEW Companies, in accordance with CERCLA Section 121(d). If treated, the soils shall be treated to the soil cleanup standards specified in the MEW ROD. The Project Developer shall pay all costs of excavating and delivering the soil to the MEW Soil Aeration Facility. The MEW Companies shall pay all costs of treating the soil and spreading the treated soil on-site or disposing of it offsite. If the MEW Companies elect to dispose of soil offsite, the MEW Companies shall select the offsite disposal site in accordance with CERCLA Section 121(d), subject to NASA’s approval, which shall not be withheld unreasonably, and NASA shall be designated the generator and sign all necessary waste manifests.

### ***13.4 Polyethylene Liners***

The Project Developer shall provide plastic liners and covers for the soil stockpiles located in the areas of trenching and excavation. The MEW Companies shall provide liners and covers for the soil at the MEW Soil Aeration Facility. The location of the soil stockpiles in the areas of trenching and excavation shall be designated by NASA.

### ***13.5 MEW Soil Aeration Facility Sampling and Testing Procedures***

Following aeration of soils treated by the MEW Companies pursuant to Section 13.3, the MEW Companies shall collect two discrete soil samples for every 50 cubic yards of treated soil. Each of the two samples shall consist of at least five composite samples representative of the treated soil. The samples shall be analyzed using EPA Method 8260 (or its superceding EPA Method), including cis-1,2-dichloroethene and Freon.

### ***13.6 On-Site Reuse***

After soil aerated by the MEW Companies has been determined to meet soil cleanup standards, the MEW Companies shall move the clean soil onto the open field adjacent to the MEW Soil Aeration Facility and spread it in a manner that effectively separates the clean soil from any soil remaining at or brought to the MEW Soil Aeration Facility for treatment.

### ***13.7 Soil Management***

All soil management plans (including, without limitation, those for screening, testing, treating and disposing of soils) shall be performed in accordance with EPA-approved plans to the extent required by the 106 Order.

## **14. Management and Discharge of Groundwater Generated During Excavation and Dewatering Activities**

The Project Developer may be required to dewater pipeline trenches and other excavations and convey water away from excavations. Groundwater in the area of Project Development may contain VOCs or TPH. The Project Developer shall manage, contain and discharge all water removed from excavation areas. The Project Developer shall transport the water to above ground tanks, test the water by EPA Method 8260 and EPA Method 8015 (or their superceding EPA Methods) and discharge the water as follows:

### ***14.1 Ground Water Containing TPH***

If the groundwater from AR-1 contains TPH above 50 parts per billion (“ppb”) (or such lower standard as may in the future be established by EPA), as determined by EPA Method 8015 (or its superceding EPA Method), it shall not be discharged to the Remedial System GWTS. The Project Developer shall obtain all necessary approvals for discharge of such groundwater at alternate sites. (Depending on the chemical concentrations, the Project Developer may be able to obtain permission from the City of Sunnyvale Waste Water Treatment Plant or the City of Palo Alto Waste Water Treatment Plant to discharge the water to the NASA sanitary sewer systems.) The water shall be filtered before any discharge to the sewer system and the solids stored and subsequently managed by the Navy in accordance with the document entitled “Coordination of Construction and Navy Remedial System Modification Work.”

If the groundwater from AR-1 contains TPH above 50 ppb, and cannot be discharged to the sanitary sewer, the Project Developer shall deliver it to the Navy’s Westside Aquifer Treatment System on Moffett for treatment by the Navy.

If the groundwater from AR-3 contains TPH above 50 ppb, as determined by EPA Method 8015 (or its superceding EPA Method), it shall not be discharged to the Remedial System GWTS. The Project Developer shall obtain all necessary approvals for discharge of such groundwater at alternate sites. (Depending on the chemical concentrations, the Project Developer may be able to obtain permission from the City of

Sunnyvale Waste Water Treatment Plant or the City of Palo Alto Waste Water Treatment Plant to discharge the water to the NASA sanitary sewer systems.) The water shall be filtered before any discharge to the sewer system and the solids stored and subsequently managed by the Navy in accordance with the document entitled “Coordination of Construction and Navy Remedial System Modification Work.”

If the groundwater from AR-3 contains TPH above 50 ppb, and cannot be discharged to the sanitary sewer, the Project Developer shall deliver it to NASA’s RGRP Treatment System on Moffett for treatment by NASA.

#### **14.2 Groundwater Containing VOCs**

If the groundwater from AR-1 or AR-3 contains TPH below 50 ppb (or such lower standard as may in the future be established by EPA) and contains VOCs that are identified as those associated with the MEW plume, the groundwater can be discharged, if acceptable to EPA (to the extent EPA approval is required by the 106 Order), to the Remedial System GWTS. If EPA approves (if such approval is so required), then the Project Developer shall deliver the groundwater to clean Baker or similar tanks adjacent to the Remedial System GWTS at the location shown as the MEW Baker Tank Staging Area on Figure 4. The Project Developer shall inspect and sample the storage tanks before using them to insure that they are clean. Sample results shall be provided to the MEW Companies, and the MEW Companies shall have an opportunity to inspect the tanks before their use. Treatment and discharge of groundwater through the Remedial System GWTS shall be performed by the MEW Companies. All groundwater shall be filtered before it is pumped into the clean storage tanks to minimize sediment buildup in the storage tanks. All solids removed from the groundwater and any filters shall be stored and subsequently characterized, managed and disposed of in the same manner as contaminated soils as specified in Sections 11 through 13 of this Agreement. NASA shall be designated the generator and shall sign all necessary waste manifests for the solids and filter wastes. The Project Developer shall pay all costs associated with extraction, delivery and storage of groundwater prior to treatment at the GWTS. The MEW Companies shall pay all costs of pumping the groundwater from the storage tanks and treating it through the Remedial System GWTS. The MEW Companies shall treat the stored water within a reasonable timeframe.

#### **15. Contractor Compliance With This Agreement**

NASA, the MEW Companies, and the Project Developer each shall provide a copy of this Agreement to their respective contractors and subcontractors and shall ensure that compliance with this Agreement is made a material part of their respective agreements with their contractors and subcontractors.

#### **16. NASA Appropriations**

NASA agrees to use its best efforts in the performance of this Agreement. However, all NASA activities under or pursuant to this Agreement are subject to the availability of appropriated funds. No provision of this Agreement shall be interpreted

as, or constitute, a commitment or requirement that NASA or any other Federal Agency obligate or pay funds in contravention of the Anti-Deficiency Act, 31 U.S.C. 1341. Notwithstanding the foregoing, NASA agrees that, during the period in which this Agreement remains operative, NASA will be diligent in seeking appropriation of funds for the purpose of performing NASA's obligations set forth in this Agreement.

## **17. Notices**

All written notices required by this Agreement shall be deemed effective (1) when delivered, if personally delivered to the person being served or (2) three business days after deposit in the mail if mailed by United States mail, postage paid certified, return receipt requested:

*If To: "Project Developer":*

CM SPE, LLC  
5000 Forbes Avenue  
Pittsburgh, PA 15213  
Attn: Duane A. Adams  
Facsimile: (412) 268-2990

*If To: "MEW Companies"*

Fairchild Semiconductor Corporation  
Clifford E. Kirchof  
Remediation Manager  
Schlumberger Limited  
225 Sugar Land Drive  
Sugar Land, TX 77478  
Facsimile: (281) 285-8597

Jeffrey B. Axelrod, Esq.  
Senior Counsel  
Raytheon Corporation  
141 Spring Street  
Lexington, MA 02421  
Facsimile: (781) 860-2788

*If To: "NASA"*

Mr. Don Chuck  
NASA Ames Research Center  
MS 218-1  
Moffett Field, CA 94035  
Facsimile: (650) 604-0680

## **18. Review/Audit of MEW Costs**

With respect to any and all work to be performed by the MEW Companies hereunder at Project Developer's cost, including, without limitation, work performed pursuant to Sections 3, 5, 6 and 9 hereof:

18.1 All such work shall be conducted only to the extent required by applicable laws and/or to enable the Remedial System to operate in substantially the manner it operated prior to any damage, modification or alteration caused or required by the Project Development, and all costs related to such work shall be commercially reasonable and subject to Project Developer's prior approval in accordance with this Section 18, which approval shall not be unreasonably withheld or delayed;

18.2 Prior to commencing such work and incurring such costs, the MEW Companies shall provide to Project Developer a detailed description of such work and cost estimates and such back-up documentation as Project Developer may reasonably request, and Project Developer shall be given an opportunity to recommend revisions or modifications to such scope of work and cost estimates. Project Developer shall either approve or disapprove (with reasonable detail as to grounds for disapproval) such work scope and cost estimate within thirty (30) days after receipt of same, unless sooner approval or disapproval is required for emergency repairs, in which case Project Developer shall respond as promptly as reasonable practicable;

18.3 After completing such work and incurring such costs, the MEW Companies shall provide to Project Developer paid invoices and such other evidence of payment of such costs previously approved by Project Developer as Project Developer may reasonably request; and

18.4 Project Developer shall have a period of thirty (30) days after submission of such proof of payment to review such costs and the work performed and, at Project Developer's sole option and expense, to complete an audit of the MEW Companies' records with respect to such costs and work performed. If, as a result of such review and/or audit, Project Developer determines that any such work and/or costs are outside the scope of Project Developer's responsibility hereunder and/or were not approved by Project Developer as required hereunder, then Project Developer shall so notify the MEW Companies and the parties shall attempt to resolve such dispute extrajudicially. If the Project Developer and MEW Companies are unable to resolve such dispute extrajudicially, then either party may pursue any available remedy pursuant to applicable law or, by mutual agreement, may submit the dispute to such alternative dispute resolution procedure as may be mutually acceptable.

## **19. Effective Date**

This Agreement shall take effect on January 8, 2003.

IN WITNESS THEREOF, the following parties have entered into this Agreement.

**NATIONAL AERONAUTICS AND SPACE ADMINISTRATION**

By: \_\_\_\_\_ Dated: \_\_\_\_\_  
G. Scott Hubbard  
Title: Director, Ames Research Center

**CM SPE, LLC**

By: \_\_\_\_\_ Dated: \_\_\_\_\_  
Duane Adams  
Title: President and CEO

**RAYTHEON COMPANY**

By: \_\_\_\_\_ Dated: \_\_\_\_\_  
Title: \_\_\_\_\_

**FAIRCHILD SEMICONDUCTOR CORPORATION**

By: \_\_\_\_\_ Dated: \_\_\_\_\_  
Title: \_\_\_\_\_

Exhibit O

REQUIREMENTS AND PROCEDURES FOR COORDINATION OF  
CONSTRUCTION AND NAVY REMEDIAL SYSTEM MODIFICATION  
WORK AT NASA RESEARCH PARK, AMES RESEARCH CENTER,  
MOFFETT FIELD, CALIFORNIA

The National Aeronautics and Space Administration (“NASA”) will enter into a certain Agreement for Coordination of Construction and Navy Remedial System Modification Work at the proposed NASA Research Park (“NRP”), Ames Research Center, Moffett Field, California (“Agreement”) with the United States Navy. The following recitals, requirements and procedures are taken from the proposed Agreement and will be followed by NASA, the Navy and CM SPE, LLC (“CM SPE”) in regard to the activities under Article 26 of the Lease.

RECITALS

A. On June 9, 1989, the United States Environmental Protection Agency (“EPA”) issued a Record of Decision (the “MEW ROD”) for the Middlefield-Ellis-Whisman area of Mountain View, California. The MEW ROD was modified in September 1990 and April 1996 by EPA’s Explanations of Significant Differences. The MEW ROD requires the implementation of an EPA-approved regional groundwater remediation program (“RGRP”).

B. In September, 1990, a Federal Facility Agreement (“FFA”) under CERCLA Section 120 was signed by the EPA, the Navy, and the State of California, represented by the California Department of Health Services (“DHS”), and the California Regional Water Quality Control Board (“RWQCB”). The FFA states the Navy’s responsibilities for the investigation and remediation of contaminated soil and groundwater within the proposed NRP area.

C. On December 22, 1992, the Navy and NASA signed a Memorandum of Understanding (“MOU”) that stated the Navy would continue to be responsible for the investigation and remediation of its environmental contamination after the transfer of the

former Naval Air Station Moffett Field to NASA. In addition to the groundwater contamination, the MOU includes Navy responsibility for petroleum contamination in the soil and groundwater, and for lead in the soil caused by lead based paint on the buildings. This MOU was further clarified by the Navy in a letter signed on October 4, 1993, which stated that “The Navy’s obligations under the MOU shall include taking possession of, and properly managing any contaminated soil or groundwater that has been left in place in accordance with a CERCLA, RCRA, or other cleanup remedy but subsequently upon its excavation, disturbance, or discharge by NASA during development for reuse of Moffett Field becomes hazardous waste, or requires treatment prior to discharge.”

D. On December 17, 1993, EPA signed the Moffett Field FFA amendment, which had already been signed by the Navy, the California Department of Toxic Substance Control (“DTSC”) and the RWQCB. In this FFA amendment, the Navy adopted the MEW ROD for the remediation of soil and groundwater contaminated with chlorinated solvents within the proposed NRP area.

E. By 1998, the Navy, NASA, and the MEW Companies had agreed in principle to an allocation and settlement of each party’s responsibilities for the RGRP. NASA and the MEW Companies signed this Allocation and Settlement Agreement on March 16, 1998.

F. As part of the RGRP, the MEW Companies have installed, operate, monitor and maintain a groundwater monitoring and remedial system on Moffett Field (“Moffett”) under the direction of EPA. These components include, but are not limited to, groundwater monitoring wells, groundwater extraction wells, single and double-contained pipelines, air relief structures, electrical power and instrumentation conduits, fiber-optic instrument systems, electrical field control panels, leak detection systems, radio frequency communication links, settlement pin monuments and a groundwater treatment system (“GWTS”). The MEW Companies are required by EPA to operate the GWTS and related extraction wells and components continuously except during maintenance. Approval for any shutdown of more than 24 hours duration must be obtained from the EPA Remedial Project Manager (“RPM”) in advance.

G. Pursuant to its FFA, the Navy has installed, operates, monitors and maintains a groundwater monitoring and remedial system, the Westside Aquifer

Treatment System (“WATS”) on Moffett under the direction of EPA and the RWQCB. The WATS’ components include, but are not limited to, groundwater monitoring wells, groundwater extraction wells, pipelines, air relief structures, electrical power and instrumentation conduits, fiber-optic instrument systems, electrical field control panels, leak detection systems, settlement pin monuments and a groundwater treatment system. The Navy is required by EPA to operate the WATS and related extraction wells and components continuously except during maintenance. Approval for any shutdown of more than 24 hours duration must be obtained from the EPA RPM in advance.

H. The Navy is also responsible for investigation and remediation of petroleum sites at Moffett, with oversight by the RWQCB. The Navy had installed a treatment system at Site 14 South to address petroleum contamination. The Navy had also installed an Iron Curtain demonstration project west of Hangar 1.

I. NASA plans to sign separate agreements with the MEW Companies and each “Project Developer” (including CM SPE) to undertake redevelopment activities at Moffett in connection with the Project Developers’ leases of certain improvements at Moffett. These activities include, but are not limited to, demolition, grading, trenching and other excavation work, and construction connected with the development of office, educational, and research and development facilities (collectively, “Project Development”).

J. NASA and the Navy will enter into the Agreement to minimize any impact of Project Development on the operation, monitoring, maintenance and modification of the WATS and to allow Navy access to the WATS during and after Project Development; and to clarify the roles and responsibilities for managing contaminated soil and groundwater that is excavated during the Project Development. NASA and the Navy recognize that, to coordinate Project Development and the continued operation of the WATS effectively, it will be necessary for NASA and the Navy to be in regular, frequent communication.

## REQUIREMENTS AND PROCEDURES FOR NASA, THE NAVY AND CM SPE

### **1. Geographic Scope of Agreement**

These Requirements and Procedures apply only within those geographical parts of Moffett designated as AR-1, AR-2, and AR-6 on the attached Figure 1.

## **2. Scheduling of Work**

NASA shall meet with the Navy as early as possible during Project Development planning to coordinate Project Development with the operation, monitoring, maintenance and modification of the WATS and any petroleum site or other remedial work (collectively, the “Remedial System”). Detailed drawings showing the locations of the WATS and any other treatment system components shall be provided by the Navy to NASA in CAD form so they can be integrated into the Project Developer’s plans.

## **3. Remedial System Protection and Modification; Exacerbation of Contamination**

The Project Developer shall protect the integrity of all components of the Remedial System during Project Development and shall take all reasonable measures to minimize Remedial System downtime. The Project Developer shall pay any costs of relocation, replacement, alteration, protection, modification, or repair of the Remedial System caused by Project Development. In addition, if the Project Developer damages any Remedial System component in a manner that causes a release of untreated groundwater or soil or if the Project Developer exacerbates existing soil or groundwater contamination, the Project Developer shall pay all costs of investigation, remediation, EPA oversight, and any penalties associated with such release or exacerbation. The design and construction of any modification to the Remedial System shall be performed by the Navy contractors, under separate contract to the Project Developer; all modification costs, including EPA oversight costs, shall be paid by the Project Developer.

## **4. Well Protection**

The Project Developer shall repair any damage to Remedial System wells caused by Project Development. Prior to the initial Project Development demolition or construction fieldwork, the Navy shall field locate all Remedial System wells. Prior to the start of Project Development fieldwork, the Project Developer shall install brightly painted steel pipes over each Remedial System monitoring and extraction well designated by the Navy. The painted pipe shall extend above ground not less than four feet, so as to

be highly visible, and shall be buried sufficiently below the ground surface to protect the wellhead. Alternative equivalent well protection measures may be used by the Project Developer provided the Navy approves any alternative protective measure in writing prior to its use.

Additionally, all Project Development work within two feet of Remedial System wells shall be performed manually with hand tools. Fine grading work performed in areas more than two feet from the Remedial System wells but within close proximity shall be performed by light grading equipment.

#### **5. Well Sealing and Well Replacement**

If the Project Developer determines that a Remedial System well conflicts with the planned Project Development and must be removed, the Project Developer shall pay all costs of well sealing and replacement and all related Navy costs, including but not limited to the cost of installing replacement conduit, piping, boxes, controls and all other components needed to return a well to service, developing the well, conducting a baseline first round of groundwater sampling, and preparing all required plans, surveys and reports. The Project Developer shall be responsible for sealing all wells located within 15 feet of the outer wall of a new building. No well shall be sealed or relocated without the prior written approval of the EPA and RWQCB RPMs. Well sealing and installation shall comply with Santa Clara Valley Water District (“SCVWD”) guidance and take place under SCVWD permit. Coordination with EPA and the RWQCB, and well sealing and replacement, shall be performed by the Navy’s contractor, under separate contract with the Project Developer, at the Project Developer’s sole cost.

#### **6. Remedial System Pipeline Protection and Replacement**

Prior to initial Project Development field work, the Project Developer shall provide and place steel plate or equivalent protective measures over the existing Navy pipelines and power and control conduits. If the Project Developer determines that a pipeline, or other treatment system component, conflicts with the planned Project Development and must be removed and relocated, the Project Developer shall pay all costs related to pipeline, and other treatment system component, removal and replacement, including but not limited to design, permitting, review, inspection, construction and independent quality assurance inspection costs. The Project Developer

shall be responsible for removing and relocating all pipelines and other components located within five feet of the outer edge of the footing or foundation of a new building. No pipeline or other component shall be relocated without the prior approval of the EPA and RWQCB RPMs. Replacement pipeline installation procedures shall also be approved by the EPA and RWQCB RPMs. Coordination to obtain the approval of EPA and the RWQCB, and pipeline removal and replacement work, shall be performed by the Navy's contractor, under separate contract to the Project Developer, at the Project Developer's cost.

**7. Notification of Shutdown of Groundwater Extraction Wells or GWTS**

If it appears necessary to shut down a Remedial System extraction well or the WATS during Project Development, NASA shall give written notice to the Navy five working days in advance of the proposed shutdown. In the event of an inadvertent shutdown of any component of the Remedial System, the Project Developer shall give immediate verbal notice to the Navy. Additionally, NASA shall provide to the Navy a written explanation of the reason for and the duration of any inadvertent shutdown within 48 hours of the shutdown.

**8. Access to Wells and the GWTS**

Project Development shall be performed in such a way that all Remedial System wells, pull boxes and the WATS and associated components remain accessible to the EPA, RWQCB, and the Navy and their equipment for sampling, operation, maintenance, removal and replacement of pumps, and well sealing to the maximum extent practicable during and after Project Development. If it becomes necessary to restrict access to a well or other Remedial System component during Project Development, NASA shall provide written notice to the Navy five working days in advance of creating the restriction, with an explanation of the reason for and the expected duration of the proposed restricted access. Prior to the initial Project Development fieldwork, the Navy shall provide NASA with the schedule for well sampling.

**9. Modifications to Well Vaults and Wellheads**

Following completion of final grade by the Project Developer, the Navy's contractor, under separate contract to the Project Developer, shall modify the Navy wells, well vaults, and pull boxes as needed based on the final grade established by the Project

Developer. All costs associated with these modifications shall be paid by the Project Developer.

#### **10. Communications**

The Project Developer, all of its contractors, the Navy, all of their contractors, and NASA shall each designate in writing a primary and alternate contact person, including all applicable mailing addresses, telephone numbers, email addresses and facsimile numbers. The Navy shall have sole authority and responsibility for all communications with EPA and RWQCB regarding the Remedial System, including its operating status, any Project Development-related shutdowns and any modifications. NASA shall provide the Navy with all demolition, grading and construction work schedules, a full set of civil, landscaping, foundation and utility plans and specifications, and updates to these plans and specifications and schedules promptly as they occur. The Navy and their contractor shall be notified of and invited to weekly construction meetings that pertain to these plans and schedules.

#### **11. Monitoring and Sampling of Excavated Soil**

The Project Developer shall remove soils contaminated with lead from lead-based paint around the buildings that have been identified by NASA, prior to building demolition. NASA shall properly dispose of this soil at the Navy's expense. The Project Developer or NASA, at the Project Developer's expense, shall monitor all excavated soil to determine if the soils contain volatile organic compounds ("VOCs") or petroleum constituents. Vadose zone soils shall be stockpiled and managed separately from saturated zone soils. The Project Developer shall remove and segregate concrete, asphalt, wood, piping and other demolition debris from soil and shall manage and dispose of demolition debris in accordance with all applicable regulations. The Project Developer shall pay all costs related to demolition debris disposal.

The Project Developer or NASA, at the Project Developer's expense, shall monitor and sample soils generated from trenching and other excavation work throughout trenching and excavation activities. The soil being removed shall be visually observed for evidence of discoloration or staining. Soil exhibiting these characteristics shall be analyzed using an organic vapor analyzer ("OVA") or equivalent device before stockpiling. Excavated soil shall be field-screened using an OVA (or equivalent) to

determine if the excavated soils are clean or may be chemically affected. Field screening with an OVA (or equivalent) shall be performed at a rate of one soil sample for every 15 cubic yards of excavated soil. Excavated soils that show a continuous reading of five parts per million (“ppm”) or greater for at least ten seconds using the OVA (or equivalent) shall be considered as possibly containing chemicals, and shall be segregated. The Project Developer shall transfer soil exhibiting these characteristics to a plastic-lined stockpile area in or near the area of trenching or excavation. Soil samples shall be collected from random locations within the stockpile at a rate of two samples for every 50 cubic yards of stockpiled soil. Each of the two samples shall consist of at least five composite samples representative of the stockpiled soil. The samples shall be submitted to a state-certified laboratory and analyzed using EPA Method 8260 (or its superceding EPA Method), including cis-1, 2-dichloroethene and Freon 113 and EPA Method 8015 (or its superceding EPA Method) for high and low boiling point total petroleum hydrocarbons (“TPH”). After the soil has been verified to conform to the soil cleanup standards specified in the MEW ROD, and the Navy petroleum site cleanup standards, the soils may be used for on-site cover or backfill. Clean soil that is tested using the field head space method with an OVA (or equivalent) that does not have a reading greater than five ppm for at least ten seconds also may be used for on-site cover or backfill. Soil that does not qualify as clean soil shall be managed in accordance with Sections 13.2 through 13.6 of this Exhibit O.

#### ***11.1 Excavated Soil Classification and Monitoring Procedure***

The Project Developer or NASA shall monitor excavated soil with an OVA (or equivalent) to determine if the soils are clean or may contain chemicals, as defined below:

*Clean Soil:* Soil that does not have a reading greater than five ppm continuously for ten seconds using the field head space method with an OVA (or equivalent) specified below will be considered clean soil.

*Soil Containing Chemicals:* Soil that does not meet the definition of clean soil will be considered soil containing chemicals.

#### ***11.2 Field Head Space Methods:***

- (a) A soil sample shall be taken from excavated soil in the backhoe bucket at

a point out of the excavation.

(b) The soil to be tested shall be placed into an unused re-sealable plastic bag or clean mason jar container with a minimum volume of one quart or one liter, until the container is half full.

(c) The container shall be sealed and left to sit under direct sunlight for approximately five minutes.

(d) The container shall be opened just enough to allow the probe of the OVA (or equivalent) to be inserted into the container's headspace.

(e) Any sample having a reading of five ppm or greater continuously for at least ten seconds shall be considered soil containing chemicals.

## **12. Notification of Saturated Soil Containing VOCs or TPH**

If VOCs are determined to exist in saturated zone soils in AR-1, the Project Developer shall immediately notify the MEW Companies' representative. If VOCs are determined to exist in saturated zone soils in AR-2 or AR-6, NASA shall immediately notify the Navy. If TPH is determined to exist in saturated zone soils in AR-1, AR-2, or AR-6, NASA shall immediately notify the Navy.

## **13. Management and Disposition of Soils**

### ***13.1 Clean Soil***

NASA shall be solely responsible for the determination as to whether soil qualifies as clean soil either because it has been classified as clean soil in accordance with Section 11.1 of this Exhibit O or has been treated to the soil cleanup standards specified in the MEW ROD or the Navy petroleum site standards. Clean soil that does not require treatment may be reused for cover or backfill or shall be transported to the open field north of Electrical Substation West (N225A) on Moffett, shown as Area A on the attached Figure 2, or to other areas on Moffett designated by NASA, and spread by the Project Developer at the Project Developer's cost. NASA agrees that Navy shall not be responsible for any determination made by NASA or the Project Developer that any soil qualifies as clean soil or that any soil may be used for any particular purpose at any particular location on Moffett.

### ***13.2 Vadose Zone Soils and Saturated Soils Containing TPH***

Vadose zone and saturated soils containing TPH (whether or not they also contain

VOCs) shall be transported by the Project Developer to the bioremediation pad on the east side of Moffett, as shown on Figure 3, or to other areas on Moffett designated by NASA, and shall be managed by NASA, at the Navy's expense.

### ***13.3 Saturated Zone Soils Containing Only VOCs***

The Project Developer shall notify the MEW Companies promptly if any saturated zone soil in AR-1 is determined by analytical testing to contain only those VOCs associated with the MEW plume at concentrations exceeding MEW ROD soil cleanup standards. The MEW Companies shall manage and dispose of these soils as stated in the Agreement for Coordination of Construction and MEW Remedial System Modification Work (the "MEW Agreement").

NASA shall notify the Navy promptly if any saturated zone soil in AR-2 or AR-6 is determined by analytical testing to contain VOCs at concentrations exceeding MEW ROD soil cleanup standards, or if any saturated zone soil in AR-1, AR-2, or AR-6 is determined by analytical testing to contain TPH above the Navy petroleum site cleanup standards. NASA shall manage and dispose, pursuant to CERCLA Section 121 (d), these soils at the Navy's cost.

NASA shall promptly make available to the Navy copies of analytical soil data. Following review of the data, any soils that are found to be the responsibility of the Navy shall be delivered by the Project Developer to the bioremediation pad on the east side of Moffett, as shown on Figure 3, where it will be managed by NASA at the Navy's expense. Treatment or offsite disposal of the soil, pursuant to CERCLA Section 121 (d) shall be at the discretion and timing of NASA. If treated, the soils shall be treated to the soil cleanup standards specified in the MEW ROD or Navy's petroleum site cleanup standards. The Project Developer shall pay all costs of excavating and delivering the soil to the East Side Bioremediation Pad. The Navy shall pay all costs of treating the soil and spreading the treated soil on-site or disposing of it offsite. If NASA elects to dispose of soil offsite pursuant to CERCLA Section 121 (d), NASA shall be designated the generator and sign all necessary waste manifests.

### ***13.4 Polyethylene Liners***

The Project Developer shall provide plastic liners and covers for the soil stockpiles located in the areas of trenching and excavation. The MEW Companies shall

provide liners and covers for the soil at the MEW Soil Aeration Facility. NASA, at the Navy's expense, shall provide plastic liners and covers for the soil stockpiles at the East Side Bioremediation Pad. The location of the soil stockpiles in the areas of trenching and excavation shall be designated by NASA.

### ***13.5. East Side Bioremediation Pad Sampling and Testing Procedures***

Following aeration, NASA shall collect two discrete soil samples for every 50 cubic yards of treated soil. Each of the two samples shall consist of at least five composite samples representative of the treated soil. The samples shall be analyzed using EPA Method 8260 and 8015 (or their superceding EPA Methods), including cis-1,2-dichloroethene and Freon. Sample collection and analytical costs shall be paid by the Navy.

### ***13.6 On-Site Reuse***

After soil treated by NASA has been determined to meet soil cleanup standards, NASA shall move the clean soil onto an open field at the Navy's expense.

## **14. Management and Discharge of Groundwater Generated During Excavation and Dewatering Activities**

The Project Developer may be required to dewater pipeline trenches and other excavations and convey water away from excavations. Groundwater in the area of Project Development may contain VOCs or TPH. The Project Developer shall manage, contain and discharge all water removed from excavation areas. The Project Developer shall transport the water to above ground tanks, test the water by EPA Method 8260 and EPA Method 8015 (or their superceding EPA Methods) and discharge the water as follows:

### ***14.1 Ground Water Containing TPH***

If the groundwater contains TPH above 50 parts per billion ("ppb"), as determined by EPA Method 8015 (or its superceding EPA Method), it shall not be discharged to the MEW GWTS. Depending on the chemical concentrations, the Project Developer may be able to obtain permission from the City of Sunnyvale Waste Water Treatment Plant or the City of Palo Alto Waste Water Treatment Plant to discharge the water to the NASA sanitary sewer systems. Request for permission to discharge to sanitary sewer shall be coordinated with NASA. The water shall be filtered before any

discharge to the sewer system and the solids stored and subsequently managed by NASA at the Navy's expense, as described above in Section 13.

If the groundwater contains TPH above 50 ppb, the Project Developer shall deliver it to the WATS for treatment by the Navy.

#### ***14.2 Groundwater Containing VOCs***

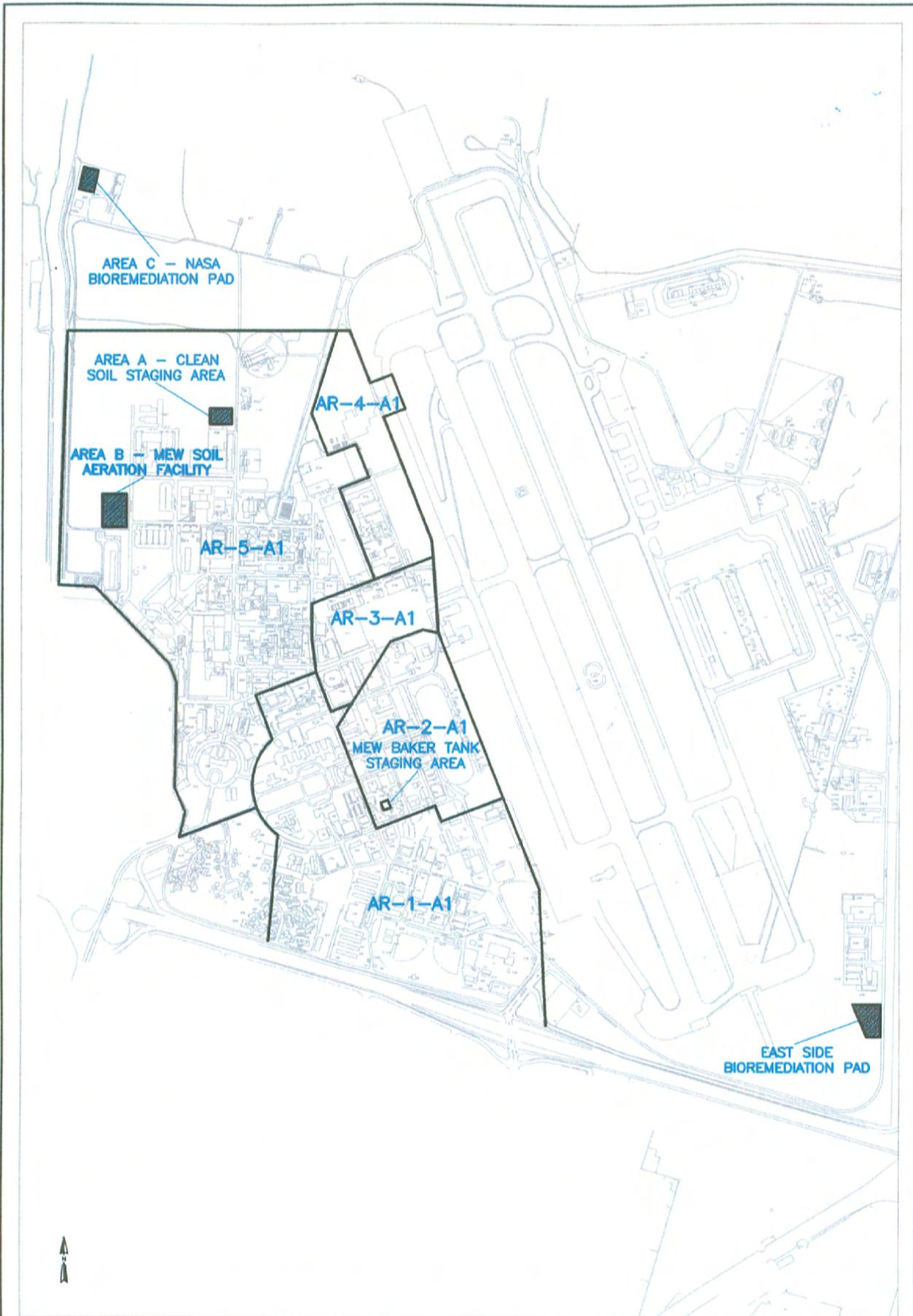
If the groundwater from AR-1 contains TPH below 50 ppb and contains VOCs that are identified as those associated with the MEW plume, the groundwater can be discharged to the MEW GWTS. The Project Developer shall follow the procedures described in the MEW Agreement.

If the groundwater from AR-2 or AR-6 contains VOCs above the MEW ROD cleanup levels, the groundwater can be discharged to the WATS. The Project Developer shall deliver the groundwater to clean Baker or similar tanks adjacent to WATS at the location shown as Area B – WATS Baker Tank Staging Area on Figure 4. The Project Developer shall inspect and sample the storage tanks before using them to insure that they are clean. Sample results shall be provided to the Navy, and the Navy shall have an opportunity to inspect the tanks before their use. Treatment and discharge of groundwater through the WATS shall be performed by the Navy. All groundwater shall be filtered before it is pumped into the clean storage tanks to minimize sediment buildup in the storage tanks. All solids removed from the groundwater and any filters shall be stored and subsequently characterized, managed and disposed of in the same manner as contaminated soils as specified in Sections 11 through 13 of this Exhibit O. NASA shall be designated the generator and shall sign all necessary waste manifests for the solids and filter wastes. The Project Developer shall pay all costs associated with extraction, delivery and storage of groundwater prior to treatment at the WATS. The Navy shall pay all costs of pumping the groundwater from the storage tanks and treating it through the WATS. The Navy shall treat the stored water within a reasonable timeframe.

#### **15. Contractor Compliance With This Exhibit and the Agreement**

NASA and the Navy each shall provide a copy of the Agreement to their respective contractors and subcontractors and shall ensure that compliance with the Agreement is made a material part of their respective agreements with their contractors and subcontractors. CM SPE shall provide a copy of this Exhibit O to its contractors and

subcontractors and shall ensure that compliance with the Agreement is made a material part of its agreements with their contractors and subcontractors.



Ames Research Center  
Moffett Park, California 94035

TITLE:  
ALLOCATION AND SETTLEMENT AGREEMENT  
A/A1 AQUIFER CLEANUP RESPONSIBILITY

DWR:	CNF
GRND:	DHV
DATE:	09/2002

DES:	CNF
APPR:	JRL
REV.:	01

PROJECT NO.:	MEW
FIGURE NO.:	1

AREA C - NASA  
BIOREMEDIATION PAD

AREA A - CLEAN  
SOIL STAGING AREA

AREA B - MEW  
SOIL AERATION  
FACILITY

AR-5-A1



Ames Research Center  
Moffett Field, California 94035

TITLE:  
NASA RESEARCH PARK  
REDEVELOPMENT PROJECT  
AREAS 'A', 'B', AND 'C'

OWN: CNF	DES: CNF
CHD: DHV	APP: JRL
DATE: 09/2002	REV: 01

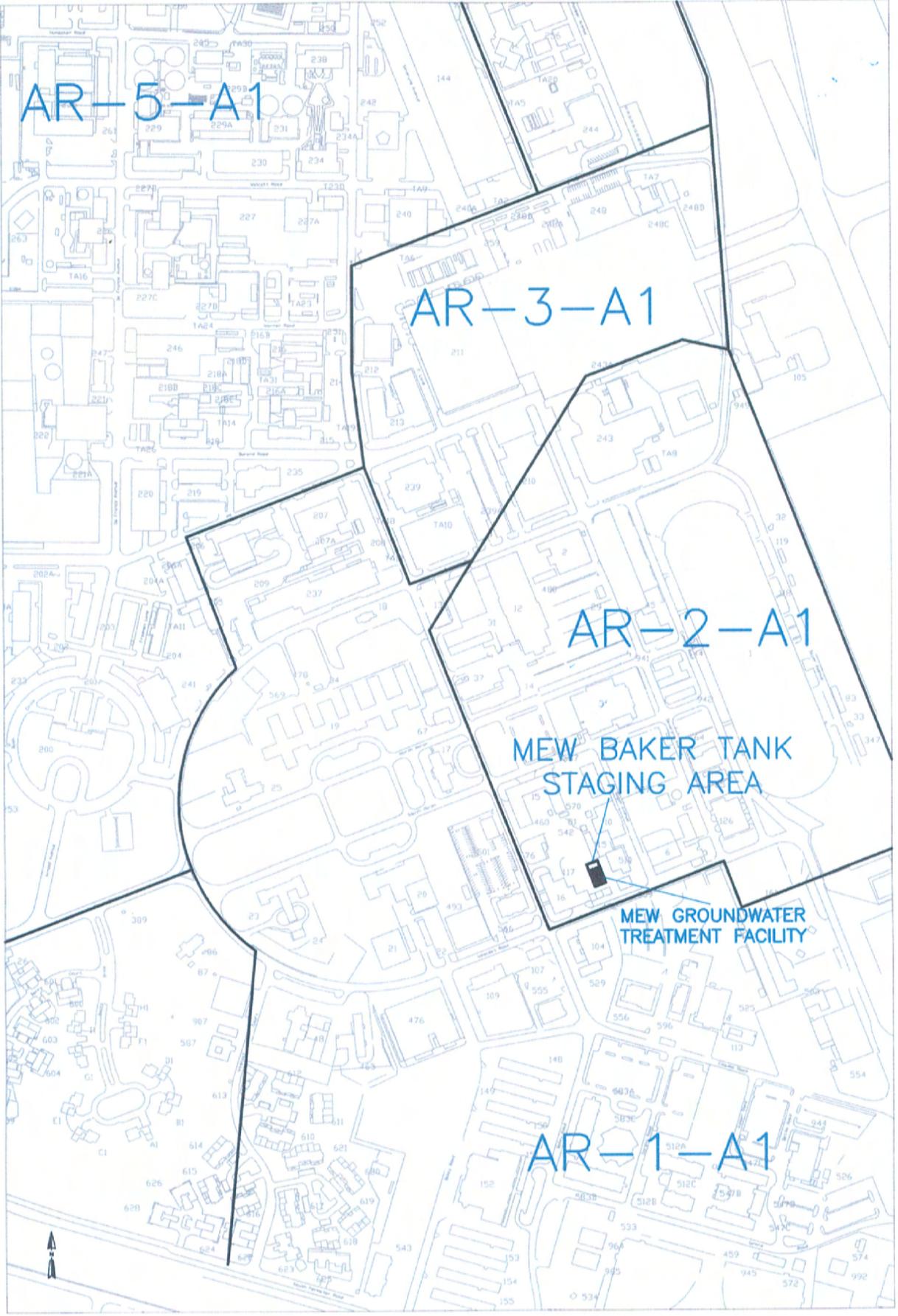
PROJECT NO.:	MEW
FIGURE NO.:	2



Ames Research Center  
and other NASA facilities

NASA RESEARCH PARK  
REDEVELOPMENT PROJECT  
EAST SIDE BIOREMEDIATION PAD

DESIGNED BY	CHKD BY	DATE	PROJECT NO.
DHY	JL	09/2002	MEW
			TITLE NO.
			3



Ames Research Center  
Moffett Field, California 94035

TITLE:  
NASA RESEARCH PARK  
REDEVELOPMENT PROJECT  
MEW BAKER TANK STAGING AREA

DWG: CNF	DES: CNF	PROJECT NO: MEW
CHKD: DHV	APPD: JRL	FIGURE NO: 4
DATE: 09/2002	REV: 01	

## **APPENDIX E**

### **Coordination of Construction and Navy Remedial System Modification Work NASA Research Park, Moffett Federal Airfield**

AGREEMENT FOR COORDINATION OF CONSTRUCTION  
AND NAVY REMEDIAL SYSTEM MODIFICATION WORK AT  
NASA RESEARCH PARK, AMES RESEARCH CENTER, MOFFETT FIELD,  
CALIFORNIA

The National Aeronautics and Space Administration (“NASA”) enters into this Agreement for Coordination of Construction and Navy Remedial System Modification Work at the proposed NASA Research Park (“NRP”), Ames Research Center, Moffett Field, California (“Agreement”) with the United States Navy. NASA enters into this Agreement with the Navy pursuant to the authority of the National Aeronautics and Space Act of 1958, as amended, 42 U.S.C. §§ 2451 et seq.

RECITALS

A. On June 9, 1989, the United States Environmental Protection Agency (“EPA”) issued a Record of Decision (the “MEW ROD”) for the Middlefield-Ellis-Whisman area of Mountain View, California. The MEW ROD was modified in September 1990 and April 1996 by EPA’s Explanations of Significant Differences. The MEW ROD requires the implementation of an EPA-approved regional groundwater remediation program (“RGRP”).

B. In September, 1990, a Federal Facility Agreement (“FFA”) under CERCLA Section 120 was signed by the EPA, the Navy, and the State of California, represented by the California Department of Health Services (“DHS”), and the California Regional Water Quality Control Board (“RWQCB”). The FFA states the Navy’s responsibilities for the investigation and remediation of contaminated soil and groundwater within the proposed NRP area.

C. On December 22, 1992, the Navy and NASA signed a Memorandum of Understanding (“MOU”) that stated the Navy would continue to be responsible for the investigation and remediation of its environmental contamination after the transfer of the former Naval Air Station Moffett Field to NASA. In addition to the groundwater contamination, the MOU includes Navy responsibility for petroleum contamination in the soil and groundwater, and for lead in the soil caused by lead based paint on the buildings. This MOU was further clarified by the Navy in a letter signed on October 4, 1993, which

stated that “The Navy’s obligations under the MOU shall include taking possession of, and properly managing any contaminated soil or groundwater that has been left in place in accordance with a CERCLA, RCRA, or other cleanup remedy but subsequently upon its excavation, disturbance, or discharge by NASA during development for reuse of Moffett Field becomes hazardous waste, or requires treatment prior to discharge.”

D. On December 17, 1993, EPA signed the Moffett Field FFA amendment, which had already been signed by the Navy, the California Department of Toxic Substance Control (“DTSC”) and the RWQCB. In this FFA amendment, the Navy adopted the MEW ROD for the remediation of soil and groundwater contaminated with chlorinated solvents within the proposed NRP area.

E. By 1998, the Navy, NASA, and the MEW Companies had agreed in principle to an allocation and settlement of each party’s responsibilities for the RGRP. NASA and the MEW Companies signed this Allocation and Settlement Agreement on March 16, 1998.

F. As part of the RGRP, the MEW Companies have installed, operate, monitor and maintain a groundwater monitoring and remedial system on Moffett Field (“Moffett”) under the direction of EPA. These components include, but are not limited to, groundwater monitoring wells, groundwater extraction wells, single and double-contained pipelines, air relief structures, electrical power and instrumentation conduits, fiber-optic instrument systems, electrical field control panels, leak detection systems, radio frequency communication links, settlement pin monuments and a groundwater treatment system (“GWTS”). The MEW Companies are required by EPA to operate the GWTS and related extraction wells and components continuously except during maintenance. Approval for any shutdown of more than 24 hours duration must be obtained from the EPA Remedial Project Manager (“RPM”) in advance.

G. Pursuant to its FFA, the Navy has installed, operates, monitors and maintains a groundwater monitoring and remedial system, the Westside Aquifer Treatment System (“WATS”) on Moffett under the direction of EPA and the RWQCB. The WATS’ components include, but are not limited to, groundwater monitoring wells, groundwater extraction wells, pipelines, air relief structures, electrical power and instrumentation conduits, fiber-optic instrument systems, electrical field control panels,

leak detection systems, settlement pin monuments and a groundwater treatment system. The Navy is required by EPA to operate the WATS and related extraction wells and components continuously except during maintenance. Approval for any shutdown of more than 24 hours duration must be obtained from the EPA RPM in advance.

H. The Navy is also responsible for investigation and remediation of petroleum sites at Moffett, with oversight by the RWQCB. The Navy had installed a treatment system at Site 14 South to address petroleum contamination. The Navy had also installed an Iron Curtain demonstration project west of Hangar 1.

I. NASA plans to sign agreements with “Project Developers” to undertake redevelopment activities at Moffett in connection with the Project Developers’ leases of certain improvements at Moffett. These activities include, but are not limited to, demolition, grading, trenching and other excavation work, and construction connected with the development of office, educational, and research and development facilities (collectively, “Project Development”).

J. NASA and the Navy enter into this Agreement to minimize any impact of Project Development on the operation, monitoring, maintenance and modification of the WATS and to allow Navy access to the WATS during and after Project Development; and to clarify the roles and responsibilities for managing contaminated soil and groundwater that is excavated during the Project Development. NASA and the Navy recognize that, to coordinate Project Development and the continued operation of the WATS effectively, it will be necessary for NASA and the Navy to be in regular, frequent communication.

NOW, THEREFORE, NASA and the Navy agree as follows:

**AGREEMENT**

**1. Geographic Scope of Agreement**

This Agreement applies only within those geographical parts of Moffett designated as AR-1, AR-2, and AR-6 on the attached Figure 1.

**2. Scheduling of Work**

NASA shall meet with the Navy as early as possible during Project Development planning to coordinate Project Development with the operation, monitoring, maintenance and modification of the WATS and any petroleum site or other remedial work

(collectively, the “Remedial System”). Detailed drawings showing the locations of the WATS and any other treatment system components shall be provided by the Navy to NASA in CAD form so they can be integrated into the Project Developer’s plans.

### **3. Remedial System Protection and Modification; Exacerbation of Contamination**

The Project Developer shall protect the integrity of all components of the Remedial System during Project Development and shall take all reasonable measures to minimize Remedial System downtime. The Project Developer shall pay any costs of relocation, replacement, alteration, protection, modification, or repair of the Remedial System caused by Project Development. In addition, if the Project Developer damages any Remedial System component in a manner that causes a release of untreated groundwater or soil or if the Project Developer exacerbates existing soil or groundwater contamination, the Project Developer shall pay all costs of investigation, remediation, EPA oversight, and any penalties associated with such release or exacerbation. The design and construction of any modification to the Remedial System shall be performed by the Navy contractors, under separate contract to the Project Developer; all modification costs, including EPA oversight costs, shall be paid by the Project Developer.

### **4. Well Protection**

The Project Developer shall repair any damage to Remedial System wells caused by Project Development. Prior to the initial Project Development demolition or construction fieldwork, the Navy shall field locate all Remedial System wells. Prior to the start of Project Development fieldwork, the Project Developer shall install brightly painted steel pipes over each Remedial System monitoring and extraction well designated by the Navy. The painted pipe shall extend above ground not less than four feet, so as to be highly visible, and shall be buried sufficiently below the ground surface to protect the wellhead. Alternative equivalent well protection measures may be used by the Project Developer provided the Navy approves any alternative protective measure in writing prior to its use.

Additionally, all Project Development work within two feet of Remedial System wells shall be performed manually with hand tools. Fine grading work performed in

areas more than two feet from the Remedial System wells but within close proximity shall be performed by light grading equipment.

#### **5. Well Sealing and Well Replacement**

If the Project Developer determines that a Remedial System well conflicts with the planned Project Development and must be removed, the Project Developer shall pay all costs of well sealing and replacement and all related Navy costs, including but not limited to the cost of installing replacement conduit, piping, boxes, controls and all other components needed to return a well to service, developing the well, conducting a baseline first round of groundwater sampling, and preparing all required plans, surveys and reports. The Project Developer shall be responsible for sealing all wells located within 15 feet of the outer wall of a new building. No well shall be sealed or relocated without the prior written approval of the EPA and RWQCB RPMs. Well sealing and installation shall comply with Santa Clara Valley Water District (“SCVWD”) guidance and take place under SCVWD permit. Coordination with EPA and the RWQCB, and well sealing and replacement, shall be performed by the Navy’s contractor, under separate contract with the Project Developer, at the Project Developer’s sole cost.

#### **6. Remedial System Pipeline Protection and Replacement**

Prior to initial Project Development field work, the Project Developer shall provide and place steel plate or equivalent protective measures over the existing Navy pipelines and power and control conduits. If the Project Developer determines that a pipeline, or other treatment system component, conflicts with the planned Project Development and must be removed and relocated, the Project Developer shall pay all costs related to pipeline, and other treatment system component, removal and replacement, including but not limited to design, permitting, review, inspection, construction and independent quality assurance inspection costs. The Project Developer shall be responsible for removing and relocating all pipelines and other components located within five feet of the outer edge of the footing or foundation of a new building. No pipeline or other component shall be relocated without the prior approval of the EPA and RWQCB RPMs. Replacement pipeline installation procedures shall also be approved by the EPA and RWQCB RPMs. Coordination to obtain the approval of EPA and the RWQCB, and pipeline removal and replacement work, shall be performed by the

Navy's contractor, under separate contract to the Project Developer, at the Project Developer's cost.

**7. Notification of Shutdown of Groundwater Extraction Wells or GWTS**

If it appears necessary to shut down a Remedial System extraction well or the WATS during Project Development, NASA shall give written notice to the Navy five working days in advance of the proposed shutdown. In the event of an inadvertent shutdown of any component of the Remedial System, the Project Developer shall give immediate verbal notice to the Navy. Additionally, NASA shall provide to the Navy a written explanation of the reason for and the duration of any inadvertent shutdown within 48 hours of the shutdown.

**8. Access to Wells and the GWTS**

Project Development shall be performed in such a way that all Remedial System wells, pull boxes and the WATS and associated components remain accessible to the EPA, RWQCB, and the Navy and their equipment for sampling, operation, maintenance, removal and replacement of pumps, and well sealing to the maximum extent practicable during and after Project Development. If it becomes necessary to restrict access to a well or other Remedial System component during Project Development, NASA shall provide written notice to the Navy five working days in advance of creating the restriction, with an explanation of the reason for and the expected duration of the proposed restricted access. Prior to the initial Project Development fieldwork, the Navy shall provide NASA with the schedule for well sampling.

**9. Modifications to Well Vaults and Wellheads**

Following completion of final grade by the Project Developer, the Navy's contractor, under separate contract to the Project Developer, shall modify the Navy wells, well vaults, and pull boxes as needed based on the final grade established by the Project Developer. All costs associated with these modifications shall be paid by the Project Developer.

**10. Communications**

The Project Developer, all of its contractors, the Navy, all of their contractors, and NASA shall each designate in writing a primary and alternate contact person, including all applicable mailing addresses, telephone numbers, email addresses and

facsimile numbers. The Navy shall have sole authority and responsibility for all communications with EPA and RWQCB regarding the Remedial System, including its operating status, any Project Development-related shutdowns and any modifications. NASA shall provide the Navy with all demolition, grading and construction work schedules, a full set of civil, landscaping, foundation and utility plans and specifications, and updates to these plans and specifications and schedules promptly as they occur. The Navy and their contractor shall be notified of and invited to weekly construction meetings that pertain to these plans and schedules.

#### **11. Monitoring and Sampling of Excavated Soil**

The Project Developer shall remove soils contaminated with lead from lead-based paint around the buildings that have been identified by NASA, prior to building demolition. NASA shall properly dispose of this soil at the Navy's expense. The Project Developer or NASA, at the Project Developer's expense, shall monitor all excavated soil to determine if the soils contain volatile organic compounds ("VOCs") or petroleum constituents. Vadose zone soils shall be stockpiled and managed separately from saturated zone soils. The Project Developer shall remove and segregate concrete, asphalt, wood, piping and other demolition debris from soil and shall manage and dispose of demolition debris in accordance with all applicable regulations. The Project Developer shall pay all costs related to demolition debris disposal.

The Project Developer or NASA, at the Project Developer's expense, shall monitor and sample soils generated from trenching and other excavation work throughout trenching and excavation activities. The soil being removed shall be visually observed for evidence of discoloration or staining. Soil exhibiting these characteristics shall be analyzed using an organic vapor analyzer ("OVA") or equivalent device before stockpiling. Excavated soil shall be field-screened using an OVA (or equivalent) to determine if the excavated soils are clean or may be chemically affected. Field screening with an OVA (or equivalent) shall be performed at a rate of one soil sample for every 15 cubic yards of excavated soil. Excavated soils that show a continuous reading of five parts per million ("ppm") or greater for at least ten seconds using the OVA (or equivalent) shall be considered as possibly containing chemicals, and shall be segregated. The Project Developer shall transfer soil exhibiting these characteristics to a plastic-lined

stockpile area in or near the area of trenching or excavation. Soil samples shall be collected from random locations within the stockpile at a rate of two samples for every 50 cubic yards of stockpiled soil. Each of the two samples shall consist of at least five composite samples representative of the stockpiled soil. The samples shall be submitted to a state-certified laboratory and analyzed using EPA Method 8260 (or its superceding EPA Method), including cis-1, 2-dichloroethene and Freon 113 and EPA Method 8015 (or its superceding EPA Method) for high and low boiling point total petroleum hydrocarbons ("TPH"). After the soil has been verified to conform to the soil cleanup standards specified in the MEW ROD, and the Navy petroleum site cleanup standards, the soils may be used for on-site cover or backfill. Clean soil that is tested using the field head space method with an OVA (or equivalent) that does not have a reading greater than five ppm for at least ten seconds also may be used for on-site cover or backfill. Soil that does not qualify as clean soil shall be managed in accordance with Sections 13.2 through 13.6 of this Agreement.

#### ***11.1 Excavated Soil Classification and Monitoring Procedure***

The Project Developer or NASA shall monitor excavated soil with an OVA (or equivalent) to determine if the soils are clean or may contain chemicals, as defined below:

*Clean Soil:* Soil that does not have a reading greater than five ppm continuously for ten seconds using the field head space method with an OVA (or equivalent) specified below will be considered clean soil.

*Soil Containing Chemicals:* Soil that does not meet the definition of clean soil will be considered soil containing chemicals.

#### ***11.2 Field Head Space Methods:***

(a) A soil sample shall be taken from excavated soil in the backhoe bucket at a point out of the excavation.

(b) The soil to be tested shall be placed into an unused re-sealable plastic bag or clean mason jar container with a minimum volume of one quart or one liter, until the container is half full.

(c) The container shall be sealed and left to sit under direct sunlight for approximately five minutes.

(d) The container shall be opened just enough to allow the probe of the OVA (or equivalent) to be inserted into the container's headspace.

(e) Any sample having a reading of five ppm or greater continuously for at least ten seconds shall be considered soil containing chemicals.

## **12. Notification of Saturated Soil Containing VOCs or TPH**

If VOCs are determined to exist in saturated zone soils in AR-1, the Project Developer shall immediately notify the MEW Companies' representative. If VOCs are determined to exist in saturated zone soils in AR-2 or AR-6, NASA shall immediately notify the Navy. If TPH is determined to exist in saturated zone soils in AR-1, AR-2, or AR-6, NASA shall immediately notify the Navy.

## **13. Management and Disposition of Soils**

### ***13.1 Clean Soil***

NASA shall be solely responsible for the determination as to whether soil qualifies as clean soil either because it has been classified as clean soil in accordance with Section 11.1 of this Agreement or has been treated to the soil cleanup standards specified in the MEW ROD or the Navy petroleum site standards. Clean soil that does not require treatment may be reused for cover or backfill or shall be transported to the open field north of Electrical Substation West (N225A) on Moffett, shown as Area A on the attached Figure 2, or to other areas on Moffett designated by NASA, and spread by the Project Developer at the Project Developer's cost. NASA agrees that Navy shall not be responsible for any determination made by NASA or the Project Developer that any soil qualifies as clean soil or that any soil may be used for any particular purpose at any particular location on Moffett.

### ***13.2 Vadose Zone Soils and Saturated Soils Containing TPH***

Vadose zone and saturated soils containing TPH (whether or not they also contain VOCs) shall be transported by the Project Developer to the bioremediation pad on the east side of Moffett, as shown on Figure 3, or to other areas on Moffett designated by NASA, and shall be managed by NASA, at the Navy's expense.

### ***13.3 Saturated Zone Soils Containing Only VOCs***

The Project Developer shall notify the MEW Companies promptly if any saturated zone soil in AR-1 is determined by analytical testing to contain only those VOCs associated with the MEW plume at concentrations exceeding MEW ROD soil cleanup standards. The MEW Companies shall manage and dispose of these soils as stated in the Agreement for Coordination of Construction and MEW Remedial System Modification Work (the "MEW Agreement").

NASA shall notify the Navy promptly if any saturated zone soil in AR-2 or AR-6 is determined by analytical testing to contain VOCs at concentrations exceeding MEW ROD soil cleanup standards, or if any saturated zone soil in AR-1, AR-2, or AR-6 is determined by analytical testing to contain TPH above the Navy petroleum site cleanup standards. NASA shall manage and dispose, pursuant to CERCLA Section 121 (d), these soils at the Navy's cost.

NASA shall promptly make available to the Navy copies of analytical soil data. Following review of the data, any soils that are found to be the responsibility of the Navy shall be delivered by the Project Developer to the bioremediation pad on the east side of Moffett, as shown on Figure 3, where it will be managed by NASA at the Navy's expense. Treatment or offsite disposal of the soil, pursuant to CERCLA Section 121 (d) shall be at the discretion and timing of NASA. If treated, the soils shall be treated to the soil cleanup standards specified in the MEW ROD or Navy's petroleum site cleanup standards. The Project Developer shall pay all costs of excavating and delivering the soil to the East Side Bioremediation Pad. The Navy shall pay all costs of treating the soil and spreading the treated soil on-site or disposing of it offsite. If NASA elects to dispose of soil offsite pursuant to CERCLA Section 121 (d), NASA shall be designated the generator and sign all necessary waste manifests.

#### ***13.4 Polyethylene Liners***

The Project Developer shall provide plastic liners and covers for the soil stockpiles located in the areas of trenching and excavation. The MEW Companies shall provide liners and covers for the soil at the MEW Soil Aeration Facility. NASA, at the Navy's expense, shall provide plastic liners and covers for the soil stockpiles at the East Side Bioremediation Pad. The location of the soil stockpiles in the areas of trenching and excavation shall be designated by NASA.

### ***13.5. East Side Bioremediation Pad Sampling and Testing Procedures***

Following aeration, NASA shall collect two discrete soil samples for every 50 cubic yards of treated soil. Each of the two samples shall consist of at least five composite samples representative of the treated soil. The samples shall be analyzed using EPA Method 8260 and 8015 (or their superceding EPA Methods), including cis-1,2-dichloroethene and Freon. Sample collection and analytical costs shall be paid by the Navy.

### ***13.6 On-Site Reuse***

After soil treated by NASA has been determined to meet soil cleanup standards, NASA shall move the clean soil onto an open field at the Navy's expense.

## **14. Management and Discharge of Groundwater Generated During Excavation and Dewatering Activities**

The Project Developer may be required to dewater pipeline trenches and other excavations and convey water away from excavations. Groundwater in the area of Project Development may contain VOCs or TPH. The Project Developer shall manage, contain and discharge all water removed from excavation areas. The Project Developer shall transport the water to above ground tanks, test the water by EPA Method 8260 and EPA Method 8015 (or their superceding EPA Methods) and discharge the water as follows:

### ***14.1 Ground Water Containing TPH***

If the groundwater contains TPH above 50 parts per billion ("ppb"), as determined by EPA Method 8015 (or its superceding EPA Method), it shall not be discharged to the MEW GWTS. Depending on the chemical concentrations, the Project Developer may be able to obtain permission from the City of Sunnyvale Waste Water Treatment Plant or the City of Palo Alto Waste Water Treatment Plant to discharge the water to the NASA sanitary sewer systems. Request for permission to discharge to sanitary sewer shall be coordinated with NASA. The water shall be filtered before any discharge to the sewer system and the solids stored and subsequently managed by NASA at the Navy's expense, as described above in Section 13.

If the groundwater contains TPH above 50 ppb, the Project Developer shall deliver it to the WATS for treatment by the Navy.

#### **14.2 Groundwater Containing VOCs**

If the groundwater from AR-1 contains TPH below 50 ppb and contains VOCs that are identified as those associated with the MEW plume, the groundwater can be discharged to the MEW GWTS. The Project Developer shall follow the procedures described in the MEW Agreement.

If the groundwater from AR-2 or AR-6 contains VOCs above the MEW ROD cleanup levels, the groundwater can be discharged to the WATS. The Project Developer shall deliver the groundwater to clean Baker or similar tanks adjacent to WATS at the location shown as Area B – WATS Baker Tank Staging Area on Figure 4. The Project Developer shall inspect and sample the storage tanks before using them to insure that they are clean. Sample results shall be provided to the Navy, and the Navy shall have an opportunity to inspect the tanks before their use. Treatment and discharge of groundwater through the WATS shall be performed by the Navy. All groundwater shall be filtered before it is pumped into the clean storage tanks to minimize sediment buildup in the storage tanks. All solids removed from the groundwater and any filters shall be stored and subsequently characterized, managed and disposed of in the same manner as contaminated soils as specified in Sections 11 through 13 of this Agreement. NASA shall be designated the generator and shall sign all necessary waste manifests for the solids and filter wastes. The Project Developer shall pay all costs associated with extraction, delivery and storage of groundwater prior to treatment at the WATS. The Navy shall pay all costs of pumping the groundwater from the storage tanks and treating it through the WATS. The Navy shall treat the stored water within a reasonable timeframe.

#### **15. Contractor Compliance With This Agreement**

NASA, the Navy, and the Project Developer each shall provide a copy of this Agreement to their respective contractors and shall ensure that compliance with this Agreement is made a material part of their respective agreements with their contractors.

#### **16. Notices**

All written notices required by this Agreement shall be deemed effective (1) when delivered, if personally delivered to the person being served or (2) three business days after deposit in the mail if mailed by United States mail, postage paid certified, return

receipt requested:

*If To: "Navy"*

Lawrence Lansdale

Navy SouthWest Div

Address

San Diego, CA zip

*If To: "NASA"*

Don Chuck

NASA Ames Research Center

MS 218-1

Moffett Field, CA 94035

**17. Effective Date**

This Agreement shall take effect upon the date of the last signature appearing below.

IN WITNESS THEROF, the following parties have entered into this Agreement.

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

By: \_\_\_\_\_

Dated: \_\_\_\_\_

Title: \_\_\_\_\_

████████████████████

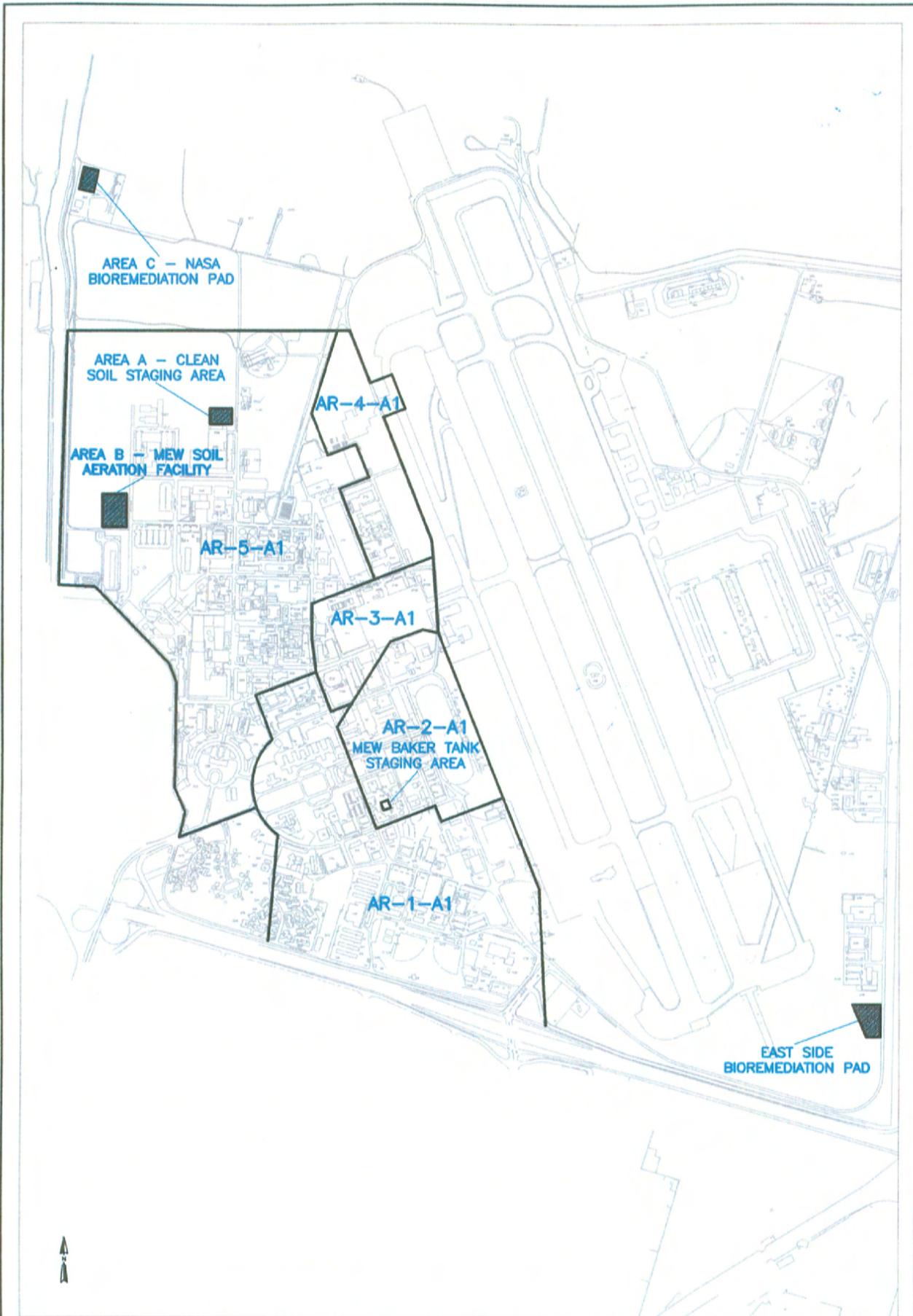
U.S. Navy

By: \_\_\_\_\_

Dated: \_\_\_\_\_

Title: \_\_\_\_\_

████████████████████

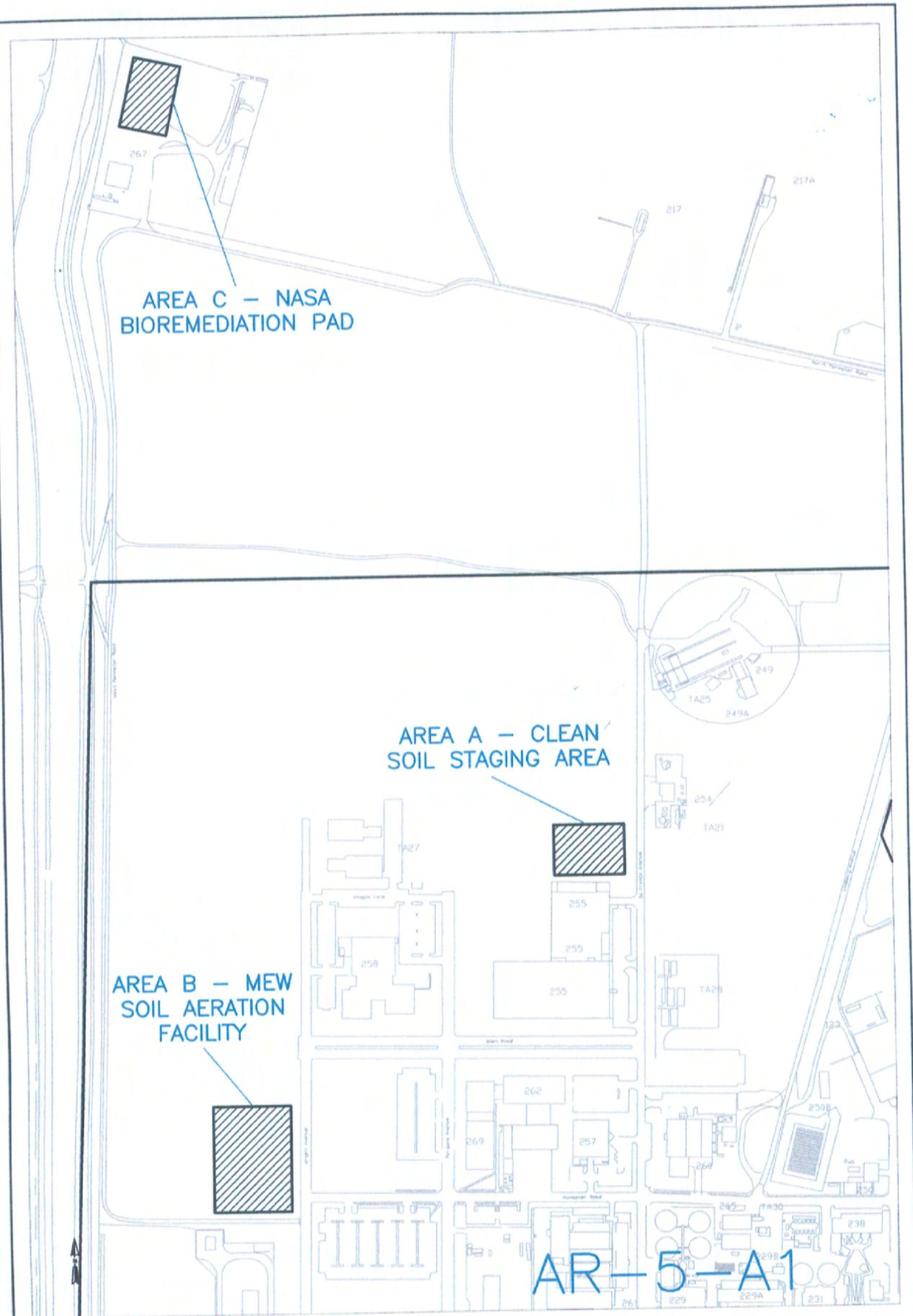


Ames Research Center  
 Moffett Field, California 94035

TITLE:  
 ALLOCATION AND SETTLEMENT AGREEMENT  
 A/A1 AQUIFER CLEANUP RESPONSIBILITY

DWG:	CNF	DES:	CNF
CHKD:	DHV	APPR:	JRL
DATE:	09/2002	REV.:	01

PROJECT NO.:  
 MEW  
 FIGURE NO.:  
 1



AREA C - NASA  
BIOREMEDIATION PAD

AREA A - CLEAN  
SOIL STAGING AREA

AREA B - MEW  
SOIL AERATION  
FACILITY

AR-5-A1



TITLE:  
NASA RESEARCH PARK  
REDEVELOPMENT PROJECT  
AREAS 'A', 'B', AND 'C'

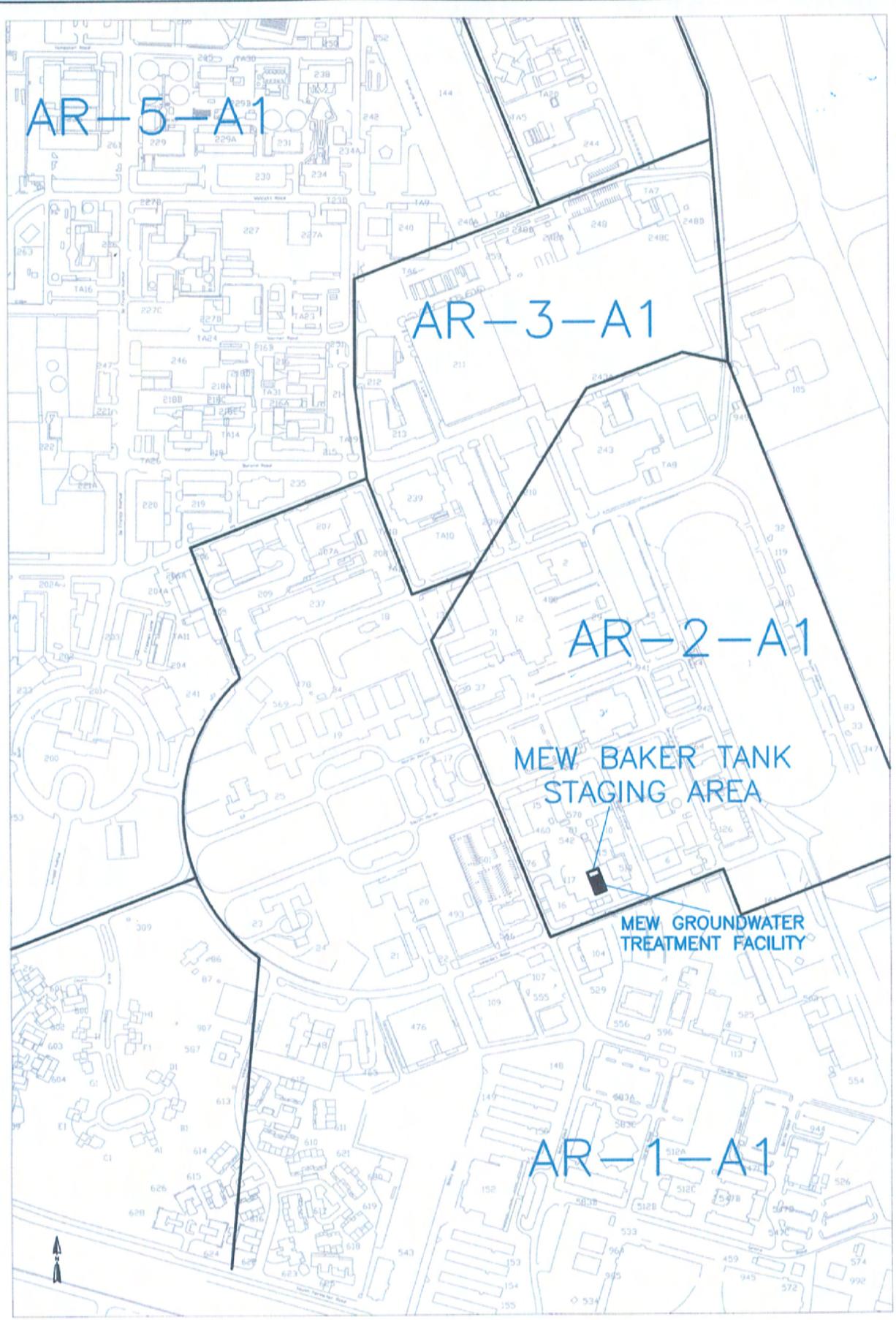
OWN: CNF	DES: CNF	PROJECT NO.:
CHD: DHV	APPD: JRL	MEW
DATE: 09/2002	REV: 01	FIGURE NO.:
		2



Ames Research Center  
and/or other NASA facilities

NASA  
NASA RESEARCH PARK  
REDEVELOPMENT PROJECT  
EAST SIDE BIOREMEDIATION PAD

DESIGNED BY	CHKD BY	DATE	PROJECT NO.
DHY	JL	09/2002	MEW
			TITLE NO.
			3



Ames Research Center  
Moffett Field, California 94035

TITLE:  
NASA RESEARCH PARK  
REDEVELOPMENT PROJECT  
MEW BAKER TANK STAGING AREA

DWG: CNF	DES: CNF	PROJECT NO: MEW
CHKD: DHV	APPD: JRL	FIGURE NO: 4
DATE: 09/2002	REV: 01	



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